Impact of Bond Rating Changes on Stock Prices in India : Rating Agency Wise Analysis

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Abstract

In this paper, we examined the impact of bond rating change announcement on the stock prices by computing the abnormal return of a security. The sample size of our study was 167 rating change announcements of four credit-rating agencies during the years 1991 to 2015. We used the event study methodology to estimate the expected return from a security. The study found average abnormal stock returns associated with the event, however, they were quite insignificant when tested with *t* - statistics, which revealed that credit ratings change announcements (either upgraded or downgraded news) carried a very minimal impact on the stock prices in the Indian context. The run test described that the average abnormal returns found occurred randomly.

Keywords: **abnormal returns, average abnormal returns, event study, credit rating changes**

JEL Classification: C12, G14, G24

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The financial system started witnessing a metamorphic change fundamentally and structurally in 1970s at the global level, and in 1990s at the national level (the era of LPG). Investments started crossing the boundaries; collaboration at the international level became very common leading to various prospects and complexities, which were essential for the growth of the country in general and economy in particular. The financial system emerged as an intermediary between investors and savers for fostering the growth of the economy by transferring funds from surplus spending units to deficit spending units. The primary function of any financial system is to facilitate the allocation and deployment of economic resources, both spatially and temporally (Merton, 1995). The financial system comprises of a set of sub-systems (financial institutions, financial markets, financial instruments, and financial services). All these components of financial systems are interdependent and function complementary to each other.

Financial institutions act as factories in converting the raw material (financial instruments) into finished products (financial services) and market both financial instruments and financial services in the financial markets. To cater to the needs of assorted and mixed groups of investors, various innovative financial instruments and financial services were designed, processed, and developed. The innovations and reengineering in the financial system created not only the opportunities for the investors, but also complexities in the market. It became very difficult for the common investors to assess and analyze these instruments technically; at the same time, the investors started feeling that the reputation of the issuer company alone can no longer be a guarantee to

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the quality of the financial instrument which it issues. This outlined the need for an independent institute/agency which appraises the financial instrument and helps investors make informed investment decisions, enable issuers mobilize the required funds, helps in rightly pricing an IPO. It is in this background that various credit-rating agencies emerged.

Credit rating is an analysis of the credit risks associated with a financial instrument or a financial entity. It is a rating given to a particular entity or instrument based on the past credentials, present projects, and future prospects. According to Standard and Poor, a credit rating is its opinion of the general creditworthiness of an obligor, or the creditworthiness of an obligor with respect to a particular debt security or other financial obligation, based on relevant risk factors.

Indian credit-rating agency CRISIL defined credit rating as an unbiased, objective, and independent opinion to an issuer's capacity to meet financial obligations, it is the current opinion as to the relative safety of timely payment of interest and principal on particular debt instruments. Thus, rating applies to a particular debt obligation of the company and is not a rating for the company as a whole.

Credit-rating agencies are the entities which assess the ability and willingness of the issuer company for timely payment of interest and principal on a debt instrument. Thus, CRAs help lenders pierce the fog of asymmetric information that surrounds lending relationships and help borrowers emerge from that same fog (White, 2001). However, the information content in credit ratings is debated worldwide.

Literature Review

(1) Literature on the Impact of Credit Rating Changes on Stock Prices in the Global Context : Barron, Clare, and Thomas (1997) examined the impact of new credit ratings, credit rating changes, and credit watch announcements during the period from 1984 to 1992 on the U.K. common stock returns. They found significant negative excess returns around the date of a downgrade and positive returns close to the date of a positive CreditWatch announcement. The study observed that new ratings, whether short or long-term, had no significant impact on returns.

Li, Visaltanachoti, and Kesayan (2003) studied the effects of credit rating announcements on shares in the Swedish Stock Market for the period from February 1992 to February 2003. The authors employed event study methodology using EVENTUS package, and cumulative average abnormal returns (CAAR) were computed based on a GARCH (1,1) model. The study showed that there was no significant share price reaction for rating assignments, positive outlooks, and affirmations announcements following credit rating announcements in both the long-term and short-term. However, there was a significantly positive (negative) market reaction to the upgrade (downgrade) announcements.

Choy, Gray, and Ragunathan (2006) examined the impact of rating changes done by two agencies : Moody's and S&P on the Australian stock market between 1989 and 2003. The results indicated a significant and negative impact for downgrades that were anticipated and unanticipated, and an insignificant impact for upgrades.

Creighton, Gower, and Richards (2007) studied the response of bond yield spreads and equity prices to credit rating changes in the Australian financial markets between January 1990 and July 2003. The empirical evidence revealed that bond spreads appeared to widen in response to ratings downgrades and contracted with upgrades, and equity prices tended to fall on days of downgrades and rise on days of upgrades.

Jorion and Zhang (2007) examined the impact of rating changes on senior unsecured corporate bonds of U.S. issues during 1996 to 2002. The results supported the previous findings that the downgrades had a greater impact than upgrades. Their results also showed that the downgrades of speculative grade bonds increased the default probability and cost of capital to company, while downgrades on investment grade bonds created ripple like fluctuations in default probability and cost of capital. Therefore, downgrades in speculative issues more heavily impacted price changes than downgrades in investment grade issues. They also found a significant average CAR for upgrades of speculative grade issues.

(2) Studies On CreditWatch/ Reviews : Liu, Seyyed, and Smith (1999) studied the impact of Moody's rating refinement on the bond market. The findings suggested that the downgrade tended to have a greater impact on security prices than upgrading. The results in the paper also supported the findings of the earlier studies which believed that rating agencies contain incremental information and have the expertise to generate information that is not publicly available.

Steimer and Heinke (2001) examined the impact of announcements of watch listings and rating changes by Standard & Poor and Moody's on daily excess euro bond returns. The results showed significant bond price reactions for downgrades and negative watch list, while no impact on prices was found for upgrades and positive watch list.

Ee (2008) studied the impact of credit watch and rating change announcements through an event study methodology of an event window between -1 year to +1 year. The results revealed negative and significant cumulative abnormal returns (CAR) for negative credit watch and rating downgrade and insignificant results for positive credit watch and rating upgrade.

(3) Studies on Sovereign Bonds Context : Miroslav (2008) examined the impact of sovereign credit rating changes in emerging market (bond and stock) economies of nine countries using the event study technique. The author found that rating changes of sovereign bonds in one country had a cross country contagion effect, that is, triggered significant changes in yield spreads and stock market returns in neighboring countries. In line with the results of previous research studies, the effect was stronger for downgrades.

Klimaviciene (2011) examined the price impact of Moody's, S&P, and Fitch sovereign credit rating announcements, including both rating changes and reviews, on the stock market indices of Estonia, Latvia, and Lithuania, utilizing standard event study methodology. Empirical analysis indicated that there was an asymmetric reaction: the price impact of negative events tended to be larger than that of positive events. The announcement of upgrades had the largest impact on Latvia's stock market, while downgrades affected Estonia's stock market the most. The price impact of negative reviews was the strongest in Lithuania's stock market.

(4) Works on Credit Default Swaps (CDS) : Micu, Remolona, and Wooldridge (2004) studied the impact of rating events on credit default swap prices for the three-year period, that is, from January 1, 2001 to December 31, 2003. The author used two statistical methods to test the effect, that is, mean test and non-parametric sign test. The results indicated that negative rating events had a highly significant impact on credit spreads (the effect was most pronounced for negative reviews and downgrades and least so for outlook changes).

Micu, Remolona, and Wooldridge (2006) examined the different types of rating announcements (upgrades, downgrades, outlook, review) containing pricing relevant information on CDS spreads and found that all types of information including changes in outlook had a significant impact on CDS spreads. Even rating announcements preceded by similar announcements had an impact. The price impact was the greatest for firms when an issuer was placed on review for downgrade, firms with split ratings, small cap firms, and firms rated near the threshold of investment grade.

(5) Literature on the Impact of Credit Rating Changes on Stock Prices in the Indian Context : Rao and Ramachandran (2004) evaluated the response of stock prices and volumes to bond rating changes in the Indian capital market. They found that stock prices incorporated the factors that lead to rating revisions. They also reported that upgrades were received cautiously by the investors with no significant abnormal returns, whereas downgrades were perceived as bad news by investors with significant negative abnormal returns.

Lal and Mitra (2011) examined the effects of rating changes announcements on share prices in India using the event study methodology during the time period from April 1, 2002 to March 31, 2008. The study found that rating upgrade or downgrade did not come as a surprise to the investors so as to impact the pricing significantly.

However, at the same time, investors reacted moderately for upgrades, and downgrades were received more negatively by investors with significant negative abnormal returns.

Rao and Sreejith (2013) examined the impact of credit ratings by all five credit-rating agencies (CRISIL, ICRA, CARE, Fitch, and Brickwork) on equity returns in India during the period from January, 1, 1999 to March 31, 2013. The authors employed the event study methodology. Abnormal returns were computed using the mean adjusted model, market adjusted model, and conditional risk adjusted model (standard market model) and yielded similar results. The *t* - test was used to test the significance of the abnormal returns. The study revealed that downgrades had a considerable negative impact, and upgrades had a negligible positive impact.

Chandrashekar and Mallikarjunappa (2013) studied the impact of bond rating on the Indian stock market for the period from 1998 to 2005. The results showed statistically insignificant abnormal returns associated with the bond downgrades, small but insignificant positive abnormal returns for upgrades, and concluded that bond upgrades and downgrades did not convey any important information to the market.

Chandrashekar and Mallikarjunappa (2013) examined the reaction of stock returns to the initial bond rating and concluded that the returns associated with the rating events were insignificant, unlike the prior studies which showed stock prices reacted negatively to the announcement of downgrades of bond ratings, while weaker positive excess bond and stock returns were found for upgrades.

Problem Statement

The information contained in credit ratings is debated worldwide. One school of thought believes that the ratings provided by CRAs carry no additional information, while they summarize publicly available information, and rating change announcements convey no new information to the market (empirically found in studies by Creighton et al., 2007 ; Mohindroo, 2008 ; Pinches & Singleton, 1978 ; Wakeman, 1990 ; Weinstein, 1977 ; Zaima & McCarthy, 1988). The other school of thought deems that CRAs serve as gatekeepers and deliver valuable information to the market in the form of ratings, which is not encapsulated in the stock prices, observed in studies by Ingram, Brooks, and Copeland (1983); Hand, Holtthausen, and Leftwich (1992); Dichev and Piotroski (2001). They found abnormal stock returns associated with rating change announcements.

Also, the rating agencies proclaim that they receive inside information and rating is a means of communicating significant facets of such information to the stockholders without exposing detrimental details to the opponents (Rao & Sreejith, 2013). In general, there is considerable evidence in the global market that downgraded rating announcements provide new information seen through statistically significant abnormal returns, while the upgraded rating announcements do not provide any new information, and the same is already embedded in the stock prices.

In this backdrop, this paper attempts to examine whether the bond rating change announcements signal new information to the Indian stock market in general. Furthermore, the ratings announcements made by various credit-rating agencies are studied separately to examine their effects on stock prices.

Objectives of the Study

(1) To study the impact of credit rating changes (upgrades and downgrades) on the stock prices in general and rating agency wise in particular.

(2) To investigate whether there are any significant abnormal returns (whether positive or negative) related to the credit rating change announcements.

(3) To study the behavior and fluctuations of stock prices.

Hypotheses

(1) H0 : Credit rating announcements have no impact on stock prices in general and rating agency wise in particular.

H1 : Credit rating announcements have an impact on stock prices in general and rating agency wise in particular.

(2) H02 : There is no significant abnormal return associated with credit rating announcements.
$AARt = 0$

H2 : There is a significant abnormal return associated with credit rating announcements.
$AARt \neq 0$

(3) H03 : AARs occur randomly.
H3 : AARs do not occur randomly.

Research Methodology

(1) Scope and Period of the Study : The bond rating changes by CRISIL, CARE, ICRA, FITCH, BRICKWORKS, SMERA were extracted from 1991 to 2015.

(2) Data Sources: Ace Equity financial database, Yahoo finance portal, Bombay Stock Exchange. Daily stock prices were taken from BSE historical prices and Yahoo finance portal for each of the event from day – 280 to + 30. The Benchmark Index considered for the study is BSE SENSEX.

(3) Sample Size : Our initial sample consisted of 236 events (123 upgrades and 113 downgrades). The sample was checked for other major events (such as mergers or acquisitions, divestment, buyback of shares, stock split, etc) during the period, and if found, the event was said to be contaminated. After applying the above criteria, the final sample consisted of 167 events (82 upgrades and 85 downgrades).

(4) Methodology : The methodology used here is event study. The basic idea is to find the abnormal return attributable to the event being studied by adjusting for the return that stems from the price fluctuation of the market as a whole (Ronald & Bernard 1995). The event used in this study is credit rating. Researchers across the globe used different pieces of information to study its impact on stock prices such as stock splits, mergers and acquisitions, effect of bonus issues (Gupta, 2003), corporate governance practices (Venkatraman & Selvam, 2014).

(i) Event Window : The choice of the window is arbitrary and should not be too long, because it would be encompassing other events, generating biases nor too small, because it would be failing to fully capture the abnormality in prices (Camargos & Barbosa, 2003). In this study, we have used a 61 - day event window, 30 days before (-30) and thirty days after (+30) the date of rating change announcement (0).

(ii) Calculating Expected Returns and Abnormal Returns : Market adjusted model developed and suggested by Sharpe (1963) was used to calculate the expected returns. This model is widely used and was adopted by Brown and Warner (1985), Kothari and Warner (1997), and Goergen and Renneboog (2004). Prior studies used

extensively the market model to determine the expected return on specific assets, given the return on market and the two parameters of the market model (alpha and beta of the security). The market model is based on the fact that the most important factor affecting stock returns is the market factor and it is captured in the market model in the form of the parameters.

The market model for calculating expected returns is given by the following regression equation :

$$E(R_{jt}) = \alpha_j + \beta_j R_m \quad \text{..... (1)}$$

where,
$E(R_{jt})$ is the expected return on security *j*,
α_j is the intercept (Mean return over the period not explained by the market),
R_m is the expected market return,
β_j is the slope of the regression.

Daily returns/actual returns are calculated as below:

$$R_{jt} = \ln(P_{jt}/P_{ij\text{-}1}) \quad \text{..... (2)}$$

where,
R_{jt} is the daily return on security *'j'* on day *'t'*,
P_{it} is the daily adjusted price of the security *'i'* at the end of period *'t'*,
$P_{it\text{-}1}$ is the daily adjusted price of the security *'i'* at the end of period '*t*-1'.

$$R_{mt} = \ln(I_{.t}/I_{t\text{-}1}) \quad \text{..... (3)}$$

where,
R_{mt} is the daily return on market index on day *'t'*,
$I_{.t}$ and $I_{t\text{-}1}$ are the closing index value on day *'t'* and '*t*-1' , respectively.

The abnormal return is the difference between the actual return on day *t* and the expected returns, that is,

$$AR_{jt} = R_{jt} - E(R_{jt}) \quad \text{..... (4)}$$

where,
AR_{jt} is the abnormal return.
Abnormal returns represent that part of the returns which are not predicted and are, therefore, an estimate of the change in firms' share price on that day which is caused by the announcement of the credit rating.

Abnormal returns are averaged across firms to produce AAR_t for day *'t'* using the following formula,

$$AAR_{jt} = \sum^{n} \frac{Ar_{jt}}{N} \quad \text{..... (5)}$$

where,
N is the number of firms in the sample.

(iii) Parametric Significance Test : Parametric *t*-statistic is used to examine the statistical significance of AARs. It is tested at the 5% level of significance and appropriate degree of freedom.

Table 1. *t* - Test for Total Upgrades and Downgrades

Day	AAR (U)	*t* test	AAR(D)	*t* test	Day	AAR(U)	*t* test	AAR(D)	*t* test
-30	-0.0055	-0.8142	0.00355	1.01693	0	0.00981	0.75551	0.00282	0.75767
-29	-0.0121	-1.0768	-0.0063	-2.0969*	1	0.00551	1.1651	-5E-05	-0.0159
-28	-0.0064	-0.7431	-0.0015	-0.4074	2	-0.0285	-1.1541	0.00443	1.00336
-27	0.00814	0.8107	0.00129	0.45411	3	-0.0104	-1.1776	-0.0004	-0.1258
-26	-0.0361	-1.0039	-0.0024	-0.6945	4	-0.0018	-0.3181	-0.0034	-1.2036
-25	-0.0332	-1.1716	0.00083	0.22031	5	0.0111	2.0177*	-0.0061	-1.5574
-24	-0.0034	-0.9381	0.00449	1.18812	6	-0.001	-0.2785	-0.0025	-0.5492
-23	-0.0504	-1.0082	0.00022	0.0469	7	0.00849	0.54923	0.00598	1.44693
-22	0.04579	0.96629	0.0005	0.15969	8	-0.0196	-1.3946	-0.0021	-0.4868
-21	0.00047	0.09446	0.00209	0.54352	9	0.01882	1.11242	-0.0041	-1.0801
-20	-0.0415	-1.0094	0.00355	1.1903	10	0.00717	1.15753	0.00184	0.40782
-19	0.02123	1.13397	-0.0072	-1.8928	11	-0.0013	-0.4026	0.0047	1.14463
-18	0.01447	0.95197	0.002	0.62519	12	0.00824	0.65722	0.00362	0.70401
-17	-0.016	-1.1168	0.00495	1.06351	13	-0.019	-1.1742	0.00561	1.28136
-16	-0.0213	-1.2797	0.00099	0.29281	14	0.00183	0.47725	0.00359	1.02754
-15	-0.0269	-1.1287	-0.0047	-1.1132	15	0.00354	0.54889	-0.0079	-2.1281*
-14	0.02227	0.89549	0.00324	0.92594	16	-0.0105	-0.7114	0.00359	0.89667
-13	-0.0319	-1.0781	-0.0017	-0.3377	17	-0.0029	-0.2472	0.00932	2.15351*
-12	-0.0225	-1.0194	0.00166	0.24898	18	-0.0183	-1.153	0.00496	1.45318
-11	-0.0173	-1.0848	-0.0015	-0.286	19	-0.0053	-1.4792	0.00101	0.29604
-10	0.00127	0.46693	0.00296	0.47752	20	-0.0087	-2.9297*	0.00258	0.74162
-9	0.00232	0.50277	-0.0013	-0.3047	21	0.01636	0.81076	0.00264	0.81428
-8	0.03966	0.85882	0.0016	0.39799	22	-0.0172	-0.9702	0.00363	0.92576
-7	-0.0171	-1.1467	0.0047	0.98016	23	0.03425	1.02895	0.00761	1.84122
-6	-0.0018	-0.5769	0.00488	0.90096	24	-0.0082	-0.9817	0.00483	1.34941
-5	-0.0028	-0.9809	0.00052	0.11189	25	0.01028	0.93344	-5E-05	-0.0102
-4	0.0123	1.19428	-0.0057	-2.0193*	26	0.01092	1.32404	0.00107	0.25661
-3	-0.0143	-1.2746	-0.0048	-1.4266	27	0.00034	0.08143	1.9E-06	0.00052
-2	0.01602	0.85534	0.00021	0.05073	28	-0.0161	-1.1968	-0.0019	-0.5171
-1	-0.0132	-0.8847	0.00292	0.80586	29	0.00332	0.53954	0.00369	0.8954
					30	0.01692	1.0044	0.00048	0.16009

*indicates significant @ 5%, Critical Value for upgrades (U) is 1.989 and for downgrades (D) is 1.988

Note : AAR(U) represents average abnormal return for upgrades and AAR(D) represents average abnormal return for downgrades.

(iv) The *t* - Test Statistic for AARs :

The statistic is given by :

$$t = AARt / \sigma AARt \text{ (Standard error of AAR)} \quad \ldots\ldots\ldots\ldots (6)$$

where,

AAR = average abnormal return, $\sigma AARt$ = standard error of average abnormal return.

The standard error is calculated by using following formula :

$$SE = \sigma/\sqrt{n} \quad \ldots\ldots\ldots\ldots (7)$$

where,

S.E = standard error,

σ = standard deviation,

n = number of observations.

(v) Non-Parametric Significance Test : In addition to the *t* - test, non-parametric tests like runs and sign test are also used to test the hypotheses.

(a) Run Test : This test is used to analyze the randomness of AARs. We apply the run test on AARs before and after the event day for both upgraded and downgraded announcements.

The runs test is calculated by using the following formula :

$$Z = \frac{r - \mu_r}{\sigma_r} \quad \ldots\ldots\ldots\ldots (8)$$

where,

μ_r is calculated as below:

$$\mu_r = (2n_1n_2 / n_1+n_2) + 1 \quad \ldots\ldots\ldots\ldots (9)$$

where,

μ_r refers to the number of runs,

n_1 = number of positive AARs,

n_2 = number of negative AARs,

and σ_r is calculated as below:

$$\sigma_r = SQRT\,(2n_1n_2(2n_1n_2 - n_1 - n_2) / (n_1+n_2)^2\,(n_1+n_2-1) \ldots\ldots\ldots\ldots (10)$$

Analysis and Results

In the case of rating upgrades, the AARs are negative for 19 days and are positive for 11 days before the announcement of the event ; are negative for 15 days after the announcement and are positive for 16 days after the announcement of the event. During the whole event period for upgrades, AARs are negative for 34 days and are positive for 27 days (refer to Table 1). AARs are negative and insignificant for the majority of the days in the event window, signaling that the credit rating upgrade did not provide any surprise to the market (as can be inferred from the Figure 1).

While in the case of rating downgrades, AARs are negative for 10 days and are positive for 20 days before the announcement of the event ; they are negative for 10 days after the announcement and are positive for 21 days after the announcement of the event. During the whole event period for upgrades, AARs are negative for 20 days

Figure 1. AARs for Upgrades

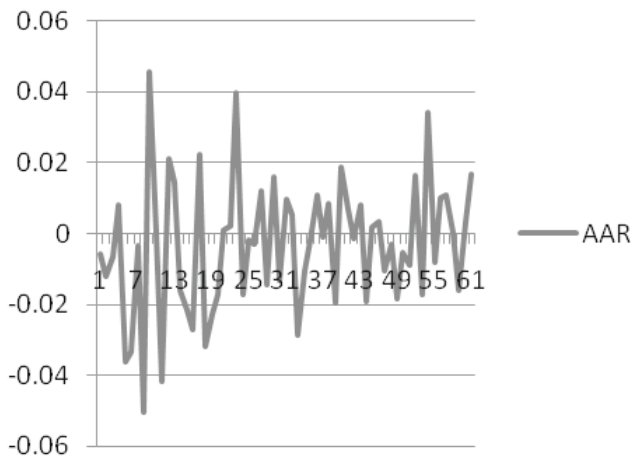

Figure 2. AARs for Downgrades

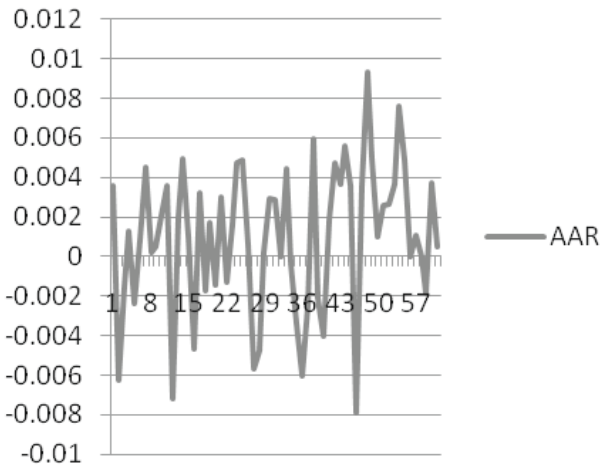

Table 2. Run Statistics for Total Upgrades and Downgrades

	Upgrades	Downgrades
Before	0.026744	0.279961
After	-0.37161	0.026744

and are positive for 41 days (refer to Table 1). AARs are positive for the majority of the days in the event window and are statistically insignificant for the majority of the days (57 of 61 days), indicating a continuing trend and no new change as can be seen in the Figure 2.

From the above analysis, it is evident that credit rating change announcements (either upgraded or downgraded news) carry very minimal impact on the stock prices in the Indian context. Hence, it can be concluded that credit rating announcements have no impact on stock prices in general and rating agency wise, in particular (as seen in Table 4). Hence the null hypothesis (H0) stands accepted. It is also observed from the analysis that the average abnormal returns (AARs) are different from zero, indicating that the expected returns are different (either higher or lower) than the actual returns. However, the *t* statistic shows that the AARs produced are statistically insignificant. Hence, the null hypothesis (H02) is accepted, which states that there are no significant abnormal returns associated with credit rating announcements.

The run statistic of AARs before and after the event for both downgrades and upgrades is statistically insignificant, as the test statistic is less than the critical value ± 1.96 as observed in the Table 2. Hence, the null hypothesis (H03) stands accepted, which states that AARs occurred randomly. Our results are consistent with those obtained by Pinches and Singleton (1978), Weinstein (1977), Zaima and McCarthy (1988), Creighton et al. (2007) , Mohindroo (2008), Chandrashekar and Mallikarjunappa (2013) ; and are inconsistent with works of Barron et al. (1997), Goh and Ederington (1993,1999), and Dichev and Piotroski (2001).

Next, we analyzed the announcements made by rating agencies separately and their impact on stock prices.

↳ **Agency Wise Analysis :** Of the 167 events sample size, 82 events are related to rating upgrade news and 85 belong to rating downgrade news. Of the 82 upgrade events, 23 changes were appraised by CRISIL, 22 by CARE, 26 by ICRA, and 11 by FITCH; and of the 85 downgrade news, CRISIL assessed 41, 15 each by CARE and ICRA,

Table 3. Rating Upgraded and Downgraded Events : Agency Wise

Rating Agency	Total No of Events	No of Upgrades	No of Downgrades
CRISIL	64	23	41
CARE	37	22	15
ICRA	41	26	15
FITCH	25	11	14
Total	167	82	85

Table 4. AARs for Both Upgrades and Downgrades Classified Based on Rating Agency

		Upgraded News			Downgraded News		
Rating Agency	Average Abnormal Returns (AARs)	Before the announcement	After the announcement announcement	Total	Before the announcement	After the announcement	Total
CRISIL	Positive	10	13	23	13	23	36
	Negative	20	18	38	17	8	25
CARE	Positive	10	14	24	14	18	32
	Negative	20	17	37	16	13	29
ICRA	Positive	15	19	34	17	18	35
	Negative	15	12	27	13	13	26
FITCH	Positive	14	19	33	17	12	29
	Negative	16	12	28	13	19	32

and 14 events were reviewed by FITCH (Table 3).

The average abnormal returns for rating change events announced by CRISIL are found to be positive (in case of upgrades) for 23 days and negative (in case of downgrades) for 25 days. Similarly, 24 days have positive AARs and 29 days have negative AARs for CARE events; 34 days experience positive AARs and 26 days experience negative AARs in case of ICRA rating agency ; and 33 days are found to have positive AARs and 32 days are found to have negative AARs for FITCH agency. Overall, it is observed that rating change news announced by ICRA and FITCH yields positive abnormal returns for many days, while rating downgrade information announced by FITCH provides negative abnormal returns for a majority of the days after the announcement of the event (Table 4).

Conclusion

The paper examines the impact of rating upgrades and downgrades on the stock prices. Analysis reveals that AARs are negative and statistically insignificant for a majority of the days in case of rating upgrades, and AARs are positive and statistically insignificant for a majority of the days for rating downgrade announcements. The study also uncovers that the results do not vary too much when the individual rating agencies' data are viewed separately. Thus, we conclude that credit rating announcements have no special information, while they summarize publicly available information ; and rating change announcements convey no new surprises to the market. Though we found abnormal returns associated with the rating change events, they are insignificant and occurred randomly.

Research Implications, Limitations of the Study, and Directions for Further Research

The main objective of this research paper was to find out if bond rating changes convey some new information which is not factored in the stock prices. We find that more or less, stock prices have capsulated the information relating to various parameters and hence, credit rating change news does not give any new surprises to the market and impacts the prices significantly. It is also found that investors react moderately to rating upgrades and react more negatively to rating downgrades. Rating changes tend to lag price changes in the market, which communicates that the market reacts faster than rating changes.

There are various models that have been employed to compute the expected returns from a security. While the study employs the market model designed by William Sharpe, the study can further be extended by using the mean adjusted model and OLS market model to analyze the impact of rating announcements on stock prices. Furthermore, we have made a rating agency wise analysis, an industry wise analysis and firm characteristic wise analysis may also be conducted. We have analyzed the impact of rating changes (upgrades and downgrades) on stock prices, future studies may include rating outlooks and rating watches. The study may also be extended to analyze the impact of rating change announcements on bond prices and bond yields.

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