Manpower Development and Economic Growth in Nigeria

ADEYEYE, T. C
Department of Business Administration, Ajayi Crowther University, Oyo, Oyo State, Nigeria

ABSTRACT
Manpower/ Human capital development involves investment in education, training, health and other social services that will boost the capacity of labour. This 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, this study made use of the Ordinary Least Square (OLS) and Cochrane-Orcutt techniques to determine the relationship between human capital development and economic growth. It was found that expenditure on education in addition to enrolment in educational institutions, particularly, primary and tertiary institutions have impact on economic growth. It can be said that the rate of human capital development in Nigeria is quite low. Similarly, there is a decline in the quality of education at all levels since the 1980s. Therefore, for Nigeria to experience rapid economic growth sooner and in many more years to come, an attempt should be made to restructure the educational system to meet the challenges being faced by the society, thereby improving the quality, the government should increase its expenditure on education, more job opportunities should be provided to serve as incentives, the wages structure should be enhanced and a conducive working environment provided to encourage the teachers, thus boosting their morale. Moreover, the government should 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.

Keyword: Manpower, Development, Economic Growth, Private Sector and Macroeconomic

1.0 Background to the study
“Human resources constitute 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” (Diejomaoh, 1978:34). “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” (Yesufu, 1962).

The concept of human capital also refers to the abilities and skills of the human resources of a country, while human capital formation refers to the process of acquiring and increasing the number of persons who have the skills, education and experience that are critical for the economic growth and political development of a country (Okojie, 1995:44). Human capital formation, Okojie concludes, “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.

Human resources are 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, human resources development has almost the entire population as its target. Therefore, human capital formation 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.

Yesufu (2000) in agreement with this view says, “the essence of human resources 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.

The role of human capital 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 human capital is also an essential pre-condition for a country’s economic, political and socio-cultural transformation. Therefore, human
capital is considered as the most valuable asset for a country’s socio-economic and political transformation and this needs to be mobilized, developed and empowered to participate fully in all socio-economic activities.

In order to be able to do this, the country’s human capital needs to be assessed. An assessment by the World Bank (1995) shows that manpower account for close to 64 percent of the wealth in about 192 countries, while physical and natural capital account for 16 percent and 20 percent respectively. However, from recent empirical studies of economic growth, it is suggested that higher stock of human capital can allow less developed countries through increased incorporation of international technologies and capacity of imitation (Laroche, 1998). Thus, manpower can be of immense economic benefit, especially to Less Developed Countries (LDCs), if the stock is well developed through investment in nutrition, health and education.

Nigeria, since independence in 1960, has come a long way in her development planning efforts. The planning of human resources in Nigeria dates back to 1959 with the Federal Government setting up a panel to look into the nation’s manpower needs in the field of post-secondary and higher over the next two decades. The commission came up with a report known as the Ashby Report (1960) which came up with some projections of enrolment figures in Nigerian University system for a decade (1960-1970), instead, due mainly to dearth of data.

Three important aspects of the machinery for human resources planning grew out of the recommendations of the Ashby Commission. These are the National Universities Commission (NUC), the National Manpower Board (NMB), and its Secretariat, and the Regional (State) Manpower Committees. NUC was formed to initiate and consider in consultation with universities, plans for such balanced development as may be required to enable universities to meet national needs. It is also to examine the financial needs of the universities, receive block grants annually from the Federal Government and allocate such grants to the universities on the basis of laid down criteria. In 1974, the NUC was reconstituted and changed to a statutory body with executive powers. Likewise, the NMB was established in 1962 but its governing council was dissolved in 1983 while its secretariat became a Division of the Ministry of Budget and Planning (later National Planning Commission). However, NMB was later reorganized as a parastatal with the promulgation of the enabling Decree No. 18 of 1991 and formal inauguration in October 1992. In the main, the NMB is mandated to research into, advice on, coordinate and promote the optimal planning, development (training) and, utilization (employment) of Nigeria’s human resources (manpower). On the other hand, the then regional (later state) Manpower Committees became maribond, during the civil war period. New State Manpower was set up in October 1993, and was charged with the responsibility of human resources planning, development and utilization.

Unfortunately, human resources planning and its machinery in Nigeria had been hampered by lack of research on planning and manpower utilization; low percentage of response from establishments selected for manpower surveys; lack of current and comprehensive information on the stock of skills available in Nigeria’s incapability to evaluate manpower contents of development projects; lack of guidance to educational planners; lack of data; lack of coordination between manpower planners and educational system; and lack of coordination among the agencies charged with the responsibility of human resources planning.

It has been suggested by many (Lucas 1988; Harbison and Myers 1964) that human capital formation has contributed immensely to economic growth. This has been achieved through increased knowledge, skills and capabilities acquired through education and training by all the people in a country.

In Nigeria, the government realized the importance of education in the development process and, hence, embarked on policies that encouraged people to attend schools, e.g., free primary education. In 1960, there were 15,703 primary schools in Nigeria and total enrolment was 2,912,600. By 1970, enrolment had risen to 3.5 million while the number of primary schools stood at 14,902. With the launching of the free Universal primary education (UPE) in 1976 primary school enrolment increased significantly from 5 million in 1975 to 8.4 million in 1976. The number of schools also increased from 21,223 in 1970 to 29,853 in 1976. The increase in enrolment continued up to 1983 when it peaked at 15.3 million, declining thereafter to 11.5 million in 1987. Secondary school enrolment, on the other hand, rose from 357,027 in 1970 to 843,419 in 1975. It recorded a consistent rise between 1980 and 1984. By 1985, the number of enrolment had fallen to 2,995,578 and 2,723,791 in 1989 before it marginally rose to 2,901,993 in 1990. The number of enrolment has since then been on the increase.

At the third tier of education, there was an improvement. Total student enrolment in the Nigerian universities rose from 87,066 in 1981/82 to 116,822 in 1983/84. This later rose to 135,783 in 1985/86 (FOS 1997). The figures jumped as the years rolled by. However, while university enrolment was growing investment spending on education in real per capita has not been encouraging, especially since the 1980s. In 1970, real per capita expenditure on education was N8, 674, which sharply rose to N31, 873 in 1972. Since the mid-1970s, after the oil-boom, it has been declining.

If the theoretical scheme of a strong and positive relationship between human capital formation and growth in the economy is what a country holds, what would be the cost of the deteriorating human capital development on the Nigerian growth process? This paper will proffer answers to that question.
2.0 The Basis/need for Human Capital Development

The concept of “human capital” is a relatively recent idea in the realm of economic theory. Economists had long paid close attention to the concept of investments in physical capital (firm buying improved machinery to increase production, or buying new buildings or properties) as an essential part of running businesses, while in recent years they have placed increased emphasis on the concept of human capital investments. This shift occurred largely because of a failure by classical economics theory to explain the vast dominance of developed countries over underdeveloped ones in the international marketplace of the 20th and 21st centuries. For instance, taking a look at the price of machines and labor, it would seem like industries would prefer to have all their operations in underdeveloped countries, where the costs of buying basically would be cheaper. However, it turns out that more companies shift their operations into developed nations than out of them. Why should this be the case? The answer turns out to be based on “human capital”: workers in developed countries have much higher levels of education, health care, and technological skills than their counterparts in poorer countries, making each hour they work more valuable to the company. There would be all sorts of economics questions that would be impossible to answer without an understanding of the importance of human capital.

The concept of human capital formation refers to the “process of acquiring and increasing the number of people with the requisite knowledge, education, skills and experiences which are critical for the economic and political development of a country.” (Harbison 1973; Salleh 1992) The importance of human capital development in the overall national development and the well being of the people is certainly not a new idea. It has been noted that the bases for national wealth are the skills, dexterity and competence of individuals (Adam Smith 1776).

Human capital covers a broad range of concepts, but the essential feature is increased productivity through investing in employees. It could mean education, from elementary school-level training of basic reading and writing skills, to job training, both of general skills, such as customer service or general computer skills, and specific skills, such as how to use a particular company’s database system or machines, to investments in the health of workers to ensure that they are physically capable of being productive.

According to Schultz (1961), there are five ways of developing human resources:

(i) health facilities and services, broadly conceived to include all expenditures that affect the life expectancy, strength and stamina, and the vigor and vitality of the people;
(ii) on-the-job training, including old type apprenticeships organized by firms;
(iii) formally organized education at the elementary, secondary and higher levels;
(iv) study programmes for adults that are not organized by firms, including extension programmes notably in agriculture;
(v) migration of individuals and families to adjust to changing job opportunities.”

Precisely, economic benefits of human resource development arise from making people more productive by improving their nutrition, health, education and other social indices through adequate and proper investments.

2.1 Link between Human Capital Development and Growth

The desire of most developing countries to accelerate the development process has been expressed by Baer and Herve (1966) in their study of employment and industrialization in developing countries. They observed that the Latin American countries were able to secure a growth rate of about 5.95 in the period between 1945 and 1949 and 4.85 between 1950 and 1961. The manufacturing sector was observed as the leading sector. For instance in Brazil, the growth rate of the manufacturing sector was 9.4% as against the general growth rate of 5.7%. In Columbia, the manufacturing sector grew at 7.25 while the general growth rate was 4.3% during the same period.

Malaysia has been described as having an equitable growth for human development. This is on the ground that the real GDP growth averaged 6.9% a year between 1960 and 1985, more than 8% between 1986 and 1996 (UNDP, HDR 1996). The growth has been associated with full employment, low inflation and the transformation of Malaysia’s economy from producer of primary commodities to a manufacturer of sophisticated industrial goods. The strategy adopted has been described as a two-pronged approach in which rapid economic growth was translated into human development. The country was said to have adopted a 20-year perspective plan for promoting growth and human development, reducing poverty, increasing equity and specifying quantitative targets. Racial discrimination was also eliminated from the employment policies. Given Malaysia’s rapid growth through the emphasis on growth with equity, Nigeria has a lot to learn in linking human resources with the national production structure on one hand, and making conscious moves to improve on the industrial sector of the economy.

Aside from these direct effects on one’s own labor productivity, investment in human capital for an individual can affect the well being of others also. Some of these external effects can accrue to society as a whole. For example, primary education may foster “good citizenship” in a number of ways by increasing patriotism, lessening crime through literacy, and also, easing the administrative burdens to obtain quantitative
measures of these general impacts. There is more evidence that investment that makes one individual more productive can have a positive effect on other individuals. But to what extent should such evidence be used to justify public intervention in the name of externality? According to Jimenez (1994:17), “one issue hinges on how parental education will influence children schooling positively.” Studies in Malaysia and the Philippines found for example, mothers schooling affects schooling significantly (Behrman 1990).

2.2 Theoretical Framework

To capture the relationship between education and human capital development, Robert Solow’s model is used as the basis of this theoretical framework.

The neoclassical theory of growth as developed by Solow (1956) and Swan (1956) centered macroeconomists’ attention throughout the 1960’s and 1970’s on tangible (physical) capital formation and an expansion of the labor force, in addition to an “exogenous” factor, technological progress as the main factors of economic growth. This exogeneity factor that increases productiveness has been questioned in the literature of Lucas (1988); Romer (1987); Azarriadi and Drazen (1990); Mankiw, et al (1992); UNDP (1996).

That is, Solow treats technical change as disembodied where capital is assumed as homogenous and technical changes as exogenous. The disembodied technical change is capital augmenting in which one means or another makes existing capital more productive. This productivity depends on the amount of capital stock and not its age.

To them, what increases the productivity is not an exogenous factor, but an “endogenous” one, which is responsible for the accumulation of physical capital. Thus, human capital becomes an endogenous part of the growth process.

Romer’s analysis brought out the significant point that when human capital is modeled as a factor affecting innovation, the long-run rate of productivity growth is positively affected by the human capital stock’s level; whereas, in the Lucas (1988) model, the rate at which human capital is being accumulated, relative to the existing stock, was seen as the critical determinant of productivity growth.

The aggregate production function, \( Y = F (K, L) \) is assumed to be characterized by constant returns to scale. This development leads to the augmented Solow model which is formulated in a Cobb-Douglas production function. By incorporating human capital into the growth process, the production function is given as:

\[
Y = K^{\alpha} H^{\beta} (A L) ^{1-\alpha-\beta}
\]

where:
- \( Y \): gross domestic product
- \( K \): physical stock of capital
- \( H \): stock of human capital
- \( L \): labor force
- \( A \): level of technology

It is assumed that \( \alpha, \beta < 1 \), which implies that there is decreasing return to capital. Due to the constant returns to scale, an increase in the inputs by the same amount, say 10% will increase the output by the same amount. More generally,

\[
\gamma Y = F (\gamma K, \gamma L)
\]

where \( \gamma \) is some positive amount

Because \( \gamma \) can be any positive real number, a useful trick in analyzing the implications of the model is to set \( \gamma = 1/L \), so that

\[
Y/L = f(K/L, 1), \text{ or } y = f(k)
\]

This simplification allows us to deal with just one argument in the production function; like the Cobb-Douglas case introduced above:

\[
Y = Ak^\alpha
\]

Equation 4 states that output per worker is a function that depends on the amount of capital per worker. The more capital with which each worker has to work, the more output that worker can produce. The labor force grows at rate \( n \) per year and labor productivity growth, the rate at which the value of \( A \) in the production function increases, occurs at rate \( \lambda \). The total capital grows when savings are greater than depreciation, but capital per worker grows when savings are also greater than what is needed to equip new workers with the same amount of capital as existing workers have.

Solow’s equation (equation 4) gives the growth of the capital-labor ratio, \( k \) and shows that the growth of \( k \) depends on savings \( sf(k) \), after allowing for the amount of capital required to service depreciation, \( \delta k \), and after capital widening, that is, providing the existing amount of capital per worker to net new workers joining the labor force, \( nk \). That is:

\[
\Delta k = sf(k) - (\delta + n) k
\]
For now, we assume that \( A \) remains constant. Thus, there will be a state in which output and capital per worker are no longer changing, known as steady state. To find this steady state, set \( \Delta k = 0 \):

\[
\Delta k = (\delta + n) k^* - sf(k) = 0
\]

The notation \( k^* \) means the level of capital per worker when the economy is in its steady state.

The capital per worker \( k^* \) represents the steady state. So if \( k \) is higher or lower than \( k^* \), the economy will return to it; thus \( k^* \) is a stable equilibrium. By looking at the Solow equation, we see that when \( (n + \delta) k < sf(k) \), \( \Delta k > 0 \).

In the Solow model, an increase in \( s \) will not increase growth in the long run, it will only increase the equilibrium \( k^* \). That is, after the economy has time to adjust, the capital-labor ratio increases, and so does the output-labor ratio, but not the rate of growth.

It is pertinent to note that an increase in \( s \) raises equilibrium output per person, which is certainly a valuable contribution to development – not just the equilibrium rate of growth. And the growth rate does increase temporarily as the economy kicks up toward the higher equilibrium capital per worker.

Finally, it is possible that the rate of savings (and hence investment) is positively related to the rate of technological progress itself, so that the growth of \( A \) depends on \( s \). This could be the case if investment uses newer-vintage capital and hence is more productive, if investment represents innovation in that it solves problems faced by the firm, and if other firms see what the investing firm has done and imitate it, generating externalities.

3. Model Specification

Given the foregoing discussion, the following model is specified in order to determine the impact of human capital development on economic growth in Nigeria.

In functional form,

\[
Y = f(C, R, F, P, S, T)
\]

where:

- \( Y \): real gross domestic product
- \( C \): capital expenditure on education
- \( R \): recurrent expenditure on education
- \( F \): real gross capital formation
- \( P \): primary education enrolment
- \( S \): post-primary education enrolment
- \( T \): tertiary education enrolment

Incorporating the variables into the Cobb-Douglas production function, we have:

\[
Y = AC^\beta R^{\beta_2}F^{\beta_3}P^{\beta_4}S^{\beta_5}T^{\beta_6}
\]

\[
\text{--------------------------- (1.1)}
\]

Human capital development is proxied by the three components of enrolments in educational institutions. The inclusion of these three variables is to examine their individual impact on the economic growth process.

In econometric form, it can be expressed thus:

\[
Y = \alpha_0 + \alpha_1 C + \alpha_2 R + \alpha_3 F + \alpha_4 P + \alpha_5 S + \alpha_6 T + U
\]

\[
\text{--------------------------- (2)}
\]

Taking the natural logarithm of both sides of equation (1.1) and assuming linearity among the variables gives:

\[
\text{Log}Y = \beta_0 + \beta_1 \text{Log}C + \beta_2 \text{Log}R + \beta_3 \text{Log}F + \beta_4 \text{Log}P + \beta_5 \text{Log}S + \beta_6 \text{Log}T + U
\]

\[
\text{--------------------------- (3)}
\]

On a priori, it is expected that \( \alpha_i, \beta_i, \alpha_i, \alpha_i, \alpha_i, \alpha_i \geq 0 \) and \( \beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6 > 0 \). In other words, all the coefficients are positively related to RGDP.

The \( \beta \)'s are coefficients to be estimated. While \( U \) which is the error term is assumed to be normally distributed with a mean of zero and constant variance.

3.1 Data sources

From the model, it is evident that the data required include real gross domestic product, capital expenditure on education, recurrent expenditure on education, real gross capital formation, and primary, secondary and tertiary education enrolments. The data were expressed in natural logarithmic forms and it covers the period 1970-2010. All data were sourced from the CBN statistical bulletin.

4 Data analysis and results

In this study, it is hypothesized that growth of an economy does not depend on real gross capital formation (used as proxy for human labor) and capital government expenditure (used as proxy for capital) alone but also on human capital development (proxied by enrolments in primary, secondary and tertiary institutions). The original values were lagged in this analysis, as instruments to remove the simultaneous bias that would result from applying the OLS technique to the system of equations. Thus, the Cochrane-Orcutt procedure for correcting for serial correlation was used to solve the problem of positive second-order serial correlation noticed in the initial
regression results.

The initial Ordinary Least Square (OLS) result for the lagged variables is given below:

**TABLE 4.1: Ordinary Least Square Estimation Method**

<table>
<thead>
<tr>
<th>Regressand RGDP</th>
<th>Coefficients</th>
<th>Std Error</th>
<th>T values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>10.5995</td>
<td>0.094383</td>
<td>112.3035</td>
</tr>
<tr>
<td>LOGC</td>
<td>0.055013</td>
<td>0.026088</td>
<td>3.4021</td>
</tr>
<tr>
<td>LOGR</td>
<td>0.10331</td>
<td>0.030366</td>
<td>3.4021</td>
</tr>
<tr>
<td>LOGF</td>
<td>-0.014002</td>
<td>0.010509</td>
<td>-1.3324</td>
</tr>
<tr>
<td>LOGP</td>
<td>0.33301</td>
<td>0.083125</td>
<td>4.0062</td>
</tr>
<tr>
<td>LOGS</td>
<td>-0.37665</td>
<td>0.093459</td>
<td>-4.0301</td>
</tr>
<tr>
<td>LOGT</td>
<td>-0.0044299</td>
<td>0.0078013</td>
<td>-0.56784</td>
</tr>
<tr>
<td>( R^2 )</td>
<td>0.87553</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adjusted ( R^2 )</td>
<td>0.84886</td>
<td></td>
<td></td>
</tr>
<tr>
<td>S.E of Regression</td>
<td>0.095527</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F (6, 23)</td>
<td>32.8256 [0.00]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D-W statistic</td>
<td>1.0733</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Computer result

### 4.2 Discussion for OLS Technique

From the above OLS regression result, it is shown that not all the coefficients have their expected signs. Thus, they all conform to a priori specification with the exception of secondary school enrolment (S) and Tertiary institution enrolment (T). In other words, the result implies that it is only Capital government expenditure (C), Recurrent government expenditure (R), Real gross capital formation (F), and Primary school enrolment (P) that are positively related to the growth of the economy; while the other variables are being held to be negatively related to economic growth.

Interpreting further, we would start with the R-squared which is the coefficient of determination. This gives a value of 0.88, while the adjusted R-squared has a value of 0.85. Both values are high. This shows that about 85% of the systematic variation of growth can be explained by the independent variables. This is a very good result as only about 15% of the systematic variation has been left unaccounted for by the model. At the 1%, 5% and 10% levels of significance, the Capital government expenditure (C), recurrent government expenditure (R), real gross capital formation (F) and primary school enrolment, were found to be statistically significant. While the other variables were found to be statistically insignificant. Using the F-test to test for the overall significance of the model, from the regression result obtained, it shows that the calculated F-value (32.82) is greater than the critical F-value (3.53, 2.45, and 2.00) at the 1%, 5% and 10% levels of significance respectively. This shows that the overall model is statistically significant at these levels of significance. With this kind of result, we reject the null hypotheses. The Durbin Watson statistic is however very low at 1.07, we thus suspect the presence of a positive first order serial correlation. The presence of autocorrelation will affect the coefficients of the regression. This error was therefore corrected using the Cochrane-Orcutt method.

**TABLE 4.3: Ordinary Least Square Method Corrected For Autocorrelation**

<table>
<thead>
<tr>
<th>Regressand RGDP</th>
<th>Coefficients</th>
<th>Std Error</th>
<th>T values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>12.0180</td>
<td>0.56725</td>
<td>21.1864</td>
</tr>
<tr>
<td>C</td>
<td>0.049743</td>
<td>0.017287</td>
<td>2.8775</td>
</tr>
<tr>
<td>R</td>
<td>-0.010019</td>
<td>0.024373</td>
<td>-0.41107</td>
</tr>
<tr>
<td>F</td>
<td>-0.0081626</td>
<td>0.010328</td>
<td>-0.79036</td>
</tr>
<tr>
<td>P</td>
<td>0.36910</td>
<td>0.11804</td>
<td>3.1268</td>
</tr>
<tr>
<td>S</td>
<td>-0.42391</td>
<td>0.13618</td>
<td>-3.1130</td>
</tr>
<tr>
<td>T</td>
<td>0.0025244</td>
<td>0.0042186</td>
<td>0.59839</td>
</tr>
<tr>
<td>( R^2 )</td>
<td>0.93120</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adjusted ( R^2 )</td>
<td>0.91267</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F (7, 26)</td>
<td>50.2705</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D-W statistic</td>
<td>2.0893</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Computer result

### 4.4 Discussion for Cochrane-Orcutt Technique

The positive serial correlation that was discovered in the OLS result, using the Cochrane-Orcutt Iterative method
was corrected for the presence of autocorrelation.

From the Cochrane-Orcutt regression result, examining the variables on the basis of the a priori specifications, not all the variables conform to theory. While Capital government expenditure (C), Primary school enrolment (P) and Tertiary institution enrolment (T) carry the expected signs, recurrent government expenditure (R), real gross capital formation (F) and Secondary school enrolment (S) did not follow the a priori specifications.

In other words, given the coefficients of the explanatory variables with their respective signs, a unit increase in capital government expenditure, primary school enrolment and tertiary school enrolment will increase the growth of the Nigerian economy by 0.0497, 0.369 and 0.0025 respectively; while a unit increase in recurrent government expenditure, real gross capital formation and secondary school enrolment will cause a reduction in the growth of the economy by (-0.010019), (-0.00816) and (0.423) respectively. The co-efficient of determination ($R^2$) which gives the value of 0.93120 shows that the explanatory variables accounted for about 93% systematic variation in the growth of the economy over the period of observation while about 7% of the systematic variation in the economic growth is left unaccounted for. This is attributed to the error term. This is a very good fit. Thus, the explanatory variables have strong effect on the dependant variable. That is, changes in each of the explanatory variables have strong effects on economic growth in the country. The adjusted co-efficient of determination ($R^2$) which is 0.91267 also showed a good fit. In other words, about 9% of the systematic variation in economic growth is left unaccounted for and this is attributed to the error term. It is observed from the result, on the basis of individual significance at 1%, 5% and 10% levels that capital government expenditure, primary school enrolment, and secondary school enrolment with values of 2.88, 3.13, and 3.11 were greater than the critical t-values of 2.46, 1.69, and 1.31 respectively. This invariably implies that these variables were statistically significant. At the same levels, recurrent government expenditure, real gross capital formation and tertiary school enrolment with values of 0.411, 0.79, and 0.59 respectively did not meet up with the critical t-values. Therefore, these variables were statistically insignificant. Secondary school enrolment did not carry the expected sign, however, it is significant. This does not go in line with the various literatures that have been reviewed. This therefore, implies that secondary school enrolment does not actually contribute to economic growth. This can be attributed to the increase in the dropout rate and low quality of educational materials. The F-statistics, which tests for the overall significance of the model, shows a highly significant model, at both the 1% and 5% levels of significance. In other words, the overall model is statistically significant. Therefore, we accept the alternative hypothesis and reject the null hypothesis and conclude that all the slopes of the coefficients are simultaneously different from zero. After using the Cochrane-Orcutt method to correct the positive first-order serial correlation obtained in the previous result, the D-W statistic of 2.08 shows an absence of either positive or negative autocorrelation.

5. Conclusion
This study explored empirically the relationship between economic growth and human capital development in Nigeria, using Ordinary Least Square Method and the Cochrane-Orcutt method for the correction of autocorrelation. It, however, reveals that investment in human capital in form of education, particularly in primary and tertiary institutions, and investment in education to an extent, have impact on economic growth. Therefore, what is expedient for Nigeria to do is a repositioning of herself as an effective force through the quality of her products from primary, secondary and tertiary schools i.e. greater emphasis should be placed on the improvement on the quality of education if the contribution of human capital to her economic growth is to be maximized. Nigeria should make her manpower relevant in the highly competitive and globalized economy through a well-structured and strategic planning of her educational institutions. Investment in cognitive skills should also be of utmost importance.

BIBLIOGRAPHY


Izedonmi, P.F and E. Urhie. Educational, Human Capital Development and Unemployment in Nigeria. Unpublished works by the Authors


33
The IISTE is a pioneer in the Open-Access hosting service and academic event management. The aim of the firm is Accelerating Global Knowledge Sharing.

More information about the firm can be found on the homepage: http://www.iiste.org

CALL FOR JOURNAL PAPERS

There are more than 30 peer-reviewed academic journals hosted under the hosting platform. Prospective authors of journals can find the submission instruction on the following page: http://www.iiste.org/journals/ All the journals articles are available online to the readers all over the world without financial, legal, or technical barriers other than those inseparable from gaining access to the internet itself. Paper version of the journals is also available upon request of readers and authors.

MORE RESOURCES

Book publication information: http://www.iiste.org/book/

Academic conference: http://www.iiste.org/conference/upcoming-conferences-call-for-paper/

IISTE Knowledge Sharing Partners

EBSCO, Index Copernicus, Ulrich's Periodicals Directory, JournalTOCS, PKP Open Archives Harvester, Bielefeld Academic Search Engine, Elektronische Zeitschriftenbibliothek EZB, Open J-Gate, OCLC WorldCat, Universe Digital Library , NewJour, Google Scholar