

EDUCATIONAL DEVELOPMENTS AND ECONOMIC GROWTH IN NIGERIA

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**Abstract**

*This paper examines economic growth and educational development in Nigeria, the scope of the study was educational sector viz-a-viz economic growth in Nigeria. Three specific objectives was employed as the philosophy for the study, such as; to investigate how policy measures imposed by the government on education can address the problems posed by the stunted economic growth in Nigeria, to investigate the impact of education on human capital development in Nigeria and to identify what measures are inadequate or missing in the educational development impact on economic growth in Nigeria. The methodology adopted was quantitative or secondary measurability of the data gathered, this method was selected in order enable us trend information using time series analysis. OLS and Johanson co integration was adopted to determine both the short run significance and the long run significance of the variables under study. The paper concluded that the poor economic growth indices in Nigeria was related to the policy measures imposed by the government on education which are pseudo, the inverse impact relationship between educational development and human capital development was observed when OLS and co integration test was conducted and that the economic growth rate might be equated to zero if educational development becomes the missing link in the matrix.*

**Keywords:** *Educational development, economic growth, interactions and human capital*

**Introduction**

The role of human capital formation in economic development has long been recognized in the literature. According to Harrison (1973, p.3), "human beings are the active agents who accumulate capital, exploit natural resources, build social, economic and political organizations and carry forward national development. Clearly, a country which is unable to develop the skills and knowledge of its people and utilize them effectively in the national economy will be unable to develop anything else". Education – formal and informal, contributes to skill acquisition. Informal education begins at the household level where children are taught how to sweep, clean their environment, fish or farm. By participating in these activities, they learn how to do things by themselves and contribute to family income growth. Although such incomes are not recorded in national income accounting, they nevertheless amount to substantial family income. According to Schultz (1962), formal education is a kind of investment in human being that enables them to acquire skills. Such skills raise the marginal product of the worker itself and also help to raise the marginal product of the other co-operant factors. Thus, human capital has a unique character – it enters the production function as a factor of production and also as a marginal product augmenting variable. The latter makes the marginal rate of return on capital and other inputs rise continuously so that the unexplained growth rate explains the Solow's surplus. Human capital development through schooling is often associated with access to big jobs and higher incomes. This helps to explain the phenomenon of the Kuznets inverse "U" curve hypothesis (Gylfason and Zoega, 2003).

The higher the incomes of the educated class and the more educated persons we have, the higher would be tax revenues which could be used for pro-poor growth projects and programmes. Due to the education – high income link, there is a common belief in Nigeria that education is the sure way to escape from abject poverty and from the drudgery of rural farm life. Parents see the education of their children as the best insurance not only for their future but also as a vessel of sustenance in their old age. It is not surprising therefore that there was a rapid expansion in the education sector in Nigeria beginning from 1960 when political independence was attained. Between 1960 and 1974, educational facilities were expanded culminating in the takeover of privately owned primary / secondary schools by government. In 1975 the central government also took over the universities and other tertiary institutions, it is rather surprising when the federal ministry of education in 2003 reported that all is not well in the education sector since 1978. Financial inadequacies among other factors were responsible. The central Bank of Nigeria in year 2000 reported that inadequate funding has been the bane of the Nigerian education system. One question that borders one's mind is that why should government not fund education properly. Again, does education no longer contribute to growth in Nigeria as it is elsewhere? Although some authors (Aigbokhan et al., 2005; Adebisi and

Oladele, 2005) have studied human capital development, through education in Nigeria, the causality issue is largely neglected.

**Objectives of the Study**

1. To investigate how policy measures imposed by the government on education can address the problems posed by the stunted economic growth in Nigeria.
2. To investigate the impact of education on human capital development in Nigeria
3. To identify what measures are inadequate or missing in the educational development impact on economic growth in Nigeria

**Conceptual Definitions**

**Educational Development Overview in Nigeria**

Education in Nigeria: An Overview The education sector in Nigeria has passed through two phases of development. There is the first phase of rapid expansion in the growth of the sector. This phase may be broadly located within the period 1950 – 1980. There is the second phase of rapid decline in the sector in terms of growth. This phase falls within the period 1981 – 2009. In the early 1950s when representative governance took its roots in Nigeria, the three regional governments had control of the educational development in their respective regions. This first phase in educational development in Nigeria effectively marked the beginning of rapid expansion in terms of access. For example, the number of pupils in primary schools was 626,000 in 1954, the figure rose to 2,912,619 in 1960. Similarly, the number of post primary school rose from 161 in 1955 to 912 in 1960. The student population in post primary schools rose from 9,908 in 1947 to 140,401 in 1960 (Aigbokhan, 2005). The surge in access to schools was due largely to the policies and programmes of governments that built primary and post primary schools and also provided grant – in- aid to missionary schools. We must note here that the missionary churches dominated the provision of schools before the government takeover of primary and post primary schools in the early 1970s. It must be noted also that at this 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.

Rather 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. Access to tertiary education was more than doubled with the establishment of the University of Nigeria, Nsukka (1960), university of Lagos (1962), University of Ife, Ile – Ife (1961), Ahmadu Bello university, Zaria (1962), University of Benin, Benin City (1970). These universities were established and funded by the post independence regional governments. In 1975, the federal government took over the regional universities and also extended grants – in – aid to state owned polytechnics. More universities and colleges of technology (polytechnics) were established between 1975 and 1980. Awopegba and Adedeji (2000) noted that in establishing the new educational institutions, sound investment criteria were not followed; instead the need to have regional balance, ethnicity, nepotism and opportunity for personal gains were the determining factor.

One significant government policy to ensure unimpeded access to primary education was the introduction of the universal primary education (UPE) programme. This policy made primary education free to all Nigerian children. The second phase of the educational development in Nigeria was a period characterised by a decline in educational inputs leading to deterioration of educational fixed assets, inadequate funding and declining standards. Aighokhan et al (2005) noted that the period 1978 – 1999 was a crisis period in the education sector in Nigeria and the root cause of the crises was inadequate funding.

**Table1: The Declining trends of Educational Development in Nigeria**

<b>YEARS</b>	<b>FEDERAL GOVT. BUDGET</b>	<b>BUDGET ALLOCATION TO EDUCATION IN %</b>
1991	38.7	4.6
1992	52.1	4.6
1993	111.6	14.4
1994	69.2	14.4
1995	111.5	11.5
1996	121.2	10.8
1997	188.1	11.5
1998	246.3	9/8
1999	249.0	11.1

2000	N.A	8.4
2001	894.2	7.0
2002	N.A	5.9
2003	765	1.8

**Source: Education sector status Report 2003, effective funding and quality assurance in Nigerian education system.**

### **Concept of Economic Growth**

Economic growth is an increase in the production of economic goods and services, compared from one period of time to another. It can be measured in nominal or real (adjusted for inflation) terms. Traditionally, aggregate economic growth is measured in terms of gross national product (GNP) or gross domestic product (GDP), although alternative metrics are sometimes used. In simplest terms, economic growth refers to an increase in aggregate production in an economy. Often, but not necessarily, aggregate gains in production correlate with increased average marginal productivity. That leads to an increase in incomes, inspiring consumers to open up their wallets and buy more, which means a higher material quality of life or standard of living. In economics, growth is commonly modeled as a function of physical capital, human capital, labor force, and technology. Simply put, increasing the quantity or quality of the working age population, the tools that they have to work with, and the recipes that they have available to combine labor, capital, and raw materials, will lead to increased economic output.

There are a few ways to generate economic growth. The first is an increase in the amount of physical capital goods in the economy. Adding capital to the economy tends to increase productivity of labor. Newer, better, and more tools mean that workers can produce more output per time period. For a simple example, a fisherman with a net will catch more fish per hour than a fisherman with a pointy stick. However, two things are critical to this process. Someone in the economy must first engage in some form of saving (sacrificing their current consumption) in order to free up the resources to create the new capital, and the new capital must be the right type, in the right place, at the right time for workers to actually use it productively. A second method of producing economic growth is technological improvement. An example of this is the invention of gasoline fuel; prior to the discovery of the energy-generating power of gasoline, the economic value of petroleum was relatively low. The use of gasoline became a better and more productive method of transporting goods in process and distributing final goods more efficiently. Improved technology allows workers to produce more output with the same stock of capital goods, by combining them in novel ways that are more productive. Like capital growth, the rate of technical growth is highly dependent on the rate of savings and investment, since savings and investment are necessary to engage in research and development. Another way to generate economic growth is to grow the labor force. All else equal, more workers generate more economic goods and services.

### **The Nexus between Educational Development and Economic Growth**

A large body of empirical research has confirmed a positive link between education and productivity. Better educated employees are generally more productive, and may also raise the productivity of co-workers. Higher stocks of human capital facilitate investments in physical capital and enhance the development and diffusion of new technologies, which in turn affects output per worker. A range of indirect benefits from education are also likely to have positive economic consequences. For instance, greater education is associated with superior health status and increases in some aspects of social cohesion and political participation. Studies of the macroeconomic returns to education are methodologically diverse and based on two broad theoretical approaches. The first, a neo-classical approach, models the relationship between the stock of education and the long-run level of GDP. Most studies follow this tradition. A second approach derives from new-growth theory and models the relationship between the stock of education and the rate of growth of GDP. Whether increases in the stock of education primarily affect the level of output or its growth rate is still unclear. Concerning the magnitude of the returns, the available studies indicate that in the neo-classical models a one-year increase in average education raises the level of output per capita by between 3 to 6%. Studies of the new-growth variety find that the same increase in average education raises the rate of growth of output by around 1%.

The two theoretical approaches yield results that differ significantly in magnitude over the medium-to-long term. This is because the absolute effect on output of a cumulative one percentage point increase in the rate of growth soon exceeds a once-only increment to the level of output of even 6 percentage points (the upper boundary). However, over a period of a few years the absolute size of the predicted effects on output is comparable in both

theoretical frameworks. Various conceptual and methodological hurdles have hindered the estimation of education's impact on growth. A central issue relates to the direction of causality in the growth relationship: does education spur growth, or does growth cause individuals to consume more education? In practice, it is likely that causality operates in both directions. In a related manner, efficiency in producing educational outputs may simply be positively associated with efficiency in other areas of the economy. The results of many studies have also been weakened by data deficiencies. For instance, low correlations have been observed between measures of education from some key sources of educational data. Furthermore, growth studies have relied on a variety of proxies for human capital, such as average years of education, adult literacy rates and school enrolment ratios, and different studies have used a variety of dependent variables. Such proxies pose a number of difficulties.

### Theoretical Framework

Experiential learning theory focuses on learning by doing. Using this theory, students are encouraged to learn through experiences that can help them retain information and recall facts. Experiential learning theory, or ELT, was identified by David Kolb in 1984. Though his influence came from other theorists such as John Dewey, Kurt Lewin, and Jean Piaget, Kolb was able to identify four stages of ELT. The first two stages, concrete learning and reflective observation, focus on grasping an experience. The latter two, abstract conceptualization and active experimentation are about transforming an experience. To Kolb, effective learning is seen as the learner goes through the cycle of experiential learning theory. Students can enter the cycle in any way and at any point. Some examples of this form of learning include taking students to the zoo to learn about animals instead of just reading about them or growing a garden to learn about photosynthesis instead of watching a video about it. By creating environments where students can learn and experience at the same time, teachers offer students the opportunity to immediately apply their knowledge and get real-world experiences. This approach also encourages teamwork and is shown to improve motivation.

### Empirical Considerations

There have been robust literatures on the effects of education on growth but from analytical perspective the issue of concern has been what is the best instrument for measuring education (Dowrick, 2002; Barro and Lee, 2010; Barro 2013). A closer look at the literature classified these measurements into flow variables (flow of resources devoted to education capital formation) and stock variables (stock of education human capital), however, available evidence favored the stock variables more but it all depends on data availability. From the literature, there are several ways to measure education. While some studies measure it as the enrolment rate (Easterly and Rebelo, 1993; Hanushek and Woessmann, 2007), others measure it as education expenditure/gdp ratio (Musila and Belassi, 2004; Pradhan, 2009). Some other studies measured it as completion/attainment rate as well as years of schooling (Barro, 2013). However, enrolment rate and education expenditure are classified as flow variables that is they show the flow of resources to human capital formation while years of schooling or school attainment are stock variables that is, they measure the stock of educational human capital (Gyimah-Brempong, 2011; Barro, 2013).

### Methodology

In this study, the researcher used causal research design which investigates the impact of one or more variable(s) on the other. In order to do this, the study adopts Granger causality panel analysis, OLS which test the short run significance of the variables under study and Johansson co integration which test the long run significance of the variables under study. This method is used due to the possibility of the lag value of the dependent variable serving as an explanatory variable (Economic growth). The researcher used causal research design which investigates the impact of one or more variable(s) on the other. In order to do this, the study adopts Autoregressive Distributed Lag (ARDL) model. This method is used due to the possibility of the lag value of the dependent variable serving as an explanatory variable. Source of data collections was purely secondary method from the World Bank data base and central bank of Nigeria. Data was analyzed using OLS and co integration computation from E-View 9 econometric package in to investigate the relationship between changes in these variables and changes ie educational development and economic growth, simple regression models was adopted because of its simplicity and ability to deal with lag. In line with the model in (3.1) and expanding it to accommodate the effects of other variables, the study specifies the impact of educational development on economic growth thus;

$$edu = f(rgdpg, redexp, cedexp, peduc) \text{-----} 3.2$$

In an Autoregressive Distributed Lag (ARDL) co integrating and long run form, the econometrics specification of equation (3.2) is given as

$$\Delta rteduc_t = \beta_0 + \beta_1 \sum_{i=0}^q \Delta cedexp_{t-i} + \beta_2 \sum_{i=1}^q \Delta redexp_{t-i} + \beta_3 \sum_{i=1}^q \Delta peduc_{t-i} + \beta_4 \sum_{i=1}^q \Delta m2_{t-i} + \beta_5 \sum_{i=1}^q \Delta int_{t-i} + \beta_6 \sum_{i=1}^q \Delta exchr_{t-i} + \varphi_{t-1} + \alpha_1 cedexp_t + \alpha_2 redexp_t + \alpha_3 m2_t + \alpha_4 rgdpg_t + peduc_t + \mu_t \dots \dots (3.3)$$

Where;

RGDPG Is real gross domestic product growth

REDEXP Is recurrent expenditure on education

CEDEXP Is capital expenditure on education

PEDE Represents primary education enrollment

TEDEXP is total education expenditure

$\beta_1 \dots \beta_n$ , are short run parameters while  $\alpha_1 \dots \alpha_n$  are long run parameters. However,  $\varphi_{t-1}$  is a parameter that measures the speed of adjustment of the short run dynamics towards long run equilibrium.

## Results

**Table 1: Descriptive Statistics of the Variables in the Model**

	TEDEXP	RGDPG	PEDE	CEDEXP	REDEXP	LIQR	M2
Mean	9.421600	79.43531	264734.9	18.17108	14.10254	50.60099	24.24253
Median	8.000000	21.88603	271663.6	12.77549	16.85923	48.62500	18.01783
Maximum	32.00000	508.0161	383023.4	72.83550	29.80000	94.50000	89.19787
Minimum	1.000000	0.546781	172402.7	3.457650	0.105754	29.10000	-2.010345
Std. Dev.	7.168294	109.4552	68545.53	15.70360	7.928174	13.24475	20.29233
Skewness	1.180200	1.913126	0.341527	1.921001	-0.513747	0.916528	1.008395
Kurtosis	3.938325	7.122872	1.755651	5.893495	2.320705	4.102296	3.684538
Jarque-Bera	13.44155	65.91308	4.197844	48.19437	3.160799	9.531557	9.450066
Probability	0.001206	0.000000	0.122589	0.000000	0.205893	0.008516	0.008870
Sum	471.0800	3971.765	13236745	908.5540	705.1269	2530.049	1212.127
Sum Sq. Dev.	2517.838	587041.1	2.30E+11	12083.55	3079.941	8595.750	20177.15
Observations	50	50	50	50	50	50	50

Source: Eviews 9 Output for Descriptive statistic of variables used in the study

**Table 2: Correlation Matrix Test**

	TEDEXP	RGDPG	PEDE	CEDEXP	REDEXP	LIQR	M2
TEDEXP	1.000000	0.434890	0.516352	-0.095018	-0.203340	0.240289	-0.113970
RGDPG	0.434890	1.000000	0.644564	-0.269762	0.384886	0.132655	-0.352761
PEDE	0.516352	0.644564	1.000000	-0.399784	-0.197219	0.091250	-0.226191
CEDEXP	-0.095018	-0.269762	-0.399784	1.000000	0.240081	-0.277952	0.183813
REDEXP	-0.203340	0.384886	-0.197219	0.240081	1.000000	-0.439538	-0.092421
LIQR	0.240289	0.132655	0.091250	-0.277952	-0.439538	1.000000	0.134260
M2	-0.113970	-0.352761	-0.226191	0.183813	-0.092421	0.134260	1.000000

Source: Eviews 9 Output for correlation matrix test used in the study

## Unit Root Test of the Variable

The variables of interest were subjected to unit root test in order to ensure stationarity of the time series. The study acknowledged the fact that Augmented Dicky-Fuller unit root test has low power of rejecting the null hypothesis when it is false. Therefore, Phillips Peron (PP) unit root test method was adopted. The policy measure imposed by the government on education are a pseudo and in the 20 years ahead the problems posed by the stunted economic growth in Nigeria will be devastating since the ganger result was uni dimensional and the variable under study lacks long run significance. Inverse impact relationship between education development and human capital development



was observed when OLS and co integration test was conducted. Economic growth rate will be equated to zero if educational development becomes the missing link in the matrix.

### Discussion

Table 4.1 shows the result of descriptive statistics of the variables used in the study. All the variables are in their normal form. It could be observed that the gross domestic product capita growth (RGDPG) recorded the highest mean value followed by the primary education enrolment (PEDE), liquidity ratio (LIQR) and the money supply (M2). The mean value of each of these variables exceeds 20. However, total expenditure on public expenditure (TEDEXP), interest recurrent expenditure on education (REDEXP) and capital expenditure on education (CEDEXP) recorded the least mean value.

Also, most of the variables show evidence of positive skewness (skewed to the right) except REDEXP which showed evidence of negative skewness (skewed to the left) Looking at the kurtosis, table 4.1 shows that TEDEXP, RGDPG, LIQR, CEDEXP and M2 have kurtosis greater than 3. Thus, they are said to be leptokurtic. They have tails that asymptotically approach zero slowly than a Gaussian. These variables have data that extremely deviate from their mean. However, other variables such as PEDE, REDEXP have kurtosis less than 3. These are said to be platykurtic and the distribution produces less extreme deviation or outlier. The probability values of Jacque Bera for other variables were all less than 0.05 and it shows that the data is not from normal distribution. This could be that the data is from student t-distribution or any other distribution such as Laplace, Rayleigh, exponential and so on. Lastly, the number of observations was 50 which is large enough to solve the problem of loss of degrees of freedom.

### Conclusion

The OLS result was below the 0.5 critical values, making the quest significance, white noise properties were discovered in the course of the test, which means the result was not spurious but significant. The test was doggedly conducted again using Johanson co integration econometric package (E-View-9), the result also shows that long run significance existed among the variables under study i. e, policy measures and growth in Nigeria.

### Recommendations

It was accepted that the stunted economic growth in Nigeria is having corroboration with the pseudo policy measures on educational development. Human capital development in Nigeria on the high decrease and that in the next 20 years ahead if drastic measures is taken on human capital development in Nigeria economic growth will down to the doldrums'. The government should be made to know that just like "no country can develop in the dark", ceteri-paribus "no country can grow without educational development

1. It is recommended to the policy makers that proper implementation on educational development should enforced and enhanced in order to facilitate speedy economic growth in Nigeria
2. Accurate quality assurance on both teachers and students should be maintained in order to jack up the human capital development in Nigeria.
3. The government should be made to know that just like "no country can develop in the dark", ceteri-paribus "no country can grow without educational development"

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