

Information Content of Investment Grade Ratings

Dr. Chandrashekhar. R

Assistant Professor, Department of Business Administration, Mangalore University

ABSTRACT

The efficient-market hypothesis states that financial markets are informationally efficient and no one can consistently achieve returns in excess of average market returns, given the information available at the time the investment is made. If the market is semi-strong efficient, the publicly available information like the credit rating should be reflected in the rated firms' current stock prices. According to semi-strong-form efficiency, the share prices adjust to publicly available new information very quickly and that abnormal returns cannot be earned by trading on publicly available information. This study examines the information content of investment grade ratings published in Indian market. The result of study reveals that returns associated with the announcement of investment grade ratings are insignificant and Indian capital market is efficient in semi strong form in processing the new information.

Keywords: *Excess Return, Hypothesis, Investment, Market Efficiency, Rating.*

I. Introduction:

The efficient markets theory of financial economics states that the price of shares reflects all relevant information that is available about the companies. According to the semi-strong form of the efficient market hypothesis (EMH) the current market price of a firm's share accurately reflects the available public information about the firm and firm including the new price relevant information that has been made public. According to the semi-strong form of the efficient market hypothesis the current market price of a firm's share accurately reflects the available public information about the firm and the new price relevant information that has been made public [Ogden, et. al. (2003)^[1]. Malkiel (1989) ^[2] records that a stock market is said to be efficient if it accurately reflects all relevant information in determining security prices. He opines that the reports of the death of the efficient market hypothesis appear premature. Further he observes that in an efficient market any publicly available information is rapidly assimilated into market prices. He also records that if some degree of mispricing exists, it does not persist for long and it is usually only recognizable after it occurs. In an efficient market the market price of the firm's stock should immediately change to reflect this information as the new information about the firm arrives. In an efficient capital market any efforts of the analysts and investors to acquire and use the publicly available information will not yield superior returns to them. However, the investors search for mispriced stocks and their subsequent trading make the market efficient and cause prices to reflect intrinsic values. Thus, investors cannot earn abnormally high returns in an efficient market where prices reflect intrinsic value. This study examines the information content of investment grade ratings published in Indian market. The

results of the study reveals that the abnormal returns associated with the announcement of ratings are insignificant and Indian capital market is efficient in semi strong form in processing the new information.

II. Sample and Source of Data:

This study examines 336 initial investment grade rating and restricted to the announcement of rating of bonds/debentures, long term loans, term loans, certificate of deposit and commercial papers reported in Prowess. The entire study is based on the secondary data collected from various sources. Credit rating announcement date, share price data are collected from Prowess, the corporate database of Centre for Monitoring Indian Economy (CMIE) a trustable source of information available in India.

III. Methodology of the Study:

This study use event study methodology to examine the market reactions to the announcement of initial investment a grade ratings. The market reactions are examined log return. To examine the information contents of CRAs rating announcement this study evaluate the market reactions to the announcements of initial investment a grade ratings. This study estimate the abnormal returns for an event period of 61 days which includes 30 days before the announcement of credit rating, 30 days after the announcement of ratings and 0th day being the day of announcement, to capture the information content of ratings. Event study methodology and OLS market model is to estimate the abnormal returns (AR), average abnormal returns (AARs) and cumulative average abnormal returns (CAARs) for the event period. This study also evaluate the results for smaller event periods within the event period of 61 days to examine the impact of the event. These AARs and CAARs are tested at 5 percent levels of significance. To examine the information content of credit rating the hypotheses that the stock price responses to the announcement of investment grade ratings are insignificant is tested.

IV. Literature Review:

Prior research reveals that ratings upgrades are associated with insignificant positive return and downgrades are associated with the significant negative returns during the event periods. This study also expects the insignificant positive returns for the announcement investment grade ratings. Rao and Ramachandra (2004) [3] report that upgrades are received cautiously by the investors with no significant abnormal returns where as downgrades are perceived as bad news by investors with significant negative abnormal returns. Chandrashekar and Mallikarjunappa (2008) [4] examine the stock price responses to the announcement bond rating of banks and reveal that AARs are negative for majority of the days and statistically insignificant. They state that CAARs are also insignificant for different event periods and negative for longer window periods and shorter window periods except for very short window periods. They also opine that the announcement bond rating have not provided any additional information to the market. Further they find that market has not found any surprise in the announcement as revealed by the continuing trends that started before the announcement of bond rating. Chan et al. (2009) [5] opines that small firms have less publicly available information and the current stock prices

may not fully reflect the current operating performance of the rated firms. Therefore they state that more information is injected into the market whenever subscription-based credit rating agencies release their credit reports. Chandrashekhar and Mallikarjunappa (2007) ^[6] reveal that market has not found any surprises in the announcements as revealed by the continuing trend that started before the announcement of initial rating. They also find insignificant abnormal returns for the announcement of initial ratings. They conclude that market anticipates the information provided by the credit rating agencies and incorporates this before the event and therefore the event itself does not seem to have any significant impact on the stock price. Behr and Andre (2008) ^[7] analyse the stock market reaction to the assignment of an initial unsolicited rating and find evidence that this reaction is negative and particularly highlighted for small Japanese firms. They also analyse the stock market reaction to changes in unsolicited ratings for a Japanese sub-sample and find that here too the stock market reacts negatively. Their results imply that unsolicited ratings convey new information to the stock market and that investors react to this information.

Prior research provide evidence that credit ratings convey useful information to the market in reducing value uncertainty of the issuing firms as well as information asymmetry in the IPO markets. Cai et al. (2007) ^[8] investigates whether underpricing represents a solution to an information problem or a liquidity problem. Their result suggests that information problems drive underpricing, with support for both the book building view of underpricing and the asymmetric information theory. Heng and Kam (2008) ^[9] suggest that credit ratings convey useful information in reducing value uncertainty of the issuing firms as well as information asymmetry in the IPO markets. An and Kam (2008) ^[10] find evidence from U.S. common share IPOs during 1986–2004 that firms go public with credit ratings are underpriced significantly less than firms without credit ratings. Further they reveal that the credit rating levels do not have a significant effect on IPO under pricing and the existence of credit rating reduces uncertainty about firm value. They provide evidence that credit ratings convey useful information in reducing value uncertainty of the issuing firms as well as information asymmetry in the IPO markets. Chan and Yung (2011) ^[11] find that the provision of credit ratings prior to IPO reduces information asymmetry and improves market efficiency.

Goh and Ederington (1993) ^[12] examine whether bond rating is a bad news, good news, or no news for stockholders. They observe a negative equity market reaction to the downgrades due to deterioration in the firm's prospects but no reaction to the downgrade due to an increase in leverage. They also argue that it is unlikely that all downgrades are a surprise since many follow news of an increase in the firm's riskness and a surprise downgrade is clearly bad news for bondholders. Nayar and Razef (1994) ^[13] have examined the commercial paper rating and equity returns and found that commercial paper rating downgrades have negative information content while upgrades have no equity price effects, similar to the effect of rating changes of long-term debt. Hite and Arthur (1997) ^[14] find that downgraded firms reveal a significant announcement effect in announcement and preannouncement period. Further they find that the magnitude of downgrading effects increases dramatically as the sample moves from investment-grade to non-investment-grade firms. Goh and Louis (1999) ^[15] examine how the reaction to bond downgrade announcement varies across issuers. They find

that the equity market reacts much more negatively to bond rating downgrading to and within the speculative bond rating category than to downgrades within investment grade category. Further they find strong market reaction within speculative grade category for low old and new ratings and the reaction to multiple level downgrading is not very different from that to single level downgrading. Their evidence indicates that downgrades are viewed by the market as providing information on likely future earnings before interest charges and not just likely interest charges.

V. Share Price Responses to Investment Grade Ratings

Table No. 1

AARs and CAARs of Log Return for Investment Grade Ratings

Day	AAR	z-Value	CAAR	z-Value	Day	AAR	z-Value	CAAR	z-Value
-30	0.0001	0.1051	0.00011	0.00583	0	-0.001	-0.9883	-0.0003	-0.0185
-29	-7E-04	-0.7133	-0.0006	-0.0337	1	-0.0008	-0.7698	-0.0011	-0.0612
-28	0.0003	0.2568	-0.0004	-0.0195	2	0.0004	0.39485	-0.0007	-0.0393
-27	-6E-04	-0.5891	-0.001	-0.0522	3	-0.0006	-0.581	-0.0013	-0.0715
-26	0.0009	0.8933	-5E-05	-0.0026	4	-0.0008	-0.8087	-0.0022	-0.1164
-25	-3E-04	-0.2889	-0.0003	-0.0186	5	-0.0007	-0.664	-0.0028	-0.1532
-24	-3E-04	-0.2894	-0.0006	-0.0347	6	7E-05	0.06497	-0.0028	-0.1496
-23	0.0009	0.9136	0.0003	0.01599	7	-0.0005	-0.515	-0.0033	-0.1782
-22	-0.001	-0.9931	-0.0007	-0.0391	8	0.0016	1.5875	-0.0017	-0.0901
-21	-0.001	-1.1429	-0.0019	-0.1025	9	0.0002	0.19734	-0.0015	-0.0791
-20	0.0007	0.7178	-0.0012	-0.0627	10	0.0007	0.68301	-0.0008	-0.0413
-19	0.0011	1.0921	-4E-05	-0.0021	11	-0.0005	-0.5151	-0.0013	-0.0698
-18	0.0011	1.0354	0.00103	0.05533	12	-0.0005	-0.5313	-0.0018	-0.0993
-17	0.0006	0.5695	0.00161	0.08692	13	3E-05	0.02587	-0.0018	-0.0979
-16	-2E-04	-0.2162	0.00139	0.07493	14	0.0002	0.21092	-0.0016	-0.0862
-15	-5E-06	-0.0046	0.00139	0.07468	15	0.0007	0.66947	-0.0009	-0.049
-14	0.0003	0.2878	0.00168	0.09064	16	-0.0006	-0.5831	-0.0015	-0.0814
-13	-4E-04	-0.4173	0.00125	0.06749	17	-0.0011	-1.0797	-0.0026	-0.1413
-12	-1E-04	-0.1327	0.00112	0.06013	18	-0.001	-0.9409	-0.0036	-0.1935
-11	-7E-04	-0.7166	0.00038	0.02038	19	-0.001	-0.9728	-0.0046	-0.2474
-10	-0.003	-3.222	-0.0029	-0.1583	20	-0.0002	-0.1847	-0.0048	-0.2577
-9	0.0013	1.2955	-0.0016	-0.0865	21	0.0001	0.13966	-0.0046	-0.2499
-8	0.0007	0.7101	-0.0009	-0.0471	22	0.0011	1.04735	-0.0036	-0.1918
-7	0.0013	1.2151	0.00038	0.02031	23	0.002	1.89977	-0.0016	-0.0864
-6	0.0001	0.1353	0.00052	0.02781	24	-0.0017	-1.6086	-0.0033	-0.1757
-5	0.0003	0.2806	0.00081	0.04338	25	-0.0004	-0.3428	-0.0036	-0.1947
-4	-5E-04	-0.4988	0.00029	0.01571	26	6E-05	0.06121	-0.0036	-0.1913
-3	-7E-04	-0.7016	-0.0004	-0.0232	27	0.0015	1.44256	-0.0021	-0.1113

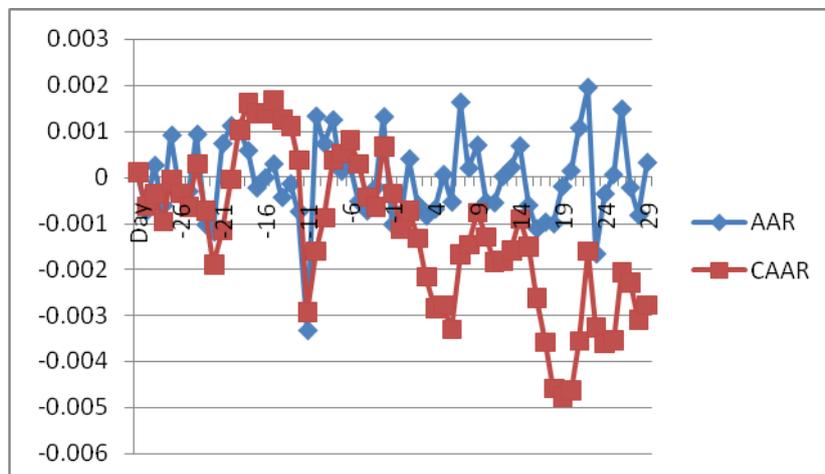
-2	-2E-04	-0.2074	-0.0006	-0.0347	28	-0.0002	-0.2114	-0.0023	-0.123
-1	0.0013	1.2812	0.00068	0.03636	29	-0.0008	-0.7963	-0.0031	-0.1672
					30	0.0003	0.31785	-0.0028	-0.1495

*The critical value of z @ 5 % is 1.96

AARs are negative for 15 days and positive for 15 days before the announcement of investment grade ratings and they are negative for 16 days and positive for 14 days after the announcement of the investment grade ratings. During the whole event period, AARs are negative for 32 days and positive for 29 days. On the day of announcement the AAR is negative and insignificant. AARs started fluctuating and declining before the announcement of investment grade ratings and the declining trend continued even after the announcement. The movement of AARs after the announcement of investment grade ratings reveals that the share price movements persist after the announcement of investment grade ratings. AARs are negative for majority of the days in the event period and statistically insignificant for whole event period. This result contradicts the expected insignificant positive return for investment grade ratings.

Chart No. 1

AARs and CAARs of Log Return for Investment Grade Ratings



CAARs are negative for 15 days before the announcement of investment grade ratings. It is negative for all the days after the announcement of investment grade ratings. CAAR is negative and insignificant on the day of announcement of rating. It is insignificant for the whole event period. Further CAARs started declining before the announcement of the investment grade ratings and this trend continued even after the announcement of investment grade ratings.

Table No 2

CAAR for Various Event Periods of Investment Grade Ratings with log Return

Event Period	CAAR	z Value
-30 to -30	-0.00278	-0.14953
-25 to +25	-0.00357	-0.19206
-20 to +20	-0.00019	-0.01025
-15 to +15	-0.0023	-0.12396
-10 to +10	-0.00114	-0.06164
-5 to +5	-0.00336	-0.181
-4 to +4	-0.00297	-0.15973
-3 to +3	-0.00162	-0.08721
-2 to +2	-0.0003	-0.01605
-1 to +1	-0.00049	-0.02645

*The critical value of z @ 5 % is 1.96

CAARs are negative for larger and shorter event periods for the announcement of investment grade ratings. CAARs are insignificant for both larger and shorter event periods. We accept the hypotheses that the stock price responses to the announcement of investment grade ratings are insignificant. The insignificant market reactions reveal that there is no information content in the announcement of investment grade rating.

VI. Conclusion:

The results of the study reveal that credit ratings have not provided any additional news to the market. Market has not found any surprises in the announcements as revealed by the continuing trend that started before the event. The absence of any change in the direction of stock price reactions to ratings reveals that market anticipates the information provided by credit rating agencies and incorporates this before the event and therefore, event itself does not seem to have any significant impact on the stock prices. The results of the study reveal that AARs are statistically insignificant for whole event period. This result contradicts the expected insignificant positive return for investment grade ratings. Further CAARs started declining before the announcement of the investment grade ratings and this trend continued even after the announcement of investment grade ratings. CAARs are insignificant for both larger and shorter event periods. The insignificant market reactions reveal that there is no information content in the announcement of investment grade rating. These results indicate that returns associated with the announcement of ratings are insignificant and Indian capital market is efficient in semi strong form in processing the new information.

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