# Lender Monitoring and Borrower Actions: Economic Consequences of Lender Distraction

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**Abstract**

This study investigates the importance of lender monitoring by examining borrowers' corporate actions during periods of reduced monitoring intensity. Using plausibly exogenous variation in lender distraction based on economic shocks to the lender's portfolio in unrelated industries, we find that borrowers' credit risk increases during periods of lender distraction. Specifically, we find that borrowers reduce cash holdings and increase risky investment, leverage, and payouts to other stakeholders. Cross-sectional analyses suggest that these negative consequences are mitigated by the use of covenants or when lenders have greater opportunity or incentive to monitor borrowers. Finally, the actions taken during periods of lender distraction are associated with an increase of borrower credit risk, including credit rating downgrades and a higher cost of debt. Collectively, our study provides evidence that lenders play an important role in monitoring borrowers, even in the absence of covenant violation or financial distress.

## 1. Introduction

Diamond (1984) demonstrates that banks act as delegated monitors to reduce the duplication of monitoring firms. To monitor a borrower, banks spend significant effort collecting borrowers' credit-relevant information, conducting a credit analysis review on a continuous basis, and renegotiating debt contracts in response to unexpected changes in borrower credit risk.[1] Prior research provides evidence that the stock market values banks' monitoring (James, 1987; Lummer and McConnell, 1989; Gorton and Winton, 2003). However, monitoring consumes institutional resources such as the time and effort of individual loan officers, coordination effort across different departments within a lead bank, and collaboration between lead and participating banks (Basel 2000).

Does the level of resource allocation have a bearing on the effectiveness of lender monitoring? On one hand, if banking institutions and individual loan officers have unconstrained resources such as time, effort, and technology, then banks will optimize resource allocation to maximize loan value, and we will not expect that resource allocation has any association with loan performance. On the other hand, if banks and/or loan officers' resources are constrained, we would expect that resource allocation deviating from the optimal level has an impact on monitoring intensity and the borrower's corporate actions. In this study, we explore this question using corporate loan data.

We measure changes in resource allocation in monitoring a borrower based on industry-level shocks to other firms in the lender's loan portfolio. We outline our empirical strategy in

[1] Moody's states that "A good monitoring program will quickly identify any red flags that would suggest the borrower's financial health is starting to deteriorate. Being able to detect these early warning signals is critical, as it allows the bank to remedy the increased risk to its investment…. Risk monitoring processes tend to be resource-intensive… Many banks do not have the appropriate tools to generate timely alerts on when [covenants] are due for receipt.

Figure 1. Consider two borrowers who operate in the same industry (*Borrower 1* and *Borrower 2*) and obtain identical bank loans from two different banks (*Lender A* and *Lender B*, respectively). Assume *Lender A* provides loans to only two borrowers in the economy: *Borrower 1* and *Firm X*, who operates in an industry completely unrelated to *Borrower 1* and *Borrower 2*. *Lender B* does not provide any loans to borrowers in *Firm X*'s industry. Now suppose there is an economic shock to *Firm X*'s industry, such as a crisis that negatively affects all firms (and only those firms) in the industry. As a result, *Lender A* rationally shifts monitoring effort toward *Firm X* to increase the likelihood of repayment. If bank monitoring is a limited resource, *Lender A*'s monitoring intensity of *Borrower 1* decreases and thus *Borrower 1* has greater opportunity to pursue actions that increase their own payoffs at the expense of *Lender A*. At the same time, note that *Borrower 2* is completely unaffected; the monitoring intensity of *Lender B* remains constant. As a result, we can analyze the effect of lender monitoring by comparing the actions of *Borrower 1* versus *Borrower 2*. Based on this examination, we draw conclusions about whether lower monitoring intensity provides a borrower an opportunity to take actions that increase their own payoffs at the expense of lenders.

Our strategy implicitly assumes that when a borrower in an industry experiences an industry shock, the lender will direct more attention toward this borrower while leaving borrowers in other industries neglected. This assumption is motivated by three arguments. First, banks diversify their portfolios across industries to lower credit risk exposure to any single industry or economic sector. Second, banks commonly share credit review and monitoring teams across loan portfolios. Therefore, it is possible that when one borrower needs immediate attention, other borrowers are neglected. Third, Kempf et al. (2016) use similar logic in an institutional investor

setting and provide empirical evidence that shocks to institutional investors' resource allocation affect their monitoring intensity of portfolio firms.

We select a sample of borrowers and lenders in the intersection of Dealscan and Compustat over the period from 1993-2015. We measure economic shocks to unrelated industries following Kempf et al. (2016) and Barber and Odean (2008) based on extreme positive and negative industry-level stock returns. Our tests employ a set of control variables, as well as firm fixed effects and industry x time fixed effects to mitigate the effect of any unobservable firm-specific factors or macroeconomic factors that may affect our identification assumption and our inferences. We first provide evidence that our measure of lender distraction based on economic shocks to industries unrelated to the borrower is associated with reduced monitoring intensity, as indicated by a lower likelihood subsequent debt contract renegotiation (Nikolaev, 2018).

Building on this evidence, we find that borrowers take actions that reduce creditworthiness during periods in which their lenders are distracted. We specifically find a positive association between lender distraction and the borrower's economic risk, as proxied by the standard deviation of stock returns during the quarter. In terms of economic significance, we find that a one standard deviation increase in lender distraction is associated with a 1.09% increase in the volatility of the borrower's stock returns during the quarter, relative to the sample median. We also find that borrowers exhibit lower cash holdings and higher levels of debt when lenders lower their monitoring intensity. Additionally, risky investment through acquisition of risky intangible assets and total employment is positively associated with lender distraction. Collectively, this evidence suggests that borrowers substitute into riskier investments when lenders' monitoring intensity declines, which may dilute the value of debtholders' claim.

We further examine payouts to other stakeholders during periods of lender distraction to examine whether borrowers directly transfer wealth from lenders to shareholders and executives when lender monitoring intensity is lower. We find that lender distraction is associated with greater dividend payments to shareholders. Additionally, lender distraction is associated with greater bonus payments and overall firm-related wealth paid to chief executive officers, but is not related to the executive's salary. Specifically, a one standard deviation increase in lender distraction is associated with a 3.62% increase in dividends and a 15.81% increase executive bonus payouts relative to the sample means. This evidence suggests that borrowers respond to lender distraction by increasing one-time payoffs to other stakeholders that potentially transfer wealth from lenders.

We perform three additional tests to verify the robustness of our results. Importantly, we note that our empirical approach (with firm and industry x time fixed effects) ensures that our results are not driven by unobservable factors such as industry-wide investment opportunities during the period or the general riskiness (i.e. "type") of the borrower. Nevertheless, we first perform a falsification test by exploiting a unique feature of the syndicated loan market. In a syndicated loan, the lead arranger establishes a relationship with the borrower and negotiates the terms of the debt contract (Sufi, 2007).[2] In contrast, participant lenders in the syndicate only provide capital to fund the loan, and do not have any access to the borrower's private information; therefore, participant lenders rely on the lead arranger to monitor the borrower. Thus, we do not expect to observe a relation between *participant* lender distraction and the borrower's corporate actions. As a falsification test, we measure distraction among the borrower's participant lenders and do not find evidence that borrowers alter corporate decisions (i.e. economic risk, cash holdings, leverage, investment, or dividends) when participant lenders are distracted.

[2] Our primary measure of lender distraction is based on the lead arranger of the syndicate.

Second, due to lenders' asymmetric payoffs with respect to the borrower's future value (Watts, 2003), we re-measure lender distraction based only on negative shocks to other borrowers in unrelated industries and find qualitatively similar results.[3] Third, we exploit time variation in lender distraction to examine its effect on corporate actions over time. In all cases we find a similar trend, where the effects of lender distraction on corporate actions diminish over time. For example, economic volatility (the standard deviation of daily stock returns during the quarter) increases significantly when lenders are distracted in quarter q, but the effects of lender distraction on economic volatility weakens in the subsequent four quarters and is no longer statistically significant. These tests mitigate the possibility that an unobservable variable affects our results.

Next, we consider the circumstances and conditions that can mitigate the negative consequences of lender distraction. We predict that lenders are more likely to maintain their monitoring efforts when they have lower costs of or higher benefits from monitoring the borrower. We expect that lenders have greater opportunity (and thus lower costs) to monitor their borrowers when they are located in the same geographic area. Thus, we predict and find evidence that the negative consequences of lender distraction are mitigated when borrowers and lenders are located in the same state. Additionally, we expect that monitoring generates higher benefits to lenders when they retain a greater financial stake in the loan (Ball, Bushman, and Vasvari, 2008). Consistent with this argument, we find that the negative consequences of lender distraction are mitigated when the lender retains a greater proportion of the debt contract.

We also examine whether contract provisions negotiated ex-ante at the inception of the debt contract facilitate lenders' monitoring activities ex-post. We find that covenants explicitly

[3] We also re-measure lender distraction based on three alternative proxies for industry-level economic shocks to unrelated industries: (i) changes in expected default frequency (Merton, 1974), (ii) credit rating changes, and (iii) TCR Score changes (Donovan, Jennings, Koharki, and Lee, 2018). Refer to section 4.2 for additional details.

designed for a particular type of moral hazard are effective. Specifically, we find that that the significantly positive relation between dividends (capital expenditures) and lender distraction is attenuated when the debt contract includes a covenant restricting dividend payments (capital expenditures). Furthermore, we find that sweep covenants, which limit the use of free cash flow, also reduce the positive association between lender distraction and dividends and capital expenditures. Additionally, the relation between economic volatility (leverage) and lender distraction is diminished for borrowers with strict financial (leverage) covenants. This evidence suggests that initial debt contract design has important implications for monitoring borrowers through maturity.

Finally, we examine the long-term consequences of lender distraction. We find that lender distraction is associated with the borrower's future credit rating downgrades, future covenant violations, and a higher cost of debt in subsequent debt contract negotiations. Therefore, the actions taken during periods of lender distraction potentially have long-term negative consequences for the borrower.

Our study demonstrates the importance of lender monitoring. Prior literature examines how lenders use control rights following a reported debt covenant violation to take an active role in corporate decisions such as investing, financing, and management retention (Chava and Roberts, 2008; Roberts and Sufi, 2009; Nini, Smith, and Sufi, 2009; 2012). We show when lenders are distracted from monitoring borrowers, renegotiation frequency declines, borrower financial performance deteriorates, and borrowers' tendency to engage in asset substitution increases. Therefore, our study provides evidence that lenders monitor borrowers to constrain opportunistic actions, even in the absence of explicit control rights through covenant violation. Additionally, given that renegotiations address ex post inefficiency resulting in Pareto improvement (Roberts

2015; Nikolaev, 2018), lender distraction not only reduces lender value but also might lead to the loss of overall borrower firm value.

Our results also shed light on organizational constraints and firm boundaries by contributing to a growing body of literature examining the consequences of inattention and limited resource allocation in corporate decision making (Baker and Wurgler, 2012). Kempf et al. (2016) find that managers are more likely to make value-destroying acquisitions, grant executive stock options, and cut dividends when institutional investors are distracted. Additionally, Campbell, Loumioti, and Wittenberg-Moerman (2018) and Gao, Karolyi, and Pacelli (2018) examine how loan officer inattention at the time of contract negotiations affects lending outcomes. The negative consequences associated with lender distraction documented in this study reflect costs of economizing bank lending operations, pointing to the slack that an organization might need to maintain to offset these costs.

The rest of the study is organized as follows. Section 2 discusses the sample and provides descriptive statistics. Section 3 reports empirical results. Section 4 conducts additional analyses. We conclude in Section 5.

## 2. Data and Descriptive Statistics

### *2.1. Sample Selection*

We obtain a sample of private debt contracts on Dealscan over the period from 1993 through 2015 to study the effect of lender distraction on the borrower's corporate actions.[4] We collect financial statement data from Compustat, stock return data from CRSP, analyst forecast data from I/B/E/S, and institutional equity ownership data from Thomson Reuters. We obtain

[4] We thank Michael Roberts for providing the Compustat-Dealscan linking table, available on WRDS. Refer to Chava and Roberts (2008) for additional details.

executive compensation data from Execucomp. Last, we obtain data on covenant violations from a database provided by Nini et al. (2012) and S&P credit ratings from Compustat.[5]

Our primary analysis examines a sample of 146,841 borrower-quarters on Compustat for which a private debt contract on Dealscan is outstanding (i.e. periods from contract inception through maturity). Some of our tests, such as those examining changes in executive compensation, are limited to annual periods due to data availability. Each test maximizes the sample size based on available data. We describe each sub-sample in greater detail below.

### *2.2. Measure of Lender Distraction*

We construct a proxy for the level of distraction among the borrower's lenders during a quarter using the method proposed by Kempf et al. (2016), who study the level of distraction among institutional investors. Specifically, for each borrower i (and lender $l \in L$) during quarter q, we calculate the following measure of distraction:

$$Distraction_{iq} = \sum_{l \in L_{q-1}} \sum_{IND \neq IND_i} w_{ilq-1} \times w_{lq-1}^{IND} \times IS_q^{IND}$$

$L$ is the set of borrower i's lenders at the end of quarter q-1. *IND* indicates a given Fama-French 12 industry. The term $w_{ilq-1}$ represents how important lender $l$ is to borrower i in terms of total debt in the borrower's capital structure. We calculate the percentage of the borrower's total debt on Dealscan that is held by lender $l$ as of quarter q-1. The term $w_{lq-1}^{IND}$ represents how much lender $l$ cares about a particular *unrelated* industry (i.e. industries other than the borrower's industry), measured in terms of total debt provided to borrowers in a specific industry. We calculate the percentage of lender $l'$s total Dealscan debt (across all borrowers) provided only to borrowers

[5] We thank Amir Sufi for providing the Quarterly Compustat financial covenant violation data available on his website: http://faculty.chicagobooth.edu/amir.sufi/data.html. We note that this database only covers firm-quarters through 2008.

concentrated in a particular industry *IND*. Finally, the industry shock term $IS_q^{IND}$ is an indicator variable equal to one if the unrelated industry experiences an economic shock during quarter q; $IS_q^{IND}$ is equal to one if an industry has the highest or lowest industry stock returns during a given quarter. Overall, *Distraction* measures the extent to which the borrower's lenders are distracted by significant economic events in unrelated industries. Thus, this measure provides plausibly exogenous variation in lender distraction to examine our research question.

### *2.3. Descriptive Statistics*

Table 1 presents descriptive statistics for all variables used in empirical analyses. Borrowers in our sample are large and profitable with average (median) total assets of approximately $5.2 billion ($891.5 million) and quarterly return on assets of 0.004 (0.010). Additionally, the average (median) borrower in our sample has 6.8 (5.0) analysts following operations and performance and 42.6% (43.8%) of equity holders are institutional owners. Last, we note that cash holdings and total debt represent approximately 9% and 31% of the average borrower's total assets, respectively. The distribution of firm characteristics used as dependent and control variables in our multivariate analysis are similar to those in the prior literature (e.g. Bharath et al., 2008; Demerjian, 2011).

## 3. Results

### *3.1. Initial Evidence: Renegotiation*

We begin our empirical analyses by examining whether the likelihood of renegotiating existing debt contracts varies systematically based on the level of lender distraction. Prior literature demonstrates that renegotiation is an important mechanism for a lender to participate in the firm's governance, and that renegotiation is positively associated with a lender's monitoring intensity (Roberts, 2015; Nikolaev, 2018). Thus, this test provides an appropriate setting to (i) test the

construct validity of our measure, *Distraction*, as a proxy for lenders' monitoring intensity and (ii) improve our understanding of the economic forces affecting the likelihood of amending existing debt contracts.

We obtain data on private debt contract renegotiation for a small sub-sample of borrowers available in the dataset provided by Roberts (2015).[6] Roberts (2015) collects a random sample of Dealscan debt contracts and tracks subsequent renegotiation over the life of the contract through maturity. A sample of 3,625 borrower-quarters in our overall sample have data available in this renegotiation dataset. Using this data, we estimate the following model:

$$Renegotiate_{it+3} = \alpha_0 + \boldsymbol{\beta_1 Distraction_{iq}} + \Phi X_{iq} + \varepsilon_{it+3} \quad (1)$$

The dependent variable (*Renegotiate*) is an indicator variable equal to one if the debt contract is amended over the subsequent three-year period, and zero otherwise. The primary variable of interest is our measure of lender distraction, *Distraction*. If significant economic events for other borrowers in unrelated industries (i.e. greater *Distraction*) leads to lower monitoring intensity from lenders, we expect a negative coefficient $\beta_1$.

$X_i$ represents a vector of control variables, including the size of the borrower's total assets (*Size*), profitability (*ROA*), growth opportunities and realized growth (*MTB* and *Sales Growth*), analyst following (*Follow*) and institutional ownership (*Inst Own*). We also control for the length (in months) from the start of the debt contract on Dealscan through the current quarter (*Contract Outstanding*).[7] In additional model specifications, we follow Roberts and Sufi (2009) and include control variables for the change in the borrower's financial health (Δ*Size,* Δ*Debt to EBITDA,*

[6] We thank Michael Roberts for providing this renegotiation data on his website. Refer to Roberts (2015) for additional details.

[7] For firms with multiple Dealscan contracts outstanding, we calculate the value-weighted average based on the face value of each debt contract.

$\Delta MTB$, $\Delta ROA$), equity returns during the quarter (*Equity Return*), the volatility of earnings (*Std(Income)*), and macroeconomic performance (*GDP Growth*). Furthermore, we control for the face value (*Log(Debt Size*)), maturity (*Log(Maturity)*), and cost of debt (*Log(Spread)*) in the Dealscan debt contract. Last, in separate models we include Fama French 12 industry and borrower fixed effects to control unobservable industry and/or firm characteristics.

We present the results examining the association between lender distraction and the likelihood of subsequent renegotiation in Table 2. Consistent with expectations, we find a significantly negative relation between *Distraction* and future renegotiation across all model specifications in columns 1 through 4. These findings provide preliminary evidence which validates our measure of distraction, and suggests that distracted lenders exhibit lower monitoring intensity of their borrowers.

### *3.2. Lender Distraction and Borrower Riskiness*

This section presents our first set of primary tests, examining the effect of lender distraction on the borrower's risk-taking. We estimate the following model:

$$DEP\ VAR_{iq} = \alpha_i + \alpha_t + \boldsymbol{\beta_1}\ \boldsymbol{Distraction_{iq}} + \beta_2\, Size_{iq} + \beta_3\, ROA_{iq} + \beta_4\, MTB_{iq} + \beta_5\, Sales\ Growth_{iq} + \beta_6\, Follow_{iq} + \beta_7\, Inst\ Own_{iq} + \varepsilon_{iq} \quad (2)$$

The dependent variable takes one of three values: (i) economic volatility as measured by the standard deviation of CRSP daily stock returns during the quarter (*Std(Returns)*), (ii) the level of cash holdings (*Cash*), or (iii) total leverage (*Leverage*). The primary variable of interest, *Distraction*, is the proxy for the level of distraction among the borrower's lenders. If reduced lender monitoring as a result of lender distraction provides the borrower an opportunity to take actions that increase risk, we expect a positive (negative) relation between *Distraction* and economic volatility and leverage (cash holdings).

The model includes control variables for the borrower's total assets (*Size*), profitability (*ROA*), growth (*MTB* and *Sales Growth*), analyst following (*Follow*) and institutional ownership (*Inst Own*). Importantly, we include industry x year-quarter fixed effects ($\alpha_t$) to control for unobservable time-varying macroeconomic or industry factors that may affect our inferences. Therefore, our results are not affected by any variables that do not vary across firms within a given industry and quarter, such as investment opportunities or any possible spillover from the economic shock in different industries. Additionally, we include borrower fixed effects ($\alpha_i$) to control for any unobservable time-invariant firm characteristics such as borrower "type" and the match between the borrower and its lenders.

Our first set of results, examining the relation between lender distraction and borrower riskiness, are presented in Table 3. We find a positive (negative) and statistically significant relation between *Distraction* and *Std(Returns)* and *Leverage* (*Cash*). Furthermore, these results suggest reasonable economic significance. A one standard deviation increase in *Distraction* is associated with an increase in economic volatility (*Std(Returns)*) of approximately 1.09% relative to the sample median, and an increase of total debt (*Leverage*) of 1.45% relative to the sample median. Furthermore, a one standard deviation increase in *Distraction* is associated with a decrease in the borrower's cash holdings (*Cash*) of 3.79% relative to the sample median. Overall, the evidence in Table 3 suggests that borrowers increase riskiness during periods of lender distraction.

### *3.3. Lender Distraction and Borrower Investment*

One of lenders' primary concerns is that borrowers will shift into riskier investments to benefit shareholders at the expense of lenders (Jensen and Meckling, 1976). Therefore, we examine whether borrowers increase the level of risky investment when the lender's monitoring intensity is lower during periods of lender distraction. We estimate a regression model similar to model (2)

where the dependent variable is one of two proxies for quarterly investment: (i) total capital expenditures (*Capex*), or (ii) acquisition of intangible assets (*Intangibles*). Results are presented in Table 3. We find a positive but statistically insignificant relation between *Distraction* and *Capex*, providing little support for the view that borrowers increase risky investment during periods of lender distraction. However, in column 2 of Table 4, we find a significantly positive association between lender distraction and total intangible assets, suggesting that borrowers are more likely to acquire risky intangible assets during periods of lender distraction. The results in column 2 suggest that a one standard deviation increase in lender distraction is associated with an increase in intangible assets of approximately 113.6% relative to the sample median.

One additional way borrowers can increase investment is to expand existing operations by increasing the level of total employment. We obtain the total number of workers employed by the borrower (*Employees*) using Compustat annual data. Because total employment is only available on an annual basis, we measure annual lender distraction (*Distraction_Ann*) by aggregating quarterly lender distraction during the year. We estimate a regression model similar to model (2) on an annual basis with the total number of employees as the dependent variable, and present the results in column 3 of Table 4.[8] Consistent with borrowers increasing investment during periods of lender distraction, we find a positive and statistically significant (10% level) relation between lender distraction and total employment. The results suggest that a one standard deviation increase in *Distraction_Ann* is associated with an increase in total employment of approximately 17.4% relative to the sample median.

### *3.4. Lender Distraction and Borrower Payouts to Stakeholders*

[8] This model includes firm fixed effects and industry x year fixed effects because the tests use annual data.

An additional concern of lenders is that borrowers will directly transfer wealth from lenders to other stakeholders through greater payouts. Therefore, in Table 5 we examine whether borrowers increase payouts to shareholders through dividends (*Dividends*) and increase compensation payouts to managers (*Salary*, *Firm-Related Wealth*, and *Bonus*) when lender monitoring intensity is lower during periods of lender distraction.[9] In column 1 of Table 5, we find a positive and statistically significant relation between *Distraction* and *Dividends*, suggesting that borrowers increase payouts to shareholders during periods of lender distraction. The results in column 1 suggest that a one standard deviation increase in *Distraction* is associated with an increase in total dividend payments of approximately 3.6% relative to the sample mean. In columns 2 through 4 we examine whether borrowers increase managerial payoffs through greater compensation. In column 2, we find no evidence that borrowers increase CEO salary when lenders reduce monitoring intensity. However, in columns 3 and 4, we find evidence that borrowers are more likely to increase one-time payouts to managers through higher cash bonuses (*Bonus*) and greater stock and option portfolio grants (*Firm-Related Wealth*). Furthermore, these managerial payouts appear substantial; a one-standard deviation increase in *Distraction_Ann* is associated with a 49.4% (81.4%) increase in *Firm-Related Wealth* (*Bonus*). Thus, the evidence presented in Table 5 is consistent with the argument borrowers increase payouts to other stakeholders during periods of lender distraction through greater dividends and higher managerial compensation.

### *3.5. Time Trends*

In this section, we examine the effect of lender distraction on the borrower's actions over time by exploiting time variation in our measure of lender distraction. Figure 2 examines the relation between *Distraction* and *Std(Returns)*, *Cash*, *Leverage*, *Intangibles*, and *Dividends* over

[9] We note that managerial compensation data is only available on Execucomp for annual periods. Therefore, similar to the analysis of total employment in Table 4, we measure distraction on an annual basis (*Distraction_Ann*).

the subsequent four quarters. Following Kempf et al. (2016), for each dependent variable, we estimate a regression using four lags of lender distraction ($Distraction_{iq-1}$, $Distraction_{iq-2}$, $Distraction_{iq-3}$, $Distraction_{iq-4}$) as additional independent variables and plot the coefficient estimates.[10] We find a consistent pattern across all dependent variables as demonstrated by panels A through E in Figure 2. For example, in Panel A of Figure 2, we find that during periods of lender distraction, borrower riskiness as measured by economic volatility (*Std(Returns)*) increases significantly and then subsequently declines over the next four quarters. These time trends provide further evidence consistent with our hypothesis that borrowers take actions such as increasing riskiness, investment, and payouts to shareholders when lender's monitoring intensity is lower. Additionally, these results further reduce the possibility that a correlated omitted variable or selection issue affects our results.

### *3.6. Cross-Sectional Tests*

The preceding sections provide evidence suggesting that, during periods of lender distraction, borrowers take actions that are potentially detrimental to lenders. Building on this evidence, we estimate three cross-sectional tests examining conditions that can mitigate these negative consequences. First, we examine whether lenders with greater *opportunity* to monitor borrowers are less likely to experience the negative consequences of lender distraction documented above. We predict that borrowers with greater opportunity to monitor the borrower are more likely to maintain their monitoring efforts, even during periods of potential distraction.

We select the physical proximity between the lender and the borrower as a proxy for greater opportunity for the lender to monitor. Prior literature demonstrates that lenders in closer proximity to their borrowers are better able to collect and process information about the borrower's

[10] We continue to include control variables, firm fixed effects, and industry x year-quarter fixed effects in these models.

performance (e.g., Petersen and Rajan, 1994). We measure the percentage of the borrower's total debt that is held by lenders operating in the same U.S. state as the borrower (*Same State*).[11] We re-estimate model (2), and interact *Same State* and *Distraction* to examine whether the results documented above vary cross-sectionally based on whether the borrower operates in the same state as the lender. The results are presented in Table 6. We find evidence consistent with the idea that borrowers are less likely to take some actions that are potentially harmful to lenders during periods of lender distraction when lenders have greater opportunity to maintain their monitoring efforts. Specifically, we find that the significantly positive relation between *Distraction* and *Std(Returns)*, *Leverage*, and *Intangibles*, is attenuated when the lender has greater opportunity to monitor based on geographic proximity.

Second, we examine whether lenders with greater *incentives* to maintain their monitoring efforts during periods of lender distraction mitigate the negative consequences documented above. We expect that lenders have greater incentive to monitor borrowers when they retain a greater financial stake in the loan. We test this prediction by measuring the weighted average of the proportion of the syndicate loan retained by the lead arranger across all of the borrower's loans.[12] We create an indicator variable, *High Share*, equal to one for observations with lead arranger retained share greater than the sample median, and zero otherwise.[13] In Table 7, we re-estimate model (2) and interact *Distraction* with *High Share* to examine whether the relation between lender distraction and the borrower's actions vary cross-sectionally based on the lender's incentive to maintain their monitoring efforts.

[11] The sample for this test is restricted to a sample of 125,362 borrower-quarters with location data available on Dealscan.
[12] This test is restricted to observations with sufficient data on Dealscan to calculate the proportion of the loan retained by the lender.
[13] We find qualitatively similar results if we use the continuous measure of lead arranger retained share, rather than the indicator variable.

The results in Table 7 demonstrate a negative and statistically significant coefficient on the interaction of *Distraction* and *High Share* when *Capex* (column 4) or *Intangibles* (column 5) is the dependent variable. Thus, these results suggest that greater monitoring incentives (i.e. higher retained share of the loan) can mitigate the negative consequences of lender distraction by reducing the borrower's ability to increase risky investment.

Finally, we examine whether covenants included in the debt contract can facilitate the lender's monitoring activities. Prior literature suggests that covenants can mitigate debtholder-shareholder conflicts of interest (e.g., Bagnoli, Liu, and Watts, 2011). Thus, covenants can potentially mitigate the negative consequences of lender distraction for debtholders. We first consider non-financial covenants which are used to restrict particular borrower actions. Specifically, dividend restrictions and capital expenditure restrictions are covenants written explicitly to limit the borrower's dividend payments and total capital expenditures to mitigate potential wealth transfers and overinvestment. Additionally, sweep covenants require the borrower to pay down outstanding debt with excess free cash flows, which also limits the borrower's ability to pay excessive dividends or increase investment. Therefore, we predict that borrowers with dividend restrictions (capital expenditure restrictions) will be less likely to increase dividends (capital expenditures) during periods of lender distraction, and we expect sweep covenants will restrict the borrower's ability to increase either dividends or capital expenditures during periods of lender distraction.

We test this prediction by measuring the value-weighted percentage of the borrower's debt contracts that include dividend restrictions, capital expenditure restrictions and sweep covenants. In panel A of Table 8 we report results consistent with these predictions, demonstrating that non-financial covenants, which restrict certain borrower actions, are useful to mitigate excessive dividend payments or investment during periods of lower monitoring intensity. Specifically, in

columns 1 through 4, we find a negative and statistically significant coefficient on the interaction of *Distraction* with *Capex Restriction*, *Dividend Restriction*, and *Sweep Covenant* respectively.

In Panel B of Table 8, we examine whether financial covenants based on the borrower's reported accounting numbers facilitate lenders' monitoring activities. Prior literature demonstrates that financial covenants provide effective trip wires to allocate contingent control rights between the borrower and the lender (Christensen and Nikolaev, 2012). Additionally, research demonstrates that covenant violation has negative consequences for borrowers after lenders obtain control rights (e.g., Chava and Roberts, 2008; Nini, Smith, and Sufi, 2012). Therefore, strict financial covenants may limit borrower's incentives to increase riskiness that could increase the likelihood of financial covenant violation. We measure the value-weighted average of the borrower's financial covenant strictness using the *PVIOL* data provided by Demerjian and Owens (2016); we create an indicator variable (*Strict Covenants*) equal to one for observations above the sample median, and zero otherwise.[14] We re-examine the relation between economic volatility (*Std(Returns)*) and *Distraction* and interact *Distraction* and *Strict Covenants* to test this prediction. In column 1 of Panel B of Table 8, we find continue to find a positive and significant coefficient on *Distraction*; however, we find a significantly negative coefficient on the interaction of *Distraction* and *Strict Covenants*, suggesting that borrowers with strict financial covenants are less likely to increase risk-taking during periods of lender distraction.

In column 2 of Panel B of Table 8, we estimate a similar test examining whether strict leverage covenants mitigate the borrower's ability to increase total indebtedness during periods of lender distraction. We measure the strictness of the borrower's total indebtedness covenants by comparing the debt requirement in the borrower's Dealscan debt contracts to the level of total

[14] This sample is restricted to observations with available *PVIOL* data from Demerjian and Owens (2016).

indebtedness reported on the borrower's balance sheet.[15] We create an indicator variable, *Strict Leverage Covenant*, equal to one if the difference between the borrower's total debt at quarter q and the maximum debt allowable under the borrower's covenant (scaled by total assets) is greater than sample median, and zero otherwise. Cross-sectional analysis in column 2 suggests that, consistent with expectations, borrowers with strict leverage covenants are less likely to increase total debt (*Leverage*) during periods of relatively low lender monitoring.

## 4. Additional Analyses

### *4.1. Alternative Distraction Measured based only on Negative Shocks to Unrelated Industries*

Our primary measure of *Distraction* is based on economic shocks to the lender's loan portfolio in unrelated industries. Following Kempf et al. (2016) we measure economic shocks based on whether a particular industry has the highest or lowest stock returns among all industries during the quarter. Including the highest industry returns during the quarter accounts for the possibility that lenders could be distracted by events such as a borrower's high growth prospects or aggressive investment opportunities. However, due to lenders' asymmetric payoffs, they may be particularly focused on circumstances when firms in their loan portfolio are affected by extreme negative events.

As an additional robustness test, we re-measure lender distraction based only on negative events to unrelated industries (*Negative Distraction*). In Table 9, we re-estimate all our primary tests presented in Tables 3 through 5 using *Negative Distraction* as our primary variable of interest. Panel A (B) presents the results for borrower riskiness and investment (payouts). The evidence is

[15] We isolate the total debt component of the borrower's indebtedness covenants on Dealscan (Leverage Ratio, Debt-to-Earnings Ratio, Debt-to-Equity Ratio, Debt-to-Net Worth Ratio) using the Compustat standard covenant definitions provided by Demerjian and Owens (2016) and following the method proposed by Call, Donovan, and Jennings (2018) to calculate the implied debt requirement based on the borrower's financial accounting numbers in the period ending immediately prior to debt contract inception.

consistent with the results discussed in greater detail above. Specifically, we continue to find a significantly positive relation between *Negative Distraction* and *Std(Returns)*, *Leverage*, *Intangibles*, *Employees*, *Dividends*, *Firm-Related Wealth*, and *Bonus*, and we find a significantly negative relation between *Negative Distraction* and *Cash*.

*4.2. Alternative Proxies for Industry Shocks*

As previously discussed in greater detail, we select industry-level stock returns as proxy for economic shocks following Kempf et al. (2016). An advantage of using stock returns is that they are widely available for a large subset of firms, and also that they reflect changes in a firm's expected future cash flows. A potential drawback of using stock returns is that they may not perfectly measure the economic shocks that require additional lender monitoring.

To mitigate this concern, we perform three additional robustness tests re-measuring the industry shock term ($IS_q^{IND}$) when constructing *Distraction.* We select three different proxies for economic shocks in unrelated industries.[16] First, we measure average industry-level changes in expected default frequency (EDF), derived from Merton (1974). We calculate a firm's EDF derived from the Merton (1974) model following Hillegeist et al. (2004). EDF provides an estimate of the likelihood of default; therefore, firms with the greatest changes in EDF during the quarter likely experience a material increase credit risk, which requires additional lender monitoring. Second, we measure average industry-level changes in S&P credit ratings during the quarter. Lenders likely shift monitoring efforts to borrowers operating in industries where a significant number of credit rating downgrades occur during the quarter. Third, we measure credit risk using TCR Score following Donovan et al. (2018). TCR Score uses supervised machine-learning

[16] Our primary industry shock term $IS_q^{IND}$ is equal to one if an industry has the highest or lowest industry stock returns during a given quarter. For the robustness test using EDF (credit rating changes) [TCR Score] we set $IS_q^{IND}$ equal to one if an industry has the highest (lowest) [highest] average industry-level changes in EDF (S&P credit ratings) [TCR Score] during the quarter.

methods to estimate a firm's credit risk based on qualitative disclosures in a firm's conference calls.[17] Donovan et al. (2018) provide empirical evidence that TCR Score provides a high-level of explanatory power and incremental explanatory power in explaining future credit events (e.g. interest spreads, bankruptcy, etc.) relative to other credit risk proxies in the literature. Therefore, lenders likely shift monitoring efforts toward borrowers with significant increases in credit risk during the quarter, as measured by average industry-level changes in TCR Score.

Using these three approaches in separate analyses, we re-measure *Distraction* and re-estimate our primary tests. In untabulated analyses, we find qualitatively results to those presented in Tables 3-5.

### *4.3. Falsification Test: Lender Distraction based on Syndicate Participant Lenders*

Our identification assumption includes a plausibly exogenous shock to lender distraction, a set of control variables, borrower fixed effects, and industry x time fixed effects to mitigate the possibility that our results are affected by correlated omitted variables. Additionally, the time trends we examine in Figure 2 further reduce the possibility of correlated omitted variables or selection issues.

However, as an additional robustness test to further mitigate any concerns, in this section we estimate a falsification test where we do *not* expect to find a relation between a proxy for lender distraction and borrower actions. Specifically, we measure *Placebo Distraction* based on the level of distraction associated with the borrower's participant lenders. In syndicate loans, the lead arranger accesses private information from the borrower, negotiates initial contract terms, and monitors the borrower following debt contract inception to ensure repayment. However, syndicate participants only provide capital to the borrower, have no access to the borrower's private

[17] TCR Score data is available on a quarterly basis for firms with conference calls over the period from 2003-2015.

information, and do not monitor the borrower following debt contract inception. Therefore, the borrower's actions should not change during periods of distraction among participant lenders.

We identify participant lenders in the syndicate and measure the participant lender's distraction based on economic shocks to other firms in unrelated industries for which the participant lender is the lead arranger (*Placebo Distraction*). We re-estimate our primary results in Tables 3 through 5 using *Placebo Distraction* as the primary variable of interest and present the results in Table 10. Consistent with our expectations, we find no evidence of a significantly positive relation between *Placebo Distraction* and *Std(Returns)*, *Leverage*, *Capex*, *Intangibles* and *Dividends*, and we find no evidence of a significantly negative relation between *Placebo Distraction* and *Cash*.[18] These results mitigate the possibility that the results presented in the preceding sections are affected by unobservable variables.

*4.4. Lender Distraction Long-Term Borrower Creditworthiness*

Our final set of tests examine the consequences of the actions taken by borrowers during periods of lender distraction. Specifically, we examine whether the borrower's creditworthiness declines in subsequent periods. First, in column 1 of Table 11, the dependent variable is the borrower's S&P credit rating in quarter q+1 (*Rating q+1*). We find a significantly negative relation between *Distraction* and *Rating q+1*, suggesting that S&P assigns a lower credit rating to borrowers as a result of the actions taken during periods of lender distraction. In column 2, the dependent variable is an indicator variable equal to one if the borrower reports a covenant violation over the subsequent three-year period (*Violate_3yr*), based on data available from Nini et al. (2012). The results suggest that increasing borrower riskiness during periods of lender distraction

[18] We do find a significantly negative relation between *Placebo Distraction* and *Leverage*, inconsistent with our previous results and the idea that the borrower takes actions that increase riskiness at the expense of the lender during periods of distraction.

is associated with a higher probability of covenant violation in future periods. Last, in column 3 the dependent variable is the natural log of the cost of debt in the borrower's future debt contract on Dealscan (*Log(Fut Spread)*). We find a positive association between *Distraction* and *Log(Fut Spread)*, suggesting that the borrower's cost of debt is higher in periods following lender distraction. Overall, the results in Table 11 suggest that the actions taken during periods of lender distraction increase the borrower's credit risk and have long-term negative consequences for the borrower.

## 5. Conclusion

This study investigates the consequences of lender distraction for monitoring a borrower. Using a novel measure of lender distraction based on economic shocks to the lender's loan portfolio in unrelated industries (i.e. industries other than the borrower's industry), we show a significant decline in loan renegotiation frequency and borrower financial performance, and a significant increase of borrower risky investment. Additionally, borrowers are more likely to increase dividends to shareholders and compensation to executives during periods of lender distraction. Collectively, these results suggest that lenders play an important role in monitoring borrowers and that borrower actions during periods of lender distraction increase credit risk.

This study makes two primary contributions to the literature. First, our study demonstrates the importance of lender monitoring. Prior literature examines the active role taken by lenders following a reported covenant violation (Chava and Roberts, 2008; Roberts and Sufi, 2009; Nini, Smith, and Sufi, 2012). We show when lenders are distracted from monitoring borrowers, borrower financial performance deteriorates credit risk increases. Therefore, our study provides evidence that, even in the absence of covenant violation, lenders monitor borrowers to constrain opportunistic behavior potentially detrimental to creditors. Second, we contribute to a growing

body of literature examining the consequences of inattention and limited resource allocation in corporate decision making (Kempf et al., 2016; Abramova, Core, and Sutherland, 2018; Campbell et al., 2018 Gao et al., 2018). Our study not only points to the importance of lender monitoring from the lender's perspective, but also sheds light on the combined efficiency of such activities to the contractual parties.

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# Appendix

Variable Definitions

| Variable | Definition |
|---|---|
| *Bonus* | Execucomp total CEO bonus divided by Compustat total assets. |
| *Capex* | Compustat capital expenditures divided by total assets at quarter q. |
| *Capex Restriction* | Indicator variable equal to one if the Dealscan debt contract outstanding at quarter q contains a capital expenditure restriction, and zero otherwise. For firms with multiple contracts outstanding during the current quarter, we measure the value-weighted percentage of contracts with a capital expenditure restriction. |
| *Cash* | Compustat total cash and cash equivalents divided by total assets at quarter q. |
| *Contract Outstanding* | Length (in months) from the start of the debt contract on Dealscan through the current quarter. For firms with multiple Dealscan contracts outstanding, we calculate the value-weighted average based on the face value of each debt contract. |
| *Debt Size* | Face value (in months) of the Dealscan debt contract. For firms with multiple Dealscan contracts outstanding, we calculate the value-weighted average based on the face value of each debt contract. |
| *Debt to EBITDA* | Compustat total debt divided by EBITDA at quarter q. |
| *Distraction* | Proxy for the level of distraction among the borrower's lenders during quarter q following Kempf et al. (2016). |
| *Distraction_Ann* | Proxy for the level of distraction among the borrower's lenders during year t, calculated by aggregating quarterly distraction during year t measured following Kempf et al. (2016). |
| *Dividend Restriction* | Indicator variable equal to one if the Dealscan debt contract outstanding at quarter q contains a dividend restriction, and zero otherwise. For firms with multiple contracts outstanding during the current quarter, we measure the value-weighted percentage of contracts with a dividend restriction. |
| *Dividends* | Compustat total dividends divided by total assets at quarter q. |
| *Employees* | Total number of employees at year t on Compustat. |
| *Equity Return* | Change in the market value of equity on Compustat from the prior quarter. |
| *Firm-Related Wealth* | Value of the CEO's stock and option portfolio on Execucomp following Daniel, Li, and Naveen (2013), scaled by Compustat total assets. |
| *Follow* | Analyst following on I/B/E/S at quarter q. |
| *Fut Spread* | The interest spread on Dealscan, initiated after the current quarter. For each facility, we select the most recent quarter prior to contract inception. |
| *GDP Growth* | Percentage change in GDP from the preceding period based on data from the St. Louis Federal Reserve Economic Data (FRED). |
| *High Share* | Indicator variable equal to one for observations where the weighted average of the proportion of the syndicate loan retained by the lead arranger across all of the borrower's loans is greater than the sample median, and zero otherwise. |
| *Inst Ownership* | Percentage of shares held by institutional shareholders on Thomson Reuters at quarter q. |
| *Intangibles* | Compustat total intangible assets divided by total assets at quarter q. |

| | |
|---|---|
| *Leverage* | Compustat total debt divided by total assets at quarter q. |
| *Maturity* | Maturity (in months) of the debt contract on Dealscan. |
| *MTB* | Ratio of the market value of equity scaled by the book value of equity on Compustat at quarter q. |
| *Negative Distraction* | Proxy for the level of distraction among the borrower's lenders based on negative economic shocks to unrelated industries during quarter q following Kempf et al. (2016). |
| *Negative Distraction_Ann* | Proxy for the level of negative distraction among the borrower's lenders during year t, calculated by aggregating quarterly negative distraction during year t measured following Kempf et al. (2016). |
| *Placebo Distraction* | Proxy for the level of distraction among the borrower's participant lenders during quarter q following Kempf et al. (2016). For each contract, we select participant lenders in the syndicate and measure participant lender's distraction based on economic shocks to other firms to unrelated industries for which the participant is the lead arranger. |
| *Rating q+1* | Compustat S&P credit rating measured as of quarter q+1. We convert credit ratings to numeric values, where higher values indicate higher creditworthiness (i.e. AAA = 23; SD = 1). |
| *Renegotiate* | Indicator variable equal to one if a borrower's debt contract is renegotiated over the subsequent three-year period, and zero otherwise. |
| *ROA* | Income before extraordinary items scaled by total assets on Compustat at quarter q. |
| *Salary* | Execucomp total CEO salary divided by Compustat total assets. |
| *Sales Growth* | Growth in Compustat total revenues from the same quarter prior year. |
| *Same State* | The percentage of the borrower's total debt on Dealscan with lenders located in the same U.S. state. |
| *Size* | Natural log of Compustat total assets at quarter q. |
| *Spread* | Interest spread available on Dealscan (*AllInDrawn*). |
| *Std(Income)* | Standard deviation of Compustat quarterly income (*ibq*) scaled by total assets (*atq*), measured over the preceding eight quarters. |
| *Std(Returns)* | Standard deviation of CRSP daily stock returns during quarter q. |
| *Strict Covenants* | Indicator variable equal to one if the borrower's covenant strictness is greater than sample median, and zero otherwise. We measure covenant strictness using the *PVIOL* measure provided by Demerjian and Owens (2016). For firms with multiple contracts outstanding during the current quarter, we measure value-weighted *PVIOL* based on the face value of each debt contract. |
| *Strict Leverage Covenant* | Indicator variable equal to one if the difference between the borrower's total debt at quarter q and the maximum debt allowable under the borrower's Dealscan debt contract, scaled by total assets is greater than sample median, and zero otherwise. We follow the method proposed by Call et al. (2018) to isolate Dealscan total debt allowable using the standard Compustat financial ratio definitions provided by Demerjian and Owens (2016). |
| *Sweep Covenant* | Indicator variable equal to one if the Dealscan debt contract outstanding at quarter q contains a sweep covenant, and zero otherwise. For firms with multiple contracts outstanding during the current quarter, we measure the value-weighted percentage of contracts with a sweep covenant. |
| *Total Assets* | Total assets on Compustat. |

| | |
|---|---|
| *Violate_3yr* | Indicator variable equal to one if the firm reports a new covenant violation over the subsequent three-year period, based on the data provided by Nini, Smith, and Sufi (2012). |

**Figure 1: Empirical Approach**

This figure outlines our empirical strategy to examine the effect of lender distraction on the borrower's corporate decisions. *Borrower 1* and *Borrower 2* operate in the same industry and obtain identical bank loans from two different banks (*Lender A* and *Lender B*). *Lender A* also provides an identical loan to *Firm X*, who operates in an industry completely unrelated to *Borrower 1* and *Borrower 2*. *Firm X*'s industry experiences a shock that affects all firms in the industry which causes *Lender A* to rationally shift monitoring effort toward *Firm X*. Therefore, our empirical strategy analyzes the actions of *Borrower 1* versus *Borrower 2*.

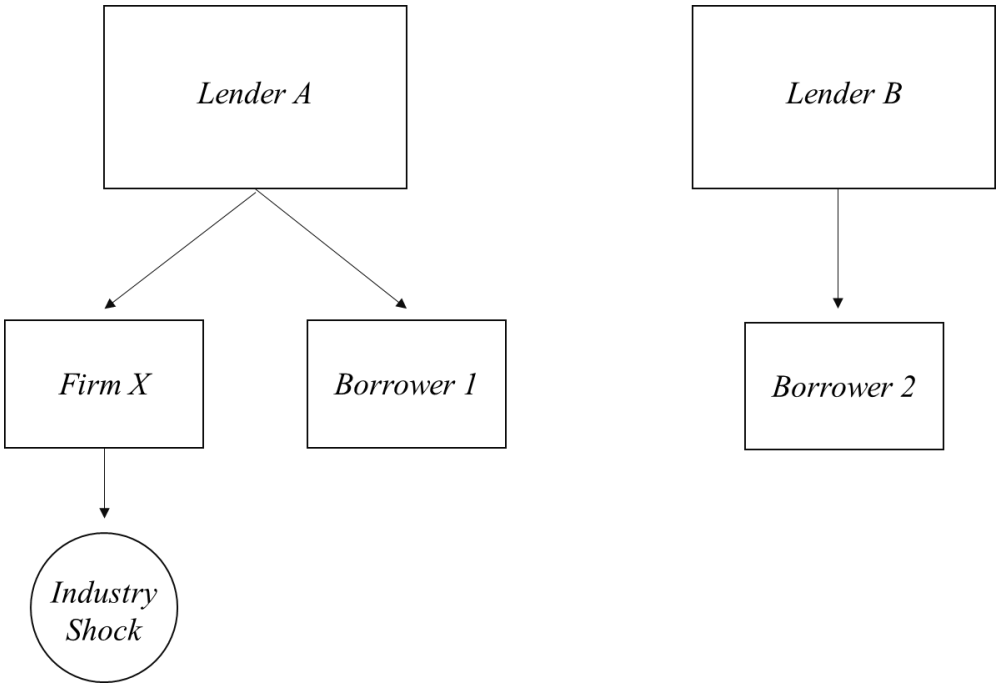
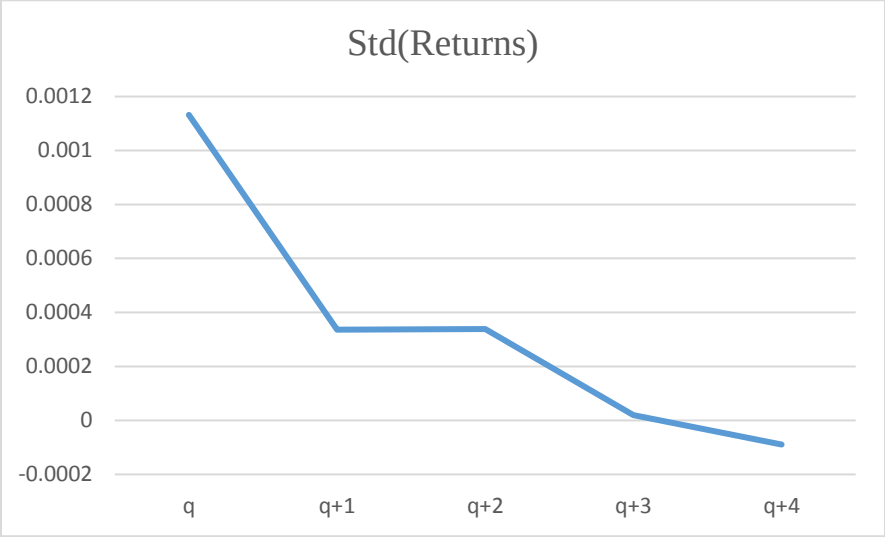


**Figure 2: Time Trends: Lender distraction and borrower actions over time**

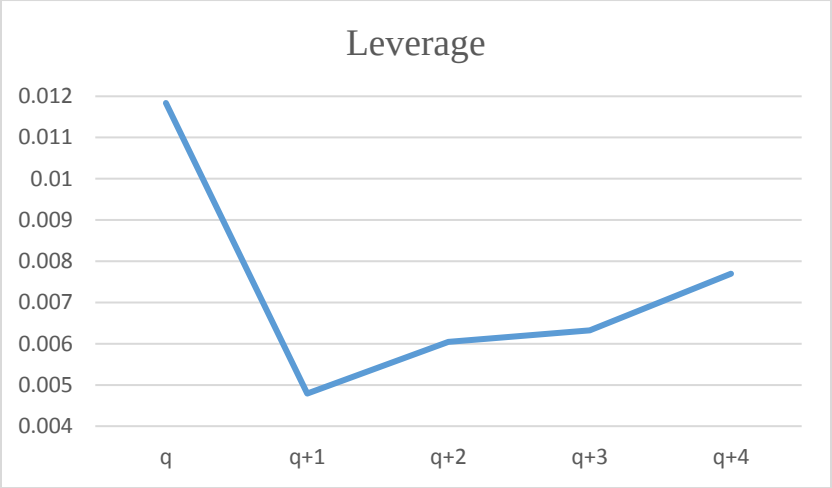
These figures examine the effect of lender distraction over time by plotting the coefficient estimates from regression model (1) using four lags of lender distraction as independent variables following Kempf et al. (2016). The x-axis represents the quarter in which the dependent variable is measured relative to distraction in quarter q.

*Panel A: Economic Volatility*

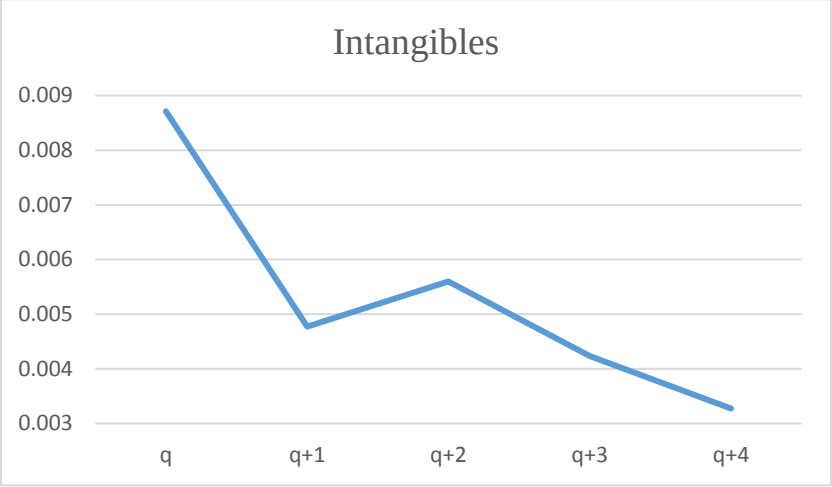



*Panel B: Cash Holdings*

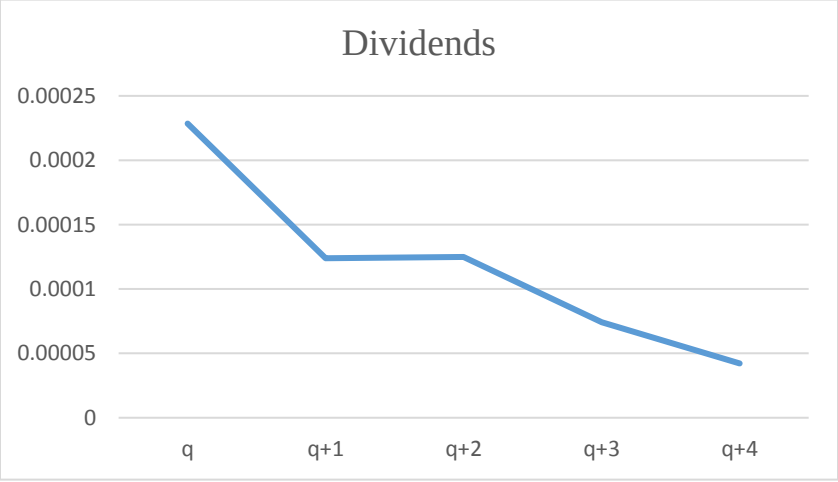
*Panel C: Leverage*




*Panel D: Investment in Intangible Assets*




*Panel E: Dividends*



## Table 1: Descriptive Statistics

This table reports descriptive statistics for all sample firms with available information in the intersection of the Dealscan and Compustat databases.

| Variable | N | Mean | 25th Pctl | Median | 75th Pctl | Std Dev |
|---|---|---|---|---|---|---|
| **Dependent Variables:** | | | | | | |
| Std(Returns) | 146,841 | 0.031 | 0.018 | 0.025 | 0.038 | 0.020 |
| Cash | 146,696 | 0.090 | 0.014 | 0.043 | 0.116 | 0.118 |
| Leverage | 146,841 | 0.307 | 0.157 | 0.287 | 0.421 | 0.213 |
| Capex | 146,841 | 0.016 | 0.004 | 0.010 | 0.020 | 0.020 |
| Intangibles | 146,841 | 0.122 | 0.000 | 0.004 | 0.193 | 0.187 |
| Dividends | 146,841 | 0.002 | 0.000 | 0.000 | 0.003 | 0.005 |
| Employees | 41,206 | 13.467 | 0.815 | 3.100 | 11.000 | 29.931 |
| Firm-Related Wealth | 15,390 | 0.030 | 0.002 | 0.007 | 0.023 | 0.069 |
| Salary | 15,815 | 0.001 | 0.000 | 0.000 | 0.001 | 0.001 |
| Bonus | 15,815 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 |
| Rating q+1 | 69,115 | 13.461 | 11.000 | 14.000 | 16.000 | 3.379 |
| Violate_3yr | 75,580 | 0.210 | 0.000 | 0.000 | 0.000 | 0.407 |
| Fut Spread | 25,299 | 198.804 | 87.500 | 175.000 | 275.000 | 148.846 |
| | | | | | | |
| **Treatment Variables:** | | | | | | |
| Distraction | 146,841 | 0.187 | 0.054 | 0.127 | 0.243 | 0.212 |
| Distraction_Ann | 42,047 | 0.684 | 0.285 | 0.516 | 0.828 | 0.721 |
| Negative Distraction | 146,841 | 0.100 | 0.010 | 0.054 | 0.136 | 0.135 |
| Negative Distraction_Ann | 42,047 | 0.367 | 0.106 | 0.260 | 0.466 | 0.422 |
| | | | | | | |
| **Control Variables:** | | | | | | |
| Total Assets | 146,841 | 5,236.830 | 230.385 | 891.531 | 3,496.700 | 13,345.540 |
| ROA | 146,841 | 0.004 | 0.000 | 0.010 | 0.019 | 0.039 |
| MTB | 146,841 | 2.590 | 1.179 | 1.916 | 3.138 | 3.754 |
| Sales Growth | 146,841 | 0.153 | -0.031 | 0.076 | 0.223 | 0.426 |
| Follow | 146,841 | 6.847 | 2.000 | 5.000 | 10.000 | 6.702 |
| Inst Ownership | 146,841 | 0.426 | 0.000 | 0.438 | 0.752 | 0.352 |

## Table 2: Lender Distraction and Future Renegotiation

This table reports the results of a model testing the relation between lender distraction and future renegotiation. The dependent variable is an indicator variable equal to one if the contract is renegotiated over the subsequent three-year period, and zero otherwise. Columns 1 and 2 reports the results of a probit model. Column 3 (4) reports the results of a linear regression model with industry (borrower) fixed effects. Standard errors are clustered by borrower. All variables are defined in the appendix. ***, **, * Indicates statistical significance at the 1%, 5%, and 10% levels respectively.

| | [1] | | [2] | | [3] | | [4] | |
|---|---|---|---|---|---|---|---|---|
| | *Renegotiate* | | *Renegotiate* | | *Renegotiate* | | *Renegotiate* | |
| | **Coefficient** | | **Coefficient** | | **Coefficient** | | **Coefficient** | |
| | (t-stat) | | (t-stat) | | (t-stat) | | (t-stat) | |
| **Distraction** | **-0.790** | ** | **-0.840** | ** | **-0.270** | ** | **-0.160** | * |
| | **(-2.34)** | | **(-2.45)** | | **(-2.49)** | | **(-1.74)** | |
| Size | -0.060 | | -0.080 | | -0.010 | | -0.050 | |
| | (-0.87) | | (-0.69) | | (-0.45) | | (-0.73) | |
| ROA | -1.200 | | -0.900 | | -0.290 | | -1.030 | * |
| | (-0.85) | | (-0.51) | | (-0.47) | | (-1.67) | |
| MTB | -0.010 | | -0.010 | | 0.000 | | 0.000 | |
| | (-0.89) | | (-0.87) | | (-0.92) | | (-1.01) | |
| Sales Growth | 0.321 | *** | 0.185 | * | 0.044 | | -0.030 | |
| | (2.61) | | (1.65) | | (1.38) | | (-0.99) | |
| Follow | -0.030 | *** | -0.020 | * | -0.010 | * | -0.020 | *** |
| | (-2.68) | | (-1.88) | | (-1.94) | | (-4.18) | |
| Inst Own | 0.064 | | 0.092 | | 0.000 | | -0.010 | |
| | (0.43) | | (0.58) | | (-0.14) | | (-0.16) | |
| Contract Outstanding | -0.020 | *** | -0.020 | *** | 0.000 | *** | 0.000 | *** |
| | (-5.41) | | (-6.27) | | (-6.27) | | (-5.46) | |
| ΔSize | | | 0.252 | | 0.032 | | -0.070 | |
| | | | (1.06) | | (0.49) | | (-1.22) | |
| ΔDebt to EBITDA | | | 0.000 | ** | 0.000 | ** | 0.000 | ** |
| | | | (2.22) | | (2.20) | | (2.47) | |
| ΔMTB | | | -0.010 | | 0.000 | | 0.000 | |
| | | | (-0.43) | | (-0.35) | | (-0.70) | |
| ΔROA | | | -0.390 | | -0.150 | | 0.458 | |
| | | | (-0.30) | | (-0.34) | | (0.96) | |
| Equity Return | | | 0.000 | * | 0.000 | | 0.000 | |
| | | | (-1.65) | | (-1.45) | | (-0.95) | |
| Std(Income) | | | -3.040 | | -0.970 | | -1.570 | * |
| | | | (-1.11) | | (-1.10) | | (-1.77) | |
| GDP Growth | | | 0.056 | *** | 0.019 | *** | 0.008 | * |
| | | | (3.63) | | (3.78) | | (1.82) | |
| Log(Debt Size) | | | -0.020 | | 0.000 | | -0.160 | ** |
| | | | (-0.24) | | (-0.17) | | (-2.46) | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Log(Maturity) | | 0.190 | 0.079 | * | 0.165 | *** |
| | | (1.51) | (1.87) | | (2.81) | |
| Log(Spread) | | 0.088 | 0.017 | | 0.021 | |
| | | (1.09) | (0.65) | | (0.47) | |
| Num Obs | 3,560 | 3,504 | 3,504 | | 3,504 | |
| Pseudo / Adj. R-Square | 0.103 | 0.119 | 0.157 | | 0.335 | |

## Table 3: Distracted Lenders and Borrower Riskiness

This table reports the results of a regression model testing the relation between borrower riskiness and lender distraction based on economic shocks to unrelated industries in the lender's loan portfolio. The models include borrower and industry x year-quarter fixed effects, and standard errors are clustered by borrower. All variables are defined in the appendix. ***, **, * Indicates statistical significance at the 1%, 5%, and 10% levels respectively.

| | [1] *Std(Returns)* | | [2] *Cash* | | [3] *Leverage* | |
|---|---|---|---|---|---|---|
| | **Coefficient** (t-stat) | | **Coefficient** (t-stat) | | **Coefficient** (t-stat) | |
| **Distraction** | **0.0013** (3.83) | *** | **-0.0077** (-3.20) | *** | **0.0196** (3.43) | *** |
| Controls | Yes | | Yes | | Yes | |
| Firm Fixed Effects | Yes | | Yes | | Yes | |
| Industry x Quarter Fixed Effects | Yes | | Yes | | Yes | |
| Num Obs | 146,841 | | 146,696 | | 146,841 | |
| R-Square | 0.695 | | 0.732 | | 0.751 | |
| Adj R-Square | 0.680 | | 0.719 | | 0.740 | |

## Table 4: Distracted Lenders and Borrower Investment

This table reports the results of a regression model testing the relation between borrower investment and lender distraction based on economic shocks to unrelated industries in the lender's loan portfolio. In columns 1-2 (column), the models include borrower and industry x year-quarter (year) fixed effects, and standard errors are clustered by borrower. All variables are defined in the appendix. ***, **, * Indicates statistical significance at the 1%, 5%, and 10% levels respectively.

| | [1] *Capex* | [2] *Intangibles* | [3] *Employees* |
|---|---|---|---|
| | **Coefficient** (t-stat) | **Coefficient** (t-stat) | **Coefficient** (t-stat) |
| **Distraction** | **0.0005** | **0.0193** *** | |
| | (1.10) | (4.76) | |
| **Distraction_Ann** | | | **0.7466** * |
| | | | (1.82) |
| Controls | Yes | Yes | Yes |
| Firm Fixed Effects | Yes | Yes | Yes |
| Industry x Time Fixed Effects | Yes | Yes | Yes |
| Num Obs | 146,841 | 146,841 | 41,206 |
| R-Square | 0.592 | 0.831 | 0.938 |
| Adj R-Square | 0.572 | 0.823 | 0.927 |

## Table 5: Distracted Lenders and Borrower Payouts

This table reports the results of a regression model testing the relation between borrower payouts to stakeholders and lender distraction based on economic shocks to unrelated industries in the lender's loan portfolio. In column 1 (columns 2-4), the models include borrower and industry x year-quarter (year) fixed effects, and standard errors are clustered by borrower. All variables are defined in the appendix. ***, **, * Indicates statistical significance at the 1%, 5%, and 10% levels respectively.

| | [1] | [2] | [3] | [4] |
|---|---|---|---|---|
| | *Dividends* | *Salary* | *Firm-Related Wealth* | *Bonus* |
| | **Coefficient** (t-stat) | **Coefficient** (t-stat) | **Coefficient** (t-stat) | **Coefficient** (t-stat) |
| **Distraction** | **0.0004** *** (2.99) | | | |
| **Distraction_Ann** | | **0.0000** (1.23) | **0.0049** *** (3.43) | **0.0001** *** (4.95) |
| Controls | Yes | Yes | Yes | Yes |
| Firm Fixed Effects | Yes | Yes | Yes | Yes |
| Industry x Time Fixed Effects | Yes | Yes | Yes | Yes |
| Num Obs | 146,841 | 15,815 | 15,390 | 15,815 |
| R-Square | 0.674 | 0.904 | 0.726 | 0.565 |
| Adj R-Square | 0.658 | 0.889 | 0.683 | 0.498 |

## Table 6: Cross-Sectional Test based on the Borrower-Lender Proximity

This table reports the results of a regression model testing cross-sectional variation in the relation between borrower actions and lender distraction based on economic shocks to unrelated industries in the lender's portfolio based on the proximity of the borrower and the lender, measured based on whether both parties reside in the same state. The models include borrower and industry x year-quarter fixed effects, and standard errors are clustered by borrower. All variables are defined in the appendix. ***, **, * Indicates statistical significance at the 1%, 5%, and 10% levels respectively.

| | [1] | | [2] | | [3] | | [4] | | [5] | | [6] | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Std(Returns)* | | *Cash* | | *Leverage* | | *Capex* | | *Intangibles* | | *Dividends* | |
| | **Coefficient** | | **Coefficient** | | **Coefficient** | | **Coefficient** | | **Coefficient** | | **Coefficient** | |
| | (t-stat) | | (t-stat) | | (t-stat) | | (t-stat) | | (t-stat) | | (t-stat) | |
| Distraction | 0.0017 | *** | -0.0070 | ** | 0.0262 | *** | 0.0003 | | 0.0232 | *** | 0.0004 | ** |
| | (3.73) | | (-2.23) | | (3.50) | | (0.51) | | (4.08) | | (2.55) | |
| Same State | 0.0007 | | 0.0016 | | -0.0106 | | 0.0013 | *** | 0.0015 | | 0.0000 | |
| | (1.63) | | (0.48) | | (-1.62) | | (2.67) | | (0.25) | | (-0.29) | |
| **Distraction * Same State** | **-0.0016** | **** | **0.0062** | | **-0.0208** | * | **-0.0011** | | **-0.0162** | * | **-0.0002** | |
| | **(-1.99)** | | **(0.95)** | | **(-1.80)** | | **(-1.14)** | | **(-1.68)** | | **(-0.50)** | |
| Controls | Yes | | Yes | | Yes | | Yes | | Yes | | Yes | |
| Firm Fixed Effects | Yes | | Yes | | Yes | | Yes | | Yes | | Yes | |
| Industry x Qtr Fixed Effects | Yes | | Yes | | Yes | | Yes | | Yes | | Yes | |
| Num Obs | 125,362 | | 125,268 | | 125,362 | | 125,362 | | 125,362 | | 125,362 | |
| R-Square | 0.699 | | 0.731 | | 0.756 | | 0.605 | | 0.838 | | 0.721 | |
| Adj R-Square | 0.684 | | 0.718 | | 0.744 | | 0.586 | | 0.830 | | 0.707 | |

## Table 7: Cross-Sectional Test based on the Lender's Retained Share

This table reports the results of a regression model testing cross-sectional variation in the relation between borrower actions and lender distraction based on economic shocks to unrelated industries in the lender's portfolio based on the lender's retained share of the borrower's loan. The models include borrower and industry x year-quarter fixed effects, and standard errors are clustered by borrower. All variables are defined in the appendix. ***, **, * Indicates statistical significance at the 1%, 5%, and 10% levels respectively.

| | [1] | [2] | [3] | [4] | [5] | [6] |
|---|---|---|---|---|---|---|
| | *Std(Returns)* | *Cash* | *Leverage* | *Capex* | *Intangibles* | *Dividends* |
| | **Coefficient** | **Coefficient** | **Coefficient** | **Coefficient** | **Coefficient** | **Coefficient** |
| | (t-stat) | (t-stat) | (t-stat) | (t-stat) | (t-stat) | (t-stat) |
| Distraction | 0.0010 * | -0.0062 * | 0.0101 | 0.0015 ** | 0.0269 *** | 0.0003 |
| | (1.89) | (-1.71) | (1.20) | (1.99) | (3.83) | (1.48) |
| High Share | -0.0004 | 0.0092 *** | -0.0038 | 0.0001 | 0.0027 | -0.0002 |
| | (-1.05) | (3.40) | (-0.66) | (0.20) | (0.58) | (-1.45) |
| **Distraction * High Share** | **-0.0001** | **-0.0038** | **-0.0081** | **-0.0024 ** ** | **-0.0241 *** ** | **0.0000** |
| | **(-0.09)** | **(-0.80)** | **(-0.84)** | **(-2.46)** | **(-2.99)** | **(-0.04)** |
| Controls | Yes | Yes | Yes | Yes | Yes | Yes |
| Firm Fixed Effects | Yes | Yes | Yes | Yes | Yes | Yes |
| Industry x Qtr Fixed Effects | Yes | Yes | Yes | Yes | Yes | Yes |
| Num Obs | 82,246 | 82,183 | 82,246 | 82,246 | 82,246 | 82,246 |
| R-Square | 0.719 | 0.742 | 0.787 | 0.609 | 0.861 | 0.704 |
| Adj R-Square | 0.700 | 0.724 | 0.772 | 0.583 | 0.852 | 0.685 |

## Table 8: Cross-Sectional Test based on Debt Covenants

This table reports the results of a regression model testing cross-sectional variation in the relation between borrower actions and lender distraction based on economic shocks to unrelated industries in the lender's portfolio. Panel A estimates cross-sectional variation in borrower investment and dividend payments based on non-financial covenants with explicit restrictions on these borrower actions. Panel B examines cross-sectional variation in borrower riskiness based on financial covenant strictness. The models include borrower and industry x year-quarter fixed effects, and standard errors are clustered by borrower. All variables are defined in the appendix. ***, **, * Indicates statistical significance at the 1%, 5%, and 10% levels respectively.

*Panel A: Non-Financial Covenants*

| | [1] | | [2] | | [3] | | [4] | |
|---|---|---|---|---|---|---|---|---|
| | *Capex* | | *Dividends* | | *Capex* | | *Dividends* | |
| | **Coefficient** | | **Coefficient** | | **Coefficient** | | **Coefficient** | |
| | (t-stat) | | (t-stat) | | (t-stat) | | (t-stat) | |
| Distraction | 0.0006 | | 0.0005 | ******* | 0.0008 | * | 0.0005 | ******* |
| | (1.40) | | (3.30) | | (1.66) | | (3.40) | |
| Capex Restriction | -0.0010 | ** | | | | | | |
| | (-2.24) | | | | | | | |
| **Distraction * Capex Restriction** | **-0.0020** | ***** | | | | | | |
| | (-1.73) | | | | | | | |
| Dividend Restriction | | | -0.0002 | *** | | | | |
| | | | (-2.69) | | | | | |
| **Distraction * Dividend Restriction** | | | **-0.0005** | ****** | | | | |
| | | | (-2.12) | | | | | |
| Sweep Covenant | | | | | -0.0006 | * | -0.0005 | *** |
| | | | | | (-1.73) | | (-5.31) | |
| **Distraction * Sweep Covenant** | | | | | **-0.0017** | ** | **-0.0006** | ****** |
| | | | | | (-2.09) | | (-2.09) | |
| Controls | Yes | | Yes | | Yes | | Yes | |
| Firm Fixed Effects | Yes | | Yes | | Yes | | Yes | |
| Industry x Qtr Fixed Effects | Yes | | Yes | | Yes | | Yes | |
| Num Obs | 146,809 | | 146,809 | | 146,809 | | 146,809 | |
| R-Square | 0.592 | | 0.674 | | 0.592 | | 0.674 | |
| Adj R-Square | 0.572 | | 0.658 | | 0.572 | | 0.659 | |

## Table 8: Cross-Sectional Test based on Debt Covenants

*Panel B: Financial Covenants and Borrower Riskiness*

| | [1] *Std(Returns)* | | [2] *Leverage* | |
|---|---|---|---|---|
| | **Coefficient** (t-stat) | | **Coefficient** (t-stat) | |
| Distraction | 0.0018 | *** | 0.0323 | *** |
| | (3.39) | | (3.56) | |
| Strict Covenants | 0.0020 | *** | | |
| | (6.69) | | | |
| **Distraction * Strict Covenants** | **-0.0018** | **** | | |
| | **(-2.48)** | | | |
| Strict Leverage Covenant | | | 0.0748 | *** |
| | | | (24.59) | |
| **Distraction * Strict Leverage Covenant** | | | **-0.0272** | *** |
| | | | (-2.89) | |
| Controls | Yes | | Yes | |
| Firm Fixed Effects | Yes | | Yes | |
| Industry x Qtr Fixed Effects | Yes | | Yes | |
| Num Obs | 84,703 | | 78,244 | |
| R-Square | 0.699 | | 0.800 | |
| Adj R-Square | 0.682 | | 0.788 | |

## Table 9: Distraction based on Negative Shocks to Unrelated Industries

This table reports the results of a regression model testing the relation between borrower actions and lender distraction based on negative economic shocks to unrelated in the lender's portfolio. Panel A examines borrower riskiness and investment. Panel B examines borrower payouts to other stakeholders. The models include borrower and industry x time fixed effects, and standard errors are clustered by borrower. All variables are defined in the appendix. ***, **, * Indicates statistical significance at the 1%, 5%, and 10% levels respectively.

*Panel A: Borrower Riskiness and Investment*

| | [1] | | [2] | | [3] | | [4] | [5] | | [6] | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Std(Returns)* | | *Cash* | | *Leverage* | | *Capex* | *Intangibles* | | *Employees* | |
| | **Coefficient** | | **Coefficient** | | **Coefficient** | | **Coefficient** | **Coefficient** | | **Coefficient** | |
| | (t-stat) | | (t-stat) | | (t-stat) | | (t-stat) | (t-stat) | | (t-stat) | |
| **Negative Distraction** | **0.0015** | *** | **-0.0087** | *** | **0.0220** | *** | **0.0007** | **0.0194** | *** | | |
| | (3.30) | | (-2.82) | | (3.12) | | (1.29) | (3.86) | | | |
| **Negative Distraction_Ann** | | | | | | | | | | **1.0780** | * |
| | | | | | | | | | | (1.79) | |
| Controls | Yes | | Yes | | Yes | | Yes | Yes | | Yes | |
| Firm Fixed Effects | Yes | | Yes | | Yes | | Yes | Yes | | Yes | |
| Industry x Time Fixed Effects | Yes | | Yes | | Yes | | Yes | Yes | | Yes | |
| Num Obs | 146,841 | | 146,696 | | 146,841 | | 146,841 | 146,841 | | 41,206 | |
| R-Square | 0.695 | | 0.732 | | 0.751 | | 0.591 | 0.831 | | 0.938 | |
| Adj R-Square | 0.680 | | 0.719 | | 0.739 | | 0.572 | 0.823 | | 0.927 | |

## Table 9: Distraction based on Negative Shocks to Unrelated Industries

*Panel B: Borrower Payouts*

| | [1] | [2] | [3] | [4] |
|---|---|---|---|---|
| | *Dividends* | *Firm-Related Wealth* | *Salary* | *Bonus* |
| | **Coefficient** (t-stat) | **Coefficient** (t-stat) | **Coefficient** (t-stat) | **Coefficient** (t-stat) |
| **Negative Distraction** | **0.0004** *** (2.73) | | | |
| **Negative Distraction_Ann** | | **0.0077** *** (3.56) | **0.0000** (0.80) | **0.0001** *** (4.95) |
| Controls | Yes | Yes | Yes | Yes |
| Firm Fixed Effects | Yes | Yes | Yes | Yes |
| Industry x Time Fixed Effects | Yes | Yes | Yes | Yes |
| Num Obs | 146,841 | 15,390 | 15,815 | 15,815 |
| R-Square | 0.674 | 0.726 | 0.904 | 0.565 |
| Adj R-Square | 0.658 | 0.683 | 0.889 | 0.498 |

## Table 10: Placebo Test using Participant Lender Distraction

This table reports the results of a regression model testing the relation between borrower actions and a placebo measure of lender distraction measured using economic shocks to unrelated industries in the participant lender's portfolio. The models include borrower and industry x year-quarter fixed effects, and standard errors are clustered by borrower. All variables are defined in the appendix. ***, **, * Indicates statistical significance at the 1%, 5%, and 10% levels respectively.

| | [1] | [2] | [3] | [4] | [5] | [6] |
|---|---|---|---|---|---|---|
| | *Std(Returns)* | *Cash* | *Leverage* | *Capex* | *Intangibles* | *Dividends* |
| | **Coefficient** | **Coefficient** | **Coefficient** | **Coefficient** | **Coefficient** | **Coefficient** |
| | (t-stat) | (t-stat) | (t-stat) | (t-stat) | (t-stat) | (t-stat) |
| Placebo Distraction | 0.0014 | -0.0045 | -0.0602 *** | -0.0004 | -0.0010 | 0.0002 |
| | (1.27) | (-0.58) | (-3.44) | (-0.29) | (-0.08) | (0.59) |
| Controls | Yes | Yes | Yes | Yes | Yes | Yes |
| Firm Fixed Effects | Yes | Yes | Yes | Yes | Yes | Yes |
| Industry x Qtr Fixed Effects | Yes | Yes | Yes | Yes | Yes | Yes |
| Num Obs | 104,729 | 104,630 | 104,729 | 104,729 | 104,729 | 104,729 |
| R-Square | 0.677 | 0.682 | 0.759 | 0.634 | 0.853 | 0.716 |
| Adj R-Square | 0.662 | 0.667 | 0.748 | 0.617 | 0.846 | 0.703 |

## Table 11: Distracted Lenders and Long-Term Borrower Creditworthiness

This table reports the results of a regression model testing the relation between future borrower creditworthiness and lender distraction based on economic shocks to unrelated industries in the lender's portfolio. The models include borrower and industry x year-quarter fixed effects, and standard errors are clustered by borrower. All variables are defined in the appendix. ***, **, * Indicates statistical significance at the 1%, 5%, and 10% levels respectively.

| | [1] *Rating q+1* | | [2] *Violate_3yr* | | [3] *Log(Fut Spread)* | |
|---|---|---|---|---|---|---|
| | **Coefficient** | | **Coefficient** | | **Coefficient** | |
| | (t-stat) | | (t-stat) | | (t-stat) | |
| **Distraction** | **-0.1873** | ***** | **0.0434** | ******* | **0.1023** | ****** |
| | (-1.80) | | (2.80) | | (2.39) | |
| Controls | Yes | | Yes | | Yes | |
| Firm Fixed Effects | Yes | | Yes | | Yes | |
| Industry x Qtr Fixed Effects | Yes | | Yes | | Yes | |
| Num Obs | 69,115 | | 75,580 | | 25,299 | |
| R-Square | 0.887 | | 0.479 | | 0.771 | |
| Adj R-Square | 0.882 | | 0.444 | | 0.716 | |