



Corporate leverage and its impact on Shareholder Value Creation with reference to miscellaneous manufacturing sector in India

KEYWORDS

Shareholder Value Creation, Capital structure, leverage

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ABSTRACT Shareholder value creation has become the focusable area of corporate growth and sustenance. Every firm has to construct a capital structure with the objective of shareholders' wealth maximization because they are the ultimate owners of the enterprises. Miscellaneous Manufacturing sector is a capital intensive sector, where greater emphasis has been given in designing the capital structure. Hence, the present paper makes an attempt to examine the impact of leverage on shareholder value creation of Indian miscellaneous manufacturing sector for the period 1995-96 to 2009-10. A panel data approach has been applied to analyse the data. The study reveals that the leverage has a significant influence on shareholder value creation.

The enhancement of shareholder value creation has gained the attention of corporate executives all over the world. Every firm has to construct a capital structure with the objective of shareholders' wealth maximization because they are the ultimate owners of the enterprises. Debt funds (leverage) play an imperative role in designing the capital structure. The firms have to select a right combination of debt and equity to maximise the profitability and to enrich the shareholders' wealth. Equity shareholders as the owners of the company; expect high return on the capital supplied by them and are also more concerned with the utilization of funds by the company to know whether the firm is creating value for them or not. Investor analyze on several factors which influence the corporate financial performance before investing their money. Two metrics, namely, accounting profitability metrics and shareholder value based metrics are available as financial performance indicators. Accounting profitability metrics are Return on Net Worth, Return on Capital Employed, Return on Total Assets, Earnings per share, and Price Earning ratio. These standard metrics are simple and easy to calculate, but the three fundamental determinants of value creation; viz., the amount, timing, and risk of the future cash flows of a company are not well addressed by these metrics, Hence, as an alternative, shareholder value based metrics, such as, Economic Value Added, Market Value Added, Shareholder Value Added, Cash flow return on investment and Wealth Added are used for analyzing the financial performance. Out of these, the most prominent measures, Viz., Economic Value Added and Market Value Added have been considered in this study. Hence, the study focuses on examining the impact of leverage on shareholder value creation of miscellaneous manufacturing sector for the period 1995-96 to 2009-10.

Miscellaneous manufacturing sector

The manufacturing companies, which have been not, covered in any other major manufacturing groups, such as, Food and beverage, textiles, chemicals, non-metallic, metals, machinery and transport equipment fall under the miscellaneous manufacturing sector. This study focuses mainly on paper industry, leather industry and wood industry.

Economic value added

The Economic Value added concept has been introduced by a New York City based consulting firm M/s Stern Stewart, a company in the early eighties. To compute EVA, the three inputs needed are i) Net operating profit after taxes ii) invested capital or capital employed and iii) weighted average cost of

capital

EVA can be computed as follows

EVA = NOPAT – WACC X Capital employed

- i) NOPAT refers to Net operating profit after taxes (NOPAT= PAT net of P&E + interest paid)
- ii) Capital employed = Total assets – current liabilities and provisions
- iii) Weighted average cost of capital (WACC) = (paid up equity capital / capital employed X cost of equity) + (long term debt /capital employed X cost of debt)
 - a) cost of debt = (Interest paid / long term debt) X100
Capital Asset pricing Model has been employed to calculate the cost of equity
 - b) cost of equity = $R_f + b_i (R_m - R_f)$
 R_f = Risk free rate of return = one year term deposit average interest rate of nationalized banks
 R_m = market return of a diversified portfolio
Risk premium = market return of a diversified portfolio – Risk free rate of return ($R_m - R_f$)
- bi = Beta coefficient of the firms' portfolio

Market Value added

Market Value Added can be defined as the excess of market value over book value of the company. Company value consists of debt and equity. With the simplifying assumption that market and book value of debt are equal, Market Value Added has been stated as market value of equity less book value of equity. The MVA can also be stated as market capitalization less net worth.

Market capitalization = closing share price X number of shares outstanding as on the date of balance sheet

Net worth = equity capital + reserves and surplus net of revaluation reserve - accumulated losses and miscellaneous expenditure.

MVA = Market capitalization – Net worth

Objectives of the study

- To examine the impact of leverage on shareholder value creation of the Indian miscellaneous manufacturing sector

Hypothesis

The following null hypothesis has been framed for the purpose of the study:

- Leverage does not influence the shareholder value creation

Research methodology

Source of data

The study is primarily based on secondary data. The data has been collected from PROWESS 3.1 version maintained by Centre for Monitoring Indian Economy Pvt Ltd

Period of study

The study has covered a period of 15 financial years from post-liberalisation era, namely, 1995 -1996 to 2009- 2010.

Sampling design

A sample of 19 firms, which have been listed at both BSE and NSE stock exchange by applying purposive sampling technique have been taken for the study.

Tools of analysis

Pooled OLS regressions, Panel data regression with Fixed Effect and Random Effect have been applied to analyse the data. Two tests have been carried out to decide the appropriateness of these three models. Initially, the Lagrange multiplier test has been applied to find the existence of panel effect in the values. The classical model (Pooled OLS) and the Random Effect model are compared and when there is no panel effect, the pooled OLS will be chosen for further

analysis; otherwise, the Random Effect model will be chosen for the next step of application. As a second step, the Random Effect model is compared with Fixed Effect model using Hausman Specification test and the appropriate model is chosen for further analysis based on the significance of the chi-square value.

Results and Discussion

To ascertain the impact of leverage from its different dimensions on shareholder value creation the variables, namely, Long Term Debt (LTD) ratio, Short Term Debt (STD) ratio, Interest Coverage (IC) ratio, Financial Leverage (FL), Operating Leverage(OL), Combined Leverage(CL), and Working Capital Leverage(WCL) are considered as independent variables. The dependant variables are Economic Value Added (EVA) and Market Value Added (MVA).

The panel data analysis on these parameters reveals the following results:

Economic value added

The dependent variable (EVA) has been regressed with the independent variables, namely, LTD ratio, STD ratio, IC ratio, FL, OL, CL and WCL with the following null hypothesis.

H_0 : "The independent variables, namely, LTD ratio, STD ratio, IC ratio, FL, OL, CL and WCL do not have a significant impact on EVA"

Table 1- EVA - Pooled OLS and Panel Data Regression-Miscellaneous

	Pooled OLS			Fixed Effect			Random Effect		
	B	t-value	Sig.	B	t-value	Sig.	B	z-value	Sig.
(Constant)	21.362	.737	NS	6.655414	0.14	NS	17.62498	0.50	NS
Long term debt ratio	-218.379	-3.666	**	-220.9182	-2.59	*	-221.8925	-3.32	**
Short term debt ratio	91.987	1.467	NS	150.6058	1.47	NS	112.317	1.52	NS
Interest coverage ratio	-1.345	-1.533	NS	-1.394499	-1.43	NS	-1.375277	-1.52	NS
Financial Leverage	3.430	.683	NS	1.811883	0.37	NS	2.637166	0.54	NS
Operating leverage	0.017	.059	NS	-.0569105	-0.20	NS	-.0190495	-0.07	NS
Combined leverage	-.282	-.690	NS	-.2681303	-0.66	NS	-.2780398	-0.70	NS
Working Capital Leverage	-0.037	-.550	NS	-.0036778	-0.06	NS	-.0201665	-0.31	NS
R ²	.071			0.0714			0.0703		
F-statistic	2.803		**	2.62		*			
Wald (c ²)							19.34		**
Hausman (c ²)				8.82		NS			
LM (c ²)							9.84		**

Source : Computed * significant at 5 per cent level ** significant at 1 per cent level

It is clear from the table 1 that the signs of the regression coefficient have been similar in FE and RE model and they differ in the pooled OLS model. The R² values have shown the existence of low correlation between the selected independent variables and EVA. The F-value of pooled OLS model and the FE model reveals the significance at one per cent and five per cent level and the Wald-chi-square value has also revealed the existence of significant correlation between the selected independent variables and EVA.

The **LM test** has revealed that the chi-square value (9.84) is significant at one per cent level showing that the RE model is preferred to pooled OLS model.

The **Hausman test** has shown that the chi-square value (8.82) is not significant revealing that RE model is more effective for further analysis. Among all the three models applied, the **RE model** has been taken to analyse the impact of leverage on EVA.

The **RE model** has exhibited that the variable, namely, LTD

ratio has a significant negative influence on EVA. Hence, the null hypothesis has been rejected for this variable.

Majority of the variables, namely, STD ratio, IC ratio, FL, OL, CL and WCL have not had a significant influence on EVA. Hence, the null hypothesis has been rejected for these variables. The elimination of negative effect of LTD would enhance the shareholder value creation of the company.

Market Value Added

The dependent variable (MVA) has been regressed with the independent variables, namely, LTD ratio, STD ratio, IC ratio, FL, OL, CL and WCL with the following null hypothesis.

H_0 : "The independent variables, namely, LTD ratio, STD ratio, IC ratio, FL, OL, CL and WCL do not have a significant impact on MVA"

Table 2- MVA - Pooled OLS and Panel Data Regression-Miscellaneous

	Pooled OLS			Fixed Effect			Random Effect		
	B	t-value	Sig.	B	t-value	Sig.	B	z-value	Sig.
(Constant)	-93.993	-2.049	*	-23.26002	-0.31	NS	-93.99328	-2.05	*
Long term debt ratio	31.478	.334	NS	23.37113	0.17	NS	31.47768	0.33	NS
Short term debt ratio	167.712	1.689	NS	-17.06349	-0.10	NS	167.7123	1.69	NS
Interest coverage ratio	6.079	4.374	**	5.310478	3.39	**	6.079472	4.37	**
Financial Leverage	1.787	.225	NS	1.321344	0.17	NS	1.787403	0.22	NS
Operating leverage	-0.052	-.112	NS	-.0569266	-0.12	NS	-.0515962	-0.11	NS
Combined leverage	-.469	-.723	NS	-.7401651	-1.14	NS	-.468574	-0.72	NS
Working Capital Leverage	0.0030	.029	NS	.0099112	0.09	NS	.0030179	0.03	NS
R ²	.092			0.0845			0.0721		
F-statistic	3.705		**	3.15		**			
Wald (c ²)							25.93		**
Hausman (c ²)				25.23		**			
LM (c ²)							2.84		NS

Source : Computed * significant at 5 per cent level ** significant at 1 per cent level

It is clear from the table 2 that the signs of the regression coefficient have been the uniform in FE and RE models and they differ in the pooled OLS model. The R² values have shown a very low correlation between the selected independent variables and the MVA. The F-value and Wald-chi-square values have shown a significant correlation between the selected independent variables and MVA.

The **Lagrange Multiplier test** has resulted that the chi-square value (2.84) is not significant revealing that the RE model is preferred to pooled OLS model. Hence, the pooled OLS model has been chosen for further analysis.

The **Pooled OLS model** has shown that the IC ratio has a significant positive impact on MVA. It has favoured the MVA, enhancing the shareholder value creation. Hence, the null hypothesis has been rejected for this variable.

The other variables, namely, LTD ratio, STD ratio, FL, OL, CL

and WCL have not had a significant effect on MVA. Hence, the null hypothesis has been accepted for these variables. It is concluded that during the study period, the **IC ratio** is the significant determinant of MVA would strengthen the shareholder value creation.

Conclusion

The study has concluded that leverage ratios have proved to have influenced the shareholder value creation metrics. The interest coverage ratio has played a pertinent role in shareholder value creation. The firms under '**Miscellaneous**' sector have to increase their EBIT level to meet the fixed term obligations and they can enhance their shareholders' wealth by broadening their NOPAT margin and ROCE as well. They have to deliberate on the optimal use of leverage to reduce the cost of borrowing.

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