Screening and Monitoring by Inattentive Corporate Loan Officers

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Abstract

We exploit novel data on corporate loan officers and a new measure of inattention to study the effect of distraction on syndicated lending outcomes. We use within-banker variation in plausibly-exogenous refinancing activity by associated borrowers to measure distraction. We find that distracted loan officers issue loans with lower spreads to borrowers that are subsequently more likely to default. In addition, distracted loan officers incorporate less soft information into loan terms when issuing new loans. When monitored by distracted loan officers, borrowers in breach of a covenant exhibit higher levels of investment and increased future default rates. Overall, our results suggest that distracted loan officers are deficient in screening, pricing, and monitoring, suggesting that inattention affects financially-sophisticated decision-makers and leads to credit misallocation.

Key words: Loan officers, corporate banking, inattention, soft information, syndicated loans, loan contracts.

JEL classification: G21, G30, G41

1 Introduction

Attention is a scarce resource that can have profound effects on how individuals make decisions (Kahneman (1973)). When balancing multiple tasks, situations inevitably arise that require one to focus on one task, while substituting valuable cognitive resources away from other tasks. For example, a doctor caring for multiple patients might divert her attention to a patient presenting urgent symptoms of severe pain. A county police officer may choose to more carefully patrol one particular neighborhood if it has recently experienced high levels of crime. In perhaps a more relatable scenario, a researcher managing a portfolio of projects might choose to allocate more time to a paper that recently received a "revise-and-resubmit." Despite this basic intuition, our understanding of how limited attention affects the decisions of economic agents *within* a corporation is limited (e.g,. Baker and Wurgler (2012)). Because individuals subject to time or effort constraints are responsible for investment portfolio management (e.g., CFOs, fund managers, loan officers), limited attention may have important implications for economic resource allocation.

In this study, we shed light on this issue by examining how plausibly exogenous "distracting" events in a corporate loan officer's portfolio (i.e., contemporaneous refinancing activity) influence the officer's ability to screen, price, and monitor new loans. We exploit novel micro-data on corporate loan officers and a measure of inattention based on distracting events related to other borrowers in the loan officer's portfolio to make three contributions. First, we find that distracted loan officers make loans with 12 basis points lower spreads to borrowers that are 5 percentage points more likely to subsequently experience a negative credit event (i.e., downgrade, default or bankruptcy). These findings suggest that distracted loan officers screen borrowers poorly. Second, we find evidence that distracted loan officers misprice loans. Distracted loan officers do not compensate for their poor screening by implementing more restrictive loan terms, and they incorporate less soft information into loan prices. Third, we find that distracted loan officers are less efficient monitors. Consistent with prior studies (Chava and Roberts (2008), Nini et al. (2009, 2012), Roberts and Sufi (2009)), we find evidence that borrowers cut investment

and reduce subsequent default rates when they violate a restrictive financial covenant. However, we show that when the lead bank's loan officer is distracted, violating borrowers cut investment 56% less and increase subsequent default rates by approximately one percentage point more than other violating borrowers. Additionally, we provide evidence of cross-sectional heterogeneity based on loan officer ability and bank organizational structure that corroborate our findings. Overall, our results suggest that distracted loan officers are less efficient in the three aspects of their job that rely on their capacity to acquire and process soft information, namely screening, pricing, and monitoring loans.

We focus on corporate loan officers for several reasons. First, corporate lending is an economically important market as it represents the largest source of external financing for firms (Roberts (2015)) and one of the most important investment activities of a bank. Second, limited attention is likely an important constraint in this market, as individual corporate loan officers may manage large and fairly diverse sets of loans. One distracting event can thus have significant spillover effects for other investments in this portfolio. Third, the corporate lending market provides a rich laboratory for examining individual decision making, as we can observe the pricing and non-pricing terms that loan officers negotiate, and infer their monitoring and screening effort from borrower selection and ex post performance. Finally, this setting is also generalizable. Any inferences we generate from the corporate lending market may be extended to other important economic agents, such as corporate executives, as they also typically manage and monitor a wide set of capital investments.

The effects of distracting events on lending are ex ante ambiguous. On the one hand, distraction affects decision makers across a variety of contexts. Given the complexity of a loan officer's job (e.g., valuation, drafting contracts, etc.), it is conceivable that situations might arise that would require extra cognitive resources, leading naturally to within-loan officer variation in attention. As the corporate lending market is characterized by the acquisition and processing of soft information that is difficult to transmit across individuals (Petersen (2017)), distraction may negatively impact a loan officer's ability to invest in costly and time consuming screening and monitoring.

On the other hand, corporate loan officers are employees of advanced and specialized intermediaries, and are, themselves, sophisticated economic agents. Such sophistication might allow loan officers to endogenously respond to distraction by rationing credit and enforcing stricter lending terms, at least temporarily until they have resources available to sufficiently evaluate their clients' needs. Furthermore, distraction may have no impact on lending if processes are automated within the bank or if the credit committee or risk management group responsible for approving the loan restricts the influence of individual loan officers. Both of these factors would reduce the potential for behavioral forces to influence lending decisions. Similarly, we may not expect to find evidence of inattention if loan officers working for the same bank are close substitutes and banks can respond to distraction by re-deploying loan officers with underutilized attention effort. Overall, the effect of distraction on corporate loan officers' behavior remains an empirical question.

Data on the identities of corporate loan officers has not been traditionally available. Following recent studies (e.g., Gao et al (2017)), we overcome this limitation by collecting and analyzing 4,761 loan agreements appended to SEC filings in which the identities of lead arranging loan officers are revealed. We augment this data with detailed loan terms from LPC Dealscan. Our sample consists of 2,285 loan officers issuing loans amounting to $7.3 trillion over the period spanning 1994-2012 Despite this novel data detailing loan officers' lending activities, we still face an identification challenge. Accordingly, we propose a new measure of distraction that extends the one introduced by Kempf et al. (2016).

We measure loan officer distraction by exploiting events in the loan officer's portfolio that are plausibly exogenous to the borrowers of new loans. Specifically, we focus on contemporaneous refinancing activity related to a specific loan observed in the SEC filings. Refinancing by other borrowers in the loan officer's portfolio provide plausibly exogenous variation in attention for three reasons. First, the timing of refinancing activity depends on the coincident maturity dates of loans granted at different past dates. Second, unlike defaults or borrower-driven renegotiations, refinancing activity is unlikely to be related to the industry or regional economic conditions of the borrower. Finally, loan refinancing

requires administrative and approval effort which requires increased attention from the loan officer.

Our empirical tests examine how such concurrent refinancing activities relate to how a loan officer screens, prices, and monitors other borrowers in the same state and industry. Our tests include a restrictive set of fixed effects to focus on within-loan officer variation in attention. These fixed effects also control for regional and industry characteristics of the borrower and time-varying lender characteristics, thus alleviating concerns that alternative explanations based on bank-specific loan demand and regional or industry economic conditions contaminate our findings.[1]

Our first analysis examines how distracting events relate to the pricing of corporate loans. We examine regressions of loan spreads on an indicator variable set equal to one if a corporate loan officer is distracted by at least one refinancing need from other borrowers in the next month, and zero otherwise. Our tests control for common firm characteristics associated with loan pricing. We also control for the size of a loan officer's portfolio, as larger portfolios are more likely to have distracting events. As discussed above, we include a host of fixed effects to control for unobservable heterogeneity that might correlate with distracting events and loan term pricing. Our results indicate that distracting events are associated with reduced spreads, consistent with inattentive loan officers reducing screening efforts. These results persist after including lender-year, industry, state, and loan officer fixed effects, thus alleviating concerns that our results might be driven by borrower quality, loan officer quality, and banks' time-varying lending policies. Our estimates are economically significant and do not vary substantially across model specifications. Across all tests, Distracting events are associated with about a 12-basis-point reduction in spreads, which represents over 5% of the sample mean. Overall, this initial result suggests that distraction can negatively impact loan officers' pricing decisions.

We next explore how distraction impacts loan officers' screening efforts by examining

[1]Two remaining identification concerns are likely to generate attenuation bias in our estimates. First, any effort by the loan officer to mitigate overlapping future refinancing should lead to attenuation since this, like other endogenous responses to distraction, will reduce the incidence and intensity of distracting events. Second, unlike other distracting events such as defaults or renegotiations, refinancing is predetermined and, therefore, predictable. The neutrality and predictability of refinancing activity mitigates the influence of performance or performance uncertainty.

how it relates to the occurrence of future negative credit events in the officer's portfolio. We define future negative credit events as ex-post downgrades, defaults or bankruptcy. Our results indicate that distracting events increase the likelihood of future negative credit events by approximately 3-5%. The results are robust to our fixed effect strategy that controls for unobserved heterogeneity across loan officers, bank-years, states and industries. These results also hold after controlling for other loan terms, which suggests that loan officers do not endogenously respond to their own inattention by rationing credit to low quality borrowers or implementing more restrictive loan terms to account for their poor screening. Taken together with our pricing results, our findings provide strong evidence consistent with concurrent refinancing demands distracting loan officers and leading to more lax screening efforts.

What types of loan officers and banks are most affected by distraction? We conjecture that lower ability loan officers and senior ranked loan officers will be more affected by distraction due to cognitive limitations and restrictions on their time. We also explore bank heterogeneity. We expect that banks with more complex hierarchical structures or a limited supply of loan officers with similar specializations will be more affected by distraction since transmitting soft information in these banks should be more costly (i.e., Skrastins and Vig (2017), Petersen (2017)). We also expect that transactional banks, which are large and have diverse holdings, are less affected by distraction given that they implement lending technologies that are based more on hard information. We re-examine our credit event regressions after partitioning on these loan officer and bank characteristics. Consistent with expectations, the positive association between distraction and negative credit events is most pronounced among loan officers that did not graduate from top-tier institutions and who do not frequently move across their career (i.e., promotions, a proxy for ability). In addition, the effects of distraction are most pronounced in small banks that have a diverse set of clients and multiple layers.

The corporate lending process depends on a mix of both hard information and soft information (Petersen (2004)), the latter of which depends on a loan officer's screening efforts. Accordingly, our next tests examine the soft information channel and test how

distracting events impact how loan officers collect and use soft information in the lending process. Following recent research (Agarwal and Ben-David (2017)), we measure soft information as the residual from regressions of spreads on firm observable characteristics and officer fixed effects. We then construct a decile ranking variable based on the residuals. Our analyses indicate that distracting events are associated with a significant reduction in the use of soft information. Depending on the specification, distraction leads to an approximately 0.22 to 0.24 reduction in the ranking of soft information.

Having established that distraction impacts how loan officers price and screen loans, our final analyses examine whether distraction impacts loan officers' monitoring activities. Specifically, we examine how distraction relates to loan officers' monitoring efforts following covenant violations, as such events transfer state-contingent control rights to lenders and are associated with increased monitoring (Bird et al. (2017)). Prior studies demonstrate that covenant violations are associated with reduced risk-taking (i.e., investment) (Chava and Roberts (2008)). We examine whether distracting events reduce the effects of covenant violations on firms' future investment and default likelihood. Our results indicate that distracting events weaken the impact of covenant violations on investment and future default. Taken together with our earlier results, these findings suggest that distraction not only negatively impacts loan officers' screening efforts, but also reduces their capacity to monitor.

Our study contributes to the literature across several dimensions. First, as noted by Baker and Wurgler (2012), there is surprisingly limited research on the effects of attention on corporate actions. In a recent study, Kempf et al. (2016) show that managers take opportunistic corporate actions when their counterparties are distracted. In contrast, we examine how distracting events within a firm impact individual decision-makers. Notably, our fixed effects strategy allows us to isolate how distraction affects how individual loan officers make lending decisions, eliminating fixed differences in loan officer ability or quality.

Second, our study contributes to a call for more research examining how capital market inefficiencies affect the behavior of financial intermediaries (Baker and Wurgler

(2012)). Recent research by Cole et al. (2015) uses field data to examine how behavioral factors, such as overconfidence and risk-aversion, impact loan officers' behavior. To our knowledge, our study is the first to examine the impact of limited attention on loan officers' screening and monitoring decisions and also the first to examine more broadly how behavioral forces affect syndicated lending departments. Given the growing importance of this market over time, our findings should provide useful insights to both academics and practitioners.

Our results also reinforce the literature on screening and monitoring, including recent studies by Plosser and Santos (2016) and Gustafson et al. (2017). These studies find that banks request information from borrowers and change internal ratings for borrowers in a manner consistent with active and strategic monitoring. For example, Gustafson et al. (2016) find that banks request information more frequently from borrowers when borrowers are approaching distress. Our tests indicate significant heterogeneity in loan officers' lending activities resulting from distracting events. These findings suggests that a lender's influence varies over time and across loan officers, even within the same bank (which presumably has similar risk management and credit committee standards).

More broadly, our results should be generalizable to other decision makers, especially CEOs and CFOs managing a portfolio of investment projects. Distracting events should inevitably arise within a typical corporate setting and affect how executives allocate their time and efforts. Our findings suggest that distraction can lead to suboptimal allocation of capital resources within a firm.

The rest of our study proceeds as follows. Section 2 introduces the data and discusses our empirical strategy and measures of distraction. Section 3 provides univariate analyses. Section 4 provides results from our screening analyses. Section 5 discusses our covenant violation tests and monitoring results. Finally, Section 6 concludes.

2 Data and Empirical Methodology

2.1 Sample Selection

We begin our sample selection by retaining all loans reported in LPC Dealscan between 1994 and 2012. Our sample contains 4,761 loans with available pricing and loan term data. We also require firms to have available information for firm characteristics based on data from Compustat. We exclude borrowers in financial and utility industries. Our initial sample contains 3,241 loans extended to 1,264 firms.

2.2 Loan Officer Data

We match loan officer identities to specific loans in Dealscan following the procedure outlined in Gao et al. (2017). Specifically, we search SEC filings for all available loan documents, which are typically appended as exhibits in firms' 8-K's, 10-Q's and 10-K's. We retain only Exhibit 10's that contain either the word "loan" or "credit" followed by the word "agreement" in the title, issued in the 90-day window centered on the loan date observed in Dealscan. Additional details on this data collection process are available in Gao et al. (2017).

One challenge with the loan officer data is that this data is sometimes sparse, thus limiting our ability to identify loan officers across multiple loans. While we measure our outcome variables based on identified loans from the SEC, we assume that refinancing activity can arise due to a broader set of loans in an officer's portfolio. Specifically, we allow for refinancing to relate to all loans issued by a loan officer at his or her respective bank in the same industry-year and state-year. Based on our discussions with practitioners, banks typically specialize by industry and geographic region, providing anecdotal validation to our assumption. We present statistical arguments in support of this anecdotal evidence and, ultimately, our assumption in the following section.

2.3 Variables of Interest

2.3.1 Refinancing Activity

We measure distracting events based on upcoming refinancing activity in a loan officer's portfolio. The variable, *Refinance*, takes the value one if at least one firm for which we observe a loan officer lending to is scheduled to have refinancing activity for in the upcoming month. We define the loan officer's portfolio as loans issued within the same state or 2-digit SIC industry as the primary state or industry of the loan officer based on other lending activity. On average, loan officers focus on one dominant industry and state. Over 90% of loan commitments within the average loan officer's portfolio are to borrowers located in the same state, and 92% are to borrowers located in the same industry. Although our results are qualitatively similar for a more restrictive definition of each loan officer's loan portfolio, our preferred definition above alleviates statistical power constraints due to costly data collection and minimizes loan portfolio assignment errors as it conditions on the two most relevant characteristics that define a loan officer's loan portfolio.

We argue that refinancing demands in a loan officer's portfolio provide plausibly exogenous variation in attention for several important reasons. First, the timing of refinancing activity depends on coincident maturity dates of loans granted in the past with different maturities. These loans may or may not have been initially negotiated by the loan officer. More importantly, it is unlikely that a loan officer can anticipate how refinancing can impact future attention at the loan initiation. Second, unlike defaults or borrower-driven renegotiations, refinancing activity is unlikely to be related to the industry or regional economic conditions of the borrower. We validate this assumption in Section 3. Third, loan refinancing requires administrative and approval effort on the part of loan officers. These efforts are likely to require additional cognitive resources from the loan officer, thus reducing his or her attention from other borrowers.

2.3.2 Loan Terms

Our pricing analyses measure the impact of distracting events on loan spreads. The variable *Loan Spreads* represents the markup charged by the lender (i.e., all-in drawn spreads) and is measured in basis points over LIBOR.

In our analyses, we also vary the inclusion of other loan term controls, including the total number of covenants included in the loan package (*Loan Covenants*) and the number of months until maturity (*Loan Maturity*). We also include fixed effects for loan types (e.g., Revolver, Term Loan, etc.)

2.3.3 Loan Performance

We measure loan performance based on the ex-post occurrence of either rating downgrades, defaults or bankruptcies. We define an indicator variable (*Credit Event*) equal to one if a borrower defaults, is downgraded, or files for bankruptcy before the loan matures, and zero otherwise. Defaults are measured based on the borrower's S&P rating falling to "D" or "SD"(Murfin (2012)). Downgrades are measured by decoding S&P ratings ($AAA = 1$, $AA+ = 2$,... and D or $SD = 22$) and calculating the difference in ratings for the borrower from the loan initiation date to loan maturity date. Bankruptcy data is obtained from the LoPucki bankruptcy database.

2.3.4 Soft Information

We measure soft information as the residual from regressions of spread on observable firm characteristics, i.e., hard information. These characteristics include the control variables described in the following section that pertain to the borrower. We also control for officer-fixed effects so as to remove officer-specific contracting tendencies. After extracting the residuals, we assign decile ranks to the residuals and use the ranking as our measure of soft information.

2.3.5 Control Variables

Our analyses also include control variables related to characteristics of the borrower and the loan officer's portfolio. Firm controls include *Size*, *Age*, *Profitability*, *Tangibility*, *M/B*, *Leverage*, and an indicator for whether a firm receives credit ratings (*Rated*). We also control for the size of a loan officer's portfolio (*Portfolio Size*) as larger portfolios are more likely to have distracting events. We winsorize all continuous variables to the 1^{st} and 99^{th} percentiles, except *Leverage*, which is bound between zero and one. Detailed definitions of the variables are described in the Appendix.

2.4 Empirical Models

We examine the effects of distracting events on lending outcomes using the following empirical model:

$$Y_l = \beta_1 Distraction_{i,b,t} + \beta_2 X_{j,t} + \beta_3 PortfolioSize_{i,b,t} + \nu_k + \Xi_{b,t} + \Lambda_i + \Delta_m + \eta_s + \epsilon_{i,b,t}, \quad (1)$$

where l stands for a loan contract, i indexes loan officers, b indexes banks for which loan officers are employed, j indexes firms, k indexes loan types (e.g., term loan, revolver, etc.), t indexes time, m indexes the industry for which a borrower is a member of, and s indicates the state for which the borrower is incorporated. Additional controls include a vector of borrower characteristics ($X_{j,t}$) and portfolio size.

A key feature of our empirical strategy is the inclusion of a wide set of fixed effects that help us to focus on within-loan officer variation. By including state and industry fixed effects, we eliminate alternative explanations related to time-invariant regional or industry economic conditions. The inclusion of time-varying lender characteristics allows us to eliminate alternative explanations related to bank-specific loan demand.

This research design does not however address two key remaining identification concerns that may generate attenuation bias in our estimates. First, loan officers may anticipate demands on their attention and strategically time the maturity of loans they issue to reduce overlapping refinancing activity. To the extent that this anticipation is a fixed

characteristic of loan officers, our loan officer fixed effects should mitigate this concern. However, loan officers could learn dynamically to smooth future refinancing activity to minimize the effects of their own attention constraints. Because any effort by the loan officer to anticipate and mitigate overlapping future refinancing activity should reduce the incidence and intensity of distracting events, this unobservable and time-varying loan officer characteristic should lead to attenuation bias. In Section 3, we empirically investigate this concern by studying systematic differences in loan maturity between loans issued by distracted and non-distracted loan officers, between refinanced and and non-refinanced loans, and between and refinanced loans that distracted a loan officer and refinanced loans that did not distract a loan officer. Our findings do not suggest that distracted and attentive loan officers differ systematically in the maturity of loans the issue, indicating that this strategic smoothing of future refinancing activity is not a key identification concern.

Second, because our identification strategy hinges on a defined set of events derived from actions by other, similar borrowers in a loan officer's portfolio of loans, one may be concerned that these events in and of themselves have implications for characteristics of the new borrower. Candidate "distracting" events include defaults, renegotiations, and refinancings. Defaults might indicate that the new borrower's industry or region is in distress and renegotiations might indicate that the new borrower's industry or region is performing well. These observations suggest that defaults and renegotiations might proxy for unobservable local economic conditions, which could otherwise explain differences in loan terms and outcomes between the new borrower and other borrowers. Unlike other distracting events (e.g., defaults and renegotiations), refinancing is neutral and pre-determined, which makes it predictable. We calibrate our measure of loan officer distraction using refinancing activity by other borrowers in the loan officer's portfolio of loans because refinancings are neutral events that connote little about the unobservable performance of the new borrower. As discussed previously, the predictability of refinancings should lead to attenuation bias. We investigate the extent to which refinancing activity implies something about the new borrower's unobservable quality in Section 3.

We find that the proportion of distracting events is relatively constant over time and that distracting refinancing activity is less sensitive to aggregate economic conditions than other loan issuance, suggesting that refinancing activity is a predictable and neutral source of variation in loan officer inattention.

3 Univariate Analyses

3.1 Graphical Analysis

We begin by providing graphical evidence on distracting events in our sample. In Figure 1, we first plot the distribution of distracted loan officers over time. The blue line with triangle markers represents the percentage of loans issued by distracted officers in our sample in a given year, while the orange line with rectangle markers represents the percentage of loans issued by non-distracted officers each year. The graph suggests that distraction loan volume is somewhat cyclical, and experience relative peaks in 2000, 2004, and 2011. More importantly, the lack of definitive trends in this figure indicates that distracted loan officers and non-distracted loan officers exhibit similar loan demand over time. Additionally, the significant and positive time series correlation between the proportion of distracted loan officers and the proportion of loans issued by distracted loan officers suggests that distracting events are not concentrated among a selected few loan officers.

In Figure 2, we examine the time series patterns in loan issuance. The graph illustrates the total volume of loans (vertical bars), total number of distracting loans (triangle-marked line) and total number of non-distracted loans (square-marked lines). Consistent with Figure 1, the graph illustrates that the total number of loans issued by distracted loan officers is relatively constant over time, and less sensitive to fluctuations in credit and economic conditions than the number of loans issued by non-distracted loan officers. Collectively, these figures suggest that refinancing demand is not generally related to credit or economic conditions, which provides support for the use of within-portfolio refinancing activity as a source of plausibly-exogenous variation in loan officer attention.

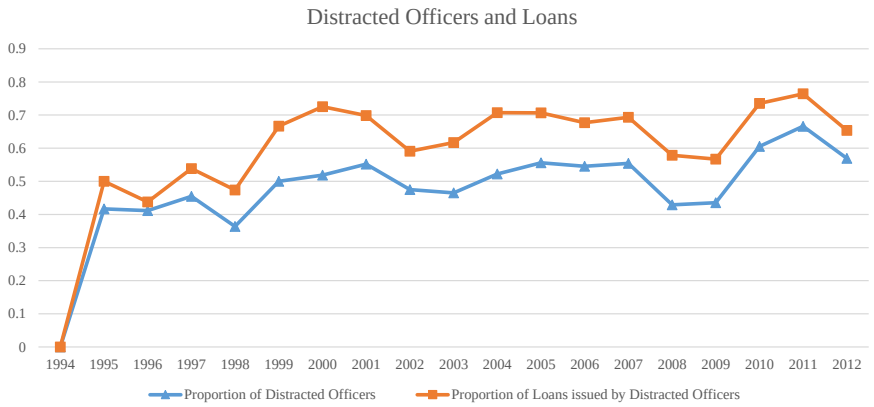


Figure 1. Distribution of distracted loan officers and their issuance over time
This figure plots the proportion of distracted loan officers and their loan issuance over our sample period. The blue line with triangle markers represents the percentage of loans that are issued by distracted loan officers in our sample in a given year. The rectangle markers indicate the proportion of distracted officers relative to all of our sample loan officers in a given year. The horizontal axis indicates the year.

We next examine how loan characteristics vary based on whether loan officers are distracted and whether a loan is refinanced. In these figures, we plot loan spreads in Panel A and loan maturity in Panel B. Figure 3 first compares these loan characteristics based on whether loan officers are distracted. The shaded (unshaded) columns indicate the fraction of contract terms issued by distracted (non-distracted) officers. The figures suggest that loan characteristics do not systematically differ between officers that are ever distracted during our sample period and officers that are never distracted during our sample period. This evidence suggests that within-portfolio refinancing activity is not concentrated among certain types of loan officers, loans, or borrowers.

We also examine whether loan terms vary across refinanced and newly-issued loans in our sample. We define refinanced loans as loans that are extended by the same lender to the same borrower as some pre-existing loans. Moreover, we require that the percentage difference between the spreads and amount of the new loan (refinanced loan) from those of the pre-existing loan to be within a 25% range. Figure 4 provides graphical evidence on the differences in loan characteristics across refinanced and non-refinanced loans. In general, the figures suggest that spreads and maturities do not differ substantially across both groups. This evidence suggests that within-portfolio refinancing activity is not systematically related to the characteristics of the refinanced loans or the borrowers and

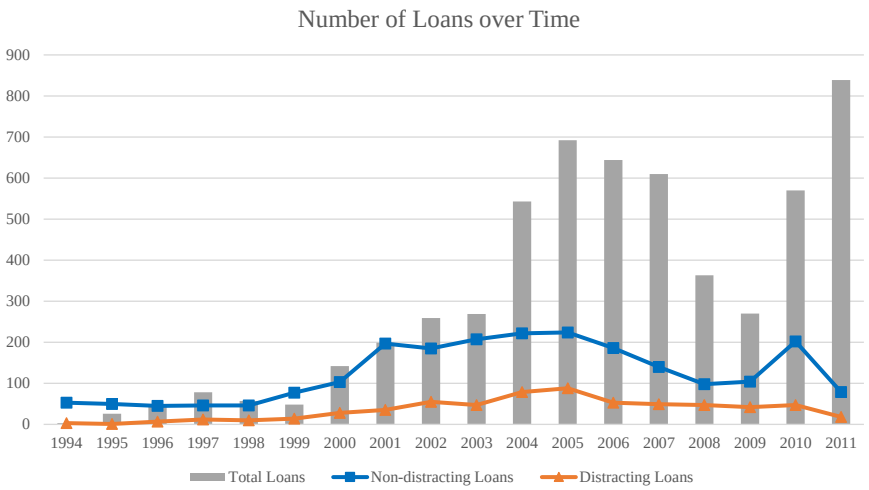
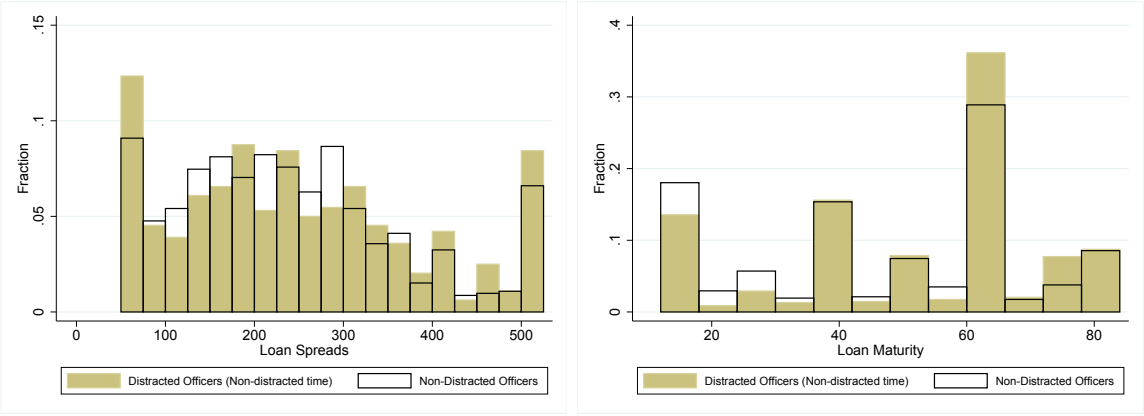


Figure 2. Distribution of distracting and non-distracting loans over time
This figure plots the distribution of distracting loans over our sample period. Distracting loans are defined as loans that are being refinanced when the loan officer is issuing other loans (that are not refinancing loans). The triangle markers represent the number of distracting loans, the rectangle markers represent the number of non-distracting loans, and the grey columns indicate the total number of loans issued in Dealscan per year. The horizontal axis indicates the year.

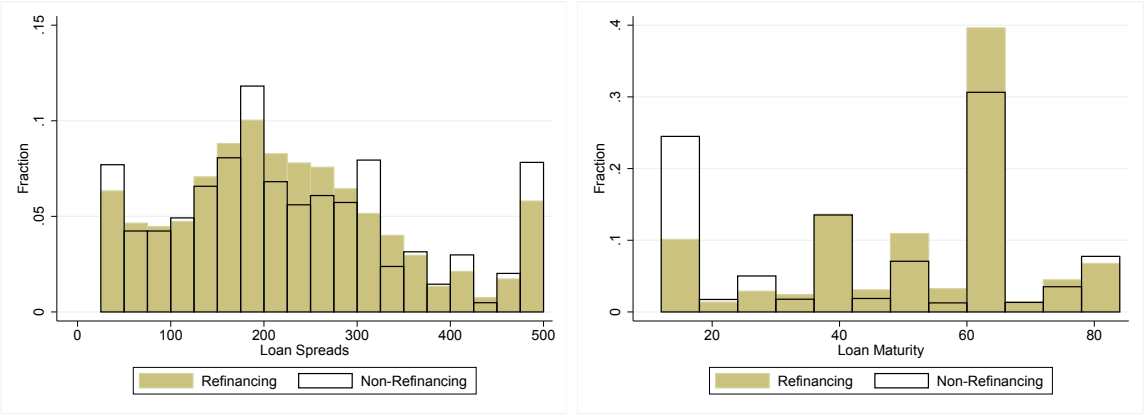


(a) Loan Spreads (b) Loan Maturity

Figure 3. Loan characteristics by distracted and non-distracted loan officers
This figure compares the distribution of loan terms, including loan spreads and loan covenants issued by officers who are distracted at least once in our sample to those issued by officers that are never distracted in the sample. Panel (a) compares the distribution of loan spreads, and Panel (b) compares the distribution of loan maturity. The vertical axis indicates the percentage of loans whose spreads or maturity falls under a corresponding grid. The shaded columns indicate the distribution of loan contract terms issued by loan officers who are distracted at least once in our sample but are not distracted during the issuance of these loans. The empty columns indicate the distribution of loan contract terms issued by officers who are never distracted in our sample.

lenders which issued them.

Finally, we examine how loan terms differ across distracting and non-distracting loans among a subsample of refinanced loans. This analysis focuses on the most similar group of loans (i.e., all are refinanced) and examines how our loan terms for our treatment (dis-

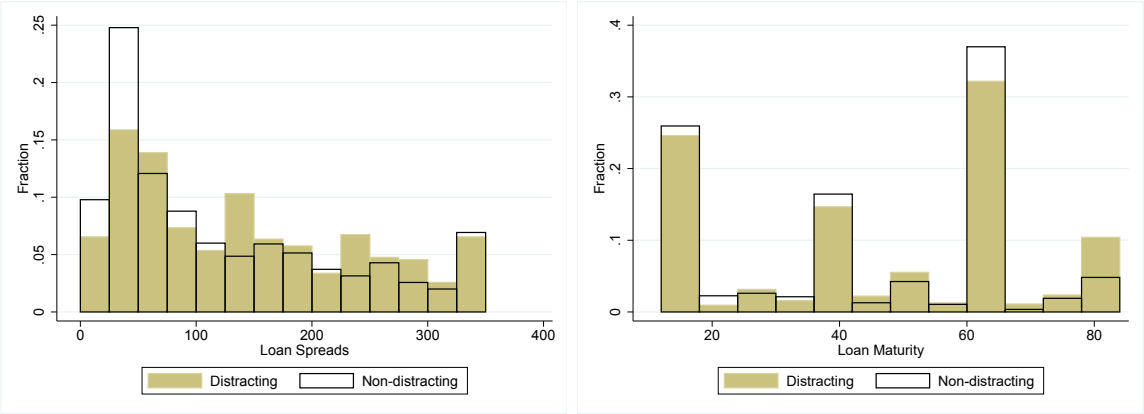


(a) Loan Spreads (b) Loan Maturity

Figure 4. Characteristics of refinanced and non-refinanced loans
This figure compares the distribution of contract terms between loans that are refinanced from pre-existing loans and loans that are not refinanced from other loans during our sample period. Panel (a) compares the distribution of loan spreads, and Panel (b) compares the distribution of loan maturity. The vertical axis indicates the percentage of loans whose spreads or maturity falls under a corresponding grid. The shaded columns indicate the distribution of contract terms for refinanced loans. The empty columns indicate the distribution of contract terms for non-refinanced loans.

tracting i.e., concurrent lending with refinancing) differ from our control (non-distracting i.e., no concurrent lending occurring with refinancing). Figure 5 presents this analysis. In general, we find that the loan spreads and loan maturity across distracting and non-distracting loans still remain similar, even when we focus on only refinanced loans. Overall, this evidence suggests that refinancing events that distract a loan officer from another task are not systematically different from refinancing events that do not distract a loan officer from another task.

The visual evidence in this section provides evidence that refinancing activity within a loan officer's portfolio of borrowers is not determined by selection on borrower or loan characteristics or time-varying credit or economic conditions. Moreover, these figures indicate that loan officers do not systematically differ in their propensity to experience distracting refinancing activity. Together, this evidence suggests that within-portfolio refinancing activity can be interpreted as plausibly exogenous variation in distraction for a given loan officer that is free from selection or omitted variables concerns based on credit or economic conditions or borrower, loan officer, bank, and loan characteristics.



(a) Loan Spreads (b) Loan Maturity

Figure 5. Characteristics of distracting and non-distracting refinanced loans
This figure compares the distribution of contract terms between refinanced loans that are distracting and those that are not distracting. We sample on loans that are refinanced during our sample period. Panel (a) compares the distribution of loan spreads, and Panel (b) compares the distribution of loan maturity. The vertical axis indicates the percentage of loans whose spreads or maturity falls under a corresponding grid. The shaded columns indicate the distribution of contract terms for loans whose refinancing distracts a loan officer. The empty columns indicate the distribution of contract terms for loans whose refinancing does not distract any loan officer.

3.2 Summary Statistics

We next describe distracting events and our variables of interest. Table 1 describes our sample. Panel A presents descriptive statistics at the loan level and panel B presents descriptive statistics for the covenant violation tests, which is examined using firm-quarter data. The statistics generally reveal that, since refinancing happens frequently, distraction is a common phenomenon that affects approximately 71% of loans and approximately 39% of firm-years. Other summary statistics are in line with prior studies. For example, the average spread is 226 basis points and negative credit events (e.g., downgrades and bankruptcies) are rare and only affect 22% of loans.

Table 1 About Here

4 Screening by Inattentive Loan Officers

We first investigate whether distracting events affect the ability of loan officers to screen borrowers and price loans in a way that incorporates soft information about the prospective borrower. To do so, we examine loan spreads, the incidence of future credit

events, and the variation in loan spreads that cannot be explained by observable borrower characteristics. If, for example, we observe that distracted loan officers issue loans with lower spreads, we may be tempted to infer that loan officers engage in more intensive screening and select only the highest quality borrowers or that distracted loan officers offer loans at a discount because they either screen poorly or fail to incorporate private information about borrower quality into loan terms. By combining this investigation with tests concerning the incidence of future credit events, we can separate these explanations. In particular, if distracted loan officers issue loans with lower spreads *and* higher credit event propensity, then we infer that the low spreads indicated mispricing or poor selection. We follow these tests with one that explicitly focuses on the incorporation of private, soft information into loan terms. Following Agarwal and Ben-David (2017) and others, we construct a measure of the soft information component of loan spreads and investigate whether distracted loan officers rely more or less on soft information (i.e., observable characteristics) as an input to loan pricing. We also explore cross-sectional bank and loan officer heterogeneity because a variety of bank and loan officer characteristics should moderate the effects of distracting events.

4.1 Loan Pricing

Table 2 presents results from estimates of equation (1), when the dependent variable is *Spread*. Column (1) reports the results when we control for firm characteristics, loan type, bank-year fixed effects, and loan officer fixed effects. In column (2), we control for *Portfolio Size*. Column (3) presents the fully loaded model, which also controls for industry and state fixed effects. Across all three models, we document a negative and significant association between *Distraction* and loan spreads. The results also appear to be economically significant, as distracting events are associated with approximately a 12 basis point reduction in spreads, which represents 5.3% of the sample mean. Overall, this analysis provides initial evidence to suggest that distracted loan officers are deficient in screening, as they appear to underprice loans.

TABLE 2 ABOUT HERE

4.2 Loan Performance

Having established that distraction impacts the pricing of loans, we next examine how it relates to ex post loan performance. We re-estimate equation (1) with *Credit Event* as the outcome variable. If distracted loan officers are not only deficient at pricing loans, but also exhibit poorer monitoring, we expect distraction to be positively associated with the occurrence of future negative credit events.

Table 3 provides the results from this analysis. Column (1) reports the results when we control for firm characteristics, loan type, and our baseline set of fixed effects (i.e., bank-year and loan officer). Column (2) augments the model with *Portfolio Size*. Column (3) adds industry and state fixed effects. Finally, in Column (4), we also control for other loan terms, including spreads, covenants and maturity. Doing so controls for how loan officers endogenously respond to inattention by potentially rationing credit to lower quality borrowers or implementing more restrictive loan terms to account for poor screening.

TABLE 3 ABOUT HERE

The results from the loan performance tests indicate that distracted loan officers issue loans that perform more poorly. Across all four specifications, the coefficient on *Distraction* is positive and significant, indicating that distraction increases the likelihood that borrowers default or file for bankruptcy or loans are downgraded. The coefficients are generally stable across the models. The estimates in the most conservative specification (Column (4)) indicate that distraction is associated with a 4% increase in future negative credit events. Overall, the results thus far indicate that distraction impacts how loan officers price loans, and also influences future loan performance.

TABLE 4 ABOUT HERE

4.3 Cross-sectional Analyses

What types of loan officers and banks does distraction impact the most? Our next analyses examine whether the effects of distraction vary based on loan officer and bank characteristics. With respect to loan officer characteristics, we conjecture that higher ability individuals should be less affected by distraction as they are more efficient at multitasking. In addition, we expect distraction to impact higher level loan officers more due to greater restrictions on their time. With respect to bank characteristics, the effects of distraction should vary based on bank organizational structure and lending technologies. Banks with more complex hierarchical structures or a limited supply of loan officers with similar specializations will be more affected by distraction since transmitting soft information in these banks should be more costly (i.e., Skrastins and Vig (2017), Petersen (2017)). In addition, transactional banks, which are typically large and have diverse holdings, should be less affected by distraction given that they implement lending technologies that are based more on hard information.

We construct several measures of loan officer and bank characteristics. First, using data from an online business networking service, we measure the quality of the loan officer's education based on whether the officer graduated from a Top-10 school. We use the SEC documents to identify rank, and code an officer as highly ranked if she is a director or above. We also identify frequent movers based on officers moving across three or more banks in the sample, as prior studies suggest that this a proxy for ability (Topel and Ward (1992)). Finally, we also measure when an officer starts in a reputable bank. We consider reputable banks as those whose number of syndicate partners rank at the top tercile of the sample. We expect distraction to have a more pronounced effect among lower ability officers (i.e., those that graduate from lower-ranked schools, move less frequently, or work in a less reputable bank) and among more time-constrained officers (i.e., senior-ranked officers).

With respect to bank characteristics, we measure the bank's focus based on whether the bank has the same industry or geographical focus of the loan officer. We also examine whether the bank is single-layered versus multi-layered, whether the bank is large (top-

tercile of market share) versus small (bottom-tercile of market share), and whether the bank is concentrated (top-tercile of HHI index) or non-concentrated (bottom-tercile of HHI index). We expect distraction to have greater effects in banks that have complex hierarchical structures or fewer similarly specialized officers (i.e., multi-layered banks and banks with diverse concentration). We also expect distraction to impact officers less when they are employed by banks transactional banks (i.e., large banks with diverse holdings).

Table 4 provides the results from the credit event regressions after we split the sample based on loan officer (Panel A) and bank characteristics (Panel B). In Panel A, the results indicate that the positive association between distraction and negative credit events is most pronounced among officers that did not graduate from top-tier institutions (Column (2)), officers that are highly ranked (Column (3)), non-frequent movers (Column (6)) and officers that did not start their career at reputable banks (Column (8)). These results suggest that distraction has pronounced effects on individuals with lower ability and more constraints on their time. In terms of economic magnitude, distraction has the greatest effect among higher level employees (i.e., directors or above). The results suggest that distraction increases the likelihood of a negative credit event by 6.58%, which is nearly 60% greater than the 4.11% increase observed in the full sample (i.e., Table 3).

In Panel B, the results from the bank partitions indicate that distraction has the greatest effect on officers employed by banks with a different focus (Column (2)), multi-layered banks (Column (4)), small banks (Column (6)), and diverse banks (Column (8)). In untabulated analyses, we confirm that the differences across these partitions is also significantly different. These results confirm our conjecture that distraction has greater effects in complex organizations and banks that are less transactional. The economic magnitudes suggest that distraction has the most detrimental effect on individuals employed by multi-layered and diverse banks (i.e., Column (4) and (8)), where distraction results in an to 6.48% increased likelihood of a negative credit event.

Overall, these findings indicate that the effects of distraction vary based on characteristics of both the individual and the institution. Distraction affects individuals more when than they have a lower capacity for processing information. It also has a more pro-

found impact on employees of banks that lack the resources or focus to help individuals process and collect soft information.

4.4 Soft Information

Soft information plays a critical role in the syndicated lending process. Accordingly, we examine how distraction impacts loan officers' use of such information in their screening activities. Soft information likely requires additional effort to collect and transmit within the organization. To the extent that distraction places constraints on loan officers' cognitive resources, we expect it to reduce the collection of soft information.

In Table 5, we re-estimate equation (1), where the outcome variable is *Soft Information*. Similar to our earlier analyses, we again incrementally add controls and fixed effects to the model. The results indicate that distraction is associated with less soft information, even in the most restrictive model that isolates within-loan officer variation. In terms of economic significance, a distracting event is associated with an approximately 0.22 reduction in soft information. Taken together with our earlier findings, these results suggest that distraction not only impacts how loan officers screen their borrowers, but also impacts the mix of information they collect. Distracted loan officers are less likely to collect soft information, likely due to the increased constraints that it places on their cognitive resources.

Table 5 About Here

Overall, the results thus far provide strong evidence to suggest that distraction impacts loan officers' screening efforts. When facing upcoming refinancing demands, loan officers issue loans with lower spreads that are more likely to perform poorly in the future. In addition, distracted loan officers also reduce their use of "costly" soft information when negotiating lending terms. These results indicate that behavioral forces can influence sophisticated financial intermediaries and lead to credit misallocation.

5 Monitoring by Inattentive Loan Officers

The lead bank in a syndicated loan typically takes the role of delegated monitor, which encompasses information acquisition and processing. It also involves the detection and enforcement of contractual breaches (Bird et al. (2017)). Prior literature has focused on contractual breaches stemming from violations of financial covenants, in part because covenant thresholds are observable and the financial ratios and amounts underlying these covenants are measurable. This prior work finds that borrowers that breach their financial covenant thresholds renegotiate their loan contracts (Freudenberg et al. (2017)), cut investment (Chava and Roberts (2008)), reduce debt issuance (Roberts and Sufi (2009)), change executive compensation and corporate governance practices (Nini et al. (2012)), and cut employment (Falato and Liang (2016)). Subsequent work has studied the incentives of the lead arranger to detect and enforce covenant violations, focusing on the detrimental effects of CDS initiations on this type of monitoring (Chakraborty et al. (2015)). In this section, we focus on variation in the lead bank's monitoring constraints rather than in their monitoring incentives. In particular, we study the effects of loan officer distraction on the monitoring

5.1 Research Design

Loan officers are tasked not only with screening prospective borrowers, but also with monitoring the performance of existing borrowers. Accordingly, we next examine how distraction impacts loan officers' monitoring efforts. Measuring monitoring activities in the absence of internal banking data is empirically challenging. We therefore adopt a conventional methodology that infers a loan officers' monitoring efforts based on firm outcomes following covenant breaches (Chava and Roberts (2008); Nini et al. (2012)).

Specifically, we estimate the following interactive regression:

$$Y_{j,t} = \beta_1 Distraction_{i,b,t} + \beta_2 Violation_{j,t} + \beta_3 Distraction \times Violation_{i,b,j,t} + \beta_4 Slack_{j,t} + \beta_5 Slack_{j,t}^2 + \beta_6 Slack_{j,t}^3 + \beta_7 Slack_{j,t}^4 + \beta_3 PortfolioSize_{i,b,t} + \Lambda_i + \Delta_m + \eta_s + \omega_{b,t} + \epsilon_{i,b,t}, \quad (2)$$

where j indexes firm, t indexes time, i indexes loan officer, b indexes bank, m indexes industry, and s indexes state. The variable *Violation* is an indicator variable that takes the value of one if a firm violates a covenant, and zero otherwise. The outcome variable, $Y_{j,t}$, represents one of two future firm outcomes in the three-year window measured after violation occurrence: *Investment* or *Default*. The model controls for covenant slack and non-linearities in covenant slack. In this model, we are interested in the coefficient β_3. Following covenant violations, loan officers typically increase their monitoring efforts and reduce future firm investment and prevent future defaults. If distraction reduces such monitoring efforts, we expect β_3 to be positive for both *Investment* or *Default*, as it should reduce loan officers' ability to prevent future over-investment or default.

5.2 Results

Table 6 provides results from estimates of equation (2), when the dependent variable is *Investment*. Column (1) presents the baseline specification with only bank-year and loan officer fixed effects, as well as controls for slack. Column (2) adds *Portfolio Size* and Column (3) controls for industry and state fixed effects. Consistent with our expectations, the coefficient on *Violations* is negative and significant, suggesting that, on average, loan officers increase their monitoring efforts following covenant violations and constrain borrowers' risk-taking. The coefficients indicate that violations are associated with an approximately 1% decline in investment. More importantly, the coefficient on the interaction term, $Distraction \times Violation$, is positive and significant across all three model specifications, suggesting that loan officers exhibit less of an increase in monitoring efforts when they face concurrent refinancing demands from other borrowers. Put

differently, the results indicate that a loan officer's ability to reduce over-investment after covenant violation is lessened when the officer is distracted. In terms of economic magnitude, the results suggest that distraction attenuates the effect of violation on investment by approximately 60% (0.0063/-0.0105).

Table 6 About Here

In Table 7, we repeat this analysis, examining future defaults as our outcome measure. An eventual default is perhaps one of the most adverse outcomes that can arise following a covenant violation. In this analysis, we find that the main effect on *Violation* is negative albeit, not significant at traditional levels. Still, the direction of the coefficient suggests that increased monitoring efforts tend to reduce future default. More importantly, the coefficient on $Distraction \times Violation$ is positive and significant, indicating that distracted loan officers are less likely to prevent future defaults following covenant violations. This result indicates that distraction significantly reduces loan officers' monitoring abilities following one of the most critical lending events that can occur.

Table 7 About Here

Overall, the results from our monitoring tests indicate that distracted loan officers are deficient in their monitoring activities. Covenant violations represent a critical time for loan officers to exert significant attention and intensify their monitoring efforts. Our findings show that distracted loan officers are less likely to exert such efforts to increase their monitoring following covenant violations.

6 Conclusion

Despite being a well-established economic phenomenon, inattention has received limited research regarding its effect on decision-making inside a firm. In addition, there has been limited research examining how behavioral constraints impact behavior in financial institutions. In this study, we address this gap in the literature by examining how

distracting events influence loan officers' lending decisions.

We introduce a new measure of distraction based on upcoming refinancing demands in a loan officer's portfolio. Our results indicate that such events are associated with lower quality pricing, screening and monitoring decisions. Specifically, loan officers that face concurrent refinancing demands negotiate loans that have lower spreads, but are more likely to fail. Additionally, these loan officers exert less effort in collecting "costly" soft information. Finally, borrowers of distracted loan officers are more likely to default and increase risky investment following covenant violations, suggesting that these loan officers do not monitor and constrain borrower opportunism. These results are robust to restrictive fixed effects strategy designed to isolate variation within a loan officer.

Our results have important implications for the literature. Loan officers, especially those involved in large corporate lending decisions, are likely highly sophisticated decision makers. Yet, cognitive constraints still influence how these officers make lending decisions. Inferences from this setting can be generalized to other contexts in which we typically cannot observe individual decision-making, such as how CEOs manage a portfolio of capital investments.

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7 Variable definitions

Size: Log of total assets (AT)

Age: Years after a firm's first appearance in Compustat database

Profitability: Operating income (OIBDP)/total assets

Tangibility: Property, plant, and equipment (PPENT)/total assets

M/B: (Stock price (PRCC)×shares outstanding (CSHO) + total assets – book equity (CEQ))/total assets

Leverage: (Long-term debt (DLTT) + current debt (DLC))/total assets

Rated: A dummy variable that equals one if the firm has a bond rating, and zero otherwise

Loan Spreads: All-in-drawn loan spreads over LIBOR

Loan Covenants: Total number of covenants on the loan package

Loan Maturity: Loan maturity in months

Portfolio Size: Number of loans outstanding in the officer's portfolio

Table 1
Summary statistics
This table presents the summary statistics of our variables of interest. Panel A shows the summary statistics from the loan-level sample, where the unit of observation is a loan contract-lead officer pair. Panel B shows statistics from the covenant violation sample, where the unit of observation is a firm-quarter-lead officer pair. Both sample spans from the period 1994–2012.

Panel A: Loan Level Sample

	N	Mean	Std. Dev.	Median
Distraction	11,038	0.7137	0.4520	1
Spread	9,668	226.1211	147.8633	200
CreditEvent	11,038	0.2242	0.4171	0
SoftInformation	6,741	5.5001	2.8723	6
Size	7,798	7.6612	1.6773	7.6284
Age	7,798	20.9653	16.8384	15
Profitability	7,798	0.1175	0.0995	0.1155
Tangibility	7,797	0.4160	0.2984	0.3784
M/B	7,598	1.5731	0.7516	1.3851
Leverage	7,798	0.3391	0.2022	0.3244
Rated	7,798	0.6196	0.4855	1
Portfolio Size	11,038	66.4833	88.2881	39

Panel B: Covenant Violation Sample

	N	Mean	Std. Dev.	Median
Distraction	48,161	0.3873	0.4871	0
Investment	46,089	0.0634	0.0778	0.0451
Default	48,161	0.0201	0.1403	0
Violation	48,161	0.2879	0.4528	0
Portfolio Size	48,161	70.4570	100.0822	41
Slack	43,070	3.5260	9.1542	1.6114
$Slack^2$	43,070	96.2297	308.6906	8.4525
$Slack^3$	43,070	2446.2570	13552.1200	4.1843
$Slack^4$	43,070	104547.8	620458.1	71.4448

Table 2
Distraction and Loan Officer Pricing
This table shows the pricing effect of distracted loan officers. The sample is a loan-level panel, spanning the period of 1994–2012. *Distraction* is defined as a loan officer facing at least one refinancing deal in the same industry or state as her/his focused industry or state within one month of the issuance of the loan of interest. The dependent variable is all-in-drawn loan spreads, in basis points over LIBOR. Column (1) controls for loan-type-fixed effects, lender-year-fixed effects, and loan officer-fixed effects. Column (2) additionally controls for the portfolio size of the loan officer, defined as the number of previous issued loans that are outstanding in her portfolio. Column (3) further controls for industry-fixed effects and state-fixed effects.

Dep. Var.: *Spread*	(1)	(2)	(3)
Distraction	-11.8070**	-11.7909**	-11.6294**
	(-2.49)	(-2.49)	(-2.40)
Size	-23.6747***	-23.6937***	-22.8013***
	(-13.96)	(-13.97)	(-13.07)
Age	-0.4322***	-0.4290***	-0.3830***
	(-3.66)	(-3.64)	(-3.13)
Profitability	-65.6306***	-66.3912***	-82.0719***
	(-3.25)	(-3.29)	(-4.02)
Tangibility	23.8571***	24.0697***	22.2818**
	(2.60)	(2.62)	(2.25)
M/B	-18.7387***	-18.7158***	-18.4267***
	(-6.88)	(-6.87)	(-6.52)
Leverage	76.9807***	76.6836***	61.3952***
	(7.18)	(7.15)	(5.50)
Rated	8.0657*	8.1838*	4.4820
	(1.71)	(1.74)	(0.92)
Portfolio Size		-0.0214	-0.0215
		(-0.82)	(-0.83)
Loan Type FE	Yes	Yes	Yes
Lender-Year FE	Yes	Yes	Yes
People FE	Yes	Yes	Yes
Industry FE	No	No	Yes
State FE	No	No	Yes
Observations	5,859	5,859	5,758
R-squared	0.7086	0.7086	0.7176

*** p-value<0.01, ** p-value<0.05, * p-value<0.10

Table 3
Distraction and Credit Events

This table shows the monitoring effect of distracted loan officers. The sample is a loan-level panel, spanning the period of 1994–2012. *Distraction* is defined as a loan officer facing at least one refinancing deal in the same industry or state as her/his focused industry or state within one month of the issuance of the loan of interest. The dependent variable is loan performance, *CreditEvent*, which is a dummy variable that equals one if the borrower is rated as default, faces a downgrade, or files for bankruptcy before the maturity of the loan contract. Column (1) controls for loan-type-fixed effects, lender-year-fixed effects, and loan officer-fixed effects. Column (2) additionally controls for the portfolio size of the loan officer, defined as the number of previous issued loans that are outstanding in her portfolio. Column (3) further controls for industry-fixed effects and state-fixed effects.

Dep. Var.: *CreditEvent*	(1)	(2)	(3)	(4)
Distraction	0.0351**	0.0351**	0.0495***	0.0411**
	(2.23)	(2.23)	(3.10)	(2.34)
Size	-0.0311***	-0.0309***	-0.0363***	-0.0501***
	(-5.43)	(-5.40)	(-6.24)	(-7.72)
Age	0.0024***	0.0024***	0.0023***	0.0039***
	(5.97)	(5.89)	(5.53)	(8.97)
Profitability	-0.2058***	-0.2000***	-0.1947***	-0.1726**
	(-2.95)	(-2.86)	(-2.78)	(-2.37)
Tangibility	0.1962***	0.1950***	0.2237***	0.2192***
	(6.28)	(6.24)	(6.74)	(6.18)
M/B	-0.0238**	-0.0239**	-0.0208**	-0.0334***
	(-2.56)	(-2.58)	(-2.19)	(-3.30)
Leverage	0.2988***	0.3016***	0.3393***	0.3643***
	(8.18)	(8.25)	(9.01)	(9.09)
Rated	0.2487***	0.2476***	0.2637***	0.2528***
	(15.32)	(15.25)	(15.97)	(14.57)
Portfolio Size		0.0002*	0.0002*	0.0002***
		(1.86)	(1.92)	(2.60)
Loan Spreads				-0.0001
				(-1.43)
Loan Covenants				-0.0067
				(-1.34)
Loan Maturity				0.0048***
				(15.44)
Loan Type FE	Yes	Yes	Yes	Yes
Lender-Year FE	Yes	Yes	Yes	Yes
People FE	Yes	Yes	Yes	Yes
Industry FE	No	No	Yes	Yes
State FE	No	No	Yes	Yes
Observations	6,634	6,634	6,514	5,695
R-squared	0.5297	0.5300	0.5540	0.6010

*** p-value<0.01, ** p-value<0.05, * p-value<0.10

Table 4
Cross-Sectional Variations

This table shows the cross-sectional variation in the monitoring of distracted loan officers. The sample is a loan-level panel, spanning the period of 1994–2012. *Distraction* is defined as a loan officer facing at least one refinancing deal in the same industry or state as her/his focused industry or state within one month of the issuance of the loan of interest. The dependent variable is loan performance, *CreditEvent*, which is a dummy variable that equals one if the borrower is rated as default, faces a downgrade, or files for bankruptcy before the maturity of the loan contract. Panel A partitions the sample according to loan officer characteristics. Column (1) examine the effect of loan officers' distraction on loan performance when the officer graduated from a top-10 ranked school. Column (2) examines loan officers that did not graduate from a top-10 school. Column (3) examines the effect of distraction for loan officers that have titles of Director or above. Column (4) examines loan officers with VP-level titles. Columns (5) and (6) partition the sample based on whether a loan officer moves across over three banks during her career. Columns (7) and (8) partition the sample based on whether the officer starts her career with a reputable or a non-reputable bank i.e., banks whose average level of syndicate participants are in the top or bottom tercile of the sample. Panel B partitions the sample according to bank-level characteristics. Column (1) examines cases where the bank has the same industry or geographical focus as the loan officers. Column (2) examines cases where the bank has a different focus from the officer. Column (3) and (4) partition the sample based on whether the bank is single-layered. Columns (5) and (6) examine large banks, i.e., banks with top-tercile market share, and small banks, i.e., banks with bottom-tercile market share. Columns (7) and (8) examine concentrated banks and diverse banks, based on whether a bank's industry and geogrpahical Herfindahl Index is in the top or bottom tercile of the sample. All regressions controls for officers' portfolio sizes, loan-type-fixed effects, lender-year-fixed effects, loan officer-fixed effects, industry-fixed effects, and state-fixed effects.

Panel A: Loan Officer Characteristics

Sample	Graduate from Top-10 School		Director or Above		Frequent Movers		Start with Reputable Bank	
	Yes	No	Yes	No	Yes	No	Yes	No
Dep. Var.: *CreditEvent*	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Distraction	0.0174	0.0319**	0.0658**	0.0070	0.1175	0.0317**	-0.1050	0.0899
	(0.24)	(2.43)	(2.08)	(0.29)	(1.21)	(2.44)	(-0.86)	(1.50)
Size	-0.0101	-0.0180***	0.0495***	0.0216**	-0.0803***	-0.0136***	0.0431	0.0519*
	(-0.44)	(-3.60)	(3.26)	(2.13)	(-2.96)	(-2.75)	(0.99)	(1.92)
Age	-0.0030*	0.0015***	0.0008	0.0004	0.0017	0.0010***	0.0028	0.0092***
	(-1.79)	(4.04)	(0.71)	(0.59)	(0.87)	(2.83)	(0.96)	(5.03)
Profitability	0.4049	-0.2528***	-0.8472***	-0.4603***	0.2703	-0.2318***	-0.2139	0.1069
	(1.15)	(-4.19)	(-3.49)	(-3.61)	(0.78)	(-3.80)	(-0.41)	(0.44)
Tangibility	0.2331	0.1401***	0.0299	-0.0052	0.0851	0.1406***	-0.1083	0.6173***
	(1.54)	(4.81)	(0.31)	(-0.08)	(0.64)	(4.80)	(-0.46)	(4.30)
M/B	-0.0258	-0.0259***	-0.0499**	0.0080	-0.1195**	-0.0188**	-0.1235**	-0.0232
	(-0.73)	(-3.21)	(-2.22)	(0.63)	(-2.36)	(-2.40)	(-2.02)	(-0.49)
Leverage	0.1002	0.2538***	0.0212	0.1546***	0.3724	0.2654***	-0.0623	0.5323***
	(0.80)	(8.06)	(0.24)	(2.60)	(1.50)	(8.64)	(-0.26)	(2.89)
Rated	0.2415***	0.2527***	0.2329***	0.2501***	0.3432***	0.2558***	0.2295**	0.0537
	(3.34)	(17.76)	(5.46)	(8.79)	(4.30)	(18.08)	(2.07)	(0.78)
Portfolio Size	-0.0003	0.0002**	-0.0002	0.0004	0.0002	0.0002**	-0.0002	0.0008
	(-0.75)	(2.13)	(-0.71)	(1.40)	(0.59)	(1.99)	(-0.20)	(0.39)
Loan Type FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Lender-Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry and State FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	436	6,794	1,099	1,700	388	6,838	253	468
R-squared	0.5727	0.3956	0.6980	0.5879	0.6005	0.3892	0.7487	0.6509

Panel B: Bank Characteristics

Sample	Bank Has Same Focus		Single-Layered Bank		Bank Size		Bank Diversity	
	Yes	No	Yes	No	Large	Small	Concentrated	Diverse
Dep. Var.: *CreditEvent*	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Distraction	-0.0150	0.0464***	-0.0104	0.0648***	0.0103	0.0342**	0.0060	0.0531**
	(-0.82)	(3.48)	(-0.61)	(4.74)	(0.42)	(2.29)	(0.34)	(2.45)
Size	-0.0131*	-0.0074	-0.0291***	-0.0050	-0.0359***	0.0193***	0.0214***	-0.0224***
	(-1.79)	(-1.41)	(-4.25)	(-0.94)	(-4.59)	(2.93)	(2.98)	(-3.06)
Age	0.0018***	0.0004	0.0024***	0.0003	0.0023***	0.0006	0.0003	0.0001
	(3.24)	(0.85)	(4.68)	(0.75)	(4.07)	(1.00)	(0.53)	(0.11)
Profitability	-0.0461	-0.1771**	-0.0745	-0.1412**	-0.4331***	-0.0747	-0.0093	-0.2569***
	(-0.65)	(-2.48)	(-0.99)	(-2.14)	(-4.80)	(-1.05)	(-0.12)	(-2.70)
Tangibility	0.1757***	0.0879***	0.1802***	0.0969***	0.1940***	0.1509***	0.1081**	0.2508***
	(4.43)	(2.73)	(4.51)	(3.04)	(4.62)	(3.96)	(2.51)	(5.89)
M/B	-0.0206*	-0.0421***	-0.0287***	-0.0338***	-0.0088	-0.0074	-0.0378***	-0.0121
	(-1.87)	(-4.83)	(-2.84)	(-3.81)	(-0.70)	(-0.79)	(-3.37)	(-1.04)
Leverage	0.5355***	0.1130***	0.3145***	0.2395***	0.4400***	0.2866***	0.1671***	0.2875***
	(11.67)	(3.36)	(7.31)	(6.95)	(9.12)	(6.56)	(3.35)	(6.22)
Rated	0.2021***	0.2861***	0.2091***	0.2904***	0.2782***	0.2103***	0.1868***	0.3159***
	(9.29)	(17.49)	(10.34)	(17.33)	(12.01)	(10.28)	(7.89)	(13.84)
Portfolio Size	0.0001	0.0003***	0.0003**	0.0001	0.0003***	0.0006***	-0.0005	0.0001
	(1.62)	(3.82)	(2.03)	(0.99)	(4.07)	(3.30)	(-1.55)	(1.41)
Loan Type FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2,630	4,818	3,000	4,448	2,449	2,549	2,026	2,775
R-squared	0.2731	0.2248	0.2569	0.2593	0.3086	0.3241	0.2843	0.2906

*** p-value<0.01, ** p-value<0.05, * p-value<0.10

Table 5
Distraction and the Use of Soft Information
This table shows the effect of loan officer distraction on the use of soft information. The sample is a loan-level panel, spanning the period of 1994–2012. *Distraction* is defined as a loan officer facing at least one refinancing deal in the same industry or state as her/his focused industry or state within one month of the issuance of the loan of interest. The dependent variable is *SoftInformation*, defined as the decile rank of the residual from a regression of loan spreads on loan type-fixed effects and firm characteristics. Column (1) controls for loan-type-fixed effects, lender-year-fixed effects, and loan officer-fixed effects. Column (2) additionally controls for the portfolio size of the loan officer, defined as the number of previous issued loans that are outstanding in her portfolio. Column (3) further controls for industry-fixed effects and state-fixed effects. All regressions control for loan terms, including spreads, covenants, and maturity.

Dep. Var.: *SoftInformation*	(1)	(2)	(3)
Distraction	-0.2420***	-0.2413***	-0.2182**
	(-2.67)	(-2.66)	(-2.33)
Size	-0.1481***	-0.1489***	-0.1432***
	(-4.57)	(-4.59)	(-4.24)
Age	0.0044**	0.0046**	0.0069***
	(1.96)	(2.02)	(2.90)
Profitability	-3.5092***	-3.5426***	-3.9886***
	(-9.10)	(-9.17)	(-10.10)
Tangibility	0.0858	0.0952	0.0365
	(0.49)	(0.54)	(0.19)
M/B	0.0218	0.0228	0.0389
	(0.42)	(0.44)	(0.71)
Leverage	-0.0626	-0.0756	-0.0853
	(-0.31)	(-0.37)	(-0.39)
Rated	-0.1745*	-0.1693*	-0.2152**
	(-1.94)	(-1.88)	(-2.29)
Portfolio Size		-0.0009*	-0.0009*
		(-1.88)	(-1.87)
Loan Type FE	Yes	Yes	Yes
Lender-Year FE	Yes	Yes	Yes
People FE	Yes	Yes	Yes
Industry FE	No	No	Yes
State FE	No	No	Yes
Observations	5,859	5,859	5,758
R-squared	0.6611	0.6613	0.6625

*** p-value<0.01, ** p-value<0.05, * p-value<0.10

Table 6
Distraction and Investment After Covenant Violation
This table shows the effect of loan officer distraction on borrowers' investment following their covenant violation. The sample is a firm-quarter-loan officer-level panel, spanning the period of 1994–2012. *Distraction* is defined as a loan officer facing at least one refinancing deal in the same industry or state as her/his focused industry or state within one month of the issuance of the loan of interest. *Violation* is a dummy variable indicating whether a covenant has been violated on a loan contract that the officer issues to the firm. The dependent variable is *Investment*. Column (1) controls for lender-year-fixed effects and loan officer-fixed effects. Column (2) additionally controls for the portfolio size of the loan officer, defined as the number of previous issued loans that are outstanding in her portfolio. Column (3) further controls for industry-fixed effects and state-fixed effects.

Dep. Var.: *Investment*	(1)	(2)	(3)
Distraction	-0.0014	-0.0014	-0.0009
	(-1.20)	(-1.15)	(-0.77)
Violation	-0.0115***	-0.0115***	-0.0105***
	(-9.05)	(-9.05)	(-8.22)
*Violation*Distraction*	0.0064***	0.0064***	0.0063***
	(4.44)	(4.45)	(4.31)
Slack	-0.0000	-0.0000	0.0001
	(-0.10)	(-0.10)	(0.75)
$Slack^2$	-0.0000**	-0.0000**	-0.0000**
	(-2.53)	(-2.53)	(-2.24)
$Slack^3$	0.0000***	0.0000***	0.0000***
	(3.55)	(3.55)	(3.06)
$Slack^4$	-0.0000***	-0.0000***	-0.0000***
	(-2.75)	(-2.74)	(-2.65)
Portfolio Size		-0.0000	-0.0000
		(-0.61)	(-0.63)
Lender-Year FE	Yes	Yes	Yes
People FE	Yes	Yes	Yes
Industry FE	No	No	Yes
State FE	No	No	Yes
Observations	39,602	39,602	38,717
R-squared	0.3996	0.3996	0.4153

*** p-value<0.01, ** p-value<0.05, * p-value<0.10

Table 7
Distraction and Default After Covenant Violation
This table shows the effect of loan officer distraction on borrowers' default rates following a covenant violation. The sample is a firm-quarter-loan officer-level panel, spanning the period of 1994–2012. *Distraction* is defined as a loan officer facing at least one refinancing deal in the same industry or state as her/his focused industry or state within one month of the issuance of the loan of interest. *Violation* is a dummy variable indicating whether a covenant has been violated on a loan contract that the officer issues to the firm. The dependent variable is *Default*, which is a dummy variable indicating whether the borrower will default in the following three years. Column (1) controls for lender-year-fixed effects and loan officer-fixed effects. Column (2) additionally controls for the portfolio size of the loan officer, defined as the number of previous issued loans that are outstanding in her portfolio. Column (3) further controls for industry-fixed effects and state-fixed effects.

Dep. Var.: *Default* (3 years)	(1)	(2)	(3)
Distraction	-0.0016	-0.0016	-0.0011
	(-0.71)	(-0.73)	(-0.49)
Violation	-0.0015	-0.0015	-0.0038
	(-0.61)	(-0.61)	(-1.55)
*Violation*Distraction*	0.0099***	0.0099***	0.0101***
	(3.60)	(3.60)	(3.63)
Slack	-0.0042***	-0.0042***	-0.0044***
	(-16.48)	(-16.49)	(-16.86)
$Slack^2$	0.0001***	0.0001***	0.0001***
	(9.38)	(9.38)	(9.74)
$Slack^3$	0.0000***	0.0000***	0.0000***
	(12.71)	(12.72)	(13.04)
$Slack^4$	-0.0000***	-0.0000***	-0.0000***
	(-12.85)	(-12.85)	(-13.20)
Portfolio Size		0.0000	0.0000
		(0.28)	(0.46)
Lender-Year FE	Yes	Yes	Yes
People FE	Yes	Yes	Yes
Industry FE	No	No	Yes
State FE	No	No	Yes
Observations	41,327	41,327	40,004
R-squared	0.4066	0.4066	0.4200

*** p-value<0.01, ** p-value<0.05, * p-value<0.10