



## BUY BACK OF SHARES IN INDIA: IMPACT ON STOCK PRICE RETURNS

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### ABSTRACT

**B**uy Back of shares is a new phenomenon in India. Buy Back of shares means company repurchase their own shares. In simply words Buy Back means reissue of shares. The research paper focused on impact of Buy Back of shares on stock returns during the study period. The study based on two event window period i.e. 61 days (-30, +30), and 181 days (-90 to +90) during study period. The research paper has been examining the impact of Buy Back of Shares with the help of T Test and T Paired Sample Test. The study used Market Model for analyze the average abnormal and cumulative average abnormal return for the 61, and 181 days event window Period. The study also measured the post and pre performance of Buy Back of Shares during the study period. The study found that the Buy Back of Shares is treated as positive signal for investors, but negative for post and pre Buy Back. The result indicates that there is no significant difference between post and pre average abnormal return of Buy Back.

**KEYWORDS:** Companies, Stock Price, Average Abnormal Return, Performance

### INTRODUCTION

Buyback of shares is a part of corporate restructuring and emerging strategy for the Business. Buyback program the company distributes the excess cash flow among the shareholder by way of repurchasing its own shares, generally at premium. India shares buy back were introduced in 1999 has receive and attention of all major companies. Since then there has been a spate of announcement of share buy backs. Small investors in India also need to know whether they will benefit by will participating in the Buy-Back offer or they will be better off in the post buy back phase companies acquire their Own shares to improve earnings per share by reducing the number of shares. Share Buy Backs by their very nature decrease the total number of shares

### BUY BACK OF SHARES: REGULATORY FRAMEWORK IN INDIA

Buy Back of shares means company buy share back from its shareholder or a resort a shareholder can take in order to sell the share back to the company. Buy-Back of shares is nothing but reverse of issue of shares by a company. It means the purchase of its own shares or other specified securities by a company. In case of Buy Back, a company offers to take back its shares owned by the investors at a specified price generally determined or arrived at on the basis of the average price of the shares in the past few months. This calculation is usually done at a premium on the market price so as to attract more number of investors, which may vary as per the financial prudence of the company. Thus, Buy Back is one of the prominent modes of capital restructuring.



**REVIEW OF LITERATURE**

**Mishra (2005)** examined the mean share price before and after share buyback during study period. The study focused on all 82 companies which have announced, conducted and completed share buy-back program me. It data based on Security Exchange Board of India for the period 1999 to 2001. The study showed that the buyback have been used as tool for the management to improved the shareholding of the promoters and impart them short term gains. **Nicholas & Frank (2008)** the study analyzed the effect of stock repurchase announcements on stock price from semi strong form efficient market hypothesis. The study showed that the why companies repurchase their stock. **Kaur & Singh (2010)** the study tested abnormal returns for information Signaling free cash flow and leverage Hypothesis. The study analyzed that the buyback are emerging as a tool of capital restructuring. It made an empirical analysis by taking the data for the year 1999-2004. It found that the data 100 events of shares buyback are available on Bombay Stock Exchange listed companies. The results indicated that the market reaction to buyback announcement is positive. It observed that the positive price reaction start even before the public announcement. It was reported that the mean abnormal returns of the 2.22 percentage for share buybacks on the day of announcement. **Kaur (2012)** investigated that the impact of open market share buyback announcements on share price s of Bombay Stock Exchange listed companies. The study observed that the significance positive mean daily returns are analyzed for two days observation period .The study examined the a sample of 172 events of shares buyback through open market repurchase announced between March 2001 to March 2012 .The study found that the shares buyback announcement was created positive market reaction on stock market .The study also suggested that the stock market was welcomed share buyback. **Rajlaxmi (2013)** the study measured expected returns of the stock by taking analytical period 2007 to 2010. It also indicated the six repurchase announcements with the help of single index model. The study found that beta is obtained by regressing the daily return with index return .It based on "efficient market hypothesis" which theory provided the information that is past, public or insider information .The study concluded that the "Buyback announcement of shares "is considered as relative information or corporate announcements for undertaking the possible impact of public new information. **Bhatia (2013)** examined the short term effect of shares repurchases on stock price in India .The study focused on two major hypothesis .Firstly,

Undervaluation Hypothesis which indicated the negative abnormal return before share repurchase announcement. Secondly, Signaling Hypothesis which indicated that the positive abnormal return after share repurchases announcement. The study also analyzed the Undervaluation and Signaling Hypothesis by taking the data for the period 2011 to 2012. The results indicated that the negative abnormal returns by testing the Signaling Hypothesis .It found that the size affected by the shares repurchases reaction. It showed that the cumulative abnormal return 4.5 percentages which were showed positive impact of share repurchase.

**B & Rane (2013)** assessed the performance of share buyback by taking the study period 2005 to 2010 from the listed companies on Bombay Stock Exchange .The study examined the impact of buybacks on shareholder value creation .The study showed that when buyback was announced decreased in the number of shares and increased the earning per share .The study examined the sample of 27 Indian companies and 5 Multinational companies .The study found that the all buyback announcement related to belong 21 Industries .The results indicated that the 78 percentage of the buyback programs have registered on enhancement in the earning per share while 22 percentage have recorded. **Chaveli & Shemeen (2011)** discovered the impact of buyback on the share price performance during the study period. The study period ranges from January, 2000 to December, 2010 and is based on the sample of 75 companies listed on National Stock Exchange. The study investigated the firms buy back of shares such as Signaling hypothesis, free cash flow hypothesis, leverage hypothesis and substitution hypothesis. It applied Market Model Event Method for 41 event days 20 day before and 20 days after for assessment the effect of buy back of announcement. **Dua & Puri & Mittal (2010)** tested the stock market efficiency in semi strong form for six years. It also analyzed the impact of Buy Back of shares on stock prices in India. The period of study ranges from 1 January, 2004 to 31 December, 2009 and sample of 48 companies listed on National Stock Exchange. The study tested the two hypothesis i.e. Buy Back of Shares announcements have significant influence on the stock prices and Buy Back of Share have no significant influence on stock prices during the study period. It used Standard Event Methodology for the event period window 15 days before and after share repurchase announcement. It analyzed that before the announcement of Buy Back of shares average abnormal return is positive for two information days and after the announcement day, but negative for 3 days after day forward sharere purchase.

**Hyderabad (2013)** examined the market reaction to multiple buy backs of shares in India. The study period ranges from October 1998, to March 2008 and is based on 79 Companies these multiple buy back of shares in India. It observed that Selan Exploration Technology Limited and Godrej Consumers Product Limited only two Companies announced more than 3 time buy backs in India. The study explored that companies have average time to taking second buyback is 1.64 year. The infrequent and frequent repurchases parameters such as total assets, book to market value, total debt ratio, payout ratio, promoters holding .non promoters and standard deviation of operating profit. The study analyzed that frequent repurchases are 2.5 times more than as compared to infrequent repurchases. The average abnormal return is 2.7 per centage on the announcement day and statistically significant at 1 level of significance. The average abnormal return has negative for 16 days before announcement and positive for 9 days after the announcement of buyback of shares. The cumulative average abnormal return is 7.08 per centage and it is statistically significant on announcement date. The cumulative average abnormal return has positive through the post buyback of shares and negative for two days pre buyback. The study concluded that the buyback of shares benefit able in short term as compared to long term in India. **Ishwar & Cirappa (2012)** examined the short term market reaction due to the buyback announcement during the study period. The period of the study ranges from 1996 to 2006 and sample of 106 companies listed on the Bombay Stock Exchange. It used the Market Model for 61 days event window 30 days before and after repurchase announcements of Buy Back of Shares. The share price movements of Average abnormal return has been continue after the share Buy Back. It showed that the, average abnormal return is statistically insignificant for 56 days and out of 61 days. The average abnormal return and cumulative average abnormal return is 0.0546 and 0,178 per centage on the day of announcement statistically significant at 5 percent level of significance. It clearly indicated that the cumulative average abnormal return is positive throughout the event period and it has been increased before the announcement and declined after the announcement of Buy back of shares .It also observed that the average abnormal return is negative for 17 days and positive for 2 days after the announcement of Buy Back of Shares. It concluded that the there is no significant effect on Buy Back of shares. **Ishwar (2010)** examines the short term market reaction to the buyback announcement. It used market model for the assessment

the effect of stock price in India. The study period ranges from 1996 to 2006 and it is based on 106 companies listed on Bombay Stock Exchange. It had taken 61 days event period 30 days before and 30 days after the announcement of buyback of shares. The results indicated that average abnormal return is positive and statistically insignificant on the day of announcement of buy back of shares. It also determined that the average abnormal return is statistically insignificant for 56 days after the buyback announcement. The study discovered that the cumulative average abnormal return is significant for two days before the announcement and sixteen days after the announcement of share repurchase. **Kaur and Balwinder (2003)** examined the Buy Back of Shares announcements on stock repurchase announcements. The study period ranges from 1999 to 2004 and sample of 83 events, based on Bombay Stock Exchange .It also used Event Methodology for 21 days event window 10 days before and after share repurchase announcements. The study focused on Signaling, Undervaluation, Cash Flow and Leverage hypothesis. It observed that the mean abnormal returns are 2.22 per centage on day and significant at 1 per cent level of significance. The result showed that the market reaction to buy back announcement has been positive during the study period. The average abnormal return and cumulative average abnormal returns recorded were 2.22 and 8.82 per centage respectively. The average abnormal return and cumulative average abnormal return are positive and statistically significant at 5 percent level of significance. The study showed that the average abnormal return whole time positive except the 6 days out of 21 days .The cumulative average abnormal return are positive and significant on the announcement day. The study supported the Signaling and Leverage Hypothesis. The average abnormal return has been positive and statistically significant at 5 per cent level of significance. **Purohit, Satija & Chattwal (2012)** explored the impact of buyback of shares on movement on stock prices. It had used the event methodology to see the impact of announcement of buy back of shares. It used data of 45 companies listed on National Stock Exchange for study period ranges from 2006 to 2010. The study used two hypotheses i.e. buyback of shares announcement have no significant influence on the stock prices of companies in India and it investigated the impact of buyback of shares on the stock price behavior in India. The study observed that the stock market efficiency is not concerned with direction of change in the stock prices rather it is concerned with magnitude of changes. The study found that average abnormal return is 0.014

percentage, which is statistically insignificant on announcement day. The result of the study indicates that the buyback of shares is treated as positive signal for the investors. It also further reported for the investors buyback of shares do not lead to a long term permanent improvement in valuation of shares. The study terminated that the market reacted positively but insignificant in case of buy back through open market. The results hold that stock market efficient in semi strong form. **Rajgopalan & Shankar (2013)** focused on undervaluation hypothesis. It analyzed the impact of Buy Back information on stock prices during the study period. The study period covered under financial year 2001-2 to 2009-10 and it is based on sample of 43 companies listed on National Stock Exchange. It used Standard Event Methodology for the 61 days event window 30 days before and after share repurchases announcements. The average abnormal returns and cumulative average abnormal return were recorded 1.32 and 4.34 per centage on the repurchase day announcement. The average abnormal returns and cumulative average abnormal returns have been positive after the share repurchase throughout the study period. It found that the average abnormal positive for the ten and eighteen days before and after respectively share repurchase announcement. It observed that the cumulative abnormal returns and average abnormal returns were statistically significant only two and six days respectively. It concluded that the Buy Back had positive effect on information content to undervaluation of shares. **Submathi & Manuelpinto (2014)** analyzed the effect of Buy Back of Shares on stock prices in India. The study period ranges from 2012 to 2014 and sample of 56 companies listed on Bombay stock Exchange. The study examined the reaction of share repurchase pre and post announcement of Buy back of shares. It also analyzed the mean price of share before 10 days and after 10 days announcement of Buy Back of shares in India during the study period. The study found that the only J.K Laxmi Cement Ltd has been maximum increased share price

during the study period. It concluded that the increased in share price has been also increased share holders wealth or decrease in share price leading to a decrease in shareholders wealth.

## RESEARCH METHODOLOGY

Research methodology can be defined as a way to systematically solve the research problem by logically adopting various steps .For finding and exploring research question, a Researcher faces lot of problems that can be effectively resolved with using correct research methodology. In this study, Stock returns have been taking the changes in stock prices.

### Objective the Study:-

1. To study the Impact of Buy Back of shares on stock returns (61, and 181 day's event window period.
2. To study the performance of selected companies post and pre announcement of Buy Back of shares.

### Study Period:-

Buy Back of Share is done as per provisions of Indian Companies Act. Total number of Buy Back cases from 2000 to 2012 have been studied as sample companies for the study .Stock price returns has been calculated for the event window period based on daily stock prices of such selected Companies.

### Hypothesis of Study:-

**Null Hypothesis ( $H_0$ )** : *There is no significant difference in pre AAR announcement and post AAR announcement for the event window of 61 days and 181 days.*

### Sample of the Study:-

The study is based on analytical nature. Ninety companies have been selected for analyzed the post positions of companies. In this study sample of 90 companies has been included in Nine Sectors. Stock returns have been taking the changes in stock prices. Table No.1 has presented the summary of selected companies during study period.

**Table No.1 Summary of Selected Companies**

Sr. No.	Name of Sectors	No. of Companies
1	Agricultural Sector	9
2	Electronic Sector	6
3	Engineering Sector	12
4	Financial Service Sector	7
5	Heavy Industry Sector	10
6	Information and Computer Software Sector	12
7	Pharmaceuticals Sector	14
8	Textile Sector	8
9	Miscellaneous Sector	12
	<b>Total Companies in Selected Sectors</b>	<b>90</b>

**Data Collection:-**

The study has been based on secondary data. The data are collected from official website of SEBI (Security Exchange Board of India), NSE (National Stock Exchange), BSE (Bombay Stock Exchange) CMIE Data Base, CAPLINE Data Base, PROWESS Data Base and other Sources.

**Methods for data Analysis:-**

The assessing the performance of the company before and after buy-back appropriate statistical tools such as ratio analysis, Average Abnormal Returns, Cumulative Average Abnormal Returns t- test had been used. The standard event study methodology will be used for this study.

We had computed the simple returns

$$R_{it} = \sum \left[ \frac{CP_t - CP_{t-1}}{CP_{t-1}} \right]$$

$R_{it}$  = Simple return of stock

$CP_t$  Closing price.

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

Then we compute market return

$$R_{mt} = \sum \left[ \frac{CP_{mt} - CP_{mt-1}}{CP_{mt-1}} \right]$$

$R_{mt}$  = Market return on BSE Sensex

$CP_{mt}$  = Closing index value on BSE Sensex

$CP_{mt-1}$  = Previous index value on BSE Sensex

Further abnormal return calculated

$$AR_{it} = \sum [R_{it} - R_{mt}]$$

$AR_{it}$  = Excess return of given stock

Subsequently average abnormal return for each stock is calculated by

$$AAR_{it} = \sum \frac{1}{n} (AR_{it})$$

$AAR_{it}$  = Average abnormal return

n = Number of observation

Cumulative Average Abnormal Return

$$CAR_{it} = \sum AAR_{it}$$

$$\text{T-testing statistics} = \frac{AAR_{it}}{\frac{n}{s}}$$

$$\text{T-test} = \frac{AAR}{\left[ S \frac{(AAR)}{\sqrt{n}} \right]}$$

$$\text{T-test} = \frac{AAR}{\left[ S \frac{(CAAR)}{\sqrt{n}} \right]}$$

S (AAR) = Standard Deviation of Average abnormal return calculated over estimation period.

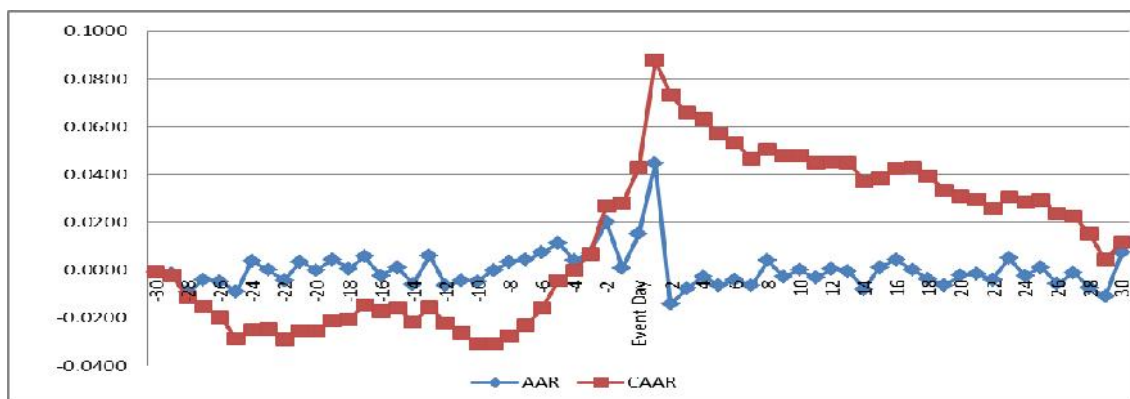
S (CAAR) = Standard Deviation of Cumulative Average abnormal return calculated over estimation period.

n = Number of observation

**DATA ANALYSIS (61 DAYS of EVENT WINDOW PERIOD)**

The event window of 61 days i.e.  $t_{-30}$  to  $t_{+30}$  is chosen to know about the impact of Buy Back of Shares on stock returns. The average abnormal and cumulative average abnormal for the event window of 61 days are presented in the Table No.2

**Chart No.1 AAR and CAAR for Buy Back announcements**



**Table No.2 Average Abnormal Returns for Event Windows of 61 Days**

DAYS	AAR (%)	T -Test	Sig( 2-tail)	CAAR (%)	T -Test	Sig( 2- tail)
-30	-0.0008	-0.1525	0.8791	-0.0008	-0.152	0.8791
-29	-0.0014	-0.3175	0.7516	-0.0022	-0.335	0.7380
-28	-0.0090	-1.5417	0.1267	-0.0111	-1.320	0.1901
-27	-0.0040	-0.6963	0.4880	-0.0151	-1.517	0.1328
-26	-0.0047	-0.7819	0.4363	-0.0197	-1.579	0.1177
-25	-0.0090	-1.7815	0.0782	-0.0287	-1.775	0.0792
-24	0.0039	0.5965	0.5523	-0.0249	-1.565	0.1211
-23	0.0002	0.0308	0.9755	-0.0247	-1.650	0.1024
-22	-0.0042	-0.8518	0.3966	-0.0289	<b>(-1.993)*</b>	<b>0.0493</b>
-21	0.0036	0.7070	0.4814	-0.0254	-1.781	0.0782
-20	-0.0001	-0.0297	0.9764	-0.0255	<b>(-1.920)*</b>	<b>0.0580</b>
-19	0.0045	0.9084	0.3661	-0.0210	-1.462	0.1473
-18	0.0006	0.1212	0.9038	-0.0204	-1.292	0.1994
-17	0.0057	1.3599	0.1773	-0.0147	-0.877	0.3827
-16	-0.0023	-0.4157	0.6787	-0.0170	-1.021	0.3096
-15	0.0013	0.2801	0.7801	-0.0157	-0.865	0.3892
-14	-0.0060	-1.0512	0.2960	-0.0217	-1.095	0.2765
-13	0.0062	1.1401	0.2573	-0.0155	-0.710	0.4794
-12	-0.0064	-1.3512	0.1801	-0.0219	-0.969	0.3348
-11	-0.0042	-0.7944	0.4291	-0.0261	-1.207	0.2303
-10	-0.0046	-1.2239	0.2242	-0.0307	-1.364	0.1760
-9	-0.0001	-0.0278	0.9779	-0.0309	-1.277	0.2049
-8	0.0034	0.7680	0.4445	-0.0275	-1.118	0.2662
-7	0.0044	0.6677	0.5060	-0.0231	-0.891	0.3753
-6	0.0073	1.2359	0.2197	-0.0157	-0.636	0.5263
-5	0.0114	1.6899	0.0945	-0.0043	-0.154	0.8778
-4	0.0042	0.7124	0.4781	-0.0002	-0.0051	0.9960
-3	0.0071	1.0385	0.3018	0.0069	0.223	0.8236
-2	0.0202	<b>3.6757**</b>	<b>0.0004</b>	0.0271	0.885	0.3784
-1	0.0009	0.1591	0.8740	0.0280	0.904	0.3679
Event Day	0.0151	<b>2.3106*</b>	<b>0.0232</b>	0.0431	1.283	0.2028
1	0.0447	0.7819	0.4363	0.0878	<b>(2.440*)</b>	<b>0.0167</b>
2	-0.0143	-2.3377	0.0216	0.0735	<b>(2.188*)</b>	<b>0.0312</b>
3	-0.0077	-1.3666	0.1752	0.0658	<b>(2.191*)</b>	<b>0.0310</b>
4	-0.0026	-0.4978	0.6198	0.0633	<b>(2.273*)</b>	<b>0.0254</b>
5	-0.0063	-1.0798	0.2832	0.0569	<b>(2.302*)</b>	<b>0.0236</b>
6	-0.0039	-0.9133	0.3636	0.0530	<b>(2.178*)</b>	<b>0.0320</b>
7	-0.0064	-1.1172	0.2669	0.0467	<b>(2.250*)</b>	<b>0.0269</b>
8	0.0040	0.9522	0.3436	0.0507	<b>(2.460*)</b>	<b>0.0158</b>
9	-0.0027	-0.7413	0.4604	0.0479	<b>(2.219*)</b>	<b>0.0290</b>
10	0.0001	0.0389	0.9691	0.0481	<b>(2.157*)</b>	<b>0.0337</b>
11	-0.0031	-0.9451	0.3471	0.0450	<b>(1.932*)</b>	<b>0.0565</b>
12	0.0004	0.1015	0.9194	0.0454	<b>(2.079*)</b>	<b>0.0405</b>
13	-0.0003	-0.0837	0.9335	0.0451	<b>(2.064*)</b>	<b>0.0419</b>
14	-0.0078	-1.4658	0.1462	0.0373	<b>(1.963*)</b>	<b>0.0527</b>
15	0.0012	0.2450	0.8070	0.0384	<b>(1.990*)</b>	<b>0.0496</b>
16	0.0044	1.2152	0.2275	0.0428	<b>(2.166*)</b>	<b>0.0330</b>
17	0.0003	0.0561	0.9553	0.0431	<b>(2.317*)</b>	<b>0.0228</b>
18	-0.0037	-1.0772	0.2843	0.0395	<b>(2.194*)</b>	<b>0.0308</b>
19	-0.0063	-1.2015	0.2327	0.0332	<b>(1.953*)</b>	<b>0.0539</b>
20	-0.0022	-0.4919	0.6240	0.0310	1.883	0.0628
21	-0.0015	-0.4226	0.6736	0.0295	1.802	0.0749
22	-0.0039	-0.9571	0.3411	0.0256	1.569	0.1201
23	0.0049	1.0432	0.2997	0.0305	1.893	0.0615
24	-0.0023	-0.4307	0.6677	0.0282	1.699	0.0927
25	0.0012	0.2779	0.7817	0.0295	1.897	0.0610
26	-0.0058	-1.1209	0.2653	0.0236	1.650	0.1025
27	-0.0011	-0.2382	0.8123	0.0226	1.608	0.1112
28	-0.0072	-1.7176	0.0894	0.0153	1.171	0.2446
29	-0.0110	<b>(-2.243)*</b>	<b>0.0274</b>	0.0044	0.327	0.7442
30	0.0073	1.6241	0.1079	0.0117	0.937	0.3510

(\*\*) indicating significance at 1 percent level

(\*) indicating significance at 5 percent level

The data revealed that there is positive average abnormal return of 1.51 percent on event day of Buy Back of Shares and return is statistically significant at 5 percent level. The average abnormal returns are positive for 16 days and negative for 14 days before the announcement of Buy Back of Shares. During the post event period average abnormal returns are positive for 10 days and negative for 20 days. During the whole period, average abnormal returns are positive for 34 days and negative for 26 days out of entire 61 days event window. The average abnormal returns are positive on second day in pre period and on 29th day in post period and these returns are statistically significant at 1 percent and 5 percent respectively. The results of T- Test reveals that the average abnormal returnson event days are statistically significant for the event window of 61 days. Chart No.1 clearly indicates that the cumulative average abnormal returns are positive

throughout the event period and starting increasing after the announcement of Buy Back of Shares. The cumulative average abnormal returns are negative in entire pre event period of announcement of Buy Back of Shares during study period and returns are statically significant at 5 percent on 22th and 20th day of pre event period announcement of Buy Back of shares. The cumulative average abnormal returns are positive and returns are statistically significant from event day to 19th day announcement of Buy back. In present study event window of 61 days price and returns are analyze. Chart No. 1 clearly indicates the average abnormal returns are negative in post period of announcement of Buy Back of shares. Thus the null hypothesis is rejected and it is concluded that there is negative average abnormal returns in post split period as compared to pre period of announcements of Buy Back of Shares.

The cumulative average abnormal return for different time intervals for the event windows of 61 days has been given in the Table No.3

**Table No.3 CAAR for Event Window of 61 Days**

Days	CAAR
-30 to +30	0.0117
-15 to +15	0.0214
-25 to +25	0.0046
0 to -30	0.0272
0 to +30	0.0995
+15 to -15	0.0271
+25 to -25	-0.0005
+30 to -30	0.0036

It is clear from Table No.2 that the cumulative average abnormal return for the entire window of 61 days is approximately i.e.1.10 percent. The cumulative average

abnormal return in pre period and post period is positive during the study period.

**Table No.4 Average Abnormal Returns for Pre Buy Back (181 Days Event Window**

Days	AAR	T -Test	Sig. (2-tailed)	CAAR	T -Test	Sig. (2-tailed)
-90	-0.0016	-3.360	0.879	-0.0016	-3.341	0.513
-89	-0.0012	-0.655	0.752	-0.0029	-2.351	0.570
-88	0.0021	-1.751	0.127	-0.0009	-3.323	0.882
-87	-0.0022	0.339	0.488	-0.0036	-2.161	0.623
-86	-0.0059	-1.121	0.436	-0.0111	-2.851	0.163
-85	0.0061	0.338	0.078	-0.0064	-2.040	0.447
-84	0.0012	1.420	0.552	-0.0064	-0.335	0.524
-83	0	1.242	0.976	-0.0076	0.942	0.532
-82	-0.0077	0.242	0.397	-0.017	1.080	0.207
-81	-0.0003	-0.163	0.481	-0.0181	0.809	0.238
-80	-0.0043	-1.675	0.976	-0.0244	-0.930	0.185
-79	0.001	-1.274	0.366	-0.0259	-2.124	0.123
-78	0.0031	0.949	0.904	-0.0252	-1.017	0.081
-77	-0.0051	-0.981	0.177	-0.0325	-1.926	0.025
-76	0.001	0.648	0.679	-0.0335	-1.151	0.019
-75	0.0084	-0.543	0.780	-0.0266	-1.621	0.072
-74	0.0115	-0.004	0.296	-0.0165	-1.529	0.301
-73	0.0023	0.161	0.257	-0.0161	-1.284	0.303
-72	0.0047	0.268	0.180	-0.0132	-0.949	0.429
-71	-0.0028	-0.162	0.429	-0.0175	-1.064	0.298
-70	0.005	0.741	0.224	-0.0141	-0.273	0.410
-69	0.0053	-0.574	0.978	-0.0104	-0.834	0.569
-68	-0.0036	0.065	0.445	-0.0154	-0.733	0.376
-67	0.0031	0.024	0.506	-0.0134	-0.678	0.469
-66	-0.0045	0.528	0.220	-0.0192	-0.124	0.317
-65	0.0042	0.392	0.095	-0.0165	0.272	0.419
-64	-0.0102	0.151	0.478	-0.0281	0.413	0.179
-63	-0.0002	0.156	0.302	-0.0295	0.554	0.162
-62	0.0041	<b>-0.0235**</b>	<b>0.000</b>	-0.0265	0.511	0.215
-61	-0.002	0.381	0.874	-0.0295	0.875	0.179
-60	-0.0003	<b>0.3855*</b>	<b>0.023</b>	-0.0312	1.232	0.170
-59	0.0105	-0.524	0.436	-0.0222	0.669	0.325
-58	0.0096	0.516	0.022	-0.0141	1.165	0.559
-57	0.0007	-0.569	0.175	-0.015	0.562	0.539
-56	0.0071	0.485	0.620	-0.0094	1.031	0.712
-55	-0.0042	-0.061	0.283	-0.0153	0.941	0.558
-54	0.0029	-0.430	0.364	-0.014	0.486	0.598
-53	-0.0032	-0.508	0.267	-0.0186	-0.034	0.487
-52	0.0041	-0.089	0.344	-0.0159	-0.122	0.556
-51	-0.0011	-0.423	0.460	-0.018	-0.542	0.519
-50	0.0015	0.365	0.969	-0.0171	-0.163	0.538
-49	-0.0004	-0.200	0.347	-0.0184	-0.359	0.510
-48	-0.0047	0.102	0.919	-0.0241	-0.249	0.374
-47	0.0056	0.397	0.933	-0.019	0.153	0.469
-46	-0.0029	-0.003	0.146	-0.0224	0.146	0.396
-45	-0.0014	0.236	0.807	-0.024	0.379	0.370
-44	-0.012	0.010	0.228	-0.036	0.381	0.186
-43	-0.0017	0.102	0.955	-0.0376	0.475	0.182
-42	0.0012	-0.126	0.284	-0.037	0.339	0.172
-41	0.0065	0.265	0.233	-0.031	0.597	0.252
-40	-0.0092	-0.307	0.624	-0.0407	0.278	0.126
-39	-0.0039	0.147	0.674	-0.046	0.420	0.094
-38	0.0031	0.192	0.341	-0.0455	0.604	0.119
-37	0.0082	0.180	0.300	-0.0393	0.772	0.186
-36	-0.0001	-0.292	0.668	-0.0412	0.466	0.158
-35	0.0037	0.061	0.782	-0.0393	0.518	0.189
-34	0.0005	0.069	0.265	-0.0409	0.579	0.186
-33	0.004	0.042	0.812	-0.0392	0.610	0.225
-32	0.002	-0.040	0.089	-0.0393	0.560	0.206
-31	-0.0056	0.285	0.027	-0.0472	0.835	0.129
-30	-0.0003	0.179	0.108	-0.0498	1.001	0.117
-29	-0.0001	-0.274	0.934	-0.0521	0.711	0.088
-28	-0.0025	0.135	0.494	-0.0568	0.834	0.083
-27	0.005	-0.122	0.196	-0.0541	0.700	0.112



-26	-0.0033	-0.008	0.639	-0.0595	0.681	0.076
-25	-0.0014	-0.054	0.510	-0.0626	0.617	0.067
-24	0.0031	-0.062	0.297	-0.0611	0.547	0.075
-23	0.0045	0.206	0.412	-0.0578	0.744	0.092
-22	-0.0021	-0.014	0.457	-0.0612	0.720	0.072
-21	0.0007	-0.035	0.651	-0.0618	0.674	0.072
-20	0.0006	-0.087	0.793	-0.0625	0.578	0.068
-19	-0.0004	-0.102	0.559	-0.0638	0.468	0.068
-18	0.0077	0.150	0.073	-0.057	0.611	0.100
-17	0.0037	-0.162	0.888	-0.0539	0.440	0.130
-16	0.0031	0.192	0.698	-0.0515	0.627	0.165
-15	0.0053	0.082	0.068	-0.0471	0.700	0.220
-14	-0.0028	0.089	0.274	-0.051	0.780	0.201
-13	0.0031	-0.114	0.352	-0.0489	0.656	0.242
-12	-0.0016	0.196	0.904	-0.0513	0.844	0.221
-11	0.0036	-0.199	0.813	-0.0491	0.634	0.212
-10	-0.002	-0.041	0.548	-0.0525	0.585	0.180
-9	0.0009	-0.072	0.993	-0.0528	0.507	0.184
-8	0.0044	-0.089	0.615	-0.0492	0.412	0.208
-7	-0.0002	0.166	0.814	-0.0506	0.573	0.195
-6	0.0007	0.157	0.703	-0.0505	0.723	0.199
-5	0.0181	-0.057	0.003	-0.0326	0.657	0.410
-4	0.0058	-0.076	0.289	-0.0275	0.573	0.498
-3	0.0083	0.029	0.145	-0.0198	0.595	0.630
-2	0.0133	-0.198	0.091	-0.0071	0.391	0.866
-1	0.0016	0.211	0.625	-0.0062	0.597	0.885
EVENT YEAR	0.0188	22.238	0.007	0.0113	18.994	0.793

Table No.5 Average Abnormal Returns for Post Buy Back (181 Days Event Window)

Days	AAR	T -Test	Sig. (2-tailed)	CAAR	T -Test	Sig. (2-tailed)
1	-0.0029	-5.421	0.513	0.0059	16.662	0.891
2	0.0028	2.221	0.571	0.0063	16.123	0.883
3	-0.0069	-1.992	0.289	-0.0024	12.701	0.954
4	0.0043	-1.196	0.271	0.0001	10.050	0.998
5	0.0001	3.993	0.806	-0.0015	12.054	0.971
6	-0.0041	-0.421	0.356	-0.0074	10.255	0.860
7	-0.0024	-0.905	0.396	-0.0113	8.285	0.783
8	0.0011	-0.092	0.708	-0.012	7.332	0.766
9	-0.0029	0.382	0.607	-0.0172	6.972	0.672
10	-0.001	1.320	0.877	-0.0199	7.600	0.627
11	-0.0013	-1.672	0.865	-0.0229	5.369	0.567
12	0.0015	0.436	0.469	-0.0232	5.372	0.564
13	0.0018	-0.200	0.815	-0.0229	4.790	0.568
14	-0.0034	0.170	0.121	-0.0278	4.633	0.486
15	0	-0.744	0.473	-0.029	3.605	0.477
16	0.0032	-0.636	0.579	-0.027	2.766	0.512
17	-0.0014	0.977	0.862	-0.0297	3.569	0.465
18	0.0012	-0.020	0.775	-0.0299	3.360	0.458
19	0.0007	-0.171	0.899	-0.0305	3.020	0.447
20	0.0001	-0.323	0.532	-0.032	2.554	0.427
21	-0.0001	0.055	0.793	-0.034	2.489	0.406
22	-0.0054	-0.205	0.148	-0.041	2.176	0.311
23	0.0008	-0.052	0.738	-0.0417	2.033	0.299
24	-0.0024	0.024	0.327	-0.0458	1.973	0.254
25	0.0051	0.221	0.454	-0.0422	2.114	0.306
26	0.0025	-0.237	0.555	-0.041	1.799	0.330
27	0.0011	-0.326	0.778	-0.0412	1.410	0.332
28	-0.0023	-0.103	0.372	-0.0446	1.259	0.295
29	-0.0005	0.135	0.675	-0.0459	1.350	0.275
30	-0.0003	0.059	0.918	-0.0467	1.364	0.270
31	0.0008	-0.015	0.828	-0.0464	1.306	0.279
32	0.0063	0.125	0.083	-0.0406	1.390	0.343
33	0.0087	0.279	0.054	-0.0321	1.625	0.458
34	0.0034	-0.153	0.400	-0.0288	1.426	0.508
35	0	0.064	0.996	-0.0287	1.450	0.508

36	-0.0001	-0.018	0.987	-0.0285	1.391	0.524
37	-0.0013	-0.064	0.694	-0.0298	1.291	0.504
38	0.0004	-0.292	0.943	-0.0294	0.967	0.505
39	0.0038	-0.107	0.395	-0.0255	0.837	0.564
40	0.0042	0.122	0.315	-0.0212	0.937	0.643
41	-0.002	0.058	0.679	-0.0228	0.972	0.624
42	0.0058	-0.112	0.092	-0.0166	0.838	0.726
43	-0.0068	-0.013	0.108	-0.0234	0.806	0.613
44	0.0004	0.004	0.919	-0.0226	0.792	0.617
45	-0.0055	-0.042	0.268	-0.0275	0.732	0.542
46	-0.0035	0.123	0.415	-0.0301	0.838	0.502
47	-0.0047	-0.187	0.437	-0.0339	0.634	0.451
48	0.0025	0.196	0.549	-0.0304	0.816	0.503
49	0.0053	-0.217	0.283	-0.0243	0.584	0.595
50	-0.0058	-0.006	0.144	-0.0294	0.566	0.522
51	-0.0028	-0.274	0.569	-0.0315	0.282	0.491
52	0.0008	0.329	0.874	-0.0296	0.604	0.520
53	0	-0.009	0.997	-0.0286	0.583	0.530
54	0.0026	-0.120	0.547	-0.0247	0.453	0.584
55	-0.0014	-0.206	0.776	-0.0263	0.239	0.557
56	-0.0054	-0.012	0.161	-0.0323	0.223	0.472
57	0.0043	0.046	0.244	-0.0281	0.265	0.536
58	-0.0018	-0.084	0.651	-0.0307	0.176	0.497
59	0.0022	-0.046	0.394	-0.0288	0.127	0.524
60	-0.0012	-0.074	0.746	-0.0307	0.051	0.495
61	-0.0012	0.160	0.787	-0.0329	0.210	0.471
62	-0.0005	-0.044	0.897	-0.034	0.162	0.457
63	-0.0044	-0.152	0.292	-0.0391	0.008	0.391
64	0.0049	0.178	0.291	-0.0355	0.185	0.437
65	-0.0045	-0.193	0.407	-0.0419	-0.010	0.365
66	0	0.030	0.992	-0.0437	0.020	0.351
67	0.002	-0.056	0.618	-0.0437	-0.035	0.357
68	0.0017	0.025	0.657	-0.0438	-0.010	0.361
69	-0.0013	0.025	0.693	-0.0465	0.014	0.332
70	0.0014	-0.091	0.763	-0.0462	-0.077	0.338
71	-0.0108	-0.058	0.005	-0.0582	-0.133	0.231
72	0.0039	0.047	0.341	-0.0554	-0.085	0.253
73	0.0011	-0.127	0.805	-0.0553	-0.210	0.252
74	-0.0011	0.239	0.830	-0.0572	0.031	0.231
75	0.0043	-0.012	0.276	-0.0536	0.019	0.265
76	-0.0041	-0.018	0.265	-0.0581	0.000	0.227
77	-0.0011	0.147	0.802	-0.0596	0.147	0.222
78	0.0041	-0.020	0.259	-0.0561	0.126	0.248
79	0.0039	0.178	0.320	-0.0528	0.302	0.280
80	-0.0074	-0.173	0.081	-0.0608	0.126	0.210
81	-0.0013	-0.036	0.768	-0.063	0.088	0.193
82	-0.0049	-0.091	0.219	-0.0685	-0.004	0.152
83	0.0019	-0.012	0.595	-0.0674	-0.016	0.159
84	-0.0001	0.025	0.972	-0.0683	0.009	0.153
85	0.0059	0.092	0.179	-0.0628	0.101	0.188
86	0.0026	-0.057	0.494	-0.0608	0.043	0.202
87	0.0015	-0.030	0.678	-0.0597	0.013	0.211
88	0.0062	-0.016	0.135	-0.0536	-0.004	0.263
89	-0.0042	-0.074	0.201	-0.0577	-0.077	0.236
90	-0.0179	0.072	0.199	-0.0756	-0.077	0.105

(\*\*) indicating significance at 1 percent level

(\*) indicating significance at 5 percent level

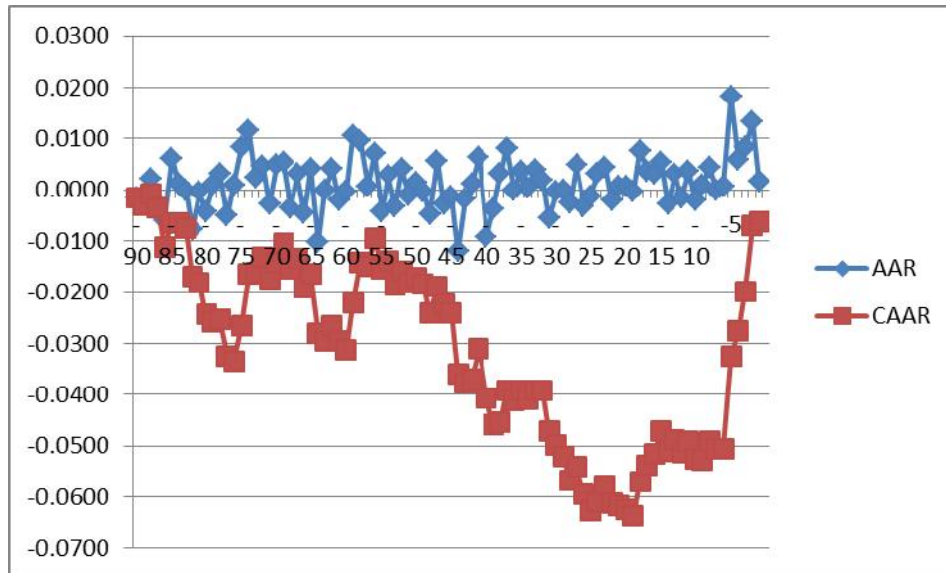
Table No.5 representing Market Model highlights the average abnormal returns and cumulative average abnormal returns and corresponding T values for each of the 61 days of event window for all the Buy Back announcements. The average abnormal return and cumulative

average abnormal returns are 1.88 percent and 1.13 percent respectively. The average abnormal returns are positive for 52 days and negative for 38 days before the announcement of Buy Back of Shares. In pre event period the average abnormal returns are insignificant, except

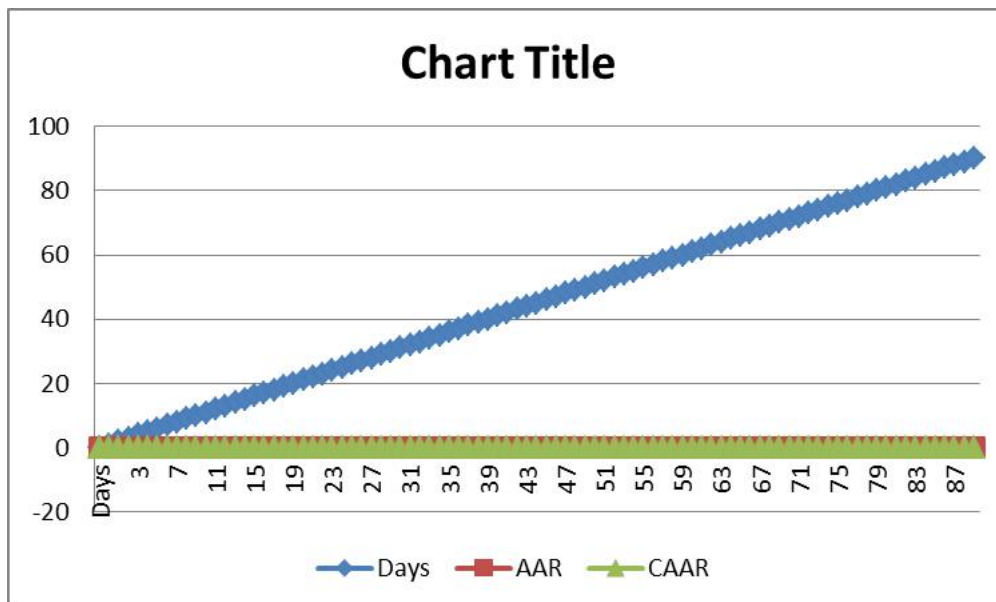
29th day with the help of T-Statistics. The T-Test result revealed that the average abnormal returns and cumulative average abnormal returns with T values 0.007 and 0.793 respectively, which both are statistically insignificant at 5 percent. During the pre event period abnormal returns are only two day  $t_{.62}$  and  $t_{.62}$  exhibit significant at 5 percent. The cumulative average abnormal returns are

negative in entire pre event as well as post event period except two days of announcement of Buy Back. During whole period, cumulative average abnormal returns are negative and these returns are statistically insignificant at 1 percent and 5 percent of significance. The cumulative average returns are positive only two days i.e. 2nd and 3rd days after the announcement of Buy Back of Shares and it is not statistically significant at 5 percent.

**Chart No.2 Pre Buy Back AAR and CAAR Announcements**



**Chart No.3 Post Buy Back AAR and CAAR announcements**



**Table No.6 T Paired Sample Test for 61 and 181 Days Window Period**

Variables	Mean Difference	Standard Deviation	df	T Value	Sig( 2 Tailed Test
AAR (181Days Event Window)	-.00104	.00563	89	-1.745	.084
CAAR (181Days Event Window)	-.00352	.01626	89	-2.052	<b>.043*</b>
AAR (61 Days Event Window)	-.00199	.01219	29	-.894	.379
CAAR (61) Days Event Window)	.05556	.02696	29	11.288	<b>.000*</b>

(\*\*) indicating significance at 1 percent level

(\*) indicating significance at 5 percent level

## RESULTS and DISCUSSION

The Table No.6 clearly indicates that there is negative mean difference between post and pre announcements of Buy Back of shares of selected companies in this study. It reports mean abnormal returns of AAR and CAAR is .00104 and -.00352 respectively of 181 days event window and it is statistically insignificant at 5 percent and 1 percent. It reports mean of AAR and CAAR is -.00199 and .05556 respectively of 61 days event window period. Table No. 6 depicts the analysis of post and pre performance of companies along with T Paired Sample Test. The AAR and CAAR with their respective values. The study based on 61 and 181 days event window for analyzed the impact of buy back of shares on stock returns. The results indicated that the abnormal return is positive on the announcement day. It observed that the positive impact of buy back of shares on stock returns on event day of 61 and 181 days event window period. The average abnormal returns and cumulative average abnormal returns of selected samples in 181 days of event window period T value are not statistically significant at 5 per cent level of significance. The average abnormal returns of selected samples in 181 days of event window period T value are not statistically significant at 5 per cent level of significance, while cumulative average abnormal returns are significant at 5 percent level.

## CONCLUSION

The research paper main objective to analysis the impact of Buy Back of shares on stock price returns. For this objective, the research paper based on two event window periods i.e. 61 days and 181 days. The research paper analyzed the average abnormal returns and cumulative average abnormal returns with the help of T Statistics. These returns based on Market Model for

analyzed the impact of Buy Back of Share on stock returns. The average and cumulative average abnormal returns are positive on announcement date of Buy Back in 61 days of event window. The Average abnormal returns are significant at 5 percent, while cumulative average abnormal returns are insignificant on event day of 61 days event window. The study investigated the post and pre performance of companies with the help of Paired Sample T Test. The study also found Average abnormal return and cumulative average abnormal returns are positive on event day of 181 days event window period, both are statistically insignificant at 5 percent level. It concluded that the average abnormal returns are negative in post period as compared to pre announcement of Buy Back of Shares. It observed that the buyback of shares has negative impact on stock price returns after announcement, but it is statistically insignificant at 5 percent. The result of Paired Sample T Test, the cumulative average abnormal returns are statistically significant at 5 percent level. The average abnormal returns are not statistically significant at 5 percent. Hence, it is concluded that there is negative average abnormal returns as compared post announcement of Buy Back in 61 and 181 days of event window period.

## LIMITATIONS and SCOPE FOR FUTURE REASERCH

The main limitation of study selected buy back of shares through open market repurchases method. The data does not adjust with inflation. The study for further research sample has been increased also analysis operating efficiency of companies. The scope for research also analysis liquidity and solvency position of companies with the ratio analysis and examine impact of Buy Back of Shares on divined practices.

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