

Corporate bond market as a source of capital funds in emerging economies – the Indian experience

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Keywords

Corporate Finance, Corporate bonds, Debt, Term Loans

Abstract

Over the years it has become fashionable to argue that a vibrant bond market would be vastly superior to the present bank-led model of debt finance for industries and businesses in emerging economies. While it works well in most developed economies, in countries like India, despite all efforts of the central bank and the financial markets regulators or regulatory authorities, business firms still depend largely on the banking system for their debt capital funds. This study is an attempt to enquire into whether it is the measurable parameters such as cost of funds or the buoyancy in the economy that affects the firms' decisions or not. If not, it would follow that other qualitative or behavioral (or non-measurable) factors may be responsible for the lack of firms' appetite for issuing bonds.

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Introduction

Over the years it has become fashionable to argue that a vibrant bond market would be vastly superior to the present bank-led model of debt finance in most developing countries such as India. Over the past few decades the Reserve Bank of India (the central bank of India) and the Securities & Exchanges Board of India have been trying desperately to create an active and vibrant corporate bond market. But all their efforts have not brought about much change in the scenario. Firms are still largely dependent on the banking industry for their capital needs. Either banks are their first choice, or they are unable to tap the market as there is very low appetite for corporate bonds from the investing public. It has become a bit of a vicious cycle! The often-quoted refrain is that corporates should raise their debt funds from the capital market rather than from the banks. Very little research seems to have gone in trying to understand the firms' perspective as to why they prefer banks. This study is an attempt to explore and figure out how the firms in India decide to raise their debt capital; chose between capital markets and banks.

1.1 Literature review

Corporate bonds markets have been the subject of numerous studies. But most of them are in the field of capital structure. - Cobham, David, and Subramaniam (1998), Turner (2002), Guha, Basudeb, and Bhaduri. (2002) Bhole & Mahakud (2004), Chakraborty (2010). Titman and Wessels (1998) analyze the explanatory power theories of optimal capital structure. Taggart (1977), in his study on corporate financing decisions, concluded that movements in the market values of long term debt and equity are important determinants of the corporate security issues. Myers (1977) found that corporate borrowing is inversely

related to the proportion of market value accounted for by real options. It also rationalizes other aspects of corporate borrowing behavior, for example the practice of matching maturities of assets and debt liabilities. Mason & Jeffrey (1990) found that firms are concerned with who provides their financing, not just with the debt/equity distinction. Debt is more than just debt; equity is more than just equity.

Gabbi & Sironi (2005) examined the factors that determine corporate bonds pricing by analyzing the spreads of Eurobonds issued by major G-10 companies during the 1991–2001 period. He found that bond ratings appear as the most important determinant of yield spreads, with investors' reliance on rating agencies judgments increasing over time. And, the primary market efficiency and the expected secondary market liquidity are not relevant explanatory factors of the spreads and cross-sectional variability. Further, rating agencies adopt a different, 'through the cycle', evaluation criteria of default risk with respect to the forward looking one adopted by bond investors. Elton et al (2004) investigate several bond characteristics that have been hypothesized as affecting bond prices and show that from among this set of measures default risk, liquidity situation, tax liability, recovery rate and bond age leads to better estimates of spot curves and for pricing bonds. Titman (2002) presents anecdotal evidence that suggests that financial markets, often, are not integrated and discusses the implications of this lack of integration on corporate financing strategies. He argues that market conditions, which are determined by the preferences of individuals and institutions that supply capital, can have an important bearing on how firms raise capital and the extent to which they hedge. Cantillo & Wright (2000) investigated which companies finance themselves through financial intermediaries and which borrow directly from arm's length investors. He found that large companies with abundant cash and collateral tap credit markets directly; these markets cater to safe and profitable industries and are most active when riskless rates or earnings of the financial intermediaries are low.

Some studies have concentrated on Indian and other emerging markets. Sameul (1996) studied the role of the stock market in providing finance to firms in India and concluded that the development of the stock markets is unlikely to spur corporate growth. Anand (2002) studied the corporate finance practices vis-a-vis capital budgeting decisions, cost of capital, capital structure, and dividend policy decisions in India. Sengupta (1998) found evidence that firms with high disclosure quality ratings from financial analysts enjoy a lower effective interest cost of issuing debt.

Apart from academic studies, there have been numerous policy papers and committee reports which have studied the issues regarding reluctance of firms in raising debt capital through issue of bonds. There has been a number of reports by committees set up by the Reserve Bank of India (central monetary authority of India) and the government of India, on development of corporate bond markets in India viz. Report of High Level Expert Committee on Corporate Bonds and Securitization (R. H. Patil Committee, 2005), Report of the High Powered Expert Committee on Making Mumbai an International Financial Centre (Percy Mistry Committee, 2007), A Hundred Small Steps [Report of the Committee on Financial Sector Reforms (CFSR) headed by Raghuram Rajan (2009). Report of the Khan Committee (2016) is the latest in a series of policy papers. All these committees have recognized many structural features of the corporate bond market in India which hinder the development of a deep corporate bond market.

As mentioned earlier, there has been a dearth of research and understanding of factors that affect the firms' decisions to raise funds through bank loans or to tap the bond markets. Several academic and other articles and reports have indicated many issues with the current state of bond markets in emerging economies such as lack of appetite and the buy & hold attitude of the few investors who do invest. A sense of frustration appears to have gripped the regulators as to why despite so many initiatives the corporate bonds market does not seem to have evolved. The main issue is whether it has made a significant progress and whether basic factors considered by prudent business persons or firms influence decisions

regarding where to raise funds. As such an empirical study using available data and from the perspective of various stakeholders, might help to add to the understanding. This analysis could bring out the relevant economic factors that influence the firms' choice for raising capital.

1.2 Objectives of the study

The objective of the study is to enquire whether economic factors influence the firms' decisions to tap the bonds market vis-à-vis from banks. The study attempts to examine specifically:

- Has there been an improvement in the amount of funds raised in the bonds market in India?
- Do economic factors play a significant role in influencing the firms' decisions to tap bond markets?
- Do firms decision to tap the bonds market gets influenced by the current bond market yields?
- Does the buoyancy in the economy influence the funds raised in the bonds market?

1.2 Methodology

The analysis of the study is based on secondary data. This is because it is not feasible to collect primary data on how and when firms decide to tap the bonds market as it tends to be strategic information which the firms are unwilling to part with. Therefore, a survey may not take us far as it is not likely to be reliable. Moreover, the study is an exploratory first attempt to examine whether actual data supports the widely held opinions and heuristics.

1.2.1 Design of the study

Firms need capital funds and they decide on the leverage ratio. Based on this, firms have a choice of raising the required debt funds either from banks or by tapping the bonds market. The economic factors which could influence, and logically should, are whether it is time for investment (buoyancy in the economy), and the cost of funds. Other factors such as ease of raising funds, rules and regulations etc are relevant but tend to be qualitative variables.

1.2.2 Variables considered in the analysis are:

- Bank credit to commercial sector (RBI)
- Bonds issued during a calendar quarter (SEBI). This indicates the amount of funds raised in that quarter.
- Base rates of banks (RBI) – banks are required to announce the “base rates”. These are the rates at which they lend to their AAA rated customers and are equivalent to the ‘prime lending rate’. Firms are charged a risk premium over this base rate. While different firms are charged different rates, to study the significance of the cost of funds, the risk premium would not matter; risk premium is charged both in the case of bank loans and as a spread over sovereign and AAA rated bonds, in the bond markets.
- Data published by the Reserve Bank of India gives the range of the base rates declared by all banks. For the analysis we have taken the average of the high and low as the cost of bank loans.
- About the buoyancy and prospects of the economy, it would be prudent to take the GDP growth as proxy for the future expectations of the economy. However, there are two issues with this. One, GDP is an all-encompassing macroeconomic variable including all the sectors. But bonds are issued mainly by bigger corporate entities; smaller firms' needs are generally low, and it may not make sense for them to go through the rigorous procedure of issuing bonds. As such the Index of Industrial Production seems to be the more appropriate variable.

- Also, the base for the GDP data has been revised recently and revised data for previous periods has not yet been released. Moreover, the data for the overlapping quarters shows a wide variation between the two base years.
- Therefore, the Index of Industrial Production (IIP) has, thus, been used as a proxy to capture the buoyancy of the economy or expectations of firms.

3 Historical background

Historically firms in India have depended on the credit given by commercial banks for their capital requirements. Soon after independence, there were concerted efforts to accelerate economic growth and banks were expected to support these efforts by providing both working capital finance and term loans for capital expenditure. Banks' role was crucial also because of the almost nonexistent capital markets in India. To further increase their role and contribution, all major banks were nationalized in 1969 bringing almost 80% of the commercial banking business under government hands. Banks thus provided both working capital facilities and debt capital to industries. Despite many private banks being set up in the later years, the dependence of firms on banks continues. Perhaps it is because of the ease of raising funds through this channel. And, perhaps also because banks in India have a long tradition and have had vast experience in lending long term.

4 Current Scenario

It has been argued that this has led to a cozy relationship between the two and has resulted in 'crony capitalism'. Absence of bond markets can result in excessive reliance on bank finance; bond markets allocate and price risk more efficiently; bond markets provide a ready source of long-term finance without asset-liability mismatch problems of the kind faced by banks, and most importantly, are able to act against troubled borrowers more swiftly and effectively than banks; debt markets help develop the derivatives market - the much-touted bond-currency-derivatives nexus - facilitating development of hedging mechanisms/enabling greater risk diversification by market participants. Above all, bond financing, it is argued, instills a greater sense of credit discipline among borrowers as defaults are immediately punished by markets. Recalcitrant borrowers are either shut out of the market or must pay a much higher rate of interest.

These are not small advantages. Add to that the fact that banks have burnt their fingers financing infrastructure. And, the virtual freeze on infrastructure financing as a consequence in a scenario where alternative channels of funding are non-existent and the case for a vibrant bond market becomes blindingly self-evident.

The two main financial sector regulators the Reserve Bank of India (RBI), and the Securities and Exchange Board of India (SEBI) have been trying hard for quite some time to develop the corporate bond market in India. As a result, total corporate bond issuance increased from Rs 174,781 crores in 2008-09 to Rs 413,879 crore in 2014-15 while the number of issuances increased from 1,042 in 2008-09 to 2,636 in 2014-15. The increase was of over 235% and 150% respectively in this period.

However, the secondary market trading for these bonds remains limited. The net result is corporate bonds are not a significant part of the financial market and account for little over five per cent of GDP compared to 31% in the case of China or a much higher 78% in the case of South Korea. Indeed, the private corporate bond market today is just a tiny fraction of a much larger bond market dominated by government debt. This is not unusual in a developing country with a large fiscal deficit. Large government borrowing, in tandem with statutory pre-emptions like the SLR (statutory liquidity ratio) on banks, often results in crowding out private corporate bond issues.

5 Data analysis

5.1 Evolution of the corporate bond market in India

The data on amounts raised by firms in India in the bonds market and from banks is given in Appendix A. It is evident that the proportion of funds raised by firms does show that a significant proportion is raised by tapping the bond market. But it does not show any significant trend as can be seen from Fig 1. This means that the capital raised by issue of bonds has rising at a rate not very different from the rate of overall funds.

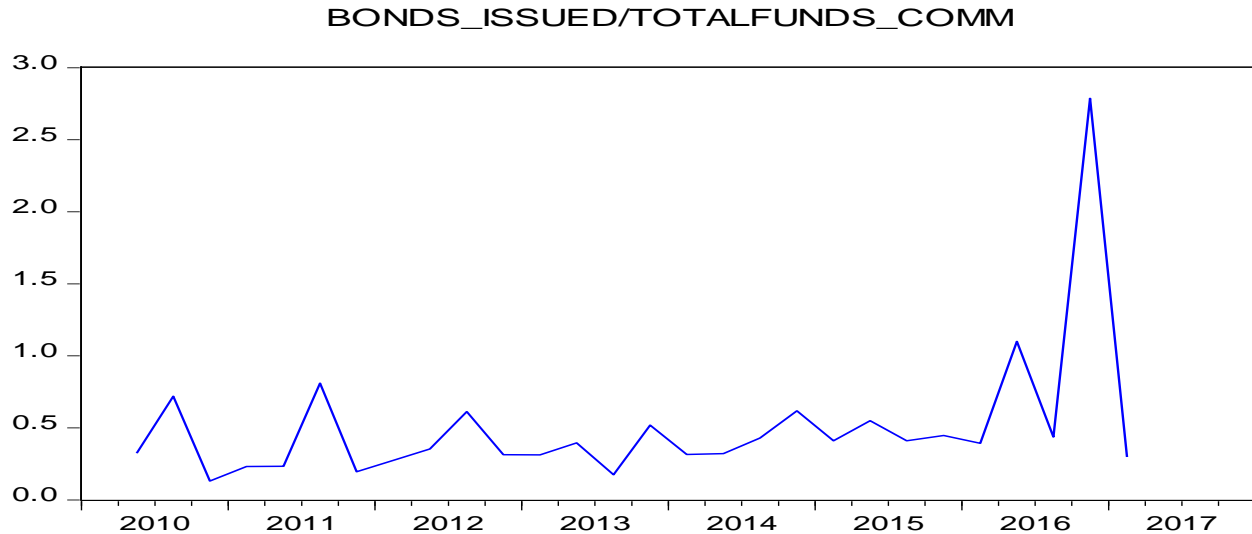


Fig 1: Ratio of bonds issued to total funds raised by firms.

Also, as is evident, there is a sudden spike in the last quarter of 2017. This may be attributed to the effect of demonetization of higher denomination currencies in India. A significantly large proportion of business payments in India are done in cash. And when the window of two months was provided for utilization of the currency notes, firms repaid their dues to banks in huge amounts; perhaps to avoid changing old notes to new ones and the consequent questioning by tax authorities. Hence the change in the credit given by banks to the commercial sector is negative; hence the more than 100% proportion.

Ignoring the blip as outlier, it is evident that a significant proportion of the funds required by the firms in India is raised by tapping the bonds market. But, there is no significant rising trend.

5.2 Factors influencing decisions to tap bonds market

The quarterly data on amount raised through issue of bonds (BONDS_ISSUED), base rate (BASE_RATE), 10-year Sovereign Bonds (GOVT_YLD) and Index of Industrial Production (IIP), has been used for the empirical analysis. The data is given in Appendix B for reference.

Many linear regression models based on our hypothesis were carried out to understand the relationship between bonds issued and base rate, yields of sovereign (government of India) bonds and buoyancy in the economy. While it is generally the GDP growth that is taken as an indicator of the buoyancy in the economy or the expectations of the future, in India the GDP series has undergone a change in estimation. In 2015, the base year was changed from 2004-05 to 2011-12. And the recalculated back series have not yet been published. Moreover, GDP encompasses all economic activity while the Index of Industrial Production (IIP) is an estimate of the output of the industrial sector. Since bonds are issued only by mid and large corporate sector, it was felt that the IIP data would be more appropriate for the analysis.

5.2.1 Effect of base rates of banks on the bonds issue

Since bank loans are close substitutes for bonds issue, the cost of banks loans is likely to influence negatively the amount raised by firms through issue of bonds. Although, a preliminary scatter plot between these two does not show a clear relationship. This is evident from the scatter plot of bonds issued to base rate is given below in Fig 2. This is, possibly, due to omitted variable bias as the other factors affecting bonds issued are not taken into consideration.

However, as expected, when more variables that are likely to affect the dependent variable are considered, our results become more meaningful.

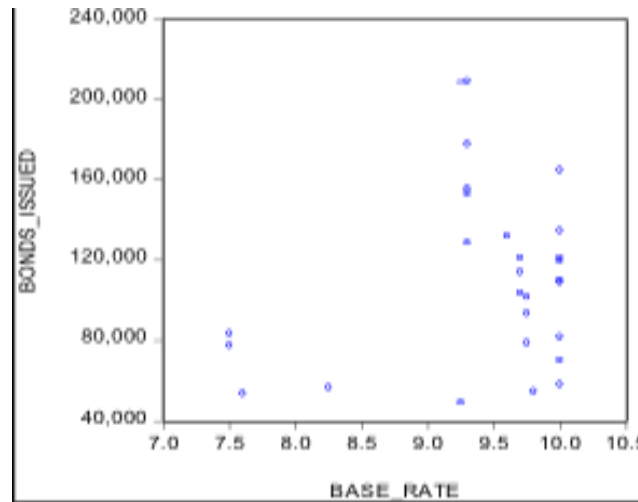


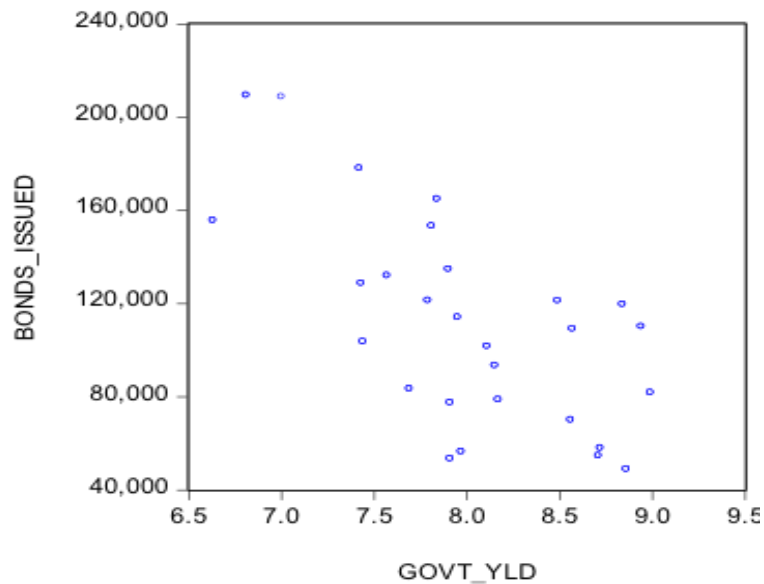
Fig 2: Scatter plot of bonds issued to base rate

5.2.2 Effect of sovereign yields on amount raised through bonds issue

Corporate bonds are issued at par with a coupon equal to the yields at which bonds with similar credit rating are being traded in the market. Corporate bonds' yields are at a spread over the sovereign yields. And generally, these yields go up or down as the sovereign bonds' yields change; the spread being stable. Therefore, the yield on the benchmark 10-year government of India bonds is taken as the proxy for the cost of borrowing. The scatter plot of bonds issued against the government yields given in Fig 3 shows that there is an inverse relationship between the two. This is as expected; higher the cost of borrowing lower would be the amount borrowed.

5.2.3 Effect of IIP on amount raised through bonds issue

The scatter diagram of bonds issued against the IIP is given in Fig 4. As expected there is a positive relationship. The growing IIP indicating buoyancy encourages firms to invest more and so borrow more.



5.2.4 Regression Analysis

Next, we examine the multiple regression analysis incorporating the variables discussed above in our Model. We look at the effect of base rates, government yields & IIP on amount raised through bonds issued over the June 2010 and March 2017 period.

The results of regression of base rate, government yield and the Log (IIP) are shown in Table 1 below.

Dependent Variable: LOG(BONDS_ISSUED)

Method: Least Squares

Sample (adjusted): 2010Q2 2017Q1

Included observations: 28 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	4.895108	4.492077	1.089720	0.2867
BASE_RATE_AV	0.229423	0.086519	2.651703	0.0140
GOVT_YLD	-0.466606	0.093538	-4.988388	0.0000
LOG(IIP)	1.574020	0.860935	1.828269	0.0800
R-squared	0.637367	Mean dependent var		11.54252
Adjusted R-squared	0.592038	S.D. dependent var		0.413231
S.E. of regression	0.263939	Akaike info criterion		0.305365
Sum squared resid	1.671929	Schwarz criterion		0.495680
Log likelihood	-0.275110	Hannan-Quinn criter.		0.363546
F-statistic	14.06086	Durbin-Watson stat		1.845941
Prob(F-statistic)	0.000017			

Table 1

It is evident that there is no autocorrelation in the regression result as can be seen from the regression result as well as the LM Test (see Table 1 and 2). This means our results can be used for interpretation as the residual are not inter-related over time.

F-statistic	0.061733	Prob. F(2,22)	0.9403
Obs*R-squared	0.156261	Prob. Chi-Square(2)	0.9248

Test Equation: Dependent Variable: RESID
 Method: Least Squares
 Sample: 2010Q2 2017Q1
 Included observations: 28
 Pre-sample missing value lagged residuals set to zero.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.139872	4.778736	-0.029270	0.9769
BASE_RATE_AV	-0.004127	0.093265	-0.044251	0.9651
GOVT_YLD	-0.003637	0.101270	-0.035910	0.9717
LOG(IIP)	0.040387	0.937910	0.043061	0.9660
RESID(-1)	0.040621	0.226223	0.179561	0.8591
RESID(-2)	-0.070796	0.247556	-0.285978	0.7776
R-squared	0.005581	Mean dependent var		-4.44E-16
Adjusted R-squared	-0.220424	S.D. dependent var		0.248844
S.E. of regression	0.274905	Akaike info criterion		0.442626
Sum squared resid	1.662599	Schwarz criterion		0.728098
Log likelihood	-0.196761	Hannan-Quinn criter.		0.529898
F-statistic	0.024693	Durbin-Watson stat		1.918121
Prob(F-statistic)	0.999683			

Table 2

It is therefore evident that yields have a negative effect while both the base rates and IIP have a positive effect. Thus, indicating that firms do take a call based on the yields at which they can issue bonds and the cost of the alternative source of funds from the banking system and the performance of the economy which gets reflected in rate of growth of IIP.

6 Observations and conclusions

A significant portion of debt capital is raised by firms in India from the bond markets. But, the absence of a significant upward trend in the proportions raised through issue of bonds is not a good indicator. Given that a number of initiatives have been taken by the regulators and the government, one would expect that firms would be motivated to raise a higher proportion from the capital markets. In fact, almost all the debt capital required should logically be raised through this route.

If it is assumed that enough initiatives have been taken to make it hassle free to issue bond then the results of this study indicate that there are other factors, not economic factors which inhibit firms in emerging economies such as India from approaching the corporate bond markets.

The base rate, rate at which banks give loans to firms, positively impacts the amount raised by firms. Higher the interest rates more the funds raised by firms tapping the bond market. This stands to logic as corporate bonds are a substitute to bank term loans. This finding is quite reassuring in the sense that it is the data that shows that firms base their preferences mainly on cost of alternative sources of funds.

Sovereign bonds' yields have a negative impact on the amount raised through issue of bonds in India. Again, this is rational and on expected lines. Higher the yields, higher are the cost of funds and so it should have a negative impact on issue of bonds.

The buoyancy in the economy, measured by the IIP in India, has a positive impact on the amount raised through issue of bonds. Evidently, firms go by these numbers to gauge the future prospects. If they see good times, they invest more.

Finally, one could conclude that firms take rational decisions. And, economic factors such as interest rates do matter to firms in India.

7 Limitations and further research

As the goodness of fit in the Model (adjusted r-squared) is about 0.6, it indicates that there are other variables which influence the decisions of the firms regarding whether to raise capital funds through debt (bonds) or through fresh equity. Including other factors could help us improve further the understanding of firms' behaviour. Among the quantifiable factors, perhaps, the exchange rate and interest rate differential between international debt & credit markets may be significant. And may be unquantifiable factors such as the convenience and ease of raising funds etc.

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Appendix A:

Quarter Ended	Bonds issued during the Qtr	Increase in Bank Credit to Commercial Sector	Total funds taken by commercial sector	proportion of bonds to total
Jun-2010	83,496	1,74,516	2,58,012	32.36%
Sep-2010	77,476	30,313	1,07,790	71.88%
Dec-2010	53,472	3,52,690	4,06,162	13.17%
Mar-2011	56,502	1,87,748	2,44,250	23.13%
Jun-2011	48,962	1,60,832	2,09,795	23.34%
Sep-2011	81,809	19,196	1,01,005	80.99%
Dec-2011	70,168	2,88,051	3,58,219	19.59%
Mar-2012	1,09,130	2,87,582	3,96,712	27.51%
Jun-2012	78,824	1,43,982	2,22,806	35.38%
Sep-2012	93,424	58,946	1,52,370	61.31%
Dec-2012	1,01,636	2,22,016	3,23,652	31.40%
Mar-2013	1,14,142	2,50,585	3,64,727	31.30%
Jun-2013	1,03,705	1,58,357	2,62,062	39.57%
Sep-2013	54,653	2,57,570	3,12,223	17.50%
Dec-2013	1,10,155	1,02,082	2,12,237	51.90%
Mar-2014	1,19,639	2,59,420	3,79,059	31.56%
Jun-2014	58,034	1,22,406	1,80,440	32.16%
Sep-2014	1,21,248	1,61,236	2,82,484	42.92%
Dec-2014	1,34,742	83,277	2,18,018	61.80%
Mar-2015	1,64,938	2,37,509	4,02,448	40.98%
Jun-2015	1,21,283	99,555	2,20,838	54.92%
Sep-2015	1,32,066	1,89,249	3,21,316	41.10%
Dec-2015	1,53,235	1,89,426	3,42,661	44.72%
Mar-2016	1,78,009	2,75,114	4,53,123	39.28%
Jun-2016	1,28,743	(11,621)	1,17,122	109.92%
Sep-2016	2,09,371	2,69,348	4,78,720	43.74%
Dec-2016	1,55,758	(99,885)	55,873	278.77%
Mar-2017	2,08,695	4,90,520	6,99,215	29.85%

Appendix B: Data - Factors influencing tapping bonds market

	Quarter Ended	Bonds issued during the Qtr	Base Rate Mid	10 yr GOI Yld	IIP
1	Jun-2010	83,496	7.75	7.69	156.6
2	Sep-2010	77,476	8.00	7.91	160.3
3	Dec-2010	53,472	8.30	7.91	175.6
4	Mar-2011	56,502	8.88	7.97	193.1
5	Jun-2011	48,962	9.63	8.86	171.4
6	Sep-2011	81,809	10.38	8.99	164.3
7	Dec-2011	70,168	10.38	8.56	180.3
8	Mar-2012	1,09,130	10.38	8.57	187.6
9	Jun-2012	78,824	10.13	8.17	168.0
10	Sep-2012	93,424	10.13	8.15	163.1
11	Dec-2012	1,01,636	10.13	8.11	179.3
12	Mar-2013	1,14,142	9.98	7.95	194.2
13	Jun-2013	1,03,705	9.98	7.44	164.9
14	Sep-2013	54,653	10.03	8.71	167.5
15	Dec-2013	1,10,155	10.13	8.94	179.5
16	Mar-2014	1,19,639	10.13	8.84	193.3
17	Jun-2014	58,034	10.13	8.72	172.0
18	Sep-2014	1,21,248	10.13	8.49	171.8
19	Dec-2014	1,34,742	10.13	7.90	185.9
20	Mar-2015	1,64,938	10.13	7.84	198.1
21	Jun-2015	1,21,283	9.85	7.79	179.3
22	Sep-2015	1,32,066	9.78	7.57	178.2
23	Dec-2015	1,53,235	9.50	7.81	184.2
24	Mar-2016	1,78,009	9.50	7.42	198.7
25	Jun-2016	1,28,743	9.50	7.43	183.2
26	Sep-2016	2,09,371	9.48	6.81	179.5
27	Dec-2016	1,55,758	9.48	6.63	184.0
28	Mar-2017	2,08,695	9.43	7.00	191.3