Stock Market Behaviour Around Buyback Announcements In India : An Empirical Justification For Preferring The Open Market Repurchase Mode

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ABSTRACT

In order to rationalize the capital structure, a landmark legislative adjustment was made in 1998 by making amendments in the Companies Act, 1956 for allowing buyback of shares already issued to the public. Thus, from the year 1999, the new corporate information relating to buybacks started arriving at the stock market in India. This study aims at enquiring about the reaction of the stock market to the buyback announcements for a period of 10 years from 2000-01 and 2009-10 by taking S&P CNX 500 companies in terms of returns among Open Market Repurchases (OMR) and Fixed Price Tenders (FPT). By applying standard event study procedure, the information signalling of buybacks and semi - strong efficiency test to verify the absence of abnormal returns continuously has been taken up. Having recorded a statistically significant abnormal return of 1.32% on the announcement day, and a cumulative abnormal return of 5.13% in -10 to +10 event frame, the OMRs end up with a cumulative abnormal return of 6.11% for a 61 days event window to have a strong signalling to the market. The near same abnormal return of 1.30% in FPT announcements was not statistically significant on the announcement day. The cumulative abnormal return of 2.13% in -2 to +2 frame and the negative 15.64% observed in a 61 days window evidenced a weak signalling of FPTs. In spite of having strong signalling to the market, the OMRs recorded mixed abnormal returns in a positive and negative spread around the shorter version of the event window (-10 to +10), thereby curtailing the opportunities of earning abnormal returns on a sustainable way to support the semi-strong efficiency of the market.

Keywords: Share Buyback, Open Market Repurchases, Fixed Price Tenders, Event Study, Abnormal Return and Cumulative Abnormal Return

INTRODUCTION

Companies in India are allowed to buyback the shares already issued to the public only from the year 1998, and it is cited as an effective way of bringing in flexibility as regards downward adjustment in issued share capital of companies to rationalize the capital structure. By making suitable amendments in the Companies Act for introducing new sections, namely 77A, 77AA and 77B and guided by the Security Exchange Board of India (SEBI) in 1999, corporate India started engaging in the buyback exercise. SEBI offered various methods of effecting buybacks. The first one is the Open Market Repurchases (OMR) in which companies buyback their shares through the stock exchanges for a small number and amount of shares. Fixed Price Tender Offer (FPT) is the second way in which companies fix a fixed price and offer it to a limited number of target shareholders, when the number and amount of shares involved is large. The third one is Reverse Book Building (RRB), in which various segments of shareholders tender the price for differing volumes. The fourth method involves buying back the shares from employees of the companies from shares allotted to them under the Employees Stock Option Scheme (ESOS). The companies engaged in buybacks might have their own reason(s) to explain as to why they need to buyback the shares. However, an interesting aspect which needs to be looked into is the reaction from the stock market to buyback announcements, because around 1996, the stock market revival had become a matter of debate and buyback of shares was thought of as a measure to revive the capital markets (Gupta et al., 2006). Studies in the developed world and in the Indian context relating to buyback identified 'undervaluation signalling' of share prices of companies by having observed notable abnormal returns on the announcement day (Daan, 1981; Vermaelen, 1981; Ikenberry, 1995; Ress, 1996; Jagannathan et al., 2003; Mohanty,2002; Mishra, 2005; Guptha, 2006; Thirumalvalavan and Sunitha, 2006 ; Hyderabad, 2009 and Dhutt, 2010). An interesting aspect of research which has also found place in the western literature is the signalling ability of different methods followed for effecting buybacks compared to a very few in India, and the same is presented in the following paragraphs.

REVIEW OF LITERATURE

Vermaelen (1981) was the first one to document higher abnormal returns of 14.14% for two days in FPTs between

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1962 and 1977 when compared to 3.37% for two days in OMRs from 1972-1978 in the US market. Comment and Jarrell (1991) evidenced an average abnormal return of 11% for FPTs and 2.3% for OMRs for the period 1984-1989. Li and McNally (2004) recorded an abnormal return of 9.8% for three days in 133 FPTs and 2.3% for the same period in 431 OMRs for a study period between 1985 and 1988. Zang's (2002) study on Japanese buyback announcements altogether gave different findings by having higher abnormal returns in OMRs than FPTs; thereby, contradicting the research studies conducted in the US.

In the Indian context, Hyderabad (2009[a]) found a slightly higher abnormal return of 2.98% in 18 FPTs when compared to 2.69% in 52 OMRs on the announcement day for 70 buyback cases considered between 1999 and 2007 and documented a near parallel result with the US studies. But Hyderabad (2009[b]) obtained a contrasting finding by taking 68 cases of buybacks (51 OMRs and 17 FPTs) for the same study period by eliminating two companies from the sample (one each from the two methods) to record a Cumulative Abnormal Return of 5.79% in OMRs and only 3.30% in FPTs for a 41 day period. Dhutt (2010) took 40 cases of buybacks in the Bombay Stock Exchange for a period of six years between 2004 and 2009 to record 8.13% abnormal returns in 7 FPTs in three days and 3.97% in 33 OMRs for the same period. In line with the western studies, the limited Indian literature on buybacks also concentrated upon method wise analysis to document mixed findings in market reaction to OMR and FPT.

The present study is an attempt to find the information signalling power of OMRs and FPTs in the Indian context for a period of 10 years from 2000-01 to 2009-10 by taking the buyback announcements made by companies constituting the broad based S&P CNX 500 index with the following objectives.

OBJECTIVES

1) To enquire whether the open market repurchase mode and the fixed price tender offer differ in signalling buyback information to the market.

2) To test the semi-strong form efficiency of the market around buyback announcements based on the methods followed, through testing the absence of sustained abnormal return booking by trading on buyback information.

DATA COLLECTION AND METHODOLOGY

For the purpose of studying the returns around buyback announcements in the Indian stock market, the companies listed on the S&P CNX 500 broad based index and announced buybacks between the years 2000-01 and 2009-10 were considered. Prowess and NSE websites were the sources from which the number of companies and their respective dates of announcements based on the board meetings were identified. In the first stage, 57 companies came under the buyback announcement category for the study period, out of which 3 companies entered the market through their Initial Public Offerings (IPOs) just before 6 months from the date of buyback announcements and due to non-availability of their share prices during the estimation window, these 3 companies were excluded from the sample, thereby making the total as 54 companies. Out of the 54 companies, 4 companies announced their buyback with one more information on the event (same) day (one company with annual results; another with quarterly results; and the other two with stock split announcements) and hence, they were excluded from the buyback data set, since the release of this information on the event day could lead to price changes. Out of these 50 companies, 7 companies announced stock split within the duration (either before or after the date of buyback announcement) of the event window, and hence, they were not considered for the buyback data set, and the remaining 43 companies constituted the final sample that was taken up for analysis. Of the selected 43 companies, 37 companies (86%) opted for the open market repurchase mode and only 6 companies (14%) followed the tender way of effecting the buybacks. Why there has been an increased concentration for the open-market mode is a subject matter of analysis.

Standard Event Study procedure had been adopted to make the analysis. The dates of the meeting of the Board of Directors regarding the announcement of the buyback were denoted as the 'event day' and the days surrounding the event day (30 days before and 30 days after the event) have been denoted as the 'event window.' The 250 days period prior to the first day of the event window (-280 to -31 days) has been considered as the 'estimation window'. The compounded log returns have been taken as the core data for analysis and were calculated as $R_t = [In (P_t - P_{t-1})] \times 100$, where R_t denotes returns for day 't', In stands for natural logarithm, P_t denotes price on day 't' and P_{t-1} denotes the price on the previous trading day. The S&P CNX 500 index returns were taken as the proxy for the market returns of 250 days during the "estimation window" and the respective shares were regressed against the proxy to determine the

constant and the regression coefficient to calculate the expected returns during the event window (Market Model). The difference between the actual return and the expected return during the event window was considered as abnormal returns (ARs). Average Abnormal Returns (AARs) were calculated for each day during the event window across securities for analysing the abnormal returns around the event. Cumulative Average Abnormal Returns (CAARs) were also calculated for analyzing the price adjustment process. In order to calculate the expected return during the event window based on the constant and regression coefficient during the estimation window (250 days), the following regression was used :

$$\overline{R}_{jt} = \alpha_j + \beta_j \overline{R}_{mt} + \varepsilon_{jt} \quad \text{..... (1)}$$

where,

$\overline{R}_{jt}$ = Expected return of security j on day 't' ;

α_j = Intercept term for security 'j' ;

β_j = Systematic risk component of security j ;

R_{mt} = Return on the market portfolio of S&P CNX 500 on day 't' ;

ε_{jt} = White noise error term of security 'j' on day 't' having zero mean and constant variance.

The difference between actual return and expected return is regarded as the abnormal return and is calculated as :

$$A\overline{R}_{jt} = \overline{R}_{jt} - R_{jt} \quad \text{..... (2)}$$

where,

AR_{jt} = Abnormal Return of Security 'j' at day 't' ;

R_{jt} = Actual return of security 'j' at day 't'.

The Average Abnormal Return (AARs) of various securities on a particular event day 't' is calculated as :

$$AAR_t = \frac{1}{N}\sum_{j=1}^{N} AR_{jt} = (AR_{j1} + AR_{j2} + AR_{j3} + AR_{jN})/N \quad \text{..... (3)}$$

Where N denotes number of securities considered for day 't'.

Cumulate Average Abnormal Returns (CARRs) are the sums of daily Average Abnormal returns (AARs) during the event window :

$$CAAR_t = \sum_{t-k}^{+k} AAR_t \quad \text{..... (4)}$$

Where, – k to + k denotes -30 to +30 days during the event window.

While the Average Abnormal Returns (AARs) are used to analyze the information content of buybacks and Cumulative Average Abnormal Returns (CAARs) are used to analyse the adjustments of prices to new information, in order to check the efficiency of the market, student 't test' had been applied to know whether the abnormal returns and the cumulative abnormal returns did not differ significantly from zero by framing the following null hypotheses :

$$H_o1: AAR_t = 0$$

The test statistics is :

$$t = \sqrt{N}\ \frac{AAR_t}{S_t} \sim t_{n-1}$$

$$H_0 2: CAAR_t = 0$$

The test statistics is :

$$t = \sqrt{N}\frac{CAAR_t}{S_t} \approx N(0,1)$$

ANALYSIS AND DISCUSSION

The AARs and CAARs of Open Market Repurchases (OMRs) together with their significance levels are presented in the Table 1. An AAR of 1.32 percent on the event day at 10% level supported the under valuation assumption, and it had a positive signal to have an increase in the share prices of companies, which announced the buyback through the Open Market Repurchases (OMRs). Of the 61 days considered, the AARs were significant for 10 days at either 1% or 5% or 10% levels, which means that the AARs for 10 days were significantly different from zero. The post-event

window period of 30 days had significant AARs in 6 days only and the pre-event window consisting of 30 days had significant AARs only in 3 days and both the pre and post event window had positive and negative AARs. A negative 1.25% on day -24, positive 2.33% on day -4 and 0.96% on day -1 was observed during the pre - event window. The post-event period consisted of a negative 1.68 per cent on day +2, negative 1.66% on day +5, positive 0.8% on day +9 followed by a positive 0.94% on day +12, negative 0.93% on day +13 and with positive 0.86% on day +12. AARs of buybacks made under OMR are presented graphically in the Figure 1. The significant AARs in 10 days out of the 61 days spread over both the pre-event and post event periods with differing directions (positives and negatives) gave no scope for booking abnormal profit consistently, and even if some opportunities were there to book abnormal profits, it may not sustain as the following discussion throws some light on the price adjustment process.

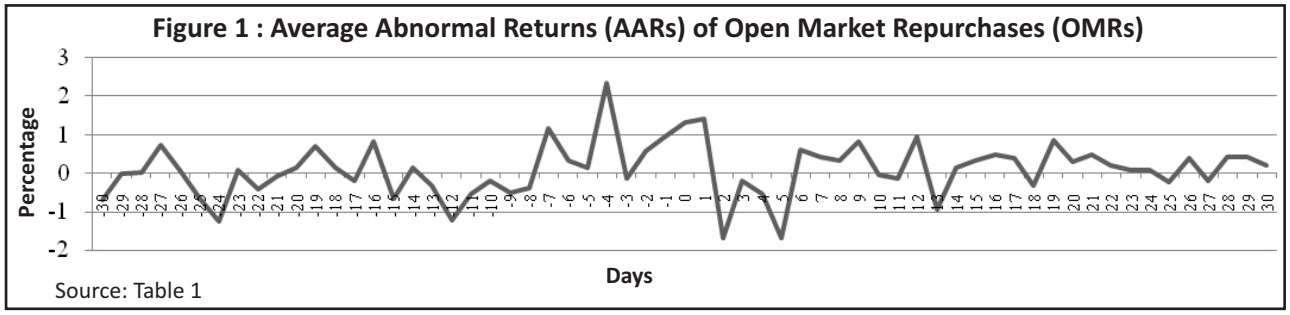
Table 1 : AARs and CAARs Of Buyback Announcement - Open Market Repurchases (OMRs)

Days	AAR	t-statistics	p-value	CAAR	t-statistics	p-value		Days	AAR	t-statistics	p-value	CAAR	t-statistics	p-value
-30	-0.688	-1.214	0.233	-0.688	-1.214	0.233		1	1.404	1.488	0.145	3.961	1.193	0.241
-29	-0.021	-0.040	0.968	-0.709	-0.945	0.351		2	**-1.679**	**-3.832a**	**0.000**	2.282	0.703	0.486
-28	0.020	0.047	0.963	-0.689	-0.720	0.476		3	-0.195	-0.592	0.558	2.087	0.648	0.521
-27	0.745	1.387	0.174	0.056	0.052	0.959		4	-0.542	-1.671	0.103	1.546	0.491	0.626
-26	0.095	0.174	0.863	0.151	0.126	0.900		5	**-1.664**	**-3.723a**	**0.001**	-0.119	-0.037	0.970
-25	-0.649	-1.433	0.161	-0.498	-0.397	0.694		6	0.596	1.061	0.296	0.477	0.147	0.884
-24	**-1.247**	**-2.311b**	**0.027**	-1.745	-1.338	0.189		7	0.437	0.757	0.454	0.914	0.281	0.780
-23	0.082	0.140	0.890	-1.664	-1.257	0.217		8	0.334	0.756	0.454	1.248	0.389	0.700
-22	-0.407	-0.630	0.533	-2.071	-1.355	0.184		9	**0.835**	**1.894c**	0.066	2.082	0.626	0.536
-21	-0.057	-0.109	0.914	-2.128	-1.348	0.186		10	-0.028	-0.056	0.956	2.055	0.580	0.565
-20	0.132	0.297	0.768	-1.996	-1.264	0.214		11	-0.142	-0.402	0.690	1.913	0.543	0.591
-19	0.704	1.317	0.196	-1.292	-0.806	0.426		12	**0.938**	**1.939c**	**0.060**	2.851	0.763	0.450
-18	0.153	0.277	0.784	-1.140	-0.680	0.501		13	**-0.931**	**-1.973c**	**0.056**	1.920	0.511	0.613
-17	-0.182	-0.300	0.766	-1.322	-0.710	0.482		14	0.155	0.489	0.628	2.075	0.545	0.589
-16	0.830	1.643	0.109	-0.491	-0.273	0.787		15	0.329	1.009	0.320	2.403	0.627	0.534
-15	-0.658	-1.451	0.155	-1.150	-0.610	0.546		16	0.482	1.491	0.145	2.886	0.760	0.452
-14	0.139	0.208	0.836	-1.010	-0.493	0.625		17	0.394	0.932	0.357	3.280	0.829	0.413
-13	-0.309	-0.703	0.486	-1.320	-0.629	0.533		18	-0.328	-0.856	0.398	2.952	0.732	0.469
-12	-1.221	-1.651	0.107	-2.540	-1.208	0.235		19	**0.868**	**2.455b**	**0.019**	3.820	0.955	0.346
-11	-0.535	-0.895	0.377	-3.076	-1.499	0.143		20	0.295	0.693	0.493	4.115	1.043	0.304
-10	-0.191	-0.301	0.765	-3.267	-1.524	0.136		21	0.491	1.415	0.166	4.606	1.172	0.249
-9	-0.489	-1.325	0.194	**-3.756**	**-1.750c**	**0.089**		22	0.218	0.467	0.643	4.823	1.215	0.232
-8	-0.372	-0.609	0.546	**-4.128**	**-1.717c**	**0.095**		23	0.083	0.189	0.851	4.906	1.212	0.233
-7	1.159	1.575	0.124	-2.969	-1.237	0.224		24	0.067	0.162	0.872	4.974	1.243	0.222
-6	0.315	0.676	0.504	-2.655	-1.098	0.280		25	-0.216	-0.489	0.628	4.758	1.165	0.252
-5	0.132	0.215	0.831	-2.523	-1.014	0.317		26	0.380	0.634	0.530	5.138	1.164	0.252
-4	**2.338**	**2.247b**	**0.031**	-0.185	-0.072	0.943		27	-0.202	-0.755	0.455	4.937	1.105	0.276
-3	-0.126	-0.330	0.743	-0.311	-0.119	0.906		28	0.434	1.082	0.287	5.371	1.170	0.250
-2	0.590	1.198	0.239	0.280	0.104	0.918		29	0.424	1.041	0.305	5.795	1.252	0.219
-1	**0.958**	**1.766c**	**0.086**	1.238	0.450	0.656		30	0.313	0.608	0.347	6.108	1.355	0.409
0	**1.319**	**1.766c**	**0.086**	2.556	0.870	0.390								

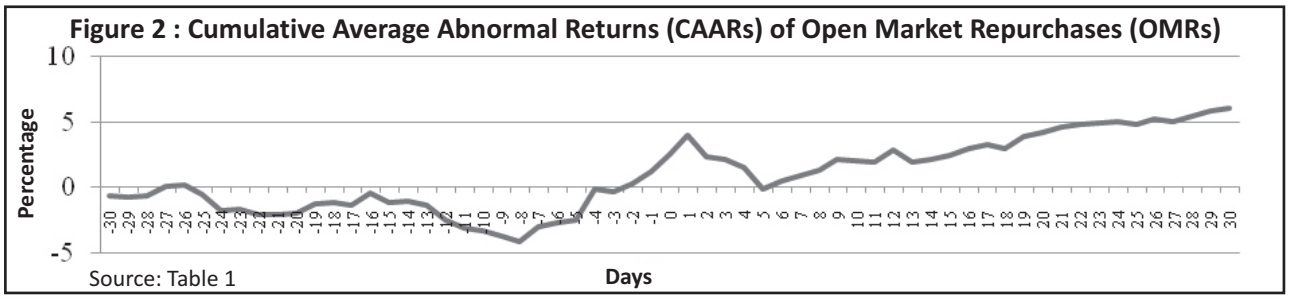
a- Significant at 1% level, b- Significant at 5% level and c- Significant at 10% level

Source: Computed from Prowess database

An observation of CAARs during the event window revealed that the CAARs were significant only in 2 days in the



pre-event window and had negatives (- 3.76% and - 4.13% for the days -9 and -8 respectively). It had also been observed that the negative CAARs noticed in the pre-event window got reversed to get a positive 0.28 per cent on day -2, and thereafter, it never recorded a negative, which showed the beginning of adjustment of prices to the buyback announcements, which ends with a 6.11% for a 61 days period. The CAARs for the OMR data set is presented graphically in the Figure 2.



The CAARs were calculated throughout the event window by taking the first day in the pre-event window -30 to last day +30 in the post-event window. In order to understand the price adjustment process better, the CAARs are calculated for the shorter frame immediately surrounding the event day consisting of 3 days -1 to +1 (pre-event day, event day, and post- event day). The CAAR frame around the event day is gradually extended by having 5 days (-2 to +2), 7 days (-3 to +3) and so on to finish with 61 days (-30 to +30) and the same is presented in the Table 2 with respective CAAR and its significance at 1%, 5%, or 10% levels.

It is observed that out of 30 different CAAR frames, only 8 showed statistically significant CAARs at any of the three levels considered. Those 8 frames were closer to the event day as it was statistically significant to infer that the price adjustment was speedy enough to get the price adjusted within 10 days. The OMR data set also had insignificant CAARs on the 3rd (-3 and +3) and 5th (-5 to +5) frames in the event window. Starting from the 6th (-6 to +6), the CAARs were significant upto the 10th frame (-10 to +10) and thereafter, no CAARs showed significance. It is inferred that on a very liberal estimate of 10% significance level, it took 11 days (including the event day) for the price adjustment.

In order to summarize the results of the Table 1, the number of occurrences having significant abnormal returns with their nature (positive and negative) during the pre and post event window is presented in the Table 3.

Of the 10 days (including the event day), which recorded significant abnormal returns, 3 days fell in the pre- event period, and 6 days were accounted for in the post-event period. In the post-event period, in spite of having significant abnormal returns in 6 days, the possibility of earning abnormal returns is subjected to doubt as it had 3 positives and 3 negatives. It is interesting to note that the immediate post event frame of 1 to 5 days recorded 2 negative ARRs, whereas the AARs were positive for 2 days in -5 to -1 frame. The number of positives are more, and negatives are less, even after having significant ARRs in only 10 days. Especially in the post-event period, the ARR recorded in 1 day during 6 to 10 and 2 days during 11 to 20 frames made the possibility of booking abnormal returns. However, in both the cases, it is inferred that due to mixing up of the abnormal returns in both directions within 20 days, the possibility of making abnormal returns continuously had been curtailed by the speed with which the price got adjusted (CAARs) during the -10 to the +10 event frame. The AARs, CAARs together with their significance for Fixed Price Tenders (FPTs) are presented in the Table 4. The ARRs observed on the event day (1.30%) was not significant even at the 10%

Table 2 : CAARs For Buyback Event Frames - OMRs					
Sl.No.	**Event Frames**	**CAAR (%)**	**Standard deviation**	**t-statistics**	**p-value**
1.	-1 to +1	**3.68**	**0.085**	**2.624b**	**0.013**
2.	-2 to +2	**2.59**	**0.088**	**1.787c**	**0.082**
3.	-3to +3	2.27	0.088	1.565	0.126
4.	-4 to +4	**4.07**	**0.111**	**2.222b**	**0.033**
5.	-5 to +5	2.54	0.105	1.466	0.151
6.	-6 to +6	**3.45**	**0.105**	**2.001c**	**0.053**
7.	-7 to +7	**5.04**	**0.121**	**2.533b**	**0.016**
8.	-8 to +8	**5.00**	**0.130**	**2.337b**	**0.025**
9.	-9 to +9	**5.35**	**0.140**	**2.325b**	**0.026**
10.	-10 to +10	**5.13**	**0.159**	**1.966c**	**0.057**
11.	-11 to +11	4.45	0.167	1.622	0.113
12.	-12 to +12	4.17	0.161	1.580	0.123
13.	-13 to +13	2.93	0.167	1.065	0.294
14.	-14 to +14	3.22	0.189	1.039	0.306
15.	-15 to +15	2.89	0.200	0.882	0.383
16.	-16 to +16	4.21	0.205	1.246	0.221
17.	-17 to +17	4.42	0.226	1.188	0.243
18.	-18 to +18	4.24	0.234	1.103	0.277
19.	-19 to +19	5.82	0.239	1.478	0.148
20.	-20 to +20	6.24	0.236	1.611	0.116
21.	-21 to +21	6.68	0.233	1.740	0.112
22.	-22 to +22	6.49	0.240	1.646	0.109
23.	-23 to +23	6.65	0.242	1.672	0.103
24.	-24 to +24	5.47	0.242	1.373	0.178
25.	-25 to +25	4.61	0.255	1.101	0.278
26.	-26 to +26	5.08	0.269	1.149	0.258
27.	-27 to +27	5.63	0.276	1.242	0.222
28.	-28 to +28	6.08	0.276	1.339	0.189
29.	-29 to +29	6.48	0.288	1.368	0.180
30.	-30 to +30	6.11	0.285	1.279	0.209
b- Significant at 5% level and c- Significant at 10% level					
Source: Computed from Prowess data					

Table 3 : Nature Of Abnormal Returns In Open Market Repurchases			
Event Frames	**Positive**	**Negative**	**Total**
Pre-event (A)			
-30 to -21	-	1	1
-20 to -11	-	-	-
-10 to -6	-	-	-
-5 to -1	2	-	2
Sub- total (A)	**2**	**1**	**3**
Event day (B)	**1**	**-**	**1**
Post Event (C)			
1 to 5	-	2	2
6 to 10	1	-	1
11 to 20	2	1	3
21 to 30	-	-	-
Sub-total (C)	**3**	**3**	**6**
Total (A) + (B) + (C)	**6**	**4**	**10**
Source: Deduced from Table 1			

level, and it did not make the market prices to have a significant AAR different from zero level. It is rather surprising to note that with a near same 1.32% AAR each on event day in the OMR set (37) had their AAR significant at the 10% level. Given the set of information of buyback regarding FPTs, it did not help the prices to have a significant positive information signal. In other words, the prices of companies announced buybacks through FPTs (6) did not respond to the information to produce statistically significant abnormal returns. The FPT dataset for buybacks recorded significant abnormal return during the pre-event window period only for 4 days out of the 61 days that were considered. Even on the event day, it did not produce abnormal returns. The AARs of FPTs is presented graphically in the Figure 3. It is, nevertheless, important to note that by not generating significant abnormal returns even on the event day, the possibilities of booking significant abnormal returns thereafter fades away as it is noticed that the post-event window did not have any day with significant abnormal returns. Interestingly, the pre-event window had 4 days with significant abnormal returns - that too only one day with positive 1.50% on day -29, and it was proceeded by 3

Table 4 : AARs and CAARs Of Buyback Announcement - Fixed Price Tenders (FPTs)

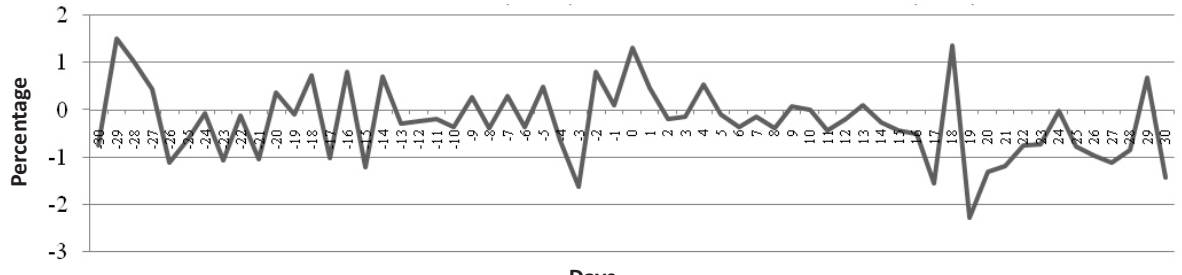
Days	AAR	t-statistics	p-value	CAAR	t-statistics	p-value		Days	AAR	t-statistics	p-value	CAAR	t-statistics	p-value
-30	-0.764	-0.862	0.428	-0.764	-0.862	0.428		1	0.457	0.784	0.469	-2.120	-0.481	0.651
-29	**1.496**	**2.455c**	**0.058**	0.732	1.057	0.339		2	-0.200	-0.474	0.655	-2.320	-0.503	0.636
-28	1.016	0.410	0.699	1.748	0.852	0.433		3	-0.155	-0.192	0.855	-2.475	-0.507	0.633
-27	0.434	0.414	0.696	2.181	0.992	0.367		4	0.533	0.597	0.576	-1.942	-0.357	0.736
-26	**-1.127**	**-2.015c**	**0.100**	1.055	0.549	0.606		5	-0.104	-0.233	0.825	-2.046	-0.368	0.728
-25	-0.634	-1.149	0.303	0.421	0.285	0.787		6	-0.378	-1.232	0.273	-2.424	-0.424	0.689
-24	-0.080	-0.075	0.943	0.341	0.153	0.884		7	-0.155	-0.409	0.699	-2.579	-0.450	0.672
-23	**-1.066**	**-2.947b**	**0.032**	-0.725	-0.295	0.780		8	-0.393	-0.832	0.443	-2.971	-0.556	0.602
-22	-0.128	-0.180	0.864	-0.854	-0.404	0.703		9	0.070	0.164	0.876	-2.902	-0.562	0.599
-21	-1.053	-0.837	0.441	-1.906	-0.923	0.399		10	-0.009	-0.011	0.992	-2.910	-0.635	0.553
-20	0.366	1.241	0.270	-1.540	-0.729	0.499		11	-0.431	-0.755	0.484	-3.341	-0.687	0.523
-19	-0.110	-0.291	0.783	-1.650	-0.823	0.448		12	-0.199	-0.502	0.637	-3.540	-0.718	0.505
-18	0.731	0.978	0.373	-0.918	-0.381	0.719		13	0.094	0.097	0.927	-3.446	-0.670	0.532
-17	-1.012	-1.480	0.199	-1.930	-0.735	0.495		14	-0.271	-0.338	0.749	-3.717	-0.676	0.529
-16	0.799	1.535	0.185	-1.132	-0.428	0.687		15	-0.429	-0.534	0.616	-4.146	-0.676	0.529
-15	**-1.223**	**-2.237c**	**0.076**	-2.354	-0.792	0.464		16	-0.521	-1.437	0.210	-4.667	-0.745	0.490
-14	0.702	0.813	0.453	-1.652	-0.477	0.654		17	-1.546	-0.605	0.572	-6.213	-0.746	0.489
-13	-0.284	-0.636	0.553	-1.936	-0.552	0.605		18	1.350	1.454	0.206	-4.863	-0.550	0.606
-12	-0.240	-0.378	0.721	-2.175	-0.575	0.590		19	-2.281	-1.291	0.253	-7.144	-0.812	0.454
-11	-0.205	-0.329	0.755	-2.380	-0.569	0.594		20	-1.307	-1.465	0.203	-8.451	-1.003	0.362
-10	-0.364	-1.473	0.201	-2.744	-0.636	0.553		21	-1.186	-1.987	0.104	-9.637	-1.095	0.323
-9	0.267	1.178	0.292	-2.477	-0.559	0.600		22	-0.762	-1.737	0.143	-10.399	-1.166	0.296
-8	-0.393	-0.647	0.546	-2.870	-0.599	0.575		23	-0.720	-2.220	0.077	-11.119	-1.273	0.259
-7	0.287	0.441	0.677	-2.583	-0.553	0.604		24	-0.030	-0.054	0.959	-11.149	-1.315	0.245
-6	-0.366	-1.308	0.248	-2.948	-0.604	0.572		25	-0.773	-1.789	0.134	-11.922	-1.414	0.216
-5	0.481	0.514	0.629	-2.468	-0.499	0.639		26	-0.983	-1.247	0.268	-12.905	-1.495	0.195
-4	-0.659	-0.801	0.460	-3.127	-0.651	0.544		27	-1.129	-1.314	0.246	-14.034	-1.731	0.144
-3	-1.636	-1.479	0.199	-4.763	-0.949	0.386		28	-0.861	-0.358	0.735	**-14.895**	**-2.092c**	**0.091**
-2	0.792	0.959	0.382	-3.971	-0.856	0.431		29	0.682	0.268	0.799	-14.213	-1.932	0.111
-1	0.090	0.175	0.868	-3.881	-0.778	0.472		30	-1.424	-1.510	0.192	**-15.637**	**-2.083c**	**0.092**
0	1.304	1.823	0.128	-2.577	-0.577	0.589								

b- Significant at 5% level and c- Significant at 10% level

Source: Computed from Prowess database

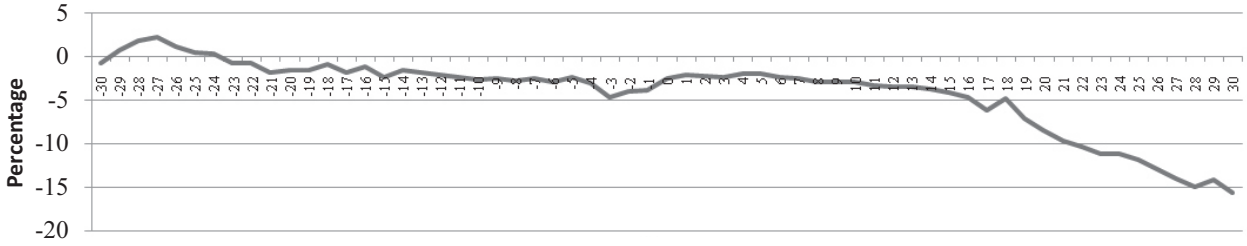
negatives with 1.13% on day -26, 1.07% on day -23 and 1.22% on day -15. It is inferred that abnormal profit booking opportunities were ruled out, as the CAARs of FPTs from day -23 to +30 turned into negatives. One interesting aspect noticed was that the positive AARs on day -2 (0.79), day -1(0.09%), event day (1.30), and day +1 (0.46%), even though not sufficient in statistical testing, but they reduced the negative CAAR from -3.98% on day -2 to -2.12% on day +1. By having negative abnormal returns during the entire post event period (except on days +4, +9, +18, and +29), the CAARs of the FPT buyback data ended up with a very high negative of 14.89 per cent on day +28 and 15.64% on day +30 to have significant cumulative negative abnormal returns and the CAARs of FPT data is graphically presented in the Figure 4.

Figure 3 : Average Abnormal Returns (AARs) of Fixed Price Tenders (FPTs)



Source: Table 4

Figure 4 : Cumulative Average Abnormal Returns (CAARs) of Fixed Price Tenders (FPTs)



Source: Table 4

It is opined that even after having some positive abnormal returns during the shorter version of the event window as a result of the buyback information content, the quantum was not sufficient enough to pull up the prices and the FPT buyback signalling was very mild ; it did not sustain and is presented in the Table 5. It is noted that, of the 30 different frames, the CAARs were significant only in 2 frames, the first (-1 to +1) and the second (-2 to +2) immediately around the event window. The CAARs of both of the short frames were significant at the 1% level. Therefore, it is opined that the price adjustment of the FPT buyback announcement was completed on the 3rd day itself (including the event day). A surprising aspect that has been noticed was that the CAARs were statistically significant in the 23rd (-23 to +23), 25th through 28th and also in the 30th (-30 to +30) but in all the frames, the abnormality noted was negative, ruling out the possibilities of booking abnormal returns. The pre-event and post-event and nature wise significant abnormal returns are presented in the deduced Table 6.

It is observed that out of 61 days, only 4 days had significant abnormal returns, and all the 4 days were under the pre-event period. Of the 4 days, 3 days had negative abnormal returns and only one day, that too in a distant frame (-30 to -21), had positive abnormal returns, which could not be attributable to the buyback announcement. The absence of significant abnormal returns throughout the post event-window and the short frame featuring -5 to -1 days signified that the mild effect of the buyback announcements got settled very quickly into prices and there could not be any chance of getting abnormal returns.

CONCLUSION

Buyback announcements are new information to the stock market in the Indian context. These announcements contain

Table 5 : CAARs For Buyback Event Frames - FPTs					
Sl. No	**Event Frames**	**CAAR (%)**	**Standard deviation**	**t-statistics**	**p-value**
1.	-1 to +1	**1.85**	**0.015**	**3.024a**	**0.005**
2.	-2 to +2	**2.44**	**0.018**	**3.236a**	**0.003**
3.	-3to +3	0.65	0.031	0.523	0.604
4.	-4 to +4	0.53	0.047	0.274	0.785
5.	-5 to +5	0.90	0.061	0.361	0.720
6.	-6 to +6	0.16	0.072	0.054	0.957
7.	-7 to +7	0.29	0.076	0.094	0.925
8.	-8 to +8	-0.49	0.070	-0.173	0.864
9.	-9 to +9	-0.16	0.071	-0.055	0.957
10.	-10 to +10	-0.53	0.064	-0.202	0.841
11.	-11 to +11	-1.17	0.072	-0.399	0.692
12.	-12 to +12	-1.60	0.070	-0.563	0.577
13.	-13 to +13	-1.79	0.077	-0.569	0.573
14.	-14 to +14	-1.36	0.095	-0.350	0.729
15.	-15 to +15	-3.01	0.108	-0.685	0.498
16.	-16 to +16	-2.74	0.117	-0.573	0.570
17.	-17 to +17	-5.29	0.163	-0.794	0.433
18.	-18 to +18	-3.21	0.179	-0.440	0.663
19.	-19 to +19	-5.60	0.171	-0.804	0.427
20.	-20 to +20	-6.54	0.163	-0.985	0.331
21.	-21 to +21	-8.78	0.181	-1.189	0.242
22.	-22 to +22	-9.67	0.166	-1.425	0.163
23.	-23 to +23	**-11.46**	**0.165**	**-1.700c**	**0.098**
24.	-24 to +24	-11.57	0.175	-1.621	0.114
25.	-25 to +25	**-12.98**	**0.167**	**-1.909c**	**0.064**
26.	-26 to +26	**-15.09**	**0.167**	**-2.216b**	**0.033**
27.	-27 to +27	**-15.78**	**0.155**	**-2.498b**	**0.017**
28.	-28 to +28	**-15.63**	**0.184**	**-2.081b**	**0.045**
29.	-29 to +29	-13.45	0.196	-1.680	0.102
30.	-30 to +30	**-15.64**	**0.184**	**-2.083b**	**0.044**
a- Significant at 1% level, b- Significant at 5% level and c- Significant at 10% level					
Source: Computed from Prowess data					

Table 6 : Nature of Abnormal Returns In Fixed Price Tenders			
Event Frames	**Positive**	**Negative**	**Total**
Pre-event (A)			
-30 to -21	1	2	3
-20 to -11	-	1	1
-10 to -6	-	-	-
-5 to -1	-	-	-
Sub- total (A)	**1**	**3**	**4**
Event day (B)	**-**	**-**	**-**
Post Event (C)			
1to5	-	-	-
6 to 10	-	-	-
11 to 20	-	-	-
21 to 30	-	-	-
Sub-total (C)	**-**	**-**	**-**
Total (A) + (B) + (C)	**1**	**3**	**4**
Source: Deduced from Table 4			

information and are capable of lifting the share prices, through signalling undervaluation. However, signalling ability among the methods through which the buybacks are carried out differ. In spite of having recorded a near same abnormal return of 1.32% on the event day in the two methods (OMR and FPT) considered for the study, the abnormal return was statistically significant only in OMRs. The abnormal return of 6.10%, when it is cumulated for a 61 days event period, documented a strong signalling. In case of FPTs, after having recorded a statistically non significant abnormal return of 1.30% on the event day, for the same event window of 61 days taken together, it ends with cumulative abnormal return of -15.64%, thereby evidencing a weak signalling. The finding corroborates with Hyderabad (2009[b]; India) and Zang (2002; Japan) and contradicts the findings of studies conducted in the US. In the Indian context, it is concluded that the FPT method of buyback has not been concentrated much because of the weak signalling and OMR had reasons to get concentrated on account of strong signalling during the study period.

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