

The Impact of Shareholder Power on Bondholders: Evidence from Mergers and Acquisitions

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Abstract

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JEL Classification: G34

Keywords: Corporate Governance, Bondholders, Mergers and Acquisitions

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Abstract

Takeovers result in the transfer of bondholders' claims from the target to the acquiring firm, providing a setting to examine the impact of shareholder power on bondholders. We find that excess returns to target bondholders at M & A announcements are positively related to the holdings of the top 5 acquirer institutional owners, a measure of shareholder power. This supports the view that stronger shareholder power, through superior monitoring of managers, can be beneficial to bondholders as well. Our findings are robust to various proxies for shareholder power, adjustments for endogeneity, controls for target shareholder power, and other controls for firm and deal characteristics that have been shown to affect bondholders' wealth during takeovers.

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“Shareholder-friendly activity ... is a clear credit risk,”

Tom Sullivan, Viacom Debt Gets Good Reception,

The Wall Street Journal, April 6, 2006, p. C4.

1. Introduction

There are compelling reasons to study the impact on bondholders of one important aspect of corporate governance – shareholder power (or control), which is shareholders’ ability to enforce actions on managers that maximize their wealth. Going as far back as Berle and Means (1932), and reiterated notably by Roe (1994), it has been claimed that stock ownership in the U.S. is too dispersed and shareholders too weak to effectively control managers. More recently, in the aftermath of serious managerial misconduct at large U.S. corporations, e.g., Enron, Tyco, and WorldCom, the Sarbanes Oxley Act of 2002 has been enacted to better monitor managers and strengthen shareholder control. However, with a potential for unintended consequences, the implications of stronger shareholders for bondholders have been ignored.

While stronger shareholders may mitigate managerial agency problems to the benefit of both shareholders and bondholders, they can also aggravate shareholder-bondholder conflicts to the detriment of bondholders, as suggested in the above quote from the *Wall Street Journal*. But, in contrast to a large literature specifically devoted to the impact on shareholders of their power relative to managers, invigorated by the development of governance indexes by Gompers, Ishii, and Metrick (2003) and Bebchuk, Cohen, and Ferrell (2005), we are only beginning to understand how this power affects bondholders (Denis and McConnell, 2003). Yet, debt is the primary source of financing for most firms, and shareholder power is expected to affect both the ratings and cost of debt capital, with far reaching consequences for the investment and financing decisions of firms.

Finally, an understanding of the impact of shareholder power on bondholders is particularly important in the context of mergers and acquisitions (M & A’s). M & A’s redeploy real assets by rearranging ownership and control rights. Bondholders have to rebase and revalue their claims according to the new corporate governance structure of the merged firm. Consequently, attempts to understand if a merger creates value and for whom -- a subject of considerable ongoing interest (e.g., Moeller,

Schlingemann, and Stulz, 2005) -- must also take into account how target bondholders will fare when they face a new set of shareholders at the acquiring firm after the takeover.

The literature has so far attributed two main opposing effects to shareholder power, with the net effect on bondholders being an empirical issue. On the one hand, in what we call the *Managerial Monitoring Hypothesis*, greater shareholder power can reduce managerial agency costs and improve collateral value. This lowers the likelihood of default, and enhances the value of bondholders' claims. Shareholders can use their power to reduce managerial perk consumption and shirking, and prevent management from empire-building through poor investments (Jensen and Meckling, 1976, and Jensen, 1986). On the other hand, according to the *Bondholders' Wealth Expropriation Hypothesis*, stronger shareholder power can be used to expropriate bondholders' wealth by pushing through riskier investments, raising leverage with a consequent higher probability of default, increasing payouts such as dividends and repurchases, and other actions that managers would otherwise prefer to avoid.¹

The empirical evidence as to which effect dominates is mixed, based on the three studies focused on the impact of shareholder power on bondholders (Bhojraj and Sengupta, 2003 (BS), Klock, Mansi, and Maxwell, 2005 (KMM), and Cremers, Nair, and Wei, 2007(CNW)).² Throughout the paper, we compare our analysis and findings with BS, KMM, and CNW. BS conclude in favor of the *Managerial Monitoring Hypothesis* when they find that firms with greater shareholder power -- firms with higher institutional ownership and greater board independence -- have higher bond prices. Also, supporting the *Managerial Monitoring Hypothesis*, CNW find that, when the firm is protected from takeover, stronger shareholder power -- indicated by the presence of an institutional blockholder -- has a positive effect on bond values. However, for firms vulnerable to takeover, CNW report that the presence of an institutional blockholder adversely affects bondholders, which is consistent with the *Bondholders' Wealth Expropriation Hypothesis*. Similarly, BS, although they do not distinguish between firms by takeover vulnerability, also find that the holdings of institutional blockholders (and other forms of concentrated institutional ownership) have a negative effect on bond values and ratings. Also supporting the *Bondholders' Wealth Expropriation Hypothesis*, KMM find that firms with stronger shareholder rights, as measured by a low G-Index (Gompers, Ishii, and Metrick, 2003) in their case, have lower bond prices.

The issue of how shareholder power impacts bondholders deserves additional attention. Besides the limited and conflicted evidence available so far, the extant work is vulnerable to the criticism that Demsetz and Lehn (1985) level against cross-sectional studies that relate firm values to various ownership measures (e.g., Morck, Shleifer, and Vishny, 1988, and McConnell and Servaes, 1990). Each of the three

¹ We also consider the common interests that managers and bondholders may have to avoid risks and other activities that can lower the value of their fixed claims on the firm.

² In addition, other studies, such as by Anderson, Mansi, and Reeb (2002) on the impact of founding families on the agency cost of debt, focus on special cases of share ownership.

previous studies on the impact of shareholder power on bondholders employs essentially the same methodology, regressing bond yields (or ratings) on different measures of shareholder power. Plausibly, endogeneity in the form of reverse causality is present here. It may be argued that it is corporate governance structures, and consequent shareholder power, that are drawn to bonds with certain yields (or ratings), and not that bond yields (or ratings) are caused by shareholder power. Indeed, there is empirical evidence suggestive of this endogeneity problem. BS find that firms with high yield bonds have lower institutional ownership in the subsequent year. Recognizing this endogeneity problem, previous researchers adopt econometric approaches to address it. For example, BS utilize simultaneous equations with a 3SLS methodology. KMM use a fixed effects model and employ a 2SLS procedure. These remedies raise their own concerns regarding the specifications of the models used and their efficacy, an important aspect that remains ignored. Indeed, Bhagat and Jeffries (2002) and Coles, Lemmon, and Meschke (2005) suggest that such standard econometric remedies for endogeneity and causation in these situations are ineffective.

We offer a new approach by examining the impact of shareholder power on bondholders during takeovers. This approach has several advantages. Earlier studies relate bond yields (or ratings) to shareholder power without examining the mechanism through which bondholders' wealth is ultimately affected. Masulis, Wang, and Xie (2007) have noted this similar black box nature of studies on the relation between shareholder values and measures of shareholder power (such as the G-Index). Instead, we study a major event in which the role and impact of corporate governance can be explicitly examined. As debt claims on the target are transferred to the acquirer as a result of the takeover, we can track the returns and ratings of individual target bonds from before to after the merger. Thus, the M & A setting provides a unique opportunity to study the impact of a crucial change experienced by target bondholders - a change in shareholder power, as their claims become the responsibility of a new set of acquiring shareholders. The wealth effects from these changes in shareholder power are reflected in excess bond returns and observable changes in ratings in the period surrounding the announcement of the M & A's. In addition, in this setting reverse causality does not pose a serious problem either. Given the event study nature of our experiment, target bond price reactions capture the unanticipated impact of a change in corporate governance. By utilizing a merger event to exogenously shock target bond values with varying preset acquirer ownership structures, we are able to observe the marginal response of target bond values. In an efficient market, it may be argued that it is only the shareholder power at the acquirer that matters, since target shareholder power is already impounded in target bond values. Thus, we emphasize acquirer shareholder power in our baseline analysis. Even so, we also control for target shareholder power and for differences in shareholder power between acquirer and target, and confirm our baseline findings. Also, as a robustness check against reverse causality, we use several variations of acquirer institutional ownership

that take into account whether the holdings are temporary or permanent. We focus on short-term bond price reactions surrounding the takeover announcement because of the problems with methodologies for estimating long term returns (Fama, 1998, and Lyon, Barber, and Tsai, 1999).

Like previous studies on the subject, our study too still faces the problem of the other form of endogeneity, spurious correlation due to a common missing factor that drives both target bondholders' returns and shareholder power at the acquirer. In particular, a positive relation between target bondholders' returns and shareholder power at the acquirer may not necessarily imply support for the *Managerial Monitoring Hypothesis*. A well-run acquirer could be beneficial for target bondholders, while it simultaneously attracts greater institutional ownership and blockholdings, which have been used as measures of shareholder power. We consider this specific possibility as a plausible alternative to the *Managerial Monitoring Hypothesis*, and deal with it by including controls for firm quality (Market-to-Book ratio, and past profitability measures) in our analysis. We also rule out another plausible alternative. Value-creating M & A deals may be anticipated by institutions that may have consequently taken on larger ownership stakes in the acquirer, and that target bondholders profit from such deals as well. Thus, we also control for the combined returns to acquirer and target shareholders as a proxy for the quality of the M & A deal. Yet, in general we remain open to the criticism of not having taken into account other unspecified missing variables that simultaneously determine target bondholders' returns at merger announcements as well as shareholder power at the acquirer.

We employ a comprehensive set of proxies for shareholder power that have been extensively employed in past studies on corporate governance, including all those employed by BS, KMM, and CNW in the related prior work on the impact on bondholders. We use ownership measures (total institutional ownership, holdings of the top 5 institutional owners, and the presence of an institutional blockholder), board characteristics to capture the efficacy of internal governance (board size, board independence, and CEO/Chairman position duality), and indexes based on corporate governance provisions that may protect management (developed by Gompers, Ishii, and Metrick, 2003, Bebchuk, Cohen, and Ferrell, 2005, and CNW).

We examine excess returns for 655 bonds of 214 targets, and ratings changes for 891 bonds belonging to 266 targets, for takeover deals during the period 1979 to 1997. There are significant differences in firm and ownership characteristics between our sample of targets and acquirers, making the shift meaningful for target bonds. We find that, consistent with prior literature, Billet, King, and Mauer (2004), target bondholders experience significant positive excess returns during the merger announcement period with a mean of 0.48%, significant at the 5% level.³ This finding is driven by the speculative grade bonds in our sample (mean and median excess returns of 2.22% and 1.33%, respectively, both significant

³ Like BKM, the median excess return for target bondholders is not significant.

at the 1% level). We also find some evidence that bond ratings for speculative grade bonds improve, while bond ratings for investment grade bonds worsen after the merger, a finding that has not been documented before. Importantly, we find that acquirer shareholder power benefits target bondholders during the takeover event. This is consistent with the *Managerial Monitoring Hypothesis*, according to which increased shareholder power leads to better monitoring of managers, and therefore to higher firm value. In particular, even after controlling for the coinsurance potential and various deal characteristics, we find that an increase in the holdings of the top 5 institutional owners of acquirer stock from the 1st quartile (10.50%) to the 3rd quartile (20.70%) is associated with a statistically significant (1% level) increase of 0.74% in the excess returns to target bondholders. This effect is economically meaningful since the average target bond experiences an excess return of only 0.48%. Upon disaggregating by the type of institution, we find that investment advisors are one of the prime drivers for our findings on the impact of institutional ownership. Previous work by Chen, Harford, and Li (2006) has specially noted the monitoring role played by investment advisors. We affirm the positive relation between target bondholders' excess returns and shareholder power with a comprehensive set of other proxies for shareholder power, including board size and the G-Index (Gompers, Ishii, and Metrick, 2003). Our findings hold up even after we control for acquirer and deal characteristics, as well as a number of other robustness checks. Furthermore, based on a probit analysis, the probability of an upgrade in the rating of a target bond after the deal also increases with acquirer shareholder power. We do not find any evidence that acquirer shareholder power leads to the expropriation of target bondholders, which contradicts inferences reached by CNW and KMM. There is also no evidence that acquirer shareholders try to limit the benefits of the M & A to target bondholders or that institutional acquiring shareholders finance the transaction through debt issuances to expropriate wealth from the target bondholders.

The structure of the remaining paper is as follows. Section 2 develops the hypotheses we test in this paper. Section 3 describes our data and methodology. Section 4 presents the results. In Section 5, we consider the possibility that the interests of managers and bondholders may be aligned when managerial ownership is high. Finally, in Section 6 we offer concluding remarks.

2. Hypotheses

In this section, we formulate hypotheses on the impact of shareholder power on target bondholders. We also discuss prior work on the impact of other factors on bondholders during M & A's.

2.1. *Hypotheses on the Impact of Shifts in Shareholder Power on Target Bonds*

Arguably, bondholders should be immune to changes in the corporate governance of the firm. As documented by Lehn and Poulsen (1991), U.S. courts have generally maintained that bondholder-

stockholder conflicts be resolved explicitly in the indentures, and that the corporation's obligations to the bondholders are contained exclusively in the bond contract. In *Katz v. Oak Industries*, the Delaware Court of Chancery ruled that the "terms of the contractual relationship agreed to, and not the broad concepts such as fairness, define the corporation's duty to bondholders" (508 A.2d 873, 879, Del. Ch. 1986). In *Revlon v. MacAndrews & Forbes Holdings*, the court held that the board of directors' primary fiduciary duty is to shareholders, and that bondholders' rights in the firm are limited to what is explicitly delineated in the bond indenture (506 A.2d. 173 Del. 1986). However, even lengthy and complex bond covenants can not protect against every contingency. For example, in contrast to bondholders, shareholders prefer higher dividends, riskier investments, and greater debt financing, and it is impractical to write contracts that will harmlessly preclude any such actions under all circumstances. In fact, research has shown that shareholder power can be harmful to bondholders (KMM, and, CNW). There is also evidence of significant losses of 6-7% experienced by bondholders in LBO's, where leverage is raised substantially (Warga and Welch, 1993).

We describe below two hypotheses regarding how shareholder power can affect bondholders. The hypotheses are not mutually exclusive.

Bondholders' Wealth Expropriation Hypothesis:

Shifting target bondholders' claims to an acquirer with greater shareholder power can adversely affect bondholders, as it may lead to expropriation of wealth from bondholders through an increase in leverage of the merged firm or by lowering the priority of their claims (Kim and McConnell, 1977, Cook and Martin, 1991, and Ghosh and Jain, 2000). Increases in leverage lower bond values by increasing the probability and expected costs of bankruptcy, as well as the greater likelihood of loss of priority, especially in the event of bankruptcy. Stronger shareholders can also force managers to undertake riskier investments, which also affect bondholders adversely. Since acquirer shareholders have expanded opportunities to expropriate wealth from bondholders during takeovers, we have the following hypothesis: *According to the Bondholders' Wealth Expropriation Hypothesis, target bond returns at takeover announcements are negatively related to acquirer shareholder power.*

Managerial Monitoring Hypothesis:

This hypothesis focuses on the benefits of greater shareholder power from an improved monitoring of managers. Good corporate governance can increase the value of the firm's assets, and therefore the collateral value they represent to bondholders, by reducing excessive managerial perk consumption, prevention of waste of free cash flow in other ways, and avoiding managerial self-dealing. In this sense, greater shareholder power enhances firm value, and that both bondholders and stockholders

have a common interest to control the behavior of managers. In the context of M & A's, increased shareholder power at the acquiring firm leads to better monitoring of acquirer managers, and ensures that they undertake better takeover deals that increase the value of the merged firm (Masulis, Wang, and Xie, 2007). In addition, increased shareholder power leads to better monitoring of managers in the future as well. This better monitoring of acquirer managers increases firm value and benefits bondholders. *Thus, according to the Managerial Monitoring Hypothesis, target bond returns at takeover announcements are positively related to acquirer shareholder power.*

Excessive concentration of share ownership can lead to the pursuit of private benefits of control at the expense of higher share prices, a possibility we consider in our empirical analysis by positing a non-linear relation between target bond returns and shareholder power.

2.2. *Shifts in Operating and Financial Risk for Target Bonds at Takeovers*

Target bonds can experience changes in both operating and financial risks, besides the corporate governance changes we are interested in. Operating risks faced by bondholders change as the acquiring firm's risk can differ from that of the target's assets, and because of the coinsurance effect (Levy and Sarnat, 1970, Lewellen, 1971, Higgins and Schall, 1975, Galai and Masulis, 1976, and Shastri, 1990). According to the coinsurance effect, debt gains as the probability of default for the merged firm is lowered by combining acquirer and target cash flows that are not perfectly correlated. In addition, as Shastri (1990) points out, target bonds face changes in financial risk as the likelihood of default may change because of differences in acquirer and target leverage -- as well as the typical increase in leverage following M & A's (Kim and McConnell, 1977, Cook and Martin, 1991, and Ghosh and Jain, 2000). Target bonds may also see changes in their financial risk because their priority will be altered if their maturity differs from that of the acquirer's bonds (Shastri, 1990). Billet, King, and Mauer (2004) study all these changes in operating and financial risks and find that they explain excess bond returns at M & A announcements. We rely on Billet, King, and Mauer (2004), BKM, for our treatment of the coinsurance effect.

Many studies have examined wealth effects on bonds at announcements of takeovers (Kim and McConnell, 1977, Asquith and Kim, 1982, Eger, 1983, Dennis and McConnell, 1986, Maquieira, Megginson, and Nail, 1998, Renneboog, Szilagyi, and Martynova, 2006). But, with the recent exception of BKM, few of the studies are able to find any significant effects on target bondholders. BKM's study stands out for its large sample of target bonds, and use of dealer quotes instead of matrix prices for bonds. Besides reporting that target bonds gain on average by 1.09% (with non-investment grade bonds gaining by as much as 4.30%), the study also tests several hypotheses based on changes in operating and financial

risk faced by target bonds, as suggested by the literature (Levy and Sarnat, 1970, Lewellen, 1971, Higgins and Schall, 1975, Galai and Masulis, 1976, and Shastri, 1990).

Specifically, BKM hypothesize a *Risk Effect* according to which target bondholders will gain if the operating risk (i.e., standard deviation of unlevered stock returns) of the merged firm is lower, and if cash flows of the acquirer and target are not perfectly correlated (i.e., a conglomerate merger). They also predict that, based on financial risk considerations, target bonds will gain if the leverage of the merged firm is lower (*Leverage Effect*), and maturity of target bonds is shorter than that of acquirer bonds (*Maturity Effect*). Lower leverage at the merged firm decreases default probabilities, while a shorter maturity ensures better priority in the merged firm. We take these effects -- *Risk Effect*, *Leverage Effect*, and *Maturity Effect* -- into account, and extend the analysis by hypothesizing how changes in shareholder power will also affect bondholders.

2.3. *Other Factors that can Impact Target Bondholders at Takeovers*

In addition to the hypothesized effects of shareholder power, and operating and financial risks, we also control for a number of factors suggested by past research. In some cases, the predicted effects of these control variables are ambiguous. These factors, described in Appendix A, are size of the target relative to the acquirer, use of tender offer, whether the bid is hostile, use of cash as a method of payment, whether the M & A occurs in the 90's, deal completion, and whether it is a diversifying deal.

3. **Data and Methodology**

3.1. *Sample*

A sample of completed and withdrawn takeover deals with announcement dates during the period from 1979 to 1997 was collected from *Securities Data Corporation's (SDC)* Mergers and Acquisitions Database. Like prior work, i.e., BKM, the choice of the period is determined by the availability of information on takeover deals (which begins in 1979) and bond price data (which ends in March 1998). If multiple announcements for the same deal were made during the same calendar year, only the first announcement is included in the analysis. We exclude leveraged buyouts and simple acquisitions of assets, and require that the target and its acquirer have non-missing announcement date stock returns on *CRSP* and valid asset and leverage data on *Compustat* in the fiscal year end immediately prior to the merger announcement. These requirements give us an initial sample of 2,300 merger deals. We then match these acquirers and targets to the firms in the *Lehman Brothers Bond Database (LBBD)*. *LBBD* contains all bonds in the Lehman Brothers corporate and government bond indices and covers the period from January 1973 to March 1998. The database reports a time series of month-end bid quotes from Lehman Brothers' dealers and bond ratings from *Moody's* and *Standard and Poor's*, together with cross-

sectional bond details. We do not use “matrix” prices for bonds because they are less reliable than dealer quotes (Warga and Welch, 1993).

For a target to be included in the sample, we require that the target has bonds listed in the *LBB*D with valid Month -3 market value, where Month -3 is counted with respect to the month of the merger announcement. We further require that the target satisfies either of the following conditions: 1) The target has valid bond returns in Months -1 and 0 that are based on non-matrix prices in Months -2, -1, and 0, where Month 0 is the month of the announcement date (referred to as the “bond returns” sample); or 2) The target has at least one rated bond existing in both Month -3 and Month +3, where Month -3 is with respect to the announcement date of the deal and Month +3 is with respect to the effective date or withdrawn date of the deal (referred to as the “bond ratings” sample).^{4,5} The first requirement leaves us with 910 bonds belonging to 298 targets and the second requirement leaves us with 1226 bonds belonging to 371 targets.

We further require the target and acquirer to have proxy statements available just prior to the merger announcement for collection of managerial ownership and board structure data. We supplement our corporate governance data from the *Compact D/SEC* discs. We also require that the target and acquirer have institutional holdings data available in quarterly filings (SEC Form 13F), as provided by *Thomson Financial* for the quarter just prior to the quarter in which the merger announcement falls. Finally, we also require that the acquirer and target have at least 12 months of monthly stock returns from Month -25 to Month -2, inclusive, to allow us to calculate the standard deviation of unlevered stock returns. Our final sample consists of 281 targets with 956 bonds. Of these 281 targets, 214 targets with 655 different bonds belong to the bond returns sample, and 266 targets with 891 different bonds belong to the bond ratings sample.⁶

The majority of the targets in the sample have multiple bond issues. We follow the approach of BKM, and combine all of a firm’s bond characteristics into a single observation, where the weights are based on the Month -3 market value of the bond. Thus, a target’s announcement period bond excess return, bond rating changes and other bond characteristics are weighted averages of all the target’s bonds.

⁴ For those deals which are missing both the effective date and the withdrawn date, the announcement date is used instead.

⁵ As the ratings for speculative bonds prior to 1995 are known to be inaccurately recorded in the *LBB*D, we manually checked these ratings with the Moody’s Annual Bond Records and Moody’s Bond Records. Those bonds with ratings that cannot be verified are discarded.

⁶ Our sample of targets with available announcement period bond returns is slightly smaller than that of BKM primarily because we require the target and acquirer to have asset and leverage data in *Compustat*.

3.2. *Proxies for Shareholder Power*

To examine the relation between announcement period excess bond returns and shareholder power, we use several measures of shareholder power. Though they are widely used in the literature on corporate governance, it is important to note that researchers have questioned whether increases in some of these measures are necessarily beneficial to share prices. Thus, it is important to employ a comprehensive set of proxies for shareholder power.

Institutional Ownership: Total, Holdings of Top 5 Owners, and Blockholdings

Institutional investors may be considered more sophisticated investors with a superior ability to monitor managers, which may explain the improvements in profitability for firms targeted by institutions (Nesbitt, 1994, and Smith, 1996). Institutions also appear to monitor managers in control-related situations such as takeovers and proxy fights (Brickley, Lease, and Smith, 1988, and Agrawal and Mandelker, 1990). Furthermore, Hartzell and Starks (2003) find that institutional monitoring is associated with lower CEO compensation and higher pay-for-performance sensitivity. Consequently, we use total institutional ownership (InstTotal) as a measure of shareholder power. Since institutions with small holdings may not have sufficient economic incentives to monitor managers (Roe, 1994), we also use the holdings of the top 5 institutional owners (InstTop5) and the presence of an institutional blockholder with 5% or more equity stake (a 0, 1 dummy, InstBlock) as additional measures of shareholder power (Shleifer and Vishny, 1986, Maug, 1998, and Noe, 2002). InstTop5 and InstBlock are measures that attempt to overcome free-riding problems among institutions, which would otherwise make it difficult for them to take collective action against managers (Black, 1990; Karpoff, Malatesta, and Walkling, 1996).

The monitoring role of institutions has been questioned in the literature. Some researchers have argued that institutions are myopic, and “vote with their feet,” as a consequence of U.S. regulatory policy that promotes liquidity over corporate governance (Bhide, 1994, and Black and Coffee, 1994). Institutions may also have other commercial interests in the firms that they monitor, and may purposely choose to avoid confronting errant managers. Pound (1988) offers empirical evidence that suggests that institutions contribute to managerial entrenchment by supporting incumbent managers in proxy fights.

Finally, even if greater InstTotal and InstTop5 are generally beneficial to shareholders, they may not be so at higher levels of institutional holdings. At higher levels of holdings, institutions may have sufficient influence to draw greater private benefits from the firm compared with the shared benefits they may gain with other securityholders from a better monitored firm (Barclay and Holderness, 1989, and Zingales, 1994). Consequently, in our analysis we also consider a non-linear relation between bondholders’ returns and shareholder power.

In the prior work related to this study, BS and CNW use InstTotal, InstTop5, and InstBlock as measures of shareholder power.

Board Characteristics: Size, Independence, and CEO/Chairman Duality

Boards constitute an internal mechanism that addresses managerial agency problems that shareholders can not readily resolve themselves, such as hiring and firing the CEO, setting compensation, or providing approval for the issuance of securities. It has been claimed that smaller and more independent boards, and boards where managerial power is not concentrated by having the CEO also hold the position of board chairman, are features of firms with better corporate governance (Baysinger and Butler, 1985, Weisbach, 1988, Byrd and Hickman, 1992, Brickley, Coles, and Terry, 1994, Cotter, Shivdasani, and Zenner, 1997). The directors are more accountable if the board is smaller, and outside directors are less likely to be unduly influenced by managers. Monitoring is also likely to be more effective if the CEO is not too powerful, as may happen if he is also the chairman of the board. Consequently, we use board size (Board Size), percentage of the directors that are independent (% Outside Directors), and a dummy that takes a value one if the CEO also serves as chairman of the board and is otherwise zero (CEO-Chairman duality dummy) as measures of shareholder power.

The effectiveness of boards has been questioned, since it is argued that boards serve at the pleasure of the CEO and are unlikely to properly monitor her (Jensen, 1993). In their survey of research on boards, Hermalin and Weisbach (2003) find the following regularities regarding boards: Firms with smaller boards have better performance, but board independence is not related to firm performance. The evidence on CEO/Chairman duality is limited, but again its impact on the firm has been questioned. Thus, we pay particular attention to our findings regarding Board Size.

In related work, BS use board independence as a measure of shareholder power.

Anti-Takeover Provisions: G-, E-, and ATI-Indexes

Shareholder rights have been proxied with the extent of antitakeover defense provisions. Antitakeover defenses protect management from being replaced by competing management teams and embolden them to pursue self-serving activities. The Investor Responsibility Research Center has published since 1990 details on 24 distinct corporate governance provisions for about 1500 firms. Gompers, Ishii, and Metrick (2003) have used this data to develop a governance index, the G-Index, which is simply a count of the number of anti-takeover provisions adopted by a firm. Gompers, Ishii, Metrick (2003) find that firm value, Tobin's Q, is negatively correlated with the G-Index. Arguing that not all provisions are necessarily relevant in measuring the relative balance of power between shareholders and managers, Bebchuk, Cohen, and Ferrell (2005) identify 6 important provisions:

staggered boards, limits to shareholder amendments of bylaws, supermajority requirements for mergers, supermajority requirements for charter amendments, poison pills, and golden parachute arrangements. Counting the number of these provisions in place for a firm, Bebchuk, Cohen, and Ferrell (2005) define an entrenchment index, E-Index. Finally, CNW focus on just four anti-takeover provisions that they feel are critical for takeovers, the existence of blank check preferred stock, classified boards, and restrictions on calling special meetings and action through written consent. Their anti-takeover index, ATI-Index, consists of a count of how many of these provisions are in place. The ATI-Index is more narrowly focused on the anti-takeover posture of the firm, compared to the more general relative measure of power between shareholders and managers captured by the G-Index. We employ all three measures, G-, E-, and ATI indexes.

In related work, KMM use the G-Index, and CNW use the ATI-Index as measures of shareholder power.

3.3. *Sample Characteristics*

Table 1 tabulates the 281 deals in our sample by year of announcement. The increase in merger activity from 1985 to 1989, and also in the second half of the 1990s, is similar to that in BKM. It also reflects the pattern of aggregate merger activity (Andrade, Mitchell, and Stafford, 2001).

Table 2 presents various characteristics relating to the deals, acquirers, and targets in our sample. The deal characteristics are from *SDC* and are shown in Panel A. About one-third of the deals are fully financed with cash, while about 22% of the deals are financed entirely by stock. Most of the M & A's in our sample are completed deals, with over half of the deals involving 100% of the target being acquired. The transaction values for our sample are much higher than those reported in prior literature (e.g., Moeller, Schlingemann and Stulz, 2004) primarily because firms in the *LBBD* are bigger firms with public debt outstanding.

Panel B of Table 2 provides descriptive statistics of the firms in our sample. All accounting ratios are based on data from *Compustat*, and are measured as of the fiscal year-end immediately prior to the merger announcement. Targets are, on average, smaller, less profitable, and more leveraged than the acquirer. So, a move to the acquirer may be beneficial to target bondholders. But, risk considerations suggest otherwise. Targets have lower growth, which may imply lower risk as well. However, there is little difference in the risk of targets and acquirers, as measured by the standard deviation of unlevered stock returns.

Panel C of Table 2 presents descriptive statistics for the firms' bonds. Target bonds have shorter maturity, with an average maturity of 11 years compared to 12 years for the acquirer. As expected, target bonds have worse ratings. The median target is rated Baa2, while the median acquirer is rated A2.

Finally, targets have fewer bonds as compared to the acquirer. Our descriptive statistics on the firms' bonds are similar to that in BKM.

Panels D, E, and F provide the descriptive statistics on the firms' shareholder power and other corporate governance characteristics. Although the targets have lower managerial ownership than the acquirers, the difference is not significant. Consistent with the targets being smaller firms, targets tend to have slightly lower total institutional holdings (Gompers and Metrick, 2001). Compared to the general sample in BS, the median InstTotal and InstTop5 are lower in our sample. Interestingly, the targets' institutional holdings are more concentrated as shown by the amounts held by the top five institutions, and by the presence of an institutional blockholder. With targets having less institutional ownership but higher concentration, the difference in shareholder power from the target to the acquirer and its impact on bondholders is an empirical issue. Target boards are also smaller, and the chairman of the board is less likely to be the CEO. For their sample, BS report a median value of 77.78% for % of Outside Directors, which is similar to the 78.26% and 78.57% median values for the acquirer and target firms, respectively, in our sample.

According to Panel F, our targets have slightly higher G-index and E-index, though the mean of the difference in G-index is not significant. In KMM's and Gompers, Ishii, and Metrick's (2003) samples which are drawn without regard to merger activity, the median values of the G-Index are 10 and 9, respectively, while they are 9 and 10 for our acquirers and targets, respectively. The mean value of the E-Index for the firms in the S & P 500 Index (not in the S & P 500) is 2.58 (2.46) according to Bebchuk, Cohen, and Ferrell (2005), whereas our firms appear to be more vulnerable to takeovers based on the mean values of 1.61 and 2.18 for the E-Index for acquirers and targets, respectively. Finally, we find that for our sample the median values for our ATI-Index are 1 and 2 for acquirers and targets out of a possible maximum of 4, respectively.

As a broad generalization, the extent of shareholder power is not peculiarly unique to our sample of firms.

4. Results

4.1. Excess Bond Returns and Ratings Changes

We compute monthly bond excess returns and changes in bond ratings for each target in our sample. Following Warga and Welch (1993) and BKM, we calculate monthly bond excess returns as the difference between a bond's monthly total returns (change in price plus accrued interest) and the monthly total return on an index of bonds with similar rating and remaining maturity. These indices are constructed by Lehman Brothers and are available in the *LBBD*. The announcement period bond return is the sum of Month 0 and Month -1 excess returns. The change in a bond's rating is the difference in a

bond's rating between Month -3 and Month + 3, where Month -3 is counted with respect to the announcement date and Month +3 is counted with respect to the merger effective date or the date on which the bid is withdrawn. If target bonds gain from differences between acquirer and target and from the coinsurance effect, this will be reflected in the ratings improvement that follow from a shift of the claims of target bondholders to less risky merged assets. As mentioned previously, for those firms with multiple bond issues, a weighted average bond excess return and a weighted average bond ratings change are calculated for each target, where the weights are based on the market value of the bond in Month -3.⁷

Table 3 reports announcement period excess returns and rating changes for target bonds. Like BKM, we find that target bonds on average earn a positive excess return, 0.48%, significant at the 5% level. Although the median excess bond return is 0.13%, it is not significant. Most of the gains in returns are experienced by speculative grade target bonds, consistent with the coinsurance effect. Speculative grade bonds gain an average of 2.22% excess return, while the investment grade bonds lose an excess return of about 0.45% in the period surrounding the announcement. Further, the gains are seen mainly in completed deals, where targets of completed deals gain a significant excess return of 0.72%.

Results based on the changes in bond ratings are generally weaker, possibly because jumps in bond ratings are lumpy. All the median changes are zero. Thus, when examining changes in bond ratings, only the means will be discussed. On average, bond ratings decrease, although this decrease is not significantly different from zero. Examining the investment grade and speculative grade bonds separately, we find that, similar to the bond returns analysis above, the investment grade bonds worsen in ratings, while the speculative grade bonds improve in ratings. The difference in ratings change between the speculative grade bonds and investment grade bonds is significant at the 10% level. Inclusion of withdrawn deals is a likely reason for our weak findings. The coinsurance effect for the target bondholders comes about only if the target bondholders actually move from risky assets to less risky merged assets. In untabulated results, where the withdrawn deals are discarded, the speculative grade bonds increase their ratings significantly, by an average of 0.6, while the ratings change for investment grade bonds are not significantly different from zero. The difference in ratings change for the two groups of bonds is significantly different at the 5% level.

4.2. *Univariate Analysis of Excess Bond Returns and Ratings Changes*

Table 4 divides the firms into sub-samples based on various aspects of acquirer shareholder power and corporate governance. Generally, the results show that better governed acquirers benefit target bondholders. Higher institutional monitoring, i.e., high AInstTotal or AInstTop5 lead to significantly

⁷ One target has a value-weighted announcement period bond excess return of 85.77%. This observation is discarded from our sample.

positive excess bond returns, while bonds with low institutional monitoring experience returns that are not significantly different from zero. The difference between the subgroups is also not significantly different from zero. The changes in the ratings of target bonds show that bonds that move to an acquirer with high (low) institutional monitoring improve (worsen) their ratings, with the difference between the two groups of bonds significant at the 5% or better level. The presence of an acquirer institutional blockholder also benefits the target's bondholders.

We also examine how the acquirer's board structure affects target bondholders' gains. As can be seen in the middle panel of Table 4, the size of acquirer board structure does not appear to affect target bondholders. However, there is evidence that a more independent acquirer board benefits target bondholders. Target bonds experience a mean improvement in ratings of 0.53 when the acquirer has a more independent board, while the bonds experience a significant decrease in ratings of 0.63 when the acquirer board is not as independent. In the bottom panel in Table 4, we examine how acquirer takeover vulnerability affects bondholders' returns and ratings. The mean and median returns to target bondholders are higher when the G-Index is lower (shareholders are stronger and takeover vulnerability is high), but the difference is not significant. However, when managers are in a stronger position, there is some weak evidence that target bonds gain in terms of their ratings (the difference is significant at the 10% level). Qualitatively, we obtain similar findings with the E-Index.

Overall, our univariate analysis is consistent with the *Managerial Monitoring Hypothesis* since bondholders are seen to gain when acquirers are better governed. There is no evidence of shareholder expropriation.

4.3.1. *Multivariate Analysis of Excess Bond Returns: Methodology*

In this section, we report findings from a multivariate cross-sectional regression analysis of excess bond returns on the shareholder power at the acquiring firm, and a number of other control factors. Please note that the number of observations drops to 147 deals as we now require that the acquirer also have bonds listed in the *LBB*. Our baseline regression is:

$$\text{Excess Target Bond Returns} = f(\text{Shareholder Power at Acquirer, Operating and Financial Risk Differences between Acquirer and Target -- Risk, Leverage, and Maturity Effects, Non-Diversifying Deal Dummy, Relative Size, Tender Offer Dummy, Hostile Deal Dummy, Cash Dummy, 1990's M \& A Dummy, and Completed Deal Dummy})$$

Shareholder power is measured as acquirer's (i) Total institutional holdings, AInstTotal, acquirer's holdings of top 5 institutions, AInstTop5, or a (0, 1) dummy for the presence of an institutional blockholder with a 5% and greater stake among the acquirer's owners, AInstBlock;;(ii) Board Size, % Outside Directors, or CEO-Chairman duality dummy, a (0, 1) dummy with a value one when the same person serves as CEO and chairman of the board; and (iii) G-Index, E-Index, or ATI-Index.

Risk Effect is captured by the difference between the rating of the worst rated bond at the acquirer and the target, JRT Diff). We also use another proxy, a (0, 1) dummy with a value of one when the standard deviation of the unlevered of the target's stock returns exceeds that of the acquirer, $D(TRetStd > ARetStd)$.

Leverage Effect is taken into account with a (0, 1) dummy variable which equals one if the target book leverage, as measured by the ratio of total debt to book assets, is greater than the acquirer book leverage, $D(TLev > ALev)$.

Maturity Effect is included with a (0, 1) dummy which takes a value of one if the target bond maturity is shorter than the acquirer maturity, $D(TMaturity < AMaturity)$.

Other Control Variables include the ratio of the acquirer size to target size (Acquirer Size/ Target Size), and dummy variables for whether the deal is financed 100% by cash (Cash), classified as hostile (Hostile), occurred in the 1990s (1990s), non-diversifying (Non-Diversifying Deal), a tender offer (Tender Offer), and if it is completed (Completed Deals).

Target Shareholder Power is not included in our baseline regression shown above. Instead, we include just acquirer shareholder power as an independent variable. Yet, our hypotheses deal with the changes in the corporate governance between the target and the acquirer. The reason is that, in an efficient market, target shareholder power is expected to be already impounded in the prices and ratings of target bonds. We, nevertheless, add target shareholder power as an additional independent variable in our robustness checks. This allows for differences in shareholder power, and conforms more narrowly to our hypotheses. We predict, however, that target shareholder power will not enter with a significant coefficient in our regressions. We also repeat our analysis with another control, a (0, 1) dummy with a value one when the acquirer shareholder power is greater than that of the target, e.g., when $AInstTop5 > TInstTop5$. Again, in the presence of acquirer shareholder power in the regression, this dummy is not predicted to add explanatory power.

4.3.2. *Multivariate Analysis of Excess Bond Returns: Institutional Ownership as Shareholder Power*

The findings of the multivariate analysis for shareholder power based on institutional ownership, AInstTotal, AInstTop5, and AInstBlock, are presented in Table 5. First note that the coefficient of the difference in JRT is significantly positive in all the regressions. Target bonds gain when the acquirer is rated better than the target. Similar to BKM, a dummy for difference in standard deviation of unlevered stock returns has little additional explanatory power. We also use yet another proxy, differences in modified Z scores between acquirer and target, (Acq Z – Tar Z), where Z is measured using the modified Z-score procedure in Graham, Lemmon, and Schallheim (1998). The difference in JRT continues to remain positive and significant, although it is highly correlated with (Acq Z – Tar Z). These variations do not alter the findings on shareholder power discussed below. In addition, we also find that target bonds gain when the acquirer size is bigger than the target and target bonds lose when cash is used in the deal.

In Model 2, we include AInstTotal as an independent variable, and find that greater acquirer total institutional ownership has a beneficial effect on target bondholders' wealth, since the coefficient of AInstTotal is positive and significant at the 10% level. Similarly, in Models 3 and 4, the coefficients of AInstTop5 and AInstBlock are positive and significant (at the 5% or better level). Probably because of multicollinearity (correlation coefficient between AInstTotal and AInstTop5 is 0.68, and that between AInstBlock and AInstTop5 is 0.60 for the sample of 147 deals in Table 5), AInstTotal and AInstBlock do not have significant coefficients when they are included along with AInstTop5 in Models 5 and 6. However, AInstTop5 remains positive and significant in Model 6 and all other specifications in Table 5. At any rate, arguably top 5 institutional holdings may be a better proxy for shareholder power as it measures whether shareholders can take collective actions together to bargain with managers, while total institutional holdings may include many institutions with very small holdings. The presence of a single blockholder assures us only of an ownership stake of at least 5%, while the median value of AInstTop5 is about 15% (Table 2). Institutions with small holdings, and even blockholders without sufficiently large stakes, may suffer from free-rider problems. Adding AInstTop5 to the regression raises the adjusted R^2 by over 5%, comparing Models 1 and 3. Model 3 also shows that a 1% increase in AInstTop5 leads to a 0.073% increase in excess bond returns at the merger announcement. In going from the 1st quartile (10.50%) to the 3rd quartile (20.70%) for AInstTop5 in our sample raises target bond excess returns by 0.74%. Given that the mean target bond excess return at the M & A announcement is 0.48%, changes in holdings by top 5 institutions of acquirer stock have, not only a statistically, but also an economically significant impact. In all, these findings are consistent with the *Managerial Monitoring Hypothesis*.

In Models 7 and 8, we control for target shareholder power, $TInstTop5$ and $D(AInstTop5 - TInstTop5)$, respectively. Neither of these controls have significant coefficients, which is consistent with the notion that target shareholder power has already been priced into target bonds.

4.3.3. *Multivariate Analysis of Excess Bond Returns: Board Characteristics as Shareholder Power*

We use board size, board independence, and whether the CEO is also chairman of the board as additional proxies for shareholder power in Table 6. In Model 1, we see that the coefficient of Board Size is -0.105, which is significant at the 5% level. Compared to Model 1 in Table 5, the inclusion of Board Size in Model 1 in Table 6 raises the adjusted R^2 from 21.6% to 23.9%, an increase of 2.6%.

In Models 2 and 3, we see that %Outside Directors and the CEO-Chairman duality dummy have insignificant coefficients. We also employed other specifications to affirm these findings. For example, we also used (0, 1) dummy variables based on whether the acquirer board has above median (above 78.26%), above 50%, or above 60% independent directors. All these variations do not change our conclusion regarding board independence. In Model 4, we include all three board characteristics as independent variables. The coefficient on Board Size remains negative and significant, while %Outside Directors and the CEO-Chairman duality dummy are still insignificant. In Models 5 and 6, we control for target shareholder power, and the findings on Board Size are qualitatively the same. Target Board Size and $D(Acq\ Board\ Size\ Smaller)$ both have insignificant coefficients.

Our findings are similar to those reported in previous work on how boards affect shareholders. In their survey of the literature on boards, Hermalin and Weisbach (2003) note that the empirical evidence supports the view that smaller boards are more effective in monitoring managers and creating value, while board independence has not been consistently found to be beneficial. Thus, our findings on Board Size too support the *Managerial Monitoring Hypothesis*.

4.3.4. *Multivariate Analysis of Excess Bond Returns: G-, E- and ATI Indexes as Shareholder Power*

In Table 7, we consider the G-Index proposed by Gompers, Ishii and Metrick (2003). Model 1 in Table 7 shows that target bondholders fare better with acquirers with greater shareholder rights. The coefficients for $\ln(1+G\text{-Index})$ is negative and significant, though only at the 10% level. This too supports the *Managerial Monitoring Hypothesis*. However, once we control for target shareholder power in Models 2 and 3, the coefficient of $\ln(1+G\text{-Index})$ is insignificant. But, the number of observations may now be unreliably down to only 51 compared to 147 in Tables 5 and 6 because of data availability on corporate governance provisions.

We also employ alternative specifications, Models 4 and 5, in which we use a (0, 1) dummy with a value one if the G-Index has a value lower than the median and captures cases where shareholders are

stronger. The dummy Low G-Index has a significant positive coefficient in both Models 4 and 5. Importantly, the dummy Low G-Index has a significant coefficient even though AInstTop5 and AInstBlock are included as independent variables. Overall, though not strongly so, these findings also support the *Managerial Monitoring Hypothesis*.

Models 4 and 5 in Table 7 also provide us with a closer replication of the analysis in CNW because we include interaction terms, Low G*AInstTop5 or Low G*AInstBlock. These interaction terms capture the cases with high takeover vulnerability of the acquirer (Low G) and concentrated institutional ownership (AInstTop5 or AInstBlock). According to CNW, when the firm is protected from takeover, institutional blockholdings have a positive monitoring impact. But when the firm is vulnerable to takeovers, institutional blockholdings lead to an expropriation of bondholders' wealth. However in both models, the coefficients of the interaction terms are not significant. In unreported findings, we also use the ATI-Index developed by CNW in place of the G-Index to replicate CNW's analysis more faithfully. We find that, while AInstTop5 and AInstBlock continue to have significant coefficients, the ATI-Index and the interaction terms do not have significant coefficients.

We obtain qualitatively similar results by repeating all of the above analysis with the E-Index developed by Bebchuk, Cohen, and Ferrell (2005) instead of the G-Index used in our Table 7. Thus, unlike KMM and CNW, we find support for the *Managerial Monitoring Hypothesis* in our context of M & A's.

4.3.5. *Multivariate Analysis of Excess Bond Returns: Multiple Measures of Shareholder Power*

In Table 8, we simultaneously include multiple measures of shareholder power in our analysis to check on the relative roles of our measures, which have been used individually in Tables 5 through 7 but may be either complements or substitute governance mechanisms. We are particularly interested in AInstTop5, AInstBlock, Board Size, and possibly the G-Index, based on our findings so far. The correlation coefficients between top 5 institutional holdings with board size, percentage of independent directors on board, and a CEO-Chairman duality dummy are only -0.03, 0.14, and -0.28, respectively. These are low correlation coefficients, making it unlikely that multicollinearity with the holdings of the top 5 institutional owners explains the lack of significance for the coefficients on % Outside Directors and CEO-Chairman duality dummy in our earlier analysis.

Table 8 shows that our findings on AInstTop5 and AInstBlock are indeed robust, since the coefficients for these measures are significant irrespective of the other measures included as independent variables. The findings on Board Size are now mixed. But, Board Size has the predicted negative and

significant coefficient for the larger sample (147). Finally, the coefficients for G- Index terms still have the predicted significant negative signs.⁸

4.4. *Spurious Correlation because of Acquirer Quality or Deal Quality?*

Firm quality as a control to address endogeneity problems is included in additional specifications in our analysis in Table 9. We use both acquirer MB and ROA, as proxies for a potentially missing factor, firm performance. Institutional owners may take larger positions in well-run, better performing firms, and that target bonds stand to gain when targets are acquired by such firms. Thus, a positive relation between acquirer institutional ownership and returns to target bonds may not be because of any monitoring ability of institutions. But if, after controlling for MB (or ROA), we find that bond excess returns and institutional ownership are still positively related, it would further support the validity of the *Managerial Monitoring Hypothesis*.

Deal quality as control to address endogeneity problems is also included in additional specifications in our analysis to examine another link that could create a spurious correlation between acquirer shareholder power and target bond returns. Our proxies for deal quality are the Combined (Target, Acquirer) cumulative stock excess returns, CAAR, from Day -1 to Day +1, where Day 0 is the announcement of the M & A.

In Models 1 and 2 of Table 9, we examine how AInstTop5 impacts target bonds after we control for the quality of the acquirer, MB or ROA. These controls are in addition to those shown in Table 5. Both MB and ROA have positive coefficients, suggesting that target bonds do indeed benefit in moving to a better acquirer. Importantly, coefficients of AInstTop5 in models 1 and 2 retain their positive and significant sign.

In Models 3 through 5, we control for deal quality. Irrespective of whether we employ target, acquirer, or combined CAAR (-1, +1) as proxies for deal quality, we find that target excess bond returns are positively related to AInstTop5. Notably, the coefficients for target, acquirer, or combined CAAR (-1, +1) are insignificant in Models 3, 4, and 5, which is contrary to the notion that target bondholders gain at the expense of acquirer or target shareholders. If anything, when we re-estimate the regression with only AInstTop5 and target CAAR (-1, +1), target CAAR (-1, +1) has a positive coefficient (significant at the 10% level). When acquirer or combined CAAR (-1, +1) are similarly entered in the regression instead of target CAAR (-1, +1), they still have insignificant coefficients. In all, these findings are inconsistent with those of CNW that suggest that target shareholders expropriate wealth from target bondholders during

⁸ The findings are similar but weaker using the E-Index. The coefficients in Models 3 and 6 are negative, but are significant only for Model 6 at the 10% level. Using the ATI-Index, we again get negative coefficients but they not significant in both Models 3 and 6.

takeovers. They are, however, consistent with the findings in BKM, where they find a positive correlation between returns to target shareholders and target bondholders.

As a robustness check, we repeat our analysis in Table 9 using our other proxies for shareholder power. The coefficient of Board Size remains negative and significant after MB, ROA, or target (acquirer, combined) CAAR (-1, +1) are used as additional control variables. Similarly, the coefficient of $\text{Ln}(1+\text{G-Index})$ remains negative and significant (10% level).

Our findings, after controlling for firm and deal quality, remain consistent with the *Managerial Monitoring Hypothesis*.

4.5. Additional Robustness Checks on Multivariate Analysis

4.5.1 Impact of Institutional Ownership at High Levels

We do not include square terms for any of our institutional ownership variables, total or top 5, in our tables because they never have significant coefficients. In unreported results, when we include the square of AInstTop5 as an independent variable the coefficient of AInstTop5 retains its significance but the coefficient of the square term is not significant. This means that AInstTop5 has a positive impact on target bondholders throughout the range of AInstTop5 values in our sample, and does not reach levels at which the top 5 institutions prefer to draw private benefits that adversely affect share prices.

4.5.2. Target Bonds with Call Features or Event Risk Covenants

To preclude the possibility that our findings are driven by bonds that have sweet deals based on their covenants, but are not ultimately around to be affected by the monitoring that accompanies shareholder power at the acquirer, we form a sample of only those bonds that are still outstanding three months after the effective date of the acquisition. The sample size drops to 135 targets, but the coefficients on AInstTop5, Board Size, and $\text{Ln}(1 + \text{G-Index})$ are similar to that for the full sample.

4.5.3. Industry and Year Effects

For acquirer industry effects, we repeat the analysis (Model 2 in Table 5, Model 1 in Table 6, and Model 1 in Table 7) for coefficients when AInstTop5, Board Size, and $\text{Ln}(1 + \text{G-Index})$ are entered individually with additional controls consisting of dummies for 1-digit SIC. All the coefficients remain similar in sign and significance. When we use dummies for target industry 1-digit SIC instead, the findings are again largely the same, except that the coefficient of $\text{Ln}(1 + \text{G-Index})$ is still negative but not significant anymore (t-stat = 1.63).

Institutional ownership has increased dramatically over the years, going from about 7% of U.S. equities in 1950 to about 51% by 2004 (Federal Reserve Board's Flow of Funds reports).⁹ If over the years target bondholders have fared progressively better during M & A's, e.g., because of better protection such as event risk covenants, we may spuriously find bond excess returns to be positively correlated with institutional ownership. Consequently, we repeat the analysis (Model 2 in Table 5, Model 1 in Table 6, and Model 1 in Table 7) when AInstTop5, Board Size, and Ln (1 + G-Index) are entered individually with additional controls consisting of yearly dummies for 1981 through 1997. The coefficient for AInstTop5 is still positive and significant. The coefficient for Board Size is negative, but significant at only the 10% level. Finally, Ln (1 + G-Index) is negative but it is not significant anymore. None of the year dummies has a significant coefficient.

Overall, the analysis with industry and year effects affirms our earlier findings for AInstTop5 and Board Size. However, the findings for Ln (1+ G-Index) appear to be consistent though weaker.

4.5.4. Independent, Long-Term, Institutional Ownership in Acquirer

Arguably, only institutions with a long-term interest in the firm will undertake costly monitoring. So, in the spirit of Chen, Harford, and Li (2006), we determine the percentage of acquirer shares held by independent, long-term institutional investors. First, we determine the top 5 institutional investors in the quarter prior to quarter in which the M & A announcement occurs. Then, we ascertain which of these institutional investors holds stakes in the acquirer during the 5 prior quarters, quarter (-1) through quarter (-5). Only those institutions with ownership in the top 5 for each of these past 5 quarters are considered long-term investors. Independent, long-term investors are those long-term investors who are classified as investment advisors, investment companies, and public pension funds. Together the institutional holdings by these independent, long-term investors in quarter (-1) constitute our measure of concentrated ownership by long-term institutional investors. Repeating our baseline analysis with this measure of concentrated ownership, we again find a positive relation between target excess bond returns and this proxy of shareholder power. The coefficient is now 0.089, significant at the 5% level (the comparable coefficient in Model 3 of Table 5 is 0.073, significant at the 1% level).

⁹ Indeed, our sample confirms this trend since we find that the mean (median) for AInstTotal and AInstTop5 are 43.93% (47.22%) and 15.82% (14.11%), respectively, at the end the quarter prior to the M & A announcements, and 46.90% (48.22%) and 17.04% (15.05%), respectively, at the end of the quarter in which the effective date falls. These represent statistically significant increases of 2.97% (1.40%) and 1.23% (0.58%) in AInstTotal and AInstTop5, respectively. If it had been the opposite case – institutions were selling out while bonds were gaining – it would have been consistent with bonds reaping the benefits of overpayment while institutions were “walking away” instead of monitoring.

4.6. *Multivariate Analysis of Bond Ratings Changes*

We also examine changes in the ratings of target bonds as an alternative to the excess returns experienced by target bonds at the M & A announcement. This is another approach that avoids relying on bond gains which may result from target bonds being called back at higher prices, rather than the monitoring improvements the acquirer shareholders might offer. In this analysis, we only examine completed deals and targets where there is a ratings upgrade or downgrade. Targets where there are no ratings changes are discarded because they may contain cases where changes were not large enough to effectuate the lumpy steps needed for a ratings change. As a result, we are also able to apply a more straightforward probit analysis. However, the cost is that the sample size decreases to 64 targets, out of which 41 targets experience a ratings upgrade.

Panel A of Table 10 presents a probit analysis of the impact of AInstTotal, AInstTop5, and AInstBlock on the probability of a ratings upgrade for target bondholders. Marginal effects are provided. Similar to the returns results, we find that the probability of a ratings upgrade increases with the difference between acquirer and target JRT. This effect is consistent with the coinsurance effect where target bonds gain when they move to a less risky environment. Importantly, we find that in Models 2 through 4 higher acquirer institutional holdings, AInstTotal, AInstTop5 or AInstBlock, increases the probability of a ratings upgrade, and that the findings are significant at conventional levels of significance. (In unreported findings, we control for firm quality with acquirer's MB or ROA, as an independent variable, and the coefficient of AInstTop5 remains positive and significant.) These findings are consistent with the *Managerial Monitoring Hypothesis*. If the *Shareholder Expropriation Hypothesis* is valid, we would expect that the target bonds ratings are negatively affected by AInstTotal, AInstTop5, and AInstBlock. Although AInstTotal is highly correlated with AInstTop5, the coefficient of AInstTop5 is still positive and significant in Model 5. In Model 6, perhaps because of multicollinearity, the coefficient of AInstBlock loses significance when AInstBlock and AInstTotal are both independent variables.

In Panel B of Table 10, we examine the impact of acquirer's Board Size, % Outside Directors, and CEO-Chairman duality on the probability of a ratings upgrade for target bondholders. Different from the findings on bond excess returns, acquirers' % Outside Directors has a significant positive coefficient, a finding that is consistent with the *Managerial Monitoring Hypothesis*. Notably, Board Size does not have a significant coefficient in any of the specifications. Finally, we find that AInstTop5 and AInstBlock continue to positively impact the probability of a ratings upgrade for target bondholders.

Overall, the findings using ratings changes are also supportive of the *Managerial Monitoring Hypothesis*, particularly when shareholder power is proxied by concentrated acquirer institutional ownership.¹⁰

4.7. Which Institutions Matter? Disaggregating Institutional Ownership

Next, we examine which types of institutions play a significant role in affecting target bondholders' returns. In Table 11, Model 1, we disaggregate institutional ownership by type of institution. Across the 147 deals in Table 11, mean total acquirer ownership by different institutions, if the institution is among the top 5 owners, is as follows: banks, 3.97%, insurance companies, 1.43%, investment companies, 2.90%, investment advisors, 7.20%, public pensions, 0.19%, and others, 0.82%. Furthermore, the number of deals out of the 147 total deals in which different institutions are *not* a part of the top 5 owners in our sample are: banks, 35, insurance companies, 89, investment companies, 66, investment advisors, 4, public pensions, 131, and others, 134. These participation rates suggest that investment advisors are prominent owners of our acquiring firms. In fact, investment advisors hold blocks (5% or more) in 23% of our acquiring firms, which is the highest percentage among all the different types of institutions.

In Model 1 of Table 11, we replace AInstTop5 with the percentage holdings of each type of institution if they are in the top 5, while Model 2 makes use of dummy variables indicating whether each type of institution holds more than 5% of acquirer shares.¹¹

Based on Models 1 and 2 in Table 11, our consistent finding is that the presence of Investment Advisors as owners of acquirer stock has a positive effect on target bondholders' excess returns at M & A announcements. These findings are consistent with those in Chen, Harford, and Li (2006), who find that concentrated institutional ownership by long-term independent institutional owners leads to better performing M & A's. They define independent institutions as public pension funds, investment advisors, and investment companies, but according to them it is only the pension funds and investment advisors that monitor managers. In our sample, pension funds are not important owners, while investment advisors are. Thus the findings regarding investment advisors, in conjunction with those of Chen, Harford, and Li (2006), further support the monitoring role of shareholder power claimed in the *Managerial Monitoring Hypothesis*.¹²

¹⁰ We are unable to repeat our analysis of target bond ratings changes with the G-, E-, and ATI-Indexes because of extremely small samples of bonds with ratings changes as well as limited availability of data on corporate governance indexes for acquirers.

¹¹ There are no public pension fund blockholders in our sample of 147 deals.

¹² We do not attach the same interpretation to the positive coefficient for investment companies based on the literature on their monitoring activities. In fact, according to Qiu (2004), investment companies "monitor" by their feet.

4.8. *Which Target Bonds Gain? Investment or Speculative Grade?*

Investment grade target bonds have limited upside potential, while speculative bonds can benefit substantially by an improvement in corporate governance. This notion is tested in Table 11 in Models 3 and 4. According to Model 3, relative to investment grade bonds, speculative bonds gain more from the holdings of the top 5 institutional owners. The coefficient for the interaction term is 0.072, which is significant at the 5% level. However, when we control for the speculative nature of the target bond in Model 4, the interaction term is still positive but not significant anymore. Furthermore, the coefficient of *AInstTop5* remains highly significant and positive. These findings suggest that our results are not driven by distressed debt, and that investment bonds gain as well.

We also repeated the analysis with the G-Index, but in unreported findings the interaction terms were negative though not significant in both estimations corresponding to Models 3 and 4 in Table 11. Finally, we repeat our analysis using Board Size as the proxy for shareholder power. In additional unreported findings, now the coefficient of *Speculative Target*Board Size* is negative and significant (at the 5% level) in both estimations corresponding to Models 3 and 4. Since smaller boards are considered better for corporate governance, these results do suggest that speculative bonds gain more from better board monitoring.

4.9. *Acquirer response to prevent gains to target bonds: Impact of Issuance of Debt?*

One way to expropriate bondholders is to issue debt to finance the deal. To test for expropriation, in Table 11, Model 5, we interact our shareholder power proxies with a dummy variable indicating whether debt securities are used as a source of financing. We also include a dummy variable to indicate whether debt securities are used in the transaction. There are only seven deals from among our 147 deals for which SDC indicates that the transaction is being financed in some portion by debt securities.¹³ Model 5 shows that there is no evidence that institutional shareholders expropriate wealth from bondholders by making management issue debt to finance the deal. The interaction term between top 5 institutional holdings and a dummy variable for debt issuance is positive and significant (1% level of significance), which is contrary to the *Shareholder Expropriation Hypothesis*. Note, however, that Debt Issue itself has the expected adverse effect on target bondholders (coefficient of Debt Issue is negative and significant).

Arguably, the mere seven cases of financing the deal with debt may understate an increase in acquirer leverage meant to expropriate wealth from bondholders. We define leverage prior to the

¹³ The SDC reporting of a small number of cases of debt financing specifically for the M & A deal likely understates other increases in acquirer debt, since acquirer leverage is typically rising around M & A's (Ghosh and Jain, 2000).

announcement date as the ratio of the sum of the target and acquirer book debts to the sum of their total book assets. After the effective date, the leverage is just the ratio of the acquirer's book debt to its total book assets. For the 90 cases of completed deals where 100% of the target has been acquired, the mean (median) change in leverage for years +1 and +2 after the effective date from the average for years -1 and -2 prior to the announcement date is 3.0% (2.1%), both mean and median changes being significant at the 1% level. Some 58% of the deals experience an increase in leverage. This is consistent with the increase in leverage surrounding M & A's found by others (Ghosh and Jain, 2000). With a (0, 1) dummy for an increase in this leverage (Leverage Increase instead of Debt Issue), we repeat the analysis in Model 5 of Table 11. The coefficient of the interaction term, $AInstTop5 * Leverage\ Increase$, is insignificant, while our baseline results regarding a positive and significant coefficient on $AInstTop5$ continue to hold. Thus, an increase in leverage is not associated with lower returns to target bondholders. We confirm these findings with other proxies of shareholder power, Board Size and $\ln(1 + G\text{-Index})$. We conclude, like Ghosh and Jain (2000), that the evidence does not support that the increase in leverage is associated with expropriation of bondholders' wealth. Instead, other motives, such as an increase in debt capacity, may underlie the increase in leverage.

Overall, our results from this entire Section 4 show a significant positive relation between excess target bond returns and holdings of the top 5 institutional owners of the acquiring firm. The findings are robust to controls for target shareholder power, deal and firm characteristics of the target and acquirer, and for firm and deal quality. Other proxies – additional measures of institutional ownership, board characteristics, and indexes based on corporate governance provisions -- corroborate the positive relation between target bond values and shareholder power. The findings are also corroborated with ratings changes for target bonds, and the findings on the type of institutional owners (Investment Advisors) that take a prominent monitoring role. In sum, the *Managerial Monitoring Hypothesis* is consistently supported by the evidence.

5. **Alignment of Bondholders with Managers: Effect of Managerial Ownership**

Under certain circumstances, managers and bondholders have complementary interests that may be detrimental to the wealth of equity holders. Risk-averse managers may invest in value-destroying risk-reducing investments to protect their firm-specific human capital (Amihud and Lev, 1981, Smith and Stulz, 1985, and May, 1995), or their perquisite consumption (Williams, 1987).

At low levels of ownership, an increase in managerial ownership increases management incentives to increase shareholders' wealth at the expense of bondholders' wealth, since there is a growing alignment of interests between managers and shareholders (Jensen and Meckling, 1976).

However, at high levels of managerial ownership, management can become overly risk averse as its wealth becomes under-diversified, and there may now be greater alignment between managers' and bondholders' interests. Managers may engage in less risky projects to reduce the uncertainty of their own firm-specific wealth, and bondholders stand to benefit as well. Moreover, as managerial ownership increases, the firm is less likely to be disciplined by the takeover market (Song and Walkling, 1993), and thus perquisite consumption may increase even more. Thus, at higher levels of managerial ownership, another reason to reduce firm risk is to protect their larger perquisite consumption (Williams, 1987; John, Litov, and Yeung, 2005). Consistent with this reasoning, Bagnani, et. al. (1994) find that bond yields increase with managerial ownership at low levels of ownership, and decrease with managerial ownership at high levels of ownership. *Correspondingly in our M & A context, we formulate a Mutual Interest Hypothesis: Target bond returns at M & A announcements are negatively (positively) related to acquirer managerial ownership at low (high) levels of managerial ownership.* In effect, at low levels, increases in managerial ownership enhance shareholder power, but, at high levels, increases in managerial ownership diminish shareholder power.

In Models 6 and 7 of Table 11, we examine the effects of acquirer managerial ownership on target bondholder wealth. The coefficient on management ownership is 0.089 in Model 6, significant at the 10% level. This positive coefficient contradicts the *Mutual Monitoring Hypothesis*. Moreover, the coefficient of (management holdings)² is not significant, so that there is no evidence of a non-linear relation between managerial ownership and target announcement period excess bond returns. Thus, increases in acquirer managerial ownership are beneficial to bondholders through the range of managerial ownership in our sample, which is consistent with the *Mutual Monitoring Hypothesis*.

Finally in Model 7, we include AInstTop5 as an independent variable, and find that its coefficient remains positive and highly significant. This affirms the robustness of the relation between excess returns to target bondholders and AInstTop5 even after controlling for managerial ownership.

6. Conclusion

This paper examines target bondholders' wealth changes during a takeover event, and relates these wealth changes to shareholder power at the acquiring firm. Target bondholders' claims shift from the target to the acquirer shareholders as a result of the takeover. Prior literature suggests that higher shareholder power at the acquiring firm can adversely affect bondholder wealth because it empowers acquiring shareholders to expropriate wealth from bondholders during takeovers (Cremers, Nair, and Wei, 2007). Our findings do not support this view. Instead, we find that target bondholders benefit from moving to an acquirer with high shareholder power. In particular, an increase in the shares held by the top 5 institutions among the acquiring shareholders is associated with a significant increase in excess

bond returns at the time of the announcement of the takeover. Similarly, target bonds experience an improvement in ratings if the acquiring firm has higher stock ownership held by the top 5 institutions. Furthermore, other proxies for shareholder power – institutional blockholdings, Board Size, G- and E-Indexes – also consistently validate the positive relation between target bond values and acquirer shareholder power. These findings support the view that stronger shareholder power, through superior monitoring of managers, improves asset and collateral values, which benefits bondholders. Gompers, Ishii, and Metrick (2003) and Bebchuk, Cohen, and Ferrell (2005) provide evidence that shows that good corporate governance results in better returns to shareholders. Adding in our evidence regarding returns to target bondholders during M & A's, good corporate governance is beneficial to both stockholders and bondholders.

Appendix A

Factors Affecting Target Bondholders: Additional Control Variables in Analysis

Relative size (Acquirer/Target): Larger targets make for more complex acquisitions with greater uncertainties about synergies (Bhagat, Dong, Hirshleifer, and Robert, 2005). Acquisitions of larger targets could also be driven by hubris (Jensen, 1986). While these reasons suggest that there is a direct relation between relative size and wealth changes for target bondholders (equity premiums also increase with relative size, Jarrell and Poulsen, 1989, and Billet and Ryngaert, 1997), other reasons suggest that the relation may be inverse. For example, larger targets have a greater coinsurance potential (Hovakimian, Opler, and Titman, 2001).

Tender Offer: Tender offers bypass management and indicate a greater confidence on the part of the acquirer (Loughran and Vijh, 1997), predicting gains for bondholders. However, tender offers entail more aggressive bargaining and can lead to higher premiums being paid to stockholders (Schwert, 2000).

Hostile Offer: Unlike friendly deals, hostile deals tend not to be driven by empire-building and face more scrutiny. They are more likely to create value, and therefore to be seen favorably by bondholders. On the other hand, the firm may land up paying more to target shareholders, and this drain affects bondholders adversely.

Cash Offer: A cash offer directly lowers collateral value, and it also typically requires the acquirer to raise debt financing (Faccio and Masulis, 2005), which increases leverage and default risk. Consequently, bond prices are expected to drop if the offer is financed with cash. But, equity-financed transactions may also be bad news for the firm and the M & A, and bondholders as well, because of the implied overvaluation (Myers and Majluf, 1984, Mitchell and Stafford, 2000).

M & A's in 1990's: The 1990's saw bondholders protect themselves with event risk covenants (McDaniel, 1986, Lehn and Poulsen, 1991, Cook and Easterwood, 1994, and Nash, Netter, and Poulsen, 2003). We expect that on average bondholders will fare better in M & A's in the 1990's.

Completed Deals: Completed deals, in contrast to withdrawn deals, are more likely to have larger bond price and ratings effects since investors anticipate and discount the effects of withdrawn offers.

Non-Diversifying Deals: While bondholders are likely to be adversely affected by value-destroying conglomerate M & A's motivated by empire-building, they benefit from the risk reduction that comes from the accompanying diversification.

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Table 1: Frequency of M & A Deals by Year of Announcement

Deals include all completed or withdrawn mergers and acquisitions announced during 1979 to 1997 and listed in the Securities Data Corporation's (SDC) Mergers and Acquisitions Database. The target and acquirer must exist on CRSP with non-missing announcement date stock returns, have valid accounting data on Compustat, have valid corporate governance data from proxy statements in the fiscal year end just prior to the announcement date, and have valid institutional ownership data from Thomson Financial in the quarter prior to the quarter in which the merger announcement falls in. The target must also have bonds listed on the Lehman Brothers Bond Database (LBBD) that satisfies either of the following conditions: 1) The target have valid bond returns in Month -1, and Month 0, that are based on non-matrix prices, where Month 0 is the month of the announcement date; or 2) The target have at least one rated bond existing in both Month -3 and Month +3, where Month -3 is with respect to the announcement date of the deal and Month +3 is with respect to the effective date of the deal.

Year	Frequency	Percent
1980	1	0.36
1981	11	3.91
1982	6	2.14
1983	12	4.27
1984	13	4.63
1985	30	10.68
1986	16	5.69
1987	14	4.98
1988	17	6.05
1989	22	7.83
1990	12	4.27
1991	18	6.41
1992	11	3.91
1993	9	3.2
1994	19	6.76
1995	27	9.61
1996	22	7.83
1997	21	7.47
Total	281	100

Table 2: Descriptive Statistics-- Deal, Firm, Bond, and Governance Characteristics

Deal characteristics are from the SDC, firm characteristics are from Compustat and CRSP, and bond characteristics are from the LBBBD. Institutional holdings are from SEC Form 13F quarterly filings, as provided by Thomson Financial, while management holdings and board characteristics are collected from proxy statements and Compact Disclosures Discs. Takeover vulnerability indexes are from the Investor Responsibility Research Center (IRRC). ROE is defined as the ratio of net income to book equity, while ROA is the ratio of net income to total assets. Size is defined in terms of the market value of the firm, and is equal to the sum of stock market capitalization and total assets minus book equity. Size and book assets are expressed in 1998 dollars using the Consumer Price Index. Growth is given by the ratio of size to book assets. Unlevered stock returns are computed as one minus the firm's market leverage ratio at the end of the corresponding fiscal year-end times equity returns. The firm's market leverage ratio is defined as the ratio of book value of total debt to the sum of the book value of total debt and market value of equity. The market value of equity in the leverage calculation is from *CRSP* and is the value for the corresponding month as the stock return. We compute the standard deviation of unlevered stock returns using monthly stock returns from Month -25 to Month -2. We require that the firm has at least 12 months of non-missing returns during this window. When a firm has multiple bonds, the bond maturity and ratings are market-value weighted average where the market value of the bond is taken as of Month -3. Bond maturity is the no. of years to maturity, measured with respect to the announcement date. Bonds rated AAA+ are given a no. of 23 and bonds rated D are given a no. of 1. The G-index is calculated as per Gompers, Ishii, and Metrick (2003), the E-index is calculated as per Bebchuk, Cohen, and Ferrell (2005), and the ATI-Index is calculated as per Cremers, Nair, and Wei (2006). Paired T-Tests and the Wilcoxon Signed Rank Sum Test are used to test for differences between the acquirers' and targets' mean and median values, respectively. The asterisks, ***, **, and * denote significance at the 1%, 5% and 10% levels, respectively.

Table 2, cont'd

Panel A: Deal Characteristics

<i>VARIABLE</i>	<i>N</i>	<i>%</i>	
Proportion 100% Cash Financed	281	32.74	
Proportion 100% Stock Financed	281	22.06	
Proportion with Tender Offer	281	16.73	
Proportion with Hostile Bid	281	10.32	
Proportion of Completed Deals	281	69.75	
<i>VARIABLE</i>	<i>N</i>	<i>MEAN</i>	<i>MEDIAN</i>
Days btw ann. date and eff. date	196	145.15	120.50
Transaction Value (in 1998 \$mil)	253	3040.84	1119.72
% of Target Acquired	186	68.92	100.00

Panel B: Firm Characteristics

<i>VARIABLE</i>	<u>Acquirer</u>			<u>Target</u>		
	<i>N</i>	<i>MEAN</i>	<i>MEDIAN</i>	<i>N</i>	<i>MEAN</i>	<i>MEDIAN</i>
ROE	281	0.126	0.147	281	0.035 **	0.112 ***
ROA	281	0.035	0.032	281	0.018 ***	0.016 ***
Growth	281	1.304	1.116	281	1.198 ***	1.069 ***
Total Debt/Total Asset	281	0.283	0.253	281	0.325 ***	0.276 ***
Size (in 1998 \$mil)	281	29563	11409	281	14689 ***	5486 ***
Book Total Asset (in 1998 \$mil)	281	25981	8672	281	13747 ***	4479 ***
Std Dev of Unlevered Stk Ret	281	0.059	0.057	281	0.047	0.044

Panel C: Bond Characteristics

Bond Maturity (years)	193	12.04	10.63	281	10.55 ***	9.18 ***
Month -3 Bond Rating	189	16.28	17.00	281	13.74 ***	14.00 ***
Average No. of Bonds	193	5.51	3.00	281	3.64 ***	2.00 ***

Panel D: Ownership

Management Hldg (%)	281	11.06	2.49	281	10.23	2.99
Total Institutional Hldg (%)	281	43.88	45.96	281	41.79	41.13 **
Top 5 Institutional Hldg (%)	281	15.89	14.52	281	18.65 ***	16.65 ***
Dummy for Blockholder Institution	281	0.51	1.00	281	0.59 *	1.00 *

Panel E: Board Structure

Board Size	281	13.46	13.00	281	12.64 ***	12.00 ***
% of Outside Director	281	75.39	78.26	281	75.50	78.57
Dummy for duality of CEO-Chairman	281	0.83	1.00	281	0.74 **	1.00 ***

Panel F: Takeover vulnerability

G-Index	107	8.88	9.00	89	9.70	10.00 *
E-Index	107	1.61	2.00	89	2.18 **	2.00 **
ATI-Index	107	1.56	1.00	89	1.71	2.00

Table 3: Target Bond Returns and Rating Changes Surrounding M & A's, 1979 - 1997

The following table gives the univariate tests of target bond excess returns and target bond rating changes. Excess returns are the sum of the excess returns for the 2 months period, Months -1 and 0, where Month 0 is the month of the announcement date. Excess bond returns are calculated as the bond's total return minus the return on a similar risk and maturity bond index. Target bond rating changes is measured as the difference in the target's bond ratings on Month -3 and Month +3, where Month -3 is measured with respect to the month of the announcement date and Month + 3 is measured with respect to the month of the effective date or withdrawn date. Bonds rated AAA+ is given a no. of 23 and those rated D is given a no. of 1, bonds that are not rated are not included in the bond rating changes tests. When a target has multiple bonds, a firm-level average of bond returns and bond rating change is calculated using the market values of the bonds in Month -3. Investment grade bonds are defined as those with Moody's ratings equal to or better than Baa3. *JRT* is the rating on the worst rated bond that the firm has. The significance level of the means and medians is tested using T-test and Wilcoxon Signed Rank Test respectively. The significance level between group means is tested using T-test assuming unequal variances across groups when a test of equal variances is rejected at the 10% level. The significance level of the medians is tested using the Wilcoxon-Mann-Whitney test. The asterisks, ***, **, and * denote significance at the 1%, 5% and 10% levels, respectively.

	Bond Returns (%)			Bond Rating Changes		
	N	Mean	Median	N	Mean	Median
Full Sample	214	0.484 **	0.129	266	-0.067	0.000
<i>Sample Grouped by Target JRT</i>						
Investment Grade	139	-0.453 **	-0.082 *	174	-0.220	0.000
Speculative Grade	75	2.219 ***	1.327 ***	92	0.222	0.000
Difference		-2.672 ***	-1.409 ***		-0.442 *	0.000 *
<i>Sample Grouped by Deal Status</i>						
Completed	150	0.723 ***	0.247 **	183	0.134	0.000
Withdrawn	64	-0.077	-0.009	83	-0.511 ***	0.000 ***
Difference		0.800	0.256 *		0.645 ***	0.000 ***

Table 4: Impact of Acquirer Corporate Governance on Target Bond Returns & Ratings Changes

The following table gives the univariate tests of target bond excess returns and rating changes across various subgroups. For total institutional holdings, top 5 institutional holdings, board size and percentage of outside directors, the firms are divided into 3 groups based on the values of each measure. Only the top and bottom terciles are contrasted. For the G-index and E-index, the firms are divided into two groups based on the median values. The significance level of the means and medians is tested using T-test and Wilcoxon Signed Rank Test respectively. The significance level between group means is tested using T-test assuming unequal variances across groups when a test of equal variances is rejected at the 10% level. The significance level of the medians is tested using the Wilcoxon-Mann-Whitney test. The asterisks, ***, **, and * denote significance at the 1%, 5% and 10% levels, respectively.

Table 4, cont'd

	Bond Returns (%)			Bond Rating Changes		
	N	Mean	Median	N	Mean	Median
Acquirer Institutional Holdings						
<i>Total Institutional Holdings is:</i>						
High	76	0.775 **	0.253 **	88	0.245	0.000
Low	67	0.186	-0.075	87	-0.459 ***	0.000 ***
Difference		0.589	0.328		0.704 **	0.000 ***
<i>Sum of Top 5 Institutional Holdings is:</i>						
High	71	1.155 ***	0.309 ***	86	0.320 *	0.000 *
Low	71	0.284	-0.009	88	-0.409 **	0.000 ***
Difference		0.871	0.318 *		0.729 ***	0.000 ***
<i>Presence of Blockholder Institution</i>						
Yes	109	0.991 ***	0.281 ***	133	0.150	0.000
No	105	-0.043	-0.082	133	-0.284 *	0.000 *
Difference		1.034 **	0.363 **		0.435 *	0.000 **
Acquirer Board Structure						
<i>Board Size</i>						
Small	79	0.618	0.081	99	-0.281 *	0.000
Big	77	0.024	0.156	96	0.114	0.000
Difference		0.594	-0.075		-0.396	0.000 *
<i>% of Outside Directors is:</i>						
High	73	0.755 *	0.444 **	85	0.533 ***	0.000 ***
Low	63	0.601	0.018	83	-0.625 ***	0.000 ***
Difference		0.154	0.425		1.158 ***	0.000 ***
<i>CEO is also Chairman of Board</i>						
Yes	181	0.441	0.136	223	-0.089	0.000
No	33	0.718	0.014	43	0.045	0.000
Difference		-0.277	0.121		-0.134	0.000
Acquirer Takeover Vulnerability						
<i>Acquirer Takeover Vulnerability as measured by G-Index</i>						
High	40	0.917 *	0.380 ***	44	0.532 **	0.000 **
Low	51	0.651 **	0.223 ***	55	1.054 ***	1.000 ***
Difference		0.266	0.157		-0.521	-1.000 *
<i>Acquirer Takeover Vulnerability as measured by E-Index</i>						
High	45	1.094 **	0.380 ***	45	0.654 ***	0.000 ***
Low	49	0.488 *	0.224 **	54	0.962 ***	1.000 ***
Difference		0.606	0.156		-0.308	-1.000 *

Table 5: Regressions of Target Bond Returns against Acquirer Institutional Monitoring

The following table gives the regressions of target announcement period excess bond returns against measures of institutional monitoring. JRT Diff is the difference between acquirer JRT and target JRT where JRT is the ratings on the firm's worst rated bond. D(TLev > ALev) equals to one if target's total debt to book assets ratio is greater than that of the acquirer's. D(TRetStd > ARetStd) equals to one if the target's standard deviation of unlevered stock returns is greater than that of the acquirer's. D(TMaturity < AMaturity) equals to one if the target's bonds have shorter maturity than that of the acquirer's. AInstTotal is the percentage of acquirer shares held by all institutions in the quarter just prior to the quarter the announcement date is in. AInstTop5 (TInstTop5) is the percentage of acquirer's (target's) shares held by the five largest institutional owners of the acquirer. AInstBlock is a dummy variable indicating whether there is any institution who holds more than 5% of the acquirer's share. Robust T-Statistics are reported in *italics*. The asterisks, ***, **, and * denote significance at the 1%, 5% and 10% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Constant	-0.634 <i>0.88</i>	-1.632* <i>1.70</i>	-1.503** <i>1.98</i>	-1.240 <i>1.58</i>	-1.477 <i>1.55</i>	-1.507 <i>1.58</i>	-1.321* <i>1.70</i>	-1.579** <i>2.02</i>
JRT Diff	0.253*** <i>3.81</i>	0.236*** <i>3.54</i>	0.260*** <i>3.97</i>	0.250*** <i>3.72</i>	0.261*** <i>3.89</i>	0.260*** <i>3.85</i>	0.264*** <i>3.97</i>	0.268*** <i>3.84</i>
D(TLev > ALev)	-0.108 <i>0.18</i>	-0.025 <i>0.04</i>	-0.071 <i>0.12</i>	0.069 <i>0.11</i>	-0.074 <i>0.13</i>	-0.026 <i>0.04</i>	-0.105 <i>0.17</i>	-0.058 <i>0.10</i>
D(TRetStd > ARetStd)	-0.239 <i>0.43</i>	-0.465 <i>0.80</i>	-0.485 <i>0.90</i>	-0.184 <i>0.33</i>	-0.480 <i>0.85</i>	-0.418 <i>0.72</i>	-0.519 <i>0.95</i>	-0.516 <i>0.94</i>
D(TMaturity < AMaturity)	0.681 <i>1.56</i>	0.750* <i>1.74</i>	0.675 <i>1.62</i>	0.688 <i>1.62</i>	0.672 <i>1.60</i>	0.670 <i>1.59</i>	0.697 <i>1.65</i>	0.734 <i>1.62</i>
AInstTotal		0.025* <i>1.81</i>			-0.001 <i>0.06</i>	-0.003 <i>0.16</i>		
AInstTop5			0.073*** <i>3.35</i>		0.074*** <i>2.64</i>	0.066** <i>2.37</i>	0.075*** <i>3.31</i>	0.065*** <i>2.90</i>
AInstBlock				1.060** <i>2.38</i>		0.347 <i>0.64</i>		
TInstTop5							-0.013 <i>0.70</i>	
D(AInstTop5 > TInstTop5)								0.334 <i>0.61</i>
Non-Diversifying Deal	-0.465 <i>0.97</i>	-0.542 <i>1.18</i>	-0.575 <i>1.26</i>	-0.543 <i>1.16</i>	-0.574 <i>1.26</i>	-0.581 <i>1.27</i>	-0.549 <i>1.19</i>	-0.556 <i>1.22</i>
Acquirer Size/ Target Size	0.018*** <i>7.47</i>	0.019*** <i>7.74</i>	0.019*** <i>8.14</i>	0.019*** <i>7.68</i>	0.019*** <i>8.06</i>	0.019*** <i>7.90</i>	0.019*** <i>7.56</i>	0.019*** <i>7.00</i>
Tender Offer	0.479 <i>0.60</i>	0.324 <i>0.41</i>	0.475 <i>0.61</i>	0.695 <i>0.89</i>	0.481 <i>0.63</i>	0.563 <i>0.75</i>	0.478 <i>0.61</i>	0.527 <i>0.65</i>
Hostile	-0.147 <i>0.19</i>	-0.197 <i>0.25</i>	-0.297 <i>0.40</i>	-0.314 <i>0.42</i>	-0.298 <i>0.40</i>	-0.332 <i>0.44</i>	-0.314 <i>0.42</i>	-0.349 <i>0.46</i>
Cash	-1.331** <i>2.25</i>	-1.206** <i>2.01</i>	-1.255** <i>2.20</i>	-1.139* <i>1.97</i>	-1.259** <i>2.14</i>	-1.213** <i>2.08</i>	-1.242** <i>2.18</i>	-1.312** <i>2.25</i>
1990s	0.260 <i>0.55</i>	-0.002 <i>0.00</i>	-0.062 <i>0.13</i>	0.077 <i>0.16</i>	-0.056 <i>0.12</i>	-0.061 <i>0.13</i>	0.023 <i>0.05</i>	-0.028 <i>0.06</i>
Completed deals	0.763* <i>1.66</i>	0.788* <i>1.73</i>	0.704 <i>1.58</i>	0.736 <i>1.60</i>	0.701 <i>1.57</i>	0.698 <i>1.55</i>	0.705 <i>1.61</i>	0.733 <i>1.64</i>
N	147	147	147	147	147	147	147	147
Adj R-Sq	0.216	0.234	0.269	0.243	0.264	0.261	0.266	0.266

Table 6: Regressions of Target Bond Returns against Acquirer Board Monitoring

The following table gives the regressions of target announcement period excess bond returns against measures of acquirer board characteristics. Unless otherwise specified, all board structure variables refer to the acquirer. Information on board structure is from company proxy statements. CEO-Chairman duality is an indicator variable indicating whether the CEO is also the chairman of the board. D(Acq Board Size Smaller) is a dummy variable indicating that the acquirer's board size is smaller than that of the target's. Robust T-Statistics are reported in *italics*. The asterisks, ***, **, and * denote significance at the 1%, 5% and 10% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
Constant	1.047 <i>0.93</i>	-0.690 <i>0.39</i>	0.088 <i>0.09</i>	1.002 <i>0.50</i>	1.390 <i>1.15</i>	0.895 <i>0.75</i>
JRT Diff	0.274***	0.253***	0.261***	0.282***	0.277***	0.273***
	<i>4.20</i>	<i>3.78</i>	<i>3.90</i>	<i>4.26</i>	<i>4.18</i>	<i>4.18</i>
D(TLev > ALev)	-0.326 <i>0.54</i>	-0.107 <i>0.17</i>	-0.003 <i>0.01</i>	-0.231 <i>0.39</i>	-0.370 <i>0.61</i>	-0.318 <i>0.53</i>
D(TRetStd > ARetStd)	-0.087 <i>0.16</i>	-0.242 <i>0.44</i>	-0.244 <i>0.44</i>	-0.129 <i>0.24</i>	-0.126 <i>0.23</i>	-0.072 <i>0.13</i>
D(TMaturity < AMaturity)	0.578 <i>1.34</i>	0.684 <i>1.54</i>	0.629 <i>1.37</i>	0.558 <i>1.22</i>	0.575 <i>1.34</i>	0.579 <i>1.35</i>
Board Size	-0.105** <i>2.18</i>			-0.113** <i>2.43</i>	-0.094* <i>1.86</i>	-0.100** <i>2.03</i>
% Outside Directors		0.001 <i>0.04</i>		0.012 <i>0.64</i>		
CEO-Chairman			-0.799 <i>1.27</i>	-0.749 <i>1.23</i>		
Board Size (Target)					-0.032 <i>0.66</i>	
D(Acq Board Size Smaller)						0.119 <i>0.25</i>
Controls for deal characteristics Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	147	147	147	147	147	147
Adj R-Sq	0.239	0.210	0.218	0.238	0.236	0.234

Table 7: Regressions of Target Bond Returns against Acquirer Takeover Vulnerability

The following table gives the regressions of target announcement period excess bond returns against a measure of acquirer takeover vulnerability, G-Index. The G-Index is from the Investor Responsibility Research Center (IRRC). The G-index is calculated as per Gompers, Ishii, and Metrick (2003). Unless otherwise specified, the index refers to the acquirer. D(Acq G lower) is a dummy variable indicating that the acquirer has a lower G-Index than the target. Low G-Index is a dummy variable which equals to one if the index is lower than the median index. Controls for deal characteristics do not include the 1990s M & A dummy since IRRC only start in 1990. Robust T-Statistics are reported in *italics*. The asterisks, ***, **, and * denote significance at the 1%, 5% and 10% levels, respectively.

	(1)	(2)	(3)	(4)	(5)
Constant	3.745** <i>2.28</i>	2.954 <i>0.85</i>	0.013 <i>0.00</i>	-0.392 <i>0.39</i>	-0.081 <i>0.10</i>
JRT Diff	0.196** <i>2.46</i>	0.289* <i>1.79</i>	0.322* <i>1.98</i>	0.195*** <i>2.71</i>	0.169** <i>2.25</i>
D(TLev > ALev)	-0.413 <i>0.76</i>	-0.374 <i>0.53</i>	-0.402 <i>0.55</i>	-0.516 <i>1.09</i>	-0.258 <i>0.49</i>
D(TRetStd > ARetStd)	-0.050 <i>0.09</i>	0.133 <i>0.20</i>	0.098 <i>0.15</i>	-0.553 <i>1.13</i>	-0.216 <i>0.41</i>
D(TMaturity < AMaturity)	-0.452 <i>1.16</i>	-0.208 <i>0.38</i>	-0.375 <i>0.67</i>	-0.403 <i>1.08</i>	-0.384 <i>1.03</i>
Ln(1+G-Index)	-1.163* <i>1.74</i>	-0.508 <i>0.63</i>	0.239 <i>0.22</i>		
Ln(1+G-Index) (Target)		-0.360 <i>0.31</i>			
D(Acq G lower)			0.569 <i>0.88</i>		
Low G-Index				1.405* <i>1.73</i>	1.402** <i>2.42</i>
Low G*AIInstTop5				-0.039 <i>1.11</i>	
Low G*AIInstBlock					-0.945 <i>1.09</i>
AIInstTop5				0.081** <i>2.55</i>	
AIInstBlock					1.355*** <i>2.80</i>
Controls for deal characteristics	Yes	Yes	Yes	Yes	Yes
N	69	51	51	69	69
Adj R-Sq	0.423	0.062	0.075	0.511	0.476

Table 8: Regressions of Target Bond Returns against Acquirer Corporate Governance

The following table gives the regressions of target announcement period excess bond returns against measures of acquirer institutional monitoring, board structure, and takeover vulnerability. Robust T-Statistics are reported in *italics*. The asterisks, ***, **, and * denote significance at the 1%, 5% and 10% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
Constant	0.045 <i>0.04</i>	-0.301 <i>0.14</i>	2.250 <i>1.47</i>	0.511 <i>0.42</i>	0.111 <i>0.05</i>	2.836* <i>1.72</i>
JRT Diff	0.278*** <i>4.35</i>	0.281*** <i>4.31</i>	0.187** <i>2.53</i>	0.272*** <i>4.12</i>	0.277*** <i>4.13</i>	0.166** <i>2.13</i>
D(TLev > ALev)	-0.269 <i>0.47</i>	-0.245 <i>0.44</i>	-0.390 <i>0.82</i>	-0.152 <i>0.25</i>	-0.102 <i>0.17</i>	-0.125 <i>0.24</i>
D(TRetStd > ARetStd)	-0.338 <i>0.63</i>	-0.359 <i>0.67</i>	-0.514 <i>1.04</i>	-0.020 <i>0.04</i>	-0.068 <i>0.13</i>	-0.086 <i>0.16</i>
D(TMaturity < AMaturity)	0.582 <i>1.40</i>	0.591 <i>1.34</i>	-0.471 <i>1.23</i>	0.578 <i>1.38</i>	0.581 <i>1.31</i>	-0.466 <i>1.16</i>
AInstTop5	0.070*** <i>3.23</i>	0.067*** <i>2.98</i>	0.054*** <i>5.83</i>			
AInstBlock				1.118** <i>2.60</i>	1.077** <i>2.31</i>	0.833** <i>2.22</i>
Board Size	-0.094* <i>1.89</i>	-0.102** <i>2.12</i>	0.073** <i>2.01</i>	-0.112** <i>2.29</i>	-0.122** <i>2.57</i>	0.053 <i>1.40</i>
% Outside Directors		0.010 <i>0.55</i>			0.014 <i>0.74</i>	
CEO-Chairman		-0.227 <i>0.37</i>			-0.470 <i>0.72</i>	
LN(1+G-Index)			-1.279** <i>2.23</i>			-1.381** <i>2.16</i>
Controls for deal characteristics	Yes	Yes	Yes	Yes	Yes	Yes
N	147	147	69	147	147	69
Adj R-Sq	0.287	0.279	0.527	0.270	0.266	0.461

Table 9: Acquirer Quality and Deal Quality

The following table examines the relation between acquirer quality and deal quality, and target announcement period excess bond returns. Acquirer MB is the ratio of market value to book value of assets, where market value is given by the sum of market capitalization and total assets less book equity. Acquirer ROA is the ratio of income before extraordinary items to book assets. Target (acquirer) stock excess returns is calculated as the cumulative excess returns (CAAR) from Day -1 to Day +1 where Day 0 is the announcement date. Stock excess returns is calculated using the market model, where the market is CRSP value-weighted market returns and the market model parameters are calculated using returns data from Day -280 to Day -61. Combined stock returns is the value-weighted CAAR of the target and acquirer, where the weights are based on the market capitalizations on Day -2. Toehold is deducted to avoid double-counting. Robust T-Statistics are reported in *italics*. The asterisks, ***, **, and * denote significance at the 1%, 5% and 10% levels, respectively.

	(1)	(2)	(3)	(4)	(5)
Constant	-2.970*** <i>3.11</i>	-1.779** <i>2.34</i>	-1.501** <i>1.99</i>	-1.449* <i>1.89</i>	-1.503** <i>2.00</i>
JRT Diff	0.254*** <i>3.96</i>	0.237*** <i>3.55</i>	0.261*** <i>3.92</i>	0.258*** <i>3.94</i>	0.259*** <i>3.95</i>
D(TLev > ALev)	-0.209 <i>0.34</i>	-0.285 <i>0.47</i>	-0.066 <i>0.11</i>	-0.070 <i>0.12</i>	-0.062 <i>0.10</i>
D(TRetStd > ARetStd)	-0.481 <i>0.88</i>	-0.688 <i>1.22</i>	-0.482 <i>0.88</i>	-0.471 <i>0.87</i>	-0.488 <i>0.91</i>
D(TMaturity < AMaturity)	0.479 <i>1.18</i>	0.765* <i>1.87</i>	0.681 <i>1.64</i>	0.628 <i>1.51</i>	0.695* <i>1.69</i>
AInstTop5	0.078*** <i>3.72</i>	0.079*** <i>3.56</i>	0.074*** <i>3.30</i>	0.074*** <i>3.31</i>	0.073*** <i>3.37</i>
Acquirer MB	1.317* <i>1.72</i>				
Acquirer ROA		11.298** <i>2.23</i>			
Target CAAR(-1,+1)			-0.280 <i>0.18</i>		
Acquirer CAAR(-1,+1)				3.263 <i>0.80</i>	
Combined CAAR(-1,+1)					-1.393 <i>0.30</i>
Controls for deal characteristics	Yes	Yes	Yes	Yes	Yes
N	147	147	147	147	147
Adj R-Sq	0.290	0.290	0.264	0.267	0.265

Table 10: Probit Regressions of the Probability of a Ratings Upgrade - Institutional Monitoring

The following table gives the probit regressions of the probability of a ratings upgrade against measures of institutional monitoring (Panel A) and board monitoring (Panel B). Only completed deals are included in the regressions. Targets with no change in bond ratings are discarded. The dependent variable is a dummy variable which equals to one if the target bondholders experience a ratings upgrade, and zero if there is a ratings downgrade. Target rating change is measured as the difference in the target's bond ratings on Month -3 and Month +3, where Month -3 is measured with respect to the month of the announcement date and Month + 3 is measured with respect to the month of the effective date. When a target has multiple bonds, a weighted average ratings change is calculated over all the target's bonds, where the weights are based on the market value of the bonds in Month -3. Marginal effects are given. Robust T-Statistics are reported in *italics*. The asterisks, ***, **, and * denote significance at the 1%, 5% and 10% levels, respectively.

Panel A: Institutional Ownership

	(1)	(2)	(3)	(4)	(5)	(6)
JRT Diff	0.074** <i>2.47</i>	0.059** <i>2.07</i>	0.069*** <i>2.92</i>	0.077** <i>2.54</i>	0.068*** <i>2.59</i>	0.065** <i>2.17</i>
D(TLev > ALev)	-0.034 <i>0.26</i>	-0.074 <i>0.51</i>	-0.009 <i>0.07</i>	-0.017 <i>0.13</i>	-0.016 <i>0.12</i>	-0.051 <i>0.35</i>
D(TRetStd > ARetStd)	-0.042 <i>0.32</i>	-0.103 <i>0.72</i>	-0.019 <i>0.14</i>	-0.037 <i>0.27</i>	-0.028 <i>0.21</i>	-0.087 <i>0.60</i>
D(TMaturity < AMaturity)	0.093 <i>0.70</i>	0.116 <i>0.86</i>	0.130 <i>1.00</i>	0.097 <i>0.71</i>	0.131 <i>1.00</i>	0.112 <i>0.81</i>
AInstTotal		0.011*** <i>2.65</i>			0.001 <i>0.25</i>	0.008* <i>1.84</i>
AInstTop5			0.035*** <i>3.01</i>		0.033** <i>2.05</i>	
AInstBlock				0.275** <i>2.20</i>		0.191 <i>1.36</i>
Controls for deal characteristics	No	No	No	No	No	No
N	64	64	64	64	64	64
No. of Upgrade	41	41	41	41	41	42
Pseudo R-Sq	0.16	0.22	0.28	0.21	0.28	0.24

Panel B: Board Monitoring

	(1)	(2)	(3)	(4)	(5)	(6)
JRT Diff	0.073** 2.48	0.086*** 3.04	0.075*** 2.76	0.087*** 3.31	0.085*** 3.40	0.102*** 3.51
D(TLev > ALev)	-0.023 0.17	-0.044 0.32	-0.020 0.16	-0.058 0.40	-0.028 0.19	-0.053 0.34
D(TRetStd > ARetStd)	-0.046 0.35	-0.104 0.74	-0.031 0.23	-0.094 0.68	-0.070 0.48	-0.088 0.60
D(TMaturity < AMaturity)	0.093 0.69	0.144 1.04	0.134 0.94	0.164 1.11	0.173 1.18	0.163 1.12
AInstTop5					0.029** 2.52	
AInstBlock						0.361** 2.37
Board Size	0.004 0.27			-0.008 0.54	0.001 0.07	-0.009 0.62
% Outside Directors		0.021*** 3.28		0.021*** 3.44	0.019** 2.22	0.026*** 2.62
CEO-Chairman			0.221 1.09	0.091 0.48	0.087 0.40	0.057 0.26
Controls for deal characteristics	No	No	No	No	No	No
N	64	64	64	64	64	64
No. of Upgrade	41	41	41	41	41	41
Pseudo R-Sq	0.16	0.28	0.17	0.29	0.37	0.37

Table 11: Alternative Specifications

The following table examines how the type of institutional owners, credit rating of targets, whether debt is a source of financing for the deal, and insider ownership affects target announcement period excess bond returns. Speculative target is a dummy variable which equals to one if the target's JRT is lower than Baa3. *JRT* is the Moody's rating on the worst rated bond that the firm has. Debt issue is a dummy variable which equals to one if SDC indicates that the deal is financed in some portions by debt securities. Robust T-Statistics are reported in *italics*. The asterisks, ***, **, and * denote significance at the 1%, 5% and 10% levels, respectively.

	Type of Inst. Top 5 Inst. Inst. Block		Speculative Target		Debt Issue	Insider Ownership	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Constant	-1.833** 2.03	-1.102 1.46	-1.491** 2.09	-1.484** 2.33	-1.300* 1.86	-0.835 1.26	-1.703** 2.54
JRT Diff	0.261*** 3.79	0.267*** 3.84	0.220*** 3.24	0.220*** 2.81	0.255*** 3.96	0.260*** 3.89	0.275*** 4.16
D(TLev > ALev)	-0.041 0.07	0.062 0.10	-0.125 0.22	-0.126 0.22	-0.205 0.36	-0.312 0.53	-0.264 0.47
D(TRetStd > ARetStd)	-0.592 1.09	-0.291 0.51	-0.569 1.09	-0.569 1.09	-0.564 1.07	-0.240 0.44	-0.451 0.84
D(TMaturity < AMaturity)	0.466 1.07	0.485 1.07	0.591 1.47	0.592 1.47	0.790* 1.91	0.616 1.33	0.557 1.26
Bank	0.069 1.62	0.519 0.87					
Insurance	0.097 1.02	0.517 0.66					
Investment Co	0.117*** 2.62	0.879 1.63					
Investment Advisors	0.103** 2.24	1.185** 2.15					
Public Pension	0.626 1.18						
Others	0.045*** 3.88	1.442 0.90					
AInstTop5			0.059*** 3.53	0.059*** 4.28	0.068*** 3.36		0.072*** 3.75
Speculative Target*AInstTop5			0.072** 2.55	0.073 0.96			
Speculative Target				-0.028 0.02			
AInstTop5*Debt Issue					0.323*** 2.97		
Debt Issue					-6.762*** 2.63		
Insider Ownership						0.089* 1.89	0.080* 1.69
Insider Ownership - Squared						-0.001 1.65	-0.001 1.31
Controls for deal characteristics	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	147	147	147	147	147	147	147
Adj R-Sq	0.266	0.243	0.308	0.302	0.292	0.240	0.290