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Corporate leverage and its impact on EVA and MVA

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Abstract
Shareholder value creation has become the need of the day for every firm. Every firm has to construct a corporate capital structure with the objective of shareholders' wealth maximization because they are the ultimate owners of the enterprises. Diversified sector is a capital intensive sector, where greater importance 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 metrics, namely, Economic Value Added and Market Value Added of Diversified 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.

Keywords: Shareholder Value Creation, Capital structure, leverage

1. Introduction
Shareholder value creation has become the focusable area of corporate growth and sustenance. It has become the need of the day for every firm. Companies have adopted different modes of measurement of shareholder value creation, such as, Economic Value Added, Market Value Added, Shareholder Value Added, Cash Flow Return on Investment etc. out of these, the familiar and the most prominent methods adopted by the Indian companies are Economic Value Added (EVA) and Market Value Added (MVA). Hence, the present paper makes an attempt to examine the impact of leverage on shareholder value creation metrics, namely, Economic Value Added and Market Value Added of Diversified sector for the period 1995-96 to 2009-10.

1.1 Diversified sector
According to CMIE (Centre for Monitoring Indian Economy Pvt. Ltd) database, the companies, which have been engaged in the production of varied products, are known as diversified companies. The diversified companies such as, Aditya Birla Nuvo Ltd, Apar Industries Ltd, Nahar Industrial Enterprises Ltd, Surya Roshni Ltd, Texmaco Ltd, Kesoram industries Ltd, and Voltas Ltd, etc. are the popular diversified companies in India have been taken for the study, which constitute the diversified sector.

1.2 Objective of the study
- To examine the impact of leverage on Economic Value Added and Market Value Added

1.3 Hypothesis
The following null hypothesis has been framed for the purpose of the study:
- Leverage does not influence the Economic Value Added and Market Value Added

2. Research methodology
2.1 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.

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

2.3 Sampling design
A sample of 7 firms, which have been listed at both BSE and NSE stock exchange by applying purposive sampling technique have been taken for the study.

2.4 Tools for 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 has been chosen for further analysis; otherwise, the Random Effect model has been 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.

3. 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 dependent variables are Economic Value Added (EVA) and Market Value Added (MVA).

Independent Variables	Formulae
Long Term Debt ratio (LTD)	Long Term Debt / Total Assets
Short Term Debt ratio (STD)	Short Term Debt / Total Assets
Interest Coverage ratio (IC)	PBIT net of P&E / Interest Paid
Financial Leverage(FL)	PBIT net of P&E / PBT net of P&E
Operating Leverage(OL)	Contribution / PBIT net of P&E
Combined Leverage(CL)	Contribution / PBT net of P&E
Working Capital Leverage(WCL)	Percentage change in Return on Investment / Percentage change in Current Assets Where, Return on investment = PBIT net of P&E/ total assets

Dependent Variables	Formulae
Economic Value Added (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) cost of debt = (Interest paid / long term debt) X100 Capital Asset pricing Model has been employed to calculate the cost of equity cost of equity = $R_f + \beta_i (R_m - R_f)$ 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 (current year index- previous year index x100) Risk premium = market return of a diversified portfolio – Risk free return ($R_m - R_f$) βi = Beta coefficient of the firms' portfolio Calculation of Beta (β) $B = \frac{Cov(X,Y)}{Var(X)}$ Where, X = market return Y= stock return Variance is the square of standard deviation Co-variance is a tool to measure how two variables co-vary
Market Value Added (MVA)	MVA = Market capitalization – 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.

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

4. 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_{01}: "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-Diversified

	Pooled OLS			Fixed Effect			Random Effect		
	B	**t-value**	**Sig.**	**B**	**t-value**	**Sig.**	**B**	**z-value**	**Sig.**
(Constant)	111.639	2.955	**	-63.98303	-0.99	NS	111.6385	2.95	**
Long term debt ratio	-44.289	-.553	NS	112.1663	1.15	NS	-44.28893	-0.55	NS
Short term debt ratio	-123.044	-2.162	*	205.3954	1.78	NS	-123.0444	-2.16	*
Interest coverage ratio	4.323	5.170	**	4.439517	5.87	**	4.322642	5.17	**
Financial Leverage	-1.708	-.792	NS	-.4769343	-0.28	NS	-1.707594	-0.79	NS
Operating leverage	-.898	-1.125	NS	-.4109336	-0.57	NS	-.8978381	-1.13	NS
Combined leverage	.116	.534	NS	.0177043	0.10	NS	.1161317	0.53	NS
Working Capital Leverage	-0.012	-.488	NS	.0093187	0.49	NS	-.0116024	-0.49	NS
R^2	**.293**			**0.3770**			**0.3094**		
F-statistic	**5.334**		**	**7.26**		**			
Wald (chi square)							**37.34**		**
Hausman (chi square)				**30.64**		**			
LM (chi square)							**65.52**		**

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

The table 1 has shown that the regression co-efficient signs have been uniform in pooled OLS and RE models and they differ in the FE model. The R^2 values have shown a moderate correlation between the selected independent variables and the EVA. The F-value and Wald-chi-square have revealed a significant correlation between the selected independent variables and EVA.

The result of **LM test** has shown that the chi-square value (65.52) is significant at one per cent level revealing that the RE model has been considered better than the pooled OLS model.

The **Hausman specification test** result has revealed that the value of chi-square (30.64) is significant at one per cent level implying that the FE model is preferred to RE model.

Among all the three models applied, the **FE model** has been taken to analyse the impact of leverage on EVA for Diversified sector.

The **FE model** has shown that the IC ratio has a significant positive impact on EVA. Hence, the null hypothesis (H_{01}) has been rejected for this variable.

Majority of the independent variables, namely, LTD ratio, STD ratio, FL, OL, CL and WCL have not been found statistically significant, thereby, there is no significant impact of leverage on EVA. Hence, the null hypothesis(H_{01}) has been accepted for these variables. Finally, it is concluded that the **IC ratio** has favoured the EVA, which enhances the shareholder value of the sector.

5. 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_{02}: "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-Diversified

	Pooled OLS			Fixed Effect			Random Effect		
	B	**t-value**	**Sig.**	**B**	**t-value**	**Sig.**	**B**	**z-value**	**Sig.**
(Constant)	493.842	.665	NS	-3703.704	-2.43	*	493.8422	0.67	NS
Long term debt ratio	-641.643	-.408	Ns	4709.171	2.05	*	-641.6434	-0.41	NS
Short term debt ratio	-460.423	-.412	NS	6921.177	2.55	*	-460.4226	-0.41	NS
Interest coverage ratio	67.367	4.100	**	66.84241	3.75	**	67.3671	4.10	**
Financial Leverage	-18.712	-.442	NS	-9.920086	-0.25	NS	-18.71231	-0.44	NS
Operating leverage	-4.735	-.302	NS	-6.362958	-0.37	NS	-4.735022	-0.30	NS
Combined leverage	1.245	.291	NS	1.033426	0.25	NS	1.244582	0.29	NS
Working Capital Leverage	-0.071	-.153	NS	.0926255	0.20	NS	-.0712489	-0.15	NS
R^2	**.195**			**0.2184**			**0.1446**		
F-statistic	**3.105**		**	**3.35**		**			
Wald (chi square)							**21.74**		**
Hausman (chi square)				**16.66**		**			
LM (chi square)							**0.85**		**NS**

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

It is evident from the table 2 that the regression co-efficient signs have been the similar in pooled OLS, RE models and they differ in FE model. The R^2 values have shown a low correlation between the selected independent variables and MVA. The F-value and the Wald chi-square value have shown a significant correlation between the selected independent variables and the MVA.

The **LM test** has shown that chi-square value (0.85) is not significant, thereby, there is no panel effect. Hence, the **pooled OLS model** has been chosen for further analysis.
The **pooled OLS model** has revealed that the ratio, namely, IC ratio has a significant positive influence on MVA. Hence, the null hypothesis (H_{02}) 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 (H_{02}) has been accepted for these variables. In general, it is found that the **IC ratio** is the significant influencing factor of MVA for the diversified sector.

6. Conclusion

The enhancement of shareholder value creation has gained the attention of corporate executives all over the world. 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. The IC ratio has influenced the EVA and MVA of a Diversified sector. Therefore, the leverage has an effective influence on shareholder value creation.

7. References

1. Jonathan KK, George P. An Empirical Analysis of Economic Value Added as a Proxy for Market Value Added. Financial Practice and Education, 1997, 41-49.
2. Karam P, Jitender K. Value Creation: An empirical scenario of Indian information technology industry. KAIM Journal of Management and Research 2012; 4:8-18.
3. Lokanandha RI. EVA: the right measure of managerial performance? Journal of Accounting and Finance 2005; 19(2):76-87.
4. Ramana RNRV, Rajesh M. Relationship between Economic value added, Market value added and Dividend paid. The Indian Journal of Finance 2008; 2(7):38-42.
5. Sakthivel N, Arjunan C. Value creation in Indian paper industry. Indian Journal of Finance 2009; 3(12):46-54.