

Credit Rating Targets and Corporate Decisions

Armen Hovakimian^{*}
Baruch College

Ayla Kayhan^{**}
Louisiana State University

and

Sheridan Titman^{***}
University of Texas at Austin and NBER

8/27/2008

Preliminary Draft for presentation at Washington University

Abstract

Managers choose credit rating targets by trading off the benefits associated with a high rating against the higher cost of capital associated with the additional equity required to maintain the high rating. Our evidence indicates that small and risky firms tend to target lower ratings, whereas firms with high growth opportunities tend to target higher ratings. In addition, firms with small boards and large blockholders tend to target lower ratings. We also find that deviations from rating targets influence subsequent capital structure choices. When observed ratings are below (above) the target, managers tend to make security issuance and repurchase decisions that reduce (increase) leverage. In addition, firms are more likely to increase dividend payouts when they have above target ratings and are less likely to make acquisitions when they have below target ratings.

^{*} Zicklin School of Business, Baruch College, New York, NY 10010. Tel: (646) 312-3490; fax: (646) 312-3451; e-mail: Armen_Hovakimian@baruch.cuny.edu.

^{**} Louisiana State University, E. J. Ourso School of Business, Department of Finance, Baton Rouge, LA 70803. Tel: (225) 578-6236; fax: (225) 578-6366; e-mail: AKayhan@lsu.edu.

^{***} University of Texas at Austin - Department of Finance, Red McCombs School of Business, Austin, TX 78712. Tel: (512) 232-2787; fax: (512) 471-5073; e-mail: Sheridan.Titman@mcombs.utexas.edu

In early 2006, the management of Time Warner was targeted by Carl Icahn, who had accumulated a large block of shares in the firm. Icahn, threatening a proxy fight, demanded that Time Warner repurchase shares, increase the number of independent directors on the board, and split up the company into four parts. In addition to claiming that the combined firm was destroying value, Icahn explicitly criticized management for “protecting” the company’s credit quality as opposed to “managing” to a lower credit rating. Although support for his proxy fight failed to materialize, management agreed to buy back shares and start paying quarterly dividends.¹ In response to this announcement, on February 22, 2006, Fitch downgraded Time Warner’s credit rating one notch from a “BBB+” to a “BBB”. Two weeks later (March 6, 2006), Moody’s lowered Time Warner’s ratings to a “Baa2” from a “Baa1.”

Of course, most credit rating changes occur as a result of exogenous events that have nothing to do with management choices. Nevertheless, a firm’s credit rating is a management choice; either an active choice, as illustrated in the above example, or a passive choice, which is the more typical case when firms fail to make capital structure adjustments that offset both positive and negative shocks to their profitability. This point of view is expressed in a recent research report from Standard & Poor’s that states that “... events largely beyond management's control -- such as recession, increased competition, or other business challenges -- often trigger ratings downgrades,” but conclude that a recent trend towards lower ratings is largely driven the fact that “companies choose to adopt a less conservative financial position, usually to pursue

¹ “Time Warner bondholders fret that Icahn is just getting started,” Bloomberg, February 22, 2006.

acquisitions or increase returns to shareholders.”² The report cites a number of reasons behind this trend, including shareholder activism and the greater alignment of management compensation with shareholder interests, and concludes that “the higher, the better” rating is not consistent with an optimal capital structure policy.

This paper extends existing capital structure research by examining how firms target their credit ratings and how their rating targets influence their corporate decisions.³ As a measure of capital structure, the firm’s credit rating has the advantage that it provides a single measure of financial leverage that aggregates the different aspects of the capital structure decision, such as the maturity and seniority structure of the debt, and the amount of debt that is on- versus off-balance sheet.⁴ Moreover, anecdotal and survey evidence suggests that managers of large corporations generally describe their capital structure policy in terms of target credit ratings.⁵

However, there are also reasons to believe that ratings may not provide the best measure of capital structure. The ratings agencies are known to be slow about updating the ratings that they assign, (e.g., Altman and Rijken (2004) and Fons, Cantor, and Mahoney (2002)) and may use information about management’s future intentions to supplement their information about the firm’s current financial condition.

Following the capital structure literature, we posit that the credit rating choice is determined by a tradeoff of costs and benefits that are likely to affect different firms

² “The Leveraging of America: Corporate Financial Policies Evolve Toward the More Aggressive,” Standard & Poor’s Rating Direct, 08 October, 2007.

³ Among the few studies that examine how credit ratings affect capital structure, Faulkender and Petersen (2006) find that firms with rated debt tend to be more levered, Kisgen (2006) reports that firms with a plus or a minus rating tend to reduce their leverage, and Kisgen (2007) finds that a rating downgrade predicts a subsequent reduction in leverage.

⁴ In 2004, 85.4% of the largest 500 U.S. firms in the Compustat files we analyze have credit ratings.

⁵ Indeed, Graham and Harvey’s (2001) survey evidence reveals that managers focus on their credit ratings when they make their capital structure choices.

differently. Some may find it more beneficial to choose a high rating that allows them to be viewed more favorably by major stakeholders, such as their customers and suppliers, who may be concerned about the long-term viability of the firm.⁶ In addition, since credit ratings affect the firm's access to additional financing, firms that are likely to raise capital in the future may maintain higher ratings to retain their financial flexibility.

The costs of achieving a higher credit rating are also likely to vary cross-sectionally. These costs, which arise because a higher rating requires firms to include more equity in their capital structures, are related to the differences in the costs of debt versus equity financing, which are in turn related to the tax benefits of debt as well as the extent to which management believes that the firm's shares are under or overvalued. For example, it may be more costly for small firms to achieve higher ratings, as the required amount of additional equity may be higher for such firms.⁷

As our example at the outset illustrates, managerial preferences and corporate governance issues may also influence the credit ratings choice. For example, managers may benefit from the prestige associated with being highly rated, and may prefer the low default probabilities that are associated with higher ratings.⁸ Managers may also prefer to alleviate the pressure that comes with interest payment commitments, or may benefit from opportunities associated with managing a more highly rated firm that can more

⁶ See, for example, Titman (1984).

⁷ While credit ratings are clearly tied to indebtedness, company size is an important driver of ratings (sometimes more important than measures of leverage). For example, for a small firm, an investment grade rating may simply be out of reach because the leverage ratio required to obtain such a rating may be impractically low. This is not surprising given that size captures firm attributes (e.g., business and financial risk, competitiveness) that are important determinants of ratings.

⁸ In unreported analysis we collected Fortune's ten most admired firms reported annually between 2001 and 2004 (published on March 7, 2005). We compared the ratings of these firms to their industry peers of similar size and found that the most admired firms generally had higher ratings.

easily raise investment capital.⁹ In contrast, if there is a possibility of a hostile takeover, managers may prefer a lower rating if it reduces the potential acquirer's gain and makes a takeover less likely.¹⁰

We start our empirical analysis by estimating ordered probit regressions that describe how ratings are assigned. Consistent with earlier regressions in Kaplan and Urwitz (1979), Ederington (1985), Bhojraj and Sengupta (2003) and Molina (2005), we find that proxies for leverage and risk negatively affect ratings assigned by the rating agencies. In addition, we find that ratings agencies tend to assign higher ratings to firms with smaller blockholder ownership, larger board size, and fewer outside directors.

The results on the importance of governance variables are consistent with the idea that the ratings agencies consider future intentions as well as the firm's current capital structure when they assign ratings. In particular, the results suggest that managers with more discretion over their firms' capital structure choice are assigned higher ratings because they are more likely to make choices, like issue equity, that shore up their firm's balance sheet when they are doing poorly. In contrast, since a firm managed in the interests of equity holders will be reluctant to make such choices because of wealth transfers to debt holders, it will be assigned a lower rating.

To examine this possibility more carefully, we do two things: First, we ask whether deviations from a ratings assignment model that does not include governance variables

⁹ Jensen (1986) argues that interest payments reduce resources under managers' control, thereby increasing the monitoring by the capital markets when firms seek to finance new investments. Hart and Moore (1995) and Zwiebel (1996) argue that debt limits managers' ability to finance future investment. Recent survey evidence of Graham and Harvey (2001) indicates that managers regard financial flexibility as the most important factor in their capital structure decisions.

¹⁰ Harris and Raviv (1988) and Stulz (1988) argue that high leverage increases managers' ownership stake, enabling them to have greater control of the firm and helping them to defend against takeover challenges. Israel (1992) argues that high leverage reduces takeover threats because of wealth transfers to the target's existing debt holders.

predicts future financing and dividend choices. Again, if the ratings assignment includes information about managerial intentions, then the deviation between the actual ratings and the predicted ratings that are based on the firm's current capital structure will include information that predicts future financing choices. We find that this is indeed the case.

Second, we estimate what we refer to as a ratings choice regression that explains observed credit ratings as a function of firm characteristics that proxy for the costs and benefits of achieving a higher rating, along with governance variables that measure the extent to which the manager controls the capital structure choice. The estimates of these regressions are consistent with the hypothesis that ratings choices reflect the costs and benefits of achieving a higher rating. For example, we find that firms with high market-to-book ratios tend to choose high ratings, which is consistent with the idea that higher ratings are more beneficial for firms that need to preserve their flexibility to finance future investments. We also find that small firms tend to choose low ratings, which is consistent with the idea that the costs of achieving a high rating are very high for these firms. In addition, our findings suggest that managers of more weakly governed firms, who enjoy more discretion, tend to choose higher ratings. In particular, firms with large boards of directors and small ownership levels by large blockholders tend to choose higher ratings.

As we mentioned at the outset, although firms choose what rating to target, exogenous shocks to their profitability, risk, and other factors may result in deviations from their target ratings. Firms may be slow to offset negative shocks that lead them to be underrated because of debt overhang issues and transaction costs. In addition, as we just mentioned, firms may be slow to offset positive shocks that lead them to be overrated

because of governance issues. Nevertheless, if managers take these target ratings seriously, the deviation between their current ratings and their targets are likely to influence future investment and financing choices.

To explore this possibility we examine how deviations from estimated target ratings affect a variety of corporate choices.¹¹ Consistent with the target ratings hypothesis, we find that below-target firms tend to make financing, payout, and acquisition choices that decrease their leverage whereas above-target firms tend to make choices that increase their leverage. For example, below-target firms tend to issue equity rather than debt, tend to retire debt rather than repurchase equity, and tend to temper their growth through acquisitions. In contrast, above-target firms tend to repurchase equity rather than retire debt and tend to increase rather than decrease their dividends. These effects are significant even after controlling for the deviation from the target debt ratio and other determinants of corporate financing choices identified in the earlier literature.¹²

Differences in firm choices when they are below versus above the target ratings also provide insights on the relative importance of debt overhang and corporate governance. If managers have preferences for high ratings we might not expect firms with above target ratings to take actions that decrease their ratings, but we would expect to see firms with below target ratings to take actions that increase their ratings. In contrast, if debt overhang is important, we might expect to observe the opposite. Our results indicate that firms react stronger to offset the deviation from the target rating when their rating is

¹¹ In this sense our analysis is similar to Hovakimian, Opler and Titman (2001), Leary and Roberts (2005) and Flannery and Rangan (2006), which examine deviations from target debt ratios.

¹² In addition, as we show, after we control for target ratings, the plus and minus ratings found to be important in Kisgen (2006) do not significantly influence these choices.

below the target than when the rating is above the target, which suggests that on average, the effect of managerial preferences are stronger.

The rest of the paper is organized as follows. Section I describes the rating process. Section II reports our data. Section III presents the results for our rating assignment model. Section IV presents our rating choice model and the corresponding results. Section V presents the effects of target ratings on changes in ratings. Section VI presents the effects of target ratings on corporate financing decisions. Section VII presents the effects of target ratings on dividend and acquisition decisions. Section VIII summarizes our conclusions.

I. Rating Process

Rating agencies claim that they provide accurate “relative” ratings of credit risk at each point in time without reference to an explicit time horizon. In their Corporate Ratings Criteria (2006) manual Standard & Poor’s states that their “*credit ratings are meant to be forward-looking, and their time horizon extends as far as is analytically foreseeable. Accordingly, the anticipated ups and downs of business cycles – whether industry-specific or related to the general economy – should be factored into the credit rating all along. Ratings should never be a mere snapshot of the present situation. Accordingly, ratings are held constant throughout the cycle, or, alternatively, the rating does vary – but within a relatively narrow band (page 33).*” What this means is that although credit ratings provide an ordinal ranking of default risk across firms, depending on the business cycle, the mapping between ratings and default probabilities may change.

It should also be noted that, in addition to using information from a firm’s accounting statements, the ratings agencies consider financial projections that are not available to the

financial economists who study ratings assignments. Standard and Poor's states that "[M]anagement's financial projections are a valuable tool in the rating process, because they indicate management's plans, how management assesses the company's challenges, and how it intends to deal with problems. Projections also depict the company's financial strategy in terms of anticipated reliance on internal cash flow or outside funds, and they help articulate management's financial objectives and policies (Corporate Ratings Criteria, page 16)." As part of their task of assessing these financial projections, the ratings agencies must assess the credibility and the quality of management, so that corporate governance issues are likely to influence the ratings that are assigned.

If rating agencies fully incorporated the expected future corporate financing behavior, so that ratings would reflect the true long-run probability of default, future changes in ratings would not be predictable using public information. However, as we later show, credit rating changes are predictable. There are two reasons why this is the case. First, although the ratings agencies use management projections in the ratings process, they are unlikely to put much weight on a firm's intention to raise equity in the future, and will not adjust their ratings until the equity is actually issued. For similar reasons, the rating agencies may not fully account for firm characteristics that may be indicators of the incentives of firm's to take risks in the future (i.e., governance). In other words, credit ratings primarily reflect long-term probabilities of default given the firm's current financial structure. Given this, if we have theories that predict when firms will make choices that shore up their balance sheets or reduce risks, we can predict ratings changes. This, of course, does not imply that we can predict bond returns, which should reflect changes in actual default probabilities rather than changes in ratings.

Rating agencies also tend to be slow about updating their ratings, which adds to the predictability of ratings changes. Ratings are updated only when agencies are confident that observed changes in a company's risk profile are likely to be permanent (they call this prudent rating migration policy).¹³ Rating agencies aim at maintaining stability by rating through-the-cycle, which lowers the sensitivity of ratings to short-term fluctuations in credit quality, and respond to investors' desire to keep their portfolio rebalancing as low as possible. The ratings agencies may smooth their ratings changes because their clients (institutions holding bonds) do not want to see ratings change with each small change in the firm's prospects. In their published report over their meetings with the issuer organizations, investors, asset management firms, regulators and other market participants, Moody's note that "*Market participants desire ratings stability. They want ratings to be a view of an issuer's fundamental credit risk, which they perceive to be a relatively stable measure of intrinsic financial capacity compared with other, more market-sensitive measures* (Fons et al., (2002))."

II. Data

Our measure of credit rating is the S&P long-term issuer level rating extracted from Compustat.¹⁴ The letter ratings are transformed into numerical equivalents using an ordinal scale ranging from 1 for the lowest rated firms (CCC-) to 19 for the highest rated

¹³ Altman and Rijken (2004) quantify the impact of the long-term default horizon and the prudent migration policy on rating stability. They show that, in contrast to one-year default prediction models, agency ratings place less weight on short-term indicators of credit quality, which is consistent with the idea that rating agencies are focused on the long term. They also show that, prudent migration policy is an even more important factor underlying the stability of agency ratings. Their evidence indicates that rating migrations are triggered when the difference between the actual agency rating and the model predicted rating exceeds a certain threshold level and that the trigger leads to only partial adjustment.

¹⁴ The Compustat data item for credit rating is 280, which defined as the Standard & Poor's current opinion of an issuer's overall creditworthiness, apart from its ability to repay individual obligations, and it focuses on the obligor's capacity and willingness to meet its long-term financial commitments.

firms (AAA).¹⁵ The proxies for the firms' financial characteristics important for our analysis are extracted from the Compustat Industrial Annual Files. The stock return data are from CRSP. The governance data are collected from Compact Disclosure.¹⁶

As in other studies of capital structure, we exclude financial firms (SIC codes 6000-6999) from the sample. In addition, we restrict the sample to include firms with book value of assets and sales above \$1 million. To limit the influence of outliers, all ratio variables are trimmed at the top one percent and, for variables that take on negative values, bottom one percent of their values.¹⁷ The resulting sample consists of 89,070 firm-year observations between 1985 and 2005, including 16,816 observations with credit ratings.¹⁸ Table I presents the distribution of our sample firms by rating and year. Table II presents the distribution of firm characteristics important for our subsequent analysis for the subsamples of firms with and without credit ratings.

III. Discussion of Results

{To be added}

IV. Conclusion

Most executives would agree that, *ceteris paribus*, it is better to have a good credit rating. Yet very few firms have either a "AAA" or a "AA" rating. The reason is that achieving a high rating requires a firm to include a substantial amount of equity in its capital structure, and this can be very costly. Hence, high credit ratings are observed only for firms that are likely to benefit the most from a higher credit rating, e.g., growth firms

¹⁵ Observations with credit ratings indicating default (Compustat data 280 equal 27 or 29) are excluded from our analysis except when examining changes in ratings as described in section IV.

¹⁶ The governance data covers only part of our overall sample from 1988 to 1999.

¹⁷ The exception is the book debt ratio, which is trimmed to exclude observations with book debt ratios of one or higher.

¹⁸ Compustat coverage of credit ratings starts in 1985.

that expect to be raising substantial capital in the future. In contrast, smaller firms that may require proportionally more equity in their capital structures to achieve the same rating tend to have lower ratings.

In addition to these costs and benefits, managerial preferences are also likely to affect the choice of the target rating. It is likely that managers enjoy the prestige associated with having a high rating along with the job security that is associated with low default probabilities. As a consequence, managers may make choices that lead to higher ratings when their ownership structure and board structure provides them the discretion to do so.

Finally, it should be noted that firms are subject to shocks that lead them to deviate from their target ratings. If the concept of a target rating is empirically relevant, then we would expect firms to make corporate finance choices that at least partially offset those shocks and move the firm back towards their targets. However, there are a number of impediments to the readjustment process. For example, wealth transfers to existing debtholders are likely to be an impediment to the leverage decreasing choices that would move an overlevered firm towards their targets. In addition, managerial preferences for higher ratings may be an impediment to leverage increasing choices that would move an underlevered firm towards their targets.

Our analysis indicates that deviations from target leverage ratios as well as ratings targets influence debt versus equity issuance and repurchase choices, dividend changes and acquisition activities in ways that tend to move the firm towards their targets. We find that the deviations from target leverage ratios and target credit ratings have similar predictive abilities and neither effect subsumes the other. In addition, we find that the effect of the deviation from the targets tends to be somewhat asymmetric. In particular,

our regressions indicate that while overlevered firms will take steps to move towards their targets, the evidence does not indicate that being underlevered affects issuance, repurchase, dividends and acquisition choices. These results suggest that managerial incentives provide a much more important impediment to moves towards the target capital structure than bondholder wealth transfers. In contrast, our analysis of the effect of credit rating deficits and surpluses indicate a more symmetric effect, and in situations where it is asymmetric the effect is stronger when the firm has a high rating relative to their targets. Reconciling these apparently inconsistent findings is the subject of our ongoing research.

REFERENCES

- Altman, Edward and Herbert A. Rijken, 2004, How rating agencies achieve rating stability? *Journal of Banking and Finance* 28, 2679-2714.
- Auerbach, Alan J., 1979, The optimal taxation of heterogeneous capital, *Quarterly Journal of Economics* 93, 589-612.
- Ashbaugh-Skaife, Hollis, Daniel W. Collins, and Ryan LaFond, 2006, The effects of corporate governance on firms' credit ratings, *Journal of Accounting and Economics*, 42, 203-243.
- Bhojraj, Sanjeev and Partha Sengupta, 2003, Effect of corporate governance on bond ratings and yields: The role of institutional investors and outside directors, *Journal of Business*, 76, 455-476.
- Blackwell, David S. and David W. Kidwell, 1988, An investigation of the cost differences between public sales and private placements of debt, *Journal of Financial Economics* 22, 253-278.
- Cantillo, Miguel and Julian Wright, 2000, How do firms choose their lenders? An empirical investigation, *Review of Financial Studies* 13, 155-189.
- Ederington, Louis H., 1985, Classification models and bond ratings, *Financial Review*, 20, 237-62.
- Faulkender, Michael, and Mitchell A. Petersen, 2006, Does the source of capital affect capital structure? *Review of Financial Studies* 19, 45-79.
- Flannery, Mark and Kasturi Rangan, 2006, Partial adjustment toward target capital structure, *Journal of Financial Economics* 79, 469-506.
- Fons, J.S., R. Cantor, and C. Mahoney, 2002, Understanding Moody's corporate bond ratings and rating process, special comment, Moody's Investor Services.
- Graham, John R., and Campbell Harvey, 2001, The theory and practice of corporate finance: Evidence from the field, *Journal of Financial Economics* 60, 187-243.
- Harris, Milton and Artur Raviv, 1988, Corporate control contests and capital structure, *Journal of Financial Economics* 20, 55-87.
- Hart, Oliver and John Moore, 1995, Debt and seniority: An analysis of the role of hard claims in constraining management, *American Economic Review* 85, 567-586.
- Hennessy, Christopher A. and Toni M. Whited, 2005, Debt dynamics, *Journal of Finance* 60, 1129-1165
- Hovakimian, Armen, Tim Opler, and Sheridan Titman, 2001, The debt-equity choice, *Journal of Financial and Quantitative Analysis* 36, 1-24.
- Israel, Ronen, 1992, Capital and ownership structures, and the market for corporate control, *Review of Financial Studies* 5, 181-198.
- Jensen, Michael C., 1986, Agency costs of free cash flow, corporate finance and takeovers, *American Economic Review* 76, 323-329.

- John, Kose, and Lubomir Litov, 2008, Corporate governance and financing policy: New evidence, working paper.
- Kaplan, Robert S. and Gabriel Urwitz, 1979, Statistical models of bond ratings: A methodological inquiry, *Journal of Business* 52, 231-262.
- Kisgen, Darren J., 2006, Credit ratings and capital structure, *Journal of Finance* 61, 1035-1072.
- Kisgen, Darren J., 2007, Do firms target credit ratings or leverage levels? working paper.
- Leary, Mark T. and Michael R. Roberts, 2005, Do firms rebalance their capital structures? *Journal of Finance* 60, 2575-2619.
- Molina, Carlos A., 2005, Are firms underleveraged? An examination of the effect of leverage on default probabilities, *Journal of Finance* 60, 1427-1457.
- Myers, Stewart C. and Nicholas Majluf, 1984, Corporate financing and investment decisions when firms have information that investors do not have, *Journal of Financial Economics* 13, 187-221.
- Petersen, Mitchell A., 2008, Estimating standard errors in finance panel data sets: Comparing approaches, *Review of Financial Studies*, forthcoming.
- Pinches, George E. and Kent A. Mingo, 1973, A multivariate analysis of industrial bond ratings, *Journal of Finance* 28, 1-19.
- Pogue, Thomas F. and Robert M. Soldofsky, 1969, What's in a bond rating? *Journal of Financial and Quantitative Analysis* 4, 201-239.
- Rajan, Raghuram G. and Luigi Zingales, 1995, What do we know about capital structure? Some evidence from international data, *Journal of Finance* 50, 1421-1460.
- Shleifer, Andrei and Robert W. Vishny, 1986, Large shareholders and corporate control, *Journal of Political Economics*, 96, 461-488.
- Standard and Poor's, 2006, Corporate ratings criteria.
- Strebulaev, Ilya, 2007, Do tests of capital structure theory mean what they say? *Journal of Finance* 62, 1747-1787.
- Stulz, Rene, 1988, Managerial control of voting rights: Financing policies and the market for corporate control, *Journal of Financial Economics*, 20, 25-54.
- Titman, Sheridan, 1984, The effects of capital structure on a firm's liquidation decision, *Journal of Financial Economics*, 13, 137-151.
- Titman, Sheridan and Roberto Wessels, 1988, The determinants of capital structure, *Journal of Finance*, 43, 1-19.
- Weisbach, Michael S., 1988, Outside directors and CEO turnover, *Journal of Financial Economics*, 20, 431-60.
- Welch, Ivo, 2004, Capital structure and stock returns, *Journal of Political Economy*, 112, 106-132.

Yermack, David, 1996, Higher market valuation of companies with a small board of directors, *Journal of Financial Economics* 40, 185-211.

Zwiebel, Jeffrey, 1996, Dynamic capital structure under managerial entrenchment, *American Economic Review* 86, 1197-1215.

Table I
Ratings Sample

The letter ratings are transformed into numerical equivalents using an ordinal scale ranging from 1 for the lowest rated firms (CCC-) to 19 for the highest rated firms (AAA).

Year	1-3 CCC- CCC CCC+	4-6 B- B B+	7-9 BB- BB BB+	10-12 BBB- BBB BBB+	13-15 A- A A+	16-18 AA- AA AA+	19 AAA	Total
1985	2	94	97	84	131	60	13	481
1986	29	177	133	123	150	63	16	691
1987	21	193	145	113	148	60	18	698
1988	17	163	134	104	150	55	18	641
1989	15	132	125	115	139	55	18	599
1990	14	93	110	119	136	61	16	549
1991	15	83	115	129	144	59	14	559
1992	13	88	130	143	149	59	15	597
1993	4	110	170	161	154	57	14	670
1994	6	123	180	183	145	54	12	703
1995	7	148	184	201	162	50	12	764
1996	8	185	213	217	185	50	12	870
1997	8	205	248	260	193	46	12	972
1998	9	202	280	266	187	48	10	1,002
1999	12	208	295	281	167	40	10	1,013
2000	11	228	276	283	159	35	9	1,001
2001	20	204	285	291	158	34	8	1,000
2002	29	187	317	286	151	27	7	1,004
2003	23	204	338	279	154	27	9	1,034
2004	15	209	341	295	152	26	8	1,046
2005	14	194	304	241	141	21	7	922
Total	292	3,430	4,420	4,174	3,255	987	258	16,816
Percent	1.7%	20.4%	26.3%	24.8%	19.4%	5.9%	1.5%	

Table II
Sample Statistics

The table presents the sample means for variables important for our analysis. S&P500 indicator is set to one for firms that belong to S&P500 index. S&P400 indicator is set to one for firms that belong to S&P400 mid-cap index. NYSE indicator is set to one for firms traded on NYSE. Probability rated is the percentage of rated firms in the firm's industry. Young indicator is set to one for firms that are three years old or younger. Market-to-book is (total assets – book equity + market equity)/total assets. Tangibility is the property, plant, and equipment scaled by total assets. R&D is the research and development expense scaled by sales. R&D indicator is coded one when R&D is not missing. Selling expense is selling, general, and administrative expense net of R&D over sales. Profitability is (operating income)/assets. Size is the natural log of sales, adjusted for inflation. Leverage is (short-term debt + long-term debt)/assets. Large firm indicator is set to one if a firm is above the yearly median value in terms of firm size. Blockholder ownership is the percentage ownership by investors holding five percent or more of outstanding shares. Board size is the number of the directors on the board. Board independence is the percentage of outsiders on the board.

	No Rating	Rating
S&P500 indicator	0.022	0.246
S&P400 indicator	0.035	0.096
NYSE indicator	0.186	0.705
Young indicator	0.145	0.039
Probability rated	0.154	0.224
Market-to-book	1.795	1.581
Tangibility	0.278	0.371
R&D	0.046	0.021
Selling expense	0.278	0.183
Profitability	0.103	0.150
Size	3.893	6.956
Leverage	0.217	0.353
Blockholder ownership	0.382	0.318
Board size	6.922	10.170
Board independence	0.732	0.835
Observations	72,254	16,816
Governance observations	23,585	5,193

Table III
Rating Assignment and Ratings and Leverage Choice Models

The table presents maximum likelihood estimates of the rating assignment and ratings choice models with sample selection correction. For comparison we also include a leverage choice model. The rating assignment is modeled using an ordered probit specification. The sample selection (i.e., the probability of being rated) is modeled using a binomial probit specification. S&P500 indicator is set to one for firms that belong to S&P500 index. S&P400 indicator is set to one for firms that belong to S&P400 mid-cap index. NYSE indicator is set to one for firms traded on NYSE. Probability rated is the percentage of rated firms in the firm's industry. Young indicator is set to one for firms that are three years old or younger. Market-to-book is (total assets – book equity + market equity)/total assets. Tangibility is the property, plant, and equipment scaled by total assets. R&D is the research and development expense scaled by sales. R&D indicator is coded one when R&D is not missing. Selling expense is selling, general, and administrative expense net of R&D over sales. Profitability is (operating income)/assets. Size is the natural log of sales, adjusted for inflation. Leverage is (short-term debt + long-term debt)/assets. Blockholder ownership is the percentage ownership by investors holding five percent or more of outstanding shares. Board size is the number of the directors on the board. Board independence is the percentage of outsiders on the board. All variables are measured at the end of year t or over year t. Rho is the correlation between the error terms in the selection model and the rating model. Industry indicators are included in the rating assignment model as control variables but are not reported. The reported t-statistics reflect robust standard errors adjusted for heteroskedasticity and firm-level clustering. Coefficient estimates significantly different from zero at 5% and 1% level are marked * and **, respectively.

Panel A: Full sample estimates

	Predicted rating		Rating Choice		Leverage Choice	
	Coeff.	t-stat.	Coeff.	t-stat.	Coeff.	t-stat.
Market-to-book	0.145**	6.4	0.173**	7.5	-0.014**	-4.1
Tangibility	1.042**	8.0	0.745**	5.7	0.074**	4.0
R&D	-2.472**	-5.7	-1.632**	-3.6	-0.227**	-3.3
R&D indicator	0.174**	3.5	0.232**	4.4	-0.026**	-3.3
Selling expense	1.077**	6.0	1.008**	5.5	-0.006	-0.2
Size	0.552**	27.7	0.614**	31.1	-0.042**	-20.5
Profitability	2.523**	12.5	2.776**	14.1	-0.181**	-7.1
Leverage	-2.982**	-24.7				
R ²	0.192		0.157		0.281	
Obs	16,816		16,816		16,816	

Panel B: Full sample estimates with governance effects

	Predicted rating		Rating Choice		Leverage Choice	
	Coeff.	t-stat.	Coeff.	t-stat.	Coeff.	t-stat.
Market-to-book	0.144**	5.4	0.177**	6.8	-0.016**	-4.4
Tangibility	0.971**	6.3	0.678**	4.4	0.080**	3.8
R&D	-2.079**	-4.3	-1.296*	-2.5	-0.229**	-2.9
R&D indicator	0.192**	3.3	0.248**	4.1	-0.026**	-2.8
Selling expense	0.946**	4.5	0.808**	3.9	0.027	0.9
Size	0.558**	21.6	0.596**	22.7	-0.033**	-12.3
Profitability	2.675**	10.8	2.867**	11.9	-0.163**	-5.4
Leverage	-2.896**	-19.5				
Blockholders	-0.296**	-4.0	-0.491**	-6.2	0.083**	7.2
Board size	0.379**	6.1	0.427**	6.6	-0.030**	-3.8
Board independence	-0.463*	-2.6	-0.271	-1.5	-0.066**	-2.8
R ²	0.208		0.176		0.309	
Obs	11,098		11,098		11,098	

Panel C: Mean coefficient estimates from annual cross-sectional regressions

	Predicted rating	Target rating	Target leverage
	Coeff.	Coeff.	Coeff.
Historical average	0.879	0.891	0.770
Market-to-book	0.247	0.252	-0.017
Tangibility	0.061	-0.223	0.020
R&D	-1.824	-0.401	-0.097
R&D indicator	-0.016	0.019	-0.005
Selling expense	-0.153	-0.393	0.065
Size	0.131	0.122	-0.017
Profitability	4.540	4.712	
Leverage	-2.232		

Table IV
Target Ratings and Corporate Financing Decisions

The table presents the results of probit regressions predicting debt vs. equity issuance and equity repurchase vs. debt retirement choices (Panel A) and OLS regressions of one-year change in leverage (Panel B). Rating deficit is (Target Rating - Rating) when positive and zero otherwise. Rating surplus is (Rating - Target Rating) when positive and zero otherwise. Leverage deficit is (Target Leverage - Leverage) when positive and zero otherwise. Leverage surplus is (Leverage - Target Leverage) when positive and zero otherwise. Plus rating is set to one if the firm has a plus rating and zero otherwise. Minus rating is set to one if the firm has a minus rating and zero otherwise. Profitability is operating income/assets. Carryforwards is net operating loss carryforwards/assets. Market-to-book is (total assets – book equity + market equity)/total assets. Leverage is (short-term debt + long-term debt)/assets. All independent variables are measured at the end of year t or over year t. Year indicators are included as control variables but are not reported. The t-statistics reflect robust standard errors adjusted for heteroskedasticity and firm-level clustering. Coefficient estimates significantly different from zero at 5% and 1% level are marked * and **, respectively.

Panel A: Debt vs. equity issue choice regressions

	(1)		(2)		(3)		(4)	
	Coef.	z-stat.	Coef.	z-stat.	Coef.	z-stat.	Coef.	z-stat.
(Target – Actual Rating) ⁺			-0.255	-3.8	-0.209	-3.0	-0.264	-1.0
(Actual – Target Rating) ⁺			0.198	2.1	0.190	1.9	0.682	3.2
(Predicted – Actual Rating) ⁺							-0.008	0.0
(Actual – Predicted Rating) ⁺							-0.543	-2.5
(Target – Actual Leverage) ⁺	0.630	0.7			-0.029	0.0		
(Actual – Target Leverage) ⁺	-3.305	-3.7			-2.689	-2.9		
Profitability	2.807	3.5	2.395	3.1	2.346	3.0	2.409	3.0
Carryforwards	-0.901	-2.2	-0.847	-2.1	-0.721	-1.8	-0.781	-1.9
Market-to-book	0.069	0.9	0.107	1.4	0.107	1.4	0.106	1.4
Stock return	-0.364	-3.7	-0.321	-3.3	-0.341	-3.4	-0.320	-3.2
Pseudo-R ²	0.133		0.142		0.150		0.147	
Observations	1,500		1,500		1,500		1,500	
Wald test chi-sq statistic							34.3	
Wald test p-value							0.000	

Panel B: Debt vs. equity repurchase choice regressions

	(1)		(2)		(3)	
	Coef.	z-stat.	Coef.	z-stat.	Coef.	z-stat.
(Target – Actual Rating) ⁺			-0.340**	-3.6	-0.254**	-2.7
(Actual – Target Rating) ⁺			-0.005	-0.1	-0.071	-0.8
(Predicted – Actual Rating) ⁺						
(Actual – Predicted Rating) ⁺						
(Target – Actual Leverage) ⁺	0.849	0.9			0.966	0.9
(Actual – Target Leverage) ⁺	-5.028**	-4.1			-4.392**	-3.6
Profitability	3.571**	4.8	3.193**	4.2	3.279**	4.3
Carryforwards	-1.565	-1.9	-1.515*	-2.1	-1.371	-1.8
Market-to-book	0.596**	6.1	0.605**	6.1	0.605**	6.3
Stock return	-0.224*	-2.2	-0.157	-1.6	-0.212*	-2.1
Pseudo-R ²	0.326		0.314		0.332	
Observations	1436		1436		1436	
Wald test chi-sq statistic						
Wald test p-value						

Table V
Target Ratings and Dividends

The table presents the results of probit regressions predicting the likelihood of a dividend increase vs. a dividend decrease. The dependent variable is set to one if the firm increases its dividend and set to zero if it decreases its dividend (Compustat annual data item 26). Rating deficit is (Target Rating - Rating) when positive and zero otherwise. Rating surplus is (Rating - Target Rating) when positive and zero otherwise. Leverage deficit is (Target Leverage - Leverage) when positive and zero otherwise. Leverage surplus is (Leverage - Target Leverage) when positive and zero otherwise. Plus rating is set to one if the firm has a plus rating and zero otherwise. Minus rating is set to one if the firm has a minus rating and zero otherwise. Profitability is (operating income)/assets. Carryforwards is net operating loss carryforwards/assets. Market-to-book is (total assets - book equity + market equity)/total assets. Leverage is (short-term debt + long-term debt)/assets. All independent variables are measured at the end of year t or over year t. Year indicators are included as control variables but are not reported. The reported t-statistics reflect robust standard errors adjusted for heteroskedasticity and firm-level clustering. Coefficient estimates significantly different from zero at 5% and 1% level are marked * and **, respectively.

	(1)		(2)		(3)	
	Coef.	z-stat.	Coef.	z-stat.	Coef.	z-stat.
(Target - Actual Rating) ⁺			-0.125**	-6.4	-0.103**	-5.2
(Actual - Target Rating) ⁺			-0.023	-0.9	-0.030	-1.1
(Predicted - Actual Rating) ⁺						
(Actual - Predicted Rating) ⁺						
(Target - Actual Leverage) ⁺	0.039	0.1			0.090	0.3
(Actual - Target Leverage) ⁺	-1.471**	-5.6			-1.104**	-4.1
Profitability	1.557**	7.5	1.578**	7.8	1.499**	7.3
Firm size	0.102**	8.6	0.105**	9.1	0.106**	9.0
Market-to-book	0.108**	4.3	0.099**	4.0	0.105**	4.3
Stock return	0.043	1.6	0.059*	2.2	0.052	1.9
Pseudo-R ²	0.043		0.044		0.045	
Observations	8,131		8,131		8,131	
Wald test chi-sq statistic						
Wald test p-value						

Table VI
Target Ratings and Acquisitions

The table presents the results of an OLS regression of funds used for acquisitions. The dependent variable is acquisitions (Compustat annual data item 129) scaled by lagged total assets. Rating deficit is (Target Rating - Rating) when positive and zero otherwise. Rating surplus is (Rating - Target Rating) when positive and zero otherwise. Leverage deficit is (Target Leverage - Leverage) when positive and zero otherwise. Leverage surplus is (Leverage - Target Leverage) when positive and zero otherwise. Plus rating is set to one if the firm has a plus rating and zero otherwise. Minus rating is set to one if the firm has a minus rating and zero otherwise. Profitability is (operating income)/assets. Carryforwards is net operating loss carryforwards/assets. Market-to-book is (total assets - book equity + market equity)/total assets. Leverage is (short-term debt + long-term debt)/assets. All independent variables are measured at the end of year t or over year t. Year indicators are included as control variables but are not reported. The reported t-statistics reflect robust standard errors adjusted for heteroskedasticity and firm-level clustering. Coefficient estimates significantly different from zero at 5% and 1% level are marked * and **, respectively.

	(1)		(2)		(3)	
	Coef.	z-stat.	Coef.	z-stat.	Coef.	z-stat.
(Target – Actual Rating) ⁺			-0.003**	-2.9	-0.002*	-2.1
(Actual – Target Rating) ⁺			0.004**	2.3	0.004*	2.2
(Predicted – Actual Rating) ⁺						
(Actual – Predicted Rating) ⁺						
(Target – Actual Leverage) ⁺	0.014	0.8			0.008	0.4
(Actual – Target Leverage) ⁺	-0.049**	-3.6			-0.036*	-2.6
Profitability	0.068**	4.9	0.073**	5.3	0.070**	5.1
Firm size	-0.003**	-3.8	-0.003**	-3.9	-0.003**	-3.7
Market-to-book	0.001	0.9	0.001	0.7	0.001	0.8
Stock return	0.006**	3.3	0.007**	3.7	0.006**	3.5
Pseudo-R ²	0.031		0.032		0.033	
Observations	7,431		7,431		7,431	
F test statistic						
F test p-value						