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Choice of Private Placement as an Instrument for Raising Debt Resources: Evidence from Indian Firms

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Over the years, privately placed debts have emerged as an important source of long-term financing for Indian corporates. This study empirically tests the importance of firm-level and macroeconomic conditions on a firm's choice for private placement for the NIFTY 500 non-financial firms covering the period 2003-04 to 2014-15. A descriptive analysis shows that companies from basic metals, civil engineering and electricity and gas were the major resource mobilisers through private placement. Financial attributes of privately placed companies indicate that these instruments are issued by the companies with relatively larger assets sizes, lower growth potential and higher likelihood of financial distress. The study finds strong evidence of macroeconomic conditions affecting a firm's choice for private placement.

JEL Classification : G23 and G32

Keywords **:** Private Placement, Financing Instruments, Agency Relationship, Information Asymmetry.

Introduction

Private placement has emerged as a major alternate sources of funds for firms to bank credit and loans from other financial institutions. In terms of value, private placements are only second to bank financing. During financial year 2014-15, the share of resources mobilised through private placements was around 29 per cent of the total non-bank domestic resources; resource mobilisation through public issues was less than 1 per cent during the same period (RBI, 2016 and SEBI, 2016). In view of the underdeveloped public issue segment of the bond market and space left by development finance institutions, a firm's reliance on

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private placements for long-term financing has increased. A number of studies have found that firms prefer private placements over public issues due to regulatory and compliance costs (RBI 2007; Sophastienphong et al. 2008; Nath 2012). Sophastienphong et al. (2008) study found that the total cost of a private placement issue of ₹1 billion by a frequent issuer is less than 0.5 per cent while for the public issue it is estimated at 3-4 per cent of the issue size.

The number of issues and the gross amount mobilised by corporates through private placements has recorded a secular increase. However, little is known about what determines the choice of private placements of debts as an instrument for financing by firms or what the characteristics of these firms are in the Indian context. In view of this, this paper makes an attempt to analyse the factors that determine choice of privately placed debt for a firm. Existing literature on firms' choice of raising resources has focused on the role of firm specific variables following the pecking order theory (Denis et al. 2003; Altunbas et al. 2010) and macroeconomic conditions (Erel et al. 2012). For an analysis of the companies' choice of raising debt resources through private placements, firms' decisions to privately place debt have been used as a dependent variable in a binary form. Our study used the binomial logit regressions in a panel setting. The model incorporated macroeconomic variables such as stock market, bank credit and GDP growth along with firm-level characteristics.

The rest of the paper is organised as follows: Section II briefly introduces the private placement market in India. Section III covers theoretical underpinnings about firms' choices of financing instruments. Descriptive statistics are covered in Section IV. Section V presents the results of a univariate and multivariate analysis and Section VI gives a conclusion.

Section II
What is Private Placement?

A 'private placement' of securities is an offering of securities that is not a 'public offering'. In general, private placement is defined as

issuance of securities to less than 50 persons.[1] Unlike a public offering, private placement is exempt from filing an offer document with the Securities and Exchange Board of India (SEBI) for its comments. Further it may not involve any form of general announcement, general solicitation, advertising, any seminar or meeting whose attendees have been invited by a general solicitation or advertisement. Rules relating to private placement are framed under the Companies Act 2013 (GoI 2013).

Corporates access the private placement market because of its inherent advantages. First, it is a cost and time-effective method of raising funds. Second, it can be structured to meet the needs of entrepreneurs and investors. Third, private placement does not require detailed compliance of formalities as required in a public issue (RBI 2007; Patil 2005 and SEBI 2014).

Regulation of privately placed debt issues by public limited companies started after SEBI issued guidelines on September 30, 2003. However, in view of the mushrooming growth of the market and the risk posed by it, SEBI further prescribed that the listing of all debt securities, irrespective of the mode of issuance, that is, whether issued on a private placement basis or through a public/rights issue, will be done through a separate listing agreement (SEBI 2004). Since then SEBI has revised its regulations from time to time. Presently, issue of securities through private placement route are governed by SEBI (Issue and Listing of Debt Securities) Regulations, 2008 (SEBI 2016). In order to increase transparency and enhance price discovery, SEBI made it mandatory to follow electronic book mechanism of all issues of size above ₹500 crore. Issues below ₹500 crore have option to follow electronic book mechanism or existing mechanism. Under the private placement route, issuer is not required to file the offer document with

[1] According to Companies Act 2013, in a financial year firms cannot issue securities to more than 200 investors. However, qualified institutional buyers (QIBs) are exempt from this rule. There are restrictions relating to transferability of such securities also.

SEBI, however, it may file a self-disclosure document with the respective exchange where it is seeking the listing of the instrument. Besides above, issuer has to obtain credit rating for the instrument from at least one credit rating agency registered with SEBI.

Section III
Theoretical Underpinnings and Literature Survey

The modern financial system offers a spectrum of competing financing instruments ranging from bank debt to public issue of equity for financing corporates. Characteristics of these instrument change in terms of tenure and claims of a firm's cash flows. The character of these instruments may also differ in terms of ownership concentration. A major difference between bank loans and private placements of bonds is the relatively scattered ownership of the latter. However, it is far more concentrated than the public issue of debt and equity ownership (Shleifer and Vishny 1997). In economic and financial literature the choice of financing instrument by firms is characterised by: a) agency cost (Jensen and Meckling 1976; Myers 1977), b) moral hazard and adverse selection in the presence of information asymmetry (Diamond 1991; Bharath, et al. 2009; Myers and Majluf 1984; Krishnaswami et al. 1999), c) regulation (Khanna and Varottil 2012), and, d) floatation costs (Krishnaswami et al. 1999; Kale and Meneghetti 2011).

Agency costs arise due to misalignment between the interests of the principal and the agent. According to the agency theory of debt, firms financed by riskier debts will forego valuable investment projects. Thereby financing by riskier debt will reduce the value of a firm. In order to overcome the problem of agency costs, suppliers of funds impose some covenants on the borrowers. Banks, due to their close relationship and personalised knowledge about the functioning of a firm, will find it convenient to control the agency costs vis-à-vis investors of privately placed debt who are more scattered and less coordinated. According to Myers (1977) close monitoring by the

financier can reduce the problem of underinvestment. Denis and Mihov (2003) also point out that due to their relationship advantage with firms over other financiers banks can monitor the operations of a firm and can contain the problem of underinvestment. Not only that, borrowers may also be concerned about leaking of vital information relating to their future actions and they may feel that banks will not disclose their private information to outsiders. Hence, according to the agency theory of debt, firms with high growth potential prefer bank debt vis-à-vis financing by the bonds.

The pecking order theory of financing indicates that in the presence of information asymmetry among issuers and investors, firms will issue riskier debt or information sensitive securities only when they are overvalued (Myers and Majluf 1984). In case a firm is undervalued, it will use internal resources for financing and in case it does not have internal resources it will follow a pecking order in the following order: safest security, riskier debt security and equity as last resort. Since banks are more informed about the present value of a firm's asset and investment opportunities, in the presence of an information asymmetry a firm will use bank debt vis-à-vis debt issued through bonds to a more diverse set of investors. This hypothesis indicates that younger firms and firms with larger potential information asymmetry will use bank debt vis-à-vis bonds. The information asymmetry hypothesis receives support from the life-cycle effect hypothesis also (Diamond 1991). In the early stages of their life-cycles, young firms borrow from banks; they issue debt directly to investors in the later stages of their lives. In the initial stages firms build up good credit scores and reputation under monitoring by a bank (Diamond 1991), while they issue bonds after attaining some maturity.

Issue of bonds involves minimum fixed floatation costs like an investment banker's fee, listing fee and the filing and legal fees associated with it. The floatation cost of bonds is usually higher than

loan processing charges by banks and other financial institutions. Also, floatation costs are less economical for smaller firms (Krishnaswami et al. 1999). The floatation cost hypothesis indicates that smaller firms use bank debt over private placement of bonds.

The regulation hypothesis indicates that regulated firms issue bonds more frequently vis-à-vis non-regulated firms. Due to high frequency of bond issuances, the capital market reaches a position in which it can discipline the discretionary activities of a firm's management. Besides this, regulated firms are supervised by regulatory bodies and government departments (Smith 1986; Smith and Watts 1992) which also reduce problems of information asymmetry to a large extent. All this reduces the monitoring role of banks and private lenders. Such firms are expected to issue bonds more frequently.

As far as the relationship between bonds and bank loans is concerned literature is not unequivocal. The traditional theory of financial intermediation tends to emphasize that banks and markets compete so that growth in one is at the expense of the other (Allen and Gale 1997; Boot and Thakor 2008). However, on the other hand, Diamond (1991) analyses potential complementarities between bank lending and capital market fundings (Diamond 1991).

III.1 Macroeconomic Variables and Choice of Financing Instruments

In addition to firm-level characteristics, macroeconomic conditions may also affect a firm's choice of capital raising instruments substantially. A detailed analysis of the impact of macroeconomic variables can be found in Erel et al. (2012). Changes in macroeconomic conditions may change the capital mix of the firms substantially. Erel et al. (2012) categorize theories relating to the impact of macroeconomic changes on choice of financing instruments under two broad categories: First, demand for capital, which is usually based on information asymmetries, and second, supply of capital, according to which recessions decrease the supply of capital, especially to poorly rated firms through a

combination of a credit crunch and a flight-to-quality. The prediction of the first hypothesis is that during a downturn, firms issue less information sensitive security or firms shift from issue of bonds to bank debt. The second predicts that during a downturn, the supply of finance to poorly rated firms also declines.

III.2 Literature on Empirical Studies

Important empirical studies relating to this issue are those by Arena (2011); Altunbaş et al. (2010); Denis and Mihov (2003); Erel et al. (2012). In general, these studies support the pecking order theory. Using a sample of 1,560 new debt financings Denis et al. (2003) found that the primary determinant of the choice of debt source was the credit quality of the issuer. Their study found that non-bank private debt played a unique role in accommodating the financing needs of firms with low credit quality. Altunbas et al. (2010) found that large firms, with greater financial leverage and more profits tend to go for syndicated loans, while firms with more short-term debt as well as high growth potential favour financing through public bonds.

III.3 Literature Relating to India

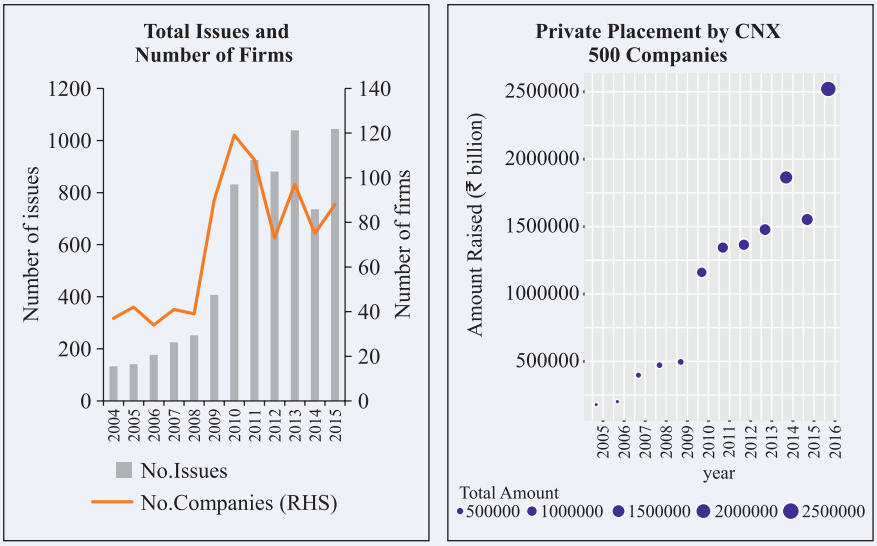
Extant literature in India mainly focuses on regulatory and institutional issues for developing the corporate bond market rather than on the choices made by companies for raising debt resources. One of the first studies on Indian private placement was done by Arunachalaramanan (1997) tracing out the early development of the market in India. A detailed account relating to infrastructure, institutions, legal and regulatory aspects about corporate bonds are outlined in Acharya (2014), Khanna and Varottil (2012) and Raghavan et al. (2014). Nath (2012) also discusses various issues pertaining to the corporate bond market in India and finds that primary and secondary corporate bond markets' activities are concentrated in a few issues and issuers. Thus, we did not find any India specific study as far as the choice of financing instruments in debt is concerned.

Section IV
Descriptive Statistics

Our study used firm-level annual data of non-financial firms of NIFTY 500 companies from NSE for 2003-04 to 2014-15.[2] The firm-level data was sourced from the CMIE Prowess database while the macroeconomic variables were taken from the *Database on Indian Economy* (DBIE), RBI. The stock market index (NIFTY 500) was taken from the National Stock Exchange (NSE).

The number of issues and amount of private placements by NIFTY 500 companies showed an increasing trend during the period under reference (Chart 1). The number of companies raising resources through private placements was the most in FY 2010. During the period of study, companies in the manufacturing of basic metals, civil engineering and electricity and gas sectors were major resource mobilisers through private placements.

Chart 1: Trends in Resource Mobilisation through Private Placement by NIFTY 500 Companies



Source: CMIE Prowess

[2] The CNX 500 index represents about 95.77 per cent of the free float market capitalisation of the stocks listed on NSE.

Descriptive statistics shows that firms with higher assets on an average raised resources through private placement of debts (Table 1).

Table 1: Descriptive Statistics

Variables	All firms (427)	Firms with private placement (150)	Firms without private placement (277)
Total assets (₹ million)	4,514 66,053.5 2,01,573.7	370 2,26,956.7 4,04,642.2	4,144 51,687.2 1,64,799.5
Log of total assets	4,514 9.7 1.7	370 11.4 1.3	4,144 9.6 1.7
Net fixed asset (₹ million)	4,483 19,211.4 72,254.7	370 70,185.8 1,45,891.4	4,113 14,625.8 59,377.4
Ratio of net fixed assets to total assets	4,483 0.3 0.2	370 0.3 0.2	4,113 0.3 0.2
Debt equity ratio	4,514 1.2 15.6	370 1.1 0.9	4,144 1.2 16.2
PBDITA (₹ million)	4,501 9,789.7 32,937.3	370 25,057.0 48,091.4	4,131 8,422.3 30,865.3
Return on assets (%)	4,501 16.3 10.7	370 11.6 5.3	4,131 16.8 11.0
Market capitalisation (₹ million)	3,957 91,935.9 2,70,858.4	359 1,62,115.2 3,31,537.7	3,598 84,933.6 2,63,070.4
Market to book ratio	3,997 3.7 6.9	359 2.0 1.7	3,638 3.8 7.2
Age (years)	4,618 33.9 24.3	368 41.2 26.9	4,250 33.3 24.0
Altman's Z score	3,980 2.5 1.7	357 1.6 0.9	3,623 2.6 1.7

Note: Data are given in the order of number of observations and mean and standard deviation respectively.

This is also corroborated by the size of net fixed assets and market capitalisation. Further, firms issuing private placements had higher profit; however, they had lower returns on assets vis-à-vis firms which used alternate sources of financing indicating that high growth firms prefer bank financing. In terms of leverage and ratio of net fixed assets to total assets, private placement firms were more or less similar to non-private placement firms. Private placement firms were older than non-private placement firms thus supporting the life-cycle hypothesis. Further, firms with higher growth potential proxied by market to book value ratio and return on assets preferred other alternate sources of funding rather than private placements. The probability of default of firms as proxied by the Altman's Z[3] index shows that companies with relatively higher probability of financial distress resorted more to funding of debt from private placements rather than from other sources of funding.

A correlation analysis indicates that the dummy of private placement had a positive correlation with bank borrowing, firm size, market capitalisation, age and Altman's Z, while the correlation was negative with return on assets, GDP growth and growth of bank credit. Correlation with other variables was very small (Table 2). A low correlation among independent variables suggests that there is no multi-collinearity problem. This was also corroborated by estimating the variance inflation factor (VIF) which showed that there was no multi-collinearity problem in our estimate as VIF values of the independent variable were less than 2.5.

[3] Altman Z is calculated as Z = 1.2 (working capital /total assets) + 1.4 (retained earnings/total assets) + 3.3 (earnings before depreciation, interest, taxes and amortisation /total assets) + 0.6 (market value of equity/book value of liabilities) + 0.999 (net sales/total assets).

Table 2: Correlation Matrix

	Private Placement Dummy	Borrowings from Banks	Log of Assets	Price to Book Value	DER	Market Capitali-sation	Cash and Bank Balances	Inverse of ICR	NFA/ Total Assets	Altman_Z score <= 1.81	Age	Return on Assets	GDP Growth	Bank Credit Growth	NIFTY 500 Index
Private Placement Dummy	1.00														
Borrowings from Banks	0.20	1.00													
Log of Assets	0.32	0.50	1.00												
Price to Book Value	-0.06	-0.04	-0.09	1.00											
DER	0.03	0.09	0.06	0.03	1.00										
Market Capitalisation	0.10	0.55	0.52	0.13	-0.06	1.00									
Cash and bank Balances	0.09	0.60	0.42	0.01	-0.02	0.68	1.00								
Inverse of ICR	0.01	0.01	0.02	0.00	-0.03	0.00	0.00	1.00							
NFA/Total Assets	-0.02	0.03	-0.06	-0.06	0.13	-0.04	-0.04	-0.01	1.00						
Altman_Z score <= 1.81	0.18	0.11	0.22	-0.24	0.18	-0.09	-0.01	-0.02	0.10	1.00					
Age	0.08	0.02	0.14	-0.03	0.01	0.05	0.02	0.01	-0.06	-0.04	1.00				
Return on assets	-0.14	-0.12	-0.17	0.14	-0.17	0.12	0.02	0.01	0.11	-0.50	0.03	1.00			
GDP growth	-0.11	-0.09	-0.19	0.09	-0.03	-0.03	-0.04	-0.02	0.05	-0.15	-0.04	0.12	1.00		
Bank credit Growth	-0.17	-0.11	-0.23	0.09	-0.01	-0.05	-0.05	-0.01	0.08	-0.19	-0.01	0.12	0.64	1.00	
NIFTY 500 Index	0.12	0.11	0.30	0.01	-0.01	0.10	0.06	-0.01	-0.13	0.10	0.01	-0.15	-0.31	-0.49	1.00

Section V
Multivariate Analysis

The following panel logit model based on Erel et al. (2012) was used for the analysis:[4]

$$L_{i,t} = ln\left(\frac{P_{i,t}}{1-P_{i,t}}\right) = \beta_0 + \beta_0 X_{1,i,t} + \ldots\ldots + \beta_0 X_{l,i,t} + \beta_0 Y_{1,t} + \ldots + \beta_0 Y_{k,t} + \varepsilon_{i,t} \quad (1)$$

where $P_{i,t}$ indicates the probability of firms using private placement of bonds to raise resources and $1 - p_{i,t}$ is the probability of firms not using private placement. Thus $\frac{P_{i,t}}{1-P_{i,t}}$ gives the odds ratio and the log of odds ratio is the logit $L_{i,t}$ function, while $X_{l,i,t}$ refers to independent firm-level variables, $Y_{k,t}$ refers to macroeconomic variables, 'i' is the firm and 't' is the financial year. As in literature, we excluded all the financial firms from the estimation. The model was estimated with clustered standard errors.

The analysis used both firm-level variables and macro-variables as in literature. Firm-level independent variables are borrowings from banks, price to book ratio, debt to equity ratio, market capitalisation, cash balances, firm age, ratio of net fixed assets to total assets, inverse of interest coverage ratio and log of total assets while macroeconomic variables are GDP growth at constant prices, bank credit growth and value of index of NIFTY NSE 500.

Even though most of the existing literature has analysed the role of credit quality in the choice of a firm's resource mobilisation, we did not use it in our study on account of the peculiar feature of the Indian corporate bond market in which a majority of the corporate bonds issued are predominantly investment grade (CRISIL 2013). According to CRISIL, around 95 per cent debt instruments were rated as 'A' or above. In terms of amount mobilised by corporates, around 96 per cent resources were mobilised through 'A' or above rated instruments. Around 64 per cent of the resources were mobilised through 'AAA' rated papers only.[5]

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[4] Erel et al. (2012): 'Macroeconomic Conditions and Capital Raising', *Review of Financial Studies*, 25 (2): 341-376.

[5] A large sum of these bonds is issued by housing finance companies and non-banking finance companies, which are predominantly involved in infrastructure financing.

V.1 A priori expected signs of the coefficients

Based on a literature survey the following *a priori* assumptions are made: A firm which relies on bank borrowings is less likely to go for bond issuance through private placement, so we expect a negative coefficient. A firm with higher price to book ratio and market capitalisation will prefer using equity rather than debt to raise resources as the cost of raising resources through equity will be relatively cheaper, hence we expect a negative sign. As per the pecking order theory, firms will first use their internal resources before exploring external sources of funds, hence we expect cash balances of firms to have negative sign.

As a majority of the bonds issued in India are secured bonds, we expect that the log of the total assets will have a positive coefficient as firms with relatively larger asset sizes will find it easy to issue secured bonds. Coefficient of ratio of net fixed assets to total assets is also expected to have a positive sign. Altman's Z is proxy for likelihood of financial distress. As per literature an Altman's Z below 1.8 indicates very high probability of default (Denis and Mihov 2003).[6] We expect that private placement issuing firms have low Altman's Z ratio. The life-cycle hypothesis indicates that more mature firms will issue privately placed debt vis-à-vis younger firms.

In connection with macro-variables, we expect negative coefficient with the equity market index as a higher index indicates relative cheapness of equity vis-à-vis debt. Bank credit and bonds are substitutes for each other to a large extent hence we expect a negative coefficient for the non-food bank credit growth. Growth of GDP indicates higher demand for financial resources in the economy therefore we expect a positive coefficient for it.

V.2 Results

Table 3 gives the estimates of Equation 1. Model I assesses the impact of firm-level variables on a firm's decision to raise debt resources

[6] In the analysis we have used Altman's Z binary form. It is '1'if value of Altman's Z is less than 1.81 and '0' otherwise.

Table 3: Results of the Logit Model

Variables	Model 1	Model 2	Model 3
Bank borrowing	3.26e-07 (2.23e-06)	2.18e-07 (2.54e-06)	1.55e-07 (2.54e-06)
Log of total assets	1.089*** (0.0917)	1.064*** (0.0951)	1.073*** (0.0975)
Price to book ratio	-0.00984 (0.0183)	0.00111 (0.0130)	0.00136 (0.0130)
Leverage	-0.0726 (0.0781)	-0.0600 (0.0654)	-0.0617 (0.0667)
Market capitalisation	-1.06e-06** (4.32e-07)	-1.06e-06** (4.31e-07)	-1.07e-06** (4.33e-07)
Cash bank balance	-1.84e-06 (3.13e-06)	-2.45e-06 (3.04e-06)	-2.27e-06 (3.05e-06)
Inverse of interest coverage ratio	0.000420 (0.00361)	0.000125 (0.00365)	0.000121 (0.00364)
Ratio of net fixed assets with total assets	0.406 (0.615)	0.628 (0.614)	0.656 (0.616)
Altman Z (Z=1 if Z<=1.81)	0.990*** (0.225)	0.814*** (0.236)	0.820*** (0.236)
Age	0.00913** (0.00400)	0.00936** (0.00406)	0.00926** (0.00409)
Return on assets	-0.0250* (0.0140)	-0.0319** (0.0137)	-0.0322** (0.0137)
Regulated industry dummy			-0.219 (0.478)
Annual GDP growth		0.303*** (0.0767)	0.303*** (0.0767)
NIFTY 500		-0.000160** (7.36e-05)	-0.000161** (7.37e-05)
Bank credit growth		-0.164*** (0.0294)	-0.164*** (0.0294)
Constant	-14.77*** (1.097)	-12.79*** (1.192)	-12.88*** (1.209)
Observations	3,243	3,207	3,207
Number of companies	391	391	391

Note: Robust standard errors are in parentheses, *** p<0.01, ** p<0.05, * p<0.1.

through private placement, Model II also includes macroeconomic variables and Model III examines regulated industry effects. Model I shows that the log of assets, Altman Z and age are statistically significant with a positive sign while market capitalisation is significant with a negative sign. The results support the pecking order theory. Model II's results show that macroeconomic conditions play an important role in a firm's decision to raise resources through private placement apart from firm-level variables such as asset size. Positive macroeconomic fundamentals increase the demand for products and hence a firm raises resources to augment output. The analysis shows that bank credit and secondary equity market negatively impact a firm's decision to raise resources through private placement, while GDP growth affects this decision positively. Model III's results do not find support for the regulation hypothesis.

V.3 Robustness Check

As part of the robustness check, Model II with macroeconomic variables was estimated for a smaller time period 2009-15. The direction and significance of the results were broadly similar to the findings of Model II. We further included a crisis year dummy and time trend in our model to control for the effect of a financial crisis and to reduce any common trend of time variables to grow over time (Wooldridge 2012). The results of the robustness test indicate that the results of Model 2 still hold (Annexure I).

Section VI
Conclusion

This study analysed the factors that determine the choice of privately placed debt for the NIFTY 500 non-financial firms during 2003-04 to 2014-15. The study also estimated the impact of macroeconomic conditions on a firm's choice for private placement by controlling for firm-level characteristics. The results give evidence of the pecking order theory and macroeconomic conditions prevailing in the economy for a firm's choice of private placement.

Firms with higher assets, higher age and lower Altman Z exhibited a strong preference for private placement of debt while high market capitalisation and higher returns on assets negatively affected this. A positive coefficient of Altman Z indicates that firms' with relatively higher financial distress prefer to use private placements for resource mobilisation. The empirical study also found that macroeconomic conditions affect a firm's decision to raise resources through private placement. The analysis showed that bank credit and secondary equity market negatively impact a firm's decision to raise resources through private placement. GDP growth positively affects a firm's decision to raise resources through private placements. The paper adds to literature in terms of study of determinants of private placement in Indian context.

References

Acharya, A. (2014), 'Corporate bond market in India: Issues and challenges', *Reserve Bank of India Occasional Papers*, 32(3).

Allen, F. and D. Gale (1997), 'Financial markets, intermediaries, and intertemporal smoothing', *Journal of Political Economy*, 105 (3): 523-546.

Altunbaş, Y., A. Kara and D. Marques-Ibanez (2010), 'Large debt financing: syndicated loans versus corporate bonds', *The European Journal of Finance*, 16 (5): 437-458.

Arena, M. (2011), 'The corporate choice between public debt, bank loans, traditional private debt placements, and 144A debt issues', *Review of Quantitative Finance and Accounting*, 36 (3): 391-461.

Arunachalaramanan, S. (1997), 'Private Placement Market in India', RBI Staff Studies, SS(DEAP): 1/97.

Bharath, S. T., P. Pasquariello and G. Wu (2009), 'Does asymmetric information drive capital structure decisions?', *The Review of Financial Studies*, 22 (8): 3210-3243.

Boot, A. and A. Thakor (2008), 'The accelerating integration of banks and markets and its implications for regulation', Amsterdam Centre for Law & Economics Working Paper No. 2008-02.

CRISIL. (2013), *The CRISIL yearbook on the Indian debt market 2013*. Mumbai: CRISIL.

Denis, D. J. and V.T. Mihov (2003), 'The choice among bank debt, non-bank private debt, and public debt: evidence from new corporate borrowings', *Journal of Financial Economics*, 70 (1): 3-28.

Diamond, D. W. (1991), 'Monitoring and reputation: The choice between bank loans and directly placed debt', *Journal of Political Economy*, 99 (4): 689-721.

Erel, I., B. Julio, W. Kim and M.S. Weisbach (2012), 'Macroeconomic conditions and capital raising', *The Review of Financial Studies*, 25 (2): 341-376.

GoI. (2013), *Companies Act 2013.* New Delhi: Ministry of Corporate Affairs, Government of India.

Jensen, M. C. and W.H. Meckling (1976), 'Theory of firm: Managerial behavior, agency costs and ownership structure', *Journal of Financial Economics*, 3 (4): 305-360.

Kale, J. R. and C. Meneghetti (2011), 'The choice between public and private debt: A survey', *IIMB Management Review*, 23: 5-14.

Khanna, V. and U. Varottil (2012), 'Developing the market for corporate bonds in India', National Stock Exchange Working Paper WP/6/2012.

Krishnaswami, S., P.A. Spindt and V. Subramaniam (1999), 'Information asymmetry, monitoring, and the placement structure of corporate debt', *Journal of Financial Economics*, 51: 407-434.

Myers, S. C. (1977), 'Determinants of corporate borrowing', *Journal of Financial Economics*, 20: 293-315.

Myers, S. C. and N.S. Majluf (1984), 'Corporate financing and investment decisions when firms have information that investors do not have', *Journal of Financial Economics*, 13 (2): 187-221.

Nath, G. C. (2012), 'Indian Corporate Bonds Market –An Analytical Prospective', SSRN Working Paper.

Patil, R. (2005), *Report of High Level Expert Committee on Corporate Bonds and Securitisation*. New Delhi: Ministry of Finance, Government of India.

Raghavan, S., A. Sahoo, A. Hait and S. Ghosh (2014), *A Study of Corporate Bond Market in India: Theoretical and Policy Implications.* Mumbai: Reserve Bank of India.

RBI (2007), *Report on Currency and Finance 2005-06.* Mumbai: Reserve Bank of India.

_____. (2016), 'Finances of Non-Government Non-Financial Public Limited Companies, 2014-15 – Data Release', Mumbai. Available at: https://www.rbi.org.in/Scripts/BS_PressReleaseDisplay.aspx?prid=36632.

SEBI (2004), *Annual Report - 2003-04*. Mumbai: Securities Exchange Board of India.

_____. (2014), *Annual Report 2013-14*. Mumbai: Securities Exchange Board of India.

_____. (2016), 'Public issues of Non-convertible Debenture'. Available at: http://www.sebi.gov.in/cms/sebi_data/statistics/corporate_bonds/publicissuedata.html

Shleifer, A. and R.W. Vishny (1997), 'A survey of corporate governance', *The Journal of Finance*, 52 (2): 737-783.

Smith, C. (1986), 'Investment banking and the capital acquisition process', *Journal of Financial Economics*, 15: 3-29.

Smith, C. and R. Watts (1992), 'The investment opportunity set and corporate financing, dividend, and compensation policies', *Journal of Financial Economics*, 32: 263-292.

Sophastienphong, K., Y. Mu and C. Saporito (2008), 'India', in *South Asian Bond Markets: Developing Long-Term Finance for Growth*. The World Bank, pp. 57-106.

Wooldridge, J. M. (2012), *Introductory Econometrics: A Modern Approach.* South-Western Cengage Learning.

Annexure I: Robustness Check

Explanatory Variables	I	II
Bank borrowing	-2.94e-07 (3.80e-06)	-1.59e-07 (2.94e-06)
Log of total assets	1.072*** (0.147)	1.022*** (0.114)
Price to book value	-0.00286 (0.0275)	0.00322 (0.0213)
Debt equity ratio	-0.00800 (0.0582)	-0.0502 (0.0807)
Market capitalisation	-1.08e-06* (6.26e-07)	-9.57e-07* (5.05e-07)
Cash and bank balance	-2.52e-06 (5.41e-06)	-2.86e-06 (4.24e-06)
Inverse of interest coverage ratio	-0.000845 (0.00545)	4.43e-05 (0.00623)
Ratio of net fixed assets with total assets	0.302 (0.706)	0.839 (0.601)
Altman's Z	0.718** (0.287)	0.797*** (0.229)
Age	0.00848 (0.00521)	0.00949** (0.00455)
ROA	-0.0284 (0.0197)	-0.0324** (0.0158)
Annual GDP growth	0.416*** (0.119)	0.358*** (0.123)
Bank credit	-0.137* (0.0714)	-0.130*** (0.0309)
cnx_500	-0.000135 (0.000274)	-0.000479** (0.000211)
Crisis year		0.627 (0.453)
Time trend		0.143 (0.137)
Constant	-14.04*** (2.196)	-13.78*** (1.491)
Observations	1,631	3,207
Number of companies	368	391

Note: Robust standard errors are in parentheses, *** p<0.01, ** p<0.05, * p<0.1.