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External Debt and Nigeria'S Economic Growth Nexus, Matters Arising

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Abstract
This study focuses on the impact of external debt on economic growth of Nigeria and in order to carry out an empirical analysis a Simple Regression analysis of the least square method of parameter estimator was done. The significance of the estimated parameters was also subjected to tests like Analysis of Variance, Student t- test, Correlation coefficient (R) and Coefficient of determination R^2. The empirical results via the parameters' estimates revealed that external debt and debt service have negative and positive influence respectively, though the external debt's estimate was not too strong, on economic growth. The empirical Student t-test and F-statistic when compared with theoretical table values at both 1% & 5% significance level, suggests the acceptance of Null hypothesis stated for equation I which confirms the validity of the negative impact of external debt on economic growth of Nigeria and the acceptance of Alternative hypothesis for equation II which confirms the positive significant relationship between economic growth and debt service. However, the R^2 of 53% and 64% reveal that the equations of the models were well fitted that is the independent variable was adequately explained by the explanatory variables. In view of the negative contribution of external debt to economic growth, it is recommended among others, that cost-benefit analysis, prioritization of projects, absorptive capacity of the economy, investment on productive self-financing projects, probity as well as accountability in handling government resources and debt sustainability should form the basis for contracting external debt finance.

INTRODUCTION

The availability of financial resources at a country's disposal does not necessarily mean that such country is absolutely robust to cater for all its financial and non financial statutory obligations and this is evident as what is popularly known as budget deficit. Since good governance calls for adequate provision of public infrastructures that are capable of catalyzing both the economic growth and private sector development, the challenge of budget deficit has to be addressed. The problem of economic scarcity of resources (as created by the shortfall of country's domestic savings over investment) has often constrained government conscious effort in actualizing its macroeconomic goals. It is a general belief that any country that is constrained by the problem of inadequate capital formation will acquire external debt to complement domestic resources. No wonder, governments adopt debt finance to bridge the vacuum created by the financial inadequacy in the proposed expenditure and expected revenue within a fiscal period. Governments usually borrow in principle to finance public goods that increase welfare and promote economic growth. According to Ezeabasili (2006), external borrowings by Less Developed Countries (LDCS) are necessary to supplement the inadequacy of their domestic financial resources and to allow for effective functioning of a productive economy. (Gana, 2002) established that external loan is desirable and necessary to accelerate economic growth provided it is channeled towards increasing the productive capacity of the economy and promote economic growth and sustainability. But as good as the use of external debt for the revitalization of an economy is, Summers (1986) believed that excessive external debt burdens will threaten financial stability with adverse consequence on the real sector of the economy and that an increase in debt stock will create political pressures that will make acceleration of inflation inevitable. The external debt problem, which poses quite a number of adverse effects on the economies of these developing countries, did generate macroeconomic distortion issues such as capital flight, discouragement of private investment and debt servicing payments. Meeting debt service obligations drastically affects other facilities which can be provided to improve the welfare of the citizenry and also crowd out public investment while insufficient public infrastructures discourage private investment.

It is no exaggeration to claim that Nigeria's experience of huge external debt burden was one of the serious after-effects of the Structural Adjustment Programme (S.A.P) introduced in 1986 by the Gen. Babangida administration. The resulting high level of debt service payment prevented the country from embarking on larger volume of domestic investment, which would have enhanced growth and development. However, given the number of years since Nigeria's independence and the substantial debt she had incurred especially before the debt relief granted in year 2005, coupled with the existing debt regulatory and management institutions, one may easily be tempted to claim that the entire spectrum of the economy has not been sufficiently active, especially when compared with the economy of developing countries of similar or lesser age.

There appears to be a serious gap between the use of foreign borrowing and the economic growth of the country-

Nigeria and as such in this study, an empirical analysis of the impact of external debt up to the year 2011 has been done. In doing this, an attempt to explore the cause of this economic growth gap with emphasis on the effect of debt service, and debt overhang on the economic growth of Nigeria was carried out .

2.0 REVIEW OF LITERATURE

It is believed that debt is generated by the gap between domestic savings, investment and export earnings which increases in absolute terms overtime. As the gap widens and debt accumulates, interest charges also accumulate and a country tends to borrow more to maintain constant flow of net imports and to refinance maturing debt obligations. Some theorists have often found escapist support in the two-gap theory approach of Chenery (1966), which stipulates that external debt stocks on their own have no bearing with the debtor nation's development, but what actually matters is the use to which such loans have been put. The debt burden of a country inevitably imposes a number of constraints on its growth prospects. The burden of principal and interest payments, for instance, drains the nation's resources and curtails the possible expenditure of resources on other productive ventures and this is even more constraining considering that the income from which debts are to be serviced is very little and often denominated in foreign currency with the risk of exchange rate volatility. According to Ayadi (1999; 2003), external debt burden and its attendant obligations had dramatically limited developing countries' participation in the world economy and the attendant debt servicing obligations continue to manifest as an impediment to economic growth and development. Regrettably, one of the greatest problems many Sub-Saharan African countries face today is the problem of ascertaining the amount of their external indebtedness.

In giving a background to the genesis of debt accumulation in Nigeria, the history dates back to 1958 when a sum of $28million was contracted for railway lines construction. But, most contracted loans of the 70's were concessional in nature from either bilateral or multilateral sources with longer repayment periods and lower interest rate. These external funds were deployed to developmental projects and constituting about 78.5 percent of the total debt stock. Subsequently buoyant oil revenues in the 1970s provided Nigeria with the basis for large but unsustainable increases in incomes and public expenditure. Agriculture was neglected and the economy became heavily dependent on crude oil and more vulnerable to external shocks. These led to fundamental changes in the structure of the Nigerian economy and when the oil revenues collapsed following the glut in the International Oil Market in the late 70s and early 1980s, the country faced an acute economic crisis. The inability of the government to shift gears in the face of changing economic fortunes, forced the country to resort to external borrowing and at the same time adopt a deficit financing policy. This marked the beginning of an increase in borrowing from private sources as against that of bilateral and multilateral sources which are characterized by softer loan terms. Between 1958 and 2004, Nigeria's external indebtedness rose from US$28million to over US$35billion and external debt as a percentage of the GDP was 100 percent in 1990, 66 percent in 2000 and 75.6 percent in 2004. At present, the total public external debt stock outstanding soared from US$4,578.77 million in 2010 to US$5,666.58 million in 2011, representing 23.76% increase from 2010. Federal and sub–national governments account for 61.79% and 38.21% respectively of the total external debt outstanding in 2011. Multilateral debts constituted US$4,568.92 million or 80.63% of the total, compared to US$4,578.77 million or 92.12% of total external debt recorded in 2010, while the non-Paris and other commercial debts accounted for US$1,097.66million or 19.37% of the total external debt stock.

The major lesson from literature as related to the "standard growth with debt" is that a country should borrow abroad as long as the capital thus acquired produces a rate of return that is higher than the cost of the foreign borrowing. In that wise, the borrowing country is increasing its capacity and expanding output with the aid of foreign savings. In theory, it is possible to calculate the sustainable level of foreign borrowing, based, for example, on the Terms, Maturity, and availability of Foreign Capital. But in practice, the task is nearly impossible, since such information is not readily available. Thus, various ratios such as that of Debt to Exports, Debt Service to Exports, Interest payments to Exports, and Debt to Gross Domestic Product or (Gross National Product) have become standard measures of sustainability even though it is difficult to determine the sustainable level of such ratios. Debt sustainability in this regard is defined by Adegbite (2012) as the ability of a country to meet its external debt obligations in full without future recourse to debt rescheduling, debt relief, accumulation of trade arrears over a medium or long term and without compromising macroeconomic objectives. The main practical value of the above measures is to warn of potentially explosive growth in the stock of foreign debt. An additional foreign borrowing that increases the debt-service burden far more than it increases the country's capacity to sustain it drives an economy to a position of disequilibrium except if there is outright expansion in gross exports. Otherwise, more borrowings will be needed for repayments hence external debt will continue to grow faster than the country's capacity to service it. However, (Patella, Ricci, & Poirson, 2002) are of the opinion that a country's sustainable level of foreign borrowing should depend on the relationship between its foreign and domestic saving, investment, and economic growth. Economic Growth as described by Adegbite (2007) is a state of economy where all the resources of the economy are fully employed and output and income are growing at the maximum sustainable rate. But the big question to be asked here is that; "Is there any relationship between economic growth and government's external borrowing?" In an attempt to provide answer

to this question, several empirical works have been carried out most particularly on the appraisal of the effect of external debt on economic growth and development in developing countries.

Some scholars argued that large debt service payments made by LDCs retard their growth and development. While some studies like those of (Ajayi, 1991; Adam, 2004; Kumar, McLambo, & Savvides 1996; and Iyoha, 1999) concluded that rapid growth of external debt stock and debt service payments were serious impediments to national economic growth and recovery as a large volume of the current resources was being deployed to servicing debts accumulated in the past with little left for fresh investments. In the same vein, many LDCs large debt accumulation resulted in debt overhang and debt overhang discourages investment and affects country's future output adversely. However, studies have shown some levels of agreement and disparity in terms of results and conclusions as to what actually constitutes the impact of external debt on economic growth. Normally, borrowing capacity should be governed by the level of foreign capital the economy can efficiently absorb but in many cases borrowing was done more for balance of payments support, to finance current consumption (like it was predominant in the 2011 fiscal budget) than for augmenting the domestic savings-investment resource gap towards addressing infrastructure deficit.

3.0 RESEARCH METHODOLOGY

Herein in this study an investigation of whether or not external debts drive economic growth in Nigeria using an econometric approach to investigate the significant effect of economic relationship between external debt stock and debt servicing on economic growth of Nigeria.

Research Hypotheses

The following hypotheses are hereby presented for empirical testing;

Hypothesis I:

H_0: There is no true significant relationship between economic growth proxied by GDP and external debt stock (EXD).

H_1: There is true significant relationship between GDP and external debt (EXD)

Hypothesis II:

H_0: There is no true significant relationship between economic growth proxied by GDP and Nigeria debt service (DSN).

H_1: There is true significant relationship between GDP and DSN.

Model Specification

The model specification is concerned with identification and structural presentation of the dependent and independent variables. The following models are built in line with the hypotheses of the study.

$GDP_t = \alpha_0 + \alpha_1 EXD_t + \alpha_2 DSN_t + \mu$

Where: $\alpha_1 <> 0$, and $\alpha_2 < 0$.

GDP: Gross Domestic Product at current factor price (a proxy for economic growth)

EXD: External Debt of Nigeria

DSN: Debt Service of Nigeria.

Apriori Expectation

Theoretically external debt is expected to be either positively or negatively related with economic growth depending on the usage of such external debt. If this position holds, EXD coefficient (α_1) can be < or > 0.

Also theoretically debt servicing, being a resource drain exercise, is expected to be negatively related with economic growth. If this position holds, DSN coefficient (α_2) should be < 0

Estimation technique

In order to examine the direction of relationship between the external debt stock and debt service and economic growth of Nigeria between years 1980 to 2011, the ordinary least square (OLS) technique was deployed for the purpose of estimation. Specifically the simple linear regression analysis was carried out to analyze the data with the aid of SPSS package-Version 17.0. Thereafter, the result of the OLS regression was subjected to statistic tests like Coefficient of determination (R^2), Student t-test, ANOVA (F-test) to ascertain the validity and reliability of the model.

The data collected for the purpose of testing the impact of external debt and debt service on economic growth of Nigeria is presented in the latter part of this report.

4.0 PRESENTATION AND ANALYSIS OF RESULT

For the purpose of this study and the need to test the validity of research hypotheses in order to unfold the relationship between the explained and explanatory variables, the data collected from 1980-2011 are subjected to simple regression estimation technique and subsequently analyzed. The analyses of the result estimates are presented on equation basis.

EQUATION I: $GDP_t = \alpha_0 + \alpha_1 EXD_t + \mu$

Parameter estimates: GDP = 7269373.652 -0.055EXD
t- Statistic: 3.686 -0.303; and F-stat: 0.092
Statistical Influence @ 1% 2.457 7.560
5% 1.697 4.170
R= 0.50; R^2= 52.6%; Adjusted R^2= 51.4%; and

EQUATION II: $GDP_t = \alpha_0 + \alpha_1 DSN_t + \mu$

Parameter estimates: GDP = 347721.993 + 0.799DSN
t- Statistic: 0.236 7.277; and F-stat: 52.957%
Statistical Influence @ 1% 2.570 2.473
5% 1.670 1.703
R=0.799; R^2= 63.8 %; Adjusted R^2= 62.6%.

Working on the assumption that there is no indication of specification bias as well as omission of relevant variables in the models and that the regression models are correctly and functionally specified, the empirical result for equations revealed that external debt has negative impact on economic growth in Nigeria. This result implies that one per cent increase in external debt would result into 0.055 per cent decrease in Gross Domestic Product while a percentage increase in debt service would bring about 0.799 increases in Gross Domestic Product. It is important to emphasize here that; though the external debt (EXD) is negatively related to Gross Domestic Product (GDP) on average, the magnitude of its estimate is however seen to be too small to conclude that EXD really has strong negative impact on GDP. And also, the sign that reflects the economic relationship between GDP and external debt does match with the a priori expectation set earlier on the basis of economic theory while that of GDP and debt service does not conforms with a priori expectation. This improvement in debt service management may be product of a conscious effort by government in recent time to ensure its debt service arrangements are well balanced; planned and structured in such a way to promote economic growth. However, the coefficient of determination (R^2) of the models shows that the explanatory variables used were able to give adequate explanation of the variations in GDP. Correlation coefficients of 0.50 and 0.89 respectively, show a strong positive correlation of GDP and EXD & DSN during the periods under review.

In addition, the computed coefficients of t- Statistic for EXD was a negative value 0.303 and the prob. values of obtaining the value was 0.357(very significant).But this value, when compared with the theoretical table value under 1% and 5% level of significance as shown above, give a sufficient evidence to accept (H_0) that; there is no true significant relationship between parameter estimate of the samples of GDP and EXD because the empirical t^* value was less than the theoretical tα value. The probability value, which defines the lowest significant level with which a Null hypothesis could be accepted or rejected, also support the acceptance of H_0 on the premise that a high or significant p.value is a sufficient basis for the acceptance of such verdict. In a similar vein, the computed coefficients of t- Statistic for DSN was positive value7.277 with the prob. value of obtaining same as 0.000 (highly insignificant). But this value, when compared with the theoretical table value under 1% and 5% level of significance, give a sufficient evidence to reject H_0 and accept (H_1) that there is true significant relationship between parameter estimate of the samples of GDP and DSN because the empirical t^* value was greater than the theoretical tα value. It can also be interpreted that since the p.value of obtaining $t^* = 7.277$ under the H_0 is practically insignificant, the H_0 is rejected.

Lastly under test of hypotheses, the overall F-statistic produced coefficient of 0.092 for EXD and 52.957 for DSN respectively. These values measured the overall statistical influence of each of the explanatory variables in explaining the dependent variable, with the corresponding probability values of 0.0000. However, when these empirical values were compared with the theoretical tabular values at both 1% and 5% significant levels under the Null hypotheses, it was discovered, under equation one, that the empirical F-Stat. (F^*) value for EXD was less than its theoretical table (F^α) value i.e. $F^* < F^\alpha$. Consequently, the Null hypothesis which emphasizes that "there is no significant relationship between GDP and External debt" is accepted. However, because the empirical F-Stat. (F^*) value for DSN showed a higher theoretical F-Stat. value above its corresponding empirical F-Stat. value, the Null hypothesis under regression equation two is rejected while its Alternative hypothesis that states "there is significant relationship between the GDP and debt service of Nigeria is however accepted.

The analysis of the results reveals that within the periods selected for this study, external debt finance did not exert positive impact on the growth of Nigerian economy while debt service impacted positively to the growth of the economy. The outcome of this study is in conformity with the prior writers who emphasized that huge stock of external debt lowers the rate of economic growth and development of a developing nation.

5.0 CONCLUSION AND RECOMMENDATION

In this study, attempt has been made to examine the impact of external debt on the economic growth of Nigeria from the period of 1980 to 2011. To this end, various literatures relating to the central topic of the study have been reviewed. Few literatures emphasized that external debt could have positive impact on the economy while most of the literatures established the negative impact the external debt bears on the economy of Nigeria. More

so, it is obvious from the study that external debt could be a burden with dire consequences on the economy. Parts of such consequences include the encroachment on resources available for socio-economic development and country's well being, repudiation risk which hinders the nation from obtaining new loans from abroad due to little confidence placed on the country's ability to repay. In view of the negative contribution of external debt to economic growth and premised on the findings of the study, it is recommended among others that cost-benefit analysis, higher prioritization of needs, absorptive capacity, investment on productive self-financing projects, probity as well as accountability in handling government resources and debt sustainability should form the basis for contracting external debt finance. Also it is recommended that corruption which is one of the major factors that facilitated the incidence of stolen funds and foreign debt crisis in Nigeria must be addressed with vigour among public funds managers. Effort should be seriously made by government to ensure that existing legislations on corruption is enforced without fear or favour using existing independent anti-graft bodies. In addition, the Debt Management Office should be strengthened and empowered to exert its debt supervisory power over the sub-national debt transaction agencies in the country. In light of this, the federal government should come up with robust guidelines that define the purpose, duration, moratorium requirements, commitments, and negotiation fees for contracting external loans. A clause should be included in the guidelines stipulating the extreme critical conditions under which external loans can be approved and guaranteed by government. External finance should equally be used only for projects of outmost priority. And when obtaining same, superior methods of negotiating for favourable fixed interest payment, varying amortization schemes and multi-year rescheduling should be employed. By so doing, debt servicing will not be a burden to both the borrowing generation and the future generations. Macroeconomic policies which encourages prudent fiscal spending, reduces overreliance on oil revenues, boosts non-oil exports, promotes secured, stable, and friendly economic environment that is capable of accelerating domestic savings, investments and capital formation process is also suggested.

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APPENDIX

REGRESSION RESULTS

Method: Least Squares
Date: 01-11-12 Time: 10:15:28
Sample (Adjusted): 1980-2011
Included observations: 31
Excluded observation: 1

Table 1 Simple Regression Result

	Unstandardized Coefficients		Standardized Coefficients	Test Statistic	
Regressors	**B**	**Standard Error**	**Alphas**	**t-stat.**	**Sig. Value**
Constant	7269373.652	1972343.62	0	3.686	0.001
External Debt	-0.056	0.185	-0.055	-0.303	0.383
Debt Services	347721.993	1472868.985	0.799	7.277	0

Table 2 Summary of the ANOVA- F Statistic

Regressors	**F- Statistic Ratio**	**Significance (F- Statistic)**
External Debt Stock	0.092	0.764
Debt Services	52.957	0

Table 3 Model/ Regression Summary

Regressors	**R**	**R^2**	**Adjusted R^2**	**Std. Error of Estimate**
External Debt	0.50	0.526	0.514	1.07363E7
Debt Service	0.799	0.638	0.626	6.46618E6

Table 4 Nigerian Debt Stock, Debt Service and Gross Domestic Product

	GDP AT CURRENT FACTOR PRICE	EXTERNAL DEBT STOCK	DEBT SERVICE
YEARS	N'Million	N'Million	N'Million
1980	49632.32	1866.8	256.95
1981	47619.66	2331.2	1027.41
1982	49069.28	8819.4	1167.17
1983	53107.38	10577.7	1007.08
1984	59622.53	14808.7	1235.32
1985	67908.55	17300.6	1606.05
1986	69147.99	41452.4	1631.59
1987	105222.84	100789.1	3928.95
1988	139085.3	133956.3	9238.7
1989	216797.54	240393.7	13273.7
1990	267549.99	298614.4	23822.3
1991	312139.74	328453.8	26414.4
1992	532613.83	544264.1	19400.26
1993	683869.79	633144.4	81081.58
1994	899863.22	648813	49400.32
1995	1933211.55	716865.6	51058.4
1996	2702719.13	617320	53047.5
1997	2801972.58	595931.9	68539.74
1998	2708430.86	633017	64394.53
1999	3194014.97	2577374.4	30843.38
2000	4582127.29	3097383.9	131048.02
2001	4725086	3176291	155416.22
2002	6912381.25	3932884.8	163811.32
2003	8487031.57	4478329.3	363510.32
2004	11411066.91	4890269.6	382509.94
2005	14572239.12	2695072.2	393953.41
2006	18564594.73	451461.7	415362.78
2007	20657313.67	431079.85	511643.65
2008	24296329.29	493180.22	381200
2009	24794238.66	590441.08	251791.2
2010	33984754.13	689845.3	145560
2011	37543654.7	896832.62	527182.74

SOURCE: NBS,CBN & DMO

Table 5: Nigeria External Debt Stock as at 31st December, 2011

Category	Principal Balance	Principal Arrears	Interest Arrears	Total	%
	USD Million			USD Million	
MULTILATERAL					
World Bank Group					
IBRD	6.31	0	0	6.31	
IDA	3,936.92	0	0	3,936.92	
IFAD	69.32	0	0	69.32	
African Dev. Bank Group					
ADB	53.06	0	0	53.06	
ADF	381.19	0	0	381.19	
EDF	107.67	0	0	107.67	
IDB	14.45	0	0	14.45	
Sub-Total	4,568.92	-	-	4,568.92	80.63%
Non–Paris					
Bilateral	453.83	0	0	453.83	
Commercial	143.82	0	0	143.82	
Sub-Total	597.66			597.66	10.55%
ICM					
Euro–Bond	500	0	0	500	8.82%
GRAND TOTAL	5,666.58	0	0	5,666.58	100.00%

Source: DMO