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The Potential for Biases in Resolving Loan Problems

Richard Brody

Anderson School of Management, University of New Mexico, Albuquerque, United States. (505) 277-7258, ORCID ID: 0000-0001-8060-7862

Matias Sokolowski

Corresponding Author: Anderson School of Management, University of New Mexico, Albuquerque, United States. (505) 277-6471, ORCID ID: 0000-0001-5375-3338

Reilly White

Anderson School of Management, University of New Mexico, Albuquerque, United States. (505) 277-3403, ORCID ID: 0000-0003-2461-5766

Abstract

This paper describes how behavioral biases influence the resolution of financial covenant violations. Prior literature documents that violation waivers are common; however, there is a lack of discussion on the determinants that lead loan officers to waive covenant violations. We rely on the escalation of commitment bias (or the sunk cost phenomenon) to discuss how loan officers may become attached to a selected course of action and fail to incorporate new information, increasing the likelihood of covenant waivers. We explain the implications of this bias on bank financial reports by detailing how accounting links loan quality to bank financial statements. We further draw on the psychology literature to offer potential solutions to mitigate overcommitment in the context of loan officers. Future research can examine the extent to which loan officers knowingly or unknowingly steer away from rational decision-making. This study has practical implications as users of bank financial reports, including investors, auditors, examiners, and bank managers, learn about processes and challenges on how accounting mechanics link bank loan portfolios to financial statements.

Keywords: Behavioral biases; Escalation of commitment; Financial covenant violations; Covenant waivers

JEL Classifications: G21; M40

Introduction

The use of financial covenants in commercial loans is widespread. Loan officers rely on financial covenants, which take the shape of financial ratios, to restrict borrower behavior, and it is common for borrowers to violate covenants (e.g., Dichev and Skinner, 2002). This breach of contract requires the lender to make sequential judgments regarding the severity of the violation and decide on a course of action, ranging from waiving the covenant violation to recalling the loan. However, the lender often issues covenant waivers and does not change the loan structure (Chodorow-Reich and Falato, 2020). While the literature on loan contracts shows that lenders commonly waive financial covenant violations, there is little discussion on the determinants that drive the lender to this decision and the implications of waiving covenant violations. The purpose of this paper is to introduce a behavioral bias that influences the resolution of covenant violations and discuss the impact of misinterpreting violations on credit risk management and banks' financial statements.

Assessing the severity of a financial covenant violation is not an easy task. Loan officers write covenants based on the borrower's information at the time of loan origination. However, borrower and market conditions may change over time. Further, the borrower may be subject to one-time adverse events that trigger a violation but are unlikely to recur. Therefore, covenant violations can fall anywhere in the spectrum of credit risk, ranging from an insignificant to a material increase in credit risk.

While the loan officer relies on facts to decide on a course of action, behavioral biases may cloud the risk assessment. Biases can influence any judgment, including the resolution of financial covenants. Some biases tend to occur when decision-makers commit to a course of action. Despite learning subsequent contradictory evidence, individuals make choices that support the initial course of action. This type of bias is known as "escalation of commitment" or "sunk cost phenomenon" (Staw, 1981).

Studies have shown escalation of commitment in different business contexts. For example, loan officers who originated a loan to a borrower are more likely to continue lending funds to the same borrower even if their performance suggests otherwise. In contrast, lenders who did not make the first loan but rely on the same information are less likely to lend to that borrower (Ruchala et al., 1996). Similarly, auditors who make an initial evaluation of a loan and subsequently learn information about a borrower's deteriorating performance tend to stick to their initial assessment and therefore rate the borrower more favorably. However, auditors exposed to the same information but did not make an initial evaluation are more likely to incorporate that contradictory evidence in subsequent judgment (Jeffrey, 1992).

In the context of financial covenants, escalation of commitment can influence how loan officers resolve violations. A loan officer approves a loan (or recommends the loan for approval to a credit committee) based on the borrower's information at loan origination. Based on that initial assessment and loan structure, the loan officer concludes the default risk is low. However, after that initial decision, the escalation of commitment bias can influence future loan decisions. One potential place where this bias can occur is in the resolution of financial covenant violations. When these occur, the loan officer must decide and document whether there is a material increase in credit risk. This assessment is not always clear-cut, and therefore loan officers can be influenced by their prior decision. The loan officer's decision may be unconscious since the lender unknowingly continues supporting a failing course of action. However, this bias can also be conscious since the lender may continue supporting an initial course of action to protect his image, support personal connections with the borrower, benefit from potential job opportunities, or gain other financial interest (Berger and Udell, 2002). The overcommitment bias, whether conscious or unconscious, influences how the loan officer resolves the violation.

If the loan officer concludes that the breach does not indicate a material increase in credit risk, there is no need to penalize the borrower. Therefore, the loan officer waives the violation and does not act against the borrower, such as imposing new loan conditions, renegotiating to stricter terms, or accelerating maturity, among other options. Similarly, concluding that the covenant violation does not capture an increase in credit risk often results in the loan officer's redefining the financial covenants to avoid the borrower triggering the same covenants in similar events. However, suppose the loan officer's assessment of the severity of the violation is incorrect, and the financial covenant breach represents an increase in credit risk. In that case, the bank is not acting against an increase in borrower default risk and is not adjusting the accounting numbers on the bank financial statements to represent the true economics of the bank loan portfolio.

Behavioral biases can negatively impact long-term bank performance and affect the reliability of bank financial statements. Covenant violations allow the lender to step in and protect from potential losses. However, waiving covenant violations and not taking action expose banks to higher credit risk. Further, not recognizing increases in credit risk on a timely basis impacts bank financial statements' usefulness. Omitting loan problems decreases bank financial statements' reliability as loan reserves do not reflect the corresponding risk, and the loan portfolio overstates bank assets.

The literature on financial covenants primarily addresses the financial aspects of the determinants and consequences of financial covenants relying on economic theories. For instance, extant research examines how lenders design financial covenants (e.g., Christensen et al., 2016; Demerjian and Owens, 2016; Dichev and Skinner, 2002), the impact of violations on the borrower (e.g., Demiroglu and James, 2010; Freudenberg et al., 2017; Saunders et al., 2012), and how bank characteristics affect loan contract outcomes (Acharya et al. (2020); Wang and Xia, 2014; Chodorow-Reich and Falato, 2017). However, we know less about the non-financial factors and behavioral biases that affect decision-making pertaining to financial covenants. Our study focuses on a common type of bias known as "escalation of commitment" (also known as "sunk cost phenomenon" or "throwing good money after bad") and how this bias affects the assessment of covenant violations and their resolution. This study explains why violations are frequent, but the lender less frequently enforces penalties. In doing so, this study also contributes to the literature on relationship lending that seeks to explain how bank-borrower relationships work, including how banks acquire borrower information and how lenders process borrower information (Berger and Udell, 1998; 2002).

We contribute to the literature by describing the accounting process that links loan quality to banks' financial statements. We apply and discuss the behavioral biases that can arise in this process, affecting the mapping of the true economics of the loan portfolio to bank financial reports. In particular, we explain which accounts are misstated on the bank financial statements. We further draw on the psychology literature to offer solutions in the lending setting to mitigate overcommitment. Due to the potential for hidden credit risk and impaired reliability of bank financial statements, this paper is of interest to credit administrators, auditors, examiners, and users of bank financial information.

The rest of the paper will proceed as follows. The following section reviews the literature and presents a theoretical background, detailing how covenant violations map into bank financial reports and how behavioral biases may impair this process. The discussions and summary section describes techniques that lenders can rely on to reduce biases in resolving covenant violations. The last section concludes and provides directions for future researchers.

Literature Review

Commercial loans typically have financial covenants, which require the borrower to comply with thresholds such as interest coverage ratios (e.g., EBITDA/Interest) and liquidity ratios (Demiroglu and James, 2010). Consistent with agency theory and incomplete contracting theory, covenants reduce agency costs and allocate control rights (Christensen et al., 2016). According to agency theory, financial covenants limit actions that expropriate wealth from lenders. For example, net-worth-based financial covenants restrict dividend payouts, balance-sheet covenants restrict additional debt issuance, and profitability-based covenants limit the borrower's riskiness. According to incomplete contracting theory, covenants are also set to allocate control to the party with incentives to maximize value. Since the borrower and lender cannot anticipate all future outcomes, the contracting parties use covenants to assign control rights. When the borrower violates covenants, the lender takes control and can choose from a menu of options.

Consistent with the idea of restricting borrower's activities and allocating control rights, covenants are set tightly. Lenders impose financial covenants based on borrower fundamentals and lender attributes (e.g., Demerjian and Owens, 2016). The distance between the required and actual ratios (known as covenant slack) is narrow to allow the lender to restrict borrower activities and step in to take control. Further, financial covenants are measured for compliance frequently, typically every quarter for the loan duration. Since covenants are set tightly and measured often, it is not uncommon for the borrower to trigger a covenant and provide the lender with an early warning of an increase in credit risk (Dichev and Skinner, 2002).

When a covenant violation occurs, the lender can choose from different options. The lender waives the violations when she concludes that the increase in credit risk is immaterial. The loan officer's most drastic

decision is the loan agreement's termination, which requires the borrower to immediately pay off the loan (or find a new lender who will pay off the initial lender). However, the lender rarely exercises this option. Several other options fall in between the waiver and termination. The lender can increase interest rates, demand additional collateral, decrease the lending commitment, demand a partial payment, and shorten the loan's maturity.

Prior literature shows that covenant violations have implications on the contracting parties. Negative experiences with borrowers affect how lenders underwrite subsequent loans. Banks respond to increased credit market risk by changing the nature of the covenants themselves (Christensen et al., 2021). During a financial shock, loan officers will impose more strict performance-based covenants surrounding profitability and firm efficiency. Doing so allows banks concerned about their screening abilities to monitor borrowers for any warning indicating a deterioration in credit quality. Capital covenants which are based on balance sheet items and focus on debt and capital structure were likewise reduced to allow greater flexibility for the borrower (Christensen and Nikolaev, 2012).

Covenant violations also have implications for the borrower. Not only does the borrower suffer more stringent repayment terms following a violation, but higher interest rates on new loans and additional financial covenants (Freudenberg et al., 2017). Borrowers who switch banks following a covenant violation received higher interest rates and were likely to violate future covenants (Saunders et al., 2012). Due to the critical consequences of covenant violations on both lenders and borrowers, the loan officer plays an important role when deciding to waive a violation.

The nature of loan covenants themselves is also an important indicator of loan viability. Many loan officers impose covenants when there is substantial uncertainty around the borrower's financial condition (Demerjian, 2010). On the other hand, even with a single covenant violation, the borrower faces both an increase in loan spread and a higher default risk three months after the violation (Saunders et al., 2012). Clever loan officers can tailor covenants to optimize the performance of the borrowing firm. Covenants derived from income statement ratios are positively correlated to borrower performance, while those derived from balance sheet ratios are negatively correlated (Demerjian, 2010).

Covenant violations enable a bank to renegotiate their contracts with the borrower, including a restricted line of credit availability, higher interest rates, and even termination of the loan contract. However, lenders most often choose to either waive the violation or renegotiate the loan terms. Prior research shows that assessing the severity of the covenant violation is based upon the borrower's financial condition. Still, lenders also consider loan features, regulatory environment, and overall liquidity risk the bank presents, among others (HassabElnaby, 2006).

By imposing covenants, lenders utilize both the financial credibility of the firm and the private information the loan officer holds regarding borrower reliability. Thus, the information content of the loan covenants also matters. Demiroglu and James (2010) find that violations of tighter debt covenants were substantially less impactful on borrower investment activity than breaches of 'loosely set' covenants. Tighter covenants, where the bank imposes financial covenant restrictions with little 'slack' around current values, are violated more often but have less of a negative effect on the borrower. By extension, the expectation that the borrower's financial position would improve encourages lenders to provide both tighter covenants but less severe consequences for borrowers who violated them.

Banks participating in securitized lending markets were more likely to create looser covenants and invest less in monitoring these loans after origination (Wang and Xia, 2014). Active monitoring is crucial for not only recognizing covenant violations but obtaining waivers. Firms already being actively monitored were more likely to get waivers for covenant violations (Gustafson et al., 2020), indicating that loan officers' opinions on the severity of the covenant violation are related to borrower transparency.

Loan officers are also more severe with borrowers whose covenant violations pressure the bank's current liquidity position. During the collapse of the asset-backed commercial paper market (ABCP) that began in late 2007, Acharya et al. (2020) found that banks with high ABCP exposure imposed more severe covenant restrictions on lines of credit in firms. Lenders in poor financial health are more likely to punitively reduce loan commitments to borrowers (Chodorow-Reich and Falato, 2017). Banking institutions in better fiscal health were also more likely to be magnanimous and offer waivers to covenant violators. Banks exposed to financial

crises are also more likely to be more severe with borrowers' covenant violations (Ao et al., 2019), resulting in a greater likelihood of borrower distress.

While prior literature describes the probability of issuing a covenant waiver in terms of both the bank's financial health and the prevailing macroeconomic conditions, we know little about the behavioral biases that affect this decision. Next, we describe how covenant violations map into bank financial reports to understand how biases may appear and impair the process.

Theoretical Background

How do covenant violations and waivers affect banks' financial reports? Figure (1) shows how accounting mechanics link violations to bank financial reports.

Figure 1: Model 1- The accounting process associated with covenant violations

Banks maintain complex internal rating processes to gauge borrowers' credit quality (Li and McMahan, 2015). In these systems, the borrower is graded, and covenants are imposed depending on the loan's risks at loan origination. When a financial covenant violation takes place, the loan officer assesses the severity of the violation. The loan officer interacts directly with the clients and is the first bank employee to learn about loan problems. The loan officer analyzes the borrower's financial statements, measures the covenants for compliance, and requests other information explaining the borrower's performance. While the loan officer relies on hard information, which is characterized by numbers (e.g., financial statements, tax returns), the loan officer gains a lot of soft information from the borrower (e.g., opinions, plans, market commentary) (Liberti and Petersen, 2019). Hard and soft information create a context in which to evaluate the severity of the covenant violation. However, the loan officer may depart (knowingly or unknowingly) from rational decision-making by weighing information differently and using soft information to qualify the hard information to support his/her initial course of action.

To resolve the violation, the loan officer chooses from several available options. If the lender concludes the increase in credit risk is minimal, the lender issues a waiver. Waiving the violation and concluding there is no increase in credit risk implies that no further accounting treatment is required. This option occurs frequently, and the borrower may incur fees. If the lender also concludes that the violation captures immaterial increases in credit risk, he may redefine the financial covenants. The lender can loosen financial covenants by

increasing covenant slack (i.e., the distance between the required and actual ratios) or redefining the covenant to include/exclude other items. The waiver is the least costly to the borrower.

However, the lender may conclude an increase in credit risk and internally downgrades the loan. The downgrade leads to an increase in loan loss reserves, as shown in Figure (1). From an accounting perspective, credit quality deterioration includes a credit to the allowance for loan and lease losses (ALLL) and a debit to an expense account called provision for loan and lease losses. The ALLL is a contra-asset account that reduces the amount of total loan receivable and reflects the loan portfolio risk. Further, credit loss recognition decreases bank profitability and Tier 1 capital (Beatty and Liao, 2014). Therefore, the recognition of asset quality deterioration leads to lower total loans (i.e., lower total assets), higher credit losses, and lower capital levels.

This process shows that misinterpreting the severity of the violation and issuing a waiver when the violation indicates an increase in credit risk has important implications in the quality of bank financial statements since bank reports do not reflect the true economics of the loan portfolio. Failing to recognize an increase in credit risk (whether small or material) understates the loan loss reserve and overstates regulatory capital.

The potential for biases in rating loans is likely to happen with commercial loans because of accounting rules and the accumulation of 'soft' information by the loan officer. In contrast, other loans are less likely to suffer from loan officer biases. For example, small commercial loans, credit card loans, installment loans, and consumer loans are assigned internal risk grades based on automated rules that depend on historical statistics, credit scores, payment history, and other risk indicators. Small loans follow rigid rules, which prevent, to some extent, loan officer biases. In contrast, evaluating large loans on an individual basis may allow for biases to exist when interpreting the severity of covenant violations.

Once the loan officer concludes what the resolution should be, he may have to seek approval from his supervisors and credit administrators. The extent of how much power the loan officer has depends on the bank's internal policies. Since commercial loans tend to be large (relative to consumer loans), loan officers commonly request supervisors' and credit administrators' approval. While other bank employers may influence the resolution of violations, they rely on the loan officer's information. If biases are present, whether conscious or unconscious, the same inputs can affect third parties' decision-making.

Figure (1) clearly shows that the loan officer is important in mapping loan quality into bank financial reports. However, the loan officer may steer away from rational decision-making. We now develop in detail how behavioral biases may cloud the risk assessment, increasing the likelihood of issuing a covenant waiver and affecting the mechanics described in Figure (1).

Escalation of commitment takes place in sequential decision-making. It refers to the tendency to provide judgment consistent with prior assessments, therefore escalating commitment to a chosen action course (Staw, 1981). The problem arises when the individual fails to incorporate new information that updates his or her beliefs. While contradictory evidence suggests otherwise, the decision-maker supports the initial decision and continues providing resources to a potentially unprofitable course of action to justify prior choices. The decision-maker that falls prey to this bias can make an initial decision consistent with a rational decision-maker. That is, the decision-maker can make the "right" decision based on the initial information. However, biases can affect how the individual interprets newly arrived information, suggesting a different course of action.

This bias occurs due to the motivation to justify past decisions. Individuals need to demonstrate competence by showing that their earlier decision was correct, ultimately protecting their image. Therefore, individuals depart from rational decision-making by weighing information differently to maintain the initially selected course of action. This escalation tendency has been shown in the banking industry and loan-related decisions. For example, loan officers who approved a loan are more likely to support a second loan to the same borrower even if borrower conditions deteriorated. In contrast, loan officers who did not make the initial loan are less likely to make the second loan given the same borrower conditions (Ruchala et al. 1996). Further work shows that professional auditors evaluating loan portfolios are also subject to the escalation of commitment (Jeffrey, 1992). We extend prior work on the escalation of commitment in the banking industry by discussing how this behavioral bias affects the resolution of financial covenant violations.

The conditions necessary for escalation of commitment to occur are (1) a series of decisions, (2) negative feedback about a previous decision, and (3) the choice to continue (Brockner, 1992). The setting of financial covenant violations presents these three conditions allowing for this bias to influence decision-making. First, there is a series of decisions. The loan officer makes an initial assessment of the borrower. Then, the borrower can trigger a financial covenant requiring the loan officer to reassess the loan. This means that commercial lending is not always an isolated decision concerning each commercial loan. Instead, the loan officer faces a series of decisions. Second, the loan officer learns negative information about his initial decision. Covenant violations mean that the borrower fails to comply with their covenants, indicating an increase in credit risk. Last, the loan officer has the choice to continue with his chosen course of action. The loan officer can waive the violations and continue with the loan or can modify the loan terms. Clearly, this setting has the conditions necessary for the commitment bias to occur.

Falling prey to this bias has negative consequences because it affects banks' exposures to risk and reduces bank financial statements' reliability. Covenant violations mean a potential increase in credit risk and allow the lender to protect from such an increase in risk. The loan officer can charge fees, increase interest rates, demand a partial principal payment, require additional collateral, reduce maturity, and even the drastic decision to order payoff. However, the loan officer does not always take action to protect from increases in credit risk. Instead, the loan officer often waives the violation postponing the decision to take action in hopes that the borrower's situation will improve.

Failing to recognize the increase in credit risk affects the reliability of financial statements. Banks maintain loan rating systems to allocate reserves (Treacy and Carey, 2000). If the loan officer does not downgrade the loan on a timely basis, the bank will not increase its loan reserves. From an accounting perspective, the bank does not recognize an increase in the provision for loan losses (an expense account that reduces capital ratios). It does not increase the allowance for loan losses (a contra-asset account that decreases total loans). Therefore, the bank is understating its loan loss reserves and overstating assets and capital levels.

Whether the loan officer is prone to this bias affects bank exposure to credit risk and financial statements' reliability. Therefore, this issue and potential solutions are of interest to the loan officer, the entire banking organization, and financial information users. In the next section, we discuss solutions to reduce the escalation of commitment bias.

Discussions and Summary

This study thus far describes the critical role that the loan officer plays in ensuring that the true economics of the loan portfolio map into the bank financial reports. An incorrect assessment affects whether the loan is downgraded and whether the bank reflects the overall credit risk on its financial statements. To mitigate this important problem, we draw on the psychology literature to reduce commitment bias. We discuss these practices and whether they apply to the commercial lending setting. In particular, we discuss (1) seeking the advice of outsiders, (2) justifying the course of action, (3) monitoring, (4) compensation incentives, and (5) rotating the decision-maker.

Seeking advice from an outsider mitigates overcommitment bias (Staw, 1981). The idea is to seek external feedback from an independent third party who was not involved in the initial decision. A third party who was not involved in the initial decision lacks the condition of repeated decision making, which is required for escalation of commitment to occur (Brockner, 1992). Further, the third party is not responsible for the initial decision and does have incentives to justify past actions and protect her image. Therefore, we suggest that the loan officer in charge of the loan consults with another lender who was not involved in the initial decision making. Further, since studies suggest that experienced decision-makers consider more inputs in their judgments and therefore are less likely to overcommit (e.g., Jeffrey, 1992; Rodgers, 1999), we recommend that the independent third party be an experienced decision-maker in the lending area.

A second potential solution to avoid escalation is to justify the course of action. Loan officers can document their workout decision by describing the rationale for their choice and sources of information to arrive at that conclusion. Doing so makes the loan officer more aware of whether the decision is based on soft or hard financial information and therefore wary of whether she is subject to behavioral biases. For example, users of financial information de-escalate when instructed to comprehensively evaluate a company's condition and

performance (Brody and Kaplan, 1999). Requiring the officer to consider different sources fosters thorough decision-making, de-escalating commitment.

Monitoring attenuates undesirable overcommitment (Kirby and Davis, 1998; McNamara et al., 2002; Kalmanovich-Cohen et al., 2018). The escalation of commitment means the decision-maker seeks to continue with a project beyond a rational decision-maker would suggest otherwise. Committing to a greater extent than is justified by the situation's facts is not desirable for the organization. When decision-makers are under additional oversight, they are more likely to behave in the organization's interest and are less prone to overcommitment. One challenge in subjecting the loan officer to increased monitoring is that the loan officer may try to justify the loan problem resolution to a greater extent. Further, the loan officer relies on both hard information (e.g., financial ratios) and their interpretation of soft information. As such, those monitoring loan officer's justifications need to be aware of what constitutes hard information that can be verified versus soft information that is difficult to quantify, verify, and communicate (Berger and Udell, 2002). While the suggested solution has a shortcoming, managers' increased scrutiny in resolving violations lessens overcommitment.

Compensation incentives can also be aligned to improve loan outcomes. Loan officers are often rewarded with generous incentives for the volume of loans created, often equivalent to greater than 25% of their salary (Berg et al., 2020). Since bonuses are usually tied to successful loan origination, loan officers have an incentive to approve higher-risk loans by overlooking many of their negative characteristics. Berg et al. (2020) noted that this often manifests as loan approvals for marginal loans. Loan officers are also compensated based on performance reviews, which relate to their ability to engage in loan prospecting, screening, and monitoring (Behr et al., 2020). This structure encourages loan officers to overlook or understate negative characteristics about their loan portfolios, compounding financial institutions' difficulty in evaluating aggregate risk. Aligning the incentives of the loan officer with the financial institution's long-term viability is one solution. Offering more generous pension and salary-based compensation aligns the interests of the loan officer to those of the bank's bondholders, who are ultimately concerned with the continued economic viability of the bank over short-term financial gains (Bebchuk and Jackson, 2005; Sundaram and Yermack, 2007; Edmans and Liu, 2010; Eisdorfer et al., 2015). Loan officers should also have internal incentives that align their interests with credit officers, whose responsibility lies with evaluating and maintaining a portfolio of successful credits.

Another solution suggested in the literature is to change the decision-maker (i.e., rotate assignments) (McNamara et al., 2002). This solution is limited in the commercial lending setting as it may be challenging to implement. Assigning the commercial loan to another officer can bring new problems since the loan officer is in charge of and is typically compensated for getting new relationships and maintaining existing ones. A similar solution is to require an independent third party from a different institution to assess the loan violation. While privacy concerns and the potential of losing the customer to the competition also apply, there are similar situations that subject the loan officer to a third party. For instance, the loan officer's work (with certain limitations) is overseen by other loan officers and underwriters in syndicated loans (i.e., loans funded by different institutions). Another example is the case of Small Business Administration loans in the United States, where these loans are further, to some extent, reviewed by government agencies. Banks can form groups and check each other's loans while maintaining sensitive information confidential. At least, lenders can implement this solution within subsidiary commercial banks within the same bank holding company. As such, we recommend the beforementioned solutions to mitigate this behavioral bias.

Conclusion

Loan officers often face situations that allow them to revise a course of action. Borrower covenant violations enable the lender to modify the loan to protect from higher credit risk. While the loan officer relies on objective facts, including borrower financial data and market conditions, behavioral biases may cloud the risk assessment. In this paper, we discussed how the escalation of commitment could manifest in resolving financial covenant violations. Loan officers can depart from rational decision-making and provide resources to a borrower despite contradictory evidence to support the loan officer's initial decision.

Understanding how behavioral biases affect the resolution of loan problems is complex, and further work is needed to understand this mechanism. This study focuses on the discussion of one determinant that affects the likelihood of covenant waivers. We acknowledge that additional work is necessary to understand how biases impair the resolution of covenant violations comprehensively. As such, we provide guidelines for future

research. Further work may include an empirical examination to evaluate the magnitudes of this bias. Future research should address the extent to which this bias is unconscious and how loan officers can minimize this bias. Compensation schemes in commercial banking can also affect how loan officers resolve violations. While commercial banks typically compensate loan officers for the volume and quality of their loan portfolios, further studies should examine whether paying loan officers for recognizing risks on a timely basis is beneficial for the bank in the long run. Further, while we focus on one particular determinant, future work can explore other channels that affect the likelihood of issuing covenant waivers.

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