The Impact of Human Capital Development in Employment Generation in Nigeria

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Abstract

A major development issue in Nigeria is unemployment, despite a plethora of economic policies to guide labour absorption and utilisation in the country. Some major reasons for this unemployment challenges have been hinged on the level of human capital development as well as other socio-economic issues. Using the Auto Regressive Distributed Lag (ARDL) approach, a quantitative analysis of the effect human capital in stimulating employment or otherwise was assessed in Nigeria for the period 1970-2014. It was discovered that the level of human capital was not sufficient to stimulate employment or reduce unemployment in Nigeria. Besides, it was discovered that population growth is really not the challenge for employment in Nigeria especially if human capital can be harnessed productively, and channelled towards viable and rewarding sectors of the economy

Keywords: "Population", "Employment", "Education", "Capital"

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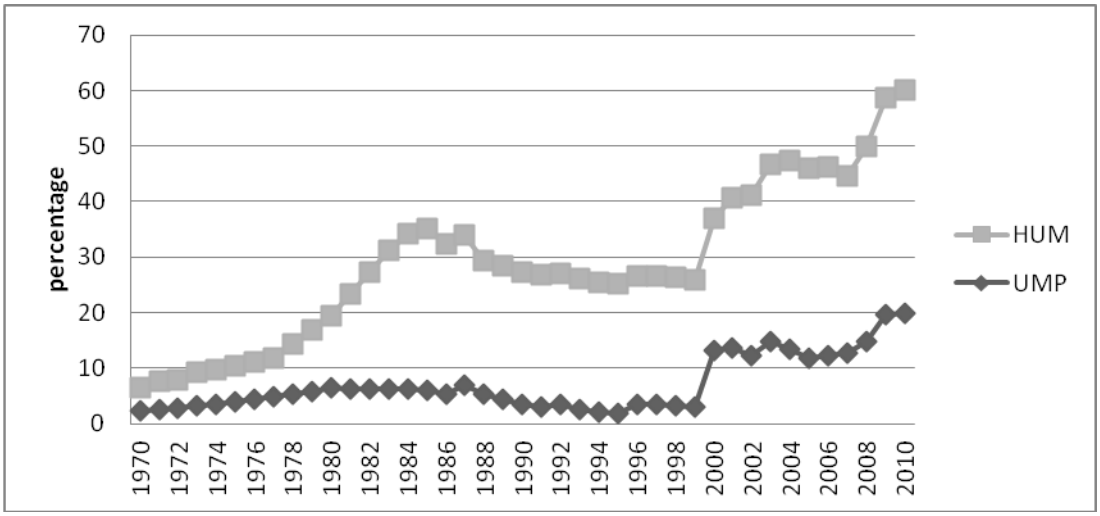
1. Introduction

Human capital development has been fundamentally distinguished from the traditional concept of labour. While the former is a compass of knowledge, skills and ability to perform productive activities (especially in terms of health), the latter is more of a concept within the traditional determinants of production. Specifically, while labour can be seen as the ability to do work which involves both physical and mental exercises, an experienced human capital will not just work, but will produce good and efficient labour. Thus, the productivity of an ordinary labourer cannot be compared with the agglomeration of skills, health and education (Mincer, 2005). Major determinants of labour force of a nation involves the size, quality and structure of the population, while the human capital content is a specialised type of labour with inherent characteristics targeted for productivity and development (Weil, 2007; 2009).

The Nigerian economy at micro and macro levels have to a large extent catered for its human capital development. This has been made evident through resource allocations to both the health and educational sector, acquisition of skills at both the formal and informal levels, as well as the provision health and education facilities at private and public levels. However, despite the efforts of to advance human capital advancement, the issue of unemployment has continuously become an issue in Nigeria (Oni, 2006). This stance of unemployment is made evident by the recent increase in unemployment statistics. For instance, the rate of unemployment which stood at 2% in 1970, gradually rose to 6% in 1980. It fell to 3.5% in 1990, and by the mid-2000s, it had risen to about 11%. Incidentally, by 2016, the statistic revealed that the rate of unemployment has risen to about 24.9% (NBS, 2016). This statistics, although questions the vibrancy and productivity of economic activities in Nigeria; as well as the ability of the Nigerian economy to create jobs for its teeming labour force. However, beyond these, another worrisome issue may be the productive and innovative ability of the labour force in Nigeria to fit into the labour market; or the ability to create employment for themselves where they cannot get paid jobs- thus challenging the viability of human capital in Nigeria.



Source: Human Capital (HUM) WDI, 2011; Unemployment (UMP) NBS, 2005 IFS, 2011

Figure 1: Trend Relationship between Human Capital and Unemployment Rate in Nigeria, 1970-2010.

From Figure 1, it is revealed that the human capital of the Nigeria economy via school enrolment has been rising steadily over the years. For instance, in1970, the enrolment ratio was about 5%, while, in 1980, it stood at about 14%; in 1990, it had risen to about 23% and by the year 2000, it had risen to 30%. A cursory look at the unemployment trend in Nigeria showed that in 1970, unemployment was about 2%, but by 1980, it had risen to about 6%. In 1990, it dropped to 3.5%, while in the year 2000 and 2009, it stood at 13.1% and 19% respectively. Incidentally, except for the mid-1990s and between 2004 and 2008, an ironical situation is observed from Figure 1. The pattern observed between the rate of unemployment and human capital development revealed almost a similar pattern; such that on the average, a direct relationship can be drawn between human capital growth and unemployment in Nigeria. The unemployment situation has even become more worrisome the increasing unemployment of professionals such as accountants, engineers, among others. According to a survey by Akintoye (2008), graduate unemployment accounted for less than 1 per cent of the unemployed in 1974, but by 1984, the proportion rose to 4 per cent for urban areas and 2.2 percent in the rural areas. A survey by the National Bureau of Statistics (2011) indicates that between 2006 and 2011, there were 1.8 million new entrants into the active labour market per year. Among these new entrants, the statistics of unemployed graduates, who are assumed to be highly skilled, appeared to be more than the less or semi-skilled labourers.

This feature of the nexus between unemployment and the development of human capital in Nigeria brings to fore issues such as: to what extent is investment in human capital development worthwhile in Nigeria?; to what extent has education and health capital in Nigeria advance the employment course in Nigeria?; what are the factors militating against employment in Nigeria?; To what extent is the type of skill and knowledge acquired relevant for productivity and development in Nigeria. It is against these issues, that the objectives of this study is entrenched, which include: to examine the extent to which human capital has informed or stimulated the employment climate in Nigeria; as well as to identify the factors militating against employment in Nigeria.

The remainder of this study is divided into five sections. Section two gives the literature review; while section three gives an overview of the employment situation in Nigeria vis-à-vis government efforts to advance the course of human capital development. Section four and five presents the methodology and the analysis for the study; while section six concludes the study.

2. Literature Review

2.1. Review of Theoretical Literature

Human capital development is basic to national socio-economic progress. It is usually aimed at improving the quality of life of the people of the country, which is obviously the goal of economic development. Although human beings are commonly faced with life's basic needs which include food, clothing, shelter access to quality health care, good education, infrastructures and security; however, human capital development can be understood from the perspective of investment incentives, and the structure of wages and earnings. While some authors see human capital as related to any stock of knowledge, some others identify it as the characteristics possessed by workers, which may be innate or acquired, that enhances the productivity of workers (Samiullah, 2014) Investments in human capital involves training, schooling, quality of schooling, health, and attitudes towards work. For instance, it has been noted that the remuneration or placement of most workers could also be attributed to their

level of productivity or human capital; such that two persons may have the same qualifications and be remunerated or placed differently in view of their productive output (Massingham and Leona Tam, 2015). Thus, this emphasizes the prospects of human capital development to create an atmosphere for productive ventures.

According to the human capital theory, educational attainment and the health capital are seen as an investment in human capital. Therefore, just as investment in physical capital enhances productivity, the new growth theory states that additions through human capital and other determinants of growth (such as population growth, technology) is expected to engineer productivity (Weil,). Unlike the Solow-Swan model which emphasizes that long-run economic growth is brought about by exogenous technological progress and population growth; the new growth theory (also called endogenous growth theory) emphasizes investment in physical and human capital as major factors responsible for productivity. Specifically, some proponents of the new growth theory argued that new investments in physical capital will engineer human capital development (Arrow, 1962); others argued that it was investments in human capital that rather physical capital that can bring about technological progress or productivity (Lucas, 1988). Also, some studies within the new growth theory emphasized that spillover through innovative activities which is typical of human capital development that will bring about productivity (Romer, 1986; 2011). It is noted that higher productivity translates into higher per capita income, individuals benefit from higher standards of health care, better education and public welfare.

Romer (1990), demonstrates the way in which public and private resources devoted to the development of new ideas and new products can accelerate economic growth and productivity. This view of innovation is equally in consonance with the innovation theory of Schumpeter (1942). For instance, the neo-Schumpeterian models of Aghion and Howitt (1998; 2006) analyzed the economic impact of research into product improvement rather than product diversity. Their overall conclusions were the same as those of Romer; where increases in productivity, brought about by advancement in knowledge, new or improved products and processes, such as information and communication technologies (ICTs), directly and indirectly result in increased returns to capital investment and consequently lead to a sustained level of growth (Mohammad and Jalil, 2011). Thus, education and innovations are expected to raise the social and political consciousness and to supply the manpower needed in the production in a modern economy. As a result, secondary, technical and higher education were emphasized to serve this purpose. However, in recent global context, education has gone beyond being seen as a means for improving production patterns, rather it is expected to be a mechanism for assuaging poverty through gainful employment.

2.2. Empirical Review

Several studies have been carried out to estimate the effect of human capital in determining employment. At the level of a macro study, researcher takes health and education as factor of human capital; while at the micro level or firm level, most studies examine employees' abilities and capabilities in relation to their abilities to create values. Some of these studies that worked on human capital to create value are discussed.

Massingham and Leona Tam (2015) examined the relationship between human capital and value creation and employee reward in Australia. Human Capital is an important component of intellectual capital. It was discovered that there was a growing interest in using intellectual

capital to create value for an organisation. Specifically, psychological factors such as value creation (measured in work activity) and employees' reward (pay) were used as measurements s of HC. It was discovered that employee capability and employee satisfaction had a direct positive relationship with the importance of work activity. It was also discovered that the ability to create value at work had a direct positive relationship with employees reward. However, Employee's commitment had a direct negative relationship with the importance of work activity. In a similar but different context, Doppelt (2012) in a theoretical macroeconomic model examined how temporary job losses lead to life-long earnings losses. He noted that Workers must effectively compensate their employers for the skills that they gain because skills are more valuable during economic booms. Besides, allowing workers to build up general human capital affects the wage determination. He also noted that workers accumulate specific human capital on the job, while suffering human capital depreciation during unemployment.

Using the nexus between human capital and unemployment, Samiullah (2014) investigated the Impact of determinants of Human capital such as health, education, population and life expectancy on unemployment in case of Pakistan over the period 1981-2010. Using. The Johansen co-integration and Vector Error Correction Modelling (VECM) approach, the results showed that human capital variables had strong impact in determining the employment status in Pakistan long run. Similarly, Bashir *et,al* (2012) also examined the Pakistan economy by using the data for the period from between 1972 and 2010. Using the Cointegration test and VECM respectively. It was discovered that educational expenditure, health expenditure and gross fixed capital formation are significant features in magnifying employment level in Pakistan. Therefore, it was suggested that there should be more spending on education to support enrolment at primary and expert levels by offering scholarships to students. Also, in order to advance the course of human capital, the government was urged to augment its expenditure as well because they play vital roles in stimulating enhancing employment level, output and economic growth by providing identical opportunities of education and health to all people of any nation. Although, Rehman (2011) in a study discovered that the major challenge within the economy of Pakistan is related to ever growing population in relation to the provision of job opportunities available. Besides, the economy of Pakistan is basically agriculture thus creating surplus labour, but this surplus labour is unemployed.

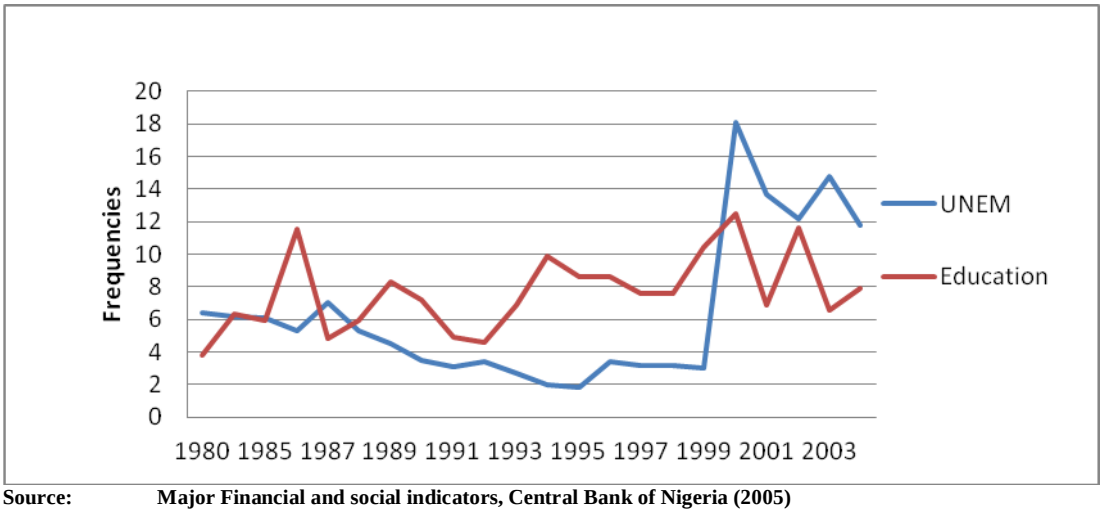
However, in a study conducted in West Germany by Suedekum (2006) on local employment, it was discovered that a large creative part of high-skilled workforce significantly shrinks successive growth of jobs for high skilled workers. While total employment growth was seen to be enhanced by an increase in human capital, low-skilled jobs rose rapidly than high-skilled jobs. But, it was deduced that a significant relationship existed between human capital and employment growth. Also, Faridi *et,al* (2010) conducted a research in the district Bahawalpure. Using primary data collected through field survey, logistic regression technique was employed. From the coefficients estimated, it was discovered that education is negatively and significantly related to unemployment level. The human condition of the worker for work has also important impact on unemployment. The study advocates that Government should suggest health and education services to all the people of the country. Health and education has an important function in the process of human capital improvement.

In some other studies, Chaudhary *et.al* (2010) examined the wages and employment level for females by taking health and education as independent variables important determinants of

human capital. Using primary data collected through different field surveys; OLS method is applied to estimate coefficients. The results suggested that education and health were positively and significantly impact on employment level and determination of wages for female workers. In another study, Laplagne *et al* (2007) carried out a panel analysis by estimating the change in labour force participation rate due to change in human capital variables such as health and education. Logit model is used to estimate the coefficient of the explanatory variables. It was discovered that greater labour force participation was achieved by better health and education. Similarly, Kennedy and Vance (2009) using time series data to measure the impact of increase in educational attainment on labour force participation rate and found the results that as the level of schooling and education increased, the prospects for labour force participation for such a person also increased. Also, Mete and Schultz (2002) examined the labour force participation rate due to change in health quality. Using the Ordinary Least Squares (OLS) approach, a bi-directional relationship was discovered between health and labour force participation. Thus, an Improvement in health sector was seen as a possibility for reducing reduces the unemployment rate and vice versa. Similarly, Pandey (2009) examined the change in labour force participation rate given a change in health structure of the people in India. Using unemployment as a dependent variable and health expenditures and number of hospitals are used as independent variables, the two stage least squares (2SLS) technique of estimation revealed that negative and significant relationship between unemployment and health expenditures.

3. Educational Investment and Employment Climate in Nigeria

The nexus between unemployment pattern and human capital development in Nigeria is the funding pattern in Nigeria. For instance; from fig.2, the funding of education in relation to the total budget is graphed with unemployment. In 1980, when the funding of education was 3.8%, the unemployment rate was 6.4%. By 1990, the funding of education had gone up to 7.2%, unemployment then stood at 3.5%. In the year 2000, the funding of education was 12.5%, while unemployment was 18.1%(Adebayo and Ogunriola, 2006). The implication of this relationship is that the funding pattern of education which is aimed at improving the formation of human capital in Nigeria has not really fared so well as a fair inverse relationship between funding of education and unemployment rate.



Source: **Major Financial and social indicators, Central Bank of Nigeria (2005)**

Figure 2. Relationship between Unemployment and Education in Nigeria (1980-2004)

When a fraction of public resources in Nigeria is set aside to enhance the human capital formation of youths and children in Nigeria through budgetary allocation to the educational sector, the inability to secure gainful employment to dissipate their skills into could have implications for the Nigerian economy as a whole. For instance, the prevalence of unemployment could lead to involuntary migration and brain drain. In a study carried out by Stark and Fan (2007), they extended both the "harmful brain drain" literature and the "beneficial brain drain" literature in their analysis by analyzing both the negative and the positive impact of migration by skilled individuals in a unified framework. Similarly, they extended the received literature on the "harmful brain drain" by showing that in the short run, international migration can result in "educated unemployment" and over education in developing countries, as well as a brain drain from these countries. A simulation carried out revealed that the costs of "educated unemployment" and over education can amount to significant losses for the individuals concerned, who may constitute a substantial proportion of the educated individuals.

It has been identified that persistence in youth unemployment is a major contribution to losses in human capital. In addition, the further development of human capital is proportional to the amount of time an individual has worked. It declines when an individual is unemployed. Particularly, the greatest challenge on youth unemployment is their use for political and military ends. Deprived of employment opportunity and livelihood, youths are actively mobilized by politicians and armed groups alike. Youth unemployment also has security implications for almost every country in Africa, since desperation often leads young

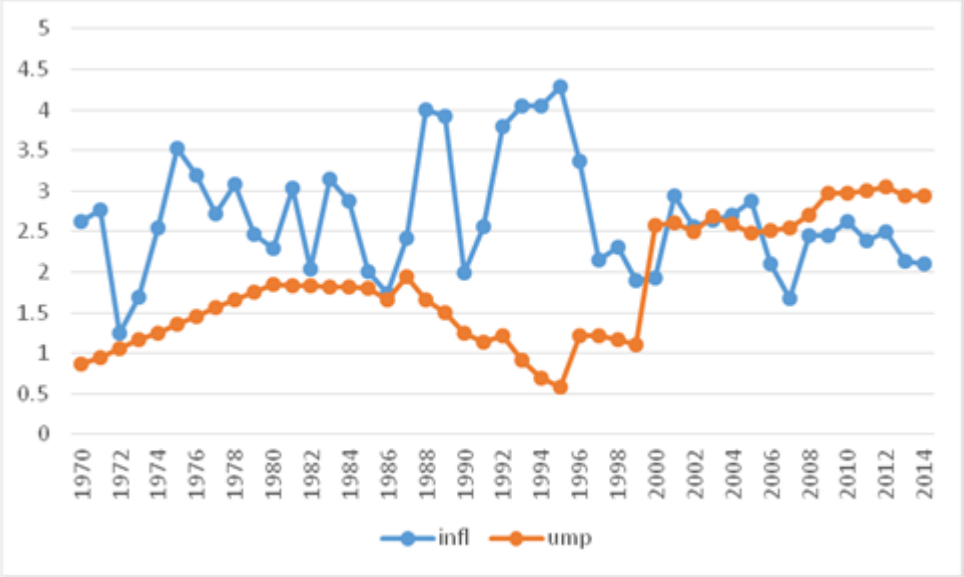
people to fall prey to warlords, criminal gangs, or illegal migration syndicates (Awogbenle and Iwumandi, 2010). This act of criminality apparently will not involve just unskilled persons, but it will due to the rising unemployment include skilled persons. As a result, the positivity of the human capital graduates is endowed with could soon turn negative, thereby leading to wastage of resources and reduced productivity in Nigeria.

Alabi (2014) and Adekola *et al*, (2015), identified discussed a number of factors that have accounted for unemployment in Nigeria. Some of these factors are discussed in turns:

The Socio-Economic Dimension of Unemployment in Nigeria

Some socio-economic factors that could be adduced for unemployment in Nigeria include inflation, poverty, rural exodus and the emergence of the informal sectors, capital-intensive industrialisation processes, lack of infrastructures, resource underutilization, education-skill gap and low opportunities created by the modern sector.

In recent times, the issues on recession have caused increases in inflation which is reflected in the prices of goods and services; as well as in the incidence of job loss amongst the working class persons; thereby aggravating the issue of unemployment. The graph in figure 3 showed that an increase in inflation does not necessarily mean an increase in an increase in the rate of unemployment. For instance, in the mid-1990s where inflation rate grew at an average of 4%, the rate of unemployment grew at less than 1%. However, since the mid 2000s, the graph showed that as inflation grew at an average 2.5%, unemployment grew at a similar rate.



Source: WDI, 2015

Figure 3: Growth rates of Unemployment and Inflation Rates in Nigeria

Similarly, the challenge of resource underutilization has engendered the issue of resource curse in Nigeria. This issue is made visible through the the extractive industry, and particularly the crude oil, which is the mainstay of the Nigerian economy. The exports-sector which is driven majorly by the natural resources sector, generates large revenues for government. However, despite these revenues, poverty, instability and economic recession has characterised the Nigerian economy. These fallouts may discourage innovations,

indigenous ingenuity and continuous struggle for power to allocate national resources. These factors have led to the neglect of the real sector in Nigeria which in turn has aggravated the unemployment situation in Nigeria.

Furthermore, infrastructural facilities have been identified as incentives that attract investors at local and international level. However, some of the dilapidated infrastructures in Nigeria such as irregular power supply, bad roads and road networks have inhibited investments in Nigeria; thereby, aggravating the unemployment crisis. Incidentally, this issue of poor infrastructures can slow down innovation and productivity in Nigeria.

Similarly, education in Nigeria are comparatively low. The content of the education acquired in Nigeria are on the average not in consonance with industry and field requirement. This is reflected such that most industries or organisations conduct re-training process, thus, creating a considerable skills gap among youth at working age. According to the African Development Bank, 25% of African youths are still illiterate and despite a rise in primary and secondary school enrolment from 60% in 2000 to 77% in 2011, (ILO, 2011) , the issue of low skills levels in the workforce will continue to be a problem. Despite the advancement in knowledge acquisition by the younger generation, most youths have a double chance of remaining unemployed when compared to their predecessors or parents. This is partly because of a mismatch between their skills and what is required for available employment opportunities. This has facilitated low entrepreneurial inclination. This is because low skill will reduce innovativeness and productive life-style. Besides, despite the fact that education is expected to create more prospects for employment in a modern sector, especially according to the Lewis's theory on development (Jhingan,2013); the opportunities made available within the modern sector in Nigeria has not incorporated the need to advance a productive industrial sector that will promote employment opportunities.

The Population Dimension of Unemployment in Nigeria

While part of Africa appeared to be overpopulated, some are under-populated. This is because, while some areas are faced with extreme hunger and population control, some other areas require positive population increase (Adekola, *et al,* 2015). Although, population control appears to be detrimental to economic growth, however, the standard or quality of life available to a population is vital for development. Africa's population is around one billion and has a population density of only 33%, relative to 70% for Europe and 87% for Asia (because it appears that while the continent covers 25% of the world's land area, it has only about 15% of the world population). Furthermore, Africa is seen to have a relatively high population growth rate. In 2013, the growth rate was about of 4.8% per annum and 3.4% in 2011. If current demographic trends persist, it is projected that the African population will reach 1.4 billion by 2025. According to UNICEF, by 2050, it is projected that one out of every three children born in the world will be an African.

The United Nations has reported that the highest increase in new births in the world between now and 2050 is expected to occur in Nigeria. By 2050, Nigeria's population is projected by the United Nations to be 389 million, rivalling that of the United States at 403 million. By the end of the century, the U.N. projects that Nigeria's population would be between 900 million and 1 billion, nearing that of China which would by then be the second most populous country in the world after India. The reason for this is because while Nigeria's population would continue to grow geometrically, while it is expected that the population of China is expected to begin to shrink by 2030.

According to these projections, by 2050, one out of every four workers in the world is likely to be an African. This African labour force is likely to be relatively cheap. According to these projections, by 2050, one out of every four workers in the world is likely to be an African. This African labour force is likely to be relatively cheap. Therefore, the issue of labour, equality and standard of living becomes a pertinent issue. But in the U.N. report According to the Nigerian Development and Finance Forum (2013):

This means Africa's population boom offers great opportunities for Africa's future economic transformation. This can happen, provided Africa's human capital is harnessed productively, and channelled towards appropriate sectors of the economy, in response to changes in the international economic system. However, at the same time, Africa's population boom poses grave threats to the region's political stability and social cohesion if sufficient economic and employment opportunities remain unavailable for expected newcomers……

For this reason, in the short-term, unchecked population growth in many an African countries like Nigeria may have positive or negative influences for social and economic development. It may not just be suffice to justify on a simplistic basis the need to industrialise or diversify the productive base of an economy or to promote rapid industrialisation through the creation of economies of scale. The issue is still a function of the market quantity; that is effective domestic demand. Gains in population are more readily achieved by increasing earned income and income per head. Thus, an improvement in income per head will lead to effective demand and create opportunities for a multiplier effect in terms of production in an economy.

Empirically, the phenomenal increase in the population of Nigeria could be another reason for the observed pattern in human capital and unemployment. According to the Nigerian population censuses in 1963, the population stood at 55,670,055; in 1991, the population figure was 88,992,290; and in 2006, the figure jumped to 140,431,790. The increasing need for education could have caused more persons to enrol in schools to acquire better education thereby causing a rise in the human capital pattern. However, at the same time, in view of the population growth, if the graduate turnout has no absorptive productive units, unemployment will equally grow. For instance, the relationship between unemployment and population growth showed that in 1980, population growth rate was 2.7%, while the unemployment rate was 6.4%; in 1990, population growth rate was 2.1%, while unemployment rate was 3.5%. In year 2000, the population growth rate was 3.1% while the unemployment rate was 18.1. The trend analysis of the data shows that as population grows steadily, the unemployment rate rose simultaneously but in a steady manner. Thus, this states clearly the need increase in the human capital and productive sectors to accommodate population growth.

Beyond these, other issues attached to population growth and employment stimulation are human development investments. The low investment in human development is Africa is reflective in the human development indices (2014). It was revealed that life-expectancy in Africa is only 46 years; unlike the developed countries, which is now close to, or above, 80 years. Specifically, the Project Director, Nigeria Centre for Disease Control, Prof. Abdulsalam Nasidi, says Nigeria's life-expectancy, at 47 years, is the lowest in West Africa. However, this is highly debateable. However, the issue in Nigeria is really neither population growth nor its control. Rather, it is economic development. The challenges attributed to population growth in Nigeria would disappear with reasonable rates of economic development. As observed, economic development itself is perhaps the one reliable means to population control. Also, the population of Nigeria is not too large in relation to land area;

the main drive should entail the development of other factors like reproducible capital, research and educational facilities, the entrepreneurial class, leadership and the available channels of economic diffusion to cater for population growth.

The Political Dimension of Unemployment in Nigeria

Good governance and a well-structured political climate will attract investors and engender development. However, with the Nigerian economy in view, some major issues that could affect the political settings, which can lead to development and mitigate low productivity are discussed. Kelly (2014) identified some issues mitigating human development as well unemployment in Nigeria.

Corruption has been identified as a major cause of unemployment in Nigeria. Massive unemployment in the continent is undoubtedly linked to the high rates of corruption in the system. The issue of rising unemployment point goes a long way to support the argument that African leaders are absolutely corrupt, inconsiderate and nonchalant. They hardly show concerns for youths in areas of job creation and welfare provision. for the sake of nation building. This issue is shown by the estimates of the International Labour Organization (ILO) in 2011, which reveal that in Sub-Saharan Africa unemployment affects between 15-20 percent of the work force; and young people comprise 40 to 75 percent of the total number of the unemployed. Corruption has absolutely undermined Africa's social, economic and political institutions and eroded the political will of the governments to create, manage and sustain enabling job environments for their growing workforce. In addition, corruption has not only undermined professional excellence in Africa, it has contributed largely to the brain drain factor. This corruption is evident in the loots of public funds which is another factor contributing to unemployment in Nigeria and Africa as a whole. Worse still is the fact that these wealth stolen by African leaders is never invested into businesses or industrial ventures in Africa; rather, the money is laundered into foreign accounts where no interest is yielded for the improvement of African economies.

Furthermore, the government in Nigeria have failed to articulate policies to balance the rates of labour force that glaringly outstrips the amount of job opportunities available. In Nigeria for instance, some university graduates have resorted to street hawking and other menial jobs that grossly undermine their training. The government has failed to put in place realistic strategies to reduce youth unemployment by boosting demand for labour through creating economic conditions that improve the environment of enterprises to do business and hire labour. Unfortunately, a few entrepreneurs who want to do business are not encouraged with sufficient incentives from the government. Several Nigerians want to start up their own enterprises but governments don't provide any form of financial assistance or loans schemes as incentives. Those that manage to start new ventures on their own are not given tax holidays. State resources which ought to be used in creating job opportunities through provision of loans schemes for youths to establish small and medium scale enterprises are rather misappropriated by corrupt leaders.

Another devastating aspect of corruption and unemployment in Africa is that employment opportunities are restricted to caucuses. Most job opportunities, though advertised, are usually in pretence, as most of these jobs are distributed subjectively to friends and relatives, thereby compromising objectivity. A more worrisome case is that private corporations are mostly owned by the politicians who have accumulated state wealth. With education getting more expensive for the children of the middle and common people, limited access to equal

employment further threatens the welfare of these classes of these people. The few elites. Politicians and rich private entrepreneurs get all the job opportunities leaving nothing for the poor; moreso, the unemployed lower classes are deprived of equal access to job opportunities. This will engender the issue of poverty and threaten economic developments in Nigeria.

Another issue that has threatened employment in Nigeria is the issue of overdependence on foreign earnings from oil and lack of diversification to other prospective sectors of the economy. This feature is typical of the use up of environmental resources like crude oil, timber for production and there are no working replacement or alternative policies for desecration. For instance, mining and oil activities in the Niger-Delta has discouraged traditional activities of farming in that region. This has led to rendering initially employed persons to be unemployed. Thus, the failure of government to create alternatives for economic activities has led to crimes and crisis in that region.

In the words of Joda (2014), he noted that *"The frustration of unemployment keeps boiling across the continent like volcanic magma ready to erupt. In Nigeria's oil rich Niger-Delta, massive unemployment has provoked youths to lose hope in the government and take to violence. Their hope rests in taking arms against employers to ask for jobs from what they believe is oil wealth that is exploited from their back yards with no benefits accruing to them in terms of jobs, good education, good healthcare, portable water provision, and infrastructure development.*"

In all, the unemployment crisis in the Nigeria is rather a paradox difficult to comprehend. Given Nigeria's abundant natural resources unmatched anywhere in the world and the unemployment rates in the continent which almost surpass the unemployment rates in developed economies like Europe, America and Australia put together. This unemployment challenge is more worrisome given the reserves of trained human professionals such as medical doctors, accountants, engineers and lawyers who migrate into Europe from Nigeria and end up as labourers doing odd jobs with no correlation to their training, hence, the motivation for this study.

4. Research Methodology

4.1. Human Capital Theory

According to the human capital theory, when a person makes a current expenditure on education training, it is expected that one's skills and knowledge as well as future earnings is expected to be enhanced. It is therefore worthy of note that expenditures on education and training can be fruitfully treated as an *investment in human capital* just as expenditures on capital equipment can be understood as investment in physical capital (Connell and Brue, 1986).

The discounting and net present value analyses the cost and benefits that accrue to an individual as he invest in more education and training. This is important because money expended and received at different points in time are of different value, Hence, there is need to compare the cost and benefits associated with more education and training at a point in time.

If the future value of a cost or earnings is stated in terms of its Present value, algebraically, we have;

$$Vp(1 + i) = V1 \quad (1)$$

Vp =current value of N1 today

V1 = future value of N1

i = interest rate

(1 + i) represents that an individual receives his original or present value (N1.00) plus the interest.

If we make Vp the subject from equation (1), we have the present value of future earnings as

$$Vp = \frac{V1}{(1+i)} \quad (2)$$

Equation (2) is the discount formulae for a single year period.

The formulae could be extended over a number of n years-since cost and benefits are not expected to be earned within a year. This can be stated as:

$$V_p = \frac{E_1}{(1+i)} + \frac{E_2}{(1+i)^2} + \frac{E_3}{(1+i)^3} \cdot \cdot \cdot + \frac{E_n}{(1+i)^n} \quad (3)$$

The relevant investment criterion or decision rule based on this criterion if the Net Present value (Vp) is greater than zero. A positive value (i.e. Vp> 0) tells us that the present discounted value of the benefits exceed the present discounted value of the costs and when this is so-when benefits exceed costs-the decision to invest in economically rational. If the net present value is negative (I.e. Vp< 0), then costs exceed benefits and the investment is not economically justifiable Connell and Brue (1986).

The relevance of this model for our analysis is that if the expected future benefits from undertaking training exceed its cost, then the training is worth it. Applying the model to a macroeconomic model, it is expected that as more and more investments is made in the development of human capital through expenditures on educational attainment and health capital, human capital is enhanced. If the rate of unemployment exist or rises in the face of increasing knowledge acquisition or expenditure on human development, then, they are likely to have negative implications for the human capital development of any country. Thus in order to examine the employment status in Nigeria, the factors that stimulate employment growth or prospects are used in the study. These factors are the average enrolment in school (to capture training processes); national investments in education (this is captured by government investments in education); while health capital of Nigerians is captured via life expectancy rate over the years and the income level of the country is also known to be a major determinant in creating or stimulating employment (this income level is accounted for by the national GDP).

4.2. Model Specification

In order to assess the role of human capital on the employment situation in Nigeria, a simple functional relationship is assumed between unemployment and some of the factors that determine human capital. Specifically, using non- stationary variables, unemployment (*UMP*) is regressed against factors that inform human capital. These include secondary school enrolment (*HUM*), health capital measured in terms of life expectancy (*LHH*) as well as some other control variables like economic growth (*GDP*), population growth (POPG), and inflation rate (*INF*).

Thus,

$$UMP = f(HUM, LHH, GDP, POPG, INF) \quad (4)$$

Taking the natural logs of these variables and introducing the expected coefficients (βs) and intercept (α), equation (4) is re-written as:

$$lnUMP = \alpha + \beta_1 \ln HUM + \beta_2 lnLHH + \beta_3 lnGDP + \beta_4 lnPOPG + \beta_5 lnINF \quad (5)$$

With the exception of *INT*, an inverse relationship is specified between all the variables and *UMP*. For instance an increase in economic growth (*EDC*) or life expectancy (*LHH*) is expected to reduce unemployment; hence the specified interrelationship. In addition, all variables are specified in logged form, such that they are explained in terms of elasticities as specified in equation (5). Thus, The ARDL Model of equation 5 above is specified as follows;

$$\begin{aligned}\Delta lnUMP_t = \alpha &+ \sum_{i=1}^{q} \beta_{1i} \Delta \ln(\mathrm{UMP}_{t-i}) + \sum_{i=0}^{q} \beta_{2i} \Delta \ln(\mathrm{HUM}_{t-i}) + \sum_{i=0}^{q} \beta_{3i} \Delta \ln(\mathrm{LHH}_{t-i}) \\ &+ \sum_{i=0}^{q} \beta_{4i} \Delta \ln(\mathrm{GDP}_{t-i}) + \sum_{i=0}^{q} \beta_{5i} \Delta \ln(\mathrm{POPG}_{t-i}) \\ &+ \sum_{i=0}^{q} \beta_{6i} \Delta \ln(\mathrm{INF}_{t-i}) + \alpha_7 \ln(\mathrm{HUM}_{t-1}) + \alpha_8 \ln(\mathrm{LHH}_{t-1}) + \alpha_9 \ln(\mathrm{GDP}_{t-1}) \\ &+ \alpha_{10} \ln(\mathrm{POPG}_{t-1}) + \alpha_{11} \ln(\mathrm{INF}_{t-1}) + \varepsilon_t \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (6)\end{aligned}$$

4.3. Estimation Technique

In order to determine the role of human capital development in informing the employment situation in Nigeria, a simple analysis is carried out on equation (3). This is by using the Autoregressive Distributed Lag (ARDL)[14] estimation technique is used to express the magnitude of relationship between the variables. While using equation (2), a cointegrating analysis will be used to examine the presence of a long-run relationship amongst the variables. A descriptive analysis will be used to examine the possible factors that have aggravated the unemployment situation in Nigeria. This is done by examining the political, economic and population dimension to unemployment challenges in Nigeria.

The sample size for the period is 1970-2014. This period is chosen to assess the period before and after the reforms period introduced in 1986.

4.4. Measurement and Sources of Variables

Table 1. Variable sources and measurement

Variables	Measurement of Variables	Sources
Employment	Unemployment Rate	WDI, 2015
School Enrolment	Gross Secondary Enrolment Ratio	WDI, 2015
Investment in Education	Public investment to the educational sector	CBN, 2015
Life Expectancy	Life expectancy rate	WDI, 2015
Economic Growth	Gross Domestic Product (GDP)	CBN, 2015
Population Growth	Population growth	WDI, 2015
Inflation Rate	Inflation Rate	CBN, 2015

WDI: World Development Indicators
CBN: Central Bank of Nigeria

5. Results and Discussion

5.1. Descriptive Statistics

This section by using some indices of human capital development examines the role of human capital in the employment situation of Nigeria. However, before the results of the ARDL estimates are presented, the result of the descriptive analysis is presented in table 2; while the result of the stationarity test is presented in table 3.

The descriptive statistics of data series gives information about on the mean, median, minimum value, maximum value and the distribution of the sample measured by skewness, kurtosis and the Jaque-Bera statistic. From Table 2, most variables show that all the series displayed a high level of consistency as their mean and median values are within the maximum and minimum values of the series. Besides, the deviation of most data in the series are not really different from their mean value, except for the LHH which is due to the presence of some negative values in the series.

Table 2: Descriptive Statistics

Variables	LNUMP	LNHUM	LNLHH	LNINF	LNPOPG	LNGDP
Mean	1.808501	1.8099	3.838728	2.676449	2.607865	30.80896
Median	1.712782	1.799751	3.833277	2.560448	2.577929	30.63698
Maximum	3.044522	2.525729	3.959711	4.288204	3.048043	31.78901
Minimum	0.587787	1.335001	3.717978	1.240589	2.293336	30.24098
Std. Dev.	0.716084	0.319542	0.057299	0.715082	0.159608	0.427832
Skewness	0.282175	0.416938	0.177464	0.523069	0.94152	1.093883
Kurtosis	1.860689	2.207078	3.034029	2.753438	4.247485	2.865977
Jarque-Bera	2.963623*	2.427472*	0.233074	2.117861*	9.353779*	8.807856*
Probability	0.227226	0.297085	0.889997	0.346827	0.009308	0.012229
Sum	79.57406	79.63561	168.9041	117.7638	114.7461	1355.594
Sum Sq. Dev.	22.0494	4.390599	0.141178	21.98774	1.095419	7.870731

Note: Critical values of χ^2 at 5% and 1% levels are 5.99 and 9.21 respectively. * (**) denotes the acceptance of the null hypothesis that the variables are normally distributed at 5% and (1%) significant level

The skewness and kurtosis statistics provide useful information about the symmetry of the probability distribution of various data series as well as the thickness of the tails of these distributions respectively. The data shows that the distribution of the data are normal, given the skewness and kurtosis values. With regard to the skewness of the variable, the rule of thumb may be arbitrary; but the general threshold is one. Since all the variables lie within 1.0 and -1.0, the skewness is not substantial and it can be said that all the distribution of the variables are symmetrical. Also a Gaussian distribution is expected to have kurtosis of 3.0 (Wooldridge, 2013); thus, since all the variables lie within the range of 3, the distribution is normal. Moreover, the two statistics (skewness and kurtosis) are particularly of great importance since they are of use in the computation of Jarque-Bera statistic, which is also used in ascertaining the normality or asymptotic property of the particular series.

5.2. Unit Root Test

In view of the fact that the stationarity of a time series affects the consistency of the estimates, it is necessary to examine the order of integration of data employed in the study. In testing for the stationarity of the variables, both the Augmented Dickey-Fuller (ADF), and Phillip-Perron (PP) unit root tests was adopted. The ADF test adopted 1 lag for its estimation and the decision criteria is the Schwarz Information Criterion; while the Phillip-Peron test specified 3 lags for its estimation. The null hypothesis formulated using both test statistics is that the variable in question has a unit root.

Table 3: Stationarity Test

Variables	ADF		*d*	PP		*d*
	Intercept & No Trend	**Intercept & Trend**		**Intercept & No Trend**	**Intercept & Trend**	
UMP	-1.109541	-1.675487		-2.793866	-3.273034	I(0)
ΔUMP	-6.408690	-6.335898	I(1)	-9.518701	-9.955440	I(1)
HUM	-2.775732	-3.199779	I(0)	-2.793866	-3.273034	I(1)
ΔHUM	-7.246022	-7.187015	I(1)	-9.518701	-9.955440	I(1)
LHH	-0.774153	-14.92717	I(0)	-0.623200	-1.589895	
ΔLHH	-6.298821	-6.224811	I(1)	-1.520647	-1.453418	
GDP	1.774472	-1.74019		1.62906	-1.794192	
ΔGDP	-4.92019	-5.2717	I(1)	-4.866175	-5.177763	I(1)
POPG	-2.65034	-1.17987	I(0)	-3.22163	-3.199678	I(0)
ΔPOPG	-1.66282	-4.19234	I(1)	-6.62565	-6.395505	I(1)
INF	-3.750584	-3.721077	I(0)	-3.532413	-3.471059	I(0)
ΔINF	-7.062198	-7.057502	I(1)	-15.20647	-16.11118	I(1)
Mackinnon critical values:						
Level						
1%	-3.61045	-4.21186		-3.610453	-4.211868	
5%	-2.93898	-3.52975		-2.938987	-3.529758	
10%	-2.60906	-3.19831		-2.607933	-3.196411	
1st Difference						
1%	-3.61558	-4.21912		-3.615588	-4.219126	
5%	-2.94114	-3.53308		-2.941145	-3.533083	
10%	-2.60906	-3.19831		-2609066	-3.198312	

Source: Self computation using E view 9.0 Notes:: *d* denotes decision about the order of integration respectively

The stationarity test performed revealed that a mixed result of the variables at I(0) and I(1). While some variables such as GDP and LHH are strictly I(1); other variables such as HUM, INF, UMP, and POPG are a combination of I(0) and I(1). This explains why the ARDL approach is being used; given the combination of I(0) and I(1) variables.

5.3. Bounds Test

The ARDL Bounds Test is usually used to examine if a long-run relationship exist amongst the variables selected. The criterion function is such that if the F-Statistic exceeds the upper and the lower bounds or critical values (10%, 5% or 1%), then a long-run relationship can be seen to exist; thereby, leading to the rejection of the null hypothesis.

Table 4: Test for Long-run relationships

ARDL Bounds Test		
Test Statistic	Value	K
F-statistic	12.8669	5
Critical Value Bounds		
Significance	I0 Bound	I1 Bound
10%	2.26	3.35
5%	2.62	3.79
2.50%	2.96	4.18
1%	3.41	4.68

Source: Author's Computation using E-views 9.0

The result in table 4 above showed that a long-run relationship exist amongst the variables since the value of F-statistic exceeds the critical values.

5.4. Auto-Regressive Distributed Lag Estimates between Unemployment and Human Capital Development in Nigeria

The optimal lag length of the variables included in the ARDL Model was selected based on the Akaike Info Criterion (AIC). The table below presents the result of the relationship of the selected ARDL Model (4, 3, 1, 4, 3, 4) using AIC, and a maximum lag of four (4) (Pesaran, *et al*, 2001). Thus, Table 5 presents the ARDL estimate.

Table 5: ARDL Estimates between Human Capital and Unemployment in Nigeria

Dependent Variable: LNUMP
Maximum dependent lags: 4 (Automatic selection)
Model selection method: Akaike info criterion (AIC)
Dynamic regressors (4 lags, automatic): LNEDC LNLHH LNINF LNPOPG LNGDP
Fixed regressors: C
Selected Model: ARDL(4, 3, 1, 4, 3, 4)

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
LNUMP(-1)	-0.093306	0.15785	-0.591121	0.5632
LNUMP(-2)	-0.285034	0.14388	-1.981052	0.0662
LNUMP(-3)	-0.084117	0.14748	-0.570362	0.5769
LNUMP(-4)	0.395551	0.1282	3.085513*	0.0075
LNHUM	0.343852	0.21206	1.62148	0.1257
LNHUM(-1)	0.063246	0.24314	0.260129	0.7983
LNHUM(-2)	1.034738	0.17165	6.028175*	0.0000
LNHUM(-3)	0.435866	0.18432	2.364737*	0.0319
LNLHH	110.8756	26.4268	4.195578*	0.0008
LNLHH(-1)	-100.8875	20.2778	-4.975261*	0.0002
LNINF	-0.221627	0.06246	-3.548131*	0.0029
LNINF(-1)	-0.018897	0.05648	-0.334556	0.7426
LNINF(-2)	-0.24037	0.06644	-3.61776*	0.0025
LNINF(-3)	-0.145979	0.0562	-2.597639*	0.0202
LNINF(-4)	-0.243736	0.10158	-2.399563*	0.0299
LNPOPG	-8.502266	7.19315	-1.181995	0.2556
LNPOPG(-1)	25.54149	15.5507	1.642462	0.1213
LNPOPG(-2)	-28.15089	13.7702	-2.044341*	0.0589
LNPOPG(-3)	13.11059	4.82112	2.71941*	0.0158
LNGDP	0.130465	0.20579	0.633983	0.5356
LNGDP(-1)	-0.265932	0.27317	-0.973491	0.3457
LNGDP(-2)	-0.249158	0.26586	-0.937198	0.3635
LNGDP(-3)	0.523074	0.29028	1.801956	0.0917
LNGDP(-4)	-0.297439	0.20131	-1.477537	0.1602
C	-39.22869	23.722	-1.653684	0.119
R-squared	0.98311	Mean dependent var		1.88788
Adjusted R-squared	0.956087	S.D. dependent var		0.70219
S.E. of regression	0.147147	Akaike info criterion		-0.7256
Sum squared resid	0.324782	Schwarz criterion		0.32995
Log likelihood	39.51207	Hannan-Quinn criter.		-0.344
F-statistic	36.37967	Durbin-Watson stat		2.08558
Prob(F-statistic)	0.0000			

Source: Author's Computation, Using E-views 9; Note: p-values and any subsequent tests do not account for model selection
*denotes significant variables at 5% level of significance

5.5. Short-Run Analysis of the relationship between Unemployment and Human Capital Development in Nigeria

The result of the short-run analysis is presented in Table 6. This is reflected through the Error Correction Model (ECM) estimations which is reflected through the coefficient of the short-run elasticities estimated.

Table 6: Short-Run Estimates between Human Capital and Unemploymen in Nigeria

Dependent Variable: LNUMP

Selected Model: ARDL(4, 3, 1, 4, 3, 4)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNUMP(-1))	-0.0264	0.2079	-0.126982	0.9006
D(LNUMP(-2))	-0.311434	0.16177	-1.925139	0.0734
D(LNUMP(-3))	-0.395551	0.1282	-3.085513	0.0075
D(LNHUM)	0.343852	0.21206	1.62148	0.1257
D(LNHUM(-1))	-1.034738	0.17165	-6.028175*	0.0000
D(LNHUM(-2))	-0.435866	0.18432	-2.364737*	0.0319
D(LNLHH)	110.875607	26.4268	4.195578*	0.0008
D(LNINF)	-0.221627	0.06246	-3.548131*	0.0029
D(LNINF(-1))	0.24037	0.06644	3.61776*	0.0025
D(LNINF(-2))	0.145979	0.0562	2.597639*	0.0202
D(LNINF(-3))	0.243736	0.10158	2.399563*	0.0299
D(POPG)	-8.502266	7.19315	-1.181995	0.2556
D(LNPOPG(-1))	28.150889	13.7702	2.044341*	0.0589
D(LNPOPG(-2))	-13.110593	4.82112	-2.71941*	0.0158
D(LNGDP)	0.130465	0.20579	0.633983	0.5356
D(LNGDP(-1))	0.249158	0.26586	0.937198	0.3635
D(LNGDP(-2))	-0.523074	0.29028	-1.801956	0.0917
D(LNGDP(-3))	0.297439	0.20131	1.477537	0.1602
CointEq(-1)	-1.066906	0.24543	-4.347016*	0.0006

Source: Author's Computation, Using E-views 9;

*denotes significant variables at 5% level of significance

5.6. Long-Run Analysis of the relationship between Unemployment and Human Capital Development in Nigeria

Table 7: Long-run (Cointegration) Estimates between Human Capital and Unemployment in Nigeria

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LNHUM	1.75995	0.70535	2.495155*	0.0247
LNLHH	9.361755	6.59701	1.41909	0.1763
LNINF	-0.816013	0.12394	-6.583814*	0.0000
LNPOPG	1.873577	1.87642	0.998486	0.3339
LNGDP	-0.14902	0.1422	-1.047967	0.3112
C	-36.768632	18.0718	-2.034589*	0.06

Source: Author's Computation, Using E-views 9

The Long-run Cointegrating Relationship is:

Cointeq = LNUMP – (1.7599)LNHUM + (9.3618)LNLHH – (0.8160)LNINF +(1.8736)POPG – (0.1490)GDP – 36.7686…… …….. (7)

Table 8: Diagonistic Test

Breusch-Godfrey Serial Correlation LM Test:			
F-statistic	4.079073	Prob. F(2,13)	0.0422
Obs*R-squared	15.42318	Prob. Chi-Square(2)	0.0004

Source: Author's Computation, Using E-views 9; *denotes significant variables at 5% level of significance

The Breusch-Godfrey Serial Correlation LM Test diagnostic check revealed the overall significance of the variables in explain the model. Also, since F-statistic is greater than 2, it equally confirms a long-run relationship existing among the variables.

5.7. Discussion of Result

The results the ARDL estimates revealed that in lagged periods, increases in human capital through school enrolment had significant impact in reducing element; however in the current period, the reverse is seen to be the case, as the effect of human capital (HUM) development is seen to have an insignificant effect on employment in Nigeria. Drawing specific inferences from the short-run coefficient estimates, it showed that in the previous periods, at 5% level of significance, an increase in human capital through school enrolment reduces unemployment significantly by 1.03% and 0.4% for lag 1 ($t = -6.028$; $p < 0.05$) and in lag 2 ($t = -2.364$; $P < 0.05$) respectively. But this trend reverses in the current period, where an increase in school enrolment increases unemployment (UMP) in Nigeria by 0.34% ($t = 1.6214$; $p > 0.05$). Although, these effects appear to be insignificant in the short-run, it becomes more prominent in the long-run ($t = 2.495$; $p < 0.05$). This result depicts that according to literature, the expectation that increases in educational attainment will reduce unemployment is valid, but

due to some factors prevalent in developing economies like Nigeria such as mismatch between training and industry requirement, poor development of the real sector, and labour struggles find placement for its training; the development of human capital through educational attainment is not enough to stimulate employment opportunities in Nigeria. Also, the result depicts a state of low productivity and lack of creative abilities by labour in Nigeria. Especially with the long-run result, there is an implication that educational training in Nigeria is not sufficient to produce employment opportunities.

Incidentally, from the ARDL estimates, other variables used to capture human capital development such as life expectancy (LHH) had a significant effects in determining the employment status in Nigeria, both for the lag and current periods. Although, the ARDL estimates revealed that in the lagged period, life expectancy assist in reducing unemployment significantly. For instance, an increase in LHH by 1%, reduced unemployment by 100% for lag 1 ($t = -4.975$; $p < 0.05$). However, the coefficient from the short-run estimate revealed that an increase in life expectancy for the current periods will not necessarily stimulate employment ($t = 4.198$; $p < 0.05$); because a 1% increase in life expectancy, reduces employment prospects by more than 100%. But, this inverse relationship is reduced insignificantly in the long-run; because, a 1% increase in life expectancy will now increase unemployment by 9% ($t = 1.419$; $p > 0.05$). The implication of this estimate revealed that, there is no doubt that a healthy nation will and is capable of making a wealthy nation; however, this is subject to the availability of jobs, creativity, innovations and increased productivity. If these are the values are lacking; an improvement in life expectancy will become a burden. This is because, the inability of improved human capital through life expectancy to access employment or create opportunities for employment, will only cause an improvement in life expectancy to increase unemployment.

Furthermore, the study revealed that an increase population growth had a mixed effect on employment in Nigeria. From the ARDL estimates, it can be deduced that an increase in population by 1 %, caused unemployment to increase by 25% for lag 1 ($t = 1.642$; $p < 0.05$); to fall significantly in lag 2 by 28% ($t = -2.044$; $p < 0.05$); and to increase again significantly by 13% in lag 3 ($t = 2.704$; $p < 0.05$). However, the short-run estimates revealed that a 1% increase in population growth causes unemployment to fall insignificantly by 8% ($t = 1.1819$; $p > 0.05$). Similarly, the long-run estimates showed that population growth will increase unemployment ($t = 0.998$; $p > 0.05$), but the effects of population growth in aggravating unemployment becomes insignificant. This result reiterates that population growth is really not the challenge for employment in Nigeria especially if human capital can be harnessed productively, and channelled towards viable and rewarding sectors of the economy. However, at the same time, Nigeria's population boom can pose grave threats to the region's political stability and social cohesion if sufficient economic and employment opportunities remain unavailable.

The inverse relationship between unemployment and inflation incidentally confirmed the Phillips curve in Nigeria. This position is true for all the lags and current values in the ARDL estimates. Besides, the short-run coefficients showed that an increase in inflation rates, reduced unemployment significantly by 0.22% ($t = 3.5481$ $p < 0.05$). Also, the long-run estimate is consistent with the short-run relationship, because an increase in inflation rate also reduced unemployment significantly by 0.8% ($t = -6.583$; $p < 0.05$). This reaffirms the Phillips curve of an inverse relationship in Nigeria. Specifically, when unemployment was high, wages increased slowly; when unemployment was low, wages rose rapidly. Phillips

conjectured that the lower the unemployment rate, the tighter the labour market and, therefore, the faster firms must raise wages to attract scarce labour. At higher rates of unemployment, the pressure is abated. Phillips's "curve" represented the average relationship between unemployment and wage behaviour over the business cycle (Jhingan, 2013). It showed the rate of wage inflation that would result if a particular level of unemployment usually persist for some time. Also, general price inflation, rather than wage inflation, are also related to unemployment issues, which is typical of the findings in this result.

Furthermore, with the exception of the current and lag 3 period, the ARDL estimates showed that economic growth (GDP) reduced unemployment. Although, for the current period in the short-run, an increase in GDP increased unemployment by 0.1%; while a reduction of 0.14% exist in the long-run. However, these effects appear insignificant both in the long-run ($t = 0.633$; $p > 0.05$) and short-run estimates ($t = -1.047$; $p > 0.05$). These effects indicates the issue of resource curse in Nigeria (Adenikinju, 2017). This is because despite the economic growth experienced during the study period, especially from oil wealth, the challenge of translating oil income to economic wealth through investments and job creations for the population is still impossible.

The result from the ARDL estimate showed a high level of precision and accuracy given the statistical components; the explanatory variables in terms of their explanatory power (R^2) explained 98% variation in unemployment, with an adjusted coefficient of determination (R^2) valued at 95%. An examination of the econometric result shows that the overall fit is averagely satisfactory and the F-statistic valued at 36.4 is significant at 5 percent level. In addition, the Durbin-Watson Statistic of 2 showed that there is no autocorrelation amongst the independent variables used to explain the employment situation in Nigeria. Finally, the ECM result from the short-run estimates is negative and significant ($t = -4.34$). This implies that if a disequilibrium or temporary changes occur to the selected variables, there will always be a convergence back to equilibrium. Although the speed of adjustment is low at 1%, however, the result confirms the existence of a long-run equilibrium among the selected variables.

6. Conclusion and Recommendation

This study has been able to articulate the relationship between human capital and the opportunities for employment in Nigeria. Besides, beyond the traditional textbooks factors affecting human capital and employment, other factors that could shape the employment pattern were incorporated for the Nigerian case. The empirical results have shown the level of human capital in Nigeria is not sufficient to stimulate employment in Nigeria. Therefore, human capital development needs to go beyond the traditional learning structures and embrace education for development; where there is a match between skills acquired and the skills required in the economy.

Also, it was discovered that the issue of unemployment in Nigeria is beyond the issues of population growth as advanced by some previous studies. Rather the socio-economic structures has aggravated the unemployment situation in Nigeria. This was reflective in some of the structures like GDP, inflation, and school enrolment which worsened the issue of employment in Nigeria. Hence, the issue of unemployment in Nigeria is a question of formulating the right policies that can enhance infrastructural development, promote innovation, engineer investment that will create room for employment activities and

reallocate resources to more productive areas like agricultural sector, exports, science and technology, ICT, and the manufacturing sector.

Thus, the need for the reversal of the increasing unemployment trend is imminent. This is with a view to avert future crisis such as social vices, crimes; besides, it is to encourage productivity through investment if Nigeria will be placed on a competitive edge.

References

Arrow J. Kenneth, (1962). "Economic Welfare and the Allocation of Resources for Invention". *Princeton University Press,* ISBN 0-87014-304-2.

Adebayo A. A. and Ogunriola I.O (2006); **"**Contemporary Dimensions of Unemployment Problem in Nigeria: a Special Challenge under the National Economic Empowerment and Development Strategy". *The Nigerian Economic Society, 2007.*

Adekola, Paul Oluwatomipe, Allen, Abimbola Adebimpe, Olawole-Isaac, Adebanke, Akanbi, Moses Ayokunle and Adewumi, Opeyemi (2015). "Is Population Growth the Sole Factor for Continuous increase in Unemployment Rates in Nigeria? *Australian Journal of Social Science Research*, ISSN: 2203-9495 (Print) ISSN: 2203-9503 (Online), March, 2015

Adenikinju, A. F. (2017). "Energy and Nigeria's Economic Development: A Troubled but Indispensable Marriage." *An Inaugural Lecture Delivered at the University of Ibadan, Ibadan Nigeria,* ISBN: 978-978-8529-07-1.

Aghion, P. and Howitt, P. (1998). "Endogenous Growth Theory." *Cambridge, MA: MIT Press.*

Aghion, P., & Howitt, P. (2006). "Joseph Schumpeter lecture appropriate growth policy: A unifying framework." *Journal of the European Economic Association*, *4*(2-3), 269-314.

Akintoye, I.R. (2008). "Reducing Unemployment through the Informal Sector: A Case Study of Nigeria." *European Journal of Economics, Finance and Administrative Sciences,* ISSN 1450-2275 Issue 11,

Alabi, T (2014). "Youth Unemployment and Crime Control: An Analysis of Nigerian Experience." *European Scientific Journal January* 2014 edition vol.10, No.2 ISSN: 1857 – 7881 (Print) e - ISSN 1857- 7431

Awogbenle C. A. and Iwumandi C. K. (2010) "Youth Unemployment: Entrepreneurship Development Programme as an Intervention Mechanism". *Africa Journal of Business Management,* Vol. 4(6\0, pp. 831-835, June 2010 ISSN 19938233 © 2010 Academic Journals

Bashir, F., Farooq, S., Nawaz, S., Bagum, M., Sandila, M. A. and Arshad, M. R. (2012), "Education, Health and Employment in Pakistan: A Co-integration Analysis". Research on Humanities and Social Sciences, ISSN 2224-5766 (Paper) Vol.2, No.5,

Central Bank of Nigeria, (2014). "Major Financial Indicators". *Central Bank of Nigeria* P.M.B. 0187, Garki, Abuja.

Central Bank of Nigeria, (2015). "Statistical Bulletin". *Central Bank of Nigeria* P. M. B. 0187, Garki, Abuja.

Connell Campbell R. and Stanley L. Brue, (1986). "Contemporary Labour Economics*". McGraw-Hill Book Co., Singapore.*

Chaudhry, I. S. (2010). "Exploring the Causality Relationship between Trade Liberalization, Human Capital and Economic Growth: Empirical Evidence from Pakistan." *Journal of Economics and International Finance,* 2(9), 175

Doppelt Ross (2012). "A Theory of Human Capital and Unemployment." *Department of Economics, New York University.*

Faridi, M. Z., Malik, S. and Ahmad, R. I. (2010). "Impact of Education and Health on Employment in Pakistan: A Case Study." *European Journal of Economics, Finance and Administrative Sciences,* 18, 58 – 68.

International Labour Organisation (2004), "Data base of Labour and Statistics": **ILO**

ILO (2011). "Enterprise-based Youth Employment Policies, Strategies and Programmes: Inititative for the Development of Enterprise and Strategies." *ILO Skills working paper* No. 1

Jhingan, M. L. (2013). "The Economics of Development and Planning". *Vrind Publications, Mayur Vihar Phase-1, Delhi*-110091.

Kelly, M. Robert (2014). "Corruption in Africa, Cultural, Economic and Political Factors which impact Corruption and Potential Solutions." *Unpublished Thesis Dissertation submitted to Graduate School-Canden Rutgers, the State University of Jersey.*

Kennedy S, Stoney, N. and Vance, L. (2009) "Labour force participation and the influence of educational attainment". Economic Roundup Issue 3

Laplagne, P., Glover, M. and Shomos, A. (2007). "Effects of Health and Education on Labour Force Participation." *Staff Working Paper,* 1 – 84.

Lucas, R. E. (1988). "On the Mechanics of Economic Development." *Journal of Monetary Economics,* 22, 3-42.

Massingham P. Rex and Tam L. (2015). "The Relationship between Human Capital, value Creation and Employee Reward." *Journal of Intellectual Capital,* 16(2), 390-418

Mete Cem and T. P. Shultz (2002). "Health and Labour Force Participation of the Elderly in Taiwan." *Centre Discussion Paper,* No. 846;

Mincer Jacob (1995). "Economic Development; Growth of Human Capital and the Dynamics of Wage Structure." *NBER 1994-95 Discussion Paper Series, No. 744*

Mohammad Ali DehghanTafti and Jalil Tontochi(2011). "An Empirical Analysis of Total Factor Productivity in the Economy of Iran." 2011 International Conference on Economics and Finance Research IPEDR vol.4 (2011) © (2011) IACSIT Press, Singapore

National Bureau of Statistics, (NBS) (2005). "Annual Socio---Economic Report." *NBS.*

National Bureau of Statistics (NBS) (2012). "National Employment Summary"-Unpublished NBS Document

National Bureau of Statistics, (NBS) (2016). "Annual Socio-Economic Report." *NBS.*

Nigerian Development and Finance Forum (2013). "Population Growth and Control in Africa."

Oni Bankole (2006). "Employment generation: theoretical and empirical issues": *The Nigerian Economic Society*

Pandey K. Manoj (2009). "Labour ForceParticipation among Indian Elderly: Does Health Matter?" ASRAC Working Paper 2009/11.

Pesaran, M. H., Y. Shin, and R. Smith (2001). Bounds testing approaches to the analysis of level relationships. Journal of Applied Econometrics 16(3): 289–326

Rehman, H., Bashir, F. and Nasim, I. (2011). "Students' Involvement in Economic Activity During Their Studies: A Case Study of Pakistan." *International Journal of Business and Social Science*, 2(14), 199 – 206.

Romer, P. (1986). "Increasing Returns and Long-run Growth." *Journal of Political Economy*, 94: 1002-1037

Romer, P.M. (1990). "Endogenous technological change." *Journal of Political Economy* 98, S71–S102.

Romer, D. (2011). "Endogenous Growth". Advanced Macroeconomics (Fourth ed.). *New York: McGraw-Hill. pp. 101–149.*

Samiullah (2014). "Relationship between Unemployment and Human Capital." *Journal of Resources Development and Management* - An Open Access International Journal Vol.3 2014.

Schumpeter, J.A. (1942). "Capitalism, Socialism and Democracy*". New York: Harper.*

Stark Oded and Fan C. Simon (2007) "Losses and Gains to Developing Countries from the Migration of Educated Workers: An overview of recent research, and new reflections". *World Economics, Vol. 8 • No. 2 • April–June 2007*

Suedekum Jens (2006). "Human Capital Externalities and Growth of High- and Low-Skilled Jobs." *The Institute for the Study of Labour*

World Development Indicators, (2015). "The World Development Report". *World Bank*

Weil N. David (2009). "Economic Growth." *Dorling Kindersley (India) Pvt, Ltd. Licenses of Pearson Education in South Asia.* ISBN 978-81-317-2481-1.

Weil, D. (2007). "Accounting for the Effect of Health on Economic Growth." *The Quarterly Journal of Economics,* MIT Press, vol. 122(3), pages 1265-13