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Impact of post mergers and acquisition on capital structure of the firm: A study of selected Indian bidding firms

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Abstract
Corporate restructuring have boosts significant decisions. Since Industrial Policy 1991, Indian companies have been drastically explored to both national and international markets with better competitiveness. Henceforth, firms have started corporate integration and restructuring their operational activities around their core business through Mergers and Acquisitions. The present study is mainly dependent and collected data through secondary source. The present study has been carried out at micro level study. The companies stated in the analysis were chosen based on the high deal value Mergers and Acquisitions. The study examines the capital structure and its impact of profitability of merged firms from 2009-2015. The study results decline of earnings to equity share holders and declined in profits. Hence these selected companies have to reduce their excess payment to the target firm and try to make use the funds effectively.

Keywords: mergers & acquisitions, capital structure, leverage, profitability, correlation

Introduction
Industries have a major component in Indian economy. Corporate integration has become an essential element in the worldwide economical and financial environment. Corporate restructuring have boosts significant decisions. Since Industrial Policy 1991, Indian companies have been drastically explored to both national and international markets with better competitiveness. Henceforth, firms have started corporate integration and restructuring their operational activities around their core business through Mergers and Acquisitions. The basis for this conclusion is drawn from the fact that major corporate integration through mergers and acquisitions are the ones resulting in huge losses. Apart from the 'huge loss deals' the target firms basically gains more through the results from Merger and Acquisition activities.

The uses of both capital structure and its impact on profitability are calculated individually. It requires thorough analysis in each case of mergers and acquisitions. This analysis results can be applied to any other sectors of corporate integration and also it would work as a model to assess the impact of changes in capital structure on profitability in post period of mergers and acquisitions calculation to the proposed companies.

Review of Literature
Mergers and Acquisitions
Been (1998) also finds no significant difference in the rate of return and profit margin between the periods before and after the mergers. Mantravedi and Redd (2008) [10] investigated Indian acquiring firms and found that there are minor variations in terms of impact on operating performance following mergers, in different sectors of Indian industries. John C. Bruckman, Scott C. Peter (1987) [27] studied that the amount of time and energy needed to successfully merge two sophisticated organizations is more likely to resemble the planning and execution of the invasion of Normandy, accompanied by the resultant clash of cultures from many elements attempting to work together towards one end. Aspinwall (1970) [21] investigates the relationship between market structure and bank mortgage interest rates in the US banking market in 1965. Estimating a cross section regression analysis, the results indicate a statistically significant association between lending rates and two market structure measures. Strahan and Weston (1996) [28], who investigate the relationship between small business lending and bank mergers. Petersen and Rajan (1995) [22] investigate the effects of competition between banks on the loan rate and availability of credit. Craig and Hardee (2007) [23] apply information at the individual firm level in the US to judge how banking consolidation has affected small business credit.

Jorgenson and Jorgenson (2010) [24] also share the view that M&A is the aspect of corporate strategy, corporate finance and management dealing with buying, selling and the combination of another company that can aid finance or help a growing company in a given industry to grow rapidly without having to create another entity. Vanitha. S (2007) [9], "Mergers and Acquisition in Manufacturing Industry", she analyzed the financial performance of the merged companies, share price reaction to the announcement of merger and acquisition. N. M. Leepsa & Chandra Sekhar Mishra (2009) [12], "Post Merger Financial Performance: A Study with Reference to Select Manufacturing Companies in India", there intends to study the trend in merger and acquisition (M&A) particularly with reference to manufacturing companies. Ruhani Ali and Gupta G S (2010) [25]; "Motivation and Outcomes of Malaysian takeovers: An international perspective" they examine the potential motives and effects of corporate takeovers in Malaysia. Pradeep Kumar Gupta L M (2012) [26]–"Mergers and Acquisitions: The strategic concepts for the nuptials of corporate sector" –the increase competition in the global

market has prompted the companies to go global for mergers and acquisitions as an important strategic choice. Lucy Wamugo Mwangi, Muathe Stephen Makau (2014) [13], this study investigated the relationship between capitals structures on the performance of non-financial companies listed in the Nairobi Securities Exchange (NSE), Kenya. The study established that a company increases financial leverage the performance as measured by ROE declines contrary to expectations based on the agency theory. Puwanenthiren Pratheepkanth, (April 2011) this study stated that Capital structure is very significant discipline of company's operations. Correlation analysis stated that there is a positive relationship between gross profit and capital structure (0.360). But there is a negative relationship between net profit and capital structure (-0.110), which reflect the high financial cost of the company. Rafiu Oyesola Salawu (2008) [14] This study reveal that profitability, tangibility and company size are positively related to total debt and long-term debt, and growth opportunities are negatively associated with total debt. Anila Çekrezi1 (2013) [15] identify the impact of industry classification on company leverage by using a dummy variable for the trade sector. The Results reveal that long term debt to total assets and total debt to total assets ratios are significantly different across Albanian industries.

Natasa Sarlija Martina Harc (june 2012) [16] the study investigated that Long-term leveraged firms are more liquid. Increasing inventory levels leads to increase of leverage, assuming that company borrow in order to increase supply. *Taoufik Bouraoui, TiHome* (2014) [1] results show that acquirers with movement toward target leverage ratio enjoy better performance after M&A, but the correlation is not significant in the long run. Therefore, high financial flexibility created by low leverage is more essential to acquirers facing costly and sophisticated post-merger integration, than target leverage ratio that minimizes financing cost immediately. Ramachandran, Azhagaiah & Candasamy Gavoury (2009) [3] study the factors influencing Capital Structure of select firms based on asset size and business revenue. The interrelationship between Capital Structure and Profitability based on asset size and business revenue. Khalid Ashraf, Dr. Khursheed ALI & Prof. Mouh-i-Din (2013) [4] the findings of the study have put forth that capital structure do have statistically significant impact on the profitability of firms. A. Vijayakumar, A. Karunaiathal (2014) [8] the overall analysis of impact of profitability on capital structure reveals that operating profit margin, net profit margin and market price per share disclosed a positive and significant relationship with capital structure of majority of the selected companies during the study period.

Objectives of the Study

- To examine the changes in capital structure and its impact on profitability through Mergers and Acquisitions.
- To determine the changes in cost of capital and value of the firms of selected sectors Mergers and Acquisitions in India.
- To compute and make a comparative analysis of leverage position, profitability, cost of capital and value of the firm in post period of selected sectors Mergers and Acquisitions.

Hypotheses of the Study

Based on the above research gap areas from the review of literature researcher has framed the subsequent hypotheses for the study.

Null Hypotheses

- There is no significant change in debt and equity proportion of selected sectors in post mergers and acquisitions.
- There is no significant changes in financial leverage position of selected sectors in post mergers and acquisitions.
- There is no significant relationship between the changes in capital structure and profitability of selected sectors in post mergers and acquisitions.
- There is no significant relationship between cost of capital and value of the firm of selected sectors in post mergers and acquisitions.

Research Methodology

Research Type

Descriptive Research: this study mainly attempts to observe and describe a phenomenon about the population or universe being studied. The present study is mainly dependent and collected data through secondary source. It describes the existing problem. Hence, this type of study falls under descriptive type research.

Sample technique

The present study has been carried out at micro level study. The companies stated in the analysis were chosen based on the high deal value Mergers and Acquisitions during the year 2007-2009.

Sample and Sample size

This research focuses on the high deal value reported in the year 2007-2009 confined to Mergers and Acquisitions that took place by Indian bidding firms. Due to the availability of reliable data, the merger and acquisition transactions were selected based on high deal value.

Table 1: Selected ten M&A in the year 2010

S. No.	Bidding Firm	Target Firm	Deal Value	Transaction year	Type of the Transaction	Type of Industry
1	Tata Steel	European based- Corus	$12.2bill	2007	Acquisition	Steel & Metal
2	HIndalco (Adithya Birla Group)	Novallis	$6bill	2007	Acquisition	Steel & Metal
3	ONGC	Russian Based- Imperial Energy	$2.8bill	2009	Acquisition	Oil, Energy & Power
4	Tata Motors	Jaguar and Land Rover	$2.3bill	2008	Acquisition	Automobile
5	Suzlon Energy	Repower	$1.7bill	2007	Acquisition	Oil, Energy & Power
6	Reliance Industries Ltd	Reliance Petroleum Ltd	$1.6bill	2007	Merger	Oil, Energy & Power
7	Mahindra & Mahindra	Punjab Tractors	1400 cr	2007	Acquisition	Automobile
8	JSW Steel	Texas based- Jindal-US, SAW Pipes-US,Jindal Enterprises-US	$900cr	2007	Acquisition	Steel & Metal
9	Bajaj Motors	KTM Powers Sports AG	$300cr	2007	Acquisition	Automobile

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Sources of data

The study is based on secondary data taken from the company annual reports of selected sectorial firms. The collected data relating to companies share pattern, history, capital structure and financial statements of the industrial sectors have been collected from books, journals, magazines, Research papers, published papers, articles, reports and newspapers, other industry oriented reports, research organisations and internet sites.

Period of the study

The study examines the capital structure and its impact of profitability of merged firms from 2009-2015.

Tools of Analysis

a) Financial Tools

i) Solvency and leverage Ratios

Ratio analysis is widely accepted and the most generally used financial tool. “Ratio is a numerical relationship between one to another”. Solvency and leverage ratios are used for evaluating the creditworthiness, profitability position, credit worthiness and efficiency of invested capital.

ii) NI approach

According to this approach, with a change in the leverage ratio, the cost of debt and the cost of equity do not change. But average cost of capital decreases and the leverage ratio increases.

The formula to calculate the average cost of capital is as follows:

$$Ko = Kd\,(Md / (Md+Me)) + Ke\,(S/(Md+Me))$$

b) Statistical Tools

i) Mean

It is used to measure of the central tendency. Mean is a total sum, divided by the total number of observation. Mean is a widely used and established statistical measure. It is helps to compare the large sets of data. Mean is calculated based on overall observations. The results of the mean is always least affected by disparity in sampling.

ii) Co – efficient of Variation

Co-efficient of Variation is a statistical measure used to compare the variance of the sets of data. It is also called as relative standard deviation. It is expressed in terms of percentage**.** When Co-efficient of Variation is less it indicates more consistency, whereas when Co-efficient of Variation is more it’s indicates high variation.

iii) Correlation co-efficient

To investigate the relationships between two variables like (capital structure and profitability, cost of capital and value of the firm) it has been carried out to assess the relationships in post Mergers and Acquisitions. The Correlation co-efficient compares the mean of two variables from the dependent and independent variables.

iv) T-test

Used to test hypotheses. One samples T- test has been conducted to assess the changes in post Mergers and Acquisitions financial performance. The one sample t-test compares the mean of one variable from the calculated ratio.

Scope of the study

This study has considered the three sectors and individual sector is consist of three mergers and acquisition activity of Indian bidder firm However, the performance of Merger and Acquisition activities is confined to the select sectorial Indian acquiring firms, wherein Merger and Acquisition occurring period from 2007-2009. The outstanding increase in Mergers and Acquisitions transactions and the deal value leads to making a study of post Mergers and Acquisitions by considering a study period from 2009-2015.

Data Analysis & Interpretation

A detailed analysis of the, debt equity proportion, leverage position, profitability and value of the firm of 9 selected Mergers and Acquisition of Indian firms has been presented in the below table. The table results shows the Post M&A overall performance standards of acquiring firms are compared to see statistical significant changes in overall performance in the post-acquisition, using the correlation co-efficient and paired t-test to ascertain the performance of individual selected firm and overall performance of selected firms based on individual ratio. The findings are drawn based on overall performance of selected Mergers and Acquisitions. When the p-value is greater than the significance level at 0.05, null hypothesis is accepted. The table 6.1 result shows that the p-value of selected firms and overall performance of selected firms based on individual ratio.

a) **To examine the changes in capital structure and its impact on profitability through Mergers and Acquisitions.** The findings of profitability are as follows: it has been proved that the p-value is less than 0.05. It has to be considered that all sample companies are statistically significant except Suzlon Energy Ltd and Tata Motors Ltd.

b) **To determine the changes in cost of capital and value of the firms of selected sectors Mergers and Acquisitions in India.** The findings of changes in cost of capital and value of the firm are as follows**.** It has been proved that the p-value is less than 0.05. It has to be considered that all sample companies are statistically significant except Suzlon Energy Ltd and Tata Motors Ltd.

c) **To compute and make a comparative analysis of leverage position, profitability, cost of capital and value of the firm in post period of selected sectors Mergers and Acquisitions**. The findings of overall analysis are as follows:

Table 2: Testing Hypothesis: Hypothsis-1

- **Hypothesis-1:** There is no significant change in debt and equity proportion of selected sectors in post mergers and acquisitions. (Significance Level at 5%)

Objective		Ratios	P - Value	H_0	
				Accepted	Rejected
6.1.debt equity combination	Debt equity proportions	D. Pro	0.000		✓ .
		E. Pro	0.000		✓

The analysis confirmed that there is a change in debt equity proportions. Even though there was increase or decrease in combination of debt and equity in selected Mergers and Acquisitions but those are statistically significant. It indicates There is a significant change in debt and equity proportion of selected sectors in post mergers and acquisitions.

Table 3: Testing Hypothesis: Hypothsis-2

- **Hypothesis-2** There is no significant changes in financial leverage position of selected sectors in post mergers and acquisitions. (Significance Level at 5%)

Objective		Ratios	P - Value	H_0	
				Accepted	Rejected
6.2 leverage	Financial leverage	CR	0.000	.	✓
		QR	0.000	.	✓
		FL	0.000	.	✓
		In Cov	0.094	✓ .	

The analysis confirmed that there is significant change in financial leverage position except in interest coverage. Even though there was increase or decrease in performance of selected Mergers and Acquisitions but those are statistically significant. It indicates There is a significant change in financial leverage position of selected sectors in post mergers and acquisitions except interest coverage. Firm's has borne more interest charges due to the change in debt investment.

Table 4: Testing Hypothesis: Hypothsis-3

- **Hypothesis-3** There is no significant relationship between the changes in capital structure and profitability of selected sectors in post mergers and acquisitions (** Correlation is significant at the 0.01 level (2-tailed)) (* Correlation is significant at the 0.05 level (2-tailed)).

Objective	Ratios	Ratios	r - Value	H_0	
	Capital structure	**Profitability**		**Accepted**	**Rejected**
6.3 Impact	DER	NPR	-.834(**)	.	✓
	DER	ROCE	-.223	✓ .	
	DER	ROE	.843(**)	.	✓
	T Cap	NPR	-.636(**)	.	✓
	T Cap	ROCE	-.690(**)		✓
	T Cap	ROE	.085	✓	

The analysis confirmed that there is significant relationship between changes in capital structure and profitability except in debt equity ratio – Return on capital employed and total capitalisation – return on equity. Even though there was increase or decrease in performance of selected Mergers and Acquisitions but those are statistically significant. It indicates There is a significant relationship between the changes in capital structure and profitability of selected sectors in post mergers and acquisitions except DER- ROCE and T. Cap- ROE. Firm's has negative relationship with the changes in capital structure on firms profitability.

Table 5: Testing Hypothesis: Hypothsis-4

- **Hypothesis-4** There is no significant relationship between cost of capital and value of the firm of selected sectors in post mergers and acquisitions (** Correlation is significant at the 0.01 level (2-tailed)) (* Correlation is significant at the 0.05 level (2-tailed)).

Objective	Ratios	Ratios	r - Value	H_0	
Impact	Cost of capital	Value of the firmy		**Accepted**	**Rejected**
	Ko	Vf	-.044	✓ .	

The analysis confirmed that there is no significant relationship between changes in cost of capital and value of the firm. Even though there was increase or decrease in performance of selected Mergers and Acquisitions but those are not statistically significant. It indicates There is no significant relationship between the changes in capital structure and profitability of selected sectors in post mergers and acquisitions. Firm's cost of capital has negative relationship with the change in value of the firm as well as returns.

Suggestions & Conclusion

An analysis of the data collected of selected nine firms from three industries for the purpose of examining the debt equity proportion, leverage position, profitability and value of the firm for the period of 2009 – 2015 various facts have emerged out. The inferences have been discussed in summary of

findings. A few suggestions can be made out before giving the conclusion to the study.

1. The leverage of all companies except ONGC have depended more on debt in financing the acquisition. It has increase the debt equity ratio and increase interest cost in post-acquisition. Therefore the companies have to maintain a better combination of debt and equity mix in the capital structure.
2. The Return on equity declined in post-acquisition. The firms need to concentrate on optimum use of leverage and each firm needs to identify their optimum leverage position to increase the returns to shareholders wealth.
3. The firms should try to fix better strategies to improve net working capital. The short term debt repayment capacity of all firms is very poor compared to the pre-acquisition period. Therefore these companies should try to increase their creditworthiness by making right investment decisions.
4. The capital structure implications are effectively use in steel and oil industry to minimise the cost of capital because of study was reported significant relationship in above industries.
5. The companies need to adopt the strategies that cam employed in increasing sales, profitability, control inventory and restructuring debt.
6. The overall firm's soundness, as well as revealing the proportionate level of debt and equity financing. A value of 0.5 or less is considered well, while any value greater than 1 shows a company as being technically insolvent.
7. The firms need to concentrate on maximising the sales revenues and profitability by that company have their own ability to bear any kind of risk. This can be achieved by raising prices, increasing sales or reducing costs. The generation of extra cash flows helps to pay off existing debt.
8. In mergers and acquisitions firm better to go with equity investment rather than outsider's debt. The selection of the target should be critically evaluated and the bidders need's to pay optimum price for their target than paying double.

For the purpose of acquisition, these companies have issued as own exchange of equity of acquired companies. Thereby equity base has increased during post acquisition period. It results decline of earnings to equity share holders and declined in profits. Hence these selected companies have to reduce their excess payment to the target firm and try to make use the funds effectively

Conclusion

Mergers and Acquisitions are one of the corporate strategies by which companies attempt to synergise or create value. This corporate failure to consider and plan for the long-term consequences can result in financial problems, loss of employee loyalty, lowered employee morale and reduced productivity. Furthermore, it would be very useful if further research focuses on evaluation of capital structure using net income approach model by considering the actual year-wise cost of capital and for betterment for an investor consider CFAT as earnings for determining the value of the firm and firms can use as a strategic rationale behind merger and acquisition transaction after gestation period of more than 7 years. Since no value addition can be detected.

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