Chapter – I

Introduction and Design of the Study
CHAPTER I

INTRODUCTION AND DESIGN OF THE STUDY

1.1 INTRODUCTION

Every business organization, whether manufacturing, trading or service-oriented, needs some assets, both fixed and current, to carry out its operations. But to acquire the required assets, it must evolve an appropriate investment decision regarding different sources of finance for fulfilling its investment needs. This investment decision is generally known as capital structure decision or financial structure decision. The financial structure decision of a business organization (corporate) is a major area of study in finance and given much importance in the academic circle as it affects the well-being of the business firm both in the short run as well as in the long run. Moreover, the decision on capital structure is not only important for creation of assets but also important for maximizing the returns.

Capital structure or financial structure refers to the mix or proportion of different sources of finance to total capitalization of a business firm. The proportion is between various sources of long-term capital such as equity capital, preference capital, long-term borrowing from banks and debentures raised in a firm. A business firm should select a financing mix in such a way that it should maximize its value and minimize its overall cost of capital (Khan and Jain, 2011).

1.2 CORPORATE FINANCE

Every decision made in a business firm has financial implications, and any decision of the firm that involves the use of money is a corporate

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financial decision. It is broadly defined that everything that a business firm does fits under the topic of corporate finance. In simple term, the corporate finance is the financial activities related to running a business enterprise (business firm / corporation). Therefore, corporate finance is nothing but financial management and is broadly defined as management of all the processes associated with acquisition and deployment of both short-term and long-term financial resources in an efficient manner. The financial management role assists a firm in its operations management to reach its financial objectives such as evaluation of investment opportunities, responsibility for cash management, relationships with banks and other financial institutions, the management of interest rate and credit control.

Corporate finance is emerged as a separate field in the early part of the 19th century and had been a part of economics till the end (end of century). During the last century, the role of financial management has undergone a tremendous change and the word ‘Finance’ was used in the same sense as the word ‘Capital’ by the economists.

It is, in fact, unfortunate that we even call the subject corporate finance, because it suggests to many observers a focus on how large corporations make financial decisions and seems to exclude small and private businesses from its purview. A more appropriate title for this discipline would be Business Finance, because the basic principles remain the same, whether one looks at large, publicly traded firms or small, privately run businesses. All businesses have to invest their resources wisely, find the right kind and mix of financing to fund these investments, and return cash to the owners if there are not enough good investments.

There are three fundamental principles underlying the corporate finance, viz., investment, financing, and dividend principles and the objective of firm value maximization that is at the heart of corporate financial theory.
Technological innovations and establishment of new industries, resulting in industrial revolution sweeping the world over, created a need for more funds. This prompted the academic researchers in the study of corporate finance to focus on liquidity and financing of the firm.

1.3 STATEMENT OF THE PROBLEM

For many years the link between capital structure and the firm value has been the subject of intense global debate and research in the academic circle, but no conclusive evidence has been arrived yet. After more than fifty years of studies, economists have not reached an agreement on how and to what extent the capital structure of firms' impacts value creation to their shareholders. The famous "irrelevance" propositions by Modigliani and Miller\(^2\) (1958), which state that "the overall market value of any firm is completely independent of its capital structure". However, Bradley \textit{et al.}\(^3\) (1984) have widely claimed that Modigliani and Miller propositions are impractical due to the existence of some imperfections in the capital market.

At the same time, every financial manager would like to make use of borrowed capital for meeting its fund requirements in order to reduce the cost of capital because low cost of capital with appropriate mixing of debt and equity with considerable reduction in overall cost of capital tend to increase the value of a firm. This raises the question whether this is true for firms in India and what are the factors which determine the level of debt financing in capital. Further, it is not clearly known whether the level of leverage (debt financing in capital) vary by industrial sector or not.

According to Pandey\(^4\) (2005), the capital structure decision of a firm, i.e., decision of corporate on their financial structure, is a significant managerial decision; influencing the shareholders return, and subsequently affecting the market value of the firm. Moreover, as stated by Bhaduri (2002), the issue of capital structure has remained neglected in developing countries though it has received substantial attention in the developed countries as developing economists have placed little importance to the role of firms in economic development and the corporate sectors faced several constraints on their choices regarding sources of funds because of the fact that access to equity markets was either regulated, or limited due to the underdeveloped stock markets. Hence the present study is sought to investigate the factors determining the extent of debt financing fund in corporate capital and effect of corporate finance structure on firm value in Indian context.

1.4 SIGNIFICANCE OF THE STUDY

The present study linking corporate financial structure with value of firm will be of great use for stock market analysts, company shareholders and share market investors. This study is of great significance for future researchers in this area as it will act as a point of reference for relationship between corporate finance structure and value of a firm. This study is of much significance for the policy makers and financial managers of corporate as it provides many implications on capital mix of debt and equity that maximize market value.

1.5 SCOPE OF THE STUDY

The scope of the present study is confined to six sectors, viz., Automobile, Sugar, Cement, Pharmaceutical, Chemical and non-banking Finance. Further, the scope of the present study is to empirically evaluate the

status of financial structures of selected companies by sectors in terms of trend and growth and also to identify the role of firm characteristics in influencing use of debt fund in capital (corporate financial structure) and also in influencing the firm value. An attempt is also made to identify the relationship between corporate financial structure and firm value of selected companies by sector. Further, the time limit for the present study is confined to 10 years from 2004-2005 to 2013-2014.

1.6 OPERATIONAL DEFINITIONS

Debt

Debt financing is basically money that you borrow to run your business. Debt financing refers to the borrowing of funds in order to finance a purchase, acquisition or expansion. For businesses and corporations debt financing often involves the selling of notes, bonds, mortgages or other debt instruments. The individuals and financial institutions which provide the debt financing become creditors. Since debt financing involves borrowed funds, debt financing must be repaid, typically in installments and with interest. The interest that must be paid on debt financing is determined by the creditworthiness of the borrower, the intended use of the funds, and by the current financial climate. Businesses and corporations find debt financing attractive because the interest paid is tax deductible.

You can think of debt financing as being divided into two categories, based on the type of loan you are seeking, long term debt financing and short term debt financing. Long Term Debt Financing usually applies to assets your business is purchasing, such as equipment, buildings, land, or machinery. With long term debt financing, the maturity period is normally beyond 5 years. Medium-term normally have a maturity period of 1-5 years. Short Term Debt Financing usually applies to money needed for the day-to-day operations of the business, such as purchasing inventory, supplies, or paying
the wages of employees. Short term financing is referred to as an operating loan or short term loan because scheduled repayment takes place in less than one year. A line of credit is an example of short term debt financing.

**Equity**

Equity financing takes the form of money obtained from investors in exchange for an ownership share in the business. Such funds may come from friends and family members of the business owner, wealthy "angel" investors, or venture capital firms. An equity investment generally refers to the buying and holding of shares of stock on a stock market by individuals and firms in anticipation of income from dividends and capital gains, as the value of the stock rises. It may also refer to the acquisition of equity (ownership) participation in a private (unlisted) company or a startup company. When the investment is in infant companies, it is referred to as venture capital investing and is generally understood to be higher risk than investment in listed going-concern situations. Equity Capital represents the personal investment of the owner(s) in the business. It is called risk capital because investors assume the risk of losing their money if the business fails. Does not have to be repaid with interest like a loan does. Means that an entrepreneur must give up some ownership in the company to outside investors.

In accounting and finance, equity is the residual claim or interest of the most junior class of investors in assets, after all liabilities are paid. If liability exceeds assets, negative equity exists. In an accounting context, Shareholders' equity (or stockholders' equity, shareholders' funds, shareholders' capital or similar terms) represents the remaining interest in assets of a company, spread among individual shareholders of common or preferred stock. In financial accounting, equity capital is the owners' interest on the assets of the enterprise after deducting all its liabilities. It appears on the balance sheet / statement of financial position, one of the four primary financial statements. Accounts
listed under ownership equity include: Share capital (common stock), Preferred stock, Capital surplus, Retained earnings and Reserve.

**Firm size**

Size of the company could be an inverse proxy for the probability of the bankruptcy costs because larger companies are likely to be more diversified and fail less often. They can lower costs (relative to company value) in the occasion of bankruptcy. Therefore, size has a positive effect on leverage. Since large companies are diverse and have less volatile earnings, asymmetric information problem can be mitigated. Hence, size is expected to have positive impact on leverage. So we expect small companies and private companies to have low debt and large listed companies have higher debt.

**Profitability**

The higher profitability of companies implies higher debt capacity and less risky to the debt holders. So as per this theory, capital structure and profitability are positively associated. But pecking order theory suggests that this relation is negative. Since as stated earlier, company prefers internal financing and follows the sticky dividend policy. If the internal funds are not enough to finance financial requirements of the company, it prefers debt financing to equity financing (Myers, 1984). Thus, the higher profitability of the enterprise implies the internal financing of investment and less reliance on debt financing.

**Growth**

Firms whose sales grow rapidly often need to expand their fixed assets. Thus high growth firms have greater future need for funds and also retain more earnings. According to trade-off theory, the retained earnings of high

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growth firms increase and they issue more debt to maintain the target debt ratio. Thus, positive relationship between debt ratio and growth is expected based on this argument. The same relationship is supported by pecking order theory too. According to this, growth causes firms to shift financing from new equity to debt, as they need more funds to reduce the agency problem. Baskin\(^6\) (1989) reports a significant positive relation between growth and leverage. On the other hand, Titman and Wessels\(^7\) (1988) find no relationship.

**Earning Volatility (Risk)**

According to the trade-off theory, higher risk (earnings volatility) increases the probability of financial distress. Thus, it predicts a negative relationship between leverage and risk. However, it is shown that for a negative relationship between risk and leverage, bankruptcy costs should be quite large. According to Thies and Klock\(^8\) (1992), risk has negative relationship with long-term debt but positive relationship with short-term debt as high variability shifts financing from long-term debt to short-term debt and equity.

**Tangibility**

According to trade-off hypothesis, tangible assets act as collateral used to provide security to lenders in the event of financial distress. This (collaterality) also protects lenders from moral hazard problem caused by the shareholders-lenders conflict. Therefore, firms with higher tangible assets are expected to have high level of debt. According to the maturity principle as stated by Thies and Klock\(^9\) (1992), net fixed assets shift financing from short-


\(^9\) Ibid.
term-debt to long-term debt while inventory shifts financing from equity to short-term-debt and long-term debt. A significant positive relationship between tangibility and total debt has been observed by Rajan and Zingales\textsuperscript{10} (1995). According to Stohs and Mauer\textsuperscript{11} (1996), tangibility has positive relationship with long-term debt and negative relationship with short-term debt.

**Dividend payout**

The pecking order theory shows the positive relation between debt level and dividend payout ratio. According to this theory, management prefers the internal financing to external one. Instead of distributing the high dividend, and meeting the financial need from debt capital, management retains the earnings. Hence, the lower dividend payout ratio means the lower level of debt in capital structure. The dividend policy has the positive impact on the investment decisions in the company. The dividend payout depends on the investment opportunity in the company.

**Non-debt Tax Shield**

De Angelo and Masulis\textsuperscript{12} (1980) in their model showed that a firm’s effective marginal tax rate on interest deduction depends on the firm’s non-debt tax shields. They argue that non-debt tax shield is a substitute for the tax benefit of debt financing. Thus a firm with a large non-debt tax shield is likely to be less leveraged. The depreciation scaled by total assets is used as proxy for non-debt tax shield.


**Free cash flow**

Free cash is the money that the company possesses after payment of required expenses for maintenance or development of assets. Its positive value indicates that the firm has excessive cash after payment of expenses and investments. So, higher the free cash flow lesser will be the debt in financing the capital and vice versa.

**Liquidity**

It is measured by the current assets divided by the current liability and is the ability of firms to meet its current obligation. Firms should ensure that they do not suffer from the lack of liquidity as this may result in a state of financial distress ultimately leading to bankruptcy. Lack of liquidity can lead to a struggle in terms of current obligations, which can affect firm’s credit worthiness. Liquidity and firm value are likely to be positively associated with each other.

**Trade off theory**

The trade-off theory states that there is an optimal capital structure that maximizes the value of a firm. Therefore, management will set a target leverage ratio and then gradually move towards that. De Wet¹³ (2006) has demonstrated that firms select target leverage ratios based on a trade-off between the benefits and costs of increased leverage This target leverage ratio is influenced by three factors: tax, financial distress costs and agency costs. Managers will therefore choose the combination of debt and equity that achieves a balance between the benefits of debt (tax advantage) and the various costs associated with debt (financial distress costs and agency costs).

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Pecking order theory

The pecking order theory differs from the trade-off theory in that there is no well-defined debt-equity ratio (Singh, Wallace and Suchard, 2003\(^{14}\)). The pecking order theory assumes there is no target capital structure. Instead of putting a target debt-equity ratio into place, firms adapt their financing policy to minimize associated costs. According to this theory, the order in which financing is obtained is firstly the use of retained earnings, then debt, then convertible debt and preference shares, while the issuing of new equity will be the last resort to obtain financing.

Tobin’s Q

The Tobin's Q ratio is a measure of firm assets in relation to a firm's market value. That is, it is the market value of a firm's existing shares (share capital) to the replacement cost of the firm's physical assets (thus, replacement cost of the share capital). If \( q \) is greater than one \((q>1)\), additional investment in the firm would make sense because the profits generated would exceed the cost of firm's assets. If \( q \) is less than one \((q<1)\), the firm would be better off selling its assets instead of trying to put them to use. The ideal state is where \( q \) is approximately equal to one denoting that the firm is in equilibrium.

Market Value Added (MVA)

Market Value Added (MVA) is the difference between the equity market valuation of a listed / quoted company and the capital contributed by the investors. A high MVA is better as it indicates the company has created substantial wealth for the shareholders. On the other hand, a negative MVA indicates that the company has destroyed value to its shareholders.

1.7 OBJECTIVES OF THE STUDY

The objectives framed for the present research study are as follows:

1. To study the Corporate financial structure and firm value of companies across selected sectors established in Tamil Nadu and listed in the National Stock Exchange.

2. To analyze the influence of financial characteristics on the Corporate financial structure and its determinants of the companies across selected sectors in Tamil Nadu.

3. To evaluate the trend and growth in firm value in terms of Market Value Added (MVA) and Tobin’s Q of selected companies in Tamil Nadu.

4. To explore the relationship between Corporate financial structure and firm value of selected companies in Tamil Nadu.

5. To examine the impact of Corporate financial structure on firm value of companies by sectors in Tamil Nadu.

6. To offer suitable suggestions for betterment of firm value of selected companies in Tamil Nadu.

1.8 HYPOTHESES

By realizing the significance of the study, the following null hypotheses are framed:

(1) There is no impact of firm size, earning volatility, profitability, firm growth, free cash flow, non-debt tax shield, tangibility and dividend payout on utilization of debt fund in capital.
(2) There is no impact of liquidity, efficiency, profitability, firm growth and firm size on market value added.

(3) The valuation of the share in the market relative to replacement cost is unrelated to the liquidity, efficiency, profitability, firm growth and firm size of the companies.

(4) There is no significant impact of corporate financial structure on firm value.

1.9 PERIOD OF THE STUDY

The study covers the financial activities of the selected banks during the period of 10 years from 2004-2005 to 2013-2014.

1.10 RESEARCH METHODOLOGY

Designing a suitable methodology like selection of sample and selection of statistical tools are important for research work to be meaningful. Also, research methodology will help the reader of the thesis and academicians understand the research pattern. The methodological aspects regarding the present study are detailed below.

Study Sample

The present study is confined to public sector companies across six sectors viz., Automobile, Sugar, Cement, Chemical, Pharmaceutical and non-banking financial sectors, established in Tamil Nadu which are listed in National Stock Exchange continuously for 10 years from 2004-05 to 2013-14. Some sectors with only one establishment (company) in the State are not taken into account. Further, banking sector is not included as structure of capital for firms under this sector, vary from those under non-financial sectors.
Sampling and Sample Size

The cluster sampling method is used for selecting the companies by sectors. Cluster sampling refers to a type of sampling method. With cluster sampling, the researcher divides the population into separate groups, called clusters. First all companies which are listed in National Stock Exchange and establishment in Tamil Nadu is listed. The selected companies are clustered by sector. From the clustered list, the sector with only one identity (companies) is dropped and the sectors with companies more than two are selected. With such clustering, 16 companies under six sectors, viz., 4 companies under Automobile sector, 3 companies under Sugar, 2 companies under Cement, 2 under Chemical, 2 under pharmaceutical and 3 companies under non-banking finance sector are remained eligible for analysis. The name of the companies by sector is shown in Table 1.1.

Table 1.1
List of Companies by Sector under Study

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Company Name</th>
<th>Sector</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>MRF</td>
<td>Automobile</td>
</tr>
<tr>
<td>2</td>
<td>Ashok Leyland</td>
<td>Automobile</td>
</tr>
<tr>
<td>3</td>
<td>TVS Motor Company</td>
<td>Automobile</td>
</tr>
<tr>
<td>4</td>
<td>Pricol</td>
<td>Automobile</td>
</tr>
<tr>
<td>5</td>
<td>Sakthi Sugars</td>
<td>Sugar</td>
</tr>
<tr>
<td>6</td>
<td>EID Parry</td>
<td>Sugar</td>
</tr>
<tr>
<td>7</td>
<td>Bannari Amman Sugars</td>
<td>Sugar</td>
</tr>
<tr>
<td>8</td>
<td>India Cements</td>
<td>Cement</td>
</tr>
<tr>
<td>9</td>
<td>Ramco Industries</td>
<td>Cement</td>
</tr>
<tr>
<td>10</td>
<td>Chemplast Sanmar</td>
<td>Chemical</td>
</tr>
<tr>
<td>11</td>
<td>Tamil Nadu Petroproducts</td>
<td>Chemical</td>
</tr>
<tr>
<td>12</td>
<td>Orchid Chemicals and Pharmaceuticals</td>
<td>Pharmaceutical</td>
</tr>
<tr>
<td>13</td>
<td>Shasun Pharmaceuticals</td>
<td>Pharmaceutical</td>
</tr>
<tr>
<td>14</td>
<td>Shriram Transport Finance</td>
<td>Non-Banking (Finance)</td>
</tr>
<tr>
<td>15</td>
<td>Cholamandalam Investment and Finance</td>
<td>Non-Banking (Finance)</td>
</tr>
<tr>
<td>16</td>
<td>Tube Investments of India</td>
<td>Non-Banking (Finance)</td>
</tr>
</tbody>
</table>
Data Collection

The present study is mainly based on secondary data, which are annual financial reports viz., balance sheet; profit and loss account. The reports are collected from PROWESS data base. The articles and papers published in different journal and magazines are other secondary information collected for the present study. The information relevant to the present research work is also gathered online from various web sites.

Statistical Technique Used

To evaluate the trend (growth in actual terms) and growth (growth in terms of percentage) in capital structures of companies under six sectors, the linear growth rate and annualized compound growth rate are calculated. The statistical significance of the above two growth rates are ascertained by student t-test. The central tendency and volatility in the time trend is ascertained by descriptive statistics such as mean, standard deviation and coefficient of variation. Multiple regression analysis is used to explore the impact of firm characteristics on corporate financial structure and firm value. The relationship between firm value and corporate financial structure is ascertained by simple correlation analysis and canonical correlation analysis.

Descriptive Analysis

The descriptive statistics such as mean and standard deviation are used to calculate the central tendency and deviation in the time series nature of financial data for the selected banks.

The formula for Mean

\[ \bar{X} = \frac{\sum X_i}{n} \]
Where, $X_i$ is value for \textsuperscript{i}th year ‘n’ is total number of years in the sample.

The formula for Standard deviation

$$\sigma = \sqrt{\frac{\sum X_i^2}{n} - \left(\bar{X}\right)^2}$$

Where, $X_i$ is the value for \textsuperscript{i}th year and ‘n’ is number of years under study and $\bar{X}$ is mean score for all the respondents.

**Compounded Annualised Growth Rate (CAGR)**

Consider the non-linear relationship between a study variable (Y) and time variable (X) as

$$Y = a b^X \quad \text{......................................................... (1)}$$

By taking logarithms on both sides, it may be written as

$$\log Y = \log a + \log b X$$

Or simply say $Y = A + BX$

The least square estimates of $A$ and $B$ are given by

$$\hat{\beta} = \left(\frac{\sum xy - (\sum x)(\sum y)}{\sum x^2 - (\sum x)^2}\right)$$

$$\hat{A} = \bar{Y} - \hat{\beta} \bar{X}$$

Where, $\bar{Y} = \frac{\sum y}{n}$ and $\bar{X} = \frac{\sum x}{n}$
Here, n is number of time periods (years), an estimate of ‘b’ is given by
\[ \hat{b} = \text{Anti log}(\hat{B}) \]

Now, an estimate of Compounded Annualized Growth Rate (CAGR) =
\[ \left[ \frac{\hat{b} - 1}{x} \right] \times 100 \]

**Linear Growth Rate (LGR)**

Consider a linear relationship between a study variable (Y) and time variable (X) as
\[ Y = a + b X \]

The Linear Growth Rate (\( \hat{b} \)) is given by
\[ \hat{b} = \frac{\sum xy - \left( \frac{\sum x}{n} \right) \left( \frac{\sum y}{n} \right)}{\sum x^2 - \left( \frac{\sum x}{n} \right)^2} \]

The statistical significance of the growth and trend are ascertained using Student t-test obtained from respective regression models.

**Simple Correlation**

The relationship between two variables (between any one of firm characteristics and capital structure variables as well as between any one of ratios measuring liquidity, efficiency, profitability, firm growth, firm size and firm value measures, MVA and Tobin’s Q. The following formula is used to calculation the correlation between two variables (here x and y)
\[ r = \frac{n \sum xy - (\sum x)(\sum y)}{\sqrt{n \sum x^2 - (\sum x)^2}(n \sum y^2 - (\sum y)^2)} \]
Multiple regression

The multiple regression analysis is used to identify the role of firm characteristics, viz., firm size, earning volatility (risk), profitability, firm growth (growth potential), free cash flow, non-debt tax shield, tangibility (investment opportunities) and dividend paid in influencing the corporate finance structures decisions (use of debt fund in capital). This technique is also used to identify the role of liquidity, efficiency, profitability, firm growth and firm size of market valuation of shares relative to book value as well as relative to replacement cost. The regression models are to be run separately for each sector. The specification of the models for corporate financial structure decisions and firm value with firm specific factors as predictors are given below:

\[ F_{\text{PROXY}}_{it} = \alpha + \beta_1 \text{SIZE}_{it-1} + \beta_2 \text{ERNVOL}_{it} + \beta_3 \text{PRFT}_{it} + \beta_4 \text{GROWTH}_{it} \\
+ \beta_5 \text{FCF}_{it-1} + \beta_6 \text{NDTS}_{it} + \beta_7 \text{TANG}_{it} + \beta_8 \text{DIV}_{it} + \epsilon \]

Where

- \( F_{\text{PROXY}}_{it} \) = Corporate Financial Structure Proxies, which are leverage measures, viz., Long-Term Debt to Total Assets (LTDTA), Short-Term Debt to Total Assets (STDTA), Total Debt to Total Assets (TDTA) and Debt to Equity ratio (DERAT), are the dependent factor in the model.

- \( \text{SIZE}_{it} \) = Natural log of Total assets of selected companies of sector ‘i’ in year (t)

- \( \text{ERNVOL}_{it} \) = Earning volatility, measured as the standard deviation of percentage change in EBIT of selected companies of sector ‘i’ in year (t)
\[ PRFT_{it} = \text{Profitability of selected companies under sector ‘i’ in year (t), measured by Operating profit before interest and taxes scaled by Total assets.} \]

\[ GROWTH_{it} = \text{Firm Growth. Measured as annual percentage change in the value of Total assets of selected companies under ‘i’ in year (t).} \]

\[ FCF_{it} = \text{Free Cash Flow is Operating income before tax, depreciation and amortization after deducting the Taxes and Dividends paid divided by Total assets of selected companies under sector ‘i’ in year ‘t’} \]

\[ NDTS_{it} = \text{Non-debt tax shield, which is annual depreciation expense scaled by total assets selected companies under sector ‘i’ in year ‘t’} \]

\[ TANG_{it} = \text{Tangibility, which is the proportion of Net fixed assets to Total assets of selected companies under sector ‘i’ in year ‘t’} \]

\[ DIV_{it} = \text{Dividend paid by selected companies under sector ‘i’ in year ‘t’} \]

\begin{align*}
\alpha & = \text{Intercept term.} \\
\beta_1, \ldots, \beta_7 & = \text{Estimated coefficients of predictors} \\
\varepsilon & = \text{Error term.} \\
\end{align*}

The specification of the model for firm value:

\[ FV_{it} = \alpha + \beta_1 CR_{it} + \beta_2 ASTTO_{it} + \beta_3 SALGRW_{it} + \beta_4 ROE_{it} + \beta_5 PM_{it-1} + \beta_6 EPS_{it} + \beta_7 DPS_{it} + \beta_8 SIZE_{it} + \varepsilon \]
Where

\[ FV_{it} = \text{Firm value} \] – MVA and Tobin’s Q are two proxies for firm value used as dependent

\[ CR_{it} = \text{Current Ratio of selected companies of sector ‘i’ in year (t)} \]

\[ ASTTO_{it} = \text{Asset turnover ratio selected companies under sector ‘i’ in year (t), measured by ratio of Net sales to Total assets.} \]

\[ SALGRW_{it} = \text{Firm Growth. Measured as annual percentage change in the value of Net sales of selected companies under ‘i’ in year (t)} \]

\[ ROE_{it} = \text{Return on equity is Net profit after tax divided by total shareholders’ equity of selected companies under sector ‘i’ in year ‘t’} \]

\[ PM_{it} = \text{Profit margin, which is Net profit after tax scaled by total revenue of selected companies by sector ‘i’ in year ‘t’} \]

\[ EPS_{it} = \text{Earning per share of selected companies by sector ‘i’ in year ‘t’} \]

\[ DPS_{it} = \text{Dividend per share of selected companies by sector ‘i’ in year ‘t’} \]

\[ SIZE_{i} = \text{Firm size measured as natural log of Total assets of selected companies by sector ‘i’ in year (t)} \]

\[ \alpha = \text{Intercept term.} \]

\[ \beta_1, \ldots, \beta_8 = \text{Estimated coefficients of predictors} \]

\[ \varepsilon = \text{Error term.} \]
**Canonical Correlation**

To measure the unique effect of financial structure variables on firm value, multivariate canonical correlation technique is used. This technique identifies the relationship between linear composite scores of variables in two sets (one is dependent and another is independent).

That is, this technique used to identify financial structure variables, viz., LTDTA, STDTA, TDTA and DERAT (variables in the independent set) which has unique power in influencing the firm valuation in terms of both MVA and Tobin’s Q (variables in the dependent set) simultaneously. The firm characteristics that have power of predicting the firm value, as identified in the previous chapter, are included in the independent set of canonical correlated model as control variables.

The first step of canonical correlation analysis is to derive one or more canonical functions. Each function consists of a pair of variates (variate is the new variable formed by making a linear combination of two or more variables in a date set), one representing the predictor variables (variables in the dependent set) and the other representing the criterion variables (variables in independent set). The maximum number of canonical variates (functions) that can be extracted from the sets of variables equals the number of variables in the smallest data set, either predictor (independent) or criterion (dependent). In the present case, the number of functions produced by the analysis will be two as the number of variables in the dependent, minimum set, is two.

The strength of the relationship between two pairs of variates is reflected by the canonical correlation. When squared, the canonical correlation represents the amount of variance in one canonical variate accounted for by the other canonical variate. This may also be called as the amount of shared variance between the two canonical variates. The tabulation and discussion of the results are given hereunder.
1.11 LIMITATIONS OF THE STUDY

The present study restricted to six sectors i.e. 16 companies

This study is excluded from the Banking Sectors and Private Companies.

The period of study is limited to 10 years.

1.12 CHAPTER SCHEME

The present study is divided into seven chapters as stated hereunder:

Chapter I, titled as “INTRODUCTION AND STUDY DESIGN” begins with a brief introduction about the corporate financial structure and value of firm. This chapter also provides the statement of problem, Scope of the study, Objectives of the study, Hypotheses, Research Methodology, Limitations and Chapter schemes.

Chapter II is the “REVIEW OF LITERATURE”. In this chapter, the books, articles published in journals, information gathered from websites relevant to the present research work are presented in this chapter.

Chapter III, “CORPORATE FINANCIAL STRUCTURE AND FIRM VALUE: THEORETICAL BACKGROUND” provides various aspects and concepts of the corporate financial structure and firm value.

Chapter IV, “CORPORATE FINANCIAL STRUCTURE AND ITS DETERMINANTS" is the first one of three analysis chapters. In this chapter, the status of financial structure of selected companies are explored by analyzing various relevant ratios. The financial factors that are important in determining the financial policy of the selected companies are also evaluated empirically.
Chapter V is “MARKET VALUE OF FIRM AND FIRM CHARACTERISTICS: AN EMPIRICAL EVALUATION”. Here, it is attempted to find out to what extent various firm characteristics such as liquidity, profitability and functional efficiency determine the behavior of share price in the market.

Chapter VI is “IMPACT OF CORPORATE FINANCIAL STRUCTURE ON FIRM VALUE”. This is final part of the analysis chapter. This chapter tries to identify how the firm value in the market is affected by the financial policies pertaining to use of equity fund and debt fund of the selected companies.

Chapter VII, “FINDINGS, SUGGESTIONS AND CONCLUSION” is the final chapter. Various findings emerged out of interpretation of the results of the analysis are listed and conclusions along with suitable suggestions are provided based on the findings.