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Impacts of corporate announcements on stock returns during the global pandemic: evidence from the Indian stock market

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Abstract

Purpose – The authors examine the impacts of corporate announcements on stock returns during the pandemic stress.

Design/methodology/approach – The authors employ the event study methodology with the market model on a sample of 90 events (announcement and ex-date).

Findings – The authors find that all the corporate announcements do not impact the stock returns in a similar pattern. While the bonus announcement, ex-bonus and ex-split events led to positive significant abnormal returns on the event date, the rights issue and stock-split announcements failed to influence the stock returns. The findings suggest that before making such announcements, the corporates should wait until the market recovers because even the positively impacting events result in negative market responses during pandemic stress.

Practical implications – This study will guide the policymakers to stimulate share prices during such pandemics with the help of various corporate announcements. The investors will be assisted in understanding the stock market mechanism and making wise decisions before reacting to corporate actions during a pandemic or emergency period. While the policymakers are concerned with influencing the share prices, the investors are concerned with the composition of the risk-return parameters in their portfolio. This study will act as an essential investment tool for both.

Originality/value – To the best of the authors' knowledge, the authors conduct the first-ever study to examine the impacts of corporate announcements during a pandemic stress period that significantly

JEL Classification — G01, G12, G14,

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contributes to the literature. The authors examine the announcement effects in India and accurately anticipate that this study will be a pioneer in this field. This study also paves the way for future researches in this area.

Keywords Announcement effects, Event study, Global pandemic, Market model, COVID-19

Paper type Research paper

1. Introduction

Corporate actions are motivated towards influencing the stock prices. The impacts of dividend, bonus, rights and stock-split announcements on the stock returns in different markets have been examined several times. The debate initially started with Miller and Modigliani (1961) proposing the dividend irrelevance theory in the assumption of a tax-free world, and Gordon (1963) supporting a different view that high dividends are preferred to uncertain capital gains. After that, the signaling theory has been supported by many researchers (e.g. Ross, 1977; Walter, 1963) arguing that an increase in dividend leads to an increase in share price because it is a signal from the firm managers that the business has sufficient earnings and good prospects. The share price will be negatively affected by dividend cuts and omissions (Al-Shattarat *et al.*, 2018; Anwar *et al.*, 2016; Mrzygłód and Nowak, 2017; Ross, 1977). Recent research also provides for a positive influence of these corporate actions. While Pan *et al.* (2014) find positive impacts of dividend announcements, Ahsan *et al.* (2013) find positive impacts of bonus announcements, Ogada (2014) finds positive impacts of rights issue announcements, Hua and Ramesh (2013) find positive impacts of stock-split announcements and Song and Walkling (2000), Campa and Hernando (2006), Diaw (2011), Chen *et al.* (2020) find evidence for positive impact of mergers and acquisitions announcements on target firms and negative or zero impact on bidding firms.

While on the other part, recent literature on the impacts of the coronavirus disease 2019 (COVID-19) outbreak on various sectors of the stock markets worldwide provides significant negative impacts on the stock markets worldwide. The findings of the extant literature indicate how this outbreak has been disastrous for the stock returns. For example, see (Altig *et al.*, 2020; Ashraf, 2020; Bai *et al.*, 2020; Baig *et al.*, 2021; Chen and Yeh, 2021; Choi and Jung, 2021; Khatatbeh *et al.*, 2020; Krieger *et al.*, 2020; Matos *et al.*, 2021; Mishra, 2020; Ozili, 2020; Pandey and Kumari, 2020a, 2021a, b; Phan and Narayan, 2020; Sharif *et al.*, 2020; Song *et al.*, 2020; Ullah *et al.*, 2021; Wei and Han, 2021; Zhang *et al.*, 2020). A few studies also examine the impacts of COVID-19 on gold, crude oil and other assets (e.g. Aslam *et al.*, 2020; Bazán-Palomino and Winkelried, 2021; Conlon *et al.*, 2020; Gharib *et al.*, 2020; Ji *et al.*, 2020). These studies provide evidence of low market sentiments and the worst-ever scenario of the global stock markets. On the other side, the literature on corporate announcements provides evidence of signaling theory as proposed by Ross (1977) and Walter (1963). Further, Al-Shattarat *et al.* (2018), Anwar *et al.* (2016), Khan *et al.* (2016) provide evidence supporting the signaling theory in emerging markets. Considering these facts, one obvious question is whether this signaling theory applies to the pandemic-affected economic situation. Hence, this study is a timely analysis to answer this research question examining whether the corporate announcements during this period override the adverse shocks triggered by the global pandemic. This study examines whether the corporates have successfully influenced stock returns using these announcements in the pandemic-affected economy.

When examining the above question in a pandemic-affected economy, it is pertinent to mention that the coronavirus left none of the developed and emerging markets unaffected. Among the most affected nations, India stood at the second place after the United States in terms of infections and death toll. Further, while Al-Shattarat *et al.* (2018), Anwar *et al.* (2016), Khan *et al.* (2016) support signaling theory in other emerging markets, the extant literature related to corporate announcements in India do not provide similar views (Alex, 2017; Kumari and Pushpender, 2019; Rohit *et al.*, 2016). Although a set of developing and emerging markets could have been a decent sample for the study, we consider India so that the preliminary

findings are reported early and become a basis of future extensions to the same by including more nations in the sample set.

The study aims to contribute to the literature in three ways. First, we use the standard event study methodology using the market model for estimating the expected returns had the corporate announcements not been made. We find evidence of insignificant impacts of a rights issue and stock-split announcements and significant impacts of bonus issue announcements and ex-date events on or after the event dates. Our findings are consistent with Khanal and Mishra (2017), to some extent, and, thus, provide scope for strengthening the findings with future research. Second, we cover the events which have been studied numerous times using the methodology. To the best of our knowledge, no study has been conducted to capture the impacts of corporate announcements during pandemics. Our sample announcements are during the COVID-19 period from January 2020 to December 2020, comprehensively covering all the stages of its outbreak. Third, we examine the announcement effects in India, and we accurately estimate that this study will be a pioneer in this field and provide a base for future studies focusing on such announcement effects on an international level and accommodating those corporate announcements (dividend, mergers and acquisitions, etc.) which we have not considered.

In the coming sections, we will provide the literature review focusing on previous research in this field (in Section 2), the data and summary statistics (in Section 3), research methodology (in Section 4), quantitative analysis, and discussions (in Section 5) and conclusions in the last section.

2. Literature review and hypothesis formulation

Corporate actions are directed towards strengthening the capital structure of businesses and influencing the stock prices. Numerous studies are available, providing evidence of the significant impacts of corporate announcements on stock returns. While some argue for negative announcement effects, most of them find positive announcement effects. This section discusses the available literature that has examined the impacts of various corporate announcements on share prices and returns.

2.1 Impacts of dividend announcements

Pan *et al.* (2014) examined the dividend announcement effects in China and found positive abnormal returns on and around the announcement date. Kumar (2017) examined the impacts of dividend announcements during 2012–2014 on stock returns of companies listed on the National Stock Exchange (India) to find that the dividend announcements lead to positive abnormal returns. While the increase in dividend leads to higher abnormal returns, the decrease in dividend leads to lower abnormal returns. We find similar results in (Al-Yahyaee *et al.*, 2011) who conducted an event study to examine the announcement effects of cash dividends in Oman. Khanal and Mishra (2017) examined the dividend announcement effects during a sluggish economic period using the daily stock returns of listed companies in the United States from 2012 to 2016 and found positive significant abnormal returns on and around the announcement date. However, the magnitude of abnormal returns has been lower than the previous studies, which signifies that although the positive impact of dividend announcements existed during the sluggish economic period, the intensity of the positive impact is quite less. Dasilas and Leventis (2011) investigated the stock price and trading volume reactions to the cash dividends from 2000 to 2004 by the companies listed in the Athens Stock Exchange. They provide evidence of positive abnormal returns in dividend increases and negative abnormal returns in dividend decrease announcements. Suwanna (2012) examined the data of 60 Thai companies from 2005 to 2010 to trace the dividend effects on stock returns and confirmed dividend signaling theory with significant positive abnormal returns around the announcement date. Al-Yahyaee (2015) examined the ex-dividend period's impacts on Omani stocks' stock returns from 1997 to 2014 and found that the abnormal returns are present till seven days after the ex-date. Significant impacts during the ex-date are

due to the dividend announcements. Most of the studies evidence positive impacts of dividend announcements until there is a decrease.

2.2 Impacts of bonus issue announcements

Bharath and Shankar (2012) provide Indian evidence for the insignificant impact of bonus issue announcements on stock returns, examining the bonus announcements from 2001 to 2010 for companies in BSE500. Ahsan *et al.* (2013) examined 136 bonus announcements in Bangladesh from 2009 to 2012 to find positive significant abnormal returns around the announcement date. Malhotra *et al.* (2013) examined the volatility around bonus issue announcements and found evidence for increased volatility and persistence after bonus issue announcements. Rai and Silwal (2017) examined the bonus issue announcement effects on share prices of commercial banks in Nepal and found that the announcements positively impact the stock price. They found their results are consistent with developed markets. Alex (2017) claim that bonus announcements and ex-bonus do not impact the stock prices in India. Kumari and Pushpender (2019) examined the bonus issue announcement effects on the Indian stock market from 2014 to 2018 and noticed no significant abnormal returns around the event window (−10, +10). No consistent results exist in the literature. While some studies find positive impacts, some provide evidence of negative and insignificant impacts of bonus announcements.

2.3 Impacts of rights issue announcements

Ogada (2014) examined the impact of the rights issue on stock returns Kenyan stock market from 2005 to 2012. Their analysis evidenced significantly higher returns during the post-announcement period. Rohit *et al.* (2016) examined 29 rights issue announcements from 2011 to 2014 and found insignificant positive abnormal returns on the announcement date. Kendirli and Elmali (2016) found negative impacts of rights issue announcements when examined five rights issue announcements by deposit banks in Istanbul. Ramya and Bhuvaneshwari (2018) examined the impacts of rights issues on the stock prices of CNX500 stocks from 2006 to 2013. They, too, found significantly negative impacts around the announcement. The literature provides evidence for positive, negative and insignificant impacts of rights issues in different markets.

2.4 Impacts of stock-split announcements

Hua and Ramesh (2013) examined the impacts of stock splits on the stock returns in the Colombo Stock Exchange using the daily closing prices of 52 companies from 2009 to 2012. They provide evidence of positive significant abnormal returns around the announcement dates. Bhuvaneshwari and Ramya (2014) analyzed the impacts of stock splits on the stock prices of 15 CNX Nifty companies from 2006 to 2013 to find evidence of positive impacts on stock returns around the announcement dates. Duncan Otieno and Elly Ochieng (2015) analyzed the share prices of 12 companies listed on the Nairobi securities exchange to find that investors experience both positive and negative abnormal returns around the rights issue announcement. However, on a cumulative basis, they concluded for a negative impact of these announcements. Rohit *et al.* (2016) examined 90 stock-split announcements from 2011 to 2014 and found that although the event day abnormal returns are positive, they are insignificant. Hu *et al.* (2017) examined the stock-split effects with the US market data from 1926 to 2012 and found that the stock splits during bull markets have more significant positive impacts. el Ansary and El-Azab (2017) analyzed the stock split and dividend announcements in Egypt from 1997 to 2014 and found that these announcements positively impacted the stock returns. Yustisia (2018) examined the stock-split announcement effects on Indonesian manufacturing companies and found no significant impacts on abnormal returns around the announcements. In the case of stock-split announcements, too, researchers have not provided consistent results. While some provide evidence for positive impacts, some claim negative and insignificant impacts.

2.5 Impacts of mergers and acquisitions announcements

Song and Walkling (2000) examined the stock prices of target firms during 1982–1991 and found positive and significant abnormal returns around the announcement. Gopalaswamy *et al.* (2008) examined the merger announcement effects on stock prices during 2000–2007, providing evidence for the semi-strong efficiency in India. Shah and Arora (2014) examined the mergers and acquisitions announcement effects in the Asia–Pacific market and found statistically insignificant abnormal returns for the bidders. Adnan and Hossain (2016) found a downward trend in the post-announcement period examining a sample of 50 bidders and target US firms. Sachdeva *et al.* (2015), too, found negative abnormal returns for the bidder's post-announcement date. Campa and Hernando (2006) examined the announcement impact on the stock returns of the European Union financial industry from 1998 to 2002 and found that while the target firms experienced positive abnormal returns, the acquirer had zero excess returns around the announcement date. Diaw (2011) analyzed the announcement effects on stock returns of European banks from 1997 to 2008 and found that stock returns of the target firms are positively impacted and that of the bidding firms are insignificant. Chen *et al.* (2020), too, found that while the target firm experiences positive abnormal returns, the acquiring firm experience negative abnormal returns. Pandey and Kumari (2020b) found significant abnormal returns around merger announcements in India and the United States, the Indian market being more sensitive to such information. Most of the studies have found positive impacts on the target and negative impacts on the bidder.

2.6 Hypothesis formation

We discussed literature related to dividends, bonus issues, rights issues, stock splits, mergers and acquisitions announcements. These studies do provide evidence of both positive and negative impacts. However, none of the studies have tried to capture the impacts of these corporate announcements under economic stress (except Khanal and Mishra, 2017). Numerous studies have also been conducted to examine the impacts of the COVID-19 on the stock market returns. However, none of them have tried to examine whether corporate actions have successfully influenced stock returns during the COVID-19 period. Hence, we move ahead with the first study conceptualizing the research question of whether these announcements have the same impacts during economic stress. The extant literature provides a mixed market response to various corporate actions in different economies. The extant literature on the impacts of bonus issue announcements does not present similar views. While Ahsan *et al.* (2013) and Rai and Silwal (2017) account for positive impacts, Alex (2017) and Kumari and Pushpender (2019) account for insignificant results. Moreover, no evidence of such impacts during the pandemic is available. Hence, we put forward the following hypotheses examining how bonus issue announcements stimulate the stock returns during pandemic.

H1. Abnormal returns on the bonus announcement are equal to zero.

H2. Abnormal returns on the ex-bonus dates are equal to zero.

The literature on rights issue announcements provides positive results (Ogada, 2014), negative results (Kendirli and Elmali, 2016; Ramya and Bhuvaneshwari, 2018) and insignificant results (Rohit *et al.*, 2016). Also, no evidence of significant impacts of rights issue announcements in a pandemic-affected economy is available. In light of the above, the third and fourth hypotheses, formulated as below, examines whether rights issue announcements during the pandemic override the pandemic effects.

H3. Abnormal returns on the rights issue announcement are equal to zero.

H4. Abnormal returns on the ex-rights issue dates are equal to zero.

The literature on stock splits also differs in view. While Bhuvaneshwari and Ramya (2014) provide for positive impacts on stock prices, Duncan Otieno and Elly Ochieng (2015) provide

for negative impacts and Yustisia (2018) provides insignificant results. Further, no such analysis is available to capture these impacts during the pandemic. Hence, we formulate the following hypotheses to examine how the stock splits have impacted the stock prices during the pandemic.

H5. Abnormal returns on the stock-split announcement are equal to zero.

H6. Abnormal returns on the ex-split dates are equal to zero.

3. Data

3.1 Sample composition and data collection

We focus on the three types of corporate announcements, viz., bonus issues, rights issues and stock-splits from January 2020 to December 2020. Initially, we collected information about 54 bonus issues, 30 stock splits and 19 rights issues. However, based on the following sample criteria, the final sample included 13 bonus issues, 14 stock splits and 18 right issues:

(1) The company shall be listed on the National Stock Exchange (NSE) or Bombay Stock Exchange (BSE).

(2) The announcement/ex-date shall lie between 01 January 2020 and 31 December 2020.

(3) The stock shall have been regularly traded over any of the exchanges.

(4) The data must be available for the estimation window (100 days) and the event window (11 days)

We analyze the stock price reactions around the announcement date as well as the ex-date. Hence, we have 90 events (announcements and ex-dates) for analysis. The details of the sample firms are provided in Table A1. The daily closing prices for the sample firms and the benchmark indices (Nifty and Sensex) have been collected from Yahoo Finance, and the announcement and the ex-dates have been collected from www.moneycontrol.com.

3.2 Summary statistics

The summary statistics of the stock returns have been reported in Table 1. The mean abnormal return during the post-event period indicates that the announcements have had negatively impacted the stock returns, subject to its statistical significance in Section 5. The standard deviation values reflect that the post-event period has been more volatile than the pre-event period. The minimum abnormal returns for the announcement events are the worse in the post-event for both announcement and ex-date events. The maximum abnormal return is noticed on the event day for both announcements and ex-date events.

The results of the Shapiro–Wilk test for normality reveal that the abnormal returns around the firms are not normally distributed for all the days in the event window. The abnormal returns through $t+1$ to $t+5$ are normally distributed for announcement events. In ex-date events, the abnormal returns for the days $t-$, t, and $t+5$ are normally distributed. However, it does not affect our analysis because the non-normality of the returns does not have any impact on the statistical significance of the results generated using the standard event study methodology (Brown and Warner, 1985; Dyckman *et al.*, 1984).

4. Research methodology

We use the standard event methodology (Brown and Warner, 1980, 1985) with the market model on the announcement date and the ex-date as the events for the analysis. We have 90 events (45 announcements and 45 ex-dates). Wherever the event date is a holiday, it is shifted to the next trading day. Since we are examining the impacts of these events during a

Variable	n	Mean	Std. dev	Min	Max	W	p-value
Announcement events							
$t-5$	45	0.006	0.041	−0.054	0.176	0.885	0.000
$t-4$	45	0.008	0.037	−0.050	0.129	0.911	0.002
$t-3$	45	0.006	0.033	−0.107	0.087	0.904	0.001
$t-2$	45	0.006	0.037	−0.109	0.094	0.927	0.007
$t-1$	45	0.008	0.041	−0.053	0.148	0.900	0.001
T	45	0.007	0.049	−0.094	0.158	0.920	0.004
$t+1$	45	−0.003	0.047	−0.132	0.085	0.967	0.216
$t+2$	45	0.003	0.039	−0.079	0.133	0.955	0.077
$t+3$	45	−0.004	0.034	−0.067	0.076	0.960	0.125
$t+4$	45	−0.006	0.033	−0.121	0.088	0.953	0.067
$t+5$	45	−0.001	0.033	−0.113	0.059	0.958	0.106
Ex-date events							
$t-5$	45	0.002	0.038	−0.074	0.137	0.934	0.013
$t-4$	45	0.004	0.025	−0.049	0.070	0.958	0.102
$t-3$	45	0.009	0.037	−0.107	0.110	0.968	0.238
$t-2$	45	0.006	0.030	−0.068	0.081	0.982	0.682
$t-1$	45	0.007	0.039	−0.097	0.078	0.982	0.693
T	45	0.026	0.059	−0.074	0.183	0.928	0.008
$t+1$	45	−0.009	0.037	−0.105	0.098	0.950	0.052
$t+2$	45	−0.008	0.032	−0.085	0.067	0.987	0.903
$t+3$	45	−0.010	0.039	−0.102	0.076	0.976	0.466
$t+4$	45	−0.005	0.038	−0.112	0.100	0.981	0.646
$t+5$	45	−0.007	0.040	−0.150	0.088	0.942	0.024

Table 1.
Summary statistics of the event window daily average abnormal returns

Note(s): Table 1 reports the descriptive statistics of the firm-specific abnormal returns for all the days in the event windows. "n" is the number of firms in the analysis. W is the Shapiro–Wilk test statistics, and the p-value is the probability of the null hypothesis being accepted. A p-value below 0.05 means rejection of the null hypothesis that the data are normal

pandemic period, a longer event window would fail to trace the real impacts. Hence, we go ahead with an 11-day event window ($t-5$ to $t+5$) that begins five days before the event date (t) and ends five days after the event date. The estimation window is of 100 days, beginning $t-105$ and ending on $t-6$. The event timeline is depicted in Figure 1.

Although the main event window for analysis is [−5, +5], we also analyze the cumulative average abnormal returns for several windows of lesser duration divided into pre-event ([−5, −1] and [−3, −1]), during the event ([−3, +3] and [−1, +1]) and post-event ([+1, +3] and [+1, +5]). The pre-event window will exhibit whether the event was previously anticipated and any abnormal return accumulated during that period. The post-event window will exhibit the cumulative impact of the event after its occurrence.

Once the estimation and event windows are defined, we run regression between the stock returns and index returns over the estimation window and estimate the α and β parameters. With the parameters, we calculate the daily abnormal returns as in Equation (1):

Figure 1.
Event timeline

$$AR_{it} = LR_{it} - \alpha - \beta R_{mt} \quad (1)$$

where LR_{it} is the log return for the stock "i" on day t; α and β are intercept and slope coefficients of the regression model; and, R_{mt} is the benchmark index log returns on day t.

The cross-sectional aggregation is done to calculate the daily average abnormal returns for the event window as per Equation (2):

$$AAR_t = \frac{1}{N}\sum_{i=1}^{N} AR_{it} \quad (2)$$

where (N) is the sample size.

These daily AARs are then used to calculate the smaller event window cumulative average abnormal returns (CAARs) for the sample firms (as also in (Mackinlay, 1997)), as per Equation (3):

$$CAAR_{p,q} = \sum_{i=1}^{n} AAR_t \quad (3)$$

where $CAAR_{p,q}$ is the cumulative average abnormal return for the window period p, q. For instance, the $CAAR$ for window (−3, +3) will be the sum of the AARs for these seven days.

The daily AARs and smaller event CAARs are then tested for significance. Hence, we calculate the test statistics as per (Brown and Warner, 1980, 1985), as per Equation (4) and (5):

$$t - \text{value}(AAR) = \frac{AAR_t}{\sigma_{N,e}} \quad (4)$$

where $\sigma_{N,e} = \sqrt{\frac{\sum_{f=1}^{N}\sigma_{i,e}^2}{N^2}}$ is the aggregated estimation period standard deviation, and $\sigma_{i,e}^2$ is the estimation-period variance for each of the stocks.

$$t - \text{value}(CAAR) = \frac{CAAR_{p,q}}{\sigma_{N,e}.\sqrt{T}} \quad (5)$$

where T is the number of days in the window period p, q.

The calculated test statistics will be tested for statistical significance at 1, 5 and 10% level of significance. If the calculated t-value (absolute) is less than 1.65, 1.96 and 2.57, the respective AARs or CAARs will not be statistically significant at 10, 5 and 1%, respectively. However, a calculated t-value (absolute) of more than 1.65, 1.96 and 2.57 will indicate significant AARs and CAARs, as the case may be.

5. Quantitative analysis and discussion

This section deals with the results of the event study analysis for different types of events. The daily average abnormal returns during the event window period and the respective t-values are reported in Table 2. It is evident from the table that none of the average abnormal returns are significant for the rights issue and ex-rights event window. It is also noted that the pre-event period AARs are positive, and the event day and $t + 2$ days post-event AARs are negative, although not significant. It is concluded that although some negative AARs exist after the event day, they are not significant, indicating that the rights issue announcements did not influence the stock returns. The analysis of daily AARs reveals that the rights issue announcements and the ex-rights event have failed to influence the stock prices during the pandemic stress significantly. While the AAR around the bonus announcements is positive and significant on

Table 2.
Daily average abnormal returns and *t*-values during the event window ($t-5$ to $t+5$)

Days	Rights issues	Bonus issues	Stock splits	Ex-rights	Ex-bonus	Ex-split
$t-5$	0.003 (0.367)	0.005 (0.558)	0.010 (1.245)	−0.004 (−0.501)	−0.002 (0.189)	0.023 (1.524)
$t-4$	0.004 (0.517)	0.008 (0.937)	0.012 (1.494)	−0.003 (−0.335)	0.012 (1.358)	0.002 (0.109)
$t-3$	0.011 (1.342)	0.005 (0.548)	−0.002 (−0.187)	0.003 (0.324)	0.021 (2.274**)	0.013 (0.883)
$t-2$	0.013 (1.584)	0.010 (1.094)	−0.006 (−0.759)	0.009 (1.062)	0.001 (0.060)	0.012 (0.827)
$t-1$	0.010 (1.171)	0.016 (1.790***)	−0.001 (−0.180)	0.004 (0.518)	−0.013 (−1.387)	0.028 (1.870***)
t	−0.009 (−1.061)	0.033 (3.649*)	0.004 (0.528)	−0.001 (−0.054)	0.050 (5.517*)	0.034 (2.271**)
$t+1$	0.000 (0.055)	0.009 (0.997)	−0.019 (−2.337**)	−0.008 (−1.007)	0.004 (0.397)	−0.021 (−1.420)
$t+2$	−0.006 (−0.743)	0.016 (1.796***)	0.002 (0.214)	−0.011 (−1.299)	−0.015 (−1.607)	0.008 (0.553)
$t+3$	0.002 (0.259)	−0.017 (−1.881***)	0.000 (0.059)	0.005 (0.645)	−0.017 (−1.846***)	−0.022 (−1.506)
$t+4$	0.007 (0.852)	−0.017 (−1.934**)	−0.013 (−1.536***)	−0.001 (−0.088)	−0.019 (−2.060***)	0.002 (0.122)
$t+5$	0.004 (0.448)	−0.011 (−1.203)	0.001 (0.146)	−0.005 (−0.557)	−0.016 (−1.775***)	−0.002 (−0.163)

Note(s): The figures in parentheses indicate the *t*-values. *, ** and *** indicates significant values at 1, 5 and 10%, respectively

$t-1$, t, and $t+2$ days, that on $t+3$ and $t+5$ is negative and significant. The event day AAR for the ex-bonus date is positive and significant, and the AAR on day $t-3$ is significantly negative and that on $t+3$ and $t+4$ is significantly negative. The analysis reveals that the bonus announcements have stimulated the stock prices during the pandemic stress but could not sustain the same. Although the ex-bonus event positively impacted the event day itself, the impact turns negative from $t+2$ days onwards. It is evident that the ex-bonus led to a positive reaction; although being a predetermined event, the market reaction could not sustain longer. These results are partly in line with (Al-Shattarat *et al.*, 2018; Anwar *et al.*, 2016; Khan *et al.*, 2016).

The stock-split announcement led to significant negative AAR on days $t+1$ and $t+4$. The ex-split event period experienced significantly positive AAR on $t-1$ and t days. The AAR during the rest of the post-event period is negative except on $t+2$, although not significant. The analysis reveals that the stock-split announcements negatively impacted the stock returns. Further, the ex-split date event being predetermined has led to a positive impact on the event day returns.

The analysis of the daily AARs reveals the day-wise impact of the events. It exhibits that only the bonus announcements have led to significant positive impacts but could not sustain them. The rights and stock-split announcements have failed to influence the stock prices during the event positively. The predetermined (ex-date) events have also failed to influence the stock price post-event positively, except the ex-bonus and ex-split, which yield significant positive ARR on event day only. As far as the impact of information content is concerned, the event day significant AAR in case of bonus announcement, ex-bonus and ex-split events indicate that information content significantly impacts the market returns even during the pandemic-borne stress. While this impact overrides the pandemic-borne shock in case of bonus, ex-bonus and ex-split events, they failed to override the pandemic-borne shock consistently during the post-event window. However, to examine the cumulative impact of the events accumulated over a few days, we calculate the cumulative AARs and the t-values for six event windows, viz. pre-event $(-5, -1)$ and $(-3, -1)$, during the event $(-1, +1)$ and $(-3, +3)$, and the post-event $(+1, +3)$ and $(+1, +5)$.

The CAARs and respective t-values for the six event windows are reported in Table 3. It is evident that the CAARs for both the pre-event windows are positive and significant for the rights issue announcements. However, the CAARs for the rest of the four event windows are not significant, indicating that the event has failed to influence the stock returns on and after the announcements. The pre-event positive and significant CAARs may be due to leakage of information that might have led to the positive impact before the announcement. The ex-rights event witnessed no significant CAARs during any of the event windows, being a predetermined event. Here, too, the stock could not get a positive response from the investors. The $[-5, -1]$, $[-3, -1]$, $[-1, +1]$ and $[-3, +3]$ event window CAARs are positive and significant for the bonus announcements. While the ex-bonus date event window $[-1, +1]$ experienced positive and significant CAARs, the post-event windows $[+1, +3]$ and $[+1, +5]$ experienced significant negative CAARs. The CAARs in case of stock-split announcements are not significant during any event window. Ex-date CAARs are significantly positive during the pre-event windows $[-5, -1]$ and $[-3, -1]$ only.

It is evident from the above analysis that while the rights issue announcements are characterized by some information leakage with positive CAARs in the pre-event windows, the bonus issue announcements have significant positive CAARs in the pre-event windows and during event windows. The stock-split announcements and ex-rights events have no significant results in the shorter windows. We find these results consistent with Khanal and Mishra (2017) to some extent. The ex-bonus event has both positive and negative impacts, and the ex-split event has positive results during the pre-event windows, again signifying the

Table 3.
Cumulative average abnormal returns for the shorter event windows

Windows	Rights issues	Bonus issues	Stock splits	Ex-rights	Ex-bonus	Ex-split
−5, −1	0.042 (2.227**)	0.044 (2.203**)	0.013 (0.721)	0.009 (0.478)	0.019 (0.947)	0.078 (2.331**)
−3, −1	0.035 (2.365**)	0.031 (1.982**)	−0.009 (−0.65)	0.016 (1.099)	0.009 (0.547)	0.053 (2.066**)
−1, +1	0.001 (−0.095)	0.058 (3.716*)	−0.016 (−1.148)	−0.005 (−0.313)	0.041 (2.614*)	0.040 (1.571)
−3, +3	0.022 (−0.985)	0.072 (3.021*)	−0.022 (−1.006)	0.002 (0.071)	0.031 (1.288)	0.052 (1.314)
+1, +3	−0.004 (−0.248)	0.008 (0.527)	−0.017 (−1.191)	−0.014 (−0.959)	−0.028 (−1.764***)	−0.035 (−1.37)
+1, +5	0.007 (−0.39)	−0.020 (−0.995)	−0.028 (−1.544)	−0.019 (−1.031)	−0.063 (−3.082*)	−0.036 (−1.079)

Note(s): The figures in parentheses indicate the *t*-values. *, ** and *** indicates significant values at 1,5 and 10%, respectively

possibility of information leakage. Further, it is concluded that the pandemic stress has been so deep-rooted that the corporate announcements could not override this stress. A summary of the cumulative impacts is reported in Table 4, and the summary of the hypothesis is reported in Table 5.

The AAR and CAAR lines in Figure 2 present a visual of how the positive/negative AARs have been produced during different events and how the CAARs indicate the overall impact during the event window. We notice the CAAR line during the rights issue announcement moving upward and downward during the event window, although an upward trend is noticed from day $t + 2$. The bonus issue announcement and ex-bonus CAAR line follow a downward trend since the event day, indicating positive influence but unable to sustain the same. The CAAR line for the stock-split announcement and ex-split event also follows a downward trend. While the stock-split announcement graph indicates a consistently negative trend, the ex-split graph reflects a mixed trend with both upward and downward movement.

The CAAR line for the ex-right event exhibits a downward trend from event day onwards but recovers on day $t + 3$. The ex-bonus CAAR line follows a negative trend post-event. It is evident from the graphical analysis that while the unanticipated announcement events have led to positive impacts in case of bonus issue events, although not sustained longer, the predetermined events (ex-date events) have even worsened the stock returns post-event.

6. Conclusions

The negative impacts of the global pandemic have brought the global markets under pandemic stress. This study examined the impacts of the corporate announcements, directed towards influencing the stock prices, on the stock returns during the pandemic stress. It tried to trace whether the corporate announcements override the pandemic stress by influencing the stock prices. We find that not all corporate announcements positively impact the stock returns under pandemic stress. While the rights issue and stock-split announcements fail to generate any significantly positive abnormal returns, the bonus announcements generate

Windows	Rights issues	Bonus issues	Stock splits	Ex-rights	Ex-bonus	Ex-split
Pre-event	+ve	+ve	–	–	–	+ve
During event	–	+ve	–	–	+ve	–
Post-event	–	–	–	–	−ve	–

Note(s): +ve and −ve, respectively, means positive and significant impacts on stock returns. – indicate no significant impacts on stock returns

Table 4. Summary of analysis of the shorter event windows

Hypothesis	Results	Impacts
H1: Abnormal returns on the bonus announcement are equal to zero	Rejected	Positive
H2: Abnormal returns on the ex-bonus are equal to zero	Rejected	Positive
H3: Abnormal returns on the rights issue announcement are equal to zero	Accepted	–
H4: Abnormal returns on the ex-rights issue dates are equal to zero	Accepted	–
H5: Abnormal returns on the stock-split dates are equal to zero	Accepted	–
H6: Abnormal returns on the ex-split dates are equal to zero	Rejected	Positive

Table 5. Summary of the hypothesis

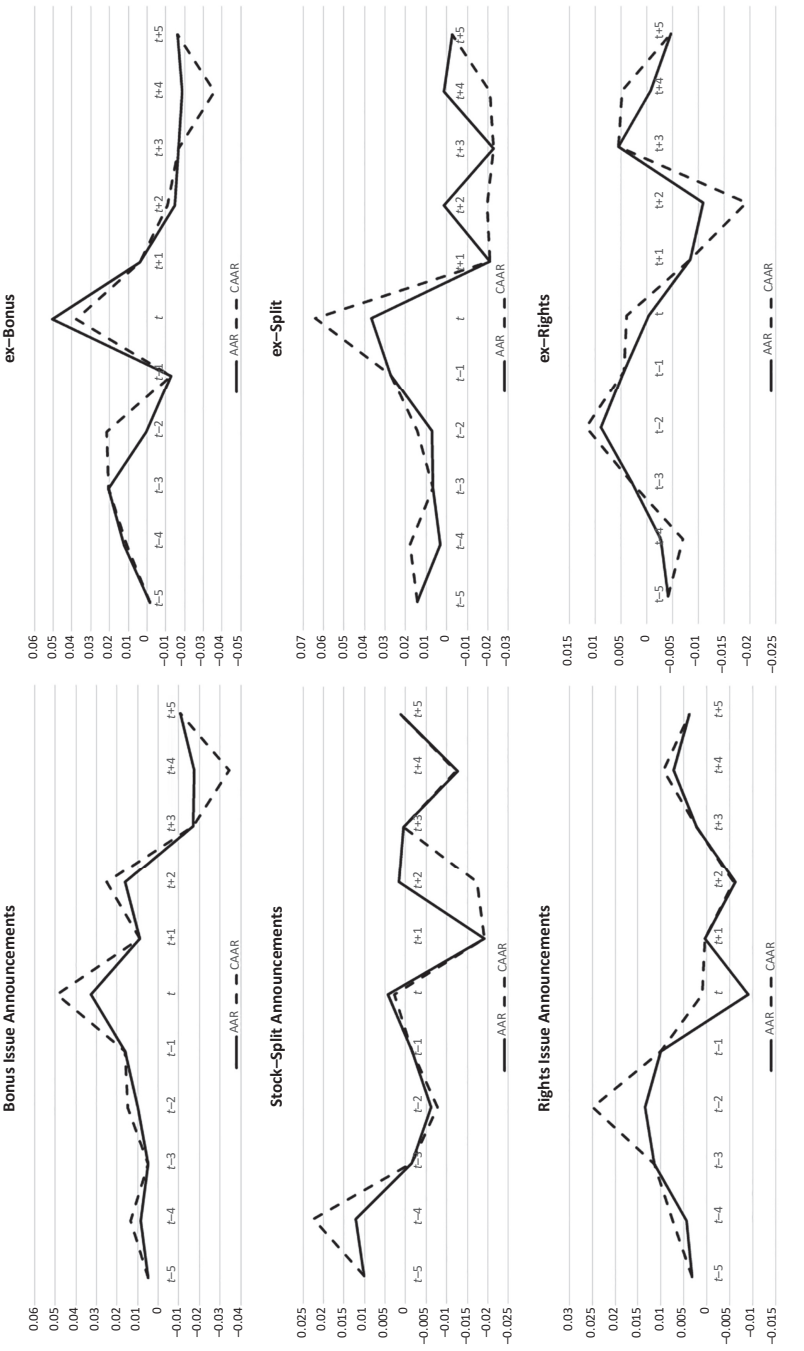

Figure 2.
AAR and CAAR-lines during the event window for all event types

significant positive returns on the event day but are soon followed by significant negative returns. The predetermined events, too, fail to influence the stock prices positively. The findings suggest that before making such announcements, the corporates should wait until the market recovers because even the positively impacting events result in negative market responses during pandemic stress. The corporate announcements fail to reap the desired results. The corporates should defer such stock-split and rights issue announcements for the future to positively influence the stock price and get desired results. However, the bonus issue announcements may be used to influence the stock returns. The corporates should continue bonus issue decisions during pandemic/crisis conditions, but with caution.

This study will guide the policymakers to stimulate share prices during such pandemics with the help of various corporate announcements. The investors will be assisted in understanding the stock market mechanism and making wise decisions before reacting to corporate actions during a pandemic or emergency period. While the policymakers are concerned with influencing the share prices, the investors are concerned with the composition of the risk-return parameters in their portfolio. This study will act as an essential investment tool for both. The study contributes to the existing literature of event study methodology, providing scope for strengthening the findings with future research. To the best of our knowledge, no study has been conducted to capture the impacts of corporate announcements during pandemics. We examine the announcement effects in India, and we accurately anticipate that this study will be a pioneer in this field. This study also paves the way for future researches in this area. We have excluded the dividend announcements, and future studies may examine the dividend announcement effects. Moreover, corporate actions in India have only been considered in this study. Although this study provides Indian evidence, it provides a scope for further studies focusing on multinational announcement effects.

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Appendix

Sl. no	Symbol	AD	Ex-date	Event	Sl. no	Symbol	AD	Ex-date	Event
1	KTKBANK	27-01-20	17-03-20	B	24	MORGANITE*	16-06-20	31-08-20	S
2	SUVENPHAR	17-08-20	25-09-20	B	25	SADHANANIQ*	31-01-20	03-04-20	S
3	RADIOCITY	27-01-20	12-03-20	B	26	BAJAJST*	12-02-20	24-03-20	S
4	SAGARDEEP	21-08-20	05-10-20	B	27	SINCLAIR*	10-02-20	17-06-20	S
5	MAHESHWARI	04-09-20	13-10-20	B	28	MINDAIND	29-06-20	14-08-20	R
6	HATSUN	19-10-20	09-12-20	B	29	M&MFIN	01-06-20	22-07-20	R
7	AARTIDRUGS	30-08-20	30-09-20	B	30	L&TFH	09-11-20	21-01-21	R
8	ELGIEQUIP	14-08-20	24-09-20	B	31	KDDL	11-11-20	30-03-21	R
9	SHRENIK	24-08-20	08-10-20	B	32	GDL	10-06-20	23-07-20	R
10	SADHANANIQ*	28-07-20	17-09-20	B	33	EIHOTEL	07-09-20	22-09-20	R
11	PILANIINVS*	10-11-20	31-12-20	B	34	DEEPAKFERT	25-05-20	16-09-20	R
12	ANUHPHR*	07-08-20	18-09-20	B	35	MOLDTKPAC	21-09-20	21-10-20	R
13	WHITEORG*	08-06-20	28-07-20	B	36	BAJAJELEC	06-01-20	05-02-20	R
14	SDBL	29-06-20	15-10-20	S	37	ABFRL	27-05-20	30-06-20	R
15	MOTOGENFIN	13-02-20	19-06-20	S	38	SPENCERS	11-02-20	28-07-20	R
16	LAURUSLABS	30-04-20	29-09-20	S	39	SHOPERSTOP	16-10-20	19-11-20	R
17	KARDA	08-05-20	02-07-20	S	40	SATIN	22-06-20	04-08-20	R
18	IRCON	11-02-20	03-04-20	S	41	RELIANCE	30-04-20	13-05-20	R
19	GAEL	25-07-20	01-10-20	S	42	PVR	08-06-20	09-07-20	R
20	APLAPOLLO	28-10-20	15-12-20	S	43	PRICOLLTD	04-09-20	24-11-20	R
21	EICHERMOT	12-06-20	24-08-20	S	44	PATINTLOG	15-09-20	17-02-21	R
22	AXISGOLD	16-07-20	23-07-20	S	45	SRTRANSFIN	15-06-20	09-07-20	R
23	SHRENIK	24-08-20	08-10-20	S					

Note(s): Symbol signifies the firm's symbol as listed on the NSE and BSE. *Indicate stocks listed on BSE, and AD is the announcement date. Events B, S and R indicate bonus issue, stock-splits and right issue

Table A1. Sample description

About the authors

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