

**The Impact of Rating Agency's Private Information and Disclosed Causes of Rating
Downgrades on Insurer Stock Returns**

July 7, 2015

World Risk and Insurance Economics Congress
Munich, Germany
2015

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JEL Classification: G14, G22

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Abstract

Existing studies document that bond and insurer rating downgrades are associated with negative abnormal returns, but generally do not consider the disclosed reasons for the downgrade and none has distinguished between rating downgrades based on private information or public information, or both. Using hand-collected press release news of A.M. Best Company (Best) rating downgrade actions for a sample of publicly-traded insurance firms during the period of 1996-2012, we classify and analyze rating downgrades based on the disclosed causes of the downgrades and whether the rating agency has relied upon private information. We then use an industry-benchmark model to calculate the short-run abnormal stock returns during the 21-day period surrounding the downgrade events. We find that during the three-day event window (-1, +1), rating downgrades overall generate statistically significant negative cumulative average abnormal returns (CAAR) of -7.76 percent. Significantly more negative CAAR of -11.46 percent is found for “financial-prospects-deterioration” downgrades with the presence of Best’s private information or opinion. For downgrades without any indication of Best’s private information or opinion, the CAAR is -3.35 percent which is significantly different from zero, but significantly less negative than the CAAR of downgrades where private information or opinion is indicated. Downgrades with reported causes other than deterioration of a firm’s fundamental financial performance or condition, such as increases in financial leverage and increased business risk taking, produced significantly negative CAAR of -3.19 percent during the (-1, +1) 3-day event window, which is also significantly less negative than the CAAR of downgrades where private information or opinion is indicated. Our results provide evidence that downgrades where private information is likely and downgrades due to insurers’ fundamental financial profiles contain more information useful for investors than other types of downgrades.

1. Introduction

The finance literature has examined the impact of a change in the firm's debt rating on its common stock returns. The general consensus is that a rating upgrade is associated with an insignificant stock reaction, but a rating downgrade is associated with negative stock returns.¹ Credit rating agencies claim to receive private information for purposes of forming a rating opinion. When credit rating agencies announce a rating change, they also give a reason for the rating change. Capital market efficiency implies that all publicly available information is rapidly reflected in share prices and that any stock market response to rating changes should be due to new information (Fama, 1970 and 1991). Unless credit rating agencies possess a superior ability to evaluate public information, the stock market response to rating changes should be due to the private information contained in the rating change. Existing studies on rating changes generally do not consider the disclosed causes of downgrades and whether the rating agencies have used private information, public information, or both. In contrast to other studies on rating changes, Goh and Ederington (1993) examine the reasons for a bond rating downgrade and find that negative stock returns follow a downgrade due to a change in the firm's financial performance or prospects, but not a downgrade due to the change of financial leverage, since increasing financial leverage may transfer wealth from bondholders to shareholders and thus can actually be good news to shareholders. Thus, a key point of their study is that rating downgrades do not necessarily have negative implications for stockholders as other studies implicitly assume when all rating downgrades are grouped and evaluated together.

Our study both extends and applies the analysis of Goh and Ederington (1993) to insurance firms. We further extend their analysis by hypothesizing that shareholders should only

¹ See Griffin and Sanvicente (1982), Hand, Holthausen and Leftwich (1992), Dichev and Piotroski (2001), Halek and Eckles (2010).

react negatively to a downgrade that conveys rating agencies' incremental private information or opinion other than the publicly available information. Finding support for this hypothesis is important in understanding whether rating agencies provide incrementally useful information to market participants. If shareholders react negatively to all types of downgrades in a similar way, then the information set used and the causes of the rating downgrade may not be relevant to investors. Such a response tends to imply that the private information contained in the rating action news, if any, is of little value. We also apply the basic notion in Goh and Ederington (1993) that the particular reason for the rating downgrade is likely to determine whether the market responds negatively, positively, or not at all to a rating downgrade. For instance, we argue that a downgrade due to managerial decisions to increase business risk may not necessarily be bad news to shareholders, regardless of whether private or public information is used by the rating agency. These situations include not only financial leverage increases, a reason considered in Goh and Ederington (1993), but also aggressive business strategies, such as new product launching, business expansion, increased investment/asset risk, aggressive pricing, increased business concentration, and acquisitions or spin-offs. We argue that the increasing business risk due to managerial decisions does not usually decrease firm value and may represent wealth transfer from policyholders (or bondholders) to shareholders, and that can potentially be good news to shareholders.

This is the first paper to analyze the content of private information embedded in rating action news. Also, this is the first paper to apply the general approach of Goh and Ederington (1993) to insurer rating downgrades. We use hand-collected press release news of A.M. Best Company (Best) rating downgrade actions, for a sample of publicly-traded insurance firms during the period of 1996-2012. Best is the rating agency that specializes in rating insurance

firms and its ratings are considered the most authoritative in the insurance industry. We determine whether private information may be used from each press release reporting a rating downgrade, and typically look for key words or phrases such as “A.M. Best remains concerned that...,” “it is A.M. Best’s opinion that...,” “believes,” and “expects.” We further read each downgrade news story after identifying those key words, to confirm the reasonableness of assuming the presence of some level of Best’s private information or opinion as one of the determining factors of rating downgrades. We then categorize them as the group where suspected Best’s private information or opinion (other than or in addition to public information) is being used in determining the rating downgrade.

Goh and Ederington (1993) differentiate “contaminated” and “uncontaminated” samples where the “uncontaminated” sample excludes observations when other firm-specific information is publicly released in the short-run event window. However, the nature of their “uncontaminated” sample is essentially quite different from that of the sample with suspected private information under our grouping method. For example, following their definition of “uncontaminated,” the rating downgrade may be partially due to public information announced several months ago which is outside of the event window, and it would be categorized as both “uncontaminated” and “no suspected private information.” In addition, the rating downgrade may be due to Best’s quantitative analysis of the public information released during the event window, and thus can be both “contaminated” and “no suspected private information.” Further, Best may issue a rating downgrade soon following a publicly known event after combining its own private information and/or opinion, and thus such downgrade can be categorized as both “contaminated” and “suspected private information.” In short, we are mainly concerned about whether Best may potentially use its own private information in making the rating downgrade

decision. Goh and Ederington (1993) do not find meaningful differences in short-run abnormal returns between their full sample and “uncontaminated” sample. Our key empirical finding is that private information does make a statistically significant difference in shareholders’ responses to rating downgrade events, as implied by the generally accepted understanding of market efficiency in the finance literature.

Focusing on insurance firms offers three advantages relative to other industries generally. First, it eliminates factors influencing cross-industry differences, such as accounting, taxation and regulatory differences. Second, Best’s financial strength ratings (FSRs) pertain to the entire firm rather than a particular security issued by the firm. Bond ratings of the same firm may be different because each rating is related to a particular security issued by the firm. Unlike bond ratings, the FSRs assigned by Best are related to the entire firm’s financial prospects, and specifically the ability of the insurer to meet its obligations to policyholders. The policyholder claim is the most senior debt or “debt-like” claim of insurance firms. Thus, we suggest that the FSR ratings are more uniform than the ratings used in studies of bond rating changes. Third, insurers are widely thought to be especially complicated to evaluate, mainly because of the opaque nature of their business operations (Fan et al., 2006). The amount, timing and uncertainty of cash flows with respect to “policyholder debt” are unique characteristics since premiums are generally fixed in advance, but the policyholder claim is not fixed.

We find that rating downgrades in general produce statistically significant negative cumulative average abnormal returns (CAAR) of -7.76 percent in the three-day (-1,+1) event window.² More negative CAAR of -11.46 percent during that event window is found for downgrades with both suspected Best’s private information or opinion and deterioration of

² The magnitude of the average abnormal return is similar to other studies. For instance, Halek and Eckles (2010, p. 817) report an abnormal return of -4.6 percent in the same window; Chen and Pottier (2014) report an abnormal return of -8.7.

fundamental financial prospects as related causes of downgrades. In general, abnormal returns, even when significantly different from zero, are significantly less negative for rating downgrades where there is not any indication of private information, and/or downgrades where the disclosed cause of the rating downgrade is something other than deterioration in the insurer's fundamental financial performance/condition. The relatively larger (in absolute value) market reaction to rating downgrades where private information is indicated and/or where the disclosed cause is deterioration in financial prospects is consistent with capital markets that rapidly reflect value-relevant public information, but do not generally reflect value-relevant private information. Any additional capital market response to rating downgrades based on previously released public information is likely due to the impact of the rating downgrade itself on the insurer's future profitability and premium growth (see Epermanis and Harrington, 2006). Rating downgrades based on causes other than deterioration in a firm's fundamental financial prospects, such as an increase in leverage, reduced liquidity, new products, among other causes, generally do not have unambiguous impacts on equity value, as Goh and Ederington (1993) also argue.

The remainder of the paper is organized as follows. We begin by describing the data and sample in Section 2, and then discuss our event study research method in Section 3. Section 4 presents the empirical results and Section 5 concludes.

2. Data and sample

We first identify public insurers from CRSP (Center for Research in Security Prices) database narrowing SIC codes between "6311" and "6411" representing firms in the insurance industry, for the period of 1996-2012. Next, we obtain insurers' financial strength ratings from Best's Key Rating Guide for the same period, and match the rating information with the public insurers we

have initially identified from CRSP database. Our sample creation process is then briefly illustrated in Figure 1.

We initially have identified 176 downgrades for public insurers during the period of 01/1996-06/2012. We then try to locate Best's press release news for each of the 176 downgrades we have identified. Out of the 176 downgrades, we find press release news for 110 downgrades, and most of them are identified from A.M. Best's web site, while a few are identified through "Google" search. Out of those 110 downgrades, CRSP daily data is available during the (-10, +10) 21-day event window for 95 downgrades. For those 66 downgrades with no press release news found, CRSP daily data is available for 63 downgrades during the 21-day event window. Our final sample consists of 158 total downgrades (95 with press release news and 63 without news) for the period of 01/1996-06/2012, and that represents 92 total firms that experienced downgrades during this time period.

We then classify our final sample into four groups based on Best's explanation of the causes of downgrades and their information used, as shown in Table 1. Group 1 has 50 downgrades and they all have Best's press release news with suspected Best's private information and/or opinion, and the causes of these downgrades are all related to deterioration of firm's fundamental performance, earnings and/or financial prospects. Group 2 has 27 downgrades and they are either stated that the downgrade is caused by certain public information, or have no suspected Best's private information identified in press release news. Similar to Group 1, the causes of Group 2 downgrades are also related to deterioration of firm's fundamental performance, earnings and/or financial prospects. Recall that we hypothesize in a short-run event window, shareholders should respond negatively to Group 1 downgrades, but not as much, if any, to Group 2 downgrades. Group 3 has 18 downgrades and they are all mainly

caused by increased firm risk due to managerial decisions, such as increased financial leverage, new product launching, business expansion, increased investment or asset risk, aggressive pricing, increased business concentration, and acquisitions or spin-offs. Recall that we argue Group 3 downgrades can potentially be good news to shareholders due to the effect of wealth transfer from policyholders to shareholders. Group 4 has 63 downgrades and they have no identified Best press release news. We expect that shareholders response to Group 4 downgrades be similar to the response to the full sample, since if otherwise Group 4 downgrades have identified news, they would represent a mix of Groups 1-3 news.

Table 2 presents the rating downgrade matrix for the full sample. Most downgrades (129 out of 158) are one-level downgrades, while 29 are multi-level downgrades. Figure 2 shows the time distribution of Best's rating downgrades for publicly-traded insurers.

3. Research method

We conduct short-run daily abnormal return estimations using the event study method. Stock daily return data are obtained from the CRSP (Center for Research in Security Prices) for the downgraded firms.

Brown and Warner (1985) find that in a short estimation period, both market model and market-adjusted model³ generates well-specified estimation results and produce no significant mean bias.⁴ However, more recently, Ahern (2009) suggests that short-term models may also exhibit statistically significant biases, especially if the researcher uses data that are non-

³ The market model uses ordinary least squares (OLS) with a market index (i.e., 1-factor CAPM) to estimate expected returns, while the market-adjusted model uses the market index as expected returns.

⁴ Mean bias is a measure of statistical error in an event study model. If we choose random securities from the sample and assign random event dates, there should be no abnormal returns on average because the respective benchmark portfolio mean is the "normal return" for insurers in that portfolio and the average deviation from the mean is zero. If mean abnormal returns are not zero for random securities and random event dates, then the model is said to have mean bias (Brown and Warner, 1985).

representative of the overall market, such as firms from a single industry. He finds that characteristic-based benchmark model, such as the one using the matched size-return portfolio of control stocks, displays the least bias of all models. Since our study uses data from one industry, we use an industry-benchmark model to calculate the cumulative abnormal returns during the (-10, +10) 21-day period surrounding the downgrade events. More specifically:

$$AR_{i,t} = R_{i,t} - R_{i,t}^{benchmark} \quad (1)$$

$$CAR_{i,T} = \sum_{t=1}^T AR_{i,t} \quad (2)$$

$$CAAR_{n,T} = \sum_{i=1}^n CAR_{i,T} / n \quad (3)$$

where $R_{i,t}^{benchmark}$ represents the expected return for firm i in day t , calculated by the mean of all publicly-traded insurer returns during that day.⁵ $AR_{i,t}$ represents the difference between the expected return and the real return $R_{i,t}$, for firm i in day t . The cumulative abnormal return $CAR_{i,T}$ is the sum of the abnormal stock return of each day surrounding the rating downgrade events for firm i during the short-run event window T . The cumulative average abnormal return $CAAR_{n,T}$ is the mean of $CAR_{i,T}$ for all n firms during the event window T .

4. Empirical results

We show our results in Table 3 and Figure 3. Our cumulative abnormal returns are calculated in 6 different short-run event windows during the 21-day period surrounding the downgrade event. We focus the following discussion on the Day 0 (the event day) results.

During the event day, downgrades overall generate statistically significant negative CAAR of -2.83 percent for the full sample. The Group 1 sample shows more negative CAAR of

⁵ Publicly-traded insurers are identified in CRSP with SIC codes between “6311” and “6411.”

-5.89 percent, while the Group 2 sample does not show significant negative CAAR during the event day. Recall that both Group 1 and 2 downgrades are related to deterioration of firm's fundamental performance, earnings and/or financial prospects, while Group 1 downgrades represent those with suspected Best's private information and/or opinion and Group 2 downgrades do not. For all event windows in our study, the Group 1 abnormal returns are consistently lower (i.e., more negative) than the Group 2 sample, and the differences in abnormal returns between the Group 1 and 2 samples are consistently significant. The difference between Group 1 and 2 abnormal returns exceeds 15 percentage points in the (-10, +10) event window. Our results suggest that market participants respond to rating downgrades differently, depending on whether the information is new and whether it is value relevant. When a rating downgrade is based on private information and the cause is deterioration in an insurer's fundamental financial prospects, the market response is substantially more negative.

Group 3 downgrades do not show significant negative abnormal returns during most of the selected event windows, and actually shows positive 0.60 percent abnormal returns during the event day. The differences in abnormal returns between Group 1 and 3 are also significant during almost all selected event windows. Recall that Group 3 downgrades are mainly caused by increased firm risk due to managerial decisions, and the results suggest that these downgrades are not necessarily bad news to shareholders, regardless of whether rating agency's private information or opinion is used. Although an increase in firms risk tends to increase equity values according to option pricing theory, a countervailing influence is that any rating downgrade potentially damages future profitability and premium growth. Group 3 abnormal returns are generally less negative than Group 2 abnormal returns, but the difference is not statistically significant. Our Group 4 sample represents those downgrades with no press release news

identified, and the CAARs for that group are similar to those in the full sample for most event windows. This is expected since Group 4 downgrades likely would have represented a mix of Group 1-3 news, if all press release news information had been identified.

Figure 3 shows the comparison of cumulative average abnormal returns for Groups 1-3 during the 21-day event period surrounding the rating downgrade events, and we can clearly see in this figure the differences of abnormal returns between Group 1 and the other two groups. Interestingly, Figure 3 also seems to suggest some private information/opinion leakage several days before the downgrade events.

5. Conclusion

The information content of rating agency's rating action news has generated great interest to academia and practitioners over time. Existing studies generally do not consider the differences of the downgrade causes and none has differentiated whether rating agencies have used private information, public information, or both.

Using hand-collected press release news of A.M. Best rating downgrade actions for a sample of publicly-traded insurance firms during the period of 1996-2012, we are able to differentiate the market impact according to whether the rating downgrade is based on the rating agency's private information or opinion. This differentiation we believe is important in understanding whether rating agencies provide incrementally useful information to market participants.

Since our study uses data from one industry, we use an industry-benchmark model to calculate the average abnormal returns during the (-10, +10) 21-day period surrounding the downgrade events. We find that downgrades overall generate statistically significant negative

CAAR of -2.83 percent during the event day, and -7.76 percent in the 3-day event window (-1, +1). More negative CAAR of -5.89 percent during the event day and -11.46 percent in the (-1, +1) event window are found for downgrades with the presence of suspected Best's private information and/or opinion and with deterioration of firm's fundamental financial prospects as related causes of downgrades. For the event day, no statistically negative abnormal returns are found for downgrades where there is no Best's private information/opinion, or where the downgrades are related to increased firm risk due to managerial decisions. And even for event windows wherein abnormal returns are significantly negative for these latter two groups, such returns are still significantly less negative than for downgrades with both private information indicated and deterioration in financial prospects as the downgrade cause.

Our empirical results suggest that shareholders do not respond to all types of downgrades in similar ways, and that the rating agency's private information or opinion contained in the rating downgrade news is of great value to them. Also, a downgrade due to managerial decisions to increase business risk may not necessarily be bad news to shareholders, since such decisions do not necessarily decrease equity value and the potential effect of wealth transfer from policyholders to shareholders may actually be good news to shareholders. We also find some evidence suggesting some private information leakage several days before the downgrade events. These results are consistent with our initial hypotheses, and we believe this paper may be interesting to both academics and practitioners, and fills an important gap in this strand of literature regarding shareholders' responses to rating action news.

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Figure 1: Sample Creation Process

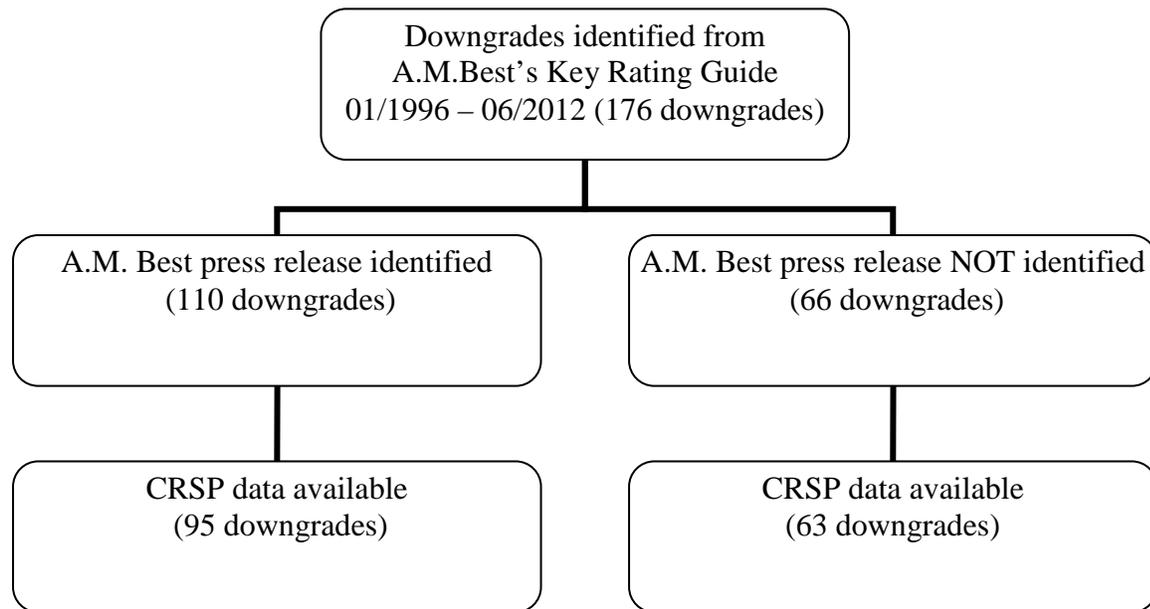


Table 1: Final Sample Classifications (01/1996-06/2012)

Group	Best's Explanation of the Downgrade	Best's Information Used	Number of Downgrades
1	Deterioration of firm's fundamental performance, earnings and/or financial prospects	"Suspected" Best's private information and/or public information	50
2	Deterioration of firm's fundamental performance, earnings and/or financial prospects	Public information and no "suspected" private information	27
3	Increased firm risk due to managerial decisions - increased financial leverage, new product, expansion, liquidity, increased asset risk, aggressive pricing, acquisitions/spin-offs	N/A	18
4	No press release news found	N/A	63
Total			158

Table 2: Rating Downgrade Transition Matrix (01/1996 - 06/2012)

Old Rating \ New Rating	A++	A+	A	A-	B++	B+	B	B-	C++	C+	C	Below C
A++	-----											
A+	14	-----										
A		34	-----									
A-			28	-----								
B++			1	24	-----							
B+				2	12	-----						
B					6	8	-----					
B-				1	1	4	5	-----				
C++		DOWNGRADE					1	1	2	-----		
C+									4	1	-----	
C									2		1	-----
Below C					2		1	1	1			1

Figure 2: Year Distribution of Rating Downgrades

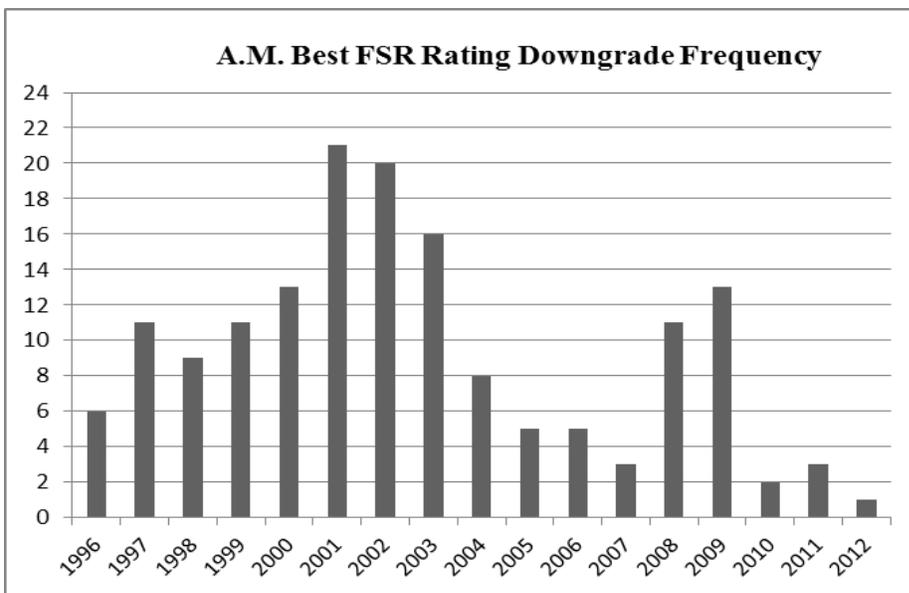


Table 3: Cumulative Average Abnormal Stock Returns Based on Different Information Sets and Disclosed Causes of Rating Downgrades

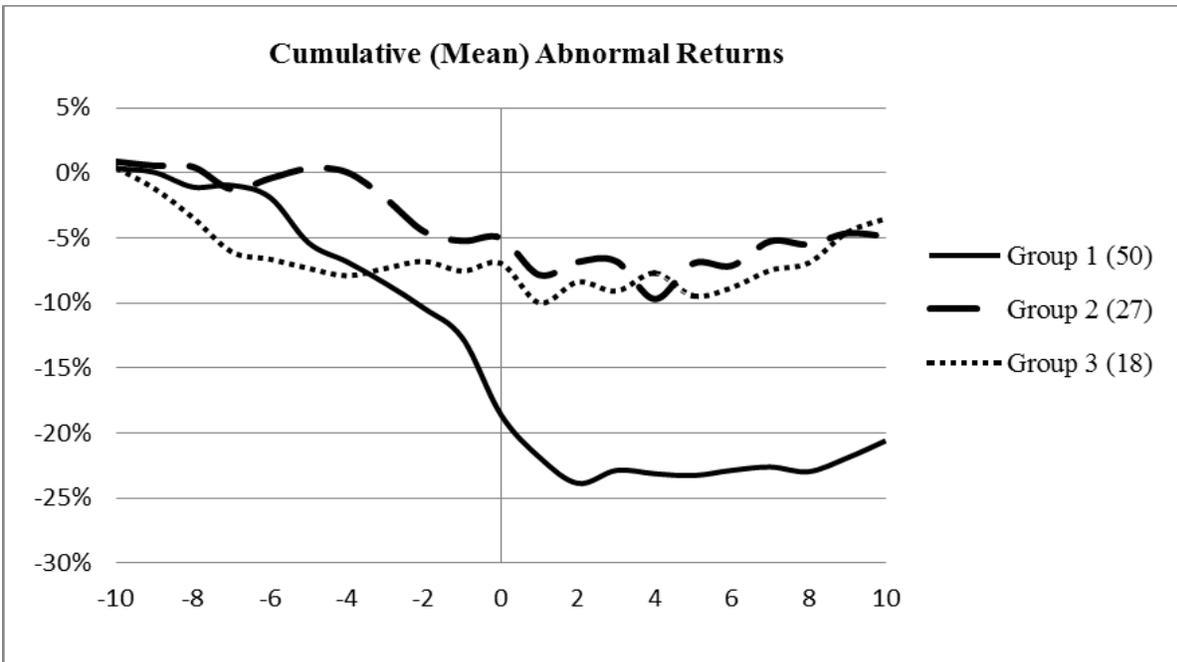
Group	Event Window							
	Day 0	(0, +2)	(-1, +1)	(-2, +2)	(-5, +5)	(-10, -1)	(-10,+10)	
All (158)	-2.83%	-5.83%	-7.76%	-8.82%	-9.71%	-7.16%	-9.59%	
G1 (50)	-5.89%	-11.17%	-11.46%	-15.37%	-21.39%	-12.69%	-20.59%	
G2 (27)	0.23%	-1.62%	-3.35%	-4.89%	-6.54%	-5.23%	-4.89%	
G3 (18)	0.60%	-0.82%	-3.19%	-1.03%	-2.81%	-7.55%	-3.53%	
G4 (63)	-2.68%	-4.83%	-8.01%	-7.52%	-3.76%	-3.50%	-4.60%	
All	<i>t-stat</i>	-1.826*	-3.326***	-4.906***	-4.665***	-4.133***	-3.698***	-3.473***
	<i>sign Z</i>	-2.291*	-1.812*	-4.843***	-3.248***	-3.248***	-2.291*	-2.769**
Group 1	<i>t-stat</i>	-1.982*	-2.878**	-3.080**	-3.310***	-4.239***	-3.826***	-3.752***
	<i>sign Z</i>	-2.304*	-2.304*	-2.871**	-2.304*	-2.871**	-2.304*	-2.871**
Group 2	<i>t-stat</i>	0.135	-0.774	-1.935*	-1.830*	-2.195*	-1.611 ^{\$}	-1.485 ^{\$}
	<i>sign Z</i>	-1.070	-0.685	-2.227*	-1.456 ^{\$}	-0.685	-0.685	-1.456 ^{\$}
Group 3	<i>t-stat</i>	0.718	-0.268	-1.536 ^{\$}	-0.330	-0.691	-1.424 ^{\$}	-0.680
	<i>sign Z</i>	2.149*	0.732	-0.685	0.732	0.260	-0.685	0.732
Group 4	<i>t-stat</i>	-1.512 ^{\$}	-3.185***	-4.718***	-4.044***	-1.052	-1.107	-0.978
	<i>sign Z</i>	-2.025*	-0.761	-3.289***	-2.530**	-2.278*	-0.761	-1.266
G1 v G2	<i>t-stat</i>	-1.442 ^{\$}	-1.732*	-1.549 ^{\$}	-1.580 ^{\$}	-2.056*	-1.460 ^{\$}	-1.996*
G1 v G3	<i>t-stat</i>	-1.298 ^{\$}	-1.534 ^{\$}	-1.302 ^{\$}	-1.794*	-2.115*	-0.806	-1.760*

Note:

1. Group 1 events represent those publicly-traded insurer downgrades that have Best's press release news with suspected Best's private information and/or opinion. Group 2 downgrades are mainly caused by certain public information, or have no suspected Best's private information identified from Best's press release news. Both Group 1 and 2 downgrades are related to deterioration of firm's fundamental performance, earnings and/or financial prospects. Group 3 downgrades are mainly caused by increased firm risk due to managerial decisions, such as increased financial leverage, new product launching, business expansion, increased investment or asset risk, aggressive pricing, increased business concentration, and acquisitions or spin-offs. Group 4 downgrades have no identified Best press release news.

2. The *t-stat* is the cross-sectional standard deviation test described on page 86 of Cowan's Eventus 8.0 User Guide. Specifically, *t-stat* during the event window ($T1, T2$) equals to the mean of the cumulative abnormal return $CAR(T1, T2)$ divided by the standard deviation of the sample mean of $CAR(T1, T2)$. Eventus also reports the number of securities with positive and negative cumulative abnormal returns, and *sign Z* statistic represents the significance level of a generalized sign test, as described on page 88 of the Eventus 8.0 User Guide. The symbols \$, *, **, and *** denote statistical significance at the 0.10, 0.05, 0.01 and 0.001 levels respectively, using a generic one-tail test.

Figure 3: Cumulative Average Abnormal Returns for Different Downgrades with Identified A.M. Best Press Release News During (-10, +10) Days Surrounding the Downgrade Events



Note:

Group 1 events represent those publicly-traded insurer downgrades that have Best's press release news with suspected Best's private information and/or opinion. Group 2 downgrades are mainly caused by certain public information, or have no suspected Best's private information identified from Best's press release news. Both Group 1 and 2 downgrades are related to deterioration of firm's fundamental performance, earnings and/or financial prospects. Group 3 downgrades are mainly caused by increased firm risk due to managerial decisions, such as increased financial leverage, new product launching, business expansion, increased investment or asset risk, aggressive pricing, increased business concentration, and acquisitions or spin-offs.