AoF
Academy of Finance

Journal of Finance Issues

Volume 22 **Issue 2** **Summer 2024**

Letter From the Editor

Olgun Fuat Sahin

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To the Members of the Academy of Finance and Readers,

I am pleased to announce the publication of Volume 22, Number 2, of the Journal of Finance Issues. This issue reflects our ongoing efforts to contribute to scholarly discussions and insights in the field of finance. It includes three thoughtful articles that explore important topics in corporate governance, managerial incentives, and labor dynamics. Below, I provide a brief overview of these papers:

- "Borrower Managerial Discretion and Covenant-Lite Loans" by Boli Yi: This article explores the increasing prevalence of covenant-lite loans in syndicated loan markets, focusing on how managerial discretion influences the adoption of these borrower-flexible instruments. The findings shed light on the balance between managerial opportunism and flexibility in financial contracting.

- "The Essence of CEO Inside Debt" by Nilakshi Borah: This paper delves into the role of CEO inside debt in aligning managerial incentives with long-term organizational goals. The study contributes to corporate governance literature by examining how this compensation structure mitigates agency conflicts, particularly in firms with high leverage.

- "The Value of Resilience in Emotional Labor Work: The Case of the Property-Casualty Insurance Adjuster" by Kate Manthey: This research investigates the interplay between resilience and empathy among insurance adjusters. It highlights how resilience can buffer the emotional toll associated with high-empathy roles, offering valuable implications for employee management in service industries.

I would like to extend my gratitude to the authors for their contributions and to our anonymous reviewers for their evaluations, which ensured the high standards of this issue. I am particularly grateful to our associate editors—Larry, Seongsu (David), and Won—for their unwavering dedication and support throughout the editorial process.

I hope you find the articles in this issue thought-provoking and insightful. Thank you for your continued engagement with the Journal of Finance Issues. Please use the email below to reach out with any questions, comments, or feedback.

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Call for Papers: Special Issue on Artificial Intelligence in Finance

Dear Colleagues,

We are pleased to announce a special issue of the Journal of Financial Issues dedicated to exploring the dynamic and rapidly evolving field of **Artificial Intelligence in Finance**.

In response to a recent survey, we have expanded the scope beyond investment to encompass the broader implications of AI across the financial sector. We invite you to submit papers on the following suggested topics or any other relevant area:

- AI and cryptocurrency
- AI and start-ups
- AI and venture capital
- AI and machine learning
- AI and network analysis
- AI and economic forecasting
- AI and fraud detection
- AI and financial inclusion
- AI and ESG issues
- AI and CSR issues
- AI and financial stability
- AI and pedagogical issues
- AI and case studies

We are honored to have **Dr. Hoje Jo** from Santa Clara University serve as the Guest Editor for this special issue. Dr. Jo is the Gerald and Bonita Wilkinson Professor of Finance at the Leavey School of Business and holds a Ph.D. in Finance from the University of Florida. His research interests span corporate, international, venture capital, entrepreneurial finance, and corporate social responsibility, and his work has been published in top-tier journals, including the Journal of Finance, Journal of Financial Economics, Journal of Financial and Quantitative Analysis, Review of Accounting Studies, Journal of Business Venturing, and Journal of Business Ethics. His contributions have garnered numerous accolades, notably the 2009 Moskowitz Prize for his research in socially responsible investing.

Submissions are welcome until **April 30th, 2025**, via our online portal at https://jfi-aof.org/. Please indicate your submission is for the ”AI in Finance Special Issue“ in the "Comments for the Editor" section. We plan to publish the special issue during the second half of 2025.

If you are interested in joining the special issue's editorial board, please contact us at jfi-slu@slu.edu.

We look forward to receiving your valuable contributions!

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Borrower Managerial Discretion and Covenant-Lite Loans

Boli Yi*

Abstract

In syndicated loan markets, one striking development in leveraged loan segment is the emergence of a borrower-flexible loan type, called covenant-lite loans in which maintenance covenants are excluded ex-ante. Prior studies look at reasons for lenders to accept this type of loans and document the surge of covenant-lite loans is to reduce renegotiation costs and to eliminate renegotiation fictions due to widespread lender-base. The purpose of this paper is to analyze, from borrowers' side, whether and how managerial discretion may impact managerial acceptance of this borrower-flexible loan type. I measure managerial discretion from two different dimensions. The incentive to pursue personal interests is measured by managerial opportunism incentives, and the incentive to pursue business interests is measured by managerial flexibility incentives. Empirical results show both managerial incentives play a significant role in propensity to borrow covenant-lite loans, but managerial opportunism incentives significantly dominate managerial flexibility incentives suggesting stronger executive power base being more likely to borrower-flexible loan contracts. Furthermore, managerial flexibility incentives are decomposed into organizational discretion and environmental discretion. Organizational discretion describes a need for managerial flexibility due to firm-specific uncertainty. In exchange for organizational discretion, the borrowers pay higher loan spread and accept tighter loan strictness to compensate the lenders.

Key words: managerial discretion; managerial opportunism incentives; managerial flexibility incentives; covenant-lite loans; borrower-flexible loan type

JEL classifications: G21, G23, G34

I. Introduction

Covenant-lite loans, a borrower-flexible loan type issued without maintenance covenants, are exclusive to the leveraged loan segment of syndicated loan markets. Syndicated loans are made by a group of lenders to one single borrower. Credit risk is thus shared among them known as lead arrangers and participant lenders. In the context of syndicated loans, banks generally originate and hold higher-rated loans and loans with lower interest spreads, while they originate and distribute lower rated loans (i.e., mostly B-rated loans) and loans with higher interest spreads to non-bank institutions (Nadauld & Weisbach, 2012). One of striking developments to date is participation of non-bank institutions in syndicated loans (Becker & Ivashina, 2016). Over time, non-bank institutions become active participants in the leveraged loan segment, in which over 60 percent of loans are made to riskier borrowers by institutional investors (Nini, 2017). Another recent development to date in the leveraged loan segment has been the rise in covenant-lite loans – a borrower-flexible loan type issued without maintenance covenants. Covenant-lite loans first appeared in corporate lending in the late 1990s and took off in the years leading up to the subprime loan crisis. During the financial crisis, the issuance of covenant-lite loans significantly dropped and almost disappeared in 2008. In 2009, the issuance of covenant-lite loans then reemerged. As

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indicated in Table I in the appendix, the percentage of covenant-lite loans to leveraged loans was 2.44 in 2007 prior to the crisis, and this percentage was 22.62 in 2018 on an increasing trend.

The standard rationale for using covenants in loan contracting is to ensure creditors' conditional control rights when their incentives diverge from incentives of shareholders who typically can decide a firm's financial policies. However, it is important to differentiate types of covenants, in particular, the difference between maintenance covenants and incurrence covenants. Financial covenants can be incurrence-based or maintenance-based, depending on terms written into loan contracts. Incurrence-based covenants are triggered only if borrowers take certain actions, such as a borrower's wish for taking out more debt, paying dividends, repurchasing shares, or making certain investments, and are tested only upon completing the actions. The incurrence covenants are included in both covenant-heavy and covenant-lite loans. On the other side, maintenance covenants refer to accounting-based conditions and require a borrower to maintain certain range of accounting ratios at all points of time. For instance, a borrower may violate maintenance covenants when its leverage ratio deteriorates. An increase in leverage ratio can lead to violation in a covenant-heavy loan but not in a covenant-lite loan. Once in covenant violation, creditors exercise control rights over managers (Nini et al., 2012; Roberts & Sufi, 2009).

Despite the phenomenon of covenant-lite loans having only emerged recently, researchers view covenant-lite loans as a loan market innovation. With large size and dispersed composition of loan participants, covenant-lite loans are designed to reduce coordination costs (Becker & Ivashina, 2016) and to mitigate bargaining frictions (Berlin et al., 2020). One string of prior studies documents the surge of covenant-lite loans can be attributed to institutional investors' "search for yield" preference in the prolonged low interest-rate environment (Dell'Ariccia et al., 2017; Maddaloni & Peydró, 2011), a shift in lending banks' distribution methods from originate-and-hold model to originate-and-distribute model (Berlin et al., 2020), and dispersed lender base (Becker & Ivashina, 2016; Berlin et al., 2020). Another string of prior studies focuses on characteristics of covenant-lite loan borrowers and finds syndicated lenders prefer to exclude maintenance covenants ex-ante to highly levered firms (Davydenko et al., 2020). The existing research regarding the surge of covenant-lite loans is, however, incomplete. While most prior studies have focused on supply side, little has been investigated from demand side, such as top executives' incentives.

Taking into consideration, future investigation should incorporate additional factors from demand side to better understand covenant-lite loans. Prior literature has shown the importance of managerial discretion when explaining flexibility-enhancing loan contracts. Chen et al. (2013) find managers use discretion to affect loan contracting terms by including fewer accounting-based financial covenants (a.k.a maintenance covenants). The influence of managerial discretion may thus be extended to the debate surrounding covenant-lite loans. In this vein, my motivation is to fulfill research gap in the literature by examining whether and how managerial discretion may impact managerial acceptance of covenant-lite loans.

Managerial discretion is defined as actions available to top executives in decision-makings and has two dimensions based on what objectives top executives pursue, namely managerial opportunism incentives or managerial flexibility incentives. My first hypothesis on managerial opportunism incentives describes that managers may borrow covenant-lite loans because they benefit from the lack of maintenance covenants and ongoing monitoring to act in their own self-interests. My second hypothesis on managerial flexibility incentives describes that managers may borrow covenant-lite loans because management demands flexibility based on lessons learned from financial crisis in order to better respond to industry, macro, or firm-specific uncertainty.

Using a sample of covenant-lite loans in Dealscan from 2005 to 2019, my research objective is first to test which of these two incentives for choosing covenant-lite loans is supported by empirical results. Secondly, managerial opportunism incentives or managerial flexibility incentives do not have to be mutually exclusive, they may both be at work. I then test which one of these two incentives dominates the other.

My paper contributes to the debate surrounding covenant-lite loans in several ways. First, this paper expands existing literature on the surge of covenant-lite loans from a view of borrower-level incentives– a field that has been overlooked – through innovative research that assesses managerial discretion and its two dimensions. Second, I test and confirm that managerial discretion as well as its two dimensions are key factors to consider in understanding covenant-lite loan selection. Third, my paper contributes to the loan contracting literature by showing, given the fact that on-going monitoring is missing in covenant loans since maintenance covenants are excluded ex-ante, lenders tend to increase borrowing costs and to impose more intense loan strictness ex-ante when this borrower-flexible loan type is taken in need of organizational discretion – a purpose to build up managerial flexibility to deal with business uncertainty from the internal.

II. Background about Covenant-Lite Loans

The Covenant-Lite Loan Market

In 2000s, one major development in syndicated loan market was covenant-lite loans: corporate loans issued without maintenance covenants. The emergence of covenant-lite loans is due to a change from banks' originate-to-hold model to originate-to-distribute model (Ivashina & Vallee, 2020). In practice, banks retain less risky loans (Bord & Santos, 2012). In covenant-lite loans, banks' distribution methods are originate-to-hold for the revolving credit lines and originate-to-distribute for the term loans. In the banking literature, researchers conclude as optimal covenant tightness decreases, lending banks retain less term loan tranches of syndicated loans inferring the banks have "less skin in the game" (Billett et al., 2016).

The literature implies surge of covenant-lite loans is due to increasing involvement of non-bank institutional investors in loan markets (Becker & Ivashina, 2016). Such involvement can be attributed to institutional investors' "search-for-yield" – a preference for high-yield investments in the prolonged low interest-rate environment (Abuzov et al., 2023; Dell'Ariccia et al., 2017; Isin et al., 2020; Maddaloni & Peydró, 2011). In contrast to traditional view of getting control rights (Nini et al., 2012), institutional investors searching for yield are willing to forego some control rights to boost yields (Aramonte et al., 2019).

Prior studies suggest the emergence of covenant-lite loans is related to investor-driven. A study by Bozanic et al. (2018) argues standardization of loan contracting can alleviate information-processing costs for syndicated participants, as long as these standardized loan contracts provide sufficient information about the borrowers for potential lenders to participate in loan syndication deals. Similarly, for syndicated loans with large participation-base, both parties including borrowers and lenders avoid the use of flexibility-reducing covenants which are more likely to negatively impact value-enhancing corporate policies in good states of the world (Saavedra, 2018).

The literature view covenant-lite loans as loan market innovation. For a conventional bank loan provided by a single creditor, renegotiation involves only two parties, namely the borrower and the bank. However, for syndicated loans in which credit is provided by multiple participants, the renegotiation requires coordination among all parties and would impose higher coordination

costs. Thus, in syndicated loans, creditor rights should be efficiently allocated to a small set of lenders in order to mitigate bargaining frictions and to reduce coordination costs. Berlin et al. (2020) refer covenant-lite contracting as a "split-control rights" structure in which banks as revolving lenders have exclusive creditor control rights to monitor and to renegotiate with the covenant-lite borrowers.

Covenant-lite Loan Borrowers

One string of research on the surge of covenant-lite loans builds predictions from agency theory. It has been argued that interest conflicts arise over differences in banks and institutional investors' preferences regarding when to enforce control rights and when to waive them following covenant violations. Billett et al. (2016) demonstrate a model of dual-agency problems where borrower-bank and bank-institutional investors' incentives conflict. Their model finds optimal covenant tightness decreases as bank participation declines. The intuition is when shares contained by the lead-arranger bank are below a threshold, the optimal loan contract design grants enforcement control rights to institutional investors, who will preferably choose to remove entire covenant enforcement when value of bank-borrower relationship increases for a purpose of future relationship rents, in which enforcement conflict between the lead-arranger bank and institutional investors becomes so severe that an optimal loan contract will be covenant-lite.

Another string of research on the surge of covenant-lite loans argues leverage ratio of a borrower can determine whether or not to include maintenance covenants in loan contracting. Creditors may find maintenance covenants have no value in loan contracting to a highly levered borrower (Davydenko et al., 2020). In an event of covenant violation, creditors can either require immediate repayment or waive violation by renegotiating terms of the loan contract. An attempt to demand immediate repayment may drive borrowers to bankruptcy. By contrast, it could be costly to waive covenants by renegotiation because of dispersed creditor-base in syndicated loans and costs of covenant enforcement will be borne by the creditors (Roberts & Sufi, 2009).

In firm performance, Demerjian et al. (2020) find covenant-lite loans are more likely to default than covenant-heavy loans with maintenance covenants, suggesting that benefits of maintenance covenants are lost when lenders issue covenant-lite loans, and that covenant-lite borrowers have worse future performance than covenant-heavy borrowers.

III. Hypotheses Development

Introduction

In this section, I am interested in examining two non-mutually exclusive top executives' incentives which may help explain propensity to borrow covenant-lite loans. Managers, on one side, may borrow covenant-lite loans because they could benefit from lack of maintenance covenants and ongoing monitoring to act in their own self-interests. Managers, on the other side, may borrow covenant-lite loans because lack of ongoing maintenance covenants allow managers to "buy time" for managerial flexibility under volatile conditions, so managers will not be overly controlled by strict maintenance covenants at exact time when they need flexibility to make decisions that are geared toward maximizing firm interests. Thus, I first test whether the likelihood of borrowing covenant-lite loan is affected by managerial opportunism incentives or managerial flexibility

incentives. Furthermore, I am interested in examining which effect – managerial opportunism incentives or managerial flexibility incentives – dominates.

Next, I study costs of borrowing covenant-lite loans. Since covenant-lite loan borrowers value managerial discretion either due to managerial opportunism incentives or managerial flexibility incentives, I expect lack of ongoing maintenance covenants will result in higher loan spreads or more intense loan strictness to compensate creditors with less control rights.

Hypotheses on managerial acceptance of covenant-lite loans

My first hypothesis is that managerial opportunism incentives are likely to be a driving factor for propensity to borrow covenant-lite loans. I build my first hypothesis on the prediction that managers use discretion for self-interests to influence loan contracting terms. First, empirical evidence suggests managers are concerned with manager-specific value when making decisions (Beatty et al., 2002). Second, prior analyses indicate managerial opportunism plays an important role on use of bond covenants. Chava et al. (2010) find inclusion of dividend payout and takeover-related covenants decrease with entrenched managers.

Despite the limited research on managerial opportunism and loan contracting terms, one can deduce the effects of managerial opportunism on propensity to borrow covenant-lite loans from broader literature on debt financing and managerial moral hazard. Wang (2011) shows managers' self-interested actions help to explain significant deviation between leveraged choice made by managers and the optimal leverages that could have maximized firm value. The literature suggests that debt financing is a sub-optional financing option for entrenched managers seeking managerial discretion because managers will not lever up to constrain themselves unless there is a takeover threat (Ağca & Mansi, 2008; Novaes, 2003). Given that covenant-lite loans lack of maintenance covenants, and thus accounting-based conditions will not be maintained at all points of time, I suppose that managerial acceptance of covenant-lite loans is to purse managerial opportunism for self-interests.

> *H1a: Managerial Opportunism Hypothesis: The likelihood of managerial acceptance of covenant-lite loans is positively related to managerial opportunism incentives for self-interests.*

In contrast to the first hypothesis, my second hypothesis is that managerial flexibility incentives are likely to be a driving factor for propensity to borrow covenant-lite loans. Managerial flexibility is loosely defined as a need for management to alter operating strategies in response to uncertainty (Xie, 2009). I expect managerial acceptance of covenant-lite loans is because firms facing great uncertainty either from the external or the internal conditions would favor one important feature of this "borrower-flexible" loan type, that is the exclusion of maintenance covenants in loan contracts ex-ante. The intuition is straightforward. On one side, maintenance covenants can often present future onerous restrictions to borrowers on managing business and in some cases ensuring the survival of their business. Thus, borrowers do not want to give their lenders the power to terminate a loan or to get concessions just because lenders worry future results may not be good. In covenant-lite loans, the on-going monitoring from lenders is missing since maintenance covenants are excluded in loan contracts ex-ante, therefore managers will not be overly controlled by strict maintenance covenants that limit their ability to manage at exact time they need flexibility.

On the other side, assuming great uncertainty increases borrowers' default risk and frequencies of renegotiation between borrowers and lenders in ex-post, both parties will bear corresponding costs. First, when borrowers violate covenants, lenders face a choice by either enforcing covenants and accelerating loan payments or waiving and renegotiating with borrowers. In the first condition, lenders attempt to enforce covenants, but they also face the risk of bearing bankruptcy costs since an attempt to enforce maintenance covenants may force borrower to file for bankruptcy. In the second condition, lenders renegotiate loan terms with borrowers in ex-post, and they bear the corresponding costs of renegotiation and allow shareholders to continue having claims on assets as an on-going concern. In either condition, an optimal solution is to attach no value to maintenance covenants and to exclude them from loan contracts ex-ante. For syndicated lenders with a dispersed participation-base, they benefit from reduced coordination costs (Becker & Ivashina, 2016). For covenant-lite loan borrowers, they benefit, especially facing great uncertainty, if managers can have flexibility in management to respond well to volatile conditions either from outside environment or internal operations.

H1b: Managerial Flexibility Hypothesis: The likelihood of managerial acceptance of covenant-lite loans is positively related to managerial flexibility for business interests.

Hypotheses on costs of borrowing covenant-lite loans

Building on Jensen and Meckling (1976) suggesting inclusion of covenants in debt contracts restricts managerial discretion and protects lenders' wealth, I expect that there is a trade-off between obtaining features of covenant-lite loans and borrowing costs. I assume that managers favor features of covenant-lite loans are willing to pay for higher interest spreads in exchange for decision rights, creditors thus get compensated since exclusion of maintenance covenants and lack of ongoing monitoring may increase moral hazard and adverse selection. Chen et al. (2013) study the impact of mandatory adoption of International Financial Reporting Standards (IFRS) on corporate loan terms and empirically find mandated adopters of IFRS relative to non-mandated adopters of IFRS experience an increase in loan interest rates, a reduction of accounting-based financial covenants included in loan contracts, an increase in the likelihood of loan collateral, and a reduction in loan maturity. These changes can be explained by greater managerial discretion allowed under IFRS requirements because the absence of clear implementation guidance generate more reporting uncertainty, induce more opportunistic accounting reporting uncertainty and thus increase managerial discretion. In this case, lenders demand higher premium to compensate reporting uncertainty and information risk due to deterioration in accounting reporting quality.

The findings by Chen et al. (2013) provide evidence on how managerial discretion may affect loan contracting terms, especially in the case of unclear guidance on accounting reporting quality. Research of Chen et al. (2013) focuses on the effects of accounting information on debt contracts ex-post, whereas Beatty et al. (2002) assess the effects of changes of accounting reporting requirements in debt covenants ex-ante. In their findings, borrowers are willing to pay for discretion in debt covenants to avoid ex-post covenant violations.

Following my first hypothesis and second hypothesis, covenant-lite loans could be borrowed for managerial discretion. In addition, managerial discretion can be decomposed into managerial opportunism incentives and managerial flexibility incentives. In exchange for discretion in management, I expect that covenant-lite loan borrowers pay for higher loan spread

and accept tighter loan strictness. I propose for the following hypotheses on costs of borrowing covenant-lite loans:

H2a: Covenant-lite loan borrowers pay for higher loan spread in exchange for managerial discretion.

H2b: Covenant-lite loan borrowers accept tighter loan strictness in exchange for managerial discretion.

IV. Data and Descriptive Statistics

Data

I use Dealscan as my main source to collect data on loan features. Covenant-lite loans are exclusive to syndicated loan market, and Dealscan is the most widely used database of syndicated loan origination. As mentioned by Becker and Ivashina (2016), issuance of covenant-lite loan is an emerging phenomenon to the leveraged loan segment. I classify a leveraged loan deal as covenant-lite if there is at least one loan facility flagged as covenant-lite in Dealscan. Dealscan provides covenant data in the market segment file at facility level and include a segment called "Covenant Lite". A loan deal is classified as leveraged when all loan facilities in the same loan deal are flagged as "Leveraged" in Dealscan. Therefore, I focus on leveraged loans and covenant-lite loans in syndicated loan segment.

My sample period is from 2005 to 2019 since the emergence of covenant-lite loans is from 2005. The issuance of covenant-lite loans took off in years prior to the 2008 sub-prime financial crisis, but almost disappeared during the crisis. Starting from 2009, the issuance of covenant-lite loans reemerged.

I start with 7,008 covenant-lite loan facilities and 103,852 leveraged loan facilities. I then restrict the sample period to 2005-2019, this leaves 7,006 covenant-lite loan facilities and 72,218 leveraged loan facilities. Furthermore, I exclude financial (SIC 6000-6999) and utility (SIC 4900-4999) borrowers consistent with prior research (Saavedra, 2018). This leaves 64,927 unique loan facilities in total. As noted earlier, a loan deal is classified as covenant-lite when there is at least one loan facility is flagged as covenant-lite in Dealscan. I link loan facilities and loan deals by facility IDs and deal IDs that are provided in Dealscan as unique linking keys. To balance my data as firm-year panel data, for firms that borrowed multiple loan deals in one year, I include the earliest origination in a given year. This leaves 26,100 unique firm-year observations in which there are 23,807 leveraged loan deals and 2,293 covenant-lite loan deals. I merge Dealscan data with yearly Compustat data using the linking table from Chava and Roberts (2008), available on Michael Robert's homepage. Dealscan provides loan-level data and has loan identifiers (i.e., facilityid, and dealid). Compustat provides firm-level data and has GVKEY identifiers. The Dealscan-Compustat links have both loan identifiers for Dealscan side (i.e., facilityid, and dealid) and GVKEY identifiers for Compustat side. Thus, the Dealscan-Compustat links allow me to merge loan-level data with firm-level data.

My other sources to collect data on firm features include Compustat, Execucomp, Institutional Shareholder Services (ISS), and Institutional (13f) Holdings. To make my observations consistent throughout all regressions, I require the sample data with sufficient data available in all data sources. These procedures yield a final sample of 3,780 firm-year observations.

There are 3,329 leveraged loans and 451covenant-lite loans in the final sample with 3,268 unique leveraged loan borrowers and 436 covenant-lite loan borrowers.

Key Variables

Individual-discretion index: a proxy variable of managerial opportunism incentives to describe CEO's freedom to pursue personal interests that are beyond maximization of shareholder' interests (Baixauli-Soler et al., 2020; Schrand & Zechman, 2012). Individual discretion index is calculated through the following dimensions: (1) CEO duality, an indicator taking value of one if the CEO is also chairman of the board; (2) CEO wealth, measured by the total value of equity-linked wealth over market capitalization; (3) CEO overconfidence, measured by excess investment which is residual from a regression of asset growth on sales growth; (4) acquisition, is the value of acquisitions made by the firm; (5) debt-to-equity ratio, measured by long-term debt plus short-term debt to total market value, and (6) risk, measured by an indicator taking value of one if convertible debt or preferred stock is greater than zero. All the indicators of individual discretion index loaded positively, and the component of greatest common variance is chosen.

Environmental-discretion index: is one dimension of managerial flexibility incentives and describes the task environment factors to which degree that an industrial environment varies overtime (Baixauli-Soler et al., 2020; Schrand & Zechman, 2012). It is calculated through four factors: (1) product differentiability, measured by industry median of sales, general& administrative expenses, scaled by the industry median of firm sales; (2) demand instability, measured by the five-year rolling window of standard deviation of annual industry sales growth; (3) market growth, measured by industry median of sales growth; and (4) industry structure, measured by industry Herfindahl–Hirschman index. All four factors loaded positively on environmental discretion index. I rely on principal component analyses to construct these indexes, and the component of greatest variance is chosen.

Organizational-discretion index: is the other dimension of managerial flexibility incentives and describes internal organizational factors to which degree an organization may face uncertainty from its operation (Baixauli-Soler et al., 2020; Schrand & Zechman, 2012). It is calculated through three factors: (1) resource availability, measured by a firm's R&D expenditures scales by sales; (2) capacity intensity, measured by the ratio of property, plant, and equipment over the number of a firm's total employees; and (3) ownership structure, measured by ownership Herfindahl–Hirschman index. Only capacity intensity loaded negatively on environmental discretion index. I rely on principal component analyses to construct these indexes, and the component of greatest variance is chosen.

Loan strictness: is an aggregate measure of contract strictness [†]incorporating loan spread, loan amount, and loan maturity (Demerjian et al., 2020). I start by ranking these three loan features into decile by year of loan origination. My aggregate measure of loan strictness is the average of these decile scores, and higher decile indicate stricter loan contracts. Specifically, I scale ranks from 0.1 to 1. Loan maturity and loan size are ranked from low to high, meaning shorter loan maturities and smaller loan size indicate stricter loan contracts. Loan spread is ranked from high to low, meaning larger loan spread indicates stricter loan contracts.

[†] Several papers also use covenant strictness ((Davydenko et al., 2020; Murfin, 2012)), but with covenant-lite loans exclude financial maintenance covenants in loan contracts, I did not use covenant strictness as measures for loan strictness.

Descriptive Statistics

Table 1 provides descriptive statistics including proxies of managerial discretion, measures of loan features and firm features. I report full sample statistics in panel A and sub-sample statistics in panel B. In panel B, I report statistics of covenant-lite loans in the first three columns and statistics of leveraged loans in the last three columns. In terms of managerial discretion, I find covenant-lite borrowers tend to have higher values of managerial opportunism incentives (proxied by individual-discretion index) and one dimension of managerial flexibility incentives (proxied by organizational-discretion index) compared to leveraged loan borrowers. For firm features which are control variables (i.e., Altman Z scores, leverage, and market-to-book ratio), there are significant differences between covenant-lite borrowers vs. leveraged loan borrowers showing the importance of including these control variables in regression analyses.

There are also significant differences between covenant-lite and leveraged loans on loan features. Covenant-lite loans typically have higher loan spread (318 vs. 272 bps) and larger loan amount (862.8 million vs. 395.4 million) but less loan strictness (0.436 vs. 0.561) compared to leveraged loans. This is consistent with empirical findings of Demerjian et al. (2020). In terms of loan participants, my summary statistics show that covenant-lite loans typically have a larger base of participants than that of leveraged loans, which is in line with Becker and Ivashina (2016) arguing it is high coordination costs due to dispersed lender base that contributes to a rise in covenant-lite loan issuance.

Table 1: Descriptive Statistics

This table shows descriptive statistics for a sample of 3704 firm-year observations (436 covenant-lite loan borrowers vs. 3268 leveraged loan borrowers) covered in Compustat and Dealscan over the period 2005 to 2019. Following prior studies, I exclude financial firms (SIC code 6000-6999) and utilities (SIC 4900-4999).

Panel A. Summary Statistics of Full Sample

Variable	N	Mean	Median	Std.	p25	p75
Mgmt. Incentives						
CEO wealth	3225	941.4	2.741	24501	1.133	5.714
AQC	3212	306.8	4.315	1571	0.000	121.3
Debt-equity	3227	0.913	0.304	23.459	0.163	0.491
Excess investment	3280	-147.8	-147.9	1.245	-147.9	-147.8
Product diff.	3522	0.021	-0.085	0.919	-0.131	-0.041
Demand instability	3728	-0.177	-0.118	0.370	-0.335	-0.085
Market growth	3728	-0.035	-0.060	0.647	-0.194	0.094
Industry structure	3728	-0.656	-0.840	0.632	-1.054	-0.513
Capacity intensity	2172	469.0	49.316	3214.5	24.692	133.498
Resource availability	1288	0.046	0.014	0.096	0.002	0.052
Instown. HHI	2194	0.064	0.048	0.076	0.037	0.064
Ind. index	3018	0.000	-0.012	1.135	-0.364	0.046
Org. index	1282	-0.389	-0.431	0.217	-0.458	-0.387
Env. index	3522	-0.428	-0.534	0.535	-0.710	-0.270
Loan Features						
Loan spread	3684	277.5	250.0	141.4	175.0	325.0
Loan strictness	3643	0.546	0.533	0.188	0.400	0.700
#Loan participants	3780	10.930	9.000	7.447	5.000	15.000
Loan amount	3780	4.512e+08	2.400e+08	6.968e+08	1.000e+08	5.000e+08
Firm Features						

Profitability	3693	0.0140	0.0330	0.259	-0.005	0.074
Altman-z	3330	2772	963.6	7890	377.2	2404
Leverage	3704	0.496	0.436	1.561	0.237	0.663
Market-to-book	3509	1.321	1.081	1.029	0.778	1.562
Firm age	3709	16.18	16.00	6.740	12.00	22.00
Tobin's q	3514	1.681	1.429	1.014	1.146	1.893
Sales growth	3619	0.135	0.058	1.074	-0.022	0.165
ROA	3695	0.016	0.032	0.156	-0.006	0.066
Tangibility	3698	0.279	0.206	0.233	0.092	0.414
Firm size	3709	7.614	7.495	1.480	6.618	8.474

Panel B. Summary Statistics of Covenant-Lite vs. Leveraged Loan Sub-Sample

Variable	Cov-lite N	Cov-lite mean	Cov-lite median	Leveraged N	Leveraged mean	Leveraged median
Mgmt. Incentives						
CEO wealth	343	1610	2.521	2882	861.8	2.766
AQC	358	556.1	3.550	2854	275.5	4.406
Debt-equity	343	4.966	0.341	2884	0.432	0.299
Excess investment	361	-147.8	-147.8	2919	-147.8	-147.8
Product diff.	423	0.045	-0.090	3099	0.018	-0.084
Demand instability	441	-0.139	-0.103	3287	-0.182	-0.124
Market growth	441	-0.036	-0.050	3287	-0.035	-0.060
Industry structure	441	-0.711	-0.883	3287	-0.649	-0.837
Capacity intensity	267	164.9	49.66	1905	511.6	49.26
Resource availability	174	0.053	0.019	1114	0.045	0.013
Instown. HHI	269	0.067	0.044	1925	0.064	0.048
Ind. index	320	0.090	0.016	2698	-0.011	-0.026
Org. index	174	-0.375	-0.443	1108	-0.391	-0.429
Env. index	423	-0.419	-0.534	3099	-0.429	-0.534
Loan Features						
Loan spread	430	318.2	300	3254	272.2	225
Loan strictness	428	0.436	0.400	3215	0.561	0.567
#Loan participants	451	11.91	11	3329	10.80	9.000
Loan amount	451	8.628e+08	5.486e+08	3329	3.954e+08	2.000e+08
Firm Features						
Profitability	433	0.028	0.033	3260	0.012	0.033
Altman z	383	4463	1653	2947	2552	880.2
Leverage	436	0.490	0.591	3268	0.496	0.416
Market-to-book	391	1.448	1.204	3118	1.305	1.068
Firm age	436	17.87	20	3273	15.96	16.00
Tobin's q	391	1.789	1.545	3123	1.667	1.418
Sales growth	426	0.112	0.044	3193	0.138	0.061
ROA	433	0.019	0.031	3262	0.015	0.033
Tangibility	435	0.235	0.176	3263	0.285	0.210
Firm size	436	8.211	7.982	3273	7.535	7.411

I present correlation matrix between key variables in Table 2. Significance of the correlation matrix is at 10% statistic level. This table shows that all proxies of managerial opportunism (i.e., individual-discretion index) and managerial flexibility (i.e., organizational-discretion index, environmental-discretion index) are significantly related with covenant-lite (an indicator) at uni-variate level. In terms of loan features, covenant-lite loans (an indicator variable)

are positively related with loan spreads but negatively related with loan strictness measured by aggregate loan provisions at uni-variate level.

Table 2: Correlation Matrix

In this table, I present correlations matrix for the main variables of interest used in the sample. The significant is at 5% statistical levels. Following prior studies, I exclude financial firms (SIC code 6000-6999) and utilities (SIC 4900-4999).

	[1]	[2]	[3]	[4]	[5]	[6]	[7]
Covlite [1]	1						
Duality [2]	0.0685*	1					
CEO wealth [3]	0.0044	0.0202*	1				
AQC [4]	0.0427*	0.0478*	0.2004*	1			
Debt-Equity [5]	0.0304*	0.0124	0.0009	-0.0017	1		
Debt [6]	-0.0725*	-0.0143	-0.0018	0.0316*	-0.0030	1	
Excess investment [7]	0.0086	-0.0072	-0.0234*	0.0224*	-0.0054	0.0405*	1
Product diff. [8]	0.0388*	-0.0221*	-0.0009	0.0657*	-0.0026	-0.0147	0.0081
Demand instab. [9]	0.0452*	-0.0042	-0.0042	-0.0017	-0.0005	0.0428*	0.0081
Market growth [10]	-0.0007	0.0001	-0.0055	0.0066	-0.0045	0.0137	-0.0206*
Industry struct. [11]	-0.0505*	0.0574*	0.0002	-0.0266*	0.0222*	-0.0460*	-0.0125
Capacity int. [12]	-0.0373*	-0.0134	-0.0103	-0.0297*	-0.0056	0.0301*	0.0546*
Resource avail. [13]	0.0346*	-0.1151*	0.0307*	-0.0214*	-0.1566*	0.1265*	0.0703*
Instown HHI [14]	0.0167*	-0.0730*	0.0352*	-0.0730*	0.0152	-0.0238*	-0.0003
Ind. index [15]	0.0429*	0.3242*	0.6719*	0.8093*	0.0055	0.0254*	0.0904*
Org. index [16]	0.0528*	-0.0623*	0.0364*	-0.0784*	0.0503*	-0.0134	-0.0201
Env. Index [17]	0.0011	0.0422*	-0.0049	0.0052	0.0123	-0.0189*	-0.0081
Loan spread [18]	0.0885*	-0.00120	0.0054	0.0311*	0.0329*	0.0598*	-0.0290*
Loan strictness [19]	-0.2391*	-0.0348*	-0.0154	-0.0710*	0.0045	0.0767*	-0.0320*

	[8]	[9]	[10]	[11]	[12]	[13]	[14]
Product diff. [8]	1						
Demand instab. [9]	0.0099	1					
Market growth [10]	0.0103	-0.0006	1				
Industry struct. [11]	-0.0567*	0.1390*	0.0536*	1			
Capacity int. [12]	0.0929*	0.0632*	-0.0215*	-0.0656*	1		
Resource avail. [13]	0.0397*	-0.0803*	-0.0051	-0.1975*	-0.0257*	1	
Instown HHI [14]	-0.0049	0.0070	-0.0185*	-0.0139	-0.0003	-0.0270*	1
Ind. index [15]	0.0530*	-0.0016	-0.0023	-0.0014	-0.0312*	-0.0629*	-0.0969*
Org. index [16]	-0.0283*	-0.0184	0.0450*	-0.0153	-0.2053*	-0.0188	0.9805*
Env. Index [17]	0.1752*	0.5333*	0.5894*	0.6460*	0.0115	-0.1610*	-0.0265*
Loan spread [18]	-0.0051	-0.0958*	-0.0104	-0.0662*	-0.0146	0.0206*	0.0887*
Loan strictness [19]	-0.0197*	-0.1101*	-0.0145	-0.0402*	-0.0180*	0.0924*	0.1133*

	[15]	[16]	[17]	[18]	[19]
Ind. index [15]	1				
Org. index [16]	-0.0950*	1			
Env. Index [17]	0.0158	-0.0166	1		
Loan spread [18]	0.0171*	0.1003*	-0.0933*	1	
Loan strictness [19]	-0.0808*	0.1102*	-0.1022*	0.5643*	1

V. Empirical Framework

Hypothesis 1a. Managerial Opportunism Incentives

The analysis of whether managerial opportunism is one determinant of managerial acceptance of covenant-lite loans can be estimated by employing the Probit regression framework in below:

$$Covenant-lite_{i,t} = \beta_1 + \beta_2 * ManagerialOpportunism_{i,t} + \beta_3 * Controls_{i,t} + \delta_{SIC3} + \delta_t + \varepsilon_{i,t} \quad (1)$$

where, the outcome variable of interest is *covenant-lite loan*, which is an indicator variable taking value of one if a loan deal does not contain maintenance covenants. The explanatory variable of interest is *individual-discretion index*, which describes a manager' desire to pursue personal interests that are beyond maximization of shareholders' interests. It is constructed based on executives' characteristics and power sources that may encourage the proliferation of opportunistic behaviors and rent expropriations. Thus, high degree of *individual-discretion index* indicates strong executive power base that could allow them to achieve additional rents. For its part, all factors (i.e., *CEO duality*, *CEO wealth*, and *CEO overconfidence*) loaded positively on individual-discretion index. I expect positive coefficient on *individual-discretion index*. Fixed effects for year and three-digit SIC code are included.

I include a variety of control variables that may also affect covenant-lite loan borrowings. Davydenko et al. (2020) argue covenant enforcement is useless for highly levered firms because an attempt to reinforce creditors' rights in technical default may result in even lower payoffs and ceding control rights to shareholders than waiving covenants. Thus, I follow the literature and use *leverage* – ratio of debt to market value - as one a control variable. Billett et al. (2016) and Badoer et al. (2023) argue high bank-borrower-relationship increases the likelihood of covenant-lite loan issuance for future relationship rent extraction. Hence, I control *relationship lending*, which is an indicator variable taking the value of one if there is at least one lead arranger was a lead arranger of previous loan issuing over a prior five-year period. In addition to leverage and relationship lending, I also control the *number of loan participants*. The following firm characteristics are included in the regressions as control variables. *Market-to-book ratio* is defined as market value of equity plus book value of liabilities divided by book value of assets. Since proportion of tangible assets to total assets may impact a firm's borrowing ability and furthermore impact covenant choices, I include *tangible-to-total asset* as proxy variable for borrowing ability. I also follow the literature and control for *firm size*, which is defined as natural logarithm of total assets.

Hypothesis 1b. Managerial Flexibility Incentives

The analysis of whether managerial flexibility is an alternative determinant of managerial acceptance of covenant-lite loans can be estimated by employing the following Probit regression framework:

$$Covenant-lite_{i,t} = \beta_1 + \beta_2 * ManagerialFlexibility_{i,t} + \beta_3 * Controls_{i,t} + \delta_{SIC3} + \delta_t + \varepsilon_{i,t} \quad (2)$$

where, the outcome variable of interest is *covenant-lite loan*, which is an indicator variable taking value of one if a loan deal does not contain financial maintenance covenants. The

explanatory variables of interest are *environmental-discretion index* and *organizational-discretion index*.

Environmental-discretion index describes competitiveness and complexity in an industry, thus a need for discretion increases when executives alter decisions in complex business environments. Besides, a high level *of environmental-discretion index* should also limit executive capacity to opportunistically make decisions for self-interests (Baixauli-Soler et al., 2020). For its part, environmental discretion is positively associated with *product differentiability*, *demand instability*, *market growth*, and *industry structure*.

Organizational-discretion index emphasizes a need for managerial flexibility that comes from the organization itself. Similar to *environmental-discretion index*, a high level of *organizational-discretion index* should also promote firm-decision makings linked to maximize shareholders' interests and limit opportunistic behaviors. For its part, only *resources availability* loaded negatively on *organizational-discretion index*, while *capacity intensity* and *ownership structure* loaded positively.

*Environmental-discretion inde*x and *organizational-discretion index* provide two different dimensions to capture a firm's need on managerial flexibility. *Environmental-discretion index* emphasizes a firm's need for flexibility in management from the external perspective, whereas *organizational-discretion index* highlights demand for managerial flexibility from its internal business structure.

I expect that there is a positive association between managerial acceptance of covenant-lite loans and proxies of managerial flexibility incentives based on my second hypothesis. Thus, the estimated coefficient β_2 is expected to be positive. The industry-fixed effect at first three digit SIC code and the year-fixed effect are included. The inclusion of control variables in regression analysis (2) are consistent with that in regression analysis (1).

Hypotheses 2a. and 2b. Cost of Borrowing Covenant-Lite Loans

In this sub-section, I examine how costs of borrowing covenant-lite loans reflect managerial discretion. I follow the frameworks below and regress proxy variables of managerial opportunism incentives and of managerial flexibility incentives on *interest rate spread* in model (3) and *loan strictness* in model (4) respectively.

$$\begin{aligned}\text{Loan Spread}_{i,t} = {} & \beta_0 + \beta_1 * \text{Cov-lite}_{i,t} + \beta_2 * \text{Managerial Opportunism}_{i,t} + \\ & \beta_3 * \text{Managerial Flexibility} + \beta_4 * \text{Managerial Opportunism}_{i,t} * \text{Cov-lite}_{i,t} + \\ & \beta_5 * \text{Managerial Flexibility} * \text{Cov-lite}_{i,t} + \beta_6 * \text{Controls}_{i,t} + \delta_{SIC3} + \delta_t + \varepsilon_{i,t}\end{aligned} \quad (3)$$

$$\begin{aligned}\text{Loan Strictness}_{i,t} = {} & \beta_0 + \beta_1 * \text{Cov-lite}_{i,t} + \beta_2 * \text{Managerial Opportunism}_{i,t} + \\ & \beta_3 * \text{Managerial Flexibility} + \beta_4 * \text{Managerial Opportunism}_{i,t} * \text{Cov-lite}_{i,t} + \\ & \beta_5 * \text{Managerial Flexibility} * \text{Cov-lite}_{i,t} + \beta_6 * \text{Controls}_{i,t} + \delta_{SIC3} + \delta_t + \varepsilon_{i,t}\end{aligned} \quad (4)$$

where, the outcome variables of interest are *loan spread* and *loan strictness* in model (3) and model (4) respectively. *Loan spread* is the all in drawn listed in Dealscan. *Loan strictness* is an aggregate measurement incorporating *loan spread*, *loan amount*, and *loan maturity* (Demerjian et al., 2020).

For loan characteristics, I control the *number of loan participants* in all regressions and *size of loan deals* in regressions in which *loan spread* is the dependent variable. The *size of loan*

deals is measured in millions. I include controls for a number of firm characteristics that might affect loan spreads or loan strictness. *Leverage* is defined as the ratio of long-term debt plus current debt liabilities to book value of assets. *Tangibility* is defined as the ratio of tangible-to-total assets. *Profitability* is calculated as pre-tax cash flow from operations over total assets. *Market-to-book ratio* is defined as the ratio of the market value of equity plus the book value of liabilities to the book value of assets. Since a borrower's creditworthiness may affect its loan spread, I include the most natural commonly used summary variable, *Altman Z score*, to proxy for creditworthiness.

VI. Regression Results and Discussion

Regression Results of Managerial Incentives and Propensity to Borrow Covenant-lite Loans

In Table 3, I present regression results of managerial opportunism incentives on managerial acceptance of covenant-lite loans in column (1) and obtain a positive and significant coefficient on individual discretion index at 10%, indicating managers' freedom to pursue personal interest may explain propensity to borrow covenant-lite loans. Empirical analyses on managerial opportunism incentives find support for the predictions from my hypotheses. The significance on managerial opportunism incentives indicates that propensity to borrow covenant-lite loans increases with strong executive power, and likelihood of maintenance covenants excluded in loan agreements ex-ante is driven by executive opportunism. The demand for looser ongoing monitoring from lenders is significantly and positively associated with strong executive power base.

In Table 3, I present Probit regression results on managerial flexibility incentives in column (2), the result shows a positively significant coefficient on organizational discretion index. This suggests managerial acceptance of covenant-lite loans is highly related to a firm's demand for managerial flexibility incentives, and this need for flexibility in management is from its internal. Column (3) shows insignificant coefficient on environmental discretion index. Empirical analyses on managerial flexibility incentives find support for the prediction from my hypotheses. The significance at 5% level on organizational discretion index indicates that the likelihood of covenant-lite loan borrowing increases with firm's need of flexibility on management to deal with internal uncertainty.

Domination of managerial incentives and Propensity to Borrow Covenant-lite Loans

In column (1) and (2) of Table 4, I test domination of managerial opportunism incentives vs. managerial flexibility incentives in terms of propensity to borrow covenant-lite loans. Empirical analyses find that managerial opportunism incentives dominate managerial flexibility incentives when it comes to managers' incentives to borrow covenant-lite loans. The covenant-lite loan borrowers' demand for looser monitoring from lenders is largely driven by managerial opportunism as confirmed by positive coefficients of individual-discretion index at 5% and 10% significance levels in column (1) and column (2) respectively. This is consistent with the idea that more executive power base being more likely to borrower-flexible loan contracts.

To provide empirical results on whether organizational discretion index dominates environmental discretion index, I examine these two indexes in one regression at once, and column (3) presents results for both organizational discretion index and environmental discretion index.

Table 3: Likelihood of Borrowing Covenant-Lite Loans and Managerial Discretion

This table presents estimates of Probit regression in which the dependent variable is an indicator that takes value equal to one if a firm becomes a covenant-lite borrower in a given year, and zero otherwise. The sample consists of firm-year observations covered in Compustat, Execucomp, and Dealscan over the period 2005 – 2019. All explanatory variables are measured one year before the covenant-lite loan issuance. P-values reported in parentheses are based on standard errors adjusted for heteroskedasticity and clustering at the firm level. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

	Dependent variable = Covenant-lite (an indicator)		
	(1)	(2)	(3)
Ind. index	0.0479*		
	(0.072)		
Org. index		0.575**	
		(0.034)	
Env. index			0.0353
			(0.538)
Relationship lending	0.147	0.0607	0.0613
	(0.214)	(0.723)	(0.511)
#Loan participants	0.0104	-0.00533	0.00466
	(0.133)	(0.596)	(0.317)
Leverage	-0.0383*	0.0297	-0.0364*
	(0.056)	(0.426)	(0.068)
Market-to-book	-0.0136	0.0708*	0.0498*
	(0.689)	(0.066)	(0.062)
Tangibility	-0.640*	-1.340**	-0.401***
	(0.066)	(0.030)	(0.007)
Firm size		0.201***	0.155***
		(0.000)	(0.000)
_cons	-1.351**	-1.472**	-2.146***
	(0.017)	(0.020)	(0.000)
Year fixed effects	Y	Y	Y
Industry fixed effects	Y	Y	N
N	2008	812	2909
R^2	0.2538	0.2623	0.1743

Table 4: Domination of Managerial Incentives in Borrowing Covenant-lite Loans

This table presents estimates of Probit regression in which the dependent variable is an indicator that takes value equal to one if a firm becomes a covenant-lite borrower in a given year, and zero otherwise. The sample consists of firm-year observations covered in Compustat, Execucomp, and Dealscan over the period 2005 – 2019. All explanatory variables are measured one year before the covenant-lite loan issuance. P-values reported in parentheses are based on standard errors adjusted for heteroskedasticity and clustering at the firm level. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

	Dependent variable = Covenant-lite (an indicator)		
	(1)	(2)	(3)
Ind. index	0.326**	0.0425*	
	(0.022)	(0.087)	
Org. index	0.468		0.590**
	(0.158)		(0.014)
Env. index		0.0323	0.0155
		(0.626)	(0.876)
Relationship lending	0.0522	0.0432	-0.0254
	(0.796)	(0.678)	(0.860)
#Loan participants	-0.00257	0.0114**	-0.00461
	(0.832)	(0.020)	(0.549)
Leverage	0.0452	-0.0339	0.0554
	(0.257)	(0.114)	(0.134)
Market-to-book	-0.0256	-0.0243	0.0652*
	(0.605)	(0.421)	(0.053)
Tangibility	-2.236***	-0.361**	-0.596*
	(0.004)	(0.026)	(0.068)
Firm size			0.244***
			(0.000)
_cons	0.279	-0.976***	-2.630***
	(0.643)	(0.000)	(0.000)
Year fixed effects	Y	Y	Y
Industry fixed effects	Y	N	N
N	584	2424	1052
R^2	0.2726	0.1641	0.1974

Regression Results of Managerial Discretion and Costs of Borrowing Covenant-lite Loans

I next examine how managerial discretion impacts costs of borrowing covenant-lite loans. Particularly, I consider whether lenders "trade-off" loosen monitoring with higher loan spreads in this borrower-flexible loan type. In column (2), an interaction term – Cov-lite*Organizational Discretion – is positively significant at 5% level, and my explanation is that lenders need to be compensated for taking additional risks with higher loan spreads. The organizational discretion index presents need for managerial flexibility to deal with firm-specific uncertainty. The positive coefficient on the interaction term – Cov-lite*Organizational Discretion – indicates that lenders view firm-specific uncertainty as a reason for taking additional compensation for bearing risks.

In Table 6, I replaced loan spread with loan strictness (Demerjian et al., 2020), which is an aggregate measure of contract strictness incorporating loan spread, loan amount, and loan maturity. Similar to predictions on loan spread, the interaction term – Cov-lite*Organizational Discretion – is positively significant at 1% level in column (2). My findings on the positive coefficients of interaction terms with organizational discretion index hint that lenders mainly view firm-specific uncertainty as a reason for imposing stricter aggregate loan provisions for bearing risks.

Table 5: Cost of Borrowing Covenant-Lite Loans and Managerial Discretion

The table presents estimates of standard OLS regression results in which dependent variable is loan spread at facility level. The sample consists of firm-year observations. All explanatory variables are measured one year before the covenant-lite loan issuance. P-values reported in parentheses are based on standard errors adjusted for heteroskedasticity and clustering at the firm level. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

	Dependent variable = Loan spread			
	(1)	(2)	(3)	(4)
Covlite	70.27***	96.17***	80.72***	76.44***
	(0.000)	(0.000)	(0.000)	(0.000)
Ind. index	6.934***			13.44*
	(0.001)			(0.071)
Covlite*Ind.index	0.789			9.287
	(0.876)			(0.736)
Org. index		9.813		7.775
		(0.589)		(0.708)
Covlite*Org.index		104.7**		54.35
		(0.011)		(0.139)
Env. index			-9.246	
			(0.143)	
Covlite*Env.index			4.570	
			(0.658)	
#Loan participants	-1.608***	-3.556***	-1.880***	-3.242***

	(0.000)	(0.000)	(0.000)	(0.000)
Leverage	2.778	7.273**	4.478	8.280*
	(0.251)	(0.041)	(0.165)	(0.060)
Tangibility	82.15***	32.95	16.75	47.39
Market-to-book	-6.701**	-5.837**	-2.137	-4.622
	(0.033)	(0.031)	(0.426)	(0.108)
Profitability	-77.53***	-50.16**	-81.12***	-56.30**
	(0.001)	(0.028)	(0.000)	(0.019)
Altman z	0.000775**	0.000717	0.000224	0.00129**
	(0.026)	(0.138)	(0.544)	(0.013)
Firm size		4.727	7.824***	
		(0.325)	(0.005)	
Loan amount	-1.95e-08***	-1.78e-08**	-2.45e-08***	-2.02e-08**
	(0.004)	(0.017)	(0.000)	(0.013)
_cons	244.7***	372.8***	250.9***	396.0***
	(0.000)	(0.000)	(0.003)	(0.000)
Year fixed effects	Y	Y	Y	Y
Industry fixed effects	Y	Y	N	Y
N	2773	1194	3052	1038
R^2	0.307	0.373	0.196	0.406

Table 6: Loan Strictness of Covenant-Lite Loans and Two Managerial Incentives

The table presents estimates of standard OLS regression results in which dependent variable is loan strictness at facility level. The sample consists of firm-year observations. All explanatory variables are measured one year before the covenant-lite loan issuance. P-values reported in parentheses are based on standard errors adjusted for heteroskedasticity and clustering at the firm level. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

	Dependent variable = Loan strictness			
	(1)	(2)	(3)	(4)
Covlite	-0.0428***	-0.0141	-0.0343***	-0.0171
	(0.000)	(0.543)	(0.000)	(0.518)
Ind. index	-0.00775**			-0.0312***
	(0.021)			(0.009)
Covlite*Ind. index	0.0117*			0.0542
	(0.088)			(0.147)

Org. index		0.0388		0.0752**
		(0.225)		(0.025)
Covlite*Org. index		0.115**		0.115**
		(0.010)		(0.022)
Env. index			-0.0220***	
			(0.005)	
Covlite*Env. index			0.0123	
			(0.281)	
#Loan participants	-0.00673***	-0.00590***	-0.00525***	-0.00732***
	(0.000)	(0.000)	(0.000)	(0.000)
Leverage	0.00303***	0.00182	0.00375***	-0.00243
	(0.009)	(0.596)	(0.001)	(0.299)
Tangibility	0.0574**	0.0340	-0.00189	0.0177
	(0.032)	(0.413)	(0.887)	(0.715)
Market-to-book	-0.00660*	-0.00805**	-0.00936***	-0.00196
	(0.079)	(0.021)	(0.004)	(0.628)
Profitability	-0.0679***	-0.0935***	-0.0752***	-0.0599**
	(0.000)	(0.000)	(0.000)	(0.026)
Altman z	0.000000372	0.00000216**	0.00000309***	-0.000000157
	(0.499)	(0.030)	(0.000)	(0.790)
Firm size		-0.0282***	-0.0331***	
		(0.000)	(0.000)	
_cons	0.550***	0.807***	0.774***	0.648***
	(0.000)	(0.000)	(0.000)	(0.000)
Year fixed effects	Y	Y	Y	Y
Industry fixed effects	Y	Y	Y	Y
N	2748	1184	3021	1028
R^2	0.421	0.503	0.335	0.516

VII. Robustness Tests

Sub-Sample Regression Results

In Table 7 and Table 8, I reduce observations to a sub-sample containing only covenant-lite borrowers and run regressions on loan spread and loan strictness, respectively. The sub-sample regression results on loan spread are presented in column (2) of Table 7 and are consistent with full sample's regression results. Particularly, in regressions on loan spread, organizational discretion is positively significant at 1% level, indicating that covenant-lite loan lenders view firm-level uncertainty as a reason for taking additional compensation for bearing risk. In column (2) of Table 8, the sub-sample regression results on loan strictness are consistent with full sample's regression results. The regression results suggest that lenders impose stricter aggregate loan provisions to covenant-lite loan borrowers when borrowers demand flexibility in management due to firm-level uncertainty.

Overall, the regression results on loan spread and loan strictness suggest that lenders view need for managerial flexibility due to firm-level uncertainty and industry-level uncertainty differently. Lenders impose higher cost of borrowing fees (i.e., loan spreads) and stricter aggregate loan provisions when firms borrow covenant-lite loans because they need flexibility to deal with firm-level uncertainty. On the contrary, lenders impose looser aggregate loan provisions if the incentive to borrow covenant-lite loans is because the borrower demands managerial flexibility to deal with external uncertainty measured at the industry-level.

Table 7: Examining Cost of Borrowing Covenant-Lite Loans and Two Managerial Incentives in a Sub-Sample of only Covenant-Lite Borrowers

The table presents estimates of standard OLS regression results in which dependent variable is loan spread at facility level. The sample consists of *covenant-lite* borrowing firm-year observations. All explanatory variables are measured one year before the covenant-lite loan issuance. P-values reported in parentheses are based on standard errors adjusted for heteroskedasticity and clustering at the firm level. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

	Dependent variable = Loan spread			
	(1)	(2)	(3)	(4)
Ind. index	-18.03			46.32*
	(0.275)			(0.099)
Org. index		126.2***		70.60**
		(0.000)		(0.029)
Env. index			-8.565	
			(0.214)	
#Loan participants	-4.353***	-3.978*	-2.578***	-6.919***
	(0.001)	(0.084)	(0.005)	(0.005)
Leverage	6.010	53.00*	14.08	109.8**
	(0.500)	(0.094)	(0.234)	(0.025)
Tangibility	-1.235	18.33	35.11	-24.86

	(0.985)	(0.807)	(0.259)	(0.890)
Market-to-book	-23.07**	-23.09*	-24.57***	-41.85*
	(0.028)	(0.087)	(0.008)	(0.061)
Profitability	-5.878	68.44	-54.02*	-17.40
	(0.845)	(0.406)	(0.070)	(0.853)
Altman z	0.000397	0.00566	0.000603	0.00377
	(0.789)	(0.386)	(0.540)	(0.373)
Firm size		-48.59*	-19.87**	
		(0.057)	(0.022)	
Loan amount	-1.05e-08	-1.23e-09	-7.59e-09	-2.89e-08
	(0.380)	(0.942)	(0.264)	(0.244)
_cons	233.7***	934.3***	468.2***	491.0***
	(0.000)	(0.000)	(0.000)	(0.000)
Year fixed effects	Y	Y	Y	Y
Industry fixed effects	Y	Y	N	Y
N	293	163	348	127
R^2	0.662	0.638	0.265	0.677

Table 8: Examining Loan Strictness of Covenant-Lite Loans and Two Managerial Incentives in a Sub-Sample of only Covenant-Lite Borrowers

The table presents estimates of standard OLS regression results in which dependent variable is loan strictness at facility level. The sample consists of *covenant-lite* borrowing firm-year observations. All explanatory variables are measured one year before the covenant-lite loan issuance. P-values reported in parentheses are based on standard errors adjusted for heteroskedasticity and clustering at the firm level. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

	Dependent variable = Loan strictness			
	(1)	(2)	(3)	(4)
Ind. index	-0.00652			0.0262
	(0.699)			(0.560)
Org. index		0.136***		0.161***
		(0.001)		(0.000)
Env. index			-0.0152*	
			(0.079)	
#Loan participants	-0.00471**	-0.000890	-0.00247**	-0.00408
	(0.014)	(0.769)	(0.027)	(0.191)
Leverage	-0.00595	0.0309	-0.00519	0.0196
	(0.454)	(0.340)	(0.508)	(0.718)

Tangibility	-0.128	-0.0877	0.0165	-0.223
	(0.117)	(0.470)	(0.666)	(0.156)
Market-to-book	-0.0176	-0.0188*	-0.0321***	-0.00334
	(0.121)	(0.100)	(0.001)	(0.862)
Profitability	-0.0147	-0.0271	-0.0375	-0.0834
	(0.728)	(0.704)	(0.213)	(0.334)
Altman z	0.00000186	0.000000330	0.00000128	-0.00000168
	(0.220)	(0.947)	(0.270)	(0.607)
Firm size		-0.0423*	-0.0312***	
		(0.062)	(0.000)	
_cons	0.336***	1.040***	0.831***	0.781***
	(0.000)	(0.000)	(0.000)	(0.000)
Year fixed effects	Y	Y	Y	Y
Industry fixed effects	Y	Y	N	Y
N	292	163	346	127
R^2	0.595	0.695	0.220	0.764

VII. Conclusion

The appearance of covenant-lite loans, viewed as borrower-flexible loan type, is merging phenomenon in the leveraged loan segment in syndicated loan market. One string of prior work studied the emergence of covenant-lite loans based on fundamental firm characteristics (Davydenko et al., 2020; Demerjian et al., 2020), or lender base (Becker & Ivashina, 2016; Berlin et al., 2020; Billett et al., 2016c). Another string studied consequences of covenant-lite loans ex-post (Demerjian et al., 2020). I fulfill the literature by examining whether and how managerial discretion and its two dimensions may impact managerial acceptance of this borrower-flexible loan type. This study contributes to covenant-lite-related literature by empirically extending knowledge on loan selection and by showing how different managerial incentives influence covenant-lite loan contracting.

I examine covenant-lite loan borrowings from perspectives of different managerial incentives. From results on covenant-lite loan selection and managerial incentives, I find that managerial opportunism incentives significantly dominate managerial flexibility incentives in borrowing covenant-lite loans after controlling for other borrower and loan features, suggesting that stronger executive power base being more likely to borrower-flexible loan contracts. Being consistent with managerial opportunism hypothesis (Beatty et al., 2002; Chava et al., 2010), these findings help to understand role of executives on influencing covenant-lite loan contracting. From a managerial incentive viewpoint, borrowers' need for looser monitoring is largely driven by managerial opportunism incentives.

To understand costs of borrowing covenant-lite loans, I examine loan spreads and loan strictness. My evidence shows that lenders set higher loan spread and stricter loan provisions to

covenant-lite loan borrowers when the loan is taken due to organizational discretion, which describes borrowers demand for flexibility in management to deal with firm-specific uncertainty. This is consistent with lack of maintenance covenants causing costly consequences of covenant-lite borrowers (Demerjian et al., 2020).

My findings confirm that managerial incentives as being a key factor to consider in understanding of loan selection and costs of borrowing covenant-lite loans and also offer an empirical approach to the influences of all managerial incentive dimensions (i.e., individual-discretion, organizational-discretion, and environmental discretion) on borrowing covenant-lite loans. Specifically, my results show that firms with strong executive power base often influence loan selection in order to ensure contracting terms consistent with their opportunistic interests. Given that on-going monitoring is missing in covenant-lite loans since maintenance covenants are excluded from the contracts ex-ante, lenders tend to increase borrowing costs and to impost more intense loan strictness ex-ante if the incentive to borrow covenant-lite loans is related to the demand for managerial flexibility due to business uncertainty from the internal. However, environmental discretion (demand for managerial flexibility to deal with external industry uncertainty) just plays the opposite role by yielding less strict aggregate loan provisions. Going further, my findings suggest that lenders view managerial flexibility incentives from two different perspectives, namely organizational discretion, and environmental discretion. Each of them has different impact on aggregate provisions of covenant-lite loan contracting.

Finally, this study has some limitations which in turn offer interesting research angles for future. First, the number of covenant-lite observations is limited since covenant-lite loans are relatively a small portion of leveraged loan segment in syndicated loan market. I expect lack of maintenance covenants in loan contracting ex-ante as loan market innovation (Austin, 2022; Becker & Ivashina, 2016) allow this firm of financing to dominate syndicated leveraged loans due to large base of institutional investors and a switch of originate-to-hold to originate-to-distribute. Second, this research does not look at the impact on loan collateral or loan purpose, thus future research might take into consideration. Finally, since this paper is the first to study the association between managerial incentives and managerial acceptance of covenant-lite loans, fresh evidence is required to complement my study and to show how this borrower-flexible loan type will behave when being exposed to economic downturns as well as how lenders can design loan contracts accordingly taken the impact of managerial incentives on selection of covenant-lite loan into consideration.

Reference

Abuzov, R., Herpfer, C., & Steri, R. (2023). Do Banks Compete on Non-Price Terms? Evidence from Loan Covenants (SSRN Scholarly Paper No. 3278993). https://doi.org/10.2139/ssrn.3278993

Ağca, Ş., & Mansi, S. A. (2008). Managerial Ownership, Takeover Defenses, and Debt Financing. Journal of Financial Research, 31(2), 85–112. https://doi.org/10.1111/j.1475-6803.2008.00233.x

Aramonte, S., Lee, S. J., & Stebunovs, V. (2019). Risk taking and low longer-term interest rates: Evidence from the U.S. syndicated term loan market. Journal of Banking & Finance, 105511. https://doi.org/10.1016/j.jbankfin.2019.02.010

Austin, N. (2022). Heterogeneous Creditors and Covenant-Lite Loans (SSRN Scholarly Paper No. 4280726). https://doi.org/10.2139/ssrn.4280726

Badoer, D. C., Emin, M., & James, C. M. (2023). Contracting Costs, Covenant-Lite Lending and Reputational Capital (SSRN Scholarly Paper No. 3536458). https://doi.org/10.2139/ssrn.3536458

Baixauli-Soler, J. S., Lozano-Reina, G., & Sánchez-Marín, G. (2020). Managerial discretion, say on pay, and CEO compensation. Management Decision, 59(6), 1333–1362. https://doi.org/10.1108/MD-03-2020-0242

Beatty, A., Ramesh, K., & Weber, J. (2002). The importance of accounting changes in debt contracts: The cost of flexibility in covenant calculations. Journal of Accounting and Economics, 33(2), 205–227. https://doi.org/10.1016/S0165-4101(02)00046-0

Becker, B., & Ivashina, V. (2016). Covenant-light contracts and creditor coordination (Riksbank Research Paper Series No. 149, Sveriges Riksbank Working Paper Series No. 325, Swedish House of Finance Research Paper No. 17-1 No. 2871887). http://hdl.handle.net/10419/157968

Berlin, M., Nini, G., & Yu, E. G. (2020). Concentration of control rights in leveraged loan syndicates. Journal of Financial Economics, 137(1), 249–271. https://doi.org/10.1016/j.jfineco.2020.02.002

Billett, M. T., Elkamhi, R., Popov, L., & Pungaliya, R. S. (2016). Bank Skin in the Game and Loan Contract Design: Evidence from Covenant-Lite Loans. Journal of Financial and Quantitative Analysis, 51(3), 839–873. https://doi.org/10.1017/S0022109016000326

Bord, V. M., & Santos, J. A. C. (2012). The rise of the originate-to-distribute model and the role of banks in financial intermediation. Economic Policy Review, Jul, 21–34.

Bozanic, Z., Loumioti, M., & Vasvari, F. P. (2018). Corporate Loan Securitization and the Standardization of Financial Covenants. Journal of Accounting Research, 56(1), 45–83. https://doi.org/10.1111/1475-679X.12186

Chava, S., Kumar, P., & Warga, A. (2010). Managerial Agency and Bond Covenants. Review of Financial Studies, 23(3), 1120–1148. https://doi.org/10.1093/rfs/hhp072

Chava, S., & Roberts, M. R. (2008). How Does Financing Impact Investment? The Role of Debt Covenants. The Journal of Finance, 63(5), 2085–2121. https://doi.org/10.1111/j.1540-6261.2008.01391.x

Chen, T.-Y., Chin, C.-L., Wang, S., & Yao, W.-R. (2015). The Effects of Financial Reporting on Bank Loan Contracting in Global Markets: Evidence from Mandatory IFRS Adoption. Journal of International Accounting Research, 14(2), 45–81. https://doi.org/10.2308/jiar-51031

Davydenko, S., Elkamhi, R., & Salerno, M. (2020). When Are Financial Covenants Relevant? (EFA 2005 Moscow Meetings Paper, ECGI - Finance Working Paper No. 89/2005, WFA 2005 Portland Meetings Paper, AFA 2005 Philadelphia Meetings Paper, SSRN Scholarly Paper No. 3554454). https://doi.org/10.2139/ssrn.3554454

Dell'Ariccia, G., Laeven, L., & Suarez, G. A. (2017). Bank Leverage and Monetary Policy's Risk-Taking Channel: Evidence from the United States: Bank Leverage and Monetary Policy's Risk-Taking Channel. The Journal of Finance, 72(2), 613–654. https://doi.org/10.1111/jofi.12467

Demerjian, P. R., Horne, E., & Moon, K. (2020). Consequences of Cov-Lite Loans (SSRN Scholarly Paper No. 3588603). https://doi.org/10.2139/ssrn.3588603

Isin, A. A., McMeeking, K., & Tharyan, R. (2020). Market's Pricing and Risk-Return Trade-Offs Associated with Covenant-Lite (covlite) Issues (SSRN Scholarly Paper No. 3669876). https://doi.org/10.2139/ssrn.3669876

Ivashina, V., & Vallee, B. (2020). Weak Credit Covenants (National Bureau of Economic Research Working Paper No. 27316). https://doi.org/10.3386/w27316

Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. Journal of Financial Economics, 3(4), 305–360. https://doi.org/10.1016/0304-405X(76)90026-X

Maddaloni, A., & Peydró, J.-L. (2011). Bank Risk-taking, Securitization, Supervision, and Low Interest Rates: Evidence from the Euro-area and the U.S. Lending Standards. The Review of Financial Studies, 24(6), 2121–2165. https://doi.org/10.1093/rfs/hhr015

Murfin, J. (2012). The Supply-Side Determinants of Loan Contract Strictness. The Journal of Finance, 67(5), 1565–1601. https://doi.org/10.1111/j.1540-6261.2012.01767.x

Nadauld, T. D., & Weisbach, M. (2012). Did securitization affect the cost of corporate debt? Journal of Financial Economics, 105(2), 332–352.

Nini, G. (2017). Institutional Investors in Corporate Loans (SSRN Scholarly Paper No. 2349840). https://doi.org/10.2139/ssrn.2349840

Nini, G., Smith, D. C., & Sufi, A. (2012). Creditor Control Rights, Corporate Governance, and Firm Value. The Review of Financial Studies, 25(6), 1713–1761. https://doi.org/10.1093/rfs/hhs007

Novaes, W. (2003). Capital Structure Choice When Managers Are in Control: Entrenchment versus Efficiency. The Journal of Business, 76(1), 49–82. https://doi.org/10.1086/344113

Roberts, M. R., & Sufi, A. (2009). Control Rights and Capital Structure: An Empirical Investigation. The Journal of Finance, 64(4), 1657–1695. https://doi.org/10.1111/j.1540-6261.2009.01476.x

Saavedra, D. (2018). Syndicate Size and the Choice of Covenants in Debt Contracts. The Accounting Review, 93(6), 301–329. https://doi.org/10.2308/accr-52023

Schrand, C. M., & Zechman, S. L. C. (2012). Executive overconfidence and the slippery slope to financial misreporting. Journal of Accounting and Economics, 53(1–2), 311–329. https://doi.org/10.1016/j.jacceco.2011.09.001

Wang, H. (2011). Managerial entrenchment, equity payout and capital structure. Journal of Banking & Finance, 35(1), 36–50. https://doi.org/10.1016/j.jbankfin.2010.07.018

Xie, F. (2009). Managerial flexibility, uncertainty, and corporate investment: The real options effect. International Review of Economics & Finance, 18(4), 643–655. https://doi.org/10.1016/j.iref.2008.11.001

Appendix 1: Covenant-Lite Loan Sample

This table shows details on the covenant-lite loans included in my sample. My sample consists of covenant-lite loans made to public borrowers with sufficient firm and loan features available to run regressions during the period 2005 to 2019. The table shows the number of loans, the percentage of covenant-lite loans to leveraged loans, and cumulative percentages.

Year	Number of cov-lite loans	Percentage of cov-lite loans to leveraged loans	Cum. Percent.
2005	2	0.44	0.44
2006	8	1.77	2.22
2007	11	2.44	4.66
2008	0	0.00	4.66
2009	0	0.00	4.66
2010	2	0.44	5.10
2011	10	2.22	7.32
2012	7	1.55	8.87
2013	54	11.97	20.84
2014	51	11.31	32.15
2015	39	8.65	40.80
2016	50	11.09	51.88
2017	93	20.62	72.51
2018	102	22.62	92.12
2019	22	4.88	100.00
Total	451	100.00	

Appendix 2: Variable Description

Variable	Description	Source
Mgmt. Incentives		
CEO duality	One if the CEO is also the chair of the board, and zero otherwise	Execucomp
CEO wealth	The total value of equity-linked wealth over market capitalization	Compustat, Execucomp
AQC	Acquisitions made by the firm	Compustat
Debt-equity	The long-term debt divided by the market value of the firm	Compustat
Debt	One if there is convertible debt or preferred stock over total assets	Compustat
Excess investment	The firm's residual from a regression of total asset growth on sales growth residual	Compustat
Product diff.	The industry median of sales, general and administrative expenses, which includes advertising expenses, scaled by the median of sales of all the companies in the industry, measured at three-digit sic code	Compustat
Demand instability	The industry standard deviation of annual sales growth (five-year rolling window) in the period studied, measured at three-digit sic code	Compustat
Market growth	The industry median sales growth, measured at three-digit sic code	Compustat
Industry structure	Industry concentration in the period examined (based on market shares) through the Herfindahl index, measured at three-digit sic code	Compustat
Capacity intensity	Total property, plant and equipment over total employees	Compustat
Resource availability	The ratio of R&D expenditures on firm sales	Compustat
Instown. HHI	The ownership concentration ratio in the period analyzed (through the Herfindahl index, which is calculated on the five largest shareholders within a firm)	Thomson Reuters 13f
Ind. index	Component analysis of CEO duality, CEO wealth, Aqc., debt-equity, debt, and excess investment	Compustat, Execucomp
Org. index	Component analysis of capacity intensity, resource availability, and institutional HHI	Compustat, Thomson Reuters 13f

Env. index	Component analysis of product differentiability, demand instability, market growth, and industry structure	Compustat
Loan Features		
Covenant-lite	Indicator takes value of one if a loan deal is with covenant-lite tranche. A covenant-lite tranche is classified based on indicators in Dealscan. Dealscan provides covenant data in the market segment file at facility level and include a segment called "Covenant Lite" indicating an individual facility has no maintenance covenants ex-ante	Dealscan
Relationship lending	One if there is at least one lead arranger was a lead arranger of previous loan issuing over a prior five-year period	Dealscan
Loan spread	The all-in drawn spread of the loan	Dealscan
Loan strictness	The average score of scaled decile ranks of interest spread, maturity, and loan size by deal active year, with higher deciles ranks for loans with higher interest spreads, shorter maturities, and smaller loan size	Dealscan
#Loan participants	The number of distinct lead lenders from the facilities that took place in the prior 5 years	Dealscan
Loan amount	The size of the loan facility in millions	Dealscan
Firm Features		
Profitability	The firm's pre-tax cash flow from operations over total assets	Compustat
Altman-z	*1.2*(ACTQ-LCTQ)/ATQ + 1.4*REQ/ATQ + 3.3*(NIQ+XINTQ+TXTQ)/ATQ+(0.6*CSHOQ*PRCCQ)/LTA + 0.999*SALEQ/ATQ*	Compustat
Leverage	[Long-term debt (*dltt*) + short-term debt (*dlc*)] / total assets (*at*)	Compustat
Market-to-book	Market value of equity (*CSHO*PRCCQ*) plus long-term debt (*DLTTQ*) divided by total assets (*ATQ*)	Compustat
Firm age	Logarithm of max (years in Compustat)	Compustat
Tobin's q	[Total assets (*at*) – common/ordinary equity (*ceq*) + market value of equity (*prcc_f* × *csho*)] / total assets (*at*)	Compustat
Sales growth	$Sales_t$ / $sales_{t-1}$	Compustat
ROA	Net income (*ni*) / total assets (*at*)	Compustat
Tangibility	Property, Plant, & Equipment (*PPENTQ*) divided by total assets (*ATQ*)	Compustat
Firm size	Logarithm of total assets (*at*)	Compustat

The Essence of CEO Inside Debt

Nilakshi Borah[1]

Abstract
I examine the effect of CEO pension and deferred compensation, commonly known as CEO inside debt, on corporate cash holdings, as measured by the ratio of cash and marketable securities to net assets. Utilizing a sample of EXECUCOMP firms over the period of 2006 to 2008, I find a positive relation between the corporate cash holdings and CEO inside debt. I also find that cash increases have a more positive valuation effect for firms with high levels of CEO inside debt relative to those with low levels of CEO inside debt.

I Introduction

Agency theory (Jensen and Meckling, 1976) posits that agency conflicts between principals (shareholders and debtholders) and agent (managers) exist in modern corporations as the goals and desires of agents may not be consistent with those of principals. Managers, as a result, may not always use the firm's capital in a manner that maximizes shareholder's wealth and mangers may engage in activities that reallocate wealth from debtholders to shareholders. Theoretically, managerial equity-based compensation aligns manager's interest with those of shareholders (Jensen and Meckling, 1976). Several studies examine the managerial incentive effects of equity-based compensation and provide empirical evidence on whether managerial stock and stock option ownership impact firm performance and particular corporate decisions and policies.[2] Nevertheless, excessive equity-based compensation may motivate managers to take more risk than debtholders prefer.

Pension and deferred compensation, inside debt, may mitigate agency conflicts between managers and debt holders (Sundaram and Yermack, 2007; Edmans and Liu, 2011; Wei and Yermack, 2011; Cassell, Huang, Sanchez, and Stuart, 2012). In the language of Jensen and Meckling (1976), "inside debt" represents a fixed obligation for the firm to make future payments to executives. Further, inside debt is typically an unsecured and unfunded liability for the firm. The unsecured and unfunded nature of inside debt exposes managers to the same default risks and insolvency treatment as outside creditors. This aligns managers with debt holders and may cause CEOs to manage their firms more conservatively (Jensen and Meckling, 1976; Edmans and Liu, 2011).

Corporate liquidity policy seems an ideal area to explore the link between CEO compensation incentives and shareholder-debtholder conflicts. Excessive equity-based compensation may motivate mangers to hold smaller cash balances than debtholders desire. Inside debt compensation may motivate managers to manage firms conservatively by holding higher cash balances. I examine the effect of CEO inside debt on corporate cash holdings in this paper.

Agency conflicts between managers and shareholders occur when managers do not allocate corporate resources in ways that maximize shareholder wealth. For example, a primary agency conflict between managers and shareholders involves the overinvestment of free cash flows – managers may choose to invest in negative net present value projects. Prior literature in executive compensation suggests that equity-based compensation acts as a vehicle to resolve the conflicts of interests between managers and shareholders. For example, prior studies suggest that stock and

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[2] See for example, Core, Guay, and Larcker (2003) for a review of literature.

stock options encourage risk-averse CEOs to manage their firms in ways that benefit shareholders (Guay, 1999; Coles, Daniel, and Naveen, 2006; Low, 2009).

Agency conflicts between managers (or managers acting for shareholders) and debt holders occur when managers increase firm risk in ways that benefit shareholders at the expense of debt holders. Debt holders and shareholders have different payoff structures – debt holders are fixed claimants to firm assets while shareholders are residual claimants. Once debt is issued, shareholders may increase the value of their residual claims at the expense of debt holders. For instance, shareholders may increase the risk of the firm by changing investment or financial policies (asset substitution or risk shifting) in ways that reallocate wealth from debt holders, generally through some increase in the overall risk of the firm (Jensen and Meckling, 1976; Dewatripont and Tirole, 1994). Similarly, lower cash holdings may increase agency conflicts between managers and debtholders by increasing firm risk beyond what debtholders prefer.

While equity-based compensation mitigates agency conflicts between managers and shareholders, equity-based compensation may also exacerbate agency conflicts between managers and debt holders by motivating CEOs to increase risk beyond which debtholders prefer. Higher managerial inside debt serves to alleviate agency conflicts between managers and debt holders by aligning mangers with debt holders. For example, Cassell, Huang, Sanchez, and Stuart (2012) find that higher levels of CEO inside debt are associated with less risky investment and financial policies. This suggests that CEO inside debt compensation may also be associated corporate liquidity policy.

I examine the effect of CEO inside debt compensation on corporate cash holdings, as measured by the ratio of cash and marketable securities to net assets using a sample of EXECUCOMP firms over the period of 2006 to 2008. Specifically, I test whether CEO inside debt is positively or negatively correlated with cash holdings. Higher CEO inside debt compensation alleviates agency conflicts between managers and debt holders by aligning mangers with debt holders. For example, Cassell, Huang, Sanchez, and Stuart (2012) find that higher levels of CEO inside debt are associated with less risky investment and financial policies. CEOs with higher inside debt may prefer to invest in cash as cash holdings and less risky projects (Tong, 2010). Therefore, based on risk-aversion hypothesis, I posit a positive relation between CEO inside debt holdings and corporate cash holdings. Conversely, CEOs with debt-like compensation bear a lower cost of borrowing (Anantharaman, Fang, and Gong, 2010). This provides firms with easier access to external financing. Similarly, creditors anticipate that mangers with high inside debt compensation will pursue less risky policies and require fewer covenants limiting their investing, financing, and payout decisions after debt issuance (Anantharaman et al., 2010; Chen, Dou, and Wang, 2010). Thus, based on costly external finance hypothesis (Liu and Mauer, 2011), CEOs with higher inside debt may hold less cash as a hedge for future financing needs.

I begin by examining the effect of CEO inside debt holdings on firm cash holdings, measured as the ratio of cash plus marketable securities to net assets where net assets is equal to total assets minus cash plus marketable securities. The main explanatory variable of interest is CEO inside debt holdings. Following previous empirical studies on CEO inside debt holdings (Cassell et al., 2012), I use two measures as proxies for CEO inside debt holdings: 1) CEO to firm debt/equity ratio and 2) an indicator variable equal to one if the CEO to firm debt/equity ratio is greater than one. Utilizing a contemporaneous regression where cash and all independent variables including CEO inside debt holdings are measured at time *t*, I find a positive relation between CEO inside debt holdings and firm cash holdings. I next examine the relation between firm cash holdings

and lagged CEO inside debt holdings to mitigate the endogeneity problem and the positive relation between CEO inside debt holdings and firm cash holdings still hold.

As inside debt compensation encourages CEOs to take less risky investment policies, CEOs may forgo some positive net present value (NPV) projects if those projects are very risky (Myers, 1977). Therefore, firm value will decrease if cash increases for firms with higher CEO inside debt and if indeed CEOs forgo some positive net present value (NPV) projects. I examine whether cash increases (decreases) have a more positive (negative) valuation effect for firms with higher CEO inside debt. Following Pinkowitz, Stulz, and Williamson (2006), I use a modified version of the Fama and French (1998) valuation regression. I find that cash increases have a more positive valuation effect for firms with high levels of CEO inside debt relative to those with low levels of CEO inside debt.

This study makes several contributions to the literature. First, prior studies on executive compensation focus on equity-based (stocks and stock-options) and fixed (salary and bonus) compensation, while few studies examine debt-like compensation. This paper extends the literature which investigates the incentive effects of various components of CEO wealth, particularly CEO equity holdings (Guay, 1999; Rajgopal, and Shevlin, 2002; Coles, Daniel, and Naveen, 2006). Focusing on a different component of CEO compensation, inside debt, this study provides evidence of the effect CEO inside debt compensation on corporate cash holdings.

Second, this study contributes to a nascent literature on executive compensation which investigates the theoretical prediction that inside debt mitigates agency costs of debt by strengthening the alignment of CEO and debtholder incentives (Jensen and Meckling, 1976; Edmans and Liu, 2011). To date, extant research (Anantharaman, Fang, and Gong, 2010; Chen, Dou, and Wang, 2010; Wang, Xie, and Xin, 2011; Wei and Yermack, 2011; Francis and Yilmaz, 2012; He, 2011) has focused on market-based implications of CEO inside debt holdings (e.g. reduced cost of debt, fewer restrictive debt covenants, market reactions after initial disclosures of CEO inside debt compensation, financial reporting quality, etc.). In contrast, this study provides direct evidence of the effect of CEO inside debt on firm investment and financial policies by examining the relation between CEO inside debt compensation and corporate cash holdings. I extend Cassell et al., (2012), who look at the effect of CEO inside debt holdings on firm investment and financial policies, by investigating the effect of CEO inside debt on corporate cash holdings.[3] Further, I extend Liu, Mauer, and Zhang (2012), who look at the effect of CEO inside debt on the marginal value of cash to shareholders, by utilizing a valuation regression, a total firm value approach which yields a net value of cash that combines the assessments of both shareholders and debtholders.

Finally, this study adds to the corporate cash holdings literature by documenting the effect of CEO inside debt compensation on corporate cash holdings. Prior literature documents several motives for firms to hold cash[4]: the transaction motive, the precautionary motive, the tax motive, and the agency motive. The literature on corporate cash holdings empirically examines agency theory by viewing cash holdings as a source of financing. My study contributes to the agency motive view of corporate cash holdings literature by focusing on the investment perspective of cash holdings and by exploring the link between CEO inside debt and corporate cash-holdings.

I organize the remainder of this paper as follows. I develop my hypotheses in Section 2. I provide an overview of sample selection and variables used in this study, methodology, and a

[3] Cassell et al. (2012) find a positive relation between CEO inside debt and asset liquidity, measured by working capital. In my sample for this study, the correlation between working capital and firm cash holdings is not significant.
[4] See Bates, Kahle, and Stulz, 2009 for details about why firms hold cash.

description of my sample in Section 3. Section 4 reports empirical results while Section 5 concludes.

II Hypothesis Development

CEO inside debt compensation mitigates agency costs of debt by aligning interests of CEOs with those of debtholders. Prior studies find that the firms whose CEOs are paid with inside debt holdings manage firms more conservatively as inside debt reduces CEOs' excessive risk-taking incentives. Since investment in cash lowers overall firm risk, an increase in CEO inside debt should increase cash holdings. This indicates a positive relation between CEO inside debt and the cash holdings of a firm.

H_{1a}: Cash holdings increase in CEO inside debt holdings.

Conversely, firms that encourage less risk-taking with high inside debt compensation may find it easier to raise external capital. Debtholders recognize the incentive effects of CEO inside debt holdings. Therefore, firms providing their CEOs with debt-like compensation bear a lower cost of borrowing. Hence, firms have better access to external financing market when CEO pay packages consist of a substantial amount of inside debt holdings. Debtholders also recognize the incentive effects of CEO inside debt holdings. Firms providing their CEOs with debt-like compensation bear fewer covenants limiting their investing, financing, and payout decisions after debt issuance. All these indicate a negative relation between CEO inside debt and cash holdings of a firm.

H_{1b}: Cash holdings decrease in CEO inside debt holdings.

As inside debt compensation encourages CEOs to take less risky investment policies, CEOs may forgo some positive net present value (NPV) projects if those projects are very risky (Myers, 1977). Therefore, firm value will decrease if cash increases for firms with higher CEO inside debt and if indeed CEOs forgo some positive net present value (NPV) projects. I examine whether cash increases (decreases) have a more positive (negative) valuation effect for firms with higher CEO inside debt.

H_2: Cash increases (decreases) have a more positive (negative) valuation effect for firms with higher CEO inside debt.

III Sample Selection and Data

Sample Selection

Data for this study comes from the followings sources: CEO compensation data from EXECUCOMP; corporate cash holdings and other accounting data from COMPUSTAT; stock price data from Center for Research in Securities Prices (CRSP), and governance variables from Investor Responsibility Research Center (IRRC).

The Securities and Exchange Commission (SEC) required all firms to expand executive compensation disclosure effective in 2006 fiscal year end. Therefore, 2006 marks the beginning of my sample period because this is the first year that EXECUCOMP reports CEO pension and deferred compensation information.

I use the Standard and Poor's EXECUCOMP database to create an initial sample of US firms from 2006 fiscal year to 2008 fiscal year. EXECUCOMP includes annual compensation data from proxy statements for the five highest paid executives for firms in the S&P 500, the S&P MidCap 400, and the S&P SmallCap 600. Following previous literature, I exclude all financial firms (SIC codes 6000-6999) as liquidity is hard to assess in these firms. I also exclude all utility firms (SIC codes 4900-4999) due to their unique regulatory environment. I then match this sample with COMPUSTAT, CRSP, and IRRC for accounting data, stock return data, and governance data respectively.

The initial sample of EXECUCOMP is matched with COMPUSTAT Annual Industrial file and Center for Research in Securities Prices (CRSP) databases from 2006 to 2008. I exclude all financial and utility firms (SIC code of 4900-4949 and 6000-6999), all leverage buyouts (LBO) firms (stock code 4 in CRSP), and all firms that incorporate abroad (incorporation code 99 in COMPUSTAT). I further limit my sample to ordinary common shares (share code 10 or 11 in CRSP). This excludes certificates, Americus trust components, closed-end funds, ADRs, shares of beneficial interest, units, and REITs from analysis. I delete any observations with missing values on CEO pension, deferred compensation, and CEO stock incentives. After deleting observations with missing values for these variables, I have a final matched sample of 1,859 firm-year observations from 2006 to 2008. My sample is comparable with recent studies on CEO inside debt holdings using the EXECUCOMP database over the period 2006 to 2008 (Cassell et al., 2012; Cen, 2011; Lee and Tang, 2011). I then match this final sample with Investor Responsibility Research Center (IRRC) for governance variables and sub-sample is smaller due to the data availability from IRRC.

My final sample does not include 453 firms which have zero debt or missing debt. This may raise a question if CEO inside debt compensation does not matter for all-equity firms. Sundaram and Yermack (2007) argue that the incentive impact of debt and equity holdings of CEOs depends on the capital structure of the firm. When a firm has debt and equity in its capital structure, then the CEO tends to shift risk from shareholders to debtholders if the CEO has only equity holdings in the firm. Compensating CEOs with pension and deferred compensation aligns interests of CEOs with that of debtholders which in turn, reduces agency costs of debt. CEO inside debt compensation impacts on decision-making by CEOs only when firm has debt in the capital structure. Therefore, CEO inside debt compensation does not matter for all-equity firms as risk shifting from shareholders to debtholders by CEOs does not happen for these firms.

Variable Descriptions

The primary variable is corporate cash holdings. The primary independent variable is CEO inside debt compensation. I also include several additional control variables that are related to both corporate cash holdings and CEO inside debt compensation. Appendix A provides detailed definition of the dependent and independent variables utilized in my analysis.

Corporate cash holdings

The primary dependent variable for this study is corporate cash holdings of a firm. Following prior literature (for example, Opler et al., 1999), I measure corporate cash holdings as the ratio of cash and marketable securities to net assets, where net assets are total assets minus cash and marketable securities. I also measure corporate cash holdings as cash and marketable securities to total assets and my results are similar if I use this alternative measure of corporate cash holdings.

CEO inside debt compensation

The primary explanatory variable is CEO inside debt holdings. Following prior literature on CEO inside debt holdings (for example, Cassell et al., 2012), I use two measures for CEO inside debt holdings: 1) the CEO to firm debt/equity ratio and 2) an indicator variable equal to 1 when the CEO to firm debt/ equity ratio is greater than one. The first measure, the CEO to firm debt/equity ratio, is calculated as the CEO's debt/equity ratio scaled by the firm's debt to equity ratio. The CEO's debt/ equity ratio is calculated as CEO inside debt holdings scaled by CEO equity holdings. CEO inside debt holdings are calculated as the sum of the present value of accumulated pension benefits and deferred compensation. CEO equity holdings are calculated as the value of both stock and stock options held by the CEO, where the value of stock is calculated by multiplying the number of shares held by the stock price at the firm's fiscal year end and the value of option is calculated by multiplying the total option delta (using the Black-Scholes (1973)) by the stock price at the firm's fiscal year end. Firm debt is the sum of current and long-term debt. Firm equity is the product of shares outstanding and the stock price at the firm's fiscal year end. The second measure is an indicator variable equal to 1 when the CEO to firm debt/ equity ratio is greater than 1 (i.e. the CEO is more levered than the firm), and zero otherwise.

Control variables: CEO compensation incentives

I include additional control variables to proxy for CEO compensation incentives that influence corporate cash holdings. Liu and Mauer (2011) find a positive relation between vega and cash holdings but no signification relation between delta and cash holdings. Following prior literature (for example, Guay, 1999; Core and Guay, 2002; Coles, Daniel, and Naveen, 2006), I measure CEO compensation incentives by the sensitivity of CEO wealth to stock return volatility (vega) and the sensitivity of CEO wealth to stock price (delta). Following Cassell et al. (2012), I construct the ratio of the vega to delta (CEO vega/delta ratio) to control for the effects of equity-based incentives on CEO risk-taking preferences and corporate cash holdings. I adjust the CEO vega/delta ratio by multiplying it by the ratio of total CEO equity holdings to CEO inside debt to capture the relative importance of the CEO's accumulated equity holdings.[5]

Governance variables

Following prior literature (for example, Dittmar and Mahrt-Smith, 2007), I control for the impact of corporate governance on cash holdings. I measure the degree of managerial entrenchment due to takeover protection using the Gompers, Ishii, and Metrick (2003) (GIM INDEX) index. GIM INDEX is the number of antitakeover provisions in a firm's charter and the index varies from zero to 24. As the most recent data on antitakeover amendments is 2006, I use the G-Index of 2006 for my sample firms from 2006 to 2008.

Firm-specific control variables

Following prior literature on corporate cash holdings (Opler et al., 1999; Bates, Kahle, and Stulz, 2009), I also include several additional control variables to proxy for firm specific factors that may motivate and influence corporate cash holdings. These control variables are motivated by the transaction and precautionary explanations for corporate cash holdings. Firm size is related with the transaction cost motive for cash holdings (Opler et al, 1999). Firm size is calculated as the logarithm of total assets. The precautionary motives suggest that firms with better investment opportunities hold more cash because adverse shocks and financial distress are more costly for

[5] If CEO equity holdings are large (small), the effect of the CEO vega/delta ratio is likely to be large (small).

them (Opler et al, 1999). I use market-to-book asset ratio, computed as the book value of net assets minus the book value of equity plus the market value of equity, all divided by the book value of net assets, to indicate investment opportunities. Firms with higher cash flow accumulate more cash, all else equal (Bates et al., 2009). I use Cash flow/net assets which is computed as the ratio of earnings after interest, dividends and taxes but before depreciation divided by the book value of net assets. I include NWC/net assets, computed as the net working capital-to-net assets ratio, as net working capital consists of assets that substitute for cash. Capital expenditures can affect corporate cash holdings either from the tradeoff theory or from the financing hierarchy theory (Opler et al., 1999). I measure capital expenditures as Capex/net assets which is computed as the ratio of capital expenditures to the book value of net assets. I include leverage as firms will use cash to reduce leverage if debt is sufficiently constraining. Leverage is measured as sum of long-term debt and debt in current liabilities divided by the book value of net assets. Bates et al (2009) argue that firms that pay dividends are likely to be less risky and have greater access to capital markets and so, they tend to hold less cash. I include a dividend dummy which is a dummy variable equal to one in years in which a firm pays a common dividend and is zero otherwise to proxy for dividends. I employ R&D/sales, the ratio of research and development expense to sales, to measure growth opportunities. I use acquisition activity, the ratio of expenditures on acquisitions to the book value of net assets, as Bates et al. (2009) argue that acquisitions and capital expenditures would seem to be substitutes.

Descriptive Statistics

Table 1 presents summary statistics for the full sample. All continuous variables are winsorized at upper and lower 1% of the sample distribution to address potential problems associated with extreme observations. Panel A of Table 1.1 reports descriptive statistics. The mean (median) cash is 0.1467 (0.0699). I find that the mean (median) CEO debt/equity ratio is 0.280 (0.078). This suggests that CEO equity holdings are larger than CEO inside debt holdings for the majority of my sample firms. However, the average CEO holds more than $5 million in inside debt, suggesting that inside debt holdings are nontrivial to my sample CEOs. The CEO to firm debt/equity ratio shows a similar distribution with mean (median) values of 0.684 (0.296). The mean (median) CEO to firm debt/equity ratio>1 is 0.2399 (0.0000) indicating that CEO's debt-to-equity ratio is less than firm's debt-to-equity ratio for the majority of my sample firms.

Panel B of Table 1 reports Pearson correlations for my variables of interest and my primary dependent variables. Interestingly, I find a negative and significant relation between firm cash holdings and CEO inside debt holdings. I find a positive but insignificant relation between CEO to firm debt/equity ratio and firm cash holdings while I find a negative but insignificant relation between CEO to firm debt/equity ratio>1 and firm cash holdings.

Methodology

I examine the effect of CEO inside debt compensation on corporate cash holdings in this section. I begin by employing multivariate regressions of cash holdings on CEO inside debt compensation.

Table 1: Descriptive Statistics and Correlations

This table presents descriptive statistics and correlations. Variables include the ratio of cash plus marketable securities to net assets, where net assets are total assets minus cash and marketable securities (Cash), the sum of the present value of accumulated pension benefits and deferred compensation (CEO inside debt holdings), the natural log of 1 plus the ratio of CEO's debt-to-equity ratio (CEO to firm debt/equity ratio), a dummy variable that equals one if CEO to firm debt/equity ratio is larger than one and zero otherwise (CEO to firm debt/equity ratio>1), the ratio of CEO vega to the delta (CEO Vega/Delta Ratio), the natural logarithm of net assets (Firm Size), the ratio of the book value of net assets minus the book value of equity plus the market value of equity to the book value of net assets (Market-to-book), the ratio of earnings after interest, dividends and taxes but before depreciation divided by the book value of net assets (Cash flow/assets), the ratio of net working capital to net assets (NWC/assets), the ratio of capital expenditures to the book value of net assets (Capex/assets), the sum of long-term debt and debt in current liabilities divided by the book value of net assets (Leverage), a dummy variable that equals one if regular cash dividends on common stock is positive in a given fiscal year (Dividend payout dummy), the ratio of research and development expense to sales (R&D/sales), the ratio of expenditures on acquisitions to the book value of net assets (Acquisition activity), the number of years since the first year that the firm is reported in Compustat (Firm age), the number of years the executive has served as CEO (CEO tenure), a dummy variable that equals to one if CEO is also the chairman of the board (Duality), the number of antitakeover provisions in the firm's charter as reported by the Investor Responsibility Research Center (IRRC) in 2006 and varies from zero to 24 (GIM Index). Detailed definitions of all variables are reported in Appendix A. Data are obtained from COMPUSTAT, CRSP, EXECUCOMP, and IRRC and consist of 1,859 firm-year observations from 2006 to 2008. Panel A reports descriptive statistics. Panel B reports pairwise correlation of primary variables. Correlations significant at 5% or better are marked with stars.

Panel A: Summary Statistics

	N	Mean	Std.Dev	P25	Median	P75
Cash holdings	1859	0.1467	0.2318	0.0253	0.0699	0.1751
CEO inside debt holdings ($ Millions)	1859	5.881	11.923	0.035	1.483	6.733
CEO debt/equity ratio ($ Millions)	1859	0.280	0.552	0.0010	0.078	0.3158
CEO to firm debt/equity ratio	1859	0.684	1.071	0.005	0.296	0.956
CEO to firm debt/equity ratio >1	1859	0.2399	0.4271	0.0000	0.0000	0.0000
Firm size	1859	7.686	1.452	6.649	7.582	8.651
Dividend dummy	1859	0.576	0.494	0.000	1.000	1.000
Market-to-book ratio	1859	2.197	2.131	1.187	1.593	2.219
Cash flow/Net assets	1859	0.092	0.147	0.057	0.096	0.143
NWC/Net assets	1859	0.078	0.198	-0.019	0.088	0.189
Capex/Net assets	1859	0.0636	0.0652	0.0246	0.0431	0.0771
Leverage	1859	0.2099	0.1446	0.1022	0.1978	0.2989
R&D/Sales	1859	0.051	0.103	0.000	0.002	0.049
Acquisition Activity	1859	0.034	0.077	0.000	0.001	0.302
GIM Index	1144	9.120	2.651	7.000	9.000	11.000
CEO Vega/Delta ratio	1859	0.3135	0.3659	0.0714	0.2098	0.4763

Panel B: Correlations

		1	2	3	4	5	6	7	8	9	10	11	12	13
1	Cash	1.00												
2	CEO inside debt holdings	-0.1165***	1.00											
3	CEO to firm debt/equity ratio	0.0084	0.3089***	1.00										
4	CEO to firm debt/equity ratio>1	-0.0305	0.3633***	0.7222***	1.00									
5	Firm Size	-0.2986***	0.4428***	0.0567**	0.1014***	1.00								
6	Market-to-book ratio	0.5437***	-0.2217**	0.0473**	0.0359**	-0.1008***	1.00							
7	Cash flow/Net Assets	-0.1489***	-0.0491***	0.0857***	0.0934**	-0.0057**	-0.0038**	1.00						
8	NWC/Net Assets	-0.2298***	0.0513***	0.1162***	0.1073***	-0.3215**	-0.0072**	-0.0814***	1.00					
9	CAPEX/Net Assets	0.0944***	-0.1483***	-0.0504**	-0.0527**	-0.4555***	0.0121	0.0052	-0.3714***	1.00				
10	Leverage	-0.1892***	0.0267	-0.3303***	-0.2792***	0.1707***	-0.3348***	-0.1769***	-0.1342***	-0.1191***	1.00			
11	Dividend Dummy	-0.2152***	0.2785***	0.2069***	0.2341***	0.3555***	0.0436***	-0.1310***	-0.0827***	-0.1803***	-0.0013	1.00		
12	R&D/Sales	0.4315***	-0.1155***	-0.0552**	-0.0828***	-0.3805***	0.3032***	0.1876***	0.0418***	0.2160***	-0.1124***	-0.2332***	1.00	
13	Acquisition Activity	-0.0378***	-0.0714***	-0.0698***	-0.0757***	0.0341***	0.0067**	0.0547***	-0.2851***	0.0713***	-0.0401***	-0.0637***	0.1862**	1.00
14	GIM Index	-0.1901***	0.1823***	0.1056***	0.0098***	0.1634***	-0.1183***	0.0421***	-0.0513***	-0.0312***	0.0097***	0.1625***	-0.1014***	0.002*

Effect of CEO Inside Debt Holdings on Cash Holdings

To examine the effect of CEO inside debt compensation on corporate cash holdings, I regress cash holdings on CEO inside debt compensation and control for industry (2-digit SIC code dummies) and year (year dummies) fixed effect. Following Liu and Mauer (2011), I first examine the contemporaneous relation between cash holdings and CEO compensation incentives. The model I test is as shown below:

$$CASH_{it} = \alpha + \beta_1 (CEO\ inside\ debt\ compensation)_{it} + \beta_k (controls)_{it} + \beta_i \sum(2-digit\ SIC\ dummy\ variables)_i + \beta_y \sum(year\ dummy\ variables)_t + \varepsilon_{it} \quad (1)$$

Next, following prior studies on corporate cash holdings (Harford, Mansi, and Maxwell, 2008 and Liu and Mauer, 2011), I examine the relation between cash holdings and lagged CEO compensation incentives to control for potential endogeneity of compensation incentives. The model I test is as shown below:

$$CASH_{it} = \alpha + \beta_1 * (CEO\ inside\ debt\ compensation)_{i,\ t-1} + \beta_k (controls)_{i,t-1} + \beta_i \sum(2-digit\ SIC\ dummy\ variables)_i + \beta_y \sum(year\ dummy\ variables)_t + \varepsilon_{it} \quad (2)$$

After examining the effect of CEO inside debt holdings on firm cash holdings, I next examine whether cash increases (decreases) have a more positive valuation effect for firms with higher CEO to firm debt/equity ratio. I employ the Fama and French (1998) valuation regression. This regression has been used in many studies examining valuation effects and is well suited for my purpose as it accounts for cross-section variations in firm value. This total firm value regression approach has been used in many studies examining valuation effect.

Pinkowitz and Williamson (2005) use this model to analyze the determinants of the value of cash for domestic firms. Pinkowitz, Stulz, and Williamson (2003) use this model to investigate the valuation effect of cash and dividends for firms in countries with different level of investor protection. Dittmar and Mahrt-Smith (2007) use this model to show that cash is worth less when agency problems between insiders and outsiders are greater. Brockman and Unlu (2009) use this model to test whether dividend reductions (increases) are value increasing (decreasing) for firms in countries with poor creditor rights. Following Pinkowitz, Stulz, and Williamson (2006), I use the modified version of the Fama and French (1998) valuation regression by replacing the two-year change in value of variables by one-year change in value of variables. Prior studies in corporate cash holdings use this valuation regression and it is a total firm value approach which yields a net value of cash that combines the assessments of both shareholders and debtholders.

The basic regression specification is as follows:

$$V_{i,t} = \beta_0 + \beta_1 E_{i,t} + \beta_2 dE_{i,t} + \beta_3 dE_{i,t+1} + \beta_4 dA_{i,t} + \beta_5 dA_{i,t+1} + \beta_6 RD_{i,t} + \beta_7 dRD_{i,t} + \beta_8 dRD_{i,t+1} + \beta_9 I_{i,t} + \beta_{10} dI_{i,t} + \beta_{11} dI_{i,t+1} + \beta_{12} C_{i,t} + \beta_{13} dC_{i,t} + \beta_{14} dC_{i,t+1} + \beta_{15} dV_{i,t+1} + \varepsilon_{i,t} \quad (3)$$

In the above equation (3), all variables are scaled by total assets to control for heteroskedasticity (see Pinkowitz, Stulz, and Williamson, 2003; and Brockman and Unlu, 2009). X_t is the level of variable X in fiscal year t scaled by total assets in year t. dX_t is the change in variable X from year t-1 to year t scaled by total assets in year t ($(X_t - X_{t-1})/A_t$). dX_{t+1} is the

change in variable X from year t to year t+1 scaled by total assets in year t ($(X_{t+1} - X_t)/A_t$). Firm value is measured by the market value of the firm, which is calculated as the sum of market value of equity and total liabilities at fiscal year end. The independent variables include earnings (E), total assets (A), research and development expenditures (RD), interest expense (I), cash plus marketable securities (Cash), and total value of the firm value for year t+1 (V_{t+1}). Earnings are calculated as earnings before extraordinary items, plus interest expense, plus income statement deferred taxes and investment tax credit (if available). A is the book value of total assets. RD is R&D expenditures and is set to zero when missing. I is the interest expense. V is firm's common stock price multiply shares outstanding at the end of fiscal year, plus preferred stock, plus total book liabilities, minus balance sheet deferred taxes and investment tax credit (if available), where preferred stock is taken to be, in order and as available, redemption value, liquidating value, or par value. Notice that this model includes next-period variables to absorb changes in expectations. The primary variable of interest in my study is the contemporaneous relation between firm value and cash plus marketable securities ($Cash_{i,t}$). This directly measures the valuation effect of current cash plus marketable securities on firm.

IV Empirical Results

I examine the effect of CEO inside debt compensation on firm cash holdings in this section. I begin by employing multivariate regressions of firm cash holdings on CEO inside debt compensation. I then report results of a Fama and French (1998) valuation regression to examine whether cash increases (decreases) have a more positive (negative) valuation effect for firms with higher CEO to firm debt/equity ratio.

Effect of CEO inside debt holdings on firm cash holdings

I begin by examining the effect of CEO inside debt compensation on firm cash holdings. Following Liu and Mauer (2011), I first examine the contemporaneous relation between cash holdings and CEO compensation incentives, where firm cash holdings and all independent variables are measured at time t. Table 2 reports the results of multivariate regressions with controls for industry and year fixed effect. Models 1 and 2 report results for the full sample where the main explanatory variable is the first measure of CEO inside debt holdings, CEO to firm debt/equity ratio. Models 3 and 4 include the alternative measure of CEO inside debt holdings, CEO to firm debt/equity ratio>1.

The estimated coefficients on CEO to firm debt/equity ratio are positive and significant in models 1 and 2. This supports *H1a*, which predicts that cash holdings are increasing in CEO inside debt holdings. My conclusions are unchanged using an alternative proxy for inside debt in Models 3 and 4. The estimated coefficients on CEO to firm debt/equity >1 are positive and significant. I continue to find support for *H1a*. The firm cash holdings are increasing in CEO inside debt holdings.

Table 2: Contemporaneous Regressions of Cash Holdings on CEO Inside Debt Holdings

This table reports results of the effect of CEO inside debt holdings on cash holdings in contemporaneous specification where cash and all independent variables are measured at time *t*. All models control for industry and year fixed effect, where industry is defined based on Fama and French 49 industry classification. The dependent variable is the ratio of cash plus marketable securities to net assets, where net assets are total assets minus cash and marketable securities (Cash). The two main independent variables are two measures to proxy CEO inside debt holdings: CEO to firm debt/equity ratio, and a dummy variable with a value of one if CEO to firm debt/equity ratio is larger than one and zero otherwise (CEO to firm debt/equity ratio>1). Control variables are the ratio of CEO vega to the delta (CEO Vega/Delta Ratio), the natural logarithm of net assets (Firm Size), the ratio of the book value of net assets minus the book value of equity plus the market value of equity to the book value of net assets (Market-to-book), the ratio of earnings after interest, dividends and taxes but before depreciation divided by the book value of net assets (Cash flow/assets), the ratio of net working capital to net assets (NWC/assets), the ratio of capital expenditures to the book value of net assets (Capex/assets), the sum of long-term debt and debt in current liabilities divided by the book value of net assets (Leverage), a dummy variable that equals one if regular cash dividends on common stock is positive in a given fiscal year (Dividend payout dummy), the ratio of research and development expense to sales (R&D/sales), the ratio of expenditures on acquisitions to the book value of net assets (Acquisition activity), GIM Index, the number of antitakeover provisions in the firm's charter as reported by the Investor Responsibility Research Center (IRRC) in 2006 and the index varies from zero to 24, and CEO vega/delta ratio. Detailed definitions of all variables are reported in Appendix A. Sample period is 2006 - 2008. Models 1and 2 report results where the main explanatory variable is the first measure of CEO inside debt holdings (CEO to firm debt/equity ratio) while models 3 and 4 report results where the main explanatory variable is the second measure of CEO inside debt holdings (CEO to firm debt/equity ratio>1). The *t*-statistics are reported in parentheses. Superscripts *, ** and *** indicate levels of significance of 10%, 5%, and 1%, respectively.

	(1)	(2)	(3)	(4)
CEO to firm debt/equity ratio	0.0057***	0.0035***		
	(3.88)	(2.47)		
CEO to firm debt/equity ratio>1			0.037***	0.029***
			(4.80)	(4.97)
Firm Size		-0.071***		-0.073***
		(-13.11)		(-8.45)
Market-to-book ratio		0.073***		0.075***
		(13.44)		(15.31)
Cash flow/Net Assets		-0.027		-0.023
		(-0.37)		(-0.45)
NWC/Net Assets		-0.334***		-0.325***
		(-6.18)		(-5.79)
Capex/Net Assets		-0.103		-0.115
		(-0.87)		(-0.75)
Leverage		-0.017		-0.023
		(-0.48)		(-0.57)
R&D/Sales		1.357***		1.413***
		(11.67)		(10.54)
Dividend Dummy		-0.014		-0.017

		(-1.38)		(-1.61)
Acquisition Activity		-0.319***		-0.327***
		(-6.67)		(-6.98)
GIM Index		-0.004*		-0.005*
		(-2.97)		(-1.53)
CEO Vega/Delta Ratio		0.0013**		0.0015**
		(2.60)		(2.97)
Industry and year fixed effect	YES	YES	YES	YES
N	1859	1144	1859	1144
Adj. R^2	0.49	0.51	0.50	0.52

While studying the effect of corporate governance on firm cash holdings, Harford, Mansi, and Maxwell (2008) lag their governance variables and argue that lagging helps control for potential endogeneity of governance. Liu and Mauer (2011) report the results of the relation between cash holdings and lagged CEO compensation incentives. To control for potential endogeneity of compensation incentives, I next examine the effect of lagged CEO inside debt compensation on firm cash holdings. Table 3 reports the results of multivariate regressions with controls for industry and year fixed effect. Models 1 and 2 report results for the full sample where the main explanatory variable is the first measure of CEO inside debt holdings, CEO to firm debt/equity ratio. Models 3 and 4 include the alternative measure of CEO inside debt holdings, CEO to firm debt/equity ratio>1.

The estimated coefficients on CEO to firm debt/equity ratio are positive and significant in models 1 and 2. This supports H_{1a}, which predicts that cash holdings are increasing in CEO inside debt holdings. My conclusions are unchanged using an alternative proxy for inside debt in Models 3 and 4. The estimated coefficients on CEO to firm debt/equity >1 are positive and significant. I continue to find support for H_{1a}. The firm cash holdings are increasing in CEO inside debt holdings.

Table 3: Lagged Regressions of Cash Holdings on CEO Inside Debt Holdings

This table reports results of the effect of CEO inside debt holdings on cash holdings in lagged specification where cash is measured at time *t+1* and all independent variables are measured at time *t*. All models control for industry and year fixed effect, where industry is defined based on Fama and French 49 industry classification. The dependent variable is the ratio of cash plus marketable securities to net assets, where net assets are total assets minus cash and marketable securities (Cash). The two main independent variables are two measures to proxy CEO inside debt holdings: CEO to firm debt/equity ratio, and a dummy variable with a value of one if CEO to firm debt/equity ratio is larger than one and zero otherwise (CEO to firm debt/equity ratio>1). Control variables are the ratio of CEO vega to the delta (CEO Vega/Delta Ratio), the natural logarithm of net assets (Firm Size), the ratio of the book value of net assets minus the book value of equity plus the market value of equity to the book value of net assets (Market-to-book), the ratio of earnings after interest, dividends and taxes but before depreciation divided by the book value of net assets (Cash flow/assets), the ratio of net working capital to net assets (NWC/assets), the ratio of capital expenditures to the book value of net assets (Capex/assets), the sum of long-term debt and debt in current liabilities divided by the book value of net assets (Leverage), a dummy variable that equals one if regular cash dividends on common stock is positive in a given fiscal year (Dividend payout dummy), the ratio of research and development expense to sales (R&D/sales), the ratio of expenditures on acquisitions to the book value of net assets (Acquisition activity), GIM Index, the number of antitakeover provisions in the

firm's charter as reported by the Investor Responsibility Research Center (IRRC) in 2006 and the index varies from zero to 24, and CEO vega/delta ratio. Detailed definitions of all variables are reported in Appendix A. Sample period is 2006 - 2008. Models 1 and 2 report results where the main explanatory variable is the first measure of CEO inside debt holdings (CEO to firm debt/equity ratio) while models 3 and 4 report results where the main explanatory variable is the second measure of CEO inside debt holdings (CEO to firm debt/equity ratio>1). The *t*-statistics are reported in parentheses. Superscripts *, ** and *** indicate levels of significance of 10%, 5%, and 1%, respectively.

	(1)	(2)	(3)	(4)
CEO to firm debt/equity ratio	0.0062***	0.0049***		
	(3.39)	(2.84)		
CEO to firm debt/equity ratio>1			0.047***	0.027***
			(4.79)	(3.47)
Firm Size		-0.073***		-0.076***
		(-12.58)		(-10.66)
Market-to-book ratio		0.078***		0.081***
		(9.63)		(11.78)
Cash flow/Net Assets		-0.057		-0.075
		(-1.05)		(-1.59)
NWC/Net Assets		-0.461***		-0.491***
		(-8.57)		(-7.42)
Capex/Net Assets		-0.138		-0.157
		(-0.92)		(-1.56)
Leverage		-0.105		-0.113
		(-0.98)		(-0.81)
R&D/Sales		1.973***		1.995***
		(7.67)		(8.13)
Dividend Dummy		-0.023		-0.027
		(-1.85)		(-1.96)
GIM Index		-0.001*		-0.003*
		(-3.11)		(-2.74)
CEO Vega/Delta Ratio		0.0009**		0.0013**
		(1.89)		(2.32)
Industry and year fixed effect	YES	YES	YES	YES
N	1832	1110	1832	1110
Adj. R^2	0.34	0.37	0.39	0.42

Effect of Cash Increases (Decreases) on Valuation Effect for Firms with Higher CEO to firm debt/equity ratio

Table 4 reports the results using a modified version of the Fama and French (1998) valuation regression model. I allow the coefficient estimates and intercept to vary with inside debt in order to estimate how cash plus marketable securities have a different valuation effect for firms with different levels of inside debt. More specifically, in each fiscal year, I create a dummy variable with a value of one for firms with a CEO to firm debt/equity ratio above median and zero

otherwise. This dummy variable is further interacted with all the independent variables as well as the constant. Therefore, the coefficient estimates on the interaction term are the additional valuation effect of cash for firms with relative inside debt ratio above median. Cash increases should generate more value for firms with higher relative inside debt ratio. Following Fama and French (1998), I estimate the equation using the Fama-MacBeth (1973) methodology. Model 1 does not include industry fixed effect while Model 2 includes industry fixed effect.

Table 4: CEO inside debt compensation and cash valuations

This table presents the regression results of cash valuation effect for firms with different level of CEO to firm debt/equity ratio using Fama and MacBeth (1973) methodology. Sample period is 2006-2008. Due to data limitation on Compustat, sample size is reduced to 1,758 firm-year observations. Model (1) does not include industry fixed effect. Model (2) includes industry fixed effect. Industry is defined based on Fama and French 49 industry classification. X_t is the level of variable *X* in fiscal year t scaled by total assets in year t. dX_t is the change in variable X from year *t-1* to year *t* scaled by total assets in year t $((X_t - X_{t-1})/A_t)$. dX_{t+1} is the change in variable X from year *t* to year *t+1* scaled by total assets in year t $((X_{t+1} - X_t)/A_t)$. The independent variables include earnings (*E*), total assets (*A*), research and development expenditures (*RD*), interest expense (*I*), cash plus marketable securities (Cash), and total value of the firm value for year *t+1* (V_{t+1}). Earnings is calculated as earnings before extraordinary items, plus interest expense, plus income statement deferred taxes and investment tax credit (if available). *A* is the book value of total assets. *RD* is *R&D* expenditures and is set to zero when missing. *I* is the interest expense. *V* is the market value of the firm calculated by multiplying firm's common stock price by shares outstanding at the end of fiscal year, plus preferred stock, plus total book liabilities, minus balance sheet deferred taxes and investment tax credit (if available), where preferred stock is taken to be, in order and as available, redemption value, liquidating value, or par value. The *t*-statistics are reported in parentheses. Superscripts *, ** and *** indicate levels of significance of 10%, 5%, and 1%, respectively.

	(1)			(2)		
	Low inside debt	High inside debt	T-statistics of difference	Low inside debt	High inside debt	T-statistics of difference
E_t	5.0328**	6.5625**	0.253	4.8523**	6.2957**	0.283
	(7.21)	(8.01)		(5.87)	(6.24)	
dE_t	-1.0561***	-1.428***	0.697	-0.9400**	-1.4806**	0.583
	(-17.54)	(-18.22)		(-4.64)	(-4.90)	
dE_{t+1}	2.5550**	2.895**	0.519	2.6888**	2.8205**	0.777
	(8.60)	(8.65)		(6.26)	(5.94)	
dA_t	-0.1585	-0.1439	0.967	-0.1280	-0.1123	0.953
	(-1.13)	(-1.14)		(-1.27)	(-1.65)	
dA_{t+1}	0.4055	0.3157	0.797	0.4908	0.3420	0.650
	(1.56)	(1.57)		(1.88)	(2.98)	
RD_t	1.9325	2.2052**	0.065	1.2776	1.4465*	0.079
	(1.00)	(6.20)		(1.00)	(4.92)	
dRDt	-0.9988	-1.003	0.998	-0.3222	0.675	0.771
	(-0.73)	(-0.80)		(-0.18)	(1.90)	

dRD_{t+1}	0.785*	1.232**	0.035	0.623*	0.895**	0.491
	(5.20)	(8.65)		(4.96)	(5.63)	
I_t	-9.4114**	-6.5566**	0.100	-7.9970**	-3.6936**	0.038
	(-5.26)	(-6.50)		(-6.67)	(-6.34)	
dI_t	9.4082	4.5406	0.537	7.7299	7.2246	0.509
	(1.70)	(2.03)		(1.70)	(2.97)	
dI_{t+1}	5.0291**	3.2808**	0.831	3.6533*	3.6543*	1.000
	(6.19)	(5.99)		(3.43)	(3.98)	
$Cash_t$	2.9417	5.1059**	0.083	3.2029**	7.8561**	0.081
	(2.55)	(5.20)		(4.42)	(5.23)	
$dCash_t$	0.3024	-0.088	0.673	0.1604	-0.2840	0.667
	(1.91)	(-2.05)		(1.89)	(2.03)	
$dCash_{t+1}$	1.7248	4.2017*	0.062	1.8534	6.5712**	0.042
	(1.09)	(5.60)		(1.67)	(4.67)	
dV_{t+1}	-0.2623	-0.4333	0.135	-0.2739	-0.4593	0.150
	(-1.02)	(-3.05)		(-1.09)	(-2.10)	
Constant	1.3694**			1.2311***		
	(5.85)			(48.56)		
N	1758.0000			1758.0000		
r2	0.6281			0.5583		

The estimated coefficient on $Cash_t$ for high inside debt firms in Model 1 is positive and significant. While the estimated coefficient on $Cash_t$ for low inside debt firms is also positive in Model 1, the positive valuation effect is significantly greater for high inside debt firms relative to low inside debt firms. My results are similar in Model 2 which includes industry fixed effects. It is important to note that t-statistics of difference is insignificant. An insignificant t-test result means that the difference between the means of the two groups is not statistically significant, which suggests that any observed difference could have arisen due to random chance or sampling error. Overall, results from Table 4 support H_2 and *suggest* that cash changes have a more positive valuation effect for firms with higher level of inside debt than firms with a lower level of inside debt.

V Conclusion

In summary, this study provides compelling evidence that CEO inside debt compensation plays a crucial role in shaping corporate cash holdings. By aligning the interests of executives with those of debtholders, this form of compensation mitigates agency conflicts and promotes a more conservative approach to financial management. The positive relationship identified between CEO inside debt and cash reserves suggests that executives with greater inside debt are more inclined to prioritize liquidity. This cautious strategy not only enhances the firm's financial stability but also reflects a risk-averse investment philosophy.

Furthermore, the findings indicate that increases in cash holdings have a more favorable impact on firm valuation in the context of higher CEO inside debt. This reinforces the notion that investors value liquidity when it is managed under conservative oversight. Overall, the results emphasize the importance of compensation structures in corporate governance, highlighting how

well-designed executive pay can influence both managerial behavior and market perceptions. These insights emphasize the importance of executive compensation design in shaping corporate financial strategies and indicate that aligning managerial incentives with the interests of debt holders can lead to improved firm performance and investor confidence.

REFERENCES

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

Anantharaman, D., V.W. Fang, and G. Gong, 2010. Inside debt and the design of corporate debt contracts. Unpublished working paper, Rutgers University and Pennsylvania State University.

Bates, T.W., K.M. Kahle, and R. Stulz, 2009. Why do US firms hold so much more cash than they used to? Journal of Finance 64, 1985–2021.

Baumol, W.J., 1952. The transactions demand for cash: An inventory theoretic approach. Quarterly Journal of Economics 66, 545–556.

Cassell, C.A., S.X. Huang, J.M. Sanchez, and M.D. Stuart, 2012. Seeking safety: the relation between CEO inside debt holdings and the riskiness of firm investment and financial policies. Journal of Financial Economics 103, 588-610.

Cen, W., 2011. The determinants of CEO inside debt and its components. Working Paper, Cornell University.

Chen, F., Y. Dou, and X. Wang, 2010. Executive inside debt holdings and creditors' demand for pricing and non-pricing protections. Unpublished Working Paper, University of Toronto and the Chinese University of Hong Kong.

Coles, J., N. Daniel, and L. Naveen, 2006. Managerial incentives and risk-taking. Journal of Financial Economics 79, 431- 468.

Core, J. and W. Guay, 2002. Estimating the value of employee stock option portfolios and their sensitivities to price and volatility. Journal of Accounting Research 40, 613-630.

Dewatripont, M. and J. Tirole, 1994. A theory of debt and equity: diversity of securities and manager-shareholder congruence. Quarterly Journal of Economics 109, 1027-1054.

Dittmar, A., J. Mahrt-Smith, and H. Servaes, 2003. International corporate governance and corporate cash holdings. Journal of Financial and Quantitative Analysis 38, 111-133.

Dittmar, A. and J. Mahrt-Smith, 2007. Corporate governance and the value of cash holdings. Journal of Financial Economics 83, 599–634.

Edmans, A. and Q. Liu, 2011. Inside debt. Review of Finance 15, 75-102.

Foley, C.F., J. Hartzell, S. Titman, and G.J. Twite, 2007. Why do firms hold so much cash? A tax-based explanation. Journal of Financial Economics 86, 579–607.

Francis, B.B. and G. Yilmaz, 2012. Inside debt and stock price performance. Working Paper, Rensselaer Polytechnic Institute.

Gerakos, J., 2010. CEO pensions: disclosure, managerial power, and optimal contracting. Working Paper, University of Chicago Booth School of Business.

Gompers, P., J. Ishii, and A. Metrick, 2003. Corporate governance and equity prices. Quarterly Journal of Economics 118, 107–155.

Guay, W., 1999. The sensitivity of CEO wealth to equity risk: An analysis of the magnitude and determinants. Journal of Financial Economics 53, 43-71.

Harford, J., 1999. Corporate cash reserves and acquisitions. Journal of Finance 54, 1969–1997.

Harford, J., S.A. Mansi, and W.F. Maxwell, 2008. Corporate governance and firm cash holdings in the US. Journal of Financial Economics 87, 535–555.

He, G., 2011. Effect of managerial ownership of debt on financial reporting quality and stock price crash risk. Working paper, Nanyang Technological University, Singapore.

Jensen, M., 1986. Agency costs of free cash flow, corporate finance, and takeovers. American Economic Review 76, 323-329.

Jensen, M. and W. Meckling, 1976. Theory of the firm: managerial behavior, agency costs and ownership structure. Journal of Financial Economics 3, 305-360.

Lee, G. and H. Tang, 2011. CEO pensions and deferred compensation. Working Paper, Seton Hall University.

Liu, Y. and D.C. Mauer, 2011. Corporate cash holdings and CEO compensation incentives. Journal of Financial Economics 102, 183–198.

Low, A., 2009. Managerial risk-taking behavior and equity-based compensation. Journal of Financial Economics, 92(3), 470-490.

Opler, T., L. Pinkowitz, R. Stulz, and R. Williamson, 1999. The determinants and implications of cash holdings. Journal of Financial Economics 52, 3–46.

Pinkowitz, L., R. Stulz, and R. Williamson, 2006. Does the contribution of corporate cash holdings and dividends to firm value depend on governance? A cross-country analysis. Journal of Finance 61, 2725–2751.

Rajgopal, S. and T. Shevlin, 2002. Empirical evidence on the relation between stock option compensation and risk taking. Journal of Accounting and Economics, 33(2), 145-171.

Sundaram, R. and D. Yermack, 2007. Pay me later: inside debt and its role in managerial compensation. Journal of Finance 62, 1551-1588.

Tong, Z., 2010. CEO risk incentives and corporate cash holdings. Journal of Business Finance & Accounting 37, 1248 –1280.

Wang, C., F. Xie, and X. Xin, 2011. Managerial ownership of debt and bank loan contracting. Working Paper, Chinese University of Hong Kong.

Wei, C. and D. Yermack, 2011. Investor reactions to CEOs' inside debt incentives. Review of Financial Studies 24 (11), 3813-3840.

Appendix A: Definition of Variables

Dependent Variable	Definition and Data Source
Cash holdings	The ratio of cash and marketable securities to net assets: A1/(A6 -A1) Data source: Compustat
Independent Variable	**Definition and Data Source**
CEO to firm debt/equity ratio	The natural log of 1 plus the ratio of the CEO's debt-to-equity ratio to the firm's debt-to-equity ratio. CEO's inside is calculated as sum of the present value of accumulated pension benefits and deferred compensation; CEO equity is calculated as the value of both stock and option held by the CEO, where the value of stock is calculated as the number of shares multiply by the stock price at the end of firm's fiscal year, and the value of option is calculated as the total option delta (calculated based on Black-Scholes (1973) option formula) multiply by the stock price at the end of firm's fiscal year; firm's debt is the sum of current and long-term debt; firm's equity is the product of shares outstanding and the stock price at the end of firm's fiscal year. Data source: Execucomp, CRSP, Compustat
CEO to firm debt/equity ratio>1	A dummy variable with a value of one if CEO to firm debt/equity ratio is larger than one and zero otherwise
CEO inside debt holdings	The sum of the present value of accumulated pension benefits and deferred compensation Data source: Execucomp
Firm size	The logarithm of total assets Data source: Compustat
Dividend payout dummy	A dummy variable that equals one if the regular cash dividends on common stock is positive in a given fiscal year, and zero otherwise. Data source: Compustat
R&D/Sales	The ratio of research and development expense to sales Data source: Compustat
GIM Index	The number of antitakeover provisions in the firm's charter as reported by the Investor Responsibility Research Center (IRRC) in 2006 and it varies from 0 to 24. Data source: Risk Metrics (IRRC)
NWC/Net Assets	The ratio of net working capital to net assets Data source: Compustat
Cash flow/Net Assets	The ratio of earnings after interest, dividends and taxes but before depreciation divided by the book value of net assets Data source: Compustat
CAPEX/Net Assets	The ratio of capital expenditures to net assets Data source: Compustat
Market-to-book ratio	The book value of net assets minus the book value of equity plus the market value of equity, all divided by the book value of net assets Data source: Compustat

Leverage	The ratio of sum of long-term debt and debt in current liabilities to net assets Data source: Compustat
CEO vega/delta ratio	The ratio of the vega (the sensitivity of the value of CEO's accumulated equity-based compensation to a one percent change in the volatility of stock prices) to the delta (the sensitivity of the value of the CEO's accumulated equity-based compensation to a one percent change in the stock price). I adjust this CEO vega/delta ration by multiplying it by the ratio of CEO equity-holdings to CEO inside debt holdings so that this measure captures the relative importance of the CEO's equity holdings. Data source: Execucomp, CRSP, Compustat
Acquisition activity	The ratio of expenditures on acquisitions to net assets Data source: Compustat

Appendix B: Literature Review

Corporate Cash Holdings and Agency Costs

Corporate liquidity policy is regarded as one of the firm's most important decisions. This is especially true as prior studies document that US firms hold a large portion of their assets in the form of cash. For example, Bates, Kahle and Stulz (2009) find that the average cash-to-assets ratio more than doubles from 10.5% in 1980 to 23.2% in 2006. Based on Bates, Kahle, and Stulz (2009), there are four main motives for firms to hold cash: the *transaction* motive (Baumol, 1952; Miller and Orr, 1966; Mulligan, 1977)[6]; the *precautionary* motive (Opler, Pinkowitz, Stulz, and Williamson, 1999)[7]; the *tax* motive (Foley, Hartzell, Titman, and Twite, 2007)[8]; and the agency motive (Dittmar, Mahrt-Smith, and Servaes, 2003; Dittmar, and Mahrt-Smith, 2007; Pinkowitz, Stulz, and Williamson, 2006; Harford, Mansi, and Maxwell, 2008).

This study focuses primarily on the agency motive of cash holdings. Prior literature focuses on whether the agency theory explains the level of corporate cash holdings (Opler et al., 1999; Dittmar, Mahrt-Smith and Servaes, 2003; Dittmar, Mahrt-Smith, 2007; Pinkowitz, Stulz, and Williamson, 2006), and whether corporate cash holdings affect firm value through the agency problem (Harford, 1999). While Opler et al. (1999) do not find support for the agency motive using managerial ownership as the combined measure for the free cash flow hypothesis and risk-reduction hypothesis, other researchers find support. Dittmar et al. (2003) find that corporate cash holdings in different countries are affected by the degree of shareholder protection from law and firms hold more cash in countries with greater agency problems. Consistent with free cash flow hypothesis, Harford (1999) finds that cash-rich firms are more likely to make value-decreasing acquisitions. Dittmar, Mahrt-Smith (2007) and Pinkowitz, Stulz, and Williamson (2006) find that cash is worth less when agency problems between insiders and outside shareholders are greater. Harford, Mansi, and Maxwell (2008) find that entrenched managers are more likely to build excess cash balances but spend excess cash quickly.

The agency theory explanation for cash holdings includes both the free-cash flow hypothesis and risk-reduction hypothesis. According to the free-cash flow hypothesis, cash is viewed as a source of financing available to the manager who serves his own interest at the cost of shareholders' wealth (Jensen, 1986; Harford, 1999). Risk-reduction is a typical agency problem originating from different risk preferences between managers and shareholders. The risk-reduction hypothesis posits that cash holdings are risk-free investments and so, a risk-averse and self-interested manager allocates higher corporate cash holdings to reduce firm risk. For instance, Amihud and Lev (1981) argue that a risk-averse manager may select lower NPV but less risky investment projects, which can reduce firm value.

As noted above, previous studies on corporate cash holdings primarily focus on the free-cash flow hypothesis. However, there are limited studies which explore the risk-reduction hypothesis in the context of corporate cash holdings. Consistent with risk-related agency theory, Tong (2010) finds that firms with higher CEO risk incentives have less cash holdings using a sample of 1,768 firms from 1993 to 2000. Conversely, Liu and Mauer (2011) find a positive

[6] Transaction motive focuses on the need to conserve on the cost of converting non-financial assets into cash and posits that firms that are more likely to incur higher transaction costs are expected to maintain higher cash balances.
[7] The precautionary motive posits that firms hold cash to meet the needs of the firms when it faces unanticipated contingencies and when access to capital markets is costly.
[8] The tax motive predicts that US firms that would incur tax consequences related with repatriating foreign earnings hold higher cash balances.

relation between CEO risk-taking (vega) incentives and cash holdings utilizing a sample of EXECUCOMP firms from 1992 to 2006. Liu and Mauer (2011) measure the marginal value of cash to shareholders and find that high CEO vega is associated with a lower value of cash. This empirical evidence is also consistent with the costly contracting hypothesis, which posits that debtholders expect greater risk-taking in high vega firms and so, require greater liquidity.

Inside Debt Compensation as a Means to Reduce Agency Costs of Debt

Many CEOs in the US hold significant amounts of pay in the form of defined benefit pension plans and deferred compensation (Sundaram and Yermack, 2007; Wei and Yermack, 2011). These forms of executive compensation are defined as inside debt (in the language of Jensen and Meckling (1976)) as this compensation represents fixed obligation for the firm to make future payments to corporate insiders. Inside debt compensation are unsecured and unfunded, exposing CEOs to the same default risks and insolvency treatment as outside creditors. Therefore, CEO inside debt compensation can be used as a vehicle to mitigate the agency costs of debt (Sundaram and Yermack, 2007; Edmans and Liu, 2011; Wei and Yermack, 2011; Lee and Tang, 2011; Cassell et al., 2012).

Agency costs of debt occur when managers vary the firm's investment policy, payout policy, or capital structure in ways that reallocate wealth from debtholders to stockholders, generally through some increase in the overall risk of the firm (Jensen and Meckling, 1976; Dewatripont and Tirole, 1994). To alleviate the agency costs of debt, Jensen and Meckling (1976) recommend implementing an optimal incentive structure under which the CEO's personal holdings of the firm's debt and equity ratio is similar to the firm's overall capital structure. Based on agency theory, studies on CEO inside debt compensation find that CEOs with higher inside debt holdings prefer less risky investment and financial policies (Cassell et al., 2012). Sundaram and Yermack (2007) find that as the value of a CEO's pension increases relative to the value of her equity holdings, risk taking, as measured by distance-to-default declines. Wei and Yermack (2011) examine stockholder and bondholder reactions to firms' initial reports of their CEOs' inside debt positions in early 2007 when new SEC disclosure rules took effect. The authors find that bond prices rise, equity prices fall, and the volatility of both securities drops upon disclosures by firms where the CEO has a sizeable defined benefit pension or deferred compensation. This suggests that inside debt may reduce firm risk and transfer wealth from equity toward debt. This is also consistent with the idea that investors anticipate less risk taking by managers with higher levels of inside debt.

Several recent studies also find a negative relation between CEO inside debt holdings and the cost of debt (Anantharaman et al., 2010; Chen, Dou, and Wang, 2010; Wang, Xie, and Xin, 2011). When compensation packages of CEOs consist of both inside debt compensation and equity-based compensation, CEO incentives vary with the relative importance of debt versus equity based compensation in the pay structure (inside leverage of the CEO). The higher a CEO's inside leverage relative to firm leverage (the CEOs' relative leverage), the more closely the CEO's incentives are aligned with debtholders vis-à-vis shareholders and the lesser the degree to which CEO engages in risk-seeking behavior to damage debt holders wealth (Edmans and Liu, 2011). Anantharaman et al. (2010) argue that if debtholders realize the incentive effects of CEO inside debt holdings, firms providing CEOs with higher relative leverage should bear a lower borrowing cost and fewer covenants. Utilizing a sample of private loans originated during 2006-2008, they find that higher CEO relative leverage is associated with lower cost of debt financing and fewer restrictive covenants. Wang et al. (2011) posit that banks demand lower yield spreads and less strict terms on loans to firms where CEOs have large inside debt holdings.

Using a sample of 1,280 loan facilities for 676 unique firms originated for the period of 2007 to 2010, they find that banks charge lower yield spreads on loans when CEOs of those firms hold larger inside debt holdings. Empirical evidence also shows that loans to firms providing CEOs with larger inside debt holdings are associated with fewer covenant restrictions. This is consistent with the view that debtholders anticipate lower expropriation risk by firms with larger CEO inside debt holdings. For instance, Chen, Dou, and Wang (2010) find that public debtholders charge lower interest rates to firms providing CEOs with more inside debt. In addition, they find that the level of CEO inside debt holdings exhibits a negative relation with restrictive debt covenants. In summary, these studies suggest that CEOs with higher inside debt compensation are associated with lower borrowing costs of debt financing and fewer restrictive covenants.

The Value of Resilience in Emotional Labor Work: The case of the property-casualty insurance adjuster

Kate Manthey*

Abstract

The use of empathy is highly desired with adjusters in property and casualty insurance organizations; those adjusters who can empathize with claimants are better able to maintain positive relationships between claimants and the organization. What these insurance organizations may not realize, however, is that there is a potential downside for the adjusters with the continued use of empathy in their emotional labor roles. Some adjusters excel in this type of work while others become drained and potentially leave. To examine these differences, resilience is considered. Like empathy, every adjuster has varying stores of resilience, which may help to buffer the possible negative effects of emotional labor work. Through a survey of the claims division of a midwestern P & C insurance company, there is some evidence to show that resilience does provide value for individuals and organizations where empathy is a job requirement.

Keywords: resilience, empathy, emotional labor, property and casualty insurance, claims

JEL Classification: G22, G41

I Introduction

Claims adjusters are the superheroes of the property and casualty insurance industry. They have the challenging task of applying the terms of the insurance contract to each unique claims situation, all while using their soft skills to aid those who are facing some type of loss. Claimants may exhibit a wide range of emotions while dealing with the loss, including shock, disbelief, denial, dismay, frustration, and even hostility or anger. The emotions are due to the situation the claimant finds themselves in, but the emotions (hostility and/or anger, in particular) can easily be directed toward the claims adjuster who is trying to help them through the process. Because the adjuster must be prepared to work with individuals in whatever emotional state they are in, empathy is often listed as a very highly desired characteristic when hiring claims adjusters.

The emphasis on the use of empathy as a claims adjuster is an example of the emotional labor requirements of the claims adjuster's job. Emotional labor occurs when employees must engage with customers using emotions that paint a positive image of the organization, but the employee may not feel these emotions themselves (Hochschild, 1983). Because the claims adjuster is at the front line of keeping the insurance company's promise, they are the ones subject to potentially emotionally charged interactions in their work. However, there is evidence to suggest that individuals who have high levels of empathy may also be more susceptible to emotional contagion on the job. For the claims adjuster, this can mean the unintentional absorption of the claimant's emotions. If the absorbed emotions are stressful or negative, this can result in a greater emotional toll to the adjuster because their interactions on the job may be required to be based in a different emotion than what the adjuster truly feels.

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It seems that there should be a counter-balancing reserve that the adjuster can use to successfully complete their job without completely taxing themselves emotionally. There are claims adjusters who have adjusted property and casualty insurance claims for their entire career; they must have also successfully dealt with emotionally charged situations at various points in their careers. There must be a factor that counterbalances the negative effects of emotional labor work that might otherwise be draining to the adjuster and lead to their withdrawal from that occupation. In this study, we consider the effect of resilience in the emotional labor work of claims adjusting.

Working with customers can be a challenge, especially when customers exhibit very strong emotions. Empathy is a key component in successful interactions with customers and is a highly desirable trait for employees working on organizational front lines. Empathy may even be listed as a preference on job postings; this is especially true for the role of claims adjuster in the property-casualty insurance industry.

The insurance industry does not enjoy a good image with the public (Eccles & Vollbracht, 2006), nor is it favored as a great industry for employment (Acharyya & Secchi, 2015). There is a significant need for new talent in this 'greying' industry (McKinsey & Company, 2010), and those who retire or otherwise leave the industry take this specialized knowledge and skill with them (Acharyya & Secchi, 2015). Most do not understand how insurance works (Eccles & Vollbracht, 2006) and feel that the goal is to pay out as little as possible (Acharyya & Secchi, 2015). In the case of the claims adjuster, there may be concern that being the face of the insurance organization to those experiencing a wide range of emotions as they deal with their loss would make for a difficult occupation. Indeed, the work of the claims adjuster was studied by Hochschild in her work on emotional labor, where the employer requires the employee to manage his or her emotions in a way that benefits the employer (Hochschild, 1983). While the claims adjuster has the task of objectively reviewing and settling the loss according to the terms of the contract, they must manage their own emotions and interact with the customer in the appropriate manner – whether the customer is distraught, frustrated, or even hostile.

In this study, the effect of employee resilience is considered in the relationship between the use of empathy by the claims adjuster and their output of emotional labor. Once the relationship between empathy and emotional contagion is established, resilience is examined as a mediator in explaining the cost of emotional labor to the adjuster. The goal of this study is to demonstrate the value of employee resilience in roles where the use of empathy is emphasized.

While empathy is a factor in emotional labor work, the goal is to show the value of employee resilience in lessening the potentially harmful effects of emotional labor to the employee. This is important to both the adjuster and their employer because adjusters who become disengaged with their work could hamper their employer's reputation. Additionally, employers spend considerable time and resources to onboard and train adjusters, which becomes a sunk cost if they leave. To that end, this study attempts to answer the following questions:

- Are more empathic employees more susceptible to emotional contagion and the demands of emotional labor in their roles?
- Are more resilient employees better able to manage the demands of empathy and emotional labor requirements?

Beginning with brief descriptions of emotional labor and resilience to build the hypothesis, the methods section will describe how these variables were tested through a survey of claims adjusters. Results are explained with implications for practice and further research.

II Literature Review

Every individual has resources that they want to protect and further develop, and they will attempt to avoid situations that threaten their store of resources; this is the basis of Hobfoll's Conservation of Resources theory (1989). Even in situations where there might be a gain to resources and a potential loss of resources, the loss will be felt much more strongly than the gain (Hobfoll, 1989). Additionally, an employee's success in their role may be more related to their own perceptions of the demands than the actual demands of the role (Brotheridge & Grandey, 2002). In the context of employment and the role of the property and casualty insurance adjuster, there may be more concern for the potential loss of resources.

Insurance companies don't enjoy the best reputation among consumers (Eccles & Vollbracht, 2006). The service provided is in the form of a promise documented in very complex contracts, and few likely understand the coverage they've purchased (Gebert-Persson et al., 2019). In addition, no one wants to have to make a claim to their property and casualty insurance, because using it signifies that a financially significant loss has occurred. Those who do use their coverage may not be happy about their circumstances, and the negative emotions may pass to the individual trying to help them through emotional contagion (Groth et al., 2019). The insurance claims adjuster is charged with applying the terms of the contract to the situation at hand and explaining to the customer what is or is not covered under the policy. Every case is unique, and the claimant is likely to feel very uncertain about how their coverage does or doesn't apply (Apte et al., 2010). This is where the claims adjuster becomes the front line of the insurance organization, balancing their very technical/analytical skills with their communication/people soft skills to build a positive image of the insurance company during their interactions. Indeed, when the adjuster provides exceptional customer service in their interactions, this can create an image of the company that is so positive that the customer won't even consider their competitors (Parasuraman, 1991).

The Conservation of Resources theory was further expanded in the Job Demands-Resources (JD-R) framework to further explain connections between job demands, employee resources, and the impact to employee engagement (Demerouti et al., 2001). The initial model considered the negative effects of job demands in human services occupations as well as a lack of job resources available to employees to meet these demands, but later studies recognized the value of enhancing employee resources. By helping employees build their resources through performance feedback and professional development initiatives, as examples, employees were able to proactively cope with the demands of the role and reduce their levels of job burnout (Xanthopoulou et al., 2007). Personal resources were also found to be significant in the employee's arsenal of tools (Bakker et al., 2014). Those who were able to proficiently use their resources on the job were likely to further build their own levels of personal resources, and the updated Job Demands-Resources theory acknowledges the potential for these gain spirals in the updated model (Bakker & Demerouti, 2017). It's even possible for certain job demands to provide personal resource gains; challenge demands can lead to personal growth for the employee, while hinderance demands do not (Crane & Searle, 2016). However, when job demands exceed the resources at the employee's disposal, role stress will increase (Varca, 2009).

The role of the property and casualty claims adjuster provides a unique situation to observe the effects of J D-R theory in an occupation beyond human services. One of the key demands for any claims adjuster involves the use of emotional labor. In a nutshell, emotional labor refers to the employee's duty to manage their emotions to earn their pay; employees are expected to show emotions that are beneficial to the employer, regardless of how the customer is behaving during the interaction (Hochschild, 1983). Expressing these employer-desired emotions is a benefit to the employer due to the customer's positive perception of the service interaction (Pugh, 2001), but it

is typically associated with negative outcomes for the employee (Groth et al., 2019). Emotional labor tends to have a negative effect on employees because they may perceive the loss of their emotional autonomy as a job demand (Brotheridge & Grandey, 2002).

As originally stated, emotional labor involved three criteria: 1) the employee engages with the public in face-to-face or vocal contact, 2) the interaction is managed in a way to build a customer emotional state that is positive for the employer, and 3) the employer has significant influence in how the employee manages their emotions during these interactions (Hochschild, 1983). Later research found that other types of interactions incorporating technology in place of face-to-fact interactions also qualified as the use of emotional labor (Barsade et al., 2018). There are also two facets to emotional labor; the first is the effort for the employee to control their own emotions, and the second is the effort needed for the employee to control the emotions of others during these interactions (Pugliesi, 1999). The demands of emotional labor require employees to attempt to control their own emotions during customer interactions (Pekaar et al., 2018). This is definitely a job demand in the role of the property and casualty insurance adjuster; in fact, Arlie Hochschild included adjusters in her studies of emotional labor (1983). Of course, in order to modify the emotions of others, one must acknowledge them first. This leads to the demand for empathy in claims adjusters.

Empathy is a very desired trait of those engaged in claims adjuster roles. Empathy refers to the employee's ability to appropriately respond to others when they see what they are experiencing (Davis, 1983). Empathy is important when working with others, as it encourages each party to consider the needs of the other (Greif & Hogan, 1973). This is critical to the work of the claims adjuster, since their customers want to know that the company cares about them not just as a number but as someone in a tough situation who needs personalized attention (Parasuraman et al., 1991). The need to hire empathic employees who can anticipate the needs of the customer and successfully, manage interactions with them, and potentially build relationships with them (Wieseke et al., 2012). While those with higher levels of empathy are better aware of the expectations of their customers (Greif & Hogan, 1973), relatively few customers of the insurance company will ever work with an adjuster, as not every insured has a loss. For those who do suffer a loss, the interactions with the adjuster are largely infrequent and short, leaving little time to build trust and deepen relationships (Gebert-Persson, 2019). This means increased pressure for the claims adjuster who has little time to foster the positive image of the organization in the customer's eyes.

Many position descriptions for insurance claims adjusters list the quality of empathy as a preferred or required trait, and many companies also provide training to their adjusters to help them build this quality. From the employer's perspective, empathy is a key in helping the organization achieve its goals, but this may come at the unrealized cost of increased stress to the employee (Miller et al., 1995). Because customers are rarely well-versed in how the insurance contract works (Parasuraman, 1991), this may lead to negative interactions at the time of a claim. Customer verbal abuse is a form of employee job strain (Grandey et al., 2007), and dealing with such negative emotions can elicit an intense response that is deeply felt by the service provider (Barsade, 2002). When showing empathy to claimants becomes stressful to the adjuster, it becomes a requirement of the job for them to act in a way they do not feel, which is a taxing form of emotional labor (Hochschild, 1983).

In addition, those with higher levels of empathy tend to unintentionally absorb the emotions of others, leading to emotional contagion (Barsade, 2002; Vijayalakshmi & Bhattacharyya, 2012) Emotional contagion is closely related to empathy because it's generally human nature to reflect the emotions of the other person during interactions (Hatfield et al., 2009). Someone who is more in-tune with the emotions of another is also more likely to absorb those emotions, and this can lead

to a change in the emotions or behavior of the recipient (Barsade et al., 2018). When negative emotions are absorbed, more stress may be felt by the claims adjuster as resources are drained in an attempt to respond according to the demands of the job (Varca, 2009). The interpretation of emotions during interactions forms the basis for the employee's emotional response (Pekaar et al., 2018), which may need to be internally adjusted to meet employer policy. For these reasons, empathy, emotional contagion, and emotional labor are considered positively related demands in the claims adjuster's role.

In a relationship-based business where caseload counts, but the quality of service counts even more (Apte et al., 2010; Parasuraman, 1991), adjusters must quickly foster trust in their interactions. They would face less stress on the job if they simply didn't care about the emotions of others (Varca, 2009), but this is quite contrary to organizational desires! Many organizations invest in their employees to provide them with additional resources. Performance review, social support, and performance development opportunities can reduce job stress by giving the employee a means to cope with the demands (Xanthopoulou et al., 2007), but it seems that some form of internal resource would help to explain how some adjusters thrive within the demands of emotional labor while others do not. For those providing services to others, it's important to have many tools in the resource arsenal to reduce stress (Varca, 2009). Here, the variable of interest to explain differences in the response to role demands is personal resilience. This helps to answer a need to further examine the relationship between resilience and emotional labor in the workplace with service outcomes (Hur et al., 2016; King et al, 2016).

Resilience is defined as the "the developable capacity to rebound or bounce back from adversity, conflict, failure or even positive events, progress, and increased responsibility" (Luthans, 2002, p. 702). It is a form of psychological capital that can be continuously developed, either through experiential application or intentional interventions (Luthans & Youssef, 2007). Resilience is similar to other levels of psychological capital (such as hope, optimism and confidence) which can change over time, but it is likely the best defense for the employee in negative work situations (Luthans, 2002). When using resilience to successfully manage negativity at work, employees can even restore confidence in their abilities (Luthans et al., 2006) and foster continued personal development and growth (Youssef & Luthans, 2007). In terms of work demands, higher levels of resilience were related to challenge demands while lower levels were associated with hinderance demands (Crane & Searle, 2016). This makes resilience a considerable variable of interest when examining individual differences in responses to work demands (Luthans, 2002).

III Hypothesis Development

Insurance claims adjusters are the front line of the insurance company who assist claimants when they are faced with losses. Losses tend to be stressful for those affected, and claimants can be emotionally charged when dealing with the situation. As the insurance company's representative, the claims adjuster is subject to the emotions of their customers but must maintain control of their own emotions while assisting them.

According to the Job Demands-Resources (JD-R) theory developed by Bakker and Demerouti (2017), employees will expend their personal resources to offset the very taxing demands of the job. As a personal resource, resilience may be the factor that helps the claims adjuster overcome the negative aspects of their form of emotional labor work. This paper addresses these questions by testing the hypotheses that follow.

One of the hallmarks of emotional labor is the degree of employer control in the employee's use of emotions when working with customers; this job demand is considered to have a negative

influence on employees (Grandey, 2000; Hochschild, 1983). Whether the loss of emotional autonomy is real or perceived by the employee, it is a stressor to the employee (Brotheridge & Grandey, 2002). Likewise, the need for employees to frequently use empathy in their customer interactions also face role conflict (Varca, 2009). The requirement of the employee to show feelings that they don't feel can create stress for the employee (Groth et al., 2019; Huang et al., 2015), which leads to the first hypotheses:

H1 – Employee empathy is positively associated with emotional labor.

While using empathy is key to the adjuster's ability to understand their customer's situation and providing exceptional customer service (Parasuraman et al., 1991), the customer's uncertainty in submitting the claim can make the interaction more negatively charged at the onset (Apte, 2010). The adjuster can deliver better customer service by being aware of their own emotions as they try to understand the customer's emotions, but it is also very possible that the customer's emotions may be absorbed by the adjuster without them even realizing it (Vijayalakshmi & Bhattacharyya, 2012). For these reasons, it is hypothesized that empathy have a direct relationship, as follows:

H2 – Employee empathy is positively associated with emotional contagion.

The emotional labor demands of the claims adjuster are not dependent on the type of interaction. These demands are in place whether interacting in person, on the phone, or through email or other electronic means of communication, and emotional contagion is possible through any of these mediums (Hatfield et al., 2009; Petitta and Naughton, 2015). In addition, the adjuster may have to deal with individuals who are in critical situations or with individuals who are frustrated because they don't feel the claim is being properly managed to their satisfaction; either situation can lead to a very demanding customer interaction (Parasuraman et al., 1991). When emotional contagion is the norm for the job, employees may try to pull back from these situations to conserve their personal resources (Doherty, 1997), leading to the third hypotheses:

H3 – Employee emotional contagion is positively associated with emotional labor.

Employees with higher levels of empathy tend to be more perceptive of the emotions of their customers (Greif & Hogan, 1973), but these emotions have the considerable potential to transfer during these interactions (Petitta & Naughton, 2015). Employees may need to use higher levels of emotional labor as they deal with both the customers' emotions and any changes to their emotions to appropriately engage during these interactions in a manner that the employer considers appropriate (Pugliesi, 1999; Varca 2009). This leads to the notion that there is an indirect relationship between empathy and emotional labor through emotional contagion, as stated in the fourth hypothesis:

H4 – Empathy has an indirect association with emotional labor through emotional contagion.

Personal resilience has been shown to help employees effectively deal with challenging work demands and even maintain a degree of emotional stability in adverse situations (Youssef & Luthans, 2007). The organization benefits from having resilient employees, especially when things get tough (Yost, 2016). Resilience is a state-like employee quality that changes over time and with experience, and it can help employees overcome negativity in the workplace (Luthans, 2002). This

leads to the hypothesis that emotional contagion shares an indirect relationship with resilience, as explained in hypothesis five:

H5 – Emotional contagion is negatively associated with resilience.

Resilience is an important consideration when evaluating employee psychological capital in service roles requiring the use of emotional labor (Hur et al., 2016). Employees who regularly deal with native events have the potential to learn and build their resilience, resulting in a positive gain spiral to their personal resources; this higher level of resilience can help them deal with future adversity in their roles (Luthans et al., 2007). Given this potential for positive adaptation when dealing with negativity, the final hypothesis proposes that resilience has an indirect, but positive relationship on the proposed direct relationship between emotional contagion and emotional labor.

H6 – Emotional contagion has an indirect association with emotional labor through resilience.

IV Methods

To test these hypotheses, the claims division of a regional property & casualty insurance company was surveyed. Of the 243 members of the claims division surveyed, 110 surveys were completed, and another three surveys were at least 50% complete. The partially completed surveys were made complete by using median values from the completed surveys to substitute missing values in the incomplete surveys. This brought the number of usable samples to 113 (a 47% response rate). All sections within the claims division were surveyed, including auto physical damage claims, liability claims, workers comp claims, and subrogation, among them.

The survey used 25 items to measure the four key variables of resilience, empathy, emotional contagion, and emotional labor. Resilience was measured using that portion of the PsyCAP (psychological capital) developed by Luthans et al. (2007), but a seven-point scale was used in place of the original six-point scale to allow for consistency across all variables in the data collection. Empathy was measured using a scale modified by Wieseke et al. (2012) to apply better to the provision of business services rather than more human services occupations. Wieseke's modified scale includes items to measure both cognitive and emotional dimensions of empathy, which seem likely to apply in the role of the claims adjusters. The challenge in evaluating emotional contagion was to use a measure that was appropriate to the workplace (i.e., no items to measure romantic love), or didn't rely on face-to-face interactions and nonverbal cues. Additionally, many of the tested scales were not balanced and tipped toward the negative-only outcomes of emotional contagion, like sadness, fear, and anger. Once again, Wieseke et al. (2012) provided a modified emotional contagion scale that better fits the workplace. The dependent variable, emotional labor, used a scale by Pugliesi (1999) that accounted for both the effort to manage the emotions of customers as well as the employee's management of their own emotions. Both the self-focused and other-focused elements of emotional labor were separately analyzed in the results. The scale was also modified to a seven-point scale to make the collection of data more consistent across all variables.

Additionally, three control variables were applied to the results, including age (in ranges), gender of the respondent, and their tenure within the insurance industry (in ranges of time).

Confirmatory factor analysis and model testing were completed using the partial least squares method of structural equation modeling (SmartPLS 3.3.0; Ringle et al., 2015) to identify the relationships among the variables.

V Results

The demographic profile of the 113 respondents from the claims division is shown in Table 1. Just over one fifth of respondents were under the age of 35, which suggests that the struggle to draw new talent to the insurance industry (as described by McKinsey & Company, 2010) is valid. Another interesting result from this sample indicates that an overwhelming majority (77%) of respondents have 5 years or more of experience within the insurance industry, suggesting that individuals who do join the industry tend to stay within the industry.

Table 1: Survey Respondent Demographics

Variable	%	Category
Age	4%	18-24 years old
	17%	25-34 years old
	40%	35-44 years old
	26%	45-54 years old
	12%	55 years or older
Gender	60%	female
	38%	male
	2%	preferred not to answer
Insurance Industry Experience	24%	5 years or less
	34%	between 5 and 15 years
	43%	15 or more years

Note. $N = 113$ responses.

A confirmatory factor analysis resulted in item loadings that had good reliability and validity for each variable. Composite reliability is shown in Table 2, construct reliability and validity are documented in Table 3, and discriminant validity is established in Table 4. While not all hypotheses were fully supported, some interesting relationships emerged from the data.

Table 2: Emotional Labor Outer Model Loadings and Variable Composite Reliability with Resilience as a Mediator

Variable (Composite Reliability)	Items with loadings >0.7	Loadings (*t*-statistic)
Emotional Contagion (0.807)		
EC1	I become nervous if others around me are nervous	0.802 (16.358)
EC2	I find that I can remain cool in spite of the excitement around me (R)	0.749 (10.216)
EC4	When I work with unhappy people, I feel unhappy myself	0.736 (12.168)
Empathy (0.797)		
EM2	When I am upset at someone, I usually try to "put myself in their shoes"	0.772 (9.078)

Variable (Composite Reliability)	Items with loadings >0.7	Loadings (*t*-statistic)
EM4	I would describe myself as a pretty soft-hearted person	0.756 (7.271)
EM7	I often have tender concerned feelings for people less fortunate than me	0.732 (7.431)
Emotional Labor – Other Focused (0.792)		
OEL2	I help customers deal with stresses and difficulties	0.891 (17.689)
OEL3	I attempt to "keep the peace" by calming clashes with customers	0.723 (5.057)
Resilience (0.787)		
RE1	When I have a setback at work, I have trouble recovering from it, moving on (R)	0.818 (15.771)
RE4	I usually take stressful things at work in stride	0.793 (12.227)
Emotional Labor – Self-Focused (0.704)		
SEL1	I am unable to express my true feelings to co-workers	0.686[a] (1.868)
SEL4	I cover or manage my own feelings so as to appear pleasant at work	0.786 (2.605)

Note. All items were scored on 7-point Likert scale where 1 = strongly disagree, 4 = neither agree nor disagree, and 7 = strongly agree. Reverse coded items are indicated with (R) after the item.
[a] While the first item representing self-focused emotional labor was less than the 0.7 benchmark, it was retained due to theoretical relevance.

Table 3: Construct Reliability and Validity

Variable	Composite Reliability	Average Variance Extracted
Emotional Contagion	0.807	0.582
Empathy	0.797	0.567
Emotional Labor - Other-Focused	0.792	0.658
Resilience	0.787	0.649
Emotional Labor - Self-Focused	0.704	0.545

Table 4: Measurement Model Validation: Discriminant Validity

Variable	EC	EM	OEL	RE	SEL
Emotional Contagion (EC)	0.763				
Empathy (EM)	0.148	0.753			
Emotional Labor - Other-Focused (OEL)	-0.193	0.356	0.811		
Resilience (RE)	-0.573	-0.069	0.151	0.806	
Emotional Labor Self-Focused (SEL)	0.223	-0.003	-0.028	-0.381	0.738

Hypothesis 1 stated that employee empathy is positively associated with emotional labor. In this study, emotional labor was divided, with one set of items measuring the efforts of respondents to manage the emotions of others and another set of items measuring the efforts of respondents in controlling their own emotions in interactions when working with claimants. A very strong and significant relationship was found between empathy and other-focused emotional labor, but no significant relationship was found for self-focused emotional labor. Therefore, Hypothesis 1 is partially supported.

Hypothesis 2 stated that employee empathy is positively associated with emotional contagion. Surprisingly, no significant relationship was found to exist between empathy and emotional contagion, and Hypothesis 2 is not supported in this sample.

Hypothesis 3 stated that employee emotional contagion is positively associated with emotional labor. Once again, the results here were surprising. No significant direct relationship was shown to exist between emotional contagion and either form of emotional labor. Hypothesis 3 was also not supported in this sample.

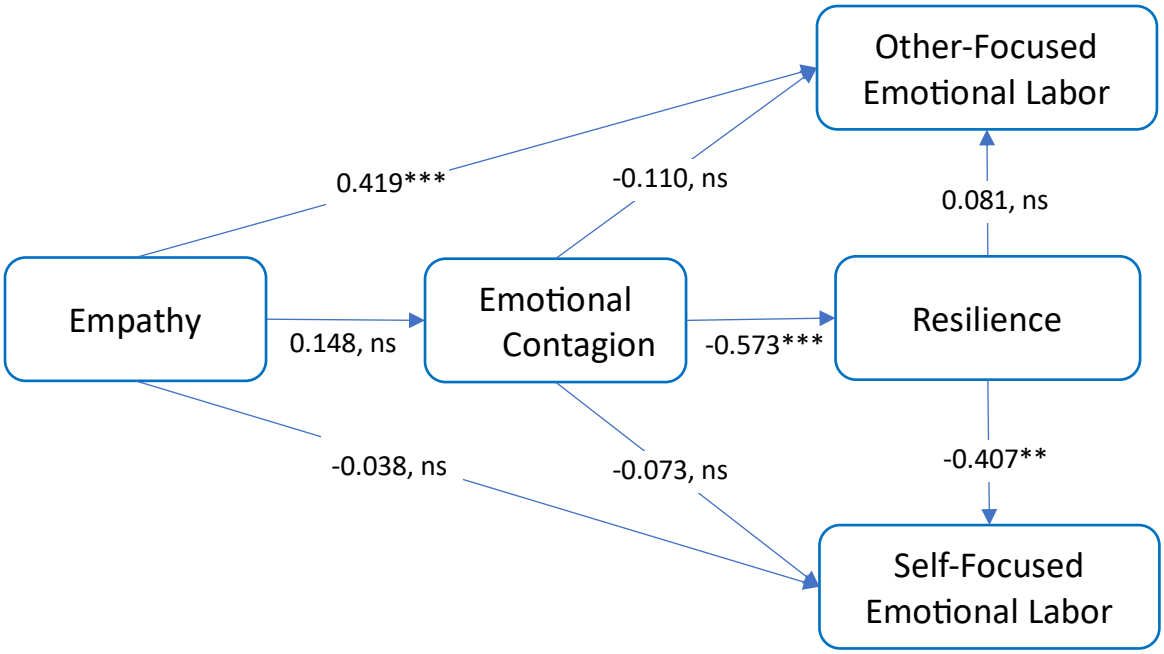
Hypothesis 4 stated that empathy has an indirect association with emotional labor through emotional contagion. Because there was no support for either Hypothesis 2 or Hypothesis 3, there is no support for Hypothesis 4. No indirect relationship between empathy and emotional labor through emotional contagion was found.

Hypothesis 5 stated that emotional contagion is negatively associated with resilience. The results showed a very strong and negative relationship between emotional contagion and resilience. Hypothesis 5 is fully supported.

Hypothesis 6 stated that emotional contagion has an indirect association with emotional labor through resilience. The data show that this indirect relationship is significant and true for self-focused emotional labor, but not significant for other-focused emotional labor. Therefore, there is only partial support for Hypothesis 6.

These hypotheses and the associated relationships are visually displayed in Figure 1.

Figure 1: Diagram of Hypothesized Relationships



Note. Non-significant relationships are indicated by ns.
*p<0.05, **p<0.01, ***p<0.001

VI Discussion

The strong relationship between empathy and other-focused emotional labor certainly demonstrates why insurance companies put so much emphasis on this personal resource when hiring claims adjusters (Wieseke et al., 2012). This direct, positive relationship also signals a warning to the insurance organization as the adjusters are more likely to spend more of their personal resources (i.e., empathy) trying to manage the emotions of the claimants they are working with. Being able to empathize with those who have suffered a loss is an important skill, but there must be awareness of the potential emotional labor toll to those who regularly use empathy as part of their job (Varca, 2009).

It is truly surprising to find no direct relationship between empathy and emotional contagion. It seems that emotional contagion is likely to be present in the work of the claims adjuster. While prior studies found a positive relationship between empathy and emotional contagion, some of them were based on interactions between co-workers (Grandey et al., 2007); this study expected the same result based on the adjuster's unintentional absorption of negative emotions from the customer. Yet, no such direct relationship evolved in this study of claims adjusters. While this may be due partially to the small sample size, it's also possible that the adjusters absorbed positive, versus emotions. While customers of insurance have little understanding of the insurance contract and how it works (Parasuraman et al., 1991), the adjuster's successful management of customer interactions may lead to them feeling more empowered in their roles where other-focused emotional labor leads to more successful employee outcomes (Pugliesi, 1999). Enough of these positive interactions may result in positive outcomes for the adjusters, who then feel more successful in their roles (Brotheridge & Grandey, 2002).

Where emotional contagion and its association with emotional labor did become evident, however, was with the introduction of resilience as a mediator. In terms of buffering the negative effects of emotional labor, the results showed that those who did have emotional contagion were able to offset this to a degree through their stores of resilience, which also helped them offset the self-focused emotional labor demands of the job, where they have to manage their own feelings and reactions during their interactions with claimants.

Although not every relationship panned out as expected from the theory, there were many indications that empathy does come at an emotional cost to the employee, and that resilience had some positive effects in mitigating the negative effects of emotional labor. While further study and larger samples could add to these results, it does appear that there is a need for emphasis on a positive resource for the employee to balance the negative demands of the claims adjuster role. Many insurance organizations actively search for the quality of empathy in their recruits for new claims adjusters, but perhaps they should also be seeking the quality of resilience in their hires. Likewise, professional development opportunities are commonly offered to help their adjusters build their stores of empathy, but the same effort should also be promoted to help the adjusters also build their stores of resilience.

VII Conclusion

The purpose of this study was twofold: one was to determine whether employees with higher levels of empathy were also more susceptible to emotional contagion and increased use of emotional labor during their interactions with their customers, and the other was to determine whether resilience would help the employee manage the demands of using empathy on the job as well as minimizing the effects of emotional contagion and emotional labor. While the connection between the use of empathy and emotional contagion was strong, this was only true for the facet of other-

focused emotional labor, where the adjuster is attempting to manage the emotions of their customer. The expected relationship between empathy and emotional contagion was not substantiated, possibly because the transferred emotions may have been positive – the strong connection between empathy and other-focused emotional labor may be evidence to test this theory. Personal resilience did share a very strong relationship with self-focused emotional labor, making it a critical resource for employees who must routinely manage their own emotions at work. This study affirms the importance of the quality of empathy in claims adjusters, but it also provides some initial evidence to suggest that personal resilience is another very important quality for claims adjusters to build to be more successful in their emotional labor work.

References

Acharyya, M., & Secchi, D. (2015). Why choose an insurance career? A pilot study of university students' preferences regarding the insurance profession. *The Geneva Papers on Risk and Insurance – Issues and Practice*, *40,* 108-130. https://doi.org/10.1057/gpp.2013.33

Apte, U., Cavaliere, R., & Kulkarni, S. (2010). Analysis and improvement of information-intensive services: Evidence from insurance claims handling operations. *Production and Operations Management, 19*(6), 665-678. https://doi.org/10.341/poms.1080.01150

Bakker, A. B., & Demerouti, E. (2017). Job demands-resources theory: Taking stock and looking forward. *Journal of Occupational Health Psychology, 22*(3), 273-285. https://doi.org/10.1037/ocp0000056

Bakker, A. B., Demerouti, E., & Sanz-Vergel, A. I. (2014). Burnout and work engagement: The JD-R approach. *Annual Review of Organizational Psychology and Organizational Behavior, 1*, 389-411. https://doi.org/10.1146/annurev-orgpsych-031413-091235

Barsade, S. (2002). The ripple effect: Emotional contagion and its influence on group behavior. *Administrative Science Quarterly, 47*(4), 644-675. https://doi.org/10.2307/3094912

Barsade, S., Coutifaris, C., & Pillemer, J. (2018). Emotional contagion in organizational life. *Research in Organizational Behavior, 38,* 137-151. https://doi.org/10.1016/j.riob.2018.11.005

Brotheridge, C., & Grandey, A. (2002). Emotional labor and burnout: Comparing two perspectives of "people work." *Journal of Vocational Behavior, 60*(1), 17-39. https://doi.org/10.1006/jvbe.2001.1815

Crane, M., & Searle, B. (2016). Building resilience through exposure to stressors: The effects of challenges versus hindrances. *Journal of Occupational Health Psychology, 21*(4), 468-479. https://doi.org/10.1037/a0040064

Davis, M. (1983). Measuring individual differences in empathy: Evidence for a multidimensional approach. *Journal of Personality and Social Psychology, 44*(1), 113-126. https://doi.org/10.1037/0022-3514.44.1.113

Demerouti, E., Bakker, A., Nachreiner, F., & Schaufeli, W. (2001). The job demands-resources model of burnout. *Journal of Applied Psychology, 86*(3), 499-512. https://doi.org/10.1037//0021-9010.86.3.499

Doherty, R. (1997). The Emotional Contagion Scale: A measure of individual differences. *Journal of Nonverbal Behavior, 21*(2), 131-154. https://doi.org/10.1023/A:1024956003661

Eccles, R., & Vollbracht, M. (2006). Media reputation of the insurance industry: An urgent call for strategic communication management. *The Geneva Papers on Risk and Insurance – Issues and Practice, 31,* 395-408. https://doi.org/10.1057/palgrave.gpp.2510086

Gebert-Persson, S., Gidhagen, M., Sallis, J., & Lundberg, H. (2019). Online insurance claims: When more than trust matters. *International Journal of Bank Marketing, 37*(2), 579-594. https://doi.org/10.1108/IJBM-02-2018-0024

Grandey, A., Kern, J., & Frone, M. (2007). Verbal abuse from outsiders versus insiders: Comparing frequency, impact on emotional exhaustion, and the role of emotional labor. *Journal of Occupational Health Psychology*, *12*(1), 63-79. https://doi.org/10.1037/1076-8998.12.1.63

Greif, E., & Hogan, R. (1973). The theory and measurement of empathy. *Journal of Counseling Psychology, 20*(3), 280-284. https://doi.org/10.1037/h0034488

Groth, M., Wu, Y., Nguyen, H., & Johnson, A. (2019). The moment of truth: A review, synthesis, and research agenda for the customer service experience. *Annual Review of Organizational Psychology and Organizational Behavior, 6*, 89-113. https://doi.org/10.1146/annurev-orgpsych-012218-015056

Hatfield, E., Rapson, R., & Le, Y. (2009). Emotional contagion and empathy. In J. Decety & W. Ickes (Eds.), *The social neuroscience of empathy* (pp. 19-30). MIT Press. https://doi.org/10.7551/mitpress/9780262012973.001.0001

Hobfoll, S. (1989). Conservation of resources: A new attempt at conceptualizing stress. *American Psychologist, 44*(3), 513-524. https://doi.org/10.1037/0003-066X.44.3.513

Hochschild, A. (1983). *The managed heart: Commercialization of human feeling*. University of California Press.

Huang, J., Chiaburu, D., Zhang, X., Li, N., & Grandey, A. (2015). Rising to the challenge: Deep acting is more beneficial when tasks are appraised as challenging. *Journal of Applied Psychology, 100*(5), 1398-1408. https://doi.org/10.1037/a0038976

Hur, W., Rhee, S., & Ahn, K. (2016). Positive psychological capital and emotional labor in Korea: The job demands-resources approach. *The International Journal of Human Resources Management, 27*(5), 477–500. https://doi.org/10.1080/09585192.2015.1020445

King, D. D., Newman, A., & Luthans, F. (2016). Not if, but when we need resilience in the workplace. *Journal of Organizational Behavior, 37*(5), 782-786. https://doi.org/10.1002/job.2063

Luthans, F. (2002). The need for and meaning of positive organizational behavior. Journal of *Organizational Behavior, 23*(6), 695-706. https://doi.org/10.1002/job.165

Luthans, F., Avolio, B., Avey, J., & Norman, S. (2007). Positive psychological capital: Measurement and relationship with performance and satisfaction. *Personnel Psychology, 60*(3), 541-572. https://doi.org/10.1111/j.1744-6570.2007.00083.x

Luthans, F., Vogelgesang, G., & Lester, P. (2006). Developing the psychological capital of resiliency. *Human Resource Development Review, 5*(1), 25-44. https://doi.org/10.1177/1534484305285335

Luthans, F., & Youssef, C. (2007). Emerging positive organizational behavior. *Journal of Management, 33*(3), 321-349. https://doi.org/10.1177/0149206307300814

McKinsey & Company, Inc. (2010). *Building a talent magnet: How the property and casualty industry can solve its people needs*. https://documents.pub/document/building-a-talent-magnet-the-griffith-foundation-a-talent-magnet-how-the-property.html

Miller, K., Birkholt, M., Scott, C., & Stage, C. (1995). Empathy and burnout in human service work: An extension of a communication model. *Communication Research, 22*(2), 123-147. https://doi.org/10.1177/009365095022002001

Parasuraman, A., Berry, L., & Zeithaml, V. (1991). Understanding customer expectations of service. *Sloan Management Review, 32*(3), 39-48.

Pekaar, K., Bakker, A., van der Linden, D., & Born, M. (2018). Self- and other-focused emotional intelligence: Development and validation of the Rotterdam Emotional Intelligence Scale

(REIS). *Personality and Individual Differences, 120*, 222-233. https://doi.org/10.1016/j.paid.2017.08.045

Petitta, L., & Naughton, S. (2015). Mapping the association of emotional contagion to leaders, colleagues, and clients: Implications for leadership. *Organization Management Journal, 12*(3), 178-192. https://doi.org/10.1080/15416518.2015.1073577

Pugh, S. (2001). Service with a smile: Emotional contagion in the service encounter. *Academy of Management Journal, 44*(5), 1018-1027. https://doi.org/10.5465/3069445

Pugliesi, K. (1999). The consequences of emotional labor: Effects on work stress, job satisfaction, and well-being. *Motivation and Emotion, 23*(2), 125-154. https://doi.org/10.1023/A:1021329112679

Ringle, C. M., Wende, S., & Becker, J.-M. (2015). SmartPLS 3 [Computer software]. http://www.smartpls.com

Varca, P. (2009). Emotional empathy and front line employees: Does it make sense to care about the customer? *Journal of Services Marketing, 23*(1), 51-56. https://doi.org/10.1108/08876040910933093

Vijayalakshmi, V., & Bhattacharyya, S. (2012). Emotional contagion and its relevance to individual behavior and organizational processes: A position paper. *Journal of Business Psychology, 27*(3), 363-374. https://doi.org/10.1007/s10869-011-9243-4

Wieseke, J., Geigenmuller, A., & Kraus, F. (2012). On the role of empathy in customer-employee interactions. *Journal of Service Research, 15*(3), 316-331. https://doi.org/10.1177/1094670512439743

Xanthopoulou, D., Bakker, A., Dollard, M., Demerouti, E., Schaufeli, W., Taris, T., & Schreurs P. (2007). When do job demands particularly predict burnout? The moderating role of job resources. *Journal of Managerial Psychology, 22*(8), 766-786. https://doi.org/10.1108/02683940710837714

Yost, P. (2016). *Resilience practices. Industrial and Organizational Psychology, 9*(2), 475-479. https://doi.org/10.1017/iop.2016.42

Youssef, C., & Luthans, F. (2007). Positive organizational behavior in the workplace: The impact of hope, optimism, and resilience. *Journal of Management, 33*(5), 774-800. https://doi.org/10.1177/0149206307305562