



Bond markets in Africa

Yibin Mu^{a,*}, Peter Phelps^b, Janet G. Stotsky^a

^a International Monetary Fund, Washington, DC 20431, USA

^b University of Cambridge, Cambridge CB3 9EP, UK

Abstract

African bond markets have been steadily growing in recent years, but nonetheless remain undeveloped. African countries would benefit from greater access to financing and deeper financial markets. This paper compiles a unique set of data on government securities and corporate bond markets in Africa. It then applies an econometric model to analyze the key determinants of African government securities market and corporate bond market capitalization. Government securities market capitalization is directly related to better institutions and interest rate volatility, and inversely related to smaller fiscal deficits, higher interest rate spreads, exchange rate volatility, and current and capital account openness. Corporate bond market capitalization is directly linked to economic size, the level of development of the economy and financial markets, better institutions, and interest rate volatility, and inversely related to higher interest rate spreads and current account openness. Policy implications follow.

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1. Introduction

The African Development Bank recently announced that it plans to launch a new bond program for infrastructure to raise up to US\$40 billion for investments in projects such as ports and airports, highlighting the growing role for bond markets in financing development in sub-Saharan Africa.¹ Yet bond markets in these countries are at a nascent stage of development and there is a strong need to promote their development.

First, sub-Saharan Africa has been heavily dependent on external grants and concessional loans for funding capital spending and government deficits. Only a small number of countries have limited access to global capital markets.² Additionally,

western donors are now facing substantial fiscal challenges and consequently donor flows to sub-Saharan Africa may be scaled back significantly. Without access to alternative sources of finance, including bond markets, many African countries could find it difficult to finance critical needs. Second, well-functioning bond markets help sustain economic stability. The Asian experience supports this point; since the 1997 Asian financial crisis, many Asian economies have made significant progress in strengthening bond market development. This has in turn helped these Asian economies weather the recent global financial crisis because deeper financial markets generated valuable funding sources for these countries to finance fiscal stimulus packages. Third, the development of bond markets in sub-Saharan Africa can improve the intermediation of savings. Although Africa needs money, it is a net capital exporter to the rest of the world (IMF, 2012). This is mainly because there is a lack of effective intermediate channels to absorb this capital. Bond markets are an effective way to intermediate capital savers with capital users. Fourth, promoting bond market development in sub-Saharan Africa can improve the structure of the African financial system, which is currently dominated by banks. The non-banking sector and bond markets, both public and private, are still in their infancy. Bond markets and bank finance are complementary rather than incompatible. While banks tend to be more adept at providing short-term (working) capital, bond markets enjoy a comparative advantage in financing government deficits and infrastructure investment, and providing longer-term capital to companies for growth. Fifth, deeper bond markets will

* Corresponding author. Tel.: +1 202 623 6782.

E-mail address: yimu@imf.org (Y. Mu).

¹ IHS Global Insight, August 20, 2012.

² Gross official developmental assistance to sub-Saharan Africa amounted to US\$49 billion in 2010, accounting for 32 percent of total government consumption expenditure, with 83 percent grants and 17 percent concessional loans, according to World Bank and Organization for Economic Cooperation and Development data.

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enable central banks in sub-Saharan Africa to conduct monetary policy more effectively. At present, many banks have few domestic fixed-income instruments to use for sterilization other than short-term government debt. Deeper bond markets would provide a wider, more effective range of instruments for monetary policy implementation.

This paper investigates empirically the determinants of local currency bond markets in sub-Saharan Africa.³ Although a number of countries have issued sovereign bonds in foreign currencies, we focus on local currency bond markets because of the importance of the local currency markets compared to international sovereign bonds and because of the need to focus on African countries' ability to overcome what is referred to in the literature as "original sin," that is, the inability to issue debt in local currency.⁴

We use data for local currency government securities market capitalization for 36 countries, over the years 1980–2010, along with a newly developed database for corporate bond market capitalization. This sample makes the study the largest of its kind in terms of both number of countries included and number of years covered. To investigate the determinants of bond markets, we draw upon an econometric approach used in [Eichengreen and Luengnaruemitchai \(2004\)](#), [Claessens et al. \(2007\)](#), and [Adelegan and Radzewicz-Bak \(2009\)](#), among others. We use generalized method of moments estimation, in view of possible endogeneity among variables relevant to bond market development.

This research aims to achieve three purposes. First, it outlines the current situation of local currency bond markets including both government securities and corporate bond markets in sub-Saharan African countries. Second, it discusses and estimates key determinants of bond market development in sub-Saharan Africa. Finally, it offers policy advice for enhancing bond market development in sub-Saharan Africa.

The structure of this paper is as follows. Section 2 reviews the relevant literature. Section 3 provides an overview of the government securities and corporate bond markets in sub-Saharan Africa. Section 4 sets out the analytical framework and discusses the econometric methodology underpinning the empirical analysis. Section 5 presents and discusses the results from the estimation. Section 6 draws out the policy implications of the findings from the previous section and concludes.

2. Literature review

The research on African financial sector development is growing. Most of the literature has so far focused on financial development of the banking sector and stock markets (e.g., [Detragiache et al., 2005](#); [McDonald and Schumacher, 2007](#); [Yartey and Adjasi, 2007](#); [Andrianaivo and Yartey, 2009](#);

[Anayiotos and Toroyan, 2009](#); [Kablan, 2010](#); and [Beck et al., 2011](#)). Relatively little attention has focused on development of public and private bond markets.⁵

Several studies have examined the determinants of bond markets in more developed economies. [Eichengreen and Luengnaruemitchai \(2004\)](#) consider a broad set of determinants of bond market development, using panel data from 1990 to 2001, for a sample of 41 developing and developed countries, with a focus on emerging Asia. After regressing several measures of domestic currency bond markets capitalization on various explanatory variables, they conclude that market size matters, while poor accounting standards hinder development of private debt markets, along with corruption and low bureaucratic quality. Well-capitalized bank systems promote bond markets. Stability of exchange rates encourages bond market development, and an absence of need for public financing discourages public bond markets. Capital controls also discourage bond market development. [Eichengreen et al. \(2008\)](#) extend this analysis on a range of developing and developed countries, with a focus on Latin America. In line with [Eichengreen and Luengnaruemitchai \(2004\)](#), they find that country size is positive and significant, with a concave relationship. GDP per capita is also positive and concave and trade openness is positive and significant. The domestic interest rate is negative and significant only for government bonds. Interest rate volatility is positively correlated with the private bond market and negatively with the government bond market. Domestic credit is positively and concavely related to financial bonds. The interest rate spread is positively correlated with the corporate but not public bond market. The opposite is found for financial bonds. Stricter capital controls are correlated with large public bond markets, but do not influence private bond markets. Larger public debt is linked to large public bond markets but is not significant with regard to private bond market determinants.

[Eichengreen et al. \(2008\)](#) find however counterintuitive results regarding some of the institutional and corporate governance variables. For instance, they find that stronger creditor rights result in smaller private bond markets. Countries with legal codes of French origin have larger bond markets and those with German and Scandinavian legal codes have the largest bond markets. Latitude is negative and significant along with the Latin American dummy variable. They conclude that a limited number of policy variables and country characteristics explain the difference in private bond capitalization between Latin America and advanced economies. Country size and level of development are critical along with development of the financial system and historical and geographical factors. Policy variables such as macroeconomic stability, openness, investor protection, cost of contract enforcement, and pension privatization also have some explanatory power.

[Claessens et al. \(2007\)](#) focus on public bond market development. Their data covers developing and developed countries, over the 1993–2000 period and they incorporate a range of

³ [Russ and Valderrama \(2012\)](#) provide an overview of the theoretical literature regarding the choice between bank and bond finance.

⁴ In 2010, we estimate international sovereign bonds, issued by sub-Saharan countries, at US\$5 billion (according to Bloomberg International) compared to local currency government securities markets of US\$135 billion.

⁵ [Felman et al. \(2011\)](#) and [Gray et al. \(2011\)](#) investigate market infrastructure aspects of development of bond markets in Asia and other emerging economies.

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