# The Role of Currency Parity in the Relationship between Foreign Debt and Economic Growth in Sub-Saharan Africa

**Kone Ibouanga, Symphorien Engone Mve***

University of Omar Bongo, Libreville, Gabon
Email: ibouangakone@gmail.com, *egonemve@yahoo.fr

## Abstract

This article aims to understand to other neglected effects of foreign debt by analyzing how difference in the utilization of currency parity between sub-Saharan African (SSA) countries affects the relationship between external debt and economic growth. In this work, SSA countries were subdivided into two groups: the sample of the Former French colonies that use CFA franc, which is link to the Euro through a fixed parity (FFCs) and the Former British Colonies where each country uses his own currency with a flexible regime exchange rate (FBCs). We use a dynamic growth model with data from 11 countries of the FFCs and 15 countries of the FBCs covering 2000 to 2016. We employed the Pooled Mean Group estimation technique for both groups of countries, which is appropriated for drawing conclusions from dynamic heterogeneous panels by considering long-run equilibrium relations. The empirical evidence shows that external debt has a significant negative effect on the economic growth of the FFCs, while having a significant positive effect on the economic growth of the FBCs.

## Keywords

Currency Parity, Foreign Debt, Economic Growth

## 1. Introduction

During the colonization, Africa was confined to the role of supplier of raw materials for the industrialization of the metropolises. A retrospective of the colonial period shows that all countries had economies based on specialization according to natural endowments. This orientation has resulted in dependence on commodities. This is why, in the aftermath of independence, the continent has not

managed its economic take-off, hence the use of external indebtedness to make up the deficit of equity for the financing of economic development.

Economic theories such as debt overhang theory (Reinhart & Rogoff, 2010) suggest that a reasonable level of debt should help both developing and developed countries enhance their economic growth. The liquidity constraint hypothesis and debt overhang theory have formerly been used to better understand the implications of debt on economic growth (Krugman, 1988; Sachs, 1989 and Cohen, 1995). These theories posit that higher debt levels crowd out economic growth because of increased government internal borrowing. This increase in borrowing will, in turn, increase the interest rate, which makes the cost of borrowing for both investment and consumption more expensive, which is called a crowding effect. However, it is very vital for a country to borrow in order to adjust its economic growth. While this possibility offers great opportunities, it can also expose the country to serious dangers. The theory of borrowing involves two great schools of economic thought, on the one hand the classics and on the other hand the Keynesians. From the traditional point of view, borrowing is a burden for future generations. According to this school, borrowing to finance current expenditures is a way for the government to make it easier by putting the burden of public expenditure on future generations, because they have to pay the debt service and its amortization. From the Keynesian point of view, borrowing does not influence the well-being of future generations. Borrowing is an instrument at the service of the State to reduce economic fluctuations. The State has a role to play in supporting economic activity when it can no longer self-regulate itself; because the markets left to themselves do not necessarily lead to the economic optimum.

This theoretical controversy is confirmed by empirical work. For some authors (Acemoglu, 2009; Reinhart et al., 2012) the external debt positively impacts economic growth to a certain threshold while other authors (Iyoha, 1996; Sani & Mbah, 2018) have rather demonstrated that external debt has a negative impact on economic growth. From this controversy, the problem of the influence of the external debt on the economic growth of the countries arises.

This empirical controversy may be related to the specificities of a country or group of countries. *However, almost no author among those who have worked on the relationship between external debt and economic growth especially in sub-Saharan Africa has thought that the difference in the use of currencies could impact the relationship between the two variables*. Thus, it is question for this study to fill this insufficiency of the literature. The purpose of this work is to verify whether the difference in the use of currencies influences the relationship between external debt and economic growth in sub-Saharan Africa. Indeed, France, Great Britain, Spain and Portugal are the main foreign powers that colonized Africa. However, the countries colonized only by France for the most part use the colonial currency (CFA franc) and those colonized only by Great Britain, each use their own currency.

The remainder of the paper is organized as follows. Section 2 contains the stylized facts. The Section 3 focuses on a review of the literature. Section 4 provides the model and econometric issues. Section 5 presents the results and implications. Finally, Section 6 concludes.

## 2. Stylized Facts

This section reviews the average evolution of external debt and economic growth in the former French colonies of sub-Saharan Africa using the CFA franc (FFC) and the former British colonies of sub-Saharan Africa using their own currency (FBC) during the period 2000-2016.

The average change in external debt in FFCs is shown in **Figure 1**. That of FBC is shown in **Figure 2**. These figures show that Seychelles and CDR are the most heavily indebted countries with an average an average debt ratio of 112.44 and 63.49% of GDP respectively in the FBC and the FFC during the period 2000-2016. On the other hand, Botswana and Benin are the least indebted countries with an average debt ratio of 10.28% and 29.12% respectively in the BCF and the FFC during the same period.

**Figure 3** shows the cross-cutting change in the average external debt rate in FBCs and FFCs over the period 2000-2016. This figure shows that the average external debt rate fell by more than 50% in both groups of countries during the period 2000-2016. It is also apparent from this graph that the average rate of external debt is 47.85% and 44.7% respectively in the FBC and the FFC during the same period.

Unlike the evolution of the external debt, the trend in average growth in the two groups of countries during the period 2000-2016 is unstable as shown in **Figure 4**. Three reasons can justify this instability: the first refers to the 2008 international financial crisis that has not spared African countries; the second is
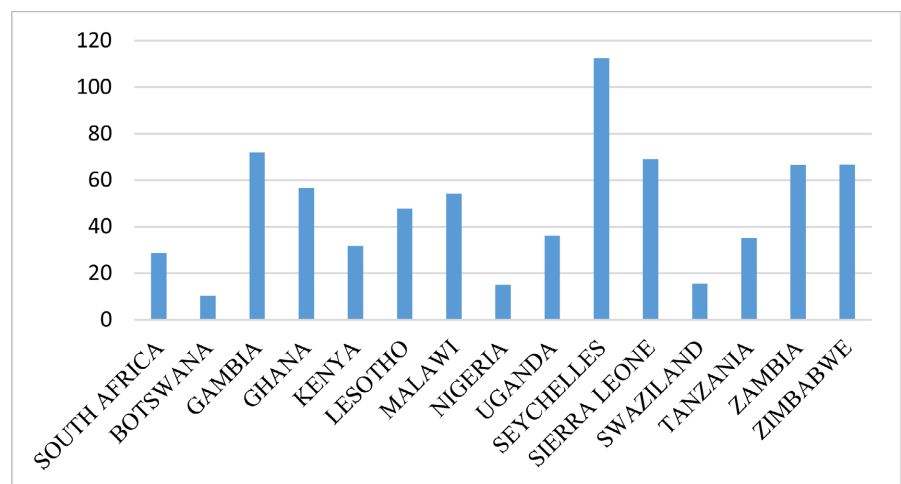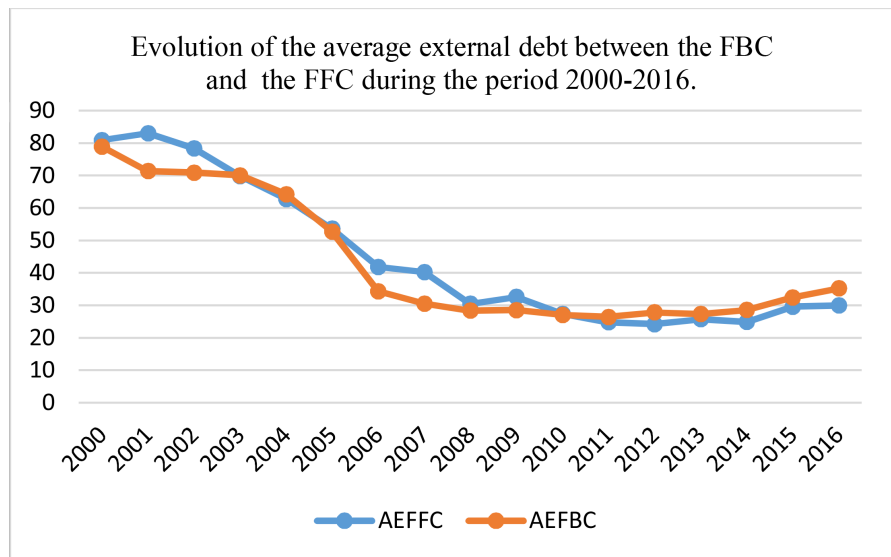


Source: Author from ADI, 2017.

**Figure 1.** Evolution of the average rate of external debt in the former British colonies of sub-Saharan Africa.
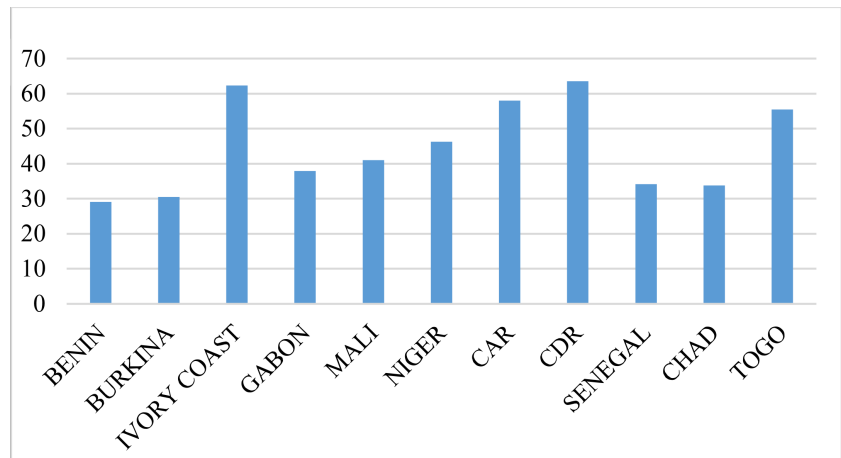
Source: Author from ADI, 2017.

**Figure 2.** Evolution of the average rate of external debt in the former French colonies of sub-Saharan Africa using the CFA franc (colonial currency).



Source: Author from ADI, 2017.

**Figure 3.** Evolution of the average external debt between the FBC and the FFC during the period 2000-2016.

related to the fall in the price of a barrel of oil which several African countries are dependent on and finally, the last reason refers to the security problems facing African countries in recent years.

The stylized facts revealed the evolution of both economic growth and debt in the two groups of countries. To better understand the relationship between these two macroeconomic quantities, it is important to refer to the literature on this subject.

## 3. Literature Review

Iyoha (1996) used a simulation approach to investigate the impact of external
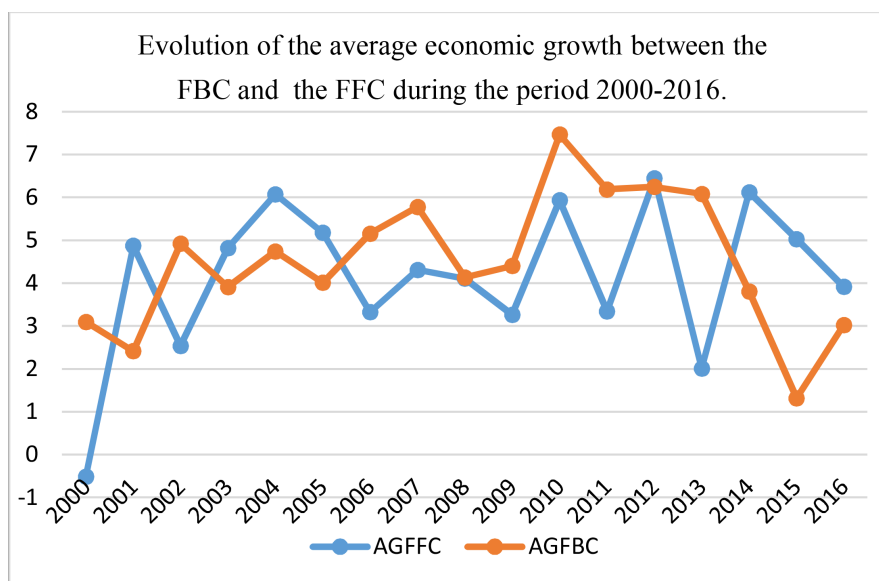
Source: Author from ADI, 2017.

**Figure 4.** Evolution of the average economic growth between the FBC and the FFC during the period 2000-2016.

debt on economic growth in sub-Saharan African countries. The study found an inverse relationship between debt overhang, crowding out and investment. External debt was found to be depressing investment through both a disincentive effect and a crowding out effect, thus affecting economic growth. Chikuba (2003) and Isu (2010) found the same results for Zambia and Nigeria, respectively. Umaru et al. (2013) also supported this stance based on the results of their studies in Nigeria, finding negative impacts of debt on economic performance for the 1970-2011. However, Tchereni et al. (2013) analysed the impact of foreign debt on economic growth in Malawi during the period 1975-2003. The use of the OLS method on time series data allows them to discern a negative but statistically insignificant relationship between economic growth and foreign debt in Malawi. Mahmoud (2015) analyzed the effect of external debt on economic growth in Mauritania. Applying OLS to time series data, he finds a positive relationship between the two variables.

However, almost no author who has worked on the relationship between external debt and economic growth in sub-Saharan Africa has thought that difference in the use of currency parity could influence the relationship between the two macroeconomic variables.

The CFA franc has a fixed parity with the Euro. This fixity automatically has two consequences: given the fact that, the external debt and international trade are denominated in US dollar, a depreciation of the euro against the US dollar leads to a mechanical increase in complete autonomy of the external debt of the countries using the colonial currency firstly. On the other hand, an appreciation of the euro against the US dollar also automatically leads to a decline in external debt (through the overvaluation of the CFA franc) with

harmful effects such as the loss of competitiveness of products and the loss of foreign market shares of countries that use the CFA franc. In addition to this loss of competitiveness, this robustness attributed to the CFA franc does not reflect the reality of user economies. Furthermore, one of the clauses of the existence of this currency is the free transferability of capital from the former colonies to France, this clause effectively opposes the formation of national savings and encourages the countries using this currency to resort to the external borrowing. And finally, the preservation of the parity and the fixity of the exchange rate between the CFA franc and the euro, requires that the policies of consolidation of public finances implemented in most countries despite their difficulties be continued.

In this work, it is not a question of judging the CFA franc, but rather of trying to understand if the differences in the use of currency parity can have a significant influence on the relation between external debt and economic growth. This work is interesting because it highlights a comparison between the Former British Colonies of Africa which each use their own currency indexed on a flexible exchange rate which adjusts according to economic realities and the Former French Colonies of Africa whose all use the CFA franc, which is supported by the euro through a fixed parity and therefore existence is supported by a certain number of binding clauses.

## 4. Model and Econometric Issues and Data

### 4.1. Model and Econometric Issues

To analyze the effect of external debt on economic growth, this study use the neoclassical augmented growth model developed by Mankiw et al. (1992). Taking into account the variable of interest (debt) and the heterogeneity of the coefficients and other control variables, the model can be expressed as follows:

$$Y_{it} = \alpha_i + \lambda_i Y_{it-1} + \sum_{p=1}^{k} \beta_{pi} X_{it}^p + \gamma_{1i} debt + \varepsilon_{it} \tag{1}$$

where $Y_{it}$ is GDP for country $i$ at time $t$, $X$ is the vector of control variables, including foreign direct investment, investment rate, external debt service, trade openness and total health expenditure. $\varepsilon_{it}$ is an error term, and $\alpha_i$ reflects country-specific effects.

The transformation of Equation (1) as an error correction equation gives:

$$\Delta Y_{it} = \varphi_i \left( Y_{it} - \theta_{0i} - \sum_{p=1}^{k} \theta_{pi} X_{it-1}^p - \delta_{1i} debt_{it-1} \right) - \sum_{p=1}^{k} \beta_{pi} \Delta X_{it}^p$$
$$- \gamma_{1i} - \Delta debt_{it} + \varepsilon_{it} \tag{2}$$

With $\theta_{0i} = \dfrac{\alpha_i}{1-\lambda_i}$, $\theta_{pi} = \dfrac{\beta_{pi}}{1-\lambda_i}$, $\delta_{1i} = \dfrac{\gamma_{1i}}{1-\lambda_i}$, $\varphi_i = -(1-\lambda_i)$

Where $\theta_{0i}$ is introduced for country-specific effects, $\varepsilon_{it}$ represents the term of error, $\theta_{pi}$ and $\delta_{1i}$ capture the dynamic of long-run effects, while $\beta_{pi}$ and $\gamma_{1i}$ capture the short-run dynamics. Finally, $\varphi_i$ represents adjustment speed toward the long-run state; this should be negative and significant to confirm the

long-run relationship between external debt and economic growth.

Following Pesaran et al. (1999) and Jouini (2015), the Pooled Mean Group (PMG) approach is used to estimate dynamic heterogeneous panels by considering long-run equilibrium relations, contrary to other techniques, such as the dynamic panel GMM method, that purge any potential long-run linkage among variables. The PMG estimation approach allows identical long-run coefficients without assuming homogeneous short-run parameters. By doing so, the PMG estimation approach differs from techniques, such as the Mean Group (MG) developed by Pesaran and Smith (1995), that estimate a regression for each group and then calculate the coefficient means (Evans, 1997; Lee et al., 1996). The MG long-run estimators are consistent, but they are inefficient if coefficient homogeneity holds. Under these conditions, the PMG estimation approach is useful since it provides consistent and efficient long-run estimators when parameter homogeneity holds. The PMG approach is preferable to the MG method since it provides estimates that are less sensitive to outlier estimates. We address endogeneity concerns by augmenting the PMG estimator with lags of regressors and dependent variables to minimize the resultant bias and ensure that the regression residuals are serially uncorrelated.

Equation (2) is rewritten as follows:

$$\Delta Y_{it} = \varphi_i \left( Y_{it} - \theta_{0i} - \sum_{p=1}^{k} \tilde{\theta}_{pi} X_{it-1}^p - \tilde{\delta}_{1i} debt_{it-1} \right) - \sum_{p=1}^{k} \beta_{pi} \Delta X_{it}^p \\ - \gamma_{1i} - \Delta debt_{it} + \varepsilon_{it}$$ (3)

We conducted two stationary tests: the test of Levine et al. (2002) and the test of Im et al. (2003). These tests are a generalization of the Augmented Dickey-Fuller test (ADF). For cointegration, we applied the Kao (1999) test.

## 4.2. Data

This study uses annual data covering 2000 to 2016 taken from 11 Former French Colonies that use CFA franc as currency and 15 Former British Colonies that use each of them their own currency in sub-Saharan African countries. The choice of the period of study is related to the availability of data on interest variables such as external debt and economic growth. All the variables of this study are coming from African Development Indicator (ADI, 2017). The dependent variable is economic growth, measured as the rate of the gross domestic product (GDP). We also include a set of control variables that are commonly used in growth equations. The external debt variable (DEBT) is measure as external debt as share of GDP. According to Fosu (1999), external debt is deleterious to economic growth. We also add the external debt service (SDEBT), which is measure as external debt service as share of GDP. The debt-servicing has a negative effect on economic growth (Metwally & Tamaschke, 1994). The investment (INV) has been used in empirical studies because it is viewed as a direct proxy of contribution to capital accumulation, as well as an indicator of efforts to develop basic economic infrastructure. It is measured in this study as gross fixed capital for-

mation. The trade openness variable is measure in this study as the sum of exports and imports as a share of GDP (TRADE). Some studies have identified a positive association between trade openness and economic growth (Jouini, 2015), while others have found a negative association (Ulaşan, 2015). The foreign direct investment variable (FDI) is measure as foreign direct investment as share of GDP. It's positively and significantly to impact the economic growth (Cambos & Kinoshita, 2002). The total health expenditure (THE) is measure as total health expenditure as a share of GDP. According to Aboubacar and Xu (2017), health expenditure influenced positively and significantly economic growth.

## 5. Empirical Result

The result of the stationary tests is recorded in Table 1. It is apparent from this table that the GDP, FDI and SDEBT variables are stationary at level in the model of the former French colonies whereas only the GDP and FDI variables are stationary in the model of former British colonies. The rest of the variables of the two models are stationary in first difference.

Table 1. Results of stationary tests.

| Variables | LLC test | | IPS test | |
|---|---|---|---|---|
| | *P*-value at level | *P*-value at first difference | *P*-value at level | *P*-value at first difference |
| Stationary tests on variables that belong to the model of former French countries | | | | |
| GDP | 0.0090 | - | 0.0021 | - |
| DEBT | 0.0000 | - | 0.1080 | 0.0640 |
| FDI | 0.0233 | - | 0.0154 | - |
| INV | 0.9856 | 0.0000 | 0.8073 | 0.0000 |
| TRADE | 0.5744 | 0.0000 | 0.2509 | 0.0000 |
| THE | 0.6056 | 0.0000 | 0.5715 | 0.0000 |
| SDEBT | 0.0000 | - | 0.0002 | - |
| Stationary tests on variables that belong to the model of former British countries | | | | |
| GDP | 0.0140 | - | 0.0000 | - |
| DEBT | 0.0004 | - | 0.3730 | 0.0002 |
| FDI | 0.0740 | - | 0.0382 | - |
| INV | 0.884 | 0.000 | 0.5971 | 0.0000 |
| TRADE | 0.0757 | - | 0.5761 | 0.0000 |
| THE | 0.7872 | 0.0000 | 0.0679 | - |
| SDEBT | 0.0004 | - | 0.4414 | 0.000 |

Source: Author from the software Eviews 9.

The result of the cointegration test of Kao (1999) is given in **Table 2**. This table shows that the variables of each model are cointegrated with respect to probabilities that are less than 5%.

The results of the stationary and cointegration tests allow us to use the Pooled Mean Group method to estimate the parameters of our growth model (**Table 3**).

**Table 2.** Results of Kao cointegration test.

|  | ADF-statistic | *P*-value |
|---|---|---|
| FFC model | −5.105686 | 0.0000 |
| FBC model | −3.958960 | 0.0000 |

Source: Authors from the software Eviews 9.

**Table 3.** Result of the estimation of the growth model in both groups of countries.

| Short run dynamic | FFC | | FBC | |
|---|---|---|---|---|
|  | Model 1 | Model 2 | Model 1 | Model2 |
| Cointeq01 | −0.6585*** (0.00) | −0.8475*** (0.00) | −0.8582*** (0.00) | −0.4722*** (0.00) |
| D (GDP (−1)) | −0.080749 (0.4) | 0.012191 (0.3) | 0.112856 (0.2) | −0.015837 (0.1) |
| D (DEBT) | −0.2367* (0.07) | −0.116035 (0.8) | −0.245797** (0.03) | −0.177925*** (0.00) |
| D (FDI) | −0.593135 (0.3) | −0.5663 (0.1) | 0.1377 (0.4) | −0.0878 (0.3) |
| D (INV) | 0.579119* (0.09) | 0.605358** (0.02) | 0.219225*** (0.00) | 0.054121 (0.8) |
| D (SDEBT) | −0.431262 (0.4) | −0.983017 (0.1) | 1.3747*** (0.00) | 1.127910** (0.02) |
| D (TRADE) |  | −0.059513 (0.5) |  | 0.028563 (0.3) |
| D (THE) |  | −2.121215** (0.01) |  | −1.540696 (0.2) |
| C | −1.03188 (0.9) |  | 3.729443*** (0.00) |  |
| Long-run dynamic |  |  |  |  |
| DEBT | −0.0469*** (0.00) | −0.0489*** (0.00) | 0.0575*** (0.00) | 0.1121*** (0.00) |
| FDI | −0.271401*** (0.00) | −0.104746** (0.02) | −0.248570*** (0.00) | −0.4927*** (0.00) |
| INV | 0.3963*** (0.00) | 0.107097*** | 0.062076*** | 0.074126*** |

**Continued**

| | | | | |
|---|---|---|---|---|
| SDEBT | −0.4312** (0.00) | −0.3273*** (0.00) | −1.452643*** (0.00) | −2.078438*** (0.00) |
| TRADE | | 0.028601*** (0.00) | | 0.061880*** (0.00) |
| THE | | 0.344100*** (0.00) | | 0.069059 (0.8) |
| Nb. Obs | 165 | 165 | 225 | 225 |
| Nb. Countries | 11 | 11 | 15 | 15 |

Source: Author from the software Eviews 9. ***, **, and * specify that coefficients are statistically significant at the 1%, 5%, and 10% levels.

Estimating the growth equation by the Pooled Mean Group method shows that the speed of adjustment is negatively significant for all models, confirming the cointegration relationship between the variables and implying that the linkage between economic growth and explanatory variables is characterized by high predictability and that the spread movement is mean-reverting.

This result also shows that the external debt variable has no effect on growth in the former French colonies of sub-Saharan Africa that use the CFA franc (Model 2 FFC) in the short run. However, it has a negative and significant effect on economic growth in the former British colonies of sub-Saharan Africa (Model 2 FBC) during the same period. On the other hand, external debt has a negative and significant effect on economic growth in FFCs over the long-run (Model 2) while it has a positive and significant effect on economic growth in FBCs (Model 2) during the same period. Thus, an increase in external debt of 1% will lead to an increase in growth of 0.11% and a decrease in growth of 0.04% respectively in FBCs and FFCs in the long-run. The result that external debt negatively impacts economic growth in FFCs is consistent with the work of Umaru et al. (2013), while the finding that external debt positively impacts economic growth in FBCs is rather consistent with the work of Mahmoud (2015).

In order to test the robustness of the above results, we decided to combine the two samples to form one. Subsequently, we decided to introduce the currency parity variable into the equation. It is a dummy variable that takes "1" if a country uses currency with a fixed exchange regime rate and "0" if a country uses a currency with a flexible exchange regime rate. The estimation of this model will be by the Generalised Moments Method system of Blundell and Bond (1998). Besides the endogeneity problem, this method is also robust to autocorrelation and heteroskedasticity. It also corrects the problem of variables omitted from the model. The validity of the result produced is based on two main tests: the second-order autocorrelation test and the conformity test of Sargan's overidentification test (Sargan, 1958). Descriptive statistics of the total sample are recorded in Table 4.

The table below shows that the average rate of gross domestic product of the total sample during the 2000-2016 period is below 5% (with 4.16 for FFCs and

Table 4. Descriptive statistics in the total sample.

| variables | Obs | Mean | Std. Dev | Min | Max |
|---|---|---|---|---|---|
| GDP | 442 | 4.32 | 4.97 | −36.04 | 33.63 |
| DEBT | 442 | 46.53 | 35.78 | 3.60 | 201.79 |
| FDI | 442 | 4.18 | 5.37 | −3.75 | 54.06 |
| INV | 442 | 22.68 | 16.05 | −3.81 | 231.41 |
| SDEBT | 442 | 2.15 | 2.18 | 0.06 | 17.48 |
| TRADE | 442 | 76.44 | 37.98 | 20.72 | 217.30 |
| THE | 442 | 5.94 | 2.17 | 1.44 | 13.79 |
| DUM | 442 | 0.42 | 0.49 | 0 | 1 |

Source: Author, from the collected data.

Table 5. Estimated coefficient of the GMM model.

| | (1) | (2) | (3) |
|---|---|---|---|
| $GDP_{t-1}$ | 0.8635*** (13.15) | 1.0168*** (9.56) | 0.9520*** (12.34) |
| DEBT | 0.0132*** (2.75) | 0.0205** (2.42) | 0.0454*** (3.14) |
| FDI | 0.0949** (2.56) | 0.0503 (1.17) | 0.6038 (1.32) |
| INV | 0.0017 (0.29 | 0.0694*** (2.7) | 0.0101* (1.69) |
| SDEBT | 0.3721* (1.93) | 0.7027** (2.08) | 0.9025*** (3.13) |
| TRADE | −0.0119* (−1.75) | −0.0231** (−2.03) | −0.0312*** (−2.92) |
| THE | 0.0114 (0.19) | 0.0378 (0.33) | 0.1500 (1.43) |
| DUM | | 0.7242* (1.77) | 1.9778*** (2.74) |
| DEBT * DUM | | | −0.0382** (−2.47) |
| CONS | 0.2060 (−0.30) | −2.9462** (−1.98) | −2.6451** (−2.00) |
| WALD CHI2 | 1579.11*** | 615.94*** | 1867.67*** |
| PROB (AR2) | 0.608 | 0.501 | 0.603 |
| PROB (SARGAN) | 0.711 | 0.859 | 0.59 |
| OBSERVATIONS | 416 | 416 | 416 |
| NB. COUNTRIES | 26 | 26 | 26 |

Source: Author through stata12 software.

4.44 for FBCs) while the average rate of foreign debt is 46.53 (with 44.73 for FFC and 47.85 for FBC), which is below the sustainable threshold during the same period.

The analysis of the effect of foreign debt on economic growth by the GMM system method show that the wald test is significant at 1% in the three models, which means that the models are well specified. In addition, we observe an absence of second-order autocorrelation at the 5% threshold and the validity of the instrument identification test in the three models. Overall, we find that only foreign direct investment is significant in Model 1 and not in Models 2 and 3. The results also show that economic growth lagged by one period has a positive and significant effect at the 1% threshold on economic growth. This result corroborates the convergence theory of the growth model of Barro (1990), which states that the economic growth levels of different economies tend to be loser over time.

The analysis in Table 5 shows that, overall, external debt has a positive and significant impact on economic growth in the three models. The fact that the coefficient of the external debt variable is positive does not mean that it is for the both groups of samples as shown by the results reported in Table 3 (model 2 for each sample in the long-run). It is for this reason that we introduced the currency variable in order to see if the fixity parity of CFA franc has an influence on the relationship between external debt and economic growth in the Former French Colonies in Africa which use it. Like the external debt variable, the fixed parity of the colonial currency has a positive and significant effect on economic growth. However, the coefficient of interaction between external debt and the fixed parity of the colonial currency is negative and significant in the last model (model 3). This means that, the fixed parity of colonial currency hampered the effectiveness of foreign debt in the countries that use it (FFCs). This result is confirmed by that of Table 3 (model 2, FFC) which revealed that external debt negatively impacts economic growth in the Former French Colonies in Africa which use colonial currency (CFA franc).This result will be explained for two reasons: the robustness attributed to the CFA franc does not reflect the reality of user economies firstly. In other hand, this result can also be explained by the existence of binding clauses for the preservation of the fixed parity between CFA franc and euro like the free transferability of capital from former colonies to France and the current policies of consolidation of public finances implemented in most countries despite their difficulties. This is not the case with countries that use their own currencies like those of the former British colonies in Africa where foreign debt enhances economic growth.

## 6. Conclusion

To the question of whether the difference in the utilization of the currency parity can influence the relationship between external debt and economic growth, we employed the Pooled Mean Group estimation technique, which is appropriate

for drawing conclusions from dynamic heterogeneous panels. The sub-Saharan African economies were subdivided into two groups: the Former French Colonies that use CFA franc, which is linked to the Euro through a fixed parity and the Former British Colonies where each country uses his own currency with a flexible regime exchange rate. We use the data from 11 countries of the FFCs and 15 countries of the FBCs covering 2000 to 2016. Our estimates suggest that external debt has a negative and significant effect on economic growth in the FFCs in the long run while it has a positive and significant effect on economic growth in the former British colonies during the same period. The use of the GMM estimation technique on a combine sample confirms this result. Consequently, Former French Colonies in sub-Saharan Africa using the CFA franc as currency must renegotiate their monetary agreements with France. This negotiation may allow them for example to exit the CFA Franc and create their own currencies that would be beneficial. In addition, sub-Saharan African countries in general and the Former French Colonies that use the CFA franc (colonial currency) in particular must promote good governance in order to better manage the external debts they receive.

## Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

## References

Aboubacar, B., & Xu, D. Y. (2017). The Impact of Health Expenditure on the Economy Growth in Sub-Saharan Africa. *Theoretical Economics Letters, 7,* 615-622. https://doi.org/10.4236/tel.2017.73046

Acemoglu, D. (2009). *Introduction to Modern Economic Growth*. Princeton University Press.

ADI (2017). https://databank.worldbank.org/source/world-development-indicators

Barro, R. J. (1990). Government Spending in a Simple Model of Endogenous Growth. *Journal of Political Economy, 98,* 103-125. https://doi.org/10.1086/261726

Blundell, R., & Bond, S. (1998). Initial Conditions and Moment Restrictions in Dynamic Panel Data Models. *Journal of Econometrics, 87,* 115-143. https://doi.org/10.1016/S0304-4076(98)00009-8

Cambos, N., & Kinoshita, Y. (2002). Foreign Direct Investment and Technology Transferred: Some Panel Evidence from the Transition Economies. *The Manchester School, 70,* 398-419. https://doi.org/10.1111/1467-9957.00309

Chikuba, S. M. (2003). *The Impact of External Debt on Zambia's Economic Growth*. National Graduate Institute for Policy Studies.

Cohen, D. (1995). Large External Debt and (Slow) Domestic Growth a Theoretical Analysis. *Journal of Economic Dynamics and Control, 19,* 1141-1163. https://doi.org/10.1016/0165-1889(94)00822-Y

Evans, P. (1997). How Fast Do Economies Converge? *The Review of Economics and Statistics, 79,* 219-225. https://doi.org/10.1162/003465397556809

Fosu, A. K. (1999). The External Debt Burden and Economic Growth in 1980s: Evidence from Sub-Saharan Africa. *Canadian Journal of Development Studies, 20,* 307-318. https://doi.org/10.1080/02255189.1999.9669833

Im, K. S., Pesaran, M. H., & Shin, Y. (2003). Testing for Unit Roots in Heterogeneous Panels. *Journal of Econometrics, 115,* 53-74. https://doi.org/10.1016/S0304-4076(03)00092-7

Isu, J. (2010). Nigeria's External Debt and Economic Growth: An Error Correction Approach. *International Journal of Business and Management, 6,* 107-113. https://doi.org/10.5539/ijbm.v6n5p156

Iyoha, M. A. (1996). *External Debt and Economic Growth in Sub-Saharan African Countries: An Econometric Study.*

Jouini, J. (2015). Linkage between International Trade and Economic Growth in GCC Countries: Empirical Evidence from PMG Estimation Approach. *The Journal of International Trade and Economic Development, 24,* 341-372. https://doi.org/10.1080/09638199.2014.904394

Kao, C. (1999). Spurious Regression and Residual-Based Tests for Cointegration in Panel Data. *Journal of Econometrics, 90,* 1-44. https://doi.org/10.1016/S0304-4076(98)00023-2

Krugman, P. (1988). Financing vs. Forgiving a Debt Overhang. *Journal of Development Economics, 29,* 253-268. https://doi.org/10.1016/0304-3878(88)90044-2

Lee, K., Pesaran, M. H., & Smith, R. (1996). Growth and Convergence in a Multi-Country Empirical Stochastic Solow model. *Journal of Applied Econometrics, 12,* 357-392. https://doi.org/10.1002/(SICI)1099-1255(199707)12:4<357::AID-JAE441>3.0.CO;2-T

Levine, A., Lin, C. F., & Chu, C. (2002). Unit Root Test in Panel: Asymptotic and Finite Sample Properties. *Journal of Econometrics, 108,* 1-24. https://doi.org/10.1016/S0304-4076(01)00098-7

Mahmoud, L. (2015). The Role of External Debt on Economic Growth: Evidence from Mauritania. *International Journal of Economics and Management Sciences, 4,* Article 1000240.

Mankiw, N. G., Romer, D., & Weil, D. N. (1992). A Contribution to the Empirics of Economic Growth. *The Quarterly Journal of Econometrics, 107,* 407-437. https://doi.org/10.2307/2118477

Metwally, M. M., & Tamaschke, R. (1994). The Foreign Debt Problem of North African Countries. *African Review of Money, Finance and Banking, No. 1-2,* 109-122.

Pesaran, M. H., Shin, Y., & Smith, R. P. (1999). Pooled Mean Group Estimation of Dynamic Heterogeneous Panels. *Journal of the American Statistical Association, 94,* 621-634. https://doi.org/10.1080/01621459.1999.10474156

Pesaran, M., & Smith, R. (1995). Estimation of Long Relationships from Dynamic Heterogeneous Panels. *Journal of Econometrics, 68,* 79-114. https://doi.org/10.1016/0304-4076(94)01644-F

Reinhart, C. M., Reinhart, V. R., & Rogoff, K. S. (2012). Public Debt Overhangs: Advanced-Economy Episodes since 1800. *Journal of Economic Perspectives, 26,* 69-86. https://doi.org/10.1257/jep.26.3.69

Reinhart, C., & Rogoff, K. (2010). *Debt and Growth Revisited.* MPRA Paper 24376, University Library of Munich.

Sachs, J. D. (1989). Conditionality, Debt Relief, and the Developing Country Debt Crisis. In *Developing Country Debt and Economic Performance, Volume 1: The International Financial System* (pp. 255-296). University of Chicago Press.

Sani, A. K., & Mbah, S. A. (2018). External Debt and Economy Growth: The Case of Emerging Economy. *Journal of Economic Integration, 33,* 1141-1157. https://doi.org/10.11130/jei.2018.33.1.1141

Sargan, J. D. (1958). The Estimation of Economic Relationships Using Instrumental Variables. *Econometrica, 26,* 393-415. https://doi.org/10.2307/1907619

Tchereni, B. H. M., Sekhampu, T. J., & Ndovi, R. F. (2013). The Impact of Foreign Debt on Economic Growth in Malawi. *African Development Review, 25,* 85-90. https://doi.org/10.1111/j.1467-8268.2013.12015.x

Ulaşan, B. (2015). Trade Openness and Economic Growth: Panel Evidence. *Applied Economics Letters, 22,* 163-167. https://doi.org/10.1080/13504851.2014.931914

Umaru, A., Hamidu, A., & Musa, S. (2013). External Debt and Domestic Debt Impact on the Growth of the Nigerian Economy. *International Journal of Educational Research, 1,* 70-85.