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Liquidity Analysis of Indian Cross-Border Acquisitions in Developed Nations

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Abstract:
The aim of this study is to assess the liquidity of Indian multinationals opting for cross-border acquisitions with special reference to the Indian acquirer firms when the target belongs to a developed nation like United States, Italy, Germany, France etc. the study examines the impact of acquisition on the liquidity of the co. which is measured by analyzing current ratio and quick ratio of 24 sample companies. The study examines whether there is an improvement in the overall financial health of the company after acquisition. Different ratios, liquidity parameters and averages have been used to evaluate financial performance of the sample firms before and after the acquisition. For the said purpose, three years Pre and post acquisition liquidity analysis of 24 sample companies who has made acquisitions during the period of 2000-2005 has been tested using both parametric and non-parametric tests. Liquidity, measured by current ratio and quick ratio, for the sample firms have declined significantly. It was observed that more than 2/3rd of the firms have reported a fall in these ratios. This fall can be interpreted as increase in debt by the acquiring firms post acquisition.

***Key words**: Cross border Acquisitions, Liquidity analysis, Key ratios, Operating performance, t-test, wilcoxon signed rank test*

1. Introduction

The Indian economy has undergone major transformation and structural change following the economic reforms introduced by the Government of India in 1991. The opening up of the 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 to big Indian companies to venture abroad for market expansion. Surges in economic growth and decreasing interest rates have made financing of such deals, cheaper. Changes in regulations made by the Finance Ministry in India pertaining to overseas investments by Indian companies have also made it easier for the companies to acquire abroad. Until the 1990s, mergers and acquisitions was not a profound feature of Indian multinationals. But after the advent of the Globalization in the early nineties, improved market access, the adoption of the policy of liberalization by countries such as India global mergers and takeovers have become a common visible feature. In combination with other trends, such as increased deregulation, privatization, and corporate restructuring, globalization has spurred an unprecedented surge in cross-border merger and acquisition activity. With businesses going global, companies in search for a worldwide competitive edge have followed their customers worldwide by way of cross border acquisitions.

According to Securities Data Corporation, there were more than 2000 announced cross-border acquisitions in 1996 worth over $252 billion. While this represents 54% more acquisitions than in 1991, the increase in dollar value has been even more remarkable, tripling during this time period. Clearly cross border M&As have become a fundamental characteristic of the global business landscape. The good news is that what started as a trickle in the 1990s has been growing in size. Today outward fund flows from India almost match those coming in from abroad.

2. Objective of the Study

The aim of this study is to assess the performance of cross-border acquisitions and their impact on the acquirer firm's liquidity especially when the target belongs to a developed nation like United States, Italy, Germany, France etc. and the acquirer is from a developing nation like India.

3. Hypothesis of the Study

For accomplishing the above said purposes the following hypotheses have been formulated. The null hypothesis: Ho: Pre Acquisition Average and Post Acquisition Average of liquidity ratios of Indian firms are not significantly different from each other i.e. the growth of acquiring firms have not improved / deteriorated significantly because of the acquisition.

4. Data and Methodology

The acquisitions during the period 2000-2008 were identified from Thomson ONE Bankers database. A total sample size of 1180 acquisitions was initially accredited with the acquirers being Indian firms and the target nation is a cross-border country. In addition, information about announcement or completion dates and which companies were involved in an acquisition is obtained.

Other criteria used to select the sample are given below:

- The deals considered are the ones which were announced, completed and unconditional
- Only those acquisitions are analysed in which the target nation is a developed nation
- The acquisition deals that lead to effective control of the target company are selected, i.e. this includes 100% acquisitions, majority acquisitions and minority acquisitions in which the bidder previously already acquired part of the target company and with the additions of the latest acquisition the ownership of the target by the bidder is over 50%, resulting in effective control.
- Sample selected includes only those transactions for which the deal size is at least $10 million.
- The target and bidders are not participating in more acquisition deals within the estimation period and testing period
- All bidder companies have a BSE (Bombay Stock Exchange) listing.

The data considered for testing the operating performance is for a period of 2000-2005. The data has been restricted till 2005 because we are required to compute three years post acquisition ratios to compare the performance of the acquiring firm with that of the three years pre acquisition ratios. The annual statements for the bidders are collected from the CMIE (Centre for Monitoring Indian Economy) Prowess Database. Finally, the sample size was reduced to 24 Indian acquisitions meeting all the above mentioned criteria for the empirical analysis based on financial statements i.e. accounting study. (Shown in table below)

The method used to assess the impact of acquisition on the acquiring firm in terms of its liquidity is measured by calculating the difference in the accounting ratios based on the data extracted from the audited financial statements of the sample firms for pre and post acquisition period of three years each. According to Grant, Jammine & Thomas (1988) the use of accounting study is justified because:

Managers and external analysts often use return on assets as a measure of the effectiveness and efficiency of top management.

The impact of corporate strategy on a firm's performance is more directly reflected in accounting profit than in stock price, which measures investors' expectations about future profits.

List of Indian Acquiring Firms Which Have Targeted Developed Nations Firms (from 2000 to 2005)

Year of Acquisition	Date Announced (mm/dd/yy)	Target Name	Target Nation	Acquiror Name	% of Shares Acquired	% Owned After Transaction	Value of Transaction ($mil)
2000	11/20/00	Undisclosed Copper Mines,Tasma	Australia	Sterlite Industries(India)Ltd	100.00	100.00	22.36
2000	2/27/00	Tetley Group Ltd	United Kingdom	Tata Tea Ltd	100.00	100.00	431.97
2000	7/31/00	Specsoft Consulting Inc	United States	Aptech Ltd	100.00	100.00	10.00
2000	2/8/00	MphasiS Corp	United States	BFL Software Ltd	100.00	100.00	200.83
2000	9/18/00	Albion Orion	United States	SSI Ltd	100.00	100.00	63.65
2001	10/27/01	BT-Apollo Contact Centre	United Kingdom	HCL Technologies Ltd	100.00	100.00	12.78
2002	9/5/02	Berger International Ltd	Singapore	Asian Paints(India)Ltd	81.94	81.94	19.48
2003	12/17/03	Expert Info Svcs Pty Ltd	Australia	Infosys Technologies Ltd	100.00	100.00	22.87
2003	1/24/03	Straits(Nifty)Pty Ltd	Australia	Hindalco Industries Ltd	100.00	100.00	88.41
2003	11/5/03	Daewoo Commercial Vehicle Co	South Korea	Tata Motors Ltd	100.00	100.00	101.30
2003	11/9/03	SPP Pumps Ltd	United Kingdom	Kirloskar Brothers Ltd	97.50	97.50	11.72
2003	10/30/03	GWK Group Ltd	United Kingdom	Amtek Auto Ltd	100.00	100.00	37.58
2003	12/16/03	SuperSolutions Corp	United States	i-flex Solutions Ltd	100.00	100.00	11.50
2004	8/4/04	Conradty Group-Manufacturing	Germany	Graphite India Ltd	100.00	100.00	13.98
2004	8/16/04	NatSteel Asia Pte Ltd	Singapore	Tata Iron & Steel Co Ltd	100.00	100.00	283.86
2004	11/1/04	Tyco Global Network	United States	Videsh Sanchar Nigam Ltd	100.00	100.00	130.00
2005	6/19/05	Docpharma NV	Belgium	Matrix Laboratories Ltd	73.41	95.51	190.17
2005	6/28/05	Thomson SA-CAthode Ray Tube	France	Videocon International Ltd	100.00	100.00	289.58
2005	8/5/05	Monocon Intl Refractories Ltd	United Kingdom	IFGL Refractories Ltd	100.00	100.00	16.68
2005	4/21/05	Citisoft PLC	United Kingdom	Satyam Computer Services Ltd	100.00	100.00	38.70
2005	2/14/05	Princeton Consulting Ltd	United Kingdom	MphasiS BFL Ltd	100.00	100.00	14.59
2005	3/30/05	Amtec Precision Products Inc	United States	UCAL Fuel Systems Ltd	100.00	100.00	28.00
2005	11/1/05	Able Laboratories Inc	United States	Sun Pharmaceuticals Inds Ltd	100.00	100.00	23.15
2005	11/16/05	Axes Technologies Inc	United States	Mahindra-British Telecom	100.00	100.00	54.00

Figure 1

5. Steps Followed

- Firstly, several parameters/ratios for assessing the liquidity of the sample firms were identified.
- These ratios were then calculated by using the data extracted from the CMIE Prowess Database from the financial statements of the selected firms for a period of six years i.e. 3 years pre acquisition and 3 years post acquisition, excluding the year of acquisition. The ratios selected for the study and the formulae used for the computation has been given in the next section.
- The acquisition completion year was denoted as year 0. Year 0, the year of the acquisition, is excluded from the analysis for two reasons. First, many of the acquiring firms use the purchase accounting method, implying that in the year of the acquisition the two firms are consolidated for financial reporting purposes from only the date of the acquisition. Results for this year are therefore not comparable across firms or for industry comparisons. Second, year 0 figures are affected by one-time acquisition costs incurred during that year, making it difficult to compare them with results for other years.
- These ratios were then averaged for a set of key financial ratios for a period of three years pre and post acquisition and named as pre acquisition average and post acquisition average for the entire set of sample firms, which have done acquisitions during the period 2000 to 2005. The averages computed were the simple arithmetic mean. For all the parameters, for all the sample firms, for a period of 3 years pre and 3 years post acquisition these ratios were computed and then averaged.
- Average pre merger and post merger financial performance ratios were then compared to see if there was an increase or decrease in the ratios so computed post acquisition. The companies reporting an increase were assigned a plus sign whereas a minus sign was assigned for a decline. These differences were then put to test for analyzing any statistically significant change in operating performance due to acquisitions, using “Wilcoxon Signed Ranks Test” i.e. a non-parametric test which does not require any assumption about the distribution of the data used. The analysis has been supplemented by the “T-Test: Paired Two Sample for Means”, which is a parametric test just to check the robustness of the results.

6. Current Ratio

This datafield is a measure of the short-term liquidity position of a company. This ratio is calculated using the following formula:

$$\text{Current ratio} = \boxed{\frac{CurrentAssets}{CurrentLiabilitiesandprovisions}}$$

7. Current Assets

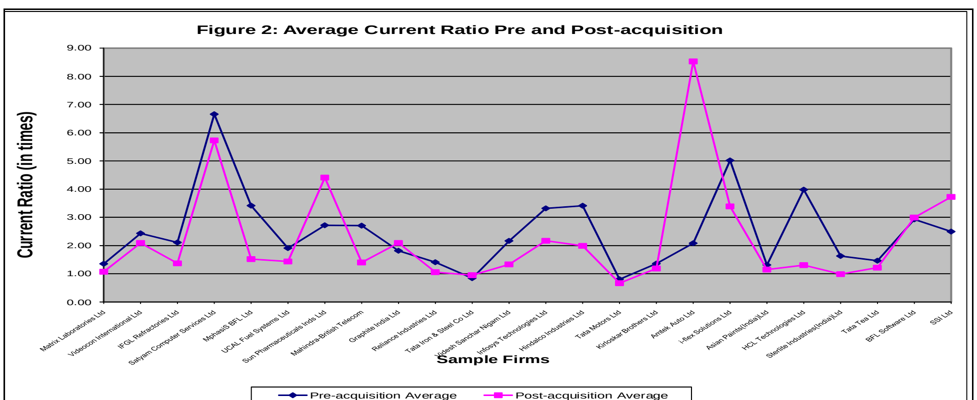
In Prowess, while calculating liquidity ratio certain datafields are added while some are excluded from the current assets. This is a calculated datafield and is arrived at using the following formula:

Receivables + inventories + cash and bank balance + marketable securities – marketable security group – receivable loan group companies – housing loans - application money

8. Empirical Findings

The current ratio is the most commonly used parameter for assessing a firm’s liquidity. It is basically, the relationship between the current assets and current liabilities possessed by the firm. A higher current ratio shows that the company is able to pay its debt maturing within a year i.e. the debts which are current in nature.

It has been seen from the empirical testing of the sample companies from Figure 2 that 75% of the companies have stated a decline in the current ratio after the acquisition, which is significant as per the wilcoxon signed rank test.



Z-stats (wilcoxon rank test)	-2.229	**t-stats (paired two sample for means)**	0.671
p-value	0.026	**p-value**	0.509
No.of firms which has shown an increase	6	**No.of firms which has shown decrease**	18
percent (%)	25.00	**percent (%)**	75.00

Figure 2

Table 2 illustrates the firms which have experienced a rise or a fall post acquisition. From Table 2 one can see that except BFL software, Sun pharmaceuticals Inds ltd. and Graphite India ltd. none of the companies have shown a significant hike in the current ratio post acquisition.

Year of Acqui	Date Announced	Name of the company	Pre-Acq Average (X_a)	Post-Acq Average (X_b)	inc/decrease= X_a-X_b	abs Inc/Dec = $\|X_a-X_b\|$	rank	sign	signed rank S/R of $\|X_a-X_b\|$
2005	6/19/05	Matrix Laboratories Ltd	1.35	1.07	-0.28	0.28	8	-1	-8
	6/28/05	Videocon International Ltd	2.43	2.09	-0.34	0.34	9	-1	-9
	8/5/05	IFGL Refractories Ltd	2.11	1.37	-0.74	0.74	13	-1	-13
	4/21/05	Satyam Computer Services Ltd	6.66	5.73	-0.93	0.93	15	-1	-15
	2/14/05	MphasiS BFL Ltd	3.42	1.52	-1.90	1.90	22	-1	-22
	3/30/05	UCAL Fuel Systems Ltd	1.91	1.44	-0.47	0.47	11	-1	-11
	11/1/05	Sun Pharmaceuticals Inds Ltd	2.72	4.41	1.69	1.69	21	1	21
	11/16/05	Mahindra-British Telecom	2.71	1.40	-1.30	1.30	18	-1	-18
2004	8/4/04	Graphite India Ltd	1.82	2.09	0.28	0.28	7	1	7
	6/24/04	Reliance Industries Ltd	1.41	1.06	-0.35	0.35	10	-1	-10
	8/16/04	Tata Iron & Steel Co Ltd	0.84	0.95	0.11	0.11	2	1	2
	11/1/04	Videsh Sanchar Nigam Ltd	2.17	1.33	-0.83	0.83	14	-1	-14
2003	12/17/03	Infosys Technologies Ltd	3.32	2.17	-1.15	1.15	16	-1	-16
	1/24/03	Hindalco Industries Ltd	3.41	1.99	-1.42	1.42	19	-1	-19
	11/5/03	Tata Motors Ltd	0.81	0.67	-0.14	0.14	3	-1	-3
	11/9/03	Kirloskar Brothers Ltd	1.36	1.19	-0.17	0.17	5	-1	-5
	10/30/03	Amtek Auto Ltd	2.08	8.53	6.45	6.45	24	1	24
	12/16/03	i-flex Solutions Ltd	5.02	3.39	-1.63	1.63	20	-1	-20
2002	9/5/02	Asian Paints(India)Ltd	1.31	1.15	-0.16	0.16	4	-1	-4
2001	10/27/01	HCL Technologies Ltd	3.98	1.31	-2.68	2.68	23	-1	-23
2000	11/20/00	Sterlite Industries(India)Ltd	1.63	0.99	-0.64	0.64	12	-1	-12
	2/27/00	Tata Tea Ltd	1.46	1.22	-0.25	0.25	6	-1	-6
	2/8/00	BFL Software Ltd	2.93	2.99	0.06	0.06	1	1	1
	9/18/00	SSI Ltd	2.50	3.73	1.23	1.23	17	1	17

Table 2: Average Current Ratios of the Sample Companies

The above significant decline has revealed that the firms have incurred debt after acquisition may be because of the accumulated debts owed by the target firm.

Year of Acq	Date Announced	Name of the company	Pre-Acq Average	Post-Acq Average	t-stat	p-value
2005	6/19/05	Matrix Laboratories Ltd	1.35	1.07	2.0736	0.1738
	6/28/05	Videocon International Ltd	2.43	2.09	0.7744	0.5197
	8/5/05	IFGL Refractories Ltd	2.11	1.37	**4.3732****	0.0485
	4/21/05	Satyam Computer Services Ltd	6.66	5.73	1.4128	0.2932
	2/14/05	MphasiS BFL Ltd	3.42	1.52	2.2117	0.1575
	3/30/05	UCAL Fuel Systems Ltd	1.91	1.44	1.4206	0.2913
	11/1/05	Sun Pharmaceuticals Inds Ltd	2.72	4.41	**(2.9902)***	0.0960
	11/16/05	Mahindra-British Telecom	2.71	1.40	**(9.3951)****	0.0111
2004	8/4/04	Graphite India Ltd	1.82	2.09	**(3.5488)***	0.0710
	6/24/04	Reliance Industries Ltd	1.41	1.06	1.7211	0.2274
	8/16/04	Tata Iron & Steel Co Ltd	0.84	0.95	-0.2613	0.8183
	11/1/04	Videsh Sanchar Nigam Ltd	2.17	1.33	**(3.0319)***	0.0937
2003	12/17/03	Infosys Technologies Ltd	3.32	2.17	1.4736	0.2785
	1/24/03	Hindalco Industries Ltd	3.41	1.99	**(4.8664)****	0.0397
	11/5/03	Tata Motors Ltd	0.81	0.67	2.6458	0.1181
	11/9/03	Kirloskar Brothers Ltd	1.36	1.19	2.1211	0.1680
	10/30/03	Amtek Auto Ltd	2.08	8.53	-2.2072	0.1580
	12/16/03	i-flex Solutions Ltd	5.02	3.39	2.7807	0.1087
2002	9/5/02	Asian Paints(India)Ltd	1.31	1.15	**(48.9999)*****	0.0004
2001	10/27/01	HCL Technologies Ltd	3.98	1.31	#	#
2000	11/20/00	Sterlite Industries(India)Ltd	1.63	0.99	**(4.1063)***	0.0545
	2/27/00	Tata Tea Ltd	1.46	1.22	0.9043	0.4613
	2/8/00	BFL Software Ltd	2.93	2.99	-0.0320	0.9774
	9/18/00	SSI Ltd	2.50	3.73	-1.0010	0.4222

note :1. # indicates missing value
2. * significant at 10% Level, ** Significant at 5% Level, *** Significant at 1% Level
3. figures in parantheses indicates negative values

Table 3: Average Current Ratio of the Sample Companies

Table 3 illustrates that most of the firms which have experienced an increase in their current ratio has got statistically significant results.

9. Quick Ratio

The quick ratio is also known as acid test ratio, liquid ratio, or near money ratio. This ratio is ascertained by comparing the liquid/quick assets with current liabilities. This datafield is a measure of the short term liquidity position of a company. This ratio is calculated using the following formula:

Quick ratio = $$\frac{QuickAssets}{CurrentLiabilitiesandprovision}$$

10. Quick assets

In Prowess, quick assets are arrived at using the following formula:

Cash and bank balance + sundry debtors + marketable securities – marketable security group **-** application money – debtors exceeding 6 months

11. Cash and Bank Balance

Cash and bank Balance is defined as "aggregate monetary resources" held by an organization on the last day of the accounting year. The constituents are:

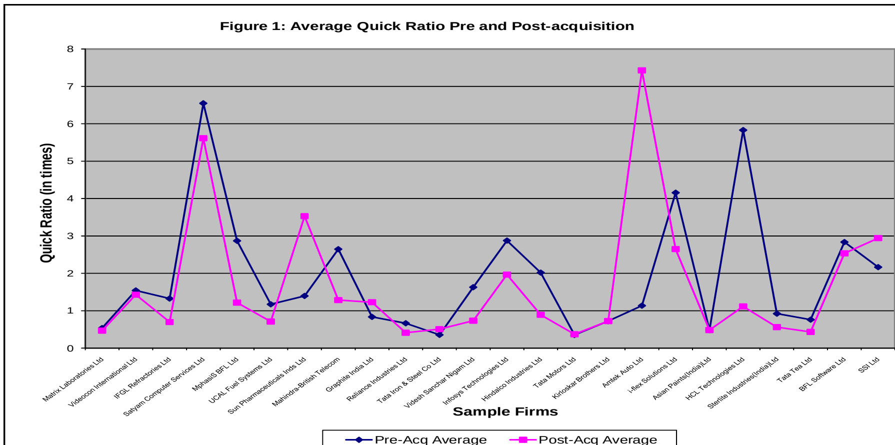
Cash in hand, Cash in transit, Cheques, and drafts in hand, Bank Balance. This is the cash in hand and bank balances in current, saving and fixed deposits accounts. Remittances in transit (cash, cheques) are also included here. Cash and bank balances also include cash and bank balances held in a foreign country.

12. Sundry Debtors, Outstanding Over Six Months

A debtor is an entity that is indebted to the company. Typically, customers who have not paid up for goods and services taken from the company are the company's debtors. Sundry debtors are the amount that the company's customers owe it for goods and services provided by it. We distinguish sundry debtors by the period for which such payments from customers have been outstanding. This datafield captures sundry debtors that have been outstanding for more than six months. It includes all secured and unsecured debtors outstanding for more than six months. CMIE reports the net amount of Sundry Debtors in this field i.e. reduced by the amount of provision made if any for Doubtful Sundry Debtors (Secured or Unsecured and outstanding for a period more than six months).

13. Marketable Securities

This datafield captures the book value of all marketable securities. Marketable securities are all securities for which a fair price is available and are thus readily saleable. These include all quoted securities. "Quoted" means for which a tradable price is publicly available. The net asset value (NAV) of a mutual fund scheme is publicly available even if the mutual fund investment is "unquoted". Most mutual fund units can be sold either through an exchange or to the AMC itself. Such a price need not necessarily be available only in a Securities exchange. CMIE thus includes the book value of Mutual funds, whether "quoted" or "unquoted" under the marketable securities datafield. Group marketable securities capture the book value of all investments made in group companies that are marketable. The quick ratio pre-acquisition and post acquisition for sample firms have been shown in the Figure 1. Most of the firms, around 2/3, have experienced a reduction in the quick ratio post acquisition.



Z-stats (wilcoxon rank test)	-1.914	**t-stats (paired two sample for means)**	0.649
p-value	0.056	**p-value**	0.523
No.of firms which has shown an increase	8	**No.of firms which has shown decrease**	16
percent (%)	33.33	**percent (%)**	66.67

Figure 1

The reason attributed to the significant decline in the said ratio can be the large amounts of debts of liquid nature and lesser amount of relative quick assets to pay such debts. A look at Table 4 will provide an insight into the firms which have reported a decline or a rise because of acquisition activity.

Year of Acqui	Date Announced	Name of the company	Pre-Acq Average (X_a)	Post-Acq Average (X_b)	inc/decrease= X_a-X_b	abs Inc/Dec = $\lvert X_a-X_b \rvert$	rank	sign	signed rank S/R of $\lvert X_a-X_b \rvert$
2005	6/19/05	Matrix Laboratories Ltd	0.536667	0.47	-0.06667	0.0666667	4	-1	-4
	6/28/05	Videocon International Ltd	1.543333	1.43	-0.11333	0.1133333	5	-1	-5
	8/5/05	IFGL Refractories Ltd	1.326667	0.7	-0.62667	0.6266667	13	-1	-13
	4/21/05	Satyam Computer Services Ltd	6.546667	5.613333	-0.93333	0.9333333	17	-1	-17
	2/14/05	MphasiS BFL Ltd	2.87	1.22	-1.65	1.65	21	-1	-21
	3/30/05	UCAL Fuel Systems Ltd	1.173333	0.713333	-0.46	0.46	12	-1	-12
	11/1/05	Sun Pharmaceuticals Inds Ltd	1.396667	3.53	2.133333	2.1333333	22	1	22
	11/16/05	Mahindra-British Telecom	2.646667	1.286667	-1.36	1.36	19	-1	-19
2004	8/4/04	Graphite India Ltd	0.836667	1.23	0.393333	0.3933333	11	1	11
	6/24/04	Reliance Industries Ltd	0.666667	0.413333	-0.25333	0.2533333	7	-1	-7
	8/16/04	Tata Iron & Steel Co Ltd	0.356667	0.51	0.153333	0.1533333	6	1	6
	11/1/04	Videsh Sanchar Nigam Ltd	1.63	0.736667	-0.89333	0.8933333	15	-1	-15
2003	12/17/03	Infosys Technologies Ltd	2.876667	1.966667	-0.91	0.91	16	-1	-16
	1/24/03	Hindalco Industries Ltd	2.02	0.893333	-1.12667	1.1266667	18	-1	-18
	11/5/03	Tata Motors Ltd	0.353333	0.373333	0.02	0.02	3	1	3
	11/9/03	Kirloskar Brothers Ltd	0.723333	0.726667	0.003333	0.0033333	2	1	2
	10/30/03	Amtek Auto Ltd	1.136667	7.426667	6.29	6.29	25	1	25
	12/16/03	i-flex Solutions Ltd	4.156667	2.65	-1.50667	1.5066667	20	-1	-20
2002	9/5/02	Asian Paints(India)Ltd	0.483333	0.486667	0.003333	0.0033333	1	1	1
2001	10/27/01	HCL Technologies Ltd	5.83	1.116667	-4.71333	4.7133333	24	-1	-24
2000	11/20/00	Sterlite Industries(India)Ltd	0.923333	0.563333	-0.36	0.36	10	-1	-10
	2/27/00	Tata Tea Ltd	0.763333	0.436667	-0.32667	0.3266667	9	-1	-9
	2/8/00	BFL Software Ltd	2.836667	2.536667	-0.3	0.3	8	-1	-8
	9/18/00	SSI Ltd	2.166667	2.943333	0.776667	0.7766667	14	1	14

Table 4: Average Quick Ratio of the Sample Companies

Table 5 depicts that IFGL Refractories Ltd, Mahindra-British Telecom, Videsh Sanchar Nigam Ltd, Hindalco Industries Ltd, Sterlite Industries (India) Ltd and Tata Tea Ltd were amongst the majority firms which affirmed a significant decline in the quick ratio. But again, Sun Pharmaceuticals Inds Ltd was the one reporting a significant boost in the said ratio

Year of Acq	Date Announced	Name of the company	Pre-Acq Average	Post-Acq Average	t-stat	p-value
2005	6/19/05	Matrix Laboratories Ltd	0.536666667	0.47	0.4414032	0.70205617
	6/28/05	Videocon International Ltd	1.543333333	1.43	0.4010003	0.72720446
	8/5/05	IFGL Refractories Ltd	1.326666667	0.7	**5.1608****	0.03555497
	4/21/05	Satyam Computer Services Ltd	6.546666667	5.613333333	1.4013143	0.29614018
	2/14/05	MphasiS BFL Ltd	2.87	1.22	2.0818912	0.17280156
	3/30/05	UCAL Fuel Systems Ltd	1.173333333	0.713333333	2.4210526	0.13652129
	11/1/05	Sun Pharmaceuticals Inds Ltd	1.396666667	3.53	**(2.9909)***	0.09596404
	11/16/05	Mahindra-British Telecom	2.646666667	1.286666667	**7.7201****	0.0163676
2004	8/4/04	Graphite India Ltd	0.836666667	1.23	-2.9067214	0.10078108
	6/24/04	Reliance Industries Ltd	0.666666667	0.413333333	1.1537687	0.36785084
	8/16/04	Tata Iron & Steel Co Ltd	0.356666667	0.51	-0.3844429	0.73767766
	11/1/04	Videsh Sanchar Nigam Ltd	1.63	0.736666667	**8.2432****	0.01439943
2003	12/17/03	Infosys Technologies Ltd	2.876666667	1.966666667	1.1360513	0.37373295
	1/24/03	Hindalco Industries Ltd	2.02	0.893333333	**6.959****	0.02003047
	11/5/03	Tata Motors Ltd	0.353333333	0.373333333	-0.3464102	0.76208452
	11/9/03	Kirloskar Brothers Ltd	0.723333333	0.726666667	-0.0422955	0.97010594
	10/30/03	Amtek Auto Ltd	1.136666667	7.426666667	-2.0777944	0.17331655
	12/16/03	i-flex Solutions Ltd	4.156666667	2.65	2.1840847	0.16060207
2002	9/5/02	Asian Paints(India)Ltd	0.483333333	0.486666667	-0.0762493	0.94616181
2001	10/27/01	HCL Technologies Ltd	5.83	1.116666667	#	#
2000	11/20/00	Sterlite Industries(India)Ltd	0.923333333	0.563333333	**5.2887****	0.03394135
	2/27/00	Tata Tea Ltd	0.763333333	0.436666667	**3.058***	0.09235912
	2/8/00	BFL Software Ltd	2.836666667	2.536666667	0.1548691	0.89114179
	9/18/00	SSI Ltd	2.166666667	2.943333333	-0.6926216	0.56016044

note :1. # indicates missing value
2. * significant at 10% Level, ** Significant at 5% Level, *** Significant at 1% Level
3. figures in parantheses indicates negative values

Table 5: Average Quick Ratio of the Sample Companies

14. Summary Findings

The following reports the summary findings regarding what percentage of companies have reported a decline or an improvement in the average ratios or the financial variables post acquisition. The Table shows the summary results obtained from the application of both the tests carried out on the sample firms i.e. the wilcoxon test and the t-test.

PRE AND POST-ACQUISITION PERIOD OF THE SAMPLE COMPANIES									
						increased after the acquisition		decreased after the acquisition	
S. No.	**Parameters of Financial Performance**	**Z-stats (wilcoxon rank test)**	**p-value**	**t-stats (paired two sample for means)**	**p-value**	**No. of firms**	**Percent (%)**	**No. of firms**	**Percent (%)**
1	**Current ratio (CR)**	**(2.229)****	0.026	0.671	0.509	6	25.00	18	75.00
2	**Quick ratio (QR)**	**(1.914)***	0.056	0.649	0.523	8	33.33	16	66.67

	Note: 1. # indicates missing value								
	2. * significant at 10% Level, ** Significant at 5% Level, *** Significant at 1% Level								
	3. figures in parantheses indicates negative values								

Table 1: Performance Evaluation

For the current ratio 75% firms have experienced a decline which is significant at 5% level as per the wilcoxon test. The reason attributed can be the large amount of current liabilities of the combined concern. Similarly, quick ratio for 2/3 firms have fallen Liquidity of the sample firms has plummeted significantly post acquisition that means the proportion of current liabilities is more than the current assets of the firms chosen for the sample.

15. Conclusion

Given the fact that only limited research has been done previously, despite the fact that India is one of the most active economy of the world in the world of mergers and acquisitions, this study sheds light on the recent abnormal returns of acquisition activity by Indian bidders. The main criterion of the current research was to assess the performance of the acquisition and their impacts on the return to the acquirer firms. The study investigated the Indian market and analyzed the performance of the acquirers between the period January 2000 and December 2008. Some of the financial indicators used in the research were the current ratio, liquid ratio etc. In order to reach a conclusion on the acquisition performance, a comparison of the three year pre- acquisition performance was done with that of the three year post- acquisition performance. As far as growth analysis is considered, the sample firms' growth has not been very promising. Although, the growth for most of the firms has risen, but it was not significant. On the whole, on the basis of the sample chosen it would be wrong to articulate that the acquisitions have proven to be a drain on the wealth of acquirers. The measurement of performance in the long run on the basis of the accounting study approach has revealed that neither the announcement returns nor the accounting returns have shown a significant downfall due to the acquisition.

Liquidity, measured by current ratio and quick ratio, for the sample firms have declined significantly. It was observed that more than 2/3rd of the firms have reported a fall in these ratios. This fall can be interpreted as increase in debt by the acquiring firms post acquisition.

16. Limitations of the Study

The purpose of this section is to be self-critical. The present study has focused on testing the impact on acquirers for indulging into cross border acquisitions in the developed nations by assessing the impact on the accounting figures reported by the firms. However, there are some limitations associated with this study. They are as follows:

The information regarding the target firms in respect of their share prices, financial statements etc. could not be obtained because these belong to several different nations and have their listing in the distinct stock exchanges, this obstructs research to target and combined returns. Further, as can be observed from the results it becomes clear that the sample is skewed through time in favor of the end of the sample (the later it becomes in time, the more events there are), which raises the question whether this could have influenced the results. Previous literature indicates that the fact that the sample is skewed will not influence the results regarding abnormal returns as Brown and Warner provide evidence in their 1985 paper that clustering of data does not alter the results (Brown and Warner, 1985). Therefore, the results regarding this issue should be robust.

Regarding the control factors different questions can be raised. Not all the control factors mentioned in the literature could be tested in this study because of the lack of data in different cases and time constraints. Control factors that were not included that possibly are of great importance are competition and interlinked with this, bargaining power, the method of payment, relative size of the target, industry relativeness and government influences etc.

17. Directions for Future Research

Generally speaking, more research regarding the merger and acquisition activity in one of the most participating economy of the world, India, is warranted. There are some areas which are suggested for future research which are as follows:

More research is warranted regarding several control factors of abnormal returns that were not incorporated in this research, as data availability was a limiting factor on the side of some control factors in this study. Interesting would be to research whether competition, method of payment, government influence etc. are a factor of influence and what factor of influence (positive or negative) the control variables are regarding to abnormal returns. The selection of the control factors and additional research from this point of view should therefore be an important focal point in future research.

This paper has a focus on the bidder abnormal returns when an acquisition is announced and as a result excludes the possibility to have a closer look at target abnormal returns and combined abnormal returns. In addition, a large portion of target companies are private and therefore no public data is available. A comparison of the returns earned by the Indian acquirers when they indulge into domestic acquisitions as against the returns being made available to the Indian acquirers if they opt for cross-border acquisition could be investigated. With future research that focuses on the difference between Indian domestic acquisitions compared to Indian acquisitions abroad. In future research, a comparison could be made between the Indian markets and for example the United States market on how quick the announcement effect of an acquisition is incorporated in stock data. Moreover, a research should be performed whether there are differences in abnormal returns between different kinds of acquisitions, as the literature regarding research in the United States, for example, tends to yield results that give different results regarding tender offers compared to other forms of acquisitions.

18. References

1. Agrawal, A. and Jaffe, J.F., (2003), "Do takeover targets underperform? Evidence from operating and stock returns", The Journal of Financial and Quantitative Analysis, 38(4), 721-746. Agrawal, A. and Jaffe, J.F., (2000), "The post-merger performance puzzle", Advances in Mergers and Acquisitions, 1, 7-41.
2. Brown, S., Warner, J., (1980), "Measuring security price performance", Journal of Financial Economics, 8, 205-58.
3. Asquith, P., Bruner, R., Mullins, D., (1983), "The gains to bidding firms from merger", Journal of Financial Economics, 11, 121-39.
4. Lubatkin, M., (1983), "'Mergers and Performance of the Acquiring Firm", Academy of Management Review, 8(2), 218-225.
5. Malatesta, P., (1983), "The wealth effect of merger activity and the objective functions of merging firms," Journal of Financial Economics, 11(1-4), 155-181.
6. Mittal, S., (2013), "Cross-border Acquisitions by Indian Multinationals: An Empirical Analysis", Journal of Commerce and Business studies, 1, 35-48.
7. Mittal, S., (2014), "A Empirical Analysis of the Operating Performance of Cross Border Acquisitions by Indian Multinationals", International Journal of Research in Commerce & management