

The Impact of Morningstar Five-Star Stock Ratings

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Abstract

We examine the behavior of stocks whose ratings by Morningstar are up-graded to the highest Five Star category. Our findings show that these up-grades follow a period of poor performance, are met with significant negative responses, and seem to foretell slightly improved performance relative to the pre-up-grade period. Additionally, trading volume is markedly higher at Morningstar's announcement.

I. Introduction

Morningstar is a well known investment information service, probably most famous for its ratings of mutual funds. Previous studies by Blake and Morey [2000] and Del Guercio and Tkac [2007] have shown that Morningstar's mutual fund ratings have some power to predict the underperformance of low-rated funds and have an impact on fund flows, respectively. Although the method Morningstar uses to rate funds or equities is a bit of a puzzle [Blume 1998], the concern of this paper is the effect of Morningstar's rating of individual firm's equities, specifically their Five Star rating that is purported to indicate good value relative to the share price.

Each day subscribers to Morningstar.com receive an email announcing stocks that are newly-qualified for the investment information service's Five Star Rating. According to Morningstar: *"This daily update lists the tickers of the stocks that became 5-star investments according to Morningstar as of the last market close. A stock is awarded 5 stars when its price hits what Morningstar deems is a "Consider Buying" level."*

II. Data

To gauge the impact of Morningstar's following among investors; we conducted an event study to determine whether the Five Star classification leads to increased demand sufficient to be reflected in the stock's price and whether there appears to be any economic value to the recommendations. Data for Morningstar's Five Star Rating service were collected from email alerts received from October 2007 through May 2008. A total of 924 firm-announcements were identified. It was observed that sometimes the ratings alerts included firms multiple times within a short span of time. This seems to indicate that there is no specific period of time a five-star rating lasts. Multiple occurrences in the data indicate that the rating for these had fallen from the five-star level and risen again.

Dates reflect periods in relation to the arrival of the Morningstar email, thus $t=0$ is the day of the email arrival (in early morning). Abnormal returns are calculated in two ways: as market-adjusted returns, using the S&P 500 Index as the market proxy and as risk-adjusted returns utilizing betas estimated over 255-trading days period prior to a 60-day window around the announcement. Calculations using the CRSP value-weighted index as a market-proxy led to

the same conclusions as those using the S&P 500 Index, and are not repeated here. Interestingly, the announcement abnormal return's Z-score is significantly negative, as are the Z-scores of the prior day's price decreases. It appears that Morningstar's ratings may be triggered, at least in part, by a recent price decline. There appears to be some weak evidence of a market reaction to the announcement as 2-day cumulative market-adjusted returns for the days $t=0$ and $t=+1$ appear to dampen the negative trend prior to the announcement.

III. Results

Table I includes results for 924 firm-announcements spanning the period from October 2007 through May 2008.

Calculations for the range's of [0,30] and [0,60], shown in Table I, demonstrate that over the thirty and sixty day periods after the Five Star recommendation, the subject firms' shares significantly under-perform the market on a market-adjusted basis and perform about as expected on a risk-adjusted basis. Thus, there appears little predictive value in the Morningstar ratings.

The strongest evidence of a Morningstar-effect is presented in Table II. Here we have calculated trading volume for the recommended firms and test whether there is a significant difference in volume on the announcement date versus that average daily volume over various periods prior to the event. As the table makes clear, regardless of the length of the sample used to estimate 'normal' volume, Morningstar's email leads to a significant increase in activity with z-scores consistently exceeding 4.0

IV. Conclusions

Our findings are interesting in at least two respects. First, it is apparent that Morningstar's recommendations are, at least in part, triggered by a period of under-performance relative to the market. As a triggering event, this underperformance would fall within the realm of technical analysis, a much-maligned stock selection technique. Consistent with the academic skepticism surrounding technical analysis, we find little evidence of Morningstar's ability to forecast superior performance using their Five Star selection system. It is also possible that Morningstar is simply using some sort of book-to-market criterion. The second contribution of our study is the statistically discernable impact that Morningstar's announcement has on the volume of trading. It is clear that someone is listening and acting on the advisory service's advice, yet judging by the stock's performance, any increase in demand motivated by the ratings up-grade, is more than equaled by the willingness of the shares' holders to sell. Thus, we observe no up-tick in performance despite the higher volume.

Table I: Z-scores for Abnormal Returns of 924 firms Around Morningstar's Five Star Upgrade Date

| | $AR = R_{stock} - R_{market}$ | $AR = R_{stock} - R_{market}$ | $AR = R_{stock} - R_{market}$ | $AR = R_{stock} - R_{market}$ |
|-----------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| | Z-Statistic | Z-Statistic | Returns | Returns |
| [-15,+0] | -4.4796 | -0.1514 | -12.30% | -2.78% |
| [-10,+0] | -4.9171 | -0.1457 | -9.93% | -1.86% |
| [-5,+0] | -7.3100 | -0.8264 | -7.21% | -3.29% |
| [-4,+0] | -7.1001 | -0.4570 | -6.57% | -1.64% |
| [-3,+0] | -7.1875 | 0.5887 | -6.01% | 4.92% |
| [-2,+0] | -6.8792 | 0.7464 | -5.73% | 5.73% |
| [-1,+0] | -8.3298 | -0.5288 | -4.57% | -2.03% |
| [-0,+0] | -6.0119 | 0.7593 | -1.96% | 3.35% |
| [+0,+1] | -4.6914 | 1.1123 | -2.39% | 5.10% |
| [0,+2] | -4.8502 | 1.2400 | -2.77% | 12.04% |
| [0,+3] | -4.2020 | 0.8031 | -3.31% | 4.95% |
| [0,+4] | -3.6277 | 0.9449 | -3.82% | 9.63% |
| [0,+5] | -3.2294 | 0.6964 | -4.33% | 4.73% |
| [0,+10] | -2.9032 | -1.2782 | -7.20% | -5.41% |
| [0,+15] | -2.5327 | 0.1326 | -7.36% | 1.65% |
| [-1,+1] | -7.4613 | -0.0874 | -4.99% | -0.27% |
| [-2,+2] | -6.2369 | 1.0015 | -6.53% | 14.42% |
| [3,+3] | -5.5130 | 0.6225 | -7.36% | 6.52% |
| [-4,+4] | -5.0304 | 0.4504 | -8.43% | 4.64% |
| [-5,+5] | -4.8550 | -0.3010 | -9.58% | -1.92% |
| [-10,+10] | -3.6647 | -1.1758 | -15.17% | -10.62% |
| [-15,+15] | -3.3660 | -0.4118 | -17.70% | -4.48% |
| [-20,+20] | -3.1207 | -0.2348 | -21.93% | -3.28% |
| [-30,+30] | -2.8940 | 0.5577 | -28.79% | 18.29% |
| [0,+30] | -2.2604 | 0.6476 | -11.73% | 13.64% |
| [0,+60] | -2.3013 | 0.6720 | -23.40% | 23.66% |

Note: [a,b] indicates the abnormal returns calculated for a period of “a” and “b” days before(after) the Morningstar five-star up-grade date. Z-scores were calculated using S&P 500 Index as a proxy for the market. The Z-values presented are all significant at 5%.

Table II: Z-scores for Abnormal Trading Volume for 924 firms Around Morningstar’s Five Star Up-Grade Date

| | 30-day | 20-day | 10-day | 30-day | 20-day | 10-day |
|-----|-------------|-------------|-------------|--------|--------|--------|
| Day | Z Statistic | Z Statistic | Z Statistic | Volume | Volume | Volume |
| 5 | 2.5437 | 2.2904 | 1.4896 | 282315 | 255631 | 190899 |
| 4 | 2.8724 | 2.8984 | 2.4902 | 386962 | 360279 | 295547 |
| 3 | 3.8513 | 3.6042 | 2.6211 | 365761 | 339077 | 274345 |
| 2 | 4.5243 | 4.6818 | 4.5719 | 616683 | 590000 | 525267 |
| 1 | 4.9297 | 5.0029 | 4.5925 | 706003 | 679320 | 614587 |
| 0 | 4.9035 | 5.0635 | 5.0029 | 746623 | 719940 | 655207 |
| -1 | 3.3144 | 3.2399 | 2.9570 | 732910 | 706227 | 641494 |
| -2 | 1.3878 | 1.3475 | 1.1989 | 345988 | 319305 | 254572 |
| -3 | 1.6351 | 1.4551 | 0.9382 | 206188 | 179504 | 114772 |
| -4 | 1.2018 | 0.9971 | 0.4950 | 158324 | 131641 | 66908 |
| -5 | 0.4857 | 0.3009 | -0.1034 | 74475 | 47791 | 16941 |

Note: The abnormal trading volumes were calculated using Fixed Averages using 30, 20, and 10-day windows using an offset of -5 days around the Morningstar five-star up-grade date. Results using Moving-averages with a -1 day offset show similar results and are not repeated here. The Z statistics for days 5 to -1 are significant at 1%, and days -2 to -3 at 10%.

Reference

- Blake, Christopher R. and Matthew R. Morey, "Morningstar Ratings and Mutual Fund Performance," *Journal of Financial and Quantitative Analysis*, Vol. 35 No. 3. September, 2000.
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