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Information Content of Share Repurchase Program: A Study of Select Indian Firms

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Abstract

Corporates use share repurchases as a part of overall corporate restructuring strategy of distributing excess funds and building promoters' stakeholding. It provides a mechanism to adjust the capital structure and financial position of a firm. Repurchase of shares by Indian firms is on the rise in recent years. This paper is an attempt to examine the impact of repurchase announcements made by Information Technology (IT) companies on the wealth of the shareholders. All the recent repurchase announcements made by IT companies fall in the scope of this study. Results of event study methodology have found that there is a positive significant impact of repurchase announcements on the shareholders' wealth.

Keywords: Share Repurchase, Buyback of Shares, Event Study, Stock Price Performance

Introduction

The share repurchase is the process of buying back or repurchasing by corporate of a certain percentage of its own shares from the existing shareholders. Share repurchase/buyback is a kind of investment made by the companies in their own stocks. Sometimes, companies may use this method as an alternative to pay cash dividends. Repurchase of shares is used as a financial tool to increase the shareholder value, capital structure and financial position of the company. Though the buyback strategy has been quite popular in the developed markets, it is of recent origin in the Indian corporate environment. A general restriction was imposed on the Indian companies from buying back its shares because it might be prejudicial to the interest of creditors and minority shareholders. But at the end of the 1980s and 1990s and to revive the sagging capital market, the regulators, market operators and industry collectively agreed to introduce buyback in India. Accordingly, the union government promulgated the companies (Amendment) Ordinance, 1998 approving the buyback of shares for the first time in India (Chakraborty, 2008). The concept of the share buyback is a new one so far as India is concerned; but on a global scale, share repurchase programme started much earlier. The US has the longest history among the countries which allow share buyback by companies. Share buybacks had appeared in the US in the late 1960s. However, it was not until the mid-1980s that they had become very popular. The buyback system was not subject to any special federal regulation until 1982 although the US Securities exchange commission (SEC) had been contemplating over it for a long time. Share buyback activity has experienced extraordinary growth in the US over the last 30 years ago. In 1990 and 2000, the industrial firms spent more money on share buyback than on dividend payments.

In India, companies have to abide by all the provisions of section 77A, 77AA and 77B of the companies Act 1956 whenever they buyback the shares from the market. Listed companies have to adhere to the SEBI (Securities and exchange board of India) Regulations 1998. These SEBI regulations contain substantive procedural requirements to carry out the buyback of shares. Table 1 briefly explains various provisions under the act.

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Table 1: Buyback Provisions in the Companies Act, 1956

Companies Act, 1956	*Contents*
Section 77A	Gives details of the various conditions of buyback; sources of financing buyback; the time period of completion of the buyback; methods of buyback; information regarding the declaration of the company; extinguishment of the shares/securities bought back; fine and punishment in case of default; and other conditions.
Section 77AA	Gives information with regards to the transfer of certain sums to capital redemption reserve account, in case a company purchase its own shares through free reserves.
Section 77B	Prohibits buyback under certain circumstances.

In general, Indian IT services companies have been averse to taking risks and have used their humongous cash reserves only sparingly for new acquisitions. In recent years, this has spurred shareholders to demand a greater share of cash pie. Bengaluru-based Infosys and Wipro announced buyback of ₹13,000 crore and ₹11,000 crore, respectively while HCL technologies announced a buyback of ₹3,500 crore. This spate of stock repurchases is coming at a time when the Indian IT services industry is being increasingly challenged by technology shifts and growing protectionism in its primary market in the US. The present research is an attempt to study the information effect of these buybacks, that is, whether these have led to value creation or are just a financial engineering tool.

Methods and Motives of Share Repurchase

There are various motives of share repurchase stated in the literature. Through buyback, companies return back the surplus cash to shareholders not used by the business in the near future. It also provides an exit route to shareholders in case of illiquid shares. The stock repurchases offered tax advantage because the shareholders withhold their shares from the market to avoid taxation and the cost of the stock sold is considered in the determination of capital gain (Hurtt, Kreuze, and Langsam, 2008). The stock buybacks also generate a healthy increase in the price of the stocks in the market, thereby, sending a 'positive shock' to the stock prices. This was evident when the firms announced buyback totalling $44 billion to raise the stock prices after the 1987 stock market crash.

Similarly, after the September 2011 World Trade Centre attack, many corporations announced buyback programmes to stabilise their stock prices. Some of the companies believed that share repurchases are an alternative method for paying cash dividends. Asquith and Mullins (1986) have analysed that dividend and share repurchases play signalling roles.

There are mainly two modes of the buyback. First one is a tender offer; it means the companys buyback the shares of existing shareholders on a proportionate basis at a fixed price, known as a tender price, until a given expiration date. In the case of tender offer method, the promoters can also tender their shares. Buyback offer remains open for not less than 15 days and not more than 30 days. The second one is buyback through open market; it means buyback through a book-building process or through the stock exchange. Under book-building process, shareholders are invited to tender their shares at any price within the stated range; however, under stock exchange process, the company buyback its shares from the market. A number of research studies have been carried out to analyse whether the method of share repurchase has any effect on the returns to the shareholders. Most of the researchers have applied event study to examine the impact of share repurchases through a tender offer on the market prices of the companies. They found significant positive returns at the announcement date and within a specific window period (Howe et al., 1992; Dann, 1981; Vermaelon, 1981; Lakonisshok and Vermaelen, 1990). Research conducted by Hyderabad (2009), however, revealed that open-market repurchases have greater signalling ability than fixed-price tender offers in the Indian context. The broad consensus in the literature is that share repurchase through open market and tender offer creates value for shareholders. There are studies like Chakraborty (2008) who are in contrast with the consensus but the important point worth consideration is that shares' repurchase benefits both the companies and shareholders.

According to the researchers, the market perceives buyback as good news and market reacts favourably. Most of the researchers have proved that shareholders got abnormal returns at the time of announcement of share buyback, and during mean announcement period and also thereafter. Shareholders will generate excess returns on the announcement date and also thereafter (Stephens &

Weisback, 1998; McNally, 1999; Howe et al., 1997; Singh et al., 1994; Ikanberry et al., 1995; Netter & Mitchell, 1989). One of the researchers found that a distinct pattern of returns was shown prior to the announcement date which according to them could arise due to 'leakages' of the content of the forthcoming announcement. It was also investigated that whether the size of the company effected the share price during the buyback period results have shown that. Smaller companies generated larger abnormal returns because of low information asymmetry between management and investors.

The broad consensus in the literature is that share repurchase creates value for shareholders.

Objective of the Study

The present study is conducted to analyse the information content of the share repurchase programme of various IT companies, and to know whether these share repurchase programmes have created shareholders' wealth.

Research Methodology

To analyse the information content of the share repurchase programme, event study methodology has been applied. It will help in analysing what impact share repurchase announcement has made on the shareholders' wealth. Identification of estimation period, event window and calculation of abnormal returns are explained below.

Defining Estimation Period

Before applying the event study methodology, we must explain the estimation period. This period is proceeding to the event date. This period is called a clean period and it is free from all biases. Estimation period ranges from 100 days to 250 days. We have used an estimation period of 180 days. Fig. 1 explains the estimation period of the study:

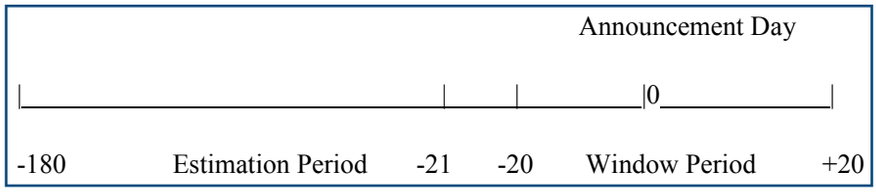

Fig. 1: Estimation Period and Window Period

Defining Event Window

The event window is the period over which the share prices of the firms involved in the event are analysed. The event window period for the present study has been taken from -20 days to +20 days, i.e., 41 days centred on the event day. The event day (defined as $t = 0$) was the date on which the share buyback announcement was made and the 20 days before the event day was designated as -20 to -1 and 20 days after the event were designated as +1 to +50. Fig. 2 explains the event window of the study.

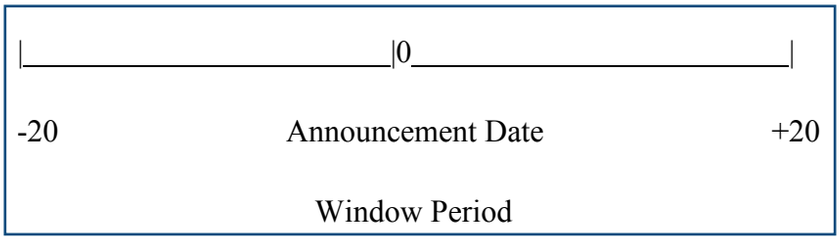

Fig. 2: Event Window

Calculation of Daily Returns

The daily return of each sample IT Company has been calculated for 180 days estimation window and 41 days event window. The formula to calculate the daily returns is as follows:

$$R \neq \left(\frac{P_{jt} - P_{jt-1}}{P_{it}} \right) \quad \ldots(1)$$

Where

P_{jt} is the market price of IT company j on day t.

P_{jt-1} is the market price of IT company j on day $t-1$

Rjt is the return of security j on time t.

Application of Market Model Regression

Under this step, we have to calculate the abnormal returns with a suitable model during the window period for sample companies. These calculations are based on security prices and market prices during the estimation period of 180 days. There are various methods to calculate the abnormal returns but most of the researchers have applied the market model. The formula to calculate the abnormal returns with the market model is as follows:

$$R_{jt} = a_j + \beta_j R_{mt} + e_{jt}$$

Where

Rjt – Expected return of a company j for time period t. Rmt – Market Index return for period t (BSE Sensex) βj– Sensitivity of the stock of company j to the market.
βj – Returns other than market forces for company j $\acute{e}jt$ – Statistical error.

The regression model estimates αj and βj, which is defined $\hat{\alpha}_j$ and $\hat{\beta}_j$. The calculation is as follows:

$$\hat{R}_{jt} = \hat{\alpha}_j + \hat{\beta}_j * R_{mt} \quad \ldots(2)$$

Calculation of Abnormal Returns

If we want to check the performance of the stocks of IT companies after announcement date then we have to calculate the abnormal returns. Before the calculation of abnormal return, it is necessary to calculate normal returns we have to compare the actual with the benchmark only then we will be able to calculate abnormal returns (Brown and Warner, 1980). Basically, the normal returns are defined as expected return without adjustment of any event. The formula to calculate the abnormal return is as follows:

$$AR_{jt} = R_{jt} - (\hat{\alpha}_j + \hat{\beta}_j R_{mt}) \quad \ldots(3)$$

Where $\hat{\alpha}$ and $\hat{\beta}$ are estimated coefficients.

(i) Average Abnormal Returns

To relegate the impact of any one company or group of companies on the abnormal returns and to draw overall inference for the event, the average abnormal returns (AAR's) were calculated. The AAR on each day t (AARt) within the event window period was computed as:

$$AAR = \sum_{n_{j=1}}^{1^n} AR_{jt} \quad \ldots(4)$$

Where

AAR = Average abnormal returns.

N = Number of companies in the sample.

$ARjt$ = Abnormal return of stock j on a particular trading day.

(ii) Cumulative Abnormal Returns

Cumulative abnormal returns determine the impact of AARs on days surrounding the event, the CAAR were calculated for day $t1$ through $t2$ by summing the AARs for these days. The CAAR has been calculated as follows:

$$CAAR_T = \sum_{t=1}^{T} AAR_t \quad \ldots(5)$$

Where

$CAAR$ = Cumulative average abnormal return of the sample companies.

Results and Discussion

The event study methodology was applied to check the stock market reaction during buyback announcement period (MacKinlay, 1977). The market regression model was applied to predict the normal returns of the companies during estimation and window period. We have taken BSE Sensex as a benchmark to apply regression model. The event window period was taken from -20 to +20 days around the event day and the estimation period was taken from -180 to -21 days relative to the event day. The AR, AAR and CAAR were calculated and their statistical significance was examined by applying the t-statistics. Table 2 represents the details of the names of the companies and the announcement dates of buyback by the particular company. The data were gathered from Bombay Stock Exchange (BSE) and the public announcement dates were collected from SEBI website.

Table 2: List of Companies Included in the Analysis of the Stock Market Reaction to Buyback Announcements

Name of the Company	*Announcement Date*	*Source of Details*
Tata Consultancy Services Ltd.	25-04-2017	BSE
Tata Consultancy Services Ltd.	10-08-2018	BSE
Wipro Ltd.	27-04-2016	BSE
Wipro Ltd.	07-09-2017	BSE
Mind Tree Ltd.	04-07-2017	BSE
Mphasis Ltd.	20-03-2017	BSE
Mphasis Ltd.	05-10-2018	BSE
Bosch Ltd.	30-08-2016	BSE
Infosys Ltd.	12-10-2017	BSE
HCL Technologies Ltd.	22-05-2017	BSE
HCL Technologies Ltd.	24-07-2018	BSE
Larsen and Toubro InfoTech Ltd.	23-07-2018	BSE

Results of event study methodology are shown in this section. We have calculated the abnormal returns for 180 days estimation period using market model. Estimation period of 180 days called a clean period and free from all biases is taken. Estimation period is different in different studies. We have calculated the abnormal returns in this study with the help of BSE Sensex because we have taken it as a market index. Table 3 gives the details of the estimation and window period for 12 IT companies.

Table 3: Details of Estimation Period and Window Period

S. No.	*Name of the Companies*	*Date of Announcement*	*Estimation Period From*	*Estimation Period To*	*Number of Days in Estimation Period*	*Window Period*
1	Tata Consultancy Services Ltd.	25-April-2017	30-June-16	23-March-17	(-21 to - 200) = 180 days days	(+20;- 20)
2	Tata Consultancy Services Ltd.	10-August-2018	25-October-17	12-July-18	(-21 to- 200) = 180 days days	(+20;-20)
3	Wipro Ltd.	27-April-2016	30-June-15	22-March-16	(-21 to - 200) = 180days days	(+20;-20)
4	Wipro Ltd.	07-September-2017	18-Nov-16	07-August-17	(-21 to -200) = 180days days	(+20;- 20)
5	Mind Tree Ltd.	04-July-2017	09-Sep-16	2-June-17	(-21 to -200) = 180days days	(+20;-20)
6	Mphasis Ltd.	20-March-2017	27-May-16	15-Feb-17	(-21 to- 200) = 180days days	(+20;-20)
7	Mphasis Ltd.	05-October-2018	13-Dec-17	03-Sep-18	(-21 to - 200) = 180days days	(+20;-20)
8	Bosch Ltd.	30-August-2016	04-Nov-15	29-July-16	(-21 to - 200) = 180days days	(+20;- 20)
9	Infosys Ltd.	12-October-2017	22-Dec-16	12-Sep-17	(-21 to- 200) = 180days days	(+20;-20)
10	HCL Technologies Ltd.	22-May-2017	22-July-16	20-April-17	(-21 to- 200) = 180days days	(+20;-20)
11	HCL Technologies Ltd.	24-July-2018	5-Oct-17	25-June-18	(-21 to- 200) = 180 days days	(+20;-20)
12	Larsen and Toubro Infotech Ltd.	23-July-2018	04-Oct-17	22-June-18	(-21 to- 200) = 180days days	(+20;-20)

The results of the regression model have been presented in Table 4. The intercept and slope have been calculated by using the given equation. Two companies out of 12 show the negative intercept. It shows the riskiness of the company compared to their expected returns.

Table 4: Results of Market Model

S. No.	Name of the Companies	Date of Announcement	Intercept	Slope	R^2	Standard Error
1	Tata Consultancy Services Ltd.	25-April-2017	-0.01606	0.503131	0.059959	1.45833
2	Tata Consultancy Services Ltd.	10-August-2018	0.610454	-1.1413	0.007953	8.459418
3	Wipro Ltd.	27-April-2016	0.059159	0.609832	0.277317	1.084337
4	Wipro Ltd.	07-September-2017	0.0950064	0.5845351	0.0779624	1.1810984
5	Mind Tree Ltd.	04-July-2017	0.017978	0.705948	0.092043	1.570202
6	Mphasis Ltd.	20-March-2017	0.121374	0.570163	0.060658	1.694684
7	Mphasis Ltd.	05-October-2018	0.302119	0.576212	0.026508	2.257337
8	Bosch Ltd.	30-August-2016	0.09720133	0.76128930	0.20378905	1.466611809
9	Infosys Ltd.	12-October-2017	-0.132173	0.8327052	0.0942141	1.4563881
10	HCL Technologies Ltd.	22-May-2017	0.049798	0.492737	0.064854	1.344182
11	HCL Technologies Ltd.	24-July-2018	0.004711	0.364403	0.021946	1.598204
12	Larsen and Toubro Infotech Ltd.	23-July-2018	0.396134	0.557882	0.022266	2.430314
9	Infosys Ltd.	12-October-2017	-0.132173	0.8327052	0.0942141	1.4563881
10	HCL Technologies Ltd.	22-May-2017	0.049798	0.492737	0.064854	1.344182
11	HCL Technologies Ltd.	24-July-2018	0.004711	0.364403	0.021946	1.598204
12	Larsen and Toubro Infotech Ltd.	23-July-2018	0.396134	0.557882	0.022266	2.430314

Table 5 presents the AAT and the CAAR for (+20, -20) days. First column shows the trading days relative to day 0 (Announcement day), second column identifies the AAR (in percent), third column identifies the CAAR (in percent) and column four reports the *t* statistics of the AAR for each trading day.

Table 5: AAR and CAAR 20 Days Before the Announcement Until 20 Days After the Announcement of Sample Share Buyback

Days	AAR (%)	CAAR (%)	T-statistics
-20	0.244134402	0.244134	0.283251
-19	0.070890191	0.315025	0.082249
-18	-0.311117103	0.003907	-0.36097
-17	0.211921395	0.215829	0.245877
-16	-0.107592867	0.108236	-0.12483
-15	0.19068561	0.298922	0.221238
-14	-0.10984285	0.189079	-0.12744
-13	-0.560612651	-0.37153	-0.65044
-12	-0.018011717	-0.38955	-0.0209
-11	-0.014092774	-0.40364	-0.01635
-10	0.13493908	-0.2687	0.15656
-9	0.227643072	-0.04106	0.264117
-8	-0.091441796	-0.1325	-0.10609
-7	-0.274178882	-0.40668	-0.31811
-6	-0.275417164	-0.68209	-0.31955
-5	0.432980731	-0.24911	0.502355
-4	-0.499529243	-0.74864	-0.57957
-3	-0.436698411	-1.18534	-0.50667
-2	-0.137606503	-1.32295	-0.15965
-1	-0.06122482	-1.38417	-0.07103

Days	*AAR (%)*	*CAAR (%)*	*T-statistics*
0	-0.045364541	-1.42954	-0.05263
1	-0.429335732	-1.85887	-0.49813
2	-0.233813383	-2.09269	-0.27128
3	-0.551794981	-2.64448	-0.64021
4	-0.377738834	-3.02222	-0.43826
5	-0.117176358	-3.1394	-0.13595
6	-0.241394881	-3.38079	-0.28007
7	-0.336991292	-3.71778	-0.39099
8	-0.836394541	-4.55418	-0.97041
9	0.058759147	-4.49542	0.068174
10	-0.129128773	-4.62455	-0.14982
11	-0.235138702	-4.85969	-0.27281
12	-0.972738883	-5.83242	-1.1286
13	-0.540598714	-6.37302	-0.62722
14	0.477419178	-5.8956	0.553914
15	-0.379956003	-6.27556	-0.44083
16	0.116119509	-6.15944	0.134725
17	0.147077111	-6.01236	0.170643
18	0.183523908	-5.82884	0.212929
19	-0.209100665	-6.03794	-0.2426
20	-0.479033958	-6.51697	-0.55579

Table 6 shows that AAR on the announcement day (Day 0) is -0.0453 percent, which is more than the other days. Because of the small sample, the data are not significant in any of the days on an average. But the returns on -1 day and on +1 day show the huge differences. It means shareholders are able to make profits from the announcement dates of buyback though results are not statistically significant. Analysis of the number of individual buyback announcements has shown significant abnormal returns around the announcement period. Several studies conducted to examine the share price reaction to buyback have also documented a favourable market response to company's announcement of its buyback decision (Masulis, 1979; Lakonishok & Vermaelen, 1990; Ikenberry et al., 1885; Ikenberry & Vermaelen, 1996; Nohel & Tarhan, 1998; Rees. 1996; Comment & Jarrell, 1991; Stephens, 1998; Ekanayake, 2004).

AARs are plotted in the following diagram with window period [+20; -20] days to check the movement of returns after share repurchases. The point that we can make out is that the variations in abnormal returns increase after share repurchases.

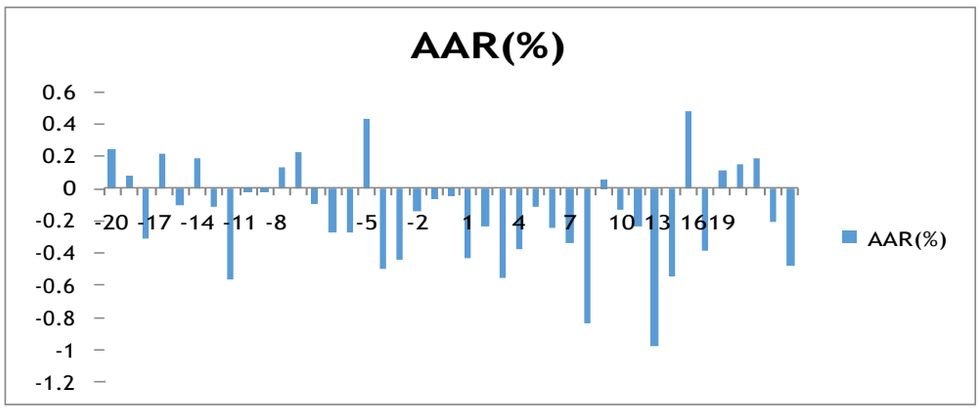

Fig. 3: Average Abnormal Returns

Cumulative abnormal returns are shown in the following graph. These are the cumulated returns for the entire window under study. As we see in the diagram, cumulative abnormal returns show an increasing trend, especially in the days closer to the event day. We cannot confer any conclusion from the trend of the CAAR because it needs to be tested for valid conclusions.

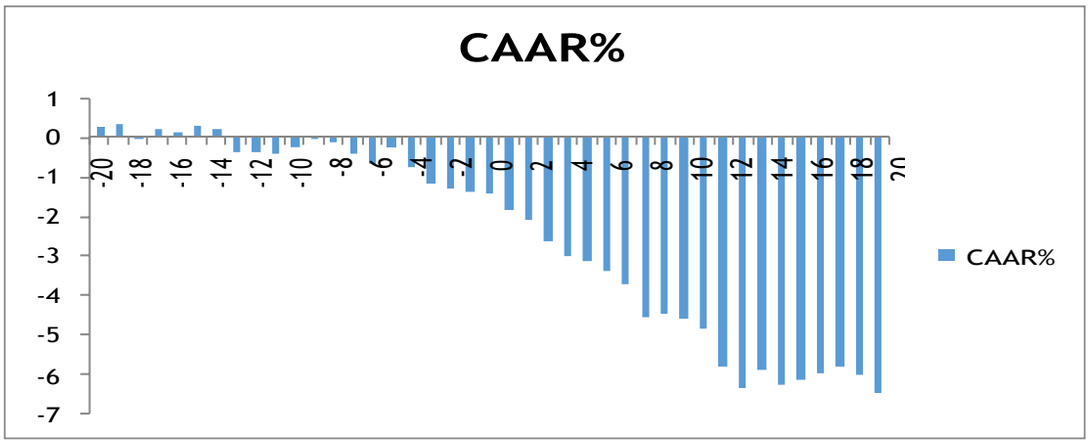

Fig. 4: Cumulative Average Abnormal Return

Most of the companies like Bosch Ltd, Wipro Ltd, Mphasis Ltd and L&T Infotech Ltd show the significance level at 5 percent on day -1, -4, +6, -3, respectively. Fig. 4 explains the cumulative average abnormal returns of the study.

Table 6: Abnormal Returns of 10 Day Window of Share Buyback of Bosch Ltd.

Days	*Bosch (AR %)*	*T statistics*
-5	0.082901	0.0565255
-4	0.996452	0.6794244
-3	-0.29814	-0.2032844
-2	-0.43644	-0.2975808
-1	3.123225	2.1295514*
0	-2.60024	-1.7729565
1	-0.52991	-0.3613175
2	-0.7121	-0.4855414
3	0.329686	0.224794
4	-0.34609	-0.235979
5	0.232754	0.1587021

Abnormal return of Bosch company was significant at 5 percent level with the value 2.1295514 on day -1. It means the information of buyback was leaked in the market and investors were able to generate the abnormal returns as we see in Table 6. The *t* statistics on event day show higher value in comparison to other days, i.e., 1.7729565. It was found that on the buyback announcement date, there was a significant positive return.

Table 7: Abnormal Returns of 10 Day Window of Share Buyback of L&T Ltd.

Days	*L&T (AR %)*	*T statistics*
-5	0.49367318	0.203131469
-4	-0.0535206	-0.022022102
-3	-7.0630752	-2.90624021*
-2	0.41872675	0.1722933
-1	-2.0803039	-0.855981656
0	3.87837742	1.59583413
1	-0.58792	-0.241911158
2	-0.0480798	-0.01978336
3	0.48294628	0.198717678
4	-1.4332663	-0.589745407
5	2.21619269	0.911895764

Abnormal return of L&T Company was significant at 5 percent with the value 2.90624021 on the day -3. It means the information of buyback was leaked in the market and market reacted prior to event day and we have seen from the above table that the return on event day is higher than the other days, i.e., 1.59583413. It was found that announcement of buyback has put a significant positive impact on the share prices of the company.

Table 8: Abnormal Returns of 10 Day Window of Share Buyback of Wipro Ltd.

Days	*Wipro (AR %)*	*T statistics*
-5	2.287071278	1.936393446
-4	-1.145340514	-0.969724855
-3	0.438509816	0.371272877
-2	-0.343293658	-0.290656262
-1	0.176188064	0.149173056
0	0.492405835	0.416904991
1	0.344266472	0.291479915
2	-0.171093534	-0.144859673
3	-1.597803534	-1.352811485
4	-0.883089673	-0.747685073
5	-4.299869033	-3.640567871*

Abnormal return of Wipro Company was significant at 5 percent level with value of 3.64056781 on day 5. It means that the market reacted though slowly to the buyback announcement. As we have seen in Table 7, the value on day 3 is also higher than other days. Results are significant on day 5. Sometimes, the abnormal returns are significant prior to the period of the announcement date. It is because of the 'leakages' of the information in the market for any coming event (Buyback) (Dann, 1981; Vermaelen, 1981; Pugh & Jahera, 1990).

Conclusion

The results of the buyback of various IT companies reveal that on event day (date of public announcement), the returns generated by the companies are much higher than the returns on other days. Investors generate profits prior to event day also because of information leakages. A negative and significant AAR 5 days after the announcement indicated profit booking by the investors as in the case of Wipro Ltd. Similarly, significant abnormal returns were observed for many of other firms also when analysed individually. To conclude, results have shown that share repurchase announcements have increased shareholders' wealth, reflected through the abnormal returns of the companies.

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