The Information Content in Bonus Issue Announcements : Evidence from the Indian Corporate Sector

Heena Basra [1]
Ravi Singla [2]

Abstract

The bonus issue has remained the center of attraction among researchers within the finance literature due to its puzzling nature. This study tried to revalidate two hypotheses namely, information signalling hypothesis and liquidity hypothesis in the Indian stock market in context of bonus issue announcements. Price reaction and trading volume on and around the announcement as well as ex-date were investigated during the study period (2004 – 2016). The study also measured the market depth through augmented liquidity tests around these two dates. The findings of the study observed significant positive abnormal reaction on the day of announcement as well as ex-bonus date. The presence of significant positive abnormal reaction in the pre-announcement period indicated the existence of insider trading and/or information leakages. The significant negative price reaction observed during the post ex-bonus day indicated the presence of bonus stripping practices in the study period. The study observed abnormally high trading volume around the announcement date and the ex-bonus date. The augmented liquidity tests, that is, stock's trading volume, stock's relative trading volume, and liquidity ratio revealed that stocks traded on NSE experienced enhanced liquidity in the post bonus issue period. The empirical findings of the research were in line with the information signalling hypothesis and liquidity hypothesis.

Keywords : **bonus issues, stock dividends, signalling, liquidity, announcement date**

JEL Classification : G12, G14, G35

Paper Submission Date : October 8, 2019 ; Paper sent back for Revision : March 7, 2020 ; Paper Acceptance Date : March 29, 2020

The complementary distribution of shares, that is, the bonus issues has remained the center of attraction among empirical researchers within the finance literature. A bonus issue is labeled as a cosmetic event or financial illusion in the corporate world due to its puzzling nature. It is merely a book entry that converts the idle reserves of a company into paid-up share capital without any inflow or outflow of funds. As and when a share becomes ex-bonus, the market price of a share is adjusted according to the bonus ratio, leaving the wealth of shareholders unaffected (Miller & Modigliani, 1961). Empirical studies have revealed that the market usually responds positively to bonus issue announcements (Ball, Brown, & Finn, 1977 ; Fama, Fisher, Jensen, & Roll, 1969 ; Grinblatt, Masulis, & Titman, 1984 ; McNichols & Dravid, 1990). One of the prominent reasons behind this positive market reaction is the information signalling hypothesis. The argument behind this hypothesis is that the management of a company possesses insider information about a firm's future earnings prospects that is unknown

[1] *Research Scholar,* University School of Applied Management, Punjabi University Patiala, Patiala - 147 002, Punjab & Inspector Audit, Punjab Cooperation Department, Chandigarh. (E-mail : heenabassra@gmail.com) ; ORCID iD : 0000-0002-0032-4801

[2] *Assistant Professor,* University School of Applied Management, Punjabi University Patiala, Patiala - 147 002, Punjab. (E-mail : singlar@rediffmail.com)

DOI : 10.17010/ijf/2020/v14i5-7/153322

to the investors. This asymmetry of information can be used as an instrument to create a favorable image of the firm in the mind of investors or revise their beliefs about the firm's performance. The positive signals from the company's management should lead to abnormally positive price reaction on and around the announcement date. The other major issue involved is the enhanced liquidity and marketability of shares due to the additional number of shares in circulation. This ownership diffusion also reduces the bid-ask spread of the shares (Conroy, Harris, & Benet, 1990 ; Lakonishok & Lev, 1986 ; Murray, 1985). After ex-bonus, the share price will also move into normal trading range, attracting more investors and hence, enhanced liquidity (McNichols & Dravid, 1990). The positive market reaction in support of the information signalling hypothesis has received almost unequivocal support with few exceptions (Papaioannou, Travlos, & Tsangarakis, 2000).

Some firms issue bonus shares to substitute cash dividends when they are running out of cash and also want to maintain their fake image in the eyes of investors. In this research study, an attempt is made to revalidate two hypotheses, that is, information signalling hypothesis and liquidity hypothesis in the Indian stock market. The price reaction and trading volume on and around the announcement as well as the ex-date is investigated. Moreover, the research study also measures market depth through augmented liquidity tests around these two dates.

Review of Literature

(1) Information Signalling Hypothesis : Empirical studies in the past revealed that the market usually responds with positive abnormal reaction towards bonus issue announcements (Anderson, Cahan, & Rose, 2001 ; Fama et al., 1969 ; Rao & Geetha, 1996). There was often a short-lived but strong upward direction in price during the first few days until the news about this non-periodic and special dividend became public (Barker, 1958). The strongest reason for the positive market reaction is the information signalling hypothesis (Ball et al., 1977) because stock dividend announcements are perceived as positive signals about future business operations by investors (Woolridge, 1983). These announcements are significantly correlated with earnings forecast, and these correlations indicate the management choice of split factors to signal their private information and revision of investors' belief regarding the value of a firm accordingly (Grinblatt et al., 1984 ; McNichols & Dravid, 1990). There are empirical studies (Balachandran, Faff, & Jong, 2005 ; Lukose & Sapar, 2002) that observed superior operating returns and cash flow performance in post bonus issue period, proving this announcement as a device to give quality positive signal to the investors. Stock dividend-paying firms also gained a number of analysts following these firms in the post-announcement period (Nguyen & Wang, 2013). Sometimes, the advance anticipation of bonus issue announcements by the market in terms of pre-announcement returns also shows the possibility of insider trading and information leakages (Mishra, 2005).

Despite the strong positive market reaction towards this announcement that supports the information signalling hypothesis, some studies observed the contrary results. Malhotra, Thenmozhi, and Gopalaswamy (2012) reported negative market reactions after the bonus issue announcements in India.

(2) Liquidity Hypothesis : The available empirical and survey studies gave mixed results about the liquidity hypothesis. Managers of bonus issuing companies believe that it will increase the number of shareholders, therefore, the share will become more attractive and easier to sell in the equity market (Baker & Phillips, 1993). Sometimes, companies due to lack of funds opt for the stock dividend to substitute the cash dividend (Lakonishok & Lev, 1987). The bid-ask spreads also significantly increase in the post-distribution period (Copeland, 1979 ; Pradhan & Kasilingam, 2018 ; Ray, 2011). The positive abnormal returns in the pre-ex day period could be the result of buying pressure in terms of increased abnormal trading volume by investors for the entitlement of bonus

shares and negative abnormal returns after the ex-day could be the result of selling pressure due to the augmented supply of shares (Adaoglu & Lasfer, 2003). Contrary to enhanced liquidity and marketability, there are some studies (Murray, 1985 ; Lakonishok & Vermaelen, 1986 ; Lamouoreux & Poon, 1987) that reported decreased trading volume and bid-ask spreads in the post-ex-day period.

As the existing literature largely focuses upon one aspect of the signaling hypothesis, that is, the price reaction around event date only, another date, that is, ex-date is also crucial in bonus issue on which the share price gets adjusted according to the bonus ratio. The present study also focuses on market reaction around the ex-bonus date. Moreover, the liquidity changes are also analyzed around the event as well as ex-date.

Testable Hypotheses

- **H1 :** Bonus issuing companies observe significant positive announcement period abnormal returns.
- **H2 :** Bonus issuing companies observe significant negative abnormal returns in the ex-bonus period.

Announcing a bonus issue is likely to signal that the companies have strong upcoming cash flows that will finance at least the consistent dividend payments and maintain the earnings per share. So, if the investors take these signals positively, then they must earn around the announcement date (Ball et al., 1977 ; Grinblatt et al., 1984 ; Joshipura, 2009 ; McNichols & Dravid, 1990). As per the efficient market hypothesis (EMH), no significant excess market reactions are expected on the ex-bonus day. However, if any significant abnormal reaction is observed around the ex-bonus day, that may be due to the bonus striping.

- **H3 :** Bonus issuing companies observe abnormal trading volume around the announcement date and ex-date.
- **H4 :** Bonus issuing companies observe enhanced liquidity in the post-distribution period.

As bonus issues give positive signals in the market ; hence, these are welcomed by investors. It is expected that the positive announcement effect will increase the number of shares in circulation, resulting in the expansion of the investor base as well as enhanced liquidity and marketability (Adaolglu & Lasfer, 2003 ; Lakonishok & Lev, 1987). The positive abnormal trading volume before the ex-day is expected due to buying pressure by investors willing for entitlement of bonus shares. After the ex-day, a negative price pressure effect is expected due to a significant increase in the supply of shares in the market.

Data and Methodology

The period of the research study is from January 1, 2004 – December 31, 2016. Bonus issue announcements by all the companies listed on NSE formed the part of the sample except those by the banking and finance companies due to their different cash flow patterns. The final sample comprised of 263 bonus issues whose requisite data were available. The data of the announcement and ex-dates, daily adjusted closing prices of stocks, and index and daily trading volume were collected from three data sources, that is, CMIE PROWESS database, *The Economic Times*, and official site of NSE.

Table 1 reports the descriptive statistics for 263 bonus issues by companies listed on NSE during 2004 – 2016. As per Table 1, average bonus issue ratio in NSE was 97% and it was highest in the year 2009, that is, 170%.

(1) Analysis of Stock Price Changes : The event study methodology is applied to gauge the reaction of stock prices

Table 1. Descriptive Statistics

This table reports descriptive statistics for 263 bonus issues by companies listed on NSE over the time during 2004 – 2016. The Bonus issue ratio is the number of bonus shares distributed as a percentage of existing shares of a company.

Year	Number of Bonus Issues	Average Bonus Issue Ratio of Year
2004	21	107%
2005	23	96%
2006	34	120%
2007	22	83%
2008	13	78%
2009	10	170%
2010	36	92%
2011	15	101%
2012	15	87%
2013	20	78%
2014	10	81%
2015	21	94%
2016	23	88%
Total	**263**	
Average		**97%**

towards bonus issue announcements (Brown & Warner, 1985 ; MacKinlay, 1997). Stock price reaction is observed on and around two events (day '0'), that is, date of announcement and the ex-bonus date. The estimation window is defined for 250 days preceding the event date, that is, (–280, –31) to estimate the parameters. An investigation window of 61 days (–30, +30) is used to observe the pattern and behavior of abnormal returns around the event. The stock price reaction is measured by the market adjusted model (Adaoglu & Lasfer, 2003). For calculating daily observed returns of stocks, the logarithm of adjusted closing prices (adjusted for dividends and splits) are used. The return on the market portfolio is proxied by the value-weighted NSE 500 index which includes 500 companies based on their market value and liquidity characteristics. The expected returns ($E(R_{i,t})$) of the sample companies are calculated with the help of the market-adjusted model as follows :

$$E(R_{i,t}) = \alpha + \beta\,(R_{m,t}) \qquad (1)$$

The daily abnormal returns ($AR_{i,t}$) and daily cumulative abnormal returns ($CAR_{i,t}$) of security *i* during the event window are computed as under :

$$AR_{i,t} = R_{i,t} - E(R_{i,t}) \qquad (2)$$

$$CAR_{(t1,t2)} = \sum_{t1}^{t2} AR_{i,t} \qquad (3)$$

The daily average abnormal returns (AAR_t) and daily cumulative average abnormal returns ($CAAR_t$) are calculated as follows :

$$AAR_t = \frac{1}{N}\sum_{i=1}^{n} AR_{i,t} \quad (4)$$

$$CAAR_t = \frac{1}{N}\sum_{i=1}^{n} CAR_{i,t} \quad (5)$$

The statistical significance of AAR_t and $CAAR_t$ is verified through the parametric t - test.

(2) Analysis of Liquidity Changes : The liquidity hypothesis is examined on and around the announcement and ex-day. Short term liquidity changes are analyzed through abnormal trading volume behavior, and long term liquidity changes are analyzed through augmented liquidity tests.

(3) Analysis of Abnormal Trading Volume : The abnormal trading volume around announcement and ex-dates is estimated following the methodology of Adaoglu and Lasfer (2003). The average trading volume of each stock (NVL_i) that represents the 'normal volume' of that security is estimated for the period of one year (–280, –31) relative to the event day (0) using the daily trading volume ($VL_{i,t}$) data of stock as below :

$$NVL_i = \frac{1}{250}\sum_{i=-280}^{-31} VL_{i,t} \quad (6)$$

Over the event window (–30, +30), the daily abnormal trading volume ($AV_{i,t}$) and daily cumulative abnormal trading volume ($CAV_{i,t}$) is estimated as :

$$AV_{i,t} = \frac{VL_{i,t}}{NVL_i} - 1 \quad (7)$$

$$CAV_{(t1,t2)} = \sum_{t1}^{t2} AV_{i,t} \quad (8)$$

The daily average abnormal trading volume (AAV_t) and daily cumulative average abnormal trading volume ($CAAV_t$) is calculated as follows :

$$AAV_t = \frac{1}{N}\sum_{i=1}^{n} AV_{i,t} \quad (9)$$

$$CAAV_t = \frac{1}{N}\sum_{i=1}^{n} CAV_{i,t} \quad (10)$$

The statistical significance of AAV_t and $CAAV_t$ is verified through parametric t - statistics.

(4) Augmented Liquidity Tests : The study uses three different methods of augmented liquidity namely, trading volume, relative trading volume, and liquidity ratio of stock (Amihud, Mendelson, & Lauterbach, 1997 ; Adaoglu & Lasfer, 2003 ; Muscarella & Piwowar, 2001).

Keeping other things same, stock's trading volume is an increasing function of its liquidity (Amihud & Mendelson, 1986). Thus, an increase (decrease) in the trading volume exhibits an increase (decrease) in liquidity. The change in trading volume for security i (ΔVOL_i) is calculated as :

$$\Delta VOL_i = ln(VOL_{i,After}) - ln(VOL_{i,Before}) \quad (11)$$

where, $VOL_{i,before}$ and $VOL_{i,after}$ represent the average trading volume of security i in the periods before and after the

event day, respectively. The average trading volumes of 263 bonus issues are computed for 1 year before/after (–280 to –31/+31 to +280) relative to both dates, that is, announcement date and ex-bonus date.

Stock's trading volume also depends upon the overall market volume. Thus, the stock's relative trading volume ($RVOL_i$) is also computed by using the average daily shares traded at NSE 500 (a proxy for market volume) as follows :

$$RVOL_i = VOL_i / VOL_m \quad (12)$$

where, VOL_i is the average trading volume of security *i* and VOL_m is the average trading volume of the market. The change in relative trading volume for security *i* ($\Delta RVOL_i$) is calculated as :

$$\Delta RVOL_i = ln\,(RVOL_{i,After}) - ln\,(RVOL_{i,Before}) \quad (13)$$

where, $RVOL_{i,\,before}$ and $RVOL_{i,\,after}$ represent the relative average trading volume in the periods before and after the announcement and ex-day, respectively.

The third measure is liquidity ratio, originally developed by Amivest Corporation also known as 'the Amivest measure of liquidity' or 'the market depth ratio.' In many microstructure research studies, it is considered as a good proxy for market depth (Adaoglu & Lasfer, 2003 ; Cooper, Groth, & Avera, 1985). This ratio measures the trading volume associated with a unit change in the stock price. An increase (decrease) in the liquidity ratio exhibits an increase (decrease) in liquidity or market depth for a stock. Higher the ratio, higher will be the number of shares traded with a small change in the stock price. The ratio is computed as under :

$$LR_i^{k,m} = \sum_{k}^{m} VL_{i,t} / \sum_{k}^{m} |R_{i,t}| \quad (14)$$

where, $V_{i,\,t}$ and $|\,R_{i,t}\,|$ are the trading volume and the absolute return, respectively for stock *i* on day *t* during the 1 year ($k \rightarrow m$) before/after the announcement and ex-day. The change in the liquidity ratio (ΔLR) is measured as :

$$\Delta\, LR_i = ln\,(LR_{i,After}) - ln\,(LR_{i,Before}) \quad (15)$$

Empirical Analysis and Results

Signalling Hypothesis

(1) Announcement Day Market Reaction : Table 2 reports the market reaction around the announcement day. As shown in Table 2, on the announcement day, there are statistically significant positive AARs of 1.69% (t = 5.62) and CAAR of 8.47% (t = 6.69). The statistically significant CAARs for periods (–10 to –1) and (–5, –1) are 4.9% (t = 6.7) and 3.46% (t = 6.05), respectively. In the post-announcement period, there are negative statistically significant market reactions on days +2, +3, +4, and +7. The statistically significant CAARs for periods (+1, +5) and (+1, +10) are –1.8% (t = –3.85) and –2.86% (t = –4.53), respectively. The results show that the pre-announcement period AARs are positive and due to the effect of large AAR on day '0,' the entire series of CAAR in the post-announcement period (+1, +30) becomes positive. That's why we also analyze the event window (+1, +30) to eliminate the effect of announcement day in which it is clear that there is statistically significant negative CAAR.

Figure 1 shows the AAR and the CAAR over the period (–30, +30). As shown in Figure 1, on the day of the announcement, there is a major upswing. A positive trend starting on Day –9 up to the announcement day may

Table 2. Abnormal Returns Around the Announcement Date

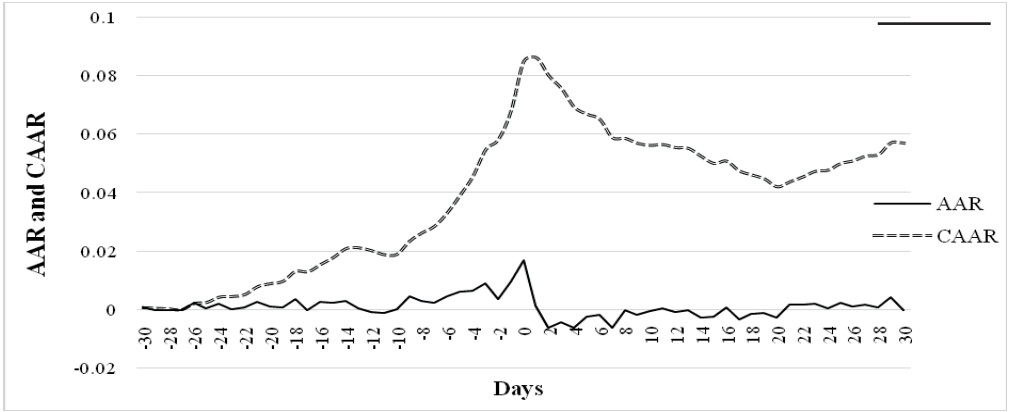
This table represents daily average abnormal returns (*AAR*), cumulative average abnormal returns (*CAAR*), and significance level using a parametric *t* - test for each event day in the 61 trading days event window (–30, +30) around announcement day (Day 0). *CAAR* is also shown for different pre and post announcement day periods.

	Event Window				Pre-Announcement Day				Post-Announcement Day			
	(–30 to +30)				(–10 to –1)		(–5 to –1)		(+1 to +5)		(+1 to +10)	
Day	***AAR***	***t*-value**	***CAAR***	***t*-value**	***CAAR***	***t*-value**	***CAAR***	***t*-value**	***CAAR***	***t*-value**	***CAAR***	***t*-value**
–30	0.0007	0.48	0.0007	0.48								
–29	–0.0002	–0.14	0.0005	0.21								
–28	–0.0002	–0.13	0.0003	0.10								
–27	–0.0003	–0.22	–0.0001	–0.02								
–26	0.0022	1.37	0.0021	0.50								
–25	0.0004	0.24	0.0025	0.53								
–24	0.0018	1.04	0.0043	0.88								
–23	0.0002	0.12	0.0045	0.88								
–22	0.0007	0.40	0.0052	0.93								
–21	0.0027	1.55	0.0078	1.31								
–20	0.0010	0.58	0.0089	1.42								
–19	0.0008	0.46	0.0096	1.51								
–18	0.0034	2.01	0.0131	1.96								
–17	–0.0001	–0.08	0.0129	1.83								
–16	0.0025	1.45	0.0155	2.07								
–15	0.0023	1.45	0.0178	2.30								
–14	0.0031	2.04	0.0209	2.63*								
–13	0.0002	0.13	0.0211	2.63*								
–12	–0.0009	–0.74	0.0201	2.52*								
–11	–0.0014	–0.90	0.0188	2.30								
–10	0.0001	0.07	0.0189	2.23	0.0001	0.1						
–9	0.0045	2.66*	0.0234	2.62*	0.0046	1.8						
–8	0.0029	1.71	0.0262	2.83*	0.0075	2.4*						
–7	0.0023	1.04	0.0286	2.99*	0.0098	2.6*						
–6	0.0046	2.04	0.0332	3.30*	0.0144	3.0*						
–5	0.0059	2.48*	0.0391	3.74**	0.0204	3.7**	0.0059	2.48*				
–4	0.0064	2.91*	0.0455	4.18**	0.0268	4.5**	0.0123	3.49**				
–3	0.0090	4.04**	0.0546	4.78**	0.0358	5.5**	0.0214	4.56**				
–2	0.0035	1.81	0.0581	4.93**	0.0393	5.7**	0.0249	4.91**				
–1	0.0097	5.01**	0.0678	5.53**	0.0490	6.7**	0.0346	6.05**				
►0	**0.0169**	**5.62****	**0.0847**	**6.69****								
1	0.0013	0.52	0.0860	6.81**					0.0013	0.52	0.0013	0.52
2	–0.0063	–3.09	0.0798	6.23**					–0.0049	–1.39	–0.0049	–1.39
3	–0.0044	–3.13	0.0754	5.81**					–0.0093	–2.47	–0.0093	–2.47
4	–0.0063	–4.01	0.0691	5.23**					–0.0156	–3.62	–0.0156	–3.62

5	–0.0024	–1.55	0.0667	4.96**	–0.0180	–3.85	–0.0180	–3.85
6	–0.0017	–1.14	0.0650	4.77**			–0.0197	–3.87
7	–0.0063	–4.32	0.0587	4.17**			–0.0260	–4.84
8	–0.0002	–0.17	0.0585	4.12**			–0.0262	–4.63
9	–0.0017	–1.05	0.0567	3.96**			–0.0279	–4.72
10	–0.0007	–0.46	0.0561	3.82**			–0.0286	–4.53
11	0.0003	0.18	0.0563	3.75**				
12	–0.0010	–0.73	0.0553	3.59**				
13	–0.0003	–0.19	0.0550	3.53**				
14	–0.0027	–1.95	0.0523	3.30*				
15	–0.0024	–1.67	0.0499	3.14*				
16	0.0008	0.53	0.0507	3.19*				
17	–0.0033	–2.02	0.0474	3.01*				
18	–0.0014	–0.96	0.0460	2.89*				
19	–0.0013	–0.93	0.0446	2.80*				
20	–0.0027	–1.69	0.0419	2.61*				
21	0.0017	1.00	0.0437	2.72*				
22	0.0016	0.89	0.0453	2.77*				
23	0.0019	1.19	0.0472	2.85*				
24	0.0004	0.20	0.0476	2.84*				
25	0.0023	1.32	0.0499	2.92*				
26	0.0009	0.60	0.0508	2.94*				
27	0.0017	0.83	0.0524	3.00*				
28	0.0005	0.29	0.0530	3.03*				
29	0.0040	2.17	0.0570	3.21*				
30	–0.0002	–0.09	0.0568	3.17*				

Note. **Significant at 1% level. *Significant at 5% level.

Figure 1. *AAR* and *CAAR* Around the Announcement Day



indicate information leakage. During the pre-announcement period (–10, –1) and (–5, –1), there are significant positive market reactions and after the announcement, there are significant negative market reactions.

(2) Ex-Day Market Reaction : Table 3 exhibits abnormal price reaction around the ex-day. The presence of abnormal reaction on ex-bonus day may be due to the bonus size and/or tax stripping or other reasons because in an efficient market, the entire information content is digested by the market and incorporated in the stock prices in the announcement period. However, there are significant market reactions during the pre and post-ex-day periods as shown in Table 3. The statistically significant CAAR for period (–10, –1) is 1.61% (t = 2.82). In the post-ex-period (+1,+10), there are statistically significant negative market reactions in all the days except for day +5 and +10 and this trend continues till day +26. The statistically significant CAARs for period (+1, +5) and (+1,+10) are –2.9% (t = –6.48) and –5.12% (t = –8.47), respectively. The results represent mixed average abnormal returns in the pre-ex-day period ; whereas, negative returns are observed in the post-ex-day period.

Table 3. Returns Around Ex-Date

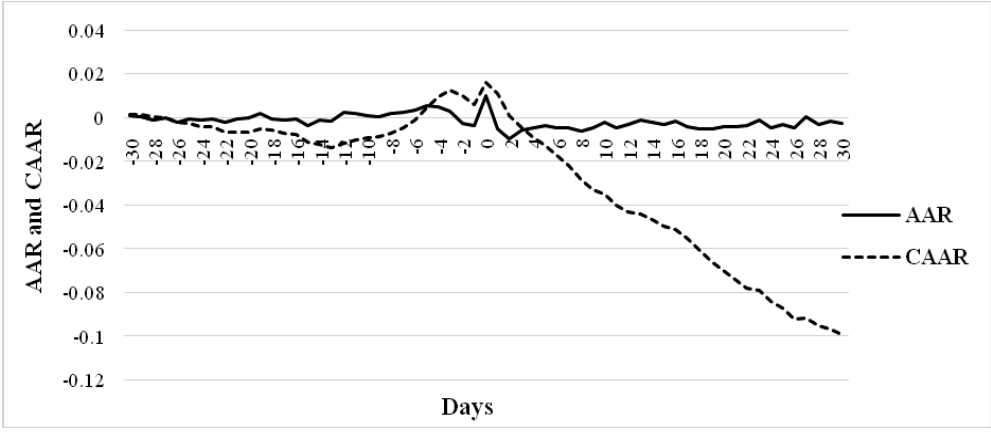
This table represents daily average abnormal returns (*AAR*), cumulative average abnormal returns (*CAAR*), and significance level using a parametric *t*-test for each event day in the 61 trading days event window (–30, +30) around ex-day (Day 0). *CAAR* is also shown for different pre and post-ex-day periods.

	Event Window				Pre-Ex-Day Period				Post-Ex-Day Period			
	(–30 to +30)				(–10 to –1)		(–5 to –1)		(+1 to +5)		(+1 to +10)	
Day	*AAR*	*t*-value	*CAAR*	*t*-value	*CAAR*	*t*-value	*CAAR*	*t*-value	*CAAR*	*t*-value	*CAAR*	*t*-value
–30	0.0010	0.59	0.0010	0.59								
–29	0.0002	0.14	0.0013	0.46								
–28	–0.0012	–0.67	0.0000	0.01								
–27	–0.0003	–0.22	–0.0003	–0.07								
–26	–0.0020	–1.07	–0.0023	–0.50								
–25	–0.0006	–0.34	–0.0029	–0.58								
–24	–0.0012	–0.81	–0.0041	–0.77								
–23	–0.0004	–0.27	–0.0046	–0.80								
–22	–0.0021	–1.58	–0.0067	–1.12								
–21	–0.0004	–0.27	–0.0071	–1.14								
–20	0.0001	0.04	–0.0070	–1.07								
–19	0.0017	1.28	–0.0053	–0.77								
–18	–0.0008	–0.56	–0.0061	–0.85								
–17	–0.0011	–0.62	–0.0072	–0.96								
–16	–0.0004	–0.28	–0.0077	–0.97								
–15	–0.0038	–2.79*	–0.0115	–1.40								
–14	–0.0010	–0.63	–0.0125	–1.51								
–13	–0.0016	–1.09	–0.0141	–1.68								
–12	0.0021	1.45	–0.0120	–1.40								
–11	0.0017	1.16	–0.0103	–1.16								
–10	0.0010	0.55	–0.0093	–1.00	0.0010	0.55						

–9	0.0002	0.12	–0.0091	–0.95	0.0012	0.42						
–8	0.0018	1.13	–0.0073	–0.73	0.0030	0.86						
–7	0.0024	1.43	–0.0049	–0.47	0.0054	1.30						
–6	0.0036	2.05	–0.0013	–0.12	0.0090	1.85						
–5	0.0053	2.86	0.0041	0.36	0.0143	2.62	0.0053	2.86				
–4	0.0050	3.05	0.0091	0.80	0.0193	3.47	0.0103	4.21				
–3	0.0031	1.80	0.0122	1.08	0.0224	4.05	0.0134	4.51				
–2	–0.0027	–1.47	0.0095	0.84	0.0198	3.41	0.0108	3.05				
–1	–0.0036	–2.00	0.0059	0.52	0.0161	2.82	0.0071	1.85				
►0	**0.0099**	**2.33***	**0.0158**	**1.40**								
1	–0.0052	–2.35*	0.0106	0.94					–0.0052	–2.35*	–0.0052	–2.35*
2	–0.0097	–4.60**	0.0009	0.08					–0.0150	–4.64**	–0.0150	–4.64**
3	–0.0058	–3.14*	–0.0049	–0.42					–0.0207	–5.50**	–0.0207	–5.50**
4	–0.0046	–2.62*	–0.0095	–0.81					–0.0253	–6.09**	–0.0253	–6.09**
5	–0.0037	–2.21	–0.0132	–1.13					–0.0290	–6.48**	–0.0290	–6.48**
6	–0.0044	–2.56*	–0.0177	–1.53							–0.0335	–7.13**
7	–0.0047	–2.34*	–0.0223	–1.94							–0.0381	–7.55**
8	–0.0061	–3.83**	–0.0284	–2.49*							–0.0442	–8.06**
9	–0.0046	–2.91*	–0.0329	–2.89*							–0.0488	–8.37**
10	–0.0024	–1.45	–0.0353	–3.02*							–0.0512	–8.47**
11	–0.0048	–2.90*	–0.0401	–3.32*								
12	–0.0032	–1.96	–0.0433	–3.52*								
13	–0.0012	–0.70	–0.0444	–3.59**								
14	–0.0022	–1.33	–0.0466	–3.70**								
15	–0.0034	–2.28	–0.0500	–3.92**								
16	–0.0015	–0.92	–0.0515	–3.96**								
17	–0.0040	–2.48*	–0.0555	–4.16**								
18	–0.0053	–3.34*	–0.0607	–4.44**								
19	–0.0054	–3.69**	–0.0661	–4.82**								
20	–0.0040	–2.62*	–0.0702	–5.12**								
21	–0.0041	–2.70*	–0.0743	–5.40**								
22	–0.0038	–2.69*	–0.0781	–5.63**								
23	–0.0012	–0.81	–0.0793	–5.63**								
24	–0.0048	–3.24*	–0.0841	–5.93**								
25	–0.0031	–2.07	–0.0872	–6.09**								
26	–0.0049	–2.81*	–0.0921	–6.34**								
27	0.0003	0.16	–0.0918	–6.20**								
28	–0.0032	–2.05	–0.0951	–6.33**								
29	–0.0017	–0.96	–0.0968	–6.32**								
30	–0.0026	–1.66	–0.0993	–6.39**								

Note. **Significant at 1% level. *Significant at 5% level.

Figure 2. *AAR* and *CAAR* Around Ex-Day



As shown in Figure 2, a mixed trend is observed in CAAR followed by a little upswing on the ex-day. After that, a sharp decline (due to the statistically significant negative AAR) is observed in the post-ex-day period up to day +30. The results indicate buying pressure by investors before the ex-day. Investors buy the stock before the ex-day for entitlement of the bonus shares. However, after the ex-day, a sudden increase in the supply of shares may result in negative mean abnormal returns in the market.

Liquidity Hypothesis

(1) Abnormal Trading Volume Behaviour Around Announcement Day : Table 4 exhibits the abnormal trading volume behaviour around the announcement day. On announcement day '0,' the AAV amounts to 536.84% ($t = 9.04$) of the normal level of trading volume due to the signalling hypothesis. In the pre-announcement period, statistically significant AAVs are detected starting from the day –7 up to the announcement day. Buying pressure

Table 4. Abnormal Trading Volume Behaviour Around the Announcement Day

This table represents daily average abnormal trading volume (*AAV*), cumulative average abnormal trading volume (*CAAV*), and significance level using a parametric *t* - test for each event day in the period from –30 to +30 trading days around the announcement day (Day 0). *CAAV* is also shown for different pre and post announcement day periods.

	Event Window				Pre-Announcement Period				Post-Announcement Period			
	(–30 to +30)				(–10 to –1)		(–5 to –1)		(+1 to +5)		(+1 to +10)	
Day	***AAV***	***t*-value**	***CAAV***	***t*-value**	***CAAV***	***t*-value**	***CAAV***	***t*-value**	***CAAV***	***t*-value**	***CAAV***	***t*-value**
–30	0.0778	0.66	0.0778	0.66								
–29	0.2021	1.27	0.2799	1.25								
–28	0.2363	1.63	0.5162	1.57								
–27	0.0889	0.95	0.6051	1.54								
–26	0.3173	1.21	0.9224	1.78								
–25	0.4067	1.80	1.3291	1.92								
–24	0.4828	2.25	1.8119	2.30								

–23	0.3994	1.97	2.2113	2.40*								
–22	0.3886	1.90	2.5999	2.45*								
–21	0.8478	2.56*	3.4477	2.64*								
–20	0.6160	2.14	4.0637	2.69*								
–19	0.6157	2.02	4.6793	2.71*								
–18	0.4468	1.52	5.1261	2.66*								
–17	0.4023	1.73	5.5284	2.63*								
–16	0.5705	2.97*	6.0989	2.71*								
–15	0.5121	2.24	6.6110	2.75*								
–14	0.2992	2.06	6.9102	2.77*								
–13	0.3108	1.64	7.2210	2.75*								
–12	0.4673	2.24	7.6883	2.85*								
–11	0.5359	2.62*	8.2242	2.89*								
–10	0.4239	2.21	8.6480	2.91*	0.4239	2.21						
–9	0.6181	1.88	9.2661	2.98*	1.0420	2.09						
–8	0.7607	1.96	10.0269	3.07*	1.8027	2.12						
–7	0.9286	3.29*	10.9555	3.26*	2.7313	2.70*						
–6	1.5375	3.16*	12.4930	3.57**	4.2688	3.26*						
–5	1.9363	4.18**	14.4293	3.90**	6.2051	3.86**	1.9363	4.18**				
–4	1.7222	5.19**	16.1514	4.21**	7.9272	4.38**	3.6584	5.08**				
–3	2.2757	4.56**	18.4272	4.58**	10.2030	4.88**	5.9342	5.70**				
–2	1.7757	4.35**	20.2028	4.74**	11.9787	4.99**	7.7098	5.62**				
–1	1.8362	4.62**	22.0390	4.87**	13.8148	5.06**	9.5460	5.69**				
0	**5.3684**	**9.04****	**27.4074**	**5.64****								
1	3.6470	8.99**	31.0544	6.16**					3.6470	8.99**	3.6470	8.99**
2	1.8903	5.18**	32.9447	6.38**					5.5373	8.47**	5.5373	8.47**
3	0.9049	5.51**	33.8496	6.45**					6.4422	8.15**	6.4422	8.15**
4	0.6656	4.99**	34.5151	6.48**					7.1077	8.17**	7.1077	8.17**
5	0.5119	3.78**	35.0271	6.51**					7.6197	8.16**	7.6197	8.16**
6	0.5305	3.43**	35.5575	6.55**							8.1501	7.86**
7	0.3975	3.19*	35.9551	6.52**							8.5477	7.71**
8	0.2951	2.34*	36.2501	6.50**							8.8428	7.56**
9	0.5800	2.85*	36.8301	6.52**							9.4228	7.54**
10	0.4742	3.13*	37.3043	6.53**							9.8969	7.49**
11	0.3473	2.68*	37.6516	6.52**								
12	0.2957	2.86*	37.9472	6.51**								
13	0.6059	2.61*	38.5531	6.56**								
14	0.6616	2.04	39.2147	6.47**								
15	0.4259	2.43*	39.6406	6.43**								
16	0.4437	3.30*	40.0843	6.44**								
17	0.3949	2.59*	40.4792	6.40**								

18	0.6827	2.57*	41.1619	6.36**
19	0.4457	2.90*	41.6076	6.36**
20	0.5530	3.05*	42.1606	6.36**
21	0.5181	2.94*	42.6788	6.38**
22	0.7870	3.41**	43.4657	6.35**
23	0.5736	3.64**	44.0393	6.34**
24	0.9976	2.77*	45.0369	6.36**
25	1.2587	3.04*	46.2957	6.34**
26	1.0765	3.34*	47.3722	6.30**
27	1.1911	4.01**	48.5632	6.32**
28	1.8482	2.44*	50.4114	6.34**
29	2.0210	3.23*	52.4324	6.38**
30	2.6278	2.59*	55.0601	6.40**

Note. **Significant at 1% level. *Significant at 5% level.

in the pre-announcement period due to information leakages is detected through statistically significant CAAVs of 1381.48% (t = 5.06) and 954.60% (t = 5.69) for the periods (–10, –1) and (–5, –1), respectively. Similarly, statistically significant AAVs are detected for the entire post-announcement period except on day +14. Significant AAV in the sub-period (+1,+30) indicates selling pressure accompanied by the negative average abnormal returns, which indicate activity of short term traders whose aim is to receive the abnormal returns on the announcement day and exiting immediately after the announcement day.

(2) Abnormal Trading Volume Behaviour Around Ex-Day : Table 5 exhibits the abnormal trading volume behaviour around ex-day. As shown in Table 5, on ex-day '0,' the AAV amounts to 433.19% (t = 6.17) of the normal level of trading volume. In the pre-ex-bonus period, statistically significant AAVs are detected on many days, specially starting from the day –11 up to the announcement day. Statistically significant CAAVs of 801.70%

Table 5. Abnormal Trading Volume Behaviour Around the Ex-Day

This table represents daily average abnormal trading volume (*AAV*), cumulative average abnormal trading volume (*CAAV*), and significance level using a parametric *t* - test for each event day in the period from –30 to +30 trading days around the ex-day (Day 0). *CAAV* is also shown for different pre and post-ex-day periods.

	Event Window				Pre-Ex-Day				Post-Ex-Day			
	(–30 to +30)				(–10 to –1)		(–5 to –1)		(+1 to +5)		(+1 to +10)	
Day	***AAV***	***t*-value**	***CAAV***	***t*-value**	***CAAV***	***t*-value**	***CAAV***	***t*-value**	***CAAV***	***t*-value**	***CAAV***	***t*-value**
–30	0.9635	3.33*	0.9635	3.33*								
–29	0.7126	3.05*	1.6762	3.58**								
–28	0.6524	2.77*	2.3286	3.55**								
–27	0.7007	2.30	3.0293	3.65**								
–26	0.6401	2.82*	3.6694	3.89**								
–25	0.4273	2.56*	4.0966	3.96**								
–24	0.3071	2.85*	4.4037	4.02**								

–23	0.2116	2.30	4.6153	4.03**								
–22	0.1003	1.18	4.7156	4.01**								
–21	0.1140	1.46	4.8297	3.99**								
–20	0.2772	2.35*	5.1069	4.11**								
–19	0.2504	2.44*	5.3573	4.20**								
–18	0.1608	1.90	5.5181	4.22**								
–17	0.2932	2.33*	5.8113	4.28**								
–16	0.3608	2.80*	6.1721	4.33**								
–15	0.3924	2.57*	6.5645	4.39**								
–14	0.1564	1.86	6.7209	4.36**								
–13	0.0887	0.98	6.8096	4.30**								
–12	0.1181	1.50	6.9277	4.27**								
–11	0.2380	2.87*	7.1657	4.32**								
–10	0.4094	2.62*	7.5751	4.39**	0.4094	2.62*						
–9	0.4732	3.50**	8.0483	4.46**	0.8826	3.45**						
–8	0.6245	2.96*	8.6729	4.56**	1.5072	3.74**						
–7	0.6337	3.19*	9.3065	4.61**	2.1408	3.96**						
–6	0.8881	3.75**	10.1947	4.75**	3.0290	4.55**						
–5	0.7662	5.14**	10.9609	4.92**	3.7952	5.03**	0.7662	5.14**				
–4	0.8297	5.47**	11.7906	5.12**	4.6250	5.40**	1.5960	5.78**				
–3	0.9717	5.71**	12.7624	5.40**	5.5967	6.02**	2.5677	6.88**				
–2	0.9749	7.18**	13.7373	5.68**	6.5716	6.56**	3.5426	7.60**				
–1	1.4454	9.71**	15.1827	6.03**	8.0170	7.19**	4.9880	8.56**				
►0	**4.3319**	**6.17****	**19.5146**	**7.15****								
1	3.2535	3.81**	22.7680	7.32**					3.2535	3.81**	3.2535	3.81**
2	3.1392	4.48**	25.9073	7.23**					6.3927	4.32**	6.3927	4.32**
3	2.8484	3.76**	28.7556	7.03**					9.2411	4.31**	9.2411	4.31**
4	2.8153	3.51**	31.5709	6.81**					12.0563	4.27**	12.0563	4.27**
5	2.6308	4.62**	34.2017	6.76**					14.6872	4.52**	14.6872	4.52**
6	2.6707	3.59**	36.8724	6.63**							17.3579	4.53**
7	2.4020	3.47**	39.2744	6.45**							19.7599	4.49**
8	2.3053	4.49**	41.5797	6.38**							22.0652	4.58**
9	2.4207	4.22**	44.0005	6.30**							24.4859	4.61**
10	2.5836	4.82**	46.5841	6.36**							27.0696	4.80**
11	2.3745	3.95**	48.9587	6.43**								
12	2.4511	3.61**	51.4097	6.39**								
13	2.5941	3.26*	54.0038	6.25**								
14	2.8275	2.67*	56.8312	6.25**								
15	2.0411	4.26**	58.8724	6.22**								
16	2.9130	4.10**	61.7854	6.25**								
17	2.1438	4.44**	63.9292	6.25**								

18	2.4640	4.98**	66.3932	6.27**
19	2.8700	2.88*	69.2632	6.28**
20	2.2864	4.95**	71.5496	6.32**
21	2.5736	4.15**	74.1232	6.32**
22	1.9837	5.06**	76.1068	6.33**
23	2.9367	3.04*	79.0436	6.30**
24	1.7977	4.57**	80.8413	6.31**
25	2.4154	3.77**	83.2568	6.29**
26	3.5614	2.15	86.8182	6.23**
27	1.9982	5.12**	88.8164	6.28**
28	3.4001	2.45*	92.2165	6.16**
29	4.3076	2.59*	96.5241	6.04**
30	3.7467	3.16*	100.2708	5.97**

Note. **Significant at 1% level. * Significant at 5% level.

(t = 7.19) and 498.80% (t = 8.56) for the periods (–10, –1) and (–5, –1), respectively in the pre-ex-bonus period indicate the buying pressure by investors willing for entitlement for the bonus shares. Similarly, statistically significant AAVs are detected for the entire post-ex-bonus period except on day +26. Significant AAV in the sub-period (+1, +30) in the post-ex-bonus period indicate selling pressure due to the augmented supply of shares, which indicates the activity of investors who opt for tax stripping.

(3) Augmented Liquidity Tests : As shown in Table 6, the mean changes in the three measures are statistically significantly positive for both the dates. Additionally, most of the bonus issues have a positive change in all three measures of liquidity. The results of all the liquidity measures (ΔVOL, $\Delta RVOL$, and ΔLR) are consistent with the enhanced liquidity effect, showing that in the post-announcement and post-ex-bonus period, bonus issue distributions increase the liquidity (market depth) of the stocks traded in NSE in the long run.

Table 6. Augmented Liquidity Tests

This table shows liquidity changes through three measures of liquidity, that is, change in stock's trading volume (ΔVOL), change in stock's relative trading volume ($\Delta RVOL$), and change in liquidity ratio (ΔLR) for 1 year period (–280 to –31/+31 to +280)

	Liquidity Changes Around Announcement Day (–280 to –31 /+31 to +280)		Liquidity Changes Around Ex-Bonus Day (–280 to –31 /+31 to +280)	
	Mean (*t*-stat)	**Positive : Negative**	**Mean (*t*-stat)**	**Positive : Negative**
ΔVOL	0.7762** (11.23)	209 : 54	0.7396** (11.00)	211 : 52
ΔRVOL	0.6920** (10.01)	196 : 67	0.6343** (9.46)	198 : 65
ΔLR	0.7785** (11.89)	271 : 46	0.7977** (11.86)	218 : 45

Note. **Significant at 1% level. *Significant at 5% level.

Research Implications and Conclusion

Bonus issue announcements work like a signaling device. Corporate managers should use this device very carefully to convey only quality signals backed by forthcoming potential cash flows. The investors should also consider the effect of this announcement while making their trading decisions. Moreover, it is observed that significant abnormal reaction around the ex-date motivates the tax based trading strategies by investors.

This research study examines the market response to bonus issues in the Indian stock market around the announcement and ex-bonus day from two angles, that is, information signalling hypothesis and liquidity hypothesis. Significant positive abnormal return on the announcement day is witnessed. Similar findings were also obtained by Grinblatt et al. (1984) and McNichols and Dravid (1990). The presence of significant positive abnormal reaction in the pre-announcement period indicates the existence of insider trading and/or information leakages (Mishra, 2005). Moreover, significant negative abnormal reaction in the post - announcement period is observed. Similar findings were also obtained by Malhotra, Thenmozhi, and Kumar (2012).

The presence of positive abnormal reaction on ex-bonus day may be due to the bonus size and/or tax stripping or other reasons because in an efficient market, the entire information content is digested by the market and incorporated in the stock prices on the announcement day itself. The results indicate buying pressure by investors before the ex-day. Investors buy the stock before the ex-day for entitlement of the bonus shares. However, after the ex-day, the sudden increase in the supply of shares in the market may result in negative average abnormal returns. Similar findings were obtained by Adaoglu and Lasfer (2003). Overall, the study supports the information signalling hypothesis, which is consistent with the findings in developed stock markets.

The abnormal trading activity in the pre-announcement period due to the information leakages is detected. Selling pressure in terms of significant abnormal trading volume in the post-announcement period accompanied by the negative average abnormal returns indicate activity of short term traders whose aim is to receive the abnormal returns on the announcement day and exiting immediately after the announcement day. In the pre-ex-bonus period, abnormal trading volume detected shows the buying pressure by investors willing for entitlement of the bonus shares. In the post-ex-bonus period, selling pressure due to the augmented supply of shares indicates the activity of investors who opt for tax stripping.

All the measures of augmented liquidity, that is, change in the stock's trading volume, the stock's relative trading volume, and the liquidity ratio after the announcement and ex-bonus day are significantly positive, indicating the increased liquidity (market depth) of stocks traded on NSE. The results support the enhanced liquidity hypothesis which states that the issue of bonus shares increases the number of shares in circulation that results in increased liquidity, marketability, and ownership dispersion of the companies. Similar results were obtained by Adaoglu and Lasfer (2003). The empirical findings contribute to the literature which have given mixed results about liquidity effects concerning bonus issue announcements.

Limitations of the Study

The sample undertaken for the research covered the bonus issues announced from 2004 – 2016. As we have carried out long term liquidity analysis in the post announcement and post-ex-bonus period upto 2017 and 2018 ; hence, it was difficult to update the sample till recent years.

Scope for Further Research

The present study is restricted to the analysis of stock price and liquidity changes around this announcement.

Financial performance also needs to be analyzed in the post bonus issue period to check the quality of signals given by the firms through this announcement.

Authors' Contribution

Heena Basra conceived the idea of the research study. Dr. Ravi Singla, being the mentor of Heena Basra, guided her at all the stages. The final manuscript was written by Heena Basra and it was thoroughly checked and the results were verified by Dr. Ravi Singla.

Conflict of Interest

The authors certify that they have no affiliations with or involvement in any organization or entity with any financial interest, or non-financial interest in the subject matter, or materials discussed in this manuscript.

Funding Acknowledgment

The authors received no financial support for the research, authorship, and/or for the publication of this article.

References

Adaoglu, C., & Lasfer, M. A. (2003). Why do companies pay stock dividends ? The case of bonus distributions in an inflationary environment. *Journal of Business Finance and Accounting, 38*(5-6), 601 – 627.

Amihud, Y., & Mendelson, H. (1986). Asset pricing and the bid-ask spread. *Journal of Financial Economics, 17*(2), 223 – 249.

Amihud, Y., Mendelson, H., & Lauterbach, B. (1997). Market microstructure and securities values : Evidence from the Tel Aviv Stock Exchange. *Journal of Financial Economics, 45*(3), 365 – 390.

Anderson, H., Cahan, S., & Rose, L. C. (2001). Stock dividend announcement effects in an imputation tax environment. *Journal of Business Finance & Accounting, 28*(5 – 6), 653 – 669.

Baker, H. K., & Phillips, A. L. (1993). Why companies issue stock dividends. *Financial Practice and Education, 3*(2), 29 – 37.

Balachandran, B., Faff, R., & Jong, L. (2005). Announcements of bonus share options : Signalling of the quality of firms. *Global Finance Journal, 16*(2), 180 – 190.

Ball, R., Brown, P., & Finn, F. J. (1977). Share capitalization changes, information, and the Australian equity market. *Australian Journal of Management, 2*(2), 105 – 125.

Barker, C. A. (1958). Evaluation of stock dividends. *Harvard Business Review, 36*(4), 99 – 114.

Brown, S. J., & Warner, J. B. (1985). Using daily stock returns : The case of event studies. *Journal of Financial Economics, 14*(1), 3 – 31.

Conroy, R. M., Harris, R. S., & Benet, B. A. (1990). The effects of stock splits on bid - ask spreads. *The Journal of Finance, 45*(4), 1285 – 1295.

Cooper, S. K., Groth, J. C., & Avera, W. E. (1985). Liquidity, exchange listing, and common stock performance. *Journal of Economics and Business, 37*(1), 19 – 33.

Copeland, T. E. (1979). Liquidity changes following stock splits. *The Journal of Finance, 34*(1), 115 – 141.

Fama, E. F., Fisher, L., Jensen, M. C., & Roll, R. (1969). The adjustment of stock prices to new information. *International Economic Review, 10*(1), 1 – 21.

Grinblatt, M. S., Masulis, R. W., & Titman, S. (1984). The valuation effects of stock splits and stock dividends. *Journal of Financial Economics, 13*(4), 461 – 490.

Joshipura, M. (2009). Price and liquidity effects of stock split : Empirical evidence from the Indian stock market. *Indian Journal of Finance, 3*(10), 22 – 31.

Lakonishok, J., & Lev, B. (1987). Stock splits and stock dividends: Why, who, and when. *The Journal of Finance, 42*(4), 913 – 932.

Lakonishok, J., & Vermaelen, T. (1986). Tax-induced trading around ex-dividend days. *Journal of Financial Economics, 16*(3), 287 – 319.

Lamoureux, C. G., & Poon, P. (1987). The market reaction to stock splits. *The Journal of Finance, 42*(5), 1347 – 1370.

Lukose, J., & Sapar, N. R. (2002). *Does bonus issue signal superior profitability ?* A study of the BSE listed firms. http://dx.doi.org/10.2139/ssrn.428122

MacKinlay, A. C. (1997). Event studies in economics and finance. *Journal of Economic Literature, 35*(1), 13 – 39.

Malhotra, M., Thenmozhi, M., & Kumar, G. A. (2012). Evidence on changes in stock prices and liquidity around rights issue announcement: Industry specific analysis. *International Journal of Business Insights and Transformation, 5*(2), 1 – 32.

McNichols, M., & Dravid, A. (1990). Stock dividends, stock splits, and signalling. *The Journal of Finance, 45*(3), 857 – 879.

Miller, M., & Modigliani, F. (1961). Dividend policy, growth and the valuation of shares. *Journal of Business, 34*(4), 411 – 433.

Mishra, A. (2005). *An empirical analysis of market reaction around the bonus issue in India.* http://dx.doi.org/10.2139/ssrn.733043

Murray, D. (1985). Further evidence on the liquidity effects of stock splits and stock Dividends. *The Journal of Financial Research, 8*(1), 59 – 68.

Muscarella, C. J., & Piwowar, M. S. (2001). Market microstructure and securities values : Evidence from the Paris Bourse. *Journal of Financial Markets, 4*(3), 209 – 229.

Nguyen, N. H., & Wang, D. Y. (2013). Stock dividends in China: Signalling or liquidity explanations ? *Accounting & Finance, 53*(2), 513 – 535.

Papaioannou, G. J., Travlos, N.G., & Tsangarakis, N.V. (2000). Valuation effects of Greek stock dividend distributions. *European Financial Management, 6*(4), 515 – 531.

Pradhan, S. K., & Kasilingam, R. (2018). Stock split announcements and their impact on shareholders' wealth: A study on the Indian stock market. *Indian Journal of Finance, 12*(10), 46 – 61. https://doi.org/10.17010/ijf/2018/v12i10/132499

Rao, K. C., & Geetha, T. (1996). *Indian capital market: informational signalling and efficiency.* New Delhi : APH Publishing Corporation.

Ray, K. K. (2011). Stock split and rights issue effect on Indian stock market : An empirical study. *Indian Journal of Finance, 5*(1), 17 – 25.

Woolridge, J. R. (1983). Stock dividends as signals. *The Journal of Financial Research, 6*(1), 1 – 12.

About the Authors

Heena Basra is working as Inspector Audit, Punjab Cooperation Department. She is also pursuing Ph.D. from Punjabi University Patiala, Patiala, Punjab. Her research interests are financial management, capital markets, and econometrics. She has three research publications to her credit in international reputed journals.

Dr. Ravi Singla is an Assistant Professor at University School of Applied Management, Punjabi University Patiala, Patiala, Punjab. His research interests are corporate finance, capital markets, and portfolio management. He has several research publications to his credit in reputed national and international journals.