THE DETERMINANTS OF THE EXTERNAL DEBT LEVEL OF AFRICAN COUNTRIES IN THE FRANC ZONE: THE ROLE OF POLITICAL FACTORS

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Abstract
This paper assesses the role of political factors as determinants of the external debt level of African countries in the Franc Zone\(^1\) over the period 1985-2013. Based on a logit in panel, our results show that the more a country is politically stable, the lower the external debt compared to the gross domestic product. Political stability multiplies 1.18% the chances of being in the sustainable zone of external indebtedness. Thus, countries with good political institutions experience less severe external debt effects than countries with poor political institutions.

Keywords: External Debt, Political Factors, Franc Zone.

JEL classification: H50, C23, O40

\(^1\) Cameroun, République Centrafricaine, Congo, Gabon, la Guinée Equatoriale, Tchad, Bénin, Burkina Faso, Côte d’ivoire, Guinée Bissau, Mali, Niger, Sénégal et Togo.
Introduction

The factors behind the debt have been the subject of several studies in the literature. Chenery's (1966) pioneering studies based on the „double deficit” approach linked debt to the imbalance between savings and investment, the budget deficit and the current account deficit. Most studies on identifying factors that may stimulate or reduce the level of external public debt agree that the following variables are used as explanatory variables to influence debt: the budget deficit (Reisen and Trotsenburg, 1988; Blancheton, 2004), trade openness (Bougouin and Raffinot, 2001), current account and exchange rate (Sachs, 1988, Krugman, 1988, Boreinsztein, 1990, Cohen, 1996), import, export, interest rate, terms of trade change, economic growth rate, and debt service (Eichengreen and Portes, 1986, Ojo, 1989, Artus and Morin, 1991, Ndo Dong, 1991, Ajayi 1991, Cohen 1996, Rougier 1994, Yapo 2001, Loubelo 2002), capital flight and over-indebtedness (Ndikumana and Boyce 2013).

None of these studies have dealt with the impact of political factors (degree of democracy and political instability) on the level of external debt. In general, however, the IMF's stabilization programs in developing countries following the debt crisis have resulted in economic recession and the advent of political crises that have resulted in changes in governments (Touna Mama, 1985). In this sense, authors such as Easterly (2002), Lane (2004) and Orality (2010) agree that weak political institutions are a factor in the accumulation of external debt in most developing countries.

In the particular case of African countries in the Franc Zone that have received more external debt than other countries in sub-Saharan Africa (Beha, 2015), the socio-political situation has not been brighter over the past three decades, especially for West African countries (WEMO). Indeed, with the exception of the Great Lakes zone with the Rwandan Genocide, the process of democratization has experienced more turmoil in West Africa than anywhere else on the African continent (Bathily, 2005). This sub region has recorded, during the last two decades, the longest and bloodiest political conflicts with civil wars (Guinea-Bissau, Ivory Coast, Togo) and rebellions (Senegal). In 2011, the sub region again faced a number of challenges, including the intensification of the political crisis in Côte d’Ivoire, soaring food and fuel prices at the beginning of the year, and following a severe drought in the Sahel (IMF, 2012).

In central Africa, political instability has often manifested itself since independence, through hunger riots and civil and armed violence in February 2008, as well as the April 1984 failed coup d’états in Cameroon, the civil war and armed conflicts since 1993 in Congo, the succession crisis in power in September 2009 in Gabon, the military coup d’états in August 1979 in Equatorial Guinea, ethnic cleavages and North-South clashes in Chad and the Central African crisis. Added to these are the recent social crises, notably the insecurity problems linked to the Boko-Haram terrorist group and the Ebola crisis and its repercussions. According to Edwards and Tapeline (1991), the more politically unstable a country is, the larger the budget deficit will be. In this vein, political factors such as political instability and democracy have been put forward by authors such as Alaina and Perrott (1994), Barrow (1996), Touna Mama and Kamila (2000) to explain the differential economic growth between countries and specially to justify the increasing share of Solow residue in developing countries.

In this paper, we would like to analyze the impact of political institutions, notably the degree of democracy and political stability on the level of the external debt of African countries in the Franc Zone. We will not go back to the well-known causes of the international debt crisis. Suffice it to recall
that, contrary to the thesis initially put forward by the countries of the North, which can be summed up essentially in the mismanagement of the credits granted to the developing countries, Touna Mama (1985) showed, from Keynesian theory of the circuit applied to international transfers, that in all cases, countries in crisis had largely exceeded their threshold of sustainable debt, which is the upper limit of their debt capacity. Here, and starting from the case of the Franc Zone, we simply want to answer a major question which is that of the role of political institutions in the accumulation of the external debt of African countries. This study is of interest to the extent that economists agree to recognize the weight of the external debt and the weakness of political institutions as hindering the economic development of African countries despite the various measures taken for the cancellation and rescheduling of the debt.

After this introduction, the rest of this paper is structured as follows: Section 2 presents the review of the literature and a theoretical discussion on the relationship between political institutions and external indebtedness. In Section 3, we outline the framework. Section 4 presents, analyzes and discusses the results of the estimates and Section 5 concludes these analyses.

1. LITERATURE REVIEW

The presentation of the theoretical framework makes it possible to better understand the empirical evidences.

1.1. The political determinants of public debt: a theoretical review

The debt literature of developing countries is flourishing and varied. Pioneering studies have focused on the sustainability of the external debt of states (Solomon, 1977). However, very few have analyzed the role of political factors in the accumulation of external debt of developing countries (Oakley, 2010). Indeed, most studies on the determinants of the external indebtedness of these countries highlight their exposure to the various external shocks emanating from the global economic situation, such as the oil shocks (1973, 1979) and subsequent petrodollar recycling (Krueger, 1987). Added to this is the deterioration of the terms of trade and the rise in interest rates since 1980 following Volcker’s monetary policy in the United States (IMF, 2000). While these external factors have actually contributed to an excessive increase in the level of external debt of developing countries, the political and institutional environment has also been one of the factors of accumulation.

This is the point of view of Easterly (2002). He argues that it is bad governance in some countries that is causing their high level of external debt. In an attempt to understand why Heavily Indebted Poor Countries (Hips) have become heavily indebted, Easterly (2002) explains that the rulers of these countries have a strong preference for the present. The ruling class wants to retain power: this is done by mobilizing the country’s resources in order to “buy” the political challengers, and to "reward" the media. This necessarily results in new loans. The conclusion is that all the debt restructuring programs of the countries concerned will lead to new loans as long as these countries are poorly governed. However, Easterly (2002) does not provide a theoretical framework for the validation of his hypotheses.

For Oatley (2010), the level of external debt of a government (external debt / GDP) depends on how much it borrows abroad and how it allocates it between investment and consumption. These two decisions in turn depend on the incentives generated by the political institutions in which governments operate. In the hypothesis of the type of regime that this author develops, governments in autocratic systems borrow relatively more and invest relatively less than democracies. As a result, autocracies
accumulate a higher ratio of external debt to GDP than in democracies.

In addition, several reasons are advanced in the theoretical literature to justify the effect of political institutions on the level of public debt. We propose in the following a discussion of the arguments of the political economy that considers the public debt as the result of opportunistic and ideological behavior of political leaders, strategic conflicts between political parties and as a dynamic variable linking successive governments and the generations.

1.2. The opportunistic behavior of politicians

The general tendency of democracies to generate excessive budget deficits and accumulate debt has been associated with the electoral process, specifically with the behavior of politicians during the election period. These behaviors have been modeled by the theory of the "politico-economic cycle", in particular by the theory of opportunistic cycles. Indeed, Nordhaus (1975), inspired by the Phillips curve (1958), explains the excessive budget deficits by the opportunistic behavior of politicians who, before the elections and in order to increase their chances of re-election, try to create inflation to lower the level of unemployment by following expansionary policies. Thus, governments increase public spending more than taxes while taking advantage of the myopia of voters who are unaware that these pre-election expansionary policies lead to a recession after the elections, because they overestimate the benefits of current spending, underestimate the current and future tax burdens and modulate their vote according to the short-term economic situation.

Many authors have analyzed the effects of pre-election debt manipulation on the electoral success of politicians. Drazen and Eslava (2010) have shown that an increase in investment spending before the election has a positive impact on the chance of re-election of the ruling politicians in Colombia. Aidt et al. (2011) revealed that opportunistic behavior prevails in Portugal especially when the margin of victory is low. Testing the impact of debt accumulation during an electoral cycle on the likelihood of re-election of politicians for French municipalities, Cassette and Farvaque (2013) showed that voters are fiscally conservative and punish politicians for having accumulated more debt. However, this is true only if an increase in debt prevails at the beginning of the term and not in the last two years preceding the election. In other words, although voters are conservative, they can be manipulated in the short term by new spending.

1.2.1. The ideological behavior of politicians

While opportunistic political leaders aim to stay in power to extract rents, supporters have purely ideological motives. Developed for the first time by Hibbs (1977), partisan cycle theory suggests that deficits will be higher when a left-wing party rather than a right-wing party is in power. Having different positions on economic issues and, therefore, different macroeconomic objectives, left-wing advocates whose main constituents are the owners of work usually belonging to low-income groups, give much importance to the cost of unemployment; this encourages them to favor expansionary policies in order to generate public spending and higher deficits. On the other hand, generally concerned about the level of inflation, the right-wing proponents whose principal voters are the owners of the capital lead restrictive policies in order to reduce the expenses and to run lower deficits.
1.2.2. The strategic role of indebtedness in the political game

Debt can be engaged in a political game between current and future governments generally having different preferences in fiscal policy. Indeed, if the current government foresees the possibility of a defeat in the next election and in order to influence the policy of its successor, it can use the debt strategically by imposing certain restrictions on the budgetary choices of future governments concerning the size of the debt.

1.2.3. Intergenerational redistribution

Public debt can be redistributed between generations. By increasing today's debt, the current generation can shift heavier tax burdens to future generations. The current generation has a political advantage over future generations because it can vote and choose the current policy while future generations can not. Therefore, a selfish generation could vote for policies that shift the tax burden to future generations. However, if the current generations are rational and altruistic towards future generations and anticipate that an increase in the public debt today corresponds to an increase in future taxes that will be paid by their children, they will look for protect them by increasing their savings while maintaining the same level of consumption. This is the Ricardian equivalence theorem (Barro, 1974).

1.2.4. Distribution conflicts and the war of attrition

Deficits can be the result of strategic conflicts between policy makers who have some influence on budget decisions. These political conflicts are more important in countries with coalition governments that are composed of different political parties, rather than in those with majority governments that consist of a single decision-maker. In fact, the agreement on a collective choice between the different parties of the coalition is much more difficult, because each party defends the interest of the electoral district or the different social groups (workers, farmers, companies, ethnic and religious groups, etc.) that it represents and proposes only budget cuts that may have no negative impact on its own constituency (Roubini and Sachs, 1989).

2. ESTIMATION TECHNIQUES, SPECIFICATION OF VARIABLES AND PRESENTATION OF DATA

This section presents the estimation approaches, the specification of the analysis variables and the presentation of the data.

2.1. Estimation procedure

In order to highlight the impact of political factors on the external debt level of African countries in the Franc Zone, we use three econometric techniques. Specifically, we use econometric techniques based on fixed effects, random effects and the Logit Method to estimate the qualitative variable representing here the degree of external indebtedness of African countries in the Franc Zone. Firstly, econometric techniques based on fixed-effect models and random effects are generally used as a prerequisite in the analyzes to give the general trend of the results. Elaborated by Legendre (1805) and Gauss (1809), they will make it possible, in the present study, to highlight the effects of political institutions on the degree of indebtedness of the economies of the Franc Zone. The advantage of these two techniques is that they minimize the impact of measurement errors. However, they do not provide efficient estimates and assume that all countries in the sample are perfectly homogeneous. Then, we use panel data to obtain both cross-sectional and longitudinal sections, the use of which first makes it possible to trace the dynamics of the behaviors and their possible heterogeneity,
then to make estimates whose properties can be assimilated. With asymptotic properties (eventual convergence and asymptotic law), finally to reduce the risk of collinearity between explanatory variables in order to present a great variability and to allow finer specifications (Sevestre, 2002).

Ultimately, because of the qualitative nature of the endogenous variable, we will use a simple dichotomous model. These models, initially used for biological studies, have a wide field of application. They are used to determine how individuals (insects, herbs, people) tolerate a certain product. We then define a threshold of tolerance apprehended here by the debt overhang which separates the two extremes of tolerance (sustainable debt) and intolerance (over-indebtedness). The simple dichotomous models presented to us are of two kinds, either a PROBIT model (when the law chosen is the normal law), or a LOGIT model (when the chosen law is the logistic law). It is this latter form that will be retained since the LOGIT models were initially introduced as an approximation of the PROBIT models, allowing simpler calculations (Morimune, 1980).

### 2.2 Specification of variables

The theoretical argument that we highlight in this study is based on the idea that the quality of political institutions (degree of democracy and political stability) affects the level of external debt in the African countries of the Franc Zone. To achieve this, we use a set of variables anchored in the literature. The dependent variable is the external debt / GDP. We use a dichotomous qualitative variable of the external debt level. It is a binary variable based on the ratio of GDP to external debt. In line with the debt overhang theory (Krugman 1988, Sachs 1989), illustrated by the Laffer curve (1979), we use two parts of the non-linear curve of the external debt / GDP ratio. A division is operated at the theoretical threshold called "debt overhang" (Krugman, 1988).

**Graphic 1**: Debt Laffer curve

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**Source**: Author from the literature review.
Since 2013, the IMF estimates that this ratio for the CEMAC and WAEMU countries is 50% of GDP in order to limit the risk of over-indebtedness and this threshold should be considered as a ceiling and not as a level of optimal debt. We then divide into two halves the Laffer curve. The first one we assign the “0” value characterizes the sustainable level of external debt (level of indebtedness able to finance economic growth). The second half to which we assign the value “1” corresponds to the level of indebtedness described as 'over-indebtedness' (the level at which indebtedness no longer contributes to financing economic growth). The data comes from the WDI (World Development Indicators) database. Regarding our variables of interest, we have democracy, political stability, control of corruption and the quality of laws.

**Table: Summary table of the different variables**

<table>
<thead>
<tr>
<th>Variables</th>
<th>Title</th>
<th>Source</th>
<th>Expected signs and justifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dett_PIB</td>
<td>External Debt</td>
<td>WDI</td>
<td>+/- (Sirowy et Inkeles, 1990)</td>
</tr>
<tr>
<td>DEMO</td>
<td>Democracy index</td>
<td>ICRG</td>
<td>- (Edwards et Tabellini, 1991)</td>
</tr>
<tr>
<td>ISG</td>
<td>Political Stability Index</td>
<td>ICRG</td>
<td>- (Fofack, 2009)</td>
</tr>
<tr>
<td>IPC</td>
<td>Corruption index</td>
<td>ICRG</td>
<td>+ (Fofack, 2009)</td>
</tr>
<tr>
<td>QDL</td>
<td>Quality of Laws</td>
<td>ICRG</td>
<td>- (Rodrik, 2005)</td>
</tr>
</tbody>
</table>

Source: Author from the literature review.

The analysis sample covers ten African countries in the Franc Zone. The time horizon used is conditioned by the availability of data and covers the period 1985-2013. This period is important for our study because Africa is experiencing political liberalism since the 1990s with the advent of multipartism for the majority of states. By observing the graph below, we note that the evolution of democracy is dynamic positive from the 1990s.

**Graphic 2: Democratic profile of sub-Saharan African countries during the period 1946-2012**

Source: http://www.systemicpeace.org/polity/ssafrica2.htm (Polity IV, 2013)

3 Abstraction is made of Benin, Equatorial Guinea, Chad, and RCA because of the unavailability of data over the study period.
3. RESULTS

We start by performing a linear regression without taking into account the country effect and the time effect.

3.1. Logistic Regression

```
. logit debt Gov_Stability Corruption LawandOrder DemocraticAccountability
Logistic regression Number of obs = 289
LR chi2(4) Prob > chi2 = 0.0009
Log likelihood = -166.63395 Pseudo R2 = 0.0529

--------------------------------------------------------------
            Coef. Std. Err.     z  P>|z|     [95% Conf. Interval]
-------------+-------------------------------------------------
    debt | .1759414   .0480305   3.03 0.002   .0817825    0.370099
    Gov_Stability | .5422627   .1751787   3.10 0.002   .1905411   .8939843
    Corruption | -.1215966   .4649409  -0.26 0.793  -.9917598    .7485666
    LawandOrder | -.0138937   .1380673  -0.10 0.920  -.2845005    .2567132
    DemocraticAccountability | -3.31877    .8841699  -3.75 0.000  -5.051711  -1.585828
    _cons | -5.051711   .8841699  -5.71 0.000  -6.704658  -3.404764
--------------------------------------------------------------

The only significant variables are: government stability and the quality of the laws. Government stability multiplies 1.19 the chances of being in the sustainable zone and the quality of laws multiplies by 1.72 the chances of being in a sustainable zone.
32. Fixed Effect Model

Conditional fixed-effects logistic regression

| debt       | Coef. | Std. Err. | z    | P>|z|   | [95% Conf. Interval] |
|------------|-------|-----------|------|-------|----------------------|
| Gov_Stabil-\y | .1653842 | .0779499  | 2.12 | 0.034  |                      |
| .0126052    | .3181631 | .2353661  | -1.31| 0.191  |                      |
| .3075243    | .1537849 | .3587317  | -0.27| 0.788  |                      |
| .7688334    | .6066407 | .1914337  | 0.55 | 0.584  |                      |
| .7995617    | .48011209246 | .1914337 | 0.55 | 0.584 |                      |

33. Random Effect Model

Random-effects logistic regression

| debt       | Coef. | Std. Err. | z    | P>|z|   | [95% Conf. Interval] |
|------------|-------|-----------|------|-------|----------------------|
| Gov_Stabil-\y | .1653842 | .0779499  | 2.12 | 0.034  |                      |
| .0126052    | .3181631 | .2353661  | -1.31| 0.191  |                      |
| .3075243    | .1537849 | .3587317  | -0.27| 0.788  |                      |
| .7688334    | .6066407 | .1914337  | 0.55 | 0.584  |                      |
| .7995617    | .48011209246 | .1914337 | 0.55 | 0.584 |                      |
|                  | Coef.   | Std. Err. | z      | P>|z|  | [95% Conf. Interval] |
|------------------|---------|-----------|--------|------|----------------------|
| Gov_Stability    | .1725506| .0751502  | 2.30   | 0.022 |                      |
| Corruption       | -.2641634| .2197412 | -1.20  | 0.229 |                      |
| LawandOrder      | .1785789| .3139064  | 0.57   | 0.569 |                      |
| Democratic       | .0372105| .1748483  | 0.21   | 0.831 |                      |
| _cons            | -2.271517| 1.087297 | -2.09  | 0.037 |                      |
| lnSIG2u          | -.4043221| .6379893 |       |      |                      |
| sigma_u          | .8169634| .2606069  |       |      |                      |
| rho              | .1686578| .089454   |       |      |                      |

Likelihood-ratio test of rho=0: chibar2(01) = 15.35  Prob >= chibar2 = 0.000

HAUSMAN TEST FOR CHOICE OF MODEL

The hausman test allows you to choose between the two previous models.
H0: random effect MODEL is appropriate
H1: Fixed effect model is appropriate

<table>
<thead>
<tr>
<th></th>
<th>(b)</th>
<th>(B)</th>
<th>(b-B)</th>
<th>sqrt(diag(V_b-V_B))</th>
<th>fixed1</th>
<th>random1</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gov_Stability</td>
<td>.1653842</td>
<td>.1725506</td>
<td>-.0071664</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corruption</td>
<td>-.3075243</td>
<td>-.2641634</td>
<td>-.0433609</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LawandOrder</td>
<td>-.0964605</td>
<td>.1785789</td>
<td>-.2750394</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Random-effects logistic regression

Number of obs = 289
Group variable: Pays Number of groups = 10
Random effects u_i ~ Gaussian
Obs per group: min = 28
avg = 28.9
max = 29

Wald chi2(4) = 11.57
Log likelihood = -158.95666 Prob > chi2 = 0.0208

|              | Coef.   | Std. Err. | z     | P>|z|  | [95% Conf. Interval] |
|--------------|---------|-----------|-------|------|----------------------|
| Gov_Stability| .1725506| .0252589  | .3198422 | -.2641634 | -2.641634 | .0751502 | .2197412 | -.120 | .229 | - |
| Corruption   | .1665214| .3139064  | .3198422 | .1785789 | .7938241 | .0372105 | .4366663 | .0779417 | .1049246 | .0372105 | .0677141 |
| Democratic   | .0372105| .3054859  | .3139064 | .1785789 | .7938241 | .0372105 | .4366663 | .0779417 | .1049246 | .0372105 | .0677141 |
| Democratic   | .0372105| .3054859  | .3139064 | .1785789 | .7938241 | .0372105 | .4366663 | .0779417 | .1049246 | .0372105 | .0677141 |
| Democratic   | .0372105| .3054859  | .3139064 | .1785789 | .7938241 | .0372105 | .4366663 | .0779417 | .1049246 | .0372105 | .0677141 |
| Democratic   | .0372105| .3054859  | .3139064 | .1785789 | .7938241 | .0372105 | .4366663 | .0779417 | .1049246 | .0372105 | .0677141 |

Test: Ho: difference in coefficients not systematic
chi2(4) = (b-B)'[(V_b-V_B)^(-1)](b-B) = 5.16
Prob>chi2 = 0.2709

The pi value being greater than 0.05 we accept H0, the model retained is random effect
. xtlogit debt Gov_Stability Corruption LawandOrder
DemocraticAccountability, re or
Random-effects logistic regression
Number of obs = 289
Group variable: Pays Number of groups = 10
Random effects u_i ~ Gaussian Obs per group: min
= 28
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Wald chi2(4)
Log likelihood = -158.95666 Prob > chi2 = 0.0208
Log likelihood = -158.95666 Prob > chi2 = 0.0208
-------------+-------------------------------------------------------
debt | OR Std. Err. z P>|z| [95% Conf. Interval]
-------------+-------------------------------------------------------
Gov_Stability | 1.188332 0.0893034 2.30 0.022 1.025581 1.37691
Corruption | .7678481 .1687278 -1.20 0.229 .4991503 1.181189
LawandOrder | 1.195517 .3752805 0.57 0.569 .646187 2.211839
DemocraticAccountability | 1.037912 .1814771 0.21 0.831 .7367653 1.462149
-------------+-------------------------------------------------------
/lnsig2u | -.4043221 .6379893 -1.654758 .846114
sigma_u | .8169634 .2606069 .4371936 1.526621
 rho | .1686578 .089454 .0549089 .4146601
-------------+-------------------------------------------------------
Likelihood-ratio test of rho=0: chibar2(01) = 15.35 Prob >=
chibar2 = 0.000
The significant variable is government stability, government stability multiplies 1.18 the chances of being in the sustainable zone. Clearly, the more stable a government, the month the debt will be strong.

4. CONCLUSION

Most of the debt literature of developing countries is devoted to the failure of these countries to repay or to the many unsuccessful debt restructuring plans. Curiously, we forget to ask why some of these countries accumulate more debt than others. However, the answer to this question would lead to more appropriate restructuring plans for the countries concerned.

This study explored the relationship between political institutions and the external debt level of African countries in the franc zone. From the examination of the results obtained, it appears that the more a government is stable, the lower its debt relative to GDP is strong. Political stability promotes better debt management.
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