Local Currency Bond Markets and Long-Term Development Financing in Sub-Saharan Africa

Kathrin Berensmann, Florence Dafe & Ulrich Volz

Global Debt Dynamics Initiative: Inaugural Workshop
Brighton, 26 May 2016

Deutsches Institut für Entwicklungspolitik
German Development Institute
d·i·e

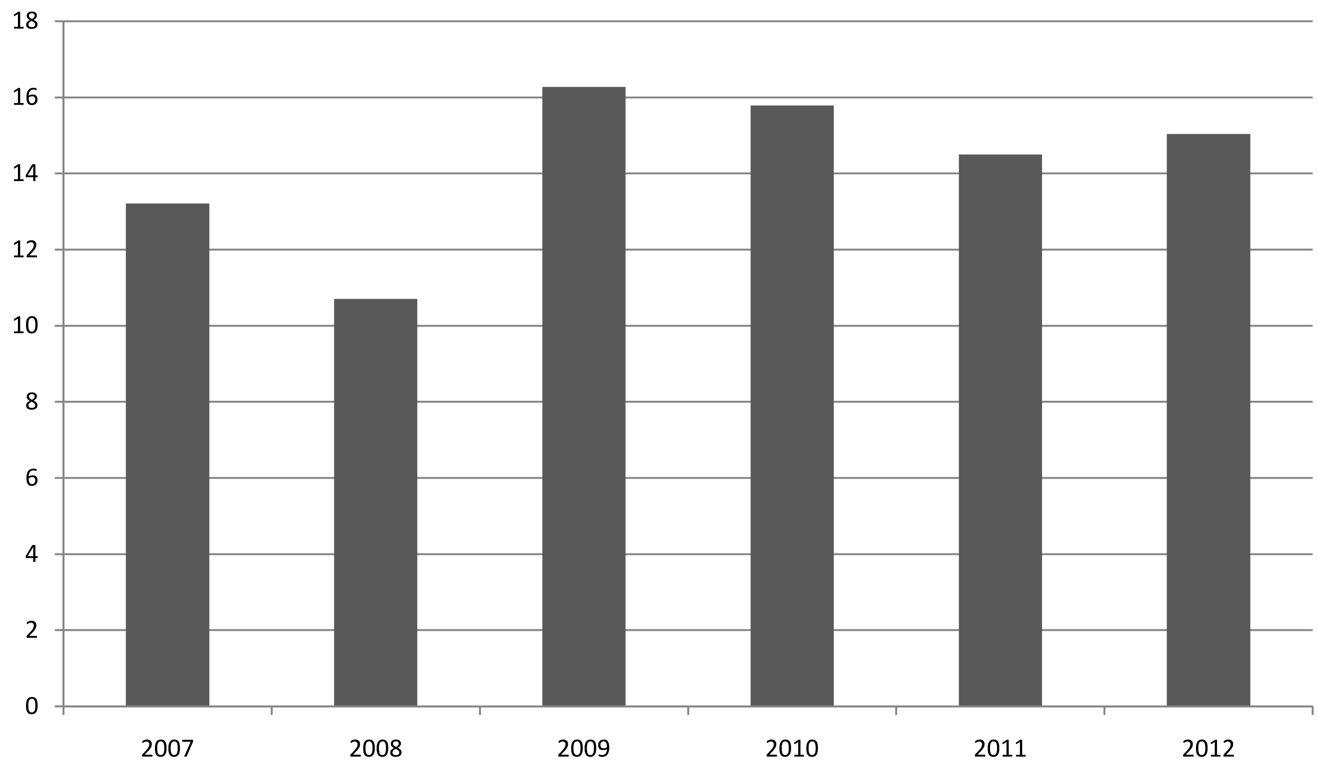
SOAS University of London

I. Introduction

- To date, LCBMs still play a minor role in the long-term private financing of SSA economies
- Growth of LCBMs and experiences of developing countries in other regions suggests that LCBMs may take on an important role in SSA in the future
- LCBMs development can contribute to mobilising long-term financial resources
- LCBMs may alleviate the effects of debt and financial crises as well as other external shocks
- LCBMs could reduce the risk of currency mismatches by reducing the dependency on foreign debt

II. Recent trends and challenges of LCBM development in SSA

Local currency treasury bonds outstanding (% of GDP) in SSA



Source: Compiled with data from ADB (2014)

Local currency treasury bonds outstanding (% of GDP)

	Average 2007–9	Average 2010–12	Average 2012
Low-income countries			
Benin	2.5	2.7	2.2
Burkina Faso	2.2	3.8	4.0
Kenya	10.5	21.8	22.7
Malawi	0.8	0.2	0.1
Mali	1.0	1.6	1.2
Mozambique	2.2	2.4	2.6
Tanzania	4.2	5.7	6.4
Togo	3.2	5.3	7.5
Uganda	6.8	7.4	7.5
Average low-income countries	**3.7**	**5.7**	**6.0**
Lower middle-income countries			
Cabo Verde	17.0	22.0	23.2
Côte d’Ivoire	2.9	6.3	8.2
Ghana	9.4	13.4	15.3
Nigeria	7.1	5.7	5.8
Senegal	2.8	5.7	7.6
Zambia	5.3	5.6	6.1
Average lower middle-income countries	**7.4**	**9.8**	**11.0**
Upper middle-income countries			
Angola	1.5	4.3	4.3
Botswana	3.7	5.1	5.2
Gabon	1.2	0.3	0.2
Mauritius	27.2	34.9	35.8
Namibia	10.1	9.3	9.3
South Africa	25.8	32.1	33.1
Average upper middle-income countries	**11.6**	**14.3**	**14.6**

Source: AfDB (2014).

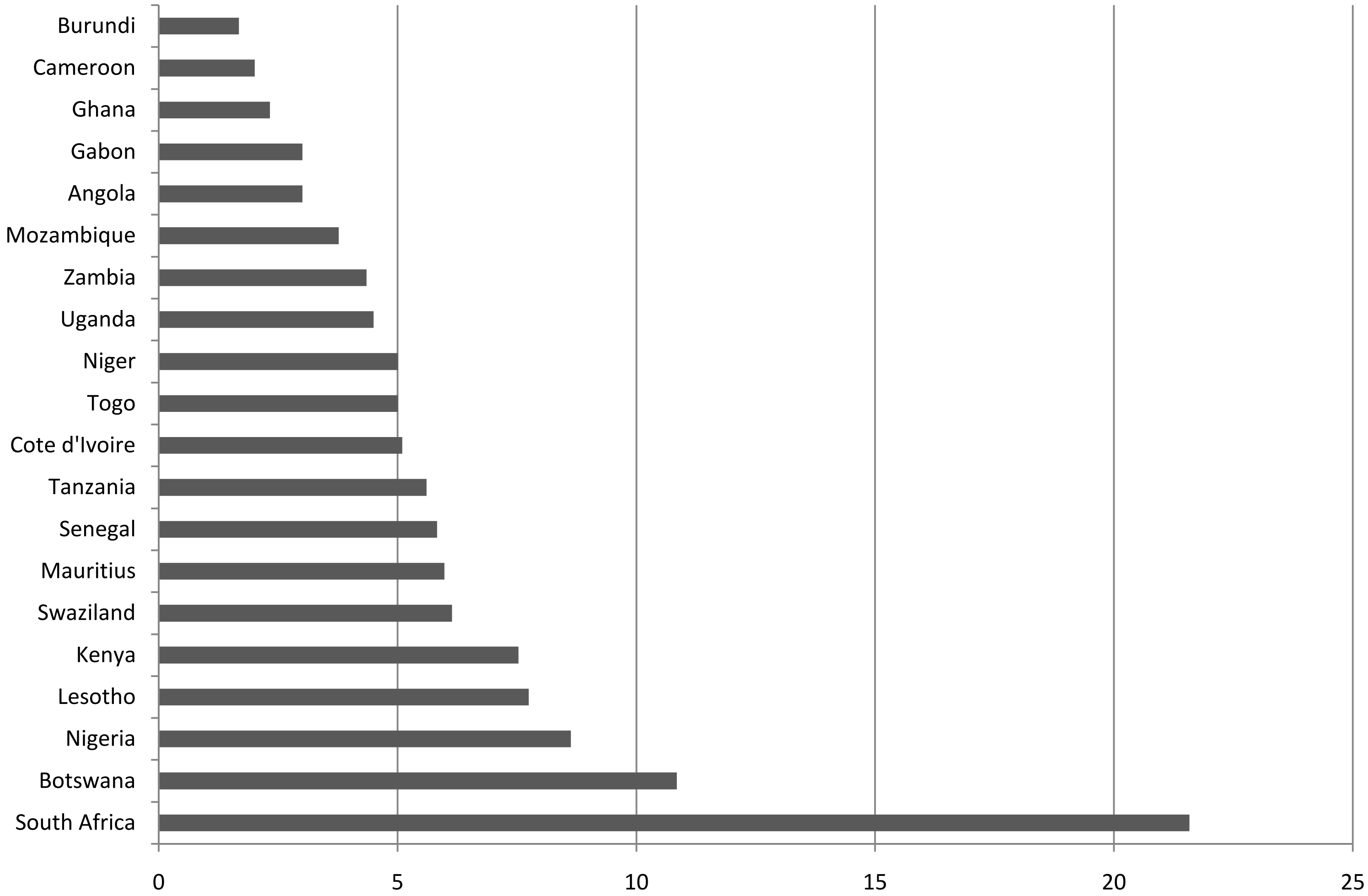
LCBM development: Investor base

- Narrow and concentrated investor base
- More diversified ownership important to
  - reduce risk of crowding out
  - reduce financial vulnerability when bank or sovereign encounter problems
  - enhance development of secondary markets

LCBM development: Maturity profile

- Short maturities enhance rollover risks and contribute to macroeconomic vulnerability
- Governments may prefer to issue short-term debt if the yield curve is strongly upwards sloping, since borrowing costs increase with longer tenors
- LCBMs shallow for longer-dated maturities
- Average maturity differs significantly across countries in SSA

Average tenure of local currency treasury bonds issued (years), 2013



Source: Compiled with data from African Financial Markets Database.

III. Patterns of LCBM development in SSA: Cross-country econometric evidence

- Little empirical research on the drivers of LCBM development in SSA
- Poor quality and availability of data
- Our data for LCBM development
  - Dataset compiled from the AfDB's African Financial Market Initiative (AFMI)
  - Local currency marketable central government bonds outstanding of a maturity of one year or greater (% of GDP)
  - Comprises a maximum of 27 countries and ranges over a maximum of 14 years (2000-2013)
- Main model: Random effects (RE)

Explanatory variables

- *Economic structure*: GDP (ln), GDP per capita (ln), exports of goods and services/GDP), private credit by banks/GDP, sum of oil, mineral and gas rents/ GDP
- *Macroeconomic policy*: 3-year moving average of past budget balances/GDP, change in consumer price index, Chinn-Ito Index, rolling std. deviation of the change of the log of exchange rates, foreign exchange reserves to GDP;
- *Quality of institutions*: British legal origin, governance (regulatory quality and rule of law), polity 2

	Bonds to GDP			
	(1)	(2)	(3)	(4)
Ln GDP$_{t-1}$	0.0156*	0.0139^{+}	0.0218*	0.0417***
	(0.00614)	(0.00779)	(0.0110)	(0.00581)
Ln GDP *per capita*$_{t-1}$	–0.000330	0.00999	–0.00652	–0.0412**
	(0.0100)	(0.0222)	(0.0192)	(0.0138)
Trade to GDP$_{t-1}$	–0.0395	0.0526	0.129***	0.175***
	(0.0482)	(0.0466)	(0.0366)	(0.0507)
Private credit to GDP $_{t-1}$	0.355***	0.307***	0.215*	0.262**
	(0.0673)	(0.0728)	(0.0954)	(0.0926)
Fiscal balance to GDP$_{t-1}$		–0.378	–0.399	–0.316
		(0.253)	(0.261)	(0.279)
Inflation rates$_{t-1}$		–0.0503	–0.0557	–0.0214
		(0.0439)	(0.0460)	(0.0664)
Capital account openness$_{t-1}$		0.968*	0.698	1.280***
		(0.385)	(0.604)	(0.354)
Exchange rate volatility$_{t-1}$		–0.0668	–0.0844	–0.0773
		(0.0493)	(0.0537)	(0.0728)
Foreign exchange reserves to		–0.135*	–0.142*	–0.189**
GDP$_{t-1}$		(0.0658)	(0.0647)	(0.0672)
British legal origin			–0.0157	–0.0471*
			(0.0213)	(0.0208)
Polity2$_{t-1}$			0.240^{+}	–0.121
			(0.124)	(0.252)
Governance$_{t-1}$			0.0577*	0.105**
			(0.0292)	(0.0346)
Resource rents to GDP$_{t-1}$				–0.0186
				(0.0505)
Constant	–0.361**	–0.376*	–0.426^{+}	–0.614***
	(0.122)	(0.165)	(0.222)	(0.150)
Observations	248	130	130	96
R^2	0.7246	0.7917	0.8013	0.8166
χ2 p–value	0.0000	0.0000	0.0000	0.0000

Notes: Robust standard errors in parentheses. $^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

IV. Lessons from emerging markets in Asia and Latin America

- Since the emerging market crises of the late 1990s, many EMEs have sought to develop LCBMs to reduce foreign currency debt and overcome currency and maturity mismatch problems
- This strategy has been successful as economies in Latin America and Emerging Asia significantly increased the share of bonds denominated in local currency
- LCBMs provided an important cushion during the Global Financial Crisis when U.S. and European financial institutions struggled for survival and would not extend credit to EMEs

Currency denomination in bond markets by broad area

	2000		2005		2010		2011*	
	Local currency	Foreign currency	Local currency	Foreign currency	Local currency	Foreign currency	Local currency	Foreign currency
Euro area	90.0	10.0	89.9	10.1	89.8	10.2	90.3	9.7
Japan	98.5	1.5	99.1	0.9	99.4	0.6	99.4	0.6
Latin America	46.0	54.0	59.9	40.1	71.2	28.8	70.8	29.2
Emerging Asia	88.4	11.6	91.2	8.8	94.2	5.8	94.3	5.7

Note: *End-September 2011
Source: Turner (2012).

Factors supporting LCBM development in EMEs

- Experiences differ significantly across economies
- Experiences confirm the importance of the variables that we found to be significant in our empirical analysis of the drivers and obstacles to LCBM development in SSA
- Successes in LCBM development can be linked to concerted policy efforts at the national level

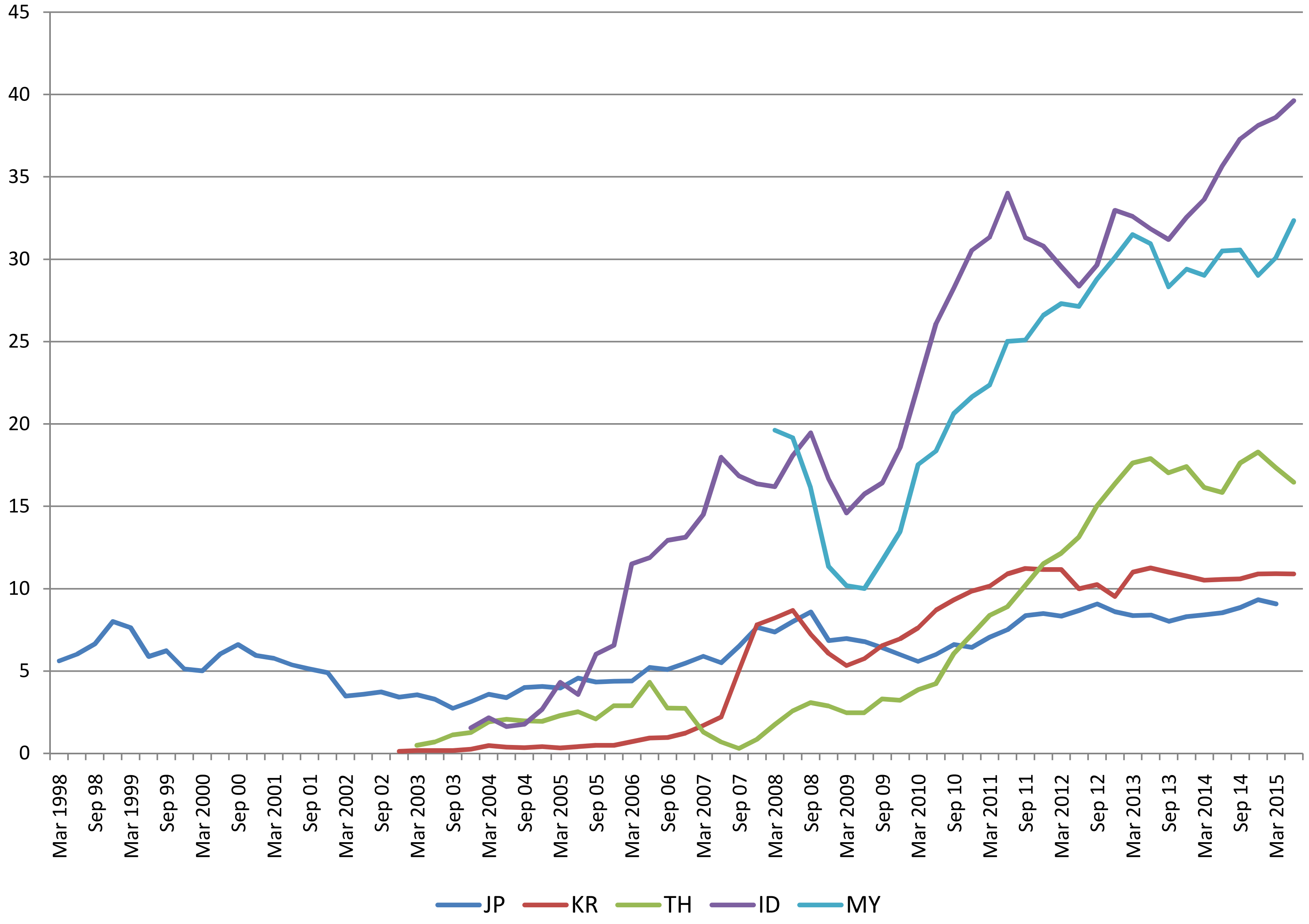
Factors supporting LCBM development in EMEs

- Regional cooperation was important
  - ASIAN+3 Bond Market Initiative for improving the regulatory framework, facilitating bond issuance and broadening the investor base
  - ASEAN+3 Bond Market Forum, launched as a platform to promote standardisation of market practices and harmonisation of regulations relating to cross-border transactions
  - Asian Bond Fund initiative, where a number of central banks invested parts of their reserves in the Pan Asia Bond Index Fund as well as eight country-specific index funds

Challenges remain

- Low levels of liquidity
- Narrow investor base
- Short maturities
- High share of foreign bond holdings in individual LCBMs

Foreign holdings in LC government bonds (in %)



Source: Compiled by authors with data from ADB AsianBondsOnline.

Thailand as an example of risks of (too) large exposure to foreign investors

- Fuelled by unconventional monetary policies in major advanced economies, non-resident net holding in the Thai bond market increased rapidly from THB 66 billion in December 2009 to a peak of THB 870 billion in April 2013
- In anticipation of rising U.S. interest rates and a current account deficit, Thailand saw large capital outflows and a depreciation of the Thai baht
- Situation stabilised relatively quickly, but non-resident net holding in the Thai bond market continued to decline to THB 640 billion in May 2014

Large exposure to foreign investors as a financial stability risk

- A greater participation of foreign investors may lower long-term government bond yields (Peris, 2010) and increase market liquidity
- But a high dependency on a foreign investor base increases the risk of sudden outflows and spillovers from global markets
- Broadening the investor base is key

Large exposure to foreign investors as a financial stability risk

- For low-income economies with shallow financial markets even relatively small capital outflows can have seriously destabilising effects on the exchange rate, financial markets and the real economy
- In order to effectively deal with periods of rapid capital outflows, financial authorities should develop tools for managing the capital account
  - This may include the temporary re-imposition of capital controls

V. Conclusions

- LCBMs in SSA are deepening – slowly
- Patterns of LCBM development in SSA similar to the pattern in other world regions
- LCBMs are deeper in countries which
  - are larger in economic terms,
  - have larger banking systems,
  - are more open to trade and
  - have better institutions
- Narrow investor base

What can be done?

- Regional bond market development initiatives to address the small size of economies and banking sectors
- Only cautious liberalisation of capital markets; tools for capital account management important
- Appropriate debt management strategy is key for better monitoring of domestic debt
- Sequence and intensity of policies to promote LCBMs should be country-specific

Oxford Review of Economic Policy, Volume 31, Numbers 3–4, 2015, pp. 350–378

Developing local currency bond markets for long-term development financing in Sub-Saharan Africa

Kathrin Berensmann,* Florence Dafe,** and Ulrich Volz***

Abstract This article discusses the role that local currency bond markets (LCBMs) can play in the long-term financing of sustainable development of Sub-Saharan African (SSA) economies, and presents an empirical analysis of the factors which may hinder or promote the development of such markets in SSA. Using a new dataset for 27 SSA countries, our findings support earlier research on SSA and other regions, showing that LCBM development is related to country size, larger banking systems, greater trade openness, and better regulatory frameworks and rule of law. Foreign investor participation broadens the investor base and can give a boost to LCBM development, yet it may also increase volatility of international capital flows. Hence, with a view to the experience of emerging economies in other regions, capital market liberalization should be pursued only very cautiously and in step with solid financial and institutional development.

Key words: Local currency bond markets; long-term finance; debt; Sub-Saharan Africa.

JEL classification: F21, F34, G23, H63, O11.

I. Introduction

Long-term private financial flows—including foreign direct investment (FDI), cross-border bank lending, bond and equity financing, as well as remittances—may assume a crucial role in helping attain the Sustainable Development Goals (SDGs). Even though bond financing accounted for only 14 per cent of international private capital flows to developing countries in 2012, much lower than FDI, which made up about 60 per cent,

* German Development Institute, e-mail: kathrin.berensmann@die-gdi.de

** German Development Institute and Institute of Development Studies, University of Sussex, e-mail: florence.dafe@die-gdi.de

*** SOAS, University of London, and German Development Institute, e-mail: uv1@soas.ac.uk

We are grateful for comments and suggestions received from participants at the IMF/CFD Conference on Financing for Development held at the Graduate Institute in Geneva on 15–16 April 2015. We especially thank our discussant, David Vines, as well as Christopher Adam, Andrea Presbitero, and Huang Yi. We also thank Ingo Bordon for excellent comments on an earlier version of this paper, as well as two anonymous referees for very helpful recommendations. The usual disclaimer applies.

doi:10.1093/oxrep/grv032

Thanks for your attention!

kathrin.berensmann@die-gdi.de
florence.dafe@die-gdi.de
uv1@soas.ac.uk

	Bonds to GDP			
	(1)	(2)	(3)	(4)
Ln GDP$_{t-1}$	0.0132***	0.0142***	0.0213***	0.0417***
	(0.00180)	(0.00326)	(0.00454)	(0.00592)
Ln GDP *per capita*$_{t-1}$	0.000446	–0.00500	–0.0193	–0.0412**
	(0.00595)	(0.0117)	(0.0123)	(0.0131)
Trade to GDP$_{t-1}$	–0.0601^{+}	0.0465	0.127**	0.175**
	(0.0356)	(0.0377)	(0.0432)	(0.0664)
Private credit to GDP $_{t-1}$	0.353***	0.393***	0.344***	0.262***
	(0.0270)	(0.0418)	(0.0430)	(0.0575)
Fiscal balance to GDP$_{t-1}$		–0.407***	–0.388***	–0.316**
		(0.103)	(0.0997)	(0.101)
Inflation rates$_{t-1}$		0.0589	0.0404	–0.0214
		(0.0772)	(0.0735)	(0.0918)
Capital account openness$_{t-1}$		0.971***	0.990***	1.280***
		(0.148)	(0.150)	(0.336)
Exchange rate volatility$_{t-1}$		–0.0652	–0.0874	–0.0773
		(0.0695)	(0.0588)	(0.0654)
Foreign exchange reserves to		–0.127**	–0.147***	–0.189***
GDP$_{t-1}$		(0.0420)	(0.0363)	(0.0400)
British legal origin			–0.0165	–0.0471**
			(0.0119)	(0.0177)
Polity2$_{t-1}$			0.194**	–0.121
			(0.0724)	(0.187)
Governance$_{t-1}$			0.0390*	0.105***
			(0.0198)	(0.0288)
Resource rents to GDP$_{t-1}$				–0.0186
				(0.0430)
Constant	–0.303***	–0.309***	–0.368***	–0.614***
	(0.0462)	(0.0821)	(0.0937)	(0.0944)
Observations	248	130	130	96
R^2	0.7268	0.8039	0.8198	0.8166