



# A Study on the Impact of Bond Rating Changes on the Stock Prices in India

## KEYWORDS

Credit rating announcements, Average Abnormal Returns, Cumulative Average Abnormal Returns, Event study

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**ABSTRACT** We examine whether there is any significant relationship between credit ratings announcement (Upgrades and Downgrades) and equity returns in Indian market. For this purpose, we employ event study methodology. We use 61 days event window, 30 days (-1 to -30) before the announcement and 30 days (1 to 30) after the announcement and 0th day, the announcement or the event day. William Sharpe's single index model also known as market adjusted model is employed to measure the expected return from the security; parametric t test is used to measure the significance of the average abnormal returns (AAR) and cumulative average abnormal returns (CAAR). The results show statistically insignificant abnormal returns for both upgrades and downgrades, highlighting that credit rating does not provide any new information to the equity market.

## 1. INTRODUCTION

The countries have opened up & the world has become flat. Investments are crossing the boundaries leading to various opportunities and complexities. These opportunities and challenges are essential for the growth of the country in general and economy in particular. The financial system has emerged as an intermediary between investors and savers for fostering the growth of the economy. The primary function of any financial system is to facilitate the allocation and deployment of economic resources, both spatially, and temporally in an uncertain environment. (Merton, 1995). It is the financial system which transfers the funds from surplus spending units to deficit spending units thereby balancing the flow of money. Hence, Financial system is referred to 'a set of complex and closely interconnected financial institutions, markets, instruments, services, practices, and transactions'. (Gurusamy, 2008). The financial system under its umbrella has financial markets, financial instruments, financial institutions and financial services. All these components of financial systems do not function in isolation, they are interdependent and work complementary to each other. It is the financial institutions which create the financial instruments and market them in the financial markets. The financial markets facilitate buying and selling of financial instruments (financial claims, assets, securities etc). Various innovative financial instruments were designed, processed and developed to meet the needs of the heterogeneous investors, which created not only the opportunities for the investors but also complexities in the market. The reputation of the issuer company alone can no longer be a guarantee to the quality of financial instrument which it issues. This outlined the need for an independent institute/agency which assesses the financial instrument and help investors make informed investment decisions. It is in this background, various credit rating agencies emerged.

Credit Rating - Credit Rating is an assessment of the credit worthiness of a borrower in general terms or with respect to a particular debt or financial obligation. Standard and Poor defines credit rating as an opinion about credit risk; ability and willingness of an issuer, such as a corporation, state or city government, to meet its financial obligations

in accordance with the terms of those obligations.

Credit rating agencies are the entities which assesses 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).

The information contained in the credit rating is debated worldwide. Studies by Weinstein (1977), Wakeman (1978, 1990), Zaima and McCarthy (1988), Pinches and Singleton (1978); Creighton, Gower and Richards (2007), Mohindroo (2008) shows that CRAs have no special information, while they summarize publicly available information and rating change announcements convey no new information to the market. On the other hand, studies by Ingram, Leroy and Ronald, (1983), Hand, Holthausen, and Leftwich, (1992), Dichev and Piotroski (2001), observed abnormal returns in stock prices owing to rating change announcements, and concluded that CRAs deliver valuable information to the market. Also, the rating agencies declare that they receive inside information and rating is a means of communicating significant facets of such information to the stock holders, without exposing detrimental details to the opponents (Rao & Sreejith, 2013). In general, there is considerable evidence in 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 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 Indian stock market.

## 2. LITERATURE REVIEW

The impact of credit ratings has important economic ramifications. Researchers in countries like Australia, Italy, France, Germany, Holland, the U.S.A., the U.K., Japan and China, have analyzed the impact of rating an-

nouncements on their market behavior. Studies relating to impact of credit rating on stock prices in detail are very few in the Indian context.

The international literature investigates the credit rating changes impact on publicly traded companies' share prices. Most of the authors find evidences that rating downgrades generate a significantly larger impact than rating upgrades (Dichev & Piotroski, (2001); Goh & Ederington, (1999); Pinho & Maria, (2013) ; Steiner & Heinke, (2001); Jorion & Zhang, 2007).

The study on the Latin American markets by Pinho and Maria (2013) found significant impact for rating downgrade and less significant impact for rating upgrades and watches. Similarly, Hasniza Mohd Taib et al (2012) study the impact of rating changes on stock prices of UK and Australian markets and reported that significant stock price changes to downgrades and weak stock price reaction to upgrades. Li, Visaltanachoti and Kesayan (2004), examined the effects of rating changes on Swedish markets. They find significant positive (negative) market reaction to the upgrade (downgrade) announcements and no significant share price reaction for rating assignments, positive outlooks and affirmations announcements. Goh and Ederington (1999) did a Cross-Sectional analysis to find stock market reaction to bond rating changes and highlighted that Equity markets react more negatively to bond rating downgrades (more for speculative grades than investment grades). Bond rating changes also had a significant reaction on bond prices. Steiner and Heinke (2001) studied the influence of rating changes on euro bond prices and observed significant bond price reactions for downgrades and negative watch lists and no change from upgrades and positive watch lists. Similarly, May (2010) studied the impact of rating changes on bond prices and found that both upgrades and downgrades yield statistically significant abnormal returns.

In the Indian context, Rao and Sreejith (2013), analysed the impact of rating changes on stock prices. It was noted that Downgrades had a considerable negative impact and upgrades had negligible positive impact. Similarly, Chandrashekar and Mallikarjunappa (2013) studied the effect of initial bond rating and bond rating changes on stock prices and reported statistically insignificant abnormal returns for downgrades and small but insignificant positive abnormal return for upgrades. The impact of rating changes was also conducted on some select Indian companies by Lal and Mitra (2011). Empirical analysis revealed statistically significant abnormal returns in case of downgrades and upgrades are reacted rather moderately by the investors as a matter of caution. Sehgal and Mathur (2013) did a cross sectional analysis to figure out the stock price variation from bond rating change and observed downgrades are preceded by positive abnormal returns. The study also incorporated stock price reaction to bond rating changes for firms with different financial characteristics (Size, trading volume, Leverage, profitability etc)

The review highlights that there is limited studies in Indian context and there is no clear evidence pertaining to the impact of rating change announcements of Indian stock market.

Based on the above context, the following objectives, hypothesis is developed.

### 3. OBJECTIVES AND HYPOTHESIS OF THE STUDY

1. To study the impact of credit rating changes (Upgrades and Downgrades) on the stock prices
2. To investigate whether there are any significant abnormal returns (whether positive or negative) related to the credit rating change announcements.

#### HYPOTHESIS

$H_0$ : Credit rating announcements has no impact on stock prices

Credit rating announcements has an impact on stock prices  
 $H_0$ : There is no significant abnormal return associated with credit rating announcements

CAARt = 0

There is significant abnormal return associated with credit rating announcements

H1 :CAARt  $\neq$  0

#### 4. SAMPLE AND DATA

The bond rating changes by CRISIL, CARE, ICRA, FITCH, BRICKWORKS, SMERA are extracted from 1991 to 2015 April using Ace equity database. Our initial sample consisted of 236 events (123 upgrades and 113 downgrades). The sample was checked for other major events (such as merger or acquisition, divestment, buyback of shares, stock split etc) during the period, if found, the event is said to be contaminated. After applying the above criteria, the final sample consisted of 167 events (82 upgrades and 85 downgrades). Daily stock prices are taken from BSE historical prices and Yahoo finance portals for each of the event from day – 280 to + 30. The Benchmark Index considered for the study is BSE SENSEX.

#### 5. 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 and Bernard 1995).

##### 5.1 Event Window

The literature about market reaction to rating announcement does not have a consensus in the event window definition. Dichev and Piotroski (2001) check different event windows: 0 (date of the announcement) to 3 months, to 6 months, to 1 year, to 2 years and to 3 years after the announcement. Jorion and Zhang (2007) checked the event window of 1 year before to 1 year after the announcement. Ee (2008) tested different windows: 1 day before to 1 day after, 3 days before to 3 days after, 50 days before to 26 days before, 25 days before to one day before. (Abner de Pinho & Andrea Maria, 2013). However, 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).

Similarly, Brown and Warner (1985) uses eleven day event period (- 5 to + 5) to analyse daily stock returns. Wansley. J. w., Lane. W. R and Yang H. C., (1987) and Dodd Peter (1980) used – 50 to +50 event period to examine the effect of merger announcement on stock return. Chandrashekar R and Mallikarjunappa T (2013) use 61 day event period (-30 to + 30), Vaithanomsat (2001) uses -10 to + 10, Sehgal (2013) uses -20 to + 20, Goh and Ederington(1999) uses -60 to + 60, Lal and Mitra (2011) uses -30 days to + 30 days.

In this study, we have used 61 day event window, 30 days

before (-30) and thirty days after (+30) the date of rating change announcement (0).

## 5.2 Calculating expected returns and Abnormal returns

Market adjusted model developed and suggested by Sharpe (1963) is used to calculate the expected return. The prior studies use extensively the market model to determine the expected return on specific asset, given the return on market and the two parameters of the market model (alpha and beta of the security). Market model is based on the fact that the most important factor affecting stock returns is market factor and it is captured in the market model in the form of the parameters.

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

$$E(R_{jt}) = \alpha_j + \beta_j R_m$$

Where,

$E(R_{jt})$  is the expected return on security  $j$ ,

$\alpha_j$  is intercept. (Mean return over the period not explained by the market).

$R_m$  is the expected market return,

$\beta_j$  is the slope of the regression

Daily returns/actual returns are calculated as below:-

$$R_{jt} = \ln(P_{jt} / P_{j,t-1})$$

Where

$R_{jt}$  is the daily return on security 'j' on day 't'.

$P_{jt}$  is the daily adjusted price of the security 'j' at the end of period 't'.

$P_{j,t-1}$  is the daily adjusted price of the security 'j' at the end of period 't-1'.

$$R_{mt} = \ln(I_{t-1} / I_{t-2})$$

Where,

$R_{mt}$  is the daily return on market index on day 't'.  $I_{t-1}$  and  $I_{t-2}$  is 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 return i.e.,

$$AR_{jt} = R_{jt} - E(R_{jt})$$

Where,

$AR_{jt}$  is the abnormal return

Abnormal returns represents that part of the return which is not predicted and is, therefore, an estimate of the change in firms share price on that day which is caused by the announcement of credit rating.

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

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

Where, N is the number of firms in the sample. Finally we calculate the cumulative average abnormal return (CAAR) for the event period. The cumulative average abnormal return represents the average total effect of the event across all firms. Where,

$$CAAR_t = \sum_{t=-30}^{+30} AAR_t$$

## 5.3 Parametric Significance test

Parametric t-statistic is used to examine the statistical significance of AARs and CAARs. It is tested at 5 percent level of significance and appropriate degree of freedom. It is given by

### 5.3.1 The t Test Statistic for AARs

The statistic is given by

$$t = AAR_t / \sigma AAR_t \text{ (Standard error of AAR)}$$

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

The standard error is calculated by using following formula.

$$SE = \sigma / \sqrt{n}$$

Where, S.E = standard error,  $\sigma$  = standard deviation, n = number of observation

### 5.0.2 The t Test Statistic for CAARs

The statistic is given by

$$t = CAAR_t / \sigma CAAR_t \text{ (Standard error of CAAR)}$$

$$SE = \sigma / \sqrt{n}$$

Where, S.E = standard error,  $\sigma$  = standard deviation, n = number of observation

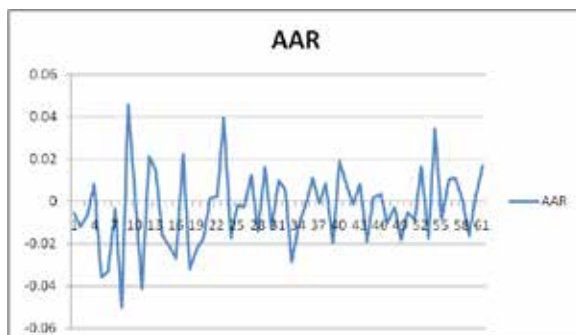
## 6. DATA ANALYSIS & INTERPRETATION

Table 1: AARs, CAARs and t statistic for credit rating upgrades.

Day	AAR	t test	CAAR	t test	Day	AAR	t test	CAAR	t test
-30	-0.0055	-0.8142	-0.0055	-0.8142	0	0.00981	0.75551	-0.18	-2.4899*
-29	-0.0121	-1.0768	-0.0176	-1.108	1	0.00551	1.1651	-0.1745	-6.5254*
-28	-0.0064	-0.7431	-0.024	-1.6173	2	-0.0285	-1.1541	-0.2031	-1.429
-27	0.00814	0.8107	-0.0158	-0.7874	3	-0.0104	-1.1776	-0.2134	-4.1569*
-26	-0.0361	-1.0039	-0.0519	-0.6458	4	-0.0018	-0.3181	-0.2152	-6.4513*
-25	-0.0332	-1.1716	-0.0851	-1.2248	5	0.0111	2.0177*	-0.2041	-6.1838*
-24	-0.0034	-0.9381	-0.0885	-9.1533*	6	-0.001	-0.2785	-0.2052	-9.0195*
-23	-0.0504	-1.0082	-0.1389	-0.9831	7	0.00849	0.54923	-0.1967	-2.0631*
-22	0.04579	0.96629	-0.0931	-0.655	8	-0.0196	-1.3946	-0.2163	-2.4648*
-21	0.00047	0.09446	-0.0926	-5.9457*	9	0.01882	1.11242	-0.1974	-1.8449
-20	-0.0415	-1.0094	-0.1341	-0.9843	10	0.00717	1.15753	-0.1903	-4.7942*
-19	0.02123	1.13397	-0.1129	-1.7406	11	-0.0013	-0.4026	-0.1916	-9.1086*
-18	0.01447	0.95197	-0.0984	-1.7963	12	0.00824	0.65722	-0.1833	-2.2294*
-17	-0.016	-1.1168	-0.1144	-2.1392*	13	-0.019	-1.1742	-0.2023	-1.8891
-16	-0.0213	-1.2797	-0.1357	-2.1059*	14	0.00183	0.47725	-0.2005	-7.7904*
-15	-0.0269	-1.1287	-0.1626	-1.7034	15	0.00354	0.54889	-0.1969	-4.5032*
-14	0.02227	0.89549	-0.1403	-1.3685	16	-0.0105	-0.7114	-0.2075	-2.043*
-13	-0.0319	-1.0781	-0.1723	-1.3706	17	-0.0029	-0.2472	-0.2104	-2.5792*
-12	-0.0225	-1.0194	-0.1948	-2.023*	18	-0.0183	-1.153	-0.2286	-2.063*
-11	-0.0173	-1.0848	-0.2121	-2.9714*	19	-0.0053	-1.4792	-0.2339	-9.2059*
-10	0.00127	0.46693	-0.2108	-16.901*	20	-0.0087	-2.9297*	-0.2427	-11.423*
-9	0.00232	0.50277	-0.2085	-9.6382*	21	0.01636	0.81076	-0.2263	-1.5551
-8	0.03966	0.85882	-0.1688	-0.7624	22	-0.0172	-0.9702	-0.2435	-1.887
-7	-0.0171	-1.1467	-0.186	-2.5408*	23	0.03425	1.02895	-0.2092	-0.8554
-6	-0.0018	-0.5769	-0.1878	-11.869*	24	-0.0082	-0.9817	-0.2174	-3.5236*
-5	-0.0028	-0.9809	-0.1906	-12.939*	25	0.01028	0.93344	-0.2071	-2.5129*
-4	0.0123	1.19428	-0.1783	-3.3322*	26	0.01092	1.32404	-0.1962	-3.1496*
-3	-0.0143	-1.2746	-0.1926	-3.2429*	27	0.00034	0.08143	-0.1959	-6.2417*
-2	0.01602	0.85534	-0.1766	-1.7512	28	-0.0161	-1.1968	-0.212	-2.0505*
-1	-0.0132	-0.8847	-0.1898	-2.3196*	29	0.00332	0.53954	-0.2087	-4.3808*
					30	0.01692	1.0044	-0.1917	-1.4574

\*indicates significant @ 5 percent

Chart1: Average Abnormal Returns of event window for upgrades



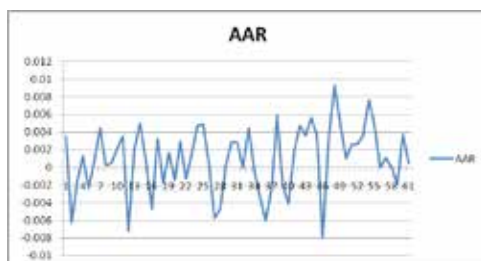
AARs are negative for 19 days and positive for 11 days before the Announcement of the event and negative for 15 days after the announcement and positive for 16 days after the Announcement of the event. During the whole event period for upgrades, AARs are negative for 34 days and positive for 27 days. AARs are significant for only 2 days after the event in the event window. This shows that the stock movement persists even after the change in credit rating.

Table 2: AARs, CAARs and t statistic for credit rating downgrades.

Day	AAR	t test	CAAR	t test	Day	AAR	t test	CAAR	t test
-30	0.00355	1.01693	0.00355	1.01693	0	0.00282	0.75767	0.01298	0.62531
-29	-0.0063	-2.0969*	-0.0027	-0.6437	1	-5E-05	-0.0159	0.01293	0.7133
-28	-0.0015	-0.4074	-0.0042	-0.6587	2	0.00443	1.00336	0.01736	0.6844
-27	0.00129	0.45411	-0.0029	-0.5199	3	-0.0004	-0.1258	0.01696	0.93426
-26	-0.0024	-0.6945	-0.0053	-0.6966	4	-0.0034	-1.2036	0.01356	0.81147
-25	0.00083	0.22031	-0.0045	-0.4867	5	-0.0061	-1.5574	0.00749	0.31988
-24	0.00449	1.18812	-6E-06	-0.0006	6	-0.0025	-0.5492	0.00501	0.18294
-23	0.00022	0.0469	0.00022	0.01614	7	0.00598	1.44693	0.01099	0.43166
-22	0.0005	0.15969	0.00072	0.076	8	-0.0021	-0.4868	0.00887	0.32724
-21	0.00209	0.54352	0.00281	0.23113	9	-0.0041	-1.0801	0.00479	0.20043
-20	0.00355	1.1903	0.00636	0.64355	10	0.00184	0.40782	0.00663	0.22945
-19	-0.0072	-1.8928	-0.0009	-0.0658	11	0.0047	1.14463	0.01133	0.42606
-18	0.002	0.62519	0.00113	0.09807	12	0.00362	0.70401	0.01495	0.4432
-17	0.00495	1.06351	0.00608	0.3493	13	0.00561	1.28136	0.02056	0.70809
-16	0.00099	0.29281	0.00708	0.53792	14	0.00359	1.02754	0.02415	1.02957
-15	-0.0047	-1.1132	0.00241	0.14405	15	-0.0079	-2.1281*	0.01622	0.64143
-14	0.00324	0.92594	0.00566	0.39182	16	0.00359	0.89667	0.01981	0.7223
-13	-0.0017	-0.3377	0.00391	0.1789	17	0.00932	2.15351*	0.02913	0.97131
-12	0.00166	0.24898	0.00558	0.19142	18	0.00496	1.45318	0.03409	1.42625
-11	-0.0015	-0.286	0.00412	0.18102	19	0.00101	0.29604	0.0351	1.45575
-10	0.00296	0.47752	0.00708	0.24926	20	0.00258	0.74162	0.03768	1.51522
-9	-0.0013	-0.3047	0.00579	0.29172	21	0.00264	0.81428	0.04032	1.72403
-8	0.0016	0.39799	0.00739	0.38347	22	0.00363	0.92576	0.04395	1.54105
-7	0.0047	0.98016	0.01209	0.51506	23	0.00761	1.84122	0.05156	1.69775
-6	0.00488	0.90096	0.01697	0.62651	24	0.00483	1.34941	0.05639	2.12502*
-5	0.00052	0.11189	0.01749	0.74058	25	-5E-05	-0.0102	0.05634	1.69774
-4	-0.0057	-2.0193*	0.01179	0.80398	26	0.00107	0.25661	0.05741	1.83145
-3	-0.0048	-1.4266	0.00702	0.3972	27	1.9E-06	0.00052	0.05741	2.08285*
-2	0.00021	0.05073	0.00724	0.32023	28	-0.0019	-0.5171	0.0555	1.95331
-1	0.00292	0.80586	0.01015	0.51209	29	0.00369	0.8954	0.05919	1.85413
					30	0.00048	0.16009	0.05966	2.55242*

\*indicates significant @ 5 percent

Chart2: Average Abnormal Returns of event window for downgrades



AARs are negative for 10 days and positive for 20 days before the Announcement of the event and negative for 10 days after the announcement and positive for 21 days after the Announcement of the event. During the whole event period for downgrades, AARs are negative for 20 days and positive for 41 days. AARs are positive for majority of the days in the event window and statistically insignificant for majority of the days (57 of 61 days). Hence, we accept the null hypothesis which states that change in credit rating has no impact on stock prices. Also, abnormal returns are found which are statistically insignificant. Our findings are consistent with that of Pinches and Singleton (1978); Singh and Power (1992); Weinstein (1977); Wakeman (1978, 1990); Zaima and McCarthy (1988); Creighton, Gower and Richards (2007); Mohindroo (2008); Chandrashekhar and

Mallikarjunappa (2013).

## 7. CONCLUSION

The study examines the impact of bond rating changes on stock prices. Analysis reveals that AARs are negative and statistically insignificant for majority of the days in case of rating upgrades and AARs are positive and statistically insignificant for majority of the days for rating downgrade announcements. The study also reveals 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 and hence, we conclude that there are no significant abnormal returns associated with rating change announcements.

## REFERENCE

1. Abad-Romero, Pilar, and Robles-Fernandez, M. Dolores., (2006), "Risk and Return Around Bond Rating Changes: New Evidence from the Spanish Stock Market", *Journal of Business Finance & Accounting*, Vol.33, pp. 885-908. | 2. Barron. M. J, Clare. A. D. and Thomas. S. H., (1997), "The effect of bond rating changes and new ratings on UK stock returns", *Journal of Business Finance and Accounting*, Vol.24, No 3 and 4, pp. 497-509. | 3. Brown J. S and Warner J. B., (1985), "Using daily stock returns the case of event studies", *Journal of Financial Economics*, Vol.14, pp. 3-31. | 4. Camargos, M. A., & Barbosa, F. V. (2003). Estudo de evento: teoria e operacionalização. *Cadernos de Pesquisa em Administração*, Vol. 10(3), pp. 1-20. | 5. Chandrashekar, R., & Mallikarjunappa, T. (2013). "Impact of Bond Rating on Stock Returns". *PARIPEX - INDIAN JOURNAL OF RESEARCH*, Vol. 2 Issue 4, April 2013. | 6. Chandrashekar, R., & Mallikarjunappa, T. (2013). "The Effect of Initial Bond Rating on Share price performance". *INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH*, Vol.2 Issue 6, June 2013. | 7. Choy. E, Gray. S. and Ragunathan. V., (2006) "Effect of credit rating change4s on Australian stock returns", *Accounting and Finance*. Vol. 46, pp. 755-769. | 8. Creighton, Adam, Gower, Luke, & Richards, Anthony, (2007). "The Impact of Rating Changes in Australian Financial Markets". *Pacific-Basin Finance Journal*, Vol.15, pp 1-17. | 9. Dichev D. I. and Piotroski J.D., (2001), "The long-run stock returns following bond ratings changes" *The Journal of Finance*, Vol.56, No.1, pp.173-203. | 10. DODD Peter (1980), "Merger proposals, management discretion and stockholder wealth", *Journal of Financial Economics*, Vol.8, pp.105-137 | 11. Ee, B. C. B. (2008). "The impact of credit watch and bond rating changes on abnormal stock returns for Non-USA domiciled corporations" (Master Thesis). Singapore Management University, Singapore. | 12. Goh. J C and Ederington L H., (1993), "Is a bond rating bad news, good news, or no news for stockholders?", *The Journal of Finance*, Vol.48, No.5, pp. 2001-2008 | 13. Goh. J C and Ederington L H., (1999), "Cross-Sectional Variation in the Stock Market Reaction to Bond Rating Changes". *The Quarterly Review of Economics and Finance*, Vol.39, pp. 101-122. | 14. Griffin, P, and Sanvicente, A. Z., (1982), "Common Stock Returns and Rating Changes: A Methodological Comparison". *The Journal of Finance*, Vol.37, pp. 103-119. | 15. Gurusamy, S. (2008). "Financial Services and Systems". 2nd Edition. Tata McGraw-Hill Education. | 16. Hand. J R. M, Holthausen. R.W and Leftwich R.W., (1992), "The effect of bond rating agency announcement on bond and stock prices", *The Journal of Finance*, Vol.47, No.2, pp. 733-752. | 17. Holthausen, R, and Leftwich, R., (1986), "The Effect of Common Bond Rating Changes on Common Stock Prices". *Journal of Financial Economics*, Vol.17, pp. 57-89. | 18. Ingram, Robert W., Leroy D. Brooks, and Ronald M. Copeland, (1983), "The Information Content of Municipal Bond Rating Changes: A Note", *The Journal of Finance* Vol. 38, pp. 997-1003 | 19. Jorion, P, and Zhang, G., (2007), "Information Effects of Bond Rating Changes: The Role of the Rating Prior to the Announcement". *The Journal of Fixed Income*, Vol.16, pp. 45-59. | 20. Jorion, P, Liu, Z, and Shi, C., (2005). "Informational Effects of Regulation FD: Evidence from Rating Agencies". *Journal of Financial Economics*, Vol.76, pp. 309-330. | 21. Lal, J., and Mitra, M. (2011). "Effect of Bond Rating on Share Prices: A Study of Select Indian Companies". *Vision*, Vol.15 Issue 3, pp. 231-238. | 22. Li, Hui, Visaltanachoti, Nuttawat, & Kesayan, Puspakaran, (2003). "The Effects of Credit Rating Announcements on Shares in the Swedish Stock Market". | 23. May, A.D., (2010). "The impact of bond rating changes on corporate bond prices: New evidence from the over-the-counter market," *Journal of Banking & Finance*, Elsevier, vol. 34(11), pages 2822-2836. | 24. Merton, Robert C., (1995), "Financial Innovation and the Management and Regulation of Financial Institutions", Working Paper No. 5096, National Bureau of Economic Research (NBER), April, pp.1-46. | 25. Mohindroo, A. (2008). "The Quality Of Credit Rating By ICRA And CRISIL". Doctoral Thesis, submitted to Panjab University, Chandigarh. | 26. Pinches E. G. and Singleton C., (1978), "The adjustment of stock prices to bond rating changes" *The Journal of Finance*, Vol.33, No.1, pp. 29-44. | 27. Pinho A.D and Maria A (2013). "The impact of credit rating changes in Latin American stock markets". *BAR, Braz. Adm. Rev.* vol.10 no.4 Rio de Janeiro Oct./Dec. 2013 | 28. Rao, S.V.D., & Sreejith U. (2013). "Impact of Credit Ratings (Upgrade and Downgrade) on Stock Prices in India". *Proceedings of 23rd International Business Research Conference*, Australia. | 29. Romero. P. A and Fernandez. M. D. R., (2006), "Risk return around rating changes: New evidence from the Spanish stock market", *Journal of Business Finance and Accounting*, Vol.33, No 5 and 6, pp. 885-908. | 30. Ronald J. G and Bernard S. B (1995). "The Law and Finance of Corporate Acquisitions", Vol.2 pp. 194-195. | 31. Sehgal, Sanjay & Mathur, Shruti (2013). "Cross-Sectional Variation in Stock Price Reaction to Bond Rating Changes: Evidence from India". *Asian Journal of Finance & Accounting*, Vol. 5, No. 2, pp 47-74 | 32. Sharpe, W. F. (1963). "A Simplified Model for Portfolio Analysis". *Management Science*, January, pp. 227-293 | 33. Steiner, M. and Heinke, V. G. (2001). "Event study concerning international bond price effects of credit rating actions. *International Journal of Finance & Economics*". Vol.6, pp. 139-157. | 34. Taib, H M., Iorio, A D., Hallahan, T., and Bheenic, E B. (2012). "The Stock Market Impact of Corporate Bond Rating Changes: New Evidence from the UK and Australian Stock Markets". Presented at European Financial Management Association, 2012 Annual Meetings, June 27-30, 2012, Barcelona, Spain. | 35. Taib, H M., Iorio, A D., Hallahan, T., and Bheenic, E B. (2012). "Corporate Bond Rating Changes and Their Impact on Stock Prices: A Comparison Study of Return Generating Models". Presented at European Financial Management Association, 2012 Annual Meetings, June 27-30, 2012, Barcelona, Spain. | 36. Wakeman, L. M., (1978). "Bond rating agencies and the capital markets", working paper, University of Rochester, New York. | 37. Wakeman, L. M., (1990). "The real function of bond rating agencies", *The Modern Theory of Corporate Finance*, 2nd ed. Edited by Smith, C. McGraw Hill, New York | 38. Wansley, J. W., Lane. W. R and Yang H. C., (1987), "Gains to bidder firms in cash and securities transactions", *The Financial Review*, Vol.22, No. 4, pp.403-414. | 39. Weinstein, M. (1977). The effect of a rating change announcement on bond price. *Journal of Financial Economics*, Vol.5(3), pp. 329-350. | 40. White, L.J., (2001), "The Credit Rating Industry: An Industrial Organisation Analysis", paper presented at the Conference on "The Role of Credit Reporting Systems in the International Economy", The World Bank, Washington D.C., 1-2 March. | 41. Zaima, J., & McCarthy, J. (1988). The impact of bond rating changes on common stocks and bonds: test of the wealth redistribution hypothesis. *Financial Review*, Vol. 23(4), pp. 483-498.