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Is a Bond Rating Downgrade Bad News, Good News, or No News for Stockholders?

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ABSTRACT

We examine the reaction of common stock returns to bond rating changes. While recent studies find a significant negative stock response to downgrades, we argue that this reaction should not be expected for all downgrades because: (1) some rating changes are anticipated by market participants and (2) downgrades because of an anticipated move to transfer wealth from bondholders to stockholders should be good news for stockholders. We find that downgrades associated with deteriorating financial prospects convey new negative information to the capital market, but that downgrades due to changes in firms' leverage do not.

RECENT STUDIES REPORT THAT equity markets react negatively to news that a company's debt is being downgraded by Moody's or Standard and Poor's, indicating that these downgrades have informational content with negative implications. While this may be true for downgrades in general, we argue that it is unlikely to be true for all. First, it is unlikely that all downgrades are a surprise since many follow news of an increase in the firm's riskiness. Second, and more important, while a surprise downgrade is clearly bad news for bondholders it is not necessarily bad news for stockholders. In particular, if the bonds are downgraded because the rating agencies foresee an increase in leverage that will transfer wealth from bondholders to stockholders, bond prices should fall but equity prices should rise.

In this paper, we explore whether all downgrades are bad news for equityholders and whether all downgrades are a surprise. When the rating agencies announce a rating change, they also give the reason. Based on these announced reasons, we separate the rating changes into groups based on whether they have positive or negative implications for equityholders and whether or not they seem to be in response to recently released public information. We find that the market reacts negatively to downgrades that result from a reevaluation of the firm's or industry's financial prospects. There is no significant reaction to rating changes for other reasons.

The remainder of this paper is organized as follows. Section I develops our hypotheses and briefly reviews existing evidence. The methodology and data

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are described in Section II. Results are discussed in Section III, while Section IV concludes the paper.

I. The Issues

The exact information provided by bond ratings has been debated. Wakeman (1990) argues that the rating agencies summarize existing public information, i.e., they lower information costs but don't provide new data. On the other hand, the rating agencies claim to receive inside information such as the issuer's acquisition, expansion, new product, and debt issuance plans, which they maintain in strict confidence. Ratings would appear to provide a possible means of communicating relevant aspects of such inside information to bondholders without at the same time divulging harmful details to competitors, but whether the agencies actually receive much inside information is hard to ascertain.

The information content of ratings has been tested by examining the market response to rating changes. As reviewed in Ederington and Yawitz (1987), results of early studies on this question were mixed. However most recent studies, e.g., Griffin and Sanvicente (1982), Holthausen and Leftwich (1986), Wansley and Clauretie (1985), Cornell *et al.* (1989), and Hand *et al.* (1992), find a significant negative reaction to bond downgrades. They do not generally find a significant reaction to upgrades. These studies, with the exceptions of Wansley and Clauretie (1985) and Hand *et al.* (1992), examine only equity market reactions—probably because reliable daily bond data are not available.[1]

Our point is that it is inappropriate to assume, as extant studies generally do, that a downgrade necessarily has negative implications for stockholders. While this would be the case if the rating agency possesses new negative information about the firm's earnings or sales, a downgrade should be good news if it reflects an anticipation that the firm will take actions which transfer wealth from bondholders to stockholders. In particular, we do not expect a negative reaction if a bond is downgraded because the rating agency anticipates an increase in leverage.[2] This may explain why past studies find no significant equity reaction to upgrades. If some upgrades are due to anticipated increases in earnings and others to anticipated declines in leverage, both positive and negative stock price reactions will be observed, and the average reaction may be insignificant.

[1] The only source of actual trade prices is the New York Stock Exchange which is an odd lot market which accounts for only a very small fraction of actual trades. Merill Lynch, Bloomberg, and others provide matrix pricing services but these are predicted, not actual prices, and ratings are one of the predictors.

[2] Holthausen and Leftwich (1986) and Zaima and McCarthy (1988) have both argued that bond downgrades need not be bad news for stockholders. They point out that if equityholders are viewed as holding an option on the value of the firm with an exercise price equal to the par value of the firm's debt, then an increase in the variance of the firm's cash flows would redistribute wealth from bondholders to stockholders. However, none of Moody's announcements indicate that a rating change was due to a reevaluation of the variance of future cash flows so we cannot test their hypothesis.

In addition, *all* downgrades may not be a surprise. Several studies, reviewed in Ederington and Yawitz (1987) find that most, though not all, ratings can be predicted from publicly available information. Moreover, while they observe a negative reaction to the rating change announcement, Holthausen and Leftwich (1986) and Wansley and Clauretie (1985) also observe significant negative returns prior to the announcements indicating some anticipation.

When a rating change is announced, a short explanation of the reason for the change is included. We hypothesize that the market reaction will be conditioned by this reason. If the statement indicates that the rating agency is only responding to public information, we expect little or no market reaction to the announcement. However, if the rating change is based on projections, forecasts, or if there are hints of inside information, then we anticipate a market reaction. In this case the direction of the market reaction can vary. If the bonds are downgraded because the agency foresees a fall in firm value due to a projected decline in earnings or sales, we predict a negative stock market reaction. If the bonds are downgraded because the rating agency foresees an increase in leverage, we predict a positive market response.

II. Methodology, Sample Selection, and Data

We start with a set of 1078 rating changes announced by Moody's during the period 1984 through 1986. We exclude 468 because sufficient data are not available on the Center for Research in Security Price's New York Stock Exchange–American Stock Exchange daily returns database. We also search the *Wall Street Journal Index* for other firm-specific information releases in the three days surrounding the announcement date of the rating change. If another announcement occurred during the three-day period, the rating change announcement is eliminated yielding an uncontaminated sample of 428 ratings changes (243 downgrades and 185 upgrades).

A. Classification

The rating change explanations in *Moody's Bond Survey* fall into three major categories (listed in Table I). In most cases, Moody's indicates that the change is due to a deterioration or improvement in the firm's "financial prospects" or "performance." We label these Group 1. If the announcement is a surprise, these downgrades (or upgrades) should have a negative (or positive) impact on stock prices. Group 2 consists of cases in which Moody's indicates that the change is because of an increase or decrease in leverage due a leveraged buyout, share repurchase, or debt-financed expansion.[3] As

[3] Moody's invariably begins its write-up with a summary sentence which typically reads: "The rating change was caused by . . ." or "was prompted by . . .," or "is due to . . . ." Our assignment of a rating change to Groups 1, 2, or 3 is based on this summary sentence. The Group 2 write-ups often include later sentences that refer to the firms "financial prospects" but these are clearly of much lesser import. Indeed they are often positive although the debt is being downgraded. If two reasons are given and the order of importance is not clear, the observation is placed in Group 3.

Table I

Reasons for Bond Upgrades and Downgrades

All bond rating revisions by Moody's Investors' Service from 1984 through 1986 are classified according to the reason for the change reported in *Moody's Bond Survey*. The uncontaminated sample excludes observations with another firm-specific information release in the announcement window.

Group	Moody's Explanation of the Rating Change	Number of Observations			
		Full Sample		Uncontaminated Sample	
		Downgrade	Upgrade	Downgrade	Upgrade
1	Improvement or deterioration in the firm's earnings, cash flow, "financial prospects," and/or "performance"	185	178	138	157
2	Actions or decisions that result in a change in the firm's leverage, e.g., leveraged buyouts, debt-financed expansion, etc.	122	9	64	7
3	Miscellaneous or no reason given	69	47	41	21
	Total	376	234	243	185

shown in Table I, bonds are rarely upgraded due to a decline in leverage. Assuming they are a surprise, Group 2 downgrades should have positive implications for stockholders. Group 3 contains all other rating changes. There are no other single reasons resulting in a usable number of changes but many which are responsible for a few. Examples include defaults, bankruptcies, law suits, and nuclear power plant problems. There are also several cases in which no reason is given. Since this group is so diverse, we have no hypothesis about the market's reaction.

We are not able to subdivide the observations according to whether the rating change was due to public or private information. While there are occasional references to recent changes in such variables as earnings, sales, or interest coverage, the stated reasons for the rating changes in Group 1 are usually forward looking, e.g., "Moody's believes ... will ..." or "the change is based on the company's prospects for ..." Accordingly, we expect a negative (or positive) market reaction to these downgrade (or upgrade) announcements. On the other hand, reasons for the rating changes in Group 2 are generally written in the past tense or the change is attributed to plans which the company has already announced, such as a leveraged buyout, share repurchase, or acquisition. Accordingly, we should observe positive abnormal returns prior to the rating change but no reaction to the announcement itself. Group 3 announcements also generally make reference to previously announced information.

B. Methodology

Daily expected returns are calculated by estimating the standard market model, over a 254-period day from -157 to day -31 and from day $+31$ to

day +157, where day 0 is Moodys' announcement date. Using the standard event study methodology, we calculate the cumulative abnormal returns (CARs) surrounding the rating change announcement for various windows: (1) preannouncement: (−30, −11), and (−10, −1), (2) announcement: (0, +1), and (3) postannouncement: (+2, +11), and (+12, +30). Following Patell (1976) *z*- and *t*-statistics are used to test whether the CARs are significantly different from zero. We also report the number of positive and negative abnormal returns.

III. Results

A. Unconditioned Results

Table II presents the cumulative abnormal returns for both the full and "uncontaminated" samples of downgrades and upgrades. As in previous studies, the announcement period CAR for upgrades is not significant. For the complete sample, we find a significant negative market response to downgrades over both the announcement and preannouncement windows. For the uncontaminated sample of downgrades, we observe significant, though

Table II

The Stock Price Response to Bond Downgrades and Upgrades

Cumulative abnormal returns (CARs), *t*-statistics and *z*-statistics (in parentheses), and the number of positive-negative CARs (in angle brackets) are shown for various announcement windows. Day 0 is the date of Moody's announcement of a rating change. The uncontaminated sample excludes observatios with another firm-specific information release in the announcement window. The rating changes are those reported in *Moody's Bond Survey*, 1984 to 1986.

	Full Sample		Uncontaminated Sample	
	Downgrades	Upgrades	Downgrades	Upgrades
Announcement Window	CARs (%) (*t*-stat., *z*-stat.) ⟨ + : − ⟩	CARs (%) (*t*-stat., *z*-stat.) ⟨ + : − ⟩	CARs (%) (*t*-stat., *z*-stat.) ⟨ + : − ⟩	CARs (%) (*t*-stat., *z*-stat.) ⟨ + : − ⟩
−30 to −11	−2.04 (−3.54, −2.40) ⟨168:208⟩	0.85 (1.68, 0.98) ⟨114:120⟩	−1.16 (−1.73, −1.13) ⟨107:136⟩	0.93 (1.69, 0.87) ⟨83:102⟩
−10 to −1	−2.72 (−6.69, −4.92) ⟨155:221⟩	0.48 (1.34, 1.71) ⟨116:118⟩	−0.78 (−1.65, −1.05) ⟨118:125⟩	0.35 (0.91, 1.08) ⟨87:98⟩
0 to +1	−0.91 (−5.03, −4.87) ⟨150:226⟩	0.10 (0.65, 0.51) ⟨127:107⟩	−0.76 (−3.61, −3.00) ⟨103:140⟩	−0.04 (−0.26, −0.21) ⟨98:87⟩
+2 to +11	−0.43 (−1.06, −1.13) ⟨178:198⟩	−0.35 (−0.98, −0.68) ⟨116:118⟩	−1.04 (−2.20, −1.88) ⟨112:131⟩	−0.48 (−1.16, −1.26) ⟨92:93⟩
+12 to +30	−0.14 (−0.25, 0.07⟩ ⟨180:196⟩	−1.42 (−2.80, −1.64) ⟨102:132⟩	0.64 (0.95, 1.08) ⟨120:123⟩	−1.62 (−2.93, −1.97) ⟨77:108⟩

smaller, negative announcement period CARs and insignificant preannouncement CARs.

B. Conditioned Results

In Table III, CARs are calculated separately for Group 1, 2, and 3 downgrades and for Group 1 upgrades. We do not present separate results for Group 2 and 3 upgrades because of the small number of observations in each.[4]

We conjectured above that previous studies may have failed to find a significant response to rating upgrades because they combined Groups 1 and 2. Our results do not support this conjecture. There are only seven uncontam-

Table III

The Stock Price Response to Bond Downgrades and Upgrades Conditioned by Moody's Reason for the Rating Change

Cumulative abnormal returns (CARs), t-statistics and z-statistics (in parentheses), and the number of positive-negative CARs (in angle brackets) are shown for various announcement windows, Day 0 is the date of Moody's announcement of a rating change. Group 1 indicates a rating change due to a change in Moody's evaluation of the firm's financial prospects. Group 2 indicates a rating change due to a change in leverage. Group 3 is the residual consisting of all other rating changes. The rating changes are those reported in *Moody's Bond Survey*, 1984 to 1986, excluding observations with another firm-specific information release in the announcement window.

	Upgrades	Downgrades		
	Group 1	Group 1	Group 2	Group 3
Announcement Window	CARs (%) (t stat., z-stat.) ⟨ + : − ⟩	CARs (%) (t-stat., z-stat.) ⟨ + : − ⟩	CARs (%) (t-stat., z-stat.) ⟨ + : − ⟩	CARs (%) (t-stat., z-stat.) ⟨ + : − ⟩
− 30 to − 11	0.16 (0.24, −0.11) ⟨69:88⟩	−1.29 (−1.40, −0.61) ⟨64:74⟩	−0.46 (−0.42, −0.02) ⟨26:38⟩	−1.74 (−1.19, −1.66) ⟨17:24⟩
−10 to −1	0.63 (1.35, 1.84) ⟨83:74⟩	−0.38 (−0.60, −0.30) ⟨67:71⟩	−0.09 (−0.12, −0.30) ⟨31:33⟩	−3.21 (−3.08, −1.64) ⟨20:21⟩
0 to +1	−0.22 (−1.03, −0.98) ⟨83:74⟩	−1.18 (−4.08, −3.37) ⟨58:80⟩	−0.05 (−0.16, −0.06) ⟨28:36⟩	−0.47 (−1.01, −1.06) ⟨17:24⟩
+02 to +11	0.20 (0.43, −0.03) ⟨73:84⟩	−1.01 (−1.56, −1.07) ⟨64:74⟩	−0.77 (−0.99, −0.51) ⟨26:38⟩	0.42 (0.41, 0.37) ⟨23:18⟩
+12 to +30	−1.20 (−1.85, −1.29) ⟨70:87⟩	0.93 (1.01, 1.10) ⟨70:68⟩	0.87 (0.78, 0.53) ⟨26:38⟩	−0.67 (−0.46, 0.05) ⟨24:17⟩

[4] For both Groups (0, +1) CARs are positive but insignificant at the 0.05 level. Both preannouncement CARs (−30, −11) and (−10, −1) are positive and significant for Group 3 indicating that these upgrades are in response to earlier announcements.

inated Group 2 upgrades and the announcement period CAR for Group 1 upgrades is insignificant and negative.

The results in Table III support our hypothesis that the reaction to downgrades is conditioned by the attached reason. While the announcement period CARs are negative for all three groups, only the market reaction to Group 1 downgrades is sizable and significant.[5] As expected, the finding of previous studies that the market reacts negatively to downgrade announcements is solely due to the announcements in this group. This finding supports our argument that Group 1 downgrades are generally based on Moody's projections of the firm's future financial prospects and therefore are likely to have significant informational content. The small insignificant reactions in Groups 2 and 3 indicate that, on average, either these downgrades are anticipated or their implication for stockholders is unimportant.

If a rating change is due to public information which was released over the period $(-30, -1)$, then significant abnormal returns should be observed over one of the preannouncement periods. For the Group 1 downgrades, the preannouncement CARs are small and insignificant indicating that, as hypothesized, these downgrades are not generally anticipated. On the other hand, the preannouncement CARs for Group 3 downgrades are large and negative and the $(-10, -1)$ t-statistic is significant at the 0.05 level. This is not surprising since many of these downgrades are in response to known bankruptcies, takeovers, lawsuits, etc. In Section II we argue that downgrades in Group 2 have positive implications for stockholders but that these downgrades are also generally in response to previously released information and should not therefore be a surprise. Consistent with this, we find no evidence of a market reaction to the announcement. However, we also find no evidence to support our hypothesis in Section II that these downgrades are due to positive news released over the $(-30, -1)$ period.[6] As shown in Table III, preannouncement returns for this group are small, negative, and insignificant.

IV. Summary and Conclusion

We consider two types of rating downgrades: those due to a deterioration in the firm's financial prospects and those due to an increase in leverage. The former have negative implications for stockholders and the latter positive. However, we find that while the former downgrades reflect Moody's expectations of the firm's future earnings or sales, the latter are generally in response to past known leverage increases. Consistent with this, we observe a negative equity market reaction to the first group of downgrades but no reaction to the second. We conclude that rating changes cannot be treated as homogeneous; the cause must be considered.

[5] The (0, 1) CAR for Group 1 is also significantly different from that for Groups 2 and 3.

[6] One possible explanation for this result is that Group 2 includes both leverage increases due to debt-financed expansions and pure restructurings. The equity market may react positively to the latter but not the former.

REFERENCES

Cornell, Bradford, Wayne Landsman, and Alan Shapiro, 1989, Cross-sectional regularities in the response of stock prices to bond rating changes, *Journal of Accounting, Auditing and Finance* 4, 460–479.

Ederington, Louis, and Jess Yawitz, 1987, The bond rating process, in E. Altman, ed.: *Handbook of Financial Markets and Institutions*, 6th ed. (John Wiley and Sons, New York).

Griffin, Paul, and Antonio Sanvicente, 1982, Common stock returns and rating changes: A methodological comparison, *Journal of Finance* 37, 103–119.

Hand, John, Robert Holthausen, and Richard Leftwich, 1992, The effect of bond rating agency announcements on bond and stock prices, *Journal of Finance* 47, 733–752.

Holthausen, Robert, and Richard Leftwich, 1986, The effect of bond rating changes on common stock prices, *Journal of Financial Economics* 17, 57–89.

Patell, James, 1976, Corporate forecasts of earnings per share and stock price behavior: Empirical tests, *Journal of Accounting Research* 14, 246–276.

Wakeman, L. MacDonald, 1990, The real function of bond rating agencies, in C. Smith, ed: *The Modern Theory of Corporate Finance*, 2nd ed. (McGraw Hill, New York).

Wansley, James, and Terrence Clauretie, 1985, The impact of credit watch placement on equity returns and bond prices, *Journal of Financial Research* 8, 31–42.

Zaima, James, and Joseph McCarthy, 1988, The impact of bond rating changes on common stocks and bonds: Tests of the wealth redistribution hypothesis, *Financial Review* 23, 483–498.