EXTERNAL DEBT AND ECONOMIC GROWTH; AN EMPIRICAL ANALYSIS OF NIGERIA'S ECONOMY

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ABSTRACT

The impact of different types of external debt on economic development of Nigeria was studied using multiple regression technique, with the aid of E-views package covering the period, 1969-2009. It was found that while London Club debts were negatively significant, only past values of GDP, taken as independent variable, was found to be positively significant. It is therefore recommended that Nigeria should not only be careful in taking new loans but make sure that any one taken is channelled to productive uses.

Keywords: External debt, economic growth, crowding out, debt problem.

1.0 INTRODUCTION

Nigeria is a federation made up of Federal, state and local governments. All these tiers of government make efforts towards the economic development of the country, among other desired goals. According to Akujuobi and Kalu (2009), they do this by embarking on real asset investments which are financed with their increasingly reducing financial resources. This is obviously in line with economic theories that advocate increased accumulation of capital and spending, if targeted levels of economic development are to be achieved. (Todaro and Smith,2006). It would be recalled that to achieve economic development four schools of thought came into existence following the low economic activities of World War II.

The schools include structuralism, the linear-stages-growth model, the Neo-Marxist or dependency theory and the neo-classical revival of the 1980s. It is the belief of the structuralists that governments should lead development, though this approach is linked with inefficiencies associated with government activities. The linear-stages-of-growth model which is the Western European view of economic development has the Rostow development model as a representative. According to Akujuobi (2006) the model is a stage-by-stage approach that needs savings and or borrowing for sustainable economic development to take place. On the other hand, the Neo-Marxist model feels that the developed countries exploit developing economies. It is actually a modified Marxist principle. However, the Neoclassical revival group is private – market based and abhors government intervention. The adherents believe that the massive economic development that occurred in Latin America after the debt crisis of the early 1980s and that of the former socialist economics after the fall of the Soviet Union is traceable to this framework.

In line with these theories, particularly the stage-by-stage growth model, Nigeria borrowed extensively to fund the different sectors of the economy, as it experienced low capital formation but in a hurry to develop economically. In support of this, Soludo (2003) asserts that countries borrow for macroeconomic reasons such as higher investment, higher consumption in education and health or to finance transitory balance of payments deficits. However, he believes that higher debt levels lead to debt servicing burden which leaves the country on the wrong side of the debt-laffer curve, with debt crowding out investment and growth. No wonder King (2005) sees Nigeria as constantly under pressure, with never enough money for poverty reduction and basic social services and has run a fiscal deficit of 5 – 10% of GDP.

There is, therefore, the problem of borrowing heavily both internally and externally to fund the different sectors of Nigerian economy, with doubtful corresponding gains. Some studies have been done to examine the impact of debts on the economic development of Nigeria. Adopoju, Salau and Obayelu (2007) and Adegbite, Ayadi and Ayadi (2008) concentrated on the effect of external debt on the country's economic development and found it impacting negatively, especially after certain levels.

On the other hand Akujuobi and Onuorah (2007) and Amakom (2003) looked at the debt problem by distinguishing between external and internal ones and advised against external part of the debt overhang because of the negative impact. This present study goes further to investigate the external debt problem through the various types with a view to seeing which types are more beneficial.

The study is therefore based on the hypothesis that multilateral debt, Paris club debt, London club debt, promissory notes and others do not significantly impact on the economic development of Nigeria. To do that the paper is divided into the first section, which is the introduction, part II, literature review, part III empirical analysis, and lastly part IV which treats conclusion and recommendation.

2.0 LITERATURE REVIEW

Developing countries have for a long time been groaning under the heavy burden of external debts. As a result of this, many applied for and obtained debt forgiveness while others engaged in other techniques capable of reducing the burden. This brought to the fore theories connecting external debt and economic development such as debt overhang theory. Krugman (1989) sees debt overhang as a situation in which the expected repayment on foreign debt falls short of the contractual value of the debt and showed that there is a limit at which accumulated debt stimulates investment and growth. Also, Borensztan (1990) asserts that debt overhang crisis is a situation in which the debtor country benefits very little from the returns on any additional investment because of the debt service obligation.

Clements, Bhattacharya and Nguyen (2005) while looking at how debt relief boosted growth in poor countries asserts that external debt beyond 20-25 percent of GDP in net present value terms contributes negatively to the economy. Iyoha (1999) in his study of the impact of external debt on economic growth in sub-Saharan African countries found that in the region the external debt to GNP (EDTGNP) ratio is so high that it creates debt overhang problems that consequently affect investment and growth negatively. This is so because if debt exceeds the countries repayment ability there is the probability of expected debts service increasing beyond the country's output level function. Consequent upon this, since part of the future return on any investment will accrue to the creditor as bigger debt service payments, it discourages capital accumulation and promotes capital flight (Elbadawi et. al. 1997; Koeda, 2006).

In addition, Elbadawi et. al. (1997) found that external debt affects economic growth through direct and indirect channels, showing negative impact after higher levels of debt in most cases. Moreover, capital flight through external indebtedness has three major consequences, according to Ajayi and Khan (2000).

The first one being the fact that any amount of money set away to foreign countries cannot contribute to domestic investment, thereby diverting domestic savings away from domestic real investment. Furthermore, income and wealth held abroad are outside and cannot be taxed, meaning that potential government revenue is reduced as well as the capacity of the government to service its debts. In addition income distribution is negatively affected by capital flows, as the poor citizens are subjected to austerity measures in order to pay for external debt obligations. No wonder Iyoha (1999) in his own study of external debt and economic growth in sub-Saharan African found that mounting external debt depresses investment through both a disincentive effect and a crowding out effect. In their own assessment of the non-linear impact of external debt on growth, using a panel data of ninety three countries Pattillo, Rocci and Poirson (2002) found that there was a negative impact at the level of 160-170% of exports or 35 – 40% of GDP.

In his cross-country study Hansen (2001) investigated the impact of aid and external debt on growth and investment and found a negative impact of debt and debt service on growth and investment. In line with this Oxfam (1998) saw that, among others, excessive debt servicing led to low economic growth while Were (2002) while studying Kenya found that Kenya's high debt overhang problem led to a negative impact on economic growth and private investment. In Nigeria case, Okonjo – Iwuala (2003) added another dimension to debt problem when she noted that while a great deal of attention has been given to the size of debts and others, not much has been said about the institutional arrangements for proper management of the debt, which obviously can impact on how size of debt affects economic development.

3.0 EMPIRICAL ANALYSIS OF THE IMPACT OF EXTERNAL DEBT ON ECONOMIC DEVELOPMENT OF NIGERIA.

The data came from the Central Bank of Nigeria Statistical Bulletin, covering the period 1969 – 2009.Here; the various sources of external debt were regressed on the actual gross domestic product (GDP) figures for the corresponding period.

The F-test was used to test the overall significance of the explanatory variables taken together, while the student t-test was used to test for the significance of each explanatory variable or components of external debt contribution to the level of economic development in Nigeria. The coefficient of multiple determination (R^2) was used to test for goodness of fit of the study.

3.1MODEL SPECIFICATION

Specifically we have;

GDP_t	=	Level of gross domestic product in year t
$MULTILAT_t$	=	Level of multilateral debt in year t.
$PARCLUB_t$	=	Level of Paris club debt in year t.
$LONCLUB_t$	=	Level of London club debt in year t.
$PROMNOTES_t$	=	Level of Promissory note debt in year t.
$OTHERS_t$	=	Level of other sources of debt in year t.

Thus, the functional form is given as:

$$\mathbf{GDP_t = f(MULTILAT_t, PARCLUB_t, LONCLUB_t, PROMNOTE_t, OTHERS_t)}\ldots\ldots\ldots\mathbf{1}$$

Mathematically, we have the regression equation as;

$$\mathbf{GDP_t = \beta_0 + \beta_1 MULTILAT_t + \beta_2 PARCLUB_t + \beta_3 LONCLUB_t + \beta_4 PROMNOTE_t + \beta_5 OTHERS_t + U_t \ldots\ldots\ 2}$$

Where;

$$\mathbf{\beta_1 > 0;\ \beta_2 > 0;\ \beta_3 > 0;\ \beta 4 > 0;\ \beta_5 > 0}$$

3.2 DATA ESTIMATION: UNIT ROOT TESTS

The unit root test is carried out using the Augmented Dickey Fuller test and Philip-Perron tests in order to determine whether the data set is stationary and the order of integration since many empirical researches conducted in the past utilizing only the OLS, yielded spurious results especially in the developing countries(Engel and Granger,1987). Evidently, from table 2, it is crystal-clear that all the variables (under ADF and Philip- Perron) turned out stationary at first difference or 1(1). Thus, meaning that the data set when at first difference can be relied upon for the estimation (see table1).Finally, the study employed the Granger causality test to measure the precedence and information content of the variables while the co-integration technique proved that a long-run relationship existed between the GDP and the explanatory variables.

Because the tests showed evidence of a causal relationship between past values of GDP and the current GDP, the one-year lagged GDP was therefore included as one of the explanatory variables (Egunjobi, 2007).

3.3 ANALYSIS OF VARIANCE (ANOVA)

Evidently from table 3, model 1still not being strong, necessitated the introduction of concept of Granger causality in order to confirm the effect of past values of the dependent variable in the model. This result is displayed as model 2 in table 3. The results of the global statistics (e.g., Durbin-Watson, 1.3261: Log likelihooh,-583.440: Akaike information criterion 29.52: F-statistic, 967.93: R-squared 99.4%,: Adjusted R-squared ,99.3%), are all evidence of the autocorrelation –free and hence high predictive power of model 2.

From the F-tables, since we read the following; F-tabulated (6, 35), 1%=3.12; 5%=2.25while the F-ratio calculated is 967.9263, the null hypothesis is rejected. Hence, there is a significant relationship between external debt and Nigeria's economic development., for the respective periods under investigation, 1969-2009 ,and the estimated regression equation is represented thus;

$$\mathbf{GDP_t = 162045.8 + 1.124111LAGGDP_t + 4.544105MULTILAT_t + 0.059451PARCLUB_t - 10.90812LONCLUB_t - 0.543563PROMNOTE_t + 19.12825OTHERS_t \quad \ldots\ldots 3}$$

Furthermore, only two of the explanatory variables (lagged values of the GDP and debt from the London club) turned out significant at 1% and 5% levels of significance respectively. More worrisome are the signs of the individual coefficients, just as both the London club debt and promissory notes bear negative coefficients, thus, negative contributions to the level of economic development in Nigeria, within the study period. This obviously stands to question the rationale behind contacting more external debt in Nigeria. (See table 4).

4.0 CONCLUSION AND RECOMMENDATIONS

From the findings it is glaring that for the period 1969 to 2009 external debts did not contribute positively to the economy of Nigeria. Multilateral, Paris Club, Promissory notes and other external sources of debt were found not significant towards the promotion of economic development. While the London Club debts were negatively significant it was only the past values of GDP, taken as an independent variable that was positively significant. Reasons for these interesting results are not farfetched.

That most types of the external debts did not contribute positively to economic development of Nigeria is in line with economic reasoning of crowding out of productive loans to the private sector. In addition, most of the loans were reportedly stashed away in foreign accounts while "goods" like toothpicks and, at times, ordinary sand were imported as tractor parts and other capital goods. Again, even if they contributed positively when the quantum was relatively less, as the burden increased, the negative impact started and increased.

It is, therefore, not in the interest of the country to start moves that would increase the external debt stock only few years of exiting from the Paris Club at a high cost. In line with this, the Debt Management Office should be strengthened and the plans of establishing similar bodies in all states of the federation pursued with vigour. It is further recommended that external loans should only be taken if needed in critical capital expenditure areas that must be strictly monitored. It is not in the interest of the country that external debts that stood at 3.54 billion dollars by end of 2006 (after exit from Paris Club) is gradually climbing to 4.3 bullion dollars by end of March 2010 and at the same time, the Federal Government is further seeking for over 4.4 billion dollars of external loan to help it fund the 2010 budget deficit.

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APPENDICES

Table 1: Summary of Unit Root Test Results

Philip-Perron Unit Root Test					**Augmented Dickey-Fuller Unit Root Test**			
Variable	T-stat.	Criti-cal vale	Order of Integra-tion	Signifi-cance	T-stat.	Criti-cal value	Order of Integra-tion	Signifi-cance
MULTILAT	-6.2572	-3.6104	1(1)	1%	-5.9186	-3.6156	1(1)	1%
PARCLUB	-3.7203	-3.6105	1(1)	1%	-6.3711	-3.3711	1(1)	1%
LONCLUB	-54838	-3.6105	1(1)	1%	-4.8370	-3.6463	1(1)	1%
PROMNOTE	-4.5742	-3.16105	1(1)	1%	-4.5810	-3.6101	1(1)	1%
OTHERS	-6.6598	-3.6105	1(1)	1%	-6.6076	-3.6104	1(1)	1%

Table 2: Summary of the Results of the Global Statistics

TEST-STATISTIC	**MODEL1 LEAST SQUARE**	**MODEL 2 LEAST SQUARE WITH LAG OF GDP**
R-square	=0.393	=0.994
Adjusted R-square	=0.304	=0.993
S.E of Regression	=5876323	=575639.1
Sum of squared residual	=1.17E+15	=1.09E+13
Log likelihood	=-676.96	=-583.44
Durbin-Watson stat	=0.633720	=1.3261
Mean depend. var	=3915912	=3915912
S.D. depend. Var	=7044418	=7044418
Akaike info criterion	=34.15	=29.52
Schwarz criterion	=34.40	=29.82

Hannan-Quinn criterion	=34.24	29.63
F-statistic	=4.4092	963.93
Prob(F-statistic)	=0.003347	0.0000000

Source: Eviews Statistical Package

Constant = 162045.8

No of observations = 41

Degree of freedom = (6, 35)

Table 3:Summary of Regression Result

Independent variable	**X_1 Lagged Value of GDP, LAGGDP**	**X_2 Multilateral Debt, MULTILAT**	**X_3 Paris club debt, $DPARCLUB_t$**	**X_4 London Club Debt, $LONCLUB_t$**	**X_5 Promissory Notes ,$PROMNOTE_t$**	**X_6 Other Souces Of External Debt, $OTHERS_t$**
Coefficient of the Variables	1.124111	4.544105	0.0594451	-10.90812	-0.543563	19.12825
Standard error	0.018973	3.432211	0.3365525	4.399336	7.543002	12.72655
T-statistic calculated	59.246543 ***	1.323959 NS	0.176662 NS	-2.479492 **	-0.072062 NS	1.503020 NS
T-statistic Tabulated 1%	2.704	2.704	2.704	2.704	2.704	2.704