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OPEN OFFERS AND SHAREHOLDERS EARNINGS

– *EVIDENCE FROM INDIA*

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OPEN OFFERS AND SHAREHOLDERS EARNINGS – EVIDENCE FROM INDIA

ABSTRACT

Purpose: Mergers and acquisitions (M&A) have become a popular vehicle for domestic as well as international companies to rapidly access new markets, assets and capabilities. This motivates us to study the impact of open offers on shareholders returns in the Indian context.

Design/Methodology/Approach: The study computes simple stock returns (R), market returns (M), abnormal returns (AR), security returns variability (SRV) and apply the analysis of variance (ANOVA – one way) to locate any significant differences among the means of stock returns during pre and post substantial acquisition offer announcement.

Findings: The findings indicate that there exist significant negative returns during post announcement period. Though, positive returns observe in short period after the immediate acquisition of shares. In contrast, we also observe that *AAR* & *CAR* notices lower returns and security returns variability (*SRV*) becomes proportionate to *AAR* and *CAR*.

Research limitations: The research period 2007-10 is not long enough, so the acquisition effect if any, on target firms would not be apparent. During global financial crisis, the market sentiments and investor perception towards stocks have not favorable and do not considered.

Practical implications: The research work may helps stock brokers, M&A advisory and regulatory bodies while designing takeover and open offer policies.

Originality/Value: We compute *SRV* along with abnormal returns to find any correlation sets during pre and post acquisition period. This is an original contribution undertake open offers and shareholders earnings in the emerging markets era, say India.

Keywords: Mergers, acquisitions, takeovers, open offers, earnings management, event study

Paper type: Research paper

1.0. Introduction

Corporate restructuring and mergers and acquisitions (M&A) are big part of the corporate finance world. The key principle behind buying a company is to create shareholder value over and above that of the sum of the two companies (Pandey, 2009; Ray, 2010). Mergers are regarded as one of the activities to pursue business expansion, conversely a tool for external growth in contrast to internal growth. The recent phenomenal boom in M&A would surge in the near future because of open trade policies and hence more companies are adopting and forming strategic alliances in order to compete with internationalized world and to maintain their market shares.

The economy of India which was hitherto controlled and regulated by the Government is set free to grab new opportunities offering in the world. In this scenario, M&A is one of the best options available to the corporate for inorganic growth as a choice of stakeholders' earnings. M&A boom in India has been comprised exclusively of friendly deals and since its economic liberalization in 1991; it has experienced only a handful of hostile takeover attempts (Machiraju, 2007; Nangia *et al.*, 2011). Taking this is an opportunity, we presents a critical research report on shareholders returns in reference to announcement of open offers in the Indian context. We consider 187 open offers during 2007-10 and proves that the stock returns tumble during post offer announcement period. Further, it would become a literary contribution and evidence from the Indian capital market. Moreover, this is an original investigation which is contributing the evidence on Indian stock returns in reference to open offers announcement.

In India, the regulatory framework governing domestic & multinational agreements and acquisitions has gradually evolved in 1990s. Before 1990, open offer is mandatory for acquiring 25 per cent stake in a company. Subsequently, the threshold limit was reduced to 10 per cent of company's capital. Consequently, SEBI (Substantial Acquisition of Shares & Takeovers) Regulations, 1997 has been enacted by the Securities and Exchange Board of India which deals with acquisition of shares, open offers and takeovers (Machiraju, 2007; Ray, 2010; Reddy *et al.*, 2011).

Historically, merger activity born in the United States, that first wave occurred in the early part of the 20th century, the second wave coincided the bull market in 1920s, when firms again embarked on acquisitions as a way of extending their reach into new markets and expanding

market share, the third wave occurred in 1960s, with the intent of diversifying and forming conglomerates. And the fourth wave of mergers occurred in the mid 1980s, where firms were acquired primarily for restructuring assets and recapitalization (Weston, Chung and Hoag, 1998). During 1990s, mergers were in telecommunications, entertainment and financial services, as firms consolidated to meet new market and technological challenges (Pawaskar, 2001; Kumar and Rajib, 2007; Ray, 2010). The transformational change and focus of consolidation shifted to the high technology and internet sectors, later those firms increasingly using their own stock as currency to finance acquisitions.

Today's global economy is characterized by multi-directional flows of products, services, people, ideas and capital. The new forms of alliances are guaranteeing the long-term sustainable achievement of fast profitable growth for their business (Pawaskar, 2001; Kumar and Rajib, 2007). According to Ernst & Young, the rise in consumer demand in India over the last couple of years driven by a recovering economy, which is witnessing heightened levels of interest from both private equity (PE) and M&A. Mergers have crossed a little over \$10bn with 267 deals for the period Jan-Dec 2009, out of these 142 were domestic deals (nearly \$6bn) and 125 cross-border deals (pegged at \$4bn), which includes both outbound and inbound investments in India (Ernst & Young, 2009). According to Grand Thornton, these transactions more than doubled and recording a marked revival in deal activity as 439 M&A and PE transactions have been announced between Jan-May, 2010 compared to 179 in 2009 (Grand Thornton, 2010; Nangia *et al.*, 2011; Reddy *et al.*, 2011). The number of substantial acquisition of shares and takeovers during 1997-2009 expresses in Table 1.

Insert Table 1 about here

The remaining paper is organized as follows: Section 2 presents the review of earlier literature (both global and Indian studies), section 3 explains the methodology, section 4 describes data collection and analysis, section 5 reports the estimated results & discussions and finally conclusions depict in section 6.

2.0. Review of former studies

Many researchers have studied the effects of mergers, acquisitions and takeovers on the value of both target and bidder firms. Though, most of the studies present the effects of M&A announcements that focus on North America, European and Japanese markets, there were few

studies and their results shows optimistic abnormal returns in Asian markets. The earlier literature includes, application of event study approach to find stock returns (Asquith and Kim, 1982; Jensen and Ruback, 1983; Chang, 1998; Thomas, Goh and Ybarra, 2007; Wong and Cheung, 2009; recent study by Eije and Wiegerinck, 2010), agency problems face by potential bidders (Chowdhry and Jegadeesh, 1994; Oswald and Young, 2008), merger negotiations (Kristensen, 2000), impact of restructuring announcements (Chan-Lau, 2002). In the Indian context, we found very few studies that mergers growth and foreign ownership (Beena, 2004), pre and post merger operating performance (Rau and Vermaelen, 1998; Pawaskar, 2001; Kumar and Rajib, 2007).

Asquith and Kim (1982) examine the returns to stock holders of target firms around the date of initial announcement or completion of a merger. They conclude that the stockholders of target firms gained, while bidding firms have not gain. Further, Jensen and Ruback (1983) review 13 studies on the abnormal returns around takeover announcements. They found that the average excess returns to target firms' stockholders are of 30% and 20% for the successful tender offers and mergers, respectively; while bidding firms' stockholders gain an average of 4% around tender offers but no abnormal return around the merger.

Chang (1998) examines the bidder returns at the announcement of a takeover proposal when target firms were privately held. He indicates that bidders experienced no abnormal return in cash offers but a positive abnormal return in stock offers. Thomas, Goh and Ybarra (2007) determine the effect of poison pill adoption on long-term and short earnings forecasts by security analysts. The results provide no evidence of significant revisions in one-year or five-year earnings forecasts following the adoption of poison pills. It also evidences that firms adopt poison pills following a period of significant negative revisions in earnings forecasts. Finally they suggest that poison pill adoptions may be response to downward revisions in earnings forecasts.

Recently, Wong and Cheung (2009) reveals that whether firms involve in M&A activities to experience abnormal return around M&A announcement periods and tests if abnormal return on the stock holdings of these firms would be affected by the types of acquisition, the modes of payment or the types of target firms by using the data from six Asian key markets during 2000-07. It concludes that there exist significantly negative average residuals for target firms around the M&A announcement period. Eije and Wiegerinck (2010) conclude the

announcement effects of cross-border acquisitions of private firms on short term bidders and stock market returns in the European Union. Investors of bidding companies react positively to private acquisition announcements in both China and US. Moreover, the bidder returns do not differ significantly between the two target markets. They find bidder market effects for the US: private acquisitions by civil law firms generate smaller bidder returns, while relatively large private acquisitions by common law firms increase such returns.

Generally, potential bidders face agency problems due to government intervention and other informal groups' participation in negotiations, Chowdhry and Jegadeesh (1994) model the strategic pre-tender offer share acquisition problem faced by potential bidders in takeovers. It provides a rational explanation for seemingly anomalous empirical evidence that the information about the impending tender offers is not fully converted through the potential bidders' pre-tender offer trades and for the evidence that a large fraction of bidders do not hold any target shares prior to launching the tender offers. Further, Oswald and Young (2008) inspect the intervening effect of managerial monitoring and incentive alignment mechanisms on the decision to distribute excess cash through a share repurchase. It shows that repurchases substitute for cash retention decisions that would otherwise prove costly for shareholders and that better managerial incentive alignment and closer monitoring by external shareholders are important factors stimulating such payouts.

Kristensen (2000) describes the interview with two head negotiators of a buying and selling company in a Swedish takeover, a fair price was found to play an important role. The results show that both satisfaction with the offered selling price and willingness to buy were affected by information about a fair price. On the other hand, Chan-Lau (2002) evaluates the stock price impact of restructuring announcements before and after the commercial rehabilitation law implementation using event study analysis. He suggests an improvement in market credibility of restructuring announcements based on better disclosure, mergers and to a lesser extent, labor force reductions.

In the Indian context, Beena, (2004) presents the policies of economic liberalization adopted during the years triggered a sharp increase in mergers between domestically owned companies and firms under foreign ownership. Further, it suggests that merger was not a route to growth which was dominantly financed through resources acquired from a buoyant share market. Rau and Vermaelen (1998) show the long-term underperformance of acquiring

firms in mergers and they are predominantly caused by the poor post-acquisition performance of low book-to-market glamour firms. They interpret this finding as evidence that both market and management over-extrapolate the bidder's past performance.

There are studies related to measuring long-term operating performance during pre and post merger/acquisition period. Pawaskar (2001) analyzes pre and post merger operating performance of 36 acquiring firms during 1992-95, by using ratios of profitability, growth, leverage, and liquidity and found that the acquiring firms perform better than industry average in terms of profitability. However, it shows that there was no increase in the post-merger profits compared to main competitors of the acquiring firms. Supplementary, Kumar and Rajib (2007) analyze the financial characteristics of fifty-three firms involved in multiple mergers during 1993-2002, which is based on industry sectors. The control groups were matched on the basis of industry sector and sales in the earliest year of initiation of merger activity. They found that average sales, profits and cash flow for a period of ten years were higher for the merger firms as compared to a control group matched by industry and size.

Other relevant studies include, Knapp, Gart and Chaudhry (2006) conclude the post-merger abnormal return of bank-related companies was significantly larger as compared to industry mean in the first 5 years after merger. Paliwal (2010) investigates whether the managers of rival firms act to mitigate their agency exposure when one firm in the industry is subject to a takeover attempt. The results indicate that the rival firms in general decrease cash levels and free cash flows, reduce operating expenses and capital expenditures and they increase leverage in response to a control threat in the industry. Bugeja and Rosa (2008) report that payment method choice by acquiring firms before and after this regulatory change to assess whether target shareholder capital gains tax liabilities. It is subsequent to the regulatory change, there is a significantly higher probability that equity will be offered as consideration where target shareholder capital gains are greater.

Further, our study undertakes 187 Indian open offers during 2007-10 to find shareholders' returns in requisites of abnormal returns and security returns variability. It also reports the objective-wise test results to fulfill the need of study.

3.0. Methodology and hypothesis

3.1. Objectives of the Study

Anson and Cheung (2009) evidence that the information concerning forthcoming corporate takeover is consider as good news for the shareholders of bidding firms but not regarded as good news for the shareholders of the target firms. The present study is aimed to examine and empirically test the stock earnings during pre and post acquisition period of each select sample. It focuses on 187 Indian listing target firms during April 1, 2007 to March 31, 2010.

3.2. Method

The acquisition announcements are very sensitive and informative cum input to the investors in the stock market. Thus, there is a need to study the significance of this emerging trend, so we examine the signaling effect on share earnings and its impact on the wealth of shareholders. In addition to this, compute returns for testing the hypothesis by using theory of event study approach. Here, the event window period, over which the market sentiments have been observed. BSE-500 Index is used to compute the market returns.

3.2.1. Simple returns of each stock compute for both pre and post acquisition periods by using the following formulae:

$$R_{it} = [CP_t - (CP_{t-1}/CP_{t-1})] * 100 \quad (1)$$

Where, R_{it} = simple returns of a stock 'i' at time't'

CP_t = closing price of a stock 'i' at time't'

CP_{t-1} = previous day closing price of a stock

3.2.2. In order to compute the abnormal returns, index returns compute with the base of BSE-500, by using the following expression:

$$R_{mt} = [CP_{mt} - (CP_{mt-1}/CP_{mt-1})] * 100 \quad (2)$$

Where, R_{mt} = returns for the BSE-Sensex 'm' at time't'

CP_{mt} = closing index value 'm' at time't'

CP_{mt-1} = previous day closing index 'm' at time't-1'

3.2.3. Abnormal/Excess returns on stocks compute as follows:

$$AR_{it} = [R_{it} - R_{mt}] \quad (3)$$

Where, AR_{it} = excess returns for stock 'i'

R_{it} = simple returns of a stock 'i' at time 't'

R_{mt} = returns for the BSE-500 'm' at time 't'

3.2.4. Mean of simple returns on stocks compute as follows:

$$\bar{X} = \sum(R_{it} * (\frac{1}{n})) \quad (4)$$

Where, \bar{x} = mean of simple returns

R_{it} = simple returns of a stock 'i' at time 't'

n = sample size

3.2.5. Average abnormal returns for each stock compute by using the following formula:

$$AAR_t = \sum(AR_{it} * (\frac{1}{n})) \quad (5)$$

Where, AAR_t = average abnormal returns at time 't'

AR_{it} = abnormal returns for stock 'i' at time 't'

n = sample size

3.2.6. In order to examine the cumulative effect of events, cumulative abnormal returns on stocks produce as given below.

$$CAR_t = \sum AR_t \quad (6)$$

Where, CAR_t = Cumulative abnormal returns at time 't'

AR_t = abnormal returns for stock 'i' at time 't'

3.2.7. Security returns variability (SRV) model is used to know the reaction of the market, symbolically the model is

$$SRV_{it} = \sum AAR^2_{it} / V(AR) \quad (7)$$

Where, SRV_{it} = security returns variability of security 'i' at time 't'

AR^2_{it} = abnormal returns on security 'i' at time 't'

V (AR) = variance of abnormal returns

3.2.8. Exclusively, compute "Pearson's Correlation matrix" to observe any correlation sets during pre and post acquisition period. The given formula is

$$r = \frac{(\sum XY - \frac{\sum X \sum Y}{N})}{\sqrt{(\sum X^2 - \frac{(\sum X)^2}{N})(\sum Y^2 - \frac{(\sum Y)^2}{N})}}$$

Where, r = Correlation (8)

$\sum XY$ = Sum of the variables of their means

$\sum X$ = Sum of variable 'i', pre-acquisition

$\sum Y$ = Sum of variable 'j' post-acquisition

$\sum X^2$ = Sum of squared 'i' mean of stock returns

$\sum Y^2$ = Sum of squared 'j' mean of stock returns

N = Sample size

3.2.9. Finally, we compute Analysis of Variance (ANOVA – one way) for chosen hypothesis to find any significant differences among the means of stock returns in both the periods.

$$Y_{ij} = \mu + \alpha_i + \varepsilon_{ij} \quad (9)$$

3.3. Hypothesis

We formulate the hypothesis to test the shareholders earnings in respect of event periods. To test the objectives mentioned above, the following hypothesis has been formulated.

- ♣ *H1: Post acquisition simple returns observe positive in the short period after the immediate announcement*
- ♣ *H2: Post acquisition abnormal returns notice positive in the short period after the immediate announcement*
- ♣ *H3: Pre acquisition cumulative abnormal returns examine positive in all windows before the announcement*
- ♣ *H4: Difference of means of simple returns observe during pre and post acquisition period*
- ♣ *H5: Difference of means of abnormal returns observe during pre and post acquisition period*

4.0. Data collection, description and analysis

4.1. Data Collection

We collect data from four sources and use as the sample for substantial acquisition of shares and takeovers (open offers) in India. The main sample of scripts has been taken from Securities and Exchange Board of India (SEBI), that is announced open offer program through open market acquisitions in three objectives over the period from April, 2007 - March, 2010 (e.g. Reddy *et al.*, 2011). After selecting the sample, the security prices has been

collected for all the companies going for open market acquisitions in reference to opening date (date of commencement). Further, statistical data including daily share prices of select sample and index values absorb from the Bombay Stock Exchange Ltd. (BSE) official website and CMIE Prowess database.

4.2. Sample Description

The sample size has been described on the basis of availability of information in respect to each script as shown in two tabular formats. The description of sample data is expressed in Table 2.

Insert Table 2 about here

The sample again divided in to three objectives, namely the “change in control, consolidation of holding and substantial acquisition of shares” in reference to SEBI (SAST) Regulations, 1997. Table 3 portrays the data into percentage of equity holding and year wise for each definition that suits the sample size.

Insert Table 3 about here

4.3. Data Analysis

We select only 187 open market acquisitions which the complete information is available in respect to opening date, price data and relevant information, etc. during 2007-10. The sample has been analyzed into pre and post acquisition event periods. First, compute mean of simple returns for each script in the sample. So, in order to test the significance between variables, AAR, CAR and SRV has been calculated and apply the one way analysis of variance to find any significant difference among the means of returns. Additionally, compute correlation matrix to locate any associated sets in stock earnings during pre and post acquisition.

We select both event and odd periods, to test the significance between pre-acquisition and post-acquisition periods. Further, randomly select the window periods in three months before and after the opening date of acquisition. The window periods are T-1, T-3, T-7, T-15, T-30, T-45 and T-60. T-1 means that one day before and after the opening date of acquisition, -1 and +1, whereas T-60 means that sixty days before and after the opening date of acquisition, i.e. -60 and +60. Opening date of acquisition is designated as ‘0’. BSE-500 Index is used as a

broad-based market index to calculate the parameters of market model. Further, apply the event study approach to insert the above mentioned method for achieving the objective of work and the same expresses in Figure 1.

Insert Figure 1 about here

5.0. Results and discussions

5.1. Descriptive statistics for simple returns

First, we present the descriptive statistics for simple returns in Table 4 and observe that simple returns reports positive in all the event windows during pre-acquisition and notices 0.73 as highest figure on -30th window. Further, simple returns are not creamy, though those are significantly affirmative in short period after the immediate announcement of acquisition, i.e. 0.18, 0.25 and 0.17 on +1, +3 and +7 windows respectively. So, we accept the hypothesis *H1* that meets the criteria by noticing positive earnings in the post-acquisition short period. Specifically, we notice that similar percentage of scripts with positive earnings observes before and after the immediate acquisition, 57.75% on -1 and +1.

Insert Table 4 about here

Hence, post-acquisition shareholders earnings lower than pre-acquisition and becoming negative from +15th window. It evidences that open offers would be generous positive results in the short period, but lower than pre-acquisition (see Figure 2). Since, all open offers made payment in the form of cash and this can be a valuable regional contribution from the emerging countries, like India in ‘takeovers and open offers investigation’.

Insert Figure 2 about here

5.2. Descriptive statistics for abnormal returns

Table 5 tabulates descriptive statistics for abnormal returns to interpret the hypothesis *H2* and *H3*. Likewise simple returns, here we convey AAR is positive in all pre-acquisition windows and notices similar earnings in the short period after the immediate announcement. So, we accept the hypothesis *H2* because of optimistic AAR observe in the short period, i.e. 0.61, 0.53 and 0.14 on +1, +3 and +7 windows respectively. Since, AAR is becoming negative from +15th window which is parallel to simple returns. On the other hand, CAR is positive in

all event windows before the acquisition, further it views seemingly akin in AAR. So, we accept the hypothesis *H3* due to positive earnings in all pre-acquisition windows. Exclusively, our results notices that the highest percentage of scripts with positive returns notices in the periods, 59.89% on -30 and 57.22% on +1. Interestingly, analogous percentage of scripts with positive earnings found in both simple and abnormal returns, i.e. day after the acquisition, +1. Surprisingly, we found SRV is moving proportionate to AAR and CAR in both the periods (see Figure 2). Generally, SRV moves equivalent to AAR.

Insert Table 5 about here

In addition to the above statistics, we report correlation matrix for both stock and abnormal returns during pre and post acquisition period. Unluckily, we have not found any significant associated sets at 95% confidence level, though some sets are near to 1. Amazingly, one set on -45th window for stock returns presents ‘perfectly not correlated’, $r=0$ (refer Annexure).

5.3. Analysis of variance (ANOVA – one way) results

Table 6 represents the results of one way analysis of variance for both stock and abnormal returns in order to find any significant difference among the means of select groups, namely pre and post acquisition earnings. Panel A describes the inference in regard to pre and post acquisition simple returns. Therefore, *P-value* 0.00405 is less than the significant α level 0.05, i.e. 95% confidence level. It evidences that there is no momentous distinction among the means of simple returns, so we reject the hypothesis *H4*.

Insert Table 6 about here

On the other hand, Panel B discusses the statistical results for abnormal returns during pre and post acquisition period. Therefore, *P-value* 0.01219 is less than the significant α level 0.05, i.e. 95% confidence level. Likewise simple returns, we reject the hypothesis *H5* and it inferences that there is no considerable discrepancy among the means of abnormal returns. From the above results, describes that there is no amount of variation among the means of neither simple returns nor abnormal returns (AAR). Hence, open offers would not be a synergetic option for existing shareholders, who wants to be exit or sell after acquisition of target firm shares by an identified acquirer. Further, it would be a great empirical support for

both Western and Asian countries, then it could be an imminent contribution on Indian open offers and shareholders earnings.

5.4. Objective wise results for simple and abnormal returns

To achieve the second face of objective of study, Table 7 reports objective wise results for simple and abnormal returns (see Figure 3). Functionally, there are three objectives, namely change in control, consolidation of holding and substantial acquisition. Comparatively, *objective III*: substantial acquisition notices superior earnings via simple, AAR and CAR during post-acquisition short period. Interestingly, merely the *objective I*: change in control presents affirmative earnings in all pre-acquisition windows. Conversely, no objective such *I*, *II* or *III* do performance during post-acquisition is finer than pre-acquisition in all respects. Lastly, we believe that the conjecture would assist consultants, financial advisors, M&A advisors and shareholders groups for selecting “objective of acquisition/open offer” in the Indian context.

Insert Table 7 about here

Insert Figure 3 about here

6.0. Conclusions

The present research paper examines the impact of open offer announcements by bidding firms on the stock earnings of Indian listed target firms. We find that there exist significantly negative returns during post-acquisition period. In contrast, observe that AAR and CAR notices negative returns during post-acquisition, conversely positive in the short period. We would like to highlight a statement that ‘stock returns are greater than market returns on the day after the immediate acquisition announcement’. Previous studies conclude, like positive abnormal returns around takeover announcements (Jensen and Ruback, 1983), bidder returns (Chang, 1998) and recent study in the Asian market, negative average residuals around M&A announcement for target firm shareholders (Wong and Cheung, 2009). Further, our study is the evidence from BRICS (Brazil, Russia, India, China and South Africa) context, which open offers have not become velvety for target firm shareholders in the Indian perspective; on the contrary open offers favor retail shareholders in the post-acquisition short period.

The changes in share prices prior to the acquisition or after acquisition could be the misinterpretation of stock information including leakage, unauthorized, etc. or acquiring prices which may be variants from market sensitivity. Though, there are limitations to this research work. The generalization of results based on the data obtained mainly from government official stock exchange BSE, that some of the data is not available and not consider for the study. The sample period 2007-10 is not long enough, so the acquisition effect if any, on target firms is not perceptible. During global financial crisis, the market sentiments and investor perception towards stocks might not favorable and not considered.

We believe that the research involvement would be offering some inputs to investment bankers, M&A advisory firms and government, to protect the interest of investors during various corporate announcements. Finally, we suggest that intent behind the strategic acquisitions, effect on operating performance of bidding firms and organizational change are key areas that deserve future research and would require more evidence from Asian markets.

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Table 1: Substantial Acquisition of Shares and Takeovers, 1997-2009

[Amount in Rs. (Crores)]

Year	Open Offers						Total		Automatic exemption	
	Objective									
	Change in Control of Management		Consolidation of Holdings		Substantial Acquisition		No.	Amount	No.	Amount
No.	Amount	No.	Amount	No.	Amount	No.	Amount	No.	Amount	
1997-98	17	143	10	340	13	96	40	578	93	3502
1998-99	29	100	25	587	12	327	66	1014	201	1888
1999-00	43	260	9	71	23	130	75	461	252	4677
2000-01	70	1140	5	189	2	42	77	1372	248	4873
2001-02	54	1756	26	1815	1	39	81	3610	276	2539
2002-03	46	3814	40	2573	2	1	88	6389	238	2428
2003-04	38	395	16	197	11	1003	65	1595	171	1436
2004-05	35	3503	12	165	14	964	61	4632	212	6958
2005-06	78	3252	9	119	15	709	102	4078	245	17132
2006-07	66	6771	15	4498	6	83	87	11352	223	18608
2007-08	78	11657	28	13254	8	3796	114	28706	232	6458
2008-09	80	3713	13	598	6	400	99	4711	227	10502

Source: SEBI Handbook of Statistics on the Indian Securities Market, 2009

Table 2: Description of sample data

	2009-10	2008-09	2007-08	Total
i. Number of open offers	76	113	115	304
ii. Number of closed offers	76	110	107	293
iii. Number of pending offers & not to proceed	-	3	8	11
iv. Non-listed and unavailability of data of companies	30	35	41	106
Sample size	46	75	66	187

Table 3: Objective wise sample data

Quintiles (Percentage of Equity capital)	Objective												Grand Sample Size
	<i>Change in Control</i> *				<i>Consolidation of Holding</i> #				<i>Substantial Acquisition of Shares</i> @				
	2009-10	2008-09	2007-08	Total	2009-10	2008-09	2007-08	Total	2009-10	2008-09	2007-08	Total	
Below = 10.00%		1		1	1	2	1	4					5
10.01 - 15.00%	2		1	3	1		1	2		1	1	2	7
15.01 - 20.00%	20	43	32	95	7	6	11	24	5	6	5	16	135
20.01 - 25.00%	2	6	1	9	1	3	1	5		1	1	2	16
25.01 - 30.00%	4	1	3	8		1	2	3					11
Above 30.00%	1	2	4	7	2		1	3		2	1	3	13
Total Sample Size	29	53	41	123	12	12	17	41	5	10	8	23	187

* **Change in Control:** According to SEBI (Substantial Acquisition of Shares & Takeovers) Regulations, 1997, the term ‘control’ has been defined under Regulation 2(1) (c), “A person with a majority stake may not necessarily have control over the management of a company”. It refers to a transfer of ownership in which a new person or entity obtains a fifty percent or greater ownership interest. It includes the “right to appoint majority of the directors or to control management or policy decisions exercisable by a person or persons acting individually or in concert, directly or indirectly, including by virtue of their shareholding or management rights or shareholders’ agreements or voting agreements or in any other manner”.

Consolidation of Holding: An acquirer who is having 75% shares or voting rights of a target company can acquire further shares or voting rights only after making a public announcement specifying the number of shares to be acquired through open offer from the shareholders of a target company.

@ **Substantial Acquisition of Shares:** According to Regulation 10 and 11, “When an “acquirer” takes over the control of the “target company”, it is termed as takeover. When an acquirer acquires “substantial quantity of shares or voting rights” of the Target Company, it results into substantial acquisition of shares. The term “Substantial” which is used like 5%, 10% and 15% etc. described in the act. It includes:

- (i) Direct acquisition in a listed company to which the takeover regulations apply, and
- (ii) Indirect acquisition by virtue of the acquisition of companies, whether listed or unlisted, in India or abroad.

** **Acquirer:** An acquirer means any individual/company/any other legal entity which intends to acquire or acquires substantial quantity of shares or voting rights of Target Company or acquires or agrees to acquire control over the target company. It includes persons acting in concert (PAC) with the acquirer.

Table 6: Analysis of Variance (ANOVA - one way) results

<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
<i>Panel A: Simple returns</i>						
Between Groups	396.39	13	30.49123	2.35111	0.00405**	1.72391
Within Groups	33770.97	2604	12.96888			
Total	34167.35	2617				
<i>Panel A: Abnormal returns</i>						
Between Groups	396.53	13	30.50244	2.08837	0.01219**	1.72391
Within Groups	38033.61	2604	14.60584			
Total	38430.14	2617				
** <i>Reject the hypothesis, H4 and H5 at 95% confidence level, because P-value is less than a level 0.05, i.e. $P < 0.05$</i>						
** <i>Accept the hypothesis, H5 because P-value is greater than a level, 0.01, i.e. $P > 0.01$; conversely reject H4, because $P < 0.01$</i>						
** <i>Accept the hypothesis, H4 and H5, because P-value is greater than a level 0.001, i.e. $P > 0.001$</i>						

Table 7: Objective wise simple and abnormal returns

Objective	Pre-acquisition period							Post-acquisition period						
	-60	-45	-30	-15	-7	-3	-1	1	3	7	15	30	45	60
<i>Objective I - Change in Control (No of observations: 123)</i>														
Mean	0.20	0.52	0.63	0.11	0.62	0.35	0.55	-0.03	0.40	0.07	-0.29	-0.77	-0.70	-0.69
Percentage of scripts with positive returns	50.41	54.47	57.72	54.47	60.16	54.47	60.16	53.66	52.03	54.47	45.53	36.59	39.02	43.90
AAR	-0.02	0.28	0.61	0.02	0.41	0.32	0.50	0.56	0.48	0.16	-0.44	-0.73	-0.75	-0.69
CAR	-2.01	33.86	75.23	2.67	50.89	39.54	61.88	68.78	59.18	20.20	-54.09	-89.35	-92.58	-85.23
<i>Objective II - Consolidation of Holding (No of observations: 41)</i>														
Mean	1.50	0.91	0.20	0.74	-0.25	0.21	-0.65	0.42	-0.08	0.39	0.42	-0.24	0.63	-0.54
Percentage of scripts with positive returns	60.98	63.41	60.98	56.10	48.78	56.10	46.34	60.98	58.54	60.98	56.10	39.02	60.98	36.59
AAR	1.28	0.66	0.32	1.01	-0.44	-0.02	-0.30	0.48	0.74	0.24	0.15	-0.44	0.78	0.06
CAR	52.41	26.91	13.25	41.45	-17.85	-0.91	-12.46	19.54	30.14	9.96	6.25	-18.21	32.08	2.44
<i>Objective III - Substantial acquisition (No of observations: 23)</i>														
Mean	0.31	0.15	2.18	-0.11	0.32	1.20	0.41	0.90	0.03	0.29	-0.13	-0.14	0.71	-0.38
Percentage of scripts with positive returns	52.17	47.83	82.61	43.48	47.83	52.17	65.22	69.57	56.52	52.17	47.83	52.17	65.22	47.83
AAR	0.70	0.69	2.60	-0.42	0.54	1.53	0.86	1.11	0.41	-0.15	0.28	0.24	0.60	-0.06
CAR	16.06	15.89	59.88	-9.63	12.35	35.18	19.73	25.42	9.34	-3.39	6.47	5.46	13.88	-1.36

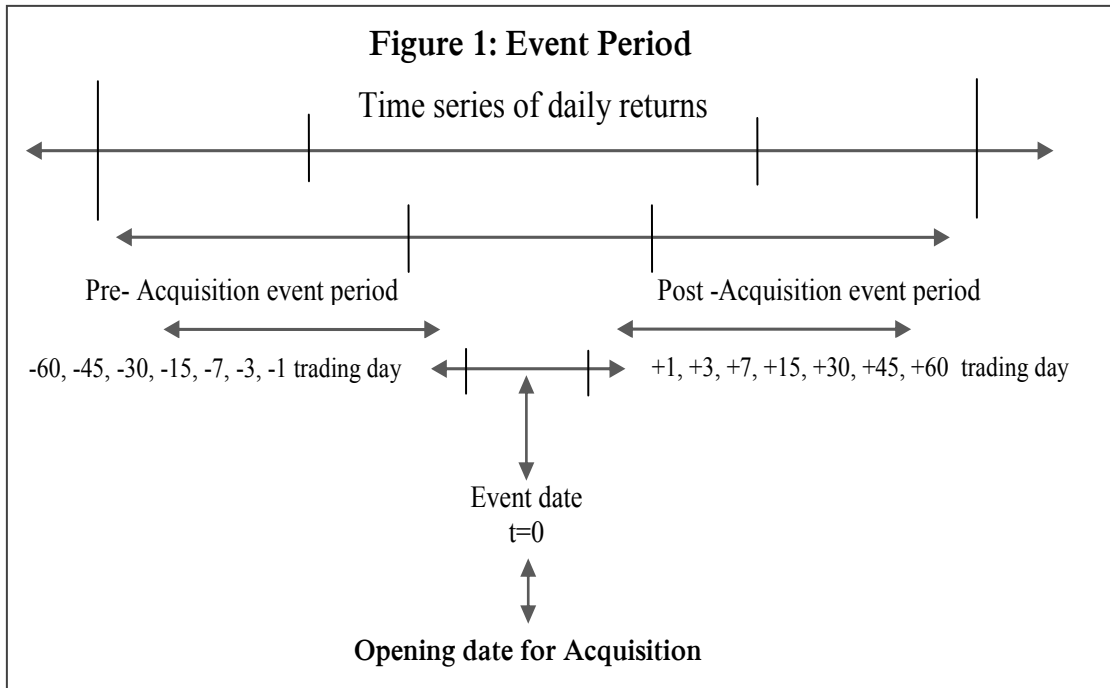


Figure 1: Event Period

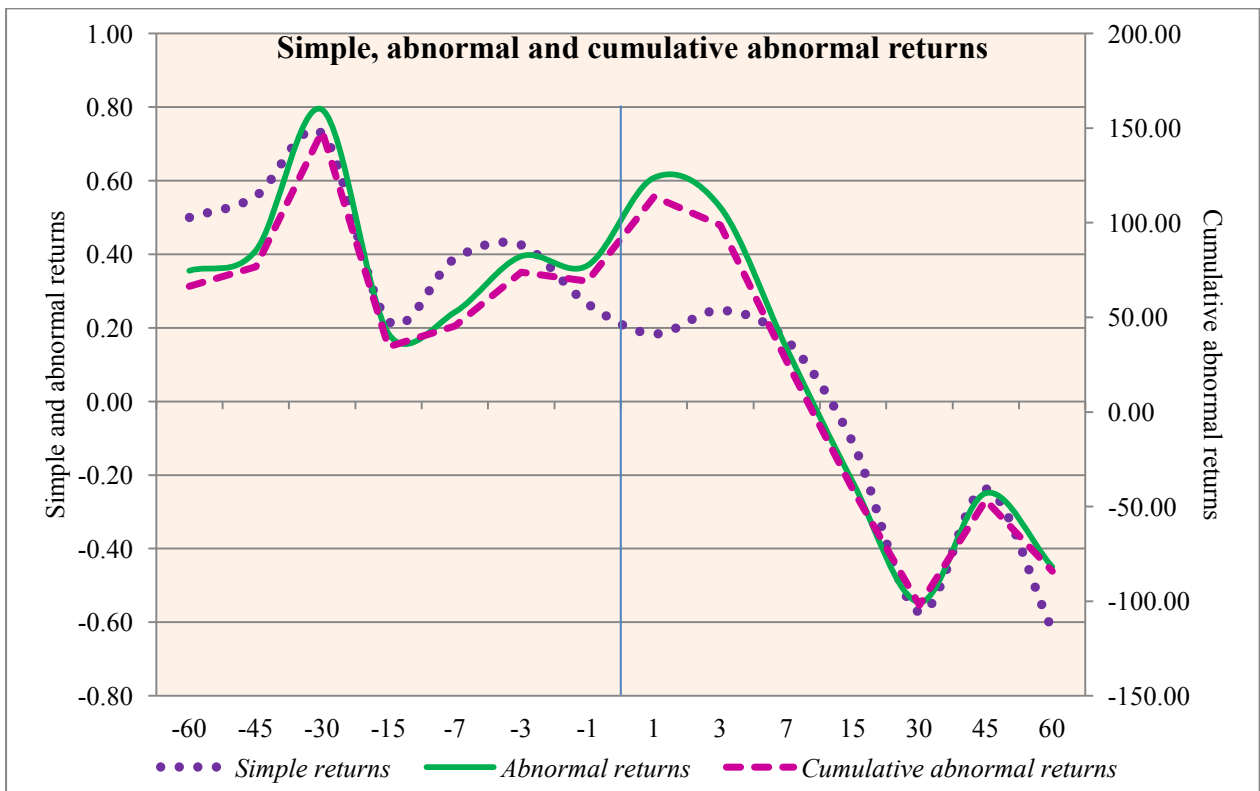


Figure 2: Simple, abnormal and cumulative abnormal returns

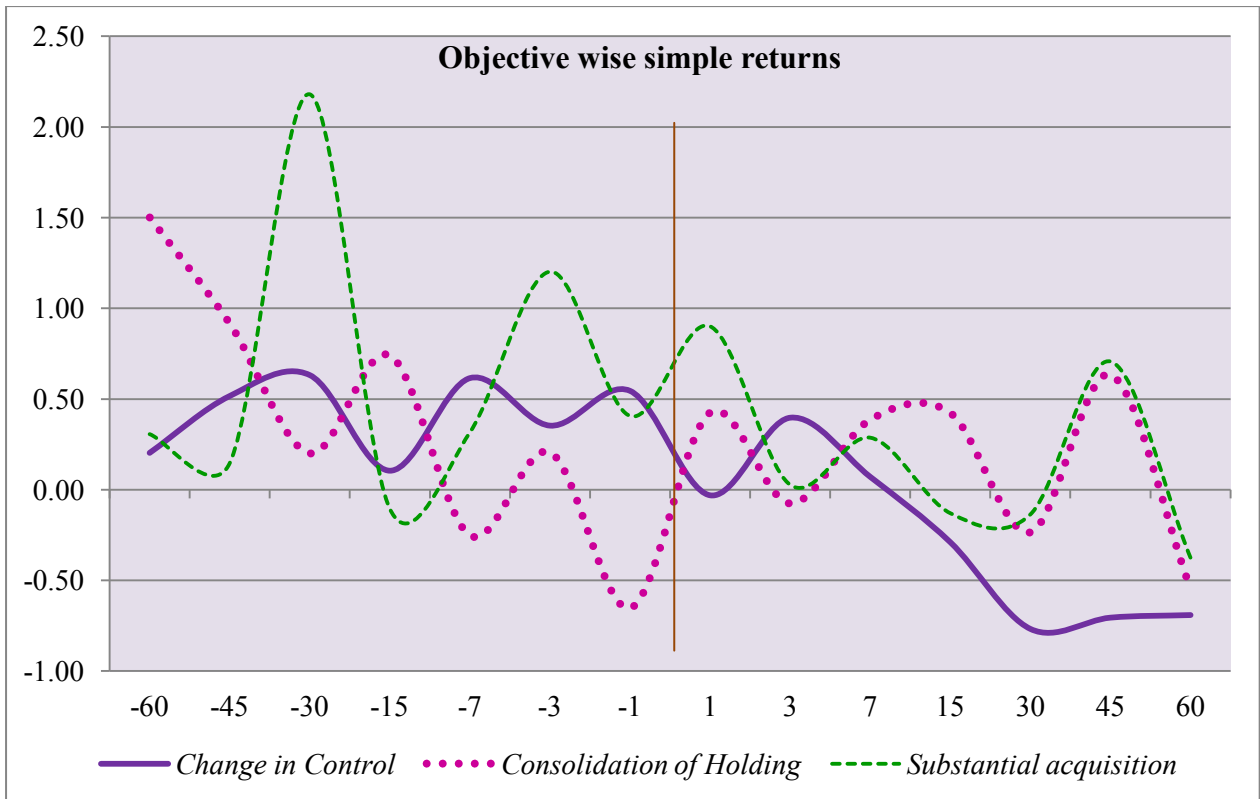


Figure 3: Objective wise simple returns

Annexure I: Correlation matrix for simple returns during pre and post acquisition

Event window	Pre-acquisition period							Post-acquisition period						
	-60	-45	-30	-15	-7	-3	-1	1	3	7	15	30	45	60
-60	1													
-45	0.060	1												
-30	-0.020	-0.071	1											
-15	-0.073	-0.008	-0.024	1										
-7	-0.143	-0.096	-0.017	0.126	1									
-3	0.052	0.000*	0.023	0.085	0.037	1								
-1	-0.041	0.037	-0.066	-0.036	0.033	0.093	1							
1	-0.053	0.028	0.014	-0.002	-0.083	0.158	0.051	1						
3	-0.033	0.079	-0.029	0.083	0.050	-0.051	0.146	0.328	1					
7	-0.066	-0.041	-0.013	-0.155	-0.043	0.038	0.012	0.169	0.095	1				
15	0.015	-0.006	-0.016	-0.007	0.040	0.066	-0.087	-0.149	-0.084	0.091	1			
30	0.074	-0.076	0.014	-0.062	-0.102	-0.038	0.023	0.073	0.038	-0.018	0.025	1		
45	0.058	0.004	0.033	0.015	0.023	-0.030	0.001	0.017	-0.012	0.075	-0.087	-0.033	1	
60	-0.005	-0.004	-0.149	0.040	-0.084	0.052	-0.002	0.014	-0.043	0.020	-0.028	-0.073	-0.026	1

* if $r=1$, perfectly positively correlated, $r=0$, not correlated and $r=-1$, perfectly negatively correlated at 95% confidence level

Annexure II: Correlation matrix for abnormal returns during pre and post acquisition

Event window	Pre-acquisition period							Post-acquisition period						
	-60	-45	-30	-15	-7	-3	-1	1	3	7	15	30	45	60
-60	1													
-45	0.128	1												
-30	-0.072	-0.047	1											
-15	-0.021	-0.058	-0.069	1										
-7	-0.166	-0.142	-0.018	0.032	1									
-3	-0.048	-0.029	0.082	0.004	0.060	1								
-1	0.048	0.039	0.038	0.063	-0.045	0.130	1							
1	-0.030	0.106	0.024	0.039	-0.026	0.112	0.061	1						
3	-0.035	0.034	-0.059	0.146	0.001	-0.094	0.162	0.218	1					
7	-0.054	-0.011	0.068	-0.028	-0.040	-0.048	0.036	0.092	0.101	1				
15	0.024	-0.032	-0.029	0.041	-0.025	-0.072	-0.082	-0.184	-0.034	0.093	1			
30	0.061	-0.050	0.076	-0.076	-0.106	0.048	0.021	0.037	0.123	-0.085	0.012	1		
45	0.066	0.025	-0.016	0.028	-0.013	-0.111	-0.045	0.045	-0.043	0.057	-0.064	-0.078	1	
60	0.037	-0.036	-0.135	-0.003	-0.150	0.067	0.026	0.016	0.028	-0.018	0.046	0.080	0.057	1

* if $r=1$, perfectly positively correlated, $r=0$, not correlated and $r=-1$, perfectly negatively correlated at 95% confidence level