Socio-Centric Implications of Nigeria's External Debt Burden

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ABSTRACT

The study investigated the effect of external debt burdens on economic development with the view of examining their social implications to Nigerians. The study regressed the variable of external debt overhang, external debt crowing out effect and infrastructure on the HCD over the years 1985 to 2015. Econometric techniques including ADF and PP for unit root tests, Johansson cointegration for long run relationship and VECM for short run dynamism of the models as well as granger causality were performed. The results showed that there is a cointegration in the model. The cointegration equation indicated that negative relationship exists between debt burden and economic development which implies that as the index of debt burden increases (worsens), Nigeria's economic development falls. The result of the granger causality test showed that there is no causal relation between economic development and any of the explanatory variables. The study thus concludes that external debt burden has adverse effect on economic development of Nigeria and has not helped to improve Nigeria's poor infrastructure, unemployment and human capital development issues in the country.

Keywords: Socio-centric Implication, External Debt Burden, Human Capital Development, External Debt Crowd Out.

INTRODUCTION

When there are fiscal gaps in proposed expenditure and expected revenue within a fiscal period, governments can borrow to fill such gaps. In the case where government does not want to compromise macroeconomic stability by printing more money and where

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government taxation capability is limited, debt option becomes the only available avenue that the government can explore to provide social overhead capital for the citizenry. It is only in principle, to say that governments borrow to finance public goods which increase welfare and promote economic growth. In real sense, government spending generally has to be financed either through taxation, seignior age (money printing), or with debt.

The act of borrowing creates debt. External debt is a major source of public receipts and financing capital accumulation in any economy [1]. It may be considered as a medium used by countries to bridge their deficits and carry out economic projects that are able to increase the standard of living of the citizenry and promote sustainable growth and development. Hameed *et al.* (2008) [2] stated that external borrowing ought to accelerate economic growth especially when domestic financing is inadequate. External debt could also improve total factor productivity through an increase in output which in turn enhances Gross Domestic product (GDP) growth of a nation. The importance of external debt cannot be overemphasized as it can act as an ardent booster of growth and thus improves living standards thereby alleviating poverty.

It is widely recognized in the international community that excessive foreign indebtedness in most developing countries is a major impediment to their economic growth and stability [3]. Developing countries like Nigeria have often contracted large amount of external debt that has led to the mounting of trade debt arrears at highly concessional interest rates. Gohar and Butt (2012) [4] opined that accumulated debt service payments create a lot of problems for countries especially the developing nations reason being that a debt is actually serviced for more than the amount it was acquired and this slows down the growth process in such nations. The inability of the Nigerian economy to meet its debt service payments obligations has resulted in debt overhang or debt service burden that has militated against her growth and development [3]. The genesis of Nigeria's debt service burden dates back to 1978 after a fall in world oil prices. Prior to this occurrence Nigeria had incurred some minor debts from World Bank in 1958 with a loan of US$28million dollars for railway construction and the Paris Club debtor nations in 1964 from the Italian government with a loan of US$13.1 million for the construction of the Niger dam. The first major borrowing of US$1 billion known as the "Jumbo loan" was in 1978 from the International Capital Market (ICM) [5]. However, in the eighties Nigeria's external debt rapidly escalated as a result of declining oil export earnings.

The increasing fiscal deficits driven by the higher level of external debt servicing is a major threat to growth of the nation. The resultant effect of large accumulation of debt exposes the nation to high debt burden. Nigeria is about the richest on the continent of Africa, yet

due to the numerous macro-economic problems, such as inflation, unemployment, sole dependency on crude oil as a major source of revenue, corruption and mounting external debt and debt service payment, majority of her citizen fall below the poverty line [6].

This is associated with heavy external debt burden, with disincentives to invest, which could have contributed to the relatively poor growth performance of Nigeria in the past. Other factors suspected to have contributed to the situation are high inflation, persistent depreciation of exchange rate and huge fiscal deficit. In addition, it is expected that as debt obligations rise, the export earnings available to the domestic economy decrease since some of the export earnings are used to service the debt. This in turn might have indirect effect on government expenditures and therefore negatively affect economic development. Actual per capita GDP growth from a country may experience adverse effect if the countries may have problems by whichever aspects - like a bigger international borrowing stock or the effects of debt-service on public spending [3]. However, the heavy external debt burden as resulted in creating a great hindrance in the economic growth of a country due to high interest payments on the external debt and heavy public expenditures.

"Huge external debt does not necessarily imply a slow economic growth; it is a nation's inability to meet its debt service payments fuelled by inadequate knowledge on the nature, structure and magnitude of the debt in question [7]. Following this assertion, one wonders if Nigeria, it heavy debt burden would enjoy prosperous economy. It becomes pertinent to investigate the effect of the present debt burden on Nigeria's economic growth and the attendant social implications.

There are various empirical studies that have been conducted to investigate the impact of external debt burden on economic growth in Nigeria and have arrived at different results using the same scope of study. [8],[9],[10],[11],[12],[13], have found that external debt and its burdens has adverse effect on economic growth of developing countries including Nigeria. Moreover, other authors posit that external debt has positive effect on growth [14],[15],[16],[17],[18]. The present study will focus on these issues on external debt to determine the long run relationship between external debt and economic development and specifically human factor index. This is done by isolating the two major indicators of debt burden and regressing them on human capital development (HCD) starting from the market based economic era of the 1983 when external debt crisis crept into the Nigeria economy; to 2015 when there is a continued fall in oil price that could warrant external borrowing to finance the needing infrastructural development in Nigeria.

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The study sought to achieve the objective to:

- Examine the effect of external debt stock(overhang effect) on human capital development in Nigeria.
- Access the effect of external debt stock to export (crowing out effect) on human capital development in Nigeria.
- Ascertain the effect of infrastructure development on human capital development in Nigeria.

To associate these objectives, the following hypotheses, tested at 0.05 level of significance were formulated as

1. External debt overhang has no significant effect on human capital development in Nigeria.
2. External debt crowd-out has no significant effect on human capital development in Nigeria.
3. Infrastructural development has no significant effect on human capital development in Nigeria.

REVIEW OF RELATED LITERATURE

Debt is derived from Latin word "debere" meaning to owe. Debt has been conceptualised as resources of money used in an organisation which is not contributed by its owners and does not in any other way belong to the shareholders. Okoh (2008) [19] noted that there are two types of debts: domestic debt and external debt. Eduardo (1989) [20] assert that when government borrows, the debt is public debt. Public debts may be domestic (internal) or external. Domestic debt is debt incurred by government through borrowing from within the country, while external debt refers to the portion of a country's debt that was borrowed from foreign lenders including commercial banks, governments or international financial institutions.

The focus of this study is on external debt which refers to that part of a nation's debt that is owed to creditors outside the nation. Arnone *et al.* (2005) [21] defined external debt as that portion of a country's debt that is acquired from foreign sources such as foreign corporations, government or financial institutions. According to Ogbeifin (2007) [22], external debt arises as a result of the gap between domestic savings and investment. As the gap widens, debt accumulates and this makes the country to continually borrow increasing amounts in order to stay afloat. He further defined Nigeria's external debt as the debt owed

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by the public and private sectors of the Nigerian economy to non-residents and citizens that is payable in foreign currency, goods and services.

EXTERNAL DEBT BURDEN

External debt burden is the reflection of the difficulties and strains arising from the servicing of external debt. This may result from inability to generate enough resources to meet commitments in debt servicing. The burden is measured in terms of the proportion of current resources (income) devoted to financing past consumption (Ogunlana, 2005) [23]. Therefore, when a disproportionately large share of current resources is deployed to serve external debt the burden increases. The reverse is the case when external debts can be serviced without compromising the requirements of domestic economic development.

Cholifihani (2008) [24] revealed that increase in external debt create problems since whenever a country has debt accumulation, a high proportion of public expenditure and foreign exchange earnings are absorbed by the debt burden with heavy opportunity costs. Furthermore, external debt may have negative effects on investment financing through debt overhang and credit-rationing among investors in the international market [24]. Similarly, external debt service (in contrast to the total debt stock) can also potentially affect growth by crowding out private investment or changing the composition of public spending. Ubok-Udom (1978) [25] however enumerated the costs of external borrowing to include debt service burden which incorporates costs implied by the term structure of external loans, costs of resultant liquidity crisis, costs of the viciously cumulative debt, the manage ability of the debt, costs of debt rescheduling, and costs of import substitution among others.

ECONOMIC DEVELOPMENT

Porter (1998), in his very influential work, The Competitive Advantage of Nations, considers that, "economic development seeks to achieve long-term sustainable development in a nation's standard of living, an increase in the per capita income of every citizen, adjusted for purchasing power parity." The term sustainable, as defined by Soubbotina at the World Bank (2004:), could "be otherwise called equitable and balanced, meaning that, in order for development to continue indefinitely, it should balance the interests of different groups of people and in three major interrelated areas–economic, social, and environmental. Two influential American planners, Lensink and White, (1999) [26] propose that, "...economic development preserves and raises the community's standard of living and an improved per capital income through a process of human and physical infrastructure development based on principles of equity and sustainability. Leszek Balcerowicz thinks that economic

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development has four dimensions, the initial level of development (reflected, for instance, by the income per capita) or the level existing when the rhythm of development starts being determined; the human capital or the people's level of education and professional training; The internal economic condition or the economy's structures and the external economic circumstance Economic development leads to improvements in many sectors of a nation.

There are different indicators that economists use to measure the level of economic development in a country: Declining poverty rates, increasing literacy rate, declining infant mortality and increasing life expectancy. Thus, it can be concluded that economic development leads to the creation of more opportunities in the sector of education, health sector, research, human development and environmental conservation. It equally implies an increase in the per capita income of the citizenry

Claessens (1996) [27] considers economic development to be the strengthening of autonomy and substantive freedoms, which allow individuals to fully participate in economic life. Hence, economic development occurs when individual agents have the opportunity to develop the capacities that allow them to actively engage and contribute to the economy. In the aggregate, this should lower transaction costs and increase social mobility. Rather than being reduced to a static factor in a production process, individuals become the agents of change in the process of economic development: They have the freedom to realize their potential. The greater number of individuals able to participate in the economy and society the greater opportunity for new ideas to circulate and be put into action. Economic development is measured by rising real per capita income, Gini coefficients and other measures of the distribution of income and wealth as well as indicators of quality of life, that range from life expectancy to crime statistics to environmental quality. From this standpoint, economic development differs from growth in terms of a focus on a broader set of metrics.

ECONOMIC GROWTH

The concept of growth is used in all fields of human endeavour. In Economics, the concept refers to economic growth. Soludo (2003) [28] in his growth model emphasized capital accumulation and exogenous rate of change in population and technological progress as the sources of growth. Similarly, Cohen (1993) [29] based his idea that long run growth is determined by economic incentives. Kuznets, cited in Todaro (2003) [30], defined a country's economic growth as "a long-term rise in capacity to supply increasingly diverse economic goods to its population; this growing capacity is based on advancing technology and the institutional and ideological adjustments that it demands." The foregoing definition implies that economic growth is synonymous with sustained rise in national

output, provision of wide range of economic goods, presence of advancing technology, and institutional, attitudinal, and ideological adjustments.

THEORETICAL FRAMEWORK

The theoretical framework of these studies hinges on the view that external debt result in burden to the economies of the low income developing countries making them the so called highly indebted countries. This assertion is explained using the "debt" overhang theory and the crowding out effect theory.

The debt overhang theory is based on the premise that if debt will exceed the country's repayment ability with some probability in the future, expected debt service is likely to be an increasing function of the country's output level. Thus some of the returns from investments in the domestic economy are effectively 'taxed' away by existing foreign creditors, and investment by domestic and new foreign investors is discouraged (Claessens, 1996) [27]. Under such circumstances, the debtor country shares only partially in any increase in output and exports because a fraction of that increase will be used to service the external debt. The theory implies that debt reduction will lead to increased investment and repayment capacity and, as a result, the portion of the debt outstanding becomes more likely to be repaid. When debt overhang is strong, the debtor is said to be on the 'wrong side' of the debt Laffer curve. In this case, the debt Laffer curve refers to the relationship between the amount of debt repayment and the size of debt. However, the idea of debt Laffer curve also implies that there is a limit at which debt accumulation stimulates growth [31]. In reference to debt Laffer curve, Lensink and White (1999) argue that there is a threshold at which more debt is detrimental to growth. The scope of debt overhang is much wider in that the effects of debt do not only affect investment in physical capital but any activity that involves incurring costs up-front for the sake of increased output in the future. Such activities include investment in human capital (in terms of education and health) and in technology acquisition whose effects on growth may be even stronger over time.

The measure for debt overhang is the ratio of external debt stock to gross domestic product measures the extent to which total domestic output can be deployed to wipe out outstanding external debt obligations. A high or increasing ratio will indicate problems of external debt management.

The liquidity constraint is captured as a 'crowding out' effect, by which the requirement to service debt reduces funds available for investment and growth. A reduction in the current debt service should, therefore, lead to an increase in current investment for any given level of future indebtedness [29]. Other channels through which the need to service a large amount of external obligations can affect economic performance include lack of access to

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international financial markets and the effects of the stock of debt on the general level of uncertainty in the economy [27]. Moreover, Debt Service/Export is used to explain debt crowding out effect and indicate the proportion of exports that are committed to service of debt incurred in the past. In particular, debt service/export is a liquidity measure. The debtor's ability to meet debt servicing obligation declines as the ratio increases. This directly shows that the debt is likely to be unsustainable. This situation can be costly as it can require greater adjustment to compensate for adverse balance of payments developments.

EMPIRICAL STUDIES

Ample of empirical studies exist on the effect of external debt on economic growth generally and also economic development with mixed and conflicting results among the authors. Fosu (1996) [32] tested the relationship between economic growth and external debt in sub Saharan African countries over the period 1970-1986 using O.L.S method. The study examined the direct and indirect effect of debt hypothesis. Using a debt-burden measure, the study reveals that direct effect of debt hypothesis shows that GDP is negatively influenced by a diminishing marginal productivity of capital. The study also finds that on the average, a high debt country faces about one percent reductions in GDP growth annually.

Karagol (2002) [33] investigated both the short-run and long-run relationships between economic growth and external debt service for Turkey during 1956-1996. The study employed a standard production function model analyzed using multivariate co-integration techniques. The Vector Auto regression estimates showed that there exists one Co-integration equation. It also revealed that debt service is negatively related to economic growth in the long-run. The causality test showed uni-directional causality between debt service and economic growth.

Malik *et al.* (2010) [34] explored the relationship between external debt and economic growth in Pakistan for the period of 1972-2005, using time series econometric technique. Their result shows that external debt is negatively and significantly related to economic growth. The evidence suggests that increase in external debt will lead to decline in economic growth. Empirical studies related to Nigeria on Debt-economic growth nexus also found significance among several scholars.

Audu (2004) examined the impact of external debt on economic growth and public investment in Nigeria from 1970-2002. The empirical investigation was done using the Co-integration test and Error Correction Method. The study shows that debt servicing pressure in the country has had a significant adverse effect on the growth process, and past debt accumulation negatively affect public investment.

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Ayadi and Ayadi (2008) [9] examined the impact of the huge external debt, with its servicing requirements on economic growth of the Nigerian and South African economies. The Neoclassical growth model which incorporates external debt, debt indicators, and some macroeconomic variables was employed and analyzed using both Ordinary Least Square (OLS) and Generalized Least Square (GLS) methods. Their finding revealed negative impact of debt and its servicing requirement on the economic growth of Nigeria and South Africa.

Ezeabasili *et al.* (2011) [10], in their study investigated the relationship between Nigeria's external debt and economic growth, between 1975 and 2006 using Johansen cointegration approach, error correction method and granger causality test. The result of error correction estimates revealed that external debt has negative relationship with economic growth in Nigeria. For example, a one per cent increase in external debt resulted in a decrease of 0.027 per cent in Gross Domestic Product, while a 1 per cent increase in total debt service resulted to 0.034 per cent (decrease) in Gross Domestic Product. These relationships were both found to be significant at the 10 per cent level. In addition, the pairwise Granger Causality test revealed that uni-directional causality exists between external debt service payment and economic growth at the 10 percent level of significance. Also, external debt was found to granger cause external debt service payment at the 1 percent level of significance. Statistical interdependence was however found between external debt and economic growth. Based on the findings, the researchers recommended that debt accumulation for projects must be matched with the timing of repayment while the portfolio of debt must be diversified in terms of sources and types to avoid harmful concentration and a reoccurrence to the past among others.

Sulaiman and Azeez (2012) [14] examined the effect of external debt on economic growth of Nigeria. Ordinary Least Squares (OLS), Augmented Dickey-Fuller (ADF) Unit Root test, Johansen Co-integration test and Error Correction Method (ECM) were employed in the empirical analysis. The findings from the error correction method show that external debt has contributed positively to the Nigerian economy. The study recommends that government should ensure economic and political stability and external debt should be acquired largely for economic reasons rather than social or political reasons.

Egbetunde (2012) [15] examines the relationship between external debt and economic growth in Nigeria. Using a double-log equation within the context of Ordinary Least Square (OLS) framework and co-integration test, the study finds that economic growth is co-integrated with external debt, domestic debt and debt services in Nigeria. Within the OLS framework, the evidence of positive relationship between economic growth and external debt as well as domestic debt and economic growth was found at $p < 0.05$ in the economy, while debt services were negatively impacted on economic growth at $p < 0.05$.

Ajayi and Oke (2012) [11] investigated the effect of the external debt burden on economic growth and development of Nigeria .They adopted the Ordinary Least Square (OLS) regression technique on secondary data and on variable like National Income, Debt Service Payment, External Reserves, Interest rate among others. The finding indicated that external debt burden had an adverse effect on the nation's income, per capital income of the nation and high level of external debt led to devaluation of the nation's currency, increase in retrenchment of workers, continuous industrial strike and poor educational system and this led to the economy of Nigeria getting depressed. They suggested that debt service obligation should not be allowed to rise than foreign exchange earnings and that the loan contracted should be invested in profitable ventures, which will generate a reasonable amount of money for debt repayment.

Ejigayehu and Persson (2013) [12] analyzed the effect of external debt on the economic growth of eight selected heavily indebted African countries (Benin, Ethiopia, Mali, Madagascar, Mozambique, Senegal, Tanzania and Uganda) through the debt overhang and debt crowding out effect with ratio of external debt to gross national income as a proxy for debt overhang and debt service export ratio as a proxy for debt crowding out. Panel data covering the period 1991-2010 was used. The empirical investigation was carried out on a cross-sectional regression model with tests for stationarity using Augmented Dickey Fuller tests, heteroskedasticity and ordinary regression. The concluding result from estimation showed that external debt affects economic growth through debt crowding out rather than debt overhang.

Kasidi and Said (2013) [16] investigated the impact of external debt on economic growth of Tanzania for the period of 1990-2010. The study used time series data on external debt and economic performance. It was assumed that external debt helps developing countries to meet developing needs, while debt servicing seeks development by restoring credibility to existing and new creditors. The study revealed that there is significant impact of the external debt and debt service on GDP growth. The total external debt stock has a positive effect of about 0.36939 and debt service payment has a negative effect of about 28.517. Long run relationship the co-integration test shows that there is no long run relationship of the external debt and GDP.

Imimole *et al.* [17] examined the extent to which Nigeria's external debt relates to indices of ability to pay in order to ascertain the sustainability of it and to identify the main determinants of her external indebtedness for the period 1986 to 2010. Based on available data and the use of statistical methods, the study observed that Nigeria's external debt is not sustainable in terms of willingness and ability to pay, and that the country's external debt is characterised by capital flight as a results of external debt accumulation which is

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evident in the ratio of the country's reserves to external debt. Using theoretical framework that justifies the demand for external borrowing by developing countries and relying on error correction mechanism and the Johansen cointegration test, we estimated our model after conducting stationarity test, using the Augmented Dickey-Fuller test. The result from cointegration test showed presence of long run relationship between external debt and the explanatory variables. The study also found that the main determinants of Nigeria's external debt are gross domestic product, debt service and exchange rate. To reduce the adverse effects of external debt on the Nigerian economy and make it sustainable the study recommends that an analysis of the economic and social profitability of all external debt financial projects be carried out to ensure that the returns would be in excess of the interest and principal repayment

Ibi and Aganyi (2015) [13] analyzed the impact of external debt on economic growth in Nigeria. It uses the variance decomposition and impulse response from Vector Auto-Regression (VAR), a time-series econometric model to test whether or not External Debt, Ratio of External debt to Exports and other economic control variables such as: Inflation, Real Exchange Rate and Public investment stimulate economic growth proxy by gross domestic product (GDP) growth rate. Based on the two-stage data processing, the result reveals that causation between external debt and economic growth is weak in the Nigerian context and external debt could thus not be used to forecast improvement or slowdown in economic growth in Nigeria. Hence, changes in GDP cannot be predicted with changes in external debt. The policy implication of the study is that most Nigerians contract debt for selfish reasons rather than for the promotion of economic growth. For debt to promote growth in Nigeria, fiscal discipline and high sense of responsibility in handling public funds should be the watchword of Nigerian leaders.

Olanrewaju, Abubakar and Abu (2015) [18] examined the effect of government debt on economic growth in Nigeria between 1986 and 2013 – using the ordinary least square method. The study reveals that the impact of government debt on economic growth over the period under review is insignificant – with external debt which has been enormous over the years contributing minimally to real gross domestic product. The findings of the study reveal that, if the course of consistent borrowing is not curbed, the economy will slump further: resorting to surplus budgeting, and igniting; increases in unemployment, decreases in total investment, falling reserves, increased exchange rate, higher inflation and consequently increased poverty. It is therefore recommended among others that borrowing should be a last recourse by the government to revitalize the economy, and if necessary, the loans should be sourced within the economy so that when the principal and

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interest on the loans are paid back, it will serve as a crowd-in-effect which in turn further accelerates economic activities in the country [35].

METHODOLOGY

RESEARCH DESIGN AND SOURCES OF DATA

The study adopted an ex-post facto research design because the data for the study are secondary data that already exist and documented as official financial publications of very reliable research based institution like the Central Bank of Nigeria. However, the data covered a period of 1981 to 2014. This period was chosen because it is a unique period in the annals of external borrowing in Nigeria when market forces heavily influenced the use and repayment of debts.

MODEL SPECIFICATION AND VARIABLES OF THE STUDY

The model aim to regress a number of selected external debt burden variables on human development matrix in Nigeria. Human capital development is measured as an aggregate of literacy rate, quality of health care, employment rate, per capita income which are considered here as social dimensions (implication) variables while external debt overhang (Debt Stock/GDP) external debt crowd out effect (Debt Service/Export) and infrastructural development are the independent variables of the study.

The model is stated as:

HCD = f (EDO, EDC, INFRAS)

The equation form of the model is:

$HCD = \beta_0 + \beta_1 EDO + \beta_2 EDC + INFRAS + \mu$

Where:

HCD = human capital development

EDO = external debt overhang measured as the ratio of external debt

EDC = external debt crowd out effect measured as the ratio of external debt services

LnINFRAS = Natural log of Infrastructural development proxied by Electric power transmission and distribution losses (kWh).

β_0 and μ are the constant and error term respectively while β_1 and β_2 are the coefficient of external debt burdens on human capital development

METHOD OF ANALYSES

The study is analysed with econometric techniques involving Philip Perron and Augmented Dicker Fuller tests of unit roots, Johansson cointegration test for long run relationship, and Vector Error Correction test for short run dynamism.

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DATA PRESENTATION AND ANALYSIS

Table 1: Unit Root Test

At Level					
Variables	**Augmented Dicker Fuller Test**		**Philip and Peron Test**		**Decision**
	t-Statistic	Prob.	Adj. t-Stat	Prob.	
HCD	-2.133424	0.2339	-1.996650	0.2865	Not Stationary at level
EDO	-1.156835	0.6783	-1.023858	0.7305	Not Stationary at level
EDC	-4.109778	0.0036*	-4.046948	0.0042*	Stationary at level
INFRAS	-2.364762	0.1603	-2.364762	0.1603	Not Stationary at level
At First Difference					
HCD	-6.415193	0.0000*	-6.423403	0.0000*	Stationary at first difference
EDO	-3.128281	0.0378*	-5.654047	0.0001*	Stationary at first difference
INFRAS	-7.491444	0.0000	-7.491444	0.0000	Stationary at first difference

The result of the unit root test shows that HCD, EDO and INFRAS are non stationary at levels while EDC are stationary at level. However, all the variables (HCD, EDO, EDC, and INFRAS) attained stationarily at 1st difference.

Table 2: Cointegration Test for Long Run Relationship Between External Debt Burden and Human Capital Development

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.857689	135.3988	95.75366	0.0000
At most 1 *	0.716711	82.75585	69.81889	0.0033
At most 2 *	0.484159	48.70113	47.85613	0.0415
At most 3 *	0.410603	30.82830	29.79707	0.0379
At most 4 *	0.347869	16.55460	15.49471	0.0345
At most 5 *	0.169413	5.011821	3.841466	0.0252

Trace test indicates 6 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.857689	52.64297	40.07757	0.0012
At most 1 *	0.716711	34.05472	33.87687	0.0476
At most 2	0.484159	17.87282	27.58434	0.5057
At most 3	0.410603	14.27370	21.13162	0.3430
At most 4	0.347869	11.54278	14.26460	0.1290
At most 5 *	0.169413	5.011821	3.841466	0.0252

Max-eigenvalue test indicates 2 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

MacKinnon-Haug-Michelis (1999) p-values

The result of the cointegration indicate that, for trace statistic, six cointegrating equations exist at 0.05 level while for the Max-Eigen statistic, two cointegrating equation obtains at 0.05 level. Thus, the null hypothesis of no cointegrating equation is rejected using the Trace Statistics and the Max-Eigen value tests. This suggests the existence of a long run relationship among the variables at 5% significance level. Thus, the study posits that there is presence of long run relationship between external debt burden and human capital development in Nigeria. However, the available statistics show that the long run relationship can be expressed in the equation below:

HCD =   70.50 +   0.18EDO   -2.25EDC   -2.26NFRAS
                              (0.01808)   (0.25163)   (2.10532)
                              [10.1348]   [-8.94969]   [-1.07606]

The equation shows the coefficients of the long run relationships, and the corresponding Standard errors in ( ) and t-statistics in [ ]. From the result, External debt Overhang (EDO) has a significant positive relationship with human capital development (HCD) while External debt crowd out (EDC) and infrastructural development all have negative effect on human capital development in Nigeria. The results suggest that the society suffered from negative effects of external borrowing over the years 1985 to 2015. The results further indicated that external debt crisis in Nigeria is mainly sustained by crowding out effect resulting from debt servicing problems.

Table 3: Vector Error Correction Term

Cointegrating Eq:	CointEq1			
HCD(-1)	1.000000			
EDO(-1)	0.183260			
	(0.01808)			
	[10.1348]			
EDC(-1)	-2.252028			
	(0.25163)			
	[-8.94969]			
INFRAS(-1)	-2.265459			
	(2.10532)			
	[-1.07606]			
C	70.50473			
Error Correction:	D(HCD)	D(EDO)	D(EDC)	D(INFRAS)
CointEq1	-0.653360	-3.339899	0.134419	0.021639
	(0.27263)	(0.80367)	(0.15024)	(0.01219)
	[-2.39652]	[-4.15582]	[0.89471]	[1.77567]

To determine the short run dynamism of the variables the ECM results above has been employed. From the result, the coefficient of error correction term (-0.653360) is negative. It indicates that the society norms adjust to normalcy from the long run adverse effects of external debts. To further investigate the causal relations between the dependent variable (human capital development) and independent variables (external debt burden) the pair wise granger causality results are used.

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Table 4: **Pair wise Granger Causality Tests**

Pair wise Granger Causality Tests				
Null Hypothesis:	Obs	F-Statistic	Prob.	Remark
EDO does not Granger Cause HCD	27	1.28346	0.2970	No causal relationship
HCD does not Granger Cause EDO		1.18583	0.3243	
EDC does not Granger Cause HCD	27	0.71888	0.4984	No causal relationship
HCD does not Granger Cause EDC		1.54511	0.2356	
INFRAS does not Granger Cause HCD	27	0.18032	0.8362	No causal relationship
HCD does not Granger Cause INFRAS		0.28686	0.7534	

The result of the granger causality has shown that none of the explanatory variables (EDO, EDC and INFRAS) has causal relationship with HCD in Nigeria. This indicate that external debt burden in Nigeria is not related to the output process in Nigeria. Rather other factors not related to the purpose of borrowing might have influence Nigerian external debt burden.

CONCLUSION AND RECOMMENDATIONS

The study has shown that external debt burden has adverse effect on human capital development of Nigeria. This has reduced funds available for infrastructural development in Nigeria. The results equally showed that external debt to HCD indicate that there is problem of external debt management in Nigeria. The implication of this is that social issues could have been sacrificed on the altar of flamboyant borrowing. Despite the huge amount of resources attracted to Nigeria through external debt stock, employment, literacy ratio, good health care facility and infrastructural development elude Nigeria. This is mostly because the funds have not been employed in productive economic activities. This is why HCD should granger-cause external debt, meaning that external borrowing should be

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anchored on the expectation that Nigeria HCD is greatly improved. Hence, one could state that Nigeria government can easily seek and obtain external debt for unproductive (white elephant) projects.

The study recommends that borrowing should be a last recourse by the government to revitalize the economy, and if necessary, the loans should be sourced within the economy so that when the principal and interest on the loans are paid back, it will serve as a crowd-in-effect which in turn further accelerates economic activities in the country. Such activities will also activate social sector benefits that will improve the living condition of Nigeria.

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