

**Washing away
Original Sin:**
Vulnerability to Crisis and
the Role of Local Currency
Bonds in Sub-Saharan
Africa

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Washing away Original Sin: Vulnerability to Crisis and the Role of Local Currency Bonds in Sub-Saharan Africa

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ABSTRACT

This paper starts from the concept of ‘original sin’ to demonstrate that the development of local currency bond markets remains a priority for Sub-Saharan African countries, both as a prevention mechanism against external shocks and to exploit growth-boosting investment opportunities. We present evidence suggesting that in Sub-Saharan Africa, as in other developing country regions, original sin (at least in its domestic form) is today less prevalent than it used to be. An increasing number of African governments now issue non-indexed local currency bonds with tenors of 10 years and more on a regular basis. This is not to say that all is well. African bond markets often lack liquidity, feature few corporate securities, and have a narrow investor base of commercial banks. Many more hurdles remain to be taken, by African countries themselves and the international community, if we are to further wash away original sin.

Keywords: original sin; vulnerability; local currency bonds; domestic debt; Sub-Saharan Africa

JEL codes: F33; G10; O55

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1. INTRODUCTION

The financial and economic crisis that has swept mercilessly over the globe during much of the past years has refocused governments' and international policymakers' minds on the continued vulnerability of developing countries, including those in Sub-Saharan Africa, to external shocks emanating from the US and Western European economies. In this paper we focus on one particular source of such vulnerability: developing countries' choice between accessing short-term, high-cost local currency financing domestically and borrowing abroad at more favorable maturity and interest terms but in foreign currency. This is what Eichengreen and Hausmann (1999) famously dubbed the 'original sin' dilemma, a concept inspired by the turbulent second half of the 1990s, but, as we will show, with ample relevance and real consequences for developing countries today, in Sub-Saharan Africa and elsewhere.

One obvious way to reduce vulnerabilities resulting from original sin is through the development and deepening of local currency bond markets that enable governments (and firms) to mobilize a pool of stable, long-term funds at reasonable cost. This may be of particular importance to lower-income countries, as lingering fiscal and debt problems in the eurozone and the US raise concerns about the future availability of cheap, concessional external finance.

Local currency debt markets have been ascribed with other laudable characteristics as well. An extensive cross-country study by Abbas and Christensen (2010) on 93 low-income and emerging economies over 1975-2004 suggests that moderate levels of domestic (local currency) government debt contribute to growth via increased investment efficiency (i.e. higher total factor productivity), and enhance domestic institutional quality (because of greater accountability to countries' citizenry).¹ For these and other reasons, in November 2011 the G-20 Heads of State endorsed in Cannes an action plan in support of local currency bond market development in which they urge active cooperation with and between the World Bank, IMF, BIS, UNCTAD, OECD and regional development banks.

Arguing from an original sin perspective, this paper makes the case for the deepening of local currency bond markets in Sub-Saharan Africa in particular. Mapping the current African situation with information compiled from different recent sources (which, in our opinion, have not received due attention in the literature), we find much to commend. Today, in quite a number of countries in the region bond markets have reached a level of sophistication that allows governments to regularly issue non-indexed local currency bonds with long tenors.² At the same time we identify important barriers that stand in the way of further market development, including limited financial infrastructure and narrow investor bases dominated by commercial banks. These are areas where countries and international financial institutions should take (and are indeed taking) corrective action.

[1] Conversely, other studies, such as e.g. Hanson (2007), focus on the new burdens and risks that an expansion of domestic debt brings, including higher interest costs, the potential crowding out of private sector credit, and the distributional consequences in case of default (whether explicit or implicit through inflation). This paper should not be seen as giving unconditional support to domestic (local currency) debt at the expense of all forms of foreign debt. The point is that overreliance on one particular type of debt financing (be it external or domestic) should be avoided, as it increases countries' vulnerability to shocks (again external or domestic); the 'optimal' debt structure is one that balances important trade-offs between domestic and external debt (Panizza, 2008, 2010).

[2] Our findings stand in contrast with Kahn (2005), the only other paper we know of that explicitly links original sin to bond market development in Sub-Saharan Africa, and which seems largely outdated now.

The remainder of the paper is structured as follows. To set the background, section 2 provides a brief description of the concept of ‘original sin’, summarizes the literature on its determinants and sketches its relevance today. Section 3 evaluates the importance of original sin for Sub-Saharan Africa in bringing together information on the development and current state of local currency bond markets for selected African countries from various sources. Next to comparable cross-country data we look into the cases of African bond market ‘champions’ South Africa, Nigeria and Kenya. Section 4 zooms in on a number of initiatives that have been or could be taken by countries themselves and/or international financial institutions to further wash away the original sins of Sub-Saharan Africa. Three areas are highlighted in particular: monetary policy credibility, investor base diversification, and financial market infrastructure upgrading. Section 5 concludes.

2. ORIGINAL SIN: CONCEPTS, DETERMINANTS AND RELEVANCE TODAY

2.1. Concepts

The term 'original sin' first appeared in Eichengreen and Hausmann (1999, p. 3), who used it to describe a developing country situation in which '...the domestic currency cannot be used [by the government or local firms] to borrow abroad or to borrow long-term, even domestically'. Original sin, implicating a trade-off between currency mismatches (i.e. investments that generate local currency are financed with foreign currency) and maturity mismatches (i.e. long-term investments are financed with short-term debt), was proposed as an explanation for a series of emerging market crises in the 1990s, complementing alternative hypotheses focusing on issues of moral hazard and commitment problems (see Eichengreen and Hausmann, 1999).³

In later work, the same authors narrowed down the definition of original sin to 'the inability of a country to borrow abroad in its own currency', as they came to conclude that this first (international) facet of their earlier original sin formulation was a particularly intractable problem (Eichengreen, Hausmann, and Panizza, 2003). At the time, it seemed that a fair number of emerging countries were able to borrow long-term and at fixed rates in their domestic currency on local capital markets; they had, in other words, overcome *domestic* original sin. Consequently, the focus of academic research shifted towards the limited progress made in the redemption of *international* original sin.

It is not hard to see why a situation of original sin is a source of vulnerability and may put developing countries into serious trouble (see Eichengreen and Hausmann, 1999; Eichengreen, Hausmann, and Panizza, 2005a). If countries that suffer from original sin maintain a net foreign debt position, and thus currency mismatches, on their balance sheets then real exchange rate pressure (e.g. caused by a 'sudden stop' of capital inflows; see Calvo, 1998) will have destabilizing effects (Goldstein and Turner, 2004). Under a fixed exchange rate regime, governments will have to raise interest rates and use all available liquidity to defend their domestic currency. This may translate into self-fulfilling liquidity runs and banking crises. In case of floating exchange rates, governments and firms will face rising debt service costs (in local currency units) exactly when their external position is already troublesome, which could eventually threaten their solvency. Original sin moreover limits the countercyclical policy toolkit of a country when a crisis hits; expansionary monetary and fiscal measures, designed to stimulate the economy, will put further strain on the exchange rate. If, alternatively, 'original sinners' choose to refrain from foreign borrowing or to accumulate foreign currency reserves to match their foreign currency obligations, they will incur large opportunity costs in foregoing much-needed investment.⁴

Indeed, Eichengreen *et al.* (2005a) show that various measures of (international) original sin are strongly and significantly correlated with both higher output volatility and capital flow volatility, as well as with depressed credit ratings and a lower willingness to accept exchange rate flexibility ('fear of floating' à la Calvo and Reinhart, 2002; see also McKinnon and Schnabl, 2004).

[3] For a more elaborate discussion on the differences and relations between original sin and currency mismatches, as well as attempts to measure these concepts in practice, see Eichengreen *et al.* (2003) and Goldstein and Turner (2004, pp. 21-56).

[4] On the opportunity costs of reserves accumulation, see e.g. Rodrik (2006) and Levy Yeyati (2008).

2.2. Determinants

What explains the existence of original sin? According to empirical testing by Hausmann and Panizza (2003), the domestic aspect of original sin is determined by a lack of monetary policy credibility, as measured by higher average inflation, and the absence of capital controls. For a larger sample of emerging markets, Mehl and Reynaud (2005) are able to confirm the association with inflation but not with capital controls. They also identify the slope of the yield curve of government debt, the size of the investor base (gross private savings to GDP) and, to a lesser extent, the debt service to GDP ratio as predictors of domestic original sin.

On international original sin Hausmann and Panizza (2003) and Eichengreen, Hausmann, and Panizza (2005b) find the absolute 'size' of an economy, as measured by GDP, total trade or total domestic credit, to be the only robust determining factor (negatively correlated with original sin). The level of development, institutional quality, monetary policy credibility, fiscal sustainability and the presence of capital controls all appear to have little explanatory power. Further analysis by Özmen and Arinsoy (2005) suggests that sound institutions and exchange rate flexibility may be necessary conditions to overcome original sin, but are not sufficient; country size and other factors on which most individual countries have no leverage also matter for its elimination.⁵ These results are in line with the argument that international original sin exists because of the significant diversification possibilities large economies offer (and small countries do not) to international investors. In a world where each additional currency has decreasing marginal benefits for diversification and with non-zero transaction costs (increasing with the number of currencies one holds) the optimal portfolio will be one of only a limited number of currencies.⁶

More recent empirical research is critical of this rather fatalistic view and puts much more emphasis on country institutions, policies and macroeconomic factors. Burger and Warnock (2006) present evidence suggesting that economies with stable inflation rates, a stronger rule of law and more creditor-friendly laws have larger local currency bond markets (relative to GDP) and are less dependent on foreign currency bonds (relative to the total outstanding value of bonds). Likewise, Claessens, Klingebiel, and Schmukler (2007) successfully link the share of foreign currency government bonds of advanced and emerging countries to variables such as inflation, fiscal burden, bank and stock market development, legal origin, democracy, capital account openness and the exchange rate regime, besides overall economic size.

Part of the apparent divergence in the results of Eichengreen *et al.* (2005b) on the one hand, and those of Burger and Warnock (2006) and Claessens *et al.* (2007) on the other, may be due to differences in country samples and timeframes and the fact that the latter studies,

[5] In fact, the term 'original sin' itself conveys the message that developing countries are not able to overcome this problem on their own and that it is largely the fault of the international financial system (a remark made by Burger and Warnock, 2006). There is however no consensus on this. Bengui and Nguyen (2011), for example, develop a DSGE model in which a state where emerging markets do not borrow much internationally in their domestic currency is an internal equilibrium outcome, rather than the result of an exogenously imposed constraint (or inability). In short, these authors argue that domestic savers-lenders may accept a risk premium lower than that of foreign lenders on local currency bonds, and thereby push the latter out of the bond market, simply because they have a consumption basket largely denominated in local currency (contrary to foreign lenders that consume foreign currency/dollar-denominated goods only). A depreciation of the domestic currency is thus much less harmful to local than to foreign lenders.

[6] Similar network and path dependency effects have been invoked to explain how European countries heavily involved in trading (and trade finance) overcame original sin in the 15th century, irrespective of their domestic institutions (see Flandreau and Sussman, 2005).

unlike the former, do not differentiate between domestic and international (offshore) bond issuance but only consider the currency in which the bonds are issued.

2.3. Relevance today

As stated before, the efforts by emerging economies in developing local bond markets, starting in the late 1990s (after painful lessons were learned from a series of crises), have moved academic and policy attention away from the domestic dimension of original sin. This is not without reason. In fact, a report commissioned by the BIS (see Committee on the Global Financial System, 2007) finds that in large emerging economies, and in emerging Asia specifically, net issuance of domestic bonds and notes (mostly denominated in local currency) has greatly exceeded that of foreign currency securities in the decade prior to the global crisis. This important development has also been acknowledged by Hausmann and Panizza (2010), who further show, with recent BIS survey data for 25 emerging markets, that the majority of these domestic bonds is fixed-rate (estimated at around 70% of all domestic bonds issued between 2004 and 2008) rather than floating rate, inflation-indexed or exchange rate-indexed (19%, 8% and 3%, respectively). Moreover, the average (initial) maturity of government-issued debt on the domestic market stood at around nine years for these 25 countries during 2004-2008, up from seven years in 1995-1998. This points to an overall reduction in domestic original sin, although important regional differences remain.⁷

On the international front, Hausmann and Panizza (2010) are, however, less sanguine. They register a rather modest increase in the value share of local currency bonds issued internationally by a sample of 65 developing countries between 2001 and 2008, from 0.8 to 4.1% of total international bonds. If one considers the ratio of bonds issued in developing country currencies (which includes both resident and non-resident issues) to the total value of bonds issued by this group, the increase is somewhat higher (from 3.7 to 18.5%).⁸

Of course, to the extent that foreign investors participate in domestic bond markets the (local currency) bonds issued on these markets technically (i.e. according to official definitions) become external debt, and help developing countries overcome international original sin. Lack of data however prohibits a comprehensive analysis of the importance of such foreign investment in domestic bond markets (see Panizza, 2008 for an overview of the difficulties in identifying final bond holders). As a second-best alternative, Burger, Warnock, and Cacad Warnock (2010) analyze US Treasury survey data on American holdings of emerging country local currency bonds and uncover that cross-border participation has increased markedly since 2001, when participation was almost non-existent (cf. Burger and Warnock, 2007); end 2008 total US investment in those local currency bond markets stood at US\$27.5 billion, or 9.3% of the non-US dollar bond portfolio, concentrated in emerging economies with investor-friendly institutions and policies.⁹ Such evolutions notwithstanding, Hausmann and Panizza (2010), using the same surveys, estimate that in 2007 no more than 10% of the total US\$1.6 trillion in bonds issued by developing countries (domestically and internationally) and held by US investors was

[7] Most notably are the disparities between Asian and Latin American emerging countries, with 94% versus 25% of domestic bonds bearing a fixed interest rate (see Hausmann and Panizza, 2010, pp. 10-11).

[8] These latter figures can be interpreted as an upper-bound estimate of the possibility for developing countries to hedge their (bond debt) currency exposure. Many of the developing country currency international bonds issued by non-residents are originated by international financial institutions (see also section 4.3; Eichengreen *et al.*, 2005b gives some early examples).

[9] This US\$27.5 billion constitutes however only 0.16% of the total US bond portfolio end 2008, which includes US\$16.6 trillion of bonds issued by the US itself.

denominated in the issuer's currency. This leads them to conclude that the observed decline in average currency mismatches on developing countries' balance sheets was caused primarily by 'abstinence' from original sin, i.e. lower net debt (either through a reduction in external debt or an increase in foreign reserves), and only in second instance by 'redemption', i.e. an increased ability to borrow in local currency internationally. As such countries may still be missing out on much-needed investment.

For the purpose of our paper, which approaches local currency bond market development as a potential strategy to reduce developing countries' vulnerability to crises and shocks (next to mobilizing investment capital), it is also informative to glance at the overall performance of these markets during the recent global crisis. The most comprehensive account available to date on this topic is that by Turner (2012), who focuses on the largest emerging economies only. He presents both a positive and a more gloomy reading of what happened with local currency bond markets in the immediate post-Lehman period.

On the positive side, it is noted that all emerging economy domestic bond markets, even those that were heavily affected at the height of the crisis (i.e. 2008Q4-2009Q1), recovered swiftly and have so far remained more or less stable during ongoing eurozone troubles (see also Miyajima, Mohanty, and Chan, 2012). Jara, Moreno, and Tovar (2009) found that in some countries, such as Colombia and Chile, local bond issuance continued almost unabated, thus providing a 'spare tire' countering declines in external (bond) finance.¹⁰

Worryingly, however, local currency bond markets in other countries did run into problems during the crisis; Brazil, Indonesia, Mexico, Russia and Turkey all saw sharp hikes in government bond yields end 2008. Turner (2012) traces these cost increases back to the flight of foreign investors and local subsidiaries of foreign banks out of these particular bond markets.¹¹ He further demonstrates that cross-country differences in bond yield changes over 2008 are well-explained, not by domestic macroeconomic factors, but by countries' sovereign credit ratings, which (paradoxically) capture default risk on foreign currency rather than local currency debt. Turner's interpretation is that local currency bonds, as a relatively new asset class, do not yet offer sufficient liquidity and 'collateral capacity' in times of crisis to leveraged investors of foreign origin (which became extremely risk averse and for which the credit ratings of their assets started to matter a great deal as of end 2008). So even within the group of emerging economies that have made considerable progress in overcoming original sin, some (but, again, not all) see their ability to borrow in local currency restrained when global market confidence falters. Similar conclusions follow from Jaramillo and Weber (2012), who find that differences in government domestic bond yields across emerging economies are more marked when international investors' risk aversion, as measured by the VIX, is elevated.¹² Applying advanced panel threshold estimation techniques on 2005-2011 data, they are able to show that when global risk aversion

[10] The 'spare tire' metaphor is borrowed from former Federal Reserve Chairman Alan Greenspan (1999), who used it to claim that the resilience of the US financial system to various crises (originating in emerging market economies) could be explained by its reliance on different forms of financial intermediation, both bank- and security market-based.

[11] It may be possible that these bond yield differences between emerging markets also relate to the type (banks, hedge funds, etc.) and nationality (US, European or other) of foreign investors active in the respective countries. Unfortunately, disaggregated data on the identity of foreign bond investors is not readily available from the BIS or other international organizations.

[12] The VIX, or Chicago Board Options Exchange Volatility Index in full, is a standard measure of overall investor sentiment. As a weighted blend of prices of options on S&P 500 stock indices, it proxies market expectations of near-term future volatility. For more details, see <http://www.cboe.com/micro/VIX/vixintro.aspx>.

is high, domestic bond yields are much more sensitive to market participant's expectations of fiscal deficits and public debt levels (reflecting their concerns about potential default) than to expected inflation and real GDP growth; the opposite is observed in tranquil times.

Having dwelled on original sin and its relevance today in general terms, we now turn to examine Sub-Saharan Africa's situation in this respect. In the following section we first present data, compiled from various sources, on local currency bond market development in (selected) Sub-Saharan African countries. This enables us then to form a broad idea of how important original sin is in the region today and of the progress made over the years. A second subsection complements our analysis by means of three short case studies on South African, Nigerian and Kenyan bond markets.

3. SUB-SAHARAN AFRICA'S ORIGINAL SIN

3.1. A bird's eye view

It is widely acknowledged that Sub-Saharan Africa's financial markets are small and shallow relative to other regions.¹³ Limited in their access to domestic sources of finance, African governments have traditionally relied on (concessional) external borrowing in foreign currency to fund expenditures and bridge deficits. This situation is however changing, with important implications for original sin.

Table 1 shows historical as well as recent domestic and external public debt figures for the largest possible sample of Sub-Saharan African countries¹⁴, updating Christensen (2005, pp. 523-524) with data from IMF country reports (mostly Article IV staff reports). One evolution that catches the eye is the dramatic decrease of total public debt ratios since the 1995-2000 period for most African countries, driven by an overall decline in the external component of public debt. Such a decline is first and foremost due to the extensive debt relief granted under the Heavily Indebted Poor Country (HIPC) Initiative (since 1996) and the MDRI (Multilateral Debt Relief Initiative) (since 2005), from which a great number of Sub-Saharan countries have benefited. As can be seen, the median reduction in external public debt to GDP from 1995-2000 to 2010 is an impressive 79 percentage points for HIPCs that have now reached completion point; the decline is only 15 percentage points for non-HIPCs.

Table 1 also conveys the message that domestic public debt is not at all a new phenomenon in Sub-Saharan Africa (see Christensen, 2005). Countries as diverse as Ethiopia, Kenya, Mauritius, Nigeria, South Africa, the Seychelles, Tanzania and Zimbabwe have had ample experience with domestic public debt since at least since the 1980s, continuing up to today. Other economies, such as Burundi, Cape Verde, The Gambia, Ghana and Namibia, have seen a boom in domestic public debt more recently. Botswana, the Democratic Republic of Congo, Lesotho, Mozambique and São Tomé and Príncipe, where domestic debt markets have not or only marginally developed, are the exceptions to the rule. Non-HIPCs have on average trumped HIPCs in their build-up of domestic public debt; only in recent years, as HIPCs started substituting domestic for external debt¹⁵, the gap between HIPCs and non-HIPCs has narrowed.

At an average of 40% of total public debt in 2010 for the African countries on which we have IMF data (38% and 49% for HIPCs and non-HIPCs, respectively), domestic public debt now constitutes an integral part of Sub-Saharan Africa's overall debt burden.¹⁶

[13] A system-wide review of African financial markets is outside the scope of this paper. Allen, Otchere, and Senbet (2011) is a useful starting point for the interested reader. Also see the accompanying country reports on <http://fic.wharton.upenn.edu/fic/africa/africa.htm>.

[14] Due to problems with data availability Table 1 excludes the Comoros, Equatorial Guinea, Eritrea, Mauritania and Somalia.

[15] Since the HIPC initiative prohibits participating countries from borrowing non-concessionally in international markets (and the accompanying IMF programs do not allow for the monetization of deficits) HIPC governments have been 'forced' to tap domestic markets to keep financing their expenditures, often on unfavorable terms (Arnone and Presbitero, 2010).

[16] If we weight by countries' economic size (nominal GDP in PPP terms), the overall average share of domestic debt is 63% in 2010; 39% for HIPCs and 78% for non-HIPCs.

Table 1. Public debt in Sub-Saharan Africa

Country	HIPC status	domestic public debt (% of GDP)					external public debt (% of GDP)					total public debt (% of GDP)					domestic public debt (% of total public debt)				
		1980-89	1990-94	1995-00	2005	2010	1980-89	1990-94	1995-00	2005	2010	1980-89	1990-94	1995-00	2005	2010	1980-89	1990-94	1995-00	2005	2010
Angola	No HIPC	0	0	0	7	16	158	113	81	40	19	158	113	81	47	35	0	0	0	15	46
Benin	HIPC, CP	..	..	..	..	12	..	..	..	19	..	..	..	..	31	..	..	..	..	..	39
Botswana	No HIPC	0	0	0	3	3	5	4	4	10	5	..	4	10	7	13	0	0	0	45	23
Burkina Faso	HIPC, CP	..	..	..	4	..	..	..	41	..	..	..	..	..	44	30	..	..	..	8	..
Burundi	HIPC, CP	3	2	6	21	15	40	96	165	22	44	..	98	144	186	37	8	2	4	11	41
Cameroon	HIPC, CP	..	..	..	14	6	..	..	38	7	..	..	..	..	52	12	..	..	..	27	46
Cape Verde	No HIPC	0	11	34	34	24	42	42	54	51	42	..	53	74	88	75	0	20	46	39	31
Central African Rep.	HIPC, CP	..	..	..	24	21	..	..	82	17	..	..	..	..	106	38	..	..	..	23	56
Chad	HIPC, DP	..	..	..	5	7	..	..	29	25	..	..	..	..	34	32	..	..	..	14	21
Congo, Dem. Rep. of	HIPC, CP	0	0	0	..	..	50	126	254	..	..	50	126	254	..	..	0	0	0	..	..
Congo, Rep. of	HIPC, CP	..	..	..	..	3	..	..	103	21	..	..	..	..	..	24	..	..	..	..	11
Côte d'Ivoire	HIPC, CP	..	..	..	12	16	..	..	78	51	..	..	..	..	89	66	..	..	..	13	24
Ethiopia	HIPC, CP	16	19	10	31	20	31	115	37	17	47	..	134	120	68	37	34	14	9	45	55
Gabon	No HIPC	..	..	..	12	6	..	..	42	16	..	..	..	..	54	21	..	..	..	23	27
Gambia, The	HIPC, CP	3	13	23	36	29	80	84	135	40	83	..	96	127	170	70	3	13	18	21	42
Ghana	HIPC, CP	12	8	24	11	19	19	55	37	20	32	..	64	106	48	39	38	13	32	23	48
Guinea	HIPC, CP	..	..	..	..	30	0	0	98	64	..	..	..	..	..	94	..	..	..	..	32
Guinea-Bissau	HIPC, CP	..	..	..	..	30	..	..	441	19	..	..	..	..	..	49	..	..	..	..	61
Kenya	No HIPC	21	23	22	18	23	61	77	27	23	81	..	100	74	45	45	25	23	29	41	49
Lesotho	No HIPC	8	8	5	8	5	40	49	46	30	48	..	58	62	53	35	17	15	8	14	14
Liberia	HIPC, CP	..	..	..	..	33	..	..	877	12	..	..	..	..	..	45	..	..	..	..	73
Madagascar	HIPC, CP	3	3	3	10	..	71	120	70	..	74	..	123	113	80	..	4	2	2	13	..
Malawi	HIPC, CP	13	8	9	20	14	65	100	143	22	78	..	109	135	163	36	16	7	7	12	39
Mali	HIPC, CP	..	..	..	2	4	..	..	51	24	..	..	..	..	53	29	..	..	..	4	15
Mauritius	No HIPC	27	29	33	57	43	39	21	12	14	66	..	50	48	69	57	41	57	69	83	75
Mozambique	HIPC, CP	0	0	0	8	4	75	207	74	35	75	..	207	122	82	39	0	0	0	10	10
Namibia	No HIPC	0	8	19	26	12	0	4	4	4	0	..	12	21	30	16	..	69	89	85	76
Niger	HIPC, CP	..	..	..	17	7	..	..	52	17	..	..	..	..	69	25	..	..	..	24	29
Nigeria	No HIPC	28	29	16	8	14	49	93	21	2	77	..	122	97	29	16	37	24	17	28	87
Rwanda	HIPC, CP	8	9	5	14	9	17	55	70	15	25	..	65	75	84	23	31	14	7	16	38
São Tomé and Príncipe	HIPC, CP	0	0	0	0	0	155	422	309	47	155	..	422	643	309	47	0	0	0	0	0

Senegal	HIPC, CP	..	..	3	8	..	..	..	43	28	..	..	..	46	36	..	..	7	23
Seychelles	No HIPC	14	45	68	101	33	29	24	20	47	50	43	69	88	147	83	33	68	40
Sierra Leone	HIPC, CP	13	5	7	30	22	34	94	143	148	41	47	99	150	178	62	28	17	36
South Africa	No HIPC	30	37	45	31	32	0	0	0	5	4	30	37	45	35	35	100	87	90
Sudan	HIPC, E	..	..	..	6	14	..	..	..	90	59	..	..	..	96	73	..	6	19
Swaziland	No HIPC	4	1	1	3	6	20	21	16	15	10	24	22	17	17	16	5	16	37
Tanzania	HIPC, CP	26	6	12	15	13	71	131	100	53	25	96	137	112	68	38	27	22	34
Togo	HIPC, CP	..	..	..	..	15	..	..	..	81	17	..	..	..	..	32	..	..	47
Uganda	HIPC, CP	2	1	2	10	12	0	73	57	48	18	2	74	59	57	30	100	17	40
Zambia	HIPC, CP	25	9	6	19	13	134	178	196	86	9	159	186	202	105	21	16	18	61
Zimbabwe	No HIPC	35	29	37	..	..	27	34	48	..	..	62	63	86	88	104	56	..	..
AVERAGE (all)		11	12	15	18	16	49	87	102	97	24	62	102	118	83	41	25	19	23
MEDIAN (all)		8	8	8	13	14	40	77	81	52	20	49	97	93	68	36	17	10	8
Memorandum:																			
AVERAGE (HIPC, CP only)		9	6	8	15	15	56	124	156	134	25	69	139	169	103	40	22	6	17
AVERAGE (No HIPC only)		14	18	23	26	18	39	40	35	26	20	53	59	59	55	43	30	35	41
MEDIAN (HIPC, CP only)		6	6	6	14	13	50	100	110	78	21	62	116	125	81	37	16	5	16
MEDIAN (No HIPC only)		11	17	21	15	15	34	29	30	24	15	46	56	68	47	35	25	24	40

Source: Authors' compilation and calculations on the basis of Christensen (2005), IMF Article IV Staff Reports and other IMF Country Reports (various years), and IMF Debt Relief under the HIPC Initiative Factsheet (last updated: 30 September 2012).

Notes: 2005 and 2010 data are, in most cases, for central government debt, but sometimes include debt of local governments and/or public companies. Division into domestic and external debt is, again in most cases, based on the place of issuance (rather than on the residency of the ultimate holder, which follows the official definitions and is arguably more appropriate; see Panizza, 2008 and IMF and IDA, 2010). In some cases, such as that of South Africa, IMF reports only allow for a classification along the currency of issuance (with external debt equated to foreign currency debt). HIPC=Heavily Indebted Poor Country; CP=post-completion point; DP=post-decision point; E=eligible; ..=not available. Figures may not add up because of rounding.

Importantly, however, not all of the domestic debt reported here represents genuine, local currency bond market development which contributes to overcoming original sin; there is indeed great diversity in the sort of domestic debt titles owed by African countries. As shown by Arnone and Presbitero (2010) for a subsample of HIPCs, maturities were often strongly biased towards short-term instruments in the past. In other words, external debt's currency mismatches were replaced by domestic debt's maturity mismatches. Recent IMF country reports indicate that also now most of the domestic debt of The Gambia, for example, still consists of (costly) treasury bills with maturities of one year or less, a result of earlier government overdrafts from its central bank. Large parts of Togo's domestic debt, on the other hand, are short-term securities issued in order to recapitalize failed banks. In Liberia, a highly dollarized economy, even domestic debt is denominated in *foreign* currency. For some countries domestic debt figures may also include loans directly advanced by central or commercial banks.¹⁷

Ideally, one would decompose the domestic (and external) public debt figures from Table 1 by type of instrument, currency, maturity and residency of the ultimate creditor to get a fuller and more accurate picture of the degree to which the different African countries have truly overcome domestic and international original sin.¹⁸ Such detailed information is, however, not systematically collected by IMF missions (certainly not for the entire Sub-Saharan Africa sample). Therefore, in what follows, we limit ourselves to those countries for which we were able to retrieve up-to-date statistics on government security maturities, the currency denomination of those securities, issuance frequency, security ownership and other subjects of interest from sources such as the OECD African Central Government Debt Statistical Yearbook, the African Development Bank's African Fixed Income and Derivatives Guidebook, central bank websites and other online sources. This much more restricted sample is not to be seen as representative for the whole of Sub-Saharan Africa (as the availability of data is expectedly greatest for those countries with the most advanced bond markets) but at least gives some flavor of what countries in the region have been able to achieve (or not) in terms of local currency bond market development.

As Table 2 illustrates, today quite a few Sub-Saharan governments can borrow long-term in their domestic currency via the bond market. South Africa, Kenya, Nigeria, Namibia and Mauritius all have successfully issued local currency bonds with maturities of 20 years and more. Post-completion HIPCs Mozambique, Uganda, Tanzania and Zambia have issued at least 10-year local currency bonds, more often than not with fixed rates. Angola's longer-term domestic issuance has involved both foreign currency and local currency (kwanza) bonds (the latter sometimes indexed to inflation or the exchange rate). Even post-genocide Rwanda has managed to tap its domestic bond market for five-year securities.¹⁹ Most of these countries issue bonds with a variety of tenors on a regular basis.

[17] These latter types of domestic debt do not feature in the historical data provided by Christensen (2005). The data extracted from IMF reports do not allow us excluding such debt titles from the 2005 and 2010 totals. For most Sub-Saharan African countries, however, direct domestic bank loans are deemed to be minimal (see Christensen, 2005, p. 519, footnote 2).

[18] Hausmann and Panizza (2003) propose different measures for domestic (and international) original sin; the 'strictest' definition of domestic original sin takes into account the maturity (short-term versus long-term) and the type of interest rate (fixed-rate, floating-rate or inflation-indexed) of the debt issued, next to currency and the place of issuance of course. See also Mehl and Reynaud (2005).

[19] Use of the bond market has been much more ad hoc in Gabon and Sierra Leone. Gabon used a one-time sub-regional bond (in Central African CFA francs) and a 10-year international bond (in US dollar) to raise funds to buy back debts owed to its Paris Club creditors. Sierra Leone's five-year bond is non-traded and has served merely to recapitalize its central bank (OECD, 2012).

Examining OECD figures in Table 2, one immediately notices the primacy of South Africa, whose US\$103 billion central government ‘marketable’ debt stock (which includes money market instruments, but excludes non-marketable debt such as bank loans) trumps all other African bond markets, both in absolute and relative terms; only island state Mauritius had a higher marketable debt-to-GDP ratio in 2010.²⁰ Other prominent bond markets are that of Nigeria, the second largest in absolute size (based on 2009 data), and that of Kenya, the largest in relative terms behind Mauritius and South Africa. Decomposition into different maturities further shows that, for most countries in Table 2, a considerable part of the marketable debt stock consists of medium-term securities (with original maturities between one and 10 years) and, to a lesser extent, long-term securities (with maturities longer than 10 years).²¹ It looks as if in these countries important steps have already been taken on the path to redemption of domestic original sin (and towards broader capital market development).

[20] Comparing Tables 1 and 2, a number of countries (Kenya, Mozambique, and Namibia) seem to have central government marketable debt figures that exceed total domestic debt (which should include such marketable debt titles, but is broader). These apparent inconsistencies are due the use of different data sources (IMF versus OECD).

[21] We have some reservations about the disaggregated marketable debt figures of Nigeria. The 2009 data we obtained from the OECD (2012) show only short-term securities (see Table 2), whereas the African Development Bank (2010) and the Nigerian Debt Management Office (DMO)’s own website provide information about bonds with tenors up to 10 and 20 years (see also section 3.2).

Table 2. Government bond market indicators for selected African countries

Country	central government marketable debt outstanding										maximum tenor of gov. bonds	frequency of gov. bond issuance	US\$ million	% of GDP	of which:		local currency (% of total debt)	US\$ million		primary dealer system?	active secondary market for gov. bonds?	international gov. bond issuance?	non-gov. bond market?
	short-term (<= 1 year)		medium-term (> 10 year)		US\$ million	US\$ million	US\$ million	US\$ million															
	2010	2010	2010	2010					2010	2010													
Angola	12	weekly	12,556	19	74	4,824	7,731	0	No	inactive	No, but planned	No											
Botswana	15	semi-annually	..	..	..	..	..	..	Yes	inactive	No	Yes					
Cameroon	5	infrequently	691	3	100	0	499	192	Yes	inactive	No	Yes											
Gabon	10	infrequently	1,018	9	12	0	119	900	Yes	inactive	Yes, in US\$	Yes											
Ghana	5	weekly	..	..	..	..	..	..	Yes	inactive	Yes, in US\$	Yes					
Kenya	30	monthly	8,177	26	100	1,963	3,793	2,421	No	active	No, but planned	Yes											
Mauritius	20	bi-monthly	4,060	42	100	1,685	2,134	241	Yes	moderate	Yes, in US\$	Yes											
Mozambique	10	infrequently	568	6	100	0	0	568	Yes	none	No, but planned	Yes											
Namibia	20	infrequently	1,379	17	100	601	635	143	No	inactive	Yes, in US\$	Yes											
Nigeria	20	monthly	21,796	13	100	21,796	0	0	Yes	active	Yes, in US\$	Yes											
Rwanda	5	infrequently	..	..	..	..	..	..	No	none	No, but planned	Yes					
Sierra Leone	5	two-weekly	300	17	100	233	67	0	Yes	inactive	No	No											
South Africa	36	weekly	103,519	32	90	16,977	55,035	31,507	Yes	active	Yes, in different foreign currencies	Yes											
Tanzania	10	monthly	2,279	10	100	1,135	877	266	Yes	moderate	No, but planned	Yes											
Uganda	10	monthly	1,514	10	100	645	868	0	Yes	moderate	No, but planned	Yes											
Zambia	15	monthly	2,067	11	100	936	778	353	No	moderate	Yes, in US\$	Yes											

Source: Authors' compilation and calculations on the basis of OECD (2012), African Development Bank (2010), Arrighi (2010), central bank websites, and Bloomberg.

Notes: All information is current as of mid-September 2012, unless otherwise indicated. Data on outstanding central government marketable debt of Angola, Gabon and Nigeria are for year 2009; data of Namibia are for year 2007. ..=not available. Figures may not add up because of rounding.

While the ability to issue longer-term, fixed-rate debt in the domestic market (i.e. the redemption of domestic original sin) is in itself a major achievement, one should also be aware of the long road ahead for Sub-Saharan African governments. The reality is that with the exception of South Africa and Nigeria, and perhaps in second instance Kenya and Mauritius, domestic bond markets in Sub-Saharan Africa remain shallow and illiquid. Secondary market activity in African government bond markets is low; in Mozambique and Rwanda it is absent altogether. Moreover, while domestic non-government bond markets do exist in most of the countries listed in Table 2, they are often formed by only a handful of parastatal and/or commercial bank issuers (see African Development Bank, 2010).

Interestingly, quite a number of African countries have issued bonds in international markets as well. All of these bonds are so-called 'eurobonds', securities denominated in a currency not native to the issuing country (and governed by the law of the place of issuance). According to Bloomberg data, South Africa, for example, has over the years issued bonds in Deutsche mark, euro, US dollar, British pound and Japanese yen. Also the Republic of Congo, Côte d'Ivoire, Gabon, Ghana, Mauritius, Namibia, Nigeria, Senegal and Zambia have had international issues in US dollar, many of which were several times oversubscribed. Recent reports indicate that a set of other countries, including Kenya, Rwanda, Tanzania, Uganda, Angola and Mozambique, are preparing for (or at least contemplating) eurobond issuance in the near future (Capital Economics, 2012).²² To our knowledge there have been no local currency-denominated bonds placed on international markets by Sub-Saharan African governments, not even by South Africa. Overcoming international sin is however also possible through the participation of foreign investors in domestically issued bonds. This compels us to examine in greater detail the ownership structure of African domestic bond markets.

From Table 3 it is clear that, as expected, the large majority of outstanding local currency marketable debt is in hands of country residents. Only in the cases of South Africa, Gabon and Cameroon there was noticeable foreign investment in domestic bond markets in 2010 (or other recent years with data available).²³ For the latter two this investment came most probably from neighboring Economic and Monetary Community for Central Africa (CEMAC) countries, which share the CFA franc as their currency.

Looking at the further breakdown of ownership in Table 3 one finds that commercial banks account for the lion share of resident local currency bond holdings, a trend that can be observed in many emerging market economies in other parts of the world (see Committee on the Global Financial System, 2007). In eight out of the 11 African countries for which we have data, domestic commercial banks hold over half of the total outstanding value of local currency marketable debt; in Angola, Cameroon and Uganda, the share of banks is around 70%. South African and Gabonese markets, where banks hold 17% and 0%, respectively, are the odd ones out. Domestic central banks also control significant shares (almost 20%) of total bond value in Nigeria and Sierra Leone.

All this notwithstanding, local institutional fund investors, which includes pension, insurance and mutual funds, have gradually increased their presence in local currency bond mar-

[22] Eurobonds obviously do not solve original sin but have the advantage of coming without conditionalities attached, unlike IMF or other multilateral/bilateral credits.

[23] Whereas the OECD (2012) did not collect detailed data on the government bond market in Ghana, anecdotal evidence suggests that foreign investors are also very active there, '...frequently buy[ing] more than 80% of the primary issuance on Ghanaian bond auctions' (Fuchs, Losse-Mueller, Strobbe, and Witte, 2012, p. 18).

kets, especially in South Africa (where they are currently the dominant category of investors), Mauritius, Tanzania and Zambia (see also Adelegan and Radzewicz-Bak, 2009). Institutional investors account for 18% of Nigerian and Ugandan bonds. In Angola, Sierra Leone and Kenya, on the other hand, it is investment by retail funds, which cater individuals directly, that seems to complement that of commercial banks.²⁴ Retail funds are the only type of resident bond investors in Gabon.

[24] For Kenya, retail fund investment in bonds is included in the residual 'other residents' category of Table 3 (OECD, 2012, p. 79).

Table 3. Ownership of government bonds for selected African countries

Country	local currency central government marketable debt outstanding						
	held by residents						held by non-residents
	(% of total)	held by central bank (% of total)	held by commercial banks (% of total)	held by institutional funds (% of total)	held by retail investors (% of total)	held by other residents (% of total)	(% of total)
2010	2010	2010	2010	2010	2010	2010	2010
Angola	100	0.0	70.3	0.0	29.7	0.0	0.0
Botswana	..	..	..	..	..	..	..
Cameroon	87.7	0.0	73.9	0.3	12.3	1.3	12.3
Gabon	40.6	0.0	0.0	0.0	40.6	0.0	59.4
Ghana	..	..	..	..	..	..	..
Kenya	99.5	7.6	52.8	0.4	0.0	38.7	0.5
Mauritius	99.9	4.3	44.3	50.0	0.5	0.7	0.1
Mozambique	..	..	..	..	..	..	..
Namibia	..	..	..	..	..	..	..
Nigeria	100	17.7	63.9	18.4	0.0	0.0	0.0
Rwanda	..	..	..	..	..	..	..
Sierra Leone	100	19.3	54.0	2.9	17.7	6.1	0.0
South Africa	85.0	0.5	17.0	58.4	0.2	9.0	15.0
Tanzania	100	0.0	54.1	45.1	0.0	0.7	0.0
Uganda	100	10.0	69.1	18.3	0.0	2.6	0.0
Zambia	100	13.2	51.7	35.1	0.0	0.0	0.0

Source: Authors' compilation and calculations on the basis of OECD (2012).

Notes: Ownership data of Angola and Gabon are for year 2009; data of Nigeria are for year 2008. ..=not available. Figures may not add up because of rounding.

In summary, it seems safe to say that, contrary to popular belief, a number of Sub-Saharan governments (beyond South Africa) have made a serious dent in overcoming their domestic original sins. Regular issuance of fixed-rate local currency bonds with tenors of 10 years and more is no longer the exception. But not all is well; in most countries secondary markets for government bonds are underdeveloped, as are markets for corporate bonds. Local commercial banks still play an overly dominant role as bond investors (see section 4.2 on the importance of investor base diversification). Also on international sin progress has been slow, with no African local currency bonds issued internationally and foreign participation in domestic bond markets minimal (with some exceptions).

Before moving to a discussion of some of the driving forces of African bond market development and possible ways forward, we describe in more detail the evolution and current situation of three African local currency bond market ‘champions’: South Africa, Nigeria and Kenya.

3.2. South African, Nigerian and Kenyan cases²⁵

3.2.1. South Africa

As evidenced by Table 2, South Africa’s bond market is, by a wide margin, Sub-Saharan Africa’s largest and most developed. In October 2012 South African government bonds became the first African bonds to be included in Citigroup’s prestigious World Government Bond Index (WGBI), only the fourth emerging market to do so (following Malaysia, Mexico and Poland).²⁶

The reliance of the South African government on bond financing is, at least partly, an historical legacy. With the progressive imposition of sanctions on the South African apartheid regime in the 1970s and 1980s, the country was effectively excluded from international financial markets. The government (including parastatals) saw no other option than to finance its budget deficits through domestic bond issuance. At first, bond trading was highly informal, over-the-counter and sporadic. This situation changed drastically from the late 1980s onwards when a number of important structural reforms were implemented, including a move towards a smaller number of benchmark government bonds, the gradual development of a yield curve, and the scheduling of regular bond auctions by the South African Reserve Bank (SARB) (as an issuing agent of the National Treasury) (Mboweni, 2006).

1989 also saw the creation of the Bond Market Association (BMA), rebranded as an independent licensed exchange named Bond Exchange South Africa (BESA) in 1996.²⁷ The introduction of the BESA, which brought together government and non-government bond issuers, intermediaries, banks and investors, led to rapid bond market development and by 1998 South Africa was home to the most liquid emerging bond market in the world (BESA, 2010). In 1998 the SARB set up a primary dealer system of 12 selected local banks and foreign bank branches.

In the meantime the National Treasury gradually introduced new types of bonds,

[25] Next to the references mentioned in the text, this section draws on information retrieved from central bank, Ministry of Finance/Treasury and stock/bond exchange websites.

[26] See <http://www.reuters.com/article/2012/09/26/idUS83014+26-Sep-2012+BW20120926>.

[27] In June 2009 BESA became a subsidiary of the Johannesburg Stock Exchange (JSE).

both Republic of South Africa (RSA) government bonds (marketed exclusively through primary dealers) and RSA retail savings bonds (non-marketable bonds directly catered to retail investors; since 2004). Over the years, the Treasury has issued fixed-rate, floating-rate, inflation-linked, zero coupon and stripped bonds with a wide range of tenors (from two to 36 years).²⁸ However, about 62% of the total domestic debt portfolio end-March 2012 existed of fixed-rate bonds. Both fixed-rate and inflation-linked bonds are sold through weekly auctions. The South African Government also runs a 'switch' bond buyback program whereby one bond (maturing shortly) is exchanged for another, mainly to reduce refinancing risks. Average term-to-maturity (when excluding Treasury bills) was estimated at 10.6 years end-March 2012 (RSA National Treasury, 2012). At the time of writing, there were eight primary dealers required to provide secondary market liquidity: South Africa's 'big four' banks (Absa, FirstRand, Nedbank and Standard) and four other, international banks.

Investment in domestic bonds is open to foreign investors. In fact, foreign portfolio investment (which includes investment in both debt and equity securities) greatly exceeded foreign direct investment (FDI) in South Africa between 1994 and 2007, which differs from most other emerging and developing countries' experience. Moreover, non-resident portfolio debt trade has increased more rapidly and has been more volatile than that in equities (see Leape and Thomas, 2009). Recent budget reviews by the National Treasury show that in 2008, at the height of the global financial crisis, non-resident investors were net sellers of South African domestic bonds, which drove up yields considerably. In 2009, however, they were quick to return to the local bond market. Foreign bond purchases further surged in 2010 and 2011, and that across all maturities. It seems that South Africa has so far benefited from a switch to (higher-yielding) emerging market assets following investors' concerns about European debt. Under certain criteria, non-residents are also allowed to issue bonds themselves on BESA.²⁹

After the transition to a democratic, non-apartheid regime, the South African government also developed a new track record for borrowing in international bond markets, starting with the acquisition of a credit rating and a first US\$750 million global bond issue in late 1994 (Leape and Thomas, 2009). South Africa is now a regular issuer of eurobonds, in a variety of foreign currencies, mostly US dollar, euro and yen.³⁰

Contrary to other Sub-Saharan African countries, South Africa has a vibrant, fast-growing market for non-government securities; whereas they accounted for less than 20% of total debt listed on BESA in 1996, non-government bonds made up close to 40% end-March 2012. Excluding central and municipal governments, there were 128 issuers at that time (Mboweni, 2006; RSA National Treasury, 2012). Both parastatals, most notably Eskom (electricity supply), Sanral (roads) and Transnet (freight logistics), as well as commercial companies, especially large banks, have been active issuers in the primary market. Since the onset of the global crisis, however, corporate bond issuance has been more muted. The African Development Bank (2010) reports that the secondary market in corporate bonds is moreover much less liquid than that in

[28] The South African government plans to extend its issuance programme with a 39-year inflation-indexed bond in fiscal year 2012/13 (RSA National Treasury, 2012).

[29] The Mauritius Commercial Bank was the first to do so, in 2006, aided by a relaxation of exchange controls. Other examples are the five-year supranational bonds issued by the African Development Bank in 2007 and 2008 (African Development Bank, 2010).

[30] At the moment of writing, South Africa's (foreign currency) credit rating had just been lowered one notch from BBB+ to BBB (level with Russia, Mexico and Brazil) by Standard and Poor's, due to concerns about strikes in the country's mining sector.

government bonds, as many investors in corporate bonds adopt a 'buy-and-hold' strategy.

3.2.2. Nigeria

Nigeria is Sub-Saharan Africa's second economy and, in absolute terms, also its second largest bond market, following South Africa (at clear distance). It seems that also Nigeria's domestically issued sovereign bonds have now earned the confidence of investors. In October 2012, coincidentally with South Africa's entry into WGBI, JP Morgan gave green light for adding selected Federal Government of Nigeria (FGN) bonds to its Government Bond Index - Emerging Markets (GBI-EM).³¹

Nigeria's debt history has been everything but smooth. As recent as June 2005 the Paris Club, an informal grouping of major creditor countries, concluded an exceptional debt relief agreement with Nigeria, which led to a US\$ 18 billion write-off in external debt (mostly accumulated arrears and penalties). Because of its extensive oil revenues Nigeria had been excluded from traditional debt relief initiatives such as HIPC.³² Prior to the Paris Club deal, due to the challenges with debt service and in recognition of the need to manage debt in a strategic and more coordinated manner, the Nigerian government in 2000 established the Debt Management Office (DMO), which centralized public (domestic and external) debt management functions that had been performed by various agencies. The DMO was instrumental in developing Nigeria's domestic bond market, which before had been moribund for almost two decades. In 2003 it launched the first benchmark issuance of FGN Bonds (the Central Bank of Nigeria being the issuing house) to complement earlier issued short-term bonds. Initially these FGN bonds had tenors of three, five and seven years only, but in 2007, in a continued effort to lengthen the maturity profile of domestic debt (which had by then overtaken external debt due to the Paris club debt relief), the DMO added a 10-year bond to its portfolio; a 20-year bond followed in 2008 (Arrighi, 2010). Currently the DMO's FGN bond issuance program, typically combining a number of different tenors and including the reopening of previously issued bonds, takes place once a month. In addition, there have been special-purpose FGN issues to resolve problems related with unpaid local contractor debts and pension fund arrears (DMO, 2008). All FGN bonds are listed on the Nigerian Stock Exchange and most have been issued bearing a fixed rate, although a small minority has floating rates.

In 2006 the DMO introduced a primary dealer market-maker system to enhance liquidity and boost secondary market bond trading. As of September 2012, there are 18 licensed primary dealers, of which 13 banks and five discount houses; all transactions at the monthly FGN bond auctions pass through them and they are obliged to quote two-way prices in the secondary market.

Foreign participation in the Nigerian domestic bond market surged following the Paris Club deal, accompanying economic and financial sector reforms and the first sovereign credit ratings by Fitch and Standard and Poor's. FGN bond auction data shows that non-resident investors were allotted a little over 10% of the total value of bonds issued by the DMO in 2007. As

[31] See <http://www.reuters.com/article/2012/10/01/nigeria-debt-idAFL5E8KREY820121001>. South Africa is the only other Sub-Saharan African country included in the GBI-EM.

[32] For more information and a detailed evaluation of the Paris Club's debt relief deal with Nigeria, we refer to Dijkstra, Akanji, Hiddink, Sangarabalan, and De Mevius (2011).

the global financial crisis gained momentum in 2008, their participation at the auctions dropped to less than 5%. Unlike in the case of South Africa, foreign participation remained subdued in the wake of the crisis. Only in June 2011 it regained momentum due to the removal by the Central Bank of Nigeria of the 12 months minimum holding period for foreign investors, and more recently, because of the inclusion of the FGN Bonds in the GBI-EM.³³

In September 2008 the Nigerian government announced its plans for a US\$500 million naira-denominated international bond with a maturity of ten years. This debut issue was later put on hold (again due to the adverse global market conditions). The government decided to take a concessional US\$500 million development policy credit from the World Bank's International Development Association (IDA) instead.³⁴ In January 2011, however, Nigeria successfully issued its first eurobond: a 10-year US\$500 million bond listed on the London Stock Exchange.

Several state governments have issued their own bonds, mostly fixed-rate and backed by the state government's share of federal revenues through so-called Irrevocable Standing Payment Orders (IPSOs), to fund specific development-related projects. Nigeria's corporate bond market is still in its infancy, long hindered by the lengthy issuance process and high issuing costs (African Development Bank, 2010; Arrighi, 2010). Recent cost reductions and improved process efficiency have started to attract corporate issuers, including local banks, but there is very little secondary market activity so far.

3.2.3. Kenya

Treasury bonds were introduced in Kenya as early as 1986, although this could be seen as somewhat of a false start; after a few unsuccessful issues and due to attractive returns on (short-term) treasury bills, in the mid-1990s the government bond market went into hibernation (Mbewa, Ngugi, and Kithinji, 2007). Only in 2001, when the Kenyan government engaged in deliberate efforts to extend the maturity structure of its domestic debt, bond market activity accelerated. One initiative to this end was the launch in May 2001 of the Market Leader Forum (MLF), a monthly consultative meeting between members of the Central Bank, the Treasury, regulatory authorities, commercial banks, the Nairobi Stock Exchange, fund managers and other market participants (Maana, Owino, and Mutai, 2008).

The Kenyan government, through the Central Bank, now issues bonds with tenors ranging from two to 30 years. Treasury bonds have so far been issued in various guises: fixed-rate, floating-rate, zero coupon, savings bonds, infrastructure bonds (the proceeds of which are used to fund specific, predetermined projects), and special and restructuring bonds (for outstanding liabilities and the restructuring of parastatals and government agencies). In recent years, however, there has been a clear trend toward more fixed-rate issuance. Apart from special-purpose issues, government bonds are sold through monthly auctioning. Secondary market trading takes place on the Fixed Income Securities Board (FISB) of the Nairobi Stock Exchange. The introduction of an Automated Trading System (ATS) for Treasury bonds in 2009 has been credited with boosting secondary market liquidity dramatically (African Development Bank, 2010).

[33] See <http://blogs.ft.com/beyond-brics/2012/09/17/nigeria-the-index-factor-slashes-yields/#axzz276FYL4Rs>.

[34] See <http://uk.reuters.com/article/2009/07/29/nigeria-worldbank-idUKLT12994820090729>.

Unlike South Africa and Nigeria, Kenya had no primary dealer system at the time of writing (it is still under consideration). Everyone, including non-residents, opening a Central Depository System (CDS) account at the Central Bank, directly or through an authorized agent, may buy and/or trade in government securities. Foreign participation in domestic bond markets, while permitted, is however limited; it further receded in the aftermath of the domestic political and economic crisis that erupted in Kenya following the presidential elections of December 2007 (Arrighi, 2010). These events, in combination with the global financial crisis, also led the Kenyan government to cancel the issuance of a first US\$500 million eurobond, originally planned for 2008. After repeatedly postponing its debut international issue for some years, Kenya now prepares the launch of a US\$1 billion eurobond in the fiscal year 2013/14.³⁵

As in Nigeria, the corporate bond market in Kenya is still embryonic. Corporate bond issues have been discouraged by competition from syndicated bank loans, which Kenyan companies find easier to access. Also, most corporate bonds bear floating rates and there is almost no secondary market trading (Jefferis, 2009). Because of the global financial crisis, and the accompanying rise in bank lending rates, large infrastructure companies such as KenGen (electric power generation) and Safaricom (telecommunications) have recently returned to local debt markets, with bond issues that dwarf previous corporate listings.³⁶

[35] <http://af.reuters.com/article/investingNews/idAFJ0E86Uo6P2o12o731?pageNumber=1andvirtualBrandChannel=oandsp=true>.

[36] <http://www.reuters.com/article/2009/10/29/kenya-debt-corporate-idUSLT21856720091029>.

4. WASHING AWAY ORIGINAL SIN

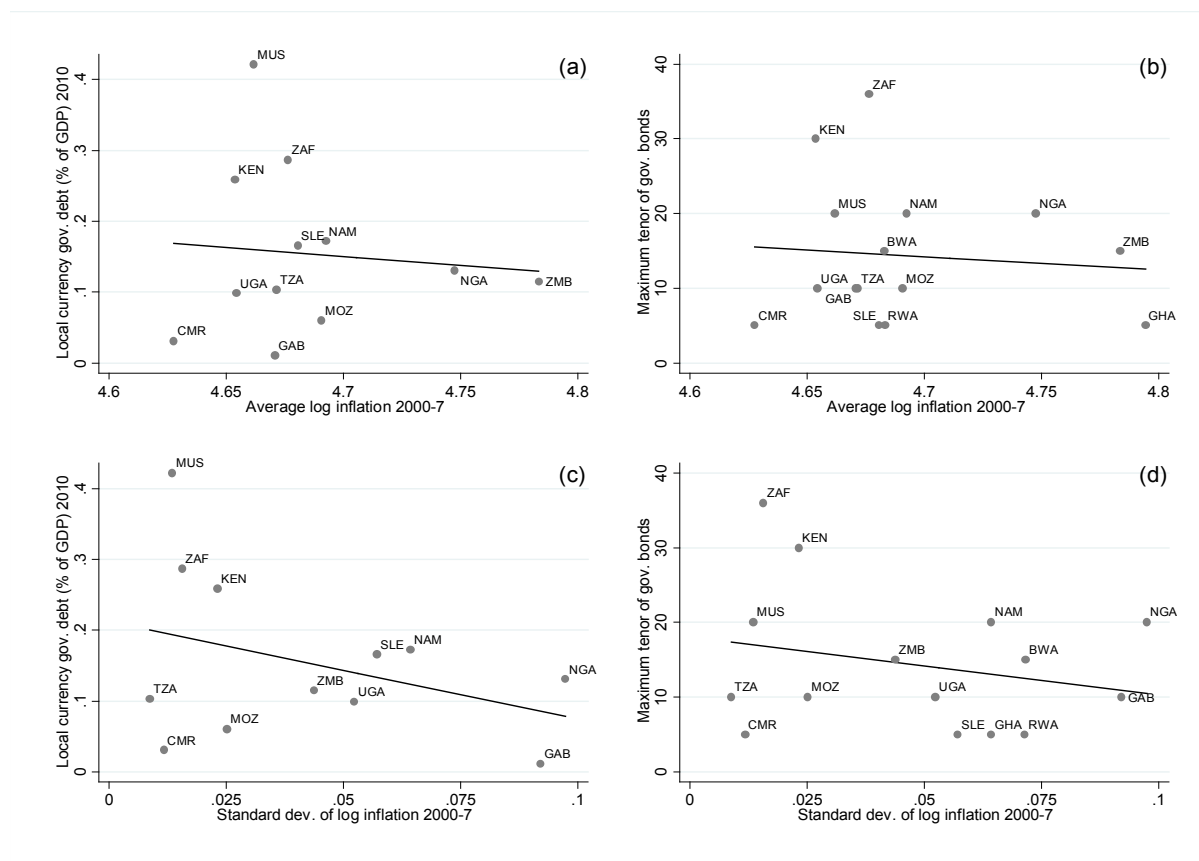
The overview tables and case studies presented in the previous section are testimony to the changing bond market landscape in Sub-Saharan Africa. In what follows we try to trace back the progress made in African local currency bond market development, and therefore in overcoming (domestic) original sin, to its determining forces. Because of the dearth of detailed bond market data (and lack of sufficiently long time series for sufficiently large country samples) we do not attempt formal econometric analysis.³⁷ Rather, we document initiatives taken by African countries and the international community in three particular areas, which according to bond market theory and empirical studies from other regions, are most likely to be important (though, on their own, not sufficient) for local currency bond market development: monetary policy credibility, investor base diversification and financial infrastructure upgrading. Furthermore, for each of these three areas we present some promising avenues to further wash away the original sins of Sub-Saharan Africa.

4.1. Monetary policy credibility

Many commentators and researchers have stressed the importance of monetary credibility for deepening local currency bond markets. To be sure, if creditors, domestic or foreign, fear that debt may be simply inflated away by the government, this will prevent the latter from issuing (fixed-rate) local currency bonds, especially with longer tenors. Both supply and demand factors play a role here. A history of high inflation forces the government to offer even higher coupon rates on fixed-rate bonds *ex ante*, which may increase real interest costs if, eventually, the expected inflation does not materialize after bond issuance. On the demand side, uncertainty about future inflation rates makes bond investors wary of locking in a fixed rate of return for longer periods. As we saw in section 2.2, the negative influence of inflation on the original sin of emerging markets is one of few findings on which there seems to be a consensus in different econometric studies (Burger and Warnock, 2006; Claessens *et al.*, 2007; Hausmann and Panizza, 2003; Mehl and Reynaud, 2005).

[37] Adelegan and Radzewicz-Bak (2009) is, to our knowledge, the only study that applies formal regression analysis to cross-country Sub-Saharan African bond market data. However, the only dependent variable this study employs is government bond market capitalization (as a percentage of GDP). It does not consider indicators such as maximum tenors, local currency shares, second market activity or the ownership structure of bonds (for which data is much sparser).

Figure 1. Inflation and government bond market indicators in selected African countries



Source: Authors' calculation on the basis of OECD (2012), central bank websites and IMF World Economic Outlook (WEO) online database (April 2012 version).

Notes: Local currency government debt is local currency marketable debt issued by the central government. Inflation figures are calculated as changes in a country's GDP deflator index. The log transformation used is $\log(100\% + \text{inflation})$, so as to avoid creating missing values in the case of deflation. Lines represent best linear fit. All panels exclude Angola, which is a clear outlier with respect to inflation.

Figure 1 consists of four simple scatter plots mapping the relation between inflation and measures of government bond market development for the sample of African countries on which we were able to collect a minimum amount of up-to-date bond market statistics (see Table 2 and 3). Leaving aside the large variation, we do find a hint of negative association between average (log) inflation in the years 2000-2007 (before the world food and fuel crisis) and both the ratio of local currency central government (marketable) debt to GDP in 2010 (panel (a)) and the longest tenor of government bonds (at the moment of writing) (panel (b)). Moreover, the standard deviation of (log) inflation over 2000-2007, a proxy of uncertainty about future inflation, also negatively relates to the level of local currency government debt and maximum tenors (panels (c)-(d)). Admittedly, the evidence shown here is only very partial and crude, because of the limited sample size. Figure 1 nevertheless suggests that no Sub-Saharan government with a recent history of high and/or fickle inflation has been able to achieve great levels of local currency bond market development.³⁸ Recent accounts of rising inflation in Kenya leading to a standstill in local bond market investment further add to this claim (see e.g. Fuchs et al.,

[38] We make the (plausible) assumption that no Sub-Saharan country other than those included in our sample has large and deep local currency government bond markets.

2012). In line with Hausmann and Panizza (2003, p. 973), we would argue that monetary policy credibility, resulting in low and stable inflation, is not a sufficient but, almost certainly, a necessary condition to overcome original sin.

4.2. Investor base diversification

Our review of selected African bond markets has indicated that, with some exceptions, foreign investment in domestic local currency bond markets (and hence the redemption of the international of original sin) is still very limited (see Table 3). However, if the current low-interest rate environments in developed countries persist over a longer period, this may gradually change.

Non-resident participation is of course a mixed blessing. On the one hand, it has been ascribed with contributing to local capital market development through the additional pressure placed on 'the quality and services of intermediaries and ...emphasis on sound, safe, and robust market infrastructure' (World Bank and IMF, 2001, p. 21)³⁹; with lowering long-term government yields; and even, in some very particular instances, with dampening bond yield volatility (Peiris, 2010).

On the other hand, foreign participation, especially when biased towards shorter-term securities, may increase countries' vulnerability to external shocks (Kahn, 2005), as illustrated by the sudden withdrawals of foreign capital from South African and Nigerian bond markets during the 2008-2009 global financial and economic crisis (see section 3.2).⁴⁰ Some categories of foreign investors, such as hedge funds, are more sensitive to (global) risk and typically manage their portfolio of bond holdings very actively (World Bank and IMF, 2001). Especially when investors use (short-term) local currency bonds for carry trade purposes, i.e. the practice of selling a currency with a relatively low interest rate and using the revenue to purchase a higher-yielding currency, their so-called investments may simply 'compound volatility and sensitivity to global financial conditions' by creating stronger price integration with global markets, without helping domestic market deepening (Pomerleano, 2010).⁴¹

Therefore, once the local currency bond markets of Sub-Saharan African countries (other than South Africa and a few others, currently) reach a level where they start to attract significant levels of foreign investment, it will be important for authorities to balance the different benefits and risks of such non-resident participation and to monitor what type of investors purchase and trade in domestic bonds (e.g. by means of periodic surveys). It seems that in this area much work remains to be done and support from international institutions such as the BIS and the IMF will be needed, as even for more advanced emerging markets the lack of detailed data on non-resident bond holdings prohibits systematic monitoring and deeper empirical analysis (see Daniel, 2008; Panizza, 2008).

The dominance of local commercial banks is another common feature in the do-

[39] This could be interpreted as part of the assumed 'collateral benefits' of financial globalization (see Kose, Prasad, Rogoff, and Wei, 2009).

[40] In section 2.3 we have described the experiences of non-African, often more sophisticated emerging country bond markets during the crisis.

[41] See Brunnermeier, Nagel, and Pedersen (2009) on the broader links between global liquidity, the unwinding of carry trade positions and currency crashes.

mestic government bond markets of Sub-Saharan Africa (Table 3). Such dominance matters for at least three reasons. First, it changes in practice the ‘effective maturity’ of government debt; in the event of a domestic banking crisis these (longer-term) bond holdings become overnight debt for the issuing government (Panizza, 2010).⁴² Second, in case local banks are subsidiaries of large international banks (which reflects the reality of many African countries; see Allen *et al.*, 2011), the former’s holdings of government bonds may also be affected by sudden global risk aversion within the latter and subsequent contagion.⁴³ A third potential drawback of bank participation is the increased possibility of crowding out credit to the private sector, perhaps the single most-cited argument against domestic government debt (see e.g. Abbas and Christensen, 2010; Hanson, 2007). This last point is of particular relevance for Sub-Saharan Africa, where partly due to underdeveloped corporate bond markets (evident from Table 2), bank credit is the primary source of financing for private sector companies (Christensen, 2005).

In view of the foregoing, most would probably agree that to increase the depth and resilience of local currency bond markets it is imperative to diversify the domestic investor base for government securities away from commercial banks, to institutional (and retail) investors that have different investment objectives and time horizons (Committee on the Global Financial System, 2007). In Table 3, we have shown that in some Sub-Saharan African countries non-bank institutional investors now account for a sizeable share of total government debt holdings.

Pension funds, who need long-term (relatively safe) assets to match the liability side of their balance sheets, are obvious candidates for local currency government bonds. Adelegan and Radzewicz-Bak (2009) find that, in recent years, assets of non-bank institutions, primarily pension funds but also insurance and mutual funds, have grown faster than bank assets in Sub-Saharan African countries. Figure 2 compares the estimated asset bases of non-bank institutional investors across developed and emerging market economies per region. It is clear that in percentage of GDP terms Africa now matches up very well to emerging Asia and Latin America, negating what Kahn (2005, p. 77) has termed ‘a lack of institutional capacity to mobilize long-term savings’. There is of course great heterogeneity between African economies; the growth of non-bank institutional investor assets cannot be generalized to the whole subcontinent.

Adelegan and Radzewicz-Bak (2009) further assert that in countries such as Kenya, Nigeria, Tanzania and Zambia the growing demand of institutional investors for longer-term securities, in some cases aided by reforms to pension systems (including a shift towards pre-funded pension schemes), has spurred governments to increase the maturity structure of their domestically issued bonds.⁴⁴ Obviously, as noted by World Bank and IMF (2001), one should regard pension funds’ contribution to local currency bond market development as a welcome

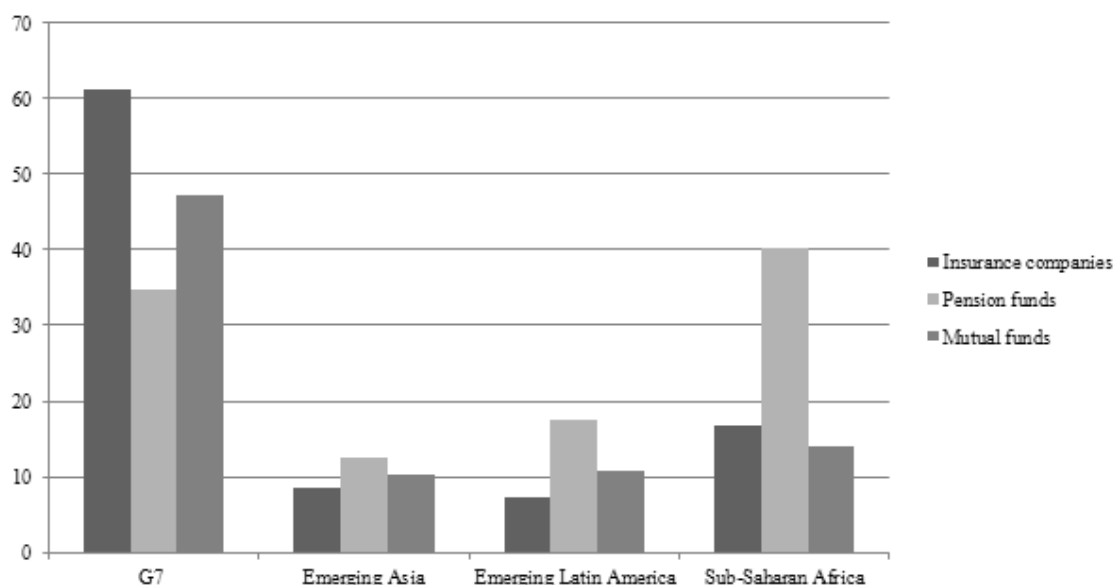
[42] When a local bank fails, its assets, including government bonds, are typically liquidated to repay the bank’s creditors.

[43] Cetorelli and Goldberg (2011) provide a good overview of the different channels through which global banks headquartered in the US, Canada, Europe and Japan transmitted shocks to their own balance sheets to (affiliated) banks in emerging markets during the 2008-2009 crisis. A related argument is that excessive bank participation in the bond market annuls the envisioned benefits of a more diverse domestic financial system, which relies on banks as well as bond markets (cf. Greenspan’s ‘spare tire’ theory). Eichengreen (2008, p. 2) puts it as follows: ‘When banks have significant positions in bonds and associated derivatives or when they have extended guarantees or credit lines to other entities with positions in those securities, the spare may go flat at the same time as the other tire’.

[44] On the state of pension systems in Africa and an overview of some of the recent reforms that have taken place, see Stewart and Yermo (2009). Impavido, Musalem, and Tressel (2003) discuss in greater detail the effect of contractual savings institutions (pension funds and life insurance companies) on domestic bond (and stock) market development.

spillover, not as their primary function (which is and remains the provision of ‘sufficient, sustainable and affordable benefits for old age’; Impavido *et al.*, 2003, p. 2). Governments must also try to resist the temptation to overload, through asset holding regulations, local institutional investors’ portfolios with their own bonds; such ‘captive markets’ tend to distort bond prices, diminish secondary market activity, and discourage other types of investors (Committee on the Global Financial System, 2007).

Figure 2. Average assets of non-bank institutional investors (2008; % of GDP)



Source: Adelegan and Radzewicz-Bak (2009)

Another, perhaps hitherto insufficiently tapped investor class is the African (overseas) diaspora. Drawing on the experiences of Israel and India, Ketkar and Ratha (2010) show that government bonds targeted towards countries’ diaspora have the potential to be a stable and relatively cheap source of external finance. Compared to other non-resident investors, diaspora members may have access to better information about their country of origin, which should increase their willingness to sign in on bond issues. Because the diaspora may see such bond investment as contributing to their home country’s development, it is possible that the issuing government enjoys a ‘patriotic discount’ on the price of bonds (which has been the case for Israel). Furthermore, diaspora investors are deemed much less averse to accruing local currency assets since they tend to have (contingent) liabilities in their home country as well. Especially this last aspect makes diaspora bonds a seemingly attractive instrument to overcome (international) original sin.

However, there are likely to be a number of obstacles to implementing diaspora bonds in the context of Sub-Saharan Africa (see Ratha, Mohapatra, and Plaza, 2008). First, Sub-Saharan African countries have typically no or only few national banks operating in destination countries, which limits the channels through which diaspora bonds could be marketed. Second, there is often scant knowledge on host country regulations allowing or restricting the participation of diaspora members in bond purchasing. And third, the African diaspora is spread out over many different destination countries; this reduces economies of scale and hence increases

operation costs (Beck, Munzele Maimbo, Faye, and Triki, 2011). Ethiopia's experience with diaspora bonds, issued to fund grand infrastructure projects, has so far been disappointing; it is argued that the Ethiopian diaspora perceived the proposed projects as too risky, given political and economic uncertainties (Okonjo-Iweala and Ratha, 2011). More country-specific research will be needed to fully grasp the potential role of the African diaspora as government (and perhaps corporate) bond investors.

4.3- Financial market infrastructure upgrading

It seems fair to say that most Sub-Saharan African countries would need substantial further improvements in their financial market infrastructure⁴⁵ in order for their bond markets to mature.⁴⁶ Given the historic dominance of the banking sector in Africa and the very complex arrangements an effectively and efficiently functioning bond market require, such upgrading is a huge challenge.

For smaller economies, in particular those that already share a common currency, it makes sense to adopt a regional approach to financial market infrastructure upgrading).⁴⁷ This is exactly what the eight West African Economic and Monetary Union (WAEMU) countries⁴⁸ have tried to do since 1993 and especially 2001, when it was decided that statutory advances by the regional central bank (the Banque Centrale des États de l'Afrique de l'Ouest or BCEAO) would be gradually phased out by 2010 (hence pushing individual WAEMU governments to substitute bond issuance for direct lending by the BCEAO). Thanks to harmonized issuance procedures, supported by a common set of organizations including the BCEAO, a regional regulatory and supervision agency, a regional stock/security exchange and a regional clearing and settlement house, the WAEMU local currency debt market has grown rapidly, with an important role for cross-border, within-WAEMU investments. Key market players Côte d'Ivoire and Burkina Faso have recently issued bonds with a maturity of up to seven years. All this should however not distract from the fact that the large majority of issues in the region are short-term government bills, due to regulations that promote local banks' appetite for such securities, and that secondary market trading of bonds is still very limited. Some of the most important impediments to further bond market development in WAEMU are insufficient coordination of issuances between the different member countries, a lack of information sharing, and the absence of strong pension and social security systems in member countries (see Diouf and Boutin-Dufresne, 2012 and Sy, 2010). In the East African Community (EAC), another integration block which plans to transform itself into a monetary union in the near future, progress on bond market regionalization has so far been limited to removing restrictions on capital transactions among EAC members and a harmonization of regulatory bodies (Yabara, 2012).⁴⁹ Moreover, as emphasized by MFW4A (2007, p. 108), 'regional initiatives are no substitute for sound national policies'.

[45] Bossone, Mahajan, and Zahir (2003) list a number of key components of financial market infrastructure: legal and regulatory frameworks; supervision, accounting and auditing; financial corporate governance; information infrastructure; clearing, settlement and exchange systems; and liquidity and safety net facilities.

[46] Our three short case studies show that bond market development and deepening was often preceded by particular financial market infrastructure reforms, such as the introduction of a centralised exchange platform (South Africa); the set-up of a debt management office (Nigeria); or the introduction of an electronic trading system (Kenya).

[47] See MFW4A (2007) on the potential benefits of regional financial integration, including that of securities markets.

[48] WAEMU members are Benin, Burkina Faso, Côte d'Ivoire, Guinea-Bissau, Mali, Niger, Senegal and Togo.

[49] There are numerous other, sometimes overlapping regional integration blocs in Sub-Saharan Africa, some of which also project the creation of monetary unions in the foreseeable future, e.g. the West African Monetary Zone or WAMZ (by 2015), the Southern African Development Cooperation or SADC (by 2016), and the Economic Cooperation of West African States or ECOWAS (by 2020).

Given the lack of domestic capacity and technical expertise in certain less-developed countries, and the coordination problems that plague investment in financial market infrastructure (Eichengreen, 2008), this is arguably also an area where international financial institutions can be of great help; not only indirectly through technical assistance and capacity building, but also as market-makers.⁵⁰ The need for international support has been recognized explicitly by the G-20 in its *November 2011 Action Plan to Support the Development of Local Currency Bond Markets*, which makes an inventory of the most notable initiatives taken by international financial institutions to date and lays out some suggestions for the road ahead. In the remainder of this section we describe those initiatives with a focus on Sub-Saharan African countries in particular.

In 2008 the African Development Bank launched the African Financial Markets Initiative (AFMI)⁵¹, the work of which is organized around two activities: first, the creation of the African Financial Markets Database (AFMD) (which was under construction, at the time of writing); and second, the co-financing (with African central banks) and management of an African Domestic Bond Fund (ADBF), which plans to invest in longer-dated local currency government bonds in bond markets in the region that meet basic conditions. Linked to the establishment of the ADBF, a benchmark index (with country sub-indices) was also constructed. A first feasibility study, which ranks countries by level of bond market development along six criteria⁵², indicates that initially 10 bond markets qualify for ADBF participation, of which seven in Sub-Saharan Africa (South Africa, Kenya, Mauritius, Namibia, Ghana, Nigeria and Botswana) (Mulema, 2011). To date it is unclear whether investment by the ADBF has already taken off. Since 2008 the African Development Bank also hosts the secretariat of the Making Finance Work for Africa (MFW4A) Partnership⁵³, a G-8 initiative to build a platform for knowledge-sharing among different financial sector stakeholders. MFW4A's work goes well beyond local currency bond markets (see Beck *et al.*, 2011, a recently MFW4A-sponsored publication), but includes a separate Donor Working Group on Capital Market Development.

Besides efforts to further build and promote domestic local currency bond markets, the African Development Bank has also contributed to creating an international market for African local currency bond issues. Starting in 2005, it has issued offshore bonds, either denominated in or linked to, the Botswana pula, Ghanaian cedi, Kenyan shilling, Tanzanian shilling, Zambian kwacha, Nigerian naira and, especially, the South African rand. Very recently, in July 2012, the African Development Bank added a 10-year, 12.5 billion bond in Ugandan shilling, part of a much larger (125 billion Ugandan shilling) medium-term note program, to its African currency debt portfolio.⁵⁴ Unlike previous local currency issues, this latest bond transaction is not accompanied by a currency swap and all its coupon and principal repayments will be made in shillings. Such an intervention serves a double purpose. On the one hand it allows the African

[50] With 'market-making' we mean that international financial institutions may have a role to play in investing in local currency bonds themselves so as to create the critical mass of participation that is needed to jumpstart bond markets, whether domestic or international.

[51] See AFMI website: http://afmiweb.afdb.org/_vo3.

[52] These criteria are scores on the macroeconomic environment; legal, tax and regulatory infrastructure; bond market infrastructure (including the efficiency of clearing and settlement systems and the availability and quality of bond price data); issuers, issuance strategy and market access (including maturity structure); investor base; and on the participation of economic agents (including the degree of support by central banks, Ministries of Finance and regulators) (see Mulema, 2011).

[53] See MFW4A website: <http://www.mfw4a.org>.

[54] See <http://www.afdb.org/en/news-and-events/article/afdb-launches-uganda-bond-programme-9543>.

Development Bank to lend-on the bond proceeds in local currency loans to Ugandan clients without exposing itself to currency risk (which the African Development Bank is prohibited from taking on its books according to its articles of agreement); on the other, it provides a benchmark for potentially interested foreign investors, thus contributing to the redemption of international original sin. More similar (international) issues are to be expected as the African Development Bank has reportedly come to an agreement with more than 15 countries, including Cameroon, Gabon and Senegal, to issue bonds in their respective currencies.⁵⁵

The World Bank is another international financial institution which has taken concrete steps in helping African countries to improve their financial market infrastructure. Under the Global Emerging Markets Local Currency Bond (GEMLOC) program⁵⁶, devised in May 2008 to increase the investability of government bonds issued by emerging markets, the World Bank offers a range of advisory services to bond issuers; manages (together with Markit) the GEMX index, another benchmark tool for local currency bonds; and assists in encouraging local and foreign bond investment (through private investment management firm PIMCO). At the moment of writing, the only Sub-Saharan African countries that benefit from GEMLOC's advice are South Africa, Nigeria and Kenya. Because eligibility for these services requires local bond markets with a total market value of at least US\$3 billion and five bonds with a minimum outstanding size of US\$ 100 million, it is unlikely that many new African countries will join anytime soon (cf. Table 2).

Moreover, together with its private sector lending arm, the International Finance Cooperation (IFC), and with funding from the Swedish International Development Cooperation Agency (SIDA), the World Bank operates since 2007 the Efficient Securities Markets Institutional Development (ESMID). This local government and corporate bond program currently targets five countries: Rwanda, Kenya, Tanzania, Uganda, and Nigeria. In its joint work with the first four countries it is helping to create a deeper and more efficient capital market across the EAC for both equity and bonds, and facilitate cross-border issuance and investments in securities, among other activities through simplifying regulations and procedures and supporting demonstration and replicable transactions. In Nigeria ESMID follows a similar, single country strategy. ESMID plans to expand into new countries in Africa in the near future.

Another noteworthy effort of data dissemination on African bond markets, parallel to the work of the African Development Bank and with a narrower focus, is the publication of the OECD's African Central Government Debt Statistical Yearbook (compiled on the basis of standardized country questionnaires) which first appeared in 2010 and is updated annually. In 2011, the OECD, together with the South African National Treasury, opened the Centre for African Public Debt Management, which is envisioned, above all, as a place for mutual learning and a training centre for African debt managers.

[55] <http://af.reuters.com/article/investingNews/idAFJ0E86F03Z20120716?pageNumber=1andvirtualBrandChannel=oandsp=true>.

[56] See GEMLOC website: <http://www.gemloc.org>.

5. CONCLUDING REMARKS

Judging from recent empirical accounts, it seems that original sin in its domestic form, i.e. the inability of countries to access longer-term local currency finance in their domestic capital markets, has been largely overcome in emerging market economies. On international original sin, i.e. countries' ability to borrow in local currency from abroad, the evidence seems more mixed. Both emerging market economies' international issuance of local currency bonds and foreign participation in their domestic bond markets have been on the rise in recent years, but are, overall, still relatively limited. In some of those emerging country bond markets that have attracted significant non-resident investment, the global financial crisis of 2008 saw foreign investors running for the exit; Access to stable, long-term, local currency-denominated debt financing, of the 'spare tire' sort that can withstand external shocks, is for most countries still a distant utopia.

The main purpose of this paper has been to document, with detailed data gathered from various recent sources and short case studies on South Africa, Nigeria and Kenya, the current state of local currency bond market development in Sub-Saharan Africa, and hence to provide insights into the importance of original sin for the region. Our findings suggest both good and less good news.

First of all, and contrary to popular belief, an increasing number of Sub-Saharan African governments (beyond South Africa) are now able to issue non-indexed, fixed-rate local currency bonds with tenors of 10 years and more on a regular basis, among them even a number of post-completion HIPC's. Similar to other developing country regions, domestic original sin is on its return in Africa, and this in itself should be welcomed as a major achievement.⁵⁷ That said, even in those African countries with regular longer-term local currency bond issuance, with the exception of South Africa and Nigeria, domestic bond markets are marked by low secondary market activity and/or limited non-government bond issuance.

Second, data on the holdings of government bonds indicates that local institutional fund and retail investors are gaining traction in some local currency bond markets, but that, as elsewhere in the financial systems of most African countries, commercial banks remain dominant.

Third, whereas no Sub-Saharan African countries have placed local currency bonds on international markets, many have (and are planning) to explore international investors' appetite through (dollar-denominated) eurobond issues. Progress on international sin redemption is, however, slow as foreign investment in African domestic bond markets is limited and concentrated in only a handful of countries. Again similar to the experiences in other regions, and as demonstrated by anecdotal evidence from our South African and Nigerian cases, the 2008-2009 crisis does seem to have shaken African domestic bond markets in which there was non-resident investor participation.

The last part of our paper has touched upon three areas important for the development and further deepening of local bond markets. First, sustained monetary policy credibility

[57] It needs to be stressed that, because of data constraints, we were only able to collect detailed bond market data for a selected, non-representative sample of African economies. Anecdotal evidence suggests that original sin is still prevalent in other (often poorer) African countries. However, these latter countries have typically many problems other than original sin, including wider macroeconomic instability, that need to be addressed more urgently.

is needed to convince domestic as well as foreign investors to voluntarily hold longer-term, fixed rate bonds in local currency. Second, African governments will have to increase their efforts in diversifying the bond investor base, including better cost-benefit assessment and monitoring of non-resident investors and initiatives that target prospective institutional, retail, and perhaps even diaspora bond holders. Third, we believe that international financial institutions' technical assistance, capacity building and market-making can contribute to financial market infrastructure upgrading, especially when expanded beyond its current focus on more mature bond markets.

An identification of the precise factors, whether domestic or external, that have helped (top-performing) African economies develop local currency bond markets and make progress in overcoming original sin will be key to move forward. Unfortunately, due to the lack of good quality panel data on local currency bonds in Sub-Saharan Africa, a more scientific approach (e.g. an econometric analysis in the trend of Claessens *et al.*, 2007), which goes beyond case studies and the establishment of simple contemporary associations, is not feasible for the moment. We dearly hope that ongoing data collection efforts by the African Development Bank and the OECD will allow for such research to take place in the near future.

Although much work remains to be done, an optimist reading of the evidence we have presented in this paper would be that original sin, especially in its domestic but perhaps also in its international guise, is not an insurmountable problem, even in Sub-Saharan Africa. The region's most dynamic economies are leading the way. With appropriate support from the international community, other African country governments (and private corporations) can follow in their footsteps, harnessing local currency bond markets to further wash away their original sins and, at the same time, exploit growth-enhancing investment opportunities.

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