# SMART

# **Journal of Business Management Studies**

(An International Serial of Scientific Management and Advanced Research Trust)

Vol - 6Number - 2July - December 2010Rs. 200

ISSN 0973-1598

Dr. M. SELVAM, M.Com, PhD, Founder-Publisher and Chief Editor



SMART Journal is indexed and abstracted by Ulrich's Periodicals Directory, Intute Catalogue (University of Manchester) and CABELL'S Directory,USA

# SCIENTIFIC MANAGEMENT AND ADVANCED RESEARCH TRUST (SMART)

TIRUCHIRAPPALLI (INDIA) www.smartjournalbms.org

# CAPITAL STRUCTURE DECISION: AN EMPIRICAL INVESTIGATION IN INDIAN INFORMATION TECHNOLOGY SECTOR

Bidyut Jyoti Bhattacharjee,

Faculty of Commerce, B.H College, Howly, Assam, India

#### ABSTRACT

The capital structure of a firm consists of debt and equity and the firms try to maintain appropriate financing mix to attain target capital structure. Modern capital structure theory stems from the influential article on finance by Nobel Laureates, Professor Franco Modigliani and Merton H. Miller in the year 1958. Many theories developed over the years since 1958, which explain the determinants of capital structure decisions. The Trade-Off Theory and Signaling Theory in particular, play a crucial role in identifying and testing the various properties of leverage decisions. This paper briefly tries to find out whether some a priori assumed macroeconomic determinants can be related to the leverage. For this purpose, an empirical study was undertaken on Indian Information Technology Sector, covering 22 selected firms traded in BSE. Following the developments in the contemporaneous estimation techniques that allow us to use Time Series and Cross Section Data concurrently, the Panel Data Methodology has been applied to the actual data to compute the leverage ratios for each firm within the time period 2003-04 to2007-08 to determine the extent to which the macroeconomic determinants influenced the leverage ratios under various groupings such as Size, Growth Opportunities, Profitability, Liquidity and Dividend Payout. The results from econometrical analysis reveal that only the growth of firms has a positive and statistically significant impact on the IT firms' leverage ratio.

The paper finally highlights creditor rights, maintenance of legal reserves and law enforcement, directors' rights on borrowing, risk assessment as essential determinants of capital structure decision of a firm.

# 1. Introduction

Capital Structure, the mix of long term debts and equity securities, is generally used to finance long term assets of companies. It consists of permanent short-term debt, preferred stock, and common equity. The financial structure is sometimes used as synonymous with capital structure. However, financial structure is more comprehensive than that of capital structure in the sense that the former refers to aggregate amount of total current liabilities, long-term debt, preferred stock, and common equity i.e. total of liability side of the balance sheet (source of funds). Therefore, capital structure is only a part of financial structure and refers mainly to the permanent sources of the firm's financing. This necessitates firm's obligation for a well designed capital structure policies to lessen the hurdles of raising finance for its project.

An appropriate capital structure decision improves bottom line as well as solvency position and rescues the firm from its impending threat of bankruptcy. It also brings synergy effect pertaining to boosting shareholders' value by mixing debt and equity. The overall cost of capital is reduced with increase in significant proportion of debt in the capital structure because of fixed contractual obligations. At the same time, financial risk of the firm is augmented in the event of firms' inability to leverage its operation. Here lies the essence of Optimum Capital Structure Concept in firm's decision relating to determining an appropriate ratio of debt and equity at which Weighted Average Cost of Capital (WACC) would be the least and the market value of the firm would be high. Generally in the firm's growth trajectory, it is difficult to find an Optimum Capital Structure as it is influenced by a host of factors.

# 2. Literature Review

Gorden (1962) observed that with the increase of size, returns on investment was negatively related to debt ratio. He also confirmed the negative association between operating risk and debt ratio. Baxter (1967) articulated that the degree of financial leverage would depend on the variance of net operating earnings since business, with relatively stable income streams, are comparatively least prone to bankruptcy. Hence a negative association exists between variance of net operating earnings and degree of financial leverage. Α cross sectional study by Gupta (1969), on the financial structure of American Manufacturing Enterprises during 1961-62, confirmed that total debt ratios were positively related to growth and negatively related to size. Toy, et al (1974) found higher level of operating risk, associated with higher debt ratio and growth, typically measured in terms of sales, is negatively related to debt ratio while financial leverage is indirectly tied with returns on investment (ROI). Ferri and Jones (1979) investigated the relationship between firm's financial structure and its industrial class, size, variability of income and operating leverage. They found that the industry class was linked to the firm's leverage, but not in a direct manner as was suggested in other researches. Secondly, a firm's use of debt is related to its size. Finally, operating leverage does influence the percentage of debt in a firm's financial structure. In the same manner, Venkatesan (1983) analysed the relationship between seven variables like industry categorization, size, operating leverage, debt coverage, cash flow coverage, business risk, growth ratio and financial structure of firms. It was observed that only debt coverage ratio was found to be an important variable, significantly affecting the financial structure of the firm. Carelton and Siberman (1997) concluded that higher the variability in ROI, lower will be the degree of financial leverage in firms. Bradley, Jarroll and Kim (2002) found that debt to asset ratio is negatively related to both volatility of annual operating earnings and advertising and Research and Development expenses. Mohanty (2003) found that financial leverage is negatively related to profitability and value of the firm within an industry in the Indian context. Evidently, literature on capital structure and its determinants in the Indian context is in the nascent stage. The Information Technology Sector, new avatar, dominated Indian economic scene in the Post Liberalized Era. The study therefore attempts to address the determinants of capital structure in the field of Indian Information Technology Sector and fill up the gap in the literature on this topic.

# 3. Indian Information Technology Industry

Indian Information Technology Industry has long experienced a growth trajectory over the years in the context of strengthening economic and technical foundations of the country. IT giants like TCS, Wipro, Infosys, HCL etc are holding at present respectable position in the global markets. Some of the major factors which played a key role in India's appearance as key global IT players include escalating number of skilled professionals in IT and vast academic infrastructure. India has the second leading English speaking work force in the world. The cost of software development and other services in India is very competitive as compared to the West. The Indian Software and ITES Industry have grown at a CAGR of 28 pc during the last five years. The contribution of IT and ITES to national GDP was 7 pc in the year 2007-08 against 4.8pc in 2005-06. Along with the growth opportunities,

SMART Journal of Business Management Studies Vol. 6 No.2 July - December 2010 19

IT sector is one of the highest paying sectors. According to the National Association of Software and Services Company (NASSCOM), the Indian IT Software and Services Sector will achieve export target of US \$60 billion by 2010. Thus, it is evident that the Information Technology Sector in India has grown by leaps and bounds over the years in terms of revenue, profitability and shareholders' wealth maximization. The country is ahead of competitors such as Singapore, Hong Kong, China, Philippines, Mexico, Ireland, Australia and Holland. Therefore, it would be an attention-grabbing task to study the determinants of capital structure of the sunshine sector of the Indian Economy.

# 4. Objectives of the Study

Indian IT Industry has been playing a prominent role in strengthening the economic and technical foundations of the country and it has emerged as the fastest growing segment of Indian Industry both in terms of production and exports. The primary objective of this study is therefore to find out the factors which influence the capital structure decision with special reference to Indian Information Technology Sector.

# 5. Hypothesis

Determinants of Capital Structure in Information Technology Sector of India are independent of size, growth, liquidity, profitability and dividend payout of the companies.

# 6. Research Methodology

# 6.1 Sampling Design

To attain the aforesaid objective, top 22 IT companies were selected on the basis of rank of the market capitalization as on March 2007.

# 6.2 Source of Data

The study was based on data collected from secondary sources. They are Capitalline

Database 2007, Bombay Stock Exchange Directory and Financial Statement of Indian Companies. Further, annual reports of different companies and Website.htt://indiainfo.com were also used.

# 6.3 Data Coverage

The study covered a period of five years from 2004 to 2008 and seems to be good enough to evaluate the determinants of capital structure of Information Technology Sector.

# 6.4 Tools and Techniques

The variables considered for the analysis included financial leverage, growth (percentage change of sales over previous year), size (capital employed), profitability (percentage change of RONW over the previous year), liquidity (current ratio) and finally dividend pay out ratio. Both financial and statistical tools and techniques were used to evaluate the determinants of capital structure of Indian Information Technology Sector. Financial tools like ratio analysis and statistical tools such as correlation and regression analysis were used for the analysis.

# 7. Analysis of Data

The pooled data sprawling over five years was analysed using Correlation Matrix. Further, Multiple Regression Line was fitted taking financial leverage and debt- equity ratio as dependent variable (Y) and other aforesaid variables as independent variables.

# 7.1 Correlation Matrix

The Correlation Matrix was constructed by taking various possible combinations of dependent and independent variables. The outcome of this exercise is given in **Table-1**. The analysis showed statistically significant correlation between two variablesleverage and growth measured in terms of percentage change of sales over the years. It implies that the Indian IT Sector has leveraged its turnover with higher degree of financial leverage. The Sector in the context of global slowdown has experienced economic downturn in the recent past, thwarting its profitability. This has resulted in liquidity crisis, sluggishness in the DPR and also lower degree of shareholders wealth maximization. Thus growth of firms, as far as sample was concerned, undoubtedly influenced the capital structure, i.e. mix of debt and equity of the firm. However, there is little evidence to conclude that leveraged firms will definitely yield benefits for the owners even when the external ambience is not congenial.

# 7.2 Regression Results

The regression results indicated (Table-2) that growth became the key variable and statistically significant at 5 percent level of significance in capital structure decision. A deeper look at the  $R^2$  value revealed that the regression model explains 54 percent of the debt-equity pattern of Indian IT Sector. Moreover, F value was found to be significant at 5 percent level of significance, suggesting overall applicability of the existing model. The regression results also revealed positive but insignificant relationship between debt-equity ratio and dividend payout ratio, indicating the fact that there are several other factors like profitability, investment opportunity of the firm, influence of market forces, activity of dominant shareholders etc in determining the level of DPR. The results of the study showed positive and significant association between growth and debt-equity ratio. On the other hand, liquidity of the IT firms was found to be positively influenced by capital structure decision, though statistically not significant. But higher the capital structure, higher the liquidity's weak proposition as liquidity of the firms generally depends on sustainable free cash flow which is basically routed from the level of firm's operating risk and financial risk. The size also turned out to be insignificant in the context of capital structure decision.

# 8. Limitations of the study

The study was mainly based on secondary data and it was confined to only Information Technology Sector. It was limited to only 22 companies covering a period of 5 years. Because of lack of suitable data, study included very few variables to test the determinants of capital structure of Indian IT Sector. In the absence of more reliable data, Capitalline Database was mainly used.

# 9. Conclusion

In connection with the determination of appropriate constituents of capital structure, it was observed that the findings were almost similar. However, a few are diametrically opposite in the case of Indian IT Sector. The findings from the empirical study support the earlier research findings of positive relationship between size and leverage ratio. It showed that increase in capital employed might not necessarily be financed by debt as it was indicated by earlier research studies. The profitability of the firm also refutes the relationship as established in earlier literature. Thus, amongst the selected intervening variables, only growth of firm turned out to be a significant determinant of capital structure decision of the firms as far as Indian IT Sector is concerned.

Generally firms with sound bottom-line rely more on debt than less growing firms. The theoretical foundations of capital structure decisions are undoubtedly useful, but its practical application, especially in a country like India, suffers from serious limitations. In India, legal determinants play a significant role in shaping the capital structure of corporate. Important ones are creditor rights, maintenance of legal reserves and law enforcement. Some studies have shown that debt structure is also determined by how rights are enforced by creditors. Debentures in India are, by definition, secured loans having a floating charge on all the aspects of the company compared to working capital finance by commercial bank, which generally have a second or inferior charge on assets. Therefore it becomes sometime important to consider this factor before choosing between short term and longterm debts or choosing debts at all. The Companies Act 1956, requires the companies to maintain reserve before distributing profits and also there are provisions which impose restrictions on the borrowings by the Board of Directors of a company beyond certain limits. Further, the quality of law enforcement and risk assessment also influence capital structure decisions.

#### 10. Scope for Further Research

Thus, studies with similar objectives in other sectors like banking, pharmaceuticals, chemical etc on a regular basis, incorporating wider range of variables like risks, age of the firm, law enforcement etc are open for research in capital structure decision.

#### References

- 1. A Barges, (1963), The Effect of Capital Structure on the Cost of Capital, Englewood Cliffs, N.J., Prentice-Hall, Inc., p.2.
- 2. A. Mohanty, (2002), Review of Research on the practices of corporate finance, *South Asian Journal of Management*, Vol. 9, No. 4, pp. 35.
- 3. Bradley, Jarell and A. Kim, (2002), Review of Research on the practices of corporate finance, South Asian Journal of Management, Vol. 9, No. 4, pp. 29.
- 4. Brigham, F. Eugene & Ehrhardt, C. Michael, Financial Management, *theory and practice*, Thomson, Chapter 16&17.
- 5. D. Famulu, (1995), Capital Structure Planning in Public Enterprises, Anmol Publications Pvt. Ltd., New Delhi.
- 6. Fischer, Edwin with Robert Heinkel and Josef, Zechner (1989), Dynamic Capital Structure Choice: Theory and Tests, *Journal of Finance*, Vol. 44 No. 1.
- 7. Franco Modigliani and H.M Miller, (1958), the Cost of Capital, Corporation Finance

and Theory of Investment, American Economic Review. Vol-48, No-3, pp-261-297

- 8. I.M Pandey (1999), Financial Management, Vikas Publishing House Pvt. Ltd., New Delhi.
- I.M Pandey, (1984), Financing Decision: A Survey of Management Understanding, *Management Review*.Vol-22, No-3
- 10. J. Stein, (2001) "Agency, Information and Corporate Investment". A Handbook of Economics of Finance.
- 11. J.C. Van Horne and Jr.M.John Wachowicz (2003), Fundamental of Financial Management, Person.
- K.V Sharma (1998), Management of Industrial Finance in India, Print well Publishers Distributors, Jaipur.
- 13. M.C Gupta, (1969), The effect of size, growth and industry on financial structure of manufacturing companies, *Journal of Finance*, Vol.24, No. 3, pp. 517-529.
- M.G Ferri and W.H Jones (1979), Determinants of Financial Structure; A new methodological approach, *Journal of Finance*, Vol. 34, No. 3, pp. 631-644.
- 15. M.J Gorden, (1962), The Investment, financing and valuation of corporation, Homewood III, Irwin.
- 16. Michael Davenport, (1971), Leverage and the Cost of Capital, Some Test Using British Data, Economica, XXXVIII, pp-136-162.
- 17. N.D Baxter, (1967), Leverage, Risk of ruin and the cost of capital, *Journal of Finance*, Vol.22, Sept. pp. 395-403.
- N.K Kulshrestha, (1996), Management Accounting Concepts and Cases, Tata Mc. Graw- Hill Publishing Company Ltd., New Delhi.
- N.Toy, A.Stonehill, L.Rammers. and T.Beekhuisen (1974), A Comparative International Study of growth, profitability and Risk as determinants of corporate debt ratio in the manufacturing sector, *Journal* of Financial and Quantitative Analysis, Vol.9, No-3, pp. 875-886

SMART Journal of Business Management Studies Vol. 6 No.2 July - December 2010 22

- P.V Kulkarni, (1981), Financial Management, (A Conceptual Approach) Himalaya Publishing House; New Delhi.
- R.K Kakani (1999), The Determinants of capital structure- An econometric analysis, *Finance India*, Vol.XII, No. 1, pp. 51-69.
- 22. R.M Srivastaba, Financial Management and Policy: Himalaya Publishing House, Mumbai.1997.
- 23. Rao, P. Mahanta (1989), Debt Equity Analysis in Chemical Industry, Mital Publications, New Delhi
- 24. S.C Kuchhal, (1961), Financial Management: An Anatycial and Conceptual Approach; Chaitanya Publishing House; Allahabad.
- 25. S.K Chakroborty, (1977), Corporate and Cost of Capital, ICWA, Calcutta.
- 26. S.K. Bhattacharyya, (1970), A cost of Capital Framework for Management

Control, *Economic and Political Weekly*, Vol. 35,No 29

- 27. S. Venketesan (1983), Determinants of financial leverage: An empirical extension, The Chartered Accountant, 1983, pp. 519-527.
- 28. Sarma and Hanumanta. Rao (1969) Leverage and the Value of the Firm, *Journal of Finance*, XXIV, pp-673-677.
- 29. Solomon Ezra, leverage and the cost of capital in management of corporate capital, The Journal of Finance, Vol.18.No.2.
- 30. V.K Bhalla,(1999), Contemporary issues in Finance, Anmol Publications, New Delhi.
- 31. W.T Carelton and I.H Siberman, (1977), Joint determination of rate of return and capital structure, an econometric analysis, *Journal of Finance*, Vol. 32, pp. 811-821.

	GRW	LQDTY	SIZE	LVRG	DPR	PRFT
GRW	1.000			*		
LQDTY	.195	1.000				
SIZE	091	126	1.000			
LVRG	.700*	.221	232	1.000		
DPR	285	326	.258	162	1.000	
PRFT	302	072	.543	373	.076	1.000

#### **Table-1** Correlation Matrix

\*. Correlation is significant at the 0.05 level (2-tailed).

# Table- 2 Regression Coeffcients

				Standardized		
		Un standardized Coefficients		Coefficients	t	Sig.
Model		В	Std. Error	Beta		
1	(Constant)	3.406E-02	.312		.109	.013
	GRW	3.494E-03	.002	.667	2.161	.014
	LQUDTY	3.300E-02	.096	.101	.343	.743
	SIZE	-1.38E-05	.000	131	377	.719
	DPR	1.309E-03	.004	.103	.327	.754
	PRFT	-2.13E-03	.007	101	288	.783

 $F_{(.038)} = 1.411, R^2 = 0.540$ 

SMART Journal of Business Management Studies Vol. 6 No.2 July - December 2010 23

# LIQUIDITY IN MALAYSIAN PUBLIC LISTED COMPANIES J.Raja

Faculty of Business and Law, Multimedia University, Malacca, Malaysia M.Kalyanasundaram,

Faculty of Commerce, Urumu Dhanalakshmi College, Trichy, Tamil Nadu, India

#### Abstract

Cash holdings are the lifeblood of any company, especially those looking forward to invest in new projects and grow in the process. Cash can be generated internally from operations or supplied by external sources. Many start-ups and new ventures can not generate adequate revenue internally to fund all their capital needs and therefore they are dependent on external suppliers. A firm becomes financially constrained when all of its existing sources of capital are unable or unwilling to supply the desired amount of funds. Therefore, maintaining appropriate levels of liquidity within the firm is crucial towards the smooth operations of any business. Managers are more likely to reserve large proportion of cash as firm's assets for the purpose of capital expenditure, dividend payment to shareholders, and future investment opportunities (Almeida et al, 2002). The present study focuses on determining the levels of Corporate Cash Holdings of Malaysian Firms, across different size and different industries. Moreover, the behavior of different determinants affecting a firm's cash holding has also been studied. Evidence from prior research indicates that these variables or determinants are constantly used in evaluating the cash holdings and these determinants include firm size (Kim et al., 1998), leverage factor (Opler et al., 1999), agency cost / ownership concentration(Grossman and Hart, 1988), growth opportunity (Shleifer and Vishny, 1992), internal source of financing (Ranjan D'Mello et.al 2007), and cash flow volatility (Minton and Schrand, 1999).

#### Firm Size

Titman and Wessels, (1988) explained that larger firms are more likely to be diversified and thus less likely to face financial distress. This situation enables larger firms to raise funds externally at lower cost as compared to smaller firms because the size of a firm can be an inverse proxy for the degree of informational asymmetry between insiders and outsiders. In other words, larger the firm's size, lower the fund raising cost and there is no need to hold so much cash in the coffers. Thus, a negative relation should be expected between size and cash holding. While Almeida et al. (2004) contended that large firms are able to access capital markets easily compared to small firms because large firms face fewer restrictions.

#### Leverage

Firms can maintain financial flexibility through large cash reserves and unused debt capacity (low leverage) and it generates a negative relationship between firms' cash reserves and leverage (Graham and Harvey, 2001).

#### Ownership

Large shareholders, having claims on large fraction of the firm's cash flow, can monitor managers more effectively. Consequently, in the presence of a large shareholder, managerial discretion is likely to be curbed and agency costs between management and shareholders are expected to be lower (Stiglitz, Shleifer & Vishny, 1985).