

A Sectoral Analysis of the Impact of External Debt on Nigeria's Economic Growth (1980-2004)

Aiyedogbon John Olu-Coris

Department of Economics, Nigerian Defence Academy, Kaduna, Nigeria

Abstract: This study represents part of a larger research agenda to assess the effect of external debt on Nigeria's economic growth using 5 major economic motivating sectors of the economy, Agriculture, Transport/Communication, Health, Education and Defence. The essence of the study is to determine whether external debt retard or enhances economic growth through these 5 sectors and make policy recommendations. The analytical framework is based on econometric methodology encompassing test for stationarity. The study found that external debt retard economic growth. The estimation result reveals that all the variables are statistically significant.

Key words: Setoral analysis, impact, external debt, economic growth, Nigeria

INTRODUCTION

The journey to Nigeria's indebtedness started before Nigeria achieved political independence. In 1958, Nigeria received its first ever loan of \$2.8 million from the World Bank to complete the Rail Line from Gombe to Maiduguri in the North-Eastern part of the country. Between 1958 and 1997, Nigeria received a total of 981 loan valued at \$7.3 billion from the World Bank alone: under Project Lending Category, which covered virtually every sector of the Nigerian Economy. The first major loan received by Nigeria was in 1978, a loan of \$2.5 billion from the Euro-Dollar market. This generated a lot of controversy at that time. Within the Alhaji Shehu Shagari-led Second Republic (1979-1983), more loans and credits were procured from both government and commercial lenders i.e. the Paris Club, London Club, Multilateral and Promisory Notes. As a result, Nigeria's total external debt increased from \$8.9-\$18.5 billion from 1978-1983.

In the long military rule beyond 1983, there was a serious debt built-up as the government spent a lot on wasteful consumption, especially on infrastructure projects that did not deliver (so-called 'white-elephant' projects). Corruption continued to be widespread, allowing for substantial capital flight out of the country.

Also, at this period, Nigeria hardly serviced its debt, resulting in a massive accumulation of interest and arrears. Nevertheless, new lending by foreign financial institutions continued well into the early nineties, adding to the total debt stock. Thus, the period of 1985-1993 witnessed a provision of direct loans to the military regime

by the multilateral development banks. Nonetheless in 2004, the total outstanding external debt grew to almost \$36 billion not only because of the uneconomic projects that the government embarked upon then, but because of the ballooning of Paris Club debt through high interest charges, penalties and arrears.

The debt servicing problems led to a major economic paradigm shift of the Structural Adjustment Programme (SAP) in 1986, supported by the IMF and World Bank. This programme was aimed at inducing growth, restoring price stability and reducing external trade imbalance. Despite attempts by creditors to provide debt relief incentives and the continued provision of external assistance, the situation continued to deteriorate and by the turn of the 1990s, the position of countries in Africa had become precarious. As a result, most of these countries then looked back at almost a decade of lost growth, of which Nigeria is no exception.

Of the US \$35.9 billion external debt stock as at December 2004, available statistics shown in Table 1 depicts that the Paris Club accounted for US\$30.8 billion of the total external debt while the Multilateral Creditors claimed a total of US \$2.8 billion. Commercial Creditors accounted for the balance of US \$2.2 billion.

Table 1: External dept of the Nigerian government (us \$30.8 billion)

Details	1985	1991	1992	1998	2004
Parish club creditors	7.8	17.8	16.4	20.8	30.8
Other bilateral creditors	1.9	1.4	1.2	0.1	0.0
Commercial creditors	7.8	10.5	5.4	3.6	2.0
Multilateral creditors	1.3	4.0	4.5	4.2	2.8
Total	18.9	33.7	27.6	28.8	35.9

Source: Policy brief 144, August 2005, The Bookings Institution, Washington DC Pg 12

However, Nigeria's external management strategies have varied from time to time. Since, the early 1980's when the debt crisis became pronounced. For example, in July 1988, the Babangida administration established the Debt Conversion Committee (DCC) with the aim of encouraging of capital flow, discourage repatriation of capital flight and recapitalization of enterprises in the private sector.

Another major stride on debt management in Nigeria is during the last Obasanjo dispensation, when in August 2000 he set up the Debt Management Office (DMO). The DMO has succeeded in setting a debt relief of about US \$20 billion also able to reduce (through debt servicing) the debt owed to other institution.

MATERIALS AND METHODS

The study used annual data series between 1970 and 2004. The data collected include such sectors as Agriculture and natural Resources, Transport and Communication, Education, Health, Defence and External Debt. All these data were obtained from the Statistical Bulletin and the Annual Reports and Statement of Accounts of the Central Bank of Nigeria. Parameter estimates were derived on the basis of Ordinary Least Squares Techniques. Two major hypotheses considered for this study were the "Harrod-Dommar growth model" and "Debt overhang Theories".

Theoretical framework: The link between economic growth and capital accumulation was demonstrated by the Harrod-Dommar Growth model in the classical economy. This model posited the economic growth as a function of the rate of saving and capital-output ratio.

$$Y = \frac{S}{R}$$

Where, Y = Growth rate of GDP.

S = Savings ration in GDP.

R = Incremental Capital Output Ratio (ICOR).

The ICOR is reflecting efficiency of production. It is assumed to be fixed or constant in the short-run with a constant ICOR, an expanding saving ratio would lead to positive shifts in output frontier i.e., economic growth and vice-versa (Dike, 1989). The Harrod-Dommar growth model emphasized the shortage of capital in these developing countries and the need for the injection of foreign capital.

Another theory that is related to the theoretical framework is the 'Debt Overhang' theory; which postulates that, there is some likelihood that in the future, debt will be larger than the country's repayment ability; the costs of debt servicing will discourage further

domestic and foreign investment, and thus harm growth. As a result of this, potential investors will be less willing to invest because of increased taxation which would be used to service the external debt.

Although, the debt overhang model does not analysis the effect on growth directly, the implication is that large debt stocks lower growth partly by reducing investment. But in addition, incentive effect associated with debt stocks tends to reduce the benefits to be derived or expected from policy reforms that would enhance efficiency and growth. Also, larger debt stocks are associated with lower probabilities of debt repayment.

Thus, while considerations suggest that at reasonable levels of debt, further borrowing would be expected to have a positive effect on growth, others stressed that large accumulated debt stocks may be a hindrance to growth.

The contraction of external loans has drawn a lot of controversies regarding its economic nationale. While some people see it as a perpetualization of Western capitalism associated with its exploitative tendency of the less developed countries; other see it as appropriate for the less developed countries to resort to external borrowing in birdying their domestic resources gap so as to accelerate economic growth and development. This study, therefore will focus on examining few of the various opinions and state the premises in which their study was based, respectively.

Since, adequate savings and capital investment are necessary for economic growth, Nurske (1960), identified these major factors as obstacles to economic growth and development in developing countries. According to him, the less developed countries of the world, lack the inability to generate enough savings which could be used for investment and economic growth. The explanation for this scenario is that it is hardly adequate for personal consumption talk less of savings. Another reason of low savings in these countries is the absence of adequate saving habit. He also identifies other salient factors as the under-developed nature of the financial system and government policies towards the mobilization of domestic saving.

Chenery and Stout (1966) stressed the need for external finance in order to make fuller utilization of domestic resources in order to bridge the gap between savings and foreign exchange and thereby accelerate growth. According to them, the reason is because developing countries, though may be having a sizeable amount of natural resources, the explanation of such resources becomes absolutely difficult since, the majority of these countries depend to a very large extent on developed countries both in terms of their technical and capital need for the exploration of such resources.

Samir (1980) observed that the gigantic increase in debt burden of developing countries resulted from the stringent conditionality attached to such by the developed countries. In this view, the developed countries take advantage of 'small hole' seen in developing economies on the ground of humanitarian but rather for their personal aggrandizement.

Declining commodity prices, rising interest rate, falling real net capital inflows and domestic prices are identified by Greene (1989) as major factors contributing to the increasing debt burden; while reviewing the sub-Sahara debt problems. Among the measures he proposed was outright debt forgiveness.

Afolabi (1991) justify the collection of external loans. He stressed that external loans have a lot of auxiliary benefit attach to it. For example, if a country borrows money from the World Bank, apart from finance itself, the package will induce high quality project supervision and management acumen which may not be available internally. This position can be criticized on the ground that he fails to emphasize on debt repayment and usage but on collection. In terms of the supervision, of course, there are cases where some projects are badly constructed and funds massively mismanaged in most of the organizations which he claims the World Bank is monitoring e.g., EPI, River Basins etc.

Debt is a double-edged sword that cuts both ways in that it has both merits and limitations. As a result of domestic/resource shortage, developing countries like Nigeria, require credit to augment available resources in order to achieve their growth objectives. In a way, external financing could be beneficial to development by helping to bridge some critical gaps in growth process. However, debt resources have to be carefully managed to ensure that maximum benefits are derived from them, otherwise it can be counter productive (Ogbu, 2002).

Structure and profile of Nigeria's external debt: Nigeria's external debts were contracted for various purposes: infrastructural development, education, health, and balance of payment and for projects e.g., Ajaokuta Steel.

The sources of Nigeria's external debts have been the Paris Club of Creditors, (representing official government creditors); the London club of Creditors (representing Commercial Banks-which spread all over the world and the multilateral creditors such as the World Bank and the IMF.

These can also be grouped into 2 main categories: official and private debts. Official debts consist of Paris Club Debts, Multilateral Debts and non-Paris Club Bilateral Debts. The private debts components are made up of uninsured short-term trade arrears contracted through the medium of bills for collection, open account

etc., Commercial Bank Debts acquired through loans/letters of credit are referred to as London Club Debts.

Paris club debts: These are government to government credits guaranteed by various Export Credit Agencies of the creditor countries. The Paris Club is a cart of creditor countries that provides an informal forum where countries experiencing difficulties in paying their official debt meet with the creditors to reschedule their debts. It is an informal group with no permanent members which work under the principle of consensus Paris Club members.

Countries which Nigeria is indebted to are Austria, U.S., Switzerland, Germany, Denmark, Italy, Netherlands, Japan, United Kingdom, Spain, Israel, France, Belgium, Russia and Finland. As at the end of 2004, the total debt stock owed to the Parish Club creditors was US \$30.8 billion.

London club debts: The London Club is a group of commercial banks that join together to negotiate the restricting of their claims against debtor country. London club debts are arrears of commercial bank debts arising from letters of credit and loans. As at 2004 December Nigeria owed US \$2.2 billion to this group.

Multilateral debts: These are project loans owed to multilateral financial institutions e.g., World Bank group, African Development Bank, European Investment Bank, IFAD and ECOWAS by Federal and State government and their agencies. The total amount owed to multilateral creditors as at December 2004 was US \$2.8 billion.

Bilateral creditors: These are debt owed by the government to countries, which are not members of Paris club and creditors resident in agencies. As at December 2004, Nigeria has settled all outstanding of loans due to this group.

RESULTS AND DISCUSSION

In the light of the discussions above, a simple econometric model is explored to examine the impact of external debt on Nigeria's economic growth on five selected sectors of the Nigerian economy. The model is specified as follow:

$$EXD = \alpha_0 + \alpha_1 AGR_1 + \alpha_2 TRCO_2 + \alpha_3 EDU_3 + \alpha_4 HET_4 + \alpha_5 DEF_5 + U$$

where, $\alpha_0, \alpha_1, \alpha_2, \alpha_3, \alpha_4, \alpha_5$ are the constants of the parameters of the model.

AGR = GDP for the Agricultural Sector
 TRO = GDP FOR Transport and Communication Sector.
 EDU = GDP for the Education Sector
 HET = GDP for the Health Sector
 DET = GDP for the Defence Sector.
 U = The error term.

External debt is however, expected to have a negative impact on all these sectors because growing indebtedness of the country reduces governments' capacity to adequately fund other sectors of the economy.

Table 2: Unit root test for the variables

Variables	ADF	Order of integration
Agric	-7.224675	I (1)
TRCO	-4.338027	I (1)
EDU	-5.236337	I (1)
HET	-5.762798	I (1)
DEG	-4.697802	I (1)
EXD	-4.008701	I (1)

5% ADF Critical Values for the Test is: -3.633

Stationarity and unit roots in time series data:
 The results of the unit root tests are presented in Table 2.

Table 2 shows the result of the unit root tests. At 5% level of significance, all the variables were found to be integrated of order 1. That is, they are I(1) variables. In other words, the result confirms that differencing once was all that was required to bring these variables to stationary.

Table 3: Data used for regression analysis

Obs	AGR	TRCO	EDU	HET	DEF	EXD
1980	468.10	2407.80	1549.80	302.50	780.00	1866.80
1981	809.00	1684.80	984.60	248.20	821.30	2331.20
1982	1069.20	1337.70	1135.10	286.00	745.00	8819.40
1983	1214.50	1144.10	967.40	279.60	736.20	10577.70
1984	285.30	304.20	861.20	191.10	607.60	14808.70
1985	1018.10	366.70	850.20	223.90	687.20	17300.60
1986	925.40	641.90	1094.80	360.40	951.40	41452.40
1987	394.30	489.30	653.50	236.40	736.20	100789.10
1988	650.00	846.30	1084.10	443.20	1101.30	133956.30
1989	1062.60	854.20	1941.80	452.60	1198.40	240393.70
1990	1966.60	1109.80	2294.30	658.10	1606.90	298614.40
1991	672.30	598.80	1554.20	8757.00	2245.30	328054.30
1992	924.50	981.60	2060.40	1025.10	2706.60	544264.10
1993	2835.30	1786.80	7999.10	2684.50	4171.00	633144.40
1994	3719.10	1674.90	10283.80	3027.80	5491.90	648813.00
1995	6927.70	4690.30	12728.70	5060.90	7375.60	716865.60
1996	5574.00	11003.30	15351.80	4851.50	14095.80	617320.00
1997	8029.60	8437.90	15944.00	5803.00	15428.00	595931.60
1998	11840.40	8196.90	26721.30	11984.30	21278.50	633017.00
1999	38259.80	9191.30	31563.80	16180.00	32947.70	2577383.00
2000	10596.40	5336.60	67563.10	18181.36	40074.30	3130250.90
2001	64943.90	53176.10	59744.60	44651.50	63471.60	3176291.00
2002	44803.80	53662.60	109455.20	63171.20	108147.40	3932884.70
2003	16045.20	29309.40	79436.10	39685.50	61726.30	4478329.30
2004	49926.40	15046.00	85580.80	52406.10	85047.40	4890269.60

Source: CBN Statistical Bulletin vol. 15 Dec. 2004

Table 4: Regression result

Variable	Coefficient	Std. Error	T-Statistic	Prob.
C	187114.7	98285.89	1.903780	0.0740
AGR (2)	48.30906	10.38850	4.650245	0.0002
TRCO (1)	-73.57437	25.70325	-2.862454	0.0108
EDU (1)	-63.60332	29.60506	-2.148393	0.0464
HET (1)	81.50587	36.85556	2.211495	0.0410
DEF (1)	89.79659	39.63309	20265698	0.0368
R-squared	0.954975		Mean dependent var	1207371.
Adjusted R-squared	0.941732		S.D dependent var	1588221
S.E. of regression	383375.8		Akaike info criterion	25.93300
Sum squared resid	2.50E+12		Schwartz criterion	26.22922
Log likelihood	-324.8651		F-statistic	72.11359
Durbin-Watson stat	2.237417		Prob (F-statistic)	0.000000

LS // Dependent Variable is EXD (2), Date: 07/11/07 Time: 17:50, Sample: 1980 2002, Included observations: 23 after adjusting endpoints

Table 5: Unit root (stationarity) test result
Augmented dickey fuller unit root test

Test for unit root in	Included in test equation	ADF rest statistic for the variables						Critical value	
		AGR	TRCO	EDU (3)	HET	DEF	EXD	1%	5%
Level	Intercept and trend	-2.308301	-3.385333	*-3.900471	-1.285799	-1.16273	-0.517906	-4.4167	-3.6219
1 ST difference	Intercept and trend	** -7.224675	*-4.338027	** -5.236337	** -5.762798	** -4.697802	* -4.008701	-4.4415	-3.633
2 ND difference	Intercept and trend	** -11.2218	** -5.308193	-2.941609	** -8.835479	** -11.78159	** -5.8864	-4.4691	-3.6454

*Stationary at only 5% level of significance, **Stationary at both 5% level and 1% of significance

Analysis of empirical results: The results of the regression estimates are presented in Table 3. The result is generally good because it shows that the model fits the data. The adjusted-R² is 94%. This indicates that 94% of the variations in dependent variables are explained by the linear influence of the explanatory variables. Durbin-Watson statistics shows that serial correlation is not a serious problem. The coefficients of variables like transport and communication, and education have negative signs as expected. Agriculture and natural resources; health; and defence were positively related to external debt but are all statistically significant at 95%. The error correction coefficient was relatively large and highly significant at 1% (Table 4 and 5).

Summary of findings: Several conclusions are evident from the above results. First, it is pertinent for a growing economy to harness available resources in order to bridge the gap between savings and capital so as to enhance economic growth and development of all sectors. This confirms the Harrod-Dommar's theory. Secondly, huge and growing debt overhang has negative impact on Transport/Communication and Education sector (according to our result) but generally speaking, and from our review of relevant literatures, large debt overhang would drain the nation's resources and curtail the possible expenditure on other sectors. Such as Agriculture, Transport/Communication, Education, Health and Defence. This corroborates or confirms the Debt Overhand Model because consequently investment (both domestic and foreign) on these sectors will reduce. Thirdly, all the independent variables: Agriculture and Natural Resources, Transport/Communication, Education, Health, Defence sectors are statistically significant and have strong explanatory power over the external debt impact on the economic growth of Nigeria.

CONCLUSION

The main objective of this study is to examine the impact external debt has over the 5 selected sectors in the Nigeria economy. And from our study, we can conclude (like others) that external debt burden and servicing problems is one major constraint that Nigeria is combating with and it hinders the economic growth and development in Nigeria between 1980-2004. This is because substantial amount of the nation's earning is being used to service

debts. Thus, contracting more loans externally would do more harm than good, and therefore should be discouraged except the internal rate of return of the project is short as not to cause a stunting growth of the economy. The Debt Management office should be enlarged to pursue vigorously policies that would discourage external borrowing, and persistently call for substantial rescheduling and outright cancellation of debt with the nations creditors.

Finally, since the civilian administration is pursuing new economic policies, of prudent management of the nation's resources, proper harness of savings and establishment of investment friendly environment will go a long way to bridge this gap thereby creating a self reliance economy.

REFERENCES

Afolabi, A., 1991. Consequences of Nigeria's Public Debt. Newswatch, Lagos, Vol. IV, No. 3.
 Ajayi, Ibi (S), 2003. External Debt, Capital Flight and Growth in Nigeria in the Debt Trap in Nigeria: Towards a sustainable Debt Strategy cited on the net.
 Andrea, G.F., 1991. Third World Debt: Bondage and Exploitation. Business and Financial Analysis, Ibadan, Vol. 23. No. 10.
 Chenery, H.B. and A.M. Stout, 1966. Foreign Assistance and Economic Development. American Economic Review.
 Dike, E., 1989. The Debt-Equity Option in External Debt Crisis Management. Unpublished paper Presented to NES, ABU Zaria.
 Debt Management Office Press release (Several Issues).
 Greene, J., 1989. Sub-Saharan Debt Problem. Prime-People, Lagos, Vol. 10 No.4.
 Maaruf, Y.U., 2004. Effects of External Debt Burden and Servicing Problems on Nigeria's Economic Growth. (Unpublished)
 Nurske, 1960. Cited in Greene (1989).
 Ogbu, 2002. Cited in Isa (2007).
 Samir, H., 1980. Debt Burden and Developing Countries. Newswatch, Lagos, Vol. IV, No. 3.
 Siyan, P. and M.N. Isa, 2007a. Impact of Foreign Debt on Nigeria Economic Growth. A study of 4 selected sectors 1981-2004)-Unpublished.