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Sectoral decomposition of the announcement effect of rights offerings: evidence from Bangladesh

Abstract

Purpose of this study is to explore the stock price reaction to the announcement of right issues offered by different firms in Dhaka Stock Exchange (DSE), Bangladesh. Information of 83 right issues from 2006 to 2012 combined with the standard event study methodology has been used for this purpose. Findings reveal statistically significant abnormal returns on the announcement and surrounding dates. Sectoral decomposition of daily abnormal returns shows that textile sector provides the maximum abnormal return while banking sector delivers the least. The results of this study imply that DSE is not semi-strong form efficient with respect to past information on right issue announcements. Also information leakage before the announcement of right issues raises serious questions against efficiency in regulation and effectiveness of supervision in DSE.

Keywords: rights issues, announcement date, abnormal returns, event study.
JEL Classification: G14, G32.

Introduction

Listed firms around the globe usually raise additional external equity capital either from existing shareholders or from the new investors. The earlier approach is termed as right issue and is extensively used in different capital markets, especially outside the United States. Rights issue is one kind of seasoned equity offering in which the issuing company seeks investments from the prevailing shareholders via short-lived warrants issued on a pro rata basis (Eckbo & Masulis, 1992). Bangladesh Securities and Exchange Commission (BSEC) defined right share as "new shares offered to the existing shareholders of a public listed company in proportion to their existing holding out of total shares of the company (BSEC, 2006)". Right issues are offered by the firm at par or at a premium but generally at less than the current market price, so that the existing shareholders accept the right issue with an expectation of some capital gain.

Right issue provides the existing stockholders an opportunity to retain their pro-rate share in earnings and control as before. If right share are accepted by the shareholders warmly, it could be an indication that financial position of the firm is satisfactorily good, and the firm can get more debt at lower cost. It increases goodwill of a firm and also lowers cost of issue (Brigham & Ehrhardt, 2010). This study examines the stock price reaction to information content of right issues with a view of finding whether Dhaka Stock Exchange (DSE) is semi-strong efficient or not.

Right issue is not very popular means of raising addition equity among listed firms. McLean, Zhang, & Zhao (2012) witnessed that public offerings are the most common type of issue, followed by private placements, stock-financed mergers, and finally rights offerings. Smith (1977) and Eckbo and Masulis (1992) noted that even though the direct flotation costs of an underwritten equity issue are notably higher comparing to the costs of a rights issue, more than eighty percent of equity offerings in the United States are, ironically, non-rights offerings. However, Eckbo and Masulis (1992) and Kothare (1997) explain this paradox and report that different indirect costs, for instance, capital gains taxes, increased bid-ask spread, transaction costs associated in selling right shares, etc. are involved with rights issues.

However, rights offering are relatively more popular outside the U.S. For instance, seasoned equity issues in the United Kingdom are largely rights issues (Marsh, 1979; Slovin, Sushka & Lai, 2000). In an effort to show that, like U.K., many European countries also extensively use right issues to raise equity capital, Kabir (2003) referred to Berglund, Liljeblom and Wahlroos (1987) for Finland, Loderer and Zimmermann (1988) for Switzerland, Tsangarakis (1996) for Greece, Bohren, Eckbo and Michalsen (1997) for Norway, Gajewski and Ginglinger (1998) for France, and De Jong and Veld (2001) for the Netherlands. This popularity of right issue in European countries is connected to family control of public companies (Cronqvist & Nilsson, 2005).

The choice of right issue-method can be used by management to signal firm quality to shareholders. Balachandran, Faff & Theobald (2009) show that high-quality companies will signal their quality by selecting full standby right issues, low-quality firms will employ partial standby right issues, and intermediate-quality firms will select uninsured rights issues.

The paper is organized as follows. Section 1 presents the literature review. Section 2 of this study lists some relevant previous studies, section 3 describes data collection, section 4 defines models employed in this study, section 5 discusses results of the research and lastly, final section provides concluding remark on the study.

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1. Literature review

Empirical evidence from the United States (U.S.) implies that stock price declines with the announcement of right issues. Jung, Kim and Stulz (1996) noted that the announcement of seasoned equity offerings yielded in a 3-4% average abnormal decline in stock prices for a period of two-days in the U.S. For right issues in the U.S., stock price fall is also reported, but the degree is found to be lesser. Hansen (1989) noticed utility issuers experienced a significant abnormal return of -1.21 percent, while industrial issuers had a significant abnormal return of -2.61 percent for a sample of 22 industrial offerings and 80 utility offerings during 1963 to 1985. Eckbo and Masulis (1992) observed that for firm commitment right issues, the two-day announcement period average abnormal return is -3.34% for industrial offers and -0.80% for public utility offers.

Conversely, non-U.S. results on the effect of rights issue announcement are rather mixed. Levis (1995) found a statistically significant excess return of -1.3% for a two-day period for a sample of 152 rights issues in the U.K. For a two-day window for the U.K., Slovin, Sushka and Lai, (2000) reported a statistically significant negative excess stock return of -2.90% and -4.96% for a sample of 200 insured and 20 uninsured rights offerings respectively. Gajewski and Ginglinger (1998) also found statistically significant negative excess stock returns for rights offerings in France. Analyzing Norwegian data, Bohren, Eckbo, and Michalsen (1997) witnessed an insignificant excess return of -0.4% for 89 standby rights offerings but significant positive excess return of 2% for a sample of 37 uninsured rights offerings.

Wu and Wang (2002) observed that the right issues and the public placements have totally opposite announcement effects. They show that, for a two-day announcement period, a sample of 180 rights offerings from 1989 to 1997 from Hong Kong have, on average, a significantly negative cumulative average abnormal return (CAR) of -3.4 percent. Using a three-day announcement window, the CAR is -7.6 percent. Alternatively, a sample consisting of 306 non-private placements delivered a significantly positive CAR of 1.9 percent for a two-day and 3.1 percent for a three-day period.

Medeiros and Matsumoto (2005) employed an event study to examine stock price performance linked to the announcement of equity issues in Brazil between 1992 and 2003. They noted a negative abnormal return (AR) of 2.4% on the announcement day and an average of -0.03 percent cumulative abnormal returns on the first three days following the announcement indicating that stock issues convey pessimistic information to the market. Miglani (2011) studies 32 listed firms in India during 2005-2010 and found that the stock value of the firm increased on the day of announcement of right issue by about 1.42%. The study also reveals statistically significant abnormal returns on the announcement and surrounding dates.

Investigating 59 rights offering in Greece, Tsangarakis (1996) found significant positive excess return of 4%. Kang and Stulz (1996) examined 28 rights issues in Japan and also found a significant announcement effect of as much as 2.2%. However, it is not clear if the positive announcement effect is a result of unique organizational characteristics of these stock markets, for instance highly concentrated/ affiliated ownership structure of firms and the absence of an active market for rights.

Some studies investigated the long-run equity performance after seasoned equity offerings. Loughran and Ritter (1995) and Spiess and Affleck-Graves (1995) reported significant equity price under-performance over two to five years horizon following equity issues in the U.S. Kang, Kim and Stulz (1999) and Levis (1995) reported long-run equity price underperformance for firms issuing stock in Japan and United Kingdom correspondingly. Even though no generally accepted justification for these results available, there is evidence that long-run equity performance measurement is to a certain extent susceptible to the econometric estimation method used. For instance, Eckbo, Masulis and Norli (2000) show that methodological developments lead to the vanishing of any long-run equity price under-performance.

Few other studies examined operating performance of rights issuing firms after the issue. For instance, Loughran and Ritter (1997) and McLaughlin, Safieddine and Vasudevan (1996) studied operating performance of companies conducted seasoned equity issues in the United States. They reported that firms' operating performance went down after the offering. In a different study, Lee and Loughran (1998) reported substantial drop in operating performance for a sample of 986 firms following convertible debt offerings in U.S. from 1975 to 1990. Kabir and Roosenboom (2003) analyzed the operating performance of rights issuing firms from the Netherlands and found a significant deterioration in performance from one year up to five years after rights issues. Their result provides direct evidence that the stock market was able to anticipate already at the time of rights issue announcement the subsequent change in operating performance of the rights issuing firms.

Demirguc-Kunt and Maksimovic (1996) showed that the percentage of firms in a country that depends on

external financing to spread out increases with investor protection, but not with the size of the stock market. And, rights offerings are more common in countries with weak investor protection (McLean, Zhang & Zhao, 2012). Zingales (1995) and Foley and Greenwood (2009) pointed out to the fact that investor protection is negatively related with benefits of control. Therefore, controlling shareholders has strong incentive to rights issues in places where investor protection is lacking.

2. Theories that explain stock price behavior after rights offerings

Scholes (1972) introduced the price-pressure hypothesis which contends that, as the demand curve for stock is negatively sloped, an increase in the supply of a firm's shares leads to fall in the stock price. His proposition lies on the assumption of an incomplete capital market with restricted short sales. Under these circumstances, firms experience negatively sloped demand curves for their securities because perfect substitutes for a firm's securities are not available in the marketplace.

Leland and Pyle (1977) hypothesize that, ceteris paribus, that a reduction in management's stake in the firm conveys negative information, since management should be willing to bear more of the risk of a more profitable firm. Miller and Rock (1985), in their model of dividend policy, compared equity issues with negative dividends and said that issuing equity spreads out negative signal regarding the firm's future earnings. All these theories share with Myers and Majluf (1984) the feature that equity issues convey bad news about the firm.

Ross (1977) postulates that a firm's preference for capital structure may impart management's confidence about the company's prospects, i.e., higher debt ratios signal positive management expectations concerning future cash flows, and vice-versa. An unanticipated decrease in leverage will lead to low risk debt which will ultimately be translated into a shift of wealth from shareholders to bondholders (Galai & Masulis, 1976). Thus, with tax advantages from debt financing, a new equity issue may lessen a firm's stock price if it reduces the firm's debt ratio (Modigliani & Miller, 1963; DeAngelo & Masulis, 1980).

Information-based theories assume that managers know more about the value of the firm than prospective new investors. Myers and Majluf (1984), who present the pecking order theory, apply the idea of adverse selection problem to security issues and create a framework that has been used in much of the subsequent literature. They assume that in a world of asymmetric information managers know more about the firm's 'intrinsic' value than prospective new investors. Since managers act in the interests of existing shareholders even at the expense of new stockholders, there is a motivation to issue new equity when it is overvalued. Also, firms rely heavily on internally generated funds as their chief source of equity financing and are unwilling to issue common stock (Lintner, 1960; Sametz, 1964). Firms should therefore issue debt when they can and only issue equity if their debt capacity is diminished. Put it differently there is a Pecking-Order of financial instruments in which debt dominates the equity. Therefore, selling equity usually delivers negative signal about the company, and the market price of the share falls at the declaration of equity issue. A more benign interpretation is that the information available to managers is not favorable enough to stop issuing equity, and hence the option to issue stock is considered a negative indicator.

However, Healy and Palupu (1990) reported that seasoned equity offering (SEO) announcements convey no new information about subsequent earnings by the issuing firms listed on the NYSE and AMEX during 1966-1981. They found no earnings reduction comparing to the prior year's earnings either before or after adjusting earnings to an industry median.

Asquith and Mullins (1986) showed that equity offerings announcements reduce stock returns notably. They estimated that average announcement window excess return for a sample of industrial issues is -2.7% and is statistically significant. In an effort to explain the relation between the price rise before issue and the drop at issue, they claimed that the lesser the price decline is at issue, the higher the excess return prior the issue. They proposed that if there exists a positive link between price increase and a decline in information asymmetry, firms experiencing price hikes will have a slight price drop at issue and consequently are more likely to issue equity. However, Korajczyk, Lucas & McDonald (1990) claimed the sign of the connection between the price rise and the price fall is not monotonic; it depends upon the span of time over which the price rise is estimated.

Loughran and Ritter (1995) showed that initial public offerings (IPO) or SEO, during 1970-1990, significantly underperform relative to non-issuing firms for five years after the offering date. Their study also revealed that issuing firms have slightly higher systematic risk than non-issuers suggesting that issuers should have higher returns. In other words, even though high risk is involved with the issuers, these issuing firms' equity producing low returns for investors over the next five years creates a dilemma.

Kadiyala and Rau (2001) employed two contradicting behavioral models, first one is an underreaction and another one is an over-reaction model, to explain long-run abnormal return phenomena following four

corporate events: cash-financed acquisitions, stock-financed acquisitions, share repurchases and seasoned equity offerings. This study provided evidence that the long-run abnormal returns can be explained by the investor under-reaction model. Investors under-react to short-term information available preceding the event and subsequently to the information communicated by the corporate event.

Another explanation provided by Jung, Kim and Stulz (1996) is agency problems. When managerial self-interests are misaligned with shareholder value maximization, managers may employ value-destroying growth methodologies when there are no positive NPV investment opportunities, enhancing their private benefits of control at the cost of shareholders. Investors' awareness of such potential abuse of funds raised in seasoned equity offerings causes the negative reaction.

3. Data

The sample in this study includes all the 83 firms which have announced right issues during the period of 2006 to 2012 and also listed on the Dhaka Stock Exchange (DSE). Only those stocks which return is available at least 90 days prior to 30 days after the announcement date are included in this sample. Sectoral distribution of all the 83 firms that offered right issues during the sample period is presented in Table 1. Firms that do not fall in non-bank financial institution (NBFI), insurance, banking, textile sector is grouped under "miscellaneous" sector.

The information about the companies issuing right shares and their return, market return, and announcement dates are collected from the DSE library.

Beta is used to estimate risk-adjusted expected return of a security. Systematic risk, i.e., β, for all 83 securities were estimated for 121 days window, i.e., 90 days prior to 30 days after the announcement date. Estimating beta for more than 121 days will either over or under-estimate systematic risk which will ultimately mislead calculation of expected return and thus abnormal return. DSE All Share Price index (DSI) is considered as the proxy for the market portfolio. DSI, a capitalization-weighted index, consists of all the companies listed with the DSE, or more specifically, Z category share are also included in the DSI.

In order to find the price reaction to the announcement of right issues in Bangladesh, cross sectional cumulative abnormal Average return (CAAR) was computed for the 83 firms over the period of 121 days.

4. Model and construction of variables

To study the market response to right issue announcement, Bowman (1983) and Brown & Warner (1980 & 1985) standard event study methodology is used. In order to conduct an event study, the event, event date, event window, estimation window and estimation method should be recognized. The event, in this case, is what the researcher would like to study. The relationship of the said event is examined with the share prices. The events defined in this study are the announcements of right shares in Dhaka Stock Exchange. The event date is the time of announcement of right issues by the 83 sample firms during 2006-2012. It can be expressed as $t = 0$.

If rumors about the right issue start before the announcement date, it is possible to see the price movement prior to $t = 0$. Therefore, the starting point of the event windows is taken $t = -30$. It is important to open the event window prior to the event date, since it provides an indication about information leakage prior to the announcement, and thus effectiveness of regulation and supervision. Table 2 shows the event windows that are opened in this study. In addition to (-30, 30), there are five other event windows which are specified in first column. This Table also shows the reasons for opening the event windows and possible implication of event windows.

It is commonly expected that the price adjustment takes place on $t = 0$ in an efficient bourse. It is essential for the end of event window a few days after the event day to study more about market efficiency and the duration of price adjustment. In thin and inefficient markets, the price adjusts more slowly than in deep and efficient markets. Thus, the event window for this study is 30 days before and 30 days after right issue. It can be expressed as -30 to +30. Within $t - 30$ to $t + 30$ alternative event windows are also used to observe the price effect.

The estimation period is the time preceding to the occurrence of the event. Usually estimation period and event windows are selected in such a way so that they don't overlie. The estimation period for this research is 90 days prior to 31 days before the event date which can be presented as $t = -90$ to $t = -31$.

The selected estimation technique for this study is Sharpe's (1963) Single Index Model or simply the market model. The model assumes that the return on an asset is determined by a constant and the return to the market portfolio.

Actual return of any stock j in period t is calculated as below. However, dividend has not been considered during calculating stock return.

$$R_{jt} = \frac{P_{jt} - P_{jt-1}}{P_{jt-1}},$$

where, P_{jt} = price of any stock j on day t; and $P_{jt\text{-}1}$ = price of security j on day prior to day t.

Expected return on stock j in period t is estimated using Sharpe's (1963) following single factor model:

$$ER_{jt} = \alpha + \beta_j R_{mt} + \mu_{jt},$$

where, α = Intercept of the regression line; β_j = slope of the regression line which is, in this case, interpreted as the relative riskiness of the security to market index, i.e., DSI index; R_{mt} = the rate of return on market index, DSI in this case, on the day t; and μ_{jt} = error term which is assumed to be independent and identically distributed.

To study the impact of right issue announcements on stock prices, abnormal returns are calculated. Abnormal returns are then computed by deducting the expected returns of security j on day t from the actual returns of the security j on day t.

$$AR_{jt} = R_{jt} - ER_{jt},$$

where, AR_{jt} = abnormal return of security j on day t; R_{jt} = actual return on security j on day t; and EB_{jt} = expected return on security j on day t.

To obtain the average abnormal returns (AARs) for event period (-30 to +30), the abnormal returns are then summed up trading day-wise and then divided by total number of right issue announcements in the sample:

$$AAR_{jt} = \frac{1}{N}\sum_{j=1}^{N} AR_{jt},$$

where, AAR_t = average of abnormal return for the day t; and N = total number of right issue announcements in the sample.

Thus cross-sectional and time-series aggregation is done to compute cumulative average abnormal return (CAARs) for event period (-30 to +30). The formula for $CAAR_t$:

$$CAAR(t_1 - t_2) = \sum_{t=t_1}^{t_2} AAR_i.$$

Several researchers (Ritter, 1991; Barber & Lyons, 1997; Lyon, Barber & Tsai, 1999) have argued that CAARs are not appealing on economic grounds. Barber and Lyons (1997) propose to use buy-and-hold abnormal returns (BHAR) instead of CAAR because, they claim, for short horizons, both CAAR and BHAR are very similar.

T-test is employed to verify the statistical significance of $CAAR_t$ and AAR_t. For calculation of *t*-scores, the aggregate pre-event standard deviation of abnormal returns of all the stocks is estimated. Individual firm's pre-event standard deviation, from -90 to -31, is computed and then summation is done. The pre-event standard deviation of daily abnormal returns is computed as below:

$$\sigma_{i,\,pre} = \sqrt{\frac{\sum_{-90}^{-31}(AR_{jr} - AAR_{pre})^2}{n}},$$

where, $\sigma_{i,pre}$ = standard deviation of abnormal returns for stock i computed from the pre-event measurement period; n = total number of days in the pre-measurement period; and AAR_{pre} = average of abnormal return of stock i estimated from the pre-event measurement period.

Using the following formula, aggregate pre-event standard deviation is estimated:

$$\sigma_{N,\,pre} = \sqrt{\frac{\sum_{i=1}^{N}\sigma_{i,\,pre}^2}{N^2}},$$

$\sigma_{N,pre}$ is applied on AAR of each day. The *t*-test for AARs is conducted as below:

$$AAR_t \cdot t - \text{stat} = \frac{AAR_t}{\sigma_{N,\,pre}}.$$

For testing CAARs, The *t*-test formula is:

$$CAAR_t \cdot t - \text{stat} = \frac{CAAR_t}{\sigma_{N,\,pre}\sqrt{N_{t+1}}},$$

where N_{t+1} = the absolute value of event day t plus 1 (e.g. for event day -10, the absolute value is 10 and N_t = 10 and thus N_{t+1} = 11. A testable hypothesis is set as below:

H_0: The null hypothesis being tested is that abnormal returns on and around right issues are less than or equal to zero.

If AAR_t or $CAAR_t$ are greater than zero and statistically significant, it indicates that the stock prices on an average reacted positively to right issue announcements. If the *t*-statistic is larger in absolute term than 1.960 or 2.576, the relevant abnormal return is statistically non-zero at 5% or 1% significance level respectively.

5. Result and analysis

Table 3 presents summary statistics for the whole sample period. Textile sector delivered the maximum average abnormal return during the whole sample period and equal ≈4.00 percent. Even though there was a massive market crash in Bangladesh in 2010, the average daily return for the entire period by the whole sample is 0.02 percent comparing to 0.23 percent by the textile. Whole sample and also all the sectoral abnormal returns exhibit negative

skewness, i.e., data are skewed to the left. Abnormal return data of banking and textile sector have kurtosis greater than three which represents leptokurtic distribution, i.e., higher peaks comparing to normal distribution. However, abnormal return provided by other sectors have *kurtosis less than 3*, it is said to be platykurtic, i.e., flatter peak than the normal distribution. Textile not only delivers highest abnormal return, it also exhibits highest volatility measured by standard deviation.

For each of the 61 days in the experimental period Table 4 to Table 9 report the average daily abnormal returns (AARs) and cumulative average abnormal returns (CAARs) for days $t - 30$ to $t + 30$ along with the *t*-statistics to test the null hypothesis. The first column in the table presents the event day while the second shows the average abnormal returns on the matching event day. The *t*-statistic values corresponding to the AARs are given in the third column. Column 4 shows cumulative average abnormal returns (CAARs) while last column shows the *t*-stat for CAAR.

Examining the entire sample the ex-right day price behavior of the right issue, significant sharp fall in share price is reported till day 14th, which returns to the stochastic price transition path from 15th day onwards. To put it another way, in DSE, it requires 14-day to complete the price adjustment process due to the right offer which is, of course, quite a long period comparing to developed markets. The speed of price adjustment took a longer period of time due to the shallow and thin characteristic of the Dhaka Stock Exchange.

Table 4 presents the empirical results of the entire sample consisting of 83 right issues. Right before the announcement date, for a short span of time, $t - 2$ to $t = 0$, a consistent pattern of abnormal daily returns is observed. The AARs before the announcement period (-30 to -1 day) are positive only for 24 days out of 30 days and are negative for the rest of the 6 days. AARs are significant at 5% level of significance on days $t - 4$, $t - 2$ and $t - 1$. For other days before the announcement date there are no significant abnormal returns. The AARs after the announcement date show no consistent pattern. After the announcement date for 11 days there were positive returns and for 19 days there were negative returns. AARs are significant on $t + 7$, $t + 8$, and $t + 10$ at 1% level of significance. Returns on day $t + 12$, and $t + 14$ are significant at 5% level of significance. Also abnormal return on the announcement is positive and significant at 1% level.

The analysis of CAAR in Table 4 also shows that during pre-event window for 27 days CAAR was positive and on 3 days it was negative, indicating the optimistic reaction of the market in anticipation to right issues. On announcement day there was an increase in CAAR from 8.7% to 10.7%. After the event date CAAR is positive. Most importantly, a consistent pattern in CAAR is observed. From day $t - 9$ to $t + 11$, i.e., for 21 days, statistically significant CAAR has been detected. Detection of statistically significant AARs and CAARs before the announcement of right issue offerings indicates that the investors have anticipated the informational content of the event, or that they have gained access to inside information.

Table 5 shows the results of the banking sector. Twenty one banks announced right issues during the sample period. No consistent pattern in AAR is observed before and after the announcement date. The AARs before the announcement period are positive only for 18 days out of 30 days. After the announcement date, out of 30 days only 7 days delivered positive AARs. During pre-event window, analysis of CAAR shows that only for 4 days CAAR was positive and for 26 days it was negative. On $t = -4$, CAAR becomes positive from -0.002 to 0.004 and continues to be positive until $t = 7$. On the announcement date and onward, a statistically significant consistent pattern is observed in CAAR. However, absence of any significant AAR or CAAR throughout the pre-event window makes sense. In Bangladesh, banking sector has to go through numerous layers of rules and regulations from different corners including the central bank which prevents any significant leakage of information of right issues in the market.

Table 6 exhibits the empirical results of non-bank financial institutions (NBFI) sector which mainly consists of leasing and investment firms. No constant pattern in AAR is observed before and after the announcement date. In the pre-event window, analysis of CAAR shows that on 20 days CAAR was positive and for 10 days it was negative. On $t = -6$, CAAR becomes positive from -0.006 to 0.016 and continues to be positive until $t = 10$ from $t - 2$ day a statistically significant consistent pattern is observed in CAAR. However, absence of any significant AAR or CAAR throughout the pre-event window makes sense. However, like the banking sector, even in NBFI sector, no specific pattern in AAR or CAAR is observed during pre-event window. These findings basically point to the same fact that because of strict rules and regulations no significant leakage of information of right issues in DSE is detected.

Table 7 exhibits results of the insurance sector which consists of 20 firms. Including the announcement day, AARs on $t - 5$, $t + 8$, $t + 10$, $t + 11$, $t + 17$, and $t + 23$ is statistically significant. However, no constant pattern in AAR is observed before and after

the announcement date. On the other hand, from day $t - 2$ to $t + 5$, a statistically significant consistent pattern is observed in CAAR. Unlike the banking and NBFI sector, regulators failed to prevent leakage of material information, offering right issues in this case, in the marketplace.

Table 8 presents empirical results of textile sector which consists of 10 samples. Even though a consistent pattern in AAR is not observed before and after the announcement date, from day $t - 12$, a statistically significant constant pattern is observed in CAAR. The significant positive response in pre-announcement period shows that the news of right issues has been leaked out prior to board meeting.

Table 9 exhibits the empirical results for miscellaneous sector. Stocks that do not fall into banking, NBFI, insurance or textile sector, are leveled under this sector. No statistically significant pattern is detected in AAR. However, CAAR shows a pattern from $t - 7$ to $t + 9$. Total of 18 stocks are included in miscellaneous sector. These findings basically point to the fact that insider trading significantly exists in the textile sector.

Table 10 shows CAAR around the period of right issue announcement. For event window [-10,-1] and [-5,-1] cumulative abnormal returns are significant at 1% which shows slow spreading of information in market before announcement. However, for [0,1] and [0,10] cumulative abnormal returns are significant at 1% but decreases which support existing theories that after right issue announcement firm's stock price start to decline. CAAR In the NBFI and textile sector for [0,1] window is found significant at 5% level. CAAR for the insurance sector for event window [-10,-1] and [-5,-1] is significant at 1% level which confirms sectoral decomposition of results that information in this sector get leaked before announcement. No significant CAAR is detected for banking sector except for [0, 10] window.

Conclusion and implications

This study examines the stock price reaction to the announcement of right issues offered by different firms in Dhaka Stock Exchange (DSE), Bangladesh. In the entire sample, significant price increase before the announcement date is detected suggesting that investors have anticipated the informational content of the event. The significant positive response in the pre-announcement period can also be interpreted as that the news of right issues has been leaked out prior to board meeting.

After decomposing returns in sectors, it is found that banking and NBFI sector is quite successful in preventing information leakage. However, insurance and textile sector still needs some improvement. Regulators need to take measures to prevent material information leakage before actual announcement. Constant negative AARs for the banking sector is quite surprising.

Even though theories predict that after right issue offerings, prices should decline immediately. However, in DSE, it has been noted that prices start to decline on $t + 2$ days which also raises questions against market efficiency and also theories that explain the phenomenon. It may be necessary to reinterpret the evidence in this paper. This is left as an area for future research.

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Appendix

Table 1. Samples distribution

Sector	Samples distribution
Bank	21
NBFI	14
Insurance	20
Textile	10
Miscellaneous	18
Total	83

Table 2. Reason for opening and implications of event windows

Event windows	Reasons for opening window	Implications
CAAR (-10,-1)	To test information leakage	Efficiency in regulation and effectiveness of supervision
CAAR (-5,-1)		
CAAR (0,1)	To test announcement effect of dividend and market efficiency	Information content of dividend and duration of price adjustment
CAAR (0,5)		
CAAR (0,10)		

Table 3. Descriptive statistics of event window abnormal returns

	Total	NBFI	Insurance	Bank	Textile	Miscellaneous
Mean	0.0191%	0.0372%	0.0372%	-0.2215%	0.2249%	0.0954%
Standard Error	0.0474%	0.0987%	0.0987%	0.0904%	0.1362%	0.0922%
Median	0.0522%	0.1592%	0.1592%	-0.1119%	0.1855%	0.0513%
Std. Deviation	0.522%	1.086%	1.086%	0.995%	1.498%	1.014%
Kurtosis	2.20	1.63	1.63	4.84	3.27	1.76
Skewness	-0.06	-0.64	-0.64	-1.71	-0.52	-0.35
Minimum	-1.629%	-4.317%	-4.317%	-4.766%	-6.711%	-3.287%
Maximum	2.046%	2.452%	2.452%	1.964%	4.000%	3.467%

Table 4. Daily AARs, CAARs, & respective *t*-test statistics for the entire sample

T	AAR	*t*-test (AAR)	CAAR	*t*-test (CAAR)	T	AAR	*t*-test (AAR)	CAAR	*t*-test (CAAR)
-30	-0.005	-1.03	-0.005	-0.19	1	0.003	0.598	0.110	17.09***
-29	0.004	0.83	-0.001	-0.038	2	-0.007	-1.576	0.103	13.04***
-28	-0.001	-0.11	-0.001	-0.059	3	-0.005	-1.158	0.098	10.72***
-27	0.004	0.83	0.002	0.096	4	-0.005	-1.048	0.093	9.12***
-26	0.003	0.57	0.005	0.211	5	-0.004	-0.944	0.089	7.94***
-25	0.001	0.12	0.006	0.238	6	-0.009	-1.981	0.080	6.60***
-24	-0.002	-0.45	0.003	0.152	7	-0.014	-3.02***	0.066	5.10***
-23	0.000	-0.10	0.003	0.134	8	-0.016	-3.57***	0.050	3.62***
-22	0.006	1.40	0.009	0.428	9	-0.001	-0.290	0.048	3.34***
-21	0.004	0.95	0.014	0.640	10	-0.014	-3.04***	0.034	2.27**
-20	-0.003	-0.66	0.011	0.510	11	-0.003	-0.64	0.031	1.99**
-19	0.002	0.46	0.013	0.625	12	-0.010	-2.3**	0.021	1.27
-18	0.001	0.16	0.013	0.677	13	-0.001	-0.25	0.020	1.16
-17	-0.002	-0.35	0.012	0.614	14	-0.011	-2.51**	0.008	0.47
-16	0.001	0.24	0.013	0.690	15	0.001	0.11	0.009	0.49
-15	0.001	0.13	0.014	0.743	16	0.008	1.69	0.017	0.88
-14	-0.001	-0.29	0.012	0.693	17	0.004	0.77	0.020	1.04

Table 4 (cont.). Daily AARs, CAARs, & respective *t*-test statistics for the entire sample

T	AAR	*t*-test (AAR)	CAAR	*t*-test (CAAR)	T	AAR	*t*-test (AAR)	CAAR	*t*-test (CAAR)
-13	0.003	0.75	0.016	0.918	18	0.002	0.51	0.022	1.13
-12	0.006	1.26	0.021	1.302	19	0.006	1.34	0.029	1.40
-11	0.005	1.13	0.027	1.683	20	-0.002	-0.52	0.026	1.25
-10	0.003	0.58	0.029	1.933	21	-0.004	-0.91	0.022	1.03
-9	0.003	0.60	0.032	2.218**	22	-0.008	-1.79	0.014	0.63
-8	0.003	0.76	0.035	2.591***	23	0.005	1.02	0.019	0.83
-7	0.004	0.95	0.040	3.083***	24	0.002	0.46	0.021	0.90
-6	0.008	1.75	0.048	3.958***	25	-0.005	-1.16	0.015	0.66
-5	0.003	0.58	0.050	4.510***	26	-0.006	-1.40	0.009	0.38
-4	0.010	2.16**	0.060	5.907***	27	0.004	0.90	0.013	0.54
-3	0.004	0.84	0.064	7.022***	28	0.000	0.00	0.013	0.53
-2	0.011	2.51**	0.075	9.554***	29	0.000	0.05	0.013	0.53
-1	0.012	2.53**	0.087	13.492***	30	-0.003	-0.74	0.010	0.39
0	0.020	4.49***	0.107	23.566***					

Notes: *** indicates significant at 1 percent level, ** indicates significant at 5 percent level.

Table 5. Daily AARs, CAARs, & respective *t*-test statistics of banking sector

T	AAR	*t*-test (AAR)	CAAR	*t*-test (CAAR)	T	AAR	*t*-test (AAR)	CAAR	*t*-test (CAAR)
-30	-0.009	-1.01	-0.009	-0.18	1	0.009	0.97	0.047	3.81***
-29	0.002	0.18	-0.007	-0.15	2	-0.003	-0.31	0.045	2.93***
-28	0.002	0.24	-0.005	-0.11	3	-0.006	-0.73	0.038	2.17**
-27	-0.003	-0.28	-0.008	-0.16	4	-0.007	-0.78	0.031	1.60
-26	-0.012	-1.34	-0.019	-0.42	5	0	-0.01	0.031	1.45
-25	0.002	0.27	-0.017	-0.38	6	-0.012	-1.33	0.020	0.84
-24	0.000	0.00	-0.017	-0.39	7	-0.023	-2.65**	-0.004	-0.15
-23	-0.005	-0.55	-0.022	-0.51	8	-0.019	-2.19**	-0.023	-0.87
-22	-0.004	-0.40	-0.025	-0.60	9	-0.005	-0.55	-0.028	-1.00
-21	-0.003	-0.29	-0.028	-0.68	10	-0.034	-3.83***	-0.062	-2.11**
-20	-0.007	-0.79	-0.035	-0.87	11	-0.012	-1.36	-0.074	-2.41**
-19	0.003	0.33	-0.032	-0.81	12	-0.019	-2.15**	-0.092	-2.9***
-18	-0.016	-1.83	-0.048	-1.25	13	-0.004	-0.42	-0.096	-2.9***
-17	-0.003	-0.38	-0.052	-1.38	14	-0.01	-1.14	-0.106	-3.1***
-16	0.007	0.75	-0.045	-1.24	15	0.006	0.66	-0.100	-2.9***
-15	0.007	0.75	-0.038	-1.09	16	0.006	0.73	-0.094	-2.6***
-14	-0.004	-0.44	-0.042	-1.24	17	0.009	0.98	-0.085	-2.28**
-13	0.010	1.17	-0.032	-0.97	18	0.002	0.23	-0.083	-2.17**
-12	0.002	0.27	-0.030	-0.93	19	-0.002	-0.20	-0.085	-2.16**
-11	0.006	0.69	-0.023	-0.77	20	-0.002	-0.20	-0.087	-2.15**
-10	0.008	0.92	-0.015	-0.53	21	-0.001	-0.15	-0.088	-2.13**
-9	0.001	0.07	-0.015	-0.53	22	-0.048	-5.41	-0.136	-3.2***
-8	0.006	0.64	-0.009	-0.34	23	-0.005	-0.53	-0.140	-3.3***
-7	0.003	0.28	-0.007	-0.26	24	0.005	0.60	-0.135	-3.1***
-6	0.007	0.84	0.001	0.03	25	-0.034	-3.8***	-0.169	-3.8***
-5	-0.002	-0.27	-0.002	-0.07	26	-0.03	-3.4***	-0.199	-4.4***
-4	0.006	0.63	0.004	0.20	27	-0.003	-0.36	-0.202	-4.3***
-3	-0.001	-0.08	0.003	0.18	28	-0.006	-0.66	-0.208	-4.4***
-2	0.006	0.72	0.010	0.63	29	0.003	0.30	-0.205	-4.3***
-1	0.010	1.09	0.019	1.55	30	-0.006	-0.70	-0.211	-4.3***
0	0.020	2.23**	0.039	4.42***					

Notes: *** indicates significant at 1 percent level, ** indicates significant at 5 percent level.

Table 6. Daily AARs, CAARs, & respective *t*-test statistics of NBFI sector

T	AAR	*t*-test (AAR)	CAAR	*t*-test (CAAR)	T	AAR	*t*-test (AAR)	CAAR	*t*-test (CAAR)
-30	-0.001	-0.08	-0.001	-0.01	1	0.011	1.21	0.068	5.28***
-29	-0.013	-1.45	-0.014	-0.28	2	-0.016	-1.76	0.052	3.29***
-28	0.009	0.98	-0.005	-0.10	3	0.002	0.24	0.054	2.97***
-27	0.003	0.30	-0.002	-0.05	4	0.007	0.73	0.060	2.98***
-26	0.007	0.78	0.005	0.10	5	0.002	0.25	0.063	2.83***
-25	0.008	0.86	0.012	0.27	6	-0.016	-1.80	0.046	1.94
-24	-0.009	-0.94	0.004	0.09	7	0.005	0.57	0.052	2.02**
-23	-0.007	-0.76	-0.003	-0.06	8	-0.043	-4.8***	0.008	0.31
-22	0.018	1.97**	0.015	0.34	9	0.010	1.05	0.018	0.63
-21	-0.004	-0.49	0.010	0.25	10	-0.028	-3.1***	-0.010	-0.33
-20	-0.017	-1.88	-0.007	-0.16	11	0.019	2.08**	0.009	0.28
-19	-0.025	-2.7***	-0.031	-0.77	12	-0.004	-0.45	0.005	0.15
-18	0.007	0.79	-0.024	-0.61	13	0.005	0.55	0.010	0.29
-17	0.002	0.18	-0.022	-0.58	14	-0.002	-0.24	0.008	0.22
-16	0.000	0.03	-0.022	-0.59	15	-0.004	-0.39	0.004	0.11
-15	0.005	0.50	-0.017	-0.48	16	0.002	0.19	0.006	0.16
-14	0.002	0.18	-0.016	-0.45	17	-0.022	-2.39**	-0.016	-0.41
-13	0.014	1.49	-0.002	-0.07	18	-0.001	-0.09	-0.017	-0.42
-12	-0.001	-0.08	-0.003	-0.10	19	0.005	0.58	-0.011	-0.28
-11	-0.008	-0.92	-0.011	-0.36	20	0.005	0.54	-0.006	-0.16
-10	-0.005	-0.51	-0.016	-0.53	21	-0.011	-1.21	-0.017	-0.41
-9	-0.004	-0.46	-0.020	-0.70	22	0.009	0.96	-0.009	-0.20
-8	0.005	0.60	-0.015	-0.54	23	0.023	2.58***	0.015	0.33
-7	0.005	0.53	-0.010	-0.39	24	0.005	0.50	0.019	0.42
-6	0.004	0.47	-0.006	-0.24	25	-0.008	-0.85	0.011	0.25
-5	0.022	2.43**	0.016	0.73	26	0.010	1.06	0.021	0.45
-4	0.017	1.85	0.033	1.63	27	0.002	0.18	0.023	0.47
-3	0.000	0.03	0.033	1.84	28	0.001	0.08	0.023	0.48
-2	0.004	0.42	0.037	2.36**	29	-0.001	-0.16	0.022	0.44
-1	-0.005	-0.55	0.032	2.51**	30	0.001	0.05	0.022	0.45
0	0.025	2.71***	0.057	6.26***					

Notes: *** indicates significant at 1 percent level, ** indicates significant at 5 percent level.

Table 7. Daily AARs, CAARs, & respective *t*-test statistics of insurance sector

T	AAR	*t*-test (AAR)	CAAR	*t*-test (CAAR)	T	AAR	*t*-test (AAR)	CAAR	*t*-test (CAAR)
-30	0.001	0.07	0.001	0.01	1	-0.013	-1.49	0.105	8.38***
-29	0.011	1.23	0.012	0.24	2	-0.008	-0.94	0.097	6.30***
-28	-0.016	-1.80	-0.004	-0.09	3	-0.002	-0.23	0.095	5.34***
-27	0.004	0.47	0.000	-0.01	4	-0.002	-0.18	0.093	4.70***
-26	0.002	0.26	0.002	0.04	5	-0.013	-1.43	0.080	3.71***
-25	-0.006	-0.70	-0.004	-0.09	6	-0.026	-2.89	0.055	2.34**
-24	0.001	0.12	-0.003	-0.07	7	0.005	0.53	0.059	2.37**
-23	-0.007	-0.82	-0.010	-0.24	8	-0.004	-0.49	0.055	2.08**
-22	-0.002	-0.17	-0.012	-0.28	9	-0.011	-1.19	0.045	1.59
-21	0.006	0.66	-0.006	-0.14	10	0.005	0.55	0.049	1.69
-20	0.003	0.32	-0.003	-0.08	11	-0.007	-0.77	0.043	1.39
-19	0.007	0.81	0.004	0.10	12	-0.008	-0.91	0.035	1.09
-18	0.014	1.53	0.018	0.46	13	-0.006	-0.67	0.029	0.87
-17	0.008	0.93	0.026	0.69	14	0.013	1.43	0.041	1.21
-16	-0.008	-0.85	0.018	0.50	15	0.009	0.98	0.050	1.41
-15	-0.003	-0.38	0.015	0.42	16	0.007	0.75	0.057	1.55
-14	-0.007	-0.84	0.007	0.22	17	0.004	0.40	0.060	1.60
-13	-0.001	-0.16	0.006	0.18	18	0.006	0.71	0.067	1.73
-12	0.012	1.32	0.018	0.55	19	0.02	2.23	0.086	2.18**

Table 7 (cont.). Daily AARs, CAARs, & respective *t*-test statistics of insurance sector

T	AAR	*t*-test (AAR)	CAAR	*t*-test (CAAR)	T	AAR	*t*-test (AAR)	CAAR	*t*-test (CAAR)
-11	0.007	0.83	0.025	0.82	20	-0.006	-0.72	0.080	1.97**
-10	-0.010	-1.09	0.015	0.52	21	-0.008	-0.85	0.072	1.74
-9	0.006	0.65	0.021	0.75	22	0	-0.04	0.072	1.70
-8	0.019	2.17**	0.040	1.52	23	-0.004	-0.39	0.069	1.58
-7	-0.001	-0.11	0.039	1.57	24	0.005	0.57	0.074	1.66
-6	-0.002	-0.17	0.038	1.62	25	0.007	0.75	0.080	1.78
-5	0.006	0.73	0.044	2.04**	26	0.004	0.48	0.085	1.84
-4	0.003	0.31	0.047	2.37**	27	0.008	0.94	0.093	1.98**
-3	0.007	0.80	0.054	3.05***	28	0.003	0.37	0.096	2.02**
-2	0.025	2.87***	0.079	5.18***	29	0.003	0.28	0.099	2.04**
-1	0.019	2.20**	0.099	7.90***	30	-0.003	-0.37	0.095	1.93
0	0.019	2.18**	0.118	13.34***					

Notes: *** indicates significant at 1 percent level, ** indicates significant at 5 percent level.

Table 8. Daily AARs, CAARs, & respective *t*-test statistics of textile sector

T	AAR	*t*-test (AAR)	CAAR	*t*-test (CAAR)	T	AAR	*t*-test (AAR)	CAAR	*t*-test (CAAR)
-30	-0.017	-1.27	-0.017	-0.23	1	0.021	1.53	0.257	13.51***
-29	0.007	0.49	-0.011	-0.14	2	-0.001	-0.06	0.257	11.00***
-28	-0.002	-0.17	-0.013	-0.18	3	-0.015	-1.08	0.242	8.99***
-27	0.004	0.33	-0.008	-0.12	4	-0.012	-0.86	0.231	7.66***
-26	0.013	0.95	0.004	0.06	5	-0.011	-0.80	0.220	6.66***
-25	0.016	1.20	0.021	0.30	6	0.014	1.02	0.234	6.56***
-24	-0.004	-0.27	0.017	0.25	7	-0.025	-1.88	0.208	5.47***
-23	-0.002	-0.12	0.015	0.23	8	-0.016	-1.19	0.192	4.76***
-22	0.024	1.79	0.039	0.61	9	0.003	0.22	0.195	4.58***
-21	0.023	1.69	0.062	0.98	10	0.002	0.14	0.197	4.41***
-20	0.014	1.01	0.076	1.23	11	-0.009	-0.66	0.188	4.03***
-19	0.010	0.74	0.086	1.42	12	0.003	0.23	0.191	3.94***
-18	-0.012	-0.87	0.074	1.26	13	-0.004	-0.27	0.187	3.72***
-17	-0.01	-0.70	0.064	1.13	14	-0.067	-4.98***	0.120	2.31**
-16	-0.005	-0.34	0.060	1.08	15	0.001	0.06	0.121	2.25**
-15	0.008	0.58	0.068	1.26	16	0.04	2.97***	0.161	2.90***
-14	0.007	0.50	0.075	1.43	17	0.039	2.90***	0.200	3.50***
-13	-0.002	-0.13	0.073	1.44	18	0.019	1.40	0.219	3.73***
-12	0.022	1.65	0.095	1.96**	19	0.009	0.69	0.228	3.79***
-11	0.020	1.47	0.115	2.46**	20	-0.018	-1.32	0.211	3.41***
-10	0.017	1.24	0.131	2.94***	21	-0.016	-1.21	0.194	3.07***
-9	0.005	0.37	0.136	3.20***	22	0	-0.02	0.194	3.00***
-8	0.003	0.19	0.139	3.44***	23	0.005	0.33	0.198	3.01***
-7	0.014	1.01	0.153	4.00***	24	-0.007	-0.49	0.192	2.85***
-6	0.012	0.87	0.164	4.61***	25	0.015	1.14	0.207	3.02***
-5	-0.001	-0.04	0.164	4.96***	26	-0.019	-1.39	0.189	2.69***
-4	0.031	2.26**	0.194	6.45***	27	0.021	1.59	0.210	2.95***
-3	-0.004	-0.26	0.191	7.08***	28	0.006	0.46	0.216	2.98***
-2	0.007	0.52	0.198	8.47***	29	-0.005	-0.37	0.211	2.86***
-1	0.002	0.13	0.199	10.46***	30	-0.002	-0.15	0.209	2.79***
0	0.038	2.78**	0.237	17.58***					

Notes: *** indicates significant at 1 percent level, ** indicates significant at 5 percent level.

Table 9. Daily AARs, CAARs, & respective *t*-test statistics of miscellaneous sector

T	AAR	*t*-test (AAR)	CAAR	*t*-test (CAAR)	T	AAR	*t*-test (AAR)	CAAR	*t*-test (CAAR)
-30	-0.002	-0.17	-0.002	-0.03	1	-0.003	-0.23	0.141	8.63***
-29	0.010	0.86	0.008	0.13	2	-0.008	-0.69	0.133	6.65***
-28	0.007	0.63	0.015	0.25	3	-0.008	-0.71	0.125	5.40***

Table 9 (cont.). Daily AARs, CAARs, & respective *t*-test statistics of miscellaneous sector

T	AAR	*t*-test (AAR)	CAAR	*t*-test (CAAR)	T	AAR	*t*-test (AAR)	CAAR	*t*-test (CAAR)
-27	0.011	0.97	0.026	0.43	4	-0.011	-0.95	0.114	4.40***
-26	0.011	0.95	0.037	0.62	5	-0.002	-0.13	0.112	3.97***
-25	-0.008	-0.73	0.029	0.49	6	0.005	0.47	0.118	3.85***
-24	-0.002	-0.18	0.027	0.47	7	-0.032	-2.7***	0.086	2.64***
-23	0.018	1.54	0.045	0.79	8	-0.005	-0.47	0.081	2.33**
-22	0.008	0.69	0.053	0.95	9	0.002	0.19	0.083	2.27**
-21	0.007	0.62	0.060	1.10	10	-0.009	-0.82	0.073	1.92
-20	-0.003	-0.28	0.057	1.07	11	-0.002	-0.14	0.072	1.80
-19	0.012	1.03	0.068	1.32	12	-0.016	-1.38	0.056	1.35
-18	0.008	0.69	0.076	1.52	13	0.004	0.34	0.060	1.39
-17	-0.009	-0.74	0.068	1.39	14	-0.016	-1.40	0.044	0.98
-16	0.008	0.69	0.076	1.59	15	-0.012	-1.01	0.032	0.69
-15	-0.009	-0.80	0.067	1.44	16	-0.003	-0.24	0.029	0.62
-14	0.002	0.15	0.068	1.53	17	-0.003	-0.25	0.026	0.54
-13	-0.004	-0.36	0.064	1.48	18	-0.009	-0.74	0.018	0.36
-12	-0.001	-0.08	0.063	1.52	19	-0.001	-0.09	0.017	0.33
-11	0.004	0.35	0.067	1.68	20	0.004	0.36	0.021	0.40
-10	0.008	0.68	0.075	1.96**	21	0.008	0.73	0.030	0.55
-9	0.006	0.52	0.081	2.22**	22	0.012	1.02	0.041	0.75
-8	-0.018	-1.52	0.064	1.84	23	0.01	0.89	0.052	0.91
-7	0.007	0.60	0.070	2.16**	24	-0.002	-0.17	0.050	0.86
-6	0.020	1.75	0.091	2.97***	25	0.005	0.41	0.054	0.92
-5	-0.009	-0.79	0.082	2.88***	26	0.004	0.33	0.058	0.97
-4	0.006	0.51	0.087	3.39***	27	0	0.03	0.058	0.96
-3	0.012	1.06	0.100	4.32***	28	-0.001	-0.07	0.058	0.93
-2	0.010	0.89	0.110	5.50***	29	-0.001	-0.08	0.057	0.90
-1	0.023	2.02**	0.133	8.17***	30	-0.004	-0.34	0.053	0.82
0	0.010	0.88	0.143	12.43***					

Notes: *** indicates significant at 1 percent level, ** indicates significant at 5 percent level.

Table 10. CAAR around the period of right issue announcement

Event window periods	CAAR (-10,-1)	CAAR (-5,-1)	CAAR (0,1)	CAAR (0,5)	CAAR (0,10)
All	0.0604 (4.00)***	0.0393 (3.51)***	0.0232 (2.93)***	0.0016 (0.14)	-0.0527 (-3.33)***
NBFI	0.0435 (1.45)	0.0379 (1.71)	0.0354 (2.26)**	0.0305 (1.28)	-0.0421 (-1.34)
Insurance	0.0739 (2.52)***	0.0610 (2.81)**	0.0061 (0.40)	-0.0185 (-0.79)	-0.0494 (-1.61)
Bank	0.0427 (1.46)	0.0185 (0.86)	0.0282 (1.85)	0.0121 (0.52)	-0.0808 (-2.65)***
Textile	0.0845 (1.89)	0.0351 (1.06)	0.0581 (2.49)**	0.0205 (0.58)	-0.0023 (-0.05)
Miscellaneous	0.0661 (1.73)	0.0427 (1.51)	0.0075 (0.37)	-0.0212 (-0.69)	-0.0599 (-1.50)

Notes: *t*-values in parenthesis; *** indicates significant at 1 percent level, ** indicates significant at 5 percent level.

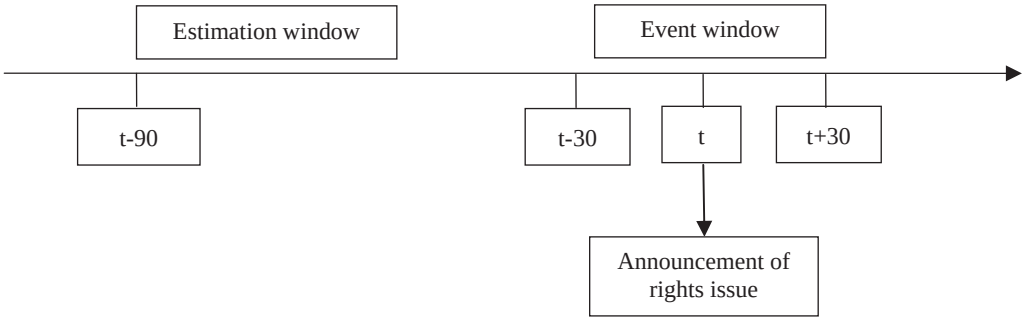

Fig. 1. Estimation window and event window

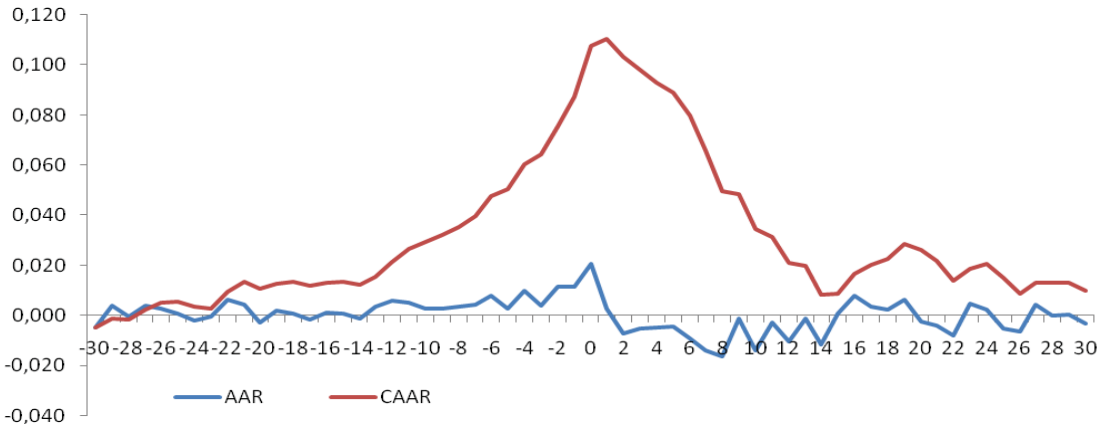

Fig. 2. AAR & CAAR (t − 30 to t + 30)

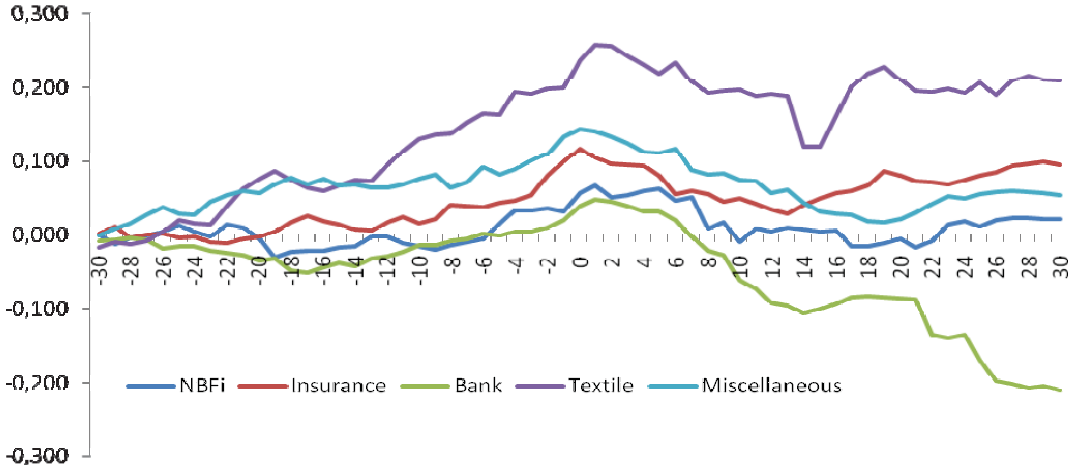

Fig. 3. Sectoral decomposition of CAAR (t − 30 to t + 30)