

**AFRREV IJAH**

An International Journal of Arts and Humanities

Bahir Dar, Ethiopia

Vol. 2 (3), S/No 7, July, 2013: 165-191

ISSN: 2225-8590 (Print) ISSN 2227-5452 (Online)

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**An Empirical Analysis of the Impact of Debt on the  
Nigerian Economy**

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**Abstract**

*The study assessed the Impact of Debt on selected macroeconomic indicators in Nigerian Economy. To achieve the aim of the study the researcher used External Debt Stock, External Debt service payment and Exchange Rate as variables to determine their effect on Gross Domestic Product (GDP), and Gross Fixed Capital Formation (GFCF) for the period 1980-2010. Data for the study were secondary data drawn from Debt Management Office, CBN Statistical Bulletin, and internet materials and analyzed with Linear Regression. The study found that Nigeria's external debt stock has a significant effect on her economic growth. It also revealed that there is a significant relationship between Nigeria's Debt service payment and her Gross Fixed Capital Formation. The researcher therefore recommend that government should avoid borrowing as much as possible however,*

*since developing countries need to borrow at one time or the other to supplement internal savings, borrowing then should become an option only when high priority projects are being considered and borrowed funds should be strictly monitored and evaluated to ensure they are used for the purpose for which they are borrowed and government should make policies that will promote industrialization which will in turn attract foreign direct investment.*

## **Introduction**

### **Background of the Study**

It is generally expected that developing countries facing scarcity of capital will acquire external debt to supplement domestic savings. Pattilo Economic theory suggests that reasonable levels of borrowing by a developing country are likely to enhance its economic growth Pattilo et al (2002). In order to encourage growth, countries at early stages of development like Nigeria borrow to augment what they have because of dominance of small stocks of capital. The history of Nigeria external debt dates back to 1958 when the sum of \$28 million was contracted for railway construction. Prior to 1978, the Nigeria external debt was not much and was sustainable. The Central Bank of Nigeria (CBN) report in 1989 stated that 91.4% of the debt came from official sources and were the concessionary types of loans from bilateral and multilateral agencies. Then, much importance was not attached to debt management by Nigeria Government (Eyiuche, 2003), not only that the economy then had a magnificent growth following the oil boom of the 70's Nigeria foreign debt profile witnessed a dynamic change after 1978 following the world oil glut. Much pressure was then exerted on government finances and it became necessary to borrow for balance of payment support and financing of developmental project.

The first major federal government borrowing of US \$1 billion from the international capital market (ICM) was referred to as “Jumbo loan” increasing her total external debt to \$22 billion. The condition worsened between 1981 and 1982 as various government agencies and

state governments resorted to deficit budgeting partly financed through external loans secured from private sources under stiffen conditions (CBN, 1989). The Debt Management Office (DMO) annual report and account (2001) reflected a 13.8% fall of official debt sources in favour of the private debt sources which rose again to an average of 82%. Trade arrears emerged by the end of 1982 constituting a large portion of the total external debt of the nation. The jumbo loan of 1987 was supported by the promulgation of decree No 30 of the 1978 which limited the external loans that the Nigerian government could raise to \$5 billion.

The increase in the size of Nigerian external debt was due to the preponderance of borrowing from international agencies and countries at non concessional interest rate. This borrowing came as a result of the decline in oil earnings from the late 70's and the emergence of high trade arrears due to inability of the country to neither easily produce nor foot the bills of importation of the needed goods and services.

Nigeria economic growth and development had been volatile in danger and highly discouraging despite the huge external loan profile before the year 2000. Within the 80's, the country experienced the most economic recession with declining growth rate, hyper inflation, and high unemployment rate, disequilibrium in balance of payment, industrial decadence, poor infrastructure and serious external debt burden. The poverty rate of the country stood at 65% and the country was classified as one of the weakest economies of the world on per capital basis.

The debt crisis of Nigeria reached a maximum proportion in year 2003 when the country was to transfer as much as \$2.3 billion to service its debts. According to Okonji-Iweala et al. (2003), the accumulated effect of the debt at maturity began to yield some serious strains on the nations macroeconomic indices. For example, the Naira was devalued, the nation's reserve and revenue started depreciating while inflation and unemployment intensified. These debt crises for Nigeria incidentally and fortunately coincided with the time the IMF and

World Bank was granting debt relief to some highly indebted poor countries of the world. The Heavily Indebted Poor Countries (HIPC)'s initiative and Multilateral Debt Relief Initiative (MDRI) were launched by the IMF and the World Bank in 1996 and 1999 respectively. The objective was to reduce the external debt of severely indebted poor countries to a sustainable level to enhance investment and further economic growth. They did not however, consider Nigeria as a poor country because of its oil deposit and high price of the oil. Getting relief on the premise of HIPC was near impossible. President Olusegun Obasanjo in conjunction with his finance Minister, Okonjo-Iweala had prioritized securing debt relief from the creditors as a cardinal objective of his administration because Nigeria already had a debt overhang problem having debilitating effects on her economy and that was the popular efficacy argument or justification for the provision of the debt relief. Consequent upon the foregoing argument, the HIPC initiative introduced some guiding principles regarding a country's eligibility for debt relief.

According to the principle, for a country to be considered for HIPC initiative, it must face an unsustainable debt burden beyond traditional available debt relief mechanisms and establish a track record of reform and sound policies through IMF supported programmes.

The HIPC initiative was further expanded in 1999 and provided more rapid debt relief to more countries. It integrated debt relief plans into a comprehensive poverty reduction strategy. The governance structure of the debtor countries was taken into account by the donor community for the first time. In addition, the thresholds for sustainable debt levels were redefined and lowered to a debt-per-export ratio of 150% and debt-to-revenue ratio of 250%.

A 2years policies support instrument was approved to monitor Nigeria economic reforms drive. Consequent upon that, Paris Club agreed to write off 60% of the \$30.85 billion (amounting to \$18 billion) owed to its club members. This deal was signed in July 2005, after which the country was able to effect the balance of 40%, thus, saving the country from the yearly \$2.3 billion debt service burden.

This debt relief is expected to put the economy on better springboard to accelerate the pace of growth and development and put the country on the path of economic recovery. To the contrary, the country appears to be deteriorating with higher rate of unemployment, lower living standard and poor poorer road network.

### **Statement of Problem**

According to Debt Management Office (DMO, 2006), Nigeria spent over \$32 billion for debt services between 1985 and 2001. Apparently, greater revenue of the country was devoted in servicing her debt thus playing down investment capital and economic growth in the country. However, Nigeria had a debt relief from Paris Club that saved the country from the yearly \$2.3 billion the government transferred to service its debt. It was proposed that this amount will then be available to be ploughed back and channeled to those areas that concern wealth creation, employment generation, agriculture, health, education, water supply, power generation and road construction. The country is therefore expected to be on the path of economic recovery characterized by improved power supply, greater budgeting allocation to health and education and improved living standard. The debt overhang models gave implication that large debt stocks lower growth by partly reducing investment with a resultant negative effect on poverty. Invariably, debt overhang relief should trigger economic growth; have stimulating effect on investment, development affect per capital income positively which is prerequisite for poverty reduction. Could this be said to be real in the Nigeria context or situation. Has this relief suffered from macroeconomic instability, policies that distort economic incentives or sizable adverse shocks? Prior to the relief, according to Soludo (2003), the country was on the wrong side of the debt-laffer-curve, with debt crowding out investment and growth. After the relief, what could still be crowding out investment and growth in Nigeria as the Human Development Index (HDI) as reported by United Nations Development Programme (UNDP) in 2011 ranked Nigeria 156 out of 187 countries of the world in terms of

her level of income and economic growth with a HDI of 0.429 in 2005, 0.45 in 2010 and 0.459 in 2011.

It is against this backdrop that the researcher intends to investigate the extent of economic recovery and the impact of debt on economic growth Nigeria.

### **Objective of the Study**

The study seeks to assess the impact of debt on selected macroeconomic indicators in Nigeria.

1. To determine the effect of Nigeria's external debt on her economic growth
2. To determine the relationship between debt service payment and Nigeria's Gross Fixed Capital Formation (GFCF).

### **Research Hypotheses**

- H<sub>0</sub>: Nigeria's external debt has no significantly effect on her economic growth.
- H<sub>0</sub>: There is no significant relationship between debt service payment and Gross Fixed Capital Formation.

### **Review of Related Literature**

#### **Concept of External Debt**

All countries have some kind of national debt, as a consequence of normal activity. Sometimes, countries accumulate unmanageable levels of debt due to particular economic crises. According to Pattillo et al (2002) Economic theory suggests that reasonable levels of borrowing by a developing country are likely to enhance its economic growth. Soludo (2003), is of the view that countries borrow for two broad reasons, higher investment, higher consumption (education and health) or to finance transitory balance of payments deficits to lower nominal interest rates abroad, lack of domestic long-term credit, or to circumvent hard budget constraints. This means that countries borrow to boost economic growth and reduce poverty. When economic

growth is enhanced, (at least more than 5% growth rate) the economy's poverty situation is likely to be affected positively. In order to encourage growth, countries at early stages of development like Nigeria borrow to augment what they have because of dominance of small stocks of capital hence they are likely to have investment opportunities with rates of return higher than that of their counterparts in developed economies. This becomes effective as long as borrowed funds and some internally ploughed back funds are properly utilized for productive investment and do not suffer from macroeconomic instability, policies that distort economic incentives, or sizable adverse shocks. Growth therefore, is likely to increase and allow for timely debt repayments. When this cycle is maintained for a period of time, growth will affect per capita income positively, which is a prerequisite for poverty reduction.

The history of Nigeria's debts dates back to 1958 when the sum of \$28 million was contracted for railway construction. Between 1958 and 1977, the level of foreign debt was minimal; as debt contracted during the period were the confessionals debt from bilateral and multilateral sources with longer repayment periods and lower interest rates constituting about 78.5% of the total debt stock. During this period, the oil price was high and paying debt service was no problem. However, from 1978, following the collapse of oil prices, which exerted considerable pressure on government finances, it became necessary to borrow for balance of payments support and project financing. This resulted to the promulgation of Decree No. 30 of 1978 limiting the external loans the federal government could borrow to ₦5 billion. The country continued to borrow on a large scale and its first major borrowing of \$1 billion, which was referred to as 'jumbo loan'. This was contracted from the International Capital Market (ICM) in 1978 increasing the total debt of the country to \$2.2 billion. The nation's borrowing increased with the entry of state governments into external loan contractual obligations. While the share of loans from bilateral and multilateral sources declined substantially borrowing from private sources also increased considerably. Thus, by 1982, the total external debt stock was \$13.1 billion.

Nigeria's inability to settle her import bills resulted in the accumulation of trade arrears amounting to \$9.8 billion, between 1983 and 1988. This insured and uninsured components were \$2.4 and \$7.4 billion respectively. A reconciliation exercise took place between 1983 and 1988 with London and Paris Clubs' reduced amount to \$3.8 billion with an accrued interest of \$1.0 billion bringing the total to \$4.8 in 1989.

The external debts rose further to \$33.1 billion in 1990 but declined to \$27.5 billion in 1991 and increased steadily to \$32.6 billion at the end of December 1995. The total debt outstanding at the end of 1999 was \$28.0 billion with Paris Club constituting the highest source with a share of 73.2% prior to the canvass made for debt cancellation. As at December, 2000, Nigeria's debt stock amounted to about 75% of GDP and about 180% of export earnings. Debt service due in 2000 was about \$3.0 billion or 14.5% of export earnings. As at December, 2010, the total debt of Nigeria stood at \$4,578.76 million.

### **Conceptual Issues on Debt Management/Relief**

Debt has a significant effect on global poverty. For example, borrowed money accrues interest which adds to debt and can lead to impoverished lands suffering because massive interest payments drain funds that are needed for things like infrastructure investment. Compound interest over a matter of decades can soon render a serviceable debt unserviceable. Between 1973 and 1993, developing countries' debt compounded at a rate of about 20% per annum, rising from \$300 billion to \$1.5 trillion, of which experts have claimed only \$400 billion was actual borrowed money. This continuous compounding and expansion in debt led to a search for a way out of indebtedness. This resulted in what is now known as Debt Relief. According to Akpa (2011) as coined from Wikipedia world encyclopedia, Debt relief is the partial or total forgiveness of debt, or the slowing or stopping of debt growth, owed by individuals, corporations, or nations. It went further to explain that from antiquity

through the 19th century, it refers to domestic debts, in particular agricultural debts and freeing of debts and freeing of debt slaves. In the late 20<sup>th</sup> century, it came to refer primarily to Third World debt, which started exploding with the Latin American debt crisis (Mexico, 1982 etc). In the 21<sup>st</sup> century, it is of increased applicability to individuals in developed countries, due to credit bubbles and housing bubbles. In his opinion, Black (2002) defined Debt relief as an agreement by the creditors of an indebted firm or country to accept reduced or postponed interest and redemption payments from the debtors. This may be in the interest of creditors if they believe they can expect more from debtors making real efforts to pay tolerable bills than from hopelessly insolvent debtors who would be liable simply to default.

Today, there is a wide spread political acceptance of the need to address debt, either by providing assistance in coping with debt or writing it off. Debt relief is therefore one of the leading issues in development and international relations today. There are, however, numerous motivations for supporting debt relief, ranging from humanitarianism to managing and stabilizing the international financial system.

### **Nigeria's Journey to Securing Debt Relief**

As part of its struggle to reduce or eliminate her debt burden, Nigeria embarked on the journey of debt relief. This journey became paramount when her debt crisis reached a maximum proportion in 2003, when the country was to transfer a lump sum of \$2.3 billion to service its debt. This happens to be the period that the world leaders were granting debt relief to some highly indebted poor nations of the world. But Nigeria was not however considered as a poor nation because of its oil production owing to the fact that oil had maintained an all time high price range since 1999. But the then president, President Olusegun Obasanjo and his finance minister Okonjo-Iweala had seen it as a priority to secure debt relief for the nation because the country already had debt overhang problem which was having a debilitating effects on the economy in terms of resource available to

service debt, its overcrowding effects on private investments and its constraints on the growth and development of the nation.

Between 1983 and 2005 Nigeria's debt rose to the tune of \$34 billion, according to Obadan, (2004) this resulted to budget deficit problem, which frustrated the achievement of other macroeconomic objectives. Okonkjo-Iweala speaking in a Press interview in February 2005, said that Nigeria's external debt stood at \$34 billion, about \$28 billion or 85% of the debt is owed to Paris Club of 15 creditor nations, 8% of the debt is owed to multilateral institutions such as the African Development Bank and the World Bank whilst the balance 7% is owed to the London Club of commercial creditors and holders of Promissory Notes. However, Okonjo Iweala was able to put up a very strong argument which earned Nigeria \$18bn debt relief which happened to be Africa's largest debt relief ever granted.

### **Nigeria's External Debt Management Strategies**

External debt management should require estimates of foreign exchange earnings, sources of external finance and the repayment schedule of debt obligations (CBN, 1996). In 1980, management of external debt became a major responsibility of the CBN. This necessitated the setting up of a department in collaboration with the Federal Ministry of Finance to manage the external debt of the nation. According to Adepaju (2007) the debt management strategies and measures varied from time to time since the early 1980s when the external debt became obvious. According to him, the following measures were used as guidelines to external borrowings:

- Economic sector should have positive Internal Rate of Return (IRR) as high as the cost of borrowing i.e. interest.
- External loans for private and public sector projects with the shortest rate of return should be sourced from the international capital market while loans for social services or infrastructure could be sourced from confessional financial institutions.

- State government, parastatals, private sector borrowing receive adequate approval from the federal government so as to ensure that the borrowing conforms to the national objectives.
- Projects to be financed with external loan should be supported with feasibility studies which include loan acquisition, deployment and retirement schedule.
- State governments and other agencies with borrowed funds should service their debts through the foreign exchange market and duly inform the Federal Ministry of Finance for record purposes. Any default will attract deduction (in Nigeria equations) at source before the release of statutory allocations.
- Private sector industries that are export-oriented are expected to service their debt from their export earnings while others should utilize the foreign Exchange Market facilities for debt servicing.

From time to time, the Federal government adopted different strategies to curb the debt problems of Nigeria. Such strategies include:

- (a) During the 80s the Federal government placed an embargo on new loans and issued directives to state government to restrict external borrowing to the barest minimum. The embargo was to check escalation of total debt stock and minimize additional debt burden.
- (b) Limit on debt service payments: this required setting aside a portion of export earnings to allow for internal development.
- (c) Debt Restructuring: this involved the reduction in the burden of an existing debt through refinancing, rescheduling, buy back, debt funding and provision of new money.
- (d) In the year 2000, the federal government established a semi-autonomous debt management office under the presidency.

The creation of DMO consolidated the debt management functions in a single agency, ensuring proper coordination of the country's debt recording and management activities, including debt service forecast, debt service repayments, and advising on debt negotiation as well as new borrowings.

### **Debt Relief and its Impact on Growth**

Any debt relief would be economically irrational if the success was low. Therefore, future policy measures should be based on careful analysis with respect to effectiveness (and efficiency). Debt relief is meant to be an instrument to reduce debt overhang, to diminish poverty, to increase growth and to improve governance structures. Hernandez and Katada (1996) in analyzing grants and ODA debt forgiveness to 32 Sub-Saharan African countries, reveal that debt relief did not reduce the debt overhang problem of Sub-Saharan African countries at all but that the nominal debt stock of many countries even doubled between 1984 and 1993 and their arrears increased drastically.

At a broader level, debt relief can have serious macroeconomic consequences, in terms of credit availability and price, the level of foreign investment, and potentially inflation, the interest and exchange rate depending on the structure of debt relief expenditures. It is difficult to identify the macroeconomic impacts of debt relief in Nigeria, due to the diverse influences of the reform agenda. However, any negative effects of debt relief do not seem to have dominated the overall net positive trend in Nigeria's macroeconomic performance. In September 2007, the IMF's fourth PSI review stated 'while benefiting from a positive external environment, a stronger policy framework was pivotal in delivering improved macroeconomic performance' IMF (2007). In fact, the debt deal played an important role in securing the first ever international sovereign credit rating for Nigeria. In 2006, both Fitch and Standard & Poor's credit rating agencies gave Nigeria a BB-rating. This rating opened the door for greater foreign investment into Nigeria, which can help stimulate growth and development in the economy.

The reduction in debt stock, and the corresponding reduction in foreign debt servicing, immediately freed up resources. It released roughly \$1 billion a year to the Nigerian government: \$750 million in savings for the Federal Government, and an aggregate of \$250 million to the state governments. As with all debt relief, this was not external financial assistance, but rather government funds that were no longer tied to debt repayments. These savings will be referred to as ‘debt relief expenditures’ or ‘debt relief funds’.

In the first year, it provided funds for the training of 145,000 teachers, 166 new primary health centres across the country, 400,000 insecticide-treated bed nets, a million doses of anti-malaria medicines, 4000km of rural roads, amongst other projects across a myriad of sectors.

According to Martin Alsop and Daniel Rogger (2008), in the 2007 and 2008 Budget, additional spending of \$750 million on poverty reducing programmes and projects ensured increased spending on core social infrastructure. The funds were also used to introduce a series of innovative delivery mechanisms for social spending. \$75 million was granted to the National Poverty Eradication Programme to fund Nigeria’s first comprehensive social safety net scheme. The safety net scheme had previously been designed, but had not been able to secure funding from a disinterested National Assembly.

A further \$150 million was put aside to increase the resources available for basic services at the local government level. The office managing the debt relief designed a conditional grants scheme that would both find MDG-related projects at the state level, and through a matching component, leverage some of the \$250 million of state debt relief towards MDG-related projects.

Both social protection and intergovernmental coordination are critically important in a poor federal country like Nigeria. Until debt relief funds were made available, neither a social safety net scheme, nor a broad-based conditional grants scheme, were thought to be close to becoming a reality. The flexibility of the virtual poverty fund made

such innovations in public expenditure management possible. The debt relief was not aiming to provide additional funds to particular sectors only, but rather act as “an entry point for improvements in the way government worked at all tiers that would reinforce and introduce initiatives and then scale up the successes to the wider budget envelope” Presidency of Nigeria (2007).

Combined with a series of planning and budgeting reforms made possible by the existence of the debt relief, these schemes were warmly welcomed by the national and international communities as real progress in developing Nigeria’s welfare state. The activities associated with the expenditure of debt relief were seen to have been one of the most effectively managed and positively impacting aspects of the government’s budgetary expenditures. The World Bank’s Public Expenditure and Financial Accountability Review (2007) called it ‘critically important program’ of government.

### **Implications of Debt Overhang on Growth and Development of the Economy**

The history of Nigeria’s external debt dates as far back as to 1958 the period during which \$28 million was contracted for railway construction. Between 1958 and 1977, the level of foreign debt was minimal but as time went on, the debt of the nation escalated. In 2003, the debt crisis of Nigeria reached a maximum proportion when the country had to transfer a lump sum of \$2.3 billion to service its debt. This began to have deliberating effect on the economy. The high debt burden began to have grave impact on the economy and the welfare of the people. The servicing of the external debt severely encroached on resources available for socio economic development and poverty alteration. However, Nigeria took a decision since 1986 to limit debt service to not more than 30% of oil receipts but this did not bring much relief. According to Ajayi as cited by Okonjo-Iweala et al (2003), external debt pose serious challenges on the economy for a number of reasons; first, the external debt could be enormous relative to the size of the economy and this can lead to capital flight, discouragement of investments, etc; second, debt servicing payments

absorb a major proportion of export earnings and other revenues that would have been used to provide essential facilities to improve the general welfare of the citizenry; third, it could lead to debt burden with its attendant problems in a developing economy. In all, external debt just like capital flight could create unfavourable macroeconomic environment.

Between the period of 1985 and 2001, the country spent over \$32 billion just to service external debt. Prior to the recent rescheduling arrangement with the Paris Club, creditors annual debt service payment due were in the range of \$3 to \$3.5 billion. Debt service due as at 2000 was over \$3.1 billion which is approximately 14.5% of export earnings, excluding arrears of \$19.6 billion owed to members of Paris Club. Actual debt service outlay in year 2000 was \$1.9 billion (about 4 times federal government's budgeting to alleviate education and about 12 times the allocation to health). Yet the two sectors had immediate need for substantial public expenditure to upgrade the level of facilities and services for any meaningful alleviation of poverty to take place. This problem of debt overhang is adversely impacting on the Nigeria's economy in the inflow of foreign investments. Due to the problem with servicing her debts, Export Credit Guarantee Agencies (ECGAs) suspended insurance cover for exports of goods and services as well as investment capital to the country. Consequently the much needed inflow of foreign resources for investment stimulation, growth and employment has so far been hampered. Without credit cover, Nigerian importers are required to provide 100% cash covers for all orders and this therefore place them on a very competitive disadvantage compared to their counterparts from other nations. This situation exacerbates the pains of external burden as it blocks off the relief that would have been received through speedy economic recovery, growth and development.

In addition, external debt burden has resulted in repudiation risk because we are unable to obtain new loans due to little confidence placed on our ability to repay. The prospects are therefore dim for immediate resumption of net resource transfer from international

sources to Nigeria through traditional means. The IMF severe conditionality for Nigeria is a case point. A severe reduction in net capital inflows and the imposition of a net capital outflow over an extended period have consequences on the prospects of economic development in Nigeria. In the face of dwindling oil revenues due to oil glut and fast falling prices but rising imports, balance of payment difficulties are bound to rise i.e. external liabilities will rapidly increase, therefore raising the real resource cost of the original loans while leading to future foreign exchange crisis. Also, the cost of import substitution will rise. This is because, this sector contributes heavily to external debt service and to profit and dividend outflows. For example, as a result of the nation's inability to service her debt before year 2000, there were severe austerity measures on the nation in an attempt to survive the external debt crisis or burden.

#### **Other Authors' View**

In other research, Worlu (2011) studied the Strategies for External Debt Management in Nigeria (1993-2008). The aim of this study was to examine the difference in GDP before and after debt management strategies and to determine the extent to which external debt servicing influences economic development in Nigeria. The study revealed that there is no significant different in GDP before and after debt management strategies, that there is a significant relationship between Nigeria's economic growth and external debt servicing.

In a related study by Adesola (2009), examined Debt Servicing and Economic Growth in Nigeria: An Empirical Investigation using ordinary least square multiple regression method to determine whether debt payment to Multilateral Financial creditors, Paris Club creditors, London Club creditors, Promissory notes holders and Other creditors (Non-Paris Creditors) have inverse relationship with gross domestic product (GDP) and gross fixed capital formation at current prices (GFCF) from 1981 to 2004. The study revealed that debt payment to London Club creditors, Paris Club creditors, Promissory notes holders and Other creditors have significant impact on the GDP and GFCF. Debt payment to Paris Club creditors and debt payment to promissory

notes holders are positively related to GDP and GFCF, while debt payment to London Club creditors and other creditors showed a negative significant relation to GDP and GFCF.

In another study carried out by Ndubuisi (2011) on the Effect of External Debt Relief on Sustainable Economic Growth and Development in Nigeria using Chi-square, Regression and Correlation analysis to test the relationship between external and internal debt stock in relation to debt relief, he found that there is a relationship between external and internal debt stock in relation to debt relief, that debt relief affected the economic growth of the economy and that gradual reforms and investments will help bring back a healthy economy for the nation.

In a similar study Impact of External Debt Management on Selected Macroeconomic Indicators in Nigeria (1970 – 2010), Okegbe (2012) used Regression analysis to analyze the extent to which external debts and its service costs impacted on such macroeconomic indicators as Gross Domestic Product (GDP), Total Export, Total Revenue, Total Reserve and Exchange Rate. The study showed that debt utilization, diffusion in the management of loans, poor documentation and deficient external debt accounting and politics in the management of debt in the 80's and 90's, our macroeconomic indicators had a negative trend thus aggravating debt burden at that period.

One thing common with these studies is that they concentrated on debt stock and economic growth. So far, all the studies revealed that the burden of Nigeria's external debt cannot be overemphasized as it has a deliberating effect on the economic growth of the nation.

## **Methodology**

### **Research Design**

To study trends in the management of Nigeria's external debt the researcher adopted a descriptive research design.

The data for the study consist of secondary data only, generated from Central Bank of Nigeria (CBN) bulletin, Debt Management office and other relevant materials.

### **Method of Data Analysis**

In order to achieve the objectives of the study, Simple regression method of data analysis technique was adopted by the researcher. Figures for analysis where Gross Domestic Product (GDP) was regressed against External debt stock while Gross Fixed Capital Formation (GFCF) was regressed against external debt servicing. The model used is shown below:

$$Y = a + bx$$

Where  $y$  = dependent variable

$X$  = independent variable

$a$  = intercept of  $y$

$b$  = regression coefficient

### **Data Presentation and Interpretation**

**Test of Hypothesis 1:** *There Nigeria's external debt stock has no significant effect on her economic growth.*

### **Interpretation of Results**

Developing the Regression Model:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \epsilon_i$$

Defining Model Variables:

$Y$  Gross Domestic Product {Dependent variable}

$X_1$  Exchange Rate (ER) {Independent variable}; and,  $\beta_1$  coefficient of  $X_1$

$X_2$  External Debt Stock (EDS) {Independent variable}; and,  $\beta_2$  coefficient of  $X_2$

$\epsilon_i$  error term

### **Table 1: Model Summary**

Table 1 showed **R Square, coefficient of determination**, i.e. the squared value of the multiple correlation coefficient value to be .907; meaning that, approximately 90.7% of the variance in the dependent variable (GDP) is explained by the model (External Debt Stock and Exchange Rate). **Adjusted R Square** value is .900 (approximately 90% of model accuracy).

ANOVA Table 2: From the ANOVA table which uses the computed F-value to test the acceptability of the model from a statistical perspective, the decision criterion is stated below as follows:

$F_{\text{calculated}} > F_{\text{table value}}$                       **Reject the null hypothesis**

$F_{\text{table value}} > F_{\text{calculated}}$                       **Accept the null hypothesis**

Since:         $136.394 > 3.34$  (0.05), the null hypothesis is rejected and the alternate accepted. Thus, Nigeria's external debt stock has a significant effect on her economic growth.

Fitting coefficients of the regression model, the B value obtained from the coefficients table under the un-standardized coefficients is used:  $Y = -324116.897 + 206903.605X_1 + -4.415X_2$

**Test of Hypothesis 2:** *There is no significant relationship between debt service payment and Gross Fixed Capital Formation.*

### **Interpretation of Results:**

Developing the Regression Model:

$$Y = \alpha + \beta_3X_3 + \beta_4X_4 + \epsilon_i$$

Defining Model Variables:

Y      Gross Fixed Capital Formation    {Dependent variable}

X<sub>3</sub>      Exchange Rate (ER) {Independent variable}; and, β<sub>3</sub>  
coefficient of X<sub>3</sub>

X<sub>4</sub>      External Debt Stock (EDS) {Independent variable}; and, β<sub>4</sub>  
coefficient of X<sub>4</sub>

ε<sub>i</sub>      error term

Model Summary Table: The table showed **R Square, coefficient of determination**, i.e. the squared value of the multiple correlation coefficient value to be .694; meaning that, approximately 69.4% of the variance in the dependent variable (GFCF) is explained by the model (Debt Service Payment and Exchange Rate). **Adjusted R Square** value is .673 (approximately 67.3% model accuracy).

ANOVA Table: From the ANOVA table which uses the computed F-value to test the acceptability of the model from a statistical perspective, the decision criterion is stated below as follows:

$F_{\text{calculated}} > F_{\text{table value}}$       **Reject the null hypothesis**

$F_{\text{table value}} > F_{\text{calculated}}$       **Accept the null hypothesis**

Since:      31.817 > 3.34 (0.05), the null hypothesis is rejected and the alternate accepted. Thus, there is a significant relationship between Nigeria's debt service payment and Gross Fixed Capital Formation.

Fitting coefficients of the regression model, the B value obtained from the coefficients table under the un-standardized coefficients is used:

$$Y = -69901.36 + 11432.086X_3 + -.554X_4$$

### **Summary of Findings**

In view of the analysis above, the findings of the study are as follows:

- Nigeria's external debt stock has a significant effect on her economic growth.
- There is a significant relationship between Nigeria's debt service payment and Gross Fixed Capital Formation of the period under review.
- Exchange rate fluctuations affect external debt stock, external debt service payment and the nation's economic growth.

### **Implications of the Findings**

The results above showed that:

1. Nigeria's external debt affects her economic growth, as revealed in the regression formula  $Y = -324116.897 + 206903.605X_1 + -4.415X_2$ . That is, for every increase in external debt, there is a corresponding decrease in GDP. In other words, when external debt increases by N1, GDP decreases by N3.2 million. This shows a negative correlation between the gross domestic product and external debt stock of the nation.
2. Any increase in exchange rate increases the debt stock and in turn reduces the GDP and Gross Fixed Capital Formation and so far, the exchange rates in the period under review has been on the increase, it only noticed a infinitesimal decrease at some point in time.
3. Debt service payment has a great burden on the nation's gross fixed capital formation. This means that, the fund that would have been channelled to the development and procurement of fixed assets are being channelled to the servicing of external debt as revealed in the following formula  $Y = -69901.36 + 11432.086X_3 + -.554X_4$ . Every increase in debt servicing results in a reduction in gross fixed capital formation.

## **Conclusion**

From the discussion of results and findings revealed by the study, the researcher concludes that in as much as every nation needs to borrow in order to finance its project and develop its economy, there is need to put some checks on its borrowings as was evidenced during the 80's when the federal government placed an embargo on . Also, there is a vital need for proper management and accountability for money borrowed. It is pertinent to note also that channeling borrowed funds to the purpose in which they are borrowed will go a long way to bring sustainable development to the nation.

## **Recommendations**

In line with the findings and conclusion made, the researcher recommends as follows: In September 2007, the IMF's fourth PSI review stated 'while benefiting from a positive external environment, a stronger policy framework was pivotal in delivering improved macroeconomic performance' IMF (2007).

1. Government should try as much as possible to circumvent all forms of borrowing however; borrowing should only become an option when high priority projects are being considered.
2. Government should ensure that borrowed funds are channelled towards those projects for which it is borrowed.
3. The DMO should make policies that will ensure that borrowed funds are properly invested and monitored for accountability and transparency.
4. Government should create enabling social-economic environment that will promote industrialization which will in turn attract foreign direct investment.

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## APPENDIX I

### Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.833 <sup>a</sup>	.694	.673	4.18978E5

a. Predictors: (Constant), Debt Service Payment, Exchange Rate

## APPENDIX II

### ANOVA<sup>b</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.117E13	2	5.585E12	31.817	.000 <sup>a</sup>
	Residual	4.915E12	28	1.755E11		
	Total	1.609E13	30			

a. Predictors: (Constant), Debt Service Payment, Exchange Rate

b. Dependent Variable: Gross Fixed Capital Formation

### Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-69901.369	104017.633		-.672	.507
	Exchange Rate	11432.086	1535.865	.919	7.443	.000
	Debt Service Payment	-.554	.359	-.191	-1.543	.134

a. Dependent Variable: Gross Fixed Capital Formation

### APPENDIX III

#### Nigeria External Debt Stock Profile Vs GDP 1980 – 2010

YEAR	EXTERNAL DEBT STOCK (\$'000)	EXCHANGE RATE	EXTERNAL DEBT STOCK (N'000)	GDP (N '000)
1980	3428.47	0.5445	1,866.80	49,632.30
1981	3665.41	0.636	2,331.20	47,619.70
1982	13159.36	0.6702	8,819.40	49,069.30
1983	14129.98	0.7486	10,577.70	53,107.40
1984	18320.80	0.8083	14,808.70	59,622.50
1985	18,904.00	0.9996	18,896.44	67,908.60
1986	25,574.00	3.3166	84,818.73	69,147.00
1987	28,316.00	4.2989	121,727.65	105,222.80
1988	30,693.00	5.353	164,299.63	139,085.30
1989	31,586.00	7.65	241,632.90	216,797.50
1990	33,099.00	9.0001	297,894.31	267,550
1991	33,730.00	9.7258	328,051.23	312,139.70
1992	27,564.80	19.7597	544,672.18	532,613.80
1993	28,718.20	22.07	633,810.67	683,869.80
1994	29,428.86	21.89	644,197.75	899,863.20
1995	32,584.80	21.8861	713,154.19	1,933,211.60
1996	28,060.00	21.8861	614,123.97	2,702,719.10
1997	27,087.80	21.8861	592,846.30	2,801,972.60
1998	28,773.54	21.886	629,737.70	2,708,430.90
1999	28,039.21	92.5284	2,594,423.24	3,194,015.00
2000	28,273.68	109.55	3,097,381.64	4,582,127.30
2001	28,347.00	112.4864	3,188,651.98	4,725,086
2002	30,991.87	126.4	3,917,372.37	9,912,381.30
2003	32,916.81	135.4067	4,457,156.62	8,487,031.60
2004	35,944.66	132.67	4,768,778.04	11,411,066.90
2005	20,477.97	130.40	2,670,327.29	14,572,239.10
2006	3,544.49	128.27	454,651.73	18,564,594.70
2007	3,654.21	117.97	431,079.85	20,657,317.70
2008	3,720.36	132.56	493,170.92	23,842,170.70
2009	3,947.30	150.66	594,700.22	25,783,677.80
2010	4,578.77	149.58	684,892.42	39,279,684.60

Source: CBN Bulletin and DMO

## APPENDIX IV

### Nigeria's External Debt Stock Payment Vs GFCF 1980 – 2010

YEAR	EXCHANGE RATE	DEBT SERVICE PAYMENT (\$'000)	DEBT SERVICE PAYMENT (₦'000)	GROSS FIXED CAPITAL FORMATION
1980	0.5445	202.75	110.40	10,841.20
1981	0.636	815.25	518.50	12,215.00
1982	0.6702	1,156.67	775.20	10,922.00
1983	0.7486	1,786.00	1,337.00	8,135.00
1984	0.8083	3,111.59	2,515.10	5,417.00
1985	0.9996	1,500.70	1,500.10	5,573.00
1986	3.3166	1,278.60	4,240.60	7,323.00
1987	4.2989	740.00	3,181.19	10,661.00
1988	5.353	1,581.90	8,467.91	12,383.70
1989	7.65	2,168.30	16,587.50	18,414.10
1990	9.0001	3,572.40	32,151.96	30,626.80
1991	9.7258	3,435.00	33,408.12	35,423.90
1992	19.7597	2,392.60	47,277.06	58,640.30
1993	22.07	1,772.50	39,119.08	96,915.50
1994	21.89	1,843.00	40,343.27	105,575.50
1995	21.8861	1,620.60	35,468.61	141,920.20
1996	21.8861	1,876.60	41,071.46	204,047.60
1997	21.8861	1,496.60	32,754.74	242,899.80
1998	21.886	1,272.54	27,850.81	242,256.30
1999	92.5284	1,724.90	159,602.24	231,661.70
2000	109.55	1,716.01	187,988.90	331,056.70
2001	112.4864	2,128.17	239,390.18	327,135.70
2002	126.4	1,168.40	147,685.76	499,681.50
2003	135.4067	1,809.28	244,988.63	865,876.50
2004	132.67	1,754.75	232,802.68	863,072.60
2005	130.40	8,940.91	1,165,895.19	804,400.80
2006	128.27	6,727.84	862,980.04	1,546,525.70
2007	117.97	910.90	107,456.46	1,915,348.80
2008	132.56	460.73	61,074.10	2,030,510.00
2009	150.66	428.04	64,488.51	2,184,828.76
2010	149.58	354.42	53,013.48	2,403,311.64

Source: CBN Bulletin and DMO