

Reaction of Stock Price to Buyback Announcements - Sector wise Analysis of Indian Companies

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Abstract

This paper aims to investigate the impact of share buyback announcements on stock prices as these corporate announcements have an impact on stock price in the form of positive, negative and neutral ways. The study includes 89 companies listed in the exchange and analyzed sector wise which is new in this research area. The study used an event window of 126 working days using event studies methodology. The results show that the market reacts positively with significantly positive Average Abnormal Returns on t_0 and $t+1$ day. Around 50% of the stocks showed a positive response in stock value after the announcement of the buyback. Results indicate that logistics, oil and minerals, manufacturing, media, automobile, IT, real estate and infrastructure sectors have shown post announcement negative impact on stock price whereas hospitality, healthcare, pharma have indicated positive impact after the announcement. Beverages companies have not experienced change in stock price after the announcement.

JEL classification codes: G14, G40, D53

Key Words: Buyback, Stock price, Abnormal returns

Introduction

Cambridge dictionary defines “Buyback is an offer by a company to buy shares of its own company from shareholders”. The motivation behind buyback is attributed to enhance the value of the share by passing a positive signal in the market. Buyback in India can happen in two ways as prescribed by regulatory body SEBI. One is open market operations method which happens through a stock exchange and the other one is Tender offer which is a direct announcement from the company with specific date and price. More than 90% of share repurchases are done through open market method (Miller, 1998).

Although the concept of share buyback origin was traced in 1960, started gaining popularity in the US and Canada in the 1980s, in the UK they were introduced in 1980 and in Europe, it became widespread in 1990s. Other European countries like Finland, Denmark, Germany, and Sweden introduced buybacks in 1995. It became popular in Japan in 1995, followed by Malaysia in 1997, then followed by other Asian countries like Hong Kong and Taiwan (Gupta, 2005). However in India, till 1998 share repurchases were banned but companies Act 1999 has revived them with some clauses under 77A and 77B. Hsieh and

Wang (2009) stated that buybacks are much preferred over cash dividends. Kaur (2012) study states that 172 events of share buyback announcements happened in the open market method during the period of 2001 to 2012. Stock markets in India are witnessing rally from 2016 to 2018 period showcasing liquidity coming from the mutual fund industry as well as IPO market. More than 100 companies announced buyback decision including big and small firms in India from 2017 to 2018 (Economic times, Nov 20, 2018). In most of these cases result is not positive as expected by investors indicating that outcome is dependent on various factors which require research in this area to give benefits to various stakeholders.

Market reaction is usually different for different companies as the outcome is dependent on various factors. Loughran and Ritter (1994) found that the market reacted very slowly to popular equity offerings. David Ikenberry (1994) found that the market responds more positively towards low market cap firms than the large market cap firms. Companies generally take buyback decisions with the intention of benefitting in the form of corporate structure realignments but not all announcements work according to their plan. Evidence like Merck's share price lost by 15% post announcement in the year 2000 is a classic example (Justin Pettit, 2001). Mixed results across companies, countries and time periods are compelling researchers to investigate further in this area which can help in getting new findings and can enhance existing literature available.

A number of studies are conducted on reasons for augmentation in index numbers and still lot of research is required in terms of stock price reaction to certain corporate announcements as they impact stock prices and thereby impacts investor sentiment as well. Hence present paper focused on testing the impact of buyback announcements on the stock price of companies. Prior literature shows that researchers focused on buyback announcement impacts with respect to one sector or few companies' year wise but the current study focuses on all companies for the time period chosen sector wise, and thereby an impact analysis was conducted using event study methodology which is a new dimension in this area. Sector-wise analysis can give good insights to investors, companies, policy makers and regulatory bodies in terms of signaling effect and direction of the share price. The present paper is divided into four sections first it focuses on the introduction, second literature review, third research methodology, fourth results and discussions, and fifth implications and conclusion.

Literature review

There have been many studies on buybacks in different

markets. Previous studies mainly focused on the intentions of firms towards buy-back, impact in short term and long term on the stock price. Studies related to share buy-back intentions conducted by Wansley et al. (1998) in the US found that firms use share repurchase to indicate their confidence in the firm. Dittmarr (2000) study says firms opt for repurchasing of shares to take the benefit of undervaluation and give away the surplus cash. Dixon et al. (2008) study in the UK found that the main intention behind the buyback is to achieve the optimal capital structure. Companies may focus on diluting EPS through share repurchase in order to get an increase in share price (Bens et al., 2003). Jolls (1998) study found that firms, where employees are rewarded with stock options, are more likely to take the buyback route.

Theory building on buyback decision of the firms.

Literature shows various reasons why buybacks are considered by companies and the reasons highlighted are to indicate signaling effect, capital structure realignment, surplus cash distribution and alternative to dividend distribution. Out of these reasons signaling has emerged as the most compelling one behind buyback decision (Vermaelen, 1981; Dann, 1981). Traditional signaling hypothesis (TSH) highlighted the issue of asymmetric information that exists in the market and it supports the popular reasons of "signaling and undervaluation" behind share repurchases. The following theories support motives behind the buyback of shares.

Agency cost

Fenn and Liang (1997) support agency cost theory stating that excess cash can be distributed when there is no opportunity cost involved with it. Lie (2000) study strongly supports agency cost theory and states that firms can distribute excess cash and increase the wealth of the shareholders if they do not have alternative profitable ventures with them.

Leverage hypothesis

Leverage is defined as usage of debt in the capital structure. A corporate announcement like buyback and dividend distributions arise mainly because of capital structure adjustments that the firms have decided to take up. Rob Dixon et al. (2008) and Tsetsekos et al. (1991) study supports this theory and states that through share repurchase method a firm can realign its capital structure in the desired way.

An alternative to cash dividends

Most of the corporates think that buybacks are the best alternatives to the distribution of cash dividends. Grullon

and Michaely (2002) state that during the 1980s most of the firms in the US and Europe have preferred buybacks over cash dividends. Jagannathan et al. (2000) stated that firms with fluctuations in their cash flows preferred share repurchases over cash dividends.

Literature relevant to share price effects includes Ramsay (2000) study conducted in Australia which says share buyback announcements lead to a positive reaction in stock price. Roosenboom et al. (2001) study in the Netherlands found that share buybacks do not always lead to a rise in stock price. Mishra (2005) study conducted in India found that share buyback does not create a long-term rise in stock price. Most of the studies found that the announcement of the buyback is associated with a positive abnormal price performance (Dann 1981; Vermaelen 1981; Lakonishek and Vermaelen 1990). In Canada Ikenberry (2000) found that the initial market reaction to share repurchase is small, the abnormal return is less than 1% in announcement month. A similar result was found by Chen (2004) in Taiwan, Hatakeda, and Isagawa (2004) in Japan. Empirical studies from India, Mohanty (2002), Kaur and Singh (2003), Gupta (2006) found positive abnormal returns around the announcement month whereas Ishwar (2010) study found that share buyback announcements have not provided any additional information to the market. Studies like Nicholas & Frank (2008) have focused on the effect of share repurchase announcements on stock prices with a focus on the efficient market hypothesis. Lot of literature was available on the effect of buyback announcement on shares and they have highlighted mixed results. Bhatia (2013) study examined the buyback effect in Indian stock market with a focus on Undervaluation and Signaling hypothesis testing and concluded that there were negative abnormal returns during the period from 2011 to 2012. Abnormal returns in various countries showed mixed results. Brown (2007) study found that low level of abnormal returns around 1.2% in Australia, compared to US studies which reported a prominent abnormal return of 8%. Ridder (2009) study states that the announcement effect in short terms is not very prominent but in the long run, there is a high impact on the share price.

Kaniampuram (2008) studied whether buybacks create wealth to stakeholders or not and he attempted to study why some firms preferred dividends over buybacks. Other researchers like Arora (2012) study focused on liquidity aspects in this area with a sample of 115 events during a period of 2000-2009 and concluded that there is a linkage between buyback announcement and liquidity in the stock market. Purohit et al. (2012) conducted a study on NSE CNX 500 firms and concluded that abnormal returns are not found with buyback announcements. Surprisingly Hertz

(1991) found the contrasting result from previous studies and stated that the announcement outcome is completely dependent on the firm. Several researchers have highlighted the point that there is a mixed result associated with every study and hence it requires further investigation in this area. Mishra (2005) study highlighted in their research gap that sector-specific analysis in this area can give good insights to stakeholders. Hence an attempt was made to study buyback announcements impact on share price by grouping companies into sector specific and analysis and interpretations were attempted sector wise. After analyzing the existing literature which says strongly that mixed results are possible and studies show evidence that there is an impact of the announcement on share price, the following hypothesis is developed.

H1 - There is a significant difference in the abnormal returns of pre and post-announcement period of the buyback i.e. CAAR \neq 0

Research Methodology

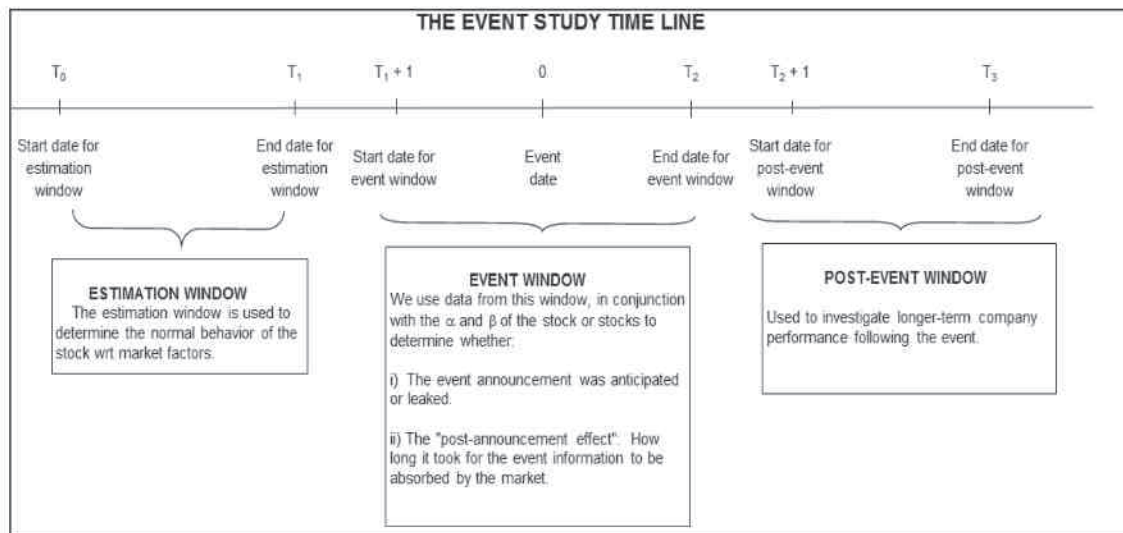
In a corporate setting, the utility of event studies studied from the perspective of the unusual performance of stock price at the time of announcement which has a huge impact on the firm's stakeholders. Therefore, event studies related to announcement effects for a short period of time in and around an event throw significant insights on corporate policy decisions. Event studies are highly useful tools in the area of capital market research as they are popularly used by scholars to test market efficiency in all three forms. Scholars focused on event studies in two categories one is short term impact study and another is long term impact study which is aimed at providing key insights on market efficiency (Fama, 1991; Brown and Warner, 1980). The present study aims to study the impact of share repurchase announcements on stock price during pre and post-announcement period. For the chosen period from the year 2010 to 2018, a total of 89 companies which have announced share buyback decision in India which is listed in BSE Sensex were selected for the study. These companies were later segregated into 18 sectors as per their representation such as IT-enabled services, financial services, manufacturing, auto, pharma, Power, logistics, and textiles.

Stock price data of the selected companies have been collected from -120 working days prior to +5 working days around the announcement period wherein 0 day is the day at which the share buyback announcement was made public by the company. The time interval of 15 days (9 days pre-announcement and 5 days post announcement) was selected as this interval is expected to best replicate the impact of buyback announcement on the stock price. Data

used in the current study were collected from yahoofinance and [moneycontrol websites](#). Data analysis was carried using the application in Excel such as Mega stat after

checking normality. The timeline is depicted in the following diagram.

Figure1 Event studymethodology



Source: Financial Modelling by Simon Benninga

For data analysis, one sample independent t-test is used which studies the significance of any abnormal returns resulted during the chosen event window where the level of significance $\alpha =$

0.05 is selected. For estimating the daily expected return CAPM (Capital Asset Pricing Model) model has been used wherein the expected return for any stock on day t is calculated as below

()

Abnormal returns are calculated by subtracting expected returns from actual returns of a stock which is stated in the following equation.

()

After obtaining the abnormal return of each period of the stock, Cumulative abnormal returns (CAAR) are calculated by combining daily ARs over a period of time

beginning from before the day of buyback announcement to after the buyback announcement date. A cumulative average abnormal daily return (CAAR) for an event period from T_1 to T_2 is calculated using the following formula:

$$\sum$$

From the obtained results of CAR, a t-test is used to test the chosen hypothesis. A t-test is a widely used tool for testing differences in abnormal returns for small samples. Analysis and discussions on this result are highly useful in getting insights on research problem chosen for the study.

Data Analysis

In order to study the impact of buyback announcement on stock price behavior, data of 89 companies have been taken from 18 sectors with announcements made from 2010 to 2018. On this data, ANOVA test was applied to find out any differences among the groups followed by descriptive statistics to find out mean and variance values of date.

Table1 ANOVAresults

| Source of Variation | SS | Df | MS | F | P | F crit |
|---------------------|-------|------|------|--------|---|--------|
| Between Groups | 12.23 | 70 | 0.17 | 356.12 | 0 | 1.30 |
| Within Groups | 0.49 | 994 | 0.00 | | | |
| Total | 12.72 | 1064 | | | | |

It is evident from the above table that there is a difference among the selected groups as p-value is low. To capture the

buyback announcement impact day wise absolute returns of sectors are examined.

Figure 2 Logistics, oil, and minerals

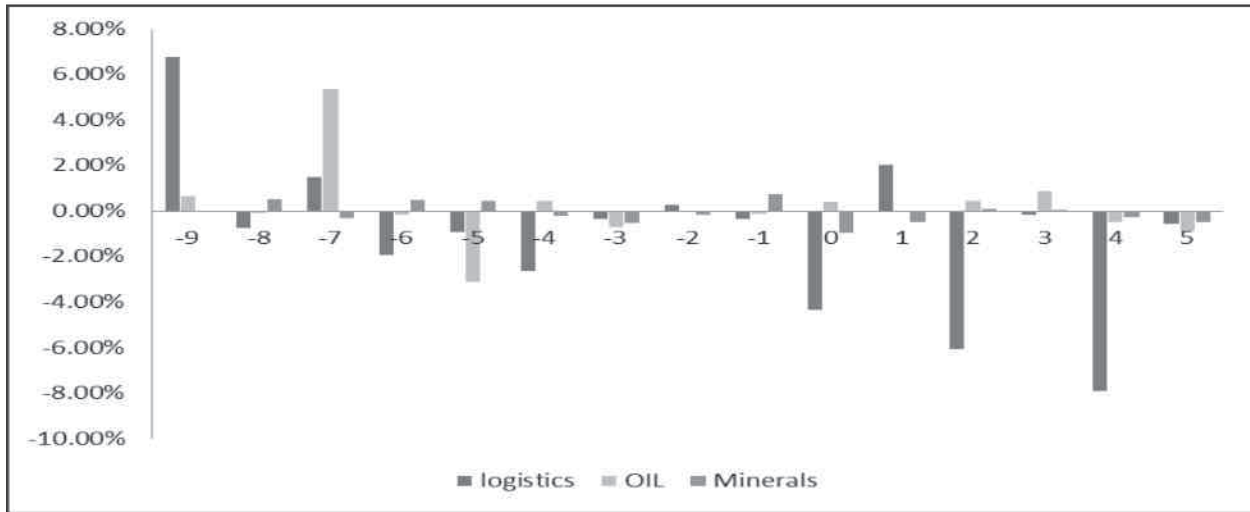
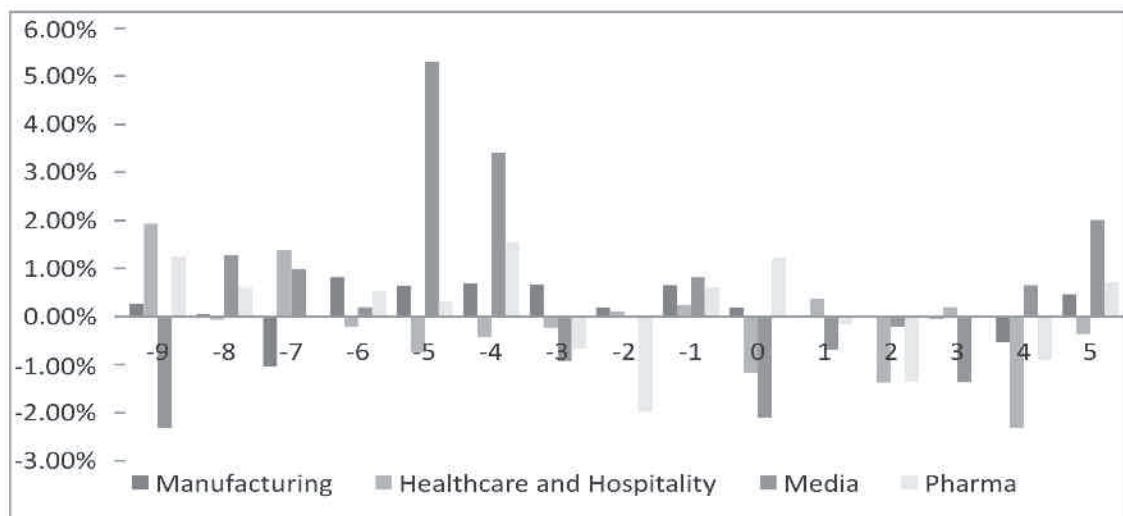


Figure 2 above shows the movement of abnormal return pre and post buyback announcement in logistic, oil and minerals sectors. Compared to oil and minerals, variation in abnormal returns is high for logistic sector post buyback. Post buyback announcement abnormal returns of the logistic sector showed negative response and this finding is supporting the study conducted by Bhatia (2013). The response is found to be significant. On the day of announcement slight positive variations is observed in the

oil sector and post-announcement not much variation is found in returns of the oil sector. This small variation doesn't signify much of the announcement. The fluctuations in abnormal returns found to be low and mostly negative returns are observed in pre and post buyback announcement in mineral sector supporting the results of Brown (2007).

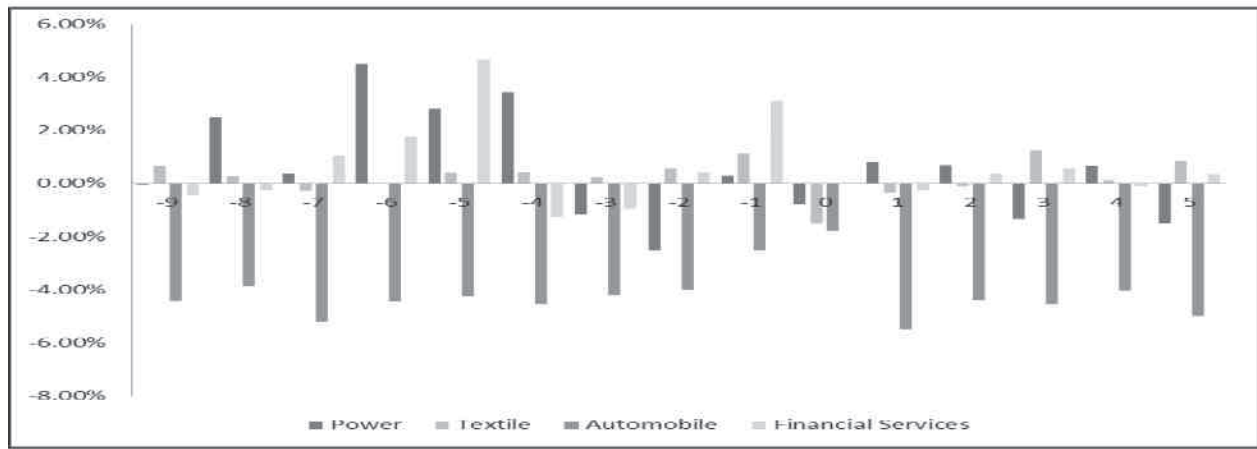
Figure3 Manufacturing, healthcare, media, pharma



Fluctuations in abnormal returns of manufacturing, healthcare and hospitality, media, and pharma sector are presented in figure 3. For manufacturing sector variation in CAAR found to be positive in most of the cases before buyback which changed to very low and mostly negative value post buyback announcement. For health care and hospitality sector, one day after buyback announcement response has been positive of small magnitude followed by negative variation in most of the cases. For media sector,

before buyback CAAR values are positive that decline for most of the days in the period of post buyback announcement. In few cases after the buyback announcement, CAAR values have been negative. In the pharma sector for the last few years, many buybacks have been observed and shown mostly positive variation in CAAR pre and post buyback announcement.

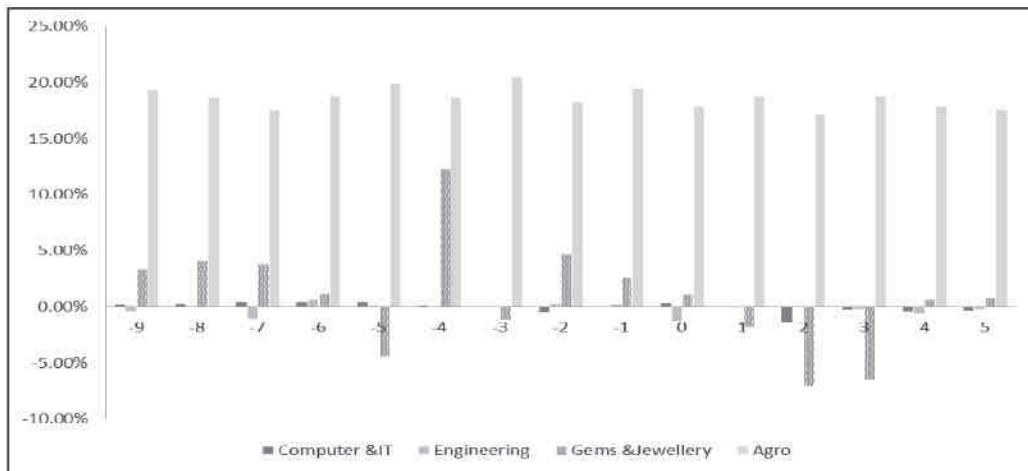
Figure4 Power, textile, automobile, financialservices



In figure 4 findings of power, textile, automobile, and financial service sectors are presented. The magnitude of variation in abnormal return pre and post buyback announcement is found to be high and mostly negative in case of automobile sector. For the power sector trend of positive variation continues post buyback announcement as well but the magnitude of that positive variation is very

low in comparison to the pre-buyback announcement. On the day of the announcement, financial services have not shown much variation. Before buyback announcement CAAR values are significantly high, post buyback announcement CAAR values are found to be positive with very low magnitude.

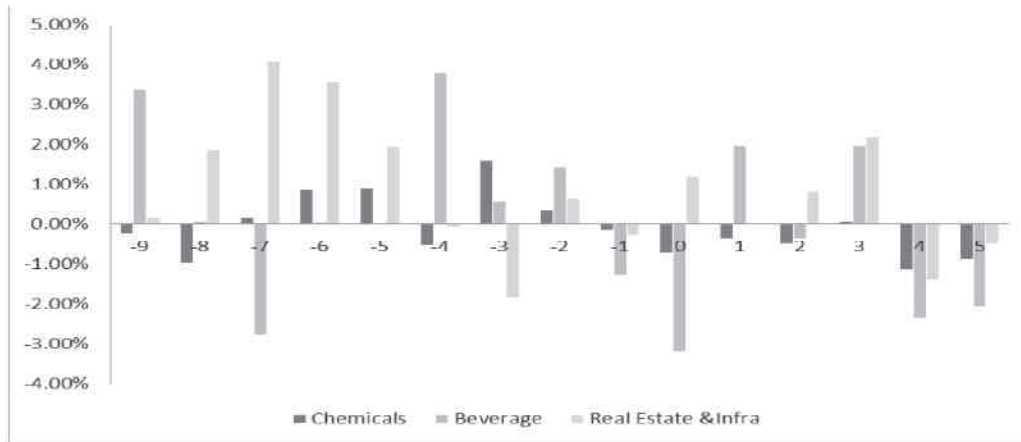
Figure 5 Computer and IT, engineering, gems and jewellery, agro



Most of the buyback offers have been from the Computer&IT sector. Before the stock buyback announcement, positive CAAR has been identified which is supported in studies organized by Christiano (1998) and Harris and Ramsay (1995). However, post buyback announcement a trend of negative CAAR has been detected. The magnitude of CAAR % has been low throughout the interval. For the engineering sector, the

magnitude of CAAR has been very low throughout the interval. In Gems & Jewellery sector, there has always been CAAR with noticeable magnitude. Before stock buyback announcement, positive CAAR has been noticed. A CAAR of 12.25% has been seen on the t-4th day. On the other hand, there has been significant negative CAAR post buyback announcement.

Figure 6 Chemicals, beverage, real estate, and infrastructure



The Beverage Sector shows that there has been a significant change in CAAR %. On the day of the announcement, negative CAAR has been observed. There has not been much drastic change after the buyback announcement. Although few negative CAAR has been noticed post buyback announcement. In Real Estate & Infra, there has been mostly positive CAAR before buyback announcement and few sudden negative CAAR post buyback announcements.

been a very minute amount of positive CAAR on the day of announcement of the buyback. In the initial 2 days after the buyback announcement, there has not been any noticeable change. After the initial two days of the announcement, a sudden change in CAAR has been observed. To study and analyze the impact of stock buyback announcement through event study methodology, a window of 15 days has been chosen (ranging from -9 to +5 where the 0th day is the day of buyback announcement) for which the CAAR values are calculated and studied around the day of buyback announcement.

Cumulative average abnormal return

It can be clearly noticed from the table below, that there has

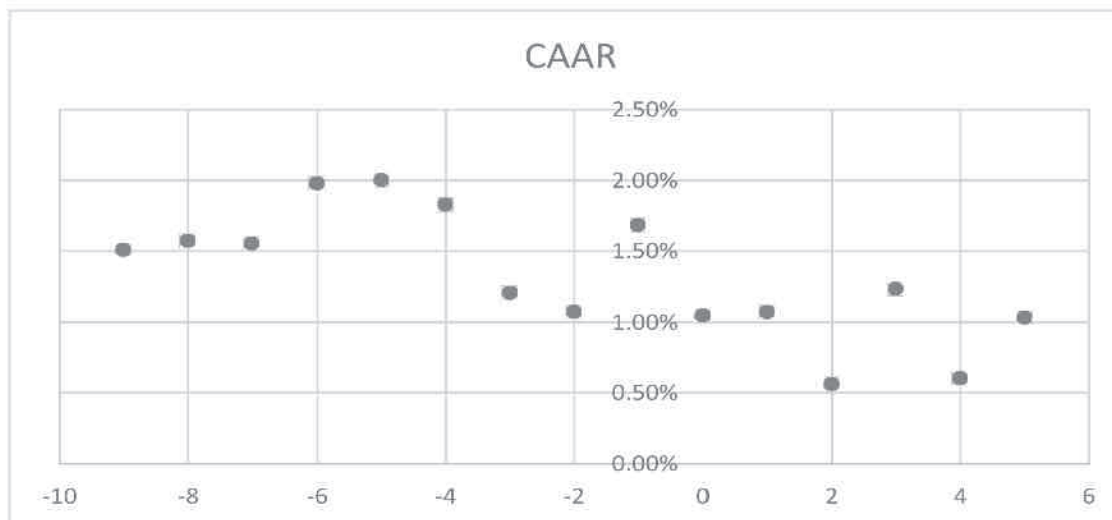
Table2 Cumulative average abnormal returns pre and post anannouncement

| Day | CAAR pre-announcement | Day | CAAR post announcement |
|-----|-----------------------|-----|------------------------|
| -9 | 1.50% | 0 | 1.05% |
| -8 | 1.57% | 1 | 1.07% |
| -7 | 1.55% | 2 | 0.56% |
| -6 | 1.97% | 3 | 1.23% |
| -5 | 2.00% | 4 | 0.60% |
| -4 | 1.83% | 5 | 1.03% |
| -3 | 1.20% | | |
| -2 | 1.07% | | |
| -1 | 1.68% | | |
| 0 | 1.05% | | |

It can be observed from the below chart, that overall CAAR has been positive percentage throughout the event window. No such major changes or fluctuations have been noticed. It can be observed that the changes in the initial days of post

announcement of buybacks have been slightly lesser compared to other days. Even though the magnitude has reduced, but still there is a small rise in CAAR post buyback announcements as well.

Figure 7 CAAR across the event window



Significance of T-test

The One-Sample t-Test helps to determine whether the sample mean is statistically different from a known or hypothesized population mean. The One-Sample t-Test is a parametric test. The Paired-Samples t- Test compares two means typically represent two different times (pre-announcement and post-announcement). The intent of the

test is to determine whether there is statistical evidence that the mean difference between paired observations on a particular outcome is significantly different from zero.

The table indicates the t-statistic of the pre and post announcement window.

3t-Test: Paired Two Sample for Means

| | pre-announcement | post announcement |
|------------------------------|-------------------------|--------------------------|
| Mean | 0.015 | 0.009 |
| Variance | 0.000 | 0.000 |
| Observations | 6 | 6 |
| Pearson Correlation | -0.039 | |
| Hypothesized Mean Difference | 0 | |
| Df | 5 | |
| t Stat | 2.652 | |
| P(T<=t) one-tail | 0.023 | 0.001 |
| t Critical one-tail | 2.015 | |
| P(T<=t) two-tail | 0.045 | |
| t Critical two-tail | 2.570 | |

Before the buyback announcement phase

Around 10 days before the buyback announcement the period is considered to be pre- announcement and it is found that CAAR is positive for all 10 days. Overall, before buyback announcement CAAR of the stocks is positive in all days.

After the buyback announcement phase

CAAR after buyback announcement is found positive but the magnitude of this positive variation is small in comparison to pre-buyback announcement phase.

All p-value in the pre-announcement and post-announcement window is small enough to reject the null hypothesis at the 0.05 level. This implies that the CAAR values obtained in the pre and post announcement phase are statistically significant.

Managerial Implication

Corporate announcements like share buyback are very crucial for corporate leaders as it can affect cash flows, stock prices, and firm values. Research findings show that research results show mixed reactions for stock prices hence it is important to pay attention on this issue and plan next corporate announcements accordingly. From policy makers point of view buyback decisions are very important as they can create volatility in the market temporarily and knowing these things beforehand will prepare them to face volatility in a smooth manner.

Conclusion

Share buybacks have become most popularly used weapons by corporates in recent times. They are driven by motives like surplus cash distribution and positive signaling. After the introduction of buybacks in 1998 in India, corporates have started using this route widely indicating the fulfilment of their motive behind these announcements. The present study aimed at sectorial analysis on the impact of the announcement on stock price which has come up with relevant conclusions. Results indicate that in case of Media, Automobile, IT, Real estate, Logistics, Oil & Minerals, and Manufacturing impact is negative during post announcement whereas Hospitality, Healthcare, Pharma have shown positive impact during post announcement indicating that it is not only buyback news something else is strongly impacting stock price changes. In the context of Agro and financial services sector, it was found that there is a significant difference in the CAAR of the pre-announcement and post-announcement period for the chosen time period. However from overall results obtained, the overall sample did not indicate any significant difference in abnormal returns but

on conducting the sector-wise analysis it is found that there is a deviation in some cases which requires further probing in future studies. It is observed from past data that different sectors react differently to the announcement due to various reasons such as market conditions, offerings given by corporates, shareholders expectations and many other unexplained factors. One of the critical observations from the results is that prices are not showing major changes during the initial announcement period but have shown reasonable changes in the near future days such as coming year within which the announcement effect is completed. Based on the mixed and some contrasting results obtained in this study it is advisable to continue these studies with new methods like mixed methods approach and predictiveanalytics.

Future direction of research

Forecasting can be included in this area by designing a model which can predict the outcome of announcement using artificial neural networks and research can also be extended by adding various quantitative and qualitative factors in the prediction model. Dana, L.P. and Dana, T.E. (2005) study recommend that applying the inductive approach and using more non-quantitative data in studies can add value to research and can bring new perspectives in the existing literature. Hence future researchers can think of conducting mixed methods research in this area and adopt event studies methodology. The future researcher can also focus on the impact of news on a firm-specific basis and take it further research in behavioral finance with a focus on how investors behave in these periods.

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