**­The Effect of Shareholder Activism on Bondholders and Stockholders**

Surendranath Jorya, Thanh Ngob, Jurica Susnjarac,\*

a University of Southampton, Southampton, SO17 1BJ United Kingdom S.R.Jory@soton.ac.uk

b East Carolina University, 3127 Bate Building, Greenville, NC 27858 ngot@ecu.edu

c Texas State University, 601 University Dr, San Marcos, TX 78666 j\_s790@txstate.edu

c Kean University, 1000 Morris Ave, Union, NJ 07083

\* *Corresponding author*

***Abstract***

We examine the wealth effect of shareholder activism on bond returns, as well as the extent to which wealth is transferred from bondholders to shareholders, which we refer to as the wealth-transfer effect. Our activist dataset includes both hedge funds and other large shareholders. Our bond dataset covers both investment-grade and speculative-grade bonds, and extends beyond the 2007-2009 financial crisis period. We find that activists’ demands cause a significant decline in bond returns, and affect long-term bonds the most. There exists a strong association between the bond price declines and dividend increases following the activists’ demands, with dividends acting as a proxy for the transfer of wealth from bondholders to shareholders. The wealth transfer affects long-term and lower rated bonds more significantly. We find an inverse association between these bond returns and stock returns at firms targeted by activists.

**Introduction**

Shareholder activism has been a frequent topic of discussion in recent years among industry professionals (Gara 2015), regulators (White 2015) and researchers (Aslan and Kumar 2016; Jory et al 2016; Brav et al 2015; Wang and Mao 2015; Norli et al 2015). The targets of shareholder activism used to be underperforming firms with corporate governance problems, but both the type of firm targeted and the activists’ goals have broadened. This study examines the effect of shareholder activism on target firm bondholders. The Black-Merton-Scholes approach to firm theory views bondholders as selling a call option on the firm assets to shareholders, with the exercise price being the value of debt. In such a view of the firm as a zero-sum game, actions that generate wealth for the shareholders might come at a cost to the bondholders.

We obtain information on shareholder activism campaigns targeted at U.S. listed firms from 2000 to 2014 from the *Thomson Reuters Shareholder Activism Intelligence* (TRSAI) database. We acquire the bond transaction data from Trade Reporting and Compliance Engine (TRACE). Since TRACE comprehensive coverage of all corporate bond transactions only started in February 2005, we restrict our sample to shareholder activism campaigns announced from the year 2005 to the year 2014. In addition, we use Mergent’s FISD database for bond characteristic information. We obtain stock price data from the *University of Chicago Center for Research in Security Prices* (CRSP) database and accounting data from the COMPUSTAT database. Our final sample consists of 372 bonds outstanding and 118 unique firms.

We follow Bessembinder et al. (2009) and Ederington et al. (2015) to perform the standard screenings to the bond data from TRACE. Ederington et al. (2015) suggest refinements to the methodology devised by Bessembinder et al. (2009) to improve the statistical power of bond event studies. Following Ederington et al. (2015), we calculate bond returns from day t-1 to day t+1 (with day 0 representing the activism announcement date), and construct 24 benchmark portfolios: six rating classes (Aaa and Aa, A, Baa, Ba, B, and below B) and four maturity groupings (1 to 3 years, 3+ to 5 years, 5+ to 10 years, and over 10 years). The bond rating and maturity data is from Mergent’s FISD.

In a study of hedge fund activism from 1994-2006 on a sample of mostly speculative-grade bonds, Klein and Zur (2011) find negative returns to bondholders. We follow Klein and Zur (2011) and extend the literature on the effects of activism on bondholders in the following ways. First, in addition to hedge funds, we cover the explicit demands made by all the large shareholders that are reported in TRSAI. Hedge fund management’s incentive structure has a built-in call option with a high exercise price (Kouwenberg and Ziemba 2007 and Buraschi et al (2014), making the risk-return structure of their investments and post-investment activities potentially different from other large investors. Second, we study the effects of shareholder activism on a broader sample that includes both investment-grade and speculative-grade bonds. Third, we extend the Klein and Zur paper by looking at shareholder activism during and after the global financial crisis. The onset of the global financial crisis has changed both activists’ and bond investors’ approach to investments (Friewald et al 2012; Huang and Petkevich 2016). Lastly, we examine how bond’s maturity relate to the effects of shareholder activism.

The summary of our main findings is as follows. The abnormal bond-level returns and firm-level bond returns are -0.601% and -0.484%, respectively, for the three-day window surrounding the activism announcement, significant at the 1% level. This is broadly consistent with Klein and Zur (2011). Both the mean and median bond returns decrease as the bond maturity increases. When we pool the observations of bonds of targeted firms and those of matching non-targeted bonds in cross-sectional analyses, the coefficient on the dummy variable *TARGETED*, which represents targeted bonds, is negative and significant at the 1% level.[[1]](#footnote-1) The negative effect, though, is confined to the subsample of bonds with maturities of over five years. Our findings suggest that bondholders’ investment horizon is an important factor in explaining the divergent incentives between shareholders and bondholders. We find that bonds with longer maturities experience lower abnormal returns. Overall, we show that shareholder activism campaigns have a negative impact on bond returns of targeted firms, with lower returns for bonds with longer maturity, which is in line with the risk-shifting hypothesis of Jensen and Meckling (1976).

We further examine the impact of shareholder activism on stockholders. Their stock cumulative abnormal returns (CARs) range from 2.623% to 2.740% based on four alternative measures, and they are all significant at the 1% level. These findings are consistent with Clifford (2008), who documents an abnormal return to firms targeted by hedge fund activists of 3.39%. Using probit regressions, we document that firms targeted by activists have lower ROA, higher debt and higher institutional ownership. Consistent with the wealth-transfer hypothesis, we find that returns to bondholders surrounding announcements of shareholder activism are negatively related to dividend increases in the subsequent 12 months. Our findings are consistent with the hypothesis that bondholders are wary of future dividend increases at firms that are the targets of shareholder activism. The negative relationship between bondholder and shareholder returns, and therefore evidence of a wealth transfer, is confined to the subsample of bonds with maturity over five years and ratings below grade A. Our tests of the wealth transfer hypothesis show that the relationship between bondholder and shareholder incentives is contingent on the investment horizon of the bondholders. Furthermore, the returns to shareholders relative to long-term creditors exhibit the adversarial relationship implied by the Black-Merton-Scholes’ view of the firm.

The rest of the paper is organized as follows. We first provide a literature review of shareholder activism and bondholder event studies. The following section develops the main hypotheses regarding bondholder and stockholder abnormal returns. We then discuss the sampling and the methodology used in our study. We follow by detailing our findings. The last section concludes.

**Literature Review**

The theoretical background for the shareholder activism can be traced back to Jensen and Meckling (1976) and their incorporation of agency costs into the theory of the firm. However, empirical studies of activists’ behavior are a more recent phenomenon (Gillan and Starks (2007) provide an overview of the literature), and are focused mostly on their effects on shareholder wealth. Clifford (2008) finds that firms targeted by hedge funds as active investments outperform firms targeted as passive investments. Greenwood and Schor (2009) document positive returns at firms targeted by hedge funds. Though, the findings of Gantchev (2013) suggest that after factoring monitoring costs, the returns are lower. Brav et al (2015) document improved target firm productivity.

More recently, some studies have expanded the analysis beyond targeted shareholders. Aslan and Kumar (2016) and Jory et al (2016) examine the effect of shareholder activism on matching samples of non-targeted firms. Their results are inconclusive; while Aslan and Kumar find that targets’ improved performance hurts their competitors, Jory et al see the implied threat of activism having an overall positive effect on non-targets.

In a wider context, the effects of shareholder activism impact the expectations of other stakeholders. Research by Leland and Pyle (1977), Ross (1977), DeAngelo and Masulis (1980) and Rennebook and Szilagyi (2008) suggest that the managerial discipline imposed by activist campaigns will benefit all stakeholders. Among potential firm-wide benefits of shareholder activism, Clifford (2008) finds improvements in operating performance using Return on Assets (ROA) in target firms, which is attributed to the elimination of underperforming assets. Healy et al (1999) and Sengupta (1998) document improvements in the target firm’s information environment, while Murphy (1985) reports reductions in compensation inefficiencies.

In this paper, we propose to test for evidence of risk-shifting and wealth transfer between shareholders and bondholders at firms’ subject to activists’ demands. The theoretical motivation originates from the options theory of Black and Scholes (1973) and Merton (1974). Viewed in this context, shareholders possess a call option on the firm’s assets with the strike price set at the firm’s debt value. The long position in a call option (held by the target firm’s shareholders) benefits from increased asset volatility, which adversely affects the short position (held by the bondholders). Thus, there exists a potential conflict between the shareholders (risk-lovers) and the bondholders (who are risk-adverse). This conflict may lead to investment distortions (Myers, 1977; Lyandres and Zhdanov, 2005) that affect all stakeholders. For instance, managers with an undiversified portfolio investment in the firm will exhibit risk preferences similar to the bondholders (Amihud and Lev, 1981; Jensen and Meckling, 1976; Ramakrishnan and Thakor, 1984). In the meanwhile, risk-averse managers act as agents for risk-loving shareholders whose wealth they are supposedly maximizing. Eisdorfer (2008) reviews the hitherto empirical evidence on risk-shifting.

Adams and Mansi (2009) find that CEO turnover is associated with decreased bondholder returns and increased shareholder returns. Elliott et al (2009) find that the announcements of seasoned equity offerings, known to lower share prices, have a positive effect on bondholder wealth. Francis et al (2010) document higher risk of bonds from takeover-friendly states. Jiraporn et al (2013) report that better firm-level corporate governance leads to higher cost of debt. Imbierowicz and Wahrenburg (2013) find that unexpected increases in firm leverage and the firms’ contemporaneous involvement in M&A cause wealth transfers from bondholders to stockholders.

In a related study, Klein and Zur (2011) examine hedge fund activism from 1994-2006 on a sample of mostly speculative-grade bonds. They find negative return to bondholders. We extend this line of inquiry by using a new database that includes activism by other large shareholders as well as hedge funds. We also consider the wealth effects on investment-grade bonds in addition to speculative ones, which tend to dominate previous samples. Recent studies imply different signaling effect and informational content of investment- vs speculative grade bonds. Adams and Mansi (2009) show that the net change in firm value and therefore the degree of wealth transfer is a function of the firm’s debt rating. Tsai and Wu (2015) in a study of the effect of dividend changes show that the price reaction of speculative grade bonds is a better indicator of future profitability than that of investment-grade bonds. Furthermore, prior to the 2008 financial crisis, activist investors targeted mostly underperforming firms. However, the advent of the crisis has caused them to broaden their targets by shifting away from governance issues and towards breakups, reviews of strategic alternatives, and corporate control transactions (White 2015). Our sample allows us to account for the effects of the crisis and the shifting preferences of activist investors. We also contribute to the literature by considering the effect of bond maturity on the wealth effects of shareholder activism.

**Hypotheses**

The actions of activist investors can be detrimental to bondholders’ interests in the following ways. Activists that force businesses to pay out excess cash and/or to sell assets to raise cash to pay them extra dividends are reducing the collaterals that bondholders can lay claim upon in a bankruptcy. To make matters worse, activists may ask management to borrow to support the dividend payments, which will worsen the firm’s interest cover and financial leverage. Thus, we test the hypothesis that bondholders’ wealth is adversely affected by shareholder activism.

Besides the wealth transfer, the confrontational campaigns led by many activists, especially those focused on short-term gains, will jeopardize the target firm’s long-term prospects. To the extent that bond prices are affected, we expect the effects to be higher for longer-term bonds. A long-term bond has a greater risk of default especially if the company’s cash and other marketable assets have been used to fund activists’ demands in the short term. All else equal, longer time to expiration of a firm’s bonds increases the likelihood of benefits of risky activities materializing, and therefore shareholders’ incentives to advocate for them. Using the option vocabulary, an option’s vega is positively correlated with its time to maturity/expiration. We hypothesize that longer-term bonds will experience significantly more negative abnormal returns than short-term bonds.

Bondholders’ rights tend to weaken as the specter of default looms larger. In a situation of default, the shareholders risk losing everything if they surrender the firm to bondholders as illustrated under the call-option analogy. As the firm’s financial position declines and its default becomes more likely, the moneyness of the shareholders’ option declines and the benefits of volatility increase; extending the option analogy, the option’s vega is negatively correlated with its moneyness. In the zero-sum game framework of options, these benefits come at the expense of short positions, i.e., the bondholders. Thus, shareholders can do no worse (and bondholders can do no better) than pressing the firm to continue operations possibly with the help of a bankruptcy court. At any rate, it is hard to imagine that bondholders’ interests are impervious to default risk, which is reflected in a bond’s rating. Thus, we expect to find that lower rated bonds will experience significantly more negative wealth effects surrounding shareholder activist announcements.

Lastly, to the extent that activists’ actions transfer wealth from bondholders to shareholders, bondholders’ interest will be at risk in firms that exhibit an increase in dividend payouts (which is a form of wealth transfer) in the year following the activism announcement. We hypothesize that the wealth transfer effect is directly related to the amount of dividend paid. Dhillon and Johnson (1994) examine stock and bond price reactions to dividend changes. They find share price increases following dividend increases, which the authors claim is consistent with a redistribution of wealth between bondholders and shareholders. They find that bond prices decline following the announcement of large dividend changes. Furthermore, to illustrate the benefits of the wealth transfer to the shareholders, we test for diverging returns between bondholders and shareholders at the targeted firms.

**Sample**

 We obtain information on shareholder activism campaigns targeted at U.S. listed firms from the *Thomson Reuters Shareholder Activism Intelligence* (TRSAI) database. TRSAI covers all major forms of dissident shareholder activities for the most prominent activists ranging from public announcements and proposals to formal proxy fights. The *Shareholder Activism Module* accessed via *ThomsonOne.com* provides the following information per event: campaign announcement date, target name and its economic sector, target market cap (in $ millions), the activist group name, the demand made by the group, the status of the demand and the campaign history.

To evaluate the impact of the shareholder activism campaigns on bondholder returns, we require that targeted firms have bond transaction data in Trade Reporting and Compliance Engine (TRACE). Though TRACE began reporting bond transaction data in July 2002, comprehensive coverage of all corporate bond transactions has only been available since February 2005. As such, we restrict our sample to shareholder activism campaigns announced from the year 2005 to the year 2014.

We download bond characteristic information such as the coupon rate, maturity and bond ratings from the Mergent’s FISD database. We obtain stock price data from the *University of Chicago Center for Research in Security Prices* (CRSP) database and accounting data from the COMPUSTAT database. Our final sample consists of 372 bonds outstanding from 118 unique firms targeted by shareholder activists between 2005 and 2014. The small sample is a common feature in bond’s studies (as in Maxwell and Stephens, 2003; Nishikawa et al., 2011; Elliot et al., 2009; and, Tsai and Wu, 2015). Bonds trade infrequently and in small lots and most bonds do not trade at all. For instance, in Ederington et al. (2015), 54.6% of the bonds registered no trade.

We report the sample distribution in Panel A of Table 1. Shareholder activism is more prominent in the later years. Approximately 84% of the sample activism campaigns take place in the years 2010-2014 with the peak in 2014, and it accounts for 27% of the sample. Activists demand for board control in the majority of the campaigns (50.85%), followed by firm restructuring and shareholder rights (28.81% each). Notice that in each campaign, some activists put forward numerous demands simultaneously, which explains why the sum of the proportions of the demands imposed by activists in Panel A of Table 1 exceed 100%. While activism campaigns tend to draw a lot of press and media attention, only 17.8% of the campaigns bring about complete victory for the activists and another 9.32% of the campaigns end up with partial victories. The sample distribution by sector includes firms in the cyclical consumer goods and services (29.66% of the sample) sector, energy (18.64%), basic materials (11.02%) and technology (10.17%). Icahn Partners LP is the most active among the activists and leads 14.53% of the campaigns, followed by Elliott Management Corp., JANA Partners LLC, Pershing Square Capital, and Relational Investors LLC.

In Panel B of Table 1, we report the summary statistics of the sample of firms targeted by activist shareholders (amounts expressed in millions of US dollars). Targeted firms tend to be large in size with the mean market capitalization of $30,969.73 million (median = $7,739.83 million) and mean total assets of $25,451.60 million (median = $9,442.769 million). Their mean and median market-to-book ratios are 0.918 and 2.253, respectively. Targeted firms are profitable on average with a mean ROA of 2.4% (median = 5.4%) and a mean EBITDA/asset ratio of 12.6% (median = 12.8%). Their debt levels are high; the mean total debt ratio is 67.8% (median = 62.5%). The mean and median institutional ownership are 73.128% and 76.93%, respectively.

In Table 2, we report the attributes of the 372 individual bonds issued by the 118 targeted firms in our sample. One firm has 28 bonds outstanding and at the other extreme 39 firms have one bond outstanding each. Following Ederington et al. (2015), we classify bonds into six rating classes (Aaa and Aa, A, Baa, Ba, B, and below B) and four maturity groupings (1 to 3 years, 3+ to 5 years, 5+ to 10 years, and over 10 years). We obtain data on bond ratings and maturities from the Mergent’s FISD database. Wherever available, we use Moody’s rating to assign bonds to portfolios, else we use the Standard & Poor’s (S&P) ratings. The majority of the bonds (52.96%) are medium-term bonds (i.e., 5 to 10 years) and 27.42% of the bonds are long-term (i.e., over 10 years). The average term to maturity is 13.401 years. Most bonds are rated Aaa and Aa (55.38%), followed by A (11.83%); only 5.91% of the bonds are rated below B. Most of the bonds are issued as senior unsecured notes (54.57%) and senior notes (31.91%). The average coupon rate is 5.56%.

[INSERT TABLE 2 ABOUT HERE]

**Methodology**

***Bond event study***

We follow the bond event study methods of Bessembinder et al. (2009) and Ederington et al. (2015).[[2]](#footnote-2) Following Ederington et al. (2015), we calculate bond returns from day t-1 to day t+1 as follows:

$R\left(t-1,t+1\right)\_{n}=\frac{P\_{n,t+1}-P\_{n,t-1}+∆AI\_{n} }{P\_{n,t-1}+AI\_{n,t-1}}$ (1)

where *Pn,t* is the trade-size-weighted average ‘‘clean’’ price of bond *n* on day *t*, *AIn,t* is accrued interest on bond *n* on day *t*, and *ΔAIn* is the change in accrued interest from day $t-1$ to day *t + 1*.

The abnormal bond return is calculated as:

 *AR(t-1, t+1)n = R(t-1, t+1)n – BM(t-1, t+1)n* (2)

where *BM(t-1, t+1)n* is the mean return on a benchmark rating/ maturity matched portfolio corresponding to bond *n*. Ederington et al. (2015) suggest constructing 24 benchmark portfolios divided into six rating classes and four maturity groupings as explained earlier, and that there are at least five bonds in any rating-maturity benchmark portfolio to trade during the event window. This matching procedure reduces our sample to 372 bonds outstanding.

 Following Bessembinder et al. (2009), we compute a firm-level bond return by averaging all its bonds using the volume outstanding as weight. We report the results for both individual bonds and firm-level bond returns. Examining bond-level returns allows us to differentiate the impact of the events on bonds of different ratings and maturities. Though, returns to bonds issued by the same firm are highly correlated with each other, resulting in biased test statistics, which in turn makes firm-bond return test statistics more reliable. We winsorize both bond and abnormal bond returns by 1%.

To test for the significance of the bond returns and abnormal bond returns, we follow Boehmer et al. (1991) and calculate the following t-statistic:

$t=\left(\frac{1}{N}\right)^{0.5}\sum\_{i=1}^{N}\frac{AR\_{i}}{SD(AR)}$ (3)

where *SD(AR)* is the cross-sectional standard deviation of the cumulative bond return (Ri) / bond abnormal return *ARi*. We also report the sign-ranked test statistics.

***Stock event study***

Besides examining the impact of shareholder activism on bondholders’ wealth, we further examine its impact on shareholders’ wealth. To measure the wealth effects of shareholder activism on stockholders, we compute abnormal stock returns $(ARs)$ surrounding the days of the announcement. We cumulate the abnormal returns over the (-1, +1) days window with 0 representing the day of the announcement of an action initiated by a shareholder activist group.

We use four methods of computing $AR$s including the market model, the Fama and French (1993) three-factor model, and the match-firm portfolio-adjusted methods, alternatively as follows:

|  |  |
| --- | --- |
| $$Market Model AR\_{i,t}=R\_{i,t}-(α\_{i}+β\_{i}R\_{M,t})$$ | (4) |

|  |  |
| --- | --- |
| $$Fama French AR\_{i,t}=R\_{i,t}-(α\_{i}+β\_{i}R\_{M,t}+s\_{i}SMB\_{t}+h\_{i}HML\_{t})$$ | (5) |

|  |  |
| --- | --- |
| $$Matched firm adjusted AR\_{i,t}\left(1\right)=R\_{i,t}-Match-firm portfolio,one R\_{t}$$ | (6) |

|  |  |
| --- | --- |
| $$Matched firm adjusted AR\_{i,t}\left(2\right)=R\_{i,t}-Match-firm portfolio, two R\_{t}$$ | (7) |

where $R\_{i,t}$ is the rate of return of the common stock of the $i^{th}$ firm on day *t*. In equations (4) and (5), $R\_{M,t}$ is the CRSP equally weighted index return; $SMB\_{t}$ is the average return on small market capitalization portfolios *minus* the average return on three large market capitalization portfolios; $HML\_{t}$ is the average return on two high book-to-market equity portfolios *minus* the average return on two low book-to-market equity portfolios. $β\_{i}$ is a parameter that measures the sensitivity of $R\_{i,t}$ to the CRSP equally weighted index of stock returns. $AR\_{i,t}$ is the abnormal return (or prediction error) for the common stock of the $i^{th}$ firm on day $t$. The parameters of the market model and the Fama-French three-factor model are estimated over the (-252, -31) days relative to the announcement day 0.

In equations (6) and (7), we construct two alternative matching-firm portfolios, respectively. The first matching-firm portfolio includes all non-targeted firms in the same Fama-French 48-sector classification in the same year preceding the activism campaign announcement year and are in the same market capitalization quintile as the sample targeted firm. The second matching-firm portfolio includes similar non-targeted firms that are also in the same market-to-book quintile as the sample targeted firm.

The cumulative abnormal stock returns (CARs) are computed as follows:

|  |  |
| --- | --- |
| $$CAR\left(-d,+d\right)=\frac{1}{N}\sum\_{i=1}^{N}\sum\_{t=-d}^{+d}AR\_{i,t}$$ | (8) |

where $t$ is defined in trading days $(d)$ relative to the event date 0. We employ both the *t*-test suggested by Boehmer et al. (1991) and signed-rank test to examine the significance of the impact of shareholder activism on stockholder returns.

**Results**

***Impact of shareholder activism on bondholder returns***

In Table 3, we report the individual bond return (Ri) and abnormal bond returns (ARi) for the whole sample (in Panel A), and by subsamples based on ratings (in Panel B), maturity (in Panel C), maturity and ratings (in Panel D). In Panel A, the bond return averages -0.670% and the abnormal bond returns -0.601%. Both the t-statistics and the signed-rank test statistics are significant at the 1% level. Our findings are broadly consistent with the Klein and Zur (2011) pre-financial-crisis study on hedge fund activism; using a larger window surrounding the announcement, they document a larger negative abnormal bondholder return.

[INSERT TABLE 3 ABOUT HERE]

In Panel B, we compare the bond returns and abnormal bond returns between the four groups based on maturity. Both the mean and median bond returns and abnormal bond returns decrease as the bond’s maturity increases. The difference in the bond returns and abnormal bond returns between the bonds with over five years in maturity and those with under five years in maturity is statistically significant at the 1% level. Longer-term bonds are more volatile than shorter-term bonds, have more liquidity risk and are more sensitive to firm cash flow risk. Thus, the adverse consequences of activism on bondholders’ wealth affect long-term bondholders more than short-term ones.

Firms approaching bankruptcy risk would be more prone to wealth transfer demands from activist shareholders. In Panel C, we perform a test by rating categories. There is no discernible pattern in either the raw or benchmark-adjusted bond returns between the rating categories, and the difference between bonds rated A and above versus those rated below A is not statistically significant[[3]](#footnote-3). In Panel D, we divide the sample into four subsamples based on bond’s rating and maturity: rated A and above vs below A (to test the risk effect), and maturity of up to five years versus above five years (to test the maturity effect). There are no significant differences across the different rating groups. Nonetheless, unlike bonds with shorter maturities, bonds with longer maturities exhibit significant (and larger) negative returns.

In Table 4, we report firm-level bond return, which is an aggregation of the individual bonds by companies using the volumes outstanding of the bonds as weights. In Panel A, the mean firm-level bond returns and abnormal returns are -0.475% and -0.484%, respectively, for the whole sample of 118 firms, and are statistically significant at the 1% level. In Panel B, we aggregate bond maturities into a firm-level variable by computing a weighted average maturity of all bonds associated with a single issuer. We conduct a similar procedure to obtain a firm-level variant of a bond rating. Firms with bonds of longer maturities and firms with lower rated bonds exhibit lower benchmark-adjusted returns, with stronger results for our maturity variable. The firm-level bond returns, however, do not vary by subsamples of activists’ demands (see Panels D through F).

[INSERT TABLE 4 ABOUR HERE]

***Cross-sectional analyses of impact of shareholder activism on bondholder returns***

In Table 5, we report the cross-sectional analyses of the individual bond returns. In Panel A, we pool individual bond returns from day *t-1* to day *t+1* of the targeted firms (372 bond observations) and non-targeted firms in the same rating/maturity groups (21,131 bond observations) and estimate the following regression:

|  |  |
| --- | --- |
| $$R\_{i}=α+β\_{1}TARGETED\_{i} + β\_{2}MATURITY\_{i}+ β\_{3}RATING\_{i}+ β\_{4}LNVOLUME\_{i}+ β\_{5}PRESTD\_{i}+β\_{6}CRISIS\_{i}+β\_{7}BOARD\_{i}+β\_{8}RESTRUCTURING\_{i}+β\_{9}SHSRIGHT\_{i}+\sum\_{i=2006}^{2014} β\_{i}YEAR\_{i}+ε\_{i}$$ | (7) |

where, $R\_{i}$ is the individual bond cumulative returns from day *t-1* to day *t+1*. $TARGETED\_{i} $is a dummy variable representing firms that are targeted by activists. $MATURITY\_{i}$ and $RATING\_{i}$ are dummy variables indicating longer maturity bonds (i.e., more than 5 years) and lower rated bonds (i.e., below A), respectively. $LNVOLUME\_{i}$ is the natural logarithm of the trading volume of the bond from day *t-1* to day *t+1*. $PRESTD\_{i}$ is the standard deviation of the bond returns in the pre-event window from days *t-55* to *t-6*. Cross-sectional heteroskedasticity poses a serious problem in regressions of bond returns (Ederington et al., 2015). For instance, long-term and low-rated bonds are more volatile than those of short-term and highly rated bonds. We control for the heteroskedasticity using $PRESTD\_{i}$. CRISIS (equal to 1 for the years 2007, 2008 and 2009 and to zero otherwise). BOARD, RESTRUCTURING and SHSRIGHT are the dummy variables for campaigns in which the activists demand board control, firm restructuring and shareholder rights, respectively. $YEAR\_{i}$ is the vector of the dummy variables for the sample years (from 2006 through 2014, excluding the first year of the sample) to capture year fixed effects. We estimate the above regression using ordinary least squares (OLS). Given the correlation amongst bonds from the same issuer, we adjust the standard errors of the t-statistics for the clustering effect.

 Our variable of interest is the *TARGETED* variable. The coefficient on the *TARGETED* variable is negative and significant at the 1% level in the first two models of Table 5, which cover the entire sample. Thus, consistent with the univariate results in Table 3, bondholders of targeted firms are negatively affected by shareholder activism. Upon dividing the sample into subsamples by bond maturity and rating, we find that the negative effect of shareholder activism on bondholder returns is confined to the lower-rated bonds and/or longer-term ones. Thus, it is the bond investors in companies with low-rated and/or long-term bonds who suffer the most loss in wealth from shareholder activism.

[INSERT TABLE 5 ABOUT HERE]

In Panel B of Table 5, we estimate equation (7) using only the sample of bonds of targeted firms. The dependent variable is the abnormal bond return (i.e., the difference between the bond returns of targeted firms and the returns on matching portfolio of bonds in the same rating/maturity group). Our main independent variables of interest are MATURITY and RATING. MATURITY is the indicator for bonds with maturity greater than 5 years. RATING is the indicator bonds rated below A. In model 2 we control for the bond’s trading volume and the pre-announcement standard deviation of bond returns. We also include the dummy variables for various activist demands (i.e., demands related to board control is represented by the dummy variable BOARD, firm restructuring demands are represented by the dummy variable RESTRUCTURING and demands related to shareholders’ rights are represented by the dummy variable SHSRIGHT). They allow us to examine whether the bond abnormal returns vary by activist demands. Consistent with the univariate results in Table 3, bonds with longer maturities experience lower abnormal returns, while the effect of bond rating is insignificant.

 In Table 6, we perform additional cross-sectional analyses of firm-level bond returns using the following regressions:

|  |  |
| --- | --- |
| $$R\_{i}=α+β\_{1}TARGETED\_{i} + β\_{2}WMATURITY\_{i}+β\_{3}WRATING\_{i}+ β\_{4}LNASSET\_{i}+ β\_{5}ADJMKBK\_{i}+ β\_{6}ADJEBITDA\_{i}+ β\_{7}ALTMANZ\_{i}+ β\_{8}KZFCI\_{i}+β\_{9}CRISIS\_{i}+β\_{10}BOARD\_{i}+β\_{11}RESTRUCTURING\_{i}+β\_{12}SHSRIGHT\_{i}+\sum\_{i=2006}^{2014} β\_{i}YEAR\_{i}+ε\_{i}$$ | (8) |

where, the dependent variable is the bond returns from day t-1 to t+1 around the shareholder activism campaign announcement date. We calculate the weighted average maturity of all outstanding bonds issued by the same firm. Then we code the WMATURITYi as 1 if the weighted average maturity of all outstanding bonds issued by the same firm is greater than five years and zero otherwise. Similarly, we calculate the weighted average rating groups of all outstanding bonds issued by the same firm. Then we code the WRATINGi as 1 if the weighted average maturity of all outstanding bonds issued by the same firm is below B. We control for firm characteristics in the preceding fiscal year including natural log of total assets ($LNASSET\_{i})$, industry-adjusted market-to-book $(ADJMKBK\_{i})$, industry-adjusted EBITDA-to-total asset ratio $(ADJEBITDA\_{i})$, Altman Z score (*ALTMANZi*) and Kaplan and Zingales Financial Constraint Index (*KZFCIi*), where industry classification is based upon Fama-French 48 sector classification scheme. The remainder variables are as defined earlier. Our variable of interest is the dummy variable for targeted firms (*TARGETED*). In Panel A of Table 6, we pool targeted firm-bond return observations (118 firm-bond observations) and non-targeted firm-bond return observations in the same rating/maturity groups (2,896 firm-bond observations) to estimate regression equation (9). Consistent with the results in Tables 3 through 5, the coefficient on the *TARGETED* variable is negative and significant at the 5% level, confirming the lower returns accrued to bondholders of targeted firms.

[INSERT TABLE 6 ABOUT HERE]

In Panel B of Table 6, we report the results from the estimation of regression equation (9) on the sample of targeted firms only. The sample includes the 118 targeted firms and the dependent variable is the abnormal bond returns (i.e., the difference between the targeted firm-bond return and the non-targeted firm-bond returns in the same rating/maturity group). Similar to our univariate results from Table 3 and the bond-level multivariate results from Table 5, we find that the aggregate measure of bonds with maturity in excess of five years, i.e., $WMATURITY\_{i}$ is inversely and significantly related to the matched-adjusted returns.

***Impact of shareholder activism on stockholder returns***

 In this section, we examine the impact of shareholder activism on stockholders to show the diverging effect of activism on shareholders and bondholders, respectively. In Panel A of Table 7, we report the cumulative abnormal returns (CARs) of the whole sample of the 118 targeted firm stocks in the (-1, +1) days window around the activist campaign announcement dates. The CARs range from 2.623% to 2.740% depending on the method used. Both the t-statistic and the sign-rank test statistic are significant at the 1% level. The magnitude of the targeted firms’ CARs is consistent with the findings by Clifford (2008), who documents that firms targeted by hedge fund activists experience an abnormal return of 3.39% around the activist filing date.

[INSERT TABLE 7 ABOUT HERE]

 In Panels B to D of Table 7, we test whether the CARs differ by activist demands. For instance, in Panel B of Table 7, we compare the CARs of firms where activists demand board control against the rest of the sample. While board control is associated with lower CARs, the difference is not statistically significant. In Panel C, restructuring demands are associated with higher CARs, and in Panel D, shareholder rights are associated with lower CARs. Thus, investors view activist’ demands for restructurings more favorably than demands for board control and/or demands related to shareholder rights.

***Cross-sectional analyses of impact of shareholder activism on stockholder returns***

 Since firm characteristics will influence the choice of activists, we perform a two-stage Heckman self-selection model to control for endogeneity. In the first stage, we estimate a probit regression to model the likelihood of a firm being targeted by activists as follows:

$TARGETED\_{i}=α+β\_{1}LNMKCAP\_{i}+ β\_{2}ADJMKBK\_{i}+ β\_{3}ADJROA\_{i}+ β\_{4}ADJDEBT\_{i}+β\_{5}ADJCASH\_{i} +β\_{6}INSTOWN\_{i}+\sum\_{i=2006}^{2014} β\_{i}YEAR\_{i}+ε\_{i} $ (9)

where, the dependent variable $TARGETED\_{i}$ is the dummy variable representing firms targeted by activists. We control for firm characteristics in the preceding fiscal year including the natural log of market capitalization ($LNMKCAP\_{i})$, industry-adjusted market-to-book $(ADJMKBK\_{i})$, industry-adjusted return on assets $(ADJROA\_{i})$, industry-adjusted total debt ratio $(ADJDEBT\_{i}$) and cash-to-total assets (ADJCASH). We use the Fama-French 48 sector classification to represent the industries. $INSTOWN\_{i}$ is the percentage of firm shares being held by institutional owners at the end of the preceding year as reported by the Thomson One Institutional Ownership database. We control for year-fixed effects in the regression.

We report the results from the probit regressions in Panel A of Table 8. In Panel A1, we pool the 118 targeted firm observations with the 3,591 non-targeted firm observations from the same industry and same market capitalization quintile in the preceding year. Alternatively, in Panel A2, we pool the 118 targeted firm observations with the 802 non-targeted firm observations from the same industry, same market capitalization and same market-to-book ratio quintiles in the preceding year. Firms with lower ROA and cash ratio, higher debt and higher institutional ownership are the likeliest targets of activists.

[INSERT TABLE 8 ABOUT HERE]

In the second stage of the Heckman self-selection two-stage model, we obtain the predicted probability from the probit regression and calculate the inverse Mills ratio ($MILLS$) which we include in the following regression:

|  |  |
| --- | --- |
| $$CAR\_{i}=α+β\_{1}TARGETED\_{i}+β\_{2}LNASSET\_{i}+ β\_{3}ADJMKBK\_{i}+ β\_{4}ADJEBITDA\_{i}+ β\_{5}ADJDEBT\_{i}+ β\_{6}CRISIS\_{i}+β\_{7}MILLS\_{i}+\sum\_{i=2006}^{2014} β\_{i}YEAR\_{i}+ε\_{i}$$ | (12) |

where, the dependent variable is the market-model CAR and the Fama-French CAR, alternatively in separate regressions. The samples in Panels B1 and B2 are the same as in Panels A1 and A2, respectively. We calculate CARs for both targeted firms and the matching firms. Our variable of interest in Panels B1 and B2 of Table 8 is the dummy variable representing targeted firms. Its coefficient is positive and significant at the 1% level in all the four models presented in Panel B, which confirms the positive shareholder wealth effects of targeted firms.

 In Panel C, we focus on targeted firms and include the activist demand variables in addition to the firm characteristics to test their effects on the CARs. The dependent variables in the regression results in Panel A are the Fama-French CARs, matching-firm adjusted CAR 1 (i.e., cumulative returns of targeted firms *minus* cumulative returns on the portfolio of the 3,591 non-targeted firm observations from the same industry and same market capitalization quintile in the preceding year), and matching-firm adjusted CAR 2 (i.e., cumulative returns of targeted firms minus cumulative returns on the portfolio of the 802 non-targeted firm observations from the same industry, same market capitalization quintile and same market-to-book ratio quintile in the preceding year). Consistent with the univariate results in Table 7, firm restructuring demand by activists are favored by investors while board control and shareholder right demands are not.

***Dividend changes post-activist demands***

As bondholder returns surrounding announcements of shareholder activism are negative (Table 3) and shareholder returns are predictably positive (Table 7), we examine the extent of wealth-transfer from shareholders to bondholders. Panel A of Table 9 compares one-year changes in the characteristics of targeted firms with positive versus negative bond excess (i.e., benchmark-adjusted) returns. The difference in dividend changes between the negative and positive bond return subsamples is statistically significant at the 5% level, with negative bond markets’ reaction associated with dividends (scaled by assets) increase. A dividend increase constitutes a direct form of wealth transfer from bondholders to shareholders (Handjinicolaou and Kalay 1984). The results suggest that bond investors’ reaction to activist announcements are related to the extent of a potential wealth transfer to shareholders.

[INSERT TABLE 9 ABOUT HERE]

In Table 10 we perform multiple regressions of abnormal bond (Panel A) and stock (Panel B) returns of the targeted firms. Consistent with the findings of Table 6, the targets with a weighted average bond maturity of over 5 years are associated with lower benchmark-adjusted bond returns. We also find that bond returns are inversely associated with upcoming dividend changes. Panel B shows no significant relationship between stock returns and dividend changes. While the same cannot be unequivocally said for stock markets given the discrepancy between univariate (Table 9) and multivariate (Table 10) results, bondholders appear able to discern which examples of activism will lead to dividend increases and therefore a wealth transfer away from them.

[INSERT TABLE 10 ABOUT HERE]

***Wealth transfer from bondholders to shareholders***

As a test of the wealth transfer hypothesis, we follow Klein and Zur (2011) and regress the bond abnormal returns on the stock abnormal returns and present the findings in Table 11. We find no association between bond and stock returns in our overall sample of targets, and the coefficient on stock abnormal returns is statistically insignificant. The coefficients on MATURITY and RATING are consistent with our previous findings that long-term bondholders in activist targets are hurt disproportionately.

[INSERT TABLE 11 ABOUT HERE]

We split up the targets by weighted maturity and bond ratings.[[4]](#footnote-4) We find that among targets with bonds of shorter maturities, there is a positive relationship between bondholder and shareholder returns. Amongst targets with bonds that have longer maturities and are lower rated, we see a negative relationship between bondholder and shareholder returns. Our findings suggest that wealth transfers may be sample and/or period specific and perhaps not generalizable to other forms of shareholder activism and the later (post-financial crisis) period. The wealth transfer is more pronounced amongst long-term and lower-rated bonds.

**Conclusion**

We examine the effect of shareholder activism on bondholders of targeted firms. Our activist dataset downloaded from the TRSAI database includes activists’ demands from both hedge funds and other large shareholders. Our bond dataset covers both investment-grade and speculative-grade bonds, and extends beyond the 2007-2009 financial crisis period. We find negative returns to bondholders of target firms surrounding activism announcements. Bondholders perceive activists’ actions as unfavorable to their long-term interests. There is a direct association between bond maturity and the extent of the decline in bond prices. Conversely, there is an increase in the target firms’ share prices. We find that bondholder returns around announcement date are lower at firms that subsequently increase their dividends in the 12 months after an activism announcement. It suggests that bond investors price in the adverse consequences from potential wealth transfers (i.e., dividend increases) to shareholders. The wealth transfer is more pronounced amongst long-term and lower-rated bonds.

**Reference:**

Aboody, D., Hughes, J. S., & Ozel, N. B. (2014). Corporate bond returns and the financial crisis. *Journal of Banking & Finance*, *40*, 42-53.

Adams, J. C., & Mansi, S. A. (2009). CEO turnover and bondholder wealth. *Journal of Banking & Finance*, *33*(3), 522-533.

Aslan, H., & Kumar, P. (2016). The product market effects of hedge fund activism. *Journal of Financial Economics,* *119*, 226–248.

Amihud, Y. and Lev, B., (1981). Risk reduction as a managerial motive for conglomerate mergers, *Bell Journal of Economics,* *12*, 605–617.

Bessembinder, H., Kahle, K., Maxwell, W., and Danielle, X., (2009). Measuring abnormal bond performance, *Review of Financial Studies* *22*, 4219–4258.

Billingsley, R.S., Kovacs, T., (2011). The 2008 short sale ban: liquidity, dispersion of opinion, and the cross-section of returns of US financial stocks. *Journal of Banking & Finance* *35* (9), 2252–2266.

Black, F. and Scholes, M. S., (1973). The pricing of options and corporate liabilities, *Journal of Political Economy*, *81*, 637–654.

Boehmer, E., Musumeci, J., and Poulsen, A.B., (1991). Event-study methodology under conditions of event induced variance, *Journal of Financial Economics* *30*, 253– 272.

Brav, A., Jiang, W., & Kim, H. (2015). The real effects of hedge fund activism: Productivity, asset allocation, and labor outcomes. *The Review of Financial Studies, 28*(10), 2723.

Buraschi, A., Kosowski, R. and Sritrakul, W. (2014), Incentives and Endogenous Risk Taking: A Structural View on Hedge Fund Alphas. *The Journal of Finance*, *69*: 2819–2870.

Chava, S., Ganduri, R., Ornthanalai, C., (2012). Are credit ratings still relevant? *Working Paper Available on SSRN*.

Clayton, M., (2011). The valuation effect of IPOs: evidence from the bond market. *Working Paper* *Available on SSRN*.

Clifford, C., (2008). Value creation or destruction? Hedge funds as shareholder activists, *Journal*

*of Corporate Finance* *14*, 323-336.

DeAngelo, H. and Masulis, R. W., (1980). Optimal capital structure under corporate and personal taxation, *Journal of Financial Economics*, *8*, 3–29.

Deng, X., Kang, J., Low, B.S., (2013). Corporate social responsibility and stakeholder value maximization: evidence from mergers. *Journal of Financial Economics* *110* (1), 87–109.

DeFond, M., Zhang, J., (2014). The timeliness of the bond market reaction to bad news earnings surprises. *Contemporary Accounting Research* 31, 911–936.

Dhillon, U. S., & Johnson, H. (1994). The effect of dividend changes on stock and bond prices. *The Journal of finance*, *49*(1), 281-289.

Dick-Nielsen, J., Feldhütter, P., & Lando, D. (2012). Corporate bond liquidity before and after the onset of the subprime crisis. *Journal of Financial Economics*, *103*(3), 471-492.

Ederington, L., Guan, W. and Yang, L., (2015). Bond market event study methods. *Journal of*

*Banking and Finance* *58*, 281-293.

Eisdorfer, A., (2008). Empirical evidence of risk shifting in financially distressed firm. *Journal*

*of Finance* *63*, 609-637.

Elliott, W., Prevost, A. and R. Rao, (2009). The announcement impact of seasoned equity

offerings on bondholder wealth, *Journal of Banking and Finance* *33*, 1472-1480.

Fama, E. and French, K., (1993). Common risk factors in the returns on stocks and bonds, *Journal of Financial Economics* *33*, 3-56.

Francis, B. B., Hasan, I., John, K., & Waisman, M. (2010). The effect of state antitakeover laws on the firm's bondholders. *Journal of Financial Economics*, *96*(1), 127-154.

Friewald, N., Jankowitsch, R., & Subrahmanyam, M. G. (2012). Illiquidity or credit deterioration: A study of liquidity in the US corporate bond market during financial crises. *Journal of Financial Economics*, *105*(1), 18-36.

Gantchev, N. (2013). The costs of shareholder activism: Evidence from a sequential decision model. *Journal of Financial Economics*, *107*(3), 610-631.

Gao, Y., Liao, S., Wang, X., (2011). The economic impact of the Dodd Frank Act of 2010: evidence from market reaction to event surrounding the passage of the act. *Working Paper Available on SSRN.*

Gara, A. (2015). Kraft Heinz Turns Into A Hedge Fund Favorite As Buffett And 3G Mix Ketchup With Macaroni. <http://www.forbes.com/sites/antoinegara/2015/05/27/berkshire-hathaway-3g-capital-kraft-heinz-hedge-fund-favorite/#2715e4857a0b1b49f67f7cd6>

Gillan, S., & Starks, L. T. (2007). The Evolution of Shareholder Activism in the United States\*. *Journal of Applied Corporate Finance*, *19*(1), 55-73.

Greenwood, R., & Schor, M. (2009). Investor activism and takeovers. *Journal of Financial Economics*, *92*(3), 362-375.

Grossman, S. J. and Hart, O. D., (1983). Corporate Financial Structure and Managerial Incentives. *NBER Working Paper* R0398,.

Handjinicolaou, G., & Kalay, A. (1984). Wealth redistributions or changes in firm value: An analysis of returns to bondholders and stockholders around dividend announcements. *Journal of Financial Economics*, *13*(1), 35-63.

Healy, Paul M., Hutton, Amy P., Palepu, Krishna G., (1999). Stock performance and intermediation changes surrounding sustained increases in disclosure. *Contemporary Accounting Research* *16*, 485–520.

Huang, K., & Petkevich, A. (2015). Corporate Bond Pricing and Ownership Heterogeneity. *Journal of Corporate Finance* *36* (2016) 54–74

Imbierowicz, B., & Wahrenburg, M. (2013). Wealth transfer effects between stockholders and bondholders. *The Quarterly Review of Economics and Finance*, *53*(1), 23-43.

Jensen, M. C., (1986). Agency costs of free cash flow, corporate finance and takeovers, *American Economic Review*, *76*, 323–329.

Jensen, M. C. and Meckling, W. H., (1976). Theory of the firm: managerial behavior, agency costs and ownership structure, *Journal of Financial Economics*, *3*, 305–360.

Jiraporn, P., Chintrakarn, P., Kim, J. C., & Liu, Y. (2013). Exploring the agency cost of debt: evidence from the ISS governance standards. *Journal of Financial Services Research*, *44*(2), 205-227.

Jory, S., Ngo, T. and Nguyen, K. (2016). Institutional Ownership and the Spillover Effects of Shareholder Activism. *Working paper.*

Klein, A., Zur, E., (2011). The impact of hedge fund activism on the target firm’s existing bondholders. *Review of Financial Studies* *24*, 1735–1771.

Klock, M. S., Mansi, S. A., & Maxwell, W. F. (2005). Does corporate governance matter to bondholders?. *Journal of Financial and Quantitative Analysis*, *40*(04), 693-719.

Kouwenberg, R. and Ziemba, W. T., (2007). Incentives and Risk Taking in Hedge Funds. *Journal of Banking and Finance*, *31*(11).

Leland, H. E. and Pyle, D. H., (1977). Informational asymmetries, financial structure and financial intermediation, *Journal of Finance*, *32*, 371–381.

Lin, H., Wang, J., & Wu, C. (2014). Predictions of corporate bond excess returns. *Journal of Financial Markets*, *21*, 123-152.

Lyandres, E. and Zhdanov, A., (2005). Underinvestment or Overinvestment? The Effect of Debt Maturity on Investment. *University of Rochester*.

Maxwell, W. and C. Stephens, (2003). The wealth effects of repurchases on bondholders. *Journal of Finance* *58* (2), 895-919.

May, Anthony, (2010). The impact of bond rating changes on corporate bond prices: new evidence from the over-the-counter market. *Journal of Banking and Finance* *34*, 2822–2836.

Merton RC. (1974). On the pricing of corporate debt: the risk structure of interest rates. *Journal of Finance* *29*:449–70

Murphy, Kevin J., (1985). Corporate performance and managerial remuneration: an empirical analysis. *Journal of Accounting and Economics* *7*, 11–42.

Myers, S. C., (1977). Determinants of corporate borrowing’, *Journal of Financial Economics*, *5*, 147–175.

Nishikawa, T., Prevost, A. and R. Rao, (2011). Bond market reaction to stock repurchases: Is there a wealth transfer effect? *Journal of Financial Research* *34*(3), 503-522.

Norli, Ø., Ostergaard, C., & Schindele, I. (2015). Liquidity and shareholder activism. *The Review of Financial Studies, 28*(2), 486.

Qiu, J., & Yu, F. (2009). The market for corporate control and the cost of debt. *Journal of Financial Economics*, *93*(3), 505-524.

Ramakrishnan, R. T. S. and Thakor, A. V., (1984). The valuation of assets under moral hazard, *Journal of Finance*, *39*, 229–238.

Ross, S. A., (1977). The determination of financial structure: the incentive-signalling approach, *Bell Journal of Economics*, *8*, 23–40.

Sengupta, Partha, (1998). Corporate disclosure quality and the cost of debt. *Accounting Review* *73*, 459–474.

Tsai, H. J. and Wu, Y., (2015). Bond and stock market response to unexpected dividend changes,

*Journal of Empirical Finance* *30*, 1-15.

Wang, Y., & Mao, C. X. (2015). Shareholder activism of public pension funds: The political facet. *Journal of Banking & Finance*, *60*, 138-152.

Wei, J., Zhou, X., (2012). Informed trading in corporate bonds prior to earnings announcements. *Working Paper Available on SSRN*.

White, M.J., (2015). A Few Observations on Shareholders in 2015. <http://www.sec.gov/news/speech/observations-on-shareholders-2015.html>

1. Note that a target is a firm subjected to shareholder activism. [↑](#footnote-ref-1)
2. We thank Bill Maxwell for the SAS codes. To be consistent with the aforementioned studies, bond dataset excludes the following: Non-industrial, convertible, putable and zero coupon bonds; Non-US dollar denominated bonds; Bonds that have maturity less than 1 year or greater than 50 years; Bonds that are not rated by Moody’s and/or S&P; Bonds that do not have $1000 par value and do not make semi-annual coupon payments; Cancelled, corrected, reversed and commission trades; Trades that take more than a week to be cleared; “When issued” or “special price” trades; Trades with special sale conditions attached; Irregular trades as indicated by TRACE’s “as of” flag; Trades at less than $25 per $100 par value since they are considered as effectively in default. [↑](#footnote-ref-2)
3. Using A rating as a cutoff instead of the speculative/investment cutoff (BBB) is driven by subsample size and breakdown [↑](#footnote-ref-3)
4. The subsample of targets with longer weighted maturities of bonds (above 5 years) is large enough to be split up by rating as well; the subsample of targets with shorter weighted maturities of bonds (up to 5 years) is too small to be split up further. [↑](#footnote-ref-4)