

Comparative health-education output and economic growth in Nigeria

Olatayo O Timothy*

Olabisi Onabanjo University, Department of Mathematical Sciences, P.M.B. 2002,
Ago-Iwoye, Ogun State, Nigeria. otimtoy@yahoo.com.

Ekperiware C. Moses

Technology Innovation and Enterprise Studies (TIES) Department, National Centre for
Technology Management (NACETEM), PMB 012, Obafemi Awolowo University, Ile- Ife,
Nigeria, +2347031565256, email:mosekperi2002@yahoo.com

ABSTRACT

The study examined the effect of education and health sectors in the economic development process in Nigeria. Education and health sectors are the main human capital (HC) component of any economy. The development of HC is a connection point of the domestic and the foreign scene for maximizing the gains from abroad. In Nigeria different uprising like; education standard, quality of graduates, tertiary institution ranking, standard of medical facilities, rising diseases/infections, rate of infant mortality, low life expectancy and access to medical service per thousand etc. this study seek to question the effort of government in contributing to transform these sectors. Annual data of education, health and economic output with the dynamics of both descriptive and econometric methods were used. The descriptive analysis showed that health and education effort by the government were inconsistent until the nations' democratic dispensation where a progressive efforts were evident in HC development. With innovation in the endogenous growth model, the ordinary least square(OLS) regression showed that the education and health sectors contributed 7% and 5% to economic growth in Nigeria respectively. But differently, for every unit change in gross domestic product(GDP), education and health sectors contributes 0.9 and 0.5 to economic output in Nigeria respectively. Conclusively, HC is germane to economic development in the country and no effort exerted will be too much. The government and private sector are therefore recommended to invest in education and health related areas for healthy economic transformation in Nigeria.

Keywords: Human capital, Ordinary least square, Descriptive, Econometrics method.

Introduction

The standard of education and health sector in Nigeria has been term low marked by low ranking, mass graduation with low prerequisite skill, incessant strikes, good brains leaving for greener pastor to poor medical service, high infant mortality, aids, low life expectancy to leaving the shores for better medical service. The situation now calls to question the government position in making these all important sectors the pivotal for economic development in the country. The study also seeks to know which sector impact more on economic growth in Nigeria. The study presents the trend and empirical effort of government in transforming these sectors and policy implication for economic development in Nigeria. Nigeria ranking 0.511 in human development index and 29 in Africa out of 51, Unemployment Rate averaged 14.60 Percent reaching an all-time high of 23.90 Percent in December of 2011 from 5.30 Percent in December of 2006. The total graduate unemployment rate increased from 25.6 percent in the year 2003 to 40.3 percent 2009 (Economic outlook 2010, NBS, 2012, Akinyemi et al., 2012).

The aim of this paper, therefore, is to examine the relationship between the health expenditure and economic growth and development of the Nigerian economy. Different authors have documented their findings concerning the impact of education, health or both on economic growth in less developed and developed countries. let's take a look at some of these works;

Bakare and Olubokun (2011) examined the relationship between health care expenditures and economic growth in Nigeria. Time series data between 1970 and 2008, the ordinary least square multiple regression analytical method was used in the study to show the relationship between health care expenditures and economic growth. The data analysis showed a significant and positive relationship between health care expenditures and economic growth. The study further recommended that Nigerian policy makers should pay closer attention to the health sector by increasing its yearly budgetary allocation to the sector.

Risikat (2011) examined the effect of government educational spending and macroeconomic uncertainty on schooling outcomes in Nigeria using cointegration and error correction mechanism together with vector

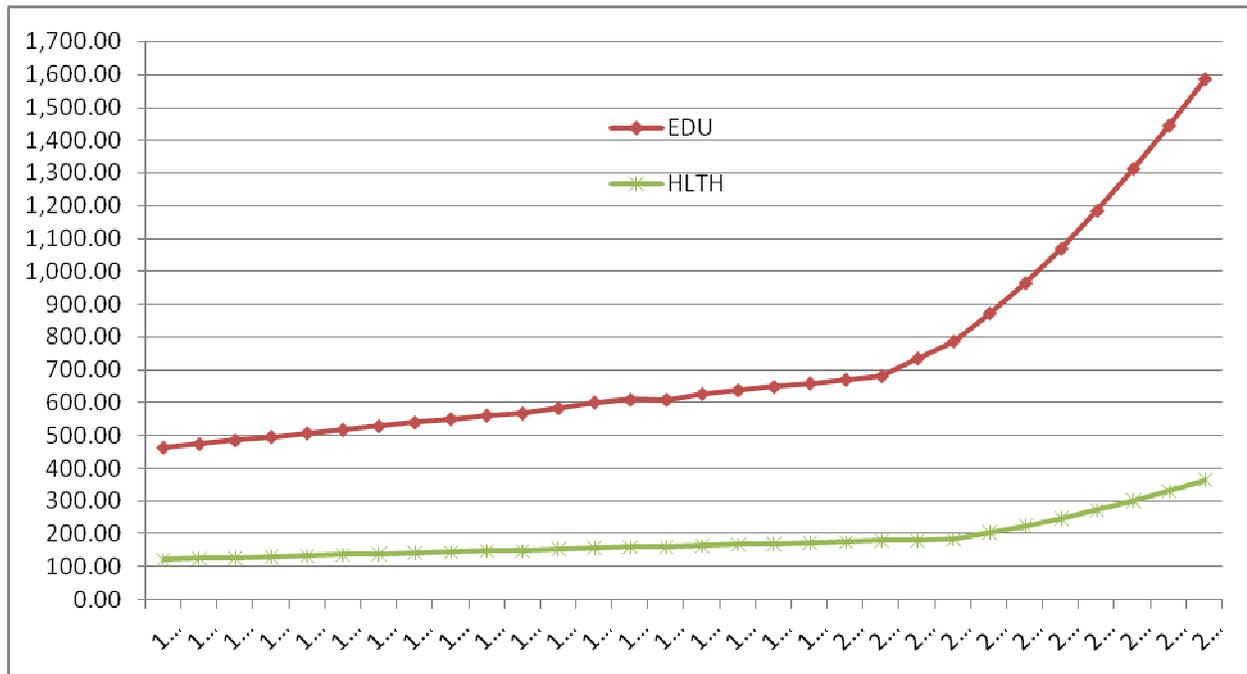
autoregression methodology. The results indicate that schooling outcome cointegrated with all the identified explanatory variables. The study found that public educational spending impacts positively on schooling outcome while macroeconomic instability impacts negatively. The variance decomposition analysis showed that “own shocks” constitute the predominant source of variation in schooling outcome. The impulse response analysis showed that any unanticipated increase in the macroeconomic uncertainty rate would have a contractionary impact on literacy rate. Scheffler (2004) identified three channels how health affects economic growth: as health improves, the infant mortality rates drop; ill health is a major cause of poverty, hence, health is wealth and educated female in a population increase the health of the family. When one is sick, there is high tendency for the person to become poor and become poorer if the sickness persists. This increases the output of the family and subsequently increases the national output. This is an indication that educated female are critical to the process of economic growth. Studies {Dabalén, et al. (2000); Akerele (2004); and National University Commission (2004)} have revealed that apart from the qualifications, graduates need to possess other attributes (non-academic skill requirements like; analytical skills, good communication skills, good personal and social skills, technical and managerial skills among others). Employers of labour are not only interested in those having certificates but also practical skills appropriate for job fulfillment (Abiodun, 2010).

Naeem and Jangraiz (2012) examined the contribution of education to economic growth in Pakistan during 1971-2008. The study uses OLS and Johansen Cointegration test as analytical techniques and the OLS result showed that elementary and secondary education contributes significantly to the Real GDP Per Capita in Pakistan except elementary education was statistically insignificant. The cointegration test results confirmed the existence of long run relationship between education and Real GDP Per Capita. Nabila A. and Asma A. (2012) also found similar result in Pakistan.

Results and Discussion

The trend and impact of education and health outputs in Nigeria is shown below;

Figure 1: Health and education output in Nigeria (1981-2009)



Source: CBN 2010 Statistical Bulletin and computed by Author. Figure 1 above showed that education contributed more to economic growth than health sector from 1981 to 2010 all through significantly both in military and democratic dispensation. As at 2010 education contributed about N1.6 billion to economic growth while health contributed close to N400 million. It looks obvious how education contributes more but let's look at their impact on economic growth on the other through econometric.

Model Specification and Analysis of Result

The growth model was specified using education and health outputs and dependent variables while economic growth rate was the independent variable in the first model and Gross domestic product (GDP) was proxy as economic output in the second model specification as shown below;

$$GDPR = f(EDU, HLTH) \dots \dots \dots (1)$$

$$RGDP = f(EDU, HLTH) \dots \dots \dots (2)$$

Where:

GDPR is the economic growth rate,

EDU is the human capital on education output,

HLTH is the human capital on health output,

RGDP is real gross domestic product

P is percentage of RGDP

Linear specification of equation 1 and 2 in its explicit statistical form becomes:

$$GDPR = a + EDUP + HLTHP + u \dots\dots\dots(3)$$

$$RGDP = a + EDU + HLTH + \lambda \dots\dots\dots(4)$$

All variables are as defined earlier, and u and λ are the error terms. The a priori is that education and health outputs are expected to positively affect economic growth and economic output in the country and that education would impact more than health sector on economic growth in Nigeria. The Gross Domestic Product, health and education data employed are sourced from the 2010 Central Bank of Nigeria (CBN) Statistical Bulletin.

Table 1: Estimated Results of Health and education effect on economic growth

Model 1	GDPR	constant	EDUP	HLTHP
	COEFFICIENT	2.49	0.07	0.05
	t	22.46	3.44	3.77
	Prob	0.00	0.02	0.01
F=17.18, DW=3.80 and R²=87%				
Model 2	RGDP	Constant	EDU	HLTH
	COEFFICIENT	3.28	0.89	0.54
	t	1.02	4.23	1.16
	Prob	0.33	0.00	0.27
F=8.96, DW=0.26 and R²=62%				

Source: Author's computation, (2012) with e-view computer package (version 5).

Model 1 explains the percentage contribution of variables to economic growth while model 2 explains the real individual contribution of the explanatory variables to economic growth. The results obtained from the equation estimated showed that the model is well-behaved and the explanatory variables explain about 87% in model 1 and 62% in model 2 of the variations in the GDP which is the dependent variable and the proxy of the economic growth. This is judged by the value of the co-efficient of determination (R-squared). In addition, the results depict no serial auto-correlation in model 1 as reflected in the value of Durbin-Watson statistics (DW) of 3.80 but in model 2, the DW statistic was quite low but has good overall significant. In Model 1, EDU explains 7% to unit change in economic growth while HLTH explains 5% significantly but in Model 2, EDU explains 0.89 while HLTH 0.54 as parameter contribution to economic growth only HLTH contribution was not statistically significant.

Conclusion

The study showed that both education and health sectors are important and contributes to economic growth in the country. The descriptive analysis showed that education contributed more than health sector in Nigeria. The econometric analysis also confirmed the superiority of education to health contribution to economic development in Nigeria. This guide us to conclude that in the family of human capital, education is superior to health sector in terms of priority

Policy implication

The policy guide here is that skilled education should be more in the country for everybody to be able to contribute his or her quota to economic growth of the country.

REFERENCES

Abiodun, S. O. (2010): Analysis of Mismatch Between Demand and Supply of Skills and University Graduate Unemployment in Nigeria. Unpublished M.Ed. Dissertation, Lagos State University.

Bakare A.S. and Olubokun S. (2011), Health Care Expenditure and Economic Growth in Nigeria: An Empirical Study, *Journal of Emerging Trends in Economics and Management Sciences (JETEMS)* 2 (2): 83-87, Scholarlink Research Institute Journals, 2011 (ISSN: 2141-7024), jetems.scholarlinkresearch.org, Department of Economics, Adekunle Ajasin University, P.M.B 001. Akungba- Akoko. Ondo State, Nigeria

Dabalén, A. Oni, B. and Adekola, O. A. (2000): Labour Market Prospects for University Graduates in Nigeria. The Nigeria University system Innovation Project Study.

National Bureau of Statistics (2010). Labour Force Survey March, 2009. Statistical News: Labour Force Statistics in Nigeria, ISSN 0794 – 1954, 476.

National University Commission (2004): Labour Market Expectations of Nigerian Graduates. Report of National Needs Assessment Surveys.

Risikat O. S. D. (2011), Effect of Public Educational Spending and Macroeconomic Uncertainty on Schooling Outcomes: Evidence from Nigeria, Department of Economics, Faculty of Social Science, University of Lagos, Nigeria, <rdauda@unilag.edu.ng>. *Journal of Economics, Finance and Administrative Science. International Journal of Humanities and Social Science*, Vol. 2 No. 14 [Special Issue - July 2012] 257

Akinyemi S, Ofem, I.B. and Ikuenomore S.O. (2012), Graduate Turnout and Graduate Employment in Nigeria, Department of Educational Management, Lagos State University, Lagos, Nigeria.

Naeem U.R.K. and Jangraiz K. (2012), the contribution of education to economic growth: evidence from Pakistan; *International Journal of Business and Social Science* Vol. 3 No. 4; Special Issue 145; department of Economics, University of Peshawar, Pakistan.

Nabila A. and Asma A. (2012), Human Capital and Economic Growth in Pakistan: A Cointegration and Causality Analysis; www.ccsenet.org/ijef, *International Journal of Economics and Finance*, Vol. 4, No. 4, Published by Canadian Center of Science and Education 135; department of Economics, University of the Punjab, Lahore, Pakistan Tel: 92-42-9923-1167 E-mail: drhrehmankhan@gmail.com