Chapter 1: Introduction

Most countries have had regulated financial systems at some period of time in their history. Regulation may take various forms including, administered interest rates, directed credit schemes, subsidized loans, capital controls, and credit ceiling. Varma (1998) observed that a “financial repression state” impacts the efficient allocation of resources in the system. It interferes with the lending decision making process and results in distorted credit allocation (Blundell and Browne, 1991). Financial liberalization aims at correcting these distortions in the financial markets by bringing structural changes and these changes which in turn influences firm policies in terms of what sources of finance they use (capital structure) and what type of debt instruments they use (debt maturity structure and specialization). In this study we would like to evaluate how financial liberalization has impacted corporate firms’ behavior in India with respect to their capital structure and debt maturity structure.

We expect the capital structure of firms to change due to financial reforms because of many reasons such as

1) India was considered to be a banking dominated country during 1980s and early 1990s based on the relative importance of bank debt and stock market capitalization in the financial system (Demirguc-Kunt and Meskimovic, 1994). Capital market liberalization would change the relative importance of these sectors in the financial system and therefore should result in changes in the capital structure of firms.

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1 In terms of capital structure, debt maturity structure and debt specialization
2) Even the banking sector which was underdeveloped in the pre-liberalization period would develop in terms of its size, efficiency and geographical spread (Nemiraja and Mitra, 2012). This development would deepen the banking system and hence financial constraints of firms, especially small firms, would decline therefore, bringing a change in their capital structure.

3) Government intervention in financial markets through interest subsidy schemes, credit allocation, credit ceilings, etc., would be withdrawn and hence firms which were benefited from government intervention are forced to change their capital structure in the absence of government support and finally,

4) Financial liberalization spurs innovations in financial markets which helps firms choosing the source of finance which meet their needs best (Blundell and Browne (1991)).

In addition to the capital structure decisions another important aspect of firm behavior is with respect to debt structure and debt specialization. Debt structure refers to the relative proportion long-term debt (short term debt) in the total debt of a firm. Demirguc-Kunt and Mskimovic (1999) argue that firms’ choice of debt instruments depend on the degree of information asymmetry, the agency costs and the effectiveness of legal enforcement of contracts. As we discuss in next sections, financial liberalization affects all these forces thus affecting the debt structure of firms. Also, as it is observed empirically, that the regulation of financial systems encourages firms to have more long term debt while deregulation increases the share of short term debt (Demirguc-Kunt and Meskimovic (1999)). These reasons, in addition to the reasons listed for capital structure changes, should change firm behavior with respect to their debt maturity structure.
Debt specialization refers the sources of debt for a given level of debt. How much diversified/specialized the firms are with respect to the use of debt sources? Financial innovations would offer firms choices in selecting the debt instruments which suit their needs thus increasing the degree of debt specialization. Conversely, given the number of debt source choices firms will start diversifying their debt sources which results in a decline in debt specialization. Which one of these arguments is correct is tested in this study. Also, through this analysis we try to answer, by keeping the debt level constant, whether some sources of debt have lost their importance due to financial reforms. For example, Allen et al., (2012) observe that alternative sources of finance are the largest external source of funding for Indian firms. Consequent upon liberalization we expect that “formal” source of debt funding should become more prevalent in the post-reform period.

While examining the issues of capital structure, debt maturity structure and debt specialization we make special provisions to study the possible differential responses of small and large firms as they known to behave differently because of their differences in accessibility to financial markets due to different degrees of information asymmetry. Also, special emphasis is made to study the differential response of business group affiliated firms as they work in an entirely different organizational and institutional setting which differentiates them from stand-alone firms. Studying these issues separately would help us to have a better understanding of the effect of financial liberalization on different categories of firms.

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2 These alternative sources include all non-bank and non-market sources of funding like debt taken from friends and relatives, group companies, trade credit and other sources.

3 Include bank debt, bond debt and other institutional debt
We examine the impact of financial reforms on the issues of corporate finance as applied to Indian firms. India is an ideal case for this study because, it is an emerging economy and on purchasing power parity basis it is the fourth biggest economy in the world\(^4\). It is the second fastest growing economy only after China\(^5\) and is playing an important role in the world economic policy decisions through its membership in G-20 and WTO. It is a good example for financial repression (pre-reform period) followed by gradual financial liberalization (1988 onwards), hence it presents an ideal setting to test our hypotheses.

Our results show that first, leverage ratio of Indian firms declined due to financial liberalization and the decrease is mainly observed in the long term component of the leverage and as expected, the decrease in total leverage ratio at the aggregate level is due to a decrease in the leverage ratio of those firms who were the beneficiaries of the government programme in the pre-liberalization period (priority sector firms). Second, long term debt maturity ratio also declined in response to financial liberalization. Finally, we report a decreasing trend in the debt specialization of firms in response to financial liberalization.

Throughout our study, we observe that small and large firms behave differently. The observed decline in the leverage of firms at the aggregate level is due to a decrease in the leverage for larger firms while small firms showing no significant change. Group firms also show differential response to financial liberalization. The total leverage ratio of business group affiliated firms declined due to financial reforms. However, this decrease in leverage has come not from a

\(^4\) World bank

\(^5\) World bank
decrease in long term debt component but from a decrease in short term debt component. Whereas, for stand-alone firms both short term as well as long term leverage ratios were decreased.

### 1.1 Motivation for the study

As we can observe from figure 1, the total and the long term leverage ratios have increased consistently in the pre-reform period and reached the peak in 1991-92. We find that 1991-92 marks a break in the debt trends as these leverage ratios started to decrease. Decreasing trend in the short term leverage ratio is observed in 1983 but the rate of decrease increased after 1991-92.

![Figure 1: Trends in debt ratios from 1975 to 2009](Source: RBI)
These trends are econometrically verified by regressing the three leverage ratios on the time line, time dummy taking value 1 for years after 1990 and the product term involving the time line and the time dummy. The results are presented in table 1.

Table 1: Econometric analysis of trends in leverage ratios from 1975 to 2009

<table>
<thead>
<tr>
<th>Variable</th>
<th>Total Debt</th>
<th>Long Term Debt</th>
<th>Short term</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>0.6*</td>
<td>0.34*</td>
<td>0.27*</td>
</tr>
<tr>
<td>Time</td>
<td>0.005*</td>
<td>0.004*</td>
<td>0.001*</td>
</tr>
<tr>
<td>Time Dummy</td>
<td>0.2*</td>
<td>0.2*</td>
<td>0.008*</td>
</tr>
<tr>
<td>Time*Time Dummy</td>
<td>-0.0138*</td>
<td>-0.01*</td>
<td>-0.003*</td>
</tr>
<tr>
<td>R-Square</td>
<td>0.81</td>
<td>0.78</td>
<td>0.76</td>
</tr>
<tr>
<td>F</td>
<td>50.52</td>
<td>41.77</td>
<td>37.33</td>
</tr>
</tbody>
</table>

The interaction variable, which gives differential slope coefficient for post reform period, is negative and significant in all the columns conveying a message that leverage ratios are significantly lesser in the post reform period. This econometric test supports the observations inferred from figure 1.

We are motivated to explain this decreasing trend in the debt ratios after 1990’s which co-insides with the financial liberalization. In particular, we are interested in studying what influence does financial liberalization has on managers’ choice of financing or to put it in other words, did managers start using different sources of financing for their investments because of financial liberalization?

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6 Results are adjusted for auto-correlation
Our contribution to the body of literature is through the comparison of the effect of temporal differences in institutional setting on the leverage, debt maturity and debt specialization decisions of firms. Hitherto these questions were examined, across space, in a cross-country approach (Booth et al., (2001), Demirguc-Kunt and Meskimovic (1994) Demirguc-Kunt and Meskimovic (1999)). We examine these questions for temporal changes in the institutional settings within a given country i.e. India. If the findings of the earlier studies are truely because of differences in the institutional setting across countries then finding positive results for a temporal study like ours should shed more light on the mechanism of influence of institutional setting on firm leverage and debt maturity structure decisions. Secondly most of the studies in this domain treat financial liberalization as a single event phenomenon and conduct an event study comparing pre-reform patterns with post-reform period patterns in a defined event window (Bertrand et al., (2007), Henry (2002)) to make inferences. But, rarely financial liberalization is a single event phenomenon; it is, normally, a gradual phenomenon with each measure built over the previous one. Previous studies overlooked this nature of financial liberalization; we consider this ‘gradualist’ nature of financial liberalization by using the financial liberalization index given by Abiad et al., (2008) in its modified form. Thirdly, our study will shed a light on how reforms work in a developing country like India. The response to reforms in a developed financial system would be different from those responses in an underdeveloped financial system. Many studies have already been conducted in the developed world context e.g. Jayaratne and Strahan (1996) examine the impact of branching deregulation on the availability of credit and Bertrand et al., (2007) examine the impact of banking deregulation on firm capital structure on French firms. But there is no major study in the context of a developing world and we try to fill this gap. Lastly, unlike other cross-country level studies, our study concentrates on a single country that is
India, thus eliminating confounding effects due to inherent differences across countries not related to financial reforms/liberalization.

We have organized the remaining part of the thesis as follows:

Chapter 2 provides a brief account of financial liberalization process in India. In chapter 3 we critically analyse and discuss selected studies from the finance literature which are important to our study. The objectives and the hypotheses for the thesis are explained and discussed in chapter 4 and in chapter 5 we define variables and present models used to test the hypotheses. In chapter 6 the source of data and summary statistics are presented while in chapter 7 we present and discuss the results for leverage analysis. In chapter 8 the results of debt maturity structure and debt specialization analysis are presented and discussed and lastly, in chapter 9 we conclude our study with important policy implications and scope for further research.