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Analyst Ratings for Firms Filing and Reorganizing Under Chapter 11

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Abstract

Purpose – The purpose of this paper is to examine analyst followings of firms starting from one year prior to their filing for Chapter 11 and as the firms progress through bankruptcy proceedings with a focus on firms receiving "Hold" or better recommendations. We attempt to answer questions such as (1) What are the common characteristics of the firms receiving stronger than expected recommendations one year prior to filing for bankruptcy reorganization or while in bankruptcy? (2) How does the market react to the issuance of stronger ratings for those firms?

Design/methodology/approach – We design various regressions and apply them to a total of 2,754 sell-side analyst recommendations and 325 firms that are either approaching bankruptcy filing or in the process of reorganizing. In each analysis we control for several firm and performance characteristics.

Findings – We find that the probability of securing stronger ratings is higher for small firms and for those followed by a greater number of analysts than for large firms and firms followed by fewer analysts. The market becomes more skeptical of optimistic evaluations the closer to the date of bankruptcy filing (perhaps reflecting some anticipation) and reacts more positively to rating upgrades issued during bankruptcy protection than to the upgrades issued prior to bankruptcy filing.

Research limitations/implications – Our conclusions are based on analysis of analyst recommendations issued shortly before Chapter 11 filings and during bankruptcy proceedings. The conclusions could be strengthened by further analysis of firms' post-bankruptcy recovery and performance and examination of analyst recommendations issued for the firms after they emerge from Chapter 11.

Practical implications – More positive than expected analyst security ratings are, perhaps, the result of superior expertise and access to private information. During bankruptcy proceedings, when information disclosure is limited, investors could greatly benefit from reports issued by security analysts.

Originality/value – Our study contributes to the literature in a number of ways. First, we contribute to the literature on the analyst ratings of firms in distress by considering the time period between bankruptcy filing and emergence while the existing literature provides analysis of pre-bankruptcy recommendations and forecasts. Second, we focus on better than expected ratings rather than all types of ratings as the firms approach bankruptcy filings and proceed through reorganization. Finally, we evaluate how investors react to stronger than expected analyst ratings.

Keywords: Analyst rating, Chapter 11 reorganization, corporate bankruptcy, distress.

Analyst Ratings for Firms Filing for and Reorganizing under Chapter 11

I. Introduction

Participants in the financial markets are vitally concerned with the value of analyst research. It may be argued that firms benefit from analyst coverage in many ways (Bradley, Jordan, and Ritter, 2003, Irvine, 2003). Coverage draws investor attention to the firm (Mola, Rau, and Khorana, 2010). Further, many believe that coverage may reduce information asymmetry between investors and firm management and cause stock prices and share trading volumes to increase.

Researchers have studied analyst coverage of firms operating in various stages: from shortly after firms' initial public offerings (IPOs) to the times when firms experience financial distress. For instance, Rajan and Servaes (1997) examine data on analyst following for a sample of IPOs. They find that higher underpricing leads to increased analyst following and that the analysts are overoptimistic about the earnings potential and long term growth prospects of IPOs. Consistent with the conclusions of Rajan and Servaes (1997), Jones and Johnstone (2012) find that analyst recommendations are overly optimistic for the firms approaching bankruptcy. They observe that analysts do not aggressively revise their recommendations downward until the very last month before and immediately after the filings.

In contrast, Clarke et al. (2006) offer a different conclusion as a result of examining a sample of firms that filed for bankruptcy during the period 1995-2001. They review analyst followings during the prepetition time period and find that analysts more aggressively revise downward their assessments for the firms in financial distress. Clarke et al. (2006) fail to find evidence of a positive bias in analyst recommendations. Further, they find that affiliated analysts' recommendations are not influenced by previous relationships between the analyst's employer and the firms.

We examine analyst ratings of firms starting from one year prior to those firms filing Chapter 11 and as they progress through the bankruptcy proceedings with a focus on recommendations in the "Buy-Hold" category[1] issued for these firms. Although a few researchers have analyzed analyst coverage for

[1] The category "Buy-Hold" is defined as the category with mean analyst ratings of 3, Hold, or better.

firms approaching Chapter 11 proceedings (Clarke et al, 2006, Jones and Johnstone, 2012), a controversy still exists as to the direction of changes in analyst rating strength. In addition to contributing to the area of study on analyst reports for firms in financial distress and providing evidence in support of the findings of Jones and Johnstone (2012) who observe the analysts being overoptimistic and continuing to issue better-than-expected recommendations for firms approaching bankruptcy, we also broaden the research scope by analyzing analyst ratings for the firms while they attempt to reorganize and emerge from Chapter 11 protection, an important issue not previously addressed in the literature. Subsequent to a Chapter 11 filing the quantity and quality of financial information issued by and about bankrupt firms may decline. Some of these firms cease to issue audited financial statements, thereby restricting the market's ability to monitor development of the firm's restructuring and widening the information gap between investors and the firm. Weiss and Wruck (1998) cite the lack of credible information as one of the reasons why creditors and investors could miss vital clues about the firm's survival and its struggle to reorganize. Consequently, when disclosures about firm performance are scarce and often unreliable, any additional information, especially when it comes from an independent source such as investment analysts, may be welcomed by investors holding shares of bankrupt firms. In addition, in available research, scholars usually focus on the quality of recommendations and the analysts' predictive ability. We, by examining analyst recommendations of higher ratings issued for the firms in financial distress, attempt to explain the anomaly of this occurrence.

Several firms in our sample with pre-filing analyst coverage retain analyst coverage throughout the entire process of reorganization. An intuition is that if a firm retains the coverage any time during its time in bankruptcy court, its ratings will improve; otherwise what is the point of issuing Underperform and Sell recommendations this late in the game? In addition, we conjecture that firms with better-than-expected ratings during the period we study are larger firms with stronger financial indicators.[2] Finally, the intuition is of a strong and positive market reaction to issuance of higher ratings for the distressed firms; the reaction is amplified when the rating improvements are issued for firms already in bankruptcy.

[2] We use several financial ratios to measure firm's performance. These are discussed subsequently.

In contrast to the work of Clarke et al. (2006) who demonstrate practically uniform lowering of ratings by both affiliated and unaffiliated analysts during the eight quarters prior to firms filing for Chapter 11 protection, we observe a substantial proportion of troubled firms (about 31% of our sample) still being rated higher than what would be logically anticipated (that is higher than Underperform or Sell). Aside from running the risk of being accused of lacking professional skepticism or damaging their professional reputation, do the analysts who do not downgrade ratings for firms heading into bankruptcy see the glass as half-full or do they simply ignore the signs of trouble, which, in some instances, reveal themselves as early as four to six years before filing Chapter 11 or Chapter 7 (Aharony et al., 1980)? If the analysts who are issuing stronger-than-expected ratings for the struggling firms do eventually downgrade their ratings (as late as one year prior to the firms filing for bankruptcy), how timely are those changes and how informative are the recommendations to the investors who are holding the firms' shares? The average rating strength deteriorates, but only slightly, for the firms with ratings while in Chapter 11 to above about 3.1 and somewhat more Underperform or Sell ratings (over 35%) are issued. Our results indicate that, perhaps counter to intuition and previous related research, the probability of securing ratings in the category "Buy-Hold" increases as firm size measured by the natural log of its total assets falls. In addition, the market reaction to recommendation upgrades before bankruptcy filing is distinctly negative, perhaps suggesting that the investors are skeptical about the quality of the ratings and aware of positive analyst recommendation bias. For the small subsample with upgrades while in bankruptcy, the market reaction is positive, perhaps indicating investors' anticipation of these firms' successful reorganization and emergence from Chapter 11.

The rest of our paper is structured as follows. In Section II, we provide the necessary background on bankruptcy and analyst ratings. Section III presents our hypotheses and description of testable data. We develop our test methodology and present regression results in Section IV. Section V concludes our paper.

II. Chapter 11 Filings and Analyst Coverage of the Distressed Firms

Firms usually start experiencing financial difficulties long before petitioning for reorganization in federal court by filing Chapter 11 (Altman, 1968, Aharony, Jones, and Swary, 1980, Clark and Weinstein, 1983). The financial and operating struggles become evident to the market participants often long before bankruptcy filings and consequently the filings are seldom a surprise. In reality firms need not wait until they become financially insolvent to file for Chapter 11. Firm management can take advantage of the filing in an effort to amend firm's obligations and to avoid (or at least to deal with) costs and issues that threaten its existence.

It has been argued that firms directly benefit from analyst coverage through an increase in stock price (Bradley, Jordan, and Ritter, 2003) and in share turnover (Irvine, 2003), a decrease in cost of equity capital (Baker, Nofsinger, and Weaver, 2002), and a decrease in information asymmetry (Brennan and Subrahmanyam, 1995). Several researchers find that analyst research contains bias and over-optimism when forecasting firms' performance and making investment recommendations (Rajan and Servaes, 1997, Krigman, Shaw, and Womack, 2001, Cliff and Denis, 2004, Jones and Johnstone, 2012, Peixinho and Taffler, 2014). In addition, analysts exhibit herding behavior by issuing research reports similar to those issued by other analysts (Trueman, 1994) and herding forecasts provide less relevant information than bold and independent forecasts (Clement and Tse, 2005). However, McNichols and O'Brien (1997) find that some portion of observed over-optimism in analysts' forecasts and stock recommendations stems from censoring of good versus bad performers, rather than from analysts adding bias to their true beliefs. They observe that analysts provide more frequent forecasts and recommendations for newly added firms than for firms with ongoing coverage and issue less frequent forecasts for stocks prior to discontinuing the coverage; they prefer dropping the coverage rather than downgrading recommendations and forecasts for those firms. Peixinho and Taffler (2004) find that although analysts are aware of impending firm going-concern issues, their reluctance to downgrade recommendations and propensity to terminate the coverage of those firms mislead, in particular, individual investors who heavily rely on analyst research reports. Most analysts in their sample continue to issue "hold" or stronger recommendations for the financially distressed firms.

Clarke et al. (2006) investigate the quality of analyst coverage for a sample of firms entering Chapter 11 bankruptcy during 1995-2001. They focus on analyzing whether or not analysts are reluctant to issue negative recommendations because of the effect it may have on potential future investment banking deals with the firms. Based on their sample of 384 firms, the researchers fail to find evidence of over-optimism and positive bias in analyst recommendations and of the affiliated analysts being influenced by previous relationships between analyst's bank and the firm. Clarke et al. (2006) observe a monotonic decline in analyst recommendations over the eight quarters preceding bankruptcy filings with a corresponding decline in the percentage of Buy recommendations. They find that the market response to rating changes is positive, indicating that analysts correctly revise their recommendations.

Jones and Johnstone (2012) extend the Clarke et al. (2006) study by including the recessionary period of the early 2000's and by using a sample of large international corporate bankruptcies. In contrast to observations by Clarke et al. (2006), Jones and Johnstone (2012) find ample evidence of analyst over-optimism and positive bias when issuing rating for firms approaching bankruptcy. While Clarke et al. (2006) find that the mean recommendation declines from Buy approximately two years prior to bankruptcy to midway between Hold and Underperform right around the filings, Jones and Johnstone (2012) observe that an overwhelming majority of analyst recommendations (68%) in their international sample of corporate bankruptcies is either Buy or Hold at the time of failure; for the U.S. sample this percentage is even higher (73%). Clarke et al. (2006) report the mean analyst following per stock prior to filing to be 1.78; Jones and Johnstone (2012) report this number to be 7.76 per firm. This difference could be explained by Jones and Johnstone (2012) including large corporate bankruptcies in their sample.

Several researchers have extensively investigated the superior information hypothesis, considering the question of whether the analysts possess information that is not publicly available (Womack, 1996, Michaely and Womack, 1999, Brav and Lehavy, 2003, Asquith, Mikhail, and Au, 2005, Boni and Womack, 2006, Das, Guo, and Zhang, 2006). On the one hand, Michaely and Womack (1999) find that affiliated analysts' opinions, and consequently their recommendations, did not appear to be more

accurate than those of non-affiliated analysts.[3] They provide evidence that the long-run post-recommendation performance of firms that are recommended by the affiliated analysts is significantly worse than performance of firms recommended by other, non-affiliated analysts. On the other hand, Mola et al. (2010) confirm that analysts, regardless of their affiliation, provide information beyond that available to the public, consistent with the superior information hypothesis, and that the firms that lose the coverage are negatively affected by the loss. The researchers observe steadily declining analyst earnings-per-share estimates, deterioration in analyst recommendations, and a reduction in the number of analysts covering the firm in the years leading up to complete loss in coverage.

So, why would analysts cover a firm with a financial and/or operating "baggage" and possibly a shaky future? One of the reasons why analysts would want to continue to provide coverage to the distressed firms is their employers' possible involvement, in a capacity of an advisor, in a merger and/or acquisition (M&A) transaction.[4] Since going-concern issues are real for financially weakened firms, threat of a takeover or a merger increases.[5] Moreover, an analyst's employer could also be chosen to advise the firm during its restructuring. The services that investment bankers provide to the firms in Chapter 11 (Altman and Hotchkiss, 2006) include M&A, capital raising, valuation, debt capacity/capital structuring, negotiation with creditors, financial modeling, liquidation analysis, bankruptcy court testimony, and strategic business analysis. Fees paid to the bankers are direct bankruptcy costs and take priority over payments to creditors, employees, and the government.[6] Finally, we speculate that analysts provide coverage to Chapter 11 firms in hopes to secure future business when the firms issue new shares to raise capital soon after emerging from bankruptcy.

III. Hypotheses and Data Description

i. Development of Hypotheses

[3] Affiliated analysts are those who work for a brokerage house that has provided services such as underwriting, consulting, and others to a firm. These analysts are believed to have an information advantage over non-affiliated analysts who work for an investment bank that has not dealt with the firm.
[4] Hotchkiss and Mooradian (1998) consider M&As to be an effective mechanism for redeploying the assets of Chapter 11 firms.
[5] Analysts' investment banks earn lucrative fees when participating in a M&A transaction.
[6] Section 507 of the bankruptcy code.

One would reasonably expect to observe a lowering of analyst ratings for firms approaching bankruptcy. Consistent with that Clarke et al. (2006) report that analysts aggressively revise their assessments downward for firms in financial distress. According to the superior information hypothesis, analysts may possess private information about firm's deteriorating condition and intention to reorganize or liquidate, with this information impounded in analysts' outlook about the firm's future.

Firms file for Chapter 11 for reasons such as being in chronically sick industries (e.g., agriculture, textile, department stores), deregulation of key industries (e.g., airlines, financial services, healthcare, energy), high real interest rates in certain periods, international competition, overcapacity within an industry, increased leveraging, and relatively high new business formation rates in certain periods (Altman and Hotchkiss, 2006). However, extant literature also suggests that not all firms filing for Chapter 11 reorganization are financially insolvent or operationally distressed. For instance, high and/or frequently incurred litigation costs caused by product liability or other issues, and recurring union disputes resulting in rising operating and administrative costs can prompt a firm to file for bankruptcy. The firm need not wait until it becomes financially insolvent to file for Chapter 11 and firm's management can take advantage of the filing in an effort to amend firm's obligations and to avoid (or at least to deal with) costs and issues that threaten its existence. Sell-side security analysts, instead of downgrading their recommendations for the firm, could either hold their recommendations the same or revise them upward. Consequently, in addition to analyzing changes in analyst coverage of the firms approaching Chapter 11 bankruptcy and attempting to reorganize, we examine whether or not the changes in rating differ based on the firm and performance characteristics. In addition, we analyze changes in analyst coverage while the firms reorganize under Chapter 11, an issue not previously addressed. Our intuition is that if a firm retains the coverage any time during its time in bankruptcy court, its ratings will improve; otherwise what is the point of issuing Underperform and Sell recommendations this late in the game? We develop and test the following hypothesis:

H1: Firms with stronger performance measures, as possible indicators of those firms petitioning for reorganization for reasons other than financial or operating distress, are more likely to receive stronger ratings than underperforming firms.

We also analyze market reaction to the changes in analysts' recommendations. The existing literature suggests that the deteriorating condition of firms in distress is usually known well in advance of their filing for bankruptcy. Financial insolvency and operating difficulties are often rumored to exist as many as four years prior to the filings. Clarke et al. (2006) find that upgrades occurring prior to bankruptcy filings are met with positive excess market returns, suggesting that the investors view the rating changes as credible and as a sign of possible future performance improvements.

Investors are also concerned about the survival of the firms while they reorganize in Chapter 11 and possibly emerge from bankruptcy instead of converting to Chapter 7 and liquidating. During this time the quantity and quality of financial information issued for the firms could decline. Some firms cease to issue audited financial statements, thereby restricting market's ability to monitor development of their restructuring and widening the information gap between investors and the firm. Weiss and Wruck (1998) cite the lack of credible information as one of the reasons why creditors and investors could miss vital clues about the firm's survival and struggle to reorganize. Hence, when disclosures about firm performance are scarce and often unreliable, analyst rating upgrades would be viewed by market participants as good news not yet publically available and the market would react positively to the upgrades. Based on this information we develop and test our second hypothesis as follows:

H2: Rating upgrades for the companies approaching bankruptcy and reorganizing under Chapter 11 provoke a strong positive market reaction.

ii. Data Description and Summary Statistics

In this paper, we consider Chapter 11 activities during the period of October 1993 through December 2011.[7] In our sample we include firms that both file for Chapter 11 reorganization and emerge

[7] We chose October 1993 as our starting point because it is when analyst coverage data first became available on Institutional Brokers' Estimate System, I/B/E/S.

from bankruptcy during this time period. We use the *Thompson Financial Services SDC Platinum* database to obtain sample of bankrupt firms, I/B/E/S for analyst recommendations, [8] and Compustat to obtain accounting related data. We also use the Center for Research in Security Prices (CRSP) database to gather stock return data for firms in the sample.

The total initial sample consists of 1,831 firms filing for and emerging from bankruptcy during the eighteen year period. The majority of Chapter 11 filings took place in the state of Delaware (567 or 30% of the filings), followed by New York (301 firms or 16% of the filings) and California (206 firms or 11% of the filings). It should be noted that Big-Four auditors provided their services to over one-half of the distressed firms in our sample: Deliotte & Touche LLP was an auditor for 228 firms, Ernst & Young LLP for 301 firms, KPMG LLP for 211 firms, and PricewaterhouseCoopers LLP for 234 firms.

[Insert Table 1 here]

We provide some descriptive data for the sample in Table 1. Not surprisingly, the frequency of bankruptcy filings rises during two blocks of time, 1999-2003, peaking in 2001, and 2008-2009. These spikes occur during the recessions of the early and late 2000s. The recession of the early 2000s followed the post-dotcom boom of the late 1990s and was further exacerbated by the number of large accounting frauds (Enron, WorldCom, Tyco, and others). The second increase in frequency of Chapter 11 filings occurs right around the mortgage meltdown that triggered the recession of the late 2000s and took down many firms in the financial industry.[9] In addition, we find, on average, during these two time periods the firms are of larger size as measured by the total assets one year prior to filing petition for bankruptcy reorganizations.[10] Mean durations in bankruptcy tend to be between one and two years, with some indication of shorter mean periods recently. Of 1,831 firms in the sample, 1,790 filed for bankruptcy once during October 1993-December 2011, 39 filed twice, and 2 filed for bankruptcy three times.

We further refine our sample by eliminating the firms filing for bankruptcy before October 1994 (this allows us to obtain full year worth of pre-bankruptcy recommendations for the firms filing in

[8] I/B/E/S provides the following recommendation ratings: 1= Strong Buy, 2= Buy, 3=Hold, 4= Underperform, and 5= Sell.
[9] It should be noted that in 2008-2009 there were a few very large bankruptcies such as Lehman Brothers and General Motors which strongly affect both the mean and standard deviation.
[10] The largest median size is in 2009; the second largest is in 2011.

October 1994). We also identify companies with share trading status "A", which stands for "active", and eliminate those with trading status "D" for delisted (at time of filing). Analysts issue recommendations only for stocks listed on the exchanges and not for delisted ones. A total of 2,754 recommendations were issued for 433 firms[11] during the year prior to bankruptcy filings and while in Chapter 11 proceedings; 290 of the recommendations (or almost 11% of the recommendations) were issued during bankruptcy proceedings.

[Insert Table 2 here]

Table 2 provides information about the 433 firms that had analyst coverage within one year of filing for bankruptcy. On average, firms in this sample took about 16 months (with a median of 13 months) to reorganize. However, it took slightly longer (a mean of 19 months and a median of 17 months) for the 96 firms with analyst coverage during reorganization (22 percent of the sample) to emerge from bankruptcy. Firms without analyst recommendations during reorganization period (total 337 firms) lost the coverage, on average, approximately 5.5 months prior to filing for Chapter 11.

A mean of four analysts (with a median of two analysts per firm) provide coverage to each firm between one year prior to filing Chapter 11 and emerging from bankruptcy. For firms with coverage during bankruptcy proceedings we find these numbers are halved (a mean of two and a median of one analyst per firm). We find that 59 out of 299 firms (20%) that received ratings in the "Buy-Hold" category prior to filing also had coverage during bankruptcy.

During the Chapter 11 proceedings analysts issued 202 stock recommendations for these 59 firms with mean rating of 2.71, which is slightly better than upper (worst) bound of our "Buy-Hold" category of 3 (equating to a strong Hold recommendation). This result is somewhat counterintuitive. One would expect a greater percentage of supposedly better performing firms (those with stronger ratings a year before filing Chapter 11) to receive coverage while in bankruptcy. This leads us to believe that analysts simply do not downgrade the ratings of the insolvent firms in a timely manner and continue

[11] These are larger firms with mean total assets of approximately $4,000 million.

issuing relatively high ratings as the firms approach bankruptcy. Firms with stronger ratings also have lower liability subject to Chapter 11 one year prior to filing than all firms in the sample.

[Insert Table 3 here]

In Table 3 we report analyst ratings and coverage frequency for the firms in the sample. We subdivide the table into three panels. Panel A summarizes ratings and frequency for the 433 firms that received coverage between one year prior to petitioning for reorganization and emerging from bankruptcy. The firms received 2,754 recommendations during this period with an average rating of about 2.9. Almost 30% of these ratings are Strong Buy or Buy; almost 50% are Holds. Thus over 75% are not in the "Sub-Buy" category.[12] The securities of 145 firms (33.5%) are rated by four or more analysts.

In Panel B we summarize statistics on analyst ratings and coverage frequency for the firms receiving recommendations before filing Chapter 11. The average rating for the subsample of 427 firms is not significantly different from that reported in Panel A for the entire sample. Thirty percent of the firms in the subsample secure either Buy or Strong Buy rating. Almost half of the firms are rated Hold. On average four analysts follow the firms as they approach bankruptcy.

Panel C, we report the same statistics as in Panels A and B only for the firms that receive coverage during bankruptcy.[13] These results are somewhat different from the ones we just described. The average rating strength deteriorates for the 96 firms receiving coverage while in Chapter 11 to above about 3.1 and we find that somewhat more Underperform or Sell ratings (over 35%) are issued. Although, the number of analysts providing coverage per firm is smaller with the majority of firms (80%) being rated by one or two analysts, the results are still puzzling. First of all, why would the analysts, although fewer, issue lower ratings at this point in the game, reiterating the obvious? And secondly, what value do these lower ratings hold for the investors when the firms are now in formal bankruptcy proceedings? Finally, why are over one-third of them Buys and another one-third Holds? One must evaluate the information content of these recommendations.

[12] The "Sub-Buy" recommendation category includes ratings such as 4, Underperform, and 5, Sell.
[13] These firms are significantly larger than those without analyst following during bankruptcy (with mean total assets and market capitalization of $12,701 and 2,167 mill., respectively, versus $1,694 and 181 mill. for firms without the coverage).

We now shift our attention to the market reaction to rating upgrades issued during the period of one year before firms file for and complete the reorganization. We first analyze changes in ratings for all firms in our sample. Several firms receive multiple recommendations in a single day; we determine an average daily rating for those firms.[14] We further examine changes in the recommendations that reposition firms from the "Sub-Buy" category to the "Buy-Hold" category (we do not consider improvements in rating strength within the categories, i.e. change from 5, Sell, to 4, Underperform, or from 3, Hold, to 2, Buy rating). Finally, we move recommendation announcement date to the following trading day if the recommendation is issued any time after 4 pm on that date. We account for total of 263 ratings improvements.[15] We are able to obtain information from CRSP on daily stock prices and returns for 206 of these rating improvements.

[Insert Table 4 here]

In Table 4 we present market adjusted and cumulative market adjusted returns for the 206 rating improvements. Consistent with the measure of market reaction used by Clarke et al. (2006), we use the NYSE/AMEX/Nasdaq value-weighted daily returns to adjust the stock returns for each upgrade in our sample. Day 0 here represents the day of upgrade. In Panel A we present the average daily market adjusted returns and in Panel B we present cumulative market adjusted returns for various periods.

One might reasonably argue that strengthening of a rating when the firm is close to filing bankruptcy should be unexpected. Indeed it occurs in only about 1/10 of the recommendation announcements (the vast majority of the ratings issued are either reiterations or downgrades). The mean market adjusted returns during the three days prior to rating change are negative and large (totaling about -3.10%). This result is not inconsistent with our conviction that at this point investors are *not* expecting a positive change in rating for the struggling firms. While the day 0 mean market adjusted return of about -0.76% is not significantly different from zero, it is suggestive that the positive rating change does not have a positive impact on investor perception. The price adjustment during the three days after coverage

[14] As a result, our sample of recommendations went from containing 2,754 recommendations to containing 2,471 recommendations.
[15] One hundred twenty two firms received improvements in ratings; 56 firms received multiple improvement. We find that the largest number of improvements for a single frim was 20 improvements. .

initiation for this subsample of rating changes is -1.44%, not significantly different from zero, but indicative that investors, after having some time to digest the new information with the ratings increase do not, on average, view the firms more positively.

[Insert Figure 1 here]

Figure 1 pictorially presents results reported in Table 4, Panel B. In addition, we separately present on the graph cumulative market adjusted returns for the firms that receive rating upgrades while in bankruptcy (labeled as "During_Ch11") and those that receive them before the filing (labeled as "Pre_Ch11).[16] These return patterns are different for the two subsamples: rating upgrades during bankruptcy have positive market adjusted returns associated with them.

IV. Test Methodology and Presentation of Regression Results

i. Definition of Variables

To form their recommendations, analysts use information they consider relevant, including, but not limited to, earnings forecasts and projections of future cash flows based on accounting information along with other performance indicators.[17] To test our first hypothesis we use the following variables: total assets, whether or not firm retains a Big-Four auditor, and several financial and accounting ratios widely used by market participants for firms' financial performance analysis. We obtain financial data from Compustat for the last four quarters prior to the date of bankruptcy filing and in addition to evaluating absolute values we assess changes in values from the first quarter (Q1 being the furthest one from bankruptcy filing) to the fourth quarter (Q4 being the closest quarter to filing).

[Insert Table 5 here]

Table 5 provides definitions of variables used in this analysis. We use the natural log of total assets (LNAT) to measure companies' size and a dummy variable (DURING) to identify firms with recommendations during bankruptcy proceedings. We control for industry and recessionary periods by including dummy variable INDREC, which equals one if firms are in a high-tech industry and declared

[16] Nineteen rating upgrades were issued for the firms in bankruptcy; 187 upgrades were issued before the filing.
[17] We select our variables that best measure firm performance primarily based on those widely used in the analyst literature and most importantly those used in Clarke et al. (2006) and Jones and Johnstone (2012).

bankruptcy between 2000 and 2002 or if the firms are in the financial industry and filed for Chapter 11 between 2008 and 2009. We also utilize several financial ratios from Q4 and changes in the financial ratios from Q1 to Q4 to control for firms' performance in our multivariate analysis.

ii. The determinants of strong ratings of firms in distress

We construct a regression for testing the first hypothesis. We search for common characteristics in the sample of firms with stronger ratings shortly before filing Chapter 11 and during the reorganization. In Table 6 we present the results of four logistic regressions. We determine mean rating for 325 firms[18] and construct a binary variable that equals unity if the firms' mean rating is 3 (for Hold), 2 (for Buy), or 1 (for Strong Buy) and zero otherwise (which includes 4 for Underperform and 5 for Sell). As defined earlier, this delineates in our "Buy-Hold" category and our "Sub-Buy" category. This binary variable is the dependent variable in the logistic model regressions. Our independent variables consist of several firm characteristic, performance, and analyst coverage measurements defined in Table 5. Our logistic model (1) used in regressions 1 through 4 is as follows:

$$\text{Buy-Hold Rating } y_i = \beta_0 + \beta_1 * LNAT_i + \beta_2 * DURING_i + \beta_3 * INDREC_i + \sum \beta_i X_i + \beta_{13} * ANALCT_i + \beta_{14} * ADTR_i + \varepsilon_i \quad (1)$$

where $\sum X_i$ is matrix of performance measuring financial ratios or their changes used in regressions 2, 3 and 4 and ε_i is an ordinary-least-squares residual.

[Insert Table 6 here]

From the results of logistical model 1 we conclude that, contrary to common belief in the existing literature, larger firms do not obtain more positive ratings. In addition, analysts are more likely to issue a recommendation in the category "Buy-Hold" when more analysts are covering the firm (the coefficient on variable ANALCT is positive and statistically significant). This finding supports the notion that security analysts exhibit herding behavior (Trueman, 1994; Clement and Tse, 2005) and perhaps are even more reluctant to downgrade their ratings for firms approaching bankruptcy when the firms are rated by fewer

[18] We were not able to obtain Compustat data for 108 firms in our initial sample of 433 firms. Eleven of 325 firms declared bankruptcy more than once. We performed sensitivity tests for single filers and obtained qualitatively similar results to those reported for the full sample in Table 6.

analysts. Variables ADTR, DURING, and INDREC are not significantly different from zero in the regression.

We develop our second model by using several financial ratios (measured at Q4) as well as the natural log of firm assets (LNAT) and dummy variables DURING and INDREC from the first regression. The ratios we use in our second model are return on assets (ROA), working capital divided by assets (WCAP), total asset turnover (SALEAT), and retained earnings divided by assets (REAST). Parameters of variables LNAT, WCAP, and SALEAT are statistically significant. The coefficient on the working capital variable is positive and significantly different from zero; liquidity is quite important to getting a higher rating. Based on the point estimate of 1.515 (not presented in Table 6), for every unit increase in the WCAP ratio, the odds of being rated stronger increases by 51.5% ((1.515-1)*100%). Surprisingly, the coefficient on variables SALEAT is negative, indicating that firms with lower asset turnover are rated higher, which contradicts the superior information hypothesis and analysts' knowledge and ownership of information not available to the public (Mole et al., 2010).

In our third model we add other ratios that describe firms' performance and might, logically, be thought of as contributing to high or low ratings. These include: DTA, CACL, CCASH, MSALE, and EPS. None of these are statistically significant. It might be noted, however, a single unit increase in the current ratio (CACL) leads to an increase in the odds of securing stronger rating by close to 35.5% ((1.355-1)*100%). The variable DURING inversely relates to the probability of a rating in the "Buy-Hold" category, indicating that analysts are more likely to issue a stronger rating for the deteriorating firms during the year preceding the filings than during the reorganization.

Next, we evaluate whether changes in total assets and the financial ratios have explanatory power in describing probabilities of securing stronger ratings during the year prior to filing for bankruptcy. In contrast to overall size being inversely related to the probability of a higher rating (in each of the first three models) the percentage change in total assets (CHAT) is positive; however, it is not statistically significant, indicating that the probability of securing a better rating does not significantly relate to increase in firm asset size as it approaches bankruptcy. Firms receive stronger ratings prior to filing for

Chapter 11—the coefficient on the variable DURING is negative and statistically significant at the five percent level. However, the change in total asset turnover is inversely related to stronger ratings. We find that a decline in the debt to asset ratio increases the probability of obtaining a stronger rating; this is consistent with expectations. Finally, a positive change in earnings per share (EPS) is directly related to an increase in rating.

In summary, our findings indicate that analysts issue stronger ratings prior to Chapter 11 filings than during the bankruptcy proceedings. The ratings are higher for firms with declining debt levels and increasing earnings per share. Analysts perhaps pay less attention to firms' operating performance indicators and are more likely to issue recommendations in "Buy-Hold" category for firms with coverage from other analysts. Stronger than expected ratings for bankrupt firms is a clear indication of analysts' reluctance to downgrade their recommendations (Jones and Johnstone, 2012) and of analysts' herding behavior (Clement and Tse, 2005). In addition, because many firms continue to struggle after emerging from Chapter 11 (Hotchkiss, 1995), ratings in the "Buy-Hold" category during the reorganization may not be warranted.

iii. Further examination of the market reaction to rating upgrades

In this section we consider the market reaction to upgrades described in Table 4 in relation to firm timing variables. To test our second hypothesis, we develop an OLS model (2) and run three regressions, each with cumulative market adjusted returns (CMAR) for three different time windows as dependent variables that measure market reaction to improvements in recommendations for firms in the sample:

$$CMAR_{(t1,t2)} = \beta_0 + \beta_1*UP\_DRNG_i + \beta_2*ANCT4G_i + \beta_3*LENGTH\_TO_i + \beta_4*LENGTH\_AFT_i + \beta_5*SZUPGRD_i + \beta_6*TMUPGRD_i + \varepsilon_i \quad (2)$$

[Insert Table 7 here]

We report results of the OLS model regressions in Table 7. The dependent variables in regressions 1 through 3 are $CMAR_{(-3,+3)}$, $CMAR_{(-3,-1)}$, and $CMAR_{(0,+3)}$, respectively. The results of the first regression indicate that the variables UP_DRNG and LENGTH_TO are statistically significant. Consistent with Figure 1, rating upgrades that are issued when the firm is in bankruptcy tend to have a

large positive effect on the seven day CMAR. This could be explained by the surprise element of the positive recommendation for the firms in bankruptcy. Investors may believe that analysts expect firms to emerge from bankruptcy soon and start improving their performance in the foreseeable future. They may also believe that rating upgrades at this time could be an indicator of the struggling firm about to be acquired by a stronger performing competitor.

Furthermore, the longer the period between the upgrade and the firm filing for reorganization, the greater (meaning the more negative) the seven day abnormal return. This result is driven totally by the third regression with dependent variable for the day of announcement and the three days following. Thus the market reaction to rating increases very close to a bankruptcy filing tends to have a more neutral (still negative though) market impact than the more distant ones. Given that most filings are not big surprises, one must wonder why analysts are improving their ratings near a filing, but in any case investors seem to react less negatively to these improvements than more distant ones.[19]

V. Conclusion.

In this paper we analyze strong analyst ratings and analyst rating upgrades issued for the firms one year away from filing for Chapter 11 and for those already in bankruptcy. One would expect to observe rating strength to be low and decline as firms approach bankruptcy. We observe a significant number of firms that petition for reorganization between October 1993 and December 2011 receiving strong ratings from multiple analysts. Furthermore, we find number of rating upgrades being issued for firms one year away from filing Chapter 11 or while in bankruptcy. These rating upgrades place securities of several firms in the "Buy-Hold" category that we define as a category with mean ratings of Hold or stronger.

In this paper we find the common characteristics of the firms near or in bankruptcy that influence analysts' decision to issue stronger ratings. Our results indicate that, perhaps counter to intuition and previous related research, the probability of securing ratings in the category "Buy-Hold" rise as firm size

[19] The authors remind the reader that at the time of the analyst's rating improvement the certainty of a filing and its date are not known. However, invariably within a year of a subsequent filing, distress in a typical firm is apparent and, in general, becomes greater as time goes on, so even ignoring concepts of ex post selection, this variable does measure, roughly, market perception of firm distress.

measured by the natural log of its total assets falls. Analysts are more likely to issue stronger rating during the year preceding bankruptcy and for firms with ratings from other analysts.

Our findings, as they relate to the explanatory power of financial ratios are somewhat mixed. We find that total asset turnover is inversely related to the probability of securing stronger ratings. This result is counterintuitive. In contrast, we find that various liquidity measures, change in the debt ratio and changes in EPS are, as one might expect, related to higher ratings.

The market reaction to upgrades before bankruptcy filing is distinctly negative; for the small subsample with upgrades while in bankruptcy the market reaction is positive. Our efforts to explain these results, to date have not been overly successful; this is an area of future research.

In summary, contrary to the popular intuition that insolvent firms receive weaker analyst ratings as they approach filing Chapter 11 or are already in bankruptcy, we observe many instances when just the opposite occurs. We see our work just scratching the surface of what can be done in this area of research.

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Table 1
Firms Filing for and Emerging from Chapter 11 during Period Oct 1993-Dec 2011, Categorized by Year

Year	No. of Ch 11 Filings	Percent	Mean Duration (in days)	Median Duration (in days)	Frequency of Emergence from Ch 11	Percent	Total Assets (in mill.) 1 yr. prior to filing Chapter 11			
							No. of Firms	Mean	Median	Std Dev
1993	22	1.2	454	404	2	0.11	21	313.03	125.79	422.01
1994	49	2.68	483	389	28	1.53	42	176.89	66.60	261.71
1995	52	2.84	556	482	34	1.86	49	436.51	169.84	833.82
1996	53	2.89	441	344	46	2.51	46	274.35	164.10	292.09
1997	47	2.57	526	364	54	2.95	44	337.16	113.10	775.02
1998	72	3.93	552	351	47	2.57	56	540.72	238.50	1,186.77
1999	114	6.23	474	376	76	4.15	96	582.36	166.05	1,087.44
2000	156	8.52	551	440	110	6.01	118	700.93	289.95	1,105.28
2001	249	13.6	522	427	122	6.66	126	1,558.45	316.67	4,561.83
2002	218	11.91	455	360	226	12.34	158	2,387.81	322.76	9,665.54
2003	158	8.63	444	357	225	12.29	118	901.70	200.71	2,473.75
2004	81	4.42	393	317	167	9.12	69	717.71	286.50	2,078.83
2005	78	4.26	416	363	101	5.52	60	2,261.64	148.75	6,121.49
2006	54	2.95	311	286	88	4.81	43	598.14	194.96	1,508.77
2007	58	3.17	401	358	70	3.82	42	1,254.86	62.21	4,014.16
2008	115	6.28	384	358	70	3.82	72	7,895.27	179.43	59,267.13
2009	171	9.34	316	272	139	7.59	139	3,749.37	452.12	15,250.31
2010	70	3.82	214	161	151	8.25	51	819.82	205.00	1,786.10
2011	14	0.76	144	126	75	4.1	12	443.78	391.15	448.06
All Years	1,831	100	442	352	1,831	100	1362	1,697.64	218.87	15,036.25

The table presents number of firms filing Chapter 11 and emerging from the bankruptcy proceedings annually between October 1993 and December 2011.

Table 2
Summary Statistics for firms with analyst coverage within one year of filing Chapter 11

	No. of Firms	Mean	Median	Minimum	Maximum
Length of time in bankruptcy - all firms (in days)	433	482	383	29	2,994
Length of time in bankruptcy for firms with coverage during reorganization (in days)	96	584	516	42	1,955
Length of time in bankruptcy for firms with ratings in "Buy-Hold" category (in days)	299	494	382	38	2,994
Length of time between last rating and date of filing for firms without coverage during bankruptcy (in days)	337	168	167	1	365
Number of analysts providing coverage - all firms	433	4	2	1	32
Number of analysts providing coverage during reorganization	96	2	1	1	22
Number of analysts providing coverage to firms with ratings in "Buy-Hold" category	299	4	2	1	32
Liability subject to Chapter 11, year prior (in mill.)	341	2,008	201	0.01	185,977
Liability subject to Chapter 11 for firms with ratings in "Buy-Hold" category, year prior (in mill.)	53	1,569	331	0.10	27,358

The table provides descriptive information about firms that had analyst coverage within one year of filing for bankruptcy and while in reorganization. Length of time in bankruptcy is defined as the difference between date of reorganization and date of filing. This information is presented separately for the firms receiving coverage during reorganization and those with stronger ratings during the time period of one year before filing and emerging from bankruptcy.

Table 3
Analyst Ratings and Coverage Frequency

Panel A: Ratings of all Firms in the Sample

		Ratings				
No. ratings	Average ratings	1 (Strong Buy)	2 (Buy)	3 (Hold)	4 (Underperform)	5 (Sell)
2754	2.9227	317	490	1316	351	280
		Number of Analyst Ratings for a Firm				
No. firms	Average No. analysts	1	2	3	4	5+
433	4	160	77	51	29	116

Panel B: Ratings of Firms Receiving Coverage Before Reorganization

		Ratings				
No. ratings	Average ratings	1 (Strong Buy)	2 (Buy)	3 (Hold)	4 (Underperform)	5 (Sell)
2464	2.8994	281	450	1206	290	237
		Number of Analyst Ratings for a Firm				
No. firms	Average No. analysts	1	2	3	4	5+
427	4	161	83	44	29	110

Panel C: Ratings of Firms Receiving Coverage During Reorganization

		Ratings				
No. ratings	Average ratings	1 (Strong Buy)	2 (Buy)	3 (Hold)	4 (Underperform)	5 (Sell)
290	3.1207	36	40	110	61	43
		Number of Analyst Ratings for a Firm				
No. firms	Average No. analysts	1	2	3	4	5+
96	2	57	20	4	4	11

Table 3 summarizes analyst ratings and coverage frequency for the firms in the sample. We subdivide the table into three panels. Panel A presents ratings and frequency for the entire sample of 433 firms that receive coverage between one year prior to petitioning for reorganization and emerging from bankruptcy. In Panel B we summarize statistics on analyst ratings and coverage frequency for the firms receiving recommendations before filing Chapter 11. Panel C, we report the same statistics as in Panels A and B only for the firms that receive coverage during bankruptcy. We present average rating and average number of analysts per firm for each subsample in the table. We count and report number of firms in each rating strength category. We use the I/B/E/S rating scale to specify the categories, where 1= Strong Buy, 2= Buy, 3=Hold, 4= Underperform, and 5= Sell. Each panel also contains information on number of firms that receive ratings from 1, 2, 3, 4, and more than 5 analysts.

Table 4
Market Adjusted (MARs) and Cumulative Market Adjusted (CMARs) Returns for the Entire Sample around the period of upgrade

Panel A: Market Adjusted Returns (MARs)

Day	Mean MAR (%)	t-statistic	p-statistics	N	Positive/Negative
-3	-0.5516	-0.82	0.4140	206	0.8070
-2	-1.4430	-1.78	0.0769	206	0.5725
-1	-1.3241	-1.60	0.1103	206	0.6748
0	-0.7555	-0.82	0.4140	206	1.0196
1	0.0416	0.06	0.9541	206	0.8230
2	-0.5234	-0.89	0.3769	206	0.8070
3	-0.9581	-1.28	0.2037	206	0.7025

Panel B: Cumulative Market Adjusted Returns (CMARs)

Period	Mean CMAR (%)	t-statistic	p-statistics	N	Positive/Negative
Day -3	-0.5516	-0.82	0.4140	206	0.8070
(-3,-2)	-2.0522	-1.76	0.0807	206	0.6748
(-3,-1)	-3.1020	-1.99	0.0476	206	0.5489
(-3,0)	-3.8602	-2.06	0.0404	206	0.8727
(-3,+1)	-3.8888	-2.11	0.0364	206	0.7913
(-3,+2)	-4.3503	-2.32	0.0214	206	0.6885
(-3,+3)	-5.3493	-2.71	0.0074	206	0.6885
(0,+3)	-2.1953	-1.64	0.1036	206	0.8070
(-1,+1)	-2.0380	-1.54	0.1260	206	0.8393
(+1,+3)	-1.4398	-1.29	0.1971	206	0.8230

In this table we report mean market adjusted returns (MARs) and mean cumulative market adjusted returns (CMARs) around rating upgrades issued during the period of one year before firms file for and complete the reorganization. We use the NYSE/AMEX/Nasdaq value-weighted daily returns to adjust the stock returns for each upgrade in our sample. Day 0 here represents the day of the upgrade. In Panel A we present the average daily market adjusted returns for day -3 through day +3 and in Panel B we present cumulative market adjusted returns for various periods.

Figure 1
Cumulative market-adjusted returns for (-3,+5) day period

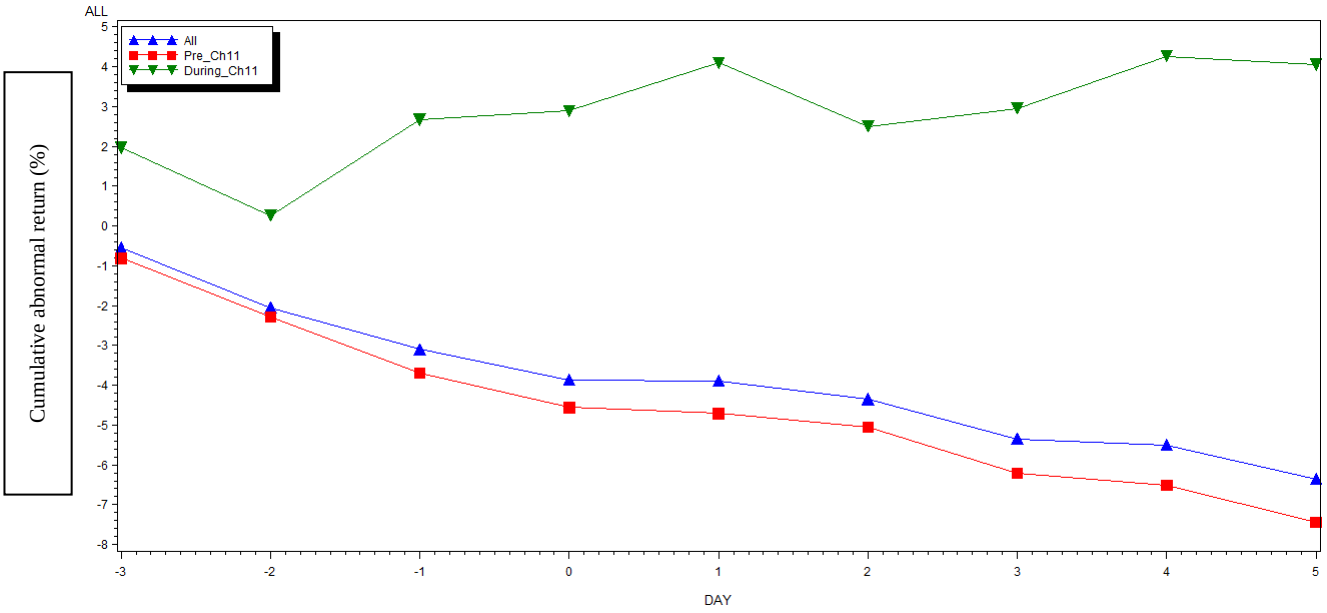

Figure pictorially presents results reported in Table 4, Panel B. In addition, we separately present on the graph cumulative market adjusted returns for the firms that receive rating upgrades while in bankruptcy (labeled as "During_Ch11") and those that receive them before the filing (labeled as "Pre_Ch11). Number of days is presented on x-axis and CMAR percentages on y-axis. Day 0 here represents the day of upgrade.

Table 5
Variable Definitions (measured as Q4 or change from Q1 to Q4)

Variable	Description
LNAT/CHAT	Natural log of total assets/change
DURING	Dummy variable coded as one if firms receive recommendations during bankruptcy proceedings, and zero otherwise
INDREC	Dummy variable to control for industry and recessionary periods coded as one if firms are in the high-tech industry and declared bankruptcy between 2000 and 2002 or if the firms are in the financial industry and filed for Chapter 11 between 2008 and 2009
ROA/CHROA	Return on assets/change
WCAP/CHWCAP	Working capital divided by assets/change
SALEAT/CHSALEAT	Total asset turnover/change
REAST/CHREAST	Retained earnings divided by assets/change
DTA/CHDTA	Debt to total assets/change
CACL/CHCACL	Current ratio/change
CCASH/CHCCASH	Cash debt coverage ratio/change
MSALE/CHMSALE	Profit margin on sales/change
EPS/CHEPS	Earnings per share/change
ANALCT	Number of analysts providing coverage
ADTR	Dummy variable coded as one if firm's auditor is a Big-Four firm, and zero otherwise
UP_DRNG	Dummy variable coded as one if rating upgrade took place while firm is in bankruptcy, and zero otherwise
ANCT4G	Dummy variable coded as one if four or more analysts are providing recommendations, and zero otherwise
LENGTH_TO	Number of days between recommendation upgrade and Chapter 11 filing (this value is 0 for upgrades during bankruptcy)
LENGTH_AFT	Number of days between filing Chapter 11 and rating upgrade for firms receiving improved rating while in bankruptcy (this value is 0 for upgrades before filing)
SZUPGRD	Size of upgrade (computed as new rating less the most recent rating prior to the upgrade)
TMUPGRD	Number of days between last recommendation prior to the upgrade and the upgrade

Table 6
Logistic Regressions for Distressed Firms

Variable	Model Number			Variable	Model No.
	1	2	3		4
Intercept	2.170	2.473	1.929	Intercept	1.097
	(<.0001)	(0.0002)	(0.0182)		(<.0001)
LNAT	-0.213	-0.172	-0.096	CHAT	0.385
	(0.0060)	(0.0718)	(0.3920)		(0.3278)
DURING	-0.408	-0.553	-0.745	DURING	-0.838
	(0.2139)	(0.1069)	(0.0404)		(0.0160)
INDREC	0.789	0.930	0.797	INDREC	0.988
	(0.1066)	(0.1503)	(0.2289)		(0.1374)
ROA		-0.184	-0.660	CHROA	-0.738
		(0.5743)	(0.2015)		(0.1596)
WCAP		0.407	0.146	CHWCAP	0.191
		(0.0510)	(0.7309)		(0.6271)
SALEAT		-1.316	-1.269	CHSALEAT	-2.165
		(0.0314)	(0.0525)		(0.0756)
REAST		0.014	0.008	CHREAST	-0.280
		(0.4476)	(0.6697)		(0.4991)
DTA			-0.214	CHDTA	-1.055
			(0.5213)		(0.0866)
CACL			0.279	CHCACL	0.012
			(0.1855)		(0.7920)
CCASH			0.109	CHCCASH	0.417
			(0.7847)		(0.3405)
MSALE			0.001	CHMSALE	-0.023
			(0.1868)		(0.1158)
EPS			0.034	CHEPS	0.050
			(0.1909)		(0.0415)
ANALCT	0.065				
	(0.0941)				
ADTR	-0.214				
	(0.5893)				
Likelihood Ratio	14.038	22.701	31.706	Likelihood Ratio	31.689
	(0.0154)	(0.0019)	(0.0015)		(0.0015)

Table reports results of four logistic model regressions. We determine mean rating for 325 firms and construct binary variable that equals unity if the firms' mean rating is 1, 2 or 3 (for Hold or better) and zero if it is 4 or 5 (Underperform or Sell). This binary variable is the dependent variable in the logistic model regressions. Our independent variables are described in Table 5. P-values are provided in parentheses below each coefficient.

Table 7
Cumulative Market Adjusted Returns Surrounding Upgrade in Analyst Recommendation

Variable	Model Number		
	1	2	3
Intercept	-24.122	-12.195	-11.498
	(0.0021)	(0.0518)	(0.0280)
UP_DRNG	24.437	13.017	11.281
	(0.0160)	(0.1098)	(0.0979)
ANCT4G	5.892	6.573	-1.097
	(0.2956)	(0.1479)	(0.7708)
LENGTH_TO	0.066	0.009	0.056
	(0.0019)	(0.5726)	(0.0001)
LENGTH_AFT	-0.012	-0.023	0.010
	(0.6662)	(0.3144)	(0.6152)
SZUPGRD	0.589	0.439	0.166
	(0.8055)	(0.8198)	(0.9181)
TMUPGRD	-0.0004	0.017	-0.014
	(0.9898)	(0.5217)	(0.5122)
Adj. R^2	0.035	-0.009	0.055

Table presents result of three OLS regressions with dependent variables $CMAR_{(-3,+3)}$, $CMAR_{(-3,-1)}$, and $CMAR_{(0,+3)}$, respectively. We use the NYSE/AMEX/Nasdaq value-weighted daily returns to adjust the stock returns for each upgrade in our sample. Independent variables are described in Table 5. P-values are provided in parentheses below each coefficient.