**EFFECTS OF M&A ON CAPITAL STRUCTURE OF INDIAN STEEL COMPANIES: A CASE STUDY OF TATA CORUS**

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 ***Abstract***

*Merger and Acquisition have become exclusive trend in steel industry globally since the beginning of 21stcentury. Corporate integration in the corporate world is accomplishing significance and concentration especially with an exciting undertaking of intense globalization. This is the clear evidence from the importance and increasing growth of deal values and resulted with more corporate integration in recent times. These studies examine the key motive drivers and evaluate the impact of mergers and acquisition in steel industry on event study approach. This study focused on Tata steel-Corus Acquisition during the year 2007.*

*The study used a published financial statement which consists of secondary data. The financial statements are analysed and tested by using ratio analysis and t-test. The outcome of the analysis disclosed that there is no significant difference between pre-post merger and acquisition in capital base and level of returns. There is a significant difference between pre-post merger and acquisition in EPS. The findings of the study evolve those synergies, increased capitalization with the proof of changes in returns, profitability based on the research findings. It can be summarized that the corporate integration has increased the organisational performance and also to the growth of the steel industry.*

***Keywords*** – *Mergers and Acquisitions, Profitability, EPS, Steel Industry, Key drivers*

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**INTRODUCTION**

As applicable to Human, the growth is also a way of life in the corporate sector. In a broader description like a human passes through four stages of life like Kids, childhood, young & old, the corporate sector passes through the same phases, but it does not have the old age rather it grows & becomes stronger. Such a phenomenon can come in the corporate sector, if a continuous focus is being made on Restructuring through Merger &Acquisitions. Growth is an essential ingredient to the progress, success & vitality of many companies. Between 2002 & 2006, there has been a compounded growth rate of 26 % in the value of Merger & Acquisitions deals. Indian companies are seeking entry into the western market. At the same time western companies are looking for entering into low-cost emerging markets like India,which results in in-bound & out-bound Merger & Acquisitions simultaneously. There were 661 Merger & Acquisitions deals, including 348 cross-border deals -240 out-bound & 108 inbound. The outbound deals amounted to $ 32.73 billion including such marquee deals as Tata Steel’s acquisition of Corus for $ 12.2 billion, Hindalco-Novelis, and Suzlon Energy-RE power with transition values of $6 billion, and $1.7 billion, respectively. The 108 inbound Merger & Acquisitions deals amounted to $15.61 billion. In the span of a few short years, Merger & Acquisitions activity in India both domestic as well as cross-border has gone from practically non-existent to becoming the world’s 8th largest Merger & Acquisitions deal market. There is a decline due to the world’s recession in 2009.The amount of Merger & Acquisitions deals reached at $ 900 billion in the year 2013.

**RELEVANCE OF THE STUDY**

The relevance of the study emanates the fact that Merger & Acquisitions now- a- days are blindly accepted as an appropriate inorganic growth. Thus a mechanism needs to be established to ascertain as to how a Merger & Acquisitions can be proved to be useful. We tried to experiment how the companies, those undertake corporate restructuring through Merger & Acquisitions can lead a successful business cycle. We have tried to study the impact of Merger & Acquisitions on the capital structure of Indian Steel companies who undergo through this process.

**STATEMENT OF THE PROBLEM**

During the planning of the organizational structure, specific problems surface after the merger or the acquisition. These problems are (a) Decrease in the Return on Investment, (b) Lagging behind in the attainment of large scale operation, and (c) Lack of maintenance of Economies of Scale etc. Therefore, the purpose of this qualitative, phenomenological study was to investigate whether the Tata Steel’s decision of acquiring the Corus for getting the benefits of Economies of Scale, Optimising the Return on Capital Employed and Minimisation of cost of production really beneficial for Tata or not. Targeting and acquiring another company is often based on different objectives varying from company to company.

**OBJECTIVES OF THE STUDY**

In the recent times, many instances of Merger & Acquisitions taking place around us. Why is it preferred tool of growth even though the risks involved are high? The present study has been undertaken with the following objectives:-

* To analyse the impact of Acquisitions of Corus by Tata Steel really benefited for the Tata Steel in terms of economic value addition.
* To highlight whether this acquisition increase Return on capital employed of Tata or not.
* To study the impact of this acquisition on the profitability of Tata Steel.

**LITERATURE REVIEW**

This chapter takes a look on the angle of various research conducted in the past. This chapter not only attempts to collect & categorise previous research, but also attempts to analyse & evaluate previous works leading to this study’s framework.

Corporate acquisitions are the principal vehicles by which firms enter new markets & expand the size of their operations **(Saletr &Weinhold, 1979)1**.

**Fisher, Alan A. And Robert H. Lande, (1983)2** test the hypothesis that horizontal mergers generate positive abnormal returns to stockholders of the bidder and target firms because they increase the probability of successful collusion limits the output and raise product prices and /or lower factor prices.

**Rao, Narsimha, V, and Rao, P.V. Krishna (1987)3** attempts to evaluate the impact of such mergers on the performance of a corporation. Through the theoretical assumption says that mergers improve the overall performance of the company due to increased market power; the author uses his paper to evaluate the same in the scenario of Indian company. He has tested three parameters – PBITDA, PAT and ROCE – for any change in their before and after values comparison of means using t-test.

**Andrade,G., Mitchell, M., Stafford, E. (2001)4** have studied the impact of mergers on the operating performance of acquiring corporate in different industries, by examining some premerger and post-merger financial ratios, with the sample of firms chosen as all mergers involving public limited and traded companies in India between 1991 and 2003.Their results suggest that there are minor variations in terms of impact on operating performance following mergers, in different industries in India. In particular, mergers seem to have had a slightly positive impact on profitability of firms in the banking and finance industry, the pharmaceuticals, textiles and electrical equipment sectors saw a negative impact on operating performance. In more than 5,763 mergers and acquisitions between 2002 and 2011, acquiring institutions purchased more than $6 trillion in assets globally.

**Hayward (2002)5** states that while people undertaking Merger & Acquisitions have a great opportunity to learn from their experience, they seldom do .This author found that firms who have small losses in prior acquisitions are stimulated to learn from their performance & outperform on subsequent acquisitions. On the other hand, firms that have had great success or great failure find it difficult to learn from that experience.

By contrast **Hayward (2002)6** finds that acquisition experience is not enough to generate superior acquisition performance; however, firms are more successful when they acquire companies that are in a moderately similar business. This author also finds that acquirer, who makes acquisitions one after another in quick succession; do not outperform companies that acquire infrequently. According to Hayward(2002)the best results come from those organisations who take a modest break in their acquisition process to allow the lessons learnt from acquisitions to be processed, i.e. a break long enough for management to consolidate key lessons, but not so long that those lessons are forgotten.

**Mantravadi & Reddy (2008)7** explore the impact of mergers on the operating performance of acquiring corporate in different industries, by examining some pre-merger and post-merger financial ratios. The results suggest that there are minor variations in terms of impact on operating performance following mergers, in different industries in India.

The topic Merger & Acquisitions have been covered by researchers for quite some time. The focus of researchers is centred on the target company & the acquirers have not been assessed for the result. Most of the studies carried out to study the impact of Merger & Acquisitions on stock prices as well as on the operating profits in the period immediately following the mergers and also in the long run. Our study shall focus on the evaluation of acquirer Company for ensuring its preparedness for the merger/acquisition and resulting success or failure.

**RESEARCH METHODOLOGY**

For this research, researcher used secondary data. The secondary data is data already exists. To collect secondary data for these cases, sources have been different sites on in internet, books, articles & public investigations. In this study, secondary data sources have been used to analyse some Indian cases as well as to get an understanding of the basics of Merger & Acquisitions with special emphasis on the behavioural perspective. This research has made an attempt to study the impact of Acquisition on financial performance of the sample company by using the available information for the period of 2002-03 to 2012-13.To analyze the available financial information of the sample company, various techniques of applied research and accounting tools like comparative ratios have been employed. For the purpose, various statistical tools have been used, which are as follows:-

* Operating Profit Ratio (OPR)
* Net Profit Ratio(NPR)
* Debt-Equity Ratio
* Return on capital employed(ROCE)
* Earnings Per Share (EPS)
* T-Test

**HYPOPTHESIS OF THE STUDY**

Based on the research gap areas from literature review, the following hypotheses are tested.

[1] Ho: There is no significant difference between in the Net Profit Margin of Tata Steel in pre and post acquisition.

[2] Ho: There is no significant difference in the EPS of Tata steel in pre and post acquisition.

[3] Ho: There is no significant difference in the Capital Employed of Tata steel in pre and post acquisition.

**LIMITATION OF THE STUDY**

This study has ignored the impact of possible differences in the accounting methods adopted by different companies in sample. However, most of the companies follow accrual method of accounting which is recognised by all bodies including The Ministry of Corporate Affairs, SEBI, etc, thus a degree of reliance can be well made on such data.

**A CASE STUDY OF TATA CORUS**

The modern Iron and steel industry in India owes its origin to the grand vision and perseverance of Jamsetji Nusserwanji Tata. The Tata iron and steel company Limited (Tata Steel) was registered in Bombay on 26th August 1907.Tata Iron and Steel Company (TISCO) was established by [Dorabji Tata](http://en.wikipedia.org/wiki/Dorabji_Tata) in 1907, as part of his father's conglomerate. By 1939 it operated the largest steel plant in the British Empire. Tata Steel being, the winners, as driven by slow growth and substantial profits in the steel industry. Tata steel had acquired British largest steel maker Corus for 608 pence per share. On 20 October 2006 the board of directors of Anglo-Dutch steelmaker Corus accepted a $7.6 billion takeover bid from Tata Steel, the Indian steel company, at 455 pence per share of Corus. The following months saw a lot of negotiations from both sides of the deal. Tata Steel's bid to acquire Corus Group was challenged by CSN, the Brazilian steel maker. Finally, on January 30, 2007, Tata Steel purchased a 100% stake in the Corus Group at 608 pence per share in an all cash deal, cumulatively valued at USD 12.04 Billion. It is one of the striking acquisition of a foreign company in 2006, to propose Tata steel from the 56th to the 5th – largest steel maker in the world. Tata steel acquires Corus completely in April 2007.

**Trend analysis**

Trend analysis of ratios indicates the direction of change. This type of analysis is particularly applicable to the items of profit and loss account. Here, the researcher tried to analyse the trend of performance of TATA Steel before and after the acquisition of CORUS.

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|  **Table -1 (Rs. In Cr.)** |
|  **Trend of Pre - acquisition** | **Trend of post - acquisition** |
| **Year** | **Total Debt** | **Shareholder’s Funds** | **Total Fund** | **Year** | **Total Debt** | **Shareholder’s Funds** | **Total Fund** |
| 2002 | 4,707.82 | 3,445.96 | 8,153.78 | 2008 | 18,021.69 | 27,300.73 | 45,322.42 |
| 2003 | 4,225.61 | 3,186.02 | 7,411.63 | 2009 | 26,946.18 | 29,704.60 | 47,726.29 |
| 2004 | 3,373.28 | 4,515.86 | 7,889.14 | 2010 | 25,239.20 | 37,168.75 | 62,407.95 |
| 2005 | 2,739.70 | 7,059.92 | 9,799.62 | 2011 | 26,148.18 | 46,944.63 | 73,092.81 |
| 2006 | 2,516.15 | 9,755.30 | 12,271.45 | 2012 | 23,693.82 | 52,621.36 | 76,315.18 |
| 2007 | 9,645.33 | 14,096.15 | 23,741.48 | 2013 | 25,911.51 | 55,209.68 | 81,121.19 |
| **Total** | **27,207.89** | **42,059.21** | **69,267.10** | **Total** | **1,37,036.09** | **2,48,949.75** | **3,85,985.84** |
| **Average** | **4,534.65** | **7,009.87** | **11,544.52** | **Average** | **22,839.35** | **41,491.63** | **64,330.97** |

 **Source:** Compiled & collected data from Published Financial Statements of the Company

**INTERPRETATION**

The debt capital of the Tata Steel before acquisition was a diminishing trend but only in the year 2007, the unsecured loan portion of Tata Steel has increased from 324.41 crores in 2006 to 5886.41 crores and further increased to 14,501.11 crores in March,2008.In the same way the Net Worth was also increased almost by two times in the year 2008(From 14096.15 crores in March ,2007 to 27,300.73 crores in March,2008).The Net Worth of Tata Steel after the acquisition increased gradually but when compared with March,2009 ,the Net Worth has increased almost all two times in the year 2013 but there is no significant change in the total debt of Tata Steel after the acquisition.

 **Ratio Analysis**

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| **Table -2** |
|  **Pre-Acquisition Ratio Analysis** |  **Post-Acquisition Ratio Analysis** |
| **Year** | **Operating Profit Ratio****(%)** | **Net Profit Ratio****(%)** | **Return On Capital Employed(%)** | **Debt Equity Ratio****(%)** | **Pre EPS**  | **Year** | **Operating Profit Ratio (%)** | **Net Profit Ratio (%)** | **Return On Capital Employed****(%)** | **Debt Equity Ratio (%)** | **Post EPS**  |
| **2002** | 15.69 | 2.78 | 7.53 | 1.37 | 5.09 | **2008** | 41.94 | 23.43 | 17.11 | 1.08 | 63.85 |
| **2003** | 23.71 | 11.52 | 20.68 | 1.33 | 27.53 | **2009** | 37.68 | 21.09 | 15.01 | 1.34 | 69.70 |
| **2004** | 32.47 | 16.00 | 38.77 | 0.75 | 47.48 | **2010** | 35.70 | 19.96 | 13.06 | 0.68 | 56.37 |
| **2005** | 41.10 | 23.72 | 56.06 | 0.39 | 62.77 | **2011** | 39.06 | 22.94 | 14.86 | 0.56 | 71.58 |
| **2006** | 38.88 | 22.78 | 43.72 | 0.26 | 63.35 | **2012** | 33.99 | 19.23 | 14.77 | 0.45 | 68.95 |
| **2007** | 39.61 | 23.53 | 27.71 | 0.69 | 72.74 | **2013** | 29.12 | 12.94 | 12.80 | 0.47 | 52.13 |
| **Average** | **31.91** | **16.72** | **32.41** | **0.80** | **46.49** | **Average** | **36.24** | **19.93** | **14.60** | **0.76** | **63.76** |
| **S.D.** | **42.14** | **8.41** | **17.36** | **0.46** | **25.74** | **S.D.** | **4.44** | **3.79** | **1.56** | **0.36** | **7.91** |

**Source:** Compiled & collected data of Published Financial Statements of the Company

**INTERPRETATIONS**

**OPERATING PROFIT RATIO**

The operating profit ratio of Tata steel in Pre Acquisition was on an average of 31.91 % with a S.D. of 42.14 % which increased to 36.24% with a S.D. of 4.44 % Post Acquisition. It shows that the operating efficiency in post Acquisition period has enhanced.

**NET PROFIT RATIO**

The Net profit ratio of Tata Steel in Pre Acquisition on average was 16.72% with a S.D. 8.41, which increased to 19.93% with a S.D. of 3.79, which shows that the profitability of Tata has increased in the post- acquisition period as compared to pre- acquisition period.

**RETURN ON CAPITAL EMPLOYED**

The average Return on Capital Employed of Tata steel is 32.14% with a S.D. 17.36 but after Acquisition Return on Capital Employed has come down to average of 14.60 with a S.D. of 1.56.

**DEBT-EQUITY RATIO**

The Debt-Equity Ratio has come down gradually from the year 2010 onwards with an average of 0.76.In case of Pre Acquisition average ,this ratio was 0.80 with a S.D. of 0.46.This is due to increase in denominator i.e. Shareholder’s funds.

**EARNING PER SHARE**

The average Earning Per Share of Tata Steel before acquisition was 46.49 with a S.D. of 25.74, which has increased to 63.76 with a S.D. of 7.91.This shows that the Earning Per Share of Tata Steel increased after the acquisition of Corus, which is a good indication for Tata.

**TESTING OF HYPOTHESES BY T-Test**

The T- test is used to determine the prior and post performance of an activity.

**t =**$\overbar{ d}$√n

 S

**Decision Rule: -** If the profitability (the level of significance) of the t calculated is less than 5%, we accept the alternative hypothesis and otherwise, we should accept the null hypothesis.

**Hypothesis: 1**

**There is no significant difference in the Net Profit Margin of Tata Steel in pre and post acquisition.**

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| **Table -3** |
| **Net Profit Margin of Tata Steel in pre and post acquisition** |
|   | **Pre Net Profit Margin(%)** | **Post Net Profit Margin(%)** | **d** | **d2** |
| 1 | 2.78 | 23.43 | -20.65 | 426.42 |
| 2 | 11.52 | 21.09 | -9.57 | 91.58 |
| 3 | 16.00 | 19.96 | -3.96 | 15.68 |
| 4 | 23.72 | 22.94 | 0.78 | 0.61 |
| 5 | 22.78 | 19.23 | 3.55 | 12.60 |
| 6 | 23.53 | 12.94 | 10.59 | 112.15 |
|  |  |  | **Σd=-19.26** | **Σd2=659.05** |

 **Source:** Compiled & collected data of Published Financial Statements of the Company

$\overbar{\left|d\right|}$ **=**$\left|Σd/n \right|$**=**$\left|19.26/6 \right|$ **= 3.21**

 S= √ (Σd2) – n($\overbar{d}$) 2

 (n-1)

 S= √659.05 – 6(**-**3.21)2

 (6-1)

 **S = 11.25**

$\left|t\right|$ **=**$ \left|d\right|$√n

 S

$\left|t\right|$ = 3.21√6

 11.25

$\left|t\right|$ = 0.696

 **Figure-1 Net Profit Margin of Tata Steel in pre and post acquisition**

 **Source:** Compiled & collected data of Published Financial Statements of theCompany

**INTERPRETATION**

Degree of freedom = N-1 = 6-1 =5 at 5% level of significance The tabulated value 2.015, since this value is greater than the computed value 0.696, therefore the null hypothesis was accepted, i.e. There is no significant difference in Net Profit Margin of Tata steel in pre and post acquisition period.

**Hypothesis: 2**

**There is no significant difference in Earnings per Share of Tata steel in pre and post acquisition**

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| **Table -4** |
| **Earnings per Share of Tata steel in pre and post acquisition** |
|  | **Pre EPS**  | **Post EPS**  | **d**  | **d2** |
| 1 | **5.09** | **63.85** | -58.76 | 3452.74 |
| 2 | **27.53** | **69.70** | -42.17 | 1778.31 |
| 3 | **47.48** | **56.37** | -8.89 | 79.03 |
| 4 | **62.77** | **71.58** | -8.81 | 77.62 |
| 5 | **63.35** | **68.95** | -5.6 | 31.36 |
| 6 | **72.74** | **52.13** | 20.61 | 424.77 |
|  |  |  | **Σd=-103.62** | **Σd2=5843.83** |

 **Source:** Compiled & collected data of Published Financial Statements of the Company

$\overbar{\left|d\right|}$ **=**$\left|Σd/n \right|$ **=** $\left|-103.62/6 \right|$ **= 17.27**

 S= √ (Σd2) – n($\overbar{d}$) 2

 (n-1)

 S = √(5843.83) – 6(**-**17.27)2

 (6-1)

 **S = 28.47**

$\left|t\right|$ **=**$ \overbar{\left|d\right|} $√n

 S

$\left|t\right|$ = 17.27√6

 28.47

$\left|t\right|$ **= 1.48**

 **Figure-2 Earnings per Share of Tata steel in pre and post acquisition**

 **Source:** Compiled & collected data of Published Financial Statements of the Company

**INTERPRETATION**

Degree of freedom = N-1 = 6-1 =5 at 5% level of significance The tabulated value 2.015, since this value is greater than the computed value 1.48, therefore the null hypothesis was accepted, i.e. There is no significant difference in Earning per Share of Tata steel in pre and post acquisition period.

**Hypothesis: 3**

**There is no significant difference in the Capital Employed of Tata Steel in pre and post acquisition**

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| **Table -5** |
| **Capital Employed of Tata Steel in pre and post acquisition** |
|  | **Pre Return On Capital Employed (%)** | **Post Return On Capital Employed** (%) | **d** | **d2** |
| 1 | 7.53 | 17.11 | -9.58 | 91.78 |
| 2 | 20.68 | 15.01 | 5.67 | 32.15 |
| 3 | 38.77 | 13.06 | 25.71 | 661.00 |
| 4 | 56.06 | 14.86 | 41.2 | 1697.44 |
| 5 | 43.72 | 14.77 | 28.95 | 838.10 |
| 6 | 27.71 | 12.80 | 14.91 | 222.31 |
|  |  |  | **Σd=106.86** | **Σd2=3542.78** |

**Source:** Compiled & collected data of Published Financial Statements of the Company

$\overbar{\begin{array}{c}\left|d\right|\end{array}}$ **=**$\left|Σd/n \right|$ **=**$\left|106.86/6 \right|$**= 17.81**

 S= √ (Σd2) – n($\overbar{d}$) 2

 (n-1)

 S = √3542.78 – 6(17.81)2

 (6-1)

 **S = 18.1**

$\left|t\right|$ **=**$ \overbar{\left|d\right|}$√n

 S

$\left|t\right|$ = 17.81√6

 18.

$\left|t\right|$ = **2.4**

 **Figure-3 Capital Employed of Tata Steel in pre and post acquisition**

**Source:** Compiled & collected data of Published Financial Statements of the company

**INTERPRETATION**

Degree of freedom = N-1 = 6-1 =5 at 5% level of significance The tabulated value 2.015, since this value is less than the computed value 2.4, therefore the alternative hypothesis was accepted, i.e. There is significant difference in Return on Capital Employed of Tata steel in pre and post acquisition period.

**FINDINGS**

From the above study the Researcher has found that the unsecured loan of The Tata has increased from March, 2007 to March, 2013 at a faster rate. The change in Earning Per Share of Tata Steel after the acquisition increased at a rate of 37.15 %.The profitability ratios i.e. Operating Profit Ratio and Net Profit Ratios have increased in post acquisition when compared with their averages pre acquisition. The Return on Capital Employed is the only one ratio which has decreased in post acquisition than pre acquisition. The t-test of the Tata steel shows that there is no significant difference in the financial performance of Tata steel except Return on Capital Employed in pre and post acquisition period.This financial performance was tested for the parameters like Net Profit Margin, Earning Per Share and Return on Capital Employed.

**CONCLUSION**

Based on the above research study, it is concluded that acquisition of Corus by Tata enhanced the profitability (Operating Profit Margin and Net Profit Margin), performance, turnover, long term solvency, economies of scale and control of Tata Steel. But it is not a remarkable improvement .One of the important parameter in finance i.e. Return on Capital Employed has come down in post acquisition. Similarly the t-test also proved the same that there is no significant difference in the pre and post acquisition of Corus by Tata Steel in terms of earnings per share, Net Profit Margin, Debt Equity ratio but only Return on Capital Employed proved a significant difference. But the trend of financial ratios like earnings per share, Net Profit Margin, Debt Equity ratio and Return on Capital Employed shows that there is not much remarkable difference in the financial performance of Tata Steel in Pre and post acquisition period. There may be a lot of potential synergies in terms of sharing of best practices across the companies but that was not properly reflected in the above study. The next century will certainly see new Tata Steel – an integrated Steel plant in India with truly world class facilities along with a will to win amongst a committed and streamlined workforce. As it is too early to conclude about the findings but in the long-run after optimal utilisation of available resources the company may get the benefit of economies in large scale operation. Tata Steel may become the most cost competitive Steel plant to serve the community and the nation.

**FURTHER SCOPE FOR RESEARCH**

Further Research can be conducted in measuring the dividend decisions and its impact on Market price of Tata Corus. Further study can also be made on the Market price of Tata Corus before and after acquisition.

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