



Impact of External Debt and Debt Servicing on Some Ecowas Countries Economic Growth

Oladotun L. Anifowose

Department of Entrepreneurship Management of Technology, Federal university of Technology, Akure, Ondo state, Nigeria, West Africa.

ARTICLE INFO

Article history:

Received: 19 February 2015;

Received in revised form:

1 February 2016;

Accepted: 8 February 2016;

Keywords

External debt,
Debt servicing,
Economic growth and ECOWAS.

ABSTRACT

External debt is one of the main sources of financing for some ECOWAS countries, which plays an important role in filling up the gap of scarce resources as a result of low domestic savings and high current account deficit. The impact of external debt stock and debt servicing has become a significant area of study. The main focus of this thesis is to investigate the impact of external debt and debt servicing on some ECOWAS countries' economic growth over the period 1970 to 2008 by using annual times series data. The variables of the econometric model used in the study include the Gross Domestic Product as the dependent variable and external debt stock and debt servicing as the independent variables. Using annual time series data, ADF (Augmented Dickey- Fuller) and PP (Phillips-Perron) unit root tests are employed to test stationarity. Following the stationarity check of the time series data of some ECOWAS country, the cointegration test is applied to analyze the long-run relationship between the variables. Then the Error Correction Models are estimated, which provide a useful link between the long-run equilibrium and short-run disequilibrium dynamics. The results illustrate that the economic impact of external debt stock and its servicing varied for different countries among the ECOWAS countries. External debt contributes to economic growth in Benin and Niger while the impact of external debt stock adversely affect the economic growth of Burkina Faso, Cote d'Ivoire, Gambia, Guinea- Bissau, Nigeria, Sierra-Leone and Togo.

© 2016 Elixir All rights reserved.

Introduction

The debt burden issue on less developed countries can be traced to the early 1980's after the oil price increase of the 1970's. It was the product of reactions by the international community to "oil price shocks". One of the legacies of Economic Community of West African State (ECOWAS) countries from the crisis has been an increasing debt stock and debt service payments, which constituted a major constraint to economic growth and social development (Elbadawi et al., 1996).

In addition, Elbadawi et al. (1996) maintain that ECOWAS countries' spending on debt servicing was about one third of their public budget, which were about three times its education expenditure and nine times the health funds on servicing outstanding debts. They note that ECOWAS countries were only paying diminutive over half its planned debt service. Grants from contributor countries were then one- hundredth of the worth of debt service. The truth is that there was a lattice transfer of funds from ECOWAS countries to the developed countries.

Furthermore, the composition of the overall foreign debt of the ECOWAS countries was largely made up by unpaid principal and interest payment, which have directly affected the composition of current principal balance. This might lead to problem of possible debt overhang crisis if not arrested, which may hamper efforts made to reinstate the economy to the pathway of recovery and growth. However, given the number of years, since African countries had been independent and the substantial debt it had incurred, coupled with the existing institutions, one can claim that the entire spectrum of the

economy has not been sufficiently active, especially when compared with the economy of similar or lesser aged developing countries.

Literature Review

The economic literature of recent times on open economies shows that rational levels of external borrowing by a developing country can improve its economic growth through capital accumulation and efficiency growth. Pattillo et al. (2002) conclude that this leads to faster convergence of per capita income between nations. Most modern economies are virtually floating on credit. The accumulation of external debt is common phenomenon of developing countries at the stage of economic development where the supply of domestic savings is low, current account deficit are high and import of capital are needed to augment domestic resources (Michael and Stephen, 2009). All these have made external borrowing a necessity.

Debt Overhang Hypothesis

Debt overhang theory "is based on the premise that if debt will exceed the country's repayment ability with some probability in the future, expected debt service is likely to be an increasing function of the country's output level. Thus some of the returns from investing in the domestic economy are effectively taxed away by existing foreign creditors and investment by domestic and new foreign investors is discouraged" (Claessens et al. 1996; p. 17).

Sachs (1986) indicates that when indebted countries pay their debt, these payment require a transferring of resources from private sector to public sector, to ensure that the government meet the its debt obligation, through increase tax on the private economy. This increasing taxation will leads to a reduction in

the net returns of investment in the debtor countries and negatively affect the future production and income.

In addition, Feldstein (1986) also enriches the study of Sachs (1986) by arguing that the debt burden is not a problem of freeing resources to debt service payment but also doing so in a way that converts these resources into foreign exchange. It is considered that indebted countries are able to achieve this by increasing exports but in practice the experience indicates that maintaining the increase in export is too difficult.

Furthermore, debt overhang hypothesis explains that huge debt acts as a tax on indebted economy output, when there is a high level of debt service payment as earnings benefited from output of increased production or exports by the debtor countries. This means that excess debt reduces the supply of new loans by discouraging creditors; it reduces the demand for new investment and discourages policy efforts to reform by acting like a tax where a part of the future output is assumed to be used for repayment of the initial debt. This discourages domestic investment, resulting in low growth.

More so, in a situation where debt overhang hypothesis exists, the debtor country shares partially in any considerable increase of its outputs and exports to be able to meet its debt servicing obligation. The theory suggests that low debt will promote investment and repayment capacity.

In conclusion, when there is a high level of debt, the indebted country is said to be in the "wrong side" of the debt-laffer curve. The debt-laffer curve explains the relationship between the amount of debt repayment and the size of the debt. The debt-laffer curve indicates that there is a limit at which huge debt stimulates growth (Elbadawi et al., 1996).

Summary of the literature findings

This section reviewed some of the existing literature on the linkage between external debts, debt servicing and economic growth in developing countries. The issue of economic growth is of great importance to any nation state because it is the country's total output that determines the general welfare (per capita income) of the citizens. Countries can borrow to augment their limited domestic capital and hence promote growth and development through productive investments. Once growth is achieved, the returns of the invested resources should be used to service the debt.

Nevertheless, many empirical studies on developing countries show that external borrowing, instead of positively promoting economic growth, it retards growth. This is because high external indebtedness discourages the inflow of foreign capital in the form of investment for fear of ill macroeconomic policies that distort the economy. Debt service, which is the immediate impact of large external debt, drains the debtor countries of resources that could be invested to promote growth. These studies are largely based on individual or a cross countries only. From evidence of the reviewed literature, the researcher concludes that the impact of external debt and servicing is different for different nations and literature shows that there is need for a more comprehensive study on the subject matter using ECOWAS as a case study. This will enable the study to determine whether the hypothesis is valid for ECOWAS or not.

An Overview of the ECOWAS Countries' Economies

The ECOWAS was set-up on 28 May 1975 when fifteen heads of states of West African countries signed the treaty establishing it at Lagos, Nigeria. By virtue of their small sizes and markets, the creation of this body was considered important for the economic development of the sub-region. The fifteen

member states, though were members of different colonies, have strong historical and cultural relationships.

Most of the countries in the sub-region have very low income per capita, and carry the burden of large external debts. These countries have different levels of economic growth and resources. Table 1 gives a snapshot of selected basic macroeconomic characteristics of these countries.

Furthermore, the ECOWAS economies represent 25 percent of Africa's land area, which covers a surface area of about 6,142,000 sq. km. The population is 34 percent of Africa's total population, and stretches from the southern edges of the Sahara desert to the Atlantic Ocean along the Gulf of Guinea to Biafra and from the eastern shores of the Atlantic from Senegal to Lake Chad. The climatic and geographical conditions of these countries range from equatorial rain forests to hot desert belt (Jones, 2002).



Figure 1. Map of ECOWAS countries

Source: The World Bank

Data and Methodology

This section describes the data used in this study, the data source, and the estimation methodology. It describes the econometric model employed and their estimation technique.

Data Description

This study is performed in the framework of some ECOWAS countries, for the period of 1970 to 2008. Data sources are from the World Development Indicators database (WDI) of the World Bank (2009) in annual figures. In this study, economic growth is measured by Gross Domestic Product (GDP) constant 2000 US\$ while external debt stock (EDS) and debt servicing (DS) will be the independent variables. All variables are at their natural logarithms and EVIEWS 6.0 is the software package used for calculation of our results. The main variables for this study include external debt stock, debt servicing and GDP at Constant US Dollars prices.

Method of Analysis

The method of analysis to be used shall be the time series data econometrics. This approach, which is a quantitative technique will be used. In demonstrating the application of the time series data econometrics method, the regression analysis would be used with the GDP as the dependent variable in both models. The explanatory variables are external debt service payment and external debt stock.

Econometric Model Specification

The researcher intends to assess the impact of external debt and debt servicing on growth of some ECOWAS countries with the dependent variable as gross domestic product while the explanatory variables are external debt service payment following. So that:

Table 1. ECOWAS Selected Economic Indicator

Country	Population (millions) 2008	GDP (Billions US\$) 2008	GDP Per capita (US\$) 2008	Per GDP Growth (annual) % (2004-2008)	Current Account Balance (% of GDP)	Budget Deficit (2005)	External Debt 2008	Debt service 2008	Inflation (2004-2008)	Nominal interest Rate (%) (2004-2008)
Benin	8.6	6.6	771.2	3.9		-2.4	14.8	1.46	7.9	3.8
Burkina	15.2	7.9	521.7	4.9		-5.3	21.1	0.58	10.6	3.7
Cape Verde	0.5	1.5	3193	5.1	-12.9	-3.7	36.6	2.0	6.7	10.2
Cote	21	2.3	1137	1.5	2.08	-1.7	55.9	4.6	6.3	3.1
Gambia	1.6	81	488	6.1	-5.35	-8.6	61.5	3.2	4.4	30.1
Ghana	23	16	713	6.1	-21.2	-1.6	31.3	1.5	16.5	13.1
Guinea	9.8	3.7	386	2.8	-11.4	-0.9	73.2	4.1	18.3	3.6
Guinea-	1.5	0.4	272	2.4		-11.9	274.0	4.0	10.4	4.2
Liberia	3.7	0.8	222	6.4	-140.9	0.9	515.4	135.2		5.7
Mali	12.7	8.7	687	4.2		-3.1	25.8	0.8	9.1	3.0
Niger	14.7	5.3	364	5.0		-1.6	18.0	0.5	11.3	3.8
Nigeria	151	207	1369	6.9	19.0	9.4	5.6	0.3	11.5	13.7
Senegal	12.2	13	1086	4.4		-3.2	21.8	1.3	5.7	3.1
Sierra	5.5	1.9	351		-11.6	-1.7	20.3	0.2	17.4	16.0
Togo	6.45	2.8	448	2.2		-3.0	56.0	6.7	8.6	3.8
Total	287.45									

Source: World Bank Database Indicator (2010) and African Development Bank (2005)

Countries	Model	Optimum Lag	Johansen Trace Test	Level equation	ECT [t-ratio] (standard error)
Benin	GDP=f(EDS,DS)	3	36.47*	1.0	-0.63
	EDS			0.10 [4.42]*	[-4.93]*
	DS			-0.03 [-1.47]	(0.12)
Burkina Faso	GDP=f(EDS,DS)	2	30.92**	1.0	-1.16
	EDS			0.06 [0.7]	[-1.97]
	DS			0.08 [1.23]	(0.59)
Gambia	GDP=f(EDS,DS)	1	48.98*	-0.16 [-1.27]*	[-4.1]
	EDS			0.20 [2.05]**	(0.03)
	DS			-1.20 [-7.93]*	[-2.1]
Ghana	GDP=f(EDS,DS)	2	32.09**	0.85 [6.59]*	(0.03)
	EDS			1.0	-0.94
	DS			- [9.32]*	[-1.92]***
Guinea-Bissau	GDP=f(EDS,DS)	1	35.58**	[21.96]*	(0.48)
	EDS			1.0	-0.138
	DS			-	[-2.81]**
Niger	GDP=f(EDS,DS)	1	33.25**	0. [2.76]*	(0.04)
	EDS			1.061*	-0.40
	DS			0.13 [3.55]*	[-3.02]*
Nigeria	GDP=f(EDS,DS)	1	41.45*	-0.16 [-3.66]*	-0.21
	EDS			1.0	-0.05 [-2.37]**
	DS			0.14 [3.01]*	[-1.92]***
Sierra Leone	GDP=f(EDS,DS)	4	30.15**	1.0	-0.09
	EDS			-1.36 [-3.08]	[-3.06]*
	DS			0.24 [0.67]*	(0.03)
Togo	GDP=f(EDS,DS)	4	32.25**	1.0	-0.20
	EDS			-0.18 [-1.39]	[-2.37]**
	DS			0.17 [2.18]*	(0.08)

Table 5. Empirical Results

Benin: $GDP = f (0.10 \text{ EDS}, -0.03 \text{ DS})$	For Benin and Niger, External Debt Stock (EDS) has positive effect on GDP, while Debt Servicing has a negative impact on the GDP, this might lead to a possible crowding out effect of vital resource.
and for Niger: $GDP = f (0.13 \text{ EDS}, -0.16 \text{ DS})$	
For Burkina- faso	For Burkina Faso, External debt and Debt Service has positive effect on GDP. This proposition is supported by Krugman (1988) proposition that external debt stock stimulate growth although argued that it has limit to stimulate growth.
$GDP = f (0.06 \text{ EDS}, 0.08 \text{ DS})$	
Cote d'Ivoire: $GDP = f (-0.16 \text{ EDS}, 0.20 \text{ DS})$	For Cote d'Ivoire, Gambia, Ghana, Guinea-Bissau, Nigeria, Sierra Leone and Togo, External debt has negative impact on GDP, which might lead to debt overhang, while debt servicing is positive indicating that it has no negative effect on the GDP. This means are they are capable of servicing their debt. This will possibly lead to slower economic growth of these economies.
Gambia: $GDP = f (-1.20 \text{ EDS}, 0.85 \text{ DS})$	
Ghana: $GDP = f (-0.71 \text{ EDS}, 0.48 \text{ DS})$	
Guinea Bissau: $GDP = f (-0.37 \text{ EDS}, 0.46 \text{ DS})$	
Nigeria: $GDP = f (-0.05, 0.14 \text{ DS})$	
Sierra Leone: $GDP = f (-1.36 \text{ EDS}, 0.24 \text{ DS})$	
Togo: $GDP = f (-0.18 \text{ EDS}, 0.17 \text{ DS})$	

Model

Gdp = $f(\text{Eds, Ds})$
 where Gdp - Gross Domestic Product
 Eds - External debt stock
 Ds - Debt service payment

Methodology

The method employed for construction, estimation and analysis will be econometric models. Annual time series data for some ECOWAS countries which incorporates external debt and servicing will be used to measure the impact on economic growth. The following tests will be conducted in the estimation of individual country data of the ECOWAS countries: Augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) Unit root tests, Johansen Cointegration test and Error Correction Model (ECM).

Johansen Cointegration Test Results

The Johansen co-integrated provides the log likelihood ratio statistics for determining the number (r) of long run relationship between GDP, EDS and DS. If calculated value of the statistics (Johansen trace test statistic) is greater than 95% critical value, the null of $r = 0$, which indicates no long-run relationship, is rejected against the alternative hypothesis. Now that we have established that GDP, EDS and DS are non-stationary at level and integrated to the same order $I(1)$, we can test for the presence of cointegration.

The Johansen Cointegration test results are reported in Table 4. Results indicate that there is a relationship between GDP, external debt stock and servicing in the above ten ECOWAS countries since the calculated value of the statistics is greater than 5% critical value. The Johansen trace statistic results for ten ECOWAS are follows: Benin (36.47), Burkina Faso (30.92), Cote d'Ivoire (33.52), Gambia (48.98), Ghana (32.09), Guinea-Bissau (35.58), Niger (33.25), Nigeria (41.45), Sierra Leone (30.15) and Togo (32.25) and statistically significant at $\alpha = 1\%, 5\%, 5\%, 1\%, 5\%, 5\%, 5\%, 1\%, 5\%$ and 5% respectively. This shows that there is one cointegration vector (long-run relationship) between real income and external debt stock plus debt service.

Estimated Long Run Relationship between External debt and Debt servicing on the ECOWAS countries' Economic growth

The long-run coefficient estimates of external debt stock are positive for Benin (0.10), and Burkina Faso (0.06) and Niger (0.13) and statistically significant, while the long-run coefficient of debt service is not statistically significant for Benin. In the case of Niger the long-run coefficient of debt service is statically significant at 1%. The long-run coefficient of external debt stock coefficients are negative for Cote d'Ivoire (-0.16), Gambia (-1.20), Ghana (-0.71), Guinea-Bissau (-0.37), Nigeria (-0.05), Sierra Leone (-1.36) and Togo (-0.18) and statistically significant except for Sierra Leone that is not statistically significant; however, long-run coefficient of debt service for Cote d'Ivoire, Gambia, Ghana, Guinea-Bissau, Nigeria, Sierra Leone and Togo are all statistically significant.

Error Correction Model (ECM)

This section provides the interpretation of the error correction term results for the GDP, external debt stock plus debt servicing for the above ten ECOWAS countries in Table 4. The optimum lags orders are selected by Akaike Information Criterion. ECT in Table 4 is the Error Correction Term. The ECT included in the model capture the long-run dynamics between the cointegration series is correctly signed (negative) and statistically significant for the ten ECOWAS. The ECT signs

indicate the speeds of adjustment are in accord with convergence toward the long-run equilibrium.

Estimated ECT results in Table 4 in the case of Benin, Burkina Faso, Cote d'Ivoire, Gambia, Ghana, Guinea-Bissau, Niger, Nigeria, Sierra Leone and Togo shows that real income converges to its long-run level by 63%, 163%, 16%, 94%, 14%, 40%, 21%, 9% and 20% speed respectively. These denote that the differences between short-run and long-run values of GDP are eliminated by 63%, 163%, 16%, 94%, 14%, 40%, 21%, 9% and 20% every year respectively. These coefficients are negative (as expected) and statistically significant.

Impact of External debt and servicing on ECOWAS countries' Economic Growth

The level equation analysis examines the long-run level relationship between the external debt stock, debt servicing and the gross domestic product of the some ECOWAS countries to confirm the validity of the debt overhang hypothesis. As discussed in Chapter two, debt overhang hypothesis focus on the relationship between huge debt and low growth. The followings are the results of the tests. The first column shows the results of the coefficient for each variable and the column on the right outlines some interpretations

As it was stated in the theory, there is a negative relationship between huge debt and low growth. In the case of some ECOWAS countries studied in this paper external debt stock was found to be positive in Benin, Niger and Burkina Faso but negative in, Cote d'Ivoire, Gambia, Guinea-Bissau, Nigeria, Sierra-Leone and Togo. These results indicate the fact that the argument made for debt overhang does not hold to be true for all countries with huge debt. This finding is expected to contribute to this field of study. These results are similar with previous studies by Elbadawi et al. 1996, Niroomand and Hamvi 1996 and Mbanga and Sikod, 2001.

In conclusion, the debt overhang hypothesis which explains the negative relationship between huge debt and low growth is valid in Cote d'Ivoire, Gambia, Guinea Bissau, Nigeria, Sierra-Leone and Togo while in Benin, Niger and Burkina Faso it is not. External debt stock is positively related with economic growth in the case of Benin, Niger and Burkina Faso. The latter, is supported by Krugman (1988) proposition that external debt stock stimulate growth although argued that it has limit to stimulate growth.

Conclusion & Recommendations

External debt is one of the main sources of financing for ECOWAS countries. Rapid increase has been observed in the external debt stock within the period of the study. Viewed in this light, ECOWAS countries should borrow from external sources only when the projects are to be financed are expected to be productive. This study, therefore tries to help policy makers in the composition and management of future external debt profiles.

The central focus of this study was to establish the impact of ECOWAS countries' external indebtedness on economic growth. A greater proportion of ECOWAS external debt consists of unpaid principal and interest. Using an error correction formulation, the estimation results showed a possibility of a debt overhang problem. Not only does past debt accumulation deter growth, but so do current debt flows in the short run. In general, the results seem to support the argument that external debt still affects growth directly. The empirical estimates gave a chance to see the impact of changes of external debt stock and debt servicing on the economic growth and validity of the debt overhang hypothesis and crowding out effect on Benin, Burkina Faso, Cote d'Ivoire, Gambia, Guinea-Bissau, Niger,

Nigeria, Sierra-Leone and Togo. Based on the finding of this study, ECOWAS countries like Benin, Burkina faso, Cote d'Ivoire, Gambia, Guinea- Bissau, Niger, Nigeria, Sierra Leone and Togo will be able to avoid future debt problems if the following recommendations can be possibly adhered to:

1. ECOWAS countries should ensure that debt service obligations do not rise rapidly than foreign exchange earnings.
2. Loans contracted should be invested in profitable ventures, which will generate a reasonable amount of money for debt repayment. Foreign borrowing by private and public organizations should be adequately monitored by the government debt agency and all the external loans contracted should be reported to that agency so that an up to date record of the volume of debt can be kept.
4. The composition of the external debt should be regularly checked in order to forestall problems associated with the bunching of debt service obligations.
5. Debt portfolio should be envisaged that will deliver the wish and so minimized the exposure this may occur when there are fluctuations.
6. Projected export earnings, possibly augmented by further borrowings and other foreign finance, and must be sufficient to accommodate the required debt service obligations.
7. Adequate safeguards should be put in place to cope with the sudden or unexpected shortfalls in earnings from exports or anticipated expenditures on imports.
8. Adequate provisions should be made to accommodate variable interest rates on loans contracted as well as to cope with the problems arising from the volatility of the exchange rates.
9. Finally, it must be noted that so long as the structures that generate indebtedness are left intact e.g. white elephant projects, debt management problems are bound to remain a permanent feature of the world capitalist economy.

In summary, the study has shown that it is not that debt is a matter, but the management, how is used is what really matters. Further studies should look into how the borrowed funds be utilized productively to generate sufficient funds to meet future debt obligations

References

- Ajayi, R. (2000). On the Simultaneous Interactions of External Debt, Exchange Rates, and Other Macroeconomic Variables: The Case of Nigeria. *Centre for Economic Research on Africa*, October.
- Claessens, S., Detragiache E., R. Kanbur, and P. Wickham (1996). „Analytical Aspects of the Debt Problems of Heavily Indebted Poor Countries“. Paper presented to IMF/World Bank seminar in December. Washington, DC: World Bank.
- Dickey, D. and Fuller, W. (1979). Distribution of the Estimators for Autoregressive Time Series with a Unit Root, *Journal of American Statistical Association*, 74
- Elbadawi, I., Ndulu, B. and Ndung'u, N (1997), Macroeconomic Performance in Sub-Saharan Africa in a Comparative Setting, AERC mimeo.
- Elbadawi, I., Ndulu, B., and N. Van de Walle (1996), Consolidating Macroeconomic Stabilization and Restoring Growth in Sub-Saharan Africa, Policy Perspectives on African Development Strategies, Overseas Development Council, Washington DC
- Feldstein, M. (1986). International Debt Service and Economic Growth: Some Simple Analytics, National Bureau of Economic Research, 2076, Pages 35.
- Niroomand, F. and Hamvi, S. (1996). External Debt and Economic Performance of Small Countries“, *International Journal of Commerce and Management*; Volume: 5; Issue 4; 1995.
- Pattillo C., Poirson H. and L. Ricci (2002). External debt and growth, *Finance Development*. 39 (2002), pp. 32–35.
- Phillips, P. and Perron P. (1988). Testing for a Unit Root in Time Series Regression, *Biometrika*, 75, 335–346.
- Walters, E. (1995). *Applied Econometrics Time Series*, Pg 211-239: John Wiley and Sons, Inc.
- World Bank (2010). *World Development Indicators Online database*.