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Development of the Corporate Bond market in India: an Empirical and Policy Analysis

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Abstract. This study is a pioneering study on the factors influencing the corporate bond market in India. Important aims of this study are to trace the development of corporate bond markets in India, identify factors which have influenced its development and suggest policy reforms to enhance its development. Based on multivariate regression analysis this paper analyses the factors that have influenced the development of the corporate bond markets in India. Our results show that while the growth of the government bond market has been a major positive influence in the development of the corporate bond markets in India, bank lending in India may have slowed the development of the corporate bond market. Other factors such as the size of the economy, openness, size of the stock market and institutional factors like corruption have had little or no impact on the development of the corporate bond market. Based on our study we suggest policy reforms to improve the corporate bond market in India. Suggested policy reforms includes improving the retail investment markets through issue of Swadeshi or patriotic bonds, encouraging foreign participation by relaxing regulations and providing tax incentives, providing credit enhancements and introduction of new instruments such as credit default swaps and corporate repos.

Keywords: Capital Markets, Corporate Bond Market, India, Emerging Markets.

1. Introduction

Jiang, Tang and Law point out that one of the principal benefits of a well developed corporate bond market is to provide an effective alternative source of financing to bank financing [1]. Further, Luengnaruemitchai and Ong in their IMF working paper feel that core aspects such as benchmarking, corporate governance and disclosure, credit risk pricing, the availability of reliable trading systems, and the development of hedging instruments are fundamental for improving the breadth and depth of corporate debt markets [2]. A well-developed domestic capital market consists of the equity market and the bond market. While India boasts of a world-class equity market its bond market is still underdeveloped and is dominated by the government bond market. For instance, the value of outstanding government bonds in India was 39.5% of GDP as of 2010 and compares favorably with other Asian countries such as China (27.6%) and South Korea (47.2%). The value of corporate bond outstanding in India however was only 1.6% of GDP in 2010 compared to Malaysia (27%) and South Korea (37.8%) at the end of 2010. Torre, Gozzi and Schmulker argue that there are two basic approaches to develop capital markets in general in emerging markets [3]. The first view explains the gap between expectations and observed outcomes due to the combination of impatience with imperfect and incomplete reform efforts. The second view; is similar to the view taken by the Committee for Financial Sector Reform in India (CSFR), which is to get a number of other policy developments and missing markets need to be created before the corporate bond markets can develop in a country [4]. The objective of this policy paper is twofold. First it traces the development of the corporate bond market in India and conducts an empirical analysis of the factors influencing these developments.

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Second it seeks to make policy recommendations based on the experience of other emerging markets in developing their corporate bond markets. The paper is organized as follows. This introductory section is followed by capital market reforms which have been put in place and suggestions by various on committees aimed at developing the corporate bond markets in India. It is followed by a discussion of the results of the multivariate analysis looking at factors which have hindered or contributed to development of the corporate bond markets in India. Next the paper discusses some of the lessons India could learn from the development of corporate bond markets around the world. Finally the paper offers some suggestions for future reforms.

2. Policy Reforms and Suggestions

Capital market reforms in India involved the creation of the Securities and Exchange Board of India (SEBI) in 1992 and National Stock Exchange of India (NSE) in mid 1990s. Other reforms include auction methods for government securities, introduction of primary dealers to support the auction, introduction of interest rate futures and introduction of Real Time Gross Settlement system (RTGS) to facilitate wider participation in the government securities market. Several committees such as the High powered expert committee on the corporate bond market (Patil) committee and CSFR have made recommendations to improve the corporate bond market [5]. SEBI and Reserve Bank of India (RBI) have implemented many of the reforms suggested, such as, reduction in cost and length of bond issuance process, improving the transparency in secondary market trades and introduction of corporate repos. The results of the implementation of these reforms have been encouraging, with resource mobilization from the primary debt markets increasing over the years, and standing at Rs 175826cr for 2008-2009. In the secondary markets, trading activities under the three platforms of Bombay Stock Exchange (BSE), NSE and Fixed Income Money Market and Derivatives Association of India (FIMMDA) have increased more than 300% in the span of the last 3 years with value now standing at 401198. Trades have also doubled recently compared to 2007-2008 fiscal year.

However a closer analysis of the data reveals that further reforms and policy changes still need to be implemented to grow the corporate bond markets. For example, private placements rather than public issues still dominate the debt markets and stands at 99% of total resources mobilized. Corporations still tend to borrow from banks. External borrowings from bank loans stand at roughly 70% versus the 5% financed through debentures. Stamp duties and disclosure requirements have discouraged companies from borrowing from the public markets. Mitra (2009) points to demand, supply and market structure related issues as to why the Indian corporate bond market is still undeveloped despite the reforms and progress in implementing the recommendation of various committees [6].

3. Results and Analysis

In this section we test the importance of factors influencing the corporate bond market using multivariate regression analysis of annual data from 1990 to 2008. The dependent variable in this regression analysis is the total number of outstanding corporate bonds. The Independent variables included in the analysis are development stage of the economy, natural openness, the size of the banking system, the size of the government bond market, the development of the stock market and corruption index. All equations are estimated using Generalized Least Squares (GLS) with corrections for autocorrelation and heteroskedasticity.

Rationale for using the independent variables in our regressions are as follows and our preliminary regressions are reported in Table 1.

3.1. Development Stage of the Economy

In general development of corporate bond market in a country would be positively correlated with the overall development of the economy. This is because development brings with it a less volatile investment environment, less government involvement in commercial activity and strong creditor rights, transparency and good corporate governance. We use GDP per capita to capture the overall development of the economy.

3.2. Natural Openess

Rajan and Zingales (1995) point out that open economies do less to suppress securities market [7]. This is because entrenched interests will be less able to adopt policies that suppress competing sources of supply when the economy is exposed to international competition. We use the ratio of exports to GDP as a measure of openness and the expected sign is positive.

3.3. Size of the Banking System

On the one hand, banks and bond markets compete in providing external finance and thus a well developed banking system may be a deterrent to the development of the corporate bond market. On the other hand, banks serve as dealers and market makers, whose presence is needed for the development of a liquid and well-functioning bond market. The expected impact of banking sector development on the corporate bond market is therefore expected to be positive if they are complementary and negative if they compete in providing funds.

3.4. Size of the Government Bond Market

Park, Fabella and Madhur believe that for the Corporate bond to develop in a country it is important to first develop the sovereign bond market [8] [9]. Their argument is that sovereign bond market provide benchmark yield curve against which to value corporate bonds and therefore serve as a catalyst to develop a country's corporate bond market. However, the introduction of government securities may also prevent price discovery, crowding out the trading of all or a fraction of the existing securities [10] [11]. This is a real possibility in countries like India where government securities typically tend to have a higher credit rating than their counterparts. As a result, government securities may be more attractive to foreign investors as a substitute to corporate bonds, reducing the liquidity in the corporate bond market. We use the total number of government bonds outstanding to examine the impact on the corporate bond market. If the expected sign is positive then we can conclude that government bond market has a positive impact on the corporate bond market if the impact is negative then it is possible that the development of the government bond market is crowding out the issue of corporate bonds in India.

3.5. Development of the Stock Market

India has a well developed equity market but its bond market is underdeveloped and dominated by the government bond market. As in the case of the impact of government market on the development of corporate bond market, the equity market can either complement or compete with the bond market development. By providing alternative sources of external finance to companies the bond market can complement the development of the equity market. It is also possible that companies may favor to finance their investments from the equity market rather than bond market due to lesser regulations and ease of raising funds. We use the stock market capitalization to capture the development of the stock market. The impact of the stock market is expected to be positive if the equity market complements the bond market as a source of financing for the companies. The impact would be negative if the stock market competes with the corporate bond market.

3.6. Corruption Index

A country where corruption is high undermines law enforcement and corporate bond markets in these countries are less attractive to investors. Corruption and bond market development therefore should be negatively correlated. We use the corruption perception index published by transparency international to capture corruption [12]. According to this index, lesser the corruption, higher the score for the index and the expected sign is therefore positive between bond market development and the corruption index.

From model 1 (column 1, Table 1) one can see that GDP per capita, our proxy for development stage of the economy and exports, our proxy for openness are not significant and in fact have the wrong sign. Government bond market development (total outstanding government bonds) is however positive and significant at the 1% level. Model 2 (column 2, Table 1) looks at the effect of the government bond market development (total outstanding government bonds), banking sector development (domestic credit provided by the banking sector as a percentage of GDP) and stock market development (total value of stocks traded) on the corporate bond market. The government bond market has a positive effect on the corporate bond market. The coefficient is positive and significant at the 1% level. This shows that in India like in the case of Korea, government bond market development has helped the corporate bond development and is not crowding out the corporate bond market. On the contrary we see that banking sector development has a negative impact on the development of the corporate bond market. The coefficient is negative and significant at the 1% level. This supports the hypothesis, that in India bank loans compete with corporate bond markets in providing funds to companies. Companies have in general preferred to finance through bank loans and have been reluctant to finance through the corporate bond markets. Model 3 (column 3, Table 1) shows that government bond market and banking sector development have had the major impact on the corporate bond market. Finally Model 4 (column 4, Table 1) includes a corruption perception index obtained from Transparency International. Model 4 shows that though the corruption index has the expected positive sign (a higher value for the index implies a lower level of corruption) it is not significant. Model 4 once gain shows that the crucial factors influencing the development of the corporate bond market in India are the development of the government bond market and the banking sector.

Based on our multivariate regression analysis we conclude that the growth of the government bond market has been a major positive influence on the development of the corporate bond markets in India. This conclusion is similar to the factors which have helped develop other countries like South Korea's corporate bond market. On the other hand the predominance of banking sector lending in India may have inhibited the corporate bond market from developing. Other factors such as the size of the economy, openness, size of the stock market and institutional factors like corruption have had little or no impact on the development of the corporate bond market.

Table 1 Multivariate Analysis of Factors Influencing Corporate Bonds Outstanding

Independent Variable	**(1)**	**(2)**	**(3)**	**(4)**
Constant	2594.008 (.6170)	-961.600 (.1628)	-912.794 (.1620)	3726.843 (.5540)
GDP per capita (constant 2000 US$)	-8.989 (.6146)			-12.993 (.5523)
Total Exports	-.020 (.5191)			
Stocks Traded, Total Value		9.136 (.3766)		
Domestic Credit Provided by Banking Sector (% of GDP)	-28.948 (.1256)	-35.073 (.0006)***	-26.674 (.0000)***	-58.350 (.7287)
Outstanding Government Domestic Debt Securities	41.858 (.000)***	25.829 (.000)***	26.640 (.0000)***	41.760 (.0001)***
Corruption Perception Index				34.415 (.8195)
Observations Adjusted R^2	.90	.90	.90	.92
The dependent variables in all the regressions is outstanding domestic debt securities by corporate issuers	Absolute value of ρ statistics are shown in parentheses * indicates significant at 10% ** indicates significant at 5% *** indicates significant at 1%			

4. Future Reforms

In conclusion the study suggests some areas for future reforms to develop the corporate bond markets in India. These are as follows:

- Encouraging retail investment through credit enhancements, encouraging growth of the mutual fund industry and foreign investor participation.

- Encouraging foreign investor participation by increasing foreign investor limits, providing tax incentives and easing regulations.
- Encouraging institutional investor participation by easing restrictions on holding investments grade securities and revamping the cash credit system and Statutory liquidity requirements of banks.
- Measures such as simplifying listing requirements for debt securities by SEBI and exemption of TDS for corporate debt instruments by the Government of India have been aimed at reducing the cost and length of the issuance process and encouraging public issue of debt securities. Significant work however needs to be done towards rationalizing stamp duty structure across the country and to fix stamp duties based on tenor and issuance value to encourage public offerings of corporate debt.
- Development of credit enhancements such as collateralized bond and loan obligations. The recent announcement by the National Housing Bank (NHB) that it will issue credit enhancement to Residential Mortgage Backed Securities (RMBS) is a step in the right direction.
- Measures have been undertaken recently to create new instruments such as the introduction of corporate repos and credit default swaps which are to be introduced shortly. These instruments would prove helpful for primary dealers and banks to manage risk exposure and are steps in the right direction. Further India needs to find innovative ways such as the issue of *Sukuk* bonds as in the case of Malaysia. One suggestion is to issue *Swadeshi* bonds.

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