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Government Education Expenditure and Per capita income in Nigeria between (1980-2015)

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Abstract

The study examined the Effect of Government Expenditure on Education on Per capita income (PCI) in Nigeria between (1980-2015). The objective was to analyse the relative impact of federal government expenses to education on per-capita income. Relevant theoretical, empirical literature etc. was reviewed. During the study, relevant data on our variables needed by the researcher were gotten from the Central Bank of Nigeria (CBN) Statistical Bulletin, The Classical Linear Regression Model was employed in modelling real correlation between per- capita income and variables of budgetary allocation. The OLS (Ordinary Least Square) equation technique was vigorously used to really analyse the data. The test for a unit root analysis showed that every variable weren't stationary at levels except for life expectancy. But after first difference, they became stationary. The Johansen co-integration result revealed that all variables were co-integrated and had a valid ECM. The ECM analysis made, showed that all the models were significant and the estimates unbiased. The analysis further revealed that budgetary allocation to education in Nigeria has the correct signs and significantly impacted on income per-capita. It was then, recommended that our government at every level should increase their education budgetary allocation towards the UNESCO's 26% criteria as strategy to fast-tract national development for Nigeria. Also, the study further recommended that greater percentage of education budgetary allocation should be spent on capital project, all allocation to education sector should always be monitored to ensure such finances are released as at when due, effectively and efficiently utilized.

KEYWORDS: Government, Education, Expenditure and Per-capita income.

Introduction

The educational sector in Nigerian over the years has experienced huge government participation and intervention. The sector has been through series of historical development. Being

reviewed from an under perspective, socio-economic, political development etc is by knowledge advancement. Education is acquiring basic skills required for building an economy. It goes a long way in explaining what development entails. Lawal and Wahab (2011) opined that the general opinion concerning the positive impact education has is that the rate of its private return for an individual from extra year of being schooled is from 5% to 15% percent. They were of the notion that it must reflect that employers of labour see workers that are educated as being productive unlike less educated employees.

Education instills in someone, how to broaden his/her horizons, making good choices and having a voice in public decision making. Thus, education means investment to develop the individual and his future. Fwente (2006) informed that in developed nations, the major part of human capability is the cognitive and non-cognitive abilities, needed in his/her place of work, home, formal and also informal training acquired by various individuals are highly utilized in producing output and indeed further knowledge. Thus, for any society to attain development, such a nation must develop its manpower and human capabilities. Therefore, adequate investment must be seen to develop our human capabilities (Chima & Ebong, 2018).

Nigerian has experienced lots of political, social and economic issues. Despite the numerous human capabilities and natural resources which the country is endowed with, high poverty rate leads the list. This has inversely affected the Nations educational sector. Between 1977-1998, the aggregate education budgetary allocation represented about 9.7% of state expenses (Herbert, 2002). While the GDP from 1991-2009 has a value of 0.85% to its greatest point of 5.11% in 1981, then its lowest was 0.85% in 1991. Judging from these given statistics, it is clear such that education expenditure in the country is low.

Apart from poor funding of education, there are other issues that has plagued the Nigerian education sector. The education system has experienced poor level in infrastructural development, inadequate man power, fall in educational standard etc. The situation with regards to public education expenditure does not correlate with the theoretical linkage between educational expenditure and per-capita income. This forms the basic reason for this study.

Objective of the Study

Determine the effect of government expenditure on education and Gross Per- capita income (PCI) in Nigeria between 1980-2015.

Education and Per-Capita Income (Proxy for GDP)

The link between the educational system, economic growth also the role education plays in a society has always been a public debate from the days of Plato till date. It is crystal clear that education possess a high economic value, thus a huge chunk of the nation's wealth should be invested in education. Thus, investing in education will eventually lead to formation of human capital and contribute to economic growth, instead of investing in the physical and also social and capital (Loaning, 2004, p.11).

Yogish (2006) further positd that investment made in education would eventually lead to returns in skilled manpower which will to be geared towards developmental needs which will

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accelerate economic and sustained development and also improve in the general well-being of in our society. This lends credence to why theory of human capital lays emphasis really on the way education can increase productivity level, worker efficiency through a hike in the cognitive stock of man. Provision of education is a vital policy tool to be utilized in promoting growth in our society due to spending on education constitute as a main form of investment.

Education increases people's chances of gaining jobs. Its input in the growth in labour productivity is between 13% and 30% (Ernest, 2011). Cheminque (2005) commented that an up-shoot in state expenditure if devoted to agriculture, health, education etc. will definitely affect the entire country through the hike in our country's Total Factor Productivity (TFP). Proper health care, including quality education will assist poor masses to acquire a better life and thus increase returns on investments. As a nations growth is driven by TFP, labour and also human capital, any investment that is meant to improve total factor productivity (TFP) and labour – Productivity, will eventually bring about improvement in our country.

The nation's spending on R and D (Research and Development), human capital, including infrastructure are main factors which determine sustainable development, basically through an improvement in TFP. The classical literature on state spending on education argues that, education is a social good and provides a basis in the allocative function of budget policy. The major argument is, government (public sector) carryout certain functions in a society due to certain commodities cannot be efficiently provided for through a market mechanism due to market failure.

Education serves dual purposes. It is general (public) commodity and a private good. Education serving as a private good, indicates that gains from education that accrues to a person can be ascertained through future income inflows. Therefore, if the state, invest heavily in education, such investment will equate the development in a society. And as such, when people in a society invest in education, future income is enhanced, but the society benefits by proxy. Therefore, the linkage between a nations skill required in other for development to occur and their population is "Education'.

Government needs to allocate more of her resources (budgetary Resources) to education so that development can occur. Thus, a well-developed and sustained educational sector will transcend to long-term achievement to its masses and society. With the present trend concerning state expenses to education, evidence holds it that the Nigerian education sector seems underdeveloped. These underdevelopments can be noticed through a simple fact that our nations's population seeking for qualitative education far out-weighs the available schools, such schools are ill-equipped etc. therefore, state intent to move resources from sectors not productive; like general administration, the system thus, will eventually develop education in Nigeria (Oriakhi & Ameh, 2014).

Human Capital Theory

The Human Capital Theory (HCT) was first Propounded by Theodore W. Schultz in 1960 but was later popularised by Gary S. Becker in 1962. Human capital implies the investment individuals make in themselves which enhances such person's economic productivity. The theory is concerned with a persons existing knowledge, personality, social attitudes, habits and creative ability to carry-out activities of labour in other to add to an economy. It argues that, if a society has a learned population, such population is otherwise a highly productive population. Human capital involves the physical and

physical ability people possess. The theory emphasizes the development human productive factor in other to attain development.

The major thesis of the theory is that spending on health, education, job search, information retrieval, migration etc. by individuals, household, organizations and public authorities is a conscious investment activity guided by anticipated future (Ebong, 2006). This indeed shows that human capability in the real form of skill and also knowledge acquired through proper education and even health care makes individuals more productive and more employable; making such persons more employable even guarantees them more future income. Thus, human capital includes man to stimulate and produce capital for their personal and entire economic societal development.

Review of Related Empirical Study

Malley and Apostolis (2007) discovered that education government expenditure promotes growth and welfare. Furthermore, they posited that if government expenditure changes such that percentage share in educational expenditure rises above components of aggregate government expenditure, the welfare benefits or gains will rise by 4% of consumption. Blankenau, Wiulom, Nicole & Simpson (2004), researched on government spending in educational sector and the nation's growth using panel data. They discovered an existing positive link between state spending in educational sector and an economy's growth. Also, it was known that state's aggregate capital and also recurrent expenses to education is inversely linked to growth (Nurudeen and Usman, 2010). While increasing state spending on sectors like health, transport, communication has direct link to economic growth.

Bose, Niloy, Emranul, Denis & Osborn (2003), researched on the study tagged growths effect of state spending focusing on sectoral state spending in twenty countries between 1970 1990. A t expiration of their research, it was known that states capital spending on GDP had a significantly and positive correlation. At the sectoral level, it then discovered that Government investment and total expenses to education are significantly linked to growth. Uwatt (2002), in another work examined how human capital will affect economic growth. He extensively used of five variables of Solow's model. He linked labour, human capital, real GDP and total educational enrolment. His discovery was that physical capital positively affected growth.

Bakare (2006) also researched on growth implications of investment made on human in Nigeria between 1970-2000.After his study, he asserted, there exist an institutional and significant functional relationship linking growth and investments made in human in the Nigeria society since 1% decrease in human investment will led to 48.1% fall in gross domestic growth rate. Olaniyan & Okemakende (2008), studied educational implications and development level in human formation. After their study, they asserted that Nigeria as a country is faced with issues which can limit capacity in education expansion to encourage economic development like drain regional imbalances, under employment etc.

Dauda (2009), in another separate study, tagged link in educational spending and growth in Nigeria from 1977-2007. They employed the Johanson co-integration technique and also eror correction model. At expiration of their study the result revealed an existing a long-rum functional

correlation between educational investment and growth of Nigerian economy. Adenuga (2006) studied the existing correlation between human formation and growth in Nigeria using data generated from CBN annual statistical bulletin between 1970-2003 in Nigeria. They showed growth is fast-track through investing in human by making available, required infrastructure desired in the nations educational sector.

Lawal and Waahah (2011), in another study, researched on the correlation that links education and growth: The Nigeria experience. They made conclusions that, decision to really invest adequately in education just to acquire economic growth rapidly is decision made rightly provided such decision would not hamper the quality in educational system, thus, didn't have any effect in the average cost of education. This, they said that Nigeria economy would benefit uneasily from a hike in state spending to education even if other sectors experience a decrease.

Afzal M, Farooq, Alimad, Begam & Qudcius (2010), investigated a short run and long-rum linkage between education and growth in Pakistan economy and discovered a correlation among variables. Ararat (2007), made an analysis on an effect education will actually have on any economy in two countries namely Ukraine and Russia. The work estimated the real endogenous growth, the liner and log- linear growth model equations that gave an account, given various time lags of impact of schooling (higher education) on growth. His work showed a hike in access of population to higher education level wills positively affect the GDP-per-capital income. This, he further explained that a rise in aggregate number of those educated at institutions of greater learning will transcend to growth.

Research Design

The study is correlation in nature. A correlation research design was chosen in our study because government expenditure on education would be treated to observe its effect on Per-capita income.

Method of Data Collection

The data meant for our study are secondary in nature; thus, consist of annual time series of the following variables:

- Per Capita Income
- Government Recurrent expenses (Expenditure) on Education
- Government Capital expenses (Expenditure) on Education

TABLE 3.1: Source of Data

Variable	**Source**
Per Capita Income	Central Bank of Nigeria (CBN) Statistical Bulletin (2016 Edition)

Government Recurrent expenses (Expenditure) on Education (GREE)	Central Bank of Nigeria (CBN) Statistical Bulletin (2016 Edition)
Government Capital expenses (Expenditure) on Education (GCEE)	Central Bank of Nigeria (CBN) Statistical Bulletin (2016 Edition)

Model Specification

PCI = f (GREE, GCEE, UNESCO 26%) - - - (1)

They implicit model above were transformed into log linear explicit model as follows:

+ - - - (2)

Where:

GREE is government recurrent expenses (Expenditure) on education

GCEE is government capital expenses (Expenditure) on education

PCI is gross domestic product per-capita.

, , and λ are intercept terms.

to and to are model parameters while the is the error term.

Method of Data Analysis

This method employed in estimating our model specified and analyzing the research data is the Classical Linear Regression approach, using the Ordinary Least Square (OLS) method. The OLS method was employed due to the statistical properties of its estimates. The parameter estimates will be examined for significance at 0.05 level and the model explanatory power and significance will be evaluated using the R^2 and f-statistic respectively.

Table 1 Unit Root Test Result

Variable	Level	1st difference	5% critical	Remark
PCI	-0.7946	-5.9984*	-3.5485	1(1)
GREE	-3.4268	-4.5568*	-3.5629	1(1)
GCEE	-2.3219	-5.5158*	3.5485	1(1)

Source: E-view output printout

*Stationary at 1st difference

The unit root test in table 1 above indicates that the all variables GDPc, GREE and GCEE were stationary After 1st differencing.

Co-integration Analysis

It is always a wrong to run regression on differenced variables once we find out the original variables weren't not stationary. If there are non- stationary variables, look for possible co-integration. Only if long run relation exists among the existing variables, we should move further for regression

on difference. Hence, co-integration analysis of differenced variables is iportant.To examine a long run equilibrium correlation among variables, we employed Johansen cointegration approach (Johansen, 1998) using both Trace and Maximum Eigen value statistics. The results and findings of the Johhansencointegration test presented below.

Co-integration Analysis: GDPc

Table 2:Unrestricted Cointegration Rank Test (Trace

Hypothesized		Trace	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.936744	198.8249	47.85613	0.0000
At most 1 *	0.881649	104.9655	29.79707	0.0000
At most 2 *	0.613661	32.40615	15.49471	0.0001
At most 3	0.002079	0.070768	3.841466	0.7902
Trace test indicates 3 cointegratingeqn(s) at the 0.05 level				
* denotes rejection of the hypothesis at the 0.05 level				
**MacKinnon-Haug-Michelis (1999) p-values				

From the cointegration result of model 1, the GDPc, both the Trace statistics and the maximum Eigen value statistics shoewd at least three (3) co-integrating equations. Thus, our variables in the equation have a long run equilibrium correlation. This means the variables move together about a mean value.

Table 3: PARSIMONIOUS ECM FOR GDPc MODEL

Dependent Variable: D(GDPC)				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(PCI(-1))	0.675106	0.123610	5.461581	0.0000

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D(PCI(-2))	0.531609	0.110860	4.795298	0.0001
D(GREE)	0.445079	0.190395	2.337661	0.0289
D(GREE(-1))	-1.704352	0.217503	-7.836006	0.0000
D(GCEE)	-0.176258	0.353613	-0.498448	0.6231
D(GCEE(-1))	1.244213	0.646327	1.925053	0.0672
ECM(-1)	-1.599028	0.131788	-12.13333	0.0000
C	13635.86	5501.637	2.478509	0.0213
R-squared	0.916003			
F-statistic	23.99132			
Prob(F-statistic)	0.000000			

Table 4 Diagnostic Analysis of GDPc Model

Test/Hypothesis	Test Type	Test statistics	Prob	Remark
Residual normality	Jacque-Bera (JB)	0….	…	Accepted
Serial correlation	Brusch-Godfrey(BG)	5.6386	0.0596	Rejected
Heterosedasticity	Brcusch-Pagan	8.7655	0.5545	Rejected

The effect of government expenditure on Per- capita income in the Nigerian economy (1980-2015).

This model 2 examined impact of government recurrent expenditure (GREE), government capital expenditure to education (GCEE) and the UNESCO 26% recommended on GDP per capital growth rate in Nigerian economy. Our results in table 3, explained a direct correlation among PCI, GCEE and GREE. Specially, change in state investment to education will eventually lead to changes in the per capital income growth level towards same direction.

In the same period, a hike in public recurrent expenses on education by 1% will led to increase in per capita income growth by 0.45% in 1 year. The impact is enomously significant at 0.05 level.

The impact of state capital expenditure in education on PCI growth is positive. Thus, change in government capital education expenditure will lead to change in PCI in the same direction. In this case, increase one fiscal year lag. The impact wasn't significant at 0.05 level.

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The model R^2 value was 0.91600. This signifies that the three variables (GCEE and GREE) accounted for about 92% variable in the level of PCI growth rate in the period under review.

The model F-statistic value of 23.9913 with probably value of 0.0000 signifies that our model employed for the analysis was significant and actually captured the correlation among our variables in Nigerian economy.

Conclusion

In achieving the objectives of the study, the researcher employed econometrics method to analyze data. The outcome that the government expenditure (recurrent and capital) on education impacted positively on PCI. Based on the foregone, the work concluded that rise in education budgetary allocation can effectively reduce poverty and also unemployment level in the country. Increase in education budgetary allocation, by adequately implementing the UNESCO's 26% recommended education budgetary allocation will accelerate development in our economy. The impact coefficient of UNESCO 26% recommended education budgetary allocation was always morethan the impact coefficient of state capital and also recurrent expenses to education. The effect of UNESCO 26% recommended allocation on GDPc (income per-capita) was small but positive. If Nigerian will desire education seriously and acknowledge that development issues have gone beyond mere acquisition of capital, then attention on human capability, technology and put appropriate infrastructure on ground, especially, education infrastructure, Nigerian will experience quantum leap in poverty reduction, increase in employment rate and income per-capita.

Thus, Nigeria's current state, the present unemployment rate are consequences of inadequate development in human capital. The present situation interms of poverty trap: where high unemployment metamorphosed into low income, how income to poverty even fall in life expectancy. The only sustainable escape route from poverty trap is educational investment to develop human capabilities.

Recommendations

1. Government should implement the UNESCO 26% recommended budgetary allocation to education. This should serve as an investment benchmark in our education sector.

2. Allocation to education sector should always be monitored to so as to ensure that such finances are released as at when due, effectively and efficiently utilized.

3. Greater percentage education budgetary allocation should be spent on capital project in education sector.

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