Emerging Markets Review 32 (2017) 148–167

Contents lists available at ScienceDirect

Emerging Markets Review

journal homepage: www.elsevier.com/locate/emr

The Determinants of Bond Market Development: Further Evidence from Emerging and Developed Countries

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ARTICLE INFO

Article history:
Received 27 October 2016
Received in revised form 26 April 2017
Accepted 20 June 2017
Available online 21 June 2017

JEL classification:
G0
G1
G23
G28
H6

Keywords:
Bond Markets
Government Securities
Corporate Securities
Dynamic panel
GMM estimation

ABSTRACT

The objective of this paper is to empirically investigate the structural, financial, developmental, institutional, and macroeconomic determinants of bond market development for a sample of 22 emerging and developing countries over the period 1990–2013. We employ both the Prais-Winston and system GMM procedures to tackle the problems of endogeneity among the explanatory variables and our measure of bond market development, group-wise heteroscedasticity, and contemporaneous cross-sectional and serial correlations in the residuals. Our results suggest that a combination of structural, financial and institutional factors seem to exert a significant effect on bond markets. Indeed, economic size, trade openness, investment profile, GDP per Capita, bureaucratic quality, and size and concentration of banking system are positively related to bond market development, while interest rate volatility and fiscal balance are negatively associated with the development of bond markets. Those results are robust to the inclusion of developed countries' bond markets, international bonds issuers, and to possible structural breaks.

1. Introduction

Soon after the Asian financial meltdown in 1997–1998, academics, policy makers, business people and practitioners alike, resumed an old debate on the issue of promoting the development of domestic bond markets in less developed and emerging economies. This became apparent in the middle of a wave of banks and corporates defaults in Asia at that time. So why having more developed and resourceful bond markets in emerging and developing countries? Developing emerging bond markets and in particular a corporate bond market can produce some important and tangible benefits for a number of reasons.

First, these economies are more prone to financial instability and when a crisis hits, they usually face up to a liquidity dry up and capital outflow, leading to a hefty bank run and stock market collapse (Grandes and Peter, 2013). When there was a massive capital flight from many emerging markets in the late 1990s, one hard lesson was that their financial systems had relied too heavily on bank lending and made little effort to spur other forms of finance like domestic bond securities. Quoting Alan Greenspan, Chairman of America's Federal Reserve, in 1999, “The lack of a spare tire is of no concern if you do not get a flat. East Asia

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http://dx.doi.org/10.1016/j.ememar.2017.06.003
1566-0141/

had no spare tires" (The Economist, 2005). The existence of a local bond market, remarked Mr. Greenspan, could have mitigated the East Asian crisis and turned it less severe. In short, developing deep and liquid corporate bond markets, in particular, could decrease emerging economies' vulnerability to financial crises.

Second, from a broader and more inclusive perspective, it has been demonstrated that financial development is a driver of long-run economic growth, meaning a sustained increase in the growth rate of per capita GDP and total factor productivity in the long-run (Levine, 2005; Levine and Zervos, 1998). Through the mitigation of financial market failures such as asymmetric information, indivisibilities, transaction costs or the lack of enforcement of financial contracts, more liquid and deeper financial markets, including bond markets, can spur long-run economic growth and increase domestic welfare in less developed and emerging economies. Although the link between financial development and growth is compelling, the reverse causality is no less true if one thinks that more inclusive and equitable growth may bring about increasing opportunities for individuals and firms to access financial markets hence improving the overall economic standards and performance.

Third, there is a long dating discussion around the link between debt and growth on the one side (Panizza and Presbistero, 2013), and debt and financial stability on the other. This issue has been in the spotlight for decades due to the recurrence of financial crises in emerging and less developed countries, namely currency and banking crises and or debt defaults (Mexico, 1982; Argentina, 2001; Turkey, 2000 and 2001). These crises prevented many countries to borrow long-term in their own currency at convenient interest rate spreads and therefore produced growth rates lower than the average peer country. Basically, increasing debt can be either good or bad for the economy, government and firms. The cost-benefit analysis of increasing government debt rests on the many trade-offs between fiscal deficits, potential crowd-out effects on private investment, foreign currency variability, and debt sustainability, that is the ability to pay off the debt service in the future given a real interest rate, a growth rate and the primary fiscal surplus (Panizza and Presbistero, 2013). For instance, a more developed and enlarging sovereign debt market may foster the development and supply of corporate bond securities in local currency thereby underpinning firms to finance long-term investments. In addition, local currency bond issues bring about benefits for corporate issuers as they don't need to hedge foreign currency risk and avoid foreign transfer risk (Grandes and Peter, 2013).

Fourth, more developed bond markets in emerging and less developed economies are also beneficial in terms of risk diversification. This is because bond returns are usually negatively correlated or non-correlated with stocks and other asset portfolios hence diminishing aggregate portfolio variances, i.e. portfolio risk, and also because investors are able to transfer intertemporal risk and to reduce liquidity risk. One possible gain of the diversification process is a potential increase in investment in technology-intensive enterprises, namely riskier investment projects otherwise not funded by bank loans and perhaps to some extent through stock market finance or venture capital.

Fifth, more developed bond markets are typically associated with stronger macroeconomic fundamentals, more stable financial systems, sounder and stronger institutional frameworks, more open economies, and the long-lasting presence of institutional investors enhancing the demand for bond securities, especially those holding long maturities (Eichengreen and Luengnaruemitchai, 2004). In particular, corporate and sovereign bonds are financial instruments high on demand by institutional investors provided their credit rating is at or above BBB- according to Standard and Poor's. Therefore, from the demand side, once a country enjoys the investment grade status,[1] given the non-linear inverse relationship between ratings and bond spreads, it is common that they attract a larger pool of investors to its bond supply, at a lower interest rate spread and hence decreased cost of capital.

A large body of literature has examined the determinants of bond market development of emerging economies (Eichengreen and Luengnaruemitchai, 2004; Eichengreen et al., 2008; Burger and Warnock, 2006; Adelegan and Radzewicz-Bak, 2009; Mu et al., 2013). The empirical execution, however, led to mixed results. For instance, while Eichengreen and Luengnaruemitchai (2004) document a negative effect of exchange rate volatility and fiscal balance on sovereign bond markets, Adelegan and Radzewicz-Bak (2009) found a positive and significant impact of those variables on government bond markets of Sub-Saharan countries. Moreover, while Eichengreen and Luengnaruemitchai (2004) report a positive and significant impact of the quality of institutions on corporate bond markets, Mu et al. (2013) found that lower risks perceived and better institutions might reduce the size of corporate bond markets.

Our paper extends this strand of literature by investigating the economic, financial, structural, institutional and developmental determinants of bond market development using a sample of 22 emerging countries and a sample of 20 developed countries over the period 1990–2013. We contribute to the existing literature on bond market development in many ways. First, our paper focuses on the most dynamic bond markets cutting across different 22 emerging and developing economies from all continents unlike the majority of previous studies which focused on a particular region: Asian and Developed countries in Eichengreen and Luengnaruemitchai (2004); Latin American countries in Eichengreen et al. (2008); China in Bae (2012), and African countries in Andrianaivo and Yartey (2010), Adelegan and Radzewicz-Bak (2009), and Mu et al. (2013).

Second, we check for the robustness of our results by including a sample of 20 developed economies' bond markets and confirm that the degree of development of the latter should basically be driven by macroeconomic fundamentals and economic size, and should not be statistically and economically affected by other developmental, institutional, financial and structural variables. One would expect that macroeconomic changes and signifcant structural events such as the recent debt crises in the European Union and the banking crises in the United States might affect the level of their bond market depth and liquidity. However, there is no question as to whether institutions, governance or banking sector development should influence the bond market, or do it marginally.

[1] Such as South Africa or Morocco in Africa or Colombia and Mexico in Latin America.