IMPACT OF FINANCIAL STRENGTH ON LEVERAGE: A STUDY WITH SPECIAL REFERENCE TO SELECT COMPANIES IN INDIA

M. S. Ramaratnam[1] and R. Jayaraman[2]

[1]Assistant Professor (Stage III), Faculty of Management Studies, Sri Chandra Sekharendra Saraswathi Viswa Maha Vidyalaya (SCSVMV University), Enathur , Kanchipuram, India
Email: hellomsraman@gmail.com
[2]Assistant Professor (Stage II), Faculty of Management Studies, Sri Chandra Sekharendra Saraswathi Viswa Maha Vidyalaya, (SCSVMV University), Enathur , Kanchipuram, India
Email: jayarawman@gmail.com

ABSTRACT

The paper has made an attempt to analyse the influence of financial strength on leverage. In order to find out the financial strength of the companies Z score was taken as proxy variable and 27 companies were selected for the study representing different industries. The impact of exogenous variable of financial strength on endogenous variable of leverage was found through linear regression and it was further noted that a negative influence was exercised on leverage at 1 % level of significance.

Keywords: Financial strength, Leverage, Z score, Linear regression

INTRODUCTION

Leverage, the concept in finance plays a crucial role in determining the growth of the firm. The growth of any business depends on effective utilization of assets of the firm in such a way to convert in to sales. Normally the assets are financed through owner's funds and outsider's funds of the business. As and when a firm is witnessed with the larger portion of outside funds with respect to the owner's fund, then the firm is said to be highly levered. A highly levered firm always encounters with risk to meet the obligation of fund providers in terms of interest payment and repayment of the principal. When the firm is said to be levered firm, the firm utilizes the outsider funds in the operation of the business and the firm is expected to attain the growth but at the same time the financial soundness of the firm is to be tested in order to ensure that the shareholders of the firm are free from risk. The main problem of the study is to investigate whether the financial leverage influences the firm growth and if any influences found, the relationship of the variables to be in terms of the influence.

RESEARCH DESIGN – METHODOLOGY

The study was based on secondary data. The data collected from the annual report of companies concerned listed in the stock exchange. The study has undertaken with sample of 27 companies from the BSE 30. Among the listed companies, the above sample was collected on the basis of their consistency of performance, data availability and favorable accounting figures. The companies showing inconsistent observations on the balance sheet and profit & loss account were excluded to avoid the complication in terms of statistical analysis.

Sample (Study Units)

The following companies have been taken as sample for the study purpose

Table 1. Showing the List of Companies Taken For the Study

Sr.	Name of the Company	Sr.	Name of the Company	Sr.	Name of the Company	Sr.	Name of the Company
1	Bajaj Auto	8	HDFC	15	L&T	22	Sun Pharma
2	Bharthi Airtel	9	Hero Motor	16	M&M	23	Tata Motors
3	BHEL	10	Hindalco	17	Maruti Suzuki	24	Tata Power
4	Cipla	11	HUL	18	NTPC	25	Tata Steel
5	Coal India	12	Infosys	19	ONGC	26	TCS
6	Dr Reddy	13	ITC	20	Reliance	27	Wipro
7	GAIL	14	Jindal steel & power	21	Steralite		

Statement of Hypothesis

H0: The financial strength of the firm does not have an impact on financial leverage.

H1: The financial strength of the firm does influence on financial leverage.

Model specification

$$LR = a + \alpha_1 \beta_1$$

Where

LR $\longrightarrow$ Dependent variable (Leverage ratio)

β_1 $\longrightarrow$ Independent variable (Financial strength)

Measurement of Variables

Table 2. Showing the details of Dependent variable

Name	Sign	Calculation
Leverage ratio (LR)	LD/TA	Long term debt / Total assets

Table 3. Showing the details of Independent variable

Name	Sign	Calculation
Financial strength (FS) (The researchers have taken Z score in place of financial strength of the firm. Since the z score measures the financial soundness of the firm, the researchers were convinced in taking the Z-score as independent variable to see the influence of financial strength towards leverage)	Z-Score	Based on Multiple discriminate analyses (MDA), the following model is developed by Altman Z = (T1 x 0.012) + (T2 x 0.014) + (T3 x 0.033) + (T4 x 0.006) + (T5 x 0.0999)

Table 4. Showing the ingredients of Z-score

T1	It is the ratio of working capital to total assets ((WC/TA) x 100). It is the measure of the net liquid assets of a concern to the total capitalization.	Networking capital to total assets
T2	It is the ratio of retained earnings to total assets. It indicates the efficiency of the management in manufacturing, sales, administration and other activities.	Retained earnings to total assets
T3	It is the ratio of EBIT to total assets (EBIT/TA) X 100. It is a measure of productivity of assets employed in an enterprise. The ultimate existence of an enterprise is based on the earning power (profitability)	EBIT to total assets
T4	It is the ratio of value of equity to book value of debt (VE/BVD) X 100. It is reciprocal of the familiar debt equity ratio. This measure shows how much assets of an enterprise can decline in value before the liabilities exceed the assets and the concern becomes insolvent.	Market value of equity to total liabilities
T5	It is the ratio of sales to total assets (S/TA). The capital turnover ratio is a standard financial measure for illustrating the sales generating capacity of the assets.	Net sales to total assets

Measurement of Financial Health

Altman established the following guidelines to be used to classify firms as either financially sound or bankrupt.

Table 5. Showing the Altman's guidelines of classifying the firms in to financially sound and bankrupt

Z Score	**Interpretation**
Above 3.00	The company is financially safe
2.77 – 2.99	The company is on alert to exercise the caution
1.8 – 2.00	There are chances that the company could go bankrupt in the next two years
Below 1.8	The company's financial position is embarrassing

- Below "Z" score of 1.8, the unit is considered to be in bankruptcy zone. Its failure is certain and extremely likely and would occur probably within a period of two years.
- If a unit has a "Z" score between 1.8 and 3, its financial viability is considered to be healthy. The failure in this situation is uncertain to predict.
- Above "Z" score of 3, the unit is in too healthy zone. Its financial health is very viable and not to fall.

Empirical Analysis

Table 6. Showing the Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df 1	df 2	Sig. F Change	
1	.446[a]	.199	.191	.18532	.199	26.313	1	106	.000	.658

Note: a. Predictors: (Constant), FS, b. Dependent Variable: LD/TA

Source: computed data

Table 7. Showing ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	.904	1	.904	26.313	.000[a]
Residual	3.640	106	.034		
Total	4.544	107			

Note: a. Predictors: (Constant), FS, b. Dependent Variable: LD/TA

Source: computed data

Table 8. Showing the Regression Co-Efficient

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.287	.023		12.519	.000
	FS	-.067	.013	-.446	-5.130	.000

Note: a. Dependent Variable: LD/TA

Source: computed data

The following equation shows through empirical model of impact of financial strength on leverage:

$$LR = a + \alpha_1 \beta_1$$

$$\text{Leverage} = 0.287 - 0.067\ \beta_1 \text{ (Table 8)}$$

The beta co-efficient of financial strength is -0.067 indicating that the leverage decreases by .067 (Table 8) as the financial strength of the companies increased by 1unit. The reason is that as long as the company enjoys financial strength, the firm is said to have stability and the internal generation of income which may instigate the firm not to procure debt from outside for its operation. The negative relationship is said to be significant at 1% because p value is 0.000 (Table 8)

CONCLUSION

The study has made an attempt to analyse the impact of financial strength on financial leverage. Simple regression was applied to find the influence. Since financial strength was derived from Z score, the value of Z score was taken into account for financial strength of the selected companies. The beta co-efficient associated with the variable statistically significant at 1% level. The above fact concludes that the variable financial strength plays a significant role in analyzing financial leverage of the select companies from the representation of different industry.

REFERENCES

1. Altman, (1968). "Financial ratios discriminate analysis and prediction of corporate bankruptcy", Journal of finance, sep. 598.
2. Altman, (2002). "Corporate distress prediction models in turbulent economic and base environment", Journal of Finance, 5.
3. Abdul Aziz, (1984). "Bankruptcy prediction and investigation of cash flow based models", PhD. Thesis at Dallas, 3 – 9.
4. Beaver, W.H., (1966). "Financial ratios and predictions of failure: Empirical research in according selected studies", Journal of accounting research, 77111.
5. Eidleman Gregous, (1995). "Z Scores guidance to failure prediction by CPA Journal online", Feb. 4.
6. Gupta, L.C. (1999). "Financial Ratios as forewarning indicators of corporative sickness",Bombay 1C1C1, XIX (4) 37.
7. Gupta, R.L. & Radhasway M., (1995). "Financial management analysis", 5 th editions, Sultan Chand & Sons, New Delhi, 45.
8. M.S.Ramaratnam & R.Jayaraman (2012), "A study on measuring the financial soundness of select firms with special reference to Indian steel industry – An empirical view with Z score", Asian Journal of Management Research, article id EIJMRS1056, pp 724-735
9. Bei Zhao & W.P. Wijewardana (2012), "Financial Leverage, Firm Growth and Financial Strength: Evidence in Sri Lanka", Journal of Asia Pacific Business Innovation & Technology Management, Vol.02, pp 13-22.