

## **Human Capital Investment and Sustainable Economic Development in Nigeria. 1986-2017**

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### ***Abstract***

*The study examined human capital investment as a catalyst for sustainable economic environment in Nigeria (1986-2017). The objective of the study is to analyses the effect of human capital investment on the Nigerian economy from 1986 to 2017. The study adopts human capital and modernization theories to analyse the instrumentality of education in achieving the efficiency in productivity of man. The data used for the study were sourced from the central bank statistical bulletin and national bureau of statistics. Ordinary Least Squares (OLS) techniques were used as a tool to analyze the data. The findings of the study reveal that, there is a positive relationship between government expenditure on health and real gross domestic product in Nigeria. The adjusted coefficient of determination (R2) show that 97.3% variations in real gross domestic product is accounted for by government expenditure on education, government expenditure on health and ross capital formation while the remaining 2. 7% is being accounted for by variables not included in the model. The study recommended that;*

*there is need for Nigerian policy makers to pay more attention to the health sector and increased its yearly budgetary allocation to it. Nevertheless, the key to good results lies not in ordinarily increasing budgetary allocation but in implementing a public finance system that, to the extent possible, links specific expenditure and revenue decisions and ensure the usage of the allocated funds as transparently as possible.*

**Keywords:** Sustainable Environment, human Capital formation, Education, health and policies implementation.

### **Introduction**

Development is a process by which people create and recreate themselves to realize higher level of civilization in accordance with choices, wants and value. Education and health are the basic indices of development; they are important ends in itself. Health is central to well-being and education is essential for satisfying and rewarding life and both are fundamental to the broader notion of expanded human capabilities that explain the basis for development (Todaro and Smith, 2009). The Nigerian economy could be said to have enjoyed some macroeconomic stability in the recent time as its rate of economic growth averaged 2.01% within the last two decades. However, as a result of high and rapid growth rate of the population, per capita growth rate has remained negative and it averaged - 0.852. According to World Development Indicator, (2004) 'with its large reserves of human and natural resources, Nigeria has the potential to build a prosperous economy, reduce poverty significantly, and provide health care services, education, aid infrastructure services that its population needs. Nevertheless, Nigeria belong to the group of poor countries with a high level of resource, but low level of productivity and management of abundant natural resources. Despite the country's oil wealth, poverty is widespread, and Nigeria's basic social indicators place it among the twenty poorest countries in the world. (World Bank, 2004) poverty, which has no

geographical boundary, is seen in all part of the country, rural and urban areas inclusive. Although the incidence of poverty is much higher in the rural areas than in the urban areas. The poor are those who are unable to obtain an adequate income, find a stable job, own property or maintain healthy living conditions. They also lack adequate level of education and cannot satisfy their basic needs of life, making the poor to be identified as the illiterate, those in poor health and have a short life span. (Amaghionyeodiwe and Osinubi, 2004). Education and Health is widely accepted as a leading instrument for promoting economic growth of any Nation. For Nigeria to achieve socio-economic growth, education and health care are important. For several decades, development agencies have placed great emphasis on primary and secondary education. But they have neglected tertiary education as a means to improve economic growth and mitigate poverty. The Dakar summit on "Education for All" in 2000, for example, advocated only for primary education as a driver of broad social welfare. It left tertiary education in background. Part of the reason for the inattention to higher education within development initiatives lies in the shortage of empirical evidence that it affects economic growth and poverty reduction. After World War II, several economists, including Milton Friedman, Gary Becker, and Jacob Mincer developed the human capital theory to examine the benefits of education for individuals and society. Friedman and his wife Rose originally suggested that there was no evidence that higher education yields social benefits over and above the benefits that accrue to the students themselves. On the contrary, they hypothesized that higher education may promote social unrest and political instability. In contrast to this early view, recent evidence suggests higher education is a determinant as well as a result of income and can produce public and private benefits. Higher education may create greater tax revenue, increase savings and investment and lead to a more entrepreneurial and civic society. It can also improve a nation's health. contribute to reduced population growth, improve technology, and strengthen governance with regard to the benefit of higher education for country's economy, many

observers attribute India's leap onto the world economic stage as stemming from its decades-long successful efforts to provide high-quality, technically oriented tertiary education to a significant number of its citizens.

Despite the tremendous progress in expanding enrolment and increasing years of school since 1960, Nigeria is yet to benefit from such development in-term of increased growth. Expanding school attainment, at the centre of most development strategies, has not guaranteed better economic conditions (Fadiya, 2010). Scholars attributed the failure of the Nigeria's educational system to promote economic growth to the poor state of the system (Uwatt, 2002, Chete & Adeoye, 2002; Babatunde and Adefabi 2005). According to Babatunde & Adefabi (2005) "the education that most Nigerians receive is not very good. Children attend primary schools which last for six years, but the education they receive there is not sufficient" The pupils to teachers ratio was 37 to 1 and the youth literacy rate was 13% for males and 20% for females up to the late 1990s. In 2002, 33% of the relevant age group attended secondary school and only 4% attended tertiary schools. Public spending on education was only 0.9% of the GNP in 2002 (World Bank, 2004).

Health comes next to education in the development of human resources. According to Yesufu (2000) "a good health policy is a means by which government can at once ensure that manpower is generated in the right mix distributed in accordance with national priorities and ensure the highest level of labour productivity" Health improvement influences mobility and labour force productivity. Thereby enhancing the process and speeding of economic development. Most developing countries have given serious attention to the provision of public health, education and social welfare services. This is because; it is believed that such measures could improve the quality of life of their people and their efficiency as productive agents thereby accelerating the general socio-economic development of their nation. Since health and education status affect the individual participation

in economic activities and consequently the level of labour force in an economy, a re-examination of the level of investment in human capital and sustainable growth is highly imperative. The investment on health and education sectors according to literature should therefore improve the productivity of an economy.

### **1.0 Statement of the Problem**

The financing of human capital investment in Nigeria has often been described as inadequate with budgetary allocations to certain sectors, particularly health and education which hardly exceed an average of 4% of the nation's total budgetary provisions (Orubuloye & Oni (1996), and Riman & Apkan (2012). The education and health care spending in Nigeria is segmented into private and public spending. While public health expenditures in Nigeria accounts for 20-30% of total health expenditures, private expenditures on health account for 70-80% of total health expenditure. It is expected that budgetary allocations to health sector would improve health outcome and reduce all kinds of mortality rate. These findings provide one possible explanation that public spending often does not yield the expected improvement in human capital development.

These are indications that investment in human capital is not given priority in Nigeria. Accordingly, there is the need to examine the level of government spending on the education and health sector and its impact on economic growth and give policy recommendations as regards their inefficiencies so as to help curb the menace of poverty.

### **1.1 Objectives of the Study**

The main objective of the study is to analyses the effect of human capital investment on the Nigerian economy. The specific objectives are to;

- Ascertain the relationship between public expenditure on education and economic growth in Nigeria.

- Ascertain the relationship between public expenditure on health and economic growth in Nigeria.
- Examine the impact of capital formation on economic growth in Nigeria.
- Proffer policy recommendations to combat the inadequacies in the Nigerian health and education sectors

## **2.0 Conceptual Framework**

### **2.1 Human Capital**

Human capital may be defined as the total lack of knowledge, skills, competencies, and innovative abilities possessed by the population (World Bank 2002). Among the most important changes that characterize the 21 century are the increasing importance of knowledge as a driver of economic growth; the information and communication revolution; the advent of a worldwide labour market and global socio-political transformations" (World Bank, 2002).

Human capital has also been defined in other ways. For the purpose of this study, the general definition given by the United Nations Economic Commission for Africa (1990) is considered. The concept of human capital refers to the knowledge, skills, attitudes, physical and managerial effort required to manipulate capital, technology, and land among other things, to produce goods and services for human consumption (UNECA, 1990).

Human capital development has become a core element in the development efforts of developing countries in the knowledge society of the 21st century. This is because, comparative advantage among nations derive less from natural resources and cheap labour endowment and increasingly from technical innovations and the competitive use of knowledge (World Bank, 2002:18). The new paradigm is lifelong learning in which there is less emphasis on remembering facts and basic data and more emphasis on process, analytical knowledge, skills, and competences. The emphasis is learning to learn; learning to transform information into new knowledge;

and learning to translate new knowledge into application (World Bank, 2002:29). On that note, cooperative education is central. Periods of institution-based learning produce the foundation of knowledge, and the acquisition of work-related skills, competences, and practices in relevant workplaces build on this foundation.

The general understanding has been that technological development is a slow and cumulative process that involves the movement of knowledge from one part of the world to another in a distinctive step-by-step approach. This linear view of technological development was accompanied by the mechanistic and static outlook of much of economic theory. The outcome of the combined views of technology and economic theory gave rise to policy approaches that failed to recognise the dynamical aspects of technological development. Either technology was equated with the supply of machinery or was reduced to monetary units. The fact that technological development is part of a wider process of socio-cultural revolution was recognised only by a small sector of those interested in development. Often, socio-economic factors were invoked to explain failed development projects, but put in the planning of new ones. Socio-cultural factors are still viewed as potential obstacles to technological development even though they themselves embody a set of technological solutions to local problems.

## **Theoretical Framework**

### **Human Capital Theory**

Human Capital theory as postulated by Paul Romer (1986) emphasizes how education increases the productivity and efficiency of workers by increasing the level of their cognitive skills. Schultz (1961) introduced the notion that people invest in education to increase their stock of human capital. Examples of such investments include expenditure on education, on the job training, health and nutrition. Such expenditures increase future productive capacity at the expense of current consumption. However, the stock of human capital increases in a period only when gross investment

exceeds depreciation with a passage of time, with intense use or lack of use. The provision of education is seen as a productive investment in human being, an investment which the proponents of human capital theory considers to be equally or even more equally worthwhile than that is physical capital.

In fact, contemporary knowledge in United States acknowledge that investment in human capital is three times better than that in physical capital. Human capital theorists have established that basic literacy enhances the productivity of workers in low-skill occupations. They further state that an instruction that demands logical or analytical reasoning, or provides technical and specialized knowledge, increases the marginal productivity of workers in high skill or professional positions. It has been proven that the greater the provisions of schooling, the greater the stocks of human capital in the society, and the greater the increase in national productivity and economic growth.

### **The Modernization Theory:**

This theory focuses on how education transforms an individual's value, belief and behaviour. Exposure to modern institutions such as schools, factories, and mass media inculcate modern values and attitudes. The attitude include openness to new idea, independences from traditional authorities, willingness to plan and calculate further exigencies and growing sense of personal and social efficacy. These normative and attitudinal changes continue throughout the life cycle, permanently altering the individual's relationship with the social structure. The greater the number of people exposed to modern institutions, the greater the level of individual modernity attained by the society. Once a critical segment of a population changes in this way, the pace of society's modernization and economic development quickens. Thus, educational expansion through its effects on individual values and benefits sets in motion the necessary



building blocks for a more productive workforce and a more sustained economic growth.

Odo et. al. (2016) examined the effect of expenditure on education and expenditure on health has significant effect on economic growth in Nigeria. Using co integration techniques, the results revealed that, from the VECM, 1% increase in the government expenditure on education (TEDU), on the average led to 23.8% increase in GDP while. 1% increase in the government expenditure on health (THEA) caused 37.6% decrease in GDP. The two variables as human capital development factor were found to have significant effect on economic growth. However, government expenditure on education has positive relationship with GDP. Therefore, effort should be made by government to address the agitations by the health workers which always make them to resort to frequent strike actions. If these worrying issues are addressed, the instability experienced in the health sector will be solved. This will go the long way promoting the economy. More so, efforts should be made to equip our health sector so that capital flight in the name of foreign medical treatment is reduced.

Aminu (2011) investigated the relationship between government expenditure on education and health on the growth and development of the Nigerian economy between 1977 and 2007 through the application of Augmented Dickey-Fuller techniques to examine the unit root property of the series after which cointegration test was conducted through the application of Johansen cointegration technique. The results indicate that expenditure on education and health impacted positively on economic growth and development during the period of study and a long-run relationship exists between them as confirmed by the cointegration test. The paper recommends improvement in government expenditure on human capital development (education and health), so as to boost economic growth and development.

Dauda (2010) carried out an empirical investigation on the relationship between investment in education and economic growth in Nigeria, using annual time series data from 1977 to 2007. He employed Johansen integration technique and error correction methodology. Empirical results indicate that there is, indeed a long-run relationship between investment in education and economic growth. All the variables including, labour force, gross fixed capital formation and educational capital appear with the expected positive signs and are statistically significant (except labour force) in the Nigerian economy. The study suggested that a concerted effort should be made by policy makers to enhance educational investment in order to accelerate growth, which would engender economic development in Nigeria.

### 3.1 Methodology

For the purpose of this study, the ex-post facto research design is used. The annual time series data were collected from secondary source from 1986-2017. The data were collected principally from Central Bank of Nigeria (CBN), Nigerian Stock Exchange (NSF). Statistical Bulletins 2017. The variables used for the work includes, Real Gross Domestic Product, Government Expenditure on Education, Government Expenditure on Health and Gross Capital Formation.

### 3.2 Model Specification

The specification is being guided by existing theory or empirical evidence from previous studies.

The model is specified as follows:

$$RGDP = f(GEE, GEH, GCF) \mu t \dots \text{equ (i)}$$

$$RGDP = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \mu t \dots \text{(ii)}$$

$$RGDP = \beta_0 + \beta_1 GEE + \beta_2 GEH + \beta_3 GCF + \mu t \dots \text{equ (iii)}$$

Where:

RGDP - Real Gross Domestic Product (Proxy for economic growth)

GEE - Government Expenditure on Education

GEH - Government Expenditure on Health

GCF – Gross Capital Formation

The prior expectations are  $\beta_1, \beta_2, \beta_3 > 0$ . This implies that all the independent variables in the model have positive relationship with economic growth.

#### 4.1 DATA PRESENTATION

**Table 4.1:** Data on Real Gross Domestic Product (RGDP), Government Expenditure on Education (GEE), Government Expenditure on Health (GEH) and Gross Capital Formation (GCF) in Nigeria from 1966 to 2017.

YEAR	RGDP	GEE	GEH	GCF
1986	15,237.99	608.94	360.4	5471.8
1987	15,263.93	584.65	236.4	4181.9
1988	16,215.37	508.35	443.2	4368.4
1989	17,294.68	392.46	452.6	4455.7
1990	19,305.63	365.4	658.1	6177.8
1991	19,199.06	211.96	757	6154.3
1992	19,620.19	223.99	1025.4	5970
1993	19,927.99	114.26	2684.5	6924.9
1994	19,979.12	133.73	3027.8	6221.4
1995	20,353.20	223.77	5060.9	4591.7
1996	21,177.92	278.44	4851.5	5422.6
1997	21,789.10	285.48	29417	5901.9
1998	22,332.87	248.01	11984	5603.4
1999	22,449.41	310.11	16180	5439.4
2000	23,688.28	342.02	18182	6365.9
2001	25,267.54	340.36	44652	4984

2002	28,957.71	450.67	63171	5997.8
2003	31,709.45	509.97	39686	9005
2004	35,020.55	662.89	59787	6843.4
2005	37,474.95	840.49	26559	6127.6
2006	39,995.50	1196.7	44794	9766.7
2007	42,922.41	1314.1	12240	13842
2008	46,01252	1639.7	32555	13742
2009	49,856.10	1316.8	11871	18520
2010	54,612.26	2969.8	70638	21352
2011	57,511.04	3304.6	73216	19591
2012	59,929.89	3729.3	77436	20091
2013	63,218.72	4186.3	81212	21671
2014	67,152.79	4669.4	84763	24578
2015	69,023.93	4951.2	85419	28130
2016	67,931.24	4977.5	86321	29012
2017	68,421.64	5012.8	86610	29654

**Source: Central Bank of Nigeria (CBN) Statistical Bulletin (2017)**

#### 4.2 Data Analysis

**Dependent variable:** Real Gross Domestic Product

**Method:** Ordinary Least Square

**Sample:** 1986 -2017

Variables	Coefficient	Std. Error	T-Statistic	VIF
CONSTANT	5.303048	0.332877	15.93094	
LOG (GEH)	0.092402	0.010703	8.633239	1.855940
LOG (GEE)	0.111926	0.029919	3.740931	5.238127
LOG(GCF)	0.377129	0.056986	6.617888	5.960415

**Source: Regression Result (2018)**

$R^2$  (Coefficient of determination) = 0.975278

$R^2$  (Adjusted coefficient of determination) = 0.972629

Durbin Watson = 1.193457

F -value = 368.1909

### **5.1 Summary of Findings**

The study examined the impact of Human Capital Investment and Economic Growth in Nigeria from 1986 to 2017. The ordinary least square (OLS) method was used in analyzing data. The findings of the study reveals that;

There is a positive relationship between government expenditure on education and real gross domestic product. There is also a positive relationship between government expenditure on health and real gross domestic product. While there is a positive relationship between gross capital formation and real gross domestic product.

The t-test showed that; government expenditure on education has a on real gross domestic product in Nigeria. Government expenditure significant impact on real gross domestic product in Nigeria. gross capital a significant impact on real gross domestic product in Nigeria.

The f-test shows government expenditure on education, government health and gross capital formation jointly have a significant impact on real product in Nigeria at 5% level of significance.

The adjusted coefficient of determination ( $R^2$ ) show that 97.3% variations in real gross domestic product is being accounted for by government expenditure on education., significant impact on health has a formation also has expenditure on gross domestic government expenditure on health and gross capital formation. 97.3% shows a good fit for the model.

From the regression result, Durbin Watson (DW) value is 1.193457. This value is closer to zero than two and it indicates that there is perfect positive autocorrelation in the model.

The variance inflation factors of the variables are less than 10 implying that, there is no multicollinearity among the explanatory variables. There is no heteroskedasticity in the model.

## 5.2 Conclusion

Appropriate investment in education and health is fundamental to any meaningful economic development programme that must be pursued by any developing nation especially like ours. It takes into account all the opportunities and strategies and challenges that might face the process of human development. Nigeria can only reposition herself as a potent force through the quantity and quality of the products from the primary, secondary and tertiary schools' systems, and by making her manpower relevant in the highly competitive and globalize economy through a structured well-funded, appropriate, profitable investment in health and education in the right direction and strategies planning of her health and educational institutions.

## 5.3 Recommendations

In the light of the analysis and findings of this study, the following recommendations are considered necessary for the short, medium and long term implementations. The recommendations shall be outlined with respect to the objectives of the study. They are:

- There is need for Nigerian policy makers to pay more attention to the health sector and increased its yearly budgetary allocation to it. Nevertheless, the key to good results lies not in ordinarily increasing particular budgetary allocation but rather in implementing a public finance system that, to the extent possible, links specific expenditure and revenue decisions and ensure the usage of the allocated fund as transparently as possible.

- It is recommended that since Nigeria is highly a mono-product economy, “efforts must be made by the government to sustain and enrich other sources of financing the sector like the Education Tax Fund, while policies aimed at diversifying and broadening the Nigerian economy rekindled. Government can explore donations from international donor agencies (such as the United Nations, the International Monetary Fund, the World Bank, etc), local Non-governmental Organizations as well as spirited individuals.
- Improved conditions of service for workers in the educational sector. This will help reduce the current brain drain in the educational sector and woo more competent hands that will help improve productivity of the sector and the national economy at large.
- Government should strengthen its core functions by creating strong macro-economic policies to checkmate corrupt top government officials and politicians to embezzle or loot government fund in the name of providing infrastructural developments, jumbo projects and white elephant project that resulted in find misappropriation which cannot translate to economic development of Nigeria.

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