

Determination of Factors Affecting Capital Structure of Micro, Small & Medium Enterprises in India

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Abstract: *The present paper is an attempt to investigate the critical factors that affect the capital structure of forty Micro, Small & Medium Enterprises (MSMEs) in India. The research study was performed from five year plan 2011 to five year plan 2017. Four different economic sectors (Information Technology, Infrastructure and Automobile) have been considered for the present research. The study examines the effect of factors under study on the capital structure across all given sectors. The management environment was found to relate to all types of capital structure performance. Panel Data regression analysis was performed by applying Statistical package STATA. It reveals that firm size has been emerged as major determinant that affects capital structure of Micro, Small & Medium Enterprises under study. The present results indicate that the MSMEs with sound liquidity positions, exercising the practice of paying high dividends and fall under high tax brackets do not largely depend upon debt financing. The conclusions of this study confirm asset structure came out as the least influenced factor that affect capital structure of MSMEs.*

Keywords: Capital Structure, MSMEs, Regression

1. Introduction

The aim of this research paper is to propose the demonstration on the determinants of capital structures relating to developing countries like India. The paper concentrates on the structure theory that is relevant in the Indian context. The broad objective of this research is to investigate the determinants of capital structure in the Indian context. Conservative decisions pertaining to the investment are considered as critical for those companies as it concerns the interest of the shareholders. Investment is considered as the sacrifice of present money for reaping the high return rate in future. The return of investment predominantly depends upon the risk taking capability of the firm and its investment selection criterion. For investments, a company can raise funds from various existing options including shareholders. The selection of ventures for raising funds depends upon the capital structure policy of company. The capital structure of the company depends upon the optimal mix of the debt and equity proportion in overall capital. Yusuf et al. examined that the liquidity position of the company, valuation of the firm and its asset structure have a considerable impact on a firm's capital structure [1]. The study by Ma observed that profitability, short-term debt paying capability and enterprise scale have a significant impact upon the capital structure of a firm [2]. Cekrezi examined 69 non listed Albanian firms and observed that return on assets, firm size, and liquidity significantly influence the long-term debt to total assets (LDTA) and short-term debt to total assets (SDTA) [3]. Myers observed that profitable firms are likely to have more retained earnings and use less debt capital [4]. Holmes and Kent revealed that a positive relationship exists between the capital structure of a firm and its assets structure consisting with pecking order theory [5]. Hoque et al. reveals that financial risk, profitability, liquidity, and operating risk are the important determinants of capital structure [6].

Patrik Bauer investigated that there is a negative relationship between growth opportunities and leverage measured in market value with evidence concerning the relationship between leverage and industry classification [7]. These studies significantly examined the determinants of capital structure in the case of large manufacturing companies. The lesser financially levered firms tend to be more profitable and asset growth is positively related to debt financing. The profitability substitutions are both statistically and economically significant, which is compatible with pecking order arguments. The empirical investigation suggests that firms favor internally generated resources over outside capital, either equity or debt. Small and medium sized enterprises (SMEs) tend to finance their expansion with debt when internally generated funds are insufficient, which again is compatible with the pecking order theory. SMEs do not emphasize their distinct attention to these factors predominantly an access to size of the business, capital markets, profitability of the business, ability of owners to raise funds, lender's attitude towards the firm, age of the business and lending interest rates.

The larger firms tend to have more debt capacity, as predicted by traditional capital structure theories, while older SMEs are more conservative and tend to use less debt, although the magnitude of the coefficient is small in both cases. Majluf later advanced a related theory, known as the pecking order theory, stating that information asymmetries would lead firms to always prefer to finance their activities with internally generated funds, followed by debt issuance, and would choose to issue new equity only as a last resort [4].

A third major line of capital structure research was called Equity Market Timing theory, established and recommended in the manipulation of capital market incompetence by a firm. According to this theory, a company would tend to issue new shares whenever the difference between its market

value and its accounting value became adequately satisfactory [15]. The variety of the capital structure literature, relatively few authors have investigated the financing decisions of small and medium enterprises. The limitation is that SME data are often occasional and unreliable because these firms are privately owned. It has often been anticipated that privately-owned SMEs will eventually become publicly traded companies throughout their life cycle. Small and medium enterprises are accountable for a substantial share of the profitable evolution and service in most countries including India. The life cycle of SMEs, tend to be privately held and employ less refined accounting and financial practices than their superior counterparts. In fact, due to inadequate capitalization, excessive debt, and poor record keeping, many companies have financial problems and they relate these problems to the poor financial education of entrepreneurs and consequently, of the company [18].

The main advantage of the present approach is to apply advanced statistical procedures to a uniquely large and diversified sample, allowing us to find statistically reliable patterns in the distribution of the leverage ratios of SMEs. The main analysts of leverage ratios featured in the present literature help to explain the cross-sectional differences in the capital structures of these firms. The available database has no information on the type and maturity of loans. So it is very difficult to directly assess the extent to which our sample firms' debt comes from bank loans or trade credit. The scope of the present analysis is unavoidably constrained due to these data limitations, on cash flows, dividend payments and capital expenditures, as well as on debt and equity issuance.

The predictions of the pecking order hypothesis are difficult to test as to whether the financing deficits are closely tracked by new loans over time [16], [17]. In order to maximize returns to various organizational communities, an appropriate capital structure is an acute decision for any business organization as stated by Roy and Ming Fang [19]. The organization's ability to deal with its economic environment has a direct impact of such type of decisions. Modigliani and Miller highlighted that the well-established optimal capital structure should provide greater returns to stockholders and there exists a balance against the risk of liquidation with the tax savings of debt [20], [21]. Optimal capital structure is accomplished when the tax benefit delivered by extraneous resources is well-adjusted with financial effort and economic failure expenses. On the other hand, a high debt/equity ratio will lead to financial concern with a decrease of market value for a firm and therefore, an evolution in debt costs and capital cost. Moreover, when a firm is in financial difficulty, this will cause an increase in legal expenses, opportunity costs as well as direct and indirect costs related to suppliers and customers. The fundamental of the approach, which was introduced by Franco Modigliani and Merton Miller, is based on the insignificance theory, where firm value is independent of capital structure. After Modigliani and Miller's theory, many theoretical studies have been proposed and conducted on capital structure. On the other hand, two leading simulations clarify capital behaviors of the firms. The first is "Trade-off

Theory", which highlights that the most suitable capital structure can be achieved where financial difficulty and economic failure overheads are balanced due to the tax shield advantage of the financing achieved by using external funds.

MSMEs play a vital role in emerging economies like India. The present paper attempts to identify the major factors impacting capital structure decisions of MSMEs in India. It has been observed that some of the determinants of capital structure include the size of industry and country norms. It examines the important factors that influence the capital structure decisions of Indian MSMEs.

2. Data and Research Methodology

a) Data

In the present research, the period of research study is seven years from January 1, 2011 to December 31, 2017. The financial data of 40 companies has been extracted, and includes 10 companies from four sectors (automobile, FMCG, IT and Infrastructure) for consideration.

b) Dependent Variables

After analyzing the previous research literature and investigating the present economic and business scenario, leverage has been considered as the dependent variable, a proxy of capital structure of firm. Long Term Debt Ratio variables been used as proxy for leverage.

$$\text{Total Debt ratio} = \frac{\text{Total Debt}}{\text{Total Assets}}$$

c) Independent Variables

In the present research, six factors have been considered as independent variables. The following variables have been used as a proxy for these six factors in the present research.

d) Profitability

Return on equity was considered as the proxy for profitability to analyze the relationship between profitability and leverage.

$$\text{Return on Equity} = \frac{\text{Profit After Tax}}{\text{Net Worth}}$$

e) Firm Size (FS)

Firm size plays a momentous role in capital structure of the entity. Booth et al. (2001) observed that around 64% of micro firms, 42% small firms and 21% medium size firms bear problems in raising debt as compared to 10% of large firms that faced constraints in debt financing [8].

$$\text{Firm size} = \log (\text{Total Sales})$$

f) Asset Structure (AS)

There is a significant relationship between capital structure and asset structure.

$$\text{Asset Structure} = \frac{\text{Total Fixed Assets}}{\text{Total Assets}}$$

3. Methodology

Regression model was applied to determine the factors affecting the capital structure decisions of MSMEs.

Regression Models:

Model 1 (Total Debt) is written as:

$$TDR = \beta_1 ROE + \beta_2 FS + \beta_3 AS$$

4. Results

Table 1 provides the descriptive statistics of the variables used in the study. The total debt to capital employed ratio ranges between 1% and 68% with an average of 25%. This reveals that the present sample of MSMEs are not financed mainly through debt.

Table 1: Descriptive Statistics

Variables	Minimum	Maximum	Mean	Std. Deviation
ROE	0.015	1.457	0.089	0.042
FS	6.789	16.738	11.45	0.579
AS	0.152	0.937	0.685	0.217

Table II: Hausman Test

Test statistics	Aggregate	Automobile	FMCG	Infrastructure	IT
Chi ²	75.86	27.11	42.49	35.29	23.84
P > Chi ²	0.000	0.000	0.000	0.000	0.000

Table III: Regression Model

	Model statistics	Industry				
		Aggregate	Automobile	FMCG	Infra structure	IT
<i>r</i> ²	Within	0.793	0.378	0.757	0.7409	0.6967
	Between	0.718	0.1538	0.4893	0.0896	0.7479
	Overall	0.724	0.1468	0.5867	0.4047	0.6985
	F Value	98.42	44.78	39.57	62.78	41.78
	Prob> F	0.000	0.000	0.000	0.000	0.000

Source – Output of regression analysis in STATA

Within *r*² refers to the observation of effects over time within firms; between *r*² refers to the observation of effects between firms at any one point in time. The *r*² values for the aggregate sample suggest that all independent variables account for 72% overall variation in the *Leverage*, 79% variation within companies over time and 72% variation between companies at one point in time. The model fits according to *r*² appear to be good in the majority of cases, with the exception of the automobile and FMCG industries.

Table 4: Regression Coefficients

	Automobile	FMCG	Infra	IT	Aggregate
TDR	0.146**	-0.1809**	-0.247**	-0.157	0.428**
ROE	0.0418	-0.0372	0.426**	-0.0391	0.153**
FS	0.104**	0.106**	0.08623*	0.759**	0.425**
AS	-0.018	0.036	0.069**	-1.02	-0.978
Constant	1.07	2.93	3.28	0.594	1.348

Source: Output of regression analysis in STATA, Note: ** Significant at 1% level of significance; * Significant at 5% level of significance.

Table III shows the panel data regression coefficients. The results indicate that Indian MSMEs do not largely depend upon debt financing, and thus, their firm risk is quite low.

Profitability (ROE) is non-significant in the majority of the sectors under study. It signifies that there is no relationship

between ROE and the capital structure of firms across the industries. Ozkan (2001) backs the present findings about the negative relationship between profitability and capital structure [9]. The statistics show that coefficient of assets structure (AS) and capital structure have no significant relationship in the present study. The results indicate the higher proportion of fixed assets in total assets will lower asymmetric information problems and should raise more debt. The assets structure is not correlated with capital structure. The present research results contradict with the findings of Barclay et al. [10] and Rajan and Zingales [11]. The result infers a positive relationship between firm size (FS) and capital structure (leverage) across all the industries. The present study results have been supported by the similar findings of Frank and Goyal [12], [13]. The coefficients keep getting more negative as we move back in time. Bevan and Danbolt argued that analysis of capital structure is incomplete without a detailed examination of all forms of corporate debt [14].

5. Conclusions

The present research focuses on the factors affecting capital structure of MSMEs in India. The results provide some new findings to the analysts as well scholars and give a new ground to research on MSMEs in developing countries. The study explores that MSMEs with high proportion of fixed assets to long-term debt as it is easier to raise debt through collateral fixed assets. Growing MSMEs utilize debt only for short-term purposes and asset structure came out as the least influenced factor that affect the capital structure of MSMEs.

References

- [1] Yusuf Aziz N, Al Attar Ali M and Al- Shattarat Husni K 2015 "Empirical Evidence on Capital Structure Determinants in Jordan" International Journal of Business and Management 10(5) 134-152.
- [2] Ma, J. H. (2015). Relationship Between Capital Structure and Firm Performance, Evidence From Growth Enterprise Market in China. Management Science and Engineering, 9(1), 45-49.
- [3] Cekrezi Anila 2015 "Internal Factors which Influence Capital Structure Choice of Albanian Firms" Research Journal of Finance and Accounting, 6(8): 168-175.
- [4] Myers, S.C., 1984. The capital structure puzzle. Journal of Finance 39, 575–592.
- [5] Holmes, Scott and Kent, Pam (1991) "An Empirical Analysis of the Financial Structure of Small and Large Australian Manufacturing Enterprises," Journal of Small Business Finance: Vol. 1: Iss. 2, pp. 141-154.
- [6] Hoque Jahirul, Hossain Ashraf and Hossain Kabir 2014. "Impact of Capital Structure Policy on Value of the Firm – A Study on Some Selected Corporate Manufacturing Firms Under Dhaka Stock Exchange" ECOFORUM, 2(5), 77-84.
- [7] Bauer, P., 2004. "Determinant of capital structure: Empirical evidence from Czech Republic" Czech Journal of Economics and Finance, 54: 2-21.

- [8] Booth, L., V. Aivazian, A. Demircug-Kunt and V. Maksimovic. 2001. "Capital structures in developing countries". *Journal of Finance*, 55(1): 87–130.
- [9] Ozkan, A. 2001. "Determinants of Capital Structure and Adjustment to Long-term Target: Evidence of UK Company Panel Data". *Journal of Business, Finance and Accounting*, 13: 187-221.
- [10] Barclay, Michael J. and Clifford W. Smith, Jr. 1996. "On financial architecture: Leverage, maturity and priority". *Journal of Applied Corporate Finance*, 8: 4–17.
- [11] Rajan, R. G. and L. Zingales. 1995. "What do we know about capital structure: Some evidence from international data". *Journal of Finance*, 50: 1421–60.
- [12] M. Frank and V. Goyal (2003) "Testing the pecking order theory of capital structure," *Journal of Financial Economics*, 67 217-248
- [13] M.Z. Frank and V.K. Goyal, 2009. "Capital structure decisions: Which factors are reliably important? " *Financial Management*, vol. 38, 1-37.
- [14] Bevan, A. A. and J. Danbolt 2002. "Capital Structure and its determinants in UK- a decomposition analysis" *Applied Financial Economics*, 22: 395-403.
- [15] Baker, M., & Wurgler, J. (2002). Market timing and capital structure. *The Journal of Finance*, 57(1), 1-32. doi: 10.1111/1540-6261.00414.
- [16] Lemmon, M. L., & Zender, J. F. (2010). Debt capacity and tests of capital structure theories. *Journal of Financial and Quantitative Analysis*, 45(5), 1161-1187.
- [17] Shyam-Sunder, L., & Myers, S. C. (1999). Testing static tradeoff against pecking order models of capital structure. *Journal of Financial Economics*, 51(2), 219-244.
- [18] Gartner, W. B., Shaver, K. G., Carter, N. M., & Reynolds, P. D. (2004). *Handbook of entrepreneurial dynamics - the process of business creation*. London: Sage Publications.
- [19] Roy L. S. and Mingfang L. (2000). Environmental dynamism, Capital Structure and Performance: A Theoretical Integration and an Empirical Test. *Strategic Management Journal*, 21, 31-49.
- [20] Modigliani, F., & Miller, M. H. (1958). The cost of capital, corporation finance and the theory of investment. *The American Economic Review*, 261-296.
- [21] Modigliani, F., & Miller, M. H. (1963). Corporate income taxes and the cost of capital: a correction. *The American Economic Review*, 433-443.

Author Profile



Jasnoor Kaur received the MBA and Ph.D degree in Management from Punjab Technical University, Jalandhar in 2002 and 2014 respectively. During her doctorate she has conducted a research on Emerging Trends in Retailing in Northern India. She is working as an assistant Professor since 2003 and currently she is working with Guru Nanak Girls College, Model Town, Ludhiana.