Creditor Control Rights, Corporate Governance, and Firm Value*

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November 2009

Abstract

We provide evidence that creditors play an active role in the governance of corporations well outside of payment default states. Using a large sample of covenant violations reported by U.S. public firms, we show that violations are followed immediately with an increase in CEO turnover, an increase in the incidence of corporate restructurings and hiring of turnaround specialists, a decline in acquisitions and capital expenditures, and a sharp reduction in leverage and shareholder payouts. The changes in the investment and financing behavior of violating firms coincide with amended credit agreements that contain stronger restrictions on firm decision-making. In addition, changes in the management of violating firms suggest that creditors exert considerable behind-the-scenes influence on governance in addition to contractual control. We also show that firm operating and stock price performance improve following a violation, suggesting that actions taken by creditors benefit shareholders.

Shleifer and Vishny (1997) argue in their influential survey that "corporate governance deals with the ways in which the suppliers of finance to corporations assure themselves of getting a return on their investment." In light of this definition, a natural question is: *which* investors exert influence over managers to assure a good return? Panel A of Figure 1 presents the traditional view. According to this view, corporate governance refers primarily to the ability of *equity-holders* to influence managerial decisionmaking, either directly or indirectly through the board of directors. Corporate creditors are thought to remain passive bystanders until firms are in default, which is typically associated with failure to make a payment (Townsend (1979), Gale and Hellwig (1985), Hart and Moore (1998)). The current corporate governance literature almost exclusively reflects the traditional view. Indeed, Shleifer and Vishny (1997) note that, "although there has been a great deal of theoretical discussion of governance by large creditors, the empirical evidence of their role remains scarce" (p. 757).[1]

In Panel B of Figure 1, we present a creditor-oriented view in which creditor influence over managerial decisions extends outside of payment default states. Under this alternative view, creditors begin to play a more active role in corporate governance when firm performance deteriorates, but well before bankruptcy. In the "mixed" region, the actions that creditors take to protect their return may be as important as the actions taken by equity-holders. In other words, *both* creditors and equity-holders play an important corporate governance role.

In this study, we present evidence consistent with this alternative view. Using a data set of financial covenant violations reported by the universe of U.S. public firms in quarterly filings with the Securities and Exchange Commission (SEC), we show that violations are associated with a sharp increase in CEO turnover, an increase in the incidence of corporate restructuring, an immediate decline in asset growth, acquisitions, and capital expenditures, and a sharp reduction in outstanding debt and shareholder payouts. Further, we provide evidence that firm operating performance and equity valuation improve following a violation, suggesting that actions taken by creditors aid in company turnarounds.

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[1] There are important exceptions, including Kaplan and Minton (1994), Kang and Shivdasani (1995), Ivashina, et al (2009), and Santos and Rumble (2006), and Wruck (1990). Gilson (1990) provides evidence on the strong role of creditors in bankruptcy.

There are several reasons why financial covenant violations provide an excellent opportunity to study the influence of creditors on corporate governance. First, covenant violations provide creditors with the same rights as a payment default, including the ability to accelerate any outstanding principal and to terminate any unused revolving credit facility capacity. Although creditors almost always waive the violation, the threat associated with these rights enables creditors to exert considerable influence over managerial decision-making. Second, violations are common. During our sample period from 1996 through 2008, we find that between four percent and nine percent of public firms are in violation of a covenant during any particular quarter and nearly 40 percent of the firms are in violation at some point during the period. Finally, violations occur after deterioration in firm performance but well outside of payment default states. The median firm in violation of a covenant for the first time has a market-to-book ratio above one and operating cash flows well above zero; in fact, the median violator is only slightly below the median non-violator on these two measures. For violators with a Standard & Poor's (S&P) issuer credit rating, the median rating is BB, which historically has a one percent frequency of payment default within a year.

The primary response of creditors to financial covenant violations is *not* liquidation or bankruptcy. The unconditional one-year probability of exiting our sample due to financial distress is three percent for non-violators and seven percent for violators, meaning that covenant violations are associated with an increase of firm exit because of financial distress by only four percentage points. When we include basic controls for firm performance and market valuation, the marginal effect of a violation on firm exit is reduced to almost one percentage point.

Instead, creditors protect their financial claim through the bargaining that occurs around the waiver of the violation. It is at this point that creditors increase their control over the governance of the company. Specifically, creditors exert their rights in two ways. First, they impose stronger contractual restrictions on firm behavior via amendments to the existing credit agreement. The amended agreements can cover virtually all aspects of financial and investment decisions, including investments in working capital and tangible assets, acquisitions, assets sales, dividend payments, and new capital-raising efforts.

We document that loans renegotiated following a violation are smaller, have shorter maturity, and carry higher fees and interest rate spreads. Renegotiated loans are also more likely to require collateral, limit new investment, and require mandatory repayment for certain events.

Second, and perhaps more importantly, creditors can advise the firm on how best to "manage through" the violation to maximize the chance that the firm repays its debt through future cash flows. Suggested fixes could be as simple as demanding better reporting and liquidity management. But for companies suffering from deeper structural problems, creditors can affect more substantial changes to the organization, including pushing for the hiring of a turnaround management firm, and if necessary, the replacement of top executives.

It is on this second dimension that we provide the most surprising results. We document a statistically and economically significant increase in forced CEO turnovers following the announcement of a covenant violation. The probability of a forced CEO turnover in the four quarters prior to a violation is relatively steady at around 1.5 percent. In the quarter of the violation, the probability increases to more than three percent, and in the quarter after the violation, the probability increases further to roughly four percent. After controlling for changes in firm performance, we still find that the cumulative probability of a forced CEO turnover in the four quarters following the violation is nearly 4 percent. To put this magnitude into perspective, the marginal impact of a covenant violation is twice as large as the marginal impact of a two standard deviation decrease in operating cash flow.

We also document a large increase in the hiring of turnaround management and restructuring firms immediately after the violation. Anecdotal evidence from lenders, corporate lawyers, and case studies suggest that lenders have a significant influence over whether borrowers hire such firms to aid in improving the running of the company. These firms assist with restructuring the violators' capital structure and operations, and will often take temporary roles on the violating firms' management teams. Indeed, there are consulting firms that specialize in putting their consultants into "chief restructuring officer" positions. Often, these consultants will also act as CEOs or CFOs upon the release of previous management. Because no separate dataset exists of turnaround-firm assignments, we search SEC filings

for evidence of that firms have hired such restructuring specialists. Regardless of the exact nature of our search, we find a sharp spike in the incidence of the employment of turnaround management and restructuring firms in the quarters immediately following a covenant violation.

Patterns in asset growth and investment also reflect the influence of creditors on corporate governance. While firms grow their asset base by 10 percent in the year leading up to the violation, there is a sharp reversal beginning in the year of the violation. By four quarters after the violation, firms shrink their total assets by six percent. A similar pattern holds for investments in property, plants, and equipment (PPE), indicating that asset sales are an important response to a financial covenant violation. We also show that capital expenditures drop after a covenant violation (as in Chava and Roberts (2008) and Nini, Smith, and Sufi (2009)) and that cash spending on acquisitions drops sharply after the violation.

Violations also induce significant financial conservatism. In addition to a drop in net debt issuance (shown in Roberts and Sufi (2009)), we also find that post-violation liquidity management and dividend policy reflects a more conservative financial policy. In the four quarters leading up to a violation, firms burn through cash equivalent to three percent of their assets. Immediately after the violation, cash balances increase by almost two percent of assets. Total shareholder payouts (repurchases and dividends) experience an eight percent decline in the quarter immediately after the violation, after being relatively constant in the prior quarter.

Interpretations of the importance of creditor control depend crucially on the subsequent impact of creditor intervention on borrower performance. We find evidence that both operating performance and equity-market valuation improve, on average, following a financial covenant violation. Both sets of results are particularly striking. After declining for five quarters before the violation, operating cash flow experiences a sharp reversal directly after the violation, and increases by five percent of lagged assets on an annualized basis in the three quarters after a violation. We examine selection and mean reversion concerns and find that they cannot explain this rebound in firm performance. Although equity returns are negative, on average, in the month the violation is first reported, we show that violating firms earn a statistically significant positive abnormal return in the months following the violation. These returns,

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measured via traditional event study methods, are about five percent per year higher than their risk-adjusted benchmarks. Our findings on performance suggest that creditor actions to protect their own claims can have positive "knock-on" effects that actually benefit company shareholders.

Overall, our findings show that violations are associated with important changes in firm management, investment and financial policy, and performance. However, violations occur in response to deterioration in operating performance and firm value. As a result, an obvious concern is whether the effects we find would have occurred even in the absence of the violation itself. For example, we expect firms to invest less if the market's valuation of investment opportunities falls, independent of the presence of binding covenants. There are a number of tests we conduct to mitigate this concern. First, while operating and stock price performance begin to decline four to eight quarters in advance of the violation, changes in the outcomes of interest occur in the quarters immediately following the violation. Second, we include linear and higher order control variables for accounting items on which financial covenants are written. This "quasi-discontinuity" approach, similar to the approach in Roberts and Sufi (2009), yields results that are not mechanically driven by the performance of violators.

Our findings are related to the large body of research focusing on the corporate governance of firms by equity-holders (see Shleifer and Vishny (1997), Hermalin and Weisbach (2003), and Adams, Hermalin, and Weisbach (2008) for surveys of this literature). Our contribution is to highlight that creditors, through the use of covenants and the control rights with which they are associated, also play an important role in the corporate governance of public firms, even outside of bankruptcy. Our results suggest that effective creditor interventions might boost – or event substitute for – equity-centered governance mechanisms, particularly when those mechanisms are weakened by manager-owner agency problems. Indeed, our might results could provide a partial explanation for why establishing a causative relationship between weak equity-centered governance and performance is so weak.[2]

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[2] For the debate over the association between corporate governance quality, board quality, and performance, see Gompers, Ishii, Metrick (2002), Bebchuk, Cohen, Farrell (2009), Bhagat and Black (2001), and Bhagat and Bolton (2007); for arguments over the efficacy of shareholder control of board nominations, see Bebchuk (2007) and the subsequent replies to his paper in the *Virginia Law Review*; for the relation between CEO pay and performance, see

Our results are most consistent with the recent ideas posited by Daniels and Triantis (1995) and Baird and Rasmussen (2006). These papers argue that there are strong incentives for creditors to play a role in governance outside of bankruptcy, and provide anecdotal evidence that the influence of creditors has been overlooked in the finance and legal literature. Our results are also consistent with early papers investigating the influence of creditors on corporate governance (e.g., Wruck (1990) and Gilson (1990)), although these studies focus on actions that follow a payment default or bankruptcy filing.

Our results are also closely related to the growing body of literature on the effect of covenant violations on firm behavior (Beneish and Press (1993, 1995a, 1995b), Chen and Wei (1993), Sweeney (1994), Dichev and Skinner (2002), Chava and Roberts (2008), Nini, Smith, and Sufi (2009), and Sufi (2009)). Relative to this literature, we are the first to provide a coherent analysis of the impact of covenant violations on corporate behavior and the first to study the extended impact of the violation on firm performance. More broadly, while the existing literature on covenants has emphasized contractual control following violations, our results on CEO turnover and turnaround specialists suggest that creditors also play an important role in advising management behind the scenes in ways that extend beyond contractual restrictions put in place at the time of the violation. We believe we are the first to provide large sample evidence of this latter channel.

The rest of this study proceeds as follows. The next section provides a background on debt covenants, and Section II introduces the data. Section III and IV present results on firm outcomes after a violation and Section V concludes.

I. Financial Covenants: Background

Our central hypothesis is that creditors play an important role in corporate governance even outside of states of payment default or bankruptcy. Covenants play a crucial role in this governance

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Jensen and Murphy (1990) and Murphy (1999); for studies examining CEO turnovers and performance, see Kang and Shivdasani (1995) and Perry and Shivdasani (2005). None of these studies consider the influence of creditor control on the overall quality of governance within the firm.

process. Debt covenants are conditions in credit agreements that either guide or limit the actions of the borrower. The borrower must comply with these covenants to avoid being in default of the agreement.

In practice, covenants are divided into three broad categories: affirmative covenants, negative covenants, and financial covenants. *Affirmative* covenants require the borrower to take certain actions, such as meeting GAAP standards of accounting, submitting financial information to the lender on a timely basis, meeting all regulatory reporting demands, paying taxes, maintaining equipment, and remaining in compliance with the law. *Negative* covenants restrain the borrower from taking certain actions, such as altering the fundamental nature of the business, changing control of the company (including through acquisition), disposing of assets, making excessive capital expenditures, and paying dividends. *Financial* covenants are accounting-based risk and performance limits. These covenants are often included in the negative covenants section, or classified separately, and can consist of restrictions on a company's leverage, interest coverage, total fixed charges (including, for example, interest, rent, and capital expenditures), and net worth.

While covenants are common to all types of debt agreements, including bond and note indentures, they are typically more numerous, detailed, and tightly-set in private loan agreements (Kahan and Tuckman (1993), Verde (1999), Sansone and Taylor (2007)). Roberts and Sufi (2009) show that 96% of all private credit agreements contain a financial covenant, with coverage ratio (e.g. EBITDA / interest expense) and debt-to-cash flow covenants being the most common. Financial covenants in private loan agreements are typically *maintenance-based*, meaning that the borrower must be in compliance with the covenant on a regular basis, typically every fiscal quarter. Conversely, financial covenants in bond indentures are usually *incurrence-based*, meaning that the borrower need only be in compliance at the time of a specific event, such as issuing new debt. The inability to avoid maintenance-based covenants makes private debt contracts much more restrictive.

A violation of a covenant is considered to be an event of default, giving the creditor the right to demand immediate repayment – or *accelerate* – the entire loan. In practice, creditors rarely accelerate the loan, opting instead to use the right of repayment to initiate a renegotiation of the credit agreement. These

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renegotiations can lead both to changes in the terms of the loan and to increases in monitoring by lenders. The following description of a loan covenant violation, reported by Digital Generation Systems Inc. in a 10-Q disclosure filed on November 9, 2005, provides a typical example of how a violation is handled by the borrower and its lenders:

> As of September 30, 2005, the Company was not in compliance with the covenant related to its leverage ratio. On November 9, 2005, the Company received a waiver from its lenders as of September 30, 2005. In connection with securing this waiver, certain other changes were made to the credit facility which, among other things, reduced the amount that can be borrowed under the Company's revolving line of credit from $15.0 million to $4.5 million.

Beyond the $10.5 million reduction in the company's line of credit, the "other things" required in connection with the waiver included a 100 basis-point increase in the interest rate spread charged on the loan, stronger restrictions on dividend and intercompany payments, a 50 percent reduction in allowed capital expenditures, and a requirement that the company comply with its capital expenditures restrictions on a quarterly, rather than annual basis.[3] All of these creditor-imposed restrictions likely serve an important role in corporate governance. Yet there is no mention of imminent payment default or bankruptcy in the filing. In fact, Digital Generation Systems goes on to have very strong cash flows in the following fiscal year.

Table I presents evidence that the experience of Digital Generation Systems is common. Using a sample of loans from Reuters Loan Pricing Corporation's *Dealscan* database, we show that loans renegotiated shortly following a covenant violation are significantly different from the original loans that preceded the violation. Specifically, we compare the terms of a loan made within 6 months of a covenant violation to the terms of a similar loan made to the same borrower before the violation, where the maturity of the original loan is *after* the initiation of the renegotiated loan. Our assumption is that the loan made after the violation is a renegotiated version of the loan made before the violation. We examine only

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[3] While not reported in the text of the 10-Q document, this additional information is available from the actual credit agreements filed as attachments to the 10-Q.

covenant violations where we have evidence that the firm was not in violation at the time the original loan is made.[4]

Table I shows that loans made following a covenant violation are smaller, carry higher interest rate spreads and fees, have a shorter maturity, and involve fewer lenders in the syndicate. The changes likely reflect an increase in the credit risk associated with the borrower and also a desire to facilitate additional monitoring by lenders, as evidenced by the shorter maturity and reduction in syndicate size. Consistent with this motivation, renegotiated loans also vary on a variety of non-price loan terms. Renegotiated loans are significantly more likely to be secured with collateral and more likely to limit borrowing to a borrowing base, which is typically some fraction of a specific asset, such as inventory or accounts receivable.

Renegotiated loans also are more likely to protect the cash flows available to creditors by including a sweeps provision and an explicit restriction on dividend payments. A sweeps provision requires that cash flows from certain activities, such as asset sales or debt issuance, must be used to pay down outstanding balances on the loan. However, renegotiated loans are less likely to include a performance pricing provision, meaning that the new loans are less likely to adjust pricing automatically in response to changes in the borrower's performance. Instead, creditors likely prefer to renegotiate again rather than contractually mandate subsequent changes to loan pricing.

The incidence of restrictions on capital expenditures increases following the violation, and for loans with a restriction before and after the violation, the investment limit falls. In terms of other financial covenants, ratio-based covenants such as debt-to-EBITDA and interest coverage are replaced, in part, by restrictions on the level of EBITDA. For loans with ratio-based covenants before and after the violation, the covenant thresholds are relaxed to accommodate the deterioration in borrower performance that triggered the violation.

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[4] We describe the data collection process in section II and a data appendix, which explains how we identify covenant violations.

In addition to changing the contractual terms of the credit agreement after a covenant violation, there is also substantial anecdotal evidence that creditors work "behind the scenes" to affect changes in the way that the company is run and managed. While lender liability laws protect equity-holders from creditors that directly interfere with the management of the firm, creditors can offer advice to management and the board, quid pro quo, that suggest actions the company can take to maximize the chance of receiving a covenant waiver.

Baird and Rasmussen (2006) cite the example of Krispy Kreme Doughnut Corp., where concessions following a covenant violation included replacing the CEO with a turnaround specialist. Baird and Rasmussen (2006) suggest this type of activity may be more widespread, as

> Lenders may need to do no more than make it understood that they will look more kindly on future waivers of loan covenants if a [chief restructuring office] with whom they have worked before is in place and cleaning shop." While there are anecdotes of intervention with the management team, we are unaware of any large sample evidence on this role of creditors for firms that are not in bankruptcy.[5]

The very nature of behind-the-scenes negotiations makes it difficult to document the informal role of creditors on corporate governance. We use the covenant violation event as a point where we know that negotiations are taking place between the lenders and the borrower. Immediate changes in management that follow these negotiations can provide the large sample evidence of creditor influence on corporate governance sought by Baird and Rasmussen (2006).

II. Data and Summary Statistics

The final *Compustat* sample used in this paper consists of 8,945 non-financial U.S. firms and 220,778 firm-quarter observations from 1997 to 2008. For each firm-quarter observation, our primary variable is an indicator of whether or not a firm is in violation of a financial covenant. In this section, we describe the sample construction and provide summary statistics. Full details of our data collections are contained in an appendix at the end of the paper.

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[5] Gilson (1990) shows that bank lenders frequently become major stockholders and appoint new directors when firms enter Chapter 11 or privately restructure their debt to avoid default.

A. Data

To construct our sample, we start with the universe of all Compustat firms in existence during the years 1996 to 2008. The sample begins in 1996 because we require electronic SEC filings to employ our text-search algorithm that finds covenant violations; 1996 is the first year in which electronic filing became mandatory for all SEC-registered firms. We include all firms with average book assets greater than $5 million in 2000 dollars and limit the sample to firm-quarter observations with five available data items: total assets, total sales, common shares outstanding, closing share price, and the calendar quarter of the filing. Imposing these data restrictions leaves a sample of 9,672 firms and 250,134 firm-quarter observations.

Next, for every firm-quarter observation in the *Compustat* universe, we match the observation to its respective 10-Q or 10-K SEC filing that generates the *Compustat* data. Using these matches, we employ a text-search algorithm to search the filings for reports of violations. Our algorithm first locates the word "covenant" in the filing. If the algorithm finds "covenant," it then searches for the following five terms within three lines above or the initial hit: "waiv," "viol," "in default," "modif," and "not in compliance." As we discuss in the appendix, this algorithm, after correcting for false positives, captures 90% of actual violations in a random sample of 1,000 violators for which we manually read the filings.[6]

We focus our analysis primarily on new financial covenant violations, which we define to be financial covenant violations for firms that have not violated a covenant in the previous four quarters. We focus on new financial covenant violations because they represent the initial measure of creditor intervention, which provides the cleanest identification of the effect of violations on corporate behavior. Given our focus on new covenant violations, a firm-quarter observation is only included in our sample if we have four previous quarters to measure whether a given violation is new. With these restrictions in place, we are left with the final sample of 8,945 firms and 220,778 firm-quarter observations.

B. Summary Statistics

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[6] For a comparison of this approach to the approach taken by Roberts and Sufi (2009) and Nini, Smith, and Sufi (2009), see the data appendix.

Figure 2 reports the fraction of firms that violate a covenant in any given year from 1996 to 2008. The solid line shows that between 10 percent and 20 percent of firms are in violation of a covenant in a given year. The incidence of violations is cyclical, peaking during the 2001-2002 recession. There is also a sharp decline in the incidence of violations in the latter part of the sample, before the onset of the financial crisis and economic downturn of 2007 and 2008. The dotted line in Figure 2 plots the fraction of firms reporting new financial covenant violations in each year, beginning in 1997. New violations follow the same cyclical pattern as total violations and reach as high as 9 percent of the firms in our sample during 2001.

Table II provides summary statistics on the incidence of violations. Close to 40 percent of firms in our sample violate a financial covenant at some point during our sample period. Nearly 7 percent of firms are in violation in any given quarter, and 2 percent experience a new violation in any quarter. This amounts to 4,412 new financial covenant violations.

The incidence of financial covenant violations is significantly higher than the violation incidence observed in Roberts and Sufi (2009) and Nini, Smith, and Sufi (2009). There are two reasons for the discrepancy. First, as described in detail in the data appendix, the text-search algorithm used in this analysis represents a significant improvement relative to the previous text-search algorithm used in these articles. Second, the previous articles examine only firms that are traded on a major exchange (i.e., *Compustat* variable *stk = 0*). We do not make this restriction. Public firms that are not listed on a major exchange are smaller, and smaller firms are more likely to violate financial covenants.

Table II also shows that financial covenant violations are common across industries, being most common in wholesale trade. Violations are common among both firms rated and not rated by S&P. Although violations are negatively correlated with size, 23 percent of firms over $5 billion in book assets violate a financial covenant at some point in the sample. Thus, though covenant violations are more common among small firms, they are also common among the largest public firms in the economy.

Table III provides summary statistics for other relevant variables in our analysis. All of these variables are defined in the data appendix. As shown in Roberts and Sufi (2009), financial covenants are

most commonly written on measures of debt-to-cash flow, interest coverage, net worth, debt-to-total capitalization, and the current ratio. The first five variables in Table III represent the underlying items that are used to construct these variables. We also report summary statistics on market-to-book ratios as a measure of the financial health of the sample firms. The distributions of the variables are in line with data used in previous studies.

Table III also provides summary statistics for the outcome variables of interest, which include total assets, property, plants and equipment (PPE), total debt, capital expenditures, cash acquisitions, net debt issuance, cash scaled by assets, and total shareholder payout. The final outcome variable of interest is CEO turnover. We use the CEO turnover data provided by Jenter and Kanaan (2008) through 2001, which we extend through 2007 using an identical procedure for classifying CEO turnover as forced or voluntary. The CEO turnover data are limited to firms in the S&P 1500, which is why the sample is much smaller.[7]

III. Financial Covenant Violations, Payment Default, and Firm Exit

It is well-established that creditors play an important role in bankruptcy and following a payment default, but our maintained hypothesis is that creditors play an important role even when bankruptcy or payment default is not imminent. In this section, we examine this hypothesis by exploring how close new violators are to payment default or bankruptcy.

Figure 3 produces a series of six panels that summarize the performance of new violators in the 8 quarters prior to their violation. The message across all the panels is similar and not surprising: firm performance declines in the quarters leading up to the violation, typically in the year prior to the violation, liquidity declines, and leverage increases.

Despite the deterioration shown in Figure 3, at the time of the violation, the median violator is not on the verge of payment default or bankruptcy. Panel A of Table IV provides the distribution of various

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[7] We are extremely grateful to Dirk Jenter for sharing these data. Please see Jenter and Kanaan (2008) for more details on forced and unforced CEO turnover.

liquidity and solvency measures for firms in violation of a financial covenant. The median violator is not experiencing a sharp liquidity shortage. The median net worth scaled by assets is 0.4, which puts the median violator at the 38th percentile of all firm-quarter observations. The median current ratio is 1.5, which puts the median violator at the 36th percentile of all firm-quarter observations.

Other measures of solvency also indicate that the average violator is far away from the verge of insolvency. The median violator has a reasonably high market valuation relative to book assets (1.18). Conditional on having an S&P issuer credit rating, the median violator has a rating of BB, which does not suggest that default is imminent. Historically, BB-rated firms have a one-year default probability less than one percent. The median violator has operating cash flow (measured by operating income before depreciation and amortization) scaled by lagged assets of 0.03 on an annualized basis, which puts the median violator at the 34th percentile of the firm-quarter operating cash flow distribution. Certainly a significant fraction of violators have negative operating cash flow, but more than half have positive cash flow. Financial covenant violations serve more as an indicator of a change in performance rather than an indicator of low level of performance.

An alternative perspective on the proximity to bankruptcy or payment default comes from examining the frequency with which firms exit our sample. Panel B of Table IV shows the probability of exiting from the *Compustat* sample within one year for both violators and non-violators. We count a firm as exiting if the firm ceases to have available data for total assets, total sales, common shares outstanding, and the closing share price. We use a combination of *Compustat* and *CRSP* data to determine the reason for exit.[8] Any firm that survives through the fourth quarter of 2007 is counted as a survivor.

The unconditional probability of exit is higher for violators, but the difference is quite small. On average, a new violator is only 3 percentage points more likely to exit the sample. While the difference in exit probability is driven by distress-related exits, only 6.6 percent of violators exit the sample for a

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[8] We use the delisting code from *CRSP* and Compustat data on the reason the firm moved to the historical file. We confirm the classification of distress and non-distress reasons for exit by examining firm operating performance and market valuation preceding the exit. Being acquired or going private is not correlated with ex-ante declines in performance or valuation, whereas the other exit reasons are.

distress-related reason. Clearly, liquidation or bankruptcy is not the primary outcome for firms that violate covenants.

Moreover, since the violation follows on the heels of deteriorating firm performance, a fair comparison of exit probabilities between violators and non-violators should control for performance declines prior to exit. Table V presents estimated coefficients from a maximum likelihood probit specification relating the probability of an exit to a new covenant violation and control variables. To avoid double-counting quarterly observations, we examine firms as of the fourth quarter of each year.[9] The specifications in columns 1 to 3 include only time, industry, and fiscal quarter indicator variables, and show similar results to those in Panel B of Table IV. Violators are about 4 percentage points more likely to exit the sample for distress-related reasons relative to non-violators.

However, when we add linear controls for firm characteristics at the time of the violation, there is a significant decline in the coefficient on the new financial covenant violation indicator variable. Depending on the specification, the increase in probability of a distressed exit for violators is only 1.0 percent to 1.5 percent, as compared to non-violators with similar performance. Together with Table IV, these results demonstrate that new financial covenant violators are not on the verge of payment default or bankruptcy.

IV. The Corporate Response to Financial Covenant Violations

In this section, we explore whether creditors exert a significance influence over the behavior of corporations following a covenant violation. In addition to financial and investment decisions as observed in accounting reports, we examine CEO turnover and the hiring of turnaround and restructuring consultants. Given the results of the previous section that show that violating firms are not on the verge of insolvency, the evidence provided here reflects the extensive influence of creditors in "normal" states outside of payment default.

A. Methodology

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[9] The results are insensitive to the calendar quarter we choose.

In the following subsections, we explore the effect of a new financial covenant violation on several firm outcomes, including CEO turnover, asset growth, capital expenditures, and firm payout policy. For each outcome, we first plot the mean and the median of the outcome for violators from four quarters before the violation through four quarters after the violation. Given that we focus on new violations, which are defined to be violations where the firm has not violated a financial covenant in the previous four quarters, we know that the pre-period is one in which the firm is not in violation of any covenant. For each outcome, we isolate the sample to firms that have available data for all nine quarters around the violation.

We also estimate regressions designed to test whether the changes in outcomes observed after the violation are statistically significant and robust to the inclusion of control variables. For continuous outcome variables, we estimate a first difference specification as follows:

$$y_{i,t+4} - y_{i,t} = \beta * Violation_{i,t} + \theta_1 * CovenantControls_{i,t} + \theta_2 * (CovenantControls_{i,t} - CovenantControls_{i,t-4}) + \theta_3 * (CovenantControls_{i,t+4} - CovenantControls_{i,t}) + SIC_i + Year_t + FiscalQuarter_{i,t} + \varepsilon_{i,t,} \tag{1}$$

where *Violation* is an indicator variable that equals 1 for a new financial covenant violation, *SIC* represents 1-digit SIC industry indicator variables, *Year* represents calendar year indicator variables, and *FiscalQuarter* represents fiscal quarter indicator variables. The latter indicator variables are included because firm outcomes may have seasonal patterns related to fiscal quarters and because financial covenant violations are more common in 10-K filings than in 10-Q filings, and 10-Ks are filed in the fourth fiscal quarter of each fiscal year.

Given that we estimate (1) using four-quarter differences in outcomes, we restrict the sample to firm-quarter observations in the fourth quarter of each year to estimate the parameters and standard errors. This avoids overlapping observations, which would happen if we included all firm-quarters in the sample. The choice of the fourth quarter is arbitrary; all results are materially unchanged if we choose the first, second, or third quarter of the year to conduct our tests.

The set of variables labeled *Covenant Controls* is included to account for variables that may have an independent effect on the outcome of interest. These variables are: the ratio of operating cash flow to lagged assets, the leverage ratio (debt-to-assets), the ratio of interest expense to lagged assets, the ratio of net worth to assets, the current ratio (current assets / current liabilities), and the market-to-book ratio. The first five of these variables capture the most common ratios included in financial covenants (see Roberts and Sufi (2009)). We also include the market-to-book ratio because it is a powerful predictor of many firm outcomes. We include these variables linearly, squared, and to the third power in some specifications in order to replicate the "quasi-discontinuity" approach in Roberts and Sufi (2009). The idea is to control flexibly for continuous functions of the underlying variables on which covenants are written and exploit the discontinuity created at the point of violation. We also include the lagged differences of the control variables and contemporaneous differences of the controls in some specifications.

The primary concern we hope to address with this methodology is identifying the effect of the violation separately from expected changes in outcomes related to differences in the underlying fundamentals of violators and non-violators. By using a first-difference specification, we control for time-invariant, firm-level effects that may be different between violators and non-violators. By flexibly controlling for the level and differences of a variety of variables known to affect outcomes, we hope to control for the expected time-series path of outcomes following deterioration in firm performance. The upshot is that we identify the effect of a violation based on differences in outcomes for violators relative to differences in outcomes for non-violators with a similar pre-violation pattern in performance. We also focus on the precise timing of the change in the outcome, which makes the quarterly data particularly illustrative.

B. CEO Turnover

We first examine forced CEO turnover, defined by Jenter and Kanaan (2008) to be observed CEO turnovers that most likely represent a CEO firing, forced resignation, or forced retirement. The solid line in Figure 4 represents the incidence of forced CEO turnover around a violation. Despite violators experiencing at least four quarters of declines in operating performance and market valuation before the

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violation, as shown in Figure 3, the frequency of forced CEO turnover is nearly constant during the four quarters before the violation. In contrast, during the quarter of the violation (between -1 and 0) and the quarter immediately following the violation (between 0 and +1), the incidence of forced CEO turnovers increases sharply. The frequency doubles from 1.5 percent per quarter before the violation to 3 percent in the quarter of the violation, and then peaks in the quarter after the violation at nearly 4 percent. Over the two quarters following the violation, the likelihood of observing a CEO being fired increases to roughly seven percent, a sharp increase from the year before the violation.

The pattern in CEO turnover is not isolated to violators with the worst financial condition. The dotted line in Figure 4 plots a similar pattern in the incidence of forced CEO turnover for firms that are above the median market-to-book ratio within the set of violators. The pattern of forced CEO turnover is quite similar, meaning that even violating firms that are the furthest from insolvency experience a sharp increase in forced CEO turnover in the quarters immediately after a covenant violation.

An obvious concern with the interpretation that violations lead to CEO turnover is that firm experiences consecutive declines in performance prior to the violation, which likely increases the probability of a forced CEO turnover even in the absence of the violation itself. In addition to again highlighting that the turnover is concentrated in the quarters immediately following the violation, we also estimate regressions to control for firm performance, as shown in Table VI. We estimate by maximum likelihood a series of probit models that relate the one-year probability of a forced CEO turnover to a new financial covenant violation and a host of controls. The exact specification is similar to equation (1), except the left hand side variable is the probability of a CEO turnover within a year, and the probit specification is estimated via maximum likelihood.

Column 1 of Table VI shows that, unconditionally, a CEO experiences a 6.6 percent probability of being fired within a year of a violation, which is a very significant probability. By comparison, the univariate effect on CEO turnover of large declines in the market-to-book ratio or the ratio of operating cash flow to lagged assets is much smaller than the effect from a violation. For example, a two standard deviation decrease in the market-to-book ratio leads to a 2 percentage point increase in the probability of

forced CEO turnover, and a two standard deviation decrease in operating cash flow scaled by lagged assets leads to a 2.2 percentage point increase in the probability of a force CEO turnover. The impact of a covenant violation is roughly three-times larger than a two standard deviation change in these standard measures of performance.

The specifications shown in columns 2 through 5 include the additional covenant control variables, which reduce the marginal impact of a violation to slightly less than 4 percent. Thus, even with the inclusion of a rigorous set of controls for variables that affect the probability of forced CEO turnover, we still find a very large effect of a violation.

C. Hiring of Turnaround and Restructuring Firms

As mentioned in Section I, anecdotal evidence from the law literature, as well as through our own discussion with corporate lawyers and loan investors, suggest that creditors influence decisions over the dismissal of CEOs through quid pro quo suggestions made during negotiations for a waiver. Often, these discussions appear to be less about whether management should be fired, per se, but about how best to manage the company moving forward. A primary emphasis in managing through the violation involves bringing in outside resources, when needed, with expertise in turning around companies experiencing a drop in performance.

Baird and Rasmussen (2006) document the case of Warnaco Group, Inc., who hired a Chief Restructuring Officer at the behest of creditors following a debt restructuring. Warnaco hired a principal from Alvarez & Marsal, a consulting firm that specializes in advising both creditors and debtors during significant financial and operating restructuring events. As Baird and Rasmussen state:

> [Alverez enables] bank groups, bondholders and other investors to clearly evaluate the risks and opportunities associated with a distressed company's business plan … [The firm] helps stabilize operations, address liquidity concerns, and position the company for successful financial or operational restructuring… As the firm itself puts it, "A&M's involvement reassures creditors that the company is taking important steps to address its problems and maximize its value." When Alvarez is in place, the banks have as their war-time general someone whose loyalties are not tied to the existing managers.

To attempt to learn more about the incidence of the employment of turnaround and restructuring management firms such as Alvarez & Marsal following a covenant violation, we examine SEC filings

using word-search algorithms similar to those that identify financial covenant violations. We perform two searches of the same set of 10-K and 10-Q filings that we discuss in section II and the data appendix, limited to filings through 2007. In the first search, we look for mention of any of the specific phrases: "turnaround firm," "restructuring firm," "turnaround advisor," "restructuring advisor," "turnaround consultant," and "restructuring consultant." In the second search, we look for any mention of either the word "turnaround" or the word "restructuring."

The advantage of the first search is that it precisely measures the hiring of restructuring firms. However, the disadvantage is that it severely understates the influence of these restructuring specialists given that specificity of the language we search for. In contrast, the second methodology likely contains a large number of false positives. Since these searches provide at best a course indicator of the use of a consulting firm to facilitate a turnaround, we view the evidence as suggestive.

Figure 5 plots the frequency of the two searches during the nine quarters around a new covenant violation. According to both measures, there is a large increase in the hiring of turnaround management firms beginning in the quarter immediately after the violation. The frequency of our indicator remains elevated for the 4 quarters following the violation, likely reflecting that the consultant is put in place for several quarters. However, we take the sharp spike at the time of the violation, which happens several quarters following the onset of deterioration in performance, as evidence supporting the causal impact of the covenant violation. This large sample evidence, combined with the anecdotes highlighted above, confirms that turnaround consultants are one of the mechanisms available to creditors to induce changes in firm behavior.

C. Asset Conservatism

Given the changes in decision-making documented above, we explore the real and financial consequences in the next two subsections. Figure 6 reveals that financial covenant violations are followed by decreases in capital expenditures and cash acquisitions and sharp reductions in the growth rate of total assets and PPE. Violators grow fairly aggressively before the violation, with total assets increasing an average of 10 percent in the year before the violation. Growth levels off in the quarter of the violation and

reverses in the quarters immediately after the violation. Growth in PPE exhibits a similar pattern. The 10 percent decline in PPE over the year following the violation suggests that violators engage in asset sales and divestitures after a violation.

Consistent with the evidence in Chava and Roberts (2009) and Nini, Smith, and Sufi (2009), capital expenditures also drop in the quarter after a violation. In contrast to the other outcomes, there is a notable decline in capital expenditures even before the violation. Alternatively, cash acquisitions are fairly stable before the violation but fall markedly in the quarter immediately following the violation. As discussed in Nini, Sufi, and Smith (2009), corporate credit agreements often contain an explicit restriction on capital expenditures and acquisitions, which provides a contractual mechanism for creditors to limit investment following a covenant violation.

Table VII presents estimates of (1) for these four measures of investment. In all four cases, the estimated effect of a covenant violation remains statistically significant end economically important. The inclusion of control variables tends to reduce the estimated impact, but even in our strictest specifications, covenant violations are estimated to have an important effect on real investment outcomes.

D. Financial Conservatism

Figure 7 investigates changes in financial policy around covenant violations. We explore changes in net debt issuance, total debt outstanding, the ratio of cash and liquid securities to total assets, and total shareholder payouts (including dividends and share repurchases). The evidence suggests a clear increase in financial conservatism following covenant violations, consistent creditors imposing more constraint on the financial policy of firms.

As shown in Roberts and Sufi (2009), net debt issuance falls immediately following the covenant violation and stays low up to a year afterwards. This translates into a reduction in the stock of debt outstanding for violators; however the reduction only partially reverses the large run-up in debt before the violation. The liquidity of violators, proxied by the ratio of cash-to-assets, declines sharply in the quarters before the violation but levels off around the violation and begins to increase subsequently. At least part of the build-up in cash can be attributed to a reduction in payouts to shareholders, as total shareholder

payouts decline sharply in the quarter after the violation and stay low for at least a year following the violation.

Table VIII presents estimates of (1) for these four measures of firm financial policy. Including control variables lowers the estimated impact of covenant violations but leaves the qualitative conclusion unchanged. Covenant violations are associated with at least an 8 percent reduction in total debt and a 4 percent reduction in shareholder payouts, although the latter is estimated with considerable error. Net debt issuance also falls, and violators' cash-to-assets ratio increases by about 1 percentage point. This effect is relatively small but reflects a sharp reversal from the trend during the year before the violation, when violators burn through about one-quarter of the cash on their balance sheets.

In sum, the data suggest that creditors impose significant financial and operating conservatism on borrowers following covenant violations. In all likelihood, this largely reflects creditors' ability to protect the value of their financial claim by limiting resources from being diverted to other investors. However, combined with the asset conservatism identified in section C, this likely also reflects a turnaround in operating efficiency, including cost reductions, cuts in wasteful spending, and renewed focus on projects producing the highest return. The next section explores further the plausibility and magnitude of this second effect by examining measures of corporate value around covenant violations.

V. The Value Implications of Creditor Intervention

The previous sections show that creditors influence the behavior and governance of companies that violate financial covenants, even when these companies are relatively healthy and unlikely to default on debt payments. In this section, we study how creditor intervention impacts firm value by examining changes in operating and stock price performance around the violation of a covenant.

There are a number of reasons why increased creditor control might lead to declines in the value of the borrowing firm. Classic conflicts between equity-holders and debt-holders create incentives for creditors to constrain financing and investment in risky projects, even when the projects are positive NPV and increase firm value (Jensen and Meckling (1976); Gorton and Kahn (2000)). Worse yet, creditor

preferences towards conservatism could force firms to sell illiquid assets backing profitable projects in favor of holding more liquid assets. Creditors can also "hold up" financing following a covenant violation to extract surplus from the borrower via amendment fees and increased interest charges; such transfers of wealth can have negative effects on managerial effort (Rajan (1992)). Moreover, increased monitoring and renegotiations that follow covenant violations can create large deadweight costs. These costs include fees paid to lawyers and financial advisors, opportunities foregone while bargaining, and reductions in effort and morale created by the presence of intrusive lenders.

However, a number of theories suggest that creditor interventions may increase firm value, and even benefit shareholders, by constraining value-reducing managerial behavior and affecting a turnaround following poor performance. These theories tend to view potential agency conflicts arising not between equity-holders and debt-holders, but between external investors (equity-holders and debt-holders) and management.

The classic treatment is in Jensen (1986), who studies a firm in which information or contracting frictions prevent firm owners from controlling managerial discretion over company free cash flows. Forcing management to raise debt to fund new investments induces efficient accept/reject decisions when management jobs are threatened by default. DeAngelo, DeAngelo, and Wruck (2002) pick up on the intuition of Jensen (1986) to argue that it is creditor control through covenants that keeps a check on management desires to spend wastefully. In a similar vein, Aghion and Bolton (1992) and Dewatripont and Tirole (1994) study security design models in which contracts are written so that decision rights optimally shift from current management to an external creditor when private benefits are most likely to distort the manager into inefficient decisions. In these models, control shifts to creditors following poor firm performance, but well before bankruptcy.

In Smith (1993), lenders use covenants as tripwires to flexibly monitor borrower performance. A covenant violation leads to a re-evaluation by the lender of borrower payment ability and the setting of new restrictions on borrower behavior conditional on the evaluation. Lenders use this dynamic covenant-setting strategy to manage a borrower through a turnaround in performance.

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The studies by Jensen (1986), DeAngelo, DeAngelo, and Wruck (2002), Aghion and Bolton (1992), Dewatripont and Tirole (1994), and Smith (1993) share in common the idea that equity-holder and debt-holder incentives can be "congruent," in the sense that creditor actions can lead to wealth improvements for both themselves and the residual claimants on the firm.

We estimate the impact of the covenant violation on firm value using two measures of financial performance: (1) operating cash flow scaled by lagged assets, and (2) event-study abnormal equity returns. Figure 8 graphs the two performance estimates in the quarters surrounding the covenant violation. The left panel reproduces the swift pre-violation decline in operating cash flows from Figure 3, but now also includes the mean and median operating performance of covenant violators following the violation. The results are striking: both the mean and median violating firm begins to turn around operating cash flows in the quarter immediately following the violation. For instance, within one year of the violation, median operating cash flow recovers to 6 percent of lagged assets, compared with a median of about 3 percent in the quarter of the violation.

The right panel graphs the average monthly and cumulative abnormal stock returns of the 3,699 sample covenant violators with usable stock return data during the period August 1997 to June 2009. The abnormal returns, which are judged relative to the four-factor model described below, mirror the operating performance reported in the left panel. Namely, returns decline precipitously in the months prior to the violation and turn around after the violation. This is evident in both the V-shape of the cumulative abnormal returns and the post-violation jump in the distribution of average monthly returns. The graph shows that an investor that bought the stock of the covenant violator in the month of the SEC violation report would earn 4 percent more than the risk-adjusted benchmark in the first year following the violation, and an 11 percent cumulative abnormal return over the two years following the violation.

Tables IX and X extend and confirm the conclusions taken from from Figure 8. Table IX reports estimates of equation (1) using changes in the ratio of operating cash flow to lagged assets as the

dependent variable.[10] The new financial covenant violation dummy enters all of the regressions with a positive and statistically significant estimate. For instance, Column (4) of Table IX indicates that the operating cash flow/lagged assets of firms violating a covenant are 2.7 percentage points higher in the year following the violation, compared with the set of control firms that have experienced similar drops in operating performance. This represents a near doubling in the median level of operating cash flow/lagged assets from the quarter of the violation (2.8 percent) and an increase equivalent to 28 percent of the cash flow/lagged assets of the median Compustat firm (9.4 percent).

Table X reports the average monthly abnormal stock return estimates for the covenant violators over a variety of event windows. We construct the abnormal return estimates using the multiple regression format developed by Thompson (1985) and Sefcik and Thompson (1986):

$$r_i = a_i + X'B_i + \Delta'_i \Gamma_i + \varepsilon_i, i = 1, 2, \ldots, N. \tag{2}$$

In (2), the T x 1 vector of monthly stock returns in excess of the one-month treasury bill rate for covenant violator i, r_i, is regressed on an intercept, a T x 4 set of benchmark monthly return factors X, and a T x ($k_0 + k_1 + 1$) matrix of dummy variables that identify the k_0 months prior to the event, the event month, and the k_1 months after the event. We define the event month to be the month in which a firm reports a new covenant violation to the SEC. The coefficients B_i are a set of loadings on the m factors, and the coefficients Γ_i are the $k_0 + k_1 + 1$ monthly abnormal returns around firm i's report of a violation. The intercept a_i measures firm i's abnormal return in the non-event period.

We include four risk factors in our benchmark model, including the three factors from Fama and French (1993), as well as a momentum factor. Specifically the factor returns are: (1) the monthly return on the equally weighted average index of NYSE/AMEX and NASDAQ stocks, measured in excess of the

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[10] As in earlier regressions, the regressions in Table IX include the one-year lagged value of operating cash flow/lagged assets. This is especially important here because Barber and Lyon (1996) show that cash flow-based measures of operating performance exhibit strong mean reversion, so we would bias our estimates of the impact of a violation upward by not properly controlling for performance prior to the violation. The specification in column 4 controls for the lagged first difference of operating cash flow and the third order polynomial of operating cash flow at the time of the violation.

one-month treasury bill rate, (2) the average return on a small capitalization portfolio minus the average return on a large capitalization portfolio, (3) the average return on a value (high book-to-market) minus the return on a growth (low book-to-market) portfolio, and (4) the difference in the monthly return of stocks with high returns over the trailing 11 months and stocks with low returns over the trailing 11 months. All four monthly series are downloaded from Kenneth French's web-based data library.[11]

For each violating firm, we estimate the parameters of equation (2) using all monthly return observations between August 1997 and June 2009. To be included in the event study regressions, we require that a covenant violator firm have at least 24 months of useable return observations. We account for firms that delist over this period by assuming that the delisting firm pays out the CRSP delisting amount (*dlamt)* in the month of the delisting.[12] The delisting amount is the value of the delisting share following an exchange or merger offer, or if no such information exists, the price of the stock on its last trading day.

We judge the statistical significance of the positive post-event CARs using both cross-sectional averages of individual standard error estimates and time-series standards errors that are robust to clustering within a month.[13] To calculate the clustering-robust standard errors, we first group the covenant violator-level CAR estimates by month and calculate the mean CAR within the month. We then compute the standard error of the monthly CARs, weighted by the number of covenant violators within the month. This method provides a conservative adjustment for clustering since it excludes any information obtainable from within-month variation in CARs across covenant violators.

The first thing to note in Table X is that the AR estimate from the event month is negative and statistically significant. This finding is not necessarily surprising, as the event-month AR will incorporate information both about the events leading to the covenant violation and the violation itself. Moreover, evidence from Beneish and Press (1995) that documents a decline in stock prices in the days around the

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[11] http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html.
[12] The average stock of a firm that violates a covenant and later delists because of a merger earns 2.0% in its last month on the exchange. The average stock of firm that violates a covenant and later delists because of financial distress experiences an average return in the last month of trading of -28%.
[13] See Campbell, Lo, and MacKinlay (1997), pp 160-161.

announcement of a covenant violation suggests that investors do not immediately impound future performance improvements into the stock price of a violator once a violation becomes public.[14]

However, following the event month, CAR estimates are positive. Within 12 months of the violation report, violating firms are earning an average positive CAR of 0.32% (3.84% per year); these estimates are significant at the 5% level using the cross-sectional standard errors, and marginally insignificant using the pooled time-series standard errors. By 24 months out, the violators earn an average abnormal return of 0.45% per month (5.4% per year) that is statistically significant at the 1% level using either standard error estimate. Abnormal returns begin to level off beyond two years following the violation; the cumulative abnormal return at month 60, though positive, is indistinguishable from zero. This reflects the inclusion of a large number of months with near zero abnormal returns, suggesting that the impact of the violation does not persist past two years.

Taken together, the operating and financial results imply that violating firms, on average, increase in value following a covenant violation. Holding the value of the creditors' claims constant, the event study methodology measures the *abnormal performance of the firm*, since equity-holders are the residual claimants on firm cash flows. Of course, observed changes in shareholder wealth are a function both of the value of the firm and the value of debt-holder claims. Because it is unlikely that creditors will act in a way that reduces the value of their claims following a violation, concerns of confounding changes in firm value with changes in shareholder value would only arise if equity returns fell in response to the violation. We show that the value of equity claims actually rise after the violation.

We check the robustness of our performance results along two dimensions that we leave unreported here. First, we examine the patterns of quarterly market to book ratios and find the similar V-shaped pattern around the violation quarter exists in the market to book ratios. Second, we examine

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[14] Our performance and valuation results stand in contrast to existing accounting studies of the consequences of loan covenant violations. Sweeney (1994), DeFond and Jimabalvo (1994), and Beneish and Press (1993, 1995a, 1995b) find that violations are associated with greater subsequent accounting manipulation, poorer loan terms for the borrower, increased financial distress, and declines in borrower wealth. These papers emphasize some of the costs of covenant violations, but do not account for the possibility that the violations also force actions that improve borrower performance. Importantly, the investigations of the impact of the violation focus only on the days around the announcement of the event.

calendar-time estimates of stock return performance by estimating Jensen's alpha on a portfolio that buys stocks each month following the report of a covenant violation and holds the stocks for a fixed period. We find that this portfolio begins to beat a four-factor risk benchmark shortly after the start of our sample in 1997. By June 2009 – following the financial crisis -- the violator portfolio has earned a cumulative 72% since 1997, compared with a return of only 21% on the benchmark portfolio. However, the Jensen's alpha estimates are somewhat noisy relative to the event study estimates.

A potential concern with our performance results is that it may reflect sample selection rather than a causal impact of credit intervention. It could be that creditors quickly liquidate very poor performing firms and let continue those with a brighter outlook. However, as discussed in Section III above, a covenant violation is associated with only a 4 percentage point increase in the probability of exit within a year, and this effect is reduced to 1 percentage point when we include basic controls for ex-ante performance. Almost all violators survive for at least one year following a violation, and it is over this year where we see improvements in average performance.

In sum, our performance estimates suggest that creditor interventions following covenant violations are associated with improvements in firm value. These findings are consistent with the idea that increases in creditor influence on the governance of the firm represents an optimal shift in control rights to the party that has the most incentive to monitor and influence the firm when it is performing poorly. This control shift has a positive knock-on effect that benefits equity-holders even as the creditors move to protect their own claims.

VI. Conclusions

We offer evidence that firms in violation of a covenant in a private debt agreement change senior management, become more conservative in their financial and investment policy, and improve performance. Given the well-documented set of control rights given to creditors following a covenant violation, we interpret the evidence as suggesting that creditors serve a corporate governance role that helps increase the value of the firm. These changes occur despite the fact that violators are not on the

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verge of bankruptcy or payment default. In other words, creditors play an important corporate governance role even outside of payment default states. Taken together, our results provide a look into an aspect of corporate governance that has been largely overlooked by the traditional corporate governance literature.

We strengthen the ex tant evidence of Roberts and Sufi (2008) and Nini, Smith, and Sufi (2009), who find that contract terms can become more restrictive following a covenant violation, and that the new restrictions influence firm behavior. We also present evidence that creditors can influence behavior through behind-the-scenes pressure on managers through restructuring firms and forced CEO turnover. We also demonstrate that creditor influence extends beyond affecting debt issuance and capital expenditures—violations of financial covenants lead to important changes in virtually every dimension of investment and financing by firms.

These results are consistent with the extensive literature showing that financial intermediaries are valuable as delegated monitors, especially when there are unresolved conflicts of interest between managers and equity-holders in public companies. A fruitful area for future empirical research would be to document the full set of control rights that creditors can use to discipline management and how they interact with the tools available to equity-holders. On the theoretical side, models of corporate governance should recognize the control rights available to creditors in the optimal governance structure.

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Data Appendix for
Creditor Control Rights, Corporate Governance, and Firm Value*

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The first part of this appendix describes the process of collecting covenant violation data from 10-K and 10-Q SEC quarterly filings for the universe of Compustat non-financial firms from 1996 to 2008. The second defines all main variables used in the analysis.

We are providing two data sets, described below, for public use. We only make three requests of researchers that use the data. First, please read this document carefully. We have worked hard to describe exactly how these data are collected. Second, please acknowledge somewhere in your research the source of the data. Third, please refer readers to this appendix for more information on the data.

A. Covenant Violation Data

The initial sample of firm-quarter observations includes any U.S. firm (*fic* = "USA") outside of the financial industry (*sic* outside of 6000 to 6999) and firm-quarter observations with non-missing information on total assets (*atq*), total sales (*saleq)*, common shares outstanding (*cshoq*), closing share price (*prccq)*, and the exact calendar quarter (*datacqtr*). We make these deletions because the availability of these five variables almost always predicts the existence of an SEC filing corresponding to the observation in question.

1. Matching Compustat quarterly observations to Edgar websites

    The first step in our data collection process is matching each quarterly observation to the SEC filing that generates the *Compustat* data. Our starting point is the SEC Edgar website that contains indices of every filing submitted to the commission. It is located here: http://www.sec.gov/cgi-bin/edgar_archive_indices.

    Using these index files, we create a list of every 10-Q and 10-K filing by any firm. We use a *Perl* script that pulls identifying information for each filing from the corresponding EDGAR website where the filing is located. Every SEC filing has a standard header which contains important information including firm name, firm address, the central index key (CIK), and the IRS tax number. We extract all of this information to form an SEC matching file.

    We then match Compustat observations to this file. We do three iterations. First, we merge based on the central index key (CIK) which is in both data sets. For any unmatched observations, we match on the IRS tax identification number. This variable is *ein* in Compustat and is included only in the annual version. Finally, we hand match the remaining observations. All matching is done by firm-quarter. Using this process, we are able to match 98% of Compustat firm-quarter observations.

The resulting file, *CSTATSEC_NSS_20090701.dta*, can be matched to Compustat using the two variables *gvkey datacqtr*. It is available at:
[http://faculty.chicagobooth.edu/amir.sufi/*CSTATSEC_NSS_20090701.dta*](http://faculty.chicagobooth.edu/amir.sufi/CSTATSEC_NSS_20090701.dta)
This data set includes several valuable pieces of information: the website of the filing associated with the quarterly observation, the exact date of report and date of filing, the exact name of the firm at the time of the filing, and the filing type (i.e., 10-K or 10-Q). As opposed to the firm name variable in Compustat (*conm*), the company name in this filing is not back-filled. It represents the exact firm name at the time of the filing. This can be very useful for matching historical data to other data sets based on name.

Using a perl script, we then download all of the 10-K/10-Q filings for observations in *CSTATSEC_NSS_20091005.dta*. The perl script visits the website listed in the variable *websiteSEC*, and downloads the filing. Some filings are in .html format, which makes text searching difficult. We utilize an html to text converter to get rid of html tags.

2. Searching for violations

In order to create the best text-searching algorithm to find reported violations in SEC filings, we first create a random sample of 1,000 firm-year observations using the SEC 10-K filings. We manually search these filings to find any mention of a violation. For these 1,000 observations, we know exactly whether the firm is in violation of a covenant or not. We then use this "true" violation data set to test our text-search algorithm. For the 1,000 firm-year observations, we find 105 violations. The number of violations in this sample is larger than in the sample employed in the paper because we examine only the 10-K filings, which have a higher incidence of reported violations.

After several attempts, we find that the best text-search algorithm for finding violations is the following. If the algorithm finds the word "covenant," it then searches for the following five terms within three lines above or below the line containing "covenant": "waiv," "viol," "in default," "modif," and "not in compliance." This particular search methodology finds 94 of the 105 violations. In comparison, the methodology used in Roberts and Sufi (2009) and Nini, Smith, and Sufi (2009) when applied to this sample finds only 66 of the 105 violations.

While the text-search algorithm finds almost 90% of all actual reported violations, it also produces a large number of false positives. In the sample of 1,000 firm-year observations, we find 117 false positives. Given the large number of false positives, when we apply the text-search algorithm to the universe of all filings, we manually inspect the paragraphs around each "hit" to ensure the proposed violation is an actual violation.

One important note on our methodology is warranted. As discussed in Dichev and Skinner (2004) and Roberts and Sufi (2009), information on firm covenant violations is available given SEC Regulation S-X, which requires that "any breach of a covenant of a[n] … indenture or agreement which … exist[s] at the date of the most recent balance sheet being filed and which has not been subsequently cured, shall be stated in the notes to the financial statements" (SEC (1988), as quoted by Beneish and Press (1993)). As Sufi (2007b) notes, the SEC has reinforced this requirement in recent interpretations: "companies that are, or are

reasonably likely to be, in breach of such covenants must disclose material information about that breach and analyze the impact on the company if material (SEC (2003))."

As Roberts and Sufi (2009) note: "…financial covenant violations that are reported by firms in their SEC filings likely represent situations in which they were unable to obtain an amendment or waiver to cure the violation by the end of the reporting period. While this is in general correct, it is important to note that many of the violations reported in SEC filings are violations that are waived before the reporting period ends. In these cases, the firm voluntarily reports that it was in violation during the reporting period even though it has ured the violation by the end of the reporting period. One potential concern is that the reported violations tracked in our data represent, on average, more serious violations than violations that could be cured before the end of the reporting period. However, a comparison of observable measures of credit quality and investment around the initial reported covenant violation in our sample versus the initial violation in previous studies reveals very similar patterns. For example, cash flow and capital expenditures show patterns around the first reported violation in our sample that are almost identical to those found in studies by Dichev and Skinner (2002) and Chava and Roberts (2008), which suggests that initial reported violations in our sample correspond closely to initial actual violations."

To be more specific, many of the reported violations in our sample are waivers that are obtained to avoid a violation. We use the criteria to count these waivers as violations if the firm indicates that it would have been in violation had the waiver not been obtained.

Covenant violations through 2007 are available in *CSTATVIOLATIONS_NSS_20090701.dta*, which can be matched to Compustat using the two variables *gvkey* and *datadate*. The variable of interest is viol, which is an indicator variable that is equal to one if we find a covenant violation. The data set is available at:
http://faculty.chicagobooth.edu/amir.sufi/*CSTATVIOLATIONS_NSS_20090701.dta*
In the current version of the paper (November 2009), we have updated the violations through 2008. We will soon make the additional year available publicly.

3. Additional notes

There are a few additional notes worth mentioning. First, we collect the covenant violation data for the 10-Ks and 10-Qs separately. When we collect the data for the 10-Ks, we record as a violation any violation that occurred at any point during the fiscal year. We do this because the 10-K filing is often a "catch-all" where the firm reports information that it avoids reporting in the typically shorter 10-Q filing. Violations on 10-Qs are only recorded if the violation takes place in the fiscal quarter in question.

Second, the incidence of repeat covenant violations is quite high in the data. This is most likely due to two factors. First, the violation data for 10-Ks represents a violation at any point in the fiscal year. If the firm repeats information on the violation in both a 10-Q and the 10-K in the same fiscal year, it will be counted twice. Second, there is high serial correlation in violations given that waivers are not always granted immediately. For both of these reasons,

we believe the most useful information in the data is for *new violations*, which we define as violations by a firm that has not reported a violation for the past four quarters.

Third, we do not collect violations of non-financial covenants, such as limits on capital expenditures or acquisitions.

Fourth, we strongly advocate that all users of the data investigate the exact language firms use when reporting violations. We would advocate picking 5 to 10 violations and examining the 10-K or 10-Q filing that corresponds to the violation. This will give the user a better sense of the advantages and disadvantages of the data.

B. Variable Definitions

Total assets = atq
Market-to-book-ratio = Market value/Total assets where
     Market value = Market value of equity – book value of equity + total assets
     Market value of equity = prccq * cshoq
     Book value of equity = Total assets – ltq + txditcq
Total debt = dltcq + dlttq
Leverage ratio = Total debt/Total assets
Net worth scaled by assets ratio = seqq/Total assets
Current ratio = actq/lctq
PPE scaled by assets = ppentq/Total assets
Cash scaled by assets = cheq/Total assets
Shareholder payout = prstkcq + dvq
Operating income scaled by lagged assets = oibdpq/Lagged total assets
Interest expense scaled by lagged assets = xintq/Lagged total assets
Capital expenditures quarterly = capxy adjusted for fiscal quarter accumulation
Cash acquisitions quarterly = aqcy adjusted for fiscal quarter accumulation
Capital expenditures scaled by lagged assets = Capital expenditures quarterly/Lagged total assets
Cash acquisitions scaled by lagged assets = Cash acquisitions quarterly/Lagged total assets
Net debt issuance = (Total debt – Total lagged debt)/Lagged total assets

Table I
Changes in Contract Terms After Violation

This table presents sample means of loan characteristics for a sample of lines of credit from LPCs *DealScan* database. The sample includes all loans preceding a covenant violation ("Before") that can be matched to loans to the same borrower following a new covenant violation ("After"), where the after loan initiates before the maturity of the before loan. The sample of borrowers includes firms for which we have available information on violations in SEC filings for the four quarters prior to the before loan. A *new covenant violation* is a financial covenant violation by a firm that has not experienced a violation for the previous four quarters. Interest rate spread is the contractual spread over a LIBOR base rate; total fees is the cost of all fees amortized over the life of the loan; performance pricing indicates that the interest rate spread changes with some observable characteristic of the borrower; borrowing base indicates that borrowing is limited by some fraction of assets; some sweep provision indicates that the loan contains at least one of an asset sales, debt issuance, equity issuance, or insurance proceeds sweep.

	N	Before	After	Difference
Major loan terms				
Loan size ($M)	239	318	289	-29
Interest rate spread (bps)	239	174	213	39**
Total fees (bps)	239	22	32	10*
Tenor (years)	239	3.7	3.1	-0.6**
Syndicate size (number)	239	7.2	6.5	-0.7*
Incidence of additional non-price terms				
Secured	149	0.78	0.89	0.11**
Performance pricing	149	0.76	0.62	-0.14**
Borrowing base	149	0.31	0.45	0.14**
Some sweep provision	65	0.77	0.95	0.18**
Dividend restriction	149	0.89	0.89	0.01
Incidence of other covenants				
Maximum capital expenditures	239	0.22	0.32	0.10**
Minimum EBITDA	239	0.08	0.17	0.09**
Maximum debt-to-EBITDA	239	0.50	0.36	-0.15**
Minimum interest coverage	239	0.32	0.23	-0.09**
Levels various covenants				
Maximum capital expenditures ($M)	28	44	30	-14*
Minimum EBITDA ($M)	9	25	22	-3
Maximum debt-to-EBITDA	55	4.0	4.4	0.4*
Minimum interest coverage	37	2.7	2.3	-0.4**

*,** Difference significantly distinct from 0 at the 5% and 1% level, respectively.

Table II
Financial Covenant Violations

This table presents the percentage of firms that report a financial covenant violation in 10-K or 10-Q SEC filings at some point between 1997 and 2008. The sample includes firm-year quarters for which we have available information on violations in SEC filings for the previous four quarters. A *new covenant violation* is a financial covenant violation by a firm that has not experienced a violation for the previous four quarters. The sample includes 8,945 firms and 220,778 firm-quarter observations.

	Violator Percentage
Fraction of firms ever reporting covenant violation	39.6%
Fraction of firm-quarter observations with covenant violation	6.9%
Fraction of firm-quarter observations with new covenant violation	2.0%
By industry	
Agriculture, minerals, construction	39.1%
Manufacturing	39.8%
Transportation, communication, and utilities	37.9%
Trade—wholesale	53.4%
Trade—retail	41.5%
Services	37.1%
By size (book assets)	
Less than $100M	41.3%
$100M to $250M	42.8%
$250M to $500M	42.9%
$500M to $1,000M	36.4%
$1,000M to $2,500M	34.0%
$2,500M to $5,000M	27.4%
Greater than $5,000M	25.1%
Borrower does not have credit rating	39.2%
Borrower has credit rating	40.9%

Table III
Summary Statistics for non-Violation Variables

This table presents summary statistics for the sample of 8,945 firms and 220,778 firm-quarter observations from 1997 to 2008. The sample includes firm-year quarters for which we have available information on violations in SEC filings for the previous four quarters. All flow variables (operating cash flow, interest expense, capital expenditures, cash acquisitions, and net debt issuance) are annualized with the exception of shareholder payouts. Shareholder payouts include cash dividends and share repurchases.

	N	Mean	SD	10th	Median	90th
Operating cash flow/lagged assets	217,068	0.013	0.338	-0.312	0.094	0.263
Leverage ratio	213,890	0.254	0.280	0.000	0.195	0.572
Interest expense/lagged assets	208,329	0.024	0.041	0.000	0.013	0.056
Net worth/assets	220,574	0.443	0.421	0.102	0.496	0.840
Current ratio	215,211	2.926	3.428	0.722	1.919	5.824
Market-to-book ratio	220,562	2.230	2.457	0.842	1.459	4.137
Assets ($M)	220,778	2,079	13,485	11	152	3,045
Property, plants, and equipment ($M)	220,219	677	3,544	1	25	965
Debt ($M)	214,082	601	5,591	0	15	915
Capital expenditures/lagged assets	215,277	0.060	0.087	0.003	0.032	0.140
Cash acquisitions/lagged assets	211,758	0.026	0.117	0.000	0.000	0.025
Net debt issuance/lagged assets	211,825	0.036	0.335	-0.142	0.000	0.220
Cash/assets	220,524	0.193	0.235	0.006	0.086	0.571
Natural log of (1 + shareholder payouts)	193,336	1.134	1.951	0.000	0.000	4.356
Forced CEO turnover	62,632	0.009	0.097	0.000	0.000	0.000
Unforced CEO turnover	62,632	0.020	0.139	0.000	0.000	0.000

Table IV
Covenant Violations and Proximity to Payment Default

Panel A shows the distribution of variables for new covenant violators at the time of violation. A new covenant violation is a financial covenant violation for a firm that has not experienced a financial covenant violation in the previous four quarters. Panel B presents the probability of exit from the sample within four quarters for new violators and for non-violators, where the latter group represents firms that do not violate any covenant for the current or future three quarters. The reasons for exit are obtained from a combination of *Compustat* and *CRSP*. To take into account delayed filings at the end of the sample, any firm that survives until the fourth quarter of 2007 is assumed to be surviving even if there are missing observations from 2008Q1 to 2009Q2.

Panel A: Distribution of variables for new violators

	N	10th	25th	Median	75th	90th
Net worth/assets	4,412	0.037	0.229	0.401	0.572	0.715
Current ratio	4,299	0.595	0.985	1.470	2.283	3.436
Leverage ratio	4,300	0.030	0.143	0.302	0.472	0.650
Market-to-book ratio	4,412	0.768	0.926	1.176	1.656	2.569
S&P Issuer Credit Rating	783	BBB	BB	BB	B	B
Operating cash flow/lagged assets	4,349	-0.321	-0.099	0.028	0.103	0.172

Panel B: Probability of exit from sample within four quarters

	New violators	Non-violators
Any exit	0.112	0.083
Non-distress related exit	0.053	0.054
Acquired	0.052	0.053
Goes private	0.002	0.001
Distress-related exit	0.066	0.029
Bankrupt	0.009	0.002
Liquidated	0.002	0.002
Dropped from stock exchange	0.019	0.006
Data are missing	0.016	0.001
Stop filing with SEC for other reasons	0.041	0.018

Table V
The Effect of Financial Covenant Violations on Exit Probability

This table presents estimates of the marginal effect of a covenant violation on firm exit in the next four quarters using a probit specification. Covenant control variables include operating cash flow scaled by lagged assets, the leverage ratio, interest expense scaled by lagged assets, net worth scaled by assets, the current ratio, and the market-to-book ratio. Lagged first difference covenant control variables are differences from four quarters ago to the present quarter of each of these variables. Higher order covenant control variables are covenant control variables raised to the second and third power. All specifications include industry, year, and fiscal quarter fixed effects. The sample is limited to firms-quarter observations in the fourth quarter of each year. Panel A shows the marginal effect of a violation, and Panel B shows the effect of a violation interacted with each of the covenant control variables. Standard errors are clustered by firm.

	(1) Any exit	(2) Non-distressed exit	(3) Distressed exit	(4) Distressed exit	(5) Distressed exit	(6) Distressed exit
New financial covenant violation	0.037**	-0.003	0.040**	0.014**	0.015**	0.010**
	(0.008)	(0.005)	(0.006)	(0.003)	(0.003)	(0.003)
Ln(assets)				-0.004**	-0.004**	-0.003**
				(0.000)	(0.000)	(0.000)
Operating cash flow/lagged assets				-0.015**	-0.015**	-0.023**
				(0.001)	(0.002)	(0.002)
Leverage ratio				0.002	0.002	-0.031**
				(0.002)	(0.003)	(0.007)
Interest expense/lagged assets				0.035**	0.032*	0.321**
				(0.010)	(0.013)	(0.053)
Net worth/assets				-0.014**	-0.014**	-0.016**
				(0.002)	(0.002)	(0.002)
Current ratio				-0.000*	-0.000	-0.003**
				(0.000)	(0.000)	(0.001)
Market-to-book ratio				-0.005**	-0.005**	-0.003**
				(0.000)	(0.000)	(0.000)
Other control variables					Lagged first difference controls	Lagged first difference controls, Higher order controls
N	55,293	55,293	55,293	49,927	47,366	47,366
Pseudo R^2	0.03	0.03	0.04	0.20	0.20	0.23

*,** Coefficient statistically distinct from 0 at the 5% and 1% level, respectively.

Table VI
The Effect of Financial Covenant Violations on Forced CEO Turnover

This table presents estimates of the marginal effect of a covenant violation on forced CEO turnover in the quarter of the violation to three quarters after the violation using a probit specification. Covenant control variables include operating cash flow scaled by lagged assets, the leverage ratio, interest expense scaled by lagged assets, net worth scaled by assets, the current ratio, and the market-to-book ratio. Lagged first difference covenant control variables are differences from four quarters ago to the present quarter of each of these variables. Firm difference covenant control variables are differences from the quarter of the violation to four quarters after the violation. Higher order covenant control variables are covenant control variables raised to the second and third power. All specifications include industry, year, and fiscal quarter fixed effects. The sample is limited to firms-quarter observations in the fourth quarter of each year. Standard errors are clustered by firm.

	Probability of Forced CEO Turnover				
	(1)	(2)	(3)	(4)	(5)
New financial covenant violation	0.066**	0.040*	0.039*	0.037*	0.034*
	(0.020)	(0.016)	(0.016)	(0.016)	(0.016)
Ln(assets)		0.000	-0.000	0.000	0.001
		(0.001)	(0.001)	(0.001)	(0.001)
Operating cash flow/lagged assets		-0.071**	-0.057**	-0.056**	-0.069**
		(0.009)	(0.010)	(0.012)	(0.013)
Leverage ratio		-0.024	-0.024	-0.041*	-0.160**
		(0.015)	(0.017)	(0.020)	(0.053)
Interest expense/lagged assets		-0.058	-0.008	0.097	1.052*
		(0.120)	(0.147)	(0.181)	(0.432)
Net worth/assets		-0.028**	-0.028*	-0.032*	-0.023
		(0.010)	(0.012)	(0.013)	(0.018)
Current ratio		0.001	0.001	0.001	0.003
		(0.001)	(0.001)	(0.001)	(0.004)
Market-to-book ratio		-0.004**	-0.004**	-0.005**	-0.006**
		(0.001)	(0.001)	(0.001)	(0.002)
Other control variables			Lagged first difference controls	Lagged first difference controls, First difference controls	Lagged first difference controls, First difference control, Higher order controls
N	14,310	13,091	12,637	12,323	12,323
Pseudo R^2	0.02	0.04	0.05	0.06	0.07

*,** Coefficient statistically distinct from 0 at the 5% and 1% level, respectively.

Table VII
Financial Covenant Violations and Asset Conservatism

This table presents first difference estimates of the marginal effect of a covenant violation on investment behavior from the quarter of the violation to 4 quarters after the violation. Panel A examines asset growth, Panel B examines PPE growth, Pable C examines capital expenditures scaled by lagged assets, and Panel C examines cash acquisitions scaled by lagged assets. Covenant control variables include operating cash flow scaled by lagged assets, the leverage ratio, interest expense scaled by lagged assets, net worth scaled by assets, the current ratio, and the market-to-book ratio. Lagged first difference covenant control variables are differences from four quarters ago to the present quarter of each of these variables. First difference covenant control variables are differences from the quarter of the violation to four quarters after the violation. Higher order covenant control variables are covenant control variables raised to the second and third power. All specifications include industry, year, and fiscal quarter fixed effects. The sample is limited to firms-quarter observations in the fourth quarter of each year. Standard errors are clustered by firm.

	Table VII, Panel A: $Ln(Assets_{t+4})$ - $Ln(Assets_t)$				
	(1)	(2)	(3)	(4)	(5)
New financial covenant violation	-0.115**	-0.048**	-0.054**	-0.056**	-0.045**
	(0.011)	(0.011)	(0.011)	(0.010)	(0.010)
Operating cash flow/lagged assets		0.221**	0.219**	0.229**	0.334**
		(0.015)	(0.016)	(0.014)	(0.016)
Leverage ratio		-0.055	-0.077*	0.005	0.038
		(0.031)	(0.036)	(0.027)	(0.064)
Interest expense/lagged assets		0.316	0.245	0.937**	2.005**
		(0.219)	(0.291)	(0.231)	(0.625)
Net worth/assets		0.022	-0.003	0.136**	0.227**
		(0.025)	(0.029)	(0.020)	(0.029)
Current ratio		-0.004**	-0.003**	-0.002*	0.002
		(0.001)	(0.001)	(0.001)	(0.005)
Market-to-book ratio		0.065**	0.058**	0.040**	0.032**
		(0.002)	(0.003)	(0.002)	(0.003)
Other control variables			Lagged first difference controls	Lagged first difference controls, First difference controls	Lagged first difference controls, First difference control, Higher order controls
N	46,782	42,310	40,088	38,455	38,455
R^2	0.02	0.12	0.12	0.31	0.32

*,** Coefficient statistically distinct from 0 at the 5% and 1% level, respectively.

Table VII, Panel B: Ln(PPE$_{t+4}$) - Ln(PPE$_t$)

	(1)	(2)	(3)	(4)	(5)
New financial covenant violation	-0.142**	-0.068**	-0.074**	-0.072**	-0.060**
	(0.018)	(0.018)	(0.019)	(0.018)	(0.019)
Operating cash flow/lagged assets		0.243**	0.258**	0.281**	0.386**
		(0.016)	(0.017)	(0.018)	(0.020)
Leverage ratio		-0.020	-0.063	0.041	0.026
		(0.034)	(0.037)	(0.034)	(0.093)
Interest expense/lagged assets		0.975**	0.951**	1.015**	2.664**
		(0.231)	(0.258)	(0.271)	(0.841)
Net worth/assets		0.164**	0.089**	0.196**	0.246**
		(0.026)	(0.031)	(0.028)	(0.048)
Current ratio		0.011**	0.010**	-0.003	0.017*
		(0.002)	(0.002)	(0.002)	(0.007)
Market-to-book ratio		0.053**	0.052**	0.044**	0.037**
		(0.003)	(0.003)	(0.002)	(0.003)
Other control variables			Lagged first difference controls	Lagged first difference controls, First difference controls	Lagged first difference controls, First difference control, Higher order controls
N	46,104	41,854	39,684	38,100	38,100
R^2	0.02	0.08	0.08	0.13	0.14

*,** Coefficient statistically distinct from 0 at the 5% and 1% level, respectively.

Table VII, Panel C: (Capital Expenditures/Lagged Assets)$_{t+4}$ - (Capital Expenditures/Lagged Assets)$_t$

	(1)	(2)	(3)	(4)	(5)
New financial covenant violation	-0.009**	-0.009**	-0.009**	-0.009**	-0.009**
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Operating cash flow/lagged assets		0.003	-0.005**	0.000	-0.003
		(0.002)	(0.002)	(0.002)	(0.002)
Leverage ratio		-0.013**	-0.003	-0.008**	-0.048**
		(0.004)	(0.003)	(0.003)	(0.011)
Interest expense/lagged assets		-0.037	-0.057*	0.006	0.354**
		(0.026)	(0.027)	(0.026)	(0.104)
Net worth/assets		-0.016**	-0.009**	-0.005*	-0.007
		(0.002)	(0.002)	(0.002)	(0.004)
Current ratio		0.001**	0.001**	0.000**	0.005**
		(0.000)	(0.000)	(0.000)	(0.001)
Market-to-book ratio		-0.001*	-0.001**	0.000	0.001*
		(0.000)	(0.000)	(0.000)	(0.000)
Other control variables			Lagged first difference controls	Lagged first difference controls, First difference controls	Lagged first difference controls, First difference control, Higher order controls
N	45,175	40,960	38,821	37,330	37,330
R^2	0.01	0.01	0.01	0.02	0.03

*,** Coefficient statistically distinct from 0 at the 5% and 1% level, respectively.

Table VII, Panel D: (Cash Acquisitions/Lagged Assets)$_{t+4}$ - (Cash Acquisitions/Lagged Assets)$_t$

	(1)	(2)	(3)	(4)	(5)
New financial covenant violation	-0.018**	-0.013**	-0.011*	-0.011*	-0.010*
	(0.004)	(0.005)	(0.005)	(0.005)	(0.005)
Operating cash flow/lagged assets		0.004	-0.006*	0.003	-0.004
		(0.002)	(0.002)	(0.002)	(0.003)
Leverage ratio		-0.039**	-0.018**	-0.018**	-0.055**
		(0.005)	(0.004)	(0.004)	(0.019)
Interest expense/lagged assets		-0.088*	-0.109**	-0.024	-0.122
		(0.039)	(0.035)	(0.030)	(0.193)
Net worth/assets		-0.024**	-0.014**	-0.011**	-0.026**
		(0.003)	(0.003)	(0.002)	(0.005)
Current ratio		0.001**	0.001**	0.001**	0.005**
		(0.000)	(0.000)	(0.000)	(0.001)
Market-to-book ratio		0.001**	0.000	0.001**	0.000
		(0.000)	(0.000)	(0.000)	(0.000)
Other control variables			Lagged first difference controls	Lagged first difference controls, First difference controls	Lagged first difference controls, First difference control, Higher order controls
N	43,357	39,321	37,274	35,842	35,842
Pseudo R^2	0.00	0.01	0.01	0.01	0.02

*,** Coefficient statistically distinct from 0 at the 5% and 1% level, respectively.

Table VIII
Financial Covenant Violations and Financial Conservatism

This table presents first difference estimates of the marginal effect of a covenant violation on debt from the quarter of the violation to 4 quarters after the violation. Panel A examines net debt issuance scaled by lagged assets and Panel B examines debt growth. Panel C examines cash scaled by assets and Panel D examines the shareholder payout growth. Shareholder payout includes both dividend payments and repurchases. Covenant control variables include the logarithm of total assets, operating cash flow scaled by lagged assets, the market-to-book ratio, and PPE scaled by total assets. Lagged first difference covenant control variables are differences from four quarters ago to the present quarter of each of these variables. First difference covenant control variables are differences from the quarter of the violation to four quarters after the violation. Higher order covenant control variables are covenant control variables raised to the second and third power. All specifications include industry, year, and fiscal quarter fixed effects. The sample is limited to firms-quarter observations in the fourth quarter of each year. Standard errors are clustered by firm.

	Table VIII, Panel A: $(NDI/Lagged\ Assets)_{t+4} - (NDI/Lagged\ Assets)_t$				
	(1)	(2)	(3)	(4)	(5)
New financial covenant violation	-0.057**	-0.055**	-0.048**	-0.031*	-0.033*
	(0.013)	(0.014)	(0.013)	(0.013)	(0.013)
Ln(assets)		-0.010**	-0.005**	-0.002**	0.038**
		(0.001)	(0.001)	(0.001)	(0.010)
Operating cash flow/lagged assets		0.053**	0.063**	0.001	-0.044**
		(0.010)	(0.009)	(0.009)	(0.012)
Market-to-book ratio		0.006**	0.009**	0.004**	0.021**
		(0.001)	(0.001)	(0.001)	(0.006)
PPE/Assets		0.005	-0.006	0.000	-0.204**
		(0.008)	(0.007)	(0.006)	(0.065)
Other control variables			Lagged first difference controls	Lagged first difference controls, First difference controls	Lagged first difference controls, First difference control, Higher order controls
N	44,318	43,759	42,838	42,295	42,295
R^2	0.00	0.00	0.02	0.04	0.04

*,** Coefficient statistically distinct from 0 at the 5% and 1% level, respectively.

Table VIII, Panel B: Ln(Debt$_{t+4}$) - Ln(Debt$_t$)

	(1)	(2)	(3)	(4)	(5)
New financial covenant violation	-0.167**	-0.148**	-0.166**	-0.088**	-0.085**
	(0.027)	(0.027)	(0.027)	(0.025)	(0.025)
Ln(assets)		0.001	-0.004*	0.007**	0.089**
		(0.002)	(0.002)	(0.002)	(0.028)
Operating cash flow/lagged assets		0.079**	0.116**	-0.235**	-0.288**
		(0.025)	(0.027)	(0.031)	(0.040)
Market-to-book ratio		0.034**	0.033**	-0.017**	0.041*
		(0.004)	(0.005)	(0.005)	(0.020)
PPE/Assets		0.077**	0.061**	0.077**	0.069
		(0.021)	(0.021)	(0.019)	(0.177)
Other control variables			Lagged first difference controls	Lagged first difference controls, First difference controls	Lagged first difference controls, First difference control, Higher order controls
N	36,481	35,890	35,131	34,638	34,638
R^2	0.01	0.01	0.02	0.11	0.12

*,** Coefficient statistically distinct from 0 at the 5% and 1% level, respectively.

Table VIII, Panel C: (Cash/Assets)$_{t+4}$ - (Cash/Assets)$_t$

	(1)	(2)	(3)	(4)	(5)
New financial covenant violation	0.012**	0.011**	0.011**	0.009**	0.008**
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Ln(assets)		-0.001**	0.000	0.000*	0.003
		(0.000)	(0.000)	(0.000)	(0.004)
Operating cash flow/lagged assets		0.010**	0.010**	0.022**	0.033**
		(0.003)	(0.003)	(0.003)	(0.004)
Market-to-book ratio		-0.001	-0.000	0.001**	-0.007**
		(0.000)	(0.000)	(0.000)	(0.002)
PPE/Assets		0.042**	0.036**	0.000	0.083**
		(0.003)	(0.002)	(0.002)	(0.020)
Other control variables			Lagged first difference controls	Lagged first difference controls, First difference controls	Lagged first difference controls, First difference control, Higher order controls
N	46,770	46,010	45,022	44,372	44,372
R^2	0.01	0.01	0.02	0.13	0.13

*,** Coefficient statistically distinct from 0 at the 5% and 1% level, respectively.

Table VIII, Panel D: Ln(Shareholder Payout$_{t+4}$) - Ln(Shareholder Payout$_{t}$)

	(1)	(2)	(3)	(4)	(5)
New financial covenant violation	-0.083**	-0.049	-0.051	-0.065*	-0.046
	(0.032)	(0.032)	(0.032)	(0.032)	(0.032)
Ln(assets)		0.004*	0.003	0.001	-0.028**
		(0.002)	(0.002)	(0.002)	(0.008)
Operating cash flow/lagged assets		0.141**	0.089**	0.133**	0.126**
		(0.013)	(0.014)	(0.016)	(0.021)
Market-to-book ratio		0.024**	0.017**	0.016**	0.124**
		(0.002)	(0.002)	(0.002)	(0.012)
PPE/Assets		-0.059**	-0.039*	-0.050**	-0.415**
		(0.017)	(0.017)	(0.017)	(0.125)
Other control variables			Lagged first difference controls	Lagged first difference controls, First difference controls	Lagged first difference controls, First difference control, Higher order controls
N	37,333	36,804	36,072	35,616	35,616
R^2	0.01	0.01	0.01	0.01	0.02

*,** Coefficient statistically distinct from 0 at the 5% and 1% level, respectively.

Table IX
Financial Covenant Violations and Operating Performance

This table presents first difference estimates of the marginal effect of a covenant violation on operating cash flow scaled by lagged assets from the quarter of the violation to 4 quarters after the violation. Covenant control variables include operating cash flow scaled by lagged assets, the leverage ratio, interest expense scaled by lagged assets, net worth scaled by assets, the current ratio, and the market-to-book ratio. Lagged first difference covenant control variables are differences from four quarters ago to the present quarter of each of these variables. Higher order covenant control variables are covenant control variables raised to the second and third power. All specifications include industry, year, and fiscal quarter fixed effects. The sample is limited to firms-quarter observations in the fourth quarter of each year. Standard errors are clustered by firm.

	(Operating Cash flow/Lagged Assets)$_{t+4}$ - (Operating Cash flow/Lagged Assets)$_t$			
	(1)	(2)	(3)	(4)
New financial covenant violation	0.059**	0.029**	0.020**	0.027**
	(0.008)	(0.007)	(0.007)	(0.007)
Operating cash flow/lagged assets		-0.354**	-0.289**	-0.186**
		(0.010)	(0.009)	(0.010)
Leverage ratio		0.029*	0.030*	0.060
		(0.014)	(0.015)	(0.040)
Interest expense/lagged assets		-0.287**	-0.255*	-0.282
		(0.097)	(0.110)	(0.347)
Net worth/assets		0.011	0.002	-0.048**
		(0.011)	(0.010)	(0.019)
Current ratio		-0.006**	-0.006**	-0.000
		(0.001)	(0.001)	(0.002)
Market-to-book ratio		-0.008**	-0.005**	-0.006**
		(0.001)	(0.001)	(0.001)
Other control variables			Lagged first difference controls	Lagged first difference controls, Higher order controls
N	45,567	41,868	39,694	39,694
R^2	0.00	0.19	0.22	0.24

*,** Coefficient statistically distinct from 0 at the 5% and 1% level, respectively.

Table X
Event Study Estimates of Stock Price Performance Following a Covenant Violation

This table reports event time estimates of stock price performance of firms violating a loan covenant by estimating the event-study monthly abnormal returns of stocks following the report of a loan covenant violation in their in a SEC 10-K or 10-Q filing. The estimates are for event months August 1997 through June 2009 and include 3,699 observations. Abnormal returns are measured against a four-factor return model, measured on a monthly basis, are: (1) the excess return on the NYSE/AMEX market return, (2) the difference between the returns on small and big stocks, (3) the return performance of value stocks relative to growth stocks, and (4) the return performance of high momentum stocks relative to low momentum stocks. Standard error estimates based on cross-sectional averages of firm-level standard are in parentheses, time-series clustering-robust standard errors are in brackets. ***, **, and * denote 1%, 5%, and 10% levels of significance, respectively.

Panel A: Factor loading estimates

|	Intercept	Excess market return	Small minus big stocks	High minus low growth	High minus low momentum
Average estimate of the factor loading	0.000	1.004	0.929	0.040	-0.333
	(0.001)	(0.014) ***	(0.016) ***	(0.024) ***	(0.014) ***

Panel B: Cumulative Abnormal Return Estimates

	Event month [0]	Event months [+1, +3]	Event months [+1, +6]	Event months [+1, +12]	Event months [+1, +24]	Event months [+1, +60]
Average monthly cumulative abnormal return	-0.0234	-0.0008	0.0024	0.0032	0.0045	0.0008
	(0.0039) ***	(0.0023)	(0.0016)	(0.0012) **	(0.0009) ***	(0.0015)
	[0.0064] ***	[0.0041]	[0.0029]	[0.0021]	[0.0016] ***	[0.0018]

Figure 1
Corporate Governance: Which Investors Influence Managerial Decisions?

Panel A shows a traditional view of corporate governance in which creditor influence over managerial decisions is limited to payment default states. Panel B shows a more creditor-oriented view, in which both creditors and equity-holders exert influence over managerial decision in firm value deteriorates, but the first is not yet in payment default.

Panel A: Traditional Corporate Governance View

- - • Debt ——— Equity
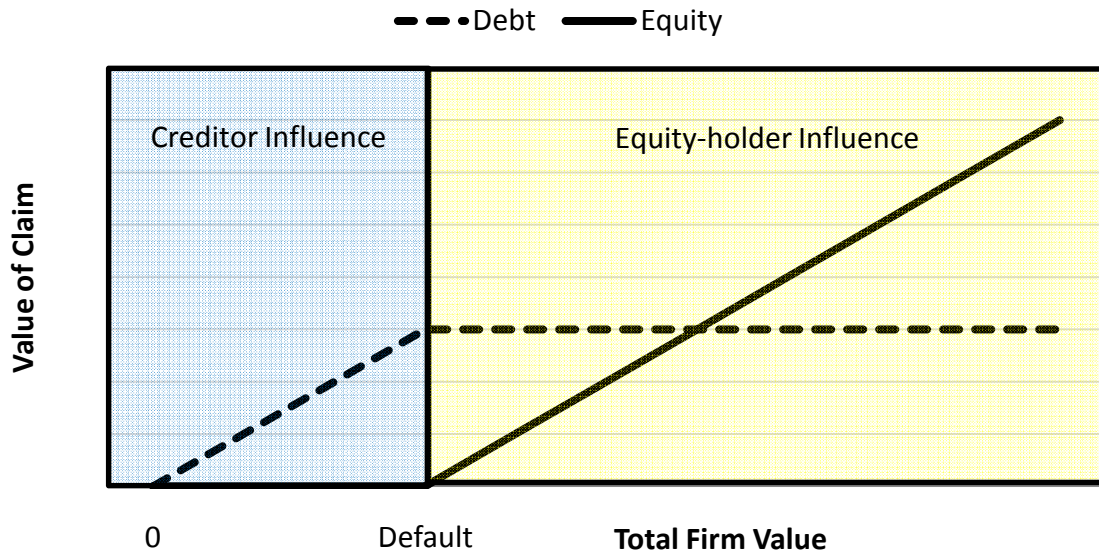
Panel B: Creditor-Oriented View of Corporate Governance

- - • Debt ——— Equity
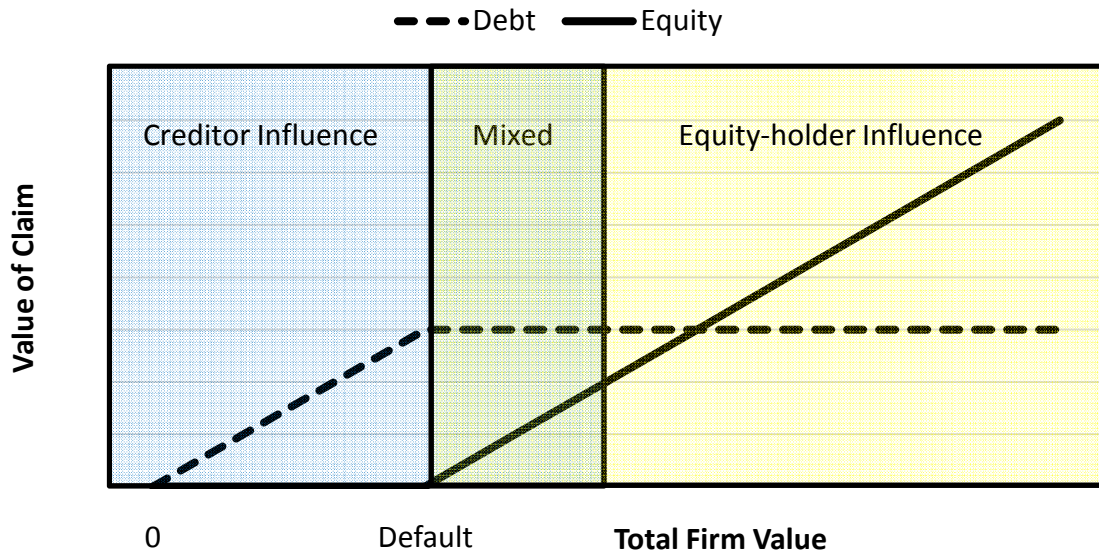
Figure 2
Covenant Violations from 1996 to 2008

This figure presents the fraction of firms that violate a financial covenant during the fiscal year from 1996 to 2008. A new covenant violation is a financial covenant violation by a firm that has not violated a covenant in the previous four quarters. The sample includes 8,945 firms.
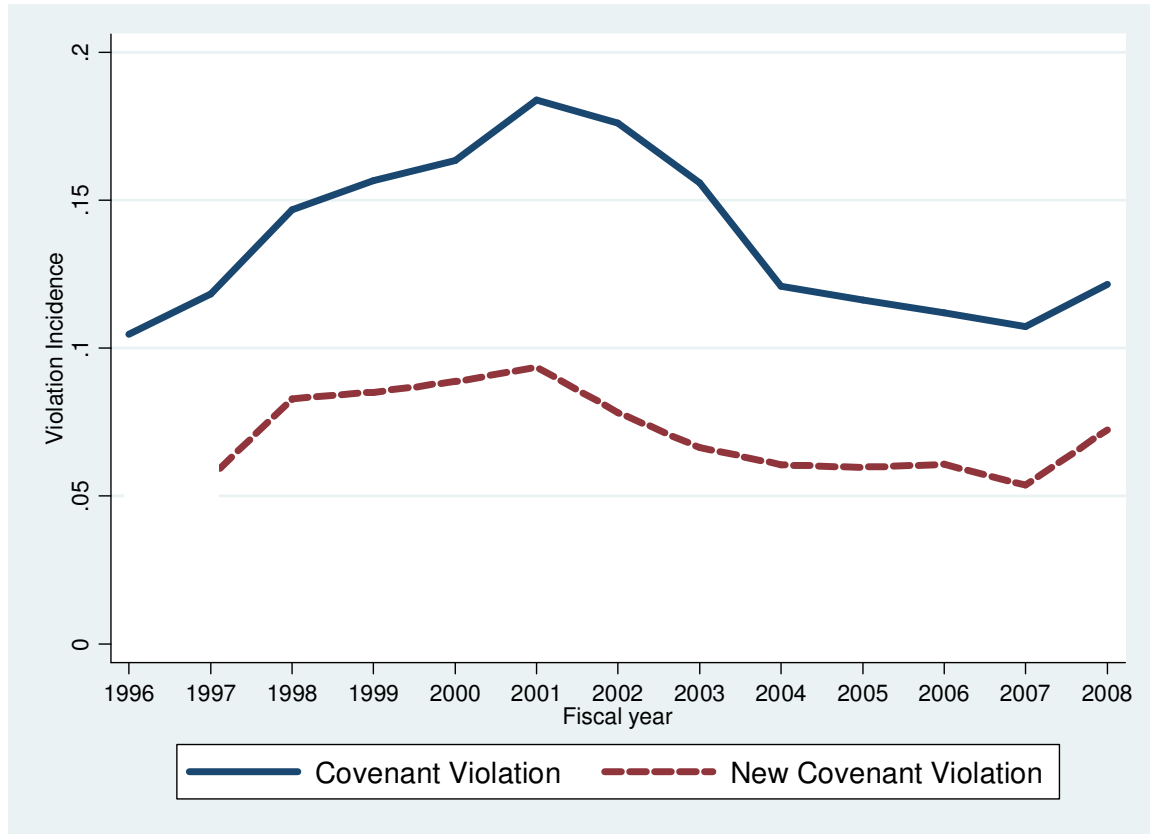
Figure 3
Firm Performance in Quarters Preceding New Financial Covenant Violation
(Medians)

This figure presents medians for various firm performance measures leading up to a new financial covenant violation. A new violation is a violation by a firm that has not violated in the previous four quarters. There are 4,412 new violations in our sample. In each respective figure, the sample is limited to firms that have the variable available for the seven quarters leading up to the violation.
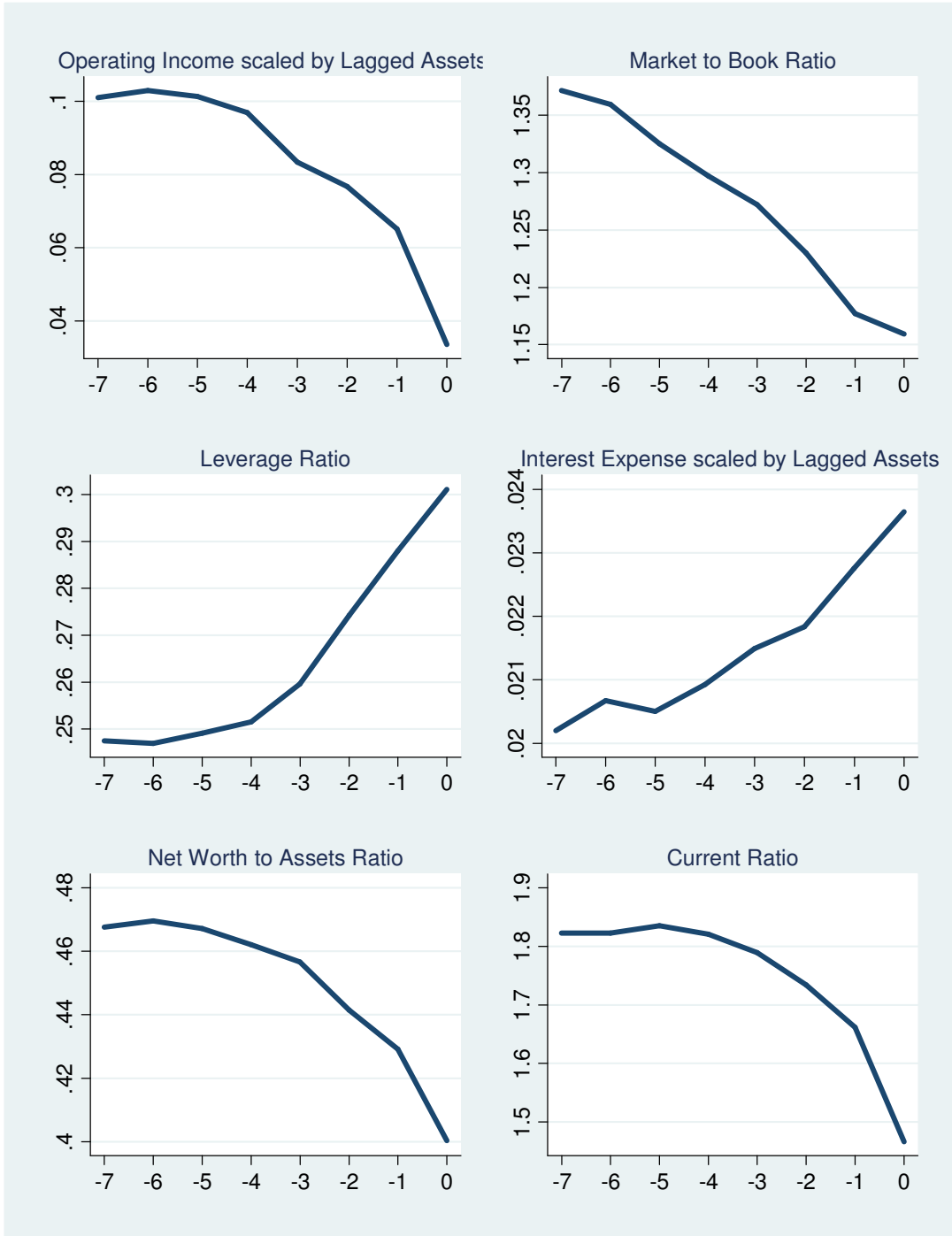
Figure 4
Financial Covenant Violations and CEO Turnover

This figure presents the fraction of new violators that experience a forced CEO turnover in the quarters around a new covenant violation. A new violation is a violation by a firm that has not violated in the previous four quarters. The violation occurs in the period between -1 and 0.
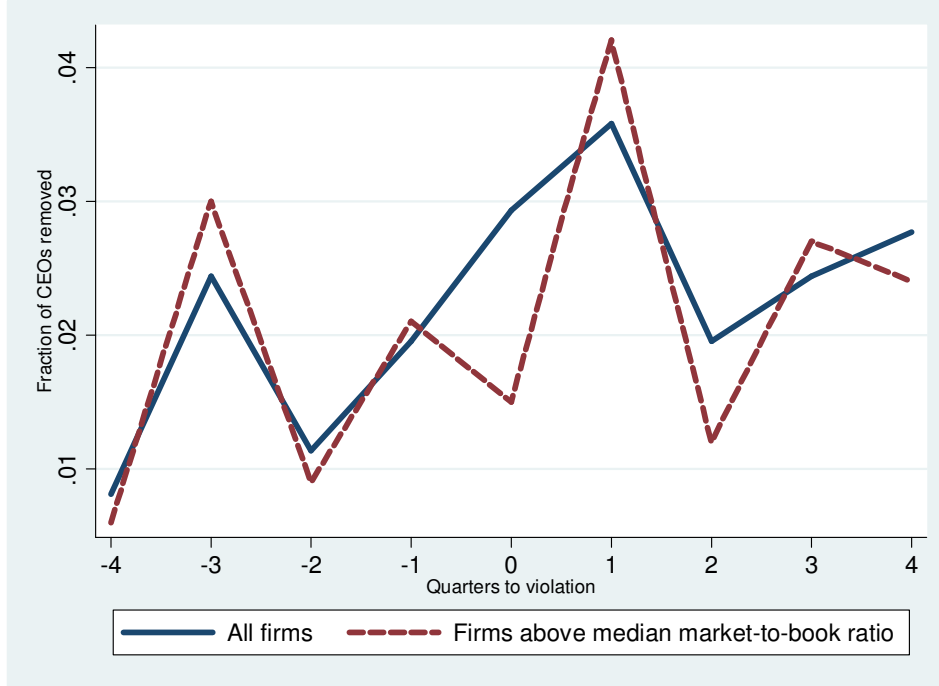

Figure 5
Financial Covenant Violations and "Restructuring"

This solid line (left axis) plots the fraction of observations for which the firm mentions the term "restructuring" or "turnaround" in the 10-K or 10-Q SEC filing. This dashed line (right axis) plots the fraction of observations for which the firm mentions the term "restructuring firm" or "turnaround firm" in the 10-K or 10-Q SEC filing.
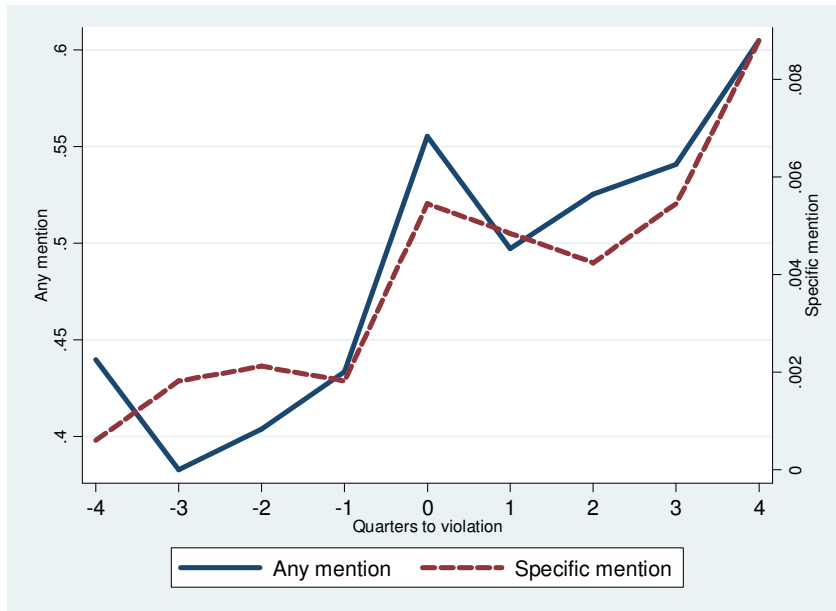
Figure 6
Financial Covenant Violations and Asset Conservatism

This figure presents means and medians for measures of investment around a new financial covenant violation. A new violation is a violation by a firm that has not violated in the previous four quarters. The violation occurs in the period between -1 and 0.
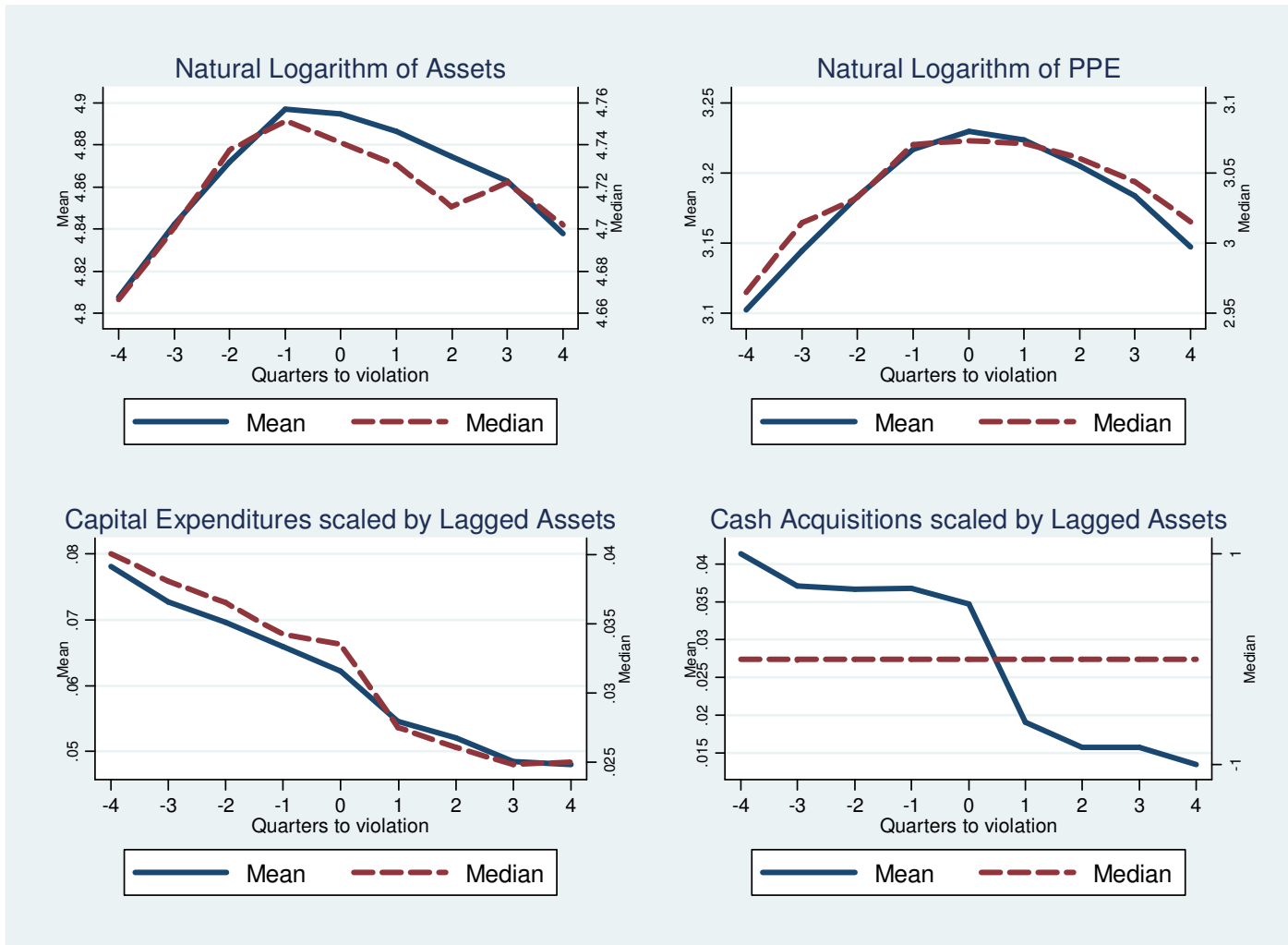
Figure 7
Financial Covenant Violations and Financial Conservatism

This figure presents means and medians for measures of financial policy around a new financial covenant violation. A new violation is a violation by a firm that has not violated in the previous four quarters. The violation occurs in the period between -1 and 0.
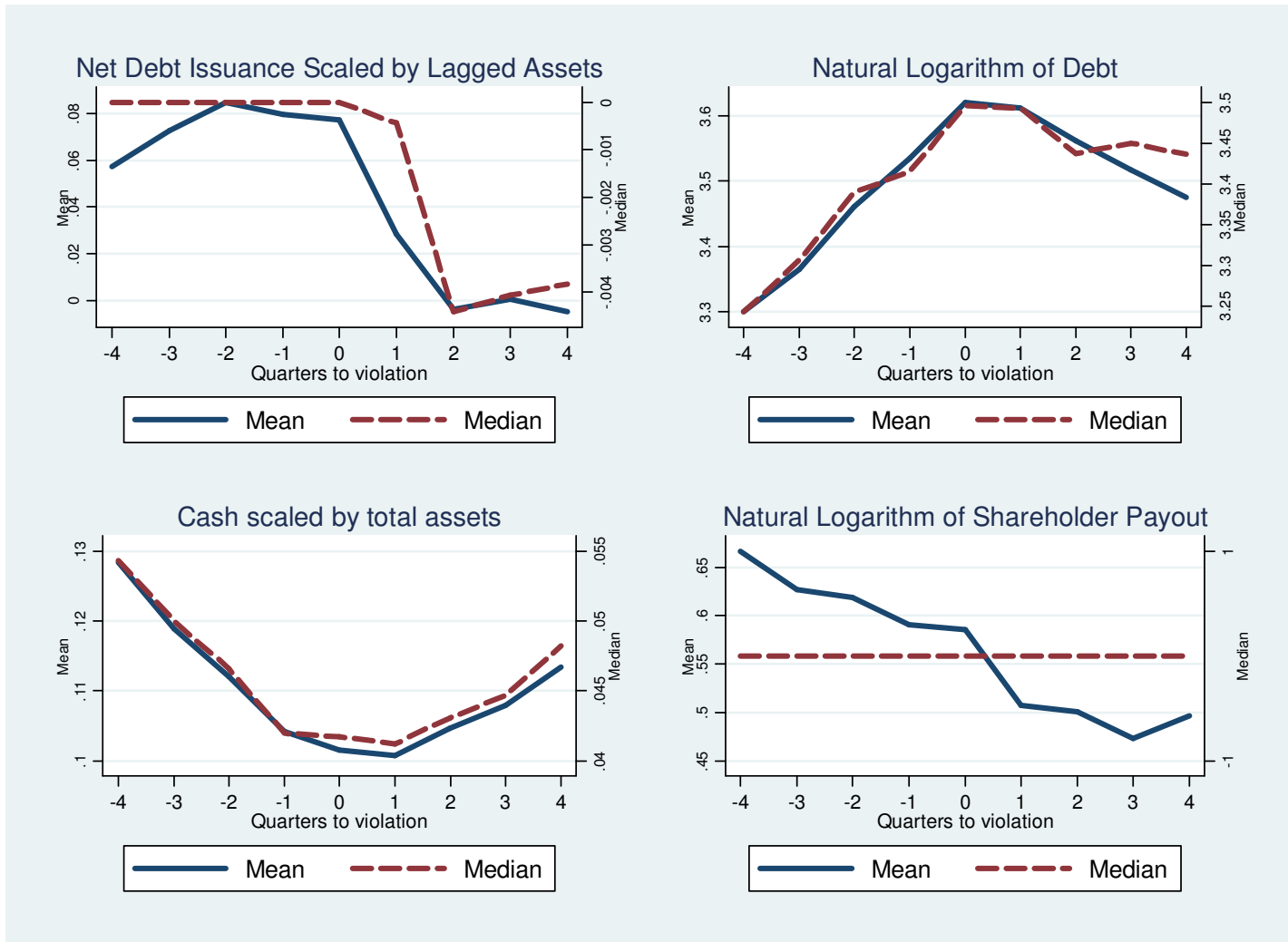
Figure 8
Financial Covenant Violations and Firm Performance

The left panel of this figure presents mean and median operating cash flow scaled by lagged assets around a new financial covenant violation. The right panel reports average and cumulative monthly abnormal return estimates around the violation. Abnormal returns are measured against a 4-factor benchmark portfolio containing: (1) the excess return on the NYSE/AMEX market return, (2) the difference between the returns on small and big stocks, (3) the return performance of value stocks relative to growth stocks, and (4) the return performance of high momentum stocks relative to low momentum stocks. A new violation is a violation by a firm that has not violated in the previous four quarters.