Impact of Debt Sustainability on Nigerian Economic Development

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Annotation: This study is carried out to determine the impact of external debt sustainability on Nigerian economic development from 1980-2015. This study is embarked upon due to the slow pace of economic growth occasioned by low human development index, low level of GDP, balance of payment deficit, low level of investment and infrastructure despite the excess external borrowings by the government. The data for this study is secondarily sourced from the CBN statistical bulletin of various issues and world development index. Five research questions and research hypotheses were formulated to guide the study. The data were subject to stationery test using Augmented Dickey Fuller unit root test statistic. The data were found to be stationery at their first difference. The data were also found to be co-integrated in using Johansen co-integration technique. The findings of the study after using the parsimonious Vector Error correction technique revealed that external debt sustainability is positively related to GDP, net export and human development index. Also debt sustainability did not have any impact on investment and infrastructure. It is recommended that government should make judicious use of borrowed funds and ensure that borrowed funds are strictly invested in capital projects.

Keywords: Debt, Sustainability, Economic, Development, Model Growth, Dependency.

INTRODUCTION

Nigeria as one of the developing countries in the world depends on other nations for survival through international trade and other aids. One major source of aid is foreign borrowing or external debt. The motive behind external debt is due to the fact that countries especially the developing ones lack sufficient internal financial resources and this calls for the need for foreign aid. In a mixed economy such as Nigeria’s, government plays an important intervention role in order to achieve the broad macroeconomic objectives of stability and growth.

The case for government intervention is further strengthened in situations of market failures such as monopoly, non-provision of some public goods and services. Very often therefore, the financial requirements of government expenditure programmes exceed available financial resources mobilized.
through taxation, resulting in a deficit or budgetary gap. This therefore makes borrowing imperative to fill the gap. In financing the budget deficit, public sector borrowing can either be from external or domestic sources or both.

Consequently, Odozi (1996) asserted that "public sector borrowing results in public debt which may be either domestic or external public debt."

The dual-gap analysis provides the framework which shows that the development of a nation is a function of investment and that such investment which requires domestic savings is not sufficient to ensure that development takes place. Hence, the importance of external debt on the growth process of a nation cannot be overemphasized. External borrowing ought to accelerate economic growth especially when domestic financial resources are inadequate and need to be supplemented with funds abroad.

Debt sustainability can be seen as a situation in which a borrower is expected to be able to continue servicing its debts without an unrealistically large future correction to the balance of income and expenditure (Ariyo, 1993). Sustainability rules out any of the following: a situation in which a debt restructuring is already needed (or expected to be needed); a situation where the borrower keeps on indefinitely accumulating debt faster than its capacity to service these debts is growing (a Ponzi game); or a situation in which the borrower lives beyond its means by accumulating debt in the knowledge that a major retrenchment will be needed to service these debts (even if nothing in the external environment changes). The cost of financing is a key factor influencing debt accumulation (i.e., the present value budget constraint), and thus sustainability. Sustainability thus incorporates the concepts of solvency and of liquidity.

Moreover, the assumption of no expectation of major corrections, which aspect of sustainability-solvency or liquidity-is more relevant in making the sustainability assessment depends on the country circumstances and, in particular, its source of finance. For low-income countries that do not borrow from private capital markets, but may have a high debt ratio, liquidity is likely to be less of a concern than solvency. For many emerging market countries, although debt ratios may be moderate, the main sustainability risk may arise from liquidity problems.

Fiscal sustainability analysis has, in the recent time, become an important component of macroeconomic health analysis of countries. This is predicated on the fact that the usefulness of annual budgetary balances and the public debt figures for assessing the soundness of public finances have gradually gone into extinction. Fiscal sustainability of the government policies therefore, exists if the implementation of the government programmes does not threaten the solvency of a country now or in the future. Also, solvency requires that the current and future expenditures and income are reduced into a common denominator, or the financial ability of the government to service its debt obligations in perpetuity without being explicitly defaulted. Although, the issues surrounding fiscal deficits as well as national debts are certainly not new, but an important fact is that threats to fiscal sustainability have serious implications for macroeconomic growth and financial stability of a country as well. In less developed countries of Africa, Nigeria inclusive, the growth, size and persistence of fiscal deficit, over the years, have been blamed for much of the macroeconomic crises that encompass them in the recent times: over indebtedness and the debt crisis, high inflation rates, balance of payment disequilibrium, low level of investment, infrastructural decays, over dependence on imports as well as poor implementation of policies targeted at poverty level reduction in the region.

Therefore, attempts to regain macroeconomic stability through fiscal policy adjustments by most of African countries have achieved little or no success, raising questions about the macroeconomic consequences of public debts and fiscal deterioration or fiscal stabilization (Easterly, 1994).
It is a country's inability to meet its debt obligation compounded by the lack of information on the nature, structure and magnitude of external debt. Countries borrow for two broad categories; macroeconomic reasons to either finance higher investment or higher consumption and to circumvent hard budget constraint. This implies that an economy borrows to boost economic growth and alleviate poverty. He argued that when debt reaches a certain level, it begins to have adverse effects, debt servicing becomes a huge burden and countries find themselves on the wrong side of the debt-laffer curve, with debt crowding out investment and growth. The debt service burden has militated against Nigeria's rapid economic development and worsened the social economic problems (Audu, 2004).

In an effort to bridge the foreign exchange and domestic resource gap so as to quicken the pace of her economic development, Nigeria has continued to raise both internal and external loans. While there is nothing morally, economically and socially wrong with the raising of loans through internal and external sources; however such loans should be channeled to productive uses that will facilitate economic development as they are being serviced and liquidated.

Nigeria however, took to borrowing because it was thought that injecting the funds borrowed would enhance infrastructural development, investment growth, improve net export and invariably lead to human development index. Debt sustainability analysis has, in the recent time, become an important component of macroeconomic health analysis of countries. This is predicated on the fact that the usefulness of annual budgetary balances and the public debt figures for assessing the soundness of public finances have gradually gone into extinction.

Debt sustainability of the government policies therefore, exists if the implementation of the government programmes does not threaten the solvency of a country now or in the future. Also, solvency requires that the current and future expenditures and income are reduced into a common denominator (Adams, 2010), or the financial ability of the government to service its debt obligations in perpetuity without being explicitly defaulted.

With the knowledge of the stated problems, the specific objectives of the study are; To assess the impact of External Debt sustainability on the economic Growth of Nigeria; To explore the nature of relationship between Net-export and external debt sustainability; To determine whether Human Development Index is a significant function of external debt sustainability in Nigeria; To find out whether Debt sustainability significantly impact on Infrastructural Development in Nigeria; To investigate if Investment is a positive and significant function of External Debt sustainability in Nigeria.

REVIEW OF RELATED LITERATURE

The Debt - Cum - Growth Model

The first school of thought in the debt cum - growth theory is the substituting school of thought. It considers external debt as a substitute for domestic savings and investment and therefore domestic savings and investment are crowded out as a result (Krugman, 1988; Alesina &Tabellini, 1990; Tornell &Velusco 1992). The thinking is that the returns from investing in a country are seen as being subjected to a high marginal tax by creditors and this may discourage domestic and foreign investors. This is the familiar debt overhang theory. Given the need for larger capital stock and the inadequacy of domestic saving to finance investment that would make this possible, it is necessary that domestic savings should be supplemented by foreign sources; this shifted the issue from whether external funds are useful to developing countries but how much is sufficient to help realize her growth potential.

However, the general case for borrowing aboard is to add to financial resources not just to acquire specific resources (Solis,1985); first is can increase resources available for investment by supplementing export earnings.
It is also argued that foreign savings may be used for consumption rather than for investment. However, studies by Cohen and Sachs (1986) and Cohen (1992) present endogenous growth models where capital accumulation is the driving force for growth (Nyong, 2005).

**Threshold school of thought (debt - laffer curve thesis)**

According to Calvo, 1998, the burden of external debt is the concern of threshold school of thought which emphasizes the non-linear relationship between debt and growth. It links debt and growth to problem of capital flight where at high debt levels, growth falls. The threshold theory, the fall in growth is due to the higher distortionary tax burden on capital required to service the debt. It leads to lower rate of return on capital, lower investment and hence lower growth. It maintains that low debt regimes have higher growth rate and lower strand of thought in the debt - growth nexus sees external debt as capital inflow with positive effect on domestic savings and investment and thus on growth which leads to poverty reduction via appropriate targeting of domestic savings and investment.

**The Dual-Gap Theory**

Adegbite (2008) noted that the Dual Gap theory is a better explanation of the reason, for opting for external finance as opposed to domestic financing in the sustainable development. According to the theory in developing countries the level of domestic savings is not sufficient to finance the needed investment to ensure economic development; since investment is a function of savings it is logical to require the use of complementary external goods and services. However, the relationship between domestic savings and foreign funds gives a guide as to how a country can borrow abroad (ibid). Also since most of LDCs are far from their steady state growth any investment injection could lead then to have accelerated economic growth.

The country should borrow abroad if it is anticipated that the return on the borrowed funds will be higher than the cost, therefore we do expect a country to invest in projects having expected returns higher than the cost of foreign debt. Since if not used wisely, debt can amount to impeding the long term growth prospect of the country. External debt does not transform automatically into debt burden when a country optimally make use of the fund.

Adegbite (2008) said that in an optimal condition, the marginal return on investment is greater than or equal to the cost of borrowing, in this case debt will show a positive impact on growth. Omoruyi (2005) stated that most economies have experienced a shortfall in trying to bridge the gap between the level of savings and investment and have resorted to external borrowing in order to fill this gap. This gap provides the motive behind external debt as pointed out by Chenery (1966) which is to fulfill the lack of savings and investment in a nation as increases in savings and investment would vis-a-vis lead to a rise in economic growth (Hunt, 2007).

**The Dependency Theory**

Momoh and Hundeyin, (1999) argues that the dependency theory seeks to outline the factors that have contributed to the development of the underdeveloped countries. This theory is based on the assumption that resources flow from a "periphery" of poor and underdeveloped states to a "core" of wealthy states thereby enriching the latter at the expense of the former. The phenomenon associated with the dependency theory is that poor states are impoverished while rich ones are enriched by the way poor states are integrated into the world system. Dependency theory states that the poverty of the countries in the periphery is not because they are not integrated or fully integrated into the world system as is often argued by free market economists, but because of how they are integrated into the system. From this standpoint a common school of thought is the bourgeoisie school. To them the state of underdevelopment and the constant dependence of less developed countries on developed countries are as a result of their domestic mishaps.
Debt Overhang Theory

Krugman (1988) asserts that the debt overhang theory shows that if there is some likelihood that in the future, debt will be larger than the country's repayment ability; expected debt-service costs will discourage further domestic and foreign investment because the expected rate of return from the productive investment projects will be very low. This eventually will further reduce both domestic and foreign investments and hence downsize economic growth. 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.

Elbadawi (1997) also confirmed a debt overhang effect on economic growth using cross-section regression for 99 developing countries covering, Latin America, Asia and Middle East. Three direct channels in which indebtedness in developing countries works against growth was identified, this include the current debt inflows as a ratio of GDP (which stimulate growth), past debt accumulation (capturing debt overhang) and debt service ratio. The indirect channel works through the impacts it has on the other channels on public sector expenditures.

Solow Growth Model and External Debt

The Solow growth model is built on a closed economy which makes use of labour and capital as its means of production. Under this scenario the implication of external debt on growth can be seen through its effect on the domestic saving which in turn used as investment in a closed model. The general effect of external debt on the Solow growth model can be analyzed by looking at the individual effects of the debt overhang and debt crowding theories on the Solow growth model.

The debt overhang hypothesis holds that the government in an attempt to amortize the accumulated debt, will increase tax rate on the private sector (as means of transferring resources to the public sector). This will discourage private sector investment and also reduce government expenditure on infrastructure as the resources are used to pay up huge debt service payments instead of being put into good use. This will lead to a reduction of total (private and public) investment in the economy and a shift downward of both the investment and production function curves in Solow growth model.

On the other hand in the case of debt crowding out, in a bid to clear their outstanding debts use their revenue from export earnings and in some cases transfer resources including foreign aid and foreign exchange resources to service their forthcoming debt. Those countries which transfer revenue from export earnings which can be used in investment in the economy to avoid huge debt payments will discourage public investment. This in turn will decrease economic growth and will shift both the investment and production function curves in Solow growth model downward (Dereje, 2013).

Neoclassical growth theory,

This theory provides that debt has a positive direct effect on economic growth. This is because the amount borrowed if used optimally, is anticipated to increase investment. On the other hand, the indirect effect of debts has its effect on investment. The transmission mechanism through which the debt affects growth is its reduction on the resources available for investment by debt servicing (Jhingan, 2004).

Debt overhang hypothesis asserts that a certain level of external debt has a direct positive effect on economic growth until a certain point where an additional debt will have a negative effect on growth.

The Keynesian theory

Keynes sees fiscal policy as the best policy that brings about growth in any economy since it acts in the interest of the general public. According to Keynes, when the government embarks on public borrowing
to finance its expenditure, unemployed funds are withdrawn from the private pockets such that the consumption level of private individuals remains unaffected (Emerenini, 2004).

These funds when injected back into the economy by the government will lead to a multiple increase in aggregate demand causing an increase in output and employment. Hence, public borrowing can be used to influence macroeconomic performance of the economy (Sulaiman & Azeez, 2012).

On the other hand, the indirect effect of public borrowing is its effect on investment. The transmission mechanism through which debts affect growth is its reduction on the resources available for investment by debt servicing. Also, public debt can act as an implicit tax on the resources generated by a country and create a burden on future generations which come in the form of a reduced flow of income from a lower stock of private capital. This in turn, may lead to an increase in long-term interest rates, a crowding out of private investments necessary for productivity growth, and a reduction in capital accumulation (Ogege and Ekpudu, 2010).

**Ricardian Theory of Public debt and resource allocation**

Ricardo's great concern over the harmful consequences of taxation for resource allocation, arising out of his theoretical analysis of tax incidence, served to reinforce his opposition to public debt in a practical context, for fully half of the tax revenue in his day was devoted to debt service. Akhakpe (2007) recalls that Ricardo opposed debt financing of government expenditure, even in circumstances of war, when it was generally deemed by his contemporaries to be necessary and acceptable, out of worry that wartime public borrowing would have serious repercussions on the postwar economy in the form of taxes imposed to service the debt. The alternative - taxes to fully finance the war throughout its duration - would also have consequences for the allocation of resources, but such effects would be less serious due to their timing: the greatest advantage that would attend war-taxes would be the little permanent derangement that they would cause to the industry of the country (Babawale, 2007). The prices of our commodities would only be disturbed during a period when everything is disturbed by other causes, during war.

Ricardo also took notice of the distortionary impact of public debt on the international allocation of resources. Parliamentary transcripts indicate that he considered the public debt a very serious evil; and he thought so from the heartburnings that were occasioned by the taxes levied to pay it, which in one year affected one interest, and the next year another interest. Elimination of the public debt would confer great benefits on our commerce, by putting it in a natural state.

**Causes of External Debt Crisis in Nigeria**

Numerous factors contributed to the increased size of Nigeria's external debts crisis. CBN (1999) identified the major factors to include the rapid growth of public expenditure, particularly expenditure on capital projects, borrowing from the international community at non concessional interest rates, decline in oil earnings for the late 1970's and the emergency of trade arrears. As a developing economy, characterized by a low productive base, the supply of goods and services is augmented with imports under the circumstances; there was substantial growth in imports. Nigeria import bills rose from N756.4m in 1970 to N 845.7b in 1997 (Gana, 2002).

Owing mainly to the depreciation of the naira during the period. The inability to settle import bills led to the rapid buildup of trade arrears in the early 1980s as foreign exchange earnings declined substantially during the period. Also, Nigeria's debt problem is rooted partly in the collapse of international oil price in 1981 and the persistent softening of the international oil market since then and also partly in domestic policy lapses. The policies pursued in 1970s and early 1980s led to structural changes which made the economy vulnerable to external shocks (Ogunmuyiwa, 2011).

Rural -urban migration which intensified in the wake of the oil boom as well as inappropriate pricing and exchange rate policies had taken their toll on the e agricultural sector with the result that the sector's
contribution to GDP shrank from 53% in 1965 to about 40% in the mid-1970s and not more than 20% in 1980 (Onyeagu and Okeiyika, 2013). Defective structure of incentive paved the way for an industrial sector that was heavily dependent on imported inputs with very low value added. Consequently, the economy became progressively dependent on crude oil accounting for over 22% of GDP, 81% of Government revenue and about 96% of the export earnings at the beginning of 1980s. Not quite long, the economy maladjusted as it were and characterized by distortion in price cost relations, import oriented national expenditure and production and a grossly overvalued exchange rate, could not cope with a prolonged period of depression in oil prices (Umoh, Jacob and Chuku, 2012). The oil price collapse in 1981 can thus be said to have compounded the problems of an economy that had its flexibility and led to serious external payments problems.

**Rationale for borrowing**

The classical principles of loan finance rationalize loans to provide intergeneration equity, pay-as-you-use, capital formation, old age insurance, self-liquidating projects, adjusting distribution, and reduction of tax friction (Musgrave, 1959). Borrowing may be considered as a second best alternative to money creation during periods of unemployment (Olaleye, 1997). In this way, it is seen as an instrument of managing the economy. Foreign loan, in particular, is seen as a means of filling domestic savings gap especially in the face of dwindling government revenues from domestic sources. It is particularly so in the face of fluctuating prices of primary commodity exports and hence dwindling foreign exchange earnings.

Generally the need for public borrowing arises from the recognized role of capital in the developmental process of any nation as capital accumulation improves productivity which in turn enhances economic growth (Ajagi, 1990). There is abundant proof in the existing body of literature to indicate that foreign borrowing aids the growth and development of a nation. Soludo (2003) was of the opinion that countries borrow for major reasons. The first is of macroeconomic intent, that is, to bring about increased investment and human capital development while the other is to reduce budget constraint by financing fiscal and balance of payments deficits. The second reason for borrowing from overseas is also to fill the foreign exchange (imports-exports) gap. For many developing countries like Nigeria the constant balance of payment deficits have not allowed for capital inflow which will bring about growth and development. Since the foreign exchange earnings required to finance this investment is insufficient external borrowing may be the only means of gaming access to the resources needed to achieve rapid economic growth (Ajagi, 1990).

**Human Development Index (HDI)**

The Human Development Index measures three basic dimensions of human development: long and healthy life, knowledge, and a decent standard of living. Four indicators are used to calculate the index: life expectancy at birth, mean years of schooling, expected years of schooling, and gross national income per capita (Mojekwu, 2011). The Human Development Index, measured on a scale of 0 to 1, is an aggregate of three indicators: longevity, knowledge, and the command over resources needed for a decent life.

For longevity, the UN team uses life expectancy at birth. For knowledge, they use adult literacy and mean years of schooling. And for the command over resources, they use gross domestic product (GDP) per person after adjusting it for purchasing power (Berg, Kamenik, Wang, & Zanna, 2015b). Because these indicators are national averages, they do not deal directly with inequalities in wealth distribution, but by including longevity and literacy they do reflect indirectly the distribution of resources. A high average life expectancy, for example, indicates broad access to health care and adequate supplies of food and safe drinking water. FIDI sensitive to the distribution of income has been calculated for 53 countries that could provide the needed data; again, the rankings change when this important factor is included.
While the HDI represents a distinct improvement over income figures as a measure of human well-being, it so far says nothing about environmental degradation. As a result, the FIDI can rise through gains in literacy, life expectancy, or purchasing power that are financed by the depletion of natural resources, setting the stage for a longer term deterioration in living conditions.

**Infrastructures in Nigeria**

Nigeria has made important progress in improving much of its infrastructure in recent years. Nigeria has developed infrastructure backbones that have a national reach. However, the condition of the road network is poor and as a result, national connectivity is impaired. Inadequacies of the mass transportation have encouraged the use of motorcycle for commercial and public transportation (Eyitayo, 2010). Water transportation has also continued to stagnate along with other systems, even though the country has about 3,300 kilometers of navigable inland waterways. While these ought to provide easy access to the coast from the hinterland, they have not been adequate for navigation due to lack of dredging and availability of modern vessels (Obi and Nurudeen, 2009).

The power transmission grid is national in scope, with most major generation facilities linked to the grid, but the quality of supply is low. There is broad coverage by the mobile communications (GSM), although there are coverage gaps in the northern parts of the country. Nigeria's regional infrastructure connections are expanding, but much remains to be done in this regard. Nigeria is connected to the South Atlantic SAT-3, MAIN-1 and Glo-1 submarine cables along the west coast of Africa, but it lacks fiber-optic land links with its neighbors. There are limited points where Nigeria's national road network intersects with the regional network (Oladipo and Akinbobola, 2011).

**Investment in Nigeria**

Foreign direct investment refers to direct investment equity flows in an economy. It is the sum of equity capital, reinvestment of earnings, and other capital. Direct investment is a category of cross-border investment associated with a resident in one economy having control or a significant degree of influence on the management of an enterprise that is resident in another economy (Ayanwale and Bamire, 2001).

Foreign Direct Investment (FDI) from developing countries has risen sharply over the past two decades. This has been noted by several authors since the early 1980s (Lall, 1983; Kumar, 1995; Page 1998; Aykut and Ratha, 2003, and UNCTAD, 2004). Total investment by developing countries began to rise from about 1% of total foreign investment flows in the late 1970s to 4% in the mid-1980s and 6% by 1990, and after a peak in the 1990s before the Asian crisis, has remained around 6-7% of the total. Nigeria is one of the economies with great demand for goods and services and has attracted some FDI over the years.

**External Debt and Real Gross Domestic Product**

External debt which is loans or borrowings outside the economic frontiers of the economy is expected to maintain a positive relationship with real gross domestic product. The essence of borrowing is to supplement domestic funds and achieve macroeconomic objectives however, most third world economies borrow for recurrent expenditures and external debt turns out to be a burden and curse to such economies. Adepoju, Salau and Obayelu (2007) analyzed the effects of external debt management on the economic growth of Nigeria for a period between 1962 to 2006, using time-series data of the various bilateral and multi-lateral arrangements.

Their study concluded that accumulation of external debt adversely affected Nigeria's gross domestic product. This is corroborated by Sulaiman and Azeez (2012) who studied the effect of external debt on the economic growth of Nigeria using gross domestic product as the endogenous variable measuring
economic growth as a function of ratio of external debt to export, inflation and exchange rate proxy as the exogenous variable and concluded that external debt has contributed positively to Nigeria economy.

External Debt and Inflation

External debt and inflation are expected to be inversely related at the short-run but positively related at the long-run. When money is injected into the economy through external borrowing, there is usually too much money in circulation which forces prices of goods up and hence inflation. This is mostly when the borrowed is hugely spent on recurrent expenditure like payment of workers' salaries, pension and other overhead maintenance expenses. Sulaiman and Azeez (2012) quoted that in their study that inflation is inversely related with external debt. This they argued that the external borrowing has made government expenditure to rise thereby increasing the inflation rate in the economy and major bulk of the external debt is expended on activities that provide social and political benefits rather than economic benefits.

External Debt and Investment

For a country, debt overhang can affect investments through two distinct effects. The first effect is the pure disincentive for investments which is the result of promised payments to creditors. When promised payments are present the country will receive a smaller share of any gain they have from investments (Obadan, (2004) and Onimode, (2000). This lowers the will to invest since the incentives are no longer as lucrative. This can also appear as capital flight from the country if no capital controls are in place. With promised payments accruing to creditors, there might be no profitable projects to undertake domestically so there will be a capital out-flow from the country.

The second effect, mentioned by Deshpande (1997), is adjustment effects related to debt overhang. These adjustments appear as a result from negotiations between creditors and debtors. The IMF is frequently involved in negotiations with indebted countries and the result is usually that the debtor countries are tasked to make policy changes, due to the implementation of austerity programs (Olaleye, 1997). Historically these changes have commonly resulted in exchange rate devaluations and attempts to reduce government deficits. Adjustment effects have potential negative influences on investments since policy changes might result in less fiscal activity and exchange-rate devaluations, which reduces public investments and makes capital imports more expensive.

External debt and balance of payments

Balance of Payments is one of the objectives of macroeconomics and/or has a significant role to play in the economic development of any nation (both developed and developing) (Anyanwu, 2007). Globalization and trade liberalization have made possible the production of goods and services and subsequently sold in the world market. So long as international trade place and money flows, then recording of the transactions is done in the balance-of-payments accounts (Audu, 2004). The recording takes the normal accounting principles of debit and credit entries or positive and negative sign. This balance-of-payments account is subdivided into: current account; capital account; and official financing and when added arrives at zero. In this account, the balance may be surplus, deficit and balanced. Surplus is when the debit side is greater than the credit side. The deficit occurred when the debit side is less than the credit side. The capital account records both the borrowing and lending of funds abroad by domestic residents and companies (Bello and Obaseki, 1999). It records the sale by domestic residents to foreigners of financial and real assets and vice versa. The sum of the balance on current and capital accounts is equal to the balance for official settlements or total currency flow.

Review of Empirical Studies

Oshikoya and Tarawalie (2010) investigated sustainability of fiscal policy of West African Monetary Zone (WAMZ) countries. Using annual time series data to perform co-integration for the period 1980 to 2008, their empirical result revealed that fiscal policy was weakly sustainable for all the countries under
investigation, including Nigeria. The areas of infrastructure of sustainability are human development and unsustainable in investment and infrastructure provisions.

Ariyo (1993) investigated fiscal sustainability in Nigeria over the period 1970 to 1990, using sustainability indicators. He found that the external debt to GDP ratio is inversely related to investment and infrastructural development in the country.

Jibao, S.S., Schoeman, NJ and Naraidoo, O .O (2012) applied conventional linear co-integration test, tested the asymmetry relationship between revenue and expenditure i.e. making a distinction between the adjustment of positive (budget surplus) and negative (budget deficit) deviations from equilibrium. They used quarterly data on South Africa. The authors found that fiscal policies were sustainable though the authorities in South Africa were more likely to react faster when the budget was in deficit than when in surplus and that the stabilization measures by government were fairly neutral at low deficit levels, that is, at quarterly deficit levels of 4% of GDP and below.

Lusinyan and Thornton's (2010) investigated the debt sustainability of the current account balances of ten ECOWAS economies in 1980 to 2006. The study employed Vector- Auto Regression technique of analysis. The results showed that, out of the ten countries, only Burkina Faso, Ghana and Nigeria had their current account balances sustainable through debt. Although, Nigerian current account sustainability provided an insight to the economic relationship between Nigeria and the outside world.

RESEARCH METHODOLOGY

Models Specification

The models were specified within the limitation of the variables of the study which include External debt Sustainability variables (namely total debt to GDP ratio (TDEBT/GDP), debt export ratio (TDEBT/EXPORT), debt total revenue ratio, (TED/TR), debt service payment-GDP ratio (DSP/GDP), debt service payment-export ratio (DSP/EXPT) and debt service payment to total revenue ratio (DSP/TR)) and selected economic development variables such as Gross Domestic Product (GDP), Investment (INV), human development index (HDNIG), infrastructure (Infrastruct) and net export (Netexpt)). The models to be estimated are expressed in functional notation as.

1. GDP= G(TEBT/GDP, TDEBT/EXPT, TED/TR, DSP/GDP, DSP/TR)
2. Netexpt = N(TEBT/GDP, TDEBT/EXPT, TED/TR, DSP/GDP, DSP/TR)
3. HDNIG = H(TEBT/GDP, TDEBT/EXPT, TED/TR, DSP/GDP, DSP/TR)
4. INV = I(TEBT/GDP, TDEBT/EXPT, TED/TR, DSP/GDP, DSP/TR)
5. Infrastruct = F(TEBT/GDP, TDEBT/EXPT, TED/TR, DSP/GDP, DSP/TR)

DATA PRESENTATION

Data for Gross Domestic Product (GDP), a proxy for economic growth and that for the measurement of debt sustainability namely, total external debt over GDP (TEDGDP), total external debt over export (TEDEXPT), debt service payment GDP ratio (DSPGDP), debt service payment over export (DSPEXPT), total external debt over total revenue (TEDTR) and debt service payment over total revenue (DSPTR) are presented in table 4.1 as follows.

Table 4.1: Data on GDP and Debt Sustainability variables

<table>
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<th>TEDGDP</th>
<th>TEDEXPT</th>
<th>DSPGDP</th>
<th>DSPEXPT</th>
<th>TEDTR</th>
<th>DSPT</th>
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<th>INFRASTRUCT</th>
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Discussion of Findings

From the analysis and findings made on the first research hypothesis, it was observed that debt service over gross domestic product ratio is inversely related with the gross domestic product. This finding is in consonance with Ayadi and Ayahi (2008), and Audu (2004) who concluded in their studies that external debt servicing is inversely related to economic growth. This is true because debt servicing is a leakage and hence reduces the volume of production in the economy. It was also inferred that debt service over export is inversely related to GDP. This finding corroborates Karagol (2002) who concluded in his study that external debt servicing is inversely related to export. Debt service over total revenue and total external debt over GDP ratio are found to be positively related to GDP. This finding supports Kasidi and Said (2013) who concluded in their study that total external debt is positively related to GDP. This is true because external funds if properly managed and for the purpose of the borrowing, it will boost the level of productivity and capital investment via improved GDP.

The result of model two shows that debt service over export ratio, total external debt over export ratio, total external debt over GDP ratio and total external debt over total revenue ratio are inversely related to net export. This result is in line with Okpara and Ihemacho (2015) who concluded in their study that total external debt over GDP ratio is inversely related with economic growth, and Obi (2014), whose conclusion in his study was external debt sustainability is inversely related with economic growth. It was also inferred in the analysis that debt service over export ratio, total external debt over export ratio, total external debt over total revenue ratio at lags 2 and 4, and total external debt over total revenue ratio at lags 1 and 3 are positively related with economic growth. This conforms to Amoetong and Amoako (1996) that concluded that debt servicing and GDP are positively related.

The analysis also revealed that debt service over export ratio; total external debt over GDP ratio and total external debt over total revenue ratio are inversely related to human development index. This result is in line with Kehinde and Awotundun (2012) that concluded that debt portfolio adversely affects real sector
growth, and Pattillo, Helene and Luca (2004) who concluded that external debt adversely affects physical capital accumulation. Also debt service over export ratio, debt service over GDP ratio, debt service over total revenue ratio and total external debt over export ratio are positively related to human development index. This finding conforms with Kasidi and Said (2013) who concluded that external debt is positively related to economic growth.

Investment was found not to be a significant function of debt sustainability variables. This might be as a result of siphoning of borrowed funds, mismanagement of investment-borrowed funds and embezzlement of borrowed funds meant for investment purposes.

The result of the analysis of hypothesis five revealed that none of the debt sustainability variable exerts significant impact on infrastructural provision in Nigeria. This may be as a result of siphoning of infrastructure-borrowed funds, awarding of white elephant projects, channeling of infrastructure borrowed funds to other sectors and bloating of infrastructure contracts. This will leave the infrastructure sector with little or no funds for development.

**Conclusion**

External debt is important in the economic growth and development of any economy, mostly the developing economies because it provides the much needed capital for industrialization and development or augment the existing domestic capital in the economy. Borrowing nations should be careful when going for foreign loans as it is a two-edge sword.

External financing has both negative and positive impacts to the debtor nations. As such there should be judicious use of the funds so as to optimize the reason for the borrowing. In conclusion, countries that are short of supply of funds or has less developed capital market should see external financing as the alternative to mobilize funds and develop the economy.

**Recommendation**

In the light of the findings, observations and inferences made in this study, the following recommendations are made:

- Government should ensure that borrowed funds are judiciously spent and solely for the purpose for which the borrowing is made.
- There should be periodic review and evaluation of projects where the borrowed funds are channeled into so as to timely dictate deviations in the course of delivering the projects.
- Government should negotiate for loans that have lowest interest rate and least burden on the economy.
- External loan should be seen as the resort when it is evidenced that the domestic savings cannot execute the proposed project.
- Borrowed funds should be invested highly in capital projects and not to finance elections or war torn areas.

**REFERENCES**


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