An analysis of the impact of external debt on banks' performance. Evidence from Nigeria.

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Abstract

This study focuses on the long-run relationship and causal impact between foreign or external debt and bank performance using different performance indices such as return on capital employed, earnings per share and return on equity. The micro analysis done which in this regard is on the firm specific choice of the two big banks in Nigeria i.e. First Bank Plc and United Bank for Africa during the period before the debt relief granted to Nigeria is apt against the backdrop of concentration-profitability relationship. A general model of the micro analysis was developed with ample support of a macro model underpinned by a simultaneous equation using a vector auto-regression estimation. The findings are that foreign or external debt impacts negatively on bank performance but the direction of impact is different for the two banks chosen in this study. While foreign debt was most felt on return on capital employed by United Bank for Africa, the impact of foreign debt affected the earnings per share most in First Bank Plc. The difference in the direction of causal impact can be attributed to the peculiarity of the internal environment of each of the banks.

Keywords: External Debt, Bank Performance, Earnings Per Share, Return on Equity, ROCE

1. Introduction

Over the years, studies on the impact of public debt on economic growth, foreign direct investment and many other macroeconomic indicators of the wellbeing of a country have been carried out by scholars and researchers in different countries. However, sectors specific impacts of public debt have not been well researched into especially the impact of public debt on the banking sector. This study thus aims at bridging the knowledge gap in a way.

It is imperative to say that the nature and structure of a country's public debt i.e. external debt or domestic debt affects individual citizens, institutions of government and privately owned organizations like banks though the direction of causality and impact needs to be verified.

According to Oyejide (1985) debt is generally defined as the resource or money in use by an organization or a nation which is not contributed by the user and does not in any way belong to the country. External debt according the World Bank refers to all unpaid portion of external financial resources which are needed for development purposes and balance of payment support which could not be repaid as and when due. It is also described as the gross amount at any time of disbursed and outstanding contractual obligations of a country to non-residents to repay principal with or without interest.

Focusing on public debt and banking sector performance is germane because expectedly there is a causal relationship between the wellbeing of a nation and sectors within it especially the banking sector. In concrete terms and according to literature, banks facilitate capital formation and accumulation which is necessary for the smooth running of an economy but public debt impairs and frustrates the ability of banks to enhance capital formation in debtor countries.

In their study, Ncube and Senbet (1994) affirmed that an efficient financial system is germane to domestic capital formation and promotes competitive advantage in the global market for capital. However, high debt profile which is an evidence of an economy in crisis discourages savings which by extension affects bank's performance. For the mere fact that public debt depresses the capacity to save by citizens, banks are often forced to access high risk funds that increases their risk exposure consequent upon distortions introduced into the financial system as a result of a country's high debt profile.

This study carried out using Nigeria as an example is quite apt and instructive going by the fact that for a long time prior to the debt relief granted Nigeria in year 2005, the country was under intense foreign debt crisis that stifled growth and development and no segment of the society was spared. Nigeria being a developing country, it is expected that the issues highlighted, analysed and discussed in this study will enable other countries especially those in Sub-Sahara Africa take a second look at their exposure to external debt and what impacts such will have on their economies and especially the banking sector.

Two major banks that are big players in the banking sector i.e. First Bank Plc, United Bank for Africa Plc, were used in this study. The choice of the banks was also reinforced by the reasonableness of the relationship between concentration and profitability which in the case of the two banks as at the period covered by this study added up to 65% of the total market. Concentration ratio is used to show the extent of market control of the largest firms in the industry and to illustrate the degree of which the industry is oligopolistic. The bank performance variables used herein include return on capital employed (ROCE), earnings per share (EPS) and the return on equity (ROE).

Generally in literature, banks performance measurement has been based on the structure conduct/performance hypothesis using variables of ROCE, EPS and ROE. It is instructive to say that though bank prices or interest rates emphasising the price concentration

ratio may also be used, there are often fears that the use of bank prices does not take into cognisance exogenous costs.

2. Literature Review

Researchers over the years in several studies have come up with the causes of public debt and results of the impact of debt on countries of the world. According to Iyoha and Iyare (1994) the causes of Africa's debt problems can be grouped into those arising from fundamental or structural causes, those due to cyclical causes, those arising from a hostile economic and political environment and those due to inappropriate domestic policy.

Dornbusch and Fischer (1986) in their study of 'Third World Debt' posited that debt crisis arises as a result of imprudent borrowing policies by the debtor countries and imprudent lending by commercial banks aggravated by unfavourable world macroeconomic conditions. Simonsen (1995) placed more emphasis on system factors and their inevitable consequences for debt dynamics while Guttentag and Herring (1985) blame the commercial bank lenders and their regulators for over-lending without due consideration for the profitability of the projects such funds were to be used for.

Onimode (2000) asserted that Third World Countries were tricked into debt bondage in support of the position of Prayer (1975) on the theory of foreign debt peonage or bondage. Onimode in his study believes that the theory of foreign borrowing as a means of injecting foreign capital into Third World Countries is flawed and almost passes for a pure myth based on so many considerations. In support of his argument, he posited that the theory pays little attention to the fact that foreign loans have to be repaid in future and when this loan repayment is factored into the scenario, it is assumed erroneously that the profit from the activities on which the loan is spent will be enough to service or repay the debt but in reality this is not so.

Another problem recognised was that foreign loans and their repayment (capital and interest) are in foreign currency but the local profits for making the loan repayment are earned in local currency hence the borrowing country must be able to earn enough foreign exchange from its export earnings to meet up and with the dwindling fortune of commodity trade, many borrowing countries often find it difficult to raise enough foreign exchange for debt servicing. Also the fact that the theory assumes that real interest rates and other terms to the foreign loan will remain constant has been faulted because in reality poor countries are forced to borrow at variable interest rates that often complicate debt repayment.

It is also important to say that foreign debt especially as it concern Nigeria has been due to corruption, loan maturity mismatch in which case short term loans were contracted in funding long term projects, the crave for white elephant projects as it were etc. In Nigeria, corruption that can be linked to foreign debt soared under military rule especially from the period of the overthrow of democratic rule in 1983 till the restoration of democratic rule in 1999. It is noteworthy that before the military took over in 1983, Nigeria's external debt was estimated at $8.93billion but this figure rose sharply to $19.56 billion in 1985 and up to $24.1billionin 1995 according to Leo (2005)

Now, in presenting a conceptual framework on foreign debt and banking sector performance, there have been theoretical propositions as well as empirical propositions linking the effects of foreign debt to banking sector performance. According to Ikhide (1998) the financial sector is expected to promote economic efficiency, sustainable growth and development when there are no adverse externalities.

Idehai and Osagie (1991) provided two theoretical models to explain how foreign debt accumulation affects the performance of the banking sector using external trade, government expenditure, national output as critical determinants. They argued that the pattern

of consumption of the country's population is very important in determining the level of external indebtedness which ultimately affect all key sectors of the economy especially the banking sector performance.

Borensztein (1990) found that debt overhang has an adverse effect on private investment in the Philippines but the effect was strongest when private debt rather than total debt was used as a measure of debt overhang. Iyoha (1996) was also of the persuasion that heavy debt burden acts to reduce investment through both debt overhang and the crowding out effect especially in Sub-Sahara African countries. This position was also that of Foxley (1987) who posited that foreign debt has the capacity to crowd out domestic savings.

In order to respond to macroeconomic changes arising from the consequences of the huge debt burden, several reforms were introduced into the Nigerian banking industry

3. Methodology

This study analyses quantitatively the long-run equilibrium relationship and impact of foreign debt on banking sector performance as it relates to variables such as return on capital employed, return on equity and earnings per share. Herein, a micro-approach was used with each approach highlighting three variables within the framework of simultaneous equations. The variables for the microanalysis the variables are the return capital employed, return on equity and earnings per share.

Smirlock (1985) emphasised that the use of return on capital employed provides a greater evidence of the concentration-probability relationship in banks while other empirical studies posits that return on equity is more dependable in measuring the changes in bank performance over time because banks income and expense component are more closely related to assets.

The general model of the micro-approach is expressed as:

$$BPM = f(Debt) \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots 3.2$$

$$BPM = ROE_i, ROCE_i, EPS_i \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots 3.9$$

$$i = FBN, UBA.$$

Where i are the individual observations and FDB is foreign debts while DDB is domestic debt and TDB is the total debt.

Though the emphasis here is on a micro-analysis of the impact of foreign debt on two selected banks the industry data of performance with reference to the total bank deposit, total bank branches and total bank lending can be explored and for which a macro-model to ease further analysis was developed thus:

$$BPM = TBB, TBL, TBD$$

$$Debt = TDB, FDB, DDB$$

Where

BPM is Bank Performance

TBB is Total Bank Branches

TBL is Total Bank Lending

TBD is Total Bank Deposit

Hence,

$$BPM = a_1 + a_2 TDB + a_3 FDB + a_4 DDB \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots 3.5$$

$$TDB = b_1 + b_2 FDB + b_3 DDB + b_4 BPM \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots 3.6$$

$$FDB = c_1 + c_2 TDB + c_3 DDB + c_4 BPM \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots 3.7$$

$$DDB= d_1+d_2TDB+d_3FDB+d_4 BPM………………………………………….. ….3.8$$

TDB is the total debt while DDB is domestic debt and FDB is the foreign debt

A priori expectations

The a priori expectation in this study is that foreign debt will depress the performance of the banking sector and this has to be proved. However what is not known is the magnitude of the impact of the foreign debts in general on the industry and specifically on the chosen banks used for this study.

3.1 Estimation Technique

In this study, a stationarity test using the unit root approach was first conducted to confirm whether a long run equilibrium relationship exists among the variables to justify the use of co-integration technique however the result showed that all the variables are integrated of different order.

The implication of this is that the necessary condition for the use of co-integration has not been fulfilled hence the Vector Auto regression technique (VAR) was found to be a better alternative and thus used. One advantage of VAR over co-integration is that it assumes all variables are endogenous and analyze a simultaneity relationship among the variables in such a way that the direction of causality and exogeneity is clearly shown by the result. The underlying basis for the micro-approach also used is in tandem with the theory of concentration-profitability relationship in banking as was used by Smirlock (1985) as well as the work of Matsunga (1985) from the understanding of the fact that banks income and expense features or components are related to assets. VAR estimation technique was also used with the return on equity, earning per share and return on capital employed as proxies.

Following the objectives of the study and being a time series analysis, the Vector Autoregressive (VAR) technique has been used to determine the nature of the relationship between Nigeria's foreign debt burden and the variables representing banking sector performance in a simultaneous manner. VAR shows considerable predictive ability and helps in defining evidence in terms of long run relationship between variables. Vector Autoregression is one of the most successful, flexible and easy to use technique for the analysis of multivariate time series. It is a natural extension of the univariate autoregressive model to dynamic multivariate time series.

This VAR model has proven to be especially useful for explaining the dynamic behaviour of economic and financial time series and for forecasting. It usually provides superior forecasts to those from univariate time series models and elaborate theory based simultaneous equation models.

In structural analysis, certain assumptions about the causal structure of the data under investigation are imposed and the resulting causal impacts of unexpected shocks and innovations to specified variables on the variables in the model are summarized. These causal impacts are usually summarized with impulse response functions and forecast error variance decomposition. Herein in this study VAR is thus used to analyze the dynamic impact of random disturbances on the system of variables. Debt burden variables are the domestic debt (DDB), foreign debt (FDB) and   the total debt values (TDB), while the variables representing banking sector performance (BPM) in this study are:

ROE = Return on Equity

ROCE = Return on Capital Employed

EPS= Earnings Per Share

The lag lengths are chosen using Akaike information criterion (AIC). ε_t is known as the impulse innovation or shocks in the language of VAR. The estimate of VAR has been used to determine or trace the effect of one standard deviation shock to one of the innovations on current and future values of the   endogenous variables. This analysis is called "Impulse response analysis".   Also a different method of depicting the system dynamics is to decompose the variations in total debt burden variable into the component shocks to the banking sector performance variables in the VAR; this analysis is called "Variance decomposition".   The analysis focuses on the micro-analysis that looks at specific banks as a case study.

4.Var Analysis Of The Micro-Model

The major objective under this analysis is to determine the impact of foreign debt burden on banking performance on two selected banks. The selected banks are First Bank of Nigeria Plc and United Bank for Africa while the banking performance micro-indicators are the earnings per share (EPS), return on equity ROE and the return on capital employed (ROCE) the results of which are presented below

The approach employed here is somewhat superior to using Data Envelopment Analysis (DEA) because in using the DEA approach no functional or distributional forms need to be specified as all deviations from the frontier are attributed to inefficiency. Technical efficiency reflects the ability of a firm to obtain maximum output from a given set of inputs. There is an increasing concern in measuring and comparing efficiency of firms under different environments and activities. One of the simplest and easiest ways of measuring efficiency is output divided by input. However this can only be easily done if a firm produces only one output as this method is inadequate in firms that produce multiple outputs like the banking firm that uses various inputs related to different sources.

4.1 Empirical Results

The results of the empirical analysis of the impact of foreign debt on banking sector performance is presented i.e. the relationship in a micro sense using selected banks, while the last section discusses the findings from the results. The result of the stationarity test in form of the Philip Peron Unit root test is presented in Table 4.1. This test is necessary to avoid spurious regression and to confirm whether the variables do co-integrate or not, that is whether a long-run equilibrium relationship exists among the variables.

Variables in Table 4.1 i.e. the banking sector performance micro-variables are Return on Equity for both United Bank For Africa (UBA) and First Bank (ROEU, ROEF); Return on Capital Employed for the two banks, (ROCEU AND ROCEF); Earning per share for the two banks (EPSU and EPSF). The third categories are the debt variables. These are Total Debt (TDB), External Debt (EDB) and Domestic Debt (DDB).

The result in Table 4.1 shows that all the variables are integrated of different order. While all the micro-variables (ROE, ROCE, EPS) for the two banks and Total Bank Branches (TBB) are integrated of order one, I(1), the macro variables (TBL, TBD) and the debt variables (TDB, EDB and DDB) are each integrated of order two denoted as I(2). The order of integration is the level at which such a variable is made stationary, while stationarity has to do with persistence shock.

Meanwhile, Table 4.1 revealed that all the variables are non-stationary at their own levels (using their raw data) but are made stationary at different orders. The implications of this result is that the lengths of sustained shock are not the same among the variables. Variables integrated of order two will exhibit a more persistent shock than the I(1) variables. Simply put, any shock received by such variables will take a very long period before the effect disappears. These results do not favour the required necessary condition for co-

integration, therefore a condition for the better alternative, the Vector Autoregression (VAR) is met. The result of the VAR are discussed in subsequent sections.

Table 4.1: Philip Peron Unit Root Test Summary

Series	PP Test Start	1% C.V	5% C.V	Integration
D (TBL,2)	-10.2814	-3.6852	-2.9705	I (2)
D(TBD,2)	-13.9997	-3.6852	-2.9705	I (2)
DTBB	-5.1710	-3.6752	-2.9665	I (1)
DTDB(2)	-4.4761	-3.6852	-2.9705	I (2)
D(EDB,2)	-4.4977	-3.6852	-2.9705	I (2)
D(DDB,2)	-6.5338	-3.6852	-2.9705	I (2)
D(ROEF)	-5.4027	-3.6752	-2.9665	I (1)
D(ROEU)	-5.3503	-3.6752	-2.9665	I (1)
D(ROCEU)	-4.3919	-3.6661	-2.9627	I (1)
D(ROCEF)	-4.8849	-3.6661	-2.9627	I (1)
D(EPSU)	-5.9808	-3.6752	-2.9665	I (1)
D(FPSF)	-7.0529	-3.6752	-2.9665	I (1)

Source: Computed from raw data of the study

The major objective under this analysis is to determine the true nature of the relationship between foreign debt burden and banking sector performance. One advantage of the VAR over the co-integration analysis is that, it assumes all variables are endogenous and analyse a simultaneity relationship among the variables, such that the direction of causality and exogeneity is clearly shown by the result.

Var Analysis of the Micro-Model

The major objective under this analysis is to determine the impact of debt burden on banking performance in two selected Banks. The selected banks are First Bank of Nigerian PLC and United Bank for Africa (UBA), while the banking performance micro-indicators are the Earning per share (EPS), Return on Equity (ROE) and the Return on Capital Employed (ROCE).

Table 4.2: Estimation Results for Second –order First Bank VAR System

Dependent Variable: EPS (Earning Per Share)

Variable	Coefficient	Std Error
EPS (-1)	0.2796	0.2285
EPS (-2)	-0.1574	0.2336
DDB (-1)	7.5305	12.0383
DDB (-2)	7.8059	12.0679
EDB (-1)	7.0741	12.0358
EDB (-2)	7.7833	12.0759
TDB (-1)	-7.0876	12.0333
TDB (-2)	-7.8349	12.0736
C	60.3253	22.8016

$R2 = 0.85$, Adj. $R2 = 0.79$, F – Test = 14.72

Source: Computed from raw data

Table 4.2a Dependent Variable: TDB (Total Debt Burden)

Variable	Coefficient	Std Error
EPS (-1)	-2.5478	1.1174
EPS (-2)	-2.7689	1.1425
DDB (-1)	35.053	58.8704
DDB (-2)	25.55	59.01
TDB (-1)	-18.97	58.8464
TDB (-2)	-38.136	59.04

R^2 0 0.98; Adj. $R^2 = 0.97$: F – STAT = 168 . 0017

Source: Computed from raw data

Table 4.2b Dependent Variable. ROCE (Return on Capital Employed)

Variable	Coefficient	Std Error
ROCE (-1)	0.4048	0.2024
ROCE (-2)	0.1040	-9.8508
DDB (-1)	-0.0008	0.0259
DDB (-2)	-0.0008	0.0259
EDB (-1)	-0.0008	0.0259
EDB (-2)	-0.00085	0.0259
TDB (-1)	0.0008	0.0259
TDB (-2)	0.0008	0.0259
C	3.85E-05	0.03792

$R^2 = 0.46$; Adj. $R^2 = 0.25$; F – stat. = 2.166

Table 4.2c Dependent Variable: ROE (Return on Equity)

Variable	Coefficient	Std Error
ROE (-1)	0.5480	0.204
ROE (-2)	0.236	0.1802
DDB (-1)	-0.0185	0.122
DDB (-2)	0.0213	0.122
EDB (-1)	-0.0152	0.122
TDB (-1)	0.0195	0.1222
TDB (-2)	-0.0207	0.1223
C	0.006	0.1825

$R^2 = 0.94$; Adj. $R^2 = 0.91$; f – stat = 37.82

Source: Computed from raw data

The results in table 4.2a to4.2c is a summary of the VAR estimates of bank performance indicator using First Bank Nigeria PLC. Comparing the R^2, it is revealed that the R^2 for the Return on Equity (ROE) is highest (0.94) while that of the Earning Per Share is next (0.85) and Return on Capital Employed has the lowest (0.46). The interpretation of this is straight forward. Return on Equity is most affected by the debt burden in First Bank followed by Earning Per Share and the least affected is the Return on Capital Employed. The results in Table 4.2 also portrays a negative impact of the debt variable on the bank performance indicators in the bank. The impact analysis is discussed in subsequent sessions of this chapter.

Table 4.3: Estimation Results for Second – Order UBA VAR System.

Dependent Variable: Earning Per Share (EPS)

Variable	Coefficient	Std Error
EPSU (-1)	0.4401	0.2030
EPSU (-2)	0.2324	0.2428
DDB (-1)	0.9599	10.78
DDB (-2)	1.3961	10.80
EDB (-1)	1.1969	10.81
EDB (-2)	1.1386	10.79
TDB (-1)	-1.2089	10.81
TDB (-2)	-1.0890	10.78
C	7.1747	16.339

$R^2 = 0.84$; Adj. $R^2 = 0.78$; F – stat. = 13.52

Source: Computed from raw data

Table 4.3a Dependent Variable: ROCE (Return on Capital Employed)

Variable	Coefficient	Std Error
ROCE (-1)	-0.2575	0.146
ROCE (-2)	-0.2810	0.152
DDB (-1)	0.00015	0.00006
DDB (-2)	0.00026	0.00064
EDB (-1)	0.000020	0.00064
EDB (-2)	0.00016	0.000064
TDB (-1)	-0.0002	0.00064
TDB (-2)	-0.00018	0.00064
C	0.016	0.0025

$$R^2 = 0.75; \text{ Adj. } R^2 = 0.65; F - \text{stat.} = 7.51$$

Table 4.3b Dependent Variable: ROE

Variable	Coefficient	Std Error
ROE (-1)	0.2622	0.2484
ROE (-2)	-0.2454	0.2867
DDB (-2)	-0.0441	0.127
DDB (-2)	-0.00768	0.1271
EDB (-1)	-0.0392	0.1273
EDB (-2)	-0.0152	0.1274
TDB (-1)	0.0398	0.1272
TDB (-2)	0.0147	0.1274
C	0.4212	0.2366

$$R^2 = 0.84; \text{ Adj. } R^2 = 0.78; F - \text{stat.} = 14.12$$

Source: Computed from raw data

The result in Table 4.3 shows the VAR estimates for the three bank performance indicators for United Bank for Africa (UBA). The R^2 in the three variables are high but EPS and ROE all have 0.84 R^2 and 0.78 Adjusted R^2. This shows that the effect of debts on bank performance is equal on the both the Earning Per Share and Return on Equity. Also, a negative relationship exists between EPS and the total debt (TDB) while a negative relationship exist between Return on Equity (ROE and the Domestic debt and External debt respectively.

IMPACT ANALYSIS OF THE MICRO-MODEL

This section presents the analysis of the impact of debt variables on individual banks using the First Bank of Nigeria and the United Bank for African (UBA) as case study. The result of the variance decomposition of the VAR results presented in tables 4.2 and 4.3 are presented in Table 4.4

Table 4.4: Variance Decomposition for First Bank PLC

Variance Decomposition of EPS

Period	EPS	DDB	EDB	TDB
1	100	0.000	0.000	0.00
3	67.3	20.2	10.1	2.5
5	67.2	19.5	11.2	2.1
7	62.8	20.9	14.3	1.9
9	62.3	19.3	16.8	1.5
10	61.3	19.6	17.7	1.4

Table 4.4a **Variance Decomposition of ROCE**

Period	EPS	DDB	EDB	TDB
1	100	0.000	0.000	0.00
3	99.9	0.006	0.02	0.01
5	99.9	0.009	0.05	0.012
7	99.8	0.03	0.09	0.012
9	99.7	0.08	0.15	0.012
10	99.6	0.12	0.19	0.012

Source: Computed from raw data

Table 4.4 b **Variance Decomposition of ROE**

Period	ROE	DDB	EDB	TDB
1	100	0.00	0.00	0.00
3.	42.4	37.5	20.07	0.02
5	32.9	42.9	24.07	0.12
7	27.4	46.4	26.03	0.14
9	21.0	49.9	29.2	0.13
10	22.1	49.2	28.5	0.15

Source: Computed from raw data

First Bank Earning per Share (EPS)

Table 4.4 show that shocks received by Earning per Share in First Bank are decomposed as follows: Sustained impact from its own lag contributed about 67% in the first 3 period while domestic and external debts contributed 20% and 10% in the same period. The sustained impact's effect fades away gradually over time to about 67.2% in the 5th period, 62.8% in the 7th period and 61.3% in the 10th period. The negative impact of domestic debt gradually oscillates throughout the 10 period. The impact of external debt however increases from 11.2% in the 5th period to about 14.3% in the 7th period and 17.7% in the 10th period. But the impact of domestic debt in greater. The joint impact of the two debt variables is less and declines gradually over time.

First Bank Return on Capital Employed (ROCE)

The source of shock to Return on Capital Employed (ROCE) on First Bank is concentrated on the sustained impact from its own lag. 100% impact comes from the shock in the 1st period; the shock fades out but very slowly over the years. It reduces to 99.9 in the 3rd

period to about 99.7 and 99.6 in the 9th and 10th period respectively. The impact of domestic debt is very negligible.   About 0.006% in the third period which increases very slowly to 0.03 in 7th period, 0.08 in the 9th period and 0.12 in the 10th period.

However, the impact of external debt on ROCE in First Bank is also insignificant and also less than 0.5% throughout the 10 periods. Also the joint impact of debt on ROCE is less than 0.05% throughout the 10 periods. A good summary of this result is that when ROCE received a shock in First Bank it is sustained, and never wiped out.

First Bank Return on Equity (ROE)

According to Table 4.4 the source of shock to the Return on Equity on First Bank is distributed among the debt variables and its feedback from its own lags. Shocks received from feedback from its own lag was about 43% in the third period, it reduces to about 33% in the 5th period and further dies out to about 21% in the 9th period. The shocks received from domestic debt increases from about 38% in the 3rd period to about 43% in the 5th period and to about 50% in the 9th period.

In like manner the shock received from external debt increases from about 20% in the 3rd period to about 24% in 5th and about 29% in the 9th period. The joint impact of debt on ROE in First Bank is quite negligible, it is less than 0.5% throughout the 10 period. A major inference drawn from this result is that domestic debt problem impact more on the Return on Equity than the external debt problem in the First Bank.

Table 4.5: Variance Decomposition for UBA

Variance Decomposition of EPS

Period	EPS	DDB	EDB	TDS
1	100	0.000	0.000	0.00
3	81.9	8.7	9.3	0.07
5	66.7	23.3	9.7	0.25
7	43.7	47.0	9.2	0.19
9	39.2	44.8	15.8	0.21
10	42.9	40.2	16.7	0.22

Table 4.a Variance Decomposition of ROCE

Period	ROCE	DDB	EDB	TDB
1	100	0.000	0.000	0.00
3	19.1	26.3	54.5	0.06
5	17.5	37.2	45.3	0.05
7	12.6	37.9	49.5	0.03
9	9.8	42.2	47.9	0.02
10	8.9	42.5	48.6	0.02

Table 4.5b Variance Decomposition of ROE

Period	ROE	DDB	EDB	TDB
1	100	0.000	0.000	0.00
3	76.4	15.6	7.33	0.65
5	57.3	32.1	9.96	0.67
7	57.7	29.6	11.90	0.80
9	52.6	32.6	14.12	0.69
10	49.9	35.1	14.32	0.67

Source: Computed from raw data

UBA Earning per Share (EPS)

From Table 4.10, it is shown that shocks to Earning per share received from feedback effect of its own lag was very severe in first 3 periods but it fades away gradually, reducing to about 66.7% in the 5th period about 44% in the 7th and 39.2% in the 9th period. However, shocks received from the problem of domestic debt in the economy was not so severe on UBA Earning per share in the first 3 periods. Its impact worsens as it increases to 23.3% in 5th period and about 47% in the 7th. It tries to die out gradually by reducing a little to about 45% in the 9th period and 40.2% in the 10th period.

However, the impact of external debt on UBA earning per share was not as grievous as that of domestic debt; but the impact increased throughout the 10th period. It increased from about 9.3% in the 3rd period to 9.7% in the 5th, 15.8% in the 9th and 16.7% in the 10th period. The combined impact of the debt variables is negligible; less than 0.5% throughout the 10 periods.

UBA Return on Capital Employed (ROCE)

A look at Table 4.5a suggests that the feed back effect on Return on Capital Employed in UBA is very minimal and reduces over the period. It reduces from 19.1% in the 3rd period to 17.5% in the 5th 9.8% in the 9th and 8.9% in the 10th period. On the other hand, the impact of domestic debt on UBA Return on Capital Employed is great. It increases from 26.3% in the 3rd period to 37.2% the 5th, 42.2% in the 9th and 42.5% in the 10th period.

Contrary to Earning per Share (EPS) observation, the impact of external debt is greater on the Return on capital employed in UBA. It was worse at the start, about 55% in the 3rd period but reduces gradually to about 45% in the 5th, about 50% in the 7th, 48% in the 9th and about 47% in the 10th period. It was also observed that throughout the 10 periods, the impact of external debt on the return on capital employed is more than the impact of domestic debt on the same variable. However, the combined impact of debt on the ROCE is quite insignificant.

UBA Return on Equity (ROE)

From Table 4.5, the decomposition of the variation or shocks in the Return on Equity in UBA is more evenly distributed. 764% of such shocks, comes from feed back from its own lag in the 3rd period. This reduces gradually to about 57.3% in the 5th, 58% in the 7th, 52.6% in the 9th and about 50% in the 10th period. The impact of domestic debt (DDB) was less severe at the beginning and about 15.6% in the 3rd period. This increased gradually to about 32% in the 5th, 29.6% in the 7th, 32.6 in the 9th and about 35% in the 10th period.

The impact of external debt on UBA's Return on Equity was less. It was about 7.3% in the 3rd period. It increased slowly to about 9.96% in the 5th 11.9% in the 7th period, 14.12%

in the 9th period and 14.32 in the 10th period. However, the combined impact of the debt variable was very insignificant, less than 1% throughout the 10 periods.

5.0 Conclusion and Recommendations

The impact of foreign or external debt is most felt on the return on capital employed by United Bank for Africa while external debt impacts most negatively on the earnings per share of First Bank Plc from the analysis done.

Generally, for external borrowing to be beneficial, debt-financed budget deficit must be operated in order to stabilise the debt ratio at the optimum sustainable level and as such debt overhang will be avoided. This should guide the external debt propositions of developing countries especially in Sub-Sahara Africa.

References

Borensztein, E (1990) Debt overhang, debt reduction and investment: The case of the Philippines. www.google.com 08/09/2006

Dornbusch, R and Fischer, S (1986) Third World Debt. *Social Science Review*, November pp 836-841

Foxley, A (1987) "Latin American Development After Debt Crisis" Journal of Development Economics Vol 27 pp 201-225 October

Guttentag, J.M and Herring, R (1985) "Commercial Banks Lending to Developing Countries: From Overlending to Underlending to Structural Reforms" In International Debt and the Developing Countries. The World Bank, Washington D.C

Iyoha, M.A (1996) External Debt and Economic Growth in Sub-Saharan Africa Countries: An Econometric Study. www.researchnetwork 17/07/2005

Iyoha, M.A and Iyare, S (1994) "Africa's Debt Problems" in African Debt Burden and Economic Development: *Nigeria Economic Society* pp1-13

Leo, A (2005) Why Nigeria's Debt Should Be Cancelled. *African Network for Environmental and Economic Justice*. Benin, Nigeria

Matsunaga, L , Keeton, W (1985) "Profits of Commercial Banks in Tenth District States" Economic Review of Federal Reserve Bank of Kansas City, June 3-22

Ncube, M and Senbet, L.W (1994) Perspectives in Financial Deregulation and Liberalization in Africa Under incentive Problems and Asymmetric Information. Paper Presented at the AERC Research Workshop, Nairobi, 2-8 December

Onimode, B (2000) "Discussions on Debt Peonage" in Africa's Debt Burden and Economic Development: Nigeria Economic Society

Oyejide, T. (1985) Nigeria and the IMF. Heineman Educational Books, Ibadan, Nigeria.

Simonsen, M. H (1985) The Developing Countries Debt problems: World Bank Symposium, Washington D.C

Smirlock, M (1985) "Evidence in the Non-Relationship Between Concentration and Profitability in Banking "*Journal of Money, Credit and Banking*" 17(1) 09-84