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Does Time-Period of Occurrence, or Firm-Relatedness, Impact Operating Performance of Acquiring Firms Differently? Evidence from Mergers in the New Millennium in Indian Industry

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Abstract

There is an increasing trend worldwide, in using mergers and acquisitions (M & A) as a strategy for achieving higher size & enhancing market share, financial stability, and for becoming more competitive through economies of scale. This research study has aimed to study the impact of mergers in India, on the operating performance of acquiring corporates, in the first 15 years of the 21st Century. Methodology used was to examine the pre-merger vs. post-merger financial profitability, capital structure and financial return ratios of publicly listed acquiring firms, in India, between 2001 and 2015. At the aggregate level, analysis suggests no improvement in profitability ratios or returns on capital ratios. However, results suggest that there are variations in the operating performance following mergers, among those that involved mergers between same promoter-group vs. those mergers that involved unrelated firms. Differences were also seen in terms of merger impact, for acquiring firms in the two different time periods of 2001-2008 and 2009-2015, though they could not be correlated with the Global Financial Crisis that caused a downturn in the Indian industry. Results also seem to indicate that the mergers were motivated to larger extent, by the potential for utilizing tax and depreciation benefits, in acquiring financially weaker companies, and for increasing asset base through consolidation of businesses, and thereby enhancing short-term post-tax profitability for the acquiring firms.

Keywords

M & A, Mergers, Acquisitions, Performance

1. Introduction

In today's globalized economies, competitiveness and competitive advantage have become the buzzwords for corporates around the world. Corporates worldwide have been aggressively trying to build new competencies and capabilities, to remain competitive and to grow profitably. Mergers and acquisitions are being increasingly used by companies for asset growth and restructuring, garnering greater market share/additional manufacturing capacities/emerging technologies, and to gain complementary strengths/synergies to become more competitive in the market place.

1.1. Global Trends in Mergers and Acquisitions

There has been increased global merger and acquisition activity in recent years globally, due to accelerated changes in technology, globalisation of market places, pursuit of global competitiveness, availability of cost-effective communication technologies, easing of regulatory oversight, adoption of international standards of accounting and valuation practices, as also international bilateral and multilateral agreements and treaties. This has also been one of the more actively studied areas globally, for past few decades.

1.2. Mergers and Acquisitions in Indian Industry

Post the economic reforms introduced by the Government of India in 1991, the pace of M & As in Indian Corporate sector has increased. Companies realised the need to grow and expand in businesses that they understand well, to face growing competition. M & As and Divestitures emerged as one of the most effective methods of corporate restructuring, and integral part of the long-term business strategy of corporates in India. Three distinct trends can be seen in the mergers and acquisitions activity in India after the reforms in 1991. First few years saw a wave of consolidation within the Indian industry, as companies tried to prepare for the potential aggressive competition in the domestic and overseas markets, through acquisitions and mergers, to achieve economies of scale and scope. After 1995, there was increased activity in consolidation of subsidiaries by MNCs operating in India, entry of several MNCs into India through acquisitions, following liberalised norms for Foreign Direct Investments (FDI). This also coincided with Indian companies consolidating and cleaning up their balance sheets, in domestic industries like steel, cement and telecom. The third wave of M & As since 2002, saw Indian firms going for overseas acquisitions, to gain entry into international markets. Indian companies have been actively pursuing overseas acquisitions in recent years. The opening up of Indian economy and financial sector, huge cash reserves following some years of great profits, and enhanced competitiveness in the global markets, have given greater confidence for big Indian companies to venture abroad for market expansion. Since year 2000, many Indian corporates have made international acquisitions, in developed and emerging markets. Consolidation of several industry groups also continued, which have reversed the orientation towards incorporating multiple subsidiaries, and trying to build a larger entity through merging of the various businesses in their fold (Figure 1).

The present research study was undertaken to see if the mergers in the post-2000 period in Indian industry have contributed to improvement of operating performance of acquiring firms involved in the mergers. Another objective was to examine if there are differences in the impact on operating financial performance, for acquiring Indian firms which merged with related (same promoter-group) firms, vs. those which merged with unrelated firms.

2. Literature Review

2.1. Global Studies

Healy, Palepu, and Ruback (1992), and Ghosh (2001) examined cash flow performance for acquiring firms and found no evidence of improvement following acquisitions. Salter and Weinhold (1979) compared operating returns of 36 merging companies and found that acquiring firms under-performed other listed companies. Weston and Mansinghka (1971) analysed 63 conglomerate mergers during 1960s, and found improvement in earnings performance of the conglomerate firms, which was explained as evidence for successful achievement of defensive diversification. Heron and Lie (2002) investigated the operating

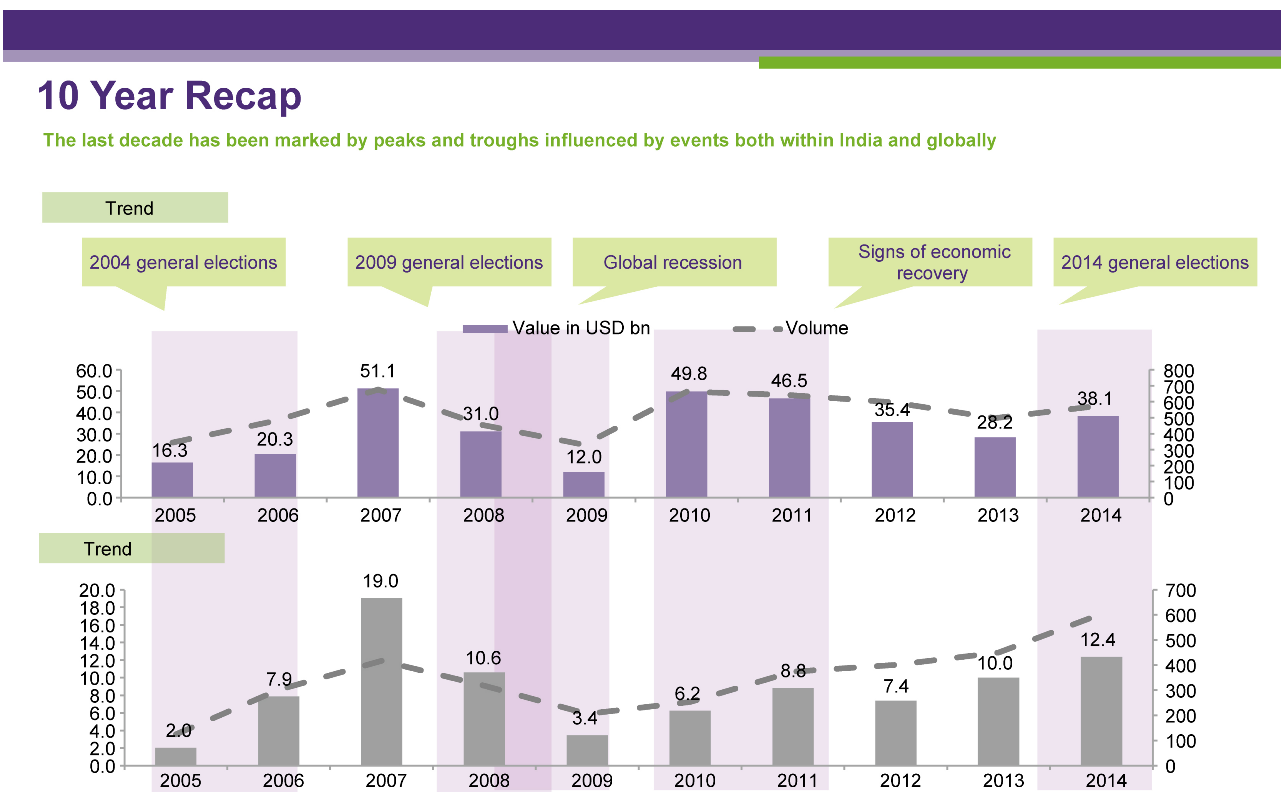

Figure 1. Trends in M & As in India in the new millennium. Source: Grant Thornton deal tracker annual edition, 2014.

performance for a large sample of firms that conducted acquisitions between 1985 and 1997, and found that post-acquisitions, acquiring firms significantly outperformed control firms. Lubatkin (1983) reviewed the findings of merger related performance studies, and suggested that acquiring firms might benefit from merging because of technical, pecuniary and diversification synergies. Meeks & Meeks (1981) explored the change in return on assets from mergers, for a sample of 233 transactions in the UK between 1964 and 1971, and found a decline in Return on Assets for acquirers. Mueller (1980) reviewed of studies of M&A profitability across seven nations, of Europe and USA, and observed that acquirers reported worse returns after acquisition, than their non-acquiring counterparts, but not significantly. Martynova, Oosting, and Renneboog (1990) investigated the long-term profitability of corporate takeovers in UK, using four different EBITDA measures of operating performance, and found that profitability of the combined firm decreased significantly following the takeover. Agrawal, Jaffrey, and Mandelkar (1992), examined the issue of post-merger underperformance by acquiring firms, using a sample of 937 mergers between 1955-1987, and concluded that results of prior empirical research are inconclusive, due to methodological problems, and that the anomaly of negative returns to acquirers remained unresolved. Pazarskis, Vogiatzogloy, Christodoulou, and Drogalas (2006) empirically examined the pre- and post-merger operating performance of firms in Greece, from 1998 to 2002, using selected accounting variables, and found that profitability and returns on assets decreased after merger. Sharma and Ho (2002) studied pre- and post-merger performance of acquiring Australian firms during 1986-1991, using accrual and cash flow performance measures, and found that corporate acquisitions did not lead to significant improvements in operating performance. Capron (1999) examined how value creation in horizontal mergers and acquisitions, using a survey of 253 European and U.S. manufacturing firms during 1988-1992. Their results showed that both asset divestiture and resource redeployment can contribute to acquisition performance. Kruse, Park, Park, and Suzuki (2003) examined the post-merger operating performance of 56 Japanese manufacturing companies during 1969-1997, and found evidence of improvements. Dickerson, Gibson, and Tsakalotos (1997) investigated the impact of acquisitions on company performance for UK companies, and found that acquisitions had a detrimental impact on company performance. Chen, Lee, Kee, and Quah (2019), studied mergers of Chinese listed companies, during 2012-2016, and found that firms engaged in Horizontal and Conglomerate Mergers showed improved financial performance. Abdul Rahman and Limmack (2004) studied acquisitions by Malaysian companies during 1988-1992, and reported improvements in long run operating performance. Slovin and Sushka (1998) examined parent-subsidiary mergers during 1970-1993, and concluded that such mergers facilitated corporate restructuring, fostered the reallocation of resources toward higher valued uses, and increased value for both parent and subsidiary. Bhabra and Huang (2013) examined post-merger performance in 136 merger deals by Chinese firms during 1997-2007, using Financial Ratios of ROA, ROE and Profit Margin, for −3 to +3 years period of merger, and found the operating performance of acquirer remained was lower when compared to the pre-acquisition period.

2.2. Research on Mergers and Acquisitions in India

Beena (2000) analysed the pre- and post-merger performance of manufacturing firms in India, during 1995-2000, using financial ratios, and could not find any evidence of improvement. Pawaskar (2001) analysed pre-merger and post-merger operating performance of 36 acquiring firms during 1992-1995, using financial ratios of profitability, growth, leverage, and liquidity, and found that acquiring firms performed better than industry in terms of profitability. Mishra and Chandra (2010) studied post-merger performance of Pharmaceutical firms in India during 2001-2009, and concluded that M & As did not have any significant impact on profitability in the long run. Leepsa and Mishra (2012) studied mergers in manufacturing sector in India during 2003-2007, and found that financial performance of acquiring firms improved after merger, but results were not statistically significant. Ramakrishnan (2008) analysed a sample of 87 domestic mergers, using cash flow accounting measures, and found that operating efficiency has improved post-merger, due to synergistic benefits. Rani, Yadav, & Jain (2013, 2015) investigated the impact of mergers on corporate performance of acquiring firms in India, during 2003-2008, and observed that there was a significant improvement in their profitability. Khan (2012) studied post-merger firms in Indian Banking industry during 2001-2010, and concluded that mergers caused a positive improvement in financial performance of acquiring firms. Wadhwa and Reddy (2015) studied efficiency theory for mergers in India, and did not find synergy creation at the ROA level, but observed synergy creation at tax & interest level, and synergy destruction at labour & overheads level. Saraswathy (2006) studied acquisition of select Indian manufacturing & pharmaceutical firms by overseas firms, and concluded that the consolidation strategies followed by the firms enabled them to cut down the wasteful expenses to a greater extent, resulting in better performance of the merging firms compared to the non-merging firms in that industry.

Empirical testing of operating performance following mergers of Indian companies has thus been focused specifically on selected sector-wise impact of mergers, using small samples, and over limited periods of time. Limitations of previous studies have been small sample sizes, focus on specific industry cases, and shorter time frames. In the present study, an attempt has been made to examine pre- and post-merger operating performance of the acquiring firms in India, to understand the extent of improvement in operating performance. The study contributes to the existing literature, through a substantially larger sample size, and a longer time horizon period of 15 years, from 2001-2015. Further, the study has tried to analyse whether the impact on operating performance is different for mergers between same promoter-group companies, vs. those between unrelated ownership firms. The study also tried to examine, if there has been any difference in Indian firms' approach to M & As after the Global Financial Crisis, which had caused a liquidity crunch and downturn in the Industry. In particular, attempt has been made to understand if the risk awareness following the crisis, has caused Indian firms to adopt a more prudent approach to M & As, and if they were able to extract higher level of synergies and operating efficiencies from mergers. With this objective, the total sample of mergers was segregated into those that occurred in two different periods, as 2001-2008, and 2009-2016, to study the pre- and post-merger operating performance of acquiring firms.

3. Research Methodology

Prior research studies, globally, have adopted different methodologies to evaluate merger effects, and thus far, there has been no universally accepted methodology on evaluation of success of M & As. Methodologies have been varied, ranging from analysis of various financial accounting metrics, to evaluation of strategic rationale for merger decisions through managerial surveys.

3.1. Measures of Operating Performance

Financial accounting measures used by previous studies, to analyse operating performance, included cash flows, profitability margin ratios, returns on assets (ROA), Return on Equity (ROE), Operating Profit over assets (EBITDA/Assets), Operating Profit Margin (EBITDA/Sale), and Solvency Ratios. Improvement in profitability and returns can be achieved by economies of scale & scope and synergistic cost efficiencies. Some earlier studies had used the −3 to +3 years period, while a few others used −5 to +5 years period for performance analysis.

The present study has chosen to consider the 3 year-period prior to merger year as pre-merger period, and the 1) 3 year-period and 2) 5-year period after the merger years as the post-merger periods, for comparison of operating performance. Given the industry dynamics in India, with constant flux of companies entering and exiting the industry, it was not considered prudent to use a control or peer group of firms for comparison. The study instead relied on a larger sample size, to eliminate any systematic biases in sampling methodology. This is in line with the observations of Lubatkin (1983), who recommended a large sample size for research, to get meaningful results from post-merger performance studies.

Pre-merger and post-merger accounting based measures for profitability and returns, through select financial ratios, were chosen to test for changes in post-merger operating performance. Financial accounting ratios have been compared in this study, for 3 years prior, and 1) 3 years & 2) 5 years post the effective year of merger. In India, Financial Year is from April-March, hence data for mergers effective till Financial year 2015-2016 have been included in the sample, as their post-merger data can be available until March 2020.

The following Financial Ratios for acquiring firm were chosen, to measure operating performance:

- Operating Profit Margin[1] (Profit Before Depreciation, Interest and Tax/Total Income[2] = PBITDA/Total Income).
- Pre-Tax Profit Margin/(Profit Before Tax[3]/Total Income = PBT/Total Income).
- Net Profit Margin (Profit After Tax/Total Income = PAT/Total Income).
- Return on Net worth (Profit After Tax/Net worth[4] = PAT/Net Worth).
- Return on Capital Employed (PBIT/Capital Employed[5] = PBIT/Capital Employed).
- Debt-Equity Ratio (Book value of Debt/Book value of Equity = D/E).

For the years prior to a merger, financial ratios of the acquiring firm alone are considered (due to non-availability of published data on many of the acquired private firms/unlisted group firms, for aggregation). Post the merger, financial ratios for the acquiring (combined) firm are taken. The mean financial ratios for pre-merger and post-merger periods were tested for significant differences using "paired t-test", to determine whether mergers have caused an improvement or deterioration of the acquiring firm's financial operating performance. The nature of observations for each acquiring firm in the sample is not independent, since the firm retains its identity before and after merger. Therefore "paired t-test" was considered appropriate, to measure merger induced financial operating performance changes. Year of completion of merger, denoted as year 0, has been excluded from estimation of the financial ratios.

3.2. Hypotheses

The following NULL Hypotheses have been formulated, for this research study:

- H1: Mergers have not improved operating performance of acquiring firms, as compared to the pre-merger period.
- H2: There is no difference in the impact of mergers, that occurred in the time periods before and after the Global Financial Crisis in 2008.
- H3: There is no difference in impact on post-merger operating performance, for mergers between same promoter-group companies vs. mergers between firms under different ownership.

3.3. Criteria for Qualifying Companies in the Final Sample for Study

The sample for this study primarily included mergers by public limited compa-

[1]Operating Profit = Profits generated by the core operations of the business, before considering depreciation and interest charges = Total income Minus Operating Expenses.
[2]Total Income = Sales Revenue plus other income.
[3]Profit Before Tax = Total Income minus cost of goods sold, minus selling and administrative expenses.
[4]Net worth = Shareholders' Equity = Sum of book value of equity and free reserves.
[5]Capital Employed = Value of all the Assets used by a company to generate earnings = Total Assets of firm − Current Liabilities.

nies listed on Indian Stock Exchanges (BSE and NSE). Cross-border mergers and mergers of sick companies registered under BIFR have been excluded from the sample. Only stock-for-stock mergers have been considered for the study. Those mergers where less than 10% of merging firm's equity (by value) were issued to target firm shareholders, have been removed from the sample (to eliminate cases where merging firm was too big compared to target firm in market value, whereby effect of merger could be considered negligible). Further, companies in the sample should not have been engaged in further mergers/acquisitions within 5 years after the merger under study. List of Companies involved in mergers in India during 2001-2015 were compiled from several sources like newspapers, magazines, investment web sites, web sites of BSE and NSE (for names of delisted companies), SEBI's web site (for details of companies making open offers for takeovers), and Databases (Capitaline & CMIE Prowess). To such list, the screening criteria described earlier were applied, to arrive at the final sample. Table 1 below shows the details in Sample Selection for further analysis.

3.4. Data Collection

Data of operating performance ratios for up to 3 years prior to, and 3 & 5 years after the acquisition year, for each acquiring company was extracted from CMIE Prowess Database. Merger cases where at least 2 years of data for pre-merger period, and at least 4 years data for post-merger period was not available, were removed from the study sample. The final list of mergers had a total of 140 cases.

The sample list of firms was divided into two groups, based on year of occurrence of merger (2001-2008 and 2009-2015), with the break-up as in the following Table 2.

Table 1. Selection of final sample list of firms for the research study.

Total Number of M & A announcements during 2001-2015	**457**
Demerger cases identified	95
Mergers with more than 80% owned subsidiaries	81
Mergers with BIFR referred Companies as part of restructuring	20
Mergers cancelled/called off subsequently	57
Multiple mergers at the same time	13
Subsequent Mergers done within 5 years	16
Mergers through purchase of shares and not stock-swap	23
Data not available	12
Final List of Sample Firms	**140**

Source: Capitaline database and CMIE prowess databases in India.

Table 2. Break-up of final sample list of mergers.

Period	Number of Mergers	% of total Sample
2001-2008	78	55.7%
2009-2015	62	44.3%
Total	**140**	**100%**

The other segregation of the total sample was done as: 1) acquiring and acquired firms having common ownership, and 2) those mergers that involved unconnected firms. Mergers between firms from "same promoter group"[6], were 56 in number, and represented 40% of the total sample.

4. Data Analysis and Results

The results of the analysis were summarised under 3 broad categories, as below:

1) Post-merger operating performance of all mergers that occurred during 2001 to 2015.

2) Post-merger operating performance of mergers during 2001-2008 and 2009-2015.

3) Post-merger operating performance of mergers between same promoter group firms, and other firms.

4.1. Comparison of Pre- vs. Post-Merger Operating Performance, All Mergers

As seen from the results in Table 3 below, using paired t-test, there was a statistically significant improvement in pre-tax and post-tax profitability margins in the 3-year post-merger period (confirmed by the t-values of −1.889 & −1.647, and *p*-values of 0.03 & 0.05), while returns on net worth and capital employed did not show any significant change, as compared to the pre-merger period. However, the improvements in profitability did not sustain in the 5-year post-merger period. There was also no change in the Debt Equity Ratios before and after the mergers.

A close examination of the results suggests that in general, the acquiring firms in India have used the mergers to derive benefits from the depreciation and interest tax credits, to improve the pre-tax and post-tax profit margins. Further, the marginal declines in the return on net worth and return on capital employed, indicates that the enhancement in operating profitability, has not translated into higher returns on capital, due to the increase in the capital and asset base following the mergers.

Based on the above results, the Null Hypothesis H0 is being accepted: that mergers have not enabled a significant improvement in operating performance for the acquiring firms in India, which engaged in mergers during 2001-2015.

[6]As indicated by details of management, like company name, composition of the board of directors, etc. Such information was extracted from the scheme of amalgamation and other reports related to the merger, available from databases like Prowess and Capitaline, and through SEBI's web site.

Table 3. Analysis of mean pre-merger and post-merger operating ratios for all acquiring firms during 2001-2015.

Financial Ratio	3-year Pre-Merger Avg	3-year Post-Merger Avg	Difference (Post-Pre)	Paired test t-value at 0.05 significance	t-critical value (2-tail)	*p*-value (one tail)	5-year Post-Merger Avg	Difference (Post-Pre)	Paired test t-value at 0.05 significance	*p*-value (one tail)	t-critical value (2-tail)
Operating Profit Margin	22.339	22.315	−0.024	0.018	1.977	0.493	17.439	−4.900	1.296	0.099	1.977
Pre-Tax Profit Margin	5.327	9.519	4.192	−1.889	-do-	0.030	−2.546	−7.872	1.189	0.118	-do-
Net Profit Margin	3.580	7.014	3.434	−1.647	-do-	0.051	−4.062	−7.642	1.294	0.099	-do-
Return on NetWorth	9.967	8.947	−1.021	0.448	-do-	0.327	1.695	−8.272	1.388	0.084	-do-
Return on Capital Employed	6.769	6.374	−0.395	0.372	-do-	0.355	5.404	−1.365	1.347	0.090	-do-
Debt-Equity ratio	1.186	1.178	−0.008	0.045	-do-	0.482	1.130	−0.056	0.301	0.382	-do-

4.2. Analysis of Mergers in Different Time-Periods

4.2.1. Analysis of Post-Merger Operating Performance for Mergers during 2001-2008

Results from the paired t-test analysis, show an improvement in profitability margins and returns on net worth and capital employed, in the 3-year post-merger period. However, when we consider the 5-year post-merger period, all the profitability and returns ratios saw a decline. But the changes in both the 3-year and 5-year periods, are not statistically significant, as evident from Table 4 below. There seems to be no significant leverage effect, as seen from the minor, statistically insignificant decrease in the Debt Equity Ratio in the post-merger period.

The results suggest that for merging firms during the period 2001-2008, mergers have not resulted in any significant improvements in profitability margins or returns on capital investment.

4.2.2. Analysis of Post-Merger Operating Performance for Mergers during 2009-2015

The analysis of the pre- and post-merger financial ratios, for acquiring firms during 2009-2015, as depicted in Table 5 shows that there has been significant improvement in the pre-tax profit margin and net profit margin in the 3-year post-merger period (The changes are close to being statistically significant, as indicated by the t-values and *p*-values from paired t-test), but these margins are not observed to be sustaining, and actually decline as per the 5-year period averages(though not statistically significant). However, the 3-year and 5-year post-merger average returns on net worth, as well as average returns on capital employed both show a statistically significant decline, following the merger (confirmed by the *p*-values of 0.034 and 0.001). There was no apparent change in financial leverage, as evidenced by the debt equity ratios before and after the mergers.

Table 4. Analysis of mean pre-merger and post-merger ratios for all acquiring firms during 2001-2008.

Financial Ratio	3-year Pre-Merger Avg	3-year Post-Merger Avg	Difference (Post-Pre)	Paired test t-value at 0.05 significance	t-critical value (2-tail)	*p*-value (one tail)	5-year Post-Merger Avg	Difference (Post-Pre)	Paired test t-value at 0.05 significance	*p*-value (one tail)	t-critical value (2-tail)
Operating Profit Margin	18.349	19.176	0.827	−0.547	0.293	1.991	11.743	−6.607	0.978	0.166	1.991
Pre-Tax Profit Margin	5.842	8.229	2.387	−1.443	0.076	-do-	−3.788	−9.630	1.090	0.140	-do-
Net Profit Margin	5.364	6.104	0.740	−0.659	0.256	-do-	−4.264	−9.628	1.379	0.086	-do-
Return on NetWorth	9.268	11.681	2.412	−0.798	0.214	-do-	−0.676	−9.945	0.955	0.171	-do-
Return on Capital Employed	6.008	7.722	1.715	−1.019	0.156	-do-	6.620	0.613	−0.383	0.351	-do-
Debt-Equity ratio	1.460	1.399	−0.061	0.208	0.418	-do-	1.345	−0.115	0.366	0.358	-do-

Table 5. Analysis of mean pre-merger and post-merger financial ratios for all acquiring firms during 2009-2015.

Financial Ratio	3-year Pre-Merger Avg	3-year Post-Merger Avg	Difference (Post-Pre)	Paired test t-value at 0.05 significance	t-critical value (2-tail)	p-value (one tail)	5-year Post-Merger Avg	Difference (Post-Pre)	Paired test t-value at 0.05 significance	p-value (one tail)	t-critical value (2-tail)
Operating Profit Margin	27.381	26.331	−1.050	0.325	0.456	2.000	24.604	−2.777	0.134	1.119	2.000
Pre-Tax Profit Margin	4.641	11.262	6.621	0.076	−1.451	-do-	−0.982	−5.624	0.291	0.553	-do-
Net Profit Margin	1.317	8.236	6.918	0.064	−1.546	-do-	−3.808	−5.125	0.308	0.504	-do-
Return on NetWorth	10.842	5.474	−5.368	**0.060**	**1.575**	-do-	4.678	−6.164	**0.034**	**1.861**	-do-
Return on Capital Employed	7.716	4.644	−3.072	**0.002**	**2.942**	-do-	3.874	−3.842	**0.001**	**3.100**	-do-
Debt-Equity ratio	0.838	0.891	0.052	0.367	−0.341	-do-	0.859	0.020	0.450	−0.127	-do-

Results suggest that for mergers that occurred during 2009-2015, the operating performance of acquiring firms, shows a mixed picture. While average profitability margins have improved in the 3-year period, and a decline in the 5-year period, the returns ratios, have declined significantly due to the mergers, implying that firm performance has deteriorated in the 5-year post-merger period. At the same time, there was no increase in leverage due to mergers, as evident from the unchanged Debt-Equity ratios before and after mergers. The likely explanation for this could be that the mergers were more motivated by potential benefits from short-term tax savings, derived from merging with loss-making target firms, with unadjusted depreciation, which resulted in short-term profit margin improvements. The significant decline in returns ratios indicates that improvement in profits did not translate into enhancement in returns, probably due to an increase in the asset and capital base of combined entity, following the mergers.

Based on above results, we reject the Null Hypothesis H2, and conclude that there was a difference in impact of mergers, between the two periods, 2001-2008, and 2009-2015. At the same time, there was no apparent impact of the Global Financial Crisis and the downturn that was seen in the Indian industry, on the test results, as the decline in performance was seen in the years 3 - 5 after merger, much later after the crisis.

4.3. Post-Merger Operating Performance, Same Promoter Group Company Mergers

Paired t-test was used to test the pre- and post-merger operating performance of acquiring firms, which merged with firms from within the same promoter group, and the results are captured in Table 6 below.

The results from paired t-test, for comparison of the pre-merger and post-merger operating performance ratios for "same promoter group company mergers" show that there was a marginal, but statistically insignificant decline in the mean profitability margins in the 3-year post-merger period. But the declines are not statistically significant (t-statistic values of 0.597 and 0.364). The declines in the mean profitability margins during the 5-year post-merger period are more prominent, and are also statistically significant, as evident from the t-values and *p*-values, shown in Table 6 below. Mean returns on net worth and capital employed are also seen to have declined post-merger, in both the 3-year and 5-year post-merger periods, and the declines are also statistically significant. There was a marginal but statistically insignificant decline in the mean debt-equity ratio in the post-merger periods, suggesting that there was no leverage effect on operating performance of the acquiring firms. There seem to be different motives for mergers between firms having common promoters/ownership, which could be consolidation, or absorbing loss-making group firms into profitable firms.

Table 6. Analysis of pre- and post-merger operating performance, for same group company mergers (2001-2015).

Financial Ratio	3-year Pre-Merger Avg	3-year Post-Merger Avg	Difference (Post-Pre)	Paired test t-value at 0.05 significance	t-critical value (2-tail)	*p*-value (one tail)	5-year Post-Merger Avg	Difference (Post-Pre)	Paired test t-value at 0.05 significance	*p*-value (one tail)	t-critical value (2-tail)
Operating Profit Margin	20.700	19.827	−0.873	0.539	2.004	0.296	8.512	−12.188	1.344	0.092	2.004
Pre-Tax Profit Margin	8.251	7.556	−0.696	0.422	-do-	0.337	−22.676	−30.928	**2.018**	**0.024**	-do-
Net Profit Margin	6.745	5.428	−1.317	1.083	-do-	0.142	−22.280	−29.025	**2.149**	**0.018**	-do-
Return on NetWorth	12.859	9.274	−3.584	0.988	-do-	0.164	5.540	−7.318	**1.928**	**0.029**	-do-
Return on Capital Employed	8.576	6.054	−2.522	**1.634**	-do-	**0.054**	4.226	−4.350	**2.742**	**0.004**	-do-
Debt-Equity ratio	1.653	1.598	−0.055	0.139	-do-	0.445	1.508	−0.145	0.341	0.367	-do-

The above results suggest that following mergers between same group companies in Indian industry, the operating performance in terms of both profitability and returns has deteriorated significantly in the post-merger period. These results corroborate the findings of Pawaskar (2001), who found that most of the mergers in India between same promoter group companies or subsidiary firms was more a part of the restructuring activities by the firms in response to changes in industrial policy, but such restructuring had not improved the profitability of firms in the post-merger period. The results however, contrast those of Slovin and Sushka (1998), who concluded that parent-subsidiary mergers are value enhancing for both parties, foster an efficient reallocation of resources toward higher valued uses, and facilitate corporate restructuring.

4.4. Post-Merger Operating Performance, Unrelated Company Mergers

Paired t-test was used to test the pre- and post-merger operating performance of acquiring firms, which merged with unrelated firms, and the results are depicted in **Table 7** below:

From the paired t-test results for unrelated company mergers, it can be observed that there has been an improvement in profitability margins of acquired firms, in both the 3-year and 5-year periods post-merger, and the improvements are also statistically significant, as evident from the t-values and *p*-values, as shown in **Table 7** below. 3-year post-merger mean returns on net worth and capital employed, also show an improvement, but the improvements are statistically not significant. However, the 5-year mean return ratios show a decline, but the declines are again not statistically insignificant. There is no change in mean debt-equity ratio, before and after the mergers. The results suggest that when firms are merging with unrelated firms, they are probably able to extract more synergy benefits from mergers, by way of operational improvements and cost savings that translated into higher profitability margins in post-merger period.

Table 7. Analysis of pre- and post-merger operating performance, for unrelated company mergers (2001-2015).

Financial Ratio	3-year Pre-Merger Avg	3-year Post-Merger Avg	Difference (Post-Pre)	Paired test t-value at 0.05 significance	t-critical value (2-tail)	*p*-value (one tail)	5-year Post-Merger Avg	Difference (Post-Pre)	Paired test t-value at 0.05 significance	*p*-value (one tail)	t-critical value (2-tail)
Operating Profit Margin	23.432	24.004	0.573	−0.298	1.989	0.383	23.390	−0.042	0.025	0.490	1.989
Pre-Tax Profit Margin	3.377	10.879	7.502	**−2.145**	-do-	**0.017**	10.875	7.498	**−2.212**	**0.015**	-do-
Net Profit Margin	1.470	8.111	6.641	**−1.986**	-do-	**0.025**	8.084	6.614	**−2.020**	**0.023**	-do-
Return on NetWorth	8.040	8.698	0.658	−0.225	-do-	0.411	−0.869	−8.909	0.925	0.179	-do-
Return on Capital Employed	5.564	6.559	0.995	−0.698	-do-	0.244	6.190	0.626	−0.490	0.313	-do-
Debt-Equity ratio	0.874	0.897	0.023	−0.173	-do-	0.432	0.878	0.004	−0.028	0.978	-do-

The above results suggest that following mergers between non-group companies in Indian industry, the operating performance in terms of both pre-tax and post-tax profitability has improved in post-merger period, and they are also statistically significant. The return ratios however, have not shown statistically significant improvements. These results seem to indicate that those firms which have merged with unrelated firms, have shown a relatively better improvement in performance, in terms of profitability margins, as compared to mergers between same promoter group firms.

Based on above results, the Null Hypothesis H3: "Mergers between same promoter group companies does not have any impact on operating performance of acquiring companies following mergers", has been rejected. Clearly, there are differences in deriving of synergy benefits from mergers, between acquiring firms that engaged with related entities (common promoter ownership), and those that merged with unrelated entities.

5. Discussion of Results

The results from various aspects of the study, suggest that for the sample set of mergers in Indian industry that had occurred in the new millennium, the impact from mergers is mixed, in terms of operating performance (profitability and returns on capital). For merging firms during the period 2001-2008, no any significant improvements or deterioration in profitability margins or returns on capital investments were evident from the results. For mergers that occurred during 2009-2015, the operating performance of acquiring firms, in terms of profitability and returns ratios, has declined significantly due to the mergers, implying that firm performance has deteriorated in the 5-year post-merger period. Based on above results, we could conclude that there was a difference in impact of mergers, between the two periods, 2001-2008, and 2009-2015. At the same time, there was no apparent impact of the Global Financial Crisis and the downturn that was seen in the Indian industry, on the test results, as the decline in performance was seen in the years 4 - 5 after merger, much later after the crisis. Relatively, mergers that occurred during 2001-2008 showed relatively better outcomes for the acquiring firms, as compared to the latter period. The results look similar to those reported by other research studies, which have been inconclusive on the impact of mergers on corporate performance.

When the total sample was segregated into same-promoter-group company mergers, and unrelated firm mergers, the results were again different. For mergers between same promoter group companies in Indian industry, the operating performance of acquiring firms, in terms of both profitability and return ratios, has deteriorated significantly in the post-merger period. When firms are merging with unrelated firms, they are seen to be able to extract more synergy benefits from mergers, by way of operational improvements and cost savings that translated into higher profitability margins in post-merger period. These results corroborate other findings which suggested that most of the mergers in India between same promoter group companies or subsidiary firms, were more a part of the restructuring activities by the firms in response to changes in industrial policy, but such restructuring had not improved the profitability of firms in the post-merger period.

Limitations and Recommendations for Further Study

This research study has ignored the impact of possible differences in the accounting methods adopted by different companies in the sample, and had also restricted the sample to include only stock-for-stock mergers. The present study also did not use any control groups (industry average or firms with similar characteristics, as was done in some studies). A study spanning a longer time-period, and larger sample size, was considered adequate to arrive at unbiased results, and to account for any cross-sectional dependence. The above-mentioned differences in methodology could likely have affected the outcomes reported.

Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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