

Common Stock Response to False Signals from CreditWatch Placement

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Abstract

Placement of a fixed income security on Standard & Poor's CreditWatch list indicates that the issue is being reviewed for possible rerating. This study examines the stock price response to false signals--positive and negative placements on CreditWatch that are not followed by a rating change of the indicated direction. The CreditWatch list provides information, but it may be misleading information. There is a negative response at the time of placement for firms placed for negative reasons when the rating is affirmed, but there is no response at the time of placement for negative reasons that are followed by a lowering of the rating. There is not a statistically significant response for positive placements or at the time of removal from the CreditWatch list for any of the subsamples.

Introduction

In response to criticism that changes in bond ratings do not provide timely information to the market, Standard & Poor's initiated the CreditWatch list in November 1981. Listing of a bond or other fixed income security on CreditWatch indicates that the security's rating is under review and warns of a probable future change in its rating. At the time of placement on the CreditWatch list, Standard & Poor's indicates that placement is for negative reasons, indicating that a downgrade of the rating is likely; for positive reasons, indicating that an upgrade of the security rating is likely; or for developing reasons, signifying that the issue is under review, but that the impact on the

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security's rating is unclear. An issue is removed from the CreditWatch list when the rerating process is concluded. At that time, the security's rating may be lowered, raised, or affirmed. On average, the securities in this study were on the CreditWatch list for about 18 weeks.

It is not uncommon for Standard & Poor's to rerate fixed income securities without placing the security on CreditWatch. (See Wansley and Clauretie [12] for more details.) And although the most likely outcome following a negative or positive placement on CreditWatch is that the security's rating will be changed in the predicted direction, there is either no change in the rating (the rating is affirmed) or (infrequently) the rating is changed in the opposite direction in 35 percent of the cases. Table 1 summarizes the relationship between the reason for placement on CreditWatch and the rerating outcome. When the outcome at the time of removal from the CreditWatch list is other than the predicted change at placement, this article refers to the placement as a *false signal* from Standard & Poor's.

There are two views of how rating agencies obtain information about default risk and the value of their opinions to investors. One view, supported by Zonana and Hertzberg [15] and Kaplan and Urwitz [9], is that rating agencies have access only to public information, and the agencies generally lag the market in processing that information. According to this view, announcements by bond raters that a bond's rating has been changed or is under review should not affect security prices if capital markets are efficient in the semi-strong form. Advocates of this view argue that the agencies do not monitor firms closely and that many rating changes occur only when an agency reviews its rating of a company pursuant to a new debt issue.

An alternative view is that rating agencies are information specialists that obtain information not in the public domain. Information acquisition is costly; therefore, if rating agencies are the lowest cost providers, rating changes may affect security prices. Ederington and Yawitz [4] indicate that the collection of information on credit quality is characterized by economies of scale and that rating agencies are the low cost providers of such information. Danos, Holt, and Imhoff [2] conclude that bond raters possess expert judgment and are specialists at processing information related to a firm's financial condition. Recent evidence from Holthausen and Leftwich [8] and Wansley, Glascock, and Clauretie [13] shows that stock and bond prices react when a firm's debt issues are downgraded, an indication that investors attach significance to the ratings.

The objective of this article is to examine the returns to common stockholders on a daily basis around two events: the date of placement on and the date of removal from the CreditWatch list, particularly for those securities for which the action upon removal from CreditWatch is not consistent with the signal given at the time of placement. In other words, the emphasis in this

study is on those cases in which placement for positive or negative reasons is not followed by a change of rating in the predicted direction. These cases, as noted above, represent false signals from Standard & Poor's. If placement on the CreditWatch list is an information event, investors may lower their evaluation of the firm's securities when the placement is for negative reasons and raise their evaluation when the placement is for positive reasons. Furthermore, if negative or positive placement is an information event, then subsequent affirmation of the rating also may be an information event because the anticipated rating change did not occur.

Previous Research

Studies of Bond Rating Changes

Several previous studies examine the effects of bond rating changes on stock prices. The results of Pinches and Singleton [10] indicate that common stock prices anticipate bond rating changes as much as two years prior to the rating change. They conclude that the market fully anticipates rating changes. Griffin and Sanvicente [5] find that there is some market reaction at the time of downgrades, but there is also a tendency for the equity market to anticipate the rerating by responding to the firm's changing financial conditions. Holthausen and Leftwich [8] and Wansley, Glascock, and Clauretie [13] find that downgrades are associated with negative abnormal stock returns. There is little evidence of abnormal performance on announcement of an upgrade.

With regard to the bond market, Weinstein [14] finds that bond prices do not adjust during the period six months prior to or at any time subsequent to a rating change. There is, however, evidence of price changes in the period from 18 to six months prior to the rating change. Hettenhouse and Sartoris [6] find that for downgraded bonds, prices adjust six months in advance of the change in rating. For upgrading, the market did not react to the rating change over the period analyzed. Wansley and Clauretie [12], using monthly data, find that the market appears to anticipate reratings. For downgrades, they suggest the lag is reduced for those firms placed on CreditWatch. Relative bond prices decline up to seven months after the rerating. They find no reaction before or after placement for upgrades.

Studies of CreditWatch

Two previous studies examine the effects of CreditWatch placement (Holthausen and Leftwich [8] and Wansley and Clauretie [12]). Both concern securities whose ratings were changed; this study primarily is concerned with

securities whose ratings were not changed, even though Standard & Poor's indicated that a change in rating was likely by placement on the CreditWatch list.

Holthausen and Leftwich consider CreditWatch placements and removals from November 1981 to December 1983. They report stock price responses to negative and positive placements, both for contaminated and noncontaminated observations, where contamination is said to exist if there is an article in the *Wall Street Journal* during the period from the day before placement until two days following placement that contained information about the firm other than the CreditWatch announcement. They report statistically significant abnormal stock returns of the expected sign (negative returns for negative placements and vice versa) for negative placements, both contaminated and noncontaminated, and for positive placements (noncontaminated only). They do not divide negative or positive placements on the basis of what happened at the time of removal from CreditWatch.

Wansley and Clauretie also evaluate firms placed on CreditWatch between November 1981 and December 1983. They group the data solely on the basis of the outcome at the time the security was removed from CreditWatch. This resulted in three categories of CreditWatch placements: 1. All placements followed by rate reduction; 2. All placements followed by rate increase; and 3. All placements followed by affirmation of rating. They examine the stock price response at placement and at removal for each group. By grouping on the basis of outcome, they combine positive, negative, and developing placements. Wansley and Clauretie report statistically significant stock price responses at the time of placement for groups (1) and (2). Results are not reported for group (3), but they indicate in a footnote that there was no stock response at the time of placement for that group. There was no statistically significant stock price response at the time of removal from CreditWatch for any of the three groups.

The advantages this study offers over Holthausen and Leftwich and Wansley and Clauretie are the longer sample period, correspondingly larger sample size, and a different method of dividing the sample. Of particular interest are those positive and negative placements that are followed by affirmation of the rating.

Data Description

The sample of firms employed in this study are those that had securities placed on the CreditWatch list for positive or negative reasons between November 1981 and December 1985 and for which returns on the company's common stock are available on the Center for Research in Security Prices (CRSP) daily returns file. These criteria provided a sample of 411 companies placed on CreditWatch and 346 companies removed from CreditWatch. The

sample is divided into categories that reflect both the reason for placement and the action of Standard & Poor's at the time of removal from CreditWatch:

1. Negative placement and rating subsequently lowered.
2. Negative placement and rating affirmed.
3. Positive placement and rating subsequently raised.
4. Positive placement and rating affirmed.

Table 1 summarizes the rerating result for the securities included in the sample. Results are reported below for each of the subsamples for both of the events (placement and removal). Groups 2 and 4 represent what has been characterized as false signals. Because placement for developing reasons does not provide an unambiguously positive or negative signal, it cannot be considered to be a false signal, no matter what the outcome. Therefore, placements for developing reasons are not considered. Also, there were too few instances in which an issue was placed for negative reasons and the security's rating was upgraded to permit meaningful analysis.

Methodology

To estimate the abnormal response associated with the announcement of CreditWatch placement and removal, standard event study methodology (as surveyed by Brown and Warner [1]) was employed, using the market model approach to characterize stock returns. With the market model, realized daily returns are represented by the following:

$$(1) R_{it} = a_i + B_i R_{mt} + e_{it}$$

where

R_{it} = the rate of return on security i over time t

R_{mt} = the rate of return on the value-weighted market index from the CRSP tape for period t

a_i = the intercept of the linear relationship for security i that is given by $E[R_i] - B_i E[R_m]$

B_i = the slope of the linear relationship between security i and the return on the market index

e_{it} = the unsystematic component of the returns for security i for day t

The error term e_{it} can be considered a measure of the abnormal returns of security i on day t , as it represents the deviation of security i 's return on day t

from its expected return, conditional upon the realized return on the market portfolio. The expected return for security i at time t given the realized market return is given by the following:

$$(2) \hat{R}_{it} = \hat{a}_i + \hat{B}_i R_{mt}$$

where $\hat{a}$ and $\hat{B}$ are the OLS estimates of a and B obtained from pre-event data. These estimators are obtained using 200 daily returns from day -261 to day -61. The time horizon of the announcement period is from day -60 to day +60.

The cumulative prediction error (CPE) technique is used to detect abnormal performance, which is described in detail by Hite and Owers [7]. The prediction error (PE) for security i on event day t is given by the following equation:

$$(3) PE_{it} = R_{it} - (\hat{a}_i + \hat{B}_i R_{mt})$$

The daily prediction is computed for each security for the period from 60 days prior to the event to 60 days following the event day, where the event day is the publication date of the *CreditWeek* issue in which the company's security was placed on or removed from the CreditWatch list. The cumulative prediction error (CPE) from one event day T_{1i} to another event day T_{2i} is defined as:

$$(4) CPE = \sum_{t=T_{1i}}^{T_{2i}} PE_{it}$$

The prediction errors are accumulated over different intervals, where T_{1i} and T_{2i} in equation (4) are counters for the desired interval statistics. The mean cumulative prediction error ($\bar{CPE}$) for N securities in the sample is:

$$(5) (\bar{CPE}) = (1/N) \sum_{i=1}^N CPE_i$$

The mean cumulative prediction error has an expected value of zero in the absence of any abnormal performance. To test for significance of the prediction error, the mean standardized cumulative prediction error was used as a test statistic, as described by Dodd and Warner [3]. To compute this statistic, the prediction error PE_{it} is standardized by its estimated standard deviation s_{it} , which is estimated daily over the sample period. The test statistic is:

$$(6) \text{ SPE}_{it} = [\text{PE}_{it}/s_{it}]$$

where SPE is the standardized prediction error. The mean of the standardized cumulative prediction error ($\bar{\text{S}\bar{\text{C}}\bar{\text{P}}\bar{\text{E}}_i$) over the interval $t = T_{1i}, \dots, T_{2i}$ is:

$$(7) \bar{\text{S}\bar{\text{C}}\bar{\text{P}}\bar{\text{E}}} = \sum_{t=T_{1i}}^{T_{2i}} \text{SPE}_{it} / \sqrt{T_{2i} - T_{1i} + 1}$$

where:

$(T_{2i}-T_{1i}+1)$ = the number of days in the test interval.

The test statistic for a sample of N securities is:

$$(8) Z = \sum_{i=1}^N \bar{\text{S}\bar{\text{C}}\bar{\text{P}}\bar{\text{E}}}_i / \sqrt{N}$$

Each SPE_{it} is assumed to be distributed unit normal in the absence of abnormal performance. Under this assumption, Z also is distributed unit normal.

Results

The empirical results are presented according to the four way classification described above: negative placements on the CreditWatch list that are followed by lowering of the security's rating upon removal from CreditWatch in Table 2; negative placements that are followed by affirmation of the security's rating upon removal in Table 3; positive placements that are followed by an increase in the security's rating in Table 4; and positive placements that are followed by affirmation of the security's rating in Table 5. Tables 2 and 4 represent the cases in which the predicted change in security rating occurred, while Tables 3 and 5 reflect false signals from Standard & Poor's at the time of placement (the predicted change in rating did not occur). Each table presents the daily prediction errors (PEs) and associated Z statistics and the cumulative prediction errors (CPEs) for the placement date on the CreditWatch list on the left side of the table and for the removal date on the right side of the table. The CPE shown at the bottom of each table for the two day event period from day -1 to day 0

represents the stock price response to either placement on or removal from CreditWatch. Day -1 is included in the event period because in many cases Standard & Poor's announces placement on or removal from CreditWatch on Friday before *Credit Week* is published. (*Credit Week* is published on Mondays.)

Tables 2 and 3 divide the sample of firms placed for negative reasons into two groups based on whether the rating subsequently is lowered (Table 2) or is affirmed (Table 3) upon removal from the CreditWatch list. Table 1 shows that negative placement was followed by a reduction in the rating only 62 percent of the time.

For negative placements that were followed by a downgrade in rating (Table 2), the cumulative prediction error (CPE) was positive and statistically significant for the period from day -60 to day -2 prior to placement and for the period from day +2 to day +60 following placement. The CPE for days -1 to day 0 was not significant. The results surrounding the removal date of firms whose securities were downgraded show a significant CPE only for the period following removal, and the CPE is positive in that case.

The results shown in Table 2 appear to be inconsistent with those reported by Holthausen and Leftwich for negative placements on CreditWatch. Holthausen and Leftwich's results, however, are based on a postevent estimation period from day +61 to +360. They report a CPE of -6.8 percent for days -300 to -61, which represents a monthly negative return of 0.85 percent during that period. For the period from -60 to -1, they report a CPE of -1.0 percent, or a monthly negative return of 0.5 percent. In Holthausen and Leftwich's study, the returns for the two months immediately prior to day 0 were higher (by 0.35 percent per month) than the returns for the eight months prior to that.

In this study, the estimation period is from day -261 to day -61. If returns during that period were more depressed than during the two months prior to placement, it will affect the reported CPEs that are cumulated over extended periods of time. As Holthausen and Leftwich state, the choice of estimation period will have only a minor impact on the daily PEs or on CPEs for a period of time as short as two days. As noted, the primary interest is on the two day announcement window. Although the choice of estimation periods will not affect the conclusions, it will affect comparisons with Holthausen and Leftwich's results of CPEs over longer periods of time. When the difference in estimation periods between Holthausen and Leftwich's study and the present study are considered, the results are not inconsistent.

For negative placement followed by affirmation of the rating, the results are shown in Table 3. The CPE prior to placement is positive and statistically significant, the CPE at placement is negative and significant, and the CPE for the period following placement is positive but not significant. The CPE prior

to removal is positive but not significant at the 95 percent level. Returns at the time of and following the removal date when the rating is affirmed are positive but not significant.

The results shown in Tables 2 and 3 indicate that there is no response at the time of placement for negative reasons when that placement is followed by a rating reduction. There is a negative reaction in the equity market, however, to the false signal of those securities placed on the CreditWatch list for negative reasons when that placement is not followed by a reduction in the rating.

As summarized at the bottom of Table 4, the CPEs prior to, at the time of, and following either placement or removal are all nonsignificant for the sample of firms placed for positive reasons whose securities subsequently were upgraded in rating. There is no response in the equity market to placement for positive reasons that are followed by an increase in the rating. For positive placements followed by affirmation of the rating (Table 5) there are positive CPEs prior to and at the time of placement, but they are not significant at the 95 percent level. The other CPEs are also not significant. There are no statistically significant stock price responses associated with positive placements, either at the time of placement or at rerating, whether or not the rating subsequently is increased.

Conclusions

This article reports the common stock price response to the placement and removal of a firm's fixed income securities on Standard & Poor's CreditWatch list. The results indicate that placement on the CreditWatch list provides information to the market, but it may be spurious information. There is a negative stock price response to negative placements that are followed by rating affirmation, but no response at the time of placement for firms placed for negative reasons with a subsequent lowering of the rating. There is no stock price response to positive placements, whether or not the rating subsequently is increased.

Based on these results, it appears that CreditWatch may be giving some false signals to the securities markets. The only CreditWatch placements that cause a market response are negative placements that later are found to be false.

Consistent with the results of Holthausen and Leftwich [8] and Wansley and Clauretie [12], there was not a statistically significant response at the time of removal from the CreditWatch list for any of the various subgroups. This indicates that removal from the CreditWatch list does not represent an information event for the equity market.

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Table 1
Standard & Poor's CreditWatch Placements and Rerating Results*
Rerating Result

Reason for Placement:	Rating Reduced	Rating Affirmed	Rating Increased	Total
Negative	166	102	5	273
Positive	2	21	50	73
Total	168	123	55	346

*Securities both placed on CreditWatch and rerated during the sample period of November 1981 to December 1985. Includes only the securities of those companies whose common stock is in the CRSP data file

Table 2
Companies Placed for Negative Reasons With Ratings Subsequently Lowered

Day	N	Placement Date		Z	N	Removal Date		Z
		PE	CPE			PE	CPE	
-60	187	0.026	0.026	0.795	166	0.157	0.157	0.905
-50	187	0.025	0.114	-0.194	166	-0.109	-0.110	-1.477
-40	187	-0.042	-0.858	-0.786	164	-0.072	-0.377	-1.345
-30	187	0.003	-0.311	0.444	162	-0.111	-0.113	-0.822
-20	187	-0.182	-0.157	-0.624	161	0.047	-0.679	0.358
-10	187	-0.177	-0.268	-0.998	160	-0.103	0.505	-0.739
-9	187	-0.058	-0.326	-0.887	160	-0.212	0.293	-1.454
-8	185	0.412	0.086	3.621	159	0.177	0.470	1.905
-7	187	-0.052	0.034	-0.356	159	-0.417	0.053	-1.452
-6	187	-0.072	-0.038	0.678	159	-0.030	0.023	0.843
-5	185	0.295	0.257	2.821	157	-0.100	-0.077	-0.255
-4	184	0.751	1.007	5.114	157	-0.081	-0.157	-0.286
-3	187	0.060	1.067	1.745	157	0.044	-0.113	-0.641
-2	187	0.307	1.374	1.488	156	0.285	0.172	1.204
-1	185	-0.226	1.148	-1.401	155	-0.185	-0.013	-0.778
0	185	0.026	1.174	-0.311	154	-0.055	-0.068	-0.984
+1	186	-0.048	1.126	-0.382	153	-0.092	-0.161	-0.974
+2	186	0.011	1.137	-0.030	153	0.165	0.005	0.470
+3	187	0.408	1.545	3.473	153	0.497	0.502	2.430
+4	186	0.177	1.722	0.461	153	-0.262	0.240	-0.122
+5	187	0.114	1.837	-0.690	153	-0.306	-0.066	-1.052
+6	187	0.141	1.978	1.393	151	0.308	-0.242	1.485

Table 2
(continued)

+7	187	0.205	2.183	1.136	151	0.118	0.360	1.590
+8	187	0.353	2.536	2.566	151	0.043	0.403	-0.036
+9	187	0.222	2.758	0.935	150	-0.076	0.327	-0.057
+10	187	0.605	3.363	4.220	150	-0.236	0.091	-0.799
+20	186	0.161	3.239	1.660	149	0.136	0.744	0.823
+30	183	-0.077	3.773	0.037	142	0.122	1.871	0.369
+40	180	-0.131	4.382	-1.996	138	0.065	2.045	0.133
+50	178	-0.020	5.525	0.817	137	-0.096	2.785	-0.078
+60	176	-0.229	5.099	-1.999	134	0.168	3.299	0.497

Summary of Results: Cumulative Prediction Errors for Various Intervals
(Z-statistic in parentheses)

Announcement	Sample Size	CPE t-60 thru t-2	CPE t-1 thru t-0	CPE t+2 thru t+60
Placement	187	1.374 (2.264)	-0.200 (-1.211)	3.962 (3.710)
Removal	166	0.172 (0.637)	-0.240 (-1.246)	3.294 (3.137)

Table 3
Companies Placed for Negative Reasons With Ratings Subsequently Affirmed

Day	N	Placement Date		Z	N	Removal Date		Z
		PE	CPE			PE	CPE	
-60	116	-0.138	-0.138	-0.553	101	0.214	0.214	1.553
-50	116	0.390	-0.886	1.856	101	0.184	0.485	1.346
-40	116	-0.004	-0.820	-0.092	101	0.295	1.188	0.580
-30	116	0.195	-0.230	1.287	101	0.573	1.591	4.192
-20	116	0.339	0.335	1.695	100	-0.456	2.020	-4.000
-10	116	0.105	1.097	0.846	100	-0.237	1.895	-1.331
-9	116	-0.164	0.933	-0.900	100	0.006	1.901	0.611
-8	116	0.135	1.067	0.923	100	0.036	1.937	0.111
-7	115	0.401	1.468	2.509	100	-0.022	1.915	-0.170
-6	113	0.249	1.716	1.683	100	0.192	2.107	0.480
-5	116	1.642	3.358	8.530	100	-0.078	2.029	-0.222
-4	116	0.122	3.480	2.730	100	-0.102	1.927	-0.700
-3	115	0.571	4.051	2.944	100	-0.077	1.850	-0.093
-2	115	-0.178	3.873	-1.927	100	-0.069	1.781	-0.360
-1	115	-0.295	3.578	-1.400	100	0.087	1.868	0.233
0	116	-0.428	3.150	-3.327	98	0.091	1.958	1.321
+1	116	0.201	3.350	0.553	98	-0.069	1.889	0.040
+2	116	-0.128	3.222	-1.002	98	0.098	1.988	0.531
+3	116	0.285	3.508	2.700	98	0.125	2.113	0.580
+4	116	-0.034	3.474	-0.162	98	0.296	2.409	1.882
+5	116	0.138	3.611	1.300	98	0.081	2.489	0.611
+6	116	-0.001	3.610	-0.300	98	-0.191	2.299	-0.921

Table 3
(continued)

+7	116	0.186	3.797	1.150	98	0.033	2.331	0.205
+8	116	0.009	3.806	0.651	98	0.196	2.528	1.100
+9	116	0.001	3.807	-0.302	98	0.047	2.575	0.080
+10	113	0.197	4.003	1.600	98	-0.062	2.513	-0.781
+20	116	-0.100	4.315	-0.102	97	0.163	2.466	1.533
+30	114	0.108	4.905	0.763	95	-0.085	3.528	-1.326
+40	114	-0.143	5.242	-0.690	91	-0.041	3.467	0.170
+50	112	-0.112	5.189	-1.316	91	-0.013	3.439	-0.120
+60	110	-0.189	4.519	-0.790	87	-0.077	3.901	-0.440

Summary of Results: Cumulative Prediction Errors for Various Intervals
(Z-statistic in parentheses)

Announcement	Sample Size	CPE t-60 thru t-2	CPE t-1 thru t-0	CPE t+2 thru t+60
Placement	116	3.873 (3.119)	-0.723 (-3.335)	1.169 (1.042)
Removal	102	1.781 (1.857)	0.178 (1.099)	2.012 (1.559)

Table 4
Companies Placed for Positive Reasons With Ratings Subsequently Increased

Day	N	Placement Date		Z	N	Removal Date		Z
		PE	CPE			PE	CPE	
-60	54	-0.033	-0.033	-0.279	50	-0.051	-0.051	-0.830
-50	54	-0.273	-0.013	-1.244	50	-0.047	-0.330	0.181
-40	54	0.083	-1.062	0.472	49	-0.586	-0.634	-3.240
-30	54	-0.327	-2.632	-1.511	48	0.068	0.745	0.173
-20	54	0.004	-2.166	-0.128	48	-0.155	1.299	-0.415
-10	54	0.933	1.314	3.781	48	0.444	1.551	1.500
-9	54	0.368	-0.946	2.291	47	-0.592	0.959	-2.400
-8	54	-0.617	-1.617	-3.085	46	0.068	1.027	0.370
-7	54	1.062	-0.555	4.898	46	-0.088	0.939	-0.620
-6	53	1.261	0.706	5.783	46	-0.190	0.749	-0.760
-5	52	-0.084	0.622	-0.818	46	0.191	0.940	0.970
-4	54	-0.646	-0.024	-3.198	46	0.034	0.974	-0.201
-3	54	0.022	-0.002	-0.083	46	-0.234	0.740	-0.615
-2	54	-0.174	-0.176	-0.824	46	-0.062	0.678	-0.230
-1	54	-0.084	-0.260	-0.138	46	0.278	0.956	0.922
0	54	0.157	-0.103	1.116	46	-0.231	0.725	-0.840
+1	54	-0.344	-0.446	-1.119	46	0.012	0.737	-0.200
+2	54	0.760	0.313	3.357	46	0.307	1.044	1.300
+3	54	0.123	0.436	0.215	46	0.201	1.245	0.400
+4	54	0.057	0.494	-0.081	46	-0.264	0.981	-0.830
+5	54	0.643	1.137	2.241	46	-0.128	0.853	-0.613
+6	53	-0.132	1.005	-0.182	46	0.129	0.982	0.600

Table 4
(continued)

+7	54	-0.576	0.429	-2.160	46	0.929	1.911	3.540
+8	54	0.117	0.545	0.823	46	0.002	1.914	0.100
+9	54	-0.016	0.529	0.102	45	-0.217	1.696	-0.460
+10	54	-0.298	0.231	-1.012	44	0.233	1.929	1.024
+20	53	-0.139	-0.604	-0.490	44	-0.332	0.747	-1.600
+30	53	-0.216	-1.542	-0.950	42	-0.029	1.582	-0.320
+40	53	0.051	0.402	0.559	42	-0.168	1.678	-0.580
+50	51	-0.036	-0.352	0.684	38	0.183	1.363	0.520
+60	46	-0.193	-1.551	-0.603	36	-0.393	0.416	-1.810

Summary of Results: Cumulative Prediction Errors for Various Intervals
(Z-statistic in parentheses)

Announcement	Sample Size	CPE t-60 thru t-2	CPE t-1 thru t-0	CPE t+2 thru t+60
Placement	54	-0.176 (-0.787)	0.073 (0.692)	-1.105 (-0.138)
Removal	50	0.678 (-0.203)	0.047 (0.058)	-0.321 (-1.174)

Table 5
Companies Placed for Positive Reasons With Ratings Subsequently Affirmed

Day	N	Placement Date		Z	N	Removal Date		Z
		PE	CPE			PE	CPE	
-60	24	-0.384	-0.384	0.874	21	-0.764	-0.764	-1.338
-50	24	0.095	2.402	-0.596	21	-0.102	-0.330	-0.013
-40	24	-0.204	0.807	-0.318	21	0.205	0.527	1.023
-30	24	0.010	1.027	-0.082	21	-1.712	-0.992	-2.451
-20	23	0.173	1.525	-0.318	21	-0.571	-3.540	-1.266
-10	23	-0.929	3.953	-2.335	21	0.681	-2.955	1.284
-9	23	0.331	4.285	0.685	21	-0.321	-3.276	-0.791
-8	23	0.100	4.384	-0.316	21	-0.001	-3.277	-0.028
-7	23	0.523	4.907	1.448	21	0.114	-3.163	0.266
-6	23	1.163	6.071	2.887	21	-0.690	-3.852	-1.363
-5	23	0.500	6.591	0.966	21	-0.426	-4.278	-1.421
-4	23	-0.394	6.178	-1.509	21	-0.028	-4.306	-0.068
-3	23	0.632	6.810	1.631	21	-0.217	-4.523	-0.612
-2	23	0.103	6.912	0.075	21	0.190	-4.333	0.582
-1	23	1.597	8.510	2.388	21	-1.259	-5.592	-2.742
0	23	0.053	8.563	-0.116	21	0.444	-5.148	1.608
+1	23	-0.419	8.144	-1.129	20	-0.044	-5.192	-0.133
+2	23	-0.551	7.593	-1.054	20	-0.360	-5.553	-0.916
+3	23	-0.327	7.266	-1.073	20	0.085	-4.747	1.572
+4	23	0.053	7.319	0.089	20	-0.381	-5.135	-0.922
+5	23	-0.212	7.107	-0.302	20	0.253	4.882	0.786
+6	23	0.391	7.498	0.942	20	-0.534	-5.417	-0.826

Table 5
(continued)

+7	23	0.126	7.624	0.130	20	0.063	-5.354	0.182
+8	23	-0.249	7.575	-0.778	20	-0.338	-5.692	-0.661
+9	23	-0.233	7.142	-0.715	20	-0.316	-6.008	-0.539
+10	23	-0.664	6.478	-1.883	20	-0.660	-6.668	-1.300
+20	23	-0.870	3.909	-2.320	20	-0.280	-7.560	-0.706
+30	23	0.237	5.578	0.627	20	0.107	-10.239	0.337
+40	23	-0.440	5.273	-0.872	20	0.212	-9.224	0.462
+50	23	-1.004	4.524	-2.299	19	-0.656	-9.997	-2.525
+60	22	-1.240	3.755	-2.650	19	-0.689	-10.168	-1.394

Summary of Results: Cumulative Prediction Errors for Various Intervals
(Z-statistic in parentheses)

Announcement	Sample Size	CPE t-60 thru t-2	CPE t-1 thru t-0	CPE t+2 thru t+60
Placement	24	6.912 (1.711)	1.650 (1.607)	-4.389 (-1.333)
Removal	21	-4.333 (1.193)	-0.815 (-0.802)	-4.976 (-1.293)

