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Title: Infrastructure Finance and Bond market in India: An Econometric analysis

ABSTRACT

The study is a novel attempt to understand the current trends, nature and challenges in infrastructure finance in India. The fast-growing needs for these infrastructure provisions coupled with the tightening of fiscal purse strings points to the need for enhanced involvement of the private sector in infrastructure provision. A deep, sound and liquid bond market could prove as a viable avenue for raising and continuous refinancing of investment geared towards physical infrastructure provision.

Against this backdrop, the study attempts to meet the following objectives:

- To get a reliable estimate of infrastructure investment in India and to understand the trends in infrastructure investment in India.
- To assess infrastructure as an asset class.
- To identify reasons for underdevelopment of the corporate bond market.

The study attempts to estimate the actual investment in the infrastructure sector by public and private sources. For this, it compares the project investment, per project investment and stalled/shelved projects. The assessment of infrastructure as an asset is done using the standard risk-return measures obtained by Capital Asset Pricing Model (CAPM) and volatility measure by GARCH in Mean (M-GARCH) Model. It is complemented by recent trends in leverage and cash flow of the five biggest and five small listed firms operating in infrastructure sector in India. The second part of the thesis deals exclusively with the plausible reasons for bond market underdevelopment. This question is studied both through exploratory approach as well as empirical approach. The possibility of financial crowding out is explored using the ARDL approach to cointegration and the price formation process/ imperfections therein are explored using a bootstrap resampling procedure.

The study finds that there has been a distinct fall in private involvement in infrastructure spending/ finance post 2010, with public spending remaining fairly stable. Stalled/ shelved projects could be a culprit, however these wasted finances turn out to be lumpier with public ownership. Infrastructure does not stand out remarkably different than others on a sectoral level as per standard risk-return, volatility analysis but it has special cash flow and leverage features at firm level. Government debt is crowding out long term debt resources in India (financial, not direct displacement). Serious pricing imperfections exist in the corporate bond market trading, with costlier transactions for smaller players but improvement is displayed with higher liquidity in instruments.