# "Pre and Post Merger Financial Performance of Select Indian Pharmaceutical Companies"

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***Abstract***: *This paper made an effort to analyze the financial performance pre- and post-merger of selected companies of Indian pharma sector. The study covered a period of 10 years from 2010 to 2019. The financial performance was analyzed based on the selected variables covering from profitability, liquidity, and growth prospects. The study found an improvement in EPS, and decline in EBIT, Return on Assets indicating a negative impact of these variables on merger. The study also found the decline in Current Ratio, Quick Ratio, Debt/Equity, and Interest Coverage Ratio of selected companies post merger. The growth prospect of the selected companies also shows a negative impact on merger. The overall performance indicates that the merger has not benefited the selected companies due to ineffective management of the financial resources. The comparative analysis also showed a declining trend of most the selected companies post merger. Only torrent pharma showed better performance in profitability compared to the average. Sun pharma and Cipla have shown better performance of liquidity and Sun pharma and Torrent have shows better growth prospects.*

**Key Words: Merger, Acquisition, Pharma, Profitability, Liquidity, Growth**

## Introduction

India is one among the fastest growing markets in pharmaceutical industry and has witnessed pharma sector as a global manufacturing and research hub. It not only caters to the Indian market but also exports various products to pharma market overseas. This sector is well known for low-cost manufacturing and facilitates research activities.

Mergers and Acquisitions encourage industries to gain market power, to obtain financial synergies and to access distribution channel in order to exist geographically. Indian pharmaceutical industry took an active part in driving Merger and Acquisition with large transaction. They acquired local players so as to build their product portfolio and to expand their activities in both existing and new markets.

The merger is being used as a growth strategy across the globe for achieving high growth of business. Godbole (2013) mentioned that merger combines the total assets-liabilities, loans and business of two companies from which one survives. This strategy is also used for the purpose of expanding the business, meet the competition and to become a giant business organization.

Narayanaswamy (2017) said that the financial performance of target firm needs to be assessed before going for the merger as the financial strength of the target firm will affect the financial performance of new entity which in turn affect many stakeholders of the business. This activity helps the firm to have a positive financial impact.

There are many forms of mergers. Some of them are vertical merger, horizontal merger, accretive merger, conglomerate merger and dilutive merger. Vertical merger happens between two firms operating between different industries. Horizontal merger takes place when two firms operating in similar business. Accretive merger is one where a company having high P/E ratio acquires the one who have low P/E ratio. Conglomerate merger is where no economic relation between two companies and lastly dilutive merger is when EPS of acquiring company falls after merger.

**Review of Literature**

**Pawaskar (2001),** carried out a study entitled "Effect of Mergers on Corporate Performance in India" compared pre- and post-merger of the firms engaged in merger to know the financial characteristics. This study has identified the profit profile, wherein regression analysis showed that there was no increase in post merger profits. The study of sample of firms through M &A showed that the merging companies were at lower in terms of liquidity, tax and growth of the industry.

**Ming and Hosino (2002),** in an article "Productivity and Operating performance of Japanese merging firms" studied the effect of M&A on the company's operating performance using Japanese corporate merger between 1970 and 1994 by using a sample of 86 firms, where the success of M&A was determined based on their effects on efficiency, growth and profitability. The outcome of study reveals insignificant negative change in productivity, significant downtrend in profit and negative effect on sales growth rate and downsize in the workforce after M &A.

**Ramaswamy and Waegelein (2003),** in "Firm Financial Performance Following Mergers" tested long term post merger financial performance to know the relationship between post merger performance and size of the firm, type of the industry, method of payment etc. This analysis covered 5years pre- and post-merger. This study ends up with a conclusion that there is a positive and improvement in the post merger performance and significant association between post merger performances.

**Beena (2004),** in a work "Towards understanding the Merger Wave in the Indian Corporate Sector- A Comparative Perspective" analyzed the pre- and post-merger performance by using a sample of 115 acquiring firms in manufacturing sector. This study did not find any proof of improvement in financial rations during the period of post merger for the acquiring firms.

**Kumar and Bansal (2008),** in the study "The impact of M&A on corporate performance in India" made an attempt to realize whether the claims of firms while entering into M&A to generate synergy are being achieved or not. Their Study begun by studying the impact of M&As on the financial performance in the long run and compared those outcomes with the results of merger deals and acquisition deals. This study carries by using various ratios and correlation and found that in most of the cases of MAs, the acquiring firms were able to generate synergy in the long run that can be in the form of higher cash flows, cost reductions, business diversification and so on.

**Mishra and Chandra (2010),** in the work titled "Mergers, Acquisitions and Firms Performance: Experience of Indian Pharmaceutical Industry" attempted to analyze the impact of M&As on the financial performance of Indian Pharmaceutical firms. They used descriptive statistics and multiple regressions to measure the operating performance of acquiring firms. This study concluded that profit of a firm directly depended on its sales, size, export and imports, market share and demand for the products. In addition, research and developments, in house research did not have impact on the profitability of the firm.

**Ghosh and Dutta (2014),** made a study on the performance of 10 selected telecom companies in India to study the financial performance before and after merger. The study covers the period of 10 years from 2000 to 2010. The finding of the study reveals that there is an improvement in financial performance of the selected telecom companies in India post merger.

**Vulanovic (2017),** studied the determinants of merger of SPACs for a period from 2003-2010. The purpose was to find out the major determinants of mergers in the selected companies. The results showed that the size and IPO of the companies has significant negative effect on the profitability on merger. It also showed the number of warrant unit has negative relation with profitability.

**Research Methodology**

J,companies in Indiapre- and post-merger and compare the performance of the selected companies. Further, the study analyses the financial performance from three dimensions namely profitability,liquidity and growthduring pre- andpost-merger period. The profitability was measured in terms of EPS (Earning per Share), EBIT (EBIT Margin), ROA (Return on Assets). Liquidity was measured in terms of CR (Current Ratio), QR (Quick ratio), D/E (Debt/Equity), ICR (Interest Coverage ratio) and Growth was measured in terms of SG (Sales Growth), CFOG (Cash Flow from Operating Activities Growth), and FV (Firm Value).The study covers the period of 10 years which is divided into pre and post period based on the year of merger in the selected companies to test the hypothesis. The statistical tool t-test was employed to understand the significant differences in the financial performance pre and post merger. The study covers five pharma companies in India for the analysis. The analysis is based on the secondary data which is collected from the annual reports anddatabase of capitaline and ACE analyser.

## Results and Discussion

**Table no 2a: Financial Performance of Cipla ltd**

**Table no 2b: Sample Pair of Cipla ltd**

| Variables | Pair | Pair Name | Null Hypothesis | Alternative Hypothesis | Result |
|---|---|---|---|---|---|
| **EPS** | 1 | PREPS-POEPS | EPS≠EPS | EPS=EPS | Accepted |
| **EBIT** | 2 | PREBIT-POEBIT | EBIT≠EBIT | EBIT=EBIT | Accepted |
| **ROA** | 3 | PRROA-POROA | ROA≠ROA | ROA=ROA | Accepted |
| **CR** | 4 | PRCR-POCR | CR≠CR | CR=CR | Accepted |
| **QR** | 5 | PRQR-POQR | QR≠QR | QR=QR | Accepted |
| **D/E** | 6 | PRDE-PODE | D/E≠D/E | D/E=D/E | Rejected |
| **ICR** | 7 | PRICR-POICR | ICR≠ICR | ICR=ICR | Accepted |
| **SG** | 8 | PRSG-POSG | SG≠SG | SG=SG | Accepted |
| **CFOG** | 9 | PRCFOG-POCFSG | CFOG≠CFOG | CFOG=CFOG | Accepted |

| Variables | Period | Mean | Standard Deviation | t-value | Sig. |
|---|---|---|---|---|---|
| | | **Profitability** | | | |
| **EPS** | Pre | 16.31 | 2.30 | 0.23 | 0.83 |
| | Post | 16.48 | 3.38 | | |
| **EBIT** | Pre | 11.86 | 4.60 | 2.22 | 0.15 |
| | Post | 20.44 | 2.10 | | |
| **ROA** | Pre | 5.77 | 2.87 | 2.16 | 0.16 |
| | Post | 10.37 | 0.87 | | |
| | | **Liquidity** | | | |
| **CR** | Pre | 2.90 | 0.57 | -1.01 | 0.42 |
| | Post | 2.39 | 0.35 | | |
| **QR** | Pre | 1.86 | 0.55 | -1.06 | 0.39 |
| | Post | 1.34 | 0.34 | | |
| **D/E** | Pre | 0.30 | 0.03 | -6.65 | 0.02 |
| | Post | 0.13 | 0.02 | | |
| **ICR** | Pre | 12.76 | 28.48 | 0.86 | 0.47 |
| | Post | 28.78 | 3.84 | | |
| | | **Growth** | | | |
| **Sales Growth** | Pre | 0.05 | 0.05 | 2.81 | 0.51 |
| | Post | 0.17 | 0.03 | | |
| **CFO Growth** | Pre | 0.13 | 0.20 | -0.73 | 0.11 |
| | Post | -0.10 | 0.41 | | |
| **FV** | Pre | 48491.37 | 15482.63 | -0.79 | 0.54 |
| | Post | 40549.29 | 2686.31 | | |

| | | | | | |
|---|---|---|---|---|---|
| **FV** | 10 | PRFV-POFV | FV≠FV | FV=FV | Accepted |

The above table shows the financial performance of Cipla ltd pre and post merger. The EPS before merger was Rs 16.31 has increased to Rs 16.48 post merger. The t-value 0.23 with the p-value 0.83 indicates that EPS has not significantly increased post merger. The EBIT before merger was 11.86% has increased to 20.44 % post merger. The t-value 2.22 with the p-value 0.15 indicates that the merger has no impact on percentage change in EBIT . The ROA before merger was 5.77% has increased to 10.37 % post merger. The t-value 2.16 with the p-value 0.16 indicates that the merger has no impact on percentage change in ROA. The ROA before merger was 2.90 has decreased to 2.39 post merger. The t-value -1.01 with the p-value 0.42 indicates that there is a decline in the CR post merger. The QR before merger was 1.86 has decreased to 1.34 post merger. The t-value -1.06 with the p-value 0.39 indicates that there is a decline in the QR post merger. The D/E before merger was 0.30 has decreased to 0.13 post merger. The t-value -6.62 with the p-value 0.02 indicates that there is a significant decrease in the debt post merger. The ICR before merger was 12.76 has increased to 28.78 post merger. The t-value -0.86 with the p-value 0.47 indicates that there is ICR has increased post merger and the results are insignificant. The growth of sales before merger was 0.05 has increased to 0.17 post merger. The t-value 2.81 with the p-value 0.51 indicates that the merger has no impact on the growth of sales. The growth of CFO before merger was 0.13 has decreased to -0.10 post merger. The t-value -0.73 with the p-value 0.11 indicates that the merger has no impact on the growth of CFO. The

FV(Firm value) before merger was 48491.37 has decreased to 40549.29 post merger. The t-value -0.79 with the p-value 0.54 indicates that the merger has no impact on the FV.

**Table no 3a: Financial Performance of Lupin ltd**

| | Period | Mean | Standard Deviation | t-value | Sig. |
|---|---|---|---|---|---|
| **Profitability** | | | | | |
| **EPS** | Pre | 27.16 | 10.22 | 0.24 | 0.82 |
| | Post | 31.33 | 25.60 | | |
| **EBIT** | Pre | 20.19 | 3.67 | -0.49 | 0.65 |
| | Post | 18.02 | 5.41 | | |
| **ROA** | Pre | 14.43 | 2.89 | -2.45 | 0.09 |
| | Post | 5.68 | 4.77 | | |
| **Liquidity** | | | | | |
| **CR** | Pre | 1.71 | 0.42 | 2.55 | 0.08 |
| | Post | 2.14 | 0.23 | | |
| **QR** | Pre | 1.07 | 0.31 | 3.83 | 0.03 |
| | Post | 1.49 | 0.18 | | |
| **D/E** | Pre | 0.24 | 0.13 | 5.41 | 0.01 |
| | Post | 0.58 | 0.05 | | |
| **ICR** | Pre | 54.93 | 35.71 | -1.12 | 0.34 |
| | Post | 24.72 | 22.66 | | |
| **Growth** | | | | | |
| **Sales Growth** | Pre | 0.15 | 0.05 | -0.86 | 0.44 |
| | Post | 0.09 | 0.08 | | |
| **CFO Growth** | Pre | 0.14 | 0.36 | 0.04 | 0.96 |
| | Post | 0.15 | 0.39 | | |
| **FV** | Pre | 28650.54 | 9585.94 | 2.03 | 0.13 |
| | Post | 56273.04 | 19080.94 | | |

**Table no 3b: Sample Pair of Lupinltd**

| Variables | Pair | Pair Name | Null Hypothesis | Alternative Hypothesis | Result |
|---|---|---|---|---|---|
| **EPS** | 1 | PREPS-POEPS | EPS≠EPS | EPS=EPS | Accepted |
| **EBIT** | 2 | PREBIT-POEBIT | EBIT≠EBIT | EBIT=EBIT | Accepted |
| **ROA** | 3 | PRROA-POROA | ROA≠ROA | ROA=ROA | Accepted |
| **CR** | 4 | PRCR-POCR | CR≠CR | CR=CR | Accepted |
| **QR** | 5 | PRQR-POQR | QR≠QR | QR=QR | Rejected |
| **D/E** | 6 | PRDE-PODE | D/E≠D/E | D/E=D/E | Rejected |
| **ICR** | 7 | PRICR-POICR | ICR≠ICR | ICR=ICR | Accepted |
| **SG** | 8 | PRSG-POSG | SG≠SG | SG=SG | Accepted |
| **CFOG** | 9 | PRCFOG-POCFSG | CFOG≠CFOG | CFOG=CFOG | Accepted |
| **FV** | 10 | PRFV-POFV | FV≠FV | FV=FV | Accepted |

The above table shows the financial performance of Lupin Pharma ltd pre and post merger. The EPS before merger was Rs 27.16 has increased to Rs 31.33 post merger. The t-value 0.24 with the p-value 0.82 indicates that EPS has increased post merger insignificantly. The EBIT before merger was 20.19 % has decreased to 18.02 % post merger. The t-value -0.49 with the p-value 0.65 indicates that the merger has no significant impact on percentage change in EBIT. The ROA before merger was 14.43 % has decreased to 5.68 % post merger. The t-value -2.45 with the p-value 0.09 indicates that the merger has insignificant impact on ROA. The CR before merger was 1.71 has increased to 2.14 post merger. The t-value 2.55 with the p-value 0.08 indicates that there is insignificant increase in the CR post merger. The QR before merger was 1.07 has increased to 1.49 post merger. The t-value 3.83with the p-value 0.03 indicates that there is a significant increase in the QR post merger. The D/E before merger was 0.24 has increased to 0.58 post merger. The t-value 5.41 with the p-value 0.01 indicates that there is a significant increase in the debt post merger. The ICR before merger was 54.93 has decreased to 24.72 post merger. The t-value -1.12 with the p-value 0.34 indicates that the ICR has decreased post merger insignificantly. The growth of sales before merger was 0.15 has decreased to 0.09 post merger. The t-value -0.86 with the p-value 0.44 indicates that the merger has an insignificant impact on the decline of growth of sales. The growth of CFO before merger was 0.14 has decreased marginally to 0.15 post merger. The t-value 0.04 with the p-value 0.96 indicates that the merger

has an insignificant impact on the growth of CFO. The FV (Firm value) before merger was 28650.54 and it has increased to 56273.04 post merger. The t-value 2.03 with the p-value 0.13 indicates that the merger has a significant impact on the FV.

**Table no 4a: Financial Performance of Dr Reddy's Lab**

| | Period | Mean | Standard Deviation | t-value | Sig. |
|---|---|---|---|---|---|
| **Profitability** | | | | | |
| **EPS** | Pre | 61.34 | 29.81 | -1.13 | 0.33 |
| | Post | 98.86 | 37.86 | | |
| **EBIT** | Pre | 18.06 | 2.48 | 0.79 | 0.48 |
| | Post | 15.07 | 5.11 | | |
| **ROA** | Pre | 9.67 | 3.27 | 0.41 | 0.71 |
| | Post | 8.28 | 3.88 | | |
| **Liquidity** | | | | | |
| **CR** | Pre | 1.41 | 0.18 | -0.66 | 0.55 |
| | Post | 1.56 | 0.31 | | |
| **QR** | Pre | 0.98 | 0.16 | -0.88 | 0.44 |
| | Post | 1.18 | 0.29 | | |
| **D/E** | Pre | 0.53 | 0.11 | 2.51 | 0.08 |
| | Post | 0.36 | 0.06 | | |
| **ICR** | Pre | 32.42 | 13.74 | 1.31 | 0.28 |
| | Post | 26.76 | 7.19 | | |
| **Growth** | | | | | |
| **Sales Growth** | Pre | 0.18 | 0.32 | 0.62 | 0.57 |
| | Post | -0.05 | 0.33 | | |
| **CFO Growth** | Pre | 0.23 | 0.67 | 0.96 | 0.41 |
| | Post | -0.00 | 0.32 | | |
| **FV** | Pre | 28621.28 | 4248.61 | -3.41 | 0.04 |
| | Post | 50833.09 | 9304.94 | | |

**Table no 4b: Sample Pair of Dr Reddy's Lab**

| Variables | Pair | Pair Name | Null Hypothesis | Alternative Hypothesis | Result |
|---|---|---|---|---|---|
| **EPS** | 1 | PREPS-POEPS | EPS≠EPS | EPS=EPS | Accepted |
| **EBIT** | 2 | PREBIT-POEBIT | EBIT≠EBIT | EBIT=EBIT | Accepted |
| **ROA** | 3 | PRROA-POROA | ROA≠ROA | ROA=ROA | Accepted |
| **CR** | 4 | PRCR-POCR | CR≠CR | CR=CR | Accepted |
| **QR** | 5 | PRQR-POQR | QR≠QR | QR=QR | Accepted |
| **D/E** | 6 | PRDE-PODE | D/E≠D/E | D/E=D/E | Accepted |
| **ICR** | 7 | PRICR-POICR | ICR≠ICR | ICR=ICR | Accepted |
| **SG** | 8 | PRSG-POSG | SG≠SG | SG=SG | Accepted |
| **CFOG** | 9 | PRCFOG-POCFSG | CFOG≠CFOG | CFOG=CFOG | Accepted |
| **FV** | 10 | PRFV-POFV | FV≠FV | FV=FV | Rejected |

The above table shows the financial performance of Dr Reddy's ltd pre and post merger. The EPS before merger was Rs 61.34 has increased to Rs 98.86 post merger. The t-value -1.13 with the p-value 0.33 indicates that EPS has increased post merger insignificantly. The EBIT before merger was 18.06% has decreased to 15.07 % post merger. The t-value 0.79 with the p-value 0.48 indicates that the merger has no significant impact on percentage change in EBIT. The ROA before merger was 9.67% has decreased to 8.28% post merger. The t-value 0.41 with the p-value 0.71 indicates that the merger has insignificant impact on ROA. The CR before merger was 1.41 has increased to 1.56 post merger. The t-value -0.66 with the p-value 0.55 indicates that there is insignificant increase in the CR post merger. The QR before merger was 0.98 has increased to 1.18 post merger. The t-value -0.88 with the p-value 0.44 indicates that there is an insignificant increase in the QR post merger. The D/E before merger was 0.53 has decreased to 0.36 post merger. The t-value -2.51 with the p-value 0.08 indicates that there is a insignificant decrease in the debt post merger. The ICR before merger was 32.42 has decreased to 26.76 post merger. The t-value 1.31 with the p-value 0.28 indicates that the ICR has decreased post merger insignificantly. The growth of sales before merger was 0.18 has decreased to -0.05 post merger. The t-value 0.62 with the p-value 0.57 indicates that the merger has an insignificant impact on the decline of growth of sales. The growth of CFO before merger was 0.23 has decreased to -0.01 post merger. The t-value 0.96 with the p-value 0.41 indicates that the merger has an insignificant

impact on the growth of CFO. The FV (Firm value) before merger was 28621.28 and it has increased to 50833.09 post merger. The t-value -3.41 with the p-value 0.04 indicates that the merger has a significant impact on the FV.

**Table no 5a: Financial Performance of Sun Pharma ltd**

| | Period | Mean | Standard Deviation | t-value | Sig. |
|---|---|---|---|---|---|
| **Profitability** | | | | | |
| **EPS** | Pre | 34.30 | 21.15 | -1.32 | 0.33 |
| | Post | 18.95 | 8.16 | | |
| **EBIT** | Pre | 39.80 | 3.73 | -3.87 | 0.48 |
| | Post | 25.62 | 4.88 | | |
| **ROA** | Pre | 14.97 | 0.81 | 5.07 | 0.71 |
| | Post | 8.03 | 3.38 | | |
| **Liquidity** | | | | | |
| **CR** | Pre | 4.04 | 0.24 | 24.93 | 0.00 |
| | Post | 1.87 | 0.29 | | |
| **QR** | Pre | 3.13 | 0.23 | 55.76 | 0.00 |
| | Post | 1.48 | 0.22 | | |
| **D/E** | Pre | 0.02 | 0.01 | -12.71 | 0.00 |
| | Post | 0.25 | 0.03 | | |
| **ICR** | Pre | 123.51 | 82.88 | 2.57 | 0.08 |
| | Post | 15.13 | 6.06 | | |
| **Growth** | | | | | |
| **Sales Growth** | Pre | 0.44 | 0.04 | -3.96 | 0.03 |
| | Post | 0.16 | 0.37 | | |
| **CFO Growth** | Pre | 0.88 | 0.91 | 1.53 | 0.22 |
| | Post | 0.05 | 0.35 | | |
| **FV** | Pre | 55285.81 | 19971.44 | 2.10 | 0.12 |
| | Post | 172978.89 | 39482.60 | | |

**Table no 5b: Sample Pair of Sun Pharma ltd**

| Variables | Pair | Pair Name | Null Hypothesis | Alternative Hypothesis | Result |
|---|---|---|---|---|---|
| **EPS** | 1 | PREPS-POEPS | EPS≠EPS | EPS=EPS | Accepted |
| **EBIT** | 2 | PREBIT-POEBIT | EBIT≠EBIT | EBIT=EBIT | Accepted |
| **ROA** | 3 | PRROA-POROA | ROA≠ROA | ROA=ROA | Accepted |
| **CR** | 4 | PRCR-POCR | CR≠CR | CR=CR | Rejected |
| **QR** | 5 | PRQR-POQR | QR≠QR | QR=QR | Rejected |
| **D/E** | 6 | PRDE-PODE | D/E≠D/E | D/E=D/E | Rejected |
| **ICR** | 7 | PRICR-POICR | ICR≠ICR | ICR=ICR | Accepted |
| **SG** | 8 | PRSG-POSG | SG≠SG | SG=SG | Rejected |
| **CFOG** | 9 | PRCFOG-POCFSG | CFOG≠CFOG | CFOG=CFOG | Accepted |
| **FV** | 10 | PRFV-POFV | FV≠FV | FV=FV | Rejected |

The above table shows the financial performance of Sun Pharma ltd pre and post merger. The EPS before merger was Rs 34.30 has increased to Rs 18.95 post merger. The t-value --1.32 with the p-value 0.33 indicates that EPS has decreased post merger insignificantly. The EBIT before merger was 39.80% has decreased to 25.62% post merger. The t-value -3.87 with the p-value 0.48 indicates that the merger has no significant impact on percentage change in EBIT. The ROA before merger was 14.97% has decreased to 8.03% post merger. The t-value 5.07 with the p-value 0.71 indicates that the merger has insignificant impact on ROA. The CR before merger was 4.04 has decreased to 1.87 post merger. The t-value 24.93 with the p-value 0.00 indicates that there is a significant decline in the CR post merger. The QR before merger was 3.13 has decreased to 1.48 post merger. The t-value 55.76 with the p-value 0.00 indicates that there is a significant decline in the QR post merger. The D/E before merger was 0.02 has increased to 0.25 post merger. The t-value -12.71 with the p-value 0.00 indicates that there is a insignificant increase in the debt post merger. The ICR before merger was 123.51 has decreased to 15.13 post merger. The t-value 2.57 with the p-value 0.08 indicates that the ICR has decreased post merger insignificantly. The growth of sales before merger was 0.44 has decreased to 0.16 post merger. The t-value -3.96 with the p-value 0.03 indicates that the merger has a significant impact on the decline of growth of sales. The growth of CFO before merger was 0.88 has decreased to 0.05 post merger. The t-value 1.53 with the p-value 0.22 indicates that the merger has no significant impact on the growth of CFO. The FV (Firm value) before merger was 55285.81 and it has increased to 172978.89 post merger. The t-value 2.10 with the p-value 0.12 indicates that the merger has insignificant impact on the FV.

**Table no 6a: Financial Performance of Torrent Pharma ltd**

| | Period | Mean | Standard Deviation | t-value | Sig. |
|---|---|---|---|---|---|
| **Profitability** | | | | | |
| **EPS** | Pre | 35.99 | 10.44 | -1.44 | 0.24 |
| | Post | 60.51 | 28.65 | | |
| **EBIT** | Pre | 16.31 | 2.35 | -1.27 | 0.29 |
| | Post | 22.37 | 8.66 | | |
| **ROA** | Pre | 10.75 | 1.12 | 0.02 | 0.98 |
| | Post | 10.75 | 6.02 | | |
| **Liquidity** | | | | | |
| **CR** | Pre | 1.52 | 0.13 | 0.65 | 0.56 |
| | Post | 1.41 | 0.31 | | |
| **QR** | Pre | 1.06 | 0.12 | 0.80 | 0.47 |
| | Post | 0.97 | 0.24 | | |
| **D/E** | Pre | 0.45 | 0.11 | -2.28 | 0.11 |
| | Post | 0.82 | 0.35 | | |
| **ICR** | Pre | 13.43 | 4.13 | 1.33 | 0.27 |
| | Post | 7.86 | 4.74 | | |
| **Growth** | | | | | |
| **Sales Growth** | Pre | 0.25 | 0.14 | 0.87 | 0.44 |
| | Post | 0.12 | 0.24 | | |
| **CFO Growth** | Pre | 0.78 | 1.01 | 0.46 | 0.67 |
| | Post | 0.49 | 1.32 | | |
| **FV** | Pre | 5125.625 | 499.32 | -19.05 | 0.00 |
| | Post | 24755.09 | 2598.47 | | |

**Table no 6b: Sample Pair of Torrent Pharma ltd**

| Variables | Pair | Pair Name | Null Hypothesis | Alternative Hypothesis | Result |
|---|---|---|---|---|---|
| **EPS** | 1 | PREPS-POEPS | EPS≠EPS | EPS=EPS | Accepted |
| **EBIT** | 2 | PREBIT-POEBIT | EBIT≠EBIT | EBIT=EBIT | Accepted |
| **ROA** | 3 | PRROA-POROA | ROA≠ROA | ROA=ROA | Accepted |
| **CR** | 4 | PRCR-POCR | CR≠CR | CR=CR | Accepted |
| **QR** | 5 | PRQR-POQR | QR≠QR | QR=QR | Accepted |
| **D/E** | 6 | PRDE-PODE | D/E≠D/E | D/E=D/E | Accepted |
| **ICR** | 7 | PRICR-POICR | ICR≠ICR | ICR=ICR | Accepted |
| **SG** | 8 | PRSG-POSG | SG≠SG | SG=SG | Accepted |
| **CFOG** | 9 | PRCFOG-POCFSG | CFOG≠CFOG | CFOG=CFOG | Accepted |
| **FV** | 10 | PRFV-POFV | FV≠FV | FV=FV | Rejected |

The above table shows the financial performance of Torrent ltd pre and post merger. The EPS before merger was Rs 35.99 has increased to Rs 60.51 post merger. The t-value -1.44 with the p-value 0.24 indicates that EPS has increased post merger and the results are insignificant. The EBIT before merger was 16.31% has increased to 22.37% post merger. The t-value -1.27 with the p-value 0.29 indicates that the merger has no impact on percentage change in EBIT. The ROA before merger was 10.75% has unchanged post merger. The t-value 0.02 with the p-value 0.98 indicates that the merger has insignificant impact on ROA. The CR before merger was 1.52 has decreased to 1.41 post merger. The t-value 0.65 with the p-value 0.56 indicates that there is an insignificant decline in the CR post merger. The QR before merger was 1.06 has decreased to 0.97 post merger. The t-value 0.80 with the p-value 0.47 indicates that there is a minor decline in the QR post merger. The D/E before merger was 0.45 has increased to 0.82 post merger. The t-value -2.28 with the p-value 0.11 indicates that there is an insignificant increase in the debt post merger. The ICR before merger was 13.43 has decreased to 7.86 post merger. The t-value 1.33 with the p-value 0.27 indicates that there is ICR has decreased post merger insignificantly. The growth of sales before merger was 0.25 has decreased to 0.12 post merger. The t-value 0.87 with the p-value 0.44 indicates that the merger has no significant impact on the growth of sales. The growth of CFO before merger was 0.78 has decreased to 0.49 post merger. The t-value 0.46 with the p-value 0.67 indicates that the merger has no significant impact on the growth of CFO. TheFV (Firm value) before merger was 5125.625has decreased to 24755.09post merger. The t-value 19.05with the p-value 0.00 indicates that the merger has a significant impact on the FV.

**Table no 8: Comparative Performance**

| Variables | Period | Cipla | Lupin | Dr Reddy's Lab | Sun Pharma | Torrent | Average |
|---|---|---|---|---|---|---|---|
| EPS | Pre | 16.31 | 27.16 | 61.34 | 34.3 | 35.99 | 35.02 |
| | Post | 16.48 | 31.33 | 98.86 | 18.95 | 60.51 | 45.23 |
| EBIT | Pre | 11.86 | 20.19 | 18.06 | 39.8 | 16.31 | 21.24 |
| | Post | 20.44 | 18.02 | 15.07 | 25.62 | 22.37 | 20.30 |
| ROA | Pre | 5.77 | 14.43 | 9.67 | 14.97 | 10.75 | 11.12 |
| | Post | 10.37 | 5.68 | 8.28 | 8.03 | 10.75 | 8.62 |
| CR | Pre | 2.9 | 1.71 | 1.41 | 4.04 | 1.52 | 2.32 |
| | Post | 2.39 | 2.14 | 1.56 | 1.87 | 1.41 | 1.87 |
| QR | Pre | 1.86 | 1.07 | 0.98 | 3.13 | 1.06 | 1.62 |
| | Post | 1.34 | 1.49 | 1.18 | 1.48 | 0.97 | 1.29 |
| D/E | Pre | 0.3 | 0.24 | 0.53 | 0.02 | 0.45 | 0.31 |
| | Post | 0.13 | 0.58 | 0.36 | 0.25 | 0.82 | 0.43 |
| ICR | Pre | 12.76 | 54.93 | 32.42 | 123.51 | 13.43 | 47.41 |
| | Post | 28.78 | 24.72 | 26.76 | 15.13 | 7.86 | 20.65 |
| Sales Growth | Pre | 0.05 | 0.15 | 0.18 | 0.44 | 0.25 | 0.21 |
| | Post | 0.17 | 0.09 | -0.05 | 0.16 | 0.12 | 0.10 |
| CFO Growth | Pre | 0.13 | 0.14 | 0.23 | 0.88 | 0.78 | 0.43 |
| | Post | -0.1 | 0.15 | 0 | 0.05 | 0.49 | 0.12 |
| FV | Pre | 48491.4 | 28650.5 | 28621.3 | 55285.8 | 5125.63 | 33234.92 |
| | Post | 40549.3 | 56273 | 50833.1 | 172979 | 24755.1 | 69077.90 |

The above table shows that Cipla has recorded better performance than the average in both pre and post merger in CR, QR. In terms of ROA, ICR, Sales growth it has recorded better performance post merger. Lupin has recorded better performance only in ICR for both pre and post merger and better performance in CR, QR, D/E and growth of CFO. Dr Reddy's Lab has recorded better performance than the average in both pre and post merger only in EPS and D/E pre merger and ICR post merger. Sun pharma has recorded better performance than the average in both pre and post merger in EBIT, CR, QR, sales growth and FV. Torrent pharma has recorded better performance than the average in both pre and post merger in EPS, D/E and growth rates.

## Conclusion

The main purpose of this study was to analyse the financial performance of selected pharma companies in India during pre and post merger. The study covered a period of 10 years from 2010-2019. The author intended to study the profitability, liquidity and growth prospects of the selected Indian pharma companies. The statistical tool paired sample t test was employed to assess whether there is a significant difference in the financial performance between pre and post merger period.

The findings of the paired sample t-test show that there is an improvement in the profitability position post merger in Cipla and Torrent Pharma. The results are statistically not significant. Liquidity performance has improved post merger in Cipla and Lupin pharma, a minor change in Dr Reddy's and decline in Sun and Torrent pharma. The results are statistically significant for Lupin and Sun pharma. There is also significant improvement in the debt component of Cipla ltd.With respect to growth, all the companies have shown decreasing trend post merger. The results are significant only for Sun pharma. The firm value for Lupin and Dr Reddy's has significantly improved post merger.

Finally, the comparative financial performance shows profitability performance of only Torrent pharma was better than the average among the entire firms post merger. Sun pharma and Cipla have recorded better performance of liquidity than the average post merger and Torrent and Sun pharma have recorded better performance of growth than the average post merger.

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