

## **Empirical Assessment of Public Expenditure on Education and Manpower Development in Nigeria**

**ARIJE, Kazeem Damola**

Department of Banking and Finance, The Federal Polytechnic, Ilaro

P. M. B. 50. Ilaro, Ogun State, Nigeria.

Email: [kazeem.arije@federalpolyilaro.edu.ng](mailto:kazeem.arije@federalpolyilaro.edu.ng)

### **Abstract**

Poor funding of the education sector and low school enrollment in Nigeria has been affecting the manpower development of the citizen. This study is an empirical assessment of public expenditure on education and manpower development in Nigeria for the period of 30 years (1990-2019). Secondary source and time series data were used and the variables such as; human development index, public capital expenditure on education, public recurrent expenditure on education, primary school enrollment, secondary school enrollment and tertiary school enrollment were employed for the study. The data were sourced from Central Bank of Nigeria (CBN) statistical bulletin of 2019 and World Bank Database. Data was analyzed using Ordinary Linear Square (OLS) techniques with the aid of E-views version 09. The various analyses that were used are unit root and regression. The findings revealed that public recurrent expenditure on education (PREE), primary school enrollment (PSE), and tertiary school enrollment (TSE) are statistically significant on the Human development index (HDI) while public capital expenditure on education (PCEE) and secondary school enrollment (SSE) are not statistically significant on the Human development index (HDI). It was concluded that if public expenditure on education if managed will improve manpower development in Nigeria. The study recommended that government should create awareness about school enrollment especially at primary and secondary level so that the citizen will know the importance of grass-root education.

**Keywords:** Manpower development, human development index, public expenditure on education, school enrollment.

### **1.0 Introduction**

Education is one of the important areas where governments in both developed and developing economies direct its resources. The belief is that the result from education expenditure will go a long way in transforming human, social, economic, cultural and other aspects of the people's lives (Obi & Obi, 2014). However, the paradox accompanying this belief is that, despite the huge investment in education, there exist no strong evidence of growth-promoting externalities of education in Nigeria, but rather, it further deepens social inequality and inculcate negative social changes such as cultism, rent seeking, sexual harassment, sorting, result racketeering, industrial disputes as well as brain drain among other social vices in the Nigerian school system and the society at large (Obi & Obi, 2014)

Education is the process that facilitates learning, or the acquisition of knowledge, skills, values, beliefs, and habits (Denis, 2015). According to (Omojomite, 2010), the education sector in Nigeria has passed through two phases of development, the phase of rapid expansion in the growth of the sector (1950-1980) and the second phase of rapid decline in the sector in terms of growth (1981-2009). Educational curriculum at this first period was not local oriented. It was based on colonial ideology by the British. It must be noted also that at the initial phase of educational development no effort was made to select school curricula that would meet the long-run developmental needs of the Nigeria society and emphasis was placed on numeracy and general intellectual capacity while technical and practical skills were

neglected. The university college Ibadan which was the only university in Nigeria before 1960 had no facilities of engineering, law and technology.

Public spending on education falls under the fiscal policy which involves the use of public revenue and expenditure variables to control or influence the behavior of the economy or that of the macroeconomic variables of the nation. It is a complement to monetary policy. Since the time of the "Keynesian Miracle" that pulled the global economy out of a hopeless depression, emphasis has heightened on the role of government intervention in the economy in saving it from total collapse in times when the market fails. One of such interventionist approaches adopted by the government is the use of public expenditures through its constitutional responsibility of annual budget formulation and execution (Urama, Itanwu, Ogbonna, & Obodoechi, 2018).

Manpower is the labour force or work force of a country. In its broad concept, it includes all who are potentially employable, ranging from unskilled to the most highly skilled workers and development involves change for better. Thus, in this study, manpower development is described as all the processes involved in making individuals acquire knowledge, skills and capabilities which dispose them to be engaged in or for readiness for productive activities (Samu, 2010). Statistics recently released by the United Nations Human Development Index (HDI) ranks Nigeria 26th out of the 54 African countries and 13th out of the 16 West African countries on education. The HDI rating was based on four critical macroeconomic variables of education, literacy, life expectancy and standard of living. It also ranked Nigeria 156th out of the 187 countries that were surveyed (Olure-Bank & Olayiwola, 2017)

Manpower development involves quantitative and qualitative training of person to carry out job in the society. It is an important factor in the economy of every nation and no serious nation can afford to ignore it. In Nigeria, it has been a major concern of the government since independence. It was clear to the government that political independence without economic self reliance would bring about no meaningful development (Samu, 2005). In recent times, there has been increase in public expenditure yearly in Nigeria which includes expenditure on education. Despite the increase on the education expenditure, the manpower development in the country is nothing to write home about. Nigeria has been ranked poorly by the United Nations Human Development Index (HDI) and this has led to the essence of this research work to know why public education expenditure has not been having significant effect on manpower development in Nigeria.

The growth of the education sector over the last three decades is been affected by the global economic crisis and the more recent Covid-19 pandemic as well as fiscal stringency due to over dependence on oil. This has left both the lower and higher-education institutions in Nigeria short of funds for their operations with respect to the demand imposed on them (Oriakhi & Ameh, 2014). The idea that education is a form of investment in manpower development is one of the most important developments in economics and it has had considerable impact on educational planning both in developed and developing countries. Since the start of democracy in Nigeria, the funding of education as been poor and this has led to poor state of infrastructure in federal and state schools in Nigeria. The Nigeria's government budget has been low especially the percentage of budget allocated the education sector which is below the 15% to 20% that was recommended by United Nations Educational Scientific and Cultural Organization (UNESCO). The under-funding of the education sector has led to strike by academic union staffs of universities and polytechnic in recent years (Greg & Agboro, 2014). From the foregoing, the objective of the study is to examine public expenditure on education and manpower development in Nigeria.



## 2.0 Literature Review

### Concept of Public Expenditure

Public expenditures are the costs that are usually incurred by the government for the provision and maintenance of itself as an institution, the economy and society. Public expenditures usually tend to increase with time as the economy becomes large and more developed or as a result of increase in its scope of activities. (Ogboru, 2010) identified recurrent and capital budget as one of the major types of budget in an economy. It is sometimes referred to as revenue budget and it covers recurrent items or expenditure. The capital budget has to do with expenditures necessary to procure capital assets.

According to (Taiwo, 2011), public expenditure is a fiscal instrument which serves a useful role in the process of controlling inflation, unemployment, depression, balance of payment equilibrium and foreign exchange rate stability. In the period of depression and unemployment, government spending causes aggregate demand to rise and production and supply of goods and services follow the same direction.

The five ways of classifying public expenditures are: by levels of government, by ministries, extra-ministerial departments and parastatals, by economic life span, by object of expenditure and by sectoral economic functions. In Nigeria, public expenditures are functionally classified into four, namely Administration, Economic services, Social and Community services as well as Transfers with capital and recurrent expenditure compositions (C, 2018).

### Reasons for the Rise in Public Expenditure

According to (El Atmani, 2021), the main objective of government increase in expenditure is to improve the efficiency and effectiveness of public expenditure management processes, to enhance the quantity and quality of public service delivery. Below are four reasons for such incremental policies:

- i. Improve Public Service:** Higher government spending can lead to improved public services like health, education, and transport. These are important for increasing the quality of life and economic well-being.
- ii. Increase Productivity Capacity of the Economy:** Some types of government spending can help to overcome market failure. For example, education can help increase labour productivity and reduce structural unemployment. If the education spending is well targeted, it can help to increase the long run trend rate of growth. However, not all government spending is guaranteed to increase government spending, it may be subjected to government failure and inefficiency.
- iii. Expansionary Fiscal Policy:** Increased government spending without higher taxes is likely to increase aggregate demand. It will cause a budget deficit however, the increased government spending is an injection of spending to the economy and could help to increase the rate of economic growth.
- iv. Reduce Inequality:** A significant percentage of government spending is spent on social security. This includes benefits, such as unemployment benefits, income support, child benefit, and housing benefit. The majority of these benefits are means-tested, this means they are targeted to those on low income. The aim is to reduce relative poverty and inequality.

### Concept of Education

Education is a way of imparting or possessing general knowledge, developing the powers of reasoning and judgment, and to prepare oneself or others intellectually,

psychologically and socially for a mature and responsible life style (Ajimuse & Babalola, 2020) According to (Denis, 2015), education is the process that facilitates learning, or the acquisition of knowledge, skills, values, beliefs, and habits.

Education is very important for sustaining and developing the people. With education, people are able to endure, mature and acquire experience, wisdom and capability to fend for themselves as well as serve their communities and nation (Ajibola, 2016). He further stated that education is both an instrument of stability and of change, a tool for inculcating moral values in the citizen. The role of education in human development cannot be over emphasized. It has been described as an important tool in any human society, which makes man to develop faster than other creatures. Education is the bedrock of all human sectors, political, medical, agricultural, security, etc (Idogbo & Imonike, 2016). Education in Nigeria is directed towards self- realization, better human relationship, and individual and national efficiency, effective citizenship, National consciousness, and national unity, social, cultural, economic, political, scientific and technological progress (Famade, 2015).

### **Concept of Manpower Development**

Manpower Development is a systematic process of training and growth by which individuals gain and apply knowledge, skill, insights and attitude, manage work and personnel effectively. It involves the estimation of the demand for the supply of management staff for the organization in future. It is the involvement of efforts aimed at improving the quality as well as the number of management staff (Dialoke, Ukah & Ikoro, 2016). Studies showed that many workers fail in organizational expectations because the training needs were not identified and provided for. Development may help to build confidence in the workers and make him work more efficiently and effectively. Human development is a strategy to improve human skills, create avenues for people to make better choices that boost a healthier, longer and fulfilled lives. The predominant aim of every public's spending is to guarantee a long and healthy life for the citizens, ensure they are knowledgeable and enjoy a decent standard of living (Omodero, 2019).

### **Education Expenditure as a form of Human Capital**

Investment in education is as important as the plan for nation-building. It has the capacity to boost the human capital assets of individuals and fosters economic advancement for increased welfare and livelihood (Odigwe & Owan, 2019). Human capital itself refers to investment in human persons that improves productivity and growth. Shina (2017) conceptualized education expenditure as an investment. From the foregoing, it is obvious that both school enrollment and educational attainment are greatly influenced by educational expenditure.

In conceptualizing human capital broadly and educational expenditure specifically, the works of Theodore Schultz, Gary Becker and Jacob Mincer among others remains fundamental in their view of human capital "as investments made on human persons in form of education, training, health among others which in turn boost the productive capacity of the individual for economic development. Muse (2015), however stressed that a primary motivation for schooling was developing the general skills of individuals and therefore, that it made sense to measure human capital by the amount of schooling completed by individuals (school attainment).

## **3.0 Theoretical Review**

### **The Wagner's Law-Theory of Increasing Activities of State**

This law is named after the German economist Adolph Wagner (1835-1917). It was propounded in the year 1880. Wagner noted that there are inherent tendencies for the activities governments (for instance, in Nigeria we have the federal, state and local governments) to continually increase, over time, both intensively and extensively. These



increases in state activities necessitate increase in public expenditure. In the light of the above, a functional relationship was postulated to exist between the growth rates recorded by an economy and the growth rates of activities performed by government to such an extent that the government sector grows faster than the general economy. That is, that there is a long run tendency for public expenditure to rise as per capita income increases. He observed a tendency for public expenditure to increase directly with the level of industrial output and therefore called for increased allowance for “social consideration” in the conduct of industry with anticipation of continuous expansion of the public sector. Wagner explained the development of public expenditure in its various categories such as expenditure on law and other (police services), justice, education, health and welfare services, recreation and culture, information, among others to the development of the economy and its derivatives, also relevant are the changes in these expenditure categories mirrored by their income elasticity’s of demand. Wagner and Musgrave have shown these services are income elasticity. That is, public expenditure revealed that changes in the income elasticity of demand for public goods in the ranges of per capita income. They submitted that at when the level of per capita income is low, demand for public services tends to be very low, because such income is committed to satisfying main needs and that when per capita income starts to rise, the demand for services supplied by the public sector such as education, health, and transport starts to rise, thereby forcing government to increase expenditure on them. While, when the level of per capita income is high, the rate of public sector growth tends to fall because the more basic wants are satisfied.

This theory revealed that when the level of per capita income is low, demand for public services tends to be very low, because such income is committed to satisfying main needs and that when per capita income starts to rise, the demand for services supplied by the public sector such as education, health, and transport starts to rise, thereby forcing public to increase expenditure on them. While, when the level of per capita income is high, the rate of public sector growth tends to fall because the more basic wants are satisfied.

### **Empirical Reviews**

(Ajimuse & Babalola, 2020) examined public expenditure as major determinant tools on the management of tertiary education in Nigeria. It looked at the concept of education and education system, concept and overview of tertiary institution. It also highlighted financing higher education and public expenditure in education budgetary allocation to education sector (2010-2017). It gave an insight on the effect of inadequate budgetary allocation to universities, cost control and management of funding allocation in Nigerian universities, way forward suggested as recommendation. It however concluded that government should improve on adequate funding, upward review of pay package of workers, and grant full autonomy to tertiary institution for the management in Nigeria.

(Jibir & Aluthge, 2019 ) examined the determinants of public expenditure in Nigeria the study employs a slightly modified version of Wagner’s law by incorporating new variables such as oil revenue, trade openness, public debt, exchange rate, oil price, taxation and inflation to examine their effect on public expenditure size. The study uses time series data for Nigeria spanning between 1970 and 2017. Time series data were analysed using Autoregressive Distributed Lag (ARDL) model. The findings of the study reveal that oil revenue, GDP, population, trade openness, oil price, taxation and inflation are important determinants of the size of Nigeria’s public expenditure. The study recommends among others that the revenue base of the country should be diversified beyond oil sector, strengthening of fiscal and monetary policies to ensure stability in price level and exchange rate, the use of fiscal rule through excess crude oil account should also be strengthened to

create buffer against fluctuation in oil price and as well appropriate population reduction policies should be undertaken to curtail rapid population growth.

(Urama, Itanwu, Ogbonna, & Obodoechi, 2018) investigated the impact of capital and recurrent public education expenditure on economic growth in Nigeria so as to ascertain which component contributes more to economic growth. The study applied ordinary least squares technique on time series data for the period, 1981- 2016 and found that capital component of the total education expenditure had stronger impact (17%) on the nation's economy (GDP) than its recurrent counterpart (13%). The Granger Causality test showed that while capital education expenditure granger causes economic growth in Nigeria, recurrent education expenditure does not. This work therefore recommends that Nigerian government should step up her yearly budgetary allocation to education from the current single digit averaging about 7% of the total budget to double digits so as to boost the growth of her economy and that such allocation should pay more attention to the capital component as it promotes growth more than its recurrent counterpart.

(Echekoba & Amakor, 2017) research work explores the impact of public expenditure such as expenditure on General administration, Defense, Education and Health on GDP of Nigeria (1983-2016) the work identifies that despite the continuous increase in public expenditure, there is still a persistent economic backwardness in Nigeria. The researcher sought to determine the relationship and impact of the identified variables on the economic growth of Nigeria. Time series data were generated from the Central Bank of Nigeria (CBN) statistical bulletins of various years spanning from 1983 to 2016. The Ordinary Least Square (OLS) method of estimation was used in the multiple regression analysis. The result showed that expenditure on General Administration has a positive impact and significant relationship with economic growth; Expenditure on Defense has a negative impact but significant relationship with GDP; Expenditure on Education has a positive and highly significant relationship with economic growth; and Expenditure on Health has a positive but insignificant impact on GDP. Among the recommendations were that government should ensure that her expenditure whether capital and recurrent should be managed and monitored at the implementation stage to enhance comparable achievement viz-a-viz on economic growth.

(Elumah & Shobayo, 2017) investigated effect of expenditures on education, human capital development and economic growth in Nigeria. This study covers the period of 1970-2015, employing an ex-post facto research design using time series data. The data used for this study are obtained mainly from secondary data which is quantitative in nature. The study employs descriptive statistics to assess the contributions of public expenditure on education, public expenditure on health, tertiary school enrolment, secondary school enrollment, primary school enrolment on gross domestic product. Also, Unit Root Test is conducted on the series to ascertain if they are stationary while co-integration test follows suit, to also ascertain the long run relationship between expenditure on education and human capital development on economic growth. The Johansen Co-integration test and Error Correction Mechanism estimated model found that that there is no significant effect of expenditure on education and human capital development on economic growth in Nigeria. Therefore based on the findings of this study, the study concludes that the level of human capital of Nigeria can be develop if the standard of education and health are not just maintained but improved on to meet the modern economy of the world.



#### 4.0 Methodology

For the purpose of this study, secondary data source will explore in presenting the fact of the situation. These data was sourced from Central Bank of Nigeria Statistical Bulletin 2019 and World Bank Database. Data collection on this subject matter covers a period of 30 years starting from 1990-2019. The 2019 bulletin was downloaded from the official website of Central Bank of Nigeria and World Bank Database. The variables employed for the study is; public capital expenditure on education, public recurrent expenditure on education, primary school enrollment, secondary school enrollment and tertiary school enrollment (independent variables) and manpower development proxy by human development index (dependent variable). Data shall be analyzed using Ordinary Linear Square (OLS) techniques with the aid of E-view version 09.

#### Model Specification

The model that will be formulated include;

$$\text{HDI} = f(\text{PCEE}, \text{PREE}, \text{PSE}, \text{SSE}, \text{TSE})$$

$$\text{HDI} = \beta_0 + \beta_1 \text{PCEE} + \beta_2 \text{PREE} + \beta_3 \text{PSE} + \beta_4 \text{SSE} + \beta_5 \text{TSE} + \mu$$

Where

HDI = Human Development Index

PCEE = Public Capital Expenditure on Education

PREE = Public Recurrent Expenditure on Education

PSE = Primary School Enrollment

SSE = Secondary School Enrollment

TSE = Tertiary School Enrollment

$\beta_0$  = constant term

$\beta_1 - \beta_5$  = Coefficient of Independent Variables

$\mu$  = error term.

#### Results and Interpretation

**Table-1: Unit Root Test At Level**

Group unit root test: Summary

Series: HDI, PCEE, PREE, PSE, SSE, TSE

Date: 07/23/22 Time: 21:07

Exogenous variables: Individual effects

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu $t^*$	1.63861	0.9494	6	174
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	1.12198	0.8691	6	174
ADF - Fisher Chi-square	13.8144	0.3127	6	174
PP - Fisher Chi-square	12.1447	0.4341	6	174

\*\* Probabilities for Fisher tests are computed using an asymptotic Chi

-square distribution. All other tests assume asymptotic normality.

#### Source: Authors computation using E-view 9.0 version

Macro and financial time series usually exhibit trends which would result in non-stationary of data. However, auto-regressive data must be transformed to stationary form

before any meaningful analysis can be done. This study examines the unit root property of the variables in the model to determine their time series properties or characteristics, that is, whether stationery or non- stationary/ trend stationarity using ADF and PP test. The estimation of unit root test is essential to avoid spurious regression results (Gujarati, 2014).

However, Augmented Dickey-Fuller will be discussed extensively for the purpose of this study, because it tests the null hypothesis whether or not a unit root is present in a time series sample. It relies on rejecting a null hypothesis of unit root test (when the variables are non-stationary) in favour of the alternative hypothesis of stationary. Result however can be stationary or non-stationary at level, first difference or second difference as the case maybe.

The result in the table above shows that the independent and dependent variables under study i.e Human development index (HDI), Public capital expenditure on education (PCEE), Public recurrent expenditure on education (PCEE Primary school enrollment(PSE), Secondary school enrollment(SSE), and Tertiary school enrollment (TSE) are not stationary at Level at 0.05 (5%) since the probability is higher than 5%.

**Table-2: Unit Root Test At First Difference**

Group unit root test: Summary

Series: HDI, PCEE, PREE, PSE, SSE, TSE

Date: 07/23/22 Time: 21:13

Exogenous variables: Individual effects

Method	Statistic	Prob.**	Cross- Sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-11.2368	0.0000	6	168
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-11.0077	0.0000	6	168
ADF - Fisher Chi-square	110.438	0.0000	6	168
PP - Fisher Chi-square	127.222	0.0000	6	168

\*\* Probabilities for Fisher tests are computed using an asymptotic Chi-square distribution. All other tests assume asymptotic normality.

**Source: Authors computation using E-view 9.0 version**

Macro and financial time series usually exhibit trends which would result in non-stationary of data. However, auto-regressive data must be transformed to stationary form before any meaningful analysis can be done. This study examines the unit root property of the variables in the model to determine their time series properties or characteristics, that is, whether stationery or non- stationary/ trend stationarity using ADF and PP test. The estimation of unit root test is essential to avoid spurious regression results (Greg & Agboro, 2014).

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The result in the table above shows that the independent and dependent variables under study i.e Human development index (HDI), Public capital expenditure on education (PCEE),





Public recurrent expenditure on education (PCEE), Primary school enrollment (PSE), Secondary school enrollment(SSE), and Tertiary school enrollment (TSE) are stationary at first difference at 0.05 (5%) significance level since the probability is less than 0.5.

**Table-3: OLS Regression**

Dependent Variable: HDI

Method: Least Squares

Date: 07/24/22 Time: 06:35

Sample (adjusted): 2003 2019

Included observations: 17 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.482667	0.011317	42.65155	0.0000
PCEE	-3.43E-05	5.05E-05	-0.679918	0.5106
PREE	0.000121	2.21E-05	5.485305	0.0002
PSE	-0.000221	8.53E-05	-2.587137	0.0253
SSE	0.000278	0.000145	1.919516	0.0812
TSE	-0.001387	0.000532	-2.608407	0.0243
R-squared	0.943351	Mean dependent var	0.499647	
Adjusted R-squared	0.917601	S.D. dependent var	0.028242	
S.E. of regression	0.008107	Akaike info criterion	-6.521620	
Sum squared resid	0.000723	Schwarz criterion	-6.227545	
Log likelihood	61.43377	Hannan-Quinn criter.	-6.492389	
F-statistic	36.63536	Durbin-Watson stat	1.892905	
Prob(F-statistic)	0.000002			

**Source: Authors computation using E-view 9.0 version**

From the above regression output on table 2, the Durbin-Watson Statistics 1.892905 is approximately 2 which show that there is no presence of positive serial correlation which could render the estimated model result biased. Thus, the results are reliable, as meaningful economic and standard inference can be made.

Hence, From the equation of best fit estimated above, it could be deduced that the regression equation depicting the linear relationship between Human development index (HDI), Public capital expenditure on education (PCEE), Public recurrent expenditure on education (PCEE), Primary school emolument (PSE), Secondary school emolument(SSE), and Tertiary school emolument (TSE) can be stated as:

$$\text{HDI} = 0.482667 - 3.43 \text{ PCEE} + 0.000121 \text{ PREE} - 0.000221 \text{ PSE} + 0.00028\text{SSE} - 0.001387 + \text{Et}$$

$$\text{S.E: } (0.011317) \quad (5.05) \quad (2.21) \quad (8.53) \quad (0.000145) \\ (0.000532)$$

$$\text{T.ratios } (42.65155) \quad (-0.679918) \quad (5.485305) \quad (-2.587137) \quad (1.919516) \quad (-2.608407)$$

$$\text{Prob. } (0.0000) \quad (0.5106) \quad (0.0002) \quad (0.0253) \quad (0.0812) \quad (0.0243)$$

The figures in the first set of parentheses are the estimated standard errors of the regression coefficients, the figures in the second set are estimated t-ratios, and the figures in the third set of parenthesis are the estimated p-values.

From the estimated regression model above, it can be deduced that Public recurrent expenditure on education (PREE), and Secondary school enrollment (SSE) of 0.000121 and 0.000278 respectively maintain positive relationship with HDI while Public capital expenditure on education (PCEE), Primary school enrollment (PSE), and Tertiary school enrollment (TSE) of -3.43, - 0.000221 and -0.001387 maintains negative relationship with HDI.

Thus since Public recurrent expenditure on education (PREE) and Secondary school enrollment (SSE) maintain positive relationship with HDI, it follows that for every 1% variation or changes in PREE, SSE will result to about 0.000121 and 0.000278 respectively which in turn result into increase in the average or mean value human development index (HDI).

Contrarily, Public capital expenditure on education (PCEE), Primary school enrollment (PSE), and Tertiary school enrollment (TSE) of -3.43, 0.000221 and - 0.001387 maintains negative relationship with HDI, thus, for any 1% variation in PCEE, PSE and TSE will result to about 3.43, 0.000221 and 0.001387 decreases in the value of HDI. The intercept of the model which is 0.484667 represents the value of the dependent variable; Human development index (HDI); should all the explanatory variables be held constant.

The multiple correlations co-efficient (R) which is the square root of  $R^2$  is 0.943351 indicates a very strong linear positive relationship between the independent variables and the dependent variable since the value is approximately 1. This indicates that about 94% of the variation in the dependent variable; HDI can be accounted for by the independent variables; PCEE, PREE, PSE, SSE, and TSE while the remaining 6% is accounted for by other extraneous factors not captured in the model but represented by stochastic term. This figure however increases the goodness of fit of the regression model. This implies that the specified model is affected significantly by the removal or addition of variables to the specified model.

### **T –statistics and Probability (Sig.)**

The column of T-statistics and probability sig. are the evidence that shows if estimated coefficients are asymptotically normally distributed and also the significance level of the variables.

Public recurrent expenditure on education (PREE), and Secondary school enrollment (SSE) of 5.485305 and 1.919516 respectively maintain positive relationship with HDI while Public capital expenditure on education (PCEE), Primary school enrollment (PSE), and Tertiary school enrollment (TSE) of -0.6799, - 2.587137, and - 2.608407 maintains negative relationship with HDI.

Probability value of the t-statistics was considered to determine the significance level of each variables in the model. Hence, since the p value of Public recurrent expenditure on education (PREE), Primary school enrollment (PSE), and Tertiary school enrollment (TSE) of 0.0002, 0.0253 and 0.02 respectively are lesser than 0.05 percent level of significant, it can be concluded that the variables are statistically significant on the Human development index (HDI) level of the country under study.

Contrarily, Public capital expenditure on education (PCEE) and Secondary school enrollment (SSE) of 0.5106 and 0.0812 respectively are greater than 0.05 percent level of significant, it can be concluded that the variables are not statistically significant on the Human development index (HDI) level of the country under study.

### **F-Statistic**

The F- stat of 36.63536 is relatively low and with probability value of 0.0000002, this reveals that jointly, the included independent variables explain variation in the dependent variable; that is, the percentage of variation in the dependent variable, accounted for by the



explanatory variables is true and not due to chance or error.

### **Conclusion and Recommendations**

Based on the results, the study discovered that public recurrent expenditure on education (PREE), primary school enrollment (PSE), and tertiary school enrollment (TSE) are statistically significant on the Human development index (HDI) while public capital expenditure on education (PCEE) and secondary school enrollment (SSE) are not statistically significant on the Human development index (HDI). However, the f-statistic results indicate that the combine variables have significant impact on human development index. It can be concluded that if public expenditure on education is managed the way, it will improve the human capital development in Nigeria.

Based on the findings, the following recommendations were provided:

- i. The public capital expenditure on education should be properly managed in order to improve the infrastructural facilities in school which will eventually lead to improvement in human capital development in Nigeria.
- ii. The government should create awareness about school enrollment especially at primary and secondary level so that the citizen will know the importance of grass-root education.
- iii. There is need for government to increase budgetary allocation on education expenditure in general in order to improve its human capital development.
- iv. The government should persuade and corporate bodies that make contributions towards education to increase their financial participation in funding education.
- v. Also, it is imperative to embark on radical diversification of the Nigerian economy to other viable and productive sectors of the economy, such as human development.

### **References**

- A. Jibir , C. Aluthge .( 2019) .Modelling the determinants of public expenditure in Nigeria . Cogent Economics & Finance.23-1 ,(1)7 ‘ ‘
- A. M. Olure-Bank , W. Olayiwola .(2017) .Education funding and human capital development in Nigeria .Journal of World Economic Research.16-5 ,(1)6 ‘ ‘
- A. Taiwo .(2011) .Public expenditure and economic development: empirical evidence from Nigeria .European Journal of Business Management.28-18 ,(9)3 ‘ ‘
- B. U. Omojomite .(2010) .Education and economic growth in Nigeria: A Granger causality analysis . .An International Multi-Disciplinary Journal.108-90 ,(3)4 ‘ ‘
- C. E. Urama ,B. E. Itanwu ,O. E. Ogbonna , D. N. Obodoechi .(2018) .Public capital and recurrent education expenditures and economic growth in Nigeria: an empirical investigation .Journal of Business Management and Economic Research-28 ,(10)2 ‘ ‘ .38
- D. E. Oriakhi , G Ameh .(2014) .Public expenditure and the development of the education sector in Nigeria: an evaluation .Review of Public Administration and Management ‘ ‘ .160-147 ,(5)3
- E. E. Greg , D. E. Agboro .(2014) .The determinants of public expenditure on educational infrastructural facilities and economic growth in Nigeria .Journal of Business Management and Economics.161-152 ,(6)5 ‘ ‘
- F. N. Echekoba , I. C. Amakor .(2017) .The impact of public expenditure on Nigeria economic growth: a further disaggregated approach . .Journal of Social

- Development.48-34 ,(3)6 “
- F. N. Odigwe و ،V. J. Owan .(2019) .Trend analysis of Nigerian budgetary allocation to the education sector from 2009 2018–with reference to UNESCO 26% benchmark . International Journal of Educational Benchmark.14–1 ,(1)14 “
- H. El Atmani .(2021) .Reasons for the Rise in Public expenditure من الاسترداد من .Retrieved from www.researchgate.net.
- I. Ogboru .(2010) .Nigeria’s Public Budget, Trade and Balance of Payments . .Maiduguri : University of Maiduguri press.
- J. Denis .(2015) .Democracy and Education . .The Free Press. London.4–1 “
- L. O. Elumah و ،P. B. Shobayo .(2017) .Effect of expenditures on education, human capital development and economic growth in Nigeria . .Nile Journal of Business and Economics.50-40 ,(1)5 “
- M. Y. Ajimuse و ،O. E. Babalola .(2020) .Public expenditure: a major determinant tools on the management of tertiary education in Nigeria .Journal of Research & Method in Education (IOSR-JRME.32-28 ,(3)10 “(
- N, B. C .(2018) .Statistical Bulletin. Retrieved from من الاسترداد من .www.cbn.gov.ng.
- O. A. Famade .(2015) .Funding higher education in Nigeria .Journal of Research & Method in Education.68-63 ,(1)5 “
- O. A. Famade .(2015) .Funding higher education in Nigeria . .Journal of Research & Method in Education.68-63 ,(1)5 “
- O. J. Ajibola .(2016) .Education as a pathway to sustainable growth in Nigeria .IJRRSSH “ .56-38 ,(3)3
- P. O. Idogbo و ،J. S. Imonike .(2016) .Increasing access to university education in Nigeria; present challenges and suggestions for the future .The African Symposium ,(12)3 “ .323-312
- Z. C. Obi و ،C. O. Obi .(2014) .Public expenditure on education and poverty reduction: implications for achieving the MDGs in Nigeria a computable general equilibrium micro-simulation analysis . .Asian Economic and Financial Review.172-150 ,(2)4 “

#### APPENDIX- 1 – DATA PRESENTATION

YEAR	HDI	PCEE	PREE	PSE	SSE	TSE
1990	N/A	2.1	2.4	83.04525	24.72	N/A
1991	N/A	1.49	1.26	86.4916	N/A	N/A
1992	N/A	2.13	0.29	85.6465	N/A	N/A
1993	N/A	3.58	8.88	89.7045	N/A	N/A
1994	N/A	4.99	7.38	93.8185	N/A	N/A
1995	N/A	9.22	9.75	93.6067	N/A	N/A
1996	N/A	8.66	11.5	89.3006	N/A	N/A
1997	N/A	6.9	14.85	78.6635	N/A	N/A
1998	N/A	23.37	13.59	N/A	N/A	N/A
1999	N/A	17.25	43.61	N/A	23.55	6.12489
2000	N/A	27.97	57.96	94.1129	24.61	N/A
2001	N/A	53.34	39.88	98.6895	27.03	N/A
2002	N/A	32.47	80.53	96.3756	29.61	N/A
2003	0.452	55.74	64.78	98.0053	0.00	9.71426



2004	0.462	30.03	76.53	99.4671	35.00	9.93078
2005	0.467	71.36	82.8	100.677	34.96	10.49106
2006	0.474	78.68	119.02	101.365	34.47	N/A
2007	0.479	150.9	150.78	102.108	31.87	N/A
2008	0.485	152.17	163.98	93.31	35.39	N/A
2009	0.491	144.93	137.12	84.1386	39.23	N/A
2010	0.484	151.77	170.8	85.1179	44.22	9.57
2011	0.494	92.85	335.8	90.6712	45.56	10.1744
2012	0.502	97.4	348.4	92.0911	47.18	N/A
2013	0.52	154.71	390.42	94.1185	56.21	N/A
2014	0.523	111.29	343.75	90.1036	45.62	N/A
2015	0.527	82.98	325.19	N/A	46.78	N/A
2016	0.528	68.8	339.28	84.7256	42.00	N/A
2017	0.533	167.66	403.96	N/A	N/A	N/A
2018	0.534	203.42	465.3	N/A	N/A	N/A
2019	0.539	264.69	593.33	N/A	N/A	N/A

**Source:** Central Bank of Nigeria Statistical Bulletin 2019 and World Bank Database 2019