# Complexity in Loan Contracts

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June 24, 2022

**Abstract**

Using novel data on 1,240 credit agreements from the leveraged loan market, we propose simple measures of contractual complexity based on clauses qualifying negative covenants. We document a high average level of contractual complexity and significant heterogeneity. Sophisticated borrowers, and larger non-bank funding of a loan, are associated with more complex contractual terms. The 2017 J.Crew debt restructuring, a high-profile case involving a complex contract, corresponds to a market-wide value transfer from lenders to equity holders for borrowers with complex loan contracts. Contractual complexity in lending thus appears to have important economic implications consistent with weaker control rights for lenders.

Keywords: Leveraged Loans; Financial Contracts; Complexity; Covenants; Carve-out; Basket; Creditor Governance; Private Equity

JEL: G14, G23, G32

*Victoria Ivashina: vivashina@hbs.edu; Boris Vallee: bvallee@hbs.edu. We thank Jeff Boyar, Botir Kobilov, Dolly Yu and Jipeng Liu for excellent research support. We are grateful to Patrick Bolton, Jonathan Cohn (FIRS discussant), Croci Ettore (discussant), Viktar Fedaseyeu (EFA discussant), Denis Gromb, Andres Liberman (discussant), Greg Nini (WFA discussant), Ludovic Phalippou, Mike Schwert, seminar and conference participants at Harvard University, New York University, Northwestern University, University of Minnesota, University of St Gallen, Ludwig Maximilian University, the 2019 WFA, the 2019 FIRS, the 2018 EFA meetings, the 2017 Yale Junior Finance Conference and the 2017 Paris Finance meeting. A previous version of this paper was circulated under the title "*Weak Credit Covenants*". All errors are ours only.

# 1 Introduction

Corporate indentures, especially loan agreements for highly leveraged firms, are lengthy and complex documents. Their scope goes well beyond defining the basic credit terms, or, to quote Fitch: "Credit agreements are jam-packed with legal jargon that often bears little resemblance to the English language."[1] As pointed out by Smith and Warner (1979), much of this contracting complexity results from the covenant structure designed to reduce the conflicts of interest between creditors and equity holders. This conflict is particularly acute for firms taking on large amounts of debt, such as leveraged loan users, the focus of this study. The covenant structure has been recently enriched by numerous clauses that qualify negative covenants, with examples of contracts having more than two hundred such clauses. The initial economic rationale for the inclusion of such clauses is to modulate and tailor the restrictions imposed by all-encompassing covenants, which could otherwise contractually force the borrower to pass on NPV-positive projects.

Recent events such as the J.Crew restructuring, however, have highlighted the potential double-edged sword aspect of such contractual complexity. Despite the growing public alarm over the lack of understanding of the widespread complex contractual designs in the $1.4 trillion US leveraged loan market, academic literature and policy still fall short of rigorously documenting the extent of this contractual phenomenon and understanding its drivers and implications.[2] In this paper, we propose economically motivated measures of contractual complexity – for example, as opposed to measures based on textual analysis –, provide a set of novel stylized facts about the cross-section of complex contracts, and analyze the market-wide reaction to a prominent usage of the clauses driving contractual complexity.

We measure complexity based on the number of clauses that qualify negative covenants, i.e. the restrictions on borrower's actions that represent the main source of lender control rights.[3]

[1] "Plain English Translations: General Asset Sales Basket," Fitch Solutions: Covenants Review, March 31, 2020.

[2] At least, since 2018, there have been escalating alarms about possible deterioration in credit standards in the leveraged loan market. E.g., see "Janet Yellen Sounds Alarm over Plunging Loan Standards," *Financial Times*, October 25, 2018; "Debt Machine: Are Risks Piling up in Leveraged Loans?", *Financial Times*, January 21, 2019; "Should the World Worry about America's Corporate-Debt Mount?", *the Economist*, March 14, 2019; "How Regulator, Republicans and Big Banks Fought for a Big Increase in Lucrative but Risky Corporate Bonds," *Washington Post*, April 26, 2019; Powell (2019), the Congressional hearings on "Emerging threats to stability: Considering the systematic risk of leveraged lending" held on June 4, 2019, and related media commentary.

[3] Industry services, such as Fitch and Moody's, have recently started to monitor these clauses. Their methodologies are consistent with the one we suggest.

For this purpose, we exploit novel data focused on granular contractual provisions that parse 1,240 leveraged loan credit agreements. We analyze the full scope of negative covenants included in a typical credit agreement and provide its first comprehensive mapping by covering all categories of restrictions, including the six main ones: (i) restrictions on liens (or restrictions on the use of collateral), (ii) restrictions on indebtedness, (iii) restrictions on payments to investors, (iv) restrictions on asset sales, (v) restrictions on affiliate transaction, and (vi) restrictions on investments. Covenants are routinely modified through carve-out or deductible clauses (or "baskets," in the industry jargon) to alter the headline restrictions from the core negative covenants.

These two contractual elements are somewhat overlapping and ultimately both provide the borrower with optionality that may become highly valuable in specific contexts, such as distress. Indeed, as the leveraged loan market came under stress in the context of the COVID-19 pandemic, several industry reports attempted to anticipate the consequences of the use of carve-outs and deductibles in different covenants.[4] As a simple example, a senior secured creditor might want to control any additional debt issuance and its type, as it could affect bankruptcy costs and its ultimate recovery. Issuing additional secured debt without a clear delineation of collateral would dilute its claim and might require coordination in case of restructuring, thereby raising overall bankruptcy costs. To avoid these adverse effects for existing creditors, a typical credit agreement prohibits the issuance of additional senior secured debt: the indebtedness restriction. However, when the contract includes carve-outs, the contract prohibits the issuance of senior secured debt *except for* issuance of, say, second lien debt. When including a deductible, it prohibits the issuance of senior secured debt *except for* issuance of such debt up to, say, $100 million. A deductible, therefore, puts a threshold on the amount before the restriction is applied, whereas a carve-out is not capped, but applies to a specific type of action.

Our main results are as follows. We first document that, consistent with theory, restrictions to prevent actions from the issuer that increase risks for the lender are widespread in the leveraged loan market. However, the clauses that qualify these restrictions, deductibles and carve-outs, are equally ubiquitous, leading to a high average level of contractual complexity. The average credit agreement in our sample includes 79 distinct carve-outs. We then document large cross-sectional heterogeneity in loan contract complexity, which only partly relates to the

[4]For example, "Key Sources of General-Purpose Debt Capacity for US Companies Facing a Liquidity Crunch," Fitch Solutions: Covenant Review, March 25, 2020. Also, "Priming Debt and Inside-Maturity Debt Allowed Under US Credit Agreements," Fitch Solutions: Covenant Review, March 31, 2020.

borrower industry. Larger loans, and loans from firms with a higher share of intangible assets, are more complex. Firms backed by private equity firms, particularly when the latter have credit expertise or bankruptcy experience, have significantly more complex loan agreements. A larger non-bank funding for the loan, typically provided by Collateralized Loan Obligation vehicles (CLOs), and the arranging bank having a smaller skin in the game, are also associated with more complex contractual terms.

Complexity is positively correlated with well-known measures of contract weakness in the literature such as "cov-lite" provisions. Such a relationship suggests that contractual complexity follows a similar motive as other contractual terms weakening lender control rights, and has additive or even amplifying effects on such terms. In addition, as we will show, complexity measures are more important than existing weakness measures in understanding events such as the J.Crew restructuring. Carve-outs and deductible clauses are often economically significant and are concentrated on the actions with a more direct impact on loan value: re-pledging the collateral and issuing additional debt, and in the most levered transactions. As a result, about half of the firms have Total debt/EBITDA below 5x at origination; however, *through the use of deductibles and carve-outs*, over 70% of contracts allow the borrower to issue later on additional senior secured debt in excess of 5x EBITDA. Turning to loan pricing, we observe that these complex contracts exhibit modestly higher issuance spreads.

Finally, we conduct an event study around the 2017 J.Crew restructuring, a high-profile case where the borrower used the presence of an investment deductible combined with carve-outs on liens to strip the existing senior secured creditors from the bulk of their collateral. The economic significance of this transfer from J.Crew creditors brought market attention to the importance of covenant carve-outs and deductibles. For example, in a Client Alert on February 24, 2017, Kind & Spalding LLC, a major corporate law firm, stresses in its conclusions: "J.Crew serves as a dangerous example of the risks of leakage which can arise absent a thorough and diligent review of covenants in a credit agreement before investing in a company's debt."Consistent with this observation, we show that this event has market-wide consequences: secured creditors of other borrowers with complex credit agreements experience a loss in value, while their equity holders obtain a value gain.

Overall, we provide a comprehensive empirical insight into contractual terms used in the leveraged loan market, and interpret this set of empirical facts as consistent with contractual

complexity allowing weakened lender control rights, to the advantage of sophisticated borrowers, as loan contract complexity is rooted in relaxing negative covenants. Similar to a complex option, the value of such weakening is difficult to assess ex ante for contracting parties, but has by design a strictly positive value for the borrower that increases with the number of clauses. The predictions from a value-enhancing view of contractual complexity, which aims at addressing frictions by tailoring contracts, are harder to reconcile with our empirical facts.[5]

Our work contributes to the abundant literature on drivers and effects of debt contract design, starting with Smith and Warner (1979). Nini et al. (2009) and Nini et al. (2012) provide empirical evidence on the key role of covenants in limiting investments and providing creditor governance. Demiroglu and James (2010) and Murfin (2012) focus on financial covenants "slack", the headroom from the current level of financial ratios to violation threshold, and study its determinants and informational content. Matvos (2013) provides a quantitative framework to study which covenants benefit the firm by allowing them to write more complete contracts, while Green (2018) shows that restrictive financial covenants are valuable in reducing the agency costs of debt. Billett et al. (2007) show that covenant protection is increasing in growth opportunities, debt maturity, and leverage. Berlin et al. (2020) provides a framework to accurately measure "covenant-lite-ness", the weaker enforcement of financial covenants. Roberts and Schwert (2022) study the widespread use of interest rate floors in loan contracts in the low-rate environment of the last decade. Ganglmair and Wardlaw (2017) use text analysis to look at the level of customization in covenants and default events, and conclude that there is substantial heterogeneity in contractual terms, likely emanating more from firms than from lenders. By leveraging new data that became available due to technological advances in contract analytics, we are able to analyze a broad set of widely-used contractual terms that were previously overlooked in the literature in a large sample. Our study complements the literature on financial contracting by documenting novel facts on the cross-section of debt contractual design and proposing a novel mechanism leading to particularly complex debt contracts.

Furthermore, this study adds to the growing literature on security complexity. The introduction of complex securities in household finance (Célérier and Vallée, 2017, Gao et al., 2020) or structured finance (Furfine, 2014, Ghent et al., 2019) have been shown to benefit the most sophisticated party, potentially reducing trading (Carlin et al., 2013). As options embedded

[5]Both views are not mutually exclusive.

in the complex contract typically get ignored or mispriced by less sophisticated parties, their introduction can lead to mis-valuation in the venture capital space (Gornall and Strebulaev, 2018), increase in demand for financial products from households (Célérier and Vallée, 2017), or even an amplification of the principal-agent problems in the political system (Pérignon and Vallée, 2017). Our paper provides a novel and economically significant context, the leveraged loan market, in which a sophisticated party introduces a large number of contingent clauses in a financial contract that provide them with large benefits in specific states of nature while only marginally affecting the ex ante price of the contract. While we document a drop in the most complex contracts following the J.Crew episode, recent industry reports however suggest that borrower-friendly carveouts and deductibles continue to be a widespread phenomenon.[6] This persistence is consistent with theories where investors are inattentive to less salient risks or downturn indicators in good times (Reinhart and Rogoff, 2009, Gennaioli et al., 2015). Our work also relates to the recent law and economics theory paper by Ayotte and Badawi (2022), which presents a model of contractual evolution that simultaneously explains an increase in contractual complexity over time and an increase in potential losses for the creditors.

Our paper is also tied to research on the debt expertise of private equity firms (Ivashina and Kovner, 2011, Axelson et al., 2013) and their potential effects, which can translate into improved financial performance for private equity firms and help portfolio firms navigate crises despite high levels of leverage, but can also potentially distort usual signals from the credit market and facilitate value extraction from creditors. Our study illustrates a specific channel through which private equity firms exert their debt expertise, and some of the consequences associated with this.

Our work contributes to the academic debate surrounding the expansion of the leveraged loan market and its consequences, but it also has broader implications. As lax credit conditions are a leading indicator of economic downturns (López-Salido et al., 2017, Greenwood and Hanson, 2013), understanding the implications of loan contract design is of key interest to the regulators. The Leveraged Lending Guidance issued jointly by the OCC, the Federal Reserve Board, and the FDIC on March 21, 2013 was a key macro-prudential tool.[7] The goal of the Guidance was to assist financial institutions in providing leveraged lending to creditworthy borrowers in a safe

[6] E.g., "The Top 10 Ways Loan Investors are Forfeiting Protections," Moody's Investor Services, November 13, 2018; "EBITDA on Steroids," Private Equity International, May 25, 2019.

[7] The full text of the Guidance can be found at https://www.federalreserve.gov/supervisionreg/srletters/sr1303a1.pdf.

and sound manner.[8] The regulators' attention to the "safety and soundness" of leveraged loans is unambiguous, but the measurement tools used by them are rather limited. In particular, one of the red flags raised in 2015 under the Guidance was the focus on loans with Total Debt/EBITDA in excess of 6:1 (see Zinder et al. (2016)).[9] While the intention of the Guidance is to include deductibles, it offers no methodological guidance on how to do it. Our study shows concrete magnitudes, and points out that the optionality introduced through such clauses, including optionality to increase the leverage, is substantial and concentrated in highly-levered transactions. In that respect, our paper also connects to the literature on the shadow banking sector, and how such financial intermediation may affect screening and monitoring incentives (Keys et al., 2010), and raise systemic risk (Adrian and Ashcraft, 2016). We thus document how CLO participation in leveraged lending is associated with higher contractual complexity, which is prone to weaker control rights for the lenders and allows higher aggregate leverage.

This paper is organized as follows: Section II discusses the covenant structure. Section III introduces the dataset covering this structure for a large sample of credit agreements, presents our methodology to measure contract complexity, and presents aggregate stylized facts. Section IV explores the determinants of contractual complexity. Section V illustrates the economic implications of complex debt contracts, and Section VI discusses the contracting mechanism plausibly at play. Section VII concludes.

## 2 The Covenant Structure

Measuring the complexity of a credit agreement in an economically meaningful manner, as opposed to say counting the number of words of the contract or measuring the linguistic complexity with a natural language processing algorithm, requires a clear understanding of the covenant structure, the main source of creditor control rights, as well as granular data describing such structure. The latter has only recently become available thanks to technological progress allowing large sample parsing of credit agreements.

[8] Nevertheless, in October 2017, the Government Accountability Office (GAO) issued an opinion that Leveraged Lending Guidance would need to be submitted to Congress for review before it could have force and effect of law, which made it not enforceable. Since then, the Leveraged Loan Guidance has been a subject of debate between the industry and the regulators. See for instance https://www.lsta.org/news-and-resources/news/supervisory-statementsand-leveraged-lending-guidance.

[9] ECB had proposed a very similar cutoff (e.g., https://www.lw.com/thoughtLeadership/LW-European-Central-Bank-Publishes-Guidance-on-Leveraged-Transactions.)

## 2.1 Negative Covenants

Negative covenants are contractual provisions that serve as creditors' governance mechanism by restricting (hence, "negative") actions of the borrower. A violation of negative covenants puts control rights over the firm's assets in hands of the creditors. Our study provides the first holistic insight into the analysis of the negative covenants of large cash-flow-based loans, which are the most complex debt contract. The indentures that one can see in the public space, as well as credit agreements for small loans, or asset-backed loans, tend to be much simpler. There are several reasons behind it. Lenders have the ability to obtain confidential information and only qualified investors can hold loans directly. By contrast, bonds are covered by the Regulation Fair Disclosure and have a dispersed and heterogeneous creditor base, which makes renegotiation in case of contractual violations very difficult (Bolton and Scharfstein, 1996). As a result, the allocation of control rights to bondholders through a tight covenant structure might not be desirable (e.g., Becker and Ivashina (2016); and Green (2018)). This difference between bond and loan contracts is also consistent with the prediction in Park (2000) that monitoring should be delegated to senior secured debt, i.e., loan lenders.

For small borrowers, on the other hand, creditors hold alternative non-contractual governance mechanisms, because information asymmetry is large in this space, and these firms are dependent on "relationship lending." The intensity of contractual differences for small-cap vs. large-cap loans is easily notable even with a simple page count. Albeit credit agreements for small and medium firms are not readily available, we were able to obtain a representative credit agreement from a regional bank for a term loan granted in April 2016 to a firm with roughly $2.2m in EBITDA. This contract does not contain a definition of EBITDA. By comparison, the main text of the 2017 Credit Agreement for Outback Steakhouse (EBITDA equivalent to $450 million in 2016) is 170 pages long. The definition of EBITDA alone takes 1,733 words. This anecdotal evidence is consistent with the importance of relationship banking for small firms. Due to the heightened information asymmetry of small borrowers, lender substitution is costly (e.g., Dell'Ariccia and Marquez (2004)), putting much of the bargaining power on the lender side and reducing the need for contractual governance.[10]

There are other reasons why contractual governance rights might not be valuable to creditors.

[10]For an overview of the literature on this subject, see Berger and Udell (1995) or, more recently, Saunders and Steffen (2011).

For example, if a loan is over-collateralized and there is the certainty of a quick recovery of principal in default through the liquidation of collateral, there is little value in trying to influence the borrower's actions ahead of its default on payments. So, the intensity of covenants also depends on the nature of the collateral, and Asset Based Lending ("ABL") (as compared to Cash-Flow lending which corresponds to the loans in our sample) uses few covenants.

Not all firms possess large enough "commodity" collateral. Yet almost all firms have other types of assets, and it is common to use the totality of these other assets as collateral in cash-flow-based loans. Tracking, valuing, and selling such assets is a costly and uncertain process. For example, an apparel retailer has inventories, but those inventories constantly change and that is intrinsic to the business. Moreover, such a retailer may have intellectual property (their brand), but there is high uncertainty on their value, particularly in the context of default. Contractual governance rights are therefore most relevant to cash-flow lending, which is the focus of our study. More broadly, Lian and Ma (2018) show that over 80% of syndicated corporate loans reported in the commonly used DealScan database are cash-flow based.

The negative covenants can be divided into six main categories: (i) restrictions on liens; (ii) restrictions on indebtedness, (iii) restrictions on asset sales, (iv) restrictions on payments, (v) restrictions on capital expenditures, and (vi) restrictions on affiliate transactions. While there is no exclusive mapping of the typical covenants to economic principles outlined above, protection of collateral and the desire to manage the sources of misalignment of incentives between equity and debt underpin most of the provisions included in a cash-flow based credit agreement. Restrictions on liens prevent the borrower from re-pledging its assets in other secured transactions. Restrictions on indebtedness limit borrowers' ability to incur additional debt. Both of these restrictions aim at preventing claim dilution. Restrictions on asset sales limit borrowers' ability to sell their assets, which would reduce the collateral of the loans, and may also change the risk profile of the business. Restrictions on payments limit certain types of cash outflows, typically dividend payments, to focus the cash flows on debt repayment. Restrictions on capital expenditure regulate the use of funds, limiting the borrower's ability to invest in a potentially risky project. Lastly, restrictions on affiliate transactions limit the borrowing entity's ability to enter into transactions with other entities of the same economic group that are not necessarily covered by the credit agreement.

## 2.2 "Carve-outs" and Deductibles ("baskets") to Negative Covenants

The focus of our study is not on whether negative covenants are included in the loan contract – they typically are in the leveraged loan market, and these clauses are by essence simple – but to understand the use of the clauses that qualify them and translate into particularly complex contracts. The two main types of clauses that affect negative covenants we investigate are the "carve-outs" and deductibles, also called "baskets".

A carve-out on a covenant excludes certain borrower actions from contractual restrictions. For instance, a contract can include a subordinated debt carve-out to the restriction on additional indebtedness, which means that the latter does not apply to the issuance of subordinated debt, and the borrower can issue such debt freely. In the case of Outback Credit Agreement, principal accreted under paid-in-kind (PIK) debt is carved out.

A deductible on a covenant creates a threshold until which the restriction does not apply. For instance, the 2007 Credit Agreement backing the 2007 buyout of Outback Steakhouse includes the following terms:[11]

- Indebtedness: General deductible of $100 million;
- Liens: General deductible of $40 million;
- Asset Dispositions: Deductible of $35 million;
- Investments: Deductible of $100 million;
- Restricted Payments: Deductible of $50 million.[12]

Outback, therefore, has the contractual option/permission from creditors to issue additional debt of up to $100 million, to pledge up to $40 million in collateral to new creditors, which lenders would otherwise have a senior claim on, to sell certain assets for up to $35 million in value, do investments for up to $100 million, and to pay off claims other than lenders for an amount of $50 million. To go beyond this anecdotal evidence, we download and scrape all the available reports summarizing credit agreement terms developed by Fitch Covenant Review;

[11] Credit Agreement Dated as of June 14, 2007, for OSI Restaurant Partners, LLC.

[12] A "general deductible" on a restriction includes any type of actions falling under this covenant, while some deductibles only cover a set of actions defined in the Credit Agreement. For example, a general deductible on liens of $40 million means that the borrower can pledge any assets up to $40 million of the collateral for purposes of issuing new debt. An alternative to that is that a specific set of assets-e.g., inventories- up to $40 million in value could be pledged as collateral for the issuance of new debt.

these reports offer some standardization in the labeling of carve-outs. From this exercise, we obtain a sample covering 193 credit agreements with at least one carve-out, spanning the period of 2016 to 2020. Table 1 displays the list of the 15 most frequently reported carve-outs per covenant in this sample and their incidence.

We draw several conclusions from this preliminary exercise. First, carve-outs are diverse in their types. Second, while certain carve-outs are virtually present in all credit agreements of the sample, the heterogeneity in their frequency is quite large. Lastly, many of these carve-outs may have important economic consequences for the creditors. For instance, carving-out acquisition debt from the indebtedness covenant affects the risk of the loan, and the existence of such clauses is consistent with providing the borrower with higher flexibility, or, in other words, weakening the lenders' control rights.

[Insert Table 1]

# 3 Measuring Contractual Complexity

Novel data allows us to implement a parsimonious yet economically grounded methodology to measure contractual complexity over the whole covenant structure.

## 3.1 Data

The central challenge of doing a large sample analysis of contractual provisions is that loan agreements are very long and, by nature, complex. Even for studying an individual type of clause, data collection is highly intensive.[13] Legal language is often difficult to interpret, and some of the clauses might be covered in multiple parts of the contract. Not surprisingly, much of the earlier literature has been using "off the shelf" covenant coverage such as DealScan. Information on carve-outs and deductibles for negative covenants, however, is not included in DealScan or standard databases covering the commercial loan market. Nevertheless, following the Great Financial Crisis, there have been significant developments in analytics specialized in exploring the design of credit agreements and indentures. We use several of these sources of data. While this type of data still requires some work to be exploitable by a financial researcher, they allow to simplify, aggregate (within a contract), and standardize (across contracts) information

[13] For example, see Berlin et al. (2020) and Bräuning et al. (2021).

on contractual clauses. The majority of data for this study comes from a dataset developed by StreetDiligence, a private FinTech firm specializing in contract covenant visualization. The firm granted us access to their product for credit agreements. This data is targeted toward credit investors, private equity firms, and investment banks to improve the speed and accuracy of their benchmarking and due diligence, and covers a large sample of loans. StreetDiligence builds its loan database from SEC filings and contributions from its clients.[14] For each credit agreement, StreetDiligence breaks down and aggregates the key covenant terms in a transparent, verifiable, and highly granular manner. While datasets used in the literature, such as DealScan, focus on financial covenants or a limited set of easily identified clauses, StreetDiligence data provides the first comprehensive coverage of the loan contractual terms, as the whole credit agreement is parsed out through a proprietary methodology that mixes algorithmic and manual actions.

Unlike other data sources such as Xtract Research, which is a widely used contract evaluation service, StreetDiligence does not provide qualitative assessment but instead focuses on parsing contracts. Their value proposition is therefore based on the absence of a "black box" or subjective judgment. Instead, their product is intended and marketed as a platform for efficiently navigating and displaying a credit agreement. At any point, the summary information provided by the platform can be cross-checked against the underlying PDF of the credit agreement; which displays how the text is parsed. The usefulness of the StreetDiligence product, therefore, crucially relies on complete coverage of the text of the contract.

To illustrate the comprehensiveness of the StreetDiligence contract coverage, we map the full covenant section for the standard LSTA credit agreement (Bellucci and McCluskey, 2017) into StreetDiligence covenant categories in Table A.1 of the appendix. Because the platform is intended to mostly be a transparent processing tool, it displays each individual carve-out and deductible as a separate bullet point – the data we aggregate for this study.

We rely on two other data sources covering contractual provisions to mitigate limitations from our central dataset. Fitch Covenant Review reports provide summaries of contractual terms for a selected sample of credit agreements, which include the list of deductibles and carveouts clauses included for each covenant. We scrape these reports to obtain the data necessary for Table 1.

As the StreetDiligence sample ends in 2016, and the sample of Covenant Review starts in

[14]Being a young company, the StreetDiligence contract sourcing and processing capacity have been quickly evolving. The description of the data presented here is specific to the data shared with us as of 2016 and is not representative of their current coverage of the loan space.

2016 and is only sparsely populated for that year, we scrape and parse original credit agreements downloaded through Intelligize for loans originated within a six-year window centered around the J.Crew event.[15] We use this data to study the potential evolution of contract design following the J.Crew event.

We combine data on contractual terms with issuance characteristics from DealScan. The resulting dataset covers 1,240 packages and 1,857 facilities, spanning the period from 2011 to 2016.[16] We match borrowers to financial data from Compustat.

Each observation in our sample corresponds to a loan package covered by a given Credit Agreement. We conduct our analysis at this level as typically only the maturity and coupon vary at the facility level within a given loan package, while negative covenants are typically defined at the package level by the credit agreement. This treatment is also motivated by the fact that all first-lien facilities, which represent by far the largest share of outstanding loans in a borrower capital structure, are pari passu.

Table 2 shows summary statistics for our data sample and compares them to two benchmark groups: (i) all loan packages over $100 million in DealScan issued after 2011, and (ii) all leveraged loan packages issued after 2011, as defined by DealScan Market Segment information. For the purpose of our event study, we also merge our sample with daily loan price data from Markit, and daily stock price data from Datastream.

Overall, 77% of loans in our sample fall within the "Leveraged loan" segment based on DealScan classification. According to Standard and Poor's (2014), leveraged borrowers are "issuers whose credit ratings are speculative-grade and who are paying spreads (premium above LIBOR or another base rate) sufficient to attract the interest of nonbank term loan investors, typically LIBOR + 200bps or higher, though this threshold moves up and down depending on market conditions." However, the precise threshold varies slightly across different data providers and over time. Consistent with the sample being composed primarily of leveraged loans, the Total Debt/EBITDA leverage ratio is close to the DealScan leveraged subsample. However,

[15] These contracts appear to be downloaded from EDGAR. We use a Python script that zooms on the Negative Covenants section and itemizes the carve-outs within a covenant. As with StreetDiligence data, this approach does not look at the type of carve-outs due to the lack of harmonization in language between different agreements but instead counts carve-outs for a given covenant. Due to the complexity of the legal language, parsing of contracts requires some manual cleaning of the output. We present an example of the overall parsing exercise in the Appendix of the paper. Importantly, we scrape the list of carve-outs from a sample of credit agreements covering a period centered around the J.Crew event. Reassuringly, the average number of optional clauses per credit agreement we obtain is broadly aligned with the one we observe in our main sample.

[16] The firm declined to provide an update of the data.

our sample is biased toward larger loans: loans covered in our sample are comparable to the syndicated loans above $100 million. This bias is consistent with the fact that these credit agreements are primarily sourced from SEC filings.

Since StreetDiligence is a relatively new data source, the coverage is not uniform over time. It is lower in the earlier years: 8% of leveraged loans in DealScan are covered in StreetDiligence in 2011 vs. 45% in 2014. For this reason, much of our analysis is cross-sectional in nature.

[Insert Table 2]

### 3.2 Contractual Complexity Proxies

To study the cross-sectional variation in contractual complexity, we focus on the following measures: the total number of carve-outs, and the total number of deductibles over all negative covenants plus the EBITDA definition. Figure 1 plots the distribution of these variables and illustrates the significant heterogeneity in the use of such clauses in our sample. More sophisticated numerical aggregation techniques are also possible. However, such approaches do not change the central takeaways, yet they lose the intuitive appeal.[17] Our methodological choice is also immune against miscategorization of the covenant for which carve-outs and deductibles apply to. The rationale for these proxies is to measure the amount of optionality and state-contingency embedded in the credit agreement, which we interpret as complexity. Some of the contractual provisions that we observe are mutually exclusive. The numbers of carve-outs and deductibles should therefore be interpreted as an upper bound of the contract tailoring underlying the complexity of the contract, as we cannot account for the degree of additivity of these provisions. Some of the carve-outs and deductibles are unambiguously benign. For example, the restriction on investments typically carves out cash and liquid assets, which is trivial. However, benign clauses still contribute to the overall complexity of the financial contract that parties need to process to accurately understand its economic implications.

[Insert Figure 1]

[17] As an example, we extracted the first principal component of the number or size of deductibles for each covenant, and of the number of carve-outs for each covenant. This approach yields a measure that has a correlation of 0.9 with the measures plotted in Figure 1.

### 3.3 Basic Facts

We first document the extent to which credit agreements tend to restrict borrowers' actions, which represents the first layer of the covenant structure. According to Panel A of Figure 2, credit agreements more frequently restrict actions that circumvent or dilute the priority of debt holders: 92% of loan contracts have restrictions on liens and 87% on incurring additional debt. On the other hand, credit agreements less frequently restrict actions that potentially increase operational risk: 73% of credit agreements have restrictions on asset sales and only 31% of contracts on investments.[18] Overall the frequency of these restrictions is high, which is consistent with credit agreements being a widespread tool to address conflicts between lenders and borrowers.

[Insert Figure 2]

We turn to study the extent of the use of the clauses that qualify such restrictions, namely carve-outs and deductibles, which result in the contractual complexity that is the focus of our paper. Panel B of Figure 2 displays the frequency of deductibles conditional on having the related restriction. Deductibles are frequent: 96% of credit agreements include at least one kind of deductible. The actions that are most frequently restricted –issuance of additional debt and re-pledging of collateral– are also the most frequently qualified through deductibles. While 92% of credit agreements have restrictions on liens, only 14% of these do not have collateral subject to deductibles. Similarly, while 87% of credit agreements have restrictions on additional debt, 92% of these allow some additional debt issuance.

Panel A of Figure 3 plots the average number of carve-outs by covenant type. We include carve-outs on the contractual definition of EBITDA, which affects contractual strength through financial covenants.[19] The use of carve-outs is a prevalent practice. Indeed, virtually all credit agreements (99%) with negative covenants exhibit at least one carve-out per category of covenants. The average credit agreement includes 79 distinct carve-outs, arguably representing a high average level of contractual complexity, especially if such clauses can interact with each other. Carve-outs are most numerous for restrictions on liens (22 on average) and indebted-

[18] As a reference point, Nini et al. (2009) study restrictions on investments in a broader sample of syndicated loans. In their sample, 32% of credit agreements carry such explicit restrictions.

[19] Albeit, a more appropriate name for certain of these items is "add-backs." For example, Pro-forma cost savings could be accounted for in EBITDA calculations.

ness (15 on average), while the average contract allows for twelve modifications to the standard financial definition of EBITDA.

Together, these two figures illustrate how comprehensive the phenomenon we study is, as in the majority of contracts all covenants are qualified through the use of both types of clauses.

Panel B of the same figure displays the average size of deductibles by covenant type, which we scale by EBITDA.[20] This figure reveals the large economic significance of these contractual terms. The restriction on indebtedness in particular exhibits deductibles representing more than 2.3x EBITDA multiples on average, nearly a half of the 5x EBITDA debt levels, which is common for leveraged loans. Senior secured loan creditors historically recover about 70 cents on the dollar, which gives a sense of the value of collateral and assets of the borrower. In this context, the average deductible of 35% of EBITDA for collateral and 39% of EBITDA for assets sales also appears sizable. Panel B of Figure 3 shows that about 10% of the credit agreements from the sample have no deductibles, while the median agreement exhibits 8 baskets over all covenants.[21]

[Insert Figure 3]

Turning to loan pricing, we show that proxies of contractual complexity are positively correlated with loan spread.[22]

We regress the all-in-drawn spread of a given facility on the proxies of contractual complexity, controlling for the standard borrower and transaction characteristics, as well as the loan terms typically studied in the literature. We include industry fixed effects, and quarter fixed effects to ensure that our results are not driven by a composition effect on industries, or a specific sub-period. We plot the predicted issuance spread by quartiles of the complexity measures in Figure 4.

This analysis reveals a positive relationship between loan issuance prices and proxies for contractual complexity. Thus, moving from the bottom quartile to the top quartile on these measures of complexity corresponds to around 40 bps higher issuance spread. These magnitudes

[20] We aggregate deductible size at the covenant level, as a covenant typically has several deductibles of different scopes. A small fraction of deductibles are conditional to a financial ratio meeting a threshold or are limited in scope. For the purpose of the analysis, we treat them as regular deductibles and aggregate them with regular deductibles when both are present. Our results are virtually unchanged if we drop them.

[21] A small number of deductibles apply to covenants not displayed in Panel A of Figure 3.

[22] Spread includes interest rates and all fees and applies to a benchmark rate, typically a LIBOR. This is what is commonly referred to as the "all-in-drawn" spread.

compare to an average spread of 266bps in the sample.

[Insert Figure 4]

# 4 Determinants of Contractual Complexity

## 4.1 Deal and Assets Characteristics

We study whether deal and assets characteristics predict the cross-section of contract design, by regressing our proxies of contractual complexity on the log size of the loan, on indicator variables for leveraged and highly leveraged transactions, and on the share of intangible assets in total assets. We present the regression coefficients in Table 3, which shows that the size of the loan, the level of leverage for the transaction, and the share of intangible assets are positively correlated with contractual complexity. These results are statistically and economically significant. For instance, highly leveraged transactions have on average 30 more carve-outs than non-leveraged transactions of the same size. Including industry fixed effects in columns 2 and 4 increases the $R^2$ modestly, and leaves the coefficients mostly unaffected. These results are consistent with Gulati and Scott's argument that a substantial number of carve-out clauses are included as part of a standard contracting through templates depending on deals and asset characteristics. For example, carve-outs of liens securing capital leases and other existing liens might be required for the issuance of new secured debt given that such collateral is already pledged. They argue that such clauses are typically copy-pasted into new contracts. When decomposing the variance of the number of carve-outs and deductibles into their (i) between (2-digit SIC) industry component and (ii) within industry component, we observe that for both quantities the within-industry variance is more than two times larger than the between-industry variance. This decomposition suggests that while asset characteristics play an important role in contract design, other dimensions such as contracting parties might be first-order as well.

[Insert Table 3]

## 4.2 Sophisticated Borrowers

Expanding on the previous result that large and leveraged borrowers issue complex contracts, we test specifically whether loans issued by more sophisticated borrowers are more complex.

Discussions with practitioners suggest that it is hard, even for sophisticated players like large financial sponsors backing buyout deals, to predict which clauses actually might become useful to restructure debt down the road, and how exactly they would be used. Consequently, it is hard for borrowers to identify where they should focus their effort when negotiating loan contracts. This uncertainty partly results from the timeline, as some of these clauses do not come into play for years. In the J.Crew episode, the deductible on liens was written nearly five years before it got used. We hypothesize that financial sponsors, who can draw from other deals and their past experience in restructuring, are more likely to try to figure out what additional carve-outs and deductibles they might include on top of the standard ones without substantially driving the cost of debt up. We proxy borrower sophistication by whether the firm is backed by a financial sponsor, as well as with proxies of credit expertise for these sponsors. In their role as intermediaries, private equity firms indeed interact with banks and financial markets much more frequently than even the largest stand-alone firms as they manage a portfolio of firms that are routinely acquired, merged, levered, de-levered, and sold (Ivashina and Kovner, 2011). Private equity firms, therefore, develop expertise in debt markets, contracting, and renegotiation.[23]

To test whether borrowers backed by financial sponsors contract debt in a systematically more complex manner than more traditional borrowers, we run OLS regressions on our measures of contractual complexity, using an indicator for leveraged buyouts as an explanatory variable. We include industry and quarter fixed effects to absorb any temporal or industry composition effects. We also control for borrower size with the log of its assets amount. Together these controls should ensure the comparability of the assets pledged for financing, including their own complexity. Table 4 displays the regression coefficients. The results are consistent with private equity firms relying more heavily on contractual complexity. Both carve-outs and deductibles are significantly more frequent in leveraged buyouts, controlling for leverage. The magnitude is particularly large: the lowest coefficient on the LBO indicator variable is equal to 30 for carve-outs, compared with an average number of 79, and 1.5 for deductibles, compared with an average number of 8.

We also explore whether the contractual expertise of private equity sponsors is predictive of the design of loan contracts, by using two different proxies for higher contracting sophistication

[23]The economic incentives of an average CFO are also likely to be different from that of a senior investment professional at a private equity firm.

within the PE universe. First, we introduce an indicator variable for private equity firms that have large-cap buyouts as a key investment focus. This allows us to focus on sponsors that routinely rely on the leveraged loan market to fund their transactions. Building and maintaining the necessary expertise to sort through contractual terms represents a fixed cost, and therefore sponsors require a certain scale in this space to make it a source of value.

Second, in columns 4 and 8, we consider the possibility that expertise in the contractual space is built through experience. To do so we look at whether a sponsor experienced bankruptcy in its firm portfolio. Using bankruptcy data from Capital IQ, we construct an indicator variable *Experience with Bankruptcy* equal to 1 if the sponsor had at least one bankruptcy in its portfolio during the five years before the beginning of our sample (2005 to 2009). All contractual expertise variables are conditional on being a buyout, which means that the reported coefficients are equivalent to the marginal effect within this group of transactions.

Credit agreements that include a "credit-expert" sponsor firm appear to exhibit significantly more contractual complexity, with both more deductibles and carve-outs than in other leveraged buyouts, although the difference is not statistically significant for the number of deductibles. The gap in both our measures of contractual complexity between LBO with expert firms and LBO with only non-expert firms represents close to a third of the magnitude of the gap between LBO and non-LBO transactions for carveouts and deductibles.

[Insert Table 4]

### 4.3 Arranger Bank Skin in the Game

Borrower higher sophistication provides one potential explanation of what drives contractual complexity. On the lender side, while all counterparties are sophisticated institutions, their incentives and ability to be involved in details of contractual drafting differ substantially across lender types.

All creditors are arguably aware of the complexity of the contracts they enter with sophisticated borrowers, as also evidenced by the difference in issuance prices reported in Figure 4. Such awareness, however, does not necessarily translate into a good understanding of the risks that these clauses may create. Fully assessing the consequences of the carve-out and deductible provisions, as well as their possible interactions, carries indeed significant cost. Lawyers and

credit rating agencies could help the ultimate lender assess the risks associated with contractual complexity. In reality, they may not be that helpful to the average lender. Gulati and Scott (2012) illustrate that lawyers' time (or lack of it) is a significant constraint on what gets modified between contracts, pointing to the fact that a big part of the debt contract ends up being a copy-paste from other term sheets. In Gulati and Scott's account, time spent by lenders on contractual provisions for which nothing bad happened in the market's memory is very limited and boils down to a benchmarking exercise. This depiction is consistent with creditors being unwilling to pay large information costs at loan inception or purchase. On the other hand, Moody's and Fitch have been actively developing analytical tools to track the evolution of contractual strength in the leveraged loan market. However, contract design is not factored into rating individual loans or tranches of collateralized loan obligations. A credit rating is a reliable product that translates into assessing the fair value of such claims. Incorporating contractual features into the rating would require valuing them to some extent and is a step the rating agencies have been unwilling to take.

Individual CLOs or mutual funds, the typical institutional investors in the leveraged loan market, are unlikely to have the expertise nor exert the effort required to carefully examine these clauses on a large set of contracts.[24] Arranger banks are more informed about the fundamentals of the borrower and the contractual terms of the transaction than institutional investors (Sufi, 2007, Ivashina, 2009). We therefore test whether the arranger bank's skin in the game, which drives its screening and monitoring incentives, predicts contractual complexity. We use several proxies to measure lower screening and monitoring incentives from creditors in the cross-section of loans. First, we use an indicator variable (Inst. Indicator) equal to 1 if the loan has significant institutional participation, and 0 otherwise. To construct this variable, we start with market segment information from DealScan, which has "Institutional" as one of the segments. We also count as institutional any loan package that has a Term Loan B or "TLb" facility.[25] Second, we look at the institutional share directly counting term loan facilities B and above (that is, TLc, TLd, etc.) as institutional money and measuring its proportion to the total loan amount (Instit.

[24] According to Standard & Poor's Leveraged Commentary & Data (LCD), collateralized loan obligations (CLOs) represent between 41% (in 2011) and 62% (in 2016) of all institutional participants in the primary syndicated loan market – the single largest institutional group.

[25] For example, according to Standard & Poor's (2014), "Institutional debt includes term loans specifically for institutional investors, [...]. These tranches include first- and second-lien loans, as well as prefunded letters of credit. [The latter are not in our sample] Traditionally, institutional tranches were referred as TLbs because they were bullet payments and lined up behind TLas."

Share) and total term-loan amount (Instit. Share (TL)). Finally, we look at the lead bank(s)' share of the total loan amount as reported in DealScan (Lead Share). The results are reported in Table 5. The number of observations is reduced due to lender data availability. All specifications control for the (log) number of lenders, a leveraged buyout indicator variable, as well as industry and quarter fixed effects.[26] We find that larger institutional participation and a smaller lead share are tied to more complex contractual terms. Loans from the institutional segment exhibit on average 19 more carveouts and 1.5 more deductibles, which compares to respective averages of 19 carve-outs and 8 deductibles. These estimates are statistically significant and comparable in magnitude to the association between leveraged buyouts and more complex contractual terms, for which we control.

[Insert Table 5]

# 5 Negative Implications of Contractual Complexity

In this section, we document the important economic implications of contractual complexity, which can act as a double-edged sword. While the initial economic rationale for the inclusion of carve-outs and deductibles is to modulate and tailor the restrictions imposed by all-encompassing covenants, contract complexity might weaken lender control rights, obscure the actual room for leverage in the leveraged loan market, and can lead to significant value transfers from senior lenders to equity holders.

## 5.1 Existing Covenant Weakness Measures

We start by evaluating the relationship between contractual complexity and measures of covenant weakness previously used in the literature and by policy-makers: "cov-liteness", the number of financial covenants, and the slack of such financial covenants. "Cov-lite" loans are covered by credit agreements where financial covenants do not have an automatic periodic verification and are checked only upon incurrence of certain actions by the borrower. Financial covenants put a cap or floor on certain financial metrics, typically from the following list: debt to EBITDA ratio, current ratio, interest coverage ratio, quick ratio, tangible net worth, and net worth. Financial

[26] These controls mitigate concerns over potential confounding factors such as syndicate size or macro conditions. The coefficients are comparable when we do not include these controls.

covenant slack is the difference between the quarterly Compustat data and the covenant threshold, which can be normalized by the standard deviation of the actual value over the previous eight quarters.

We regress our proxies of contractual complexity on these measures of covenant weaknesses and report the coefficients in Table 6. We find that contractual complexity is positively correlated with covenant weakness: everything else equal, contracts that are cov-lite, have fewer financial covenants, and have more slack, are more complex. Such a relationship suggests that contractual complexity follows a similar motive as other contractual terms weakening lender control rights, and has additive or even amplifying effects on such terms.

[Insert Table 6]

### 5.2 The Latent Share of Highly Leveraged Deals

To assess the latent share of highly leveraged deals that complex contracts might imply, we zoom in on the indebtedness deductibles – i.e., the additional allowed leverage –. Given that the market and regulators find leverage in excess of 5x EBITDA attention-worthy, we scrutinize what fraction of the firms in the flagged sample can further extend their leverage, by how much, and what fraction of the firms that seem to comply with the conservatively high leverage levels contractually could exceed it when needed.

We measure EBITDA as of the fiscal year preceding the loan date, and the total debt is measured as of the fiscal year-end following the loan date. In Table 7, the first two lines correspond to the distribution of leverage at issuance for firms in the leveraged loan segment in general. We construct these using 2011-2016 data from Standard and Poor's Leveraged Commentary and Data (LCD) quarterly market reports.[27] We find that 56% of the borrowers in the leveraged loan market have leverage in excess of 5x EBITDA (about half of the borrowers on the net debt basis). We now adjust this distribution function for deductibles. On the third line of Table 7, we introduce the maximal Debt/EBITDA, which corresponds to the leverage

[27] Original LCD reports are disaggregated by year, borrower size (above and below $50 million in EBITDA which is a cut-off for the middle market), and sponsored vs. non-sponsored transactions. We take averages across these categories. We use LCD leverage distribution as a building block because the relevant EBITDA for purposes of a credit agreement might be difficult to calculate from scratch as these figures undergo several adjustments even in absence of any EBITDA carve-outs. In that sense, we would still be noisily estimating the impact of deductibles. In the multivariate regression this is mitigated through the inclusion of industry controls as standard EBITDA adjustments tend to be industry specific (e.g. adjustments for maintenance capital expenditures).

increased by the average deductible we observe in our data for each of the leverage buckets. This adjustment makes the share of latent leverage above 5x jump to 72% (from 56%). Interestingly, the jump for the highest leverage bucket is equally sizable at 14 percentage points. The lower panel of Table 7 works exclusively with the StreetDiligence data and provides transitions from one bucket of leverage to higher buckets of leverage based on indebtedness deductibles. These numbers indicate that 76% of firms with 5x EBITDA leverage at the loan origination can actually issue debt in excess of 6x EBITDA. 73% of firms with objectively high 6x EBITDA leverage can actually issue debt in excess of 7x EBITDA.

[Insert Table 7]

Figure 5 plots the distribution of Total Debt/EBITDA in our sample before and after adjusting for indebtedness deductibles, assuming firms would use the deductible to its maximum.[28] Similar to Table 7, the central takeaway of this exercise is that the fraction of potentially highly leveraged deals is significantly higher than would be inferred from a naive observation of the leverage as of the date of the credit agreement. Whereas about half of the companies have leverage below 5x EBITDA at the origination, in reality over 70% of companies funded in the leveraged loan market can issue additional debt later on, which would put total leverage over 5x EBITDA. Furthermore, the potential increase in leverage is concentrated among the transactions that are already heavily levered.[29]

[Insert Figure 5]

The shift in the distribution of potential leverage attributable to indebtedness deductibles is even more pronounced for leveraged buyouts, evident in the top-right graph of Figure 5. Leverage of sponsored transactions tends to be larger by orders of magnitude than leverage of comparable public firms, and there are several examples of financial sponsors' risk-shifting behavior (Kaplan and Stein, 1993). Offering complex contracts to buyout firms might create additional risk, which is exactly what the regulator has been trying to monitor.

[28] This calculation provides an upper bound, given that other contractual terms might affect the extent to which the borrower might reach the maximum amount allowed on the deductible.

[29] The tail of the indebtedness distribution might strike as unusually large by industry standards. It is likely that the skew in our distribution is due to the use of unadjusted EBITDA. As already pointed out, EBITDA calculation for the purpose of a credit agreement involves a series of standard adjustments to the accounting item that we use as the denominator. For comparison, in the bottom two graphs, we report the distribution of Debt/EBITDA for two DealScan sub-samples covering the same period (2011-2016): deals over $100 million, and leveraged buyouts.

Although our sample is relatively short, for illustration purposes, we plot the quarterly average number of liens and indebtedness carve-outs during our sample period in Figure 6. Even though the first years are to be taken with a grain of salt as the sample is much smaller before 2011, the graph is consistent with a pro-cyclicality of the use of carve-outs and deductibles.

[Insert Figure 6]

### 5.3 Value Implications: Event Study on the J.Crew Episode

The additional flexibility granted to the borrower through the clauses at the root of contractual complexity may have no value implications, which would therefore make the phenomenon we study mostly benign. Traditionally, such a question would be answered by looking at defaults and recovery rates. However, there is not a large enough sample of defaults in the leveraged loan market over our sample to conduct such an exercise. We, therefore, turn to an event study around J.Crew's 2017 restructuring, a prominent use of the type of clauses we study, to reject this null hypothesis.

#### 5.3.1 Background

The significance and legacy of this event is summarized in a 2020 Fitch, Covenant Review report: "In the 1920s, Charles Ponzi ran an investment scheme where he paid existing investors outsize returns with funds invested by new investors. Everyone now knows these types of schemes as "Ponzi schemes." In 2016, J. Crew hatched a scheme where it moved valuable assets out of the collateral pool and into an Unrestricted Subsidiary and issued bonds secured by those assets as part of an exchange offer. Investors now know these types of schemes as "J.Crew transactions" or "pulling a J.Crew.""[30,31]

J.Crew was taken private in 2011 by Leonard Green & Partners and TPG Capital. In May 2020, the firm filed for Chapter 11 bankruptcy, but its financial trouble started a few years earlier. The infamous debt restructuring was initiated in late December 2016, when, in view of declining sales, the company found itself in a bind to refinance debt coming due in 2017. To address this challenge, J.Crew exploited a combination of an investment deductible and a carve-out to transfer $250 million worth of the intellectual property behind J.Crew's brand name

[30] "Return of the J.Crew Blocker," Fitch, Covenant Review, May 1, 2020.
[31] Unrestricted Subsidiary means that the subsidiary is not a party to the debt covered by the credit agreement.

from an existing senior collateral package to an unrestricted subsidiary, that is, a subsidiary out of reach of the credit agreement in question, and then used this collateral to issue new debt. The proceeds of the new debt were used to restructure J.Crew's senior unsecured notes, the most junior layer of debt, representing roughly a third of its 1.5B in debt outstanding, with the rest being leveraged loans. The newly issued bonds effectively received a senior secured claim over the transferred collateral, which happened to be J.Crew's most valuable assets.[32] Such actions correspond to a textbook example of what negative covenants were created to prevent: a significant claim dilution for existing creditors, and have been widely covered by the Loan Syndication and Trading Association (LSTA) and popular business news channel.[33]

### 5.3.2 Price Impact

Panel A of Figure 7 plots the price J.Crew outstanding senior loans around the announcement of the new debt issuance using the transferred collateral. We observe a significant drop in the loan price, which happens in conjunction with the announcement. The magnitude of this drop is large, in the 10 percentage point magnitude, which suggests that the dilution of collateral is acute, leading to a lower recovery rate in a context of high bankruptcy risk.

[Insert Figure 7]

We conduct an event study on both loan and share price from *other* borrowers when J.Crew re-pledges collateral to raise new debt. We aim at capturing the update from market participants on the value of the optionality allowed by complex contracts by comparing the price reaction of securities of the firms whose credit agreement ranks high on the use of carve-outs and deductibles relative to the ones that rank low. The timing of the J.Crew event is driven by its own long-term debt maturity, and not by some systemic developments. The date that we use for the event study–June 17, 2017, the initiation of the loan amendment enabling the issuance of new debt using the extracted collateral –is important. Because J.Crew's actions were such a significant economic event, the transfer of the collateral led to a lawsuit.[34] The lawsuit was resolved at

[32] See "J.Crew Lenders Balk at Intellectual-Property Transfer," *Courthouse News Service. June 23, 2017.*

[33] See for instance "J.Crew Tries to Ease Debt Load as Sales Decline Continues," Wall Street Journal, June 12, or "J.Crew Debt Maneuver Can Be a Model for Other Troubled Retailers", New York Times, June 14, 2017.

[34] As we have learned from interviews with multiple protagonists in the J.Crew case, although it is clear who benefits from the collateral transfer, who initiates the lawsuit is a strategic matter. In general, the development of the J.Crew case is intense in institutional elements. While the majority of senior creditors will vote to allow J.Crew to issue new debt, one cannot conclude that the majority of the creditors were supportive of such an amendment.

a much later date, April 25th, 2018, and after the debt restructuring took place. The loan market prices indicate that among the various announcements, the loan amendment is the key event, which is consistent with it being the step that leads the majority of old senior creditors to "surrender" to J.Crew's coercive actions. The price adjustment for securities of the firms in the event study (not J.Crew), therefore, results from a market update on the value of the optionality embedded in certain credit agreements. Such an update covers both the likelihood of such actions and the impact they might have for investors.[35]

As an illustration of our approach, Panel B of Figure 7 plots the loan price of Gymboree, a kids apparel manufacturer and retailer, whose contractual terms and economic performance had been singled out in the specialized press as directly comparable to J.Crew's. Reassuringly, Gymboree ranks in the top quartile of both our broad measures of contractual complexity. Gymboree's loan price appears to drop significantly shortly after J.Crew's announcement, consistent with investors updating on the possible actions Gymboree might take.

We turn to the whole sample of firms for which we have daily loan prices from Markit. For transparency, we first present the raw data on loan prices: we aggregate them by quartiles of our complexity measures and plot these time series around the J.Crew event.[36] Figure 8 displays the results, using the number of carve-outs as the measure of contractual complexity in panel A, and the number of deductibles in panel B. We observe a drop in loan value price that is more pronounced for the complex contracts, while simpler loan contracts do not exhibit such adjustment. This drop is around half a percentage point. This lower magnitude compared to J.Crew and Gymboree is to be expected given the low unconditional likelihood of J.Crew-type actions, which may only happen in distress.

[Insert Figure 8]

We then conduct regressions to control for observable characteristics, including usual measures of contractual weakness. Table 8 presents the coefficients. The dependent variable is the

[35] The lawsuit provides a peek into the investor updating process. The first point in the preliminary statement of the lawsuit filed by a group of creditors on September 7, 2017, in the State of New York reads: "Defendants in this case supposedly found a secret "trapdoor" in their senior secured debt facility. Assisted by teams of lawyers and consultants, Defendants claim to have opened this trapdoor and dropped out substantially all of the value of J.Crew Group, Inc., the parent company of the well-known apparel retailer (the "Company"). This value was then pledged to other creditors in exchange for financial accommodations. As a result, the Company's senior secured creditors, whose loans were meticulously secured by liens on a comprehensive collateral package, are now left holding what looks like an empty sack." The language that implies creditors' surprise is present throughout the complaint.

[36] We rescale these series as per the day prior to the event.

absolute change of the loan price, in % of the nominal, over a -15/+15 days window centered on the announcement date of the issuance of debt using as collateral the IP transferred to the non-restricted subsidiary.

In column (1), we regress the change in the loan price on an indicator variable equal to one if the firm credit agreement includes a deductible on the investment covenant, the clause at the center of the J.Crew case. We observe that such loans exhibit a drop in their price of 0.5% of their notional, a significant adjustment given that the value transfer only occurs if the J.Crew-like restructuring is actually implemented. Such price adjustment is consistent with the market updating on the likelihood and/or consequences of such actions from the borrower. In column 2, we include indicator variables for each type of deductible. While the coefficient on the investments deductible is the largest, interestingly the presence of other types of deductibles, such as deductibles on restricted payments or indebtedness, are also associated with a negative price reaction. This suggests that market participants are updating beyond the exact clause used in the J.Crew case, and are shifting their attention toward deductible clauses in general.

To further establish this fact, we regress the price change on our two proxies of contractual complexity: the number of carve-outs in columns (3) to (6), and the number of deductibles in columns (7) to (10). We find that both measures are associated with a significant downward price reaction. In terms of economic magnitude, an interquartile increase in the number of carve-outs corresponds to a relative downward price adjustment of 23 basis points. The same exercise for deductibles yields a downward adjustment of 30 basis points. These magnitudes might be biased down by the relatively low liquidity of leveraged loans. This relationship is robust to controlling for the presence of the investment deductible clause in columns (4) and (8), which speaks to the general repricing of such clauses. In columns (5) and (9), we include further controls in our specifications. The number of financial covenants, and an indicator for being a cov-lite contract exhibit significant coefficients, but do not affect the predictive power of our measure over the price adjustment. This result speaks to the unique relevance of our measures to describe the market update we study.

In columns (6) and (10), we interact our measures of contractual complexity with a proxy for operational distress, defined as quartiles of the lagged inverse of return on assets (1/ROA). We observe that the price adjustment is significantly more pronounced for firms in operational distress, consistent with the flexibility provided by complex contracts being higher in this con-

text. We run the same specifications with the number of deductibles as a measure of complexity and find similar results.

[Insert Table 8]

To complement this analysis on the value of loans, we conduct the same event study on the share price of the same set of firms, as the majority of them are listed. The dependent variable now is the cumulative CAPM-abnormal stock returns for the same -15/+15 days window, calculated against the S&P 500.[37] Results are reported in Table 9.

Consistent with a value transfer from creditors to equity holders, the estimates show that the J.Crew event led to a positive stock reaction for firms with an investments deductible, as well as loan contracts ranking high on our measures of contractual complexity. The result is statistically significant for our first proxy of complexity, but not for the second one, although this might come from a lack of power as this proxy is less granular. In terms of magnitude, an interquartile increase of optional clauses corresponds to a 2.1% increase in the stock price for carve-outs and 1.3% for deductibles. These magnitudes are indeed larger than the ones observed for loans, but also less precisely estimated given the smaller sample and the higher volatility of stock prices.

[Insert Table 9]

The tradeoff on information acquisition that lenders face should change if there is a tangible illustration of harmful borrower actions that complex contractual languages permit. We thus interpret the results from the J.Crew event study, which correspond to a transfer of value from lenders to equity holders as documented in Tables 8 and 9, as such an update. It is challenging to disentangle whether the markets update on the frequency or the type of actions that contractual complexity allows for borrowers. Ultimately, both raise the expected value of such clauses to the borrower.

### 5.3.3 Associated Contract Design Evolution

Given the evidence of market reaction to J.Crew restructuring, it is likely that, at least in the short-run, the market updates on the value implications of complex contracts, and that the

[37] The results are robust to using a shorter window, such as a ten-day window, but we use this thirty-day window to be consistent with the loan analysis.

implicit price of complexity increases. Thus, after the J.Crew shock, contract design should at least temporarily adjust towards simpler contracts.

To examine this prediction, we exploit the sample of credit agreements that we scrape to count the number of carve-outs and baskets for each covenant. The sample is different from our main sample, and the methodology we use pools together the two types of clauses. Reassuringly, the average number of carve-outs and baskets per credit agreement we obtain is broadly aligned with the one we observe in our main sample. Crucially for our exercise, we scrape contracts over 2014-2019, a time period centered around the J.Crew event which occurs in the first half of 2017. We plot the average number of optional clauses, as well as the 90th percentile, for the investments covenant, and for all covenants in Figure 9.

We observe that the number of optional clauses on the investments covenant, which is at the center of the J.Crew episode, goes down following this episode. The drop is even more pronounced at the 90th percentile, which means that credit agreements with a large number of such clauses became less frequent after the event. Zooming out to optional clauses on all types of covenants, we observe that the average number remained stable over time. However, the 90th percentile went down, which again suggests an adjustment on the right tail of contract complexity. Overall, this empirical fact is consistent with contract design endogenously adjusting to the price change for optional clauses, particularly so for the most complex contracts.

[Insert Figure 9]

## 6 Is Loan Complexity Value Enhancing or Value Extracting?

Two simple frameworks may account for the contractual complexity we observe in the leveraged loan market. Complex contracts may create value by offering higher contract completeness, thus addressing important economic frictions such as contract rigidity, informational frictions, or conflicts among capital providers. Alternatively, contract complexity may be exploitative, with sophisticated contracting parties extracting value through complex contracts that amplify their informational advantage and create a legal environment prone to loopholes and weakened contractual rights for their counterparts.

At first glance, several of our empirical facts on contractual complexity are consistent with both views of contractual complexity. First, the high average level of complexity, as well as

the high heterogeneity in that regard, can be reconciled with both theories. Tailoring contracts to mitigate frictions to the benefit of both parties would lead to a high level of contractual complexity, particularly so in settings where these frictions are high. Conversely, a high level of contractual complexity creates more opportunities for loopholes (Ayotte and Badawi, 2022).

Second, asset and deal characteristics are predictive of complexity. As such characteristics might be indicative of higher frictions, for instance as high leverage transactions are more conducive to debt overhang or some industries might require higher contract flexibility to operate efficiently, this relationship is consistent with the value-enhancing view of complexity. In turn, such characteristics might relate to contexts in which contract complexity is more likely to result in value extraction because information asymmetry is large, for instance when assets are mostly intangible.

Third, the strong correlation between sophisticated parties being the borrowers, and contractual complexity might be explained by both theories. Buyout transactions indeed stand out as the most intensive users of carve-outs and deductibles, and particularly so when the financial sponsor has high credit expertise, as documented in Table 4. Such borrowers might be particularly knowledgeable about frictions in the leveraged loan market, and how to contract to mitigate them. On the other hand, these borrowers have the required sophistication, strong incentives, and the bargaining power to obtain maximal contractual optionality to protect their equity. Under the exploitative view, sophisticated borrowers assess lenders' price elasticity to contractual complexity through bargaining, and embed as many optional clauses as they can without substantially raising the credit spread of the loan.

However, several of our results are difficult to reconcile with the value-enhancing rationale for contractual complexity. Rather, these results are consistent with contractual complexity in the leveraged loan market being driven by value extraction by sophisticated borrowers from less sophisticated or less incentivized lenders.

In Table 5, we showed that contracts tend to be more complex when banks' economic stake in the loan is reduced. Arranging banks are therefore more lenient towards contractual complexity when they have less skin in the game, as the loan ends up mostly with institutional investors such as CLOs. This result is consistent with arranging banks playing a disciplining role, which varies with their economic incentive. In the case of value-enhancing complexity, arranging banks do not have such a disciplining role as they also benefit from complexity.

In addition, the value-enhancing motive is hard to reconcile with the event study evidence, as addressing frictions should typically also have a positive impact on debt, or at least a positive effect on overall firm value. We observe a negative effect of the J.Crew event on loan prices for complex contracts, as per Table 8. The overwhelming debt investor reaction to the J.Crew actions is also at odds with such an interpretation. In Table A3 in the appendix, we regress the aggregate change in firm value associated with the J.Crew episode, calculated as the value-weighted average of the loan-, bond- and stock-price adjustments, on our measures of contractual complexity. We observe mostly insignificant coefficients, which are consistent with the value transfer from creditors to equity-holders dominating any aggregate value effects.

Lastly, the evolution of contract design following J.Crew, namely a reduction in the most complex contracts, is also inconsistent with a value-enhancing view of contractual complexity.

Overall, the economic mechanism we view as most consistent with the empirical evidence relies on three pillars: (i) the complexity and the large scope of contractual terms that go beyond the capacity of an average creditor, (ii) imperfect external mechanisms to correct this limitation, and (iii) an uneven balance in sophistication and incentives among borrowers and creditors. A parallel can be drawn with both complexity and risk building in the mortgage-backed securities markets before the Great Financial Crisis (Ghent et al., 2019). In addition, there could be a reaching-for-yield phenomenon at play: creditors receiving a below-fair premium for a risk they knowingly bear because it helps them cater to the yield appetite of their investors.[38]

# 7 Conclusion

Credit contractual terms have been a point of substantial attention in the past decade. Yet, in spite of growing contractual complexity in the lending space, the understanding of its determinants and implications remains low. In this paper, we take advantage of technological advances in large sample contractual processing, and conduct a comprehensive analysis of 1,240 credit agreements, with an emphasis on the leveraged loan market.

We propose simple measures of contractual complexity based on the intensity of use of carve-outs and deductibles to negative covenants. We show that contractual complexity is more pronounced for large loans and for borrowers with a high share of intangible assets. The

[38] We cannot however assess whether creditors in complex contracts are being compensated fairly for the risk they take, including after the J.Crew episode, as estimating contractual risk ex-ante is particularly challenging.

sophistication of contracting parties also appears to play a role. We observe that borrowers backed by private equity firms, and firms with expertise in debt contracting in particular, tend to have more carve-outs and deductibles. On the other hand, low "skin in the game" for originating banks is also associated with high contractual complexity.

We argue that contractual complexity can carry a double-edged sword nature: in good states, it can improve the overall value of the firms without hurting creditors, but, in the bad states, it can be used by the borrowers to the detriment of the creditors. An event study around the J.Crew restructuring, a prominent use of the flexibility for borrowers that complex contracts offer, provides evidence for potentially consequential value transfer from lenders to borrowers resulting from the overall contractual complexity in the leveraged loan market. Separately, adjusting for the latent leverage that deductibles allow, the potential share of highly leveraged deals is significantly larger than typically observed. We find that these findings are most consistent with an exploitative view of contractual complexity: sophisticated contracting parties promote contractual complexity to increase their informational advantage and create a legal environment prone to loopholes and weakened contractual rights for their counterparts.

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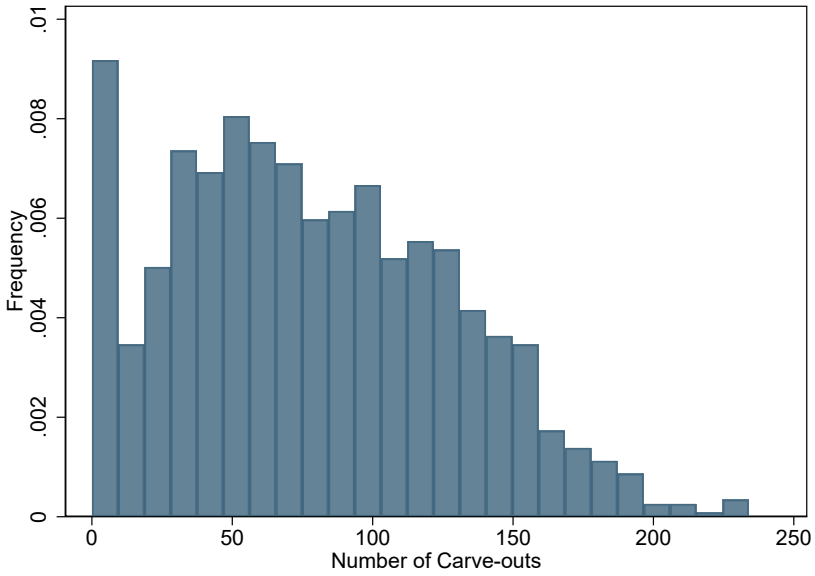
# 8 Figures and Tables

Panel A: Distribution of the Number of Carve-Outs per Credit Agreement




Panel B: Distribution of the Number of Deductibles per Credit Agreement

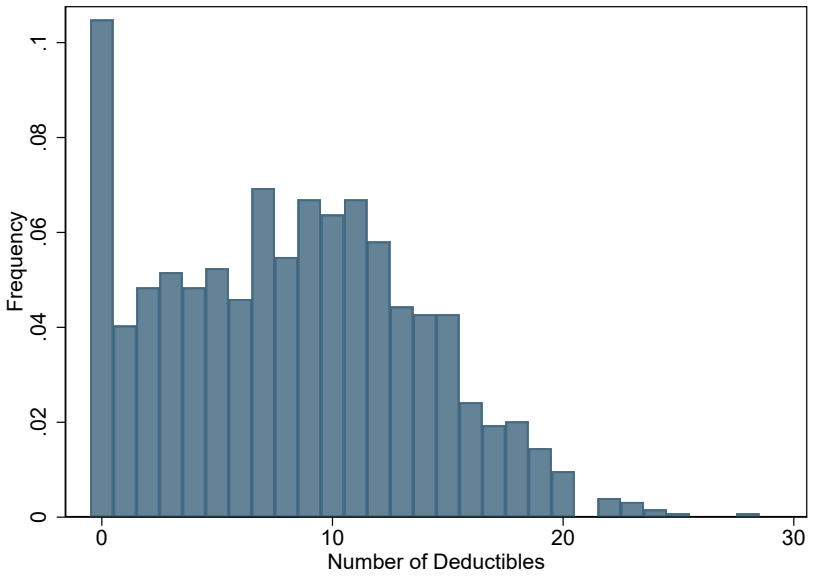
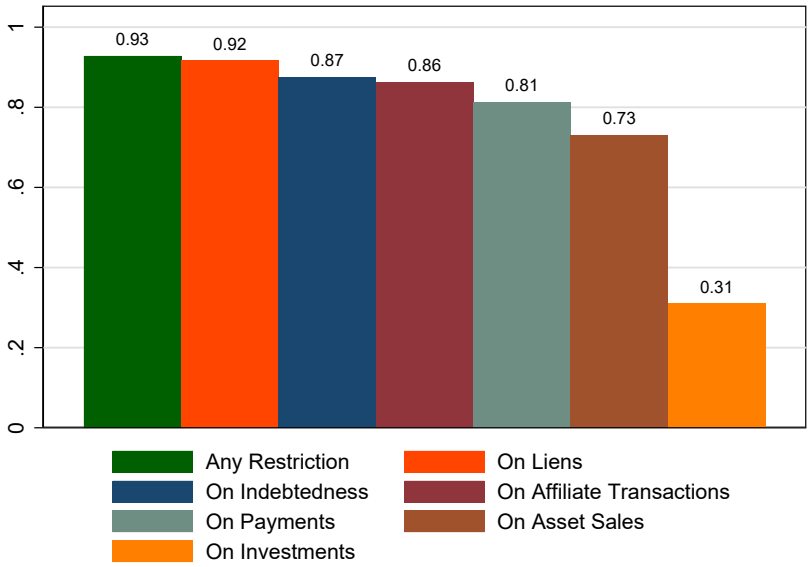



**Figure 1**
Heterogeneity in Contractual Complexity

The higher panel of this figure displays the distribution of the total number of carve-outs in the credit agreements from the StreetDiligence sample. The lower panel displays the distribution of the total number of deductibles.

Panel A: Incidence of Restrictions

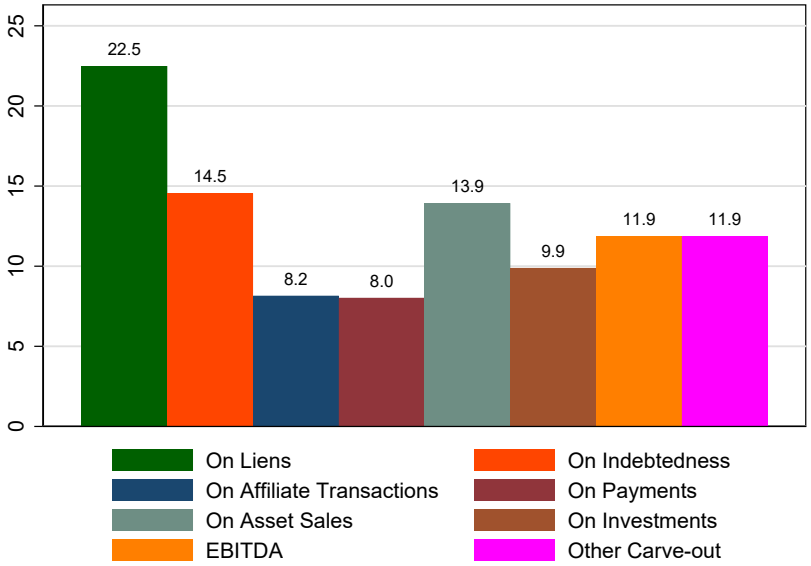



Panel B: Incidence of Deductibles on Restrictions


**Figure 2**
Contractual Complexity and Covenant Structure (1/2)

Note: This figure reports the average incidence of restrictions on the issuer actions (negative covenants), and the average incidence of covenant deductibles ("baskets").

Panel A: Average Number of Carve-Outs by Covenant




Panel B: Size of Deductibles by Covenant

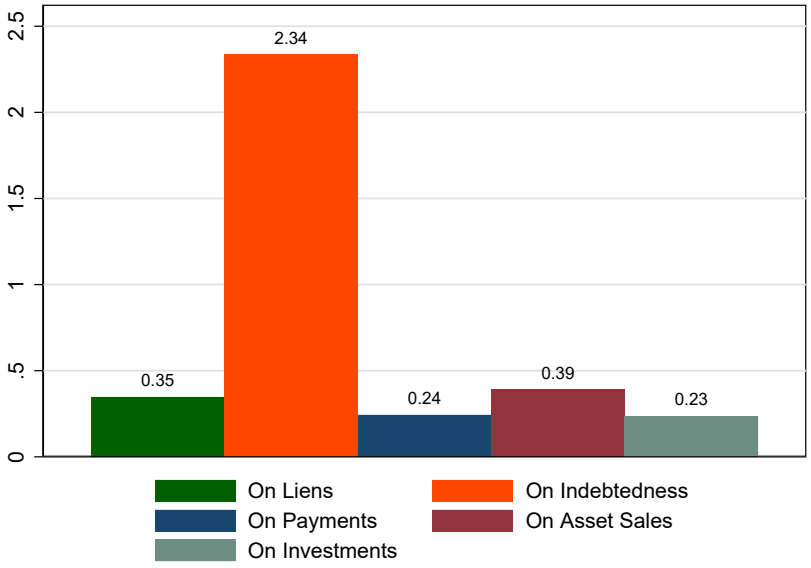



**Figure 3**
Contractual Complexity and Covenant Structure (2/2)

Note: The upper panel for this figure reports the average number of carve-outs per credit agreement, and is broken down by negative covenants. The lower panel of this figure reports the size of the deductibles as a multiple of EBITDA, where EBITDA is measured as of the end of the fiscal year preceding the year of the loan issuance.

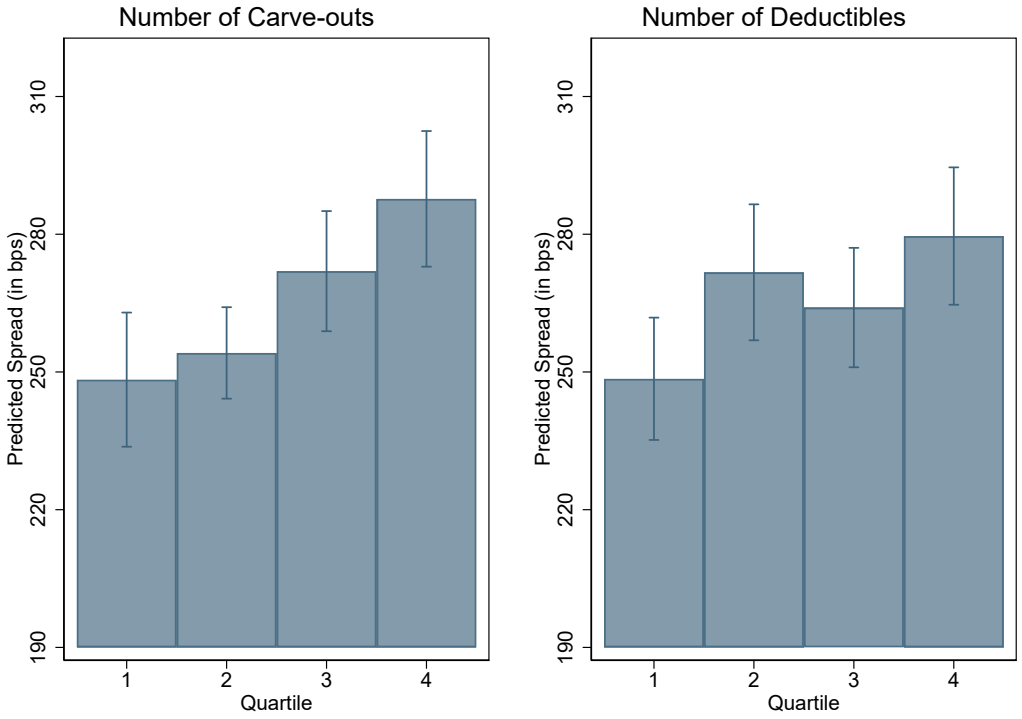



**Figure 4**
Contractual Complexity and Issuance Spreads

Note: This figure displays predicted issuance spreads by quartile of complexity measures. The predicted values are estimated from regressions where the dependent variable is the "all-in-drawn" spread at the loan issuance and the explanatory variables are the complexity measures as well as controls for issuance and issuer characteristics, including the level of leverage, an indicator variable for buyouts, an indicator variable for cov-lite issuance, the number of financial covenants, and maturity, number of negative covenants, industry, and quarter of issuance fixed effects. The spread includes interest rates and all fees and applies to a benchmark rate, typically the LIBOR.

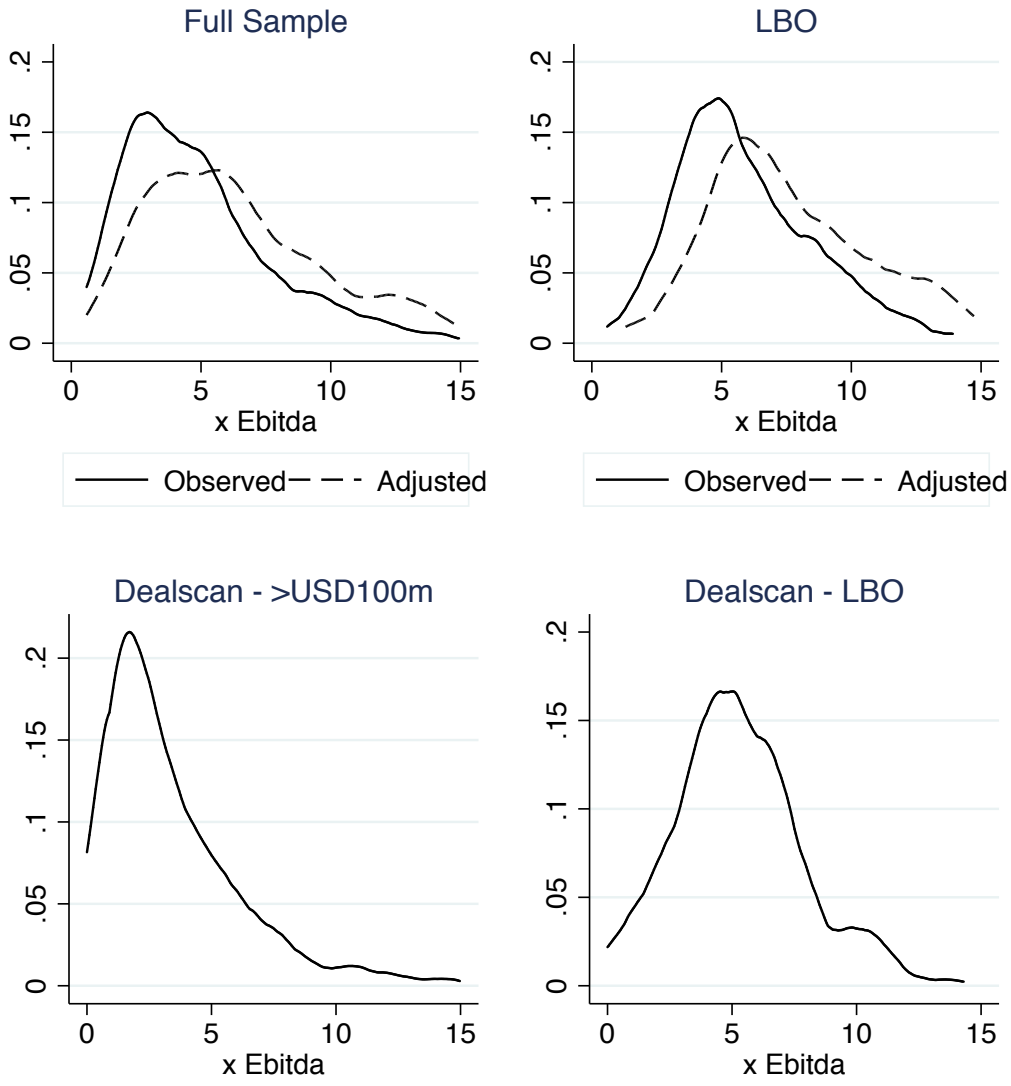



**Figure 5**
Distribution of Leverage with and without Adjusting for Indebtedness Deductibles

Note: This figure plots the distribution of leverage, calculated as Total Debt / EBITDA. The top-left graph displays the distribution of leverage with and without adjusting for the deductible on the indebtedness covenant for the whole StreetDiligence dataset. The top right graph conducts the same exercise while restricting the sample to leverage buyouts. The bottom two graphs plot the unadjusted distribution of leverage for two corresponding benchmark samples from Dealscan: the transactions over USD100m since 2011, and the leveraged buyouts since 2011.

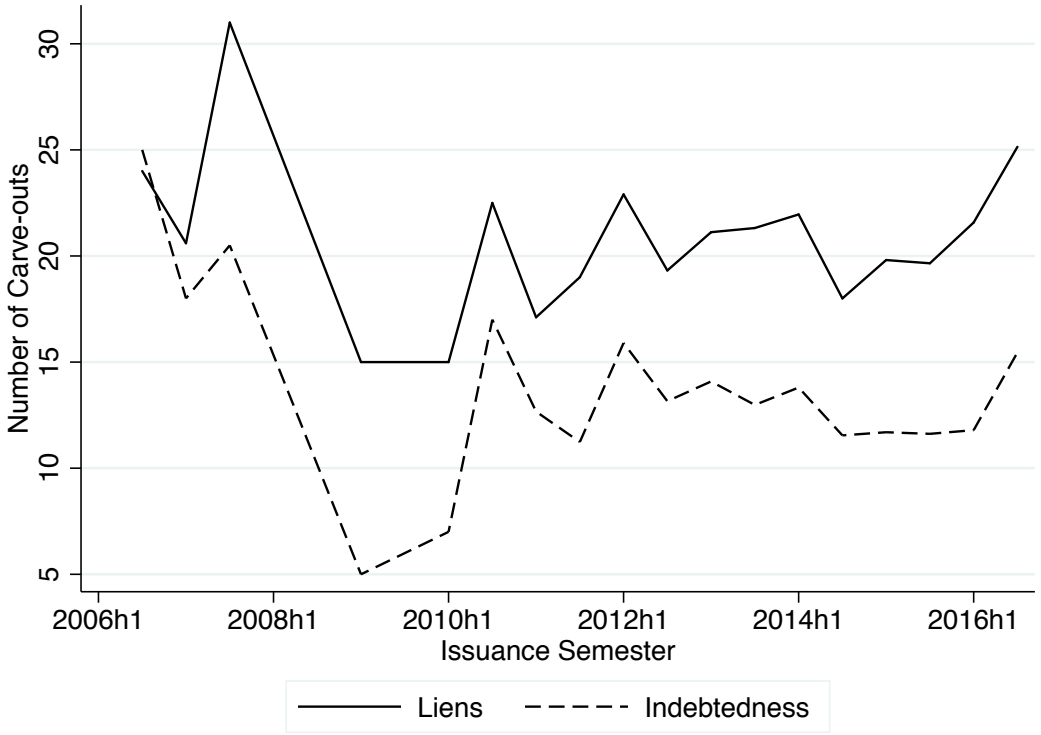



**Figure 6**
Evolution of Number of Carve-Outs on Liens and Indebtedness Restrictions

Note: This figure plots the average number of carve-outs on the Indebtedness and Liens covenants at semi-annual frequency.

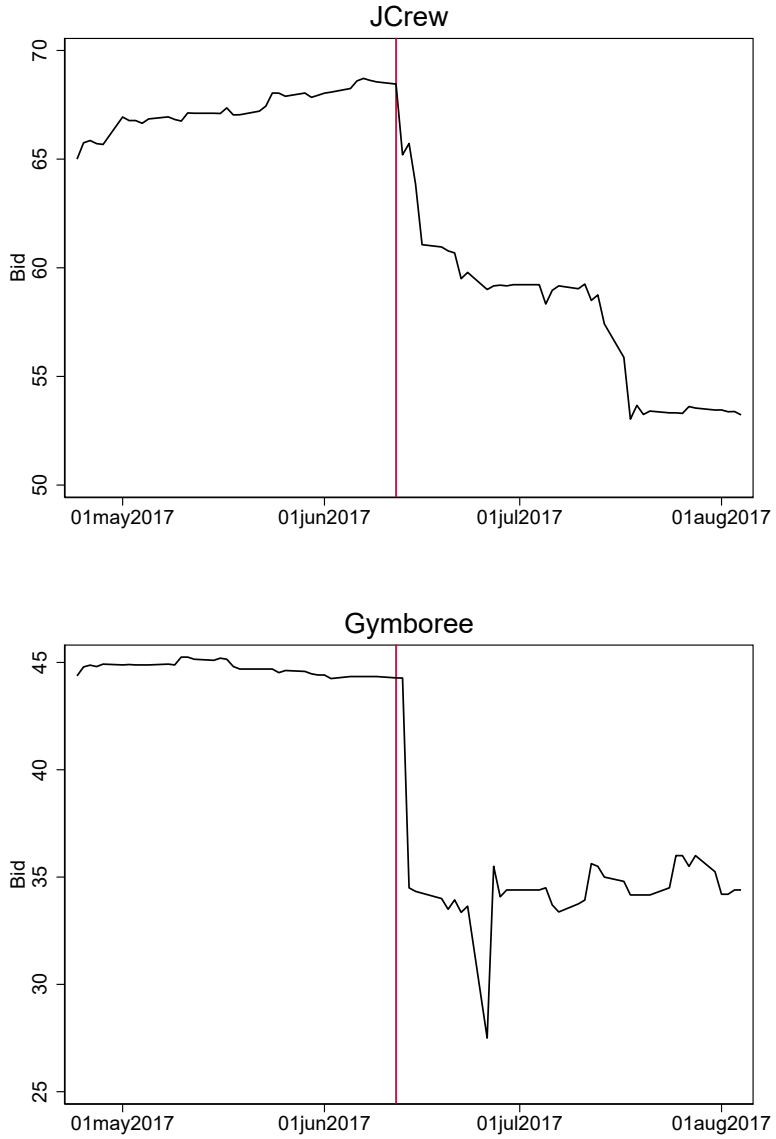



**Figure 7**
Loan Prices Around J.Crew Announcement: J.Crew and Gymboree

This figures plots the senior secured loan daily prices of J.Crew (Panel A) and Gymboree (Panel B) over a -50days/+50days event window around the June 12th, 2017 J.Crew announcement date.

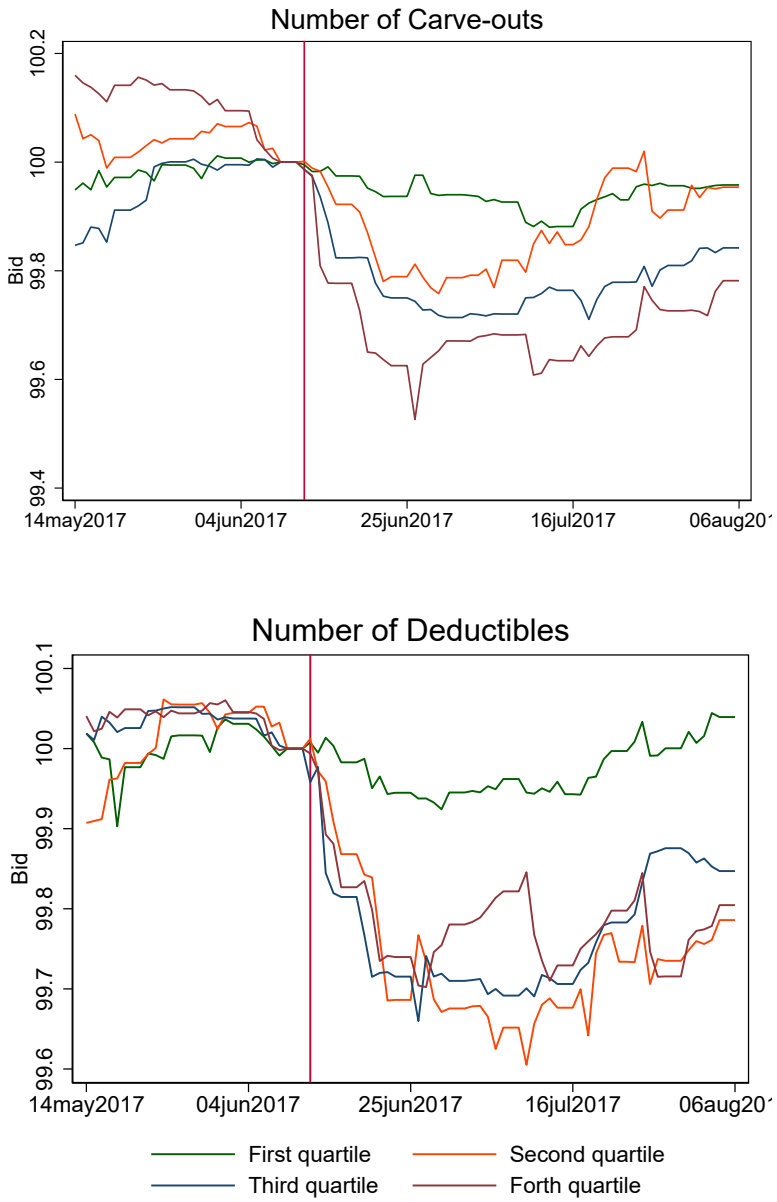
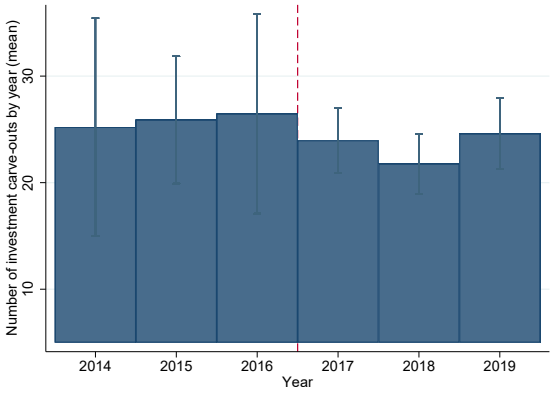
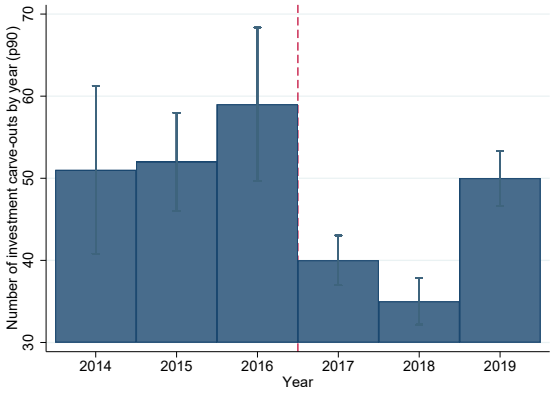



**Figure 8**
Loan Prices Around J.Crew Announcement: Full Sample

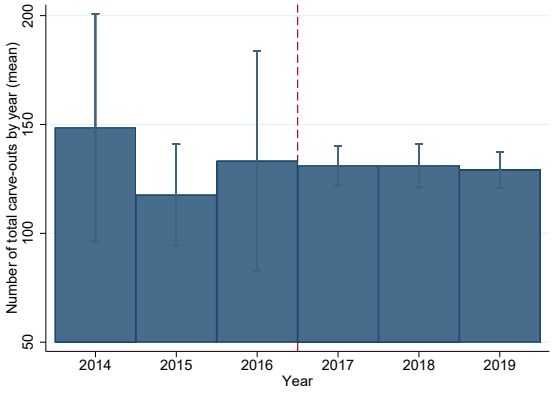
This figure plots the senior secured loan prices of all leveraged loans in the sample over a -30days/+50days event window around the June 12th, 2017 J.Crew announcement date. The top figure (Panel A) presents the price reaction for loans aggregated by quartiles of the number of carve-outs. The bottom figure (Panel B) presents the price reaction for loans aggregated by quartiles of the number of deductibles.



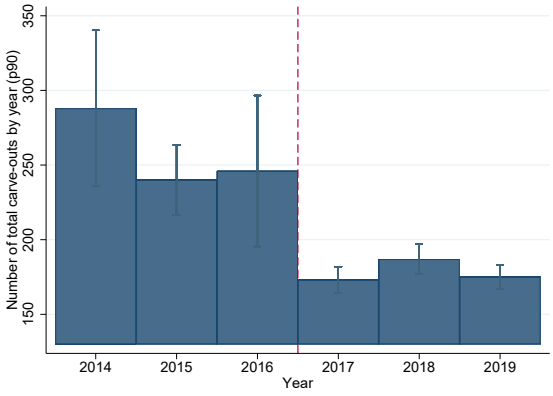

**(a)** Investment carve-outs (mean)




**(b)** Investment carve-outs (p90)




**(c)** Total carve-outs (mean)




**(d)** Total carve-outs (p90)

**Figure 9**
Evolution of the Number of Carve-outs around JCrew Restructuring

These figures plot the mean and the 90th percentile of the number of carve-outs for a sample of credit agreements available on EDGAR covering the period 2014 to 2019. The vertical dashed line positions the J.Crew announcement in 2017.

**Table 1**
Frequency of Carve-out Types by Covenant Category

| Carveouts | Frequency | % of Contracts |
|---|---|---|
| *Category: Asset sales* | | |
| General basket | 185 | 0.964 |
| Intercompany dispositions | 171 | 0.891 |
| Sale-leasebacks | 100 | 0.521 |
| Sales of unrestricted subsidiary equity / debt | 89 | 0.464 |
| Sales of receivables for receivables financings | 79 | 0.411 |
| Sales of acquired non-code assets | 77 | 0.401 |
| De minimis sales | 71 | 0.370 |
| Specified dispositions | 52 | 0.271 |
| Scheduled dispositions | 34 | 0.177 |
| Additional general basket | 24 | 0.125 |
| Asset exchanges | 22 | 0.115 |
| Capped general basket | 16 | 0.083 |
| Reclassification | 12 | 0.063 |
| Sales of non-collateral assets | 11 | 0.057 |
| Asset securitizations and other financing transactions | 8 | 0.042 |
| *Category: Debt* | | |
| General debt basket | 184 | 0.958 |
| Intercompany debt | 180 | 0.938 |
| Purchase money debt / capital lease obligations | 178 | 0.927 |
| Scheduled / existing debt | 173 | 0.901 |
| Acquired debt | 170 | 0.885 |
| Guarantees of permitted debt | 160 | 0.833 |
| Ratio debt carveout | 134 | 0.698 |
| Incremental equivalent debt | 114 | 0.594 |
| Debt reclassification | 105 | 0.547 |
| Acquisition debt | 82 | 0.427 |
| Attributable sale-leaseback debt | 82 | 0.427 |
| Non-loan party debt | 76 | 0.396 |
| Receivables financings / securitizations | 74 | 0.385 |
| Equity credit debt | 63 | 0.328 |
| Other credit facilities | 55 | 0.286 |
| *Category: Investments* | | |
| Intercompany investments | 175 | 0.911 |
| Permitted business acquisitions | 174 | 0.906 |
| Scheduled / existing investments | 173 | 0.901 |
| Separate general basket | 148 | 0.771 |
| General growth / builder basket | 146 | 0.760 |
| Ratio carveout | 122 | 0.635 |
| Permitted guarantees | 107 | 0.557 |
| Investments in joint ventures | 97 | 0.505 |
| Reclassification | 82 | 0.427 |
| Investments in unrestricted subsidiaries | 80 | 0.417 |
| Equity credit investments | 77 | 0.401 |
| Shared general basket | 70 | 0.365 |
| Investments for receivables financings / securitizations | 65 | 0.339 |
| Investments in similar / related businesses | 44 | 0.229 |
| Employee loans / advances | 23 | 0.120 |

| *Category: Liens* | | |
|---|---|---|
| Purchase money liens / liens securing capital leases | 177 | 0.922 |
| Scheduled / existing liens | 175 | 0.911 |
| Acquired liens | 166 | 0.865 |
| General liens basket | 166 | 0.865 |
| Intercompany liens | 110 | 0.573 |
| Liens on non-loan party assets | 108 | 0.563 |
| Liens securing incremental equivalent debt | 108 | 0.563 |
| Liens in connection with sale-leasebacks | 80 | 0.417 |
| Lien reclassification | 76 | 0.396 |
| Receivables financing / securitization liens | 73 | 0.380 |
| Acquisition debt | 55 | 0.286 |
| Liens securing other credit facilities | 50 | 0.260 |
| Liens securing the ratio debt carveout | 48 | 0.250 |
| Liens on foreign subsidiary assets | 40 | 0.208 |
| Liens on unrestricted subsidiary equity | 36 | 0.188 |
| *Category: Restricted Payments* | | |
| General growth / builder basket | 145 | 0.755 |
| Ratio carveout | 129 | 0.672 |
| Repurchase of employee / director stock | 110 | 0.573 |
| Shared general basket | 84 | 0.438 |
| Equity credit restricted payments | 74 | 0.385 |
| Reclassification | 69 | 0.359 |
| Dividends on disqualified or preferred stock | 56 | 0.292 |
| Separate general basket | 51 | 0.266 |
| Distributions of unrestricted subsidiary stock or debt | 41 | 0.214 |
| Post-public offering dividends | 30 | 0.156 |
| Annual dividends basket | 26 | 0.135 |
| Scheduled restricted payments | 8 | 0.042 |
| Dividends of % of public offering proceeds | 7 | 0.036 |
| General basket | 7 | 0.036 |
| Quarterly dividends basket | 6 | 0.031 |

Note: This table lists the 15 most frequent carve-outs by covenant category, and displays their frequency. The sample covers 193 credit agreements with at least one carve-out, spanning the period 2016 to 2020. The carve-outs are identified by scraping Covenant Review reports summarizing the credit agreements, which do not correspond to the sample of the StreetDiligence dataset.

**Table 2**
Summary Statistics

| Year | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | Total |
|---|---|---|---|---|---|---|---|
| | Our sample (Source: StreetDiligence) | | | | | | |
| Number of Credit Agreements/Loans | 53 | 74 | 222 | 353 | 350 | 188 | 1,240 |
| Number of Facilities | 71 | 117 | 336 | 534 | 514 | 285 | 1,857 |
| Share Leveraged Deal | 84.3% | 80.8% | 87.0% | 73.6% | 73.1% | 77.3% | 77.3% |
| Share LBO Deal | 37.7% | 37.8% | 37.8% | 37.8% | 16.0% | 19.7% | 22.3% |
| Average Loan Size ($m) | 1,675 | 800 | 1,203 | 1,122 | 990 | 1,224 | 1,119 |
| Average Maturity (years) | 7.2 | 6.4 | 5.9 | 5.6 | 5.2 | 5.0 | 5.6 |
| Average Issuer Assets | 4,815 | 6,441 | 6,970 | 7,861 | 7,341 | 9,953 | 7,704 |
| Average Issuer EBITDA | 571 | 830 | 658 | 820 | 726 | 758 | 747 |
| Average Leverage (x EBITDA) | 5.2 | 4.8 | 7.1 | 5.9 | 6.6 | 5.3 | 6.2 |
| | Benchmark (Source: DealScan) | | | | | | |
| *All syndicated loans >$100m* | | | | | | | |
| Average Loan Size ($m) | 909 | 867 | 1,090 | 1,132 | 1,241 | 1,346 | 1,080 |
| Average Maturity (years) | 4.7 | 4.6 | 4.7 | 4.7 | 4.6 | 4.7 | 4.7 |
| Average Issuer Assets | 10,838 | 12,168 | 11,605 | 12,496 | 13,842 | 15,260 | 12,509 |
| Average Issuer EBITDA | 1,191 | 1,416 | 1,424 | 1,543 | 1,691 | 1,866 | 1,491 |
| Average Leverage (x EBITDA) | 3.5 | 3.9 | 4.2 | 4.0 | 4.2 | 3.8 | 3.9 |
| *Leveraged loans* | | | | | | | |
| Average Loan Size ($m) | 646 | 679 | 836 | 789 | 899 | 956 | 798 |
| Average Maturity (years) | 5.1 | 4.9 | 5.0 | 5.3 | 5.1 | 5.2 | 5.1 |
| Average Issuer Assets | 2,918 | 3,916 | 4,362 | 4,128 | 4,057 | 4,789 | 4,032 |
| Average Issuer EBITDA | 357 | 528 | 497 | 498 | 459 | 552 | 480 |
| Average Leverage (x EBITDA) | 4.9 | 5.3 | 5.0 | 5.0 | 5.5 | 4.4 | 5.0 |

Note: The table presents summary statistics for our sample and benchmarks it against: (i) a subset of loans reported in DeaScan that are larger than $100 million; (ii) a subset of loans identified in DealScan as leveraged. All accounting variables are from Compustat. Assets and EBITDA are measured as of the fiscal year end preceding the year of the loan issuance. Total debt is measured as of the fiscal year-end.

**Table 3**
Determinants of Contractual Complexity: Assets and Deal Characteristics

| *All Covenants* | Number of Carve-outs | | | Number of Deductibles | | |
|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) |
| Loan Amount (log) | 8.575*** | 8.164*** | 7.367*** | 0.623*** | 0.513*** | 0.476*** |
| | (7.28) | (7.71) | (6.68) | (5.04) | (4.16) | (4.13) |
| Intangible Assets \Total Assets | | | 39.717*** | | | 2.904*** |
| | | | (5.53) | | | (3.68) |
| Leveraged | 15.008*** | 11.776*** | 9.138** | 2.065*** | 1.602*** | 1.386*** |
| | (3.76) | (3.88) | (3.09) | (7.15) | (6.59) | (5.23) |
| Highly Leveraged | 15.016*** | 12.959*** | 12.482*** | 1.361*** | 1.296*** | 1.336*** |
| | (6.28) | (4.25) | (5.02) | (4.72) | (3.61) | (4.28) |
| # Neg. Covenants FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Industry FE | No | Yes | Yes | No | Yes | Yes |
| Quarter FE | No | Yes | Yes | No | Yes | Yes |
| Observations | 1213 | 1206 | 1074 | 1213 | 1206 | 1074 |
| $R^2$ | 0.483 | 0.580 | 0.603 | 0.454 | 0.554 | 0.560 |

Note: This table presents OLS regression coefficients, where the dependent variable is the total number of carve-outs (columns 1 to 3) and the total number of deductibles (columns 4 to 6). The loan amount and indicator variables for leveraged and highly leveraged deals are from Dealscan. The ratio of intangible assets over total assets is from Compustat, as per the previous exercise. Industry fixed effects are per the global industry classification standard (GICS). ***, ** and * indicate statistical significance at the 1%, 5% and 10% level, respectively. Standard errors are clustered at the issuance month level.

**Table 4**
Determinants of Contractual Complexity: Buyouts

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
|---|---|---|---|---|---|---|---|---|---|---|
| *All Covenants* | Number of Carve-outs | | | | | Number of Deductibles | | | | |
| Buyout | 31.763*** | 30.197*** | 30.685*** | 24.251*** | 20.742*** | 1.961*** | 1.700*** | 1.589*** | 1.067* | 0.884* |
| | (9.51) | (8.31) | (7.80) | (4.80) | (5.13) | (6.08) | (5.90) | (5.03) | (2.05) | (1.85) |
| Leveraged | 10.273** | 6.436** | 7.338** | 8.040** | 7.898** | 1.760*** | 1.293*** | 1.355*** | 1.360*** | 1.351*** |
| | (3.00) | (2.49) | (2.32) | (2.44) | (2.46) | (6.87) | (6.27) | (6.17) | (5.57) | (5.45) |
| Highly Leveraged | 9.248*** | 8.261*** | 7.378** | 7.392** | 7.181** | 1.000*** | 1.088*** | 0.998** | 1.127*** | 1.116** |
| | (3.65) | (3.16) | (2.63) | (2.51) | (2.31) | (3.11) | (3.36) | (2.69) | (3.19) | (3.07) |
| Log (Assets) | | | | 4.390*** | 4.171*** | | | | 0.378*** | 0.367*** |
| | | | | (4.81) | (4.57) | | | | (3.50) | (3.33) |
| Credit Expertise | | | | 10.419** | | | | | 0.683 | |
| | | | | (2.27) | | | | | (1.33) | |
| Bankruptcy Experience | | | | | 19.488*** | | | | | 1.166 |
| | | | | | (3.42) | | | | | (1.69) |
| # Neg. Covenants FE | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Industry FE | No | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Quarter FE | No | No | Yes | Yes | Yes | Yes | No | Yes | Yes | Yes |
| Observations | 1,213 | 1,210 | 1,206 | 1,089 | 1,089 | 1,213 | 1,210 | 1,206 | 1,089 | 1,089 |
| $R^2$ | 0.513 | 0.590 | 0.604 | 0.615 | 0.619 | 0.460 | 0.547 | 0.557 | 0.560 | 0.561 |

Note: This table presents OLS regression coefficients, where the dependent variable is the number of carve-outs (column 1 to 5) and the total number of deductibles (columns 6 to 10). The proxies for credit expertise and bankruptcy experience are described in section 5.1. The industry is defined as a 2-digit SIC code. t-statistics are reported in parenthesis. ***, ** and * indicate statistical significance at the 1%, 5% and 10% level, respectively. Standard errors are clustered at the issuance month level.

**Table 5**
Determinants of Contractual Complexity: Bank Skin in the Game

| *All Covenants* | Number of Carve-outs | | | | Number of Deductibles | | | |
|---|---|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| Institutional | 19.525*** | | | | 1.470*** | | | |
| | (9.34) | | | | (9.56) | | | |
| Instit. Share | | 21.126*** | | | | 2.097*** | | |
| | | (5.11) | | | | (8.58) | | |
| Instit. Share (TL) | | | 19.611*** | | | | 1.756*** | |
| | | | (6.64) | | | | (9.90) | |
| Lead Share | | | | -6.556** | | | | -1.644** |
| | | | | (-2.40) | | | | (-3.09) |
| Log (# of Lenders) | 3.190** | 4.441** | 4.040** | 3.617** | 0.379** | 0.532** | 0.484** | 0.500** |
| | (3.02) | (3.07) | (2.87) | (2.45) | (2.22) | (3.00) | (2.69) | (2.57) |
| Buyout | 27.013*** | 26.399*** | 26.611*** | 29.011*** | 1.242*** | 1.073** | 1.120** | 1.299*** |
| | (6.54) | (6.30) | (6.13) | (6.94) | (3.26) | (2.92) | (2.99) | (3.37) |
| Leveraged | 5.600 | 8.416** | 7.875** | 9.654** | 1.177*** | 1.423*** | 1.390*** | 1.491*** |
| | (1.56) | (2.41) | (2.22) | (2.86) | (4.85) | (5.37) | (5.14) | (4.88) |
| Highly Leveraged | 0.682 | 0.237 | 0.645 | 8.600** | 0.694 | 0.497 | 0.618* | 1.269*** |
| | (0.24) | (0.08) | (0.20) | (2.23) | (1.74) | (1.50) | (1.84) | (3.56) |
| Log (Assets) | 3.107*** | 2.738* | 2.837** | 3.752** | 0.256** | 0.156 | 0.176 | 0.240** |
| | (3.27) | (2.12) | (2.23) | (2.81) | (2.33) | (1.55) | (1.68) | (2.29) |
| # Neg. Covenants FE | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Industry FE | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Quarter FE | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Observations | 1,087 | 972 | 972 | 972 | 1,087 | 972 | 972 | 972 |
| $R^2$ | 0.637 | 0.645 | 0.647 | 0.630 | 0.574 | 0.591 | 0.590 | 0.583 |

Note: This table presents OLS regression coefficients, where the dependent variable is the total number of carve-outs (columns 1 to 5) and the total number of deductibles (column 6 to 10). *Instit. Indicator* is equal to 1 if the loan has significant institutional participation and 0 otherwise. This variable comes from Dealscan. *Instit. Share* is the institutional share directly counting term loan facilities B and above (that is, TLc, TLd, etc.) as institutional money and measuring its proportion to the total loan amount, while *Instit. Share (TL)* does so regarding the total term loan amount. t-statistics are reported in parenthesis. *Lead Share* is the lead bank(s)' share of the total loan amount as reported in DealScan. ***, ** and * indicate statistical significance at the 1%, 5% and 10% level, respectively. Standard errors are clustered at the issuance month level.

**Table 6**
Contractual Complexity and Existing Covenant Weakness Measures

| | (1) | (2) | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|---|
| *All Covenants* | Number of Carve-outs | | | Number of Deductibles | | |
| Cov-lite (dummy) | 31.529*** | | | 2.517*** | | |
| | (9.73) | | | (13.95) | | |
| Number of financial covenants | -3.673*** | | | -0.158 | | |
| | (-4.85) | | | (-1.71) | | |
| Slack Debt/EBITDA | | 0.795** | | | 0.141*** | |
| | | (2.31) | | | (3.75) | |
| Normalized Slack Debt/EBITDA | | | 0.030 | | | 0.004 |
| | | | (1.04) | | | (1.55) |
| # Neg. Covenants FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Observations | 1240.000 | 377.000 | 369.000 | 1240.000 | 377.000 | 369.000 |
| $R^2$ | 0.503 | 0.358 | 0.345 | 0.445 | 0.353 | 0.339 |

Note: This table presents OLS regression coefficients, where the dependent variable is the number of carve-outs (column 1 to 3) and the total number of deductibles (column 4 to 6). Explanatory variables are as follows: Cov-lite is a dummy variable equal to 1 is the loan has only incurrence (vs. maintenance) financial tests. The data on covenant lightness is from S&P LCD. The number of financial covenants is from Dealscan. Slack corresponds to the distance from the actual covenant variable (as observed in Compustat) to the trigger level. Normalized scale corresponds to the slack divided by the standard deviation of the covenant variable over the last 12 quarters. t-statistics are reported in parenthesis. ***, ** and * indicate statistical significance at the 1%, 5% and 10% level, respectively. Standard errors are clustered at the issuance month level.

**Table 7**
Additional Leverage Room

| | Multiple of EBITDA | | | |
|---|---|---|---|---|
| | >4x | >5x | >6x | >7x |
| Leverage at loan issuance: | | | | |
| Debt/EBITDA | 67% | 56% | 47% | 41% |
| Net Debt/EBITDA | 62% | 51% | 43% | 39% |
| Max Potential Debt/EBITDA | 80% | 72% | 63% | 55% |
| Transition probabilities: | | | | |
| <4.00x | 39% | 25% | 14% | 9% |
| 4.00x-4.99x | 100% | 71% | 47% | 24% |
| 5.00x-5.99x | – | 100% | 76% | 44% |
| 6.00x-6.99x | – | – | 100% | 73% |

Note: Data on average Debt/EBITDA in S&P is disaggregated by (i) year, (ii) size (above and below $50 million in EBITDA), and (iii) whether the transaction is an LBO. The numbers reported here are weighted by the number of observations in each category in our sample.

**Table 8**
Event Study: Loan Reaction to J.Crew Announcement

| | Change in Loan Price (in p.p. of loan face value) over -15/+15 days | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
| 𝟙(Investments deductible) | -0.491* | -0.425* | | -0.411 | | | | -0.376 | | |
| | (-2.18) | (-2.03) | | (-1.75) | | | | (-1.75) | | |
| 𝟙(Restricted Payments deductible) | | -0.297** | | | | | | | | |
| | | (-2.64) | | | | | | | | |
| 𝟙(Indebtedness deductible) | | -0.246* | | | | | | | | |
| | | (-1.82) | | | | | | | | |
| 𝟙(Asset Sale deductible) | | -0.071 | | | | | | | | |
| | | (-0.59) | | | | | | | | |
| 𝟙(Liens deductible) | | 0.106 | | | | | | | | |
| | | (0.41) | | | | | | | | |
| 𝟙(Affiliated Transactions deductible) | | 0.146 | | | | | | | | |
| | | (0.80) | | | | | | | | |
| Number of Carve-outs | | | -0.003** | -0.002* | -0.001* | -0.001 | | | | |
| | | | (-2.84) | (-2.00) | (-2.19) | (-0.72) | | | | |
| Number of Deductibles | | | | | | | -0.038** | -0.020** | -0.033* | 0.000 |
| | | | | | | | (-2.59) | (-2.24) | (-1.86) | (0.04) |
| Remaining Maturity (in years) | | | | | 0.028 | | | | 0.049 | |
| | | | | | (0.63) | | | | (1.07) | |
| Number Financial Covenants | | | | | 0.106** | | | | 0.128 | |
| | | | | | (2.23) | | | | (1.57) | |
| Cov-lite Deal | | | | | -0.244* | | | | -0.269 | |
| | | | | | (-2.03) | | | | (-1.60) | |
| Operating Distress Proxy | | | | | | 0.152** | | | | 0.265** |
| | | | | | | (3.03) | | | | (2.61) |
| Operating Distress Proxy × Number of Carve-outs | | | | | | -0.001* | | | | |
| | | | | | | (-2.08) | | | | |
| Operating Distress Proxy × Number of Deductibles | | | | | | | | | | -0.024** |
| | | | | | | | | | | (-2.92) |
| Leveraged | | | | | -0.045 | | | | 0.005 | |
| | | | | | (-0.60) | | | | (0.08) | |
| Sector FE | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Cluster | Sector | Sector | Sector | Sector | Sector | Sector | Sector | Sector | Sector | Sector |
| Observations | 402 | 402 | 402 | 402 | 401 | 351 | 402 | 402 | 401 | 351 |
| $R^2$ | 0.089 | 0.114 | 0.081 | 0.095 | 0.105 | 0.084 | 0.070 | 0.096 | 0.090 | 0.096 |

Note: This table presents OLS regression coefficients, where the dependent variable is the change in loan price in percentage points of the loan face value, over a -15days/+15days window around the June 12th amendment proposal by J.Crew. The main explanatory variables are the number of carve-outs and the number of deductibles. The operational distress proxy is calculated as quartiles of (decreasing) returns over assets from the previous exercise. T-statistics are reported in parenthesis. ***, ** and * indicate statistical significance at the 1%, 5% and 10% level, respectively.

**Table 9**
Event Study: Stock Reaction to J.Crew Announcement

| | Cumulative Abnormal Return (in %) -15/+15 days | | | | | | |
|---|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
| 𝟙(Investments deductible) | 1.854 | | 0.791 | | | 1.245 | |
| | (0.53) | | (0.21) | | | (0.34) | |
| Number of Carve-outs | | 0.029* | 0.027 | 0.029* | | | |
| | | (2.17) | (1.80) | (1.87) | | | |
| Number of Deductibles | | | | | 0.161 | 0.139 | 0.157 |
| | | | | | (1.46) | (1.16) | (1.30) |
| Remaining Maturity (in days) | | | | 0.000 | | | 0.000 |
| | | | | (0.02) | | | (0.21) |
| Number Financial Covenants | | | | -0.288 | | | -0.426 |
| | | | | (-0.42) | | | (-0.65) |
| Cov-lite Deal | | | | -0.590 | | | -0.288 |
| | | | | (-0.48) | | | (-0.23) |
| Leveraged | | | | 0.017 | | | 0.226 |
| | | | | (0.02) | | | (0.26) |
| Sector FE | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Cluster | Sector | Sector | Sector | Sector | Sector | Sector | Sector |
| Observations | 224 | 224 | 224 | 224 | 224 | 224 | 224 |
| $R^2$ | 0.353 | 0.362 | 0.362 | 0.363 | 0.355 | 0.356 | 0.356 |

Note: This table presents OLS regression coefficients, where the dependent variable is the stock cumulative abnormal returns, in %, over a -15days/+15days window around the June 12th announcement by J.Crew. The abnormal returns are calculated against the S&P500 index. Explanatory variables are as per the previous table. t-statistics are reported in parenthesis. ***, ** and * indicate statistical significance at the 1%, 5% and 10% level, respectively.

# APPENDIX

**Table A1**
LSTA Credit Agreements

| | LSTA Credit Agreements | | StreetDiligence | | Other Data |
|---|---|---|---|---|---|
| | Section | Basic Descripiton | Coverage | Category | |
| 7.1 | Some General Principles | Introduction | N/A | | |
| 7.2 | Scope of Covenant Coverage | Definitions of relevant of contract reach within organizational structure | N/A | | |
| 7.3 | Covenant Definitions | Key financial definitions including EBITDA, and Debt | Yes | Baskets and carve-outs to financial items typically appear in definitions (e.g., EBITDA add-backs); the data combines relevant information in the definitions and in the covenant sections of the agreement | |
| 7.4 | Financial Covenants | | Yes | Any additional carve-outs that appear in the covenant section are consolidated with those that appear in covenants definitions | DealScan |
| 7.5 | Affirmative Covenants | Includes disclosure, inspection rights, insurance (including interest rate protection), use of proceeds | Yes | For the most part, these items appearing in this section do not interact with baskets and carve-outs; however, to the degree that use of proceeds carries a basket of carve-out it is counted in the respective category (e.g., restrictions on CAPEX) | |
| 7.6 | Negative Covenants | | | | |
| 7.6.1 | Lien Covenant | Protects collateral by restricting borrower from granting liens on its assets | Yes | Restrictions on liens | |
| 7.6.2 | Equal and Ratable Sharing Clause | | N/A | Not typical for a credit agreement; used in bond indentures and private placements | |
| 7.6.3 | Negative Pledge or Burdensome Agreements | Amplifies the effect of lien covenants, by prohibits lien restrictions with third party | Yes | No negative pledges | |
| 7.6.4 | Debt | Restrict incurrence of debt | Yes | Restrictions on indebtedness | |
| 7.6.5 | Disqualified Stock | Limits issuance of stock with debt-like provisions | Yes | Restrictions on indebtedness | |

Table A1 (continued)

LSTA Credit Agreements

| | LSTA Credit Agreements | | StreetDiligence | | Other Data |
|---|---|---|---|---|---|
| | Section | Basic Descripiton | Coverage | Category | |
| 7.6.6 | Fundamental Changes, Asset Sales, and Acquisitions | | Yes | Restrictions on indebtedness | |
| 7.6.7 | Sale-Leasebacks | Limits transactions where the borrower sells an asset and then immediately leases it back | Yes | Restrictions on asset sales | |
| 7.6.8 | Investments | | Yes | Permitted investments | |
| 7.6.9 | Lines of Business | | Yes | Permitted investments | |
| 7.6.10 | Derivatives | Specific to business with hedging practices (e.g., commodities related); limits hedging activity | | | |
| 7.6.11 | Guarantees or Contingent Liabilities | Controls indirect indebtedness | Yes | Restrictions on indebtedness | |
| 7.6.12 | Dividends and Equity Repurchases | | Yes | Restricted payments | |
| 7.6.13 | Tax-sharing Payments and Permitted Tax Distributions | | Yes | Affiliate transactions | |
| 7.6.14 | Restrictions on Subsidiary Distributions | | Yes | Affiliate transactions | |
| 7.6.15 | Modification and Prepayment of Other Debt | Controls indirect indebtedness | Yes | Restricted payments | |
| 7.6.16 | Affiliate Transactions | | Yes | Affiliate Transactions | |
| 7.6.17 | Amendments to Organic Documents and Other Agreements | Restricts borrower's ability to modify charter, bylaws, or other essential documents | No | Standard and autonomous part of the contract | |
| 7.6.18 | Fiscal Periods and Accounting Changes | | No | Standard and autonomous part of the contract | |
| 7.6.19 | Passive Holding Company | | No | Standard and autonomous part of the contract | |
| 7.7 | Incorporation by preference | | No | Standard and autonomous part of the contract | |
| 7.8 | Covenant Lite | | | | LCD |

Note: The table presents the full content of "Chapter 7: Covenants" in the LSTA's Complete Credit Agreement (2017) and illustrates how it maps into the data sources used in our study.

**Table A2**
Elements of Debt Contracting

| **This paper** | Demiroglu and James (2010)<br>Bradley and Roberts (2015) | Billett, King, and Mauer (2007) |
|---|---|---|
| Loans, senior secured | Loans | Bonds |
| **Restrictions on liens**<br>• Deductibles<br>• Carve-outs | - Debt issuance sweep | |
| **Restrictions on indebtedness**<br>• Deductibles<br>• Carve-outs | | Restrictions on:<br>- Funded debt<br>- Subordinated debt<br>- Senior debt<br>- Secured debt<br>- Total leverage test |
| **Restrictions on affiliate transactions**<br>• Deductibles<br>• Carve-outs | | |
| **Restrictions on payments**<br>• Deductibles<br>• Carve-outs | Restrictions on:<br>- Dividends | Restrictions on:<br>- Dividends<br>- Share repurchases |
| **Restrictions on asset sales**<br>• Deductibles<br>• Carve-outs | Restrictions on:<br>- Asset sales sweep | Restrictions on:<br>- Sale and leaseback<br>- Asset sale clause |
| **Restrictions on capital expenditures**<br>• Deductibles<br>• Carve-outs | Restrictions on: | Restrictions on:<br>- Investment policy restriction |
| (standard) | - Secured | |
| | - Other financial covenants | - Financial covenants: Net worth and rating |
| | - Equity issuance sweep | - Restrictions on stock issue |
| (standard) | (standard) | - Poison put/Change of control<br>- Merger restrictions |
| (standard) | (standard) | - Cross-default provisions |

**Table A3**
Event Study: Firm Value Reaction to J.Crew Announcement

| | Cumulative Abnormal Return, -15/+15 days | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
| 𝟙(Investments deductible) | 0.512 | | -0.042 | | | | 0.150 | | |
| | (0.48) | | (-0.04) | | | | (0.13) | | |
| Number of Carve-outs | | 0.012 | 0.012 | 0.013* | 0.014 | | | | |
| | | (1.59) | (1.55) | (1.87) | (1.76) | | | | |
| Remaining Maturity (in years) | | | | 0.146 | 0.175 | | | 0.252 | 0.271 |
| | | | | (0.61) | (0.71) | | | (0.83) | (0.85) |
| Leveraged | | | | -0.592 | -0.408 | | | -0.402 | -0.241 |
| | | | | (-1.00) | (-0.70) | | | (-0.62) | (-0.37) |
| Number of Deductibles | | | | | | 0.074 | 0.071 | 0.081 | 0.081 |
| | | | | | | (1.53) | (1.25) | (1.78) | (1.56) |
| Number of Financial Covenants | | | | | -0.038 | | | | -0.095 |
| | | | | | (-0.09) | | | | (-0.23) |
| Cov-lite Deal | | | | | -0.689 | | | | -0.529 |
| | | | | | (-1.39) | | | | (-0.92) |
| Sector FE | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Cluster | Sector | Sector | Sector | Sector | Sector | Sector | Sector | Sector | Sector |
| Observations | 197 | 197 | 197 | 197 | 197 | 197 | 197 | 197 | 197 |
| $R^2$ | 0.320 | 0.334 | 0.334 | 0.337 | 0.341 | 0.325 | 0.325 | 0.329 | 0.332 |

Note: This table presents OLS regression coefficients, where the dependent variable is the change in firm value (i.e. the sum of stock price change, bond price change, and loan price change weighted by capital structure) over a -15days/+15days window around the June 12th amendment proposal by J.Crew. The main explanatory variables are the number of carve-outs and the number of deductibles. T-statistics are reported in parenthesis. ***, ** and * indicate statistical significance at the 1%, 5% and 10% level, respectively.