

CAPITAL STRUCTURE AND OWNERSHIP STRUCTURE INTERPLAY: A STUDY ON SELECTED PUBLIC SECTOR LISTED COMPANIES IN INDIA

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[This paper analyses the relationship between ownership structure and capital structure in respect of listed Government companies in India. This study extends empirical work on role of ownership structure in determining optimal capital structure by including only Government companies in this study. The study uses two measures of capital structure, viz., Debt/Equity Ratio (DER) and Debt to Total Capital Ratio (DTR) and covers a periods of five years upto March, 2016. Results of the study indicate that relationship between capital structure and ownership structure remains indeterminate. The result provides some support to the contentions of agency theory.]

Keywords: Capital Structure, Ownership Structure, Government Company, Agency Theory.]

Introduction

It is well-known that capital structure differs among firms. Capital structure refers to mix of the debt and equity. In some companies a large portion of capital is financed through debt. On the other hand, some companies may have hundred percent equity and no debt in the capital structure. There is enough literature in finance and attempts have been made to explain the reasons behind capital structure decision by the managers of firms. Such theories are called capital structure theories.

Optimization of cost of capital is thought to be main motive behind designing

capital structure. Some experts opine that the issue of retaining control over the company and possibility of insolvency may have influence over capital structure decision. Nature of ownership i.e. institutional structure of majority group may have influence over capital structure.

The study is undertaken to explore the inter relationship between capital structure and ownership structure. This type of study is made in developing country but we have tried to cover only the companies where Government is the majority owner. The main motivation is to explore whether ownership structure

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have any different role in determining capital structure of government companies. To the best of knowledge of the authors, no study in the Indian context has been undertaken on government owned companies only. Moreover, we have covered most recent data i.e., upto 31st March, 2016. Rest of the paper is organized as follows. Section 2 deals with a brief review of earlier studies. Section 3 gives an overview of regulatory framework of raising capital in India. Sample selection and methodology are discussed in Section 4. Section 5 gives findings of the study. Section 6 concludes the paper.

Literature Review

The shareholdings of a firm generally have distinct features. In some firms shareholding may be concentrated among a few shareholders those are called large shareholders. In India it is typical to call them promoter or promoter group. In some firms, shareholding may be spread over a large number of shareholder and there may or may not be any identified promoter groups. It is common to call them firms with diffused shareholding. The holding of promoter group may also vary to a wide extent. From capital structure decision perspective these concentration of ownership in the hands of the promoter may have certain effects. Such effect generally arises due to agency cost. The seminal work on agency theory and capital structure is Jensen & Meckling (1976). Certain other works that extend the work on agency theory are Ross (1973); Shavell (1979); Fama (1980);

Arrow (1985) and Jensen & Meckling (1992). According to agency theory when there is a concentration of ownership, the large shareholder (or promoter in Indian context) has two options to finance project. Use internal resources and in excess of firms' internal resources; issue of equity or debt. Issue of equity to outside shareholders increases the incentive for an owner manager to undertake excessive consumption of perquisites. On the otherhand, monitoring expenses of the outside equity holders increases due to the divergence between agent decisions (owner manager) with those which maximize the welfare of the principal (outside shareholders). Hence, price of new equity is discounted to take into account the monitoring cost of the outside shareholders. In these circumstances, owner manager may be inclined to issue debt.

However, issue of debt also leads to increase of agency costs. Such costs arise due to conflict of interest between external lender and large shareholding group. Financing of project through issue of debt increases the promoters' incentive to invest in risky assets. Such financing, if successful, provide scope of high return which accrue excessively to owner managers. On the otherhand, if a project fails the owner managers bear a limited loss to the extent of the value of equity holding. There is a cost in the form of bankruptcy and likely takeover.

Pecking Order Theory (POT) is proposed by Myers (1984) in order to explain some financing behavior that is not consistent with the prediction of static trade off

theory. POT explains that a firm follows perfect hierarchy of financing decision. According to POT, firm prefer to finance new investment first with its internal financing sources (i.e., retained earnings), then utilize debt sources and finally with an issue of equity. Shyam-Sundar & Myers (1999) argue that POT anticipates the relationship between leverage ratio and profitability correctly.

POT is also called information asymmetric theory. POT explains that the asymmetric information between firm insider and outsider leads to more reliance on retained earnings as the better source of finance as compare to outside financing. Retained earnings help to avoid the problem of information asymmetry as market may misprice the equity if firm outsider believes that they are not so well informed about firm value. Thus, retained earnings will be the first option when it is available. If a firm does not have enough retained earnings it will consider debt financing. Equity comes as a last resort as possibility of adverse selection is higher.

Financial theory suggests that relationship between the ownership concentration and leverage is inverse. Increase of debt beyond a certain point induces owner manager to reduce their shareholdings for risk aversion. Stulz(1988) and Pindado & Torre(2008) have found that increase in debt lead to decrease in equity holding by owners in the context of Spanish firms.

There are a few empirical studies that deal with effect of promoter holding or

existence of large shareholder on capital structure decision. In the context of India there are lacks of detailed study on effect of promoter shareholding on capital structure. Ganguli (2013) made a study on 81 Companies (selected from CNX mid-cap index) regarding effect of promoter shareholding on leverage. The study covers a 5 year periods from 2004-2009. The results of study suggest that ownership structure has impact on capital structure but it is not other way round. In other words, the author does not find any effect of capital structure on ownership structure. The findings of the study are consistent with “managerial entrenchment hypothesis” and “pecking order hypothesis” of capital structure. Kalyanaraman (2009), made a study on 1314 Indian firms using ordinary least square regression and the study shows that the ownership structure defined as promoter shareholding is significantly negatively related to the debt component of capital structure of the sample firms.

Regulatory Framework of Raising Capital in India

Indian capital Markets are regulated and monitored by the Ministry of Finance, The Securities and Exchange Board of India and The Reserve Bank of India.

The Ministry of Finance regulates through the Department of Economic Affairs – Capital Markets Division. The division is responsible for formulating the policies related to the orderly growth and development of the securities markets (i.e., share, debt and derivatives) as well as protecting the interest of the investors. In particular, it is responsible for:

- Institutional reforms in the securities markets,
- Building regulatory and market institutions,
- Strengthening investor protection mechanism , and
- Providing efficient legislative framework for securities markets.

A. The Regulators

(i) The Securities and Exchange Board of India

The Securities and Exchange Board of India (SEBI) is the regulatory authority established under the SEBI Act, 1992 and is the principal regulator for stock Exchanges in the India. SEBI's primary functions include protecting investor interests, promoting and regulating the Indian securities markets. All financial intermediaries permitted by their respective regulators to participate in the Indian securities markets are governed by SEBI Regulations, whether domestic or foreign. SEBI has formulated elaborate rules applicable for raising capital through capital markets. SEBI rules are applicable to listed companies. The most important piece of legislation is entitled "SEBI (Disclosure & Investors Protection) Guidelines, 2000". The guidelines *inter alia* contain rules regarding eligibility norms, promoter's contribution, pre-issue obligations, content of offer documents etc.

(ii) The Reserve Bank of India

The Reserve Bank of India (RBI) is governed by the Reserve Bank of India

Act, 1934. The RBI is responsible for implementing monetary and credit policies, issuing currency notes, being banker to the government, regulator of the banking system, manager of foreign exchange, and regulator of payment & settlement system. It also continuously works towards the development of Indian financial markets. The RBI regulates financial markets and systems through different legislations. It regulates the foreign exchanges markets through the Foreign Exchange Management Act, 1999. Raising capital through foreign market comes under the preview of RBI.

(iii) Stock Exchanges (NSE & BSE)

In the role of securities market participants, a Stock Exchange is required to set out and implement rules and regulations to govern the securities market. These rules and regulations extend to member registration, securities listing, transaction monitoring, compliance by members to SEBI/RBI regulations, investor protection etc. In India two most important stock exchanges are Bombay Stock Exchange (BSE) and National Stock Exchanges (NSE). Both BSE & NSE are controlled by the SEBI and are only functional stock exchanges in India.

Sample Selection and Methodology

The study is aimed at analyzing the effect of ownership structure on capital structure decision of the Government owned company. In India, there is a big government owned sector and companies in this sector represent different industry sectors of the economy. However, a good

number of them are yet to be listed in the stock exchanges. Considering data availability issues, we have confined ourselves to listed companies only. For identification of Government owned companies we have used S & P BSE CPSE Index comprising 44 Government companies. S & P BSE CPSE Index comprises more than 90% of listed Government Companies. There are total 56 listed Government companies (excluding Banking and Non-Banking Financial Institutions) as per CMIE Prowess database. Our study period is 5 years starting from the Financial Year 2011-2012. If data regarding any company is not available, it is excluded from the sample. Accordingly, 15 Government companies are excluded. Hence, we have chosen rest of the 29 companies as our sample Government owned company. Our source of data is CMIE Prowess database. It is not clear how ownership structure influence the leverage or capital structure of the firm. There may be two types of ownership structure, viz., concentrated ownership and diffused ownership. From agency theory perspective, a company with diffused ownership may have higher borrowing as costs related with insolvency and other risks associated with debt is likely to have lesser impact on the majority owner. However, there may increase in agency costs due to conflict between large owner and external lender. We posit that firm with higher promoter holding is likely to have higher debt. We use Debt/Equity Ratio (DER) and Debt

to Total Capital Ratio (DTR) as proxy of capital structure. Promoter holdings i.e., holding the government as a percentage of total equity capital is used to proxy of ownership structure. We have used SPSS 17 for analysis of data. The methodology adopted includes use of descriptive statistics, trend analysis and bivariate regression analysis.

Findings and Discussion

A. Ownership Structure of Sample Companies

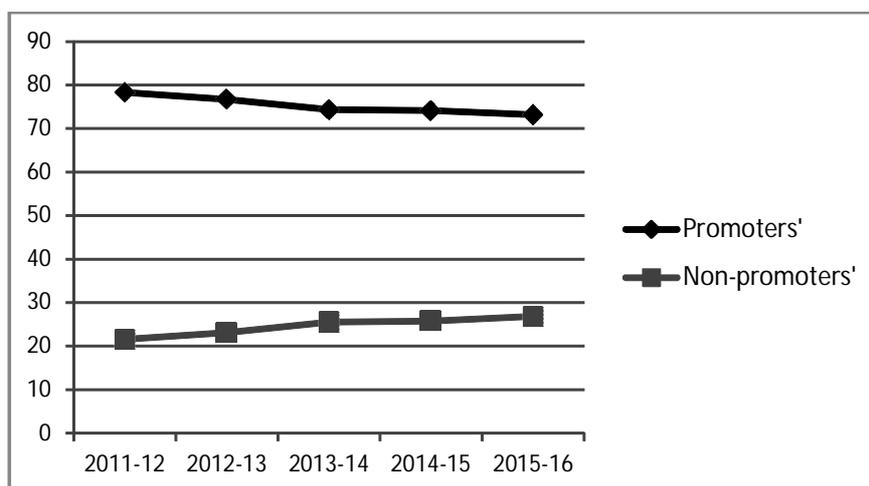
The ownership structure of sample companies is analyzed to find out the level of promoter holdings in those companies. The result of the analysis presented in Table 1 and Figure 1. In the respect of Government owned companies promoters' holding is relatively higher and average for 2011-12 Financial Year (F.Y) is 78.30%. Gradually, it is reduced and in 2015-16 the stake of government is reduced to 73.16%. Median values are around mean values only and it indicates that ownership pattern is not skewed. Standard deviations are also not very high and it ranges between 16.06% to 13.62% over the five years of analysis. A Range value indicates that minimum promoters' holding is 51.11% and maximum is 99.59% in 2011-12 F.Y. However, there is reduction in 2015-16 F.Y. and the maximum holding is reduced to 93.74% only. SEBI requires that there should be at least 25% of non-promoters' holding in respect of a listed company. It appears that a few sample companies are yet to reach that threshold limit.

Table 1 : Descriptive Statistics: Promoters' Holding (%)

Year	2011-12		2012-13		2013-14		2014-15		2015-16	
	Promoters	Non-Promoters								
Mean	78.30	21.54	76.70	23.13	74.37	25.52	74.13	25.77	73.16	26.84
Median	80.40	19.60	78.92	21.08	75.02	24.98	75.00	24.99	73.56	26.43
S.D	16.06	15.84	15.24	15.02	13.76	13.62	13.63	13.50	14.35	14.35
Minimum	51.11	0.41	51.11	0.67	51.11	6.26	51.11	6.26	51.11	6.26
Maximum	99.59	48.89	99.33	48.89	93.74	48.89	93.74	48.89	93.74	48.89

Source: CMIE Prowess Database. Results computed.

Figure 1 : Trend of Ownership Structure



B. Capital Structure of Sample Companies

Capital Structure is represented by level of debt and equity in the total capital. Introduction of debt in the total capital structure is called gearing or financial leverage. Use of financial leverage is made to get advantage of debt tax shield. We have used two measures for measurement of extent of leverage in the capital structure viz., Debt/EquityRatio (DER) and Debt to Total Capital Ratio (DTR).

There may be a number of variations in which these two ratios can be expressed and the definitions used by us are given below:

Debt / Equity Ratio

$$= \frac{\text{Book Value of Total Debt}}{\text{Market Value of equity i.e. market capitalization and Book Value of Total Debt}}$$

Debt to Total Capital Ratio

$$= \frac{\text{Book Value of Total Debt}}{\text{Book Value of Total Asset}}$$

Thus, D/E Ratio is a market based measured of leverage. Market based measured in considered appropriate for calculation of cost of capital as specific cost of capital depends on market value.

We also used Debt to Total Capital Ratio as a book value based measure. DTR is used to understand the role of book value based measure in capital structure decision by the sample companies. The results given in Table 2 indicate that mean D/E Ratio of sample companies varies between 0.3858 to 0.3115 during the five years of our study.

Table 2 : Descriptive Statistics : Debt / Equity Ratio

Year	2011-12	2012-13	2013-14	2014-15	2015-16
Mean	0.3115	0.3832	0.3858	0.3346	0.3380
Median	0.2726	0.4561	0.4045	0.2115	0.2301
Standard Deviation	0.2750	0.3177	0.3282	0.3198	0.3107
Minimum	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	0.8485	0.9104	0.9368	0.9354	0.9415

Source: CMIE Prowess Database. Results computed.

There is fluctuating trend in the mean value of Debt- Equity Ratio. In 2011-12 mean Debt- Equity Ratio is 0.3115 and there is mixed trend and value changes at 0.3380 in 2015-16. Median values are near the mean values and indicate the sample observations are well distributed. Minimum values are zero and maximum values vary between 0.8485 to 0.9415 during the study period. Overall, there is a reliance on debt as a source of capital by most of the sample companies. Over the study period the proportion of debt as source of capital has increased. Median value is 0.2726 in F.Y. 2011-12 and it has increased to 0.4561 in 2012-13 F.Y. and again it is reduced to 0.2115 in F.Y. 2014-15 & in the last year the value is 0.2301.

Overall, the trend is fluctuating and role of debt in the capital structure is reduced over time. Standard deviation is moderately high around 0.32. Thus, there are variations in using debt as a source of capital by sample companies. Range of 0 to 0.9415 in 2015-16 F.Y indicates the same fact.

The trend of DTR is depicted in Table 3. DTR indicates proportion of asset financed by debt. In respect of sample companies DTR has a gradual decrease from 0.5653 in 2011-12 to 0.2896 in 2015-16. Hence, over the study period, sample Government companies have reduced debt financing for purchase of asset. Median values also depict similar trends.

However, standard deviation is comparatively high and value varies between 1.6475 to .5285. It means that there are wide variations among sample

companies regarding debt financing. The ranges of 9.0115 to 0 in 2011-12 and 2.8813 to 0 in 2015-16 indicate the same fact.

Table 3 : Descriptive Statistics : Debt to Total Capital Ratio (DTR)

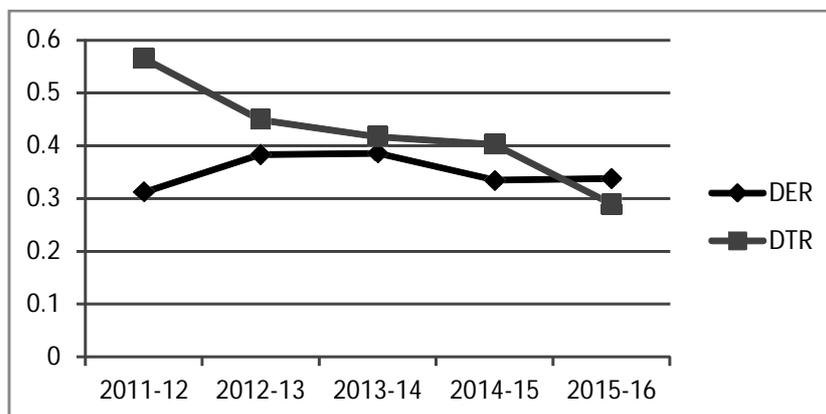
Year	2011-12	2012-13	2013-14	2014-15	2015-16
Mean	0.5653	0.4489	0.4171	0.4026	0.2896
Median	0.2346	0.2764	0.2454	0.1842	0.1675
Standard Deviation	1.6475	1.0385	0.8639	0.7926	0.5285
Minimum	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	9.0115	5.6771	4.5994	3.8654	2.8813

Source: CMIE Prowess Database. Results computed.

The mean values of debt equity ratio have shown a fluctuating trend but mean value of DTR exhibit a decreasing trend. It signifies that the sample government owned companies have reduce the proportion of debt in the capital structure

but due to change in market capitalization debt equity ratio have shown a fluctuating trend. Figure 2 gives a graphical presentation of capital structure of sample companies.

Figure 2 : Trend of Capital Structure



We have undertaken correlation and bivariate regression analysis to test the interplay between ownership and capital structure. The results of correlation

analysis for each of the five year period of study are presented in Table 4. Correlation between D/E Ratio and Promoters' holding reveals that there is a

negative correlation between D/E Ratio & Promoters' holding in each of the five year but the value of correlation coefficient has a decreasing trend. In 2011-12 correlation coefficient is (-) 0.3298 and that in 2015-16 is (-) 0.0054. The trend indicates that in the initial years of study the company having higher promoters' holding are borrowing less as hypothesized in the agency theory. However, in the later years such coefficient is approaching zero. Thus promoters' holding may not explain the

composition of capital structure. Regarding correlation between DTR and promoters' holding again there is a decreasing trend. The correlation coefficient is reduced from 0.1701 in 2011-12 to (-) 0.2176 in 2015-16. Such a trend may be due to decrease in Promoters' holding which is happening due to disinvestment by the Central Government. Furthermore, there is gradual decrease in debt as evident from Table 3 above.

Table 4 : Correlation between Ownership and Capital Structure

Year	Correlation: DER & Promoters' holding.	Correlation: DTR & Promoters' holding.
2011-12	-0.3298	0.1701
2012-13	-0.3091	0.1417
2013-14	-0.2065	0.1129
2014-15	-0.0939	0.0658
2015-16	-0.0054	-0.2176

Source: CMIE Prowess Database. Results computed.

We have also done bivariate regression on average of five years data. The regression results are given below (Table 5). Similar to correlation analysis bivariate analysis also reveals that there is a negative relationship between D/E ratio and Promoters' holding. The slope coefficient is -0.3301. Intercept value is 0.5993. Slope coefficient indicates that for 1% increase in promoters' holding there will be 0.0331% decrease in D/E ratio.

The bivariate regression between DTR and Promoters' holding reveals that there is a negative intercept and positive slope. It indicates that increase in Promoters' holding likely to increase DTR. But negative intercept implies that overall debt is likely to low for most of the sample companies. As a whole our result indicates that companies with diffused holding are borrowing more.

Table 5 : Bivariate Regression

	Intercept	Slope
DER & Promoters' holding	0.5993	-0.3301
DTR & Promoters' holding	-2.8719	4.3761

Source: CMIE Prowess Database. Results computed.

Conclusion

In this study, it is attempted to study the capital structure and ownership patterns of listed firms under the government ownership. The result shows that debt level do varies among sample firms. Our results indicate that in general there is a negative relationship between ownership concentration and the debt level. Our findings are supporting the contentions of agency theory. Like any other research our study is not free from limitation. There is a scope of extension of the methodology employed to include multivariate analysis. A comparison between private sector and the government owned company may be an interesting area of study. We also tried to determine whether ownership structure and other firm level characteristics have role in determining capital structure of the firm.

In his seminal article, The Capital Structure Puzzle, Myers, S.C. (1984) states by asking, "How firms do chose their capital structure?" and he provided the answer "We don't know". The situation is not improved much. The study throws some light in this regard from emerging market perspective. The capital structure decision remains dynamic and the territory is a good field of exploration.

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