

DOCUMENT DE TRAVAIL

DT/2020-03

The rise in international bond issuance by low-income African countries: a shift of pattern or a fashion that already fades away?

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The rise in international bond issuance by low-income African countries: a shift of pattern or a fashion that already fades away?¹

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Résumé

Depuis une douzaine d'années, une série de pays à faible revenu a émis des euro-obligations. S'agit-il d'un changement de paradigme, ces pays visant ainsi à changer leur structure de financement et délaissant les financements publics concessionnels pour se tourner désormais vers les marchés financiers ? C'est une possibilité, mais les déboires récents rencontrés par certains de ces pays laissent à penser que cette vague d'émissions pourrait prendre fin progressivement.

Mots-clés : Euro-obligations, réductions de dette, PPTE, IADM, pays à faible revenu, crise d'endettement

Codes JEL: F21, F34, F35, F63, H63, O55

Summary

Over the past 12 years, a series of low-income countries have issued Eurobonds. Is this a pattern shift, as these countries aim to change their financing structure and move away from concessional public financing to financial markets? This is a possibility, but the recent repayment problems experienced by some of these countries suggest that this wave of issuances could end gradually.

Keywords: Eurobonds, Debt Reduction, Debt Relief, HIPC, MDRI, Low Income Countries, Debt distress

JEL Codes: F21, F34, F35, F63, H63, O55

¹ We thank the participants at the 2019 Université de Lorraine (CEREFIGE) Conference “Finance, acte 2” for helpful comments on a previous version of this paper.

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INTRODUCTION

Following the wave of debt relief initiatives granted to low-income African countries (LICs) culminating with the 2005 Multilateral Debt Relief Initiative (MDRI), few economists expected these countries to be able to borrow on international financial markets by 2007.

In the 1970s, these countries had benefited from substantial private financing, mainly in the form of bank loans, but had been excluded from international financial markets after the debt crisis of the early 1980s. For this reason, these loans are surprising. They are all the more so since the debt reductions granted over the last decade should theoretically constitute, like payment defaults, a rather negative signal for private investors.

This wave of issuance of bonds may reflect a change of pattern. According to this view, LICs would plan to change from their past financing structure, characterized by heavy reliance on concessional lending provided by public organizations, to a structure which characterizes today middle-income countries (MICs): borrowing extensively from private financial markets.

However, this wave may also be a set of one-shot operations trying to take advantage of a specific configuration of the market: very low interest rates; low spreads for Middle Income Countries; a taste of investors for high yield but risky investments.

This article first presents the heterogeneity in terms of development finance observed within the broad category of developing countries before analyzing the extent of this new wave of LICs debt (section 2). It then examines how this could be considered as a shift in financing pattern (section 3). Finally, Section 4 tries to assess if the wave of issuances is already over or not.

1 TWO PATTERNS OF DEVELOPMENT FINANCE

There is a divide between developing countries according to their level of per capita income. Low Income Countries (a bulk of them being located in Sub-Saharan Africa) are predominantly financed by concessional lending: low interest rates, long maturity and grace periods. On top of that, LICs also largely benefit from grants.

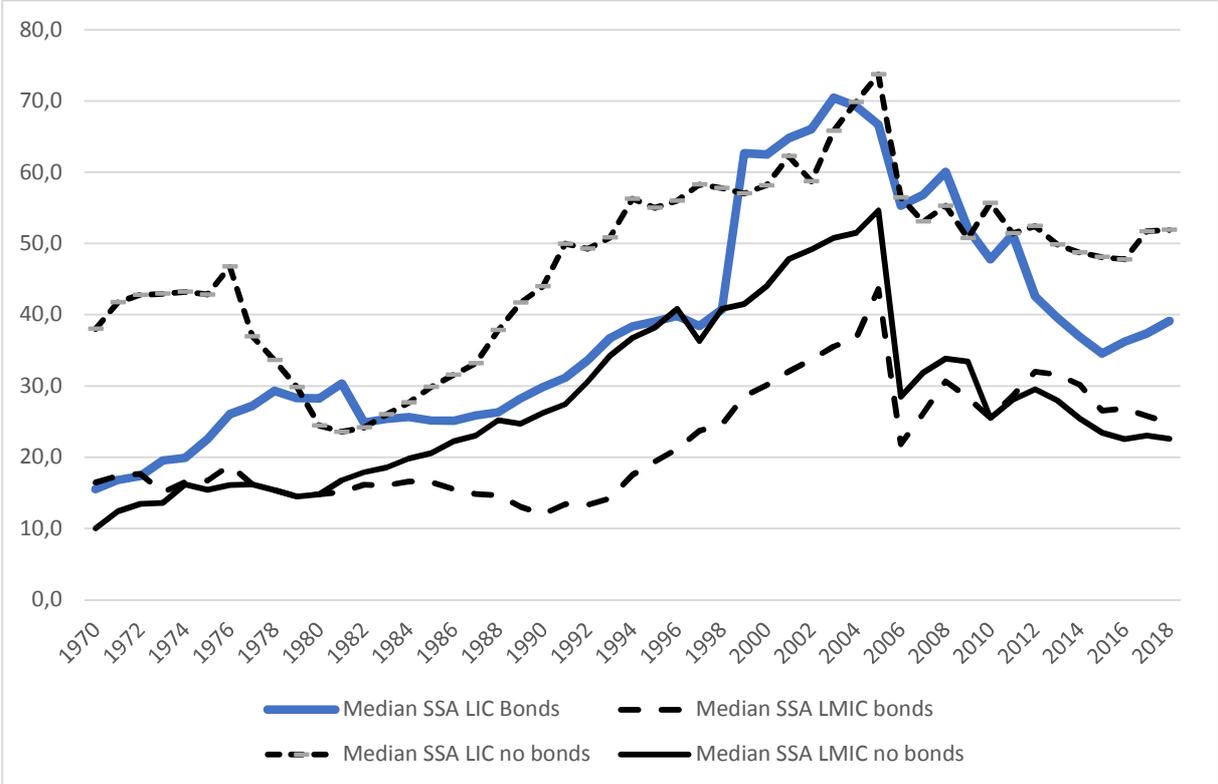
At the opposite, MICs get financed by loans on market terms – the interest rate is the sum of a reference interest rate (“risk-free” interest rate) topped up with a spread (a risk premium) to take account of the specific perceived risk of the borrower.

This difference stems from the structure of development finance that has been put in place in the 60s, when most developing countries became independent. Against economic theory, which assumes that returns on capital are higher when capital is relatively scarce (in LICs), the financing system implemented in the 60s is based on the idea that low-income countries cannot repay loans at market rates. Special public institutions like the IDA (International Development Association) at the World Bank were thus created to provide concessional lending to poor countries.

The difference between LICs and MICs is to be seen on Figure 1, focusing only on Sub Saharan African countries (we use the 2020 categorization of the countries, which may differ from their categorization in the seventies). This difference was clear cut at the beginning of the 70s, but then a first phase of privatization began, characterized by a sharp reduction of the

concessional rate of SSA LICs. This came to an end with the 80-82 debt crisis, which marked the beginning of a period of increasing concessionality of the external debt. After the 2005 peak, debt relief resulted in decreasing concessionality.

Figure 1. Shares of concessional debt in percentage of total external debt for Sub-Saharan African Countries Low Income (SSA), Low income (LICs) or Lower Middle Income (LMICs), having issued bonds (Bonds) or not (No bonds)

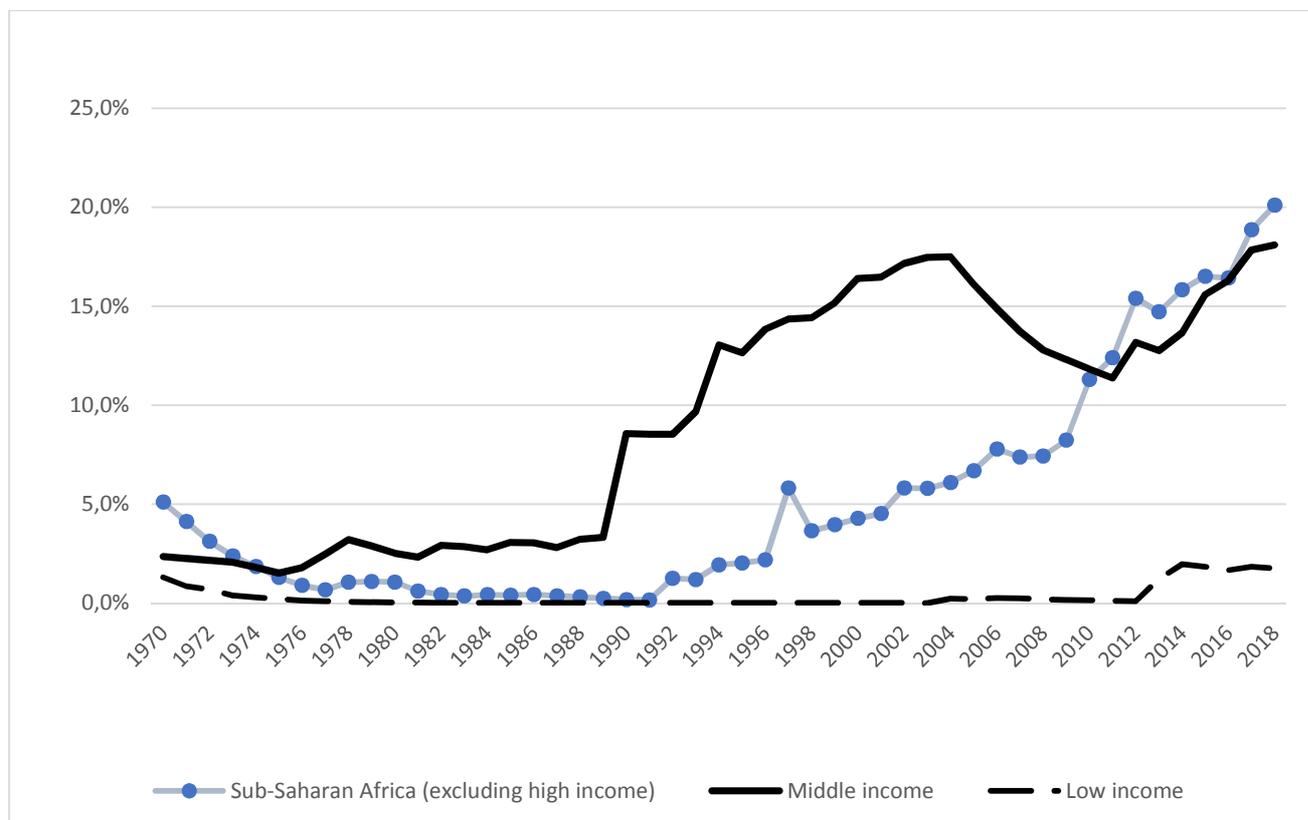


Source: World Bank, International Debt Statistics, downloaded on 1/8/2020.

By splitting the two categories (LICs and LMICs) into bond issuers and countries that did not issue bonds, it appears that the general logic of development finance is somehow blurred at the end of the 2010s. In the case of LICs, the debt of bond issuers is less concessional than the debt of LICs countries that did not issue bonds. At the opposite, in the case of LMICs, the debt of bond issuers is more concessional than the debt of counties that did not issue bonds – which is rather counterintuitive.

The difference between LICs and MICs is the most striking in the case of bonds issuances (Figure 2). The debt from bonds is quite inexistent in the case of LICs until 2012 and remains very small. For Sub Saharan Africa, the picture is different. In the nineties, SSA was lagging behind MICs in terms of bonds issuance but caught up rapidly with the MICs’ group. From 2010 on, SSA is completely in line with the MICs in terms of bonds issuance as a percentage of their debt.

Figure 2. Shares of debt from bonds as percentage of total external debt for Low Income (LICs), Middle Income (MICs) Countries, and Sub-Saharan Africa (SSA, excluding African high income*)



Source: World Bank, International Debt Statistics, downloaded on 1/8/2020. *It is likely that the label “excluding high income” mentioned in the data base is misleading, as there is no “high income” countries in SSA, only some “Upper-Middle-Income” countries.

The international financial architecture was characterized by a divide between two different financing patterns. The LICs’ pattern is mainly concessional, official, and even more so if one adds grants to foreign financing. The MICs pattern mainly relies on private creditors. In the 70s and 80s the private financing was mainly provided by banks and today by markets.

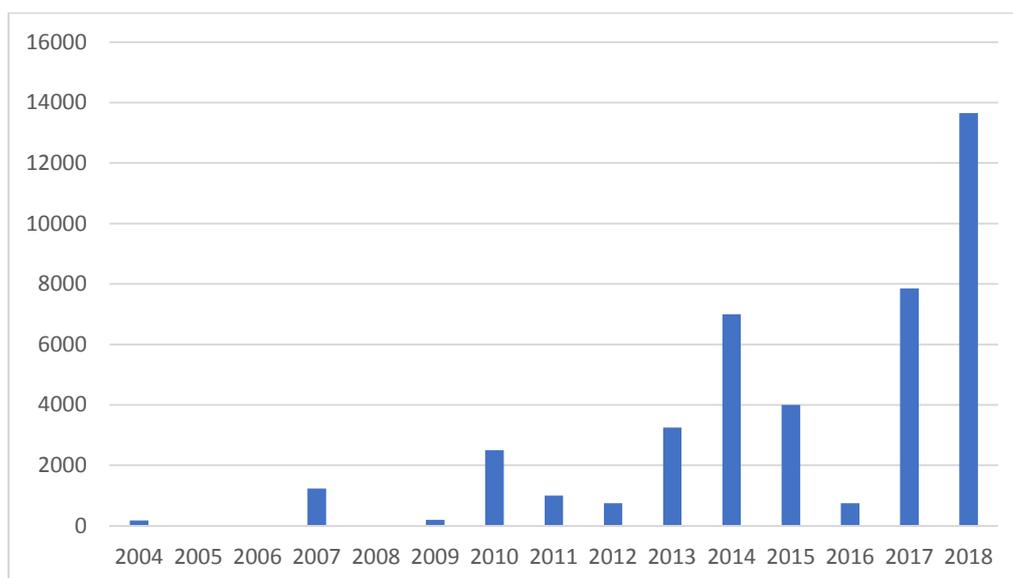
This paper investigates if the new wave of bonds issuance by African LICs is likely to reduce the gap between these financing patterns.

2 International bond issues by African countries

2.1 SOME CHARACTERISTICS OF INTERNATIONAL SOVEREIGN BOND ISSUES

The wave of borrowing by African low-income countries (LICs) in Eurobond markets began in 2007, two years after the launch of the MDRI. It paused during the 2008 crisis but resumed in 2011 with a certain slowdown in 2016, which did not seem to discourage investors, as shown by the record amounts contracted in 2017 and 2018 (see Figure 3 below).

Figure 3. African LIC bond issues 2004-2018 (USD millions)



Note: Figure 3 presents the total amount of bonds issued on the financial markets for 12 Sub-Saharan Africa countries (see Table 1 below). Source: Our database, based on Bloomberg dataset (accessed on December 2019)⁵ and World Development Indicators.

However, these aggregated loans hide individual peculiarities, with some countries having a predominant weight in the amounts observed. Table 1 below presents bond issuances by country in sub-Saharan Africa (SSA).

Thirteen SSA LICs issued bonds on international capital markets between 2007 and early 2019 (See Table 1). These issues are large as compared to concessional financing flows available to LICs. They represent significant shares of GDP and exports from issuing countries. For example, Rwanda's 2013 bond issue accounted for just over 30% of the value of its exports in the same year, and nearly 5% of its annual GDP. Compared to the number of inhabitants, Gabon's Eurobond market debt in 2013 represented a burden of just over \$ 820 per capita. As these bonds are often repaid *in fine*, their repayment schedule creates peaks that would probably not be repaid without new borrowing, hence potentially fueling defensive lending (creditors lending just to be repaid).

⁵ It is surprising that the data differ significantly from one source to another, both in terms of dates and amounts. For this reason, we had to build our own database, by checking issuance by issuance (See Appendix 3).

Table 1. Bonds issuance on international markets (millions of USD)

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Cameroon	0	0	0	0	0	0	0	0	0	0	0	750	0	0	0
Congo, Rep.	0	0	0	478	0	0	0	0	0	0	0	0	0	0	0
Cote d'Ivoire	0	0	0	0	0	0	2500	0	0	0	750	1000	0	1956	2100
Ethiopia	0	0	0	0	0	0	0	0	0	0	1000	0	0	0	0
Ghana	0	0	0	750	0	0	0	0	0	1000	1000	1000	750	0	2000
Guinea	180	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Kenya	0	0	0	0	0	0	0	0	0	0	2750	0	0	0	2000
Mozambique	0	0	0	0	0	0	0	0	0	850	0	0	0	0	0
Nigeria	0	0	0	0	0	0	0	500	0	1000	0	0	0	4800	5368
Rwanda	0	0	0	0	0	0	0	0	0	400	0	0	0	0	0
Senegal	0	0	0	0	0	200	0	500	0	0	500	0	0	1100	2181
Zambia	0	0	0	0	0	0	0	0	750	0	1000	1250	0	0	0

Source: Our database, based on Bloomberg dataset (accessed on December 2019) and World Development Indicators. Countries in bold typeface are those having benefited from the Heavily Indebted Poor Countries (HIPC) initiative.

Most of these issues were largely oversubscribed, reflecting strong interest from international investors in a context of low interest rates in industrialized countries, resulting from the last two episodes of financial crises in 2008 and 2012.

These Eurobond issues are only one aspect of a broader movement of external and internal debt re-indebtedness (Ferry and Raffinot, 2016). They only represent the tip of the iceberg since a heterogeneous set of lenders contributes to the re-indebtedness of LICs: emerging countries (China, India, Brazil, Turkey, etc.), private investors (banks, supplier credits, etc.), in addition to traditional public lenders such as the World Bank's IDA (International Development Association, World Bank subsidiary for LICs), IBRD (International Bank for Reconstruction and Development, World Bank subsidiary for Middle Income Countries) or the African Development Bank.

Moreover, LICs' governments also turned to domestic financial markets in local currencies. Domestic debt is growing rapidly in SSA countries, particularly in countries that have benefited from HIPC initiatives, as shown in several studies by Presbitero et al. (2006, 2009, 2018). Moreover, these borrowings remain potentially underestimated. Reinhard and Rogoff (2009 and 2010) have shown that domestic debt is not always properly accounted for and is only considered secondarily in most analyses (such as in the analyses proposed by the IMF and IDA within the debt sustainability framework for low-income countries).

2.2 DRIVERS OF SOVEREIGN BOND ISSUANCE

Many factors may explain this re-indebtedness dynamics and this form of financing, which is new for this category of countries. The appetite of foreign private investors for high-yield investments in a context of low interest rates is a plausible explanation. The restored solvency of HIPC countries (at least judging by their standard debt indicators) may also explain why these countries did success in accessing international financial markets.

Some papers assess the determinants of Eurobonds issuance. According to them, and in line with the “original sin”, Eurobonds issuance depends first and foremost on the size of the economy (Olabisi and Stein, 2015, Presbitero et al. 2016). More specifically, Presbitero et al. (2016) have shown that a country is more likely to issue bonds when its GDP is higher than countries that did not borrow on the markets but also when such gap is observed with respect to GDP per capita, state efficiency and when the public debt is lower than non-issuers.

According to these authors, spreads are relatively lower for countries with a strong external position and better fiscal balance, as well as faster economic growth. In addition, issuances are larger when both international liquidity and commodity prices are high, particularly for SSA countries. Periods of high market volatility are also often associated with more elevated spreads. Lastly, previous research had shown that the exchange rate regime has an impact on both bonds issuance and spreads, namely in the case of a debt crisis (Jahjah and Yue, 2004). In particular, real exchange rate overvaluation significantly increases sovereign bond issue probability and raises bond spreads.

Nevertheless, these results are likely to be challenged, because they focus on a few issuances, which may lessen the robustness of these analyses.

2.2.1 Data and Empirical approach

We build on this flourishing literature to investigate the determinants of bonds issuance in developing countries, with a particular focus on the contribution of large scale debt relief initiatives that occurred in the 2000s.

2.2.1.1 *The dataset*

Our analysis is based on a sample of 53 countries that have been classified at least once as low income countries by the World Bank between 2005 and 2018. Among them, 32 countries have benefited from the largest debt reduction initiatives, known as Heavily Indebted Poor Countries and Multilateral Debt Relief Initiative (see table A4 in Appendix). India was excluded from the sample because this country experienced a relatively different development trajectory from the other LICs and has since been considered as an emerging country, commonly referred to as a BRIC. In addition, Somalia was also excluded due to lack of available data. Among the LICs considered in the sample, 11 countries issued international sovereign bonds between 2006 and 2018 in international financial markets and in a foreign currency.

The sovereign bond data are derived from data used in previous articles (Olabisi and Stein 2015) and from Bloomberg. The database includes issue dates, amounts, coupons, maturities and ratings (see table A7 in the Appendix).

For all the potential explanatory variables that may affect international sovereign bond issues and that we subsequently include in the model, the data are retrieved from the World Bank's World Development Indicators, International Debt Statistics and World Economic Outlook databases. In particular we first consider GDP per capita, GDP growth, fiscal balance, reserves in months of imports, and trade surplus as proxies for economic development (GDP per capita) and performances (remaining variables). The size of the country by population is also accounted for. We then enter as controls the level and composition of indebtedness of each sample country with the stock of external debt PPG and the share of concessional debt in

total indebtedness. In addition, the study takes into account the quality of fiscal governance and notably debt management, measured with the debt policy component of the Country Policy and Institutional Assessment (CPIA) of the World Bank. We also control for debt distress ratings published by the IMF and the World Bank in their debt sustainability frameworks, which assesses the degree of external public debt sustainability for each sample country. Lastly, we take into account global factors that should have a greater impact on the supply and strategy of international investors by entering as explanatory variables the 3-month LIBOR USD rate.

2.2.1.2 Empirical strategy

In order to study the determinants of international sovereign bond issues, we use a panel Probit. The study period begins in 2006, the year following the announcement of the Multilateral Debt Relief Initiative. As a result, a majority of the HIPC beneficiary countries have reached the completion point, which means that the estimates do not capture the effects of the initiatives (particularly on the quality of governance since debt reductions were accompanied by IMF reform programs designed to improve governance in these countries) which could bias our estimates.

We study the determinants of bond issuance at the extensive margin by considering as the independent variable is a dummy variable (Sovereign Bonds Issuance) which takes the value 1 in the years when a country issues one or more bonds on the international financial markets, and zero otherwise. Among the explanatory variables, we consider, in addition to the large set of control variables presented above, a dummy variable that takes the value 1 if a country is a beneficiary of HIPC initiatives (zero otherwise). Two intuitions on the probability of issuing play in opposite directions. On one hand, debt relief initiatives have enabled countries to return to a sustainable debt threshold and regain some borrowing capacity. On the other hand, investors may not be inclined to lend to countries that did not honor their debt in the past. In the same vein, we include another dummy variable taking the value 1 once a country has benefited from MDRI (zero otherwise). As mentioned above, we also control for the level of public external debt as well as the share of concessional debt in total external public debt in order to observe a potential effect on the probability of issuing bonds. A country could indeed self-exclude itself from the financial markets if it benefits from concessional loans with more advantageous terms than those on the market. Except for the HIPC and MDRI dummies, the explanatory variables are lagged by one year in order to alleviate reverse causality issues, to some extent. The first, and most basic, model we use to investigate the determinants of bonds issuances in developing countries thus takes the following form:

$$\begin{aligned} \text{Prob}(\text{Sovereign Bond Issuance})_{i,t} \\ = \alpha + \beta \cdot \text{HIPC (or MDRI) dummy}_{i,t} + \gamma \cdot Z_{i,t-1} + \varepsilon_{i,t} \end{aligned}$$

The set of explanatory variables $Z_{i,t-1}$ includes GDP per capita (in log), GDP growth, the external debt stocks PPG and its squared value, and the share of concessional debt in total external public debt.⁶ We then run a second model dedicated to investigate further the contribution of the MDRI and HIPC initiatives. More specifically, we depart from the first model by entering interaction terms between debt relief initiatives and both the CPIA measure and the LIBOR rate. The interaction term with the CPIA index aims at capturing potential

⁶ Other covariates listed in section 2.2.1.1 are not enter in Table 2 regressions as they do not significantly add explanatory power to the model nor affect the coefficient associated to our main explanatory variables.

heterogeneous effects of debt relief on bonds issuance across HIPCs, with respect to their governance quality. The second interaction (with LIBOR) contributes to observe potential heterogeneity in debt relief effects over time and investigate whether debt relief fostered bonds issuance in periods of financial downturn for industrialized economies.

$$\begin{aligned}
\text{Prob}(\text{Sovereign Bond Issuance})_{i,t} & \\
&= \alpha + \beta \cdot \text{HIPC (or MDRI) dummy}_{i,t} + \gamma \cdot Z_{i,t-1} \\
&+ \delta \cdot \text{HIPC (or MDRI) dummy}_{i,t} * \text{CPIA}_{i,t-1} \\
&+ \varphi \cdot \text{HIPC (or MDRI) dummy}_{i,t} * \text{LIBOR}_t + \varepsilon_{i,t}
\end{aligned}$$

2.2.1.3 Results

Table 2 shows the results. We first observe that countries with a larger GDP per capita are more likely to issue bonds of issuing. This result is not surprising as richer countries generally access international financial markets more easily.

Results then underline a positive correlation with past governance quality and bonds issuance, hence suggesting that countries with better governance, particularly in terms of debt policy, have a higher probability of issuing bonds. This indicator, which partly determines debt sustainability ratings stemming from the World Bank and the IMF DSA, can reassure investors when lending to low-income countries and positively affect the likelihood of issuing bonds on international financial markets.

Finally, the most interesting result, which we will develop further in section 4, is related to the "debt relief status" of our sample countries, i.e. whether they benefited from debt reduction initiatives or not. Countries that have benefited from HIPC initiatives seem indeed to be more likely to issue international sovereign bonds than non-recipient countries. Similarly, results indicate that more sovereign bonds are issued once a country has received full multilateral debt cancellation under the MDRI. The positive correlation between debt relief and bonds issues is pretty interesting as debt reduction initiatives could theoretically send negative signals to the financial markets because countries that have not honored their debt in the past might be seen as more risky. In the end, results lean in favor of investors not holding any reputational effect against HIPCs, but on the contrary, considering them as an appealing investment opportunity with higher returns once they regain some borrowing capacity. Moreover, results from columns (IV) and (V) of Table 2 suggest that, among countries that benefited from debt relief under the MDRI, those recording better quality of their debt policy (assessed through the corresponding CPIA index) are more likely to issue bonds on international financial markets. While marginally significant, this result underlines that investors remain cautious before lending to debt relief countries, favoring those for which debt servicing should not constitute a major challenge in a near future thanks to an appropriated debt management. However, results do not emphasize any differential effects of the ability of HIPCs to issue bonds with respect to developments in the LIBOR rate.

Additionally, table A6 in the Appendix shows that the sustainability risk ratings issued by the IMF and the World Bank in the debt sustainability framework do have a significant effect on the probability of issuing, but only when countries are classified as being in a high risk of unsustainable debt, or even worse, in debt distress. Yet, results also suggest that there is no discrimination between low-risk debt or moderate-risk debt countries, even if investors pay some attention to sustainability risks.

Table 2. The drivers of international sovereign bond issuance

VARIABLES	(I)	(II)	(III)	(IV)	(V)	(VI)	(VII)
GDP per capita	0.568** (2.245)	0.934*** (3.057)	0.779** (2.368)	0.934*** (3.053)	0.826*** (2.647)	0.957*** (2.932)	0.875*** (2.748)
GDP growth	-0.002 (-0.239)	-0.003 (-0.288)	-0.004 (-0.339)	-0.003 (-0.269)	-0.005 (-0.515)	0.008 (0.585)	0.004 (0.380)
Ext. Debt Stocks PPG (% of GDP)	0.044** (2.134)	0.034* (1.669)	0.038** (1.971)	0.035* (1.665)	0.034 (1.578)	0.027 (1.051)	0.030 (1.348)
Ext. Debt Stocks PPG ² (% of GDP)	-0.001** (-2.126)	-0.000* (-1.785)	-0.000** (-2.159)	-0.000* (-1.774)	-0.000* (-1.701)	-0.000 (-1.278)	-0.000 (-1.591)
Concessional debt (% of EDS)	-0.011 (-1.447)	-0.015* (-1.837)	-0.012* (-1.838)	-0.015* (-1.844)	-0.014* (-1.865)	-0.009 (-1.587)	-0.007 (-1.301)
CPIA policy debt	0.401*** (3.212)	0.615*** (4.489)	0.463*** (3.595)	0.647*** (3.433)	0.229 (1.439)		
HIPC dummy		1.383*** (2.666)		1.541 (1.566)		1.142** (2.307)	
MDRI dummy			0.807* (1.951)		-0.912 (-0.813)		0.924*** (2.828)
HIPC*CPIA policy debt				-0.040 (-0.172)			
MDRI*CPIA policy debt					0.492* (1.737)		
LIBOR						-0.008 (-0.331)	0.051 (0.735)
HIPC*LIBOR						-0.047 (-0.474)	
MDRI*LIBOR							-0.138 (-0.860)
Constant	-7.264*** (-3.804)	-11.266*** (-4.570)	-9.374*** (-3.459)	-11.400*** (-4.917)	-8.746*** (-3.389)	-9.071*** (-3.692)	-8.464*** (-3.591)
Observations	618	618	618	618	618	630	630
Number of country	53	53	53	53	53	53	53
Wald chi2	23.82	34.25	37.62	38.07	35.31	21.97	52.54
Prob > chi2	0.000	0.000	0.000	0.000	0.000	0.005	0.000

Note: Estimates of the probability of issuing international sovereign bonds with additional control variables such as fiscal balance, trade surplus and reserves do not report significant coefficients for any of these variables and are therefore not reported. Available upon request to the authors. Estimates based on population-average. Z-statistics in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

3 A CHANGE OF PATTERN? FROM PUBLIC ORGANIZATIONS TO PRIVATE MARKETS

This wave of issuance of bonds by African LICs may be a pattern shift for two reasons. First, these countries were excluded from market financing since the 1980 debt crisis. Secondly, countries that received concessional loans from the IMF (most African LICs actually) were supposed not to borrow at non-concessional terms.

However, such a shift in external financing may seem irrational. Borrowing at market terms when less expensive financing options remain available (such as concessional financing from traditional creditors, or even grants) conflicts with a rational economic trade-off. Yet, the increase in the cost of financing has to be weighed against the benefits of such decision: these bond issues represent an opportunity for this type of borrowers. They can indeed receive significant funds quickly and break free from conditionality related to concessional loans.

Lastly, some economists had already anticipated this resumption of debt, highlighting the moral hazard involved in debt reductions, both on the part of borrowers and lenders (Easterly 2002). If this approach is correct, the issuance of Eurobonds may be simply the pursuit of old trends - taking advantage of new opportunities.

3.1 ACCESS TO NEW FINANCING CHANNELS: A BREAK WITH THE TYPICAL LICs' FINANCING?

3.1.1 These countries were excluded from private funding – but a but a significant proportion of them are now close to the middle-income country threshold, or have moved into the Lower Middle Income group.

When African LICs began issuing bonds on international financial markets they had been excluded from private financing since the 1980 debt crisis. Since then, their financing has been limited to public financing providing grants or concessional loans.

Access to private financing was mainly linked to per capita income (Gelos et al. 2004). So, the issuance of bonds by countries like Gabon or Angola is not surprising: those countries are middle-income countries, even if they had never issued Eurobonds before. This is however more surprising for countries like Senegal or Zambia (and even more for Benin in 2019).

Nevertheless, the issuance of bonds may be explained by the simple fact that the per capita income of some LICs has increased to such an extent that they have crossed the line between LICs and lower-middle-income countries (LMICs). This is the case, for example, of Ghana, which became a lower-middle-income country in 2011 (but had issued Eurobonds as early as 2007). Calleja and Prizzon (2019) explore this issue in the case of Botswana, Mexico, Rep. of Korea and Chile. They show that moving away from aid entails developments in various fields, not only financial but also institutional and commercial.

The surprise therefore comes mainly from countries that are not yet close to the threshold between low-income and middle-income countries - especially those called "IDA only", which means that they only have access to the concessional window of the World Bank. Apart from Ghana (which has become a “blend” country according to the World Bank classification, and therefore has access to both concessional and non-concessional financing from the World

Bank). Côte d'Ivoire, Zambia and Kenya are also a blend (Nigeria has a special blend status). The other countries are considered as "IDA only". The fact that they borrow on the markets comes therefore as a surprise.

3.1.2 The IMF prohibited non-concessional borrowing.

The issuance of bonds may consist in a departure from the old pattern because most LICs remain "under program" with the IMF, i.e. they benefit from financing facilities under the condition that they run a macroeconomic stabilization and growth program designed in collaboration with the IMF. One of the conditions routinely imposed by the IMF in the case of a program supported by concessional financing (for example, the Extended Credit Facility or ECF) is that the country must not borrow from non-concessional sources (the criterion of "concessional financing" being defined on a case-by-case basis).

In 2006, for example, the program with Ghana supported by a Poverty Reduction and Growth Facility (PGRF) included a commitment not to borrow at non-concessional terms with a maturity of more than one year. In addition, the IMF report on Ghana discussed the willingness of the Ghanaian government to embark on an ambitious investment program, emphasizing the impossibility of financing this plan with bilateral and/or concessional financing, and thus recommended reducing the volume of planned investments not to compromise debt sustainability. Yet, the government of Ghana ignored the recommendations of the Bretton Woods Institution. In the same vein, Côte d'Ivoire requested and obtained IMF authorization to issue Eurobonds in 2014 and did not comply with the criterion prohibiting non-concessional borrowing.

These are examples illustrating the difficulty to enforce Bretton Woods Institutions (BWIs) conditionality, an issue that has often been highlighted in the aid effectiveness literature (Shah 2017). Moreover, once Eurobond issues have been completed, the joint IDA/IMF debt sustainability assessments seem to leave investors indifferent. For example, the 2019 IMF report classifies Ghana as a country with unsustainable debt. Yet, this report simultaneously underlines that Ghana has successfully issued \$2 billion on more favorable terms than comparable countries.

3.1.3 African LICs could find much cheaper elsewhere.

Low-income countries are partly financed by grants, particularly from the European Union (EU), as well as by concessional loans characterized by low interest rates, very long maturity and grace periods. This contrasts with the high interest rates charged on bonds. If borrowing was for financing economic and social infrastructure, cheaper sources of financing could have been sought.

The availability of less expensive financing sources has led Ghana to be heavily criticized in 2007 when the government launched its first Eurobond issue, theoretically intended to finance infrastructure. Indeed, besides grants, interest rates on market borrowing could be ten times higher than the concessional interest rates offered by traditional bilateral and multilateral creditors.

3.1.4 Debt cancellations imply a risk of hazard moral

One could assume that countries that received debt relief were less likely than others to receive private financing, as these debt relief measures could be thought as sovereign defaults. This could (or should) have prevented countries from moving out of the old pattern. However, a debt reduction has two aspects: a negative signal (difficulties in repaying the debt), but also a positive one, a reduction in debt giving birth to fiscal space and borrowing capacity, which represents a positive signal for investors.

But, any debt reduction can involve a risk of moral hazard: governments that have benefited from these reductions have less incentive to repay future loans, as they anticipate further debt reductions. Symmetrically, organizations that have lent and have not suffered losses as a result of debt reduction are encouraged to continue financing without paying too much attention to prudential criteria. This is the case for lenders such as the World Bank or the IMF, whose debts cancelled by the G7 (mostly unrecoverable) have been largely repaid by G7 countries. This anticipation of further debt reductions may even lead LICs to borrow as much as possible, since debt reductions were all the more important as the country was heavily indebted - which is the logic of debt reduction initiatives.

Thus, it is therefore not surprising that countries that have been granted debt cancellation try to get in debt again. Easterly (2002) uses a simple model to show that if the preference for the present does not change, countries that received debt reduction will replenish a large amount of debt. They could only escape a new cycle of over-indebtedness by making fundamental changes to their preferences, economic policies and even institutions.

Even if re-indebtedness was predictable, the fact that this partly occurred through the issuance of bonds on international markets was much less predictable. Some “push factors” (an incitation by investors) may therefore have contributed to these developments and play a significant role.

Nevertheless, any new indebtedness of LICs is not necessarily linked to moral hazard. The countries that have benefited from debt cancellation procedures are mostly LICs facing significant difficulties in financing their development due to a lack of savings and/or foreign exchange. Despite debt cancellations, financing needs are such that external debt is still necessary to obtain enough capital to meet these huge needs - needs that have been revised upwards to meet sustainable development goals (SDGs) by 2030.

It is therefore probably the positive signal that explains why, among the countries listed in Table 1, nine have benefited from the HIPC (Heavily Indebted Poor Countries) debt reduction initiative. Nigeria can be associated to the HIPCs group because it benefited from a significant multilateral debt reduction in 2005 without formally being part of the HIPC initiative, which was a prerequisite for eligibility for the multilateral debt relief initiative (with only two other exceptions on the IMF side, Cambodia and Tajikistan).

However, the analysis by Olabisi and Stein (2015) suggests that the probability of issuing bonds is not related to debt reductions. This is in line with the idea that investors' memory remains limited, already shown in the “original sin” approach: according to Eichengreen et al. (2003), past defaults are not a determinant of the access to financial markets. However, this implies that the memory of investors is very short: when Ghana issued its first Eurobonds loan

in 2007, its last debt reduction (the Multilateral Debt Relief Initiative) was in 2005, just two years earlier which does not seem to be old enough to be forgotten.

3.2 AN OPPORTUNITY FOR THESE COUNTRIES TO ESCAPE THE OLD PATTERN OF CONCESSIONAL FINANCE?

3.2.1 Bond issuances make it possible to offset the decline in other financing flows, based on the exceptional financial markets' conditions.

Grants and concessional loans can be challenged as a sustainable way of financing. Both type of financing flows need fresh money on a regular basis to go on. For this reason, they are partly capped by the budget allocations available to subsidize them. Hence, the amounts given or lent are linked to the budgetary conditions prevailing in donor countries (supply-side logic) as well as to the needs of borrowing countries (demand side logic). It is therefore not surprising that LICs are proactive and seek to diversify external funding sources to increase funding for their development.

In addition, some donors, such as IDA, have taken the policy of reducing assistance to MDRI countries precisely in order to avoid moral hazard and maintain some equity among low-income countries. Moreover, in some countries, a large proportion of re-indebtedness is carried out with public development finance institutions. This illustrates the disbursement pressure characteristic of these organizations (the World Bank is sometimes referred to as a "lender of first resort"), which is currently shared by G8 donors in their attempt to reach the 0.7% of GNI in ODA disbursements. Alternatively, such behavior could reflect a desire to "saturate" the debt capacity of these countries to avoid massive recourse to non-concessional borrowing.

Although market borrowing was more expensive than concessional borrowing from traditional public lenders when the wave of issues began, the current economic climate is completely new. Market interest rates are so low that borrowing conditions for middle-income countries are sometimes lower than concessional loans. This is all the truer since spreads for emerging countries are also at historically low levels. The result is a situation never seen since the 1960s: the very meaning of "concessional lending" is blurred. For example, in 2014, Benin's new external borrowing was slightly more expensive (2.71%) than Brazil's (2.54%). This is therefore a good time to enter the Eurobond market – and Benin, a typical LIC benefiting from debt relief, did take this step in March 2019.

However, this analysis must be qualified. While interest rates and spreads are generally low, African spreads are, on average, higher than those of other countries, all other things being equal (Presbitero et al., 2016). Olabisi and Stein (2015) estimate this additional cost at 2.9 percentage points. Besides, according to these same authors, countries that have benefited from the HIPC initiative do not pay higher coupons than others, *ceteris paribus*.

3.2.2 Bonds issuances loosen the straitjacket of official financing.

For African LICs, official funding is a straitjacket for several reasons, despite its stated altruistic orientation. In addition to the rigidity of the amounts available already mentioned, the straitjacket is also characterized by the interference of the Bretton Woods institutions (BWIs) and donors in general in public policies. Concessional financing is generally subject

to multiple conditions and is granted after very slow bureaucratic procedures. Finally, the use of financing considered exceptional has a cost in terms of reputation. It should be recalled that in the case of Greece, IMF intervention was discussed because of the "stigmatization" it might imply. What about the "stigmatization" of countries that have been in an almost uninterrupted financing relationship with the IMF for almost forty years?

The willingness of countries to loosen this constraint and emancipate themselves from the Bretton Woods institutions may have played a role in the emergence of African LICs in private capital markets. For instance, in July 2018, Ghana's Minister of Finance declared that he now wanted to do without the IMF. As a result, the 2019 budget is the first to be presented without IMF monitoring. Significantly, President Nana Akufo-Addo, elected late 2016 commented on the decision of not renewing the agreement with IMF: "We must abandon our dependency mentality that relies on aid and charity, dissociate Africa from the image of beggar who is associated"⁷

A further indication of this trend can be found in the willingness expressed since the early 2000s by many African presidents to promote the "emergence" of their country rather than the "anti-poverty" policies of international organizations.

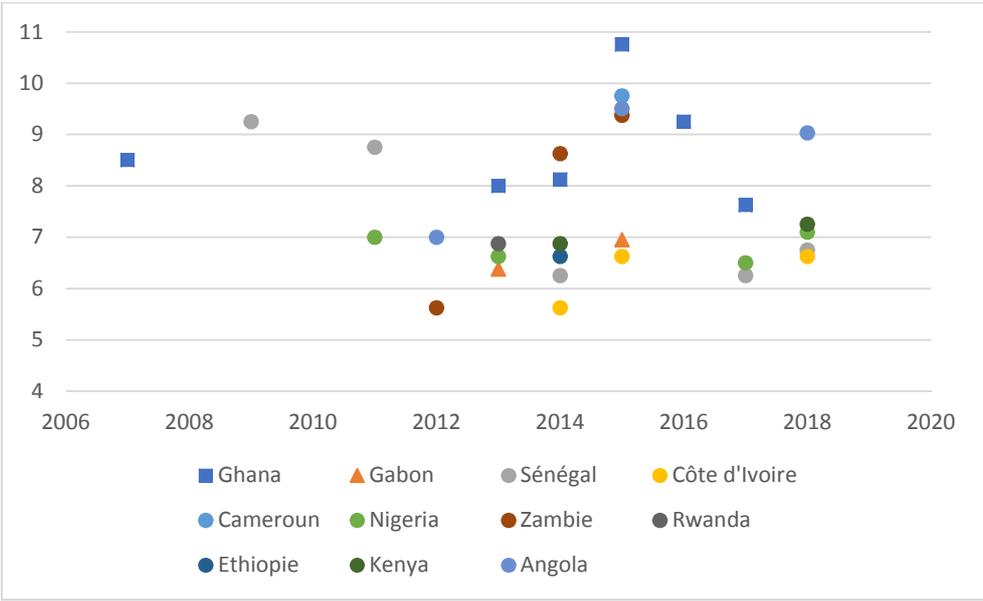
3.2.3 Just a set of "one-shot" operations or the beginning of a structural shift?

This wave of borrowing seems more rational if it is part of a shift to "middle-income country (MIC) style" market financing. Indeed, for some countries, operations that initially appeared to be isolated operations have become regular, as in the case of Ghana or Côte d'Ivoire. A successful transition should be marked by a gradual extension of the duration of the securities, and by spreads in line with their general determinants. What would make these loans rather irrational would be that they remain one-off operations, as in the case of Ethiopia and Cameroon. Similarly, Gabon's last bonds issuance goes back to 2015.

A successful shift seems to be at work for some countries such as Ghana and Senegal: issuances follow one another with increasingly low interest rates and increasingly long maturities. However, Senegal is only one example. The case of Zambia is the opposite, with interest rates constantly rising (see Figure 4).

⁷ <https://ze-africanews.com/en/ghana-the-country-wants-to-do-without-imf-money/> Such a step had been advocated by economists such as Dambisa Moyo (2009), who believed that borrowing on the markets was preferable to aid, given its perverse effects.

Figure 4. Interest rates on Eurobonds issues (in USD) for maturities of around 10 years



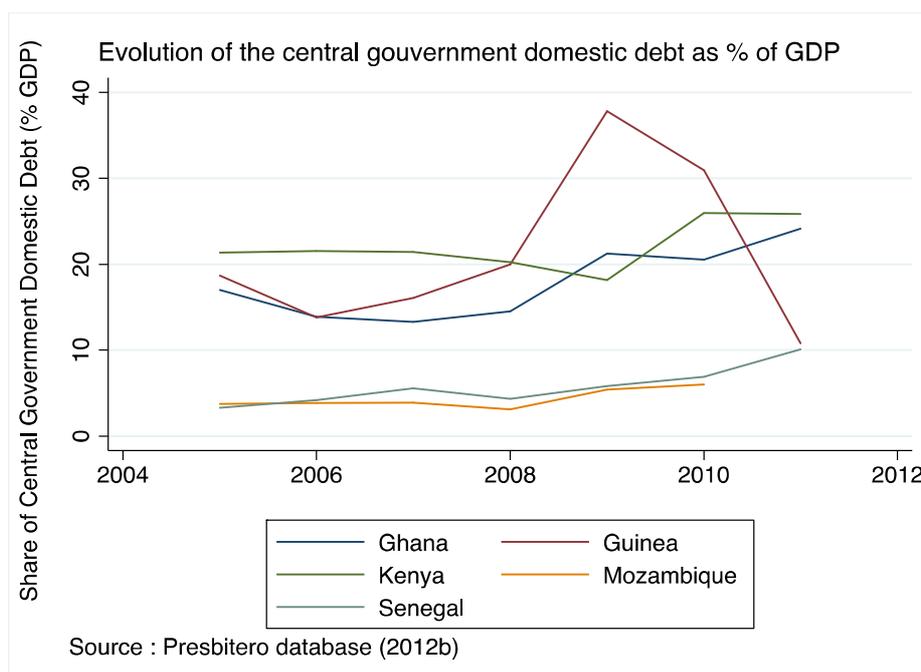
Source: Bloomberg dataset (accessed on December 2019)

This shift to market financing can also be seen in the increasing share of domestic debt. There are several definitions when referring to a State's domestic debt. Domestic debt is the debt denominated in local currency, or a debt to a resident creditor (Panizza, 2008; Presbitero, 2012b). In developing countries, and particularly in African countries, the distinction between domestic and external debt is usually made according to the currency denomination.

Indeed, domestic public debt increased in the mid-1990s at the same time as financial liberalization. Internal financing is denominated in local currency, so domestic debt reduces exposure to exchange rate risks following an exogenous change in the exchange rate (Hausmann et al., 2006) and exposure to capital flow reversals (Calvo, 2005).

Figure 5 shows the increasing share of public debt (as a percentage of GDP) since 2005 for some low-income African issuers, except for Guinea, which experienced a significant decline in its share after rapid expansion until 2009.

Figure 5. A growing share of domestic public debt in African LICs



3.2.4 Bonds issuances are part of the diversification of the financing sources

A way to investigate if the issuance of bonds resulted in a diversification of foreign financing of African LICs is to compute a Herfindahl Hirschman index of external financing. For doing so, we split the external financing of African LICs into six categories: multilateral (concessional, non-concessional), bilateral (concessional, non-concessional), private (bonds, banks and others) and compute the Herfindahl Hirschman index accordingly. This index can vary between 0.14 (each component has the same share in the total) and 1 (no diversification).

Figure 6 shows the evolution of the external financing diversification index for three categories of low-income countries (in each case, the median is plotted and the categorization is made before 2019): IDA-only countries that have issued Eurobonds (Median IDA bonds)⁸ and IDA-only countries that have not issued Eurobonds (Median IDA no bonds)⁹. Finally, "blend" countries (which have access to IDA and IBRD financing) that have issued bonds (Median Blend Bonds)¹⁰. The last category (Median Blend no bonds) would only include two countries, which is hardly relevant.

Three sub-periods may be considered for the entire set of countries. The first diversification period (1970-1980) is linked with the privatization (mainly bank loans) of foreign financing of African LICs. Then follows a period of increasing concessional borrowing namely because of the structural adjustment loans (1990-2005). The last period (2005-2018) is a period of diversification linked at least in part to market financing (Eurobonds). This illustrates the change of pattern which is taking place.

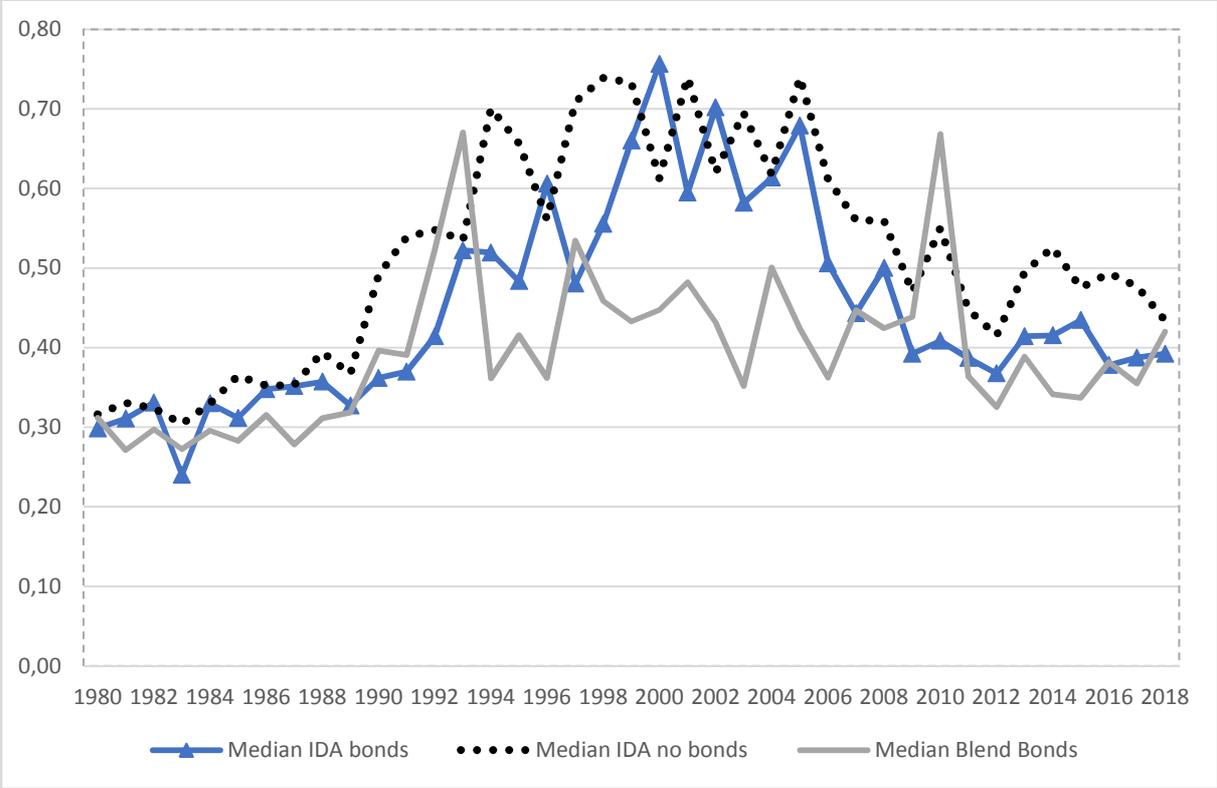
⁸ Côte d'Ivoire, Ethiopia, Ghana, Guinea, Mozambique, Rwanda, Senegal, Tanzania, Zambia

⁹ Benin, Burkina Faso, Burundi, Central African Republic, Chad, DRC, Djibouti, Eritrea, The Gambia, Guinea-Bissau, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Niger, Sao Tome, Sierra Leone, Sudan, Togo, Uganda.

¹⁰ Cameroon, Congo Rep., Kenya, Nigeria

However, one may note the early diversification of the “blend bonds” group, and the final convergence of the three groups after the 2012-14 divergence. This suggests that the bond issuance is not per se a driver of diversification of foreign financing.

Figure 6. Diversification of foreign financing (Herfindahl-Hirschman Index)



Source: Authors calculations based on the World Development Indicators dataset.

4 A FASHION THAT ALREADY FADES AWAY?

The wave of sovereign bond issuance by low-income African countries may be the beginning of a change of pattern, as we just saw. However, in line with Ghana's repayment problems we just mentioned, poor governance and misuse of these funds could lead to loan repayment risks. Eventually, this way of financing may lead to debt sustainability problems. The further reaction of investors is likely to impact the future of bonds issues by LICs. Moreover, it can also be pointed out that the current circumstances characterized by "quantitative easing" have led to a historical reduction in interest rates on the financial markets, a circumstance that is not likely to last forever. This would be the end of this wave, which would then just be a new illustration of the "irrational exuberance" of the financial markets

4.1 PRIVATE INVESTORS' APPETITE: IRRATIONAL EXUBERANCE?

Is the private investor appetite for African bonds likely to last? The role of financial intermediaries is crucial, because they have an interest in organizing bonds issuance, without taking risk. However, the wave will not last if investors' preferences shift to low return/low risk bonds – assuming that they price risks correctly.

4.1.1 Financial intermediaries have an interest in developing bond issues.

Bonds issuances imply three actors, not just lenders and borrowers. Intermediaries, investment banks and consulting firms place bonds on the markets. They derive significant benefits, without incurring the risks. Their role should not be underestimated. Ghana has called on the Bank of America, Merrill Lynch, Citigroup, JP Morgan and Standard Chartered. Angola has called on Deutsche Bank, Goldman Sachs and ICBC. Credit Suisse is involved in the borrowing that precipitated the crisis in Mozambique. Benin in 2019 has called on three banks: Citigroup Inc., Natixis SA and Société Générale SA.

International organizations themselves sometimes play an ambiguous advisory role, when it seems inspired by an ideological vision. For example, the World Bank pushed a Brazilian state, Minas Gerais, to borrow from the private sector to show that states could access market financing. The result is not conclusive, as Minas Gerais experienced difficulties to repay. It was even worse for the state of Rio de Janeiro, which defaulted.

4.1.2 Private investors do not seem to really take risks into account in an adequate way

The rush of investors on Eurobonds from low-income African countries provides a new illustration of R. Dornbusch's statement: "Investors are attracted by sovereign risk like bees by honey". Indeed, it is problematic that low-income countries, many of which have experienced episodes of political and economic unrest, and some of which have received debt relief, can attract investors to such an extent.

The fact that investors rushed to Ghana's 2019 issue illustrates quite well the existence of a risk assessment problem. Indeed, in a report, the IMF - which classifies Ghana as a "high-risk" country - note, p.1: "The downward trend in total public debt-GDP ratio was interrupted in 2018, reflecting the realization of significant contingent liabilities in the banking sectors (seven banks resolved through end-December). At the same time, reflecting investor confidence in the first half of 2018 and efforts in restoring macroeconomic stability, Ghana successfully issued a US\$2 billion Eurobond in May 2018 at more favorable terms relative to peer countries. Going forward, maintaining fiscal discipline, building buffers, diversifying the export base and exercising caution in contracting new external financing arrangements for infrastructure and other spending would be critical in making sure public debt dynamics be put firmly on a downward path: "By studying the determinants of the "original sin" that prevents developing countries from borrowing in markets in their own currency, Eichengreen, Hausman and Panizza have shown that access to international financial markets is not only dependent on criteria of good management or even on the repayment history. In the same vein, the literature on the determinants of spreads in international financial markets shows that they are largely disconnected from economic fundamentals (Miotti et al., 2012). More specifically, Souaré (2020) shows that the spreads on African bonds are only weakly correlated with the change in the ratings provided by the international agencies when the ratings improve, and more closely when the ratings deteriorate.

These points are reflected in the determinants of Eurobonds issuance: as we have seen, Eurobonds issuance depends mainly on the size of the economy.

Is this enthusiasm the result of good public finance management in issuing countries that would have reassured lenders about their future ability to repay? Or is it motivated solely by

the appetite of international investors for profitable and low-risk investments in the short- to medium-term, regardless of the structural fundamentals of borrowers?

It is difficult to answer this question because the motivations are multiple and complex on both the supply and demand sides. Nevertheless, a simple observation of the dynamics and level of public deficits before Eurobond issues can already provide some insight into lenders' behavior towards these financial investments.

Table 3. Government deficits and Eurobond issues

	Government deficit as a % of GDP and Eurobond issues									
Year of issue	2007	2010	2011	2012	2013	2014	2015	2016	2017	2018
Cameroon	4,3	-1,0	-2,4	-1,4	-3,7	-4,2	-4,4	-6,1	-4,9	-2,7
Côte d'Ivoire	-0,5	-1,8	-4,0	-3,1	-2,2	-2,2	-2,8	-4,0	-4,5	-4,0
Ethiopia	-3,6	-1,3	-1,6	-1,2	-1,9	-2,6	-1,9	-2,3	-3,3	-3,0
Ghana	-5,3	-7,5	-5,5	-8,4	-9,1	-8,0	-4,1	-6,9	-4,1	-7,0
Guinea	1,3	-9,7	-0,9	-2,5	-3,9	-3,2	-6,9	-0,1	-2,0	-2,0
Kenya	-2,4	-4,4	-4,1	-5,0	-5,7	-7,4	-8,1	-8,3	-7,8	-7,3
Mozambique	-2,5	-3,8	-4,8	-3,9	-2,7	-10,7	-7,2	-6,3	-3,4	-5,3
Nigeria	-1,1	-4,2	0,4	0,2	-2,3	-2,1	-3,5	-4,0	-5,4	-4,5
Rwanda	-1,7	-0,7	-0,9	-2,5	-1,3	-4,0	-2,8	-2,3	-2,5	-2,6
Senegal	-2,7	-3,9	-4,9	-4,1	-4,3	-3,9	-3,7	-3,3	-3,0	-3,4
Zambia	-1,0	-2,4	-1,8	-2,8	-6,2	-5,7	-9,3	-5,8	-7,7	-6,5
Mean	-0,2	-2,7	-1,6	-1,9	-3,6	-4,1	-4,5	-4,5	-4,4	-3,4
Median	-1,1	-2,4	-1,8	-2,5	-3,1	-4,0	-3,7	-4,5	-4,1	-3,4

Note: Light-blue figures correspond to the year of Eurobonds issuance. Source: World Economic Outlook Database (IMF), accessed on 04/10/2019.

Overall, almost all governments issuing these bonds (8 out of 11) had either a higher government deficit at the time of issue than in the previous year or an increase in their deficit over the two years preceding the issue (Table 3). This may well justify the need for additional financing and therefore the issuance of bonds, but growing deficits, which are supposed to send a negative signal back to investors, should not lead to such high underwriting. Similarly, half of the borrowing countries had a public deficit below the median public deficit of the HIPC countries at the time of issuance, and therefore clearly did not appear to be the right students in this sample in terms of public financial management.

Therefore, it seems more plausible that these subscriptions were motivated by the high yields associated with these government bonds (on average above 6%), which for the most part have a much shorter repayment term (about 10-15 years) than those to which borrowing countries had become accustomed when almost all financing was provided by international financial institutions (minimum 10-year maturity).

It is therefore likely that private investors rushed to these investments, which, given the recent debt cancellations, were not initially too risky ("first in, first out" logic). Nevertheless, given the increase of the debt burden of the issuing countries, the sustainability of their financing dynamics is called into question.

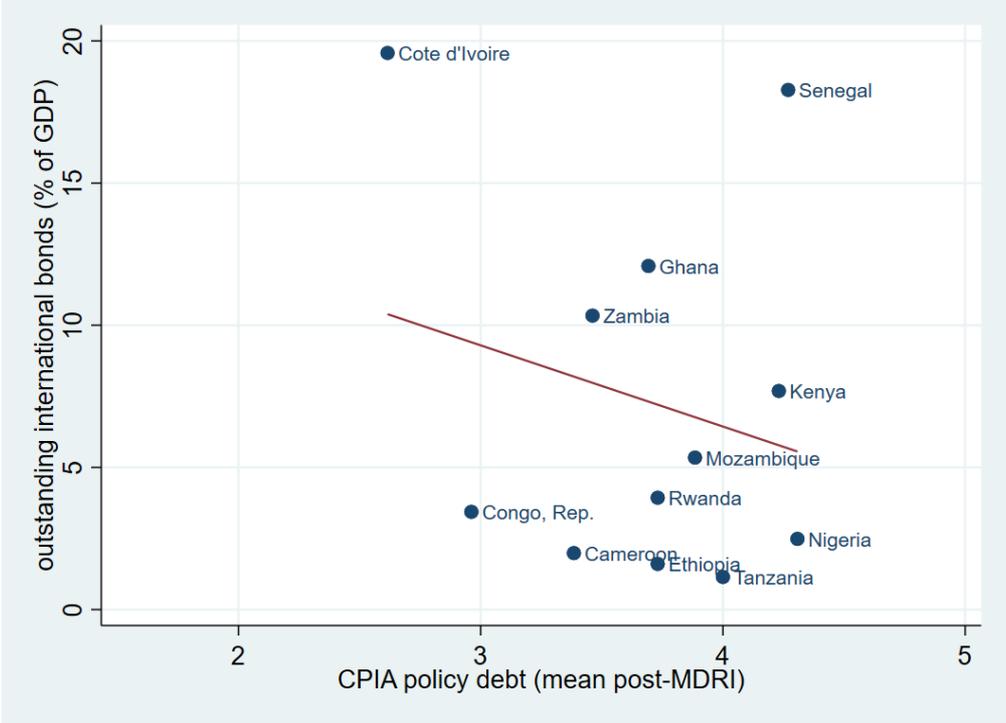
One may wonder if the unsustainability of the debt prevents investors to lend. Table A6 (in Appendix) presents the determinants of the probability of the issuance of bonds, taking into account all the significant determinants of the issuance (see table 2). DSA rating “high risk” lowers the probability of issuance, except when debt distress is taken into account (in this case it increases the probability). Consequently, investors would not attach much importance to the risks of over-indebtedness considered by the World Bank.

4.2 REPAYMENTS THREATENED WITH THE PERSISTENCE OF BAD INSTITUTIONS

If institutions, governance and preferences have not changed, it makes sense for countries that have benefited from debt reductions to borrow again and even become over-indebted (Easterly 2002). This would be the simple consequence of the moral hazard mentioned above – which is likely to be large. According to the simulation of Romero-Barrutieta et al. (2015), for Uganda, long-run debt -to-GDP ratio is about twice as high with debt relief than without it.

To validate this idea, it is possible to study the relationship between the issuance of bonds and governance quality using the World Bank's Country Policy and Institutional Assessment (CPIA) indices.

Figure 7. Outstanding of International Sovereign Bonds (2006-2018) and governance quality



Source: Our database, CPIA data from the World Bank's World Data Bank, accessed on 18/10/2019

As shown on Figure 7, there is probably a negative relationship between bond issuance and the CPIA, but the dispersion is very high, and Côte d’Ivoire is likely to act as an outlier in this relationship (further evidence is offered on Figure A1 in Appendix 3).

4.3 ARE ISSUANCES OF BONDS JEOPARDIZING DEBT SUSTAINABILITY?

Admitting that moral hazard plays only a limited role, it is certainly irrational to compromise debt sustainability by borrowing in excess of what is likely to be repaid. Eurobond issues significantly increase risks, even if this is not reflected in current indicators of long-term sustainability.

Nevertheless, going into debt on the financial markets is not without risk and can lead to payment defaults. This may be the case if the repayment of the first wave of loans faces serious difficulties. Some authors have been particularly pessimistic, such as Stiglitz and Rashid (2013), who have even predicted a "new subprime crisis" for these loans. In the same vein, Gichuki and Hoeffler (2017) highlight the risks taken, and Le Gouguec (2016) wonders whether a new HIPC initiative will be necessary. Recent events seem to point in that direction.

For example, Ghana experienced debt repayment problems in 2015, and had to turn to the IMF for rescue. However, this did not prevent it from successfully returning to the markets to borrow for the longer term, up to 100 years. In the same vein, Mozambique defaulted in 2017, after hiding \$2 billion in debt.

The risk is high in the case of a default on bonds, because there is no comprehensive procedure to deal with. Paris Club only deals with the bilateral debt, and London Club is for loans by banks. The only possibility to avoid (to some extent) long and costly negotiations with bond holders (and a possible implication of so-called vulture funds) would be to introduce CACs (Collective Action Clauses), to make agreements with a super majority of bond holders legally binding on all bond holders of the same issue. Yet, the IMF points out that African countries' emissions do not include a collective action clause (CAC), which makes them vulnerable to attacks from non-cooperative creditors (so-called "vulture funds"). To date, only a few LICs did already introduce such CACs in their issues.

Compared to traditional concessional borrowing, maturities are much shorter, which poses a refinancing risk. Indeed, middle-income countries, like industrialized countries, pay down their debt by constantly re-borrowing. If markets suddenly close, or interest rates on new borrowings rise, the risks become significant (Souaré et al. 2020).

In the background is the exchange rate risk, which remains common to all this financing, but which pushed governments in many middle-income countries, such as Morocco, to borrow more and more on their domestic financial markets.

Uganda is one of the few countries that has explicitly waived the issuance of Eurobonds to avoid these risks. Emmanuel Mutebile, Governor of the Central Bank of Uganda, said: "Looking at what is happening in Ghana, we are not yet ready to issue sovereign bonds"¹¹.

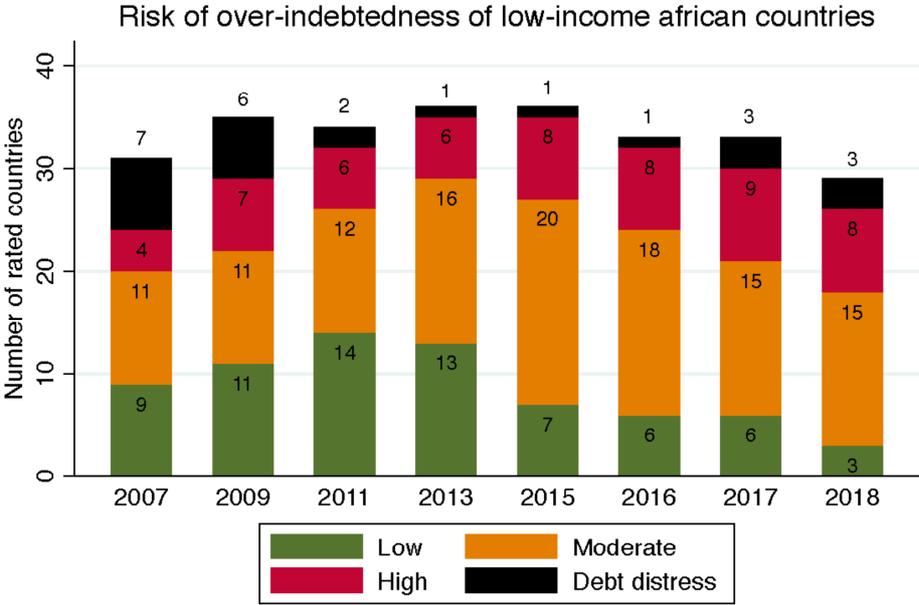
Debt sustainability analyses (DSAs) conducted by IDA and the IMF provide an indication of the evolution of debt sustainability in countries that have issued Eurobonds, even if these analyses are biased due to excessive caution (Berg et al. 2014). In particular, these analyses do not systematically take into account the link between investment and growth. Figure 8 shows that after 2013, the number of countries that are either at high risk of unsustainable

¹¹ <https://moguldom.com/70847/uganda-says-africas-sovereign-debt-lure-warns-others/>

external debt or over-indebted increases (although the different columns are difficult to compare, as the number of countries that have been subject to DSAs decreases. Moreover, it is not easy to trace the link with Eurobond issues, as these issues took place on different dates.

To clarify this link, Table 4 below presents the results of IDA and IMF debt sustainability analyses for countries for which such data are available (which is not the case for middle-income countries), as well as the years of Eurobond issuance (shaded). As can be seen from this table, the link between Eurobond issues and over-indebtedness is far from being established. Indeed, neither Côte d'Ivoire, Senegal nor Rwanda have worsened their debt situation following their bond issues - at least if we judge by the DSAs. However, these DSAs do not consider all risks. As we have seen, the risks may have increased, particularly in terms of market access as current obligations mature. On the other hand, developments in Ghana and Mozambique remain much more worrying given their shift from a "moderate" to a "high" debt situation following their issuance on the bond markets.

Figure 8. Evolution of debt sustainability assessments



Source : Debt Sustainability Analyses, IMF and World Bank

The sense of causality between over-indebtedness and bond issues remains complicated to assess because of its bidirectional nature. Indeed, an over-indebtedness situation can lead a country to seek financing to meet its future maturities, and the addition of new debts to an already large existing stock strongly threatens the sustainability of public debt. Further research on the meaning and intensity of this causality is therefore still needed to fully understand these new trends encountered by LCPs in the bond markets. Table 4 indeed shows that some LICs have been able to issue bonds even if highly indebted according to the IDA-IMF debt sustainability assessment (Cameroon 2015, Ghana 2015, 2016). This table also suggests that the assessment of the debt sustainability after the issuance of bonds sometimes worsens, but never improves.

Table 4. Eurobond issues and debt sustainability assessment IDA-IMF

Countries	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Cameroon	L	L	L	L	L	L	L	MOD	H		H	H
Cote d'Ivoire			H	H	DD	MOD	MOD	MOD	MOD	MOD	MOD	MOD
Ethiopia	MOD	MOD		L		L	L	L	MOD	MOD	H	H
Ghana	MOD	MOD	MOD	MOD	MOD		MOD	MOD	H	H	H	H
Guinea	DD	DD				MOD	MOD	MOD	MOD	MOD	MOD	MOD
Kenya		L	L	L	L		L	L	L	L	L	MOD
Mozambique		L	L	L	L	L	MOD	MOD	MOD			DD
Nigeria	L	L			L	L	L	L	L			
Rwanda		MOD	MOD	MOD	MOD	MOD	L	L	L	L	L	L
Senegal	L	L	L	L	L	L	L	L	L		L	L
Zambia	L	L	L	L		L	L		MOD		H	

Source: IDA and IMF DSA analyses. The shaded boxes are the years in which Eurobonds were issued. L, MOD, H and DD respectively mean Low, Moderate, High and Debt Distress.

CONCLUSION

From 2006 onwards, a set of African countries borrowed on the Eurobond market. Initially, this was done sporadically, but some countries issue more and more regularly. Can this trend be considered as a “great escape” from the pattern of development finance put in place in the 60s for LICs, including concessional lending, grants, debt relief by public organizations –what is called “aid” or “Official Development Assistance”?

Some low-income countries did succeed in issuing Eurobonds, which is a significant departure from the “old pattern”. So far, those countries were generally excluded from private capital markets. They had just benefited from significant debt relief - which should not be a favorable signal for rational lenders. The IMF prohibited countries receiving concessional financing from using market financing, but conditionality failed to prevent these issues.

A further testimony of this willingness to get out of the old, constraining framework is that these countries could continue to borrow from public institutions at concessional rates - but for limited amounts, with conditions and bureaucratic delays.

As investment needs are much higher than the amounts that public financing can finance, it makes sense, however, that these countries highlighted their debt repayment capacity (or "fiscal space") to resume borrowing.

However, the step taken by some African LICs may be just a way to seize an opportunity. Moral hazard may be a simple explanation of this move. Countries that have received debt reductions would borrow again, anticipating further debt reductions. Creditors would lend again, anticipating a new rescue in the event of default. A further argument in this direction is the exceptional global economic situation, particularly regarding interest rates. Indeed, these have reached such a low level (as well as risk premiums for emerging countries) that the difference between concessional and market financing has become blurred. However, the opportunity is less favorable for African countries, because the spreads charged by the investors are higher than elsewhere.

Finally, the wave of bond issuance may not last, as the increased risk of over-indebtedness is often pointed out. This new debt poses challenges to the debt sustainability of fragile countries. Some of them have already faced significant difficulties, or even a default in payment as in the case of Mozambique. These developments raise the question of the rationality of the lenders, and point out that their enthusiasm could fade away.

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Appendix 1: Characteristics of Eurobonds issuances by African Countries

Table A1. Public Eurobonds stock (as a percentage of exportations).

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Angola	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	1,5%	0,0%	0,0%	4,4%	0,0%	0,0%	8,5%
Cameroon	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,2%	11,1%	0,0%	0,0%	.
Cote d'Ivoire	.	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	8,9%	9,0%	5,4%	8,0%	1,6%	15,3%	.
Ethiopia	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	15,7%	0,0%	0,0%	0,0%	.
Gabon	0,0%	0,0%	.	14,3%	0,0%	0,0%	0,0%	0,0%	0,0%	15,6%	0,0%	9,3%	.	.	.
Ghana	0,0%	0,0%	0,0%	12,5%	0,0%	0,0%	0,0%	0,0%	0,0%	6,2%	6,6%	6,1%	4,3%	0,0%	.
Guinea	22,2%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Kenya	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	24,5%	0,0%	0,0%	0,0%	.
Mozambique	.	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	17,8%	0,0%	0,0%	0,0%	0,0%	0,0%
Nigeria	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,5%	0,0%	0,5%	0,0%	0,0%	0,0%	9,5%	.
Rwanda	.	.	.	.	.	.	0,0%	0,0%	0,0%	31,2%	0,0%	0,0%	0,0%	0,0%	0,0%
Senegal	0,0%	0,0%	0,0%	0,0%	0,0%	6,4%	0,0%	13,2%	0,0%	0,0%	11,6%	0,0%	0,0%	24,0%	.
Zambia	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	7,1%	0,0%	9,0%	15,2%	0,0%	0,0%	0,0%

Source: World Development Indicators, accessed on 15/05/2019. Authors' calculation.

Table A2. Public Eurobonds stock (as a percentage of GDP).

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Angola	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,8%	0,0%	0,0%	1,3%	0,0%	0,0%	3,3%
Cameroon	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	2,4%	0,0%	0,0%	0,0%
Cote d'Ivoire	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	4,4%	3,7%	2,1%	3,0%	0,5%	5,1%	4,7%
Ethiopia	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	1,8%	0,0%	0,0%	0,0%	0,0%
Gabon	0,0%	0,0%	0,0%	8,0%	0,0%	0,0%	0,0%	0,0%	0,0%	8,5%	0,0%	3,5%	0,0%	1,3%	0,0%
Ghana	0,0%	0,0%	0,0%	3,0%	0,0%	0,0%	0,0%	0,0%	0,0%	1,6%	1,9%	2,0%	1,4%	0,0%	3,1%
Guinea	4,9%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Kenya	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	4,5%	0,0%	0,0%	0,0%	2,3%
Mozambique	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	5,3%	0,0%	0,0%	0,0%	0,0%	0,0%
Nigeria	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,1%	0,0%	0,1%	0,0%	0,0%	0,0%	1,3%	1,4%
Rwanda	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	5,2%	0,0%	0,0%	0,0%	0,0%	0,0%
Senegal	0,0%	0,0%	0,0%	0,0%	0,0%	1,2%	0,0%	2,8%	0,0%	0,0%	2,5%	0,0%	0,0%	5,2%	9,0%
Zambia	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	2,9%	0,0%	3,7%	5,9%	0,0%	0,0%	0,0%

Source: World Development Indicators, accessed on 15/05/2019. Authors' calculation.

Table A3. Public Eurobonds stock per capita.

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Angola	0	0	0	0	0	0	0	0	42	0	0	54	0	0	114
Cameroon	0	0	0	0	0	0	0	0	0	0	1	32	0	0	0
Cote d'Ivoire	0	0	0	0	0	0	0	0	54	53	33	43	8	80	80
Ethiopia	0	0	0	0	0	0	0	0	0	0	10	0	0	0	0
Gabon	0	0	0	679	0	0	0	0	0	826	0	257	0	97	0
Ghana	0	0	0	33	0	0	0	0	0	38	37	36	26	0	67
Guinea	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Kenya	0	0	0	0	0	0	0	0	0	0	59	0	0	0	39
Mozambique	0	0	0	0	0	0	0	0	0	33	0	0	0	0	0
Nigeria	0	0	0	0	0	0	0	3	0	3	0	0	0	25	27
Rwanda	0	0	0	0	0	0	0	0	0	37	0	0	0	0	0
Senegal	0	0	0	0	0	16	0	38	0	0	35	0	0	71	138
Zambia	0	0	0	0	0	0	0	0	52	0	65	79	0	0	0

Source: World Development Indicators, accessed on 15/05/2019. Authors' calculation.

Appendix 2 ; Econometric Analysis, Summary statistics

Table A4. Sample of 53 Low Income Countries

Afghanistan	Guinea	<i>Papua New Guinea</i>
<i>Bangladesh</i>	Guinea-Bissau	Rwanda
Benin	Haiti	Sao Tome and Principe
<i>Bhutan</i>	Kenya	Senegal
Burkina Faso	<i>Kyrgyz Republic</i>	Sierra Leone
Burundi	<i>Lao PDR</i>	<i>Solomon Islands</i>
<i>Cambodia</i>	Liberia	<i>Sudan</i>
Cameroon	Madagascar	<i>Tajikistan</i>
Central African Rep.	Malawi	Tanzania
Chad	Mali	<i>Timor-Leste</i>
Comoros	Mauritania	Togo
Congo, Dem. Rep.	<i>Mongolia</i>	Uganda
Congo, Rep.	Mozambique	<i>Uzbekistan</i>
Cote d'Ivoire	<i>Myanmar</i>	<i>Vietnam</i>
<i>Eritrea</i>	<i>Nepal</i>	<i>Yemen, Rep.</i>
Ethiopia	Niger	Zambia
The Gambia	Nigeria	<i>Zimbabwe</i>
Ghana	<i>Pakistan</i>	

Note: Countries in italics have not benefited from the HIPC and MDRI initiatives. Countries in bold have issued international sovereign bonds at least once between 2006 and 2018.

Table A5. Summary statistics on sovereign bond issuance and its determinants

Variables	Source	Mean	Std. Dev.	Min	Max	Obs.
Sovereign Bond Issuance (0/1)	Bloomberg	0.045	0.207	0	1	689
GDP, in log	WDI	23.084	1.482	18.902	26.875	682
GDP growth	WDI	5.073	4.765	-	41.677	682
External Debt Stocks PPG (% of GDP)	IDS	28.119	21.049	0	204.864	682
Concessional Debt (% of total EDS)	IDS	42.023	22.111	0	92.843	689
Population, in log	WDI	16.28	1.459	11.993	19.173	682
CPIA policy debt	WDI	3.317	0.852	1	5	676
CPIA macroeconomic management	WDI	3.569	0.677	1	5.5	676
CPIA quality of budgetary and financial management	WDI	3.126	0.56	1.5	4.5	676
Trade surplus	WDI	-0.201	0.248	-0.742	0.604	542
Reserves (in months of imports)	WDI	4.205	2.425	0.105	14.547	580
Fiscal Balance (% of GDP)	WEO	-1.284	7.201	-	126.464	688
LIBOR USD 3-months	ICE BA	1.565	1.764	0.234	5.297	689
VIX index	CBOE	19.055	6.534	11.09	32.69	689

Table A6. Determinants of the probability to issue Eurobonds

VARIABLES	(I)	(II)	(III)
GDP per capita	1.025** (2.318)	1.025** (2.318)	1.025** (2.318)
GDP growth	0.064*** (2.928)	0.064*** (2.928)	0.064*** (2.928)
Ext. Debt Stocks PPG (% of GDP)	0.117*** (2.820)	0.117*** (2.820)	0.117*** (2.820)
Ext. Debt Stocks PPG ² (% of GDP)	-0.002** (-2.461)	-0.002** (-2.461)	-0.002** (-2.461)
Concessional Debt (% of total EDS)	-0.018** (-2.052)	-0.018** (-2.052)	-0.018** (-2.052)
DSA rating : Low	Ref.	0.405 (1.039)	0.943** (2.170)
DSA rating : Moderate	-0.405 (-1.039)	Ref.	0.538** (1.995)
DSA rating : High or Debt distress	-0.943** (-2.170)	-0.538** (-1.995)	Ref.
Constant	-9.500*** (-2.866)	-9.905*** (-2.921)	-10.443*** (-3.043)
Observations	336	336	336
Number of country	30	30	30
Wald chi2	71.28	71.28	71.28
Prob > chi2	0.000	0.000	0.000

Note: The model estimates the probability of sovereign bond issuance over 2007-2018 as in Table 2. All explanatory variables have been lagged by one year. The variable "DSA rating: Debt distress" has been combined with "DSA rating: High" since it only represents a small fraction of the observations and would have been omitted from the estimates otherwise. The country sample is composed of Sub-Saharan African countries only, namely: Benin, Burkina Faso, Burundi, Cameroon, Central African Republic, Chad, Comoros, Congo Dem. Rep, Congo Rep, Cote d'Ivoire, Ethiopia, The Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Madagascar, Malawi, Mali, Mauritania, Mozambique, Niger, Rwanda, Sao Tome and Principe, Senegal, Sierra Leone, Tanzania, Togo, Uganda, Zambia. Estimates based on population-average. Z-statistics in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Appendix 3 ; Data base, bonds issuance by African Low Income Countries

Table A7. LIC international sovereign bond issuance (2006-2018)

Country	Date of issuance	Amounts (millions)	Devise	Coupon type	Coupon at issue	Tenor	Collective Action Clause
Cameroon	11/19/2015	750	USD	Fixed	9.50	10	Yes
Congo, Rep.	12/07/2007	478	USD	Step-up	2.5	22	Yes
Cote d'Ivoire	04/16/2010	2500	USD	Step-up	2.5	22	Yes
Cote d'Ivoire	07/23/2014	750	USD	Fixed	5.375	10	Yes
Cote d'Ivoire	03/03/2015	1000	USD	Fixed	6.375	13	Yes
Cote d'Ivoire	06/15/2017	625	EUR	Fixed	5.125	16	Yes
Cote d'Ivoire	06/15/2017	1250	USD	Fixed	6.125	16	Yes
Cote d'Ivoire	03/22/2018	850	EUR	Fixed	5.25	12	Yes
Cote d'Ivoire	03/22/2018	850	EUR	Fixed	6.625	30	Yes
Ethiopia	12/11/2014	1000	USD	Fixed	6.625	10	Yes
Ghana	10/04/2007	750	USD	Fixed	8.50	10	No
Ghana	08/07/2013	1000	USD	Fixed	7.875	10	Yes
Ghana	09/18/2014	1000	USD	Fixed	8.125	12	Yes
Ghana	10/14/2015	1000	USD	Fixed	10.75	15	
Ghana	09/15/2016	750	USD	Fixed	9.25	6	
Ghana	05/16/2018	1000	USD	Fixed	7.625	11	Yes
Ghana	05/16/2018	1000	USD	Fixed	8.627	31	Yes
Kenya	06/24/2014	750	USD	Fixed	5.875	5	Yes
Kenya	06/24/2014	2000	USD	Fixed	6.875	10	Yes
Kenya	02/28/2018	1000	USD	Fixed	7.25	10	
Kenya	02/28/2018	1000	USD	Fixed	8.25	30	
Mozambique	09/11/2013	850	USD	Fixed	6.305	10	
Nigeria	01/28/2011	500	USD	Fixed	6.75	10	No
Nigeria	12/07/2013	500	USD	Fixed	5.125	5	
Nigeria	12/07/2013	500	USD	Fixed	6.375	10	Yes
Nigeria	02/16/2017	1500	USD	Fixed	7.875	15	Yes
Nigeria	06/27/2017	300	USD	Fixed	5.625	5	Yes
Nigeria	11/28/2017	1500	USD	Fixed	6.5	10	Yes
Nigeria	11/28/2017	1500	USD	Fixed	7.625	30	Yes
Nigeria	02/23/2018	1250	USD	Fixed	7.143	12	Yes
Nigeria	02/23/2018	1250	USD	Fixed	7.696	20	Yes
Nigeria	11/21/2018	1118	USD	Fixed	7.625	7	
Nigeria	11/21/2018	1000	USD	Fixed	8.747	13	
Nigeria	11/21/2018	750	USD	Fixed	9.248	31	
Rwanda	05/02/2013	400	USD	Fixed	6.625	10	No
Senegal	12/22/2009	200	USD	Fixed	8.75	5	
Senegal	05/13/2011	500	USD	Fixed	8.75	10	Yes
Senegal	07/30/2014	500	USD	Fixed	6.25	10	Yes
Senegal	05/23/2017	1100	USD	Fixed	6.25	16	Yes
Senegal	03/13/2018	1000	EUR	Fixed	4.75	10	
Senegal	03/13/2018	1000	USD	Fixed	6.75	30	
Tanzania	03/08/2013	600	USD	Floating	6.449	7	
Zambia	09/20/2012	750	USD	Fixed	5.375	10	Yes
Zambia	04/14/2014	1000	USD	Fixed	8.50	10	Yes
Zambia	07/30/2015	1250	USD	Fixed	8.97	12	Yes

Source: Bloomberg (accessed on December 2019)

Appendix 3; Econometric Analysis, Summary statistics

Figure A1. Outstanding of International Sovereign Bonds (2006-2018) and governance quality

