The Market Reaction to Corporate News in Emerging Markets: Evidence from India

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Abstract

In the context of market efficiency, the stock market reaction to arrival of corporate news has been widely researched in the context of developed markets. However, developed markets are distinct from emerging markets. In this paper, we employ a unique dataset of firm-specific news and examine the market reaction associated with the arrival of different firm-specific corporate news in the public domain in the context of India, an emerging market. We study the price and trading volume reaction associated with firm-specific news for a sample of stocks listed on the National Stock Exchange of India using the event study methodology. We observe that the Indian equity market incorporate new information through firm-specific corporate news releases promptly. Besides, our results underscore the role of earnings news and analyst calls in reducing information asymmetry among investors in an emerging market context. Our study reveals that the observations in the context of developed markets cannot be generalized in the context of the India. [3]

Keywords: Firm-Specific News; Event Study; Abnormal Return; Trading Volume; Emerging Market

JEL classification: G12, G14

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[3] 3a.We thank the editor and the anonymous reviewers for their comments and suggestions which have helped us to improve our work.
3b.The study is based on doctoral research completed at National Institute of Technology Durgapur (An Institute of National Importance), India.

1. Introduction

The efficient market hypothesis proposed by Fama (1970, 1991) argues that stock prices reflect all information available in the public space. Further, any new information is quickly factored in the stock prices. Thus, the arrival of any new information in the public domain can cause a stock market reaction as observed through price and volume movements associated with such news flows (Yao, 2014). In the context of market efficiency, the stock market reaction to the arrival of firm-specific corporate news has been widely researched .Such studies typically examine the market impact of a specific pre-determined corporate news flow (event) such as earnings announcement (Ball and Brown,1968), dividend announcement (Michaely et al., 1995), acquisition (Agrawal et al.,1992), stock splits (Ikenberry and Ramnath, 2002) buyback announcements (Otchere and Ross,2002) or the impact of analyst forecast (Ryan ,2001). However, these studies are inherently limited as they fail to observe the entire information set which market participants are exposed to and might influence their decisions. Besides to explore the relative importance of corporate news flow, these studies cannot be compared as they work with different datasets and are undertaken in different time periods. Few studies which do not restrict their focus on any particular type of corporate news unlike a vast majority of extant literature include Ryan and Taffler (2004), Antweiler and Frank (2006), Neuhierl et al. (2013) and Sprenger et al.,(2014). However, such studies were undertaken in the context of developed markets like the US and the UK. However, developed markets are in stark contrast to emerging markets characterized by low income, high growth and high volatility. It may be intriguing to market participants to understand how markets reacts to routine and diverse corporate news flows and explore the relative importance of such news flow in reducing information asymmetry in an emerging market context and outside the developed markets. This is particularly important in view of the growing capital market investments in the emerging markets by domestic as well as foreign investors.

In this paper, we provide a perspective on the market reaction to 8 broadly defined news categories namely Analyst calls, Earnings, Earnings Forecasts, Finance, Legal and Regulatory, Management, Operations and Restructuring by studying the price and volume movements associated with such news flows for a sample of stocks listed on the National Stock Exchange (NSE) of India using the standard event study methodology (Campbell et at., 1997) following the broad approach adopted in Bhattacharjee and De (2018,2019). The relative importance of the news categories in the eyes of the market participants are assessed by comparing the median magnitude of the price reaction (economic significance) guided by the argument provided by Kim and Verrecchia (1991) that the price change associated with a news flow is proportional to both the unexpected component of the news flow and its relative importance through the subsequent beliefs of the investors and that of Ryan and Taffler (2004) that an importance news flow would invariably be associated with a large magnitude reaction. Our work adds to the existing corporate news event study literature in three ways. First, we provide a narrative on price and trading volume reaction to different corporate news outside the developed markets. Second, our work is among the few studies that systematically take into account the sentiment of the news flow based on the direction of the price reaction and adds to our understanding of the market reaction to corporate news with positive and negative sentiment. Third, we provide a perspective on the relative importance of corporate news flow perceived by market participants.

2. Literature Review

In one of the initial attempts, Morse (1982) examined the price as well as volume behavior around 9 pre-specified news categories for a sample of 50 companies listed on the New York Stock Exchange. The study was restricted to company announcements only. Ryan and Taffler (2004) used a novel methodology. The authors instead of studying pre-determined news categories identified market adjusted economically significant returns and volume response and then associated these to news events available in the financial press manually to study the relationship between news and price and volume movements. The study included a sample of stocks listed on the FTSE of UK and 32 news categories. Besides, the work is among a handful of studies that explore the relative importance of different corporate news flow. Antweiler and Frank (2006) used computational linguistic methods and conducted an event study on 48 different news categories using news published in the Wall Street Journal for a sample of US stocks. The study provided empirical evidence that the market overreacts upon arrival of corporate news in the public domain. However, the authors do not systematically control for the sentiment of the news item. In a more recent work, Neuhierl et. al., (2013) worked with a comprehensive dataset of corporate press releases and found a strong market response to such releases. The authors, however, focused on corporate news releases only. Sprenger et. al., (2014) studied the price and volume reaction to 6 broadly defined news event categories after conditioning for bullish and bearish news sentiment and used twitter as a data source. The authors observed that an event study should distinguish news events by sentiment to gain meaningful insights. In the Indian context, Chakraborty and Mukhopadhyay (2010) made an attempt to study the stock price response to company specific events in the context of the Indian equity market. The scope of events included in the study was limited and the dataset used in the study had a total of 125 events classified into 2 broad categories namely technological development and corporate decisions. Besides, the authors did not study the volume reaction to company specific events.

It may be pointed out that research to investigate the market reaction to different firm-specific corporate news flows without restricting focus on any specific type of news is limited especially in the context of India and other emerging markets. This drives us to explore the market reaction to firm-specific corporate news in an emerging market like India without any specific priori.

3. Dataset and Methodology

The financial data for stocks and the market was collected from the National Stock Exchange of India. Keeping in mind the realities of evolving modern-day world, where news dissemination is no longer solely dependent on traditional news sources like newspapers and also includes various other sources like satellite channels, social networking sites, online forums and mobile applications, we choose the Moneycontrol (a leading real-time online news source in India) as our news source for the study following Bhattacharjee and De (2018, 2019). Our news source effectively captures the arrival of news in the public domain in real time and allows us to observe official corporate news released by companies themselves, stock exchange filings as well as news releases from sources other than the companies themselves which may elicit an equity market reaction. Thus, the choice of Moneycontrol as the news source allows us capture the entire information environment of the market participants and not just restrict our focus on the official corporate news release by the companies themselves as in Neuhierl et al. (2013). News stories in our news source are time stamped which enables us to accurately identify the event date which is critical as emphasised by Brown and Warner (1980). We

include stocks which were part of Nifty 50 index, Nifty Midcap 50 index and Nifty Smallcap 50 index at the beginning of our study period to fairly represent the broad-based market. After excluding stocks with bonus issue and stock split during the period of our study, we are left with 148 stocks drawn across industry groups as part of our sample for the study and there is no apparent bias. Simple occurrence of a corporate news item in our news source is considered a corporate news event. In previous related studies, there is no uniformity with regard to classification of news stories into event types. Morse (1982) worked with 9 event categories while Antweiler and Frank (2006) examined 48 event categories. Broadly based on the approach followed by Ryan and Taffler (2004), Antweiler and Frank (2006), Neuhierl et al. (2013) and Sprenger et. al.,(2014) ,we classify news items collected between July 1, 2016 to September 30 ,2016 from our news source into a dataset of 2867 unique events for the sample of stocks in the study into 8 broad event types as specified in event space (Appendix). There were instances when multiple news items classified into different event categories were observed in our new source for a given firm on the same trading day. It may be pointed out that to explore the market reaction to a given news flow, it is important that the news flow is unaccompanied by any news flow of a different category in order to avoid possible contamination of results of the study. In the presence of two or more different categories of news stories on the same day for a given stock, it would be unclear which category of news item has a market impact. Further, the contribution of each news item on the observed market reaction would be unclear. This gives rise to the issue of confounding events in an event study. A vast number of studies such as Ryan and Taffler (2004), Neuhierl et. al, (2013) and Sprenger et. al., (2014) have ignored the issue of confounding events. Antweiler and Frank (2006) was the only study related to our work, which has accounted for the issue of confounding events while reporting the results of the study. In this study, we systematically account for confounding events and as existing literature has not been able to isolate the effect of confounding events, we exclude such cases and report our results accordingly and thus, avoid any possible contamination of our results.

In an event study, abnormal return which is defined as the excess of actual return over expected return in the event window is calculated to examine the impact of the news flow. We find there is no uniformity with regard to the choice of the event window in related studies. Schmitz (2007) observed that the main price reaction occurs on the day of the initial information release. Abnormal returns or trading volume observed on the day of the corporate news release (event day) is attributed as the disclosed news affect. Brown and Warner (1985) observed that a short event window reduces the chance of having confounding events and increases the reliability and validity of event studies. Keeping in mind the objective of our study, working with a long event window in the analysis of daily data may lead to confounding events and distort the results of our study. In our dataset of 2867 news events, we check for confounding events one day before each news release and find 1809 instances of confounding events. Checking for confounding events one day after each news release, we find 1806 cases of confounding events. It is intriguing that literature largely ignores the presence of confounding events while choosing their event window and reporting the results. We work with three days surrounding the news event while analyzing the market reaction to news events at the aggregate level i.e., the day of the news release (event day) and one day before the event (pre-event day) and one day after the event (post-event day). Thus, we examine the price and trading volume reaction to a news flow and also explore any possible information leakage and evidence of drift or reversals as documented in extant literature. Abnormal return for firm i on day t is given by:

$$AR_{i,t} = R_{i,t} - ER_{i,t} \quad \ldots\ldots. (1)$$

Where:

$AR_{i,t}$ is the abnormal return for firm i on day t,

$R_{i,t}$ is the actual return for firm i on day t and

$ER_{i,t}$ is the expected return for firm i on day t.

We use logarithmic returns for calculation of daily share price return for each share as logarithmic returns provide better specification of tests than tests based on arithmetic return as pointed by Corrado and Truong (2008) and are given by:

$$R_{i,t}=\log (P_{i,t}/ P_{i,t-1}) \quad \ldots\ldots (2)$$

Where:

$R_{i,t}$ is the share price return for firm i on day t,

$P_{i,t}$ is the closing share price of firm i on day t and

$P_{i,t-1}$ is the closing share price of firm i on day t-1.

Similarly, the market return was calculated using log-returns and is given by:

$$R_{m,t} = \log(P_{m,t} / P_{m,t-1})\ldots\ldots\ldots\ldots... (3)$$

Where:

$R_{m,t}$ is the market return on day t,

$P_{m,t}$ is the closing index value on day t and

$P_{m,t-1}$ is the closing index value on day t-1.

The expected return for firm i on day t is calculated using the commonly employed ordinary least square regressed market model which factors in the firm's market risks (e.g. Ryan and Taffler, 2004; Mittal and Sharma (2021) etc). The expected return for firm i on day t is as follows:

$$ER_{i,t} = \alpha_i + \beta_i R_{m,t} + e_{i,t} \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (4)$$

Where:

$ER_{i,t}$ is the expected return for firm i at time t,

α_i is the alpha coefficient estimated using market model,

β_i is the beta coefficient estimated using market model,

$R_{m,t}$ is the return for the benchmark index CNX Nifty at time t and

$e_{i,t}$ is the standard error term.

The alpha and beta coefficients are obtained by regression of firm i's daily returns on market returns over a prior 120 days estimation window. Our approach is fundamentally similar to Ryan and Taffler (2004) who obtained the stock beta which captures the market's ex ante estimate of systematic risks in a prior period for their study from the London Business School (LBS) Risk Measurement Service (RMS) . The choice of 120 days estimation window is guided by Dyckman et al. (1984) and related studies like Antweiler and Frank (2006) and Sprenger et. al., (2014). The price reaction to arrival of different corporate news is studied by aggregating the abnormal returns across all the firms experiencing the event in the sample and average abnormal returns are calculated as:

$$AAR_t = (\sum_{i=1}^{N} AR_{i,t})/N \quad \ldots\ldots\ldots\ldots\ldots (5)$$

Where N is the number of events observed across firms in the sample.

Cready and Ramanan (1995) and Cready and Hurt (2002) observed that number of trades as a measure of volume reaction performs better when the objective of the investigation is to capture the impact of the news at the individual level implying the depth of the market participation. Hence, our measure of abnormal trading volume is based on the number of trades. The measure of abnormal trading volume is adapted from Ball and Shivakumar (2008) and Ali et. al., (2008). We measure the abnormal volume by relating the trading volume observed for firm i on day t with the median number of trades for the firm in the estimation window and is expressed by the equation:

$$AV_{i,t} = (V_{i,t} - \overline{V_{it}})/\overline{V_{it}} \quad \ldots\ldots\ldots\ldots\ldots\ldots (6)$$

Where:

$AV_{i,t}$ is the abnormal volume ratio for firm i at time t,

$V_{i,t}$ is the actual daily number of share traded for firm i at time t and

$\overline{V_{i,t}}$ is the median number of trades for firm i in the estimation window

We choose median as the measure of average levels of volume in the estimation period rather than the mean as the mean is more susceptible to volume spikes (Bamber et al., 2011). The volume reaction to arrival of different corporate news is assessed by aggregating the abnormal volume across all the firms experiencing the event in the sample and average abnormal volume (AAV) is estimated . Guided by Brown and Warner (1985) , De Jong and Naumovska (2016) and studies related to our work like Antweiler and Frank (2006), Neuhierl et al., (2013) and Sprenger et. al.,(2014), the statistical significance of average abnormal returns and trading volume is tested using the cross sectional t- test . We test the null hypothesis, if the average abnormal returns/ volume associated with corporate news events /event category is zero.

4. Discussion of Results

4.1 Price and Trading Volume Impact of Firm-Specific Corporate News

Table 1 shows the price and trading volume reaction to firm-specific corporate news events in the three days surrounding the news event.

Table 1: Market Reaction to Corporate News

Part A: Price Reaction to Corporate News

Day	News			Positive News			Negative News		
	N	AAR	t value	N	AAR	t value	N	AAR	t value
Pre-event Day	1058	0.2%	3.41*	597	0.09%	1.16	461	0.3%	3.47*
Event Day	2867	0.28%	7.56*	1527	1.43%	34.41*	1340	-1.19%	29.13*
Post- event Day	1061	0.08%	1.47	532	-0.10%	-1.34	529	0.18%	2.41**

Part B: Volume Reaction to Corporate News

Day	News			Positive News			Negative News		
	N	AAV	t value	N	AAV	t value	N	AAV	t value
Pre-event Day	1058	0.3	8.37*	597	0.3	7.68*	461	0.4	5.08*
Event Day	2867	0.5	15.88*	1527	0.6	12.29*	1340	0.3	12.07*
Post- event Day	1061	0.2	8.89*	532	0.3	7.83*	529	0.2	5.71*

Note: 'N' is the number of events and *, ** and *** signifies statistical significance at 1%, 5% and 10% level of confidence

After controlling for confounding events, our dataset had 1058 observations to study the pre-event day price and trading volume reaction to corporate news flows. We observe a statistically significant price reaction (AAR=0.2 percent) to firm-specific corporate news in general on the pre-event day. While taking into account the sentiment of the news flow, we observe that the price reaction on the pre-event day to positive corporate news flows is positive (AAR=0.09 percent) although statistically insignificant. The pre-event day price reaction to negative corporate news flows is positive and statistically significant (AAR= 0.3 percent). The direction of the pre-event day reaction to negative news does not point towards leakage of information before the actual news release in the Indian equity market. Further, our dataset had a total of 2867 observations to study the event day reaction to the arrival of firm-specific corporate news. We observe that on an average the event day price reaction was positive and statistically significant (AAR=0.28 percent). While taking into account the sentiment of the news flow, we observe that the price reaction on the event day to positive corporate news flows is positive and statistically significant (AAR=1.43 percent). The event day price reaction to negative corporate news flows is negative and statistically significant (AAR= -1.19 percent). Thus, we find conclusive evidence to suggest that the Indian equity market reacts to firm-specific corporate news and such news flows have a market impact. The direction of the event day price reaction springs no surprise as positive news is associated with positive reaction while negative news is associated with a negative response. After controlling for confounding events, our dataset had 1061 observations to study the post-event day price and trading volume reaction to the firm-specific corporate news flows. The price reaction continues to be positive (AAR=0.08 percent) on the succeeding day although statistically insignificant. For corporate news flow with positive sentiment, the post-event day price reaction was found to be negative (AAR=-0.1 percent) suggesting reversal or overreaction to positive news although statistically insignificant. Interestingly, the market reaction to negative corporate news was positive

(AAR=0.18 percent) and statistically significant on the succeeding day and indicates reversal or overreaction to negative news flow.

On the trading volume dimension, we observe a statistically significant trading volume increase on the pre -event day, event day as well the post-event day for corporate news in general. The same is true after controlling for the sentiment of the news. This indicates the nature of the market reaction to corporate news flow at the level of the individual investor and may be related to investor disagreement.

In the context of market efficiency, the empirical evidence in the context of the Indian stock market suggests that the market reacts promptly to firm-specific corporate news flows. As we take into account the sentiment of the news flow, we observe that the market reaction to negative corporate news is usually characterized by reversals on the post-event day suggesting overreaction to such news flow. Although the price reaction to positive news was characterized by overreaction on the post-event day, the results were not statistically significant. The magnitude of the price and the trading volume reaction reveals that the strongest reaction to news flows is observed on the event day which is consistent with the findings by Schmitz (2007) and Sprenger et al., (2014) for developed markets. Further, the general pattern of price reaction observed in our study point out that there is once for all jump in stock prices on the event day in line with studies like Fama (1991) and Ross (2005). Thus, the results point out that abnormal returns or trading volume observed on the day of the corporate news release (event day) is the clearest indicator of the impact of the disclosed news. Hence, we focus on the event day market reaction to firm-specific corporate news in further discussions in our paper. In doing so, we focus on the clearest evidence of the impact of the firm-specific corporate news and avoid the potential issue of confounding events associated with the choice of a longer event window.

4.2 Price and Trading Volume Impact of Different Firm-Specific Corporate News

To gain further insights on the market reaction to corporate news, we observe the price and volume reaction to corporate news flows according to the type of the news event. Table 2 shows the price and trading volume reaction to different categories of firm-specific corporate news events.

Table 2: Market Reaction to Different Corporate News

		Price		Volume	
Event Details	**N**	**AAR**	**t -value**	**AAV**	**t -value**
Analyst Calls	1634	0.37%	7.57*	0.5	13.03*
Earnings	78	-0.82%	-1.94***	1.9	5.11*
Earnings forecasts	35	-0.45%	-1.34	0.1	0.9
Finance	313	0.01%	0.11	0.3	5.67*
Legal and Regulatory	74	-0.35%	-1.82***	0.2	2.73*
Management	70	0.11%	0.48	0.2	2.22*
Operations	525	0.11%	1.27	0.3	7.2*
Restructuring	138	0.54%	2.68*	0.5	5.12*
Total	2857				

Note: 'N' is the number of events and *,** and *** signifies statistical significance at 1%,5% and 10% level of confidence

Among the eight event or news categories studied, we observe a statistically significant price reaction to four event categories namely Analyst calls (AAR=0.37 percent), Earnings (AAR=-0.82 percent), Legal and Regulatory (AAR=-0.35 percent) and Restructuring (AAR=0.54 percent). On the trading volume dimension, most event categories were associated with a statistically significant reaction expect for the event category Earnings forecasts. It may be pointed out that the trading volume reaction confirms the market reaction to different corporate news categories although the price reaction fails to detect any market reaction to most news categories which corroborates the observation made by Cready and Hurtt (2002) that trading volume-based metrics based on number of trades provide more powerful tests of market reaction to corporate news release than return based metrics. The results of our study may be interpreted in the light of the findings by Sprenger et. al., (2014) in the context of the US market. The authors found none of the aggregate event categories in their study to be associated with a statistically significant price reaction on the event day. As the authors control for the sentiment of the news flows, the market reaction becomes apparent. The authors found 11 event categories to be associated with statistically significant price reaction among the resulting 12 event categories. The authors pointed out that aggregate news categories provide little insights into the market reaction and should be studied after taking into account the sentiment of the news flow. We, therefore, observe the market reaction to corporate news categories after controlling for the sentiment of the news flow in the next section.

4.3 Price and Trading Volume Impact of Different Firm-Specific Corporate News according to Sentiment

In this section, we provide an in-depth narrative on the market reaction to different categories of corporate new flow after taking into consideration the sentiment of the news flow and also discuss the relative importance of different categories of news flow perceived by the market. Part A and B of Table 3 shows the price and volume reaction to different categories of firm-specific corporate news events. Our dataset had a total of 1527 news events with positive sentiment and 1340 news events with negative sentiment respectively classified into eight different event categories. We observe a statistically significant price reaction to all categories of positive and negative corporate news events respectively while on the trading volume dimension, we observe that the reaction varies according to type and sentiment of the corporate news. We provide empirical evidence that different categories of firm-specific corporate news elicit market reaction on the day of the news release in the Indian market. Our findings are in line with previous studies by Ryan and Taffler (2004), Antweiler and Frank (2006), Neuhierl et al (2013) and Sprenger et. al., (2014) in the context of the developed markets.

Table 3: Market Reaction to Corporate News according to Sentiment

Part A : Positive Sentiment

		Price		Volume	
Event Details	**N**	**AAR**	**t –value**	**AAV**	**t –value**
Earnings	38	1.81%	6.51*	1.8	2.79*
Restructuring	86	1.67%	7.87*	0.6	4.37*
Analyst Calls	896	1.61%	27.25*	0.7	12.04*
Finance	152	1.36%	10.81*	0.4	4.44*
Earnings forecasts	11	1.33%	3.11*	0.4	1.01
Operations	276	1.30%	13.35*	0.4	5.59*
Management	37	1.25%	5.26*	0.2	1.46
Legal and Regulatory	31	0.79%	3.91*	0.2	1.71***
Total	1527				

Part B : Negative Sentiment

		Price		Volume	
Event Details	**N**	**AAR**	**t -value**	**AAV**	**t –value**
Earnings	40	-3.33%	-6.81*	2.0	4.83*
Restructuring	52	-1.33%	-5.47*	0.4	2.72*
Earnings forecasts	24	-1.27%	-3.74*	0.01	0.08
Finance	161	-1.26%	-10.7*	0.2	3.71*
Operations	249	-1.20%	-12.82*	0.3	4.61*
Legal and Regulatory	43	-1.17%	-5.18*	0.2	2.16**
Management	33	-1.17%	-4.47*	0.2	1.85***
Analyst Calls	738	-1.14%	-22.4*	0.3	8.85*
Total	1340				

Note: 'N' is the number of events and *,** and *** signifies statistical significance at 1%,5% and 10% level of confidence

At the detailed level, our dataset had a total of 896 observations for positive Analyst calls and 738 observations for negative Analyst calls. On the price metric, positive Analyst calls (AAR=1.61 percent) and negative Analyst calls (AAR=-1.14 percent) were associated with the statistically significant reaction. On the trading volume dimension, positive Analyst calls (AAV=0.7 times) and negative Analyst calls (AAV=0.3 times) were associated with the statistically significant trading volume reaction. The magnitude of the reaction shows that the event category positive Analyst calls are more impactful than negative Analysts calls at the aggregate as well as the individual level. Our observations in the context of India conform to the market reaction to Analyst calls observed by Ryan and Taffler (2004) for the UK and but contradict findings by Sprenger et. al., (2014) in the US context who argued that markets are immune to positive Analyst calls but react to negative Analyst calls. Statistically significant price and trading volume reaction to positive as well as negative Analyst calls shows the significant impact of such calls on the market and shows that such calls add value owing to the expertise and knowledge of analysts and drive price and trading volume reaction in their own right (Ryan, 2001).

For the event category Earnings, our dataset had a total of 38 observations for positive Earnings and 40 observations for negative Earnings. On the price dimension, positive Earnings (AAR=1.81 percent) and negative Earnings (AAR=-3.33 percent) were associated with statistically significant price reaction. On the trading volume dimension, large magnitude statistically significant trading volume reaction was associated with positive Earnings news (AAV =1.8 times) and negative Earnings news (AAV =2 times) respectively. The large magnitude price and trading volume reaction signify that earnings announcement convey significant new information to the market. The magnitude of the reaction also shows that the event category negative Earnings news are more impactful than positive Earnings news at the aggregate as well as the individual level. Our results in the Indian context are similar to observations made by Neuhierl et al., (2013) and Sprenger et. al., (2014) for the US market and Ryan and Taffler (2004) for the UK market.

For the event category Earnings forecast, we had a total of 11 observations with positive sentiment and 24 observations with negative sentiment respectively in our dataset. Statistically significant price reaction was associated with positive Earnings forecasts (AAR=1.33 percent) and negative Earnings forecasts (AAR=-1.27 percent) respectively. On the trading volume dimension, the reaction was not statistically significant to Earnings forecasts with positive and

negative sentiment respectively. Our results show that Earnings forecasts which provide insights on the expected earnings of the firm lead to the revision of market consensus on the value of the firm although it is ignored at the individual level. Our results indicate that positive and negative Earnings forecasts create a similar impact on the market in terms of the price reaction. Our findings in the Indian context are in line with observations by Antweiler and Frank (2006) in the US context.

For the event category Finance, our dataset had a total of 152 observations for positive Finance and 161 observations for negative Finance respectively. The event categories positive Finance (AAR=1.36) and negative Finance (AAR=-1.26) were associated with statistically significant price reaction. On the trading volume metric, positive Finance (AAV=0.4 times) and negative Finance (AAV=0.2 times) were associated with statistically significant trading volume reaction. Our results indicate that the event category positive Finance is more impactful than negative Finance. Our results in the Indian context show that Finance as a news category leads to change in the market consensus on the value of the firm at the aggregate as well as individual investor level. Our results should be interpreted keeping in mind the differential nature of finance related news at a more granular level. It may be noted that Sprenger et al., (2014) did not observe a significant price and trading volume reaction to Finance news category in the context of the US market while Ryan and Taffler (2004) for the UK market observed that Finance as a news category explained the least proportion of major price and volume movements in their dataset.

For the news category Legal and Regulatory, we had 31 observations for positive Legal and Regulatory and 43 observations for negative Legal and Regulatory respectively. The price reaction associated with positive Legal and Regulatory (AAR=0.79 percent) and negative Legal and Regulatory (AAR =-1.17 percent) were statistically significant. Further, the trading volume reaction to positive Legal and Regulatory (AAV=0.2 times) and negative Legal and Regulatory news (AAV =0.2 times) were also statistically significant. Our results indicate that the event category negative Legal and Regulatory is more impactful that such news flows with positive sentiment in the eyes of the market participants on the price metric. Our findings conform to observations by Sprenger et. al., (2014) for the US market.

Moving on to the news category Management, our dataset had 37 observations for positive Management and 33 observations for negative Management respectively. The price reaction associated with positive Management (AAR=1.25 percent) and negative Management (AAR =-1.17 percent) were statistically significant. The trading volume reaction to positive Management was not statistically significant. However, the trading volume reaction associated with negative Management (AAV=0.2 times) was statistically significant. Our results indicate that the news category positive and negative Management create a similar impact on the market in terms of price reaction while on the volume dimension only the category negative Management had a market impact. Our findings conform to observations by Neuhierl et al., (2013) for the US market and Ryan and Taffler (2004) for the UK market.

For the news category Operations, we had a total of 276 observations for positive Operations and 249 observations for negative Operations respectively. The price reaction associated with positive Operations (AAR=1.3 percent) and negative Operations (AAR =-1.2 percent) were statistically significant. Further, the trading volume reaction to positive Operations (AAV=0.4 times) and negative Operations (AAV =0.4 times) were statistically significant. Our results show that the news category positive and negative Operations which provide insights on future cash flows of the firm elicits a similar market reaction in the Indian context. Our findings

conform to observations made by Antweiler and Frank (2006), Neuhierl et al (2013) and Sprenger et. al., (2014) for the US market.

In our dataset for the news category Restructuring, we had a total of 86 observations for positive Restructuring and 52 observations for negative Restructuring respectively. The price reaction associated with positive Restructuring (AAR=1.67 percent) and negative Restructuring (AAR =-1.33 percent) was statistically significant. The trading volume reaction to positive Restructuring (AAV=0.6 times) and negative Restructuring (AAV =0.4 times) was also statistically significant. Our results show that the news category positive Restructuring which can have long term impact on the value of the firm elicits a stronger market reaction than such news flow with negative sentiment in the Indian context. Our findings conform to observations made by Sprenger et. al., (2014) in the US market and Ryan and Taffler (2004) for the UK market.

Further on the issue of relative importance of firm-specific corporate news flow, we observe that positive Earnings (AAR=1.81 percent) and negative Earnings (AAR=-3.33 percent) are associated with the largest magnitude of price reaction among the event categories with positive and negative sentiment respectively in our study which signifies the relative importance of the news category perceived by the market participants in the Indian context. The finding is consistent with the observation made by Ryan and Taffler (2004) in the UK context. For corporate news with positive sentiment, the category Earnings was followed by Restructuring (AAR=1.67 percent), Analyst Calls (1.61 percent), Finance (1.36 percent) and Earnings forecasts (AAR=1.33 percent). The bottom three news categories were Operations (AAR=1.3 percent), Management (AAR=1.25 percent) and Legal and Regulatory (AAR=0.79 percent). For corporate news with negative sentiment, Earnings news (AAR= -3.33 percent) was followed by Restructuring (AAR=-1.33 percent), Earnings forecasts (AAR= -1.27 percent), Finance (AAR= -1.26 percent), Operations (AAR=-1.2 percent), Legal and Regulatory (AAR=-1.17 percent), Management (AAR=-1.17percent) and Analyst calls (AAR=-1.14 percent).

5. Conclusion

In this paper, we provide a perspective on the price and trading volume reaction to the arrival of different categories of firm-specific corporate news in the public space in the context of India, an emerging market. We provide empirical evidence that the Indian market reacts to the arrival of corporate news in the public domain promptly. The general pattern of market reaction suggests initial overreaction and is typically followed by reversal as early as the next trading day after the news release. Further, we find no evidence to suggest information leakage in the Indian stock market which contradict the findings by Sprenger et. al., (2014) in the US context. The results have significant implications for market regulators and investors. In the Indian context, the pattern of the price reaction on the day of the news release signifies the consensus revision of the intrinsic value of the firm upon arrival of such news as observed in studies in the context of developed markets like Ryan and Taffler (2004), Antweiler and Frank (2006), Neuhierl et al., (2013) and Sprenger et. al., (2014). Thus, firm-specific corporate news flow is value relevant and thereby, incentivize investment of resources in information search related to Indian quoted firms. At the detailed level as we take into consideration the nature of news flow, the empirical evidence suggests that the nature of the market reaction varies according to the type and sentiment of the news flow. The results emphasize on the importance of taking into account the sentiment of the news flow as observed by Sprenger et. al., (2014). Among the handful of studies that explore the relative importance of corporate news flow, our study capitalizes on the comprehensive dataset and the evidence signify the importance of earnings

announcement which convey significant new information to the market. Further, analyst calls in the Indian context convey new information and the activities of the analyst or experts seem to add value as markets are not indifferent to such calls. We observe that markets incorporate new information fast and therefore, leaves very little time for the investors to act on such news flow. Our findings present a case for leveraging upon contemporary technological tools such as algorithmic trading to profit out of the information or the news flow. Thus, the findings of our research work have practical significance for investors especially professional traders and retail traders in making informed investment decisions besides significant policy implications for market regulators. The mixed reaction observed on the volume dimension based on the number of trades across different types of news flows in the Indian markets may be attributed to the differences in the information environment of investors (Kim and Verrecchia, 1991). Further, the results may be interpreted in the context of the findings by Bamber and Cheon (1995). The authors provided empirical evidence that information flow may generate very high volume of trading but no price change due to heterogeneous pre disclosure expectations and interpretation of the news flow but counterbalancing in nature or large share price changes but little trading owing to identical pre disclosure expectations and interpretation of the news flow and are related to the nature of the announcement. Our study highlights the significance of examining both the price and volume reaction to news flow to gain greater insights on the market reaction to such news flows and to avoid incorrect conclusion. Our work is a humble attempt to understand the market impact of corporate news flows in terms of the market reaction to such news flows outside the developed markets in view of the limited research in the emerging market world. Our research has focused on India. We hope that our work spurs more research in the context of other emerging markets to further develop our understanding on the subject in view of the differences observed in the patterns of the reaction in developed markets and India.

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Appendix: Event Space

Serial number	Event type	Event description
1	Analyst calls	Fundamental and technical views of analysts, industry experts, brokerage houses etc. on the company (e.g. Sell Shriram Transport Finance, Ambuja Cements: Mitesh Thacker)
2	Earnings	Financial results of the company (e.g. Dr Reddy's Q1 disappoints; profit cracks 76%, US sales fall 16%)
3	Earnings forecasts	Forecasts on financial performance of the company (e.g.US biz may drag Dr Reddy's Q1, net seen down 27% at Rs 456 cr)
4	Finance	News stories on financial issues such as dividend, debt issue , debt redemption, equity share allotment , preference share issue, share buyback, ESOPs, stock split ,stock options ,capital infusion, FII limit, commercial papers issue, conversion of securities, debt recast, share warrants, QIP, credit rating, interest payment, change in capital structure, offer for sale, share warrants, right issue (e.g. Lenders to meet Bhushan Steel to chart out debt recast: Sources)
5	Legal and Regulatory	News stories on government, regulatory and legal moves (e.g. Submit calls drop data: TRAI tells Airtel, Vodafone, Jio)
6	Management	News stories on appointment, retirement, termination, death, compensation to the management of a company (e.g. Kotak Mahindra Bank appoints Uday Chander Khanna as additional director)
7	Operations	Labour and HR issues like layoffs, product development and launches, product closures, rate changes for banks, periodic operational results, project execution and commissioning, auction results, input pricing, regulatory inspection, tie-ups, joint ventures, partnerships, expansion plans, investment plans, deals, contracts, sales figures, capacity expansion along with regulatory approvals for such activities (e.g. Bajaj Auto sales down 5% in August)
8	Restructuring	News stories on divestment, merger and acquisition, spin offs along with regulatory approvals for such activities (e.g. Niti Aayog working on second list of PSU divestment)