FUNAI Journal of Humanities and Social Sciences
2016, Vol. 2, No. 2, 1-9

MANPOWER DEVELOPMENT AND THE PERFORMANCE OF THE NIGERIAN ECONOMY: AN IMPACT ANALYSIS

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Abstract

This study investigates the impact of manpower development on the performance of Nigeria's economy between 1985 and 2017 using annual data sourced from the Central Bank of Nigeria Statistical Bulletin 2016 and National Bureau of Statistic. The study adopted the Error Correction Model (ECM), under the Ordinary Least Square (OLS) technique to analyse the data. The stationarity properties and the order of integration of the data was tested using ADF test. The Johansen approach of co-integration was applied to test for the long-run relationship among the variables.The result showed that manpower development and economic growth has a long-run relationship.Itwas also revealed that government expenditure on education and health have a positive but insignificant impact on economic growth. Also, tertiary institutions enrolment rate was seen to have positive and significant impact on economic growth.The study concludes that there is a positive but insignificant relationship between manpower development and economic growth in Nigeria. It is therefore recommended that the Nigerian government as a matter of urgency should make deliberate effort to increase the budgetary allocation for the education and health sectors if she (Nigeria) must maximize the contribution of human capital to the growth of her economy.

Keywords: Manpower, Economic growth, Health Expenditure, Education expenditure

1.0 Introduction

Since the publication in 1990 of the first Human Development Report (HDR) by the United Nations Development Programme (UNDP), the idea of human development as the ultimate goal of the development process has gained increasing influence on the development debate and contributed to a renewed call on the international community and national authorities to support and achieve an adequate level of resource mobilization for investing in the formation of human capabilities. For the so-called human development approach, the improvement of social outcomes – sanitation, health care, safe water, elementary education, adequate shelter, clean environment, etc. – is a goal in itself, independent of its effect on economic performance and efficiency (Rodrigo, 2007).

According to Lyakurwa (2007), manpower development has the capacity to enlarge people's choices and opportunities, improve healthy living through acquired skills and knowledge and eventually enhance growth in the nation's gross domestic product through increased productivity.

Odusola (1998) stated that the concept of manpower development refers to a conscious and continuous process of acquiring and increasing the number of people with requisite knowledge, education, skill and experience that are crucial for the economic development of a country. The economic benefits of manpower development arise from making people more productive by improving their nutrition, health, education and other social indices through adequate and proper investments (Dauda, 2010).

According to Enefiok et al (2014),Manpower development is one of the most important requirements, to ensure the sustenance and improvement of an economy, whether at micro or macro levels. Human resources or capital development is a continuum, a continuing process from childhood to old age, and a must for any society or enterprise that wishes to survive under the complex challenges of a dynamic world. For the individual it should be a life-long process, because of

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the continuously changing environment to which one must also continuously adapt. Such development enables the persons involved to move vertically or laterally in the economic and social environment.

Manpower development also facilitates lateral movement and redeployment of a country's labour force. Through relevant training and associated experience, an accountant in the private sector can be redeploying to a public sector equally as an accountant or as director of finance with higher responsibilities. A computer operator retiring from the civil service may wish to go into rural farming, but he would be most productive thereat normally with requisite pre-training and adaptation. This therefore implies that, no one is expected to be so adequately prepared in terms of knowledge, skill, and experience at the entry point of a job, to enable him be continuously effective for ever either at the higher levels of that job, or for efficiency and success on other jobs. In the same vein, for a national or state economy, no country or state can be adequate both in quantity and quality-wise, in the skills and expertise that will sustain the economy efficiency and indefinitely, or to cope with the exponential growing consequences of new technology, service demands, population growth and national security. In order to survive in this modern world such a nation must devote a high proportion of its resources to developing its human resources in terms of number, quality and mix for the optimum overall economic and social development (Yesufu, 2000).

In Nigeria, attempts have been made to conduct econometric studies on the link between manpower development and economic growth, Chete and Adeoye (2003); Dauda (2010); Bakare (2006); Sanusi (2003) Yesufu (2000); Adamu (2002) among others. However, many of these previous studies paid little attention to direction of causality between manpower development and economic growth. Omojimite (2010) and Aghion, et al (2009) only tested for direction of causality between education and economic growth neglecting the causality effect between health and economic growth. It is against this back ground that this study seeks to fill the gap by appraising the impact of manpower development on Nigerian economic growth taking into consideration the direction of causality between manpower development proxied by government expenditure on education, government expenditure on health, primary school enrolment rate, secondary school enrolment rate, tertiary institutions enrolment rate and economic growth. Among other objectives, this study tries to evaluate the effect of government expenditure on education/health on Nigerian economic growth, determine the impact of primary, secondary and tertiary institutions enrolments on economic growth in Nigeria and finally to ascertain the direction of causality between manpower development and economic growth in Nigeria. The questions underlying the review are; what is the relationship between government expenditure on manpower development and economic growth in Nigeria? What is the direction of causality between government expenditure on manpower development and economic growth in Nigeria? The assumption is that education and health sector matters for economic growth in both short and long run.

2.0 Review of Related Literature

2.1 Conceptual Framework

Manpower constitutes the ultimate basis for wealth of nations. Capital and natural resources are passive factors of production; 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 to utilize them effectively in the national economy will be unable to develop anything else. Therefore, "human resources/human capital" often used interchangeably with "manpower" refers to the "totality of the energies, skill, knowledge and experience available in a country". It is managerial, scientific, engineering, technical, craftsmen and other skills which are employed in creating, designing, developing organizations, managing and operating productive and service enterprises and economic institutions (Adeyeye, 2015).

The concept of manpower also refers to the abilities and skills of the human resources of a country, while manpower development refers to a conscious and continuous process of making people more productive by improving their nutrition, health, education and other social indices through adequate and proper investments (Dauda, 2010). Manpower

can be categorized by 'something akin to property' that is, knowledge and skills embedded in an individual (Beach, 2009). Rastogi (2002) conceptualizes the manpower as 'knowledge, competency, attitude and behavior embedded in an individual'. Manpower development is thus associated with investment in man and his development as a creative and productive person. The totality of effort and cost involved in this considerable improvement of the productive capacity of the people constitutes in investments in human resources, which is also referred to as manpower development or human resources development or human capital formation.

Manpower is all embracing, that is, it is inclusive of persons who work now, or are likely to be productively employed sooner or later. In other words, manpower development has almost the entire population as its target. Therefore, manpower development is a continuing process from childhood to old age, and a must for any society or enterprise that wishes to survive under the complex challenges of a dynamic world.

Yesufu (2000) in agreement with this view says, "the essence of human resources development/manpower development becomes one of ensuring that the workforce is continuously adapted for, and upgraded to meet, the new challenges of its total environment." This is because the economy is a dynamic entity, which is constantly changing in response to various stimuli such as introduction and discoveries of new products or techniques of production. A special human capacity can be acquired and developed in different ways, namely, education, training, health promotion, as well as investment in all social services that influence man's productive capacities, including telecommunications, transport and housing.

2.1.1 Manpower Development: Effect on Economic Growth

The role of manpower in economic growth cannot be overemphasized. Thus, the need for appropriate manpower development and accumulation is a prerequisite for modern economic growth in both developed and developing countries. It has been recognized that the development of manpower is also an essential pre-condition for a country's economic, political and socio-cultural transformation. Therefore, manpower is considered as the most valuable asset for a country's socio-economic and political transformation and this need to be mobilized, developed and empowered to participate fully in all socio-economic activities.

Maduka, Madiche and Ekesiobi (2016) studied the health care expenditure, health outcome and economic growth nexus in Nigeria. The study spanned through the period 1970 – 2013 and employed the Toda-Yamamoto Causality approach. Gross domestic product, Mortality rate, life expectancy rate and government health expenditure were used as variables in the study. It was found from the Toda-Yamamoto result that government health expenditure does not directly influence economic growth. Government health expenditure was seen the influence economic growth indirectly through health outcomes (mortality rate and life expectancy rate).

In a similar study, Bakare and Olubokun (2011), investigated the relationship between health care expenditure and economic growth in Nigeria for the 1970 and 2008. Their study utilized the ordinary least square technique. Findings showed that recurrent expenditure in the health sector was given high priority to capital expenditure in Nigeria within the study period. It also showed that there is a positive relationship between health expenditure and economic growth in Nigeria. Same was seen to be true with gross capital formation and economic growth, also, between labour and economic growth in Nigeria.

In a similar study, Ogujiuba (2013), investigated the impact of human capital formation on economic growth in Nigeria for the period 1970 – 2010. The study used the error correction model to empirically analyse the impact of human capital formation on economic growth. His variables of interest were real gross domestic product growth rate, capital expenditure on education, recurrent expenditure on education, real gross capital formation, primary school enrolment, post-primary education enrolment and tertiary education enrolment. The study established that government recurrent expenditure on education and capacity building through primary school enrolment, secondary school enrolment and tertiary education enrolment impact significantly on

economic growth, while capital expenditure on education was not statistically significant to the growth process in Nigeria. He recommended a complete restructuring of the entire education system for quality schooling.

Also, Irughe (2013), studied the impact of educational expenditure on economic growth in Nigeria for the period 1977-2009. The study employed an error correction specification to estimate the specified model with variables such as economic growth (dependent variable), education expenditure, capital stock and population. The study showed that expenditure in education had a significant negative impact on economic growth in Nigeria. It also showed that expenditure in education has followed a declining pattern over the years. Thus it was recommended for government to give an upward consistent budgetary allocation to public expenditure on education.

In another study, Oboh, Rahmah and Abu (2010), investigated the impact of human capital development on economic growth in Nigeria. The study period was 1970 – 2008. Ithey used the vector error correction analysis to ascertain this impact. The study employed real gross domestic product, real capital expenditure on education, real recurrent expenditure on education, real capital stock, total school enrolments and labour force as macroeconomic variables for human capital development. Their finding showed that human capital development has a significant impact on economic growth in Nigeria.

Jaiyeoba (2015) examined the role of human capital investment and economic growth in Nigeria. His study employ trend analysis covering the period of 1982 to 2011. He found a long-run relationship between government thus, recommended for government to put in place policies geared towards massive investment in health and education.

Using the augmented solow human capital growth model, God'stime and Uchechi (2014) examined human capital development and economic growth in Nigeria. They used quarterly data spanning through 1999-2012. They found that human capital development shows a positive impact in output level. Their study further shows an inelastic relationship between human capital development and output level in Nigeria.

Adamu (2002) undertook an empirical investigation of the impact of human capital formation on the economic growth of Nigeria using time series data from 1970-2000. The study proxied investment in human capital by recurrent and capital investment in education. The result showed that human capital investment facilitates economic growth. The author therefore, recommended that government should encourage investment in people by increasing its spending on social and economic infrastructure and also ensure macroeconomic stability that will provide the required enabling environment for human capital investment. The drawback of this study is that nominal recurrent and capital expenditure were used as a proxy for investment in human capital which seems inappropriate for a country like Nigeria that is faced with persistent inflation.

Chete and Adeoye (2002) examined human capital investment on the economy and established a positive relationship between them. The study was done using regression analysis to establish relationship growth rate of real gross domestic product and investment in GDP ratio, employment rate and human capital proxied by total expenditure on education and health. The authors stated that the government appears persuaded about the direct association between investment in human capital and economic growth but real capital expenditures on education and health sometimes slide or are deliberately cut, thus it is important for government to continue to channel more financial resources into the educational sector.

In Uwatt (2002), human resource development proxied by enrolment in educational institution was found not only to contribute positively to economic growth in Nigeria but it was found to be strong and statistically significant. The study also examined the relative importance of each level of education (primary, secondary and tertiary education) in terms of their contribution to economy growth but, they differ in their importance to economic growth.

Matthew, et al (2004) examined and explained the relationship between human capital investment and economic growth in the Nigerian economy using secondary data from 1970-2004 and also the study

adopts a Cobb-Douglas production function and the Ordinary Least Square method of estimation. It examined the relationship between real gross domestic product and economic variables such as labour force, total government expenditure on education and real gross capital formation. The empirical analysis carried out showed that labour force, government expenditure on education and real gross capital formation have a positive and significant effect on real gross domestic product with government expenditure surprisingly having the least effect, this was attributed to misallocation funds by the government among the levels of education, corruption by government officials, etc. The study therefore, reveals that there exists a positive and significant relationship between human capital investment and economic growth in Nigeria, therefore investment in human capital in Nigeria is a necessity for economic growth in Nigeria. Thus, it was recommended that the federal government should increase its revenue allocation to the education sector and also ensure that funds should be given to the necessary agencies to enforce strict compliance with the policies, accountability and sanity in education sector.

Adeyeye (2015) manpower/human capital development involves investment in education, training, health and other social services that will boost the capacity of labour. The study is an attempt to provide empirical evidence of the impact of human capital development proxied by enrolment in educational institutions on economic growth in Nigeria from 1970-2010. With the use of the augmented Solow model, the study made use of the Ordinary Least Square (OLS) and Cochrane-Orcutt techniques to determine the relationship between human capital development and economic growth. He found that expenditure on education in addition to enrolment in educational institutions, particularly, primary and tertiary institutions have positive impact on economic growth. Thus recommended that the government should increase its expenditure on education, and ensure a stable macroeconomic environment, which will encourage increased investment in education and other social services provided by organized private sector, religious bodies and individuals.

No doubt, a lot of studies have been carried out to ascertain the impact of human/manpower development on economic growth in Nigeria. These studies employed several proxies ranging from such as government expenditure on education (current and recurrent), school enrolment rates, mortality rate, and life expectancy. It is pertinent to note here that the health sector is also vital in manpower development, as only a healthy population can be access education which is seen as the primary tool for human capital development. None of the studies reviewed investigated the joint impact of public expenditure on education and health on economic growth in Nigeria. As they either investigated the health expenditure on economic growth or the impact of human capital development (public expenditure on education) on economic growth. This study is thus, important and different as itascertains the joint impact of public funding on education and health care (as proxies for manpower development) on economic growth.

2.2. Theoretical Framework

The relevant theory to this research isthe endogenous growth theory.

2.2.1 Endogenous Growth Theory

Theendogenous growth theory or new growth theory was developed in the 1980s, as a response to criticisms of the neo-classical growth models. In the neoclassical growth models, the long-run rate of growth is exogenously determined by either savings rate (Harro-Domar model), or the rate of technical progress. This growth theory states that, Y=f(K,L),where Y represents output, K is Capital and L is labour. This implies that the capital and labour are the necessary factors of economic growth. However, the savings rate and rate of technological progress remain unexplained.

Endogenous growth theory holds that economic growth is primarily the result of endogenous and not exogenous (external) forces. Endogenous growth theory posits that investment in human capital, innovation and knowledge are significant contributors to economic growth. This theory postulate that growth is a function of an indefinite investment in human capital which has spill over positive effect on the economy and reduces the diminishing return to capital accumulation. Households are assumed to maximize utility subject

to budget constraints while firms maximize profits. Importance is given to the production of new technologies and human capital. The engine for growth can be as simple as a constant return to scale production function or more complicated set up with spillover effect (spill over are positive externalities, benefits that are attributed to costs from other firms), increasing number of goods, increasing qualities etc.

The endogenous growth theory holds that policy measures can have an impact on the long-run growth rate of an economy. For example, subsidies on research and development in education increase the growth rate by increasing the incentive to innovate. The endogenous growth theory tries to overcome the short comings of the neoclassical growth theory by building macroeconomic models out of microeconomic foundations, and assuming constant marginal product capital at the aggregate level, or at least, that the limit of the marginal product of capital does not tend towards zero.

3.0 Methodology

The multiple regression technique of the Ordinary Least Square (OLS) was used to analyse the data which were obtained from the Central Bank of Nigeria Statistical Bulletin 2017 edition and National Bureau of Statistics. The annual time series data covered the period 1985-2017.

3.1 Model Specification

The model for this study is drawn from the augmented Solow's growth model as modified by Mankiw, Romer and Weil (1992).

In Functional Form:

RGDP = f (GXEDU, GXHEL, TIER)…… (1)

Where:

RGDP = Real Gross Domestic Product

GXEDU = Total Government Expenditure on Education

GXHEL = Total Government Expenditure on Health

TIER = Tertiary Institutions Enrolment rate

$LogRGDP_t$ = a0 + a1LogGXEDUt + a2LogGXHELt+ a3LogPPERLt+ εt..... (2)

On a priori expectation, it is expected that a1, a2>0. In other words, all the coefficients are positively related to RGDP.

ε = Stochastic term

4.0Discussing of Results

4.1 Tests for Stationary

The results regarding the stationarity properties of the data and the order of integration of the series have been determined by Augmented Dickey Fuller (ADF) test.

Table 1:Augmented Dickey Fuller test

Variables	Level	1st Diff	Lag	Decision
Log(RGDP)	-0.392457	-3.101653	2	I(1)
Log(GXEDU)	-1.265909	-5.432689	2	I(1)
Log(GXHEL)	-1.163678	-8.068850	2	I(1)
Log(TIER)	-2.013781	-5.754992	2	I(1)
Ect (-1)	-5.380534			I(0)
Critical Value @ 5%	-2.963972	-2.967767		

Source: Authors' Computation

The ADF results showed that all the variables are non-stationary in their levels, but became stationary after differencing once. Thus,the need to examine the existence of co-integrating vector(s) among the variables is established using the Johansen's Co-integration test.

Table 2: Johansen Co-integration Based on Trace Test

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.748766	124.2675	91.36783	0.0000
At most 1 *	0.654349	81.26704	62.80546	0.0018
At most 2	0.325621	34.34642	44.14561	0.1323
At most 3	0.485280	24.87365	39.57896	0.1 156

Trace test indicates 2cointegratingeqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

Source: Authors' Computation

The results in Table 2 above indicate the presence of two (2) cointegrating vectors in the specified model. This means that the variables in our model tend to oscillate in the same direction in the long-run.This is a sufficient condition for the estimation of the Error Correction Model to check the speed of convergence back to their equilibrium path in the event of any disequilibrium.

Table 3: Parsimonious Error Correction Model

Dependent Variable: LOG(RGDP)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	11.05491	0.964382	11.46321	0.0000
D(LOG(GXEDU))	0.154785	0.142457	1.086538	0.3136
D(LOG(GXEDU(-2)))	-0.169092	0.090439	-1.869683	0.0932
D(LOG(GXHEL))	0.116324	0.061082	1.904383	0.0721
D(LOG(TIER)	0.254661	0.099274	2.565243	0.0131
D(LOG(TIER(-1)))	0.415467	0.096582	4.301709	0.0001
ECT(-1)	-0.318753	0.138345	-2.304044	0.0016

R-squared	0.577543	Mean dependent var	10.41173
Adjusted R-squared	0.536535	S.D. dependent var	0.455003
S.E. of regression	0.118765	Akaike info criterion	-1.287548
Sum squared resid	0.258763	Schwarz criterion	-0.735262
Log likelihood	25.35785	Hannan-Quinn criter.	-1.169876
F-statistic	45.85471	Durbin-Watson stat	1.975446
Prob(F-statistic)	0.000000		

Source: Authors' Computation

From the empirical evidence presented in Table 2,the estimation results reveal that over the years,government expenditure in education and healthcare does not have any significant impact on the growth of the Nigerian economy at the 5 percent level of significance. This corroborates the findings Torruam et al (2014). This is not surprising given the poor state of public institutions (educational and health) in the country. Thus,giving rise to the incessant industrial actions of the unions in these (educational and health) sectors. The result also revealed tertiary institution enrolment rate to have a significantly positive impact on the growth of the Nigerian economy both in the short and long-run. This means that a 1 percent increase in tertiary institution enrolment would result to approximately 25 percent significant increase in RGDP. Lastly, the error correction term (ECT) is correctly signed, meaning that in the event the variables deviate from equilibrium their equilibrium path in the long-run, they would converge back to equilibrium at the speed of 32 percent.

The adjusted R^2value of approximately 0.54 shows that the estimated model has a good fit. Meaning that about 54 percent of the behaviour of economic growth in the estimated model is influenced by the independent while the remaining 46 percent is accounted for by the stochastic term. The calculated F-statistic of 45.85471 and its corresponding probability value of 0.00000 shows that the entire model is statistically significant. This is an indication that though total government expenditure on education and health do not have a significant impact on the growth of the Nigerian economy individually, their joint impact is seen to be statistically significant. Therefore, we accept the alternative hypothesis and reject the null hypothesis and conclude that there is a significant relationship manpower development and economic growth in Nigeria. The Durbin Watson statistic value of 1.98 confirms that the model is free from serial/auto correlation.

4.3: Granger Causality Test

The granger causality test is a statistical hypothesis test for determining whether a time series is useful in forecasting another. This test is used to measure the direction of causality between variables.

Log(GXEDU)→ Log(RGDP);
Log(GXHEL)→ Log(RGDP)
Log(GXHEL) ↔ Log(GXEDU);
Log(RGDP) → Log(TIER)

The results above show that a uni-directional causality relationship runs from government expenditures on education to economic growth, health expenditure to economic growth and tertiary institution enrolment to economic growth. However, a bi-directional causality exists between government expenditure on education and on health. This is a clear indication that expenditure on education and health as a means of human capital development is vital for economic growth.

5.0 Conclusion and Recommendation

This study explored empirically the relationship between manpower development and economic growth in Nigeria, using the Ordinary Least Square (OLS) method of estimation. It, however, reveals that investment in manpower in form of health and education has a positive but insignificant impacton economic growth in Nigeria. It is therefore recommended that the Nigerian government as a matter of urgency should make deliberate effort to increase the budgetary allocation for the education and health sectors if she (Nigeria) must utilize the full potentials of her human capital in contributing to economic growth.

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Appendix

Pairwise Granger Causality Tests

Null Hypothesis:	Obs	F-Statistic	Prob.
LOG(GXEDU) does not Granger Cause LOG(RGDP)	36	1.42124	0.2610
LOG(RGDP) does not Granger Cause LOG(GXEDU)		0.67065	0.5207
LOG(GXHEL) does not Granger Cause LOG(RGDP)	36	1.75048	0.1951
LOG(RGDP) does not Granger Cause LOG(GXHEL)		0.19419	0.8248
LOG(TIER) does not Granger Cause LOG(RGDP)	36	3.74744	0.0383
LOG(RGDP) does not Granger Cause LOG(TIER)		0.24873	0.7818
LOG(GXHEL) does not Granger Cause LOG(GXEDU)	36	1.95157	0.1639
LOG(GXEDU) does not Granger Cause LOG(GXHEL)		0.39065	0.6808
LOG(TIER) does not Granger Cause LOG(GXEDU)	36	2.84816	0.0776
LOG(GXEDU) does not Granger Cause LOG(TIER)		1.99033	0.1586
LOG(TIER) does not Granger Cause LOG(GXHEL)	36	2.64280	0.0918
LOG(GXHEL) does not Granger Cause LOG(TIER)		2.03911	0.1521