Measuring Post Merger and Acquisition Performance:

An Investigation of Select Financial Sector Organizations in India

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Abstract

The present paper examines the impact of mergers and acquisitions on the financial efficiency of the selected financial institutions in India. The analysis consists of two stages. Firstly, by using the ratio analysis approach, we calculate the change in the position of the companies during the period 2000-2008. Secondly, we examine changes in the efficiency of the companies during the pre and post merger periods by using nonparametric Wilcoxon signed rank test. While we found a significant change in the earnings of the shareholders, there is no significant change in liquidity position of the firms. The result of the study indicate that M&A cases in India show a significant correlation between financial performance and the M&A deal, in the long run, and the acquiring firms were able to generate value.

Keywords: Mergers and Acquisitions, Corporate Performance, India, Wilcoxon Signed Rank Test

1. Introduction

Strategic alliances and Mergers and Acquisitions (M&A) are the dominant corporate strategies followed by organizations looking for enhanced value creation. The growing tendency towards mergers and acquisitions (M&As) world-wide, has been driven by intensifying competition. There is a need to reduce costs, reach global size, take benefit of economies of scale, increase investment in technology for strategic gains, desire to expand business into new areas and improve shareholder value. During the first wave (i.e., 1990-95), the Indian corporate houses seem to have been bracing up to face foreign competition while the second wave (i.e., 1995-2000) experienced a large presence of multinational firms **[Beena 2000].** The third wave of M&As in India (2000-till date) is evident of Indian companies venturing abroad and making acquisitions in developed and developing countries and gaining entry abroad. The relative size of target and acquiring firm has also increased. The size differences between the bidder and target firms influence acquisition performance and large acquisitions would have a greater combination potential **[Kitching 1967].** M&As also determined, to a large extent, the nature of foreign investment in the country during this period. M&A comes in all shapes and sizes, and investors need to consider the complex issues involved in M&A. The most beneficial form of equity structure involves a complete analysis of the costs and benefits associated with the deals.

Corporate restructuring including M&As have given rise to a host of important issues for business decisions, for public policy formulation and economic regulations. While business firms can grow both internally and externally, with increased global competition, it has become imperative for the business firms to grow inorganically that is externally. A look at the sectoral trends reflects that Indian financial sector is adopting inorganic strategies to grow its businesses. The Indian financial system comprises an impressive network of commercial banks (CBs),

co-operative banks (CPBs), development finance institutions (DFIs) and non-banking financial companies (NBFCs). Researchers and economists have observed that due to smaller size, the Indian commercial banks may find it very difficult to compete with international banks in various facets of banking and financial services in the post 2009 scenerio. The entry of foreign banks was restricted earlier, but since 1991 a number of foreign banks have been allowed to operate in India. To enhance competition, foreign direct investment up to 74 per cent of ownership has been allowed in private banks and up to 20 per cent in nationalized banks. The banks have also been allowed to enter into insurance business either as joint venture participants or to take up strategic investment for providing infrastructure and services. Consequently, the number of foreign and private banks operating in India increased from 21 and 23 in 1991 to 33 and 30, respectively, in 2004.

For the Indian financial sector organizations, one of the strategies to face the intense competition could be, to consolidate through the process of mergers and acquisitions. India is slowly but surely moving from a regime of 'large number of small banks' to 'small number of large banks' and 'larger the bank, higher its competitiveness and better prospects of survival' appears to be the mantra for success. However, there is little published empirical literature on the impact of M&As in India. This study is an initial attempt to fill this void. The aim of this study is to find out the impact of mergers and acquisitions on corporate performance in Indian context particularly in relation to companies of financial sector. The rest of the paper is organized as follows. Section 2 discusses the present status of M&A in India. Section 3 elaborates the related literature. Section 4 describes the data. Section 5 discusses the impact of value creation for the merged or acquiring firms before and after merger. Section 6 concludes with avenues for future research.

2. The Present status of M&A in India

During the last decade, there has been a sharp increase in the number of mergers and acquisitions in India. The largest M&A transactions involving an Indian company until now are depicted in **Table 1.** India has experienced upward trend in outbound deals **(Figure 1).** It is expected that **i**n next decade (2010-2019), global M&A deals by Indian industries is likely to more than treble and the domestic consumption oriented businesses like telecommunication and healthcare will throw up global scale Indian companies.

Even as the economic slowdown has impacted overall merger and acquisition (M&A) activity in Asia Pacific, India along with Japan and China is among the top five countries in the region with the highest number of M&A deals in the first three months of 2009. India is among the top countries in the region in terms of M&A activity in the first quarter of 2009 even as deals saw a 72 percent decline from the same period a year ago. PricewaterhouseCoopers lists India amongst the top three emerging markets to watch out for over the next 18 months, in terms of attractiveness for deals (**Alaganandan et.al, 2009**). According to global consultancy firm Grant Thornton, the total number of M&A deals announced in January 2009 stood at 18 with a total announced value of USD 970.85 million against 63 deals amounting to USD 1.66 billion in January 2008. Indian Industries announced more billion dollar M&A deals in 2008 compared to the previous year when the markets were on a bull run. Although involving the mega $10 billion plus deals of last year, Tata Corus and Vodafone-Hutch were missing in 2008, there were however other large size transactions which kept the Indian -bankers busy. HDFC bank's acquisition of Centurion Bank of Punjab was the lone large domestic M&A deal in 2008. Marking the largest-ever deal in the Indian pharmaceutical industry, Japanese drug firm Daiichi Sankyo in June 2008 acquired the majority stake of more than 50 per cent in domestic major Ranbaxy for over Rs 15,000 crore ($4.5 billion). The deal created the 15th biggest pharmaceutical company globally, and is India's 4th largest M&A deal to date.

Insert Table-1, Figure-1 here

M&A research has also peaked during the last decades and the research material on different aspects of M&As is extensive. In our paper, we have reviewed literature covering motives of M&A and specifically the impact of M&A on financial viability of the companies. Despite the empirical evidence on M&A in general, very little is known on how they have performed in financial-based industries. Therefore, our paper attempts to fill the void by evaluating the financial performance of M&As particularly of financial sector companies in India , before and after merger and to assess its impact in terms of value creation for the merged or acquiring firms.

3. Extant Work and Hypothesis Development

Extensive research is available in context to M&A. It has been observed that they primarily cover nature of mergers in terms of their management, profitability and efficiency of merging companies, operating and financial synergies, post-merger operating performance of acquiring firms and comparison of pre- and post merger financial ratios in India **(Table A).**

Insert Table A Here

The above body of work has provided considerable knowledge on M&As concepts, and scholars have proposed additional research into many issues. But bulk of research has been in the context of U.S and European industries.

At this juncture, it is pointed out that it is important to also study industries in context to India. In this paper we find out the impact of mergers and acquisitions on corporate performance in Indian context particularly in relation to companies of financial sector. Studies by **Surjit, 2002; Swaminathan, 2002; Arora, 2003** have guided the methodology employed in the paper. **Surjit, 2002** carried out an analysis of 20 merging firms to compare the pre and post takeover performance, applying a set of eight financial ratios. He found that profitability and efficiency of merging companies declined in the post takeover period. **Swaminathan, 2002** studied the sample of five companies and found that four of the five acquiring firms improved operating and financial synergies (measured through financial ratios). In a recent survey article, **Bruner (2002)** summarizes the findings of 130 studies conducted during 1971-2001. The results of the studies that focused on short-term returns suggest that target shareholders earn significantly positive abnormal returns and that bidders earn zero risk-adjusted returns. The combined returns of bidders and targets are positive. **Arora, 2003** examined the post merger performance of merged companies using the value added metrics of corporate performance such as EVA, MVA and RONW. Drawing on the existing evidence we thus state our two hypotheses as:

Ho: There is no significant difference between the financial performance of the companies before and after the merger that is **Ho: μ = 0**

Ha: There is a significant difference between the financial performance of the companies before and after the merger that is **Ha: μ ≠ 0**

4. Data and Methodology

a. Sample Description

This empirical study analyses the financial data of selected merging firms in the period 2000-2008. In order to evaluate the financial performance of the merging firms in the long run, at least three years financial data is required. Therefore, 2003, 2004 and 2005 are considered as the event years to identify the M&A deals in India and to compare the financial performance of the cases pre merger and post merger during 2000-2008. The pre merger years taken for comparison are from 1st April, 2000 to 31st March, 2003 and years 1st April, 2005 to 31st March, 2008 are taken as post merger years (**figure A**). The data is collected from various sources; CMIE database PROWESS, newspapers, magazines and journals.

Insert Figure A Here

In all 491 (all industries) mergers took place during the event period. Our study concentrated on the financial sector companies. The sample under study includes 17 companies in financial sector (**Table B**). The financial data for these 17 companies is collected for six years i.e. for three years pre merger and three years post merger period (average of three years) using Prowess database of Centre for Monitoring Indian Economy (CMIE). In order to test the hypothesis Wilcoxon Signed Rank Test is used for four parameters. These are:

a. Overall profitability parameters from Return to Equity Shareholders point of view, return on net worth and earning per share are calculated.

b. Liquidity parameters- current ratio is measured

c. Solvency parameters - debt to equity is calculated

d. Overall efficiency parameters- profit before tax and profit before tax to total income

Insert Table B Here

b. Wilcoxon Signed Rank Test Methodology

Wilcoxon Signed Rank Test is a non-parametric statistical hypothesis test for the case of two related samples on a single sample. The Wilcoxon signed rank test compares the median of a single column of numbers against a hypothetical median. The raw figures were obtained for the above said parameters and signed rank test is carried out to assess the difference in the performance between pre-merger and post-merger. In our study X_A denotes pre-merger and X_B denotes post-merger. The Wilcoxon signed rank test computes $W\pm$ and the number of signed ranks is designated as $n_{s/r}$ that is equal to number of $X_A X_B$ pairs (that is number of companies) minus the number of pairs for which $X_A - X_B = 0$. The test statistic z is computed and probabilities observed are compared with desired level of significance (0.05) to accept or reject null hypothesis.

5. Empirical Results

I. Overall profitability parameters (Return to Equity Shareholders)

In the present study Return to Equity for shareholders is measured with the help of two ratios: Return on Net Worth and Earning Per Share. The use of both these ratios presents a broad picture of a company's efficiency, financial viability and its ability to earn returns on shareholders' funds and capital employed.

Return on Net Worth (RONW)

RONW measures the rate of return on the shareholders equity of the owners. It measures the company's efficiency of using the capital (shareholders funds) entrusted to it and generating profits. The average amount of net worth of financial sector **(Table 2)** companies after merger was higher than that of pre merger period.

Major observations in Table 2

• Out of 17 merger cases of financial sector, 11 merging firms showed a positive sign, i.e. increase in RONW and 6 merging firms showed decline in net worth. Among the sample, 3 merging firms showed negative net worth during post merger period.

In the next step, we perform non-parametric (Wilcoxon) test to verify whether there is difference between the pre and post merger efficiencies. The result seems to be consistent with our null hypothesis at 5% level of significance ($z = 1.05 < 1.64$) with p value $0.2937 > 0.05$ (2-tail test) and $0.1469 > 0.05$ (1-tail test). Therefore, for financial sector companies we accept the null hypothesis and observed the difference between pre and post merger RONW to be not statistically significant.

Insert Table-2 here

Earning Per Share (EPS)

In order to get true idea of return on investment owner should evaluate his investment returns not on the basis of the dividend received, but on the basis of the EPS i.e. earnings per share. The more the EPS better are the performance and prospects of the company.

Major observations in Table 3

The EPS of merged company during pre and post merger periods given in **Table 3** can be interpreted as:

• It is interesting to note that among the sample of 17 merging cases, 15 merging firms indicate increase in EPS and only 2 merging firms showed decrease in average of three year of EPS during post merger period when comparing with pre merger performance of same cases.

• Also out of 17 merging cases, EPS of 9 firms increased more than fifty per cent during post merger period as compared to pre merger performance of the companies.

• 2 merging firms having negative value, showed an increase in EPS during post merger period but it was observed that inspite of increase in amount of EPS the value was still negative.

We also find that the null hypothesis is rejected as $z = 3.09 > 1.64$ at significance level of 5% and the difference is statistically significant at two tail test (p value=0.002) and one tail test (p value=0.001). Hence, we find that there is a significant correlation between financial performance and the M&A deal.

Insert Table-3 here

II. Liquidity parameters

Liquidity ratios measure the short term solvency i.e. the firm's ability to pay off current dues. In the present study current ratio is used to check the liquidity of the firm.

Current Ratio

In a sound business, a current ratio of 2:1 is considered an ideal one. A very high ratio will result in idleness of funds and therefore, is not a good sign. On the contrary, a low ratio would mean inadequacy of working capital.

Major observations in Table 4

The results of the current ratio of sample merging firms before and after merger have been presented in **Table 4.**

• Among the 17 merging cases, 7 merging firms showed increase in current ratio and 10 merging firms showed decrease in current ratio.

• In the case of Laxminarayan Investment Ltd. current ratio increased from 1 times to 10 times (approx.), showing a huge increase in working capital, it can be interpreted   that the firm may have idle funds available as current assets, which   increased relatively with greater speed than current liabilities.

By running Wilcoxon test null hypothesis is proved for financial sector companies as $z = 1.01 < 1.64$ at 5% level of significance and difference between pre and post merger current ratio position is not statistically significant as inferred by   p value (2-tail)=0.3125 and p value (1-tail)=0.1562.

Insert Table-4 here

III. Solvency parameters

Solvency parameters indicate the ability of an enterprise to meet its long term indebtedness (obligations). In this study debt-equity ratio is used to measure the solvency position.

Debt-Equity ratio

The debt to equity ratio is worked out to ascertain soundness of the long term financial policies of the firm. A higher ratio indicates a risky financial position while a lower ratio indicates safer financial position. The debt to equity ratio of sample merged companies during pre and post merger period of financial sector is exhibited in **Table 5.**

Major observations in Table 5

• Out of 17 merging firms, there was increase in debt to equity ratio of 11 merging firms, which means that debt (leverage) in the firm increased. It is important to note that the average increase in the value of 4 firms over three year was small.

• 2 firms out of 17 merging cases showed decline in debt to equity ratio.

As per the results from the Wilcoxon test we reject the null hypothesis for financial sector companies with z=2.46>1.64 at 5% level of significance. The difference is statistically significant as p value = 0.0069 (1-tail test) and p value = 0.0139 (2-tail test).

Insert Table-5 here

IV. Overall efficiency parameters

The main objective of business is to earn profit. Therefore, efficiency in business is measured by profitability. Thus, a measure of profitability is the overall measure of efficiency. To check the overall efficiency of the merging cases, profit before tax, profit after tax and profit before tax to total income are calculated.

Profit before tax (PBT)

Profit before tax, or PBT, measures the profits of the companies before paying corporate taxes. **Table 6** depicts PBT of the merging cases in financial sector and can be interpreted as follows:

Major observations in Table 6

• It is interesting to know that all 17 merging cases taken under study have shown increase in the profit before taxes.

• Among these 17 merging cases, 5 companies had negative profits before taxes during pre merger period but it is observed that during post merger period the average of three years profit before taxes was positive. It can be interpreted as good sign for the companies going for merger.

Insert Table-6 here

Profit before tax to Total income

Profit before tax (PBT) to total income is the relationship between profit before tax and total income incurred by the business. The results of PBT to total income of sample merging firms before and after merger of financial sector companies have been presented in **Table 7.**

Major observations in Table 7

• It was observed that out of 17 merging cases in financial sector, 11 firms showed increase in PBT to total income and 6 firms showed decline in ratio.

When we perform non-parametric Wilcoxon signed rank test, the results for PBT were found to be inconsistent with the null hypotheses and we reject the same as z = 3.61 at 5% significance level and p value =0.0002 (1-tail) and 0.0003 (2-tail). On the other hand the results of PBT to total income were found to be consistent with the null hypothesis at z = 1.43 at 5% significance level and p value = 0.0764 (1-tail) and 0.1527 (2-tail).

Insert Table-7 here

6. Conclusion

With the series of M&A taking place in financial sector in India more than half of the merging firms showed improved financial performance in the post merger time period as compared to the pre merger period. Our study produced several interesting findings. First, earning available to shareholders and debt to equity ratio showed a significant change in pre and post merger financial position of the companies. Second, contrary to our expectations, we found the change in the return on net worth, liquidity position and profit before tax to total income of the companies to be not statistically significant. Overall, the result of the study indicate that in most of the M&A cases,

in the long run the acquiring firms were able to generate value creation in one or the other form, that is higher cash flows, cost cutting and greater market power, however in spite of improved financial performance sixty four per cent of cases showed increased debt to equity ratio. It is also significant to note that profit before tax in all the merging cases has shown a positive trend for both financial sector companies.

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Table A. Selected studies on M&A

Issues under consideration	Contributors	Central objective/finding
PROFITABILITY AND MARKET SHARE	Cartwright & Cooper, 1993; Sudarsanam, 1995; Chatterjee et al., 1992; Wullaerts, 2002; Sufian and Habibullah, 2009	Examined the prospect of increasing profitability and market share by acquisitions
SHAREHOLDERS VALUE CREATION	Angwin, 2001; Rappaport 1981; Wong and Cheung, 2009	Used shareholder value to guide strategic investments
SYNERGIES	Haspeslagh and Jemison, 1991; Bradley, Desai and Kim (1983, 1988) ; Sirower, 1997	Argued that mergers create synergies. Synergies actually achieved are just not sufficient to justify the premiums paid
CULTURE AND CROSS-BORDER MERGERS	Cartwright and Cooper 1991; Child, 2000; Larsson, 1993; Chakrabarti. et. al, 2005;	Organizational Cultures and management styles has become a common panacea yet little is known about learning through international acquisitions
ASSESSMENT OF FINANCIAL ASPECT	Beena, 1998; Agarwal, 2002; Surjit, 2002; Swaminathan, 2002; Arora, 2003; Mantravadi and Reddy, 2007; Bhaumik and Selarka ,2008.	Studied the financial and operating performance of the companies

(**Source:** compiled by authors)

Table B. List of financial sector companies merged between 1st April, 2003 and 31st March, 2005

S. no.	Name of sector	Sample merged companies
1.	Banking	10
2.	Financial institutes	2
3.	Non banking financial companies	5
Total		17

(**Source:** Prowess database of CMIE)

Table 1. Top Transactions made by Indian companies as on May 29, 2009

Acquirer	Target Company	Deal value	Industry
Tata Steel	Corus Group plc	$12.2 billion	Steel
Vodafone	Hutchison Essar	$11.1 billion	Telecom
Hindalco	Novelis	$6 billion	Steel
Ranbaxy	Daiichi Sankyo	$4.5 billion	Pharmaceutical
ONGC	Imperial Energy	$2.8 billion	Oil and Natural Gas
NTT DoCoMo	Tata Teleservices	$2.7 billion	Telecom
HDFC Bank	Centurion Bank of Punjab	$2.4 billion	Financial Institution
Tata Motors	Jaguar Land Rover	$2.3 billion	Automobile
Suzlon	RePower	$1.7 billion	Power

(**Source:** http://business.rediff.com/slide-show/2009/may/29/slide-show-1-indias-11-largest-m-and-a-deals.htm#contentTop)

Table 2. Return on Net Worth (RONW)

S.No	Company Name	X_A	X_B	Change in RONW	S/R of $\lvert X_A - X_B \rvert$
1	Bank Of Baroda	13.8733	11.3767	D	+4
2	Bank Of India	18.2400	19.8567	I	-2
3	Corporation Bank	18.3367	12.7867	D	+9
4	Eicher Ltd.	-17.6967	28.5233	I	-16
5	I D B I Bank Ltd.	-4.5133	-3.5133	I	-1
6	Indusind Bank Ltd.	10.6900	-1.0200	D	+13
7	Infrastructure Development Finance Co. Ltd.	11.6167	15.9000	I	-8
8	L & T Finance Ltd.	4.8667	20.7233	I	-14
9	Laxminarayan Investment Ltd.	3.6167	5.3833	I	-3
10	Oriental Bank Of Commerce	19.4467	8.2333	D	+11
11	Pioneer Investcorp Ltd.	-4.6133	43.4933	I	-17
12	Punjab National Bank	19.0933	15.3633	D	+7
13	Sundaram Finance Ltd.	6.6733	18.1200	I	-12
14	Tulip Star Hotels Ltd.	-2.9967	31.6367	I	-15
15	Union Bank Of India	15.8533	19.5700	I	-6
16	Vijaya Bank	19.9967	12.1033	D	+10
17	Walchand Peoplefirst Ltd.	-6.1500	-2.9100	I	-5
W=-45					
$n_{s/r}$=17		P(1-tail)	P(2-tail)		
Z=|-1.05|=1.05		0.1469	0.2937		

Source: Computed from Prowess　　　　**Note:** 1. D=Decrease, I=Increase

7. Figures in percentage

Table 3. Earnings Per Share (EPS)

S.No.	Company Name	X_A	X_B	Change in EPS	S/R of $\lvert X_A - X_B \rvert$
1	Bank Of Baroda	17.9433	30.0967	I	-11
2	Bank Of India	10.5900	25.2300	I	-12
3	Corporation Bank	24.1000	39.8700	I	-15
4	Eicher Ltd.	-13.6967	10.6233	I	-16
5	I D B I Bank Ltd.	13.6767	8.8400	D	+7
6	Indusind Bank Ltd.	3.7700	1.8367	D	+4
7	Infrastructure Development Finance Co. Ltd.	1.6533	4.2100	I	-5
8	L & T Finance Ltd.	0.5500	7.1467	I	-8
9	Laxminarayan Investment Ltd.	0.4133	1.0500	I	-2
10	Oriental Bank Of Commerce	16.9733	32.3033	I	-14
11	Pioneer Investcorp Ltd.	0.0667	14.7100	I	-13
12	Punjab National Bank	24.9267	53.1567	I	-17
13	Sundaram Finance Ltd.	41.3900	50.5533	I	-9
14	Tulip Star Hotels Ltd.	-1.2367	-0.7200	I	-1
15	Union Bank Of India	8.6333	19.1900	I	-10
16	Vijaya Bank	3.9300	5.6633	I	-3
17	Walchand Peoplefirst Ltd.	-6.6667	-1.9867	I	-6
W=-131					
$n_{s/r}$=17	P(1-tail)		P(2-tail)		
Z=|-3.09|=3.09	0.001		0.002		

Source: Computed from Prowess

Note: 1. D=Decrease, I=Increase

2. Figures in Rupees

Table 4. Current Ratio

S.No.	Company Name	X_A	X_B	Change in Current Ratio	S/R of$|X_A - X_B|$
1	Bank Of Baroda	3.2933	4.2567	I	-6
2	Bank Of India	2.4333	3.5233	I	-10
3	Corporation Bank	2.5900	2.6000	I	-1
4	Eicher Ltd.	1.0333	0.2000	D	+5
5	I D B I Bank Ltd.	1.1000	2.1667	I	-9
6	Indusind Bank Ltd.	4.5567	3.9133	D	+3
7	Infrastructure Development Finance Co. Ltd.	2.1533	0.6233	D	+13
8	L & T Finance Ltd.	2.1333	0.5100	D	+15
9	Laxminarayan Investment Ltd.	1.2333	10.1800	I	-17
10	Oriental Bank Of Commerce	5.1767	3.5867	D	+14
11	Pioneer Investcorp Ltd.	3.9100	2.0467	D	+16
12	Punjab National Bank	2.6333	3.6833	I	-8
13	Sundaram Finance Ltd.	1.4767	0.5067	D	+7
14	Tulip Star Hotels Ltd.	1.9900	0.6700	D	+11
15	Union Bank Of India	3.9733	2.6100	D	+12
16	Vijaya Bank	3.8100	4.5700	I	-4
17	Walchand Peoplefirst Ltd.	2.1667	1.9700	D	+2
W=43					
$n_{s/r}$=17	P(1-tail)		P(2-tail)		
Z=1.01	0.1562		0.3125		

Source: Computed from Prowess

Note: 1. D=Decrease, I=Increase

2. Figures in Times

Table 5. Debt-Equity Ratio

S.No.	Company Name	X_A	X_B	Change in Debt equity ratio	S/R of$|X_A - X_B|$
1	Bank Of Baroda	0.5967	0.7333	I	-5
2	Bank Of India	1.7900	1.7500	D	+1
3	Corporation Bank	0.4933	0.7167	I	-7
4	Eicher Ltd.	2.1800	-	-	-
5	I D B I Bank Ltd.	7.3567	7.4233	I	-3
6	Indusind Bank Ltd.	1.0967	1.5033	I	-8
7	Infrastructure Development Finance Co. Ltd.	1.1767	4.3133	I	-13
8	L & T Finance Ltd.	5.0933	5.8667	I	-10
9	Laxminarayan Investment Ltd.	-	0.9200	-	-
10	Oriental Bank Of Commerce	0.4100	0.4533	I	-2
11	Pioneer Investcorp Ltd.	-	0.6567	-	-
12	Punjab National Bank	0.6933	0.8633	I	-6
13	Sundaram Finance Ltd.	3.9833	5.9600	I	-12
14	Tulip Star Hotels Ltd.	1.0533	0.6433	D	+9
15	Union Bank Of India	0.7867	1.5900	I	-11
16	Vijaya Bank	0.8900	0.9733	I	-4
17	Walchand Peoplefirst Ltd.	-	0.0067	-	-
W=-71					
$n_{s/r}$=13	P(1-tail)		P(2-tail)		
Z=|-2.46|=2.46	0.0069		0.0139		

Source: Computed from Prowess

Note: 1. D=Decrease, I=Increase, - = data not available

2. Figures in Times

Table 6. Profit Before Tax (PBT)

S.No.	Company Name	X_A	X_B	Change in PBT	S/R of $|X_A - X_B|$
1	Bank Of Baroda	808.6433	1658.6700	I	-13
2	Bank Of India	722.1600	1711.0767	I	-15
3	Corporation Bank	494.4833	852.1667	I	-11
4	Eicher Ltd.	-24.5833	10.9867	I	-6
5	I D B I Bank Ltd.	-285.8700	711.2267	I	-16
6	Indusind Bank Ltd.	72.4300	93.2867	I	-4
7	Infrastructure Development Finance Co. Ltd.	187.6733	621.8533	I	-12
8	L & T Finance Ltd.	3.8067	93.8033	I	-7
9	Laxminarayan Investment Ltd.	0.6900	1.6700	I	-1
10	Oriental Bank Of Commerce	528.8167	766.7300	I	-10
11	Pioneer Investcorp Ltd.	-0.9200	20.5667	I	-5
12	Punjab National Bank	840.0300	2499.9567	I	-17
13	Sundaram Finance Ltd.	85.4700	218.3767	I	-8
14	Tulip Star Hotels Ltd.	-0.1133	9.9500	I	-3
15	Union Bank Of India	506.1967	1378.4733	I	-14
16	Vijaya Bank	135.6500	292.5300	I	-9
17	Walchand Peoplefirst Ltd.	-1.3167	2.8567	I	-2
W=-153					
$n_{s/r}$=17		P(1-tail)		P(2-tail)	
Z=|-3.61|=3.61		0.0002		0.0003	

Source: Computed from Prowess

Note: 1. D=Decrease, I=Increase

      2. Figures in Rupees in Crores

Table 7. PBT/Total income

S.No.	Company Name	X_A	X_B	Change in PBT/Total income	S/R of $|X_A - X_B|$
1	Bank Of Baroda	11.4167	14.8667	I	-5
2	Bank Of India	10.2233	14.7667	I	-6
3	Corporation Bank	20.8200	20.3833	D	+1
4	Eicher Ltd.	-3.9367	44.9633	I	-14
5	I D B I Bank Ltd.	-4.1133	8.1267	I	-11
6	Indusind Bank Ltd.	7.8433	5.0600	D	+4
7	Infrastructure Development Finance Co. Ltd.	47.8000	37.4533	D	+9
8	L & T Finance Ltd.	4.0800	27.6167	I	-13
9	Laxminarayan Investment Ltd.	70.0033	55.0300	D	+12
10	Oriental Bank Of Commerce	14.7133	12.9133	D	+3
11	Pioneer Investcorp Ltd.	-34.0767	70.1200	I	-15
12	Punjab National Bank	10.5767	18.1467	I	-8
13	Sundaram Finance Ltd.	15.9967	27.5833	I	-10
14	Tulip Star Hotels Ltd.	0.4367	-663.5600	D	+17
15	Union Bank Of India	10.6633	15.3533	I	-7
16	Vijaya Bank	7.4700	8.4833	I	-2
17	Walchand Peoplefirst Ltd.	-125.9233	19.8100	I	-16
W=-61					
$n_{s/r}$=17		P(1-tail)		P(2-tail)	
Z=|-1.43|=1.43		0.0764		0.1527	

Source: Computed from Prowess

Note: 1. D=Decrease, I=Increase

      2. Figures in Times

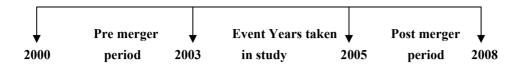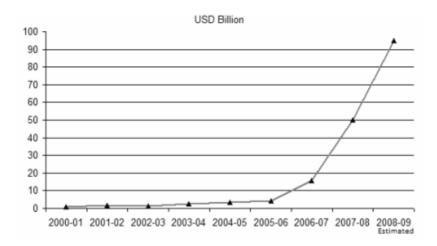| 2000 | Pre merger period | 2003 | Event Years taken in study | 2005 | Post merger period | 2008 |

Figure A. Period taken in study

USD Billion

(**Source:**http://trak.in/tags/business/2007/08/16/indian-mergers-acquisitions-changing-indian-business/)

Figure 1. Indian outbound deals since 2000