

“AN EMPIRICAL ANALYSIS OF FINANCIAL LEVERAGE, EARNINGS OF SME”

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ABSTRACT

This paper attempts to make an analytical study of theoretical approaches and practical application of financial leverage and earnings per share of SME with data for the period of 2008-2013. For the purpose of analysis, ratio techniques and to test hypothesis for correlation co-efficient 't' has been used. The result of the study indicates that there is a no correlation between DFL and EPS and the difference is insignificant where as result of correlation coefficient at 5% level of significance showed that the diffidence is not significant between DFL and EPS. The analysis can be improved increasing the number of years taken for the study.

KEYWORDS- *Financial Leverage, Dividend, Earnings.*

INTRODUCTION

Liberalization, globalization and privatization are the important issues to the entrepreneur and corporate threatening the existence of a firm. In such a complex corporate environment, it is the challenge to the finance manager to survive the firm in long- run perspective with the objective of maximizing the owner's wealth. With a view to achieve this objective, finance manager is required to pay his due attention on investment decision, financing decision and dividend decision. Assuming that sound investment policy and port unity are there, it is my intention in this paper to optimize the financing decision and dividend decision in the context of

achieving the stated objective. Financing decision refers to the selection of appropriate financing-mix and so it relates to the capital structure or leverage. Capital structure refers to the proportion of long- term debt capital and equity capital required to finance investment proposal. There should be an optimum capital structure, which can be attained by the judicious exercise of financial leverage. This paper mainly concentrates on the exercise of financial leverage in the context of understanding its impact on earnings and dividend per share.

Financial Leverage:

Financial leverage is primarily concerned with the financial activities which involve rising of funds from the sources for which a firm has to bear a fixed charge. These sources include long-term debt (e.g. bonds, debentures etc.) and preference share capital. Long-term debts capital carries a contractual fixed rate of interest and its payment is obligatory. As the debt providers have prior claim on income and assets of a firm over equity shareholders, their rate of interest is generally lower than the expected return on equity shareholders. Further interest on debt capital is a tax deductible expense. These two phenomena lead to the magnification of rate of return on equity capital and hence EPS. It goes without saying that the effect of changes in EBIT on the earnings per share is shown by the financial leverage. Financial leverage can best be described as "the ability of a firm to use fixed financial charges to magnify the effect of changes in EBIT on the firm's earning per share."

Earnings Per Share In The Context Of Optimum Capital Structure:

Earnings per share are the reward of an investor for making his investment and it is the best measure of performance of a firm. "The bottom line of Income Statement is an indicator of performance of 'think tank' or 'top level' of the company". Ordinary investors lacking in-depth knowledge and inside information mainly based on EPS to make their investment decision. So it should be the objective of financial management to maximize the EPS from the view point of both the investor and owners. Again the objective of financial management is maximization of value measure in terms of market price of equity share of a corporate entity. Given the objective of the firm to maximize the value of equity share, a firm should select a desired combination of financing mix or capital structure to achieve the goal. Theoretically, optimum capital structure implies that combination of debt and equity at which overall cost of capital is minimum and value of the firm is maximum. The prevailing view is that the value maximization criterion as a

criterion of optimal capital structure is measured in terms of market price of equity share i.e. the value of the firm is maximized when the market price of equity share is maximized. So, according to this view, maximization of market price of equity share leading to the maximization of value of the firm is a criterion of optimum capital structure. But I beg to differ. Market price of equity share though basically depends on firm's earnings per share, it also depends to a great extent on many external factors such as government monetary and economic policies, political stability, state of economy, speculative trends etc. and it may be contended that market price of share has no direct bearing on the optimum capital structure. In this context an example of a firm may be drawn which is running with optimum debt-equity combination. Now due to the influence of some external factors i.e. sudden political change or something like this, the market price of its equity shares started decreasing and as a result value of the firm went on decreasing. Due to the downward movement of the value of the firm, its capital structure will not become optimum further and will need restructuring to become optimum again. In practice, change in market price of equity share may occur very rapidly and hence it is very difficult to change the composition of capital structure accordingly. Capital structure decision is an internal decision of the firm. So what I really think is that increase in market price of equity share due to the influence of external factors leading to the maximization of the value of the firm should not be a criterion of optimum capital structure. Rather 'EPS may be a better substitute as a criterion of value maximization in respect of optimum capital structure and as such maximizing EPS should be the main slogan or SME-mantra of a firm in order to realize the objective of maintaining an appropriate capital structure.

Financial Leverage, Earnings:

Use of fixed cost bearing capital in the capital structure is termed as financial leverage. Such capital especially debt is cheaper than the equity as the cost of debt is generally lower than that of equity and a tax advantage is attached with its use. In these circumstances, if total capital employed remains constant, increase in the financial leverage or use of debt implies that a relatively cheaper source of fund replaces a source of fund having relatively higher cost. Now if a company follows this practice its net return will be attributable to the low base of equity shareholders (lower base being due to the increase in financial leverage). As a result it will lead to the magnification of return to the equity and thus EPS. But one should keep in mind that the same holds good in favorable business environment where the company is able to earn a rate of

return on investment being higher than its cost of financing. So long this situation continues the return on equity or EPS will increase with the increase in financial leverage. The excess of the rate of return on investment over the fixed rate of interest and pref. dividend will go to the equity shareholders. However, during the period of adversity when the company is not in a position to earn greater (at least equal) rate of return than the cost of debt and pref. share, its return on equity and EPS, instead of increase, will actually decrease, with the increase in the financial leverage.

As higher earnings would result in higher dividend, the above discussion follows that increase in the use of financial leverage increases the earnings per share and thus dividend per share. Conversely decrease in the use of financial leverage decreases the earnings and dividend per share.

Leverage not only tends to magnify shareholders' return and return on investment under favorable conditions, but also exposes them to risk. Use of more and more debt capital raises the riskiness of the firm's earnings stream but it tends to provide a higher rate of return to shareholders'. The concept 'privatization' leads to the employment of more amounts of external funds in the capital structure of the Indian companies too. The use of debt funds requires the payment of fixed contractual commitments and as a matter of fact the concepts financial risk and financial break-even point have come into the financial decision-making process. The emphasis of the present study is to measure and analyze the operating risk, financial risk, financial break-even point and risk by way of computing the Degree of Financial Leverage (DOL), Degree of Financial Leverage (DFL), Financial break-even point and Degree of Total Leverage (DTL) of the selected public sector oil and gas companies in India during the period from 2000-01 to 2009-10. It can also be judged the degrees of associations between the various leverage ratios and important profitability indicator viz., Return on Equity (ROE) of the selected companies under study for the given study period. A comparative analysis can be done regarding the capital structure of the selected of the selected public sector oil and gas companies in India during the given study period to arrive at the decision whether there is a necessity to change the proportion of debt capital to total capital or not to fulfilling the objectives to sustain and grow in the present competitive environment at the present era of liberalization, privatization and globalization.

1.2 Objectives Of Study:

The objectives of the study are as under:

1. To study the methods of raising finance and financial leverage practice of the company

2. To examine the impact of financial leverage on EPS
3. To assess the inter relationship between degree of financial leverage (DFL), Earnings Per Share (EPS).

Scope Of The Study:

A study of capital structure and its impact on profitability involves examination of debt and equity as well as total funds, return on equity and return on capital employed. The scope of the study is confined to the sources that SME tapped over the years under study i.e., 2008-2013. The time period considered for evaluating the study is five years.

Limitations Of The Study:

- The present study is confined to SME.
- The study is analyzed with the help of correlation.

The analysis was restricted to the data available in the balance sheet of SME.

REVIEW OF LITERATURE:

There has been several capital structure studies conducted in the hospitality industry. (A, 1994) Was one of the pioneers, reporting that collateral value of assets would be the most significant determinant of long-term debt in his research on hotel and manufacturing firms. (Kim, 1997) investigated the determinants of restaurant capital structure. In the study, seven variables (size, earning volatility, profitability, growth opportunities, non-debt tax-shield, percentage of franchise, and lease expense) were regressed against short-term, long-term and total debt of restaurant firms. The significant determinants for long-term debt were firm size, growth opportunities, and lease expense. All three predictors were negative. In other words, smaller restaurant firms having fewer growth opportunities and spending less on leases were more likely to use long-term debt (Kim, 1997). Using a pooled regression analysis, (Dalbor, 2002) summarized theories related to debt maturity and debt selection (contracting costs of debt, signaling effects, and tax effects). Firms with growth opportunities should need less long-term debt because they make more discretionary investments and they are not willing to pay the relatively high fixed costs of high interest payments. Long-term debt tends to send the wrong signal about a firm's market value; low-quality firms may take advantage of mispricing because investors are not able to distinguish them from high-quality firms. In terms of tax effects, a firm with a higher tax rate tends to use more long-term and more risky debt. Tax rates also can be

used as a proxy for the firm's financial stress or distress. In empirically testing these theories, results showed that larger restaurant firms with low growth opportunities and with a higher probability of bankruptcy use more long-term debt because they don't want benefits to accrue to bondholders, they can afford the higher fixed costs of long-term debt, and they are willing to take advantage of mispricing. Moreover, riskier restaurant firms tend to use more long-term debt (Dalbor, 2002).

Most studies of capital structure used a basic assumption of the trade-off theory. Once firms find a certain optimal combination of financing sources, that is, the mix of debt and equity sources that balance the benefits of the tax shield provided by debt with the increased costs of financial distress to the firm's equity holders, firms should maintain this target capital structure. However, two empirical studies indicated that this is not valid. Although the two studies surveyed different samples, the interpretation of the results was similar. (Wilbricht, 1989) surveyed Fortune 500 firms, only 31% of the firm's reported that they used target capital structure. (Hittle, 1992) Surveyed the 500 largest over-the Counter firms and found that only 11% of the surveyed firms used target capital structure. Furthermore, when both taxes for corporate and equity holders were considered at the same time, financial leverage appeared not to bring significant benefits to the investors at the end (Myers S. , 2001). Although this is difficult to explain under the agency cost/tax shield trade-off theory, (sunder and Myers, 1999) explained that the most profitable firms in many industries often have the lowest debt ratio, which is very different from predictions using the trade-off theory. (Dann, 1981) and (James C. , 1987) also noted that large positive abnormal return for a firm's stockholders are associated with leverage increasing events such as stock repurchases or debt-for-equity exchanges instead of leverage-decreasing events as issuing stock. Few American companies issue new stock as frequently as once per decade. In contrast to the trade-off theory, the pecking order theory of capital structure states that firms have a preferred hierarchy for financing decisions. The highest preference is to use internal financing such as retained, before resorting to any form of external funding. If a firm uses external funding, the order of preference is debt, convertible securities, preferred stock, and common stock (Myers S. , 1984). This order reflects the motivation of a financial manager to reduce the agency costs of equity, retain control of the firm, and avoid the seemingly inevitable negative market reaction to an announcement of a new equity issue. However, the pecking order theory also has some limitations. It does not explain the influence of taxes, financial distress, security issuance costs, or the set of investment opportunities available

to a firm in that firm's actual structure. In reality, it is impossible to explain real situations with one or two theories.

(Wessels, 1988) Observed that highly profitable firms have lower levels of leverage than less profitable firms because they first use their earnings before seeking outside capital. In addition, stock prices reflect how the firms tend to issue equity rather than use debt when their stock price increases, so that their leverage levels stay lower than firms using debt. Similar findings were reported in (Gu, 1993), (A, 1994), (sunder and Myers, 1999). According to (Wald, 1999), profitability, which is the most significant determinant of firms' financial leverage, negatively affects the debt to asset ratios in the heteroskedastic to bit regression model. (A, 1994) also supported the negative relationship between debt-to-asset ratio and non-debt tax shield or/and between firm's leverage behavior and its past profitability. Specific to the restaurant industry, (Gu, 1993) found that the fine dining restaurant segment, which uses debt lightly compared to the fast-food restaurant and the economy/family restaurant segment, has the highest percentage of profit margin and of return on assets. The research concluded that medium debt use may not be the optimal capital structure but little or no debt may be optimal. Because of the characteristics of the food service industry, such as its vulnerability to seasonality and economic adversity, using debt could bring greater risk than for those firms in industries where cost of debt may be lower than restaurant (Gu, 1993).

DATA ANALYSIS

Table-1

(1)	(2)	(3)	(4)	(5)	(6)	(7) = (8) + (9)	(8)	(9)	(10)
Year	Total Capital (in lakh)	Long-term Employed (in lakh)	Equity share Capital (in lakh)	Reserve & Surplus (in lakh)	Net Worth (in lakh)	EBIT (in lakh)	Interest (in lakh)	EBT (in lakh)	EAT (in lakh)
2008 - 2009	771.56	628.61	124.22	99.05	223.27	176.09	43.25	132.83	85.13

2009 - 2010	1710.7 7	1326.82	186.33	238.55	424.88	360.9 5	99.45	261.5 0	201.6 1
2010 - 2011	3245.5 7	2570.62	186.33	563.97	750.30	715.0 8	164.91	550.1 6	331.9 1
2011 - 2012	2654.4 7	5963.65	321.92	1682.23	2004.1 5	1276. 7	429.48	847.2 3	575.9 0
2012 - 2013	5630.5 2	7468.46	417.37	2552.57	2969.9 4	1117. 4	604.37	513.1 0	402.7 8

INTERPRETATION:

CAPITAL STRUCTURE POLICY OF SME:

The logic of capital structure policy of SME is to increase its net worth by ploughing back of profit in this way to reduce cost of equity as a cheaper cost if its net worth is strengthened by ploughing back of profits, which is not dividend bearing. Now if we have a mark on Table-1, an increase amount of reserve and surplus included in net worth is seen all over the period of five years. Keeping the equity capital constant throughout the period of study, the company increased its net-worth with the utilization of reserves & surplus by the same amount. The company increased its capitalization from ₹ 7,71,56,844 to ₹ 56,30,52,261 with the correspondingly less increase in the use of long term debt from ₹ 6,28,61,844 to ₹ 74,68,46,602 study. Both the excess capitalization and slightly increase in the use of debt in each year were commensurate by the reserve and surplus i.e., by successful ploughing back of profit instead of making additional issue of equity shares.

Table-2

1	2	3	4	5	6
Year	DFL	EPS	Rate of Interest	Cost of Debt	Rate of Return on Investment
		(₹)	(%)	(%)	(%)

2008-2009	1.1325	68.53	6.881	4.8167	15.088
2009-2010	1.3803	108.20	7.495	5.2465	11.801
2010-2011	1.299	178.13	6.415	4.4905	22.74
2011-2012	1.5069	178.89	7.2017	5.0407	20.02
2012-2013	2.1778	101.36	8.092	5.664	11.32

INTERPRETATION

From the table -2 as presented above, it is seen that SME Ltd had to pay higher rate of interest leading to a greater cost of debt despite an average tax advantage attached with debt financing @ 30% over the period covered our study. DFL and EPS values are in such a way corresponding increase or decrease in DFL with the fulfillment of main two criteria – one being debt capital cheaper and another being rate of return on investment exceeded (after-tax) cost of debt. But in case of SME, a different relationship between DFL and EPS is evident from the data.

NOTES AND EXPLANATIONS

1. DFL = Degree of Financial Leverage = $\frac{EBIT}{EBT}$
2. EPS = $\frac{EAT}{\text{No. of Equity Shares}}$.
3. DPS = $\frac{\text{Dividend}}{\text{No. of Equity Shares}}$.
4. DIP Ratio = $\frac{DPS}{EPS} \times 100$
5. Rate of Interest = $\frac{\text{Interest}}{\text{Long-term debt}} \times 100$
6. Interest on debt capital is an allowable expenditure for income tax purpose and it qualifies for deduction in computing taxable income. So it reduces effective cost of debt in the following way: $\text{Cost of debt (\%)} = \text{Rate of Interest} (1 - \text{tax rate})$. Tax rate varied over the years with the changes in Tax
7. The return expected by the equity shareholders may be referred to as cost of equity. There are various models for its computation. But in real term a firm has to incur cost in

respect of equity shares in the form of dividend payment. So the most suitable formula is
: Cost of equity (%) = (Dividend / Equity or Net worth) x 100

8. Rate of return on investment = (EAT / Total Capital Employed) x 100

Table-3: Analysis Of Capital Structure.

% of Net Worth			% of Capital Employed		
1	2	3	4	5	6
Year	Equity Capital (%)	Reserve & Surplus (%)	Long-term employed (%)	Equity share capital (%)	Reserve & Surplus (%)
2008-2009	55.63	44.36	111.41	22.01	17.55
2009-2010	43.85	56.14	77.66	10.90	13.96
2010-2011	24.83	75.16	176.12	12.76	38.63
2011-2012	16.06	83.93	207.31	11.19	58.47
2012-2013	14.05	85.94	210.03	11.73	71.786

INTERPRETATION

It has been prepared to reflect the relative method of finance adopted by the company. It is seen from the table – 3 that the net-worth of the company constituted equity capital and reserve & surplus and it was 55.63% of equity capital and 44.36% of reserve & surplus in the year 2008-09. In the following years the company stated increasing the proportion of reserve & surplus from 44.36% to 56.14% with decrease in the proportion of equity capital from 55.63% to 43.85% during the period from 2008-09 to 2009-10. It was 43.85% of equity capital and 56.14% of reserve & surplus in the year 2009-10. In the following years the company stated increasing the proportion of reserve & surplus from 56.14% to 75.16% with decrease in the proportion of equity capital from 43.85% to 24.83% during the period from 2009-10 to 2010-11. It was 24.83% of equity capital and 75.16% of reserve & surplus in the year 2008-09. In the following years the company stated increasing the proportion of reserve & surplus from 75.16% to 83.93%

with decrease in the proportion of equity capital from 24.83% to 16.06% during the period from 2010-11 to 2011-12. It was 16.06% of equity capital and 83.93% of reserve & surplus in the year 2011-12. In the following years the company stated increasing the proportion of reserve & surplus from 83.93% to 85.94% with decrease in the proportion of equity capital from 16.06% to 14.05% during the period from 2011-12 to 2012-13. It was 14.05% of equity capital and 85.94% of reserve & surplus in the year 2012-13. One can observe from the table that a percentage decrease in the equity capital led to the same percentage increase in the reserve and surplus. For example 5% percentage decrease in equity capital led to 55 increases in the reserve and surplus in the second year of study and so on. Thus increase in the proportion of reserve and surplus to net worth in this way might cause reduction in the cost of equity during the study period. The same analysis may be drawn from table -3 about long-term debt, equity share capital and Reserve & surplus to capital employed.

TABLE-4: Correlation Analysis: Relationship between DPS & EPS

Correlations			
		DPS	EPS
DPS	Pearson Correlation	1.000	.3000
	Sig. (2-tailed)	.	.624
	N	5	5
EPS	Pearson Correlation	.3000	1.000
	Sig. (2-tailed)	.624	.
	N	5	5

Calculated $t = 0.57$ is less than the table value 1.96.

INTERPRETATION

The co-efficient of correlation in between DFL and EPS are presented in Table-4 to assess to closeness of association between each other. It is evident from the table that the correlation, co-efficient between DFL and EPS is 0.3000. It indicates that there is negative association between DFL and EPS supporting the explanation given earlier the value of correlation co-efficient is also found to be highly insignificant at 5% level of significance, as the calculated T value of 0.57 is lesser than the table value of 1.96. So the hypothesis that DFL and EPS are positively correlated is outright rejected.

Conclusion:

SME could not enjoy the benefit of accepted leverage theorem. Rather it accrued operation of financial leverage. So leverage theorem is not a general rule. The company was enabling to maximize the EPS by the reverse operation of financial leverage. The company successfully pulled down the degree of financial leverage to reap the EPS advantage. Thus the objective of this paper to maximize the EPS through judicious operation of financial leverage has been fulfilled.

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