Weak Credit Covenants

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Abstract

Using novel data on 1,240 credit agreements, we investigate sources of contractual complexity in the leveraged loan market. While negative covenants are widespread, carve-out and deductible clauses that qualify them are as frequent. We propose simple and comprehensive measures of contractual weakness based on the usage of such clauses. The economic significance of the actions allowed by these clauses, and the market-wide price reaction that followed the 2017 J.Crew restructuring, a high-profile use of such contractual elements, support this interpretation. Leveraged buyouts, large transactions, and non-bank funding are conducive to weaker contractual terms for credit agreements.

Keywords: Leveraged Loans; Loan contracts; Covenants; Carve-out; Basket; Creditor Governance; LBO

JEL: G14, G23, G32

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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 the 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. While the core economic principles behind the contracting framework have been well understood for nearly forty years, empirical work on this topic has been limited due to the qualitative and complex nature of the contractual language used in the debt space. Despite public alarms over the lack of understanding of deterioration in creditor protection in recent years, especially in the $1.3 trillion US leveraged loan market, the academic literature and policy still fall short of articulating what constitutes weak contracts.[2] In parallel, a growing number of so-called "liability management transactions" (thereafter LMT) have allowed highly leveraged borrowers to issue new debt with a senior secured claim over some or all of their assets. Figure 1 illustrates how such a claim dilution, which negative covenants are designed to prevent from happening to existing lenders, has affected over $60bn of debt in the recent years in the US.

INSERT FIGURE 1 HERE

In this paper, we exploit novel data on contractual provisions for 1,240 leveraged loan credit agreements to develop simple but broad measures of contractual weakening. We analyze the full scope of negative covenants – a list of restrictions (hence, "negative") on borrower's actions – included in a typical credit agreement and give particular attention to the use of carve-outs and deductibles (or "baskets," in the industry jargon), fine-print type of clauses that alter

[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 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.

the headline restrictions from negative covenants. Carve-outs and deductibles are somewhat overlapping conceptually and ultimately both give the borrower an option to exert an action, which may become highly valuable in specific contexts such as distress. As a simple example, a senior secured creditor might want to control any additional debt issuance and its type. For instance, an issuance of 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 on 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 a certain amount, 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. To measure the extent of covenant weakening happening in a credit agreement, we identify and count the number of such clauses applied to the core categories of covenants: (i) restrictions on liens, (ii) restrictions on indebtedness, (iii) restrictions on payments to investors, (iv) restrictions on asset sales, (v) restrictions on affiliate transactions, and (vi) restrictions on investments, as well as to the EBITDA definition used throughout the agreement.

Equipped with these measures, we provide a comprehensive empirical insight into an unexplored and economically significant dimension of contractual design in the leveraged loan market. We first confirm that, consistent with theory, restrictions to prevent actions from the issuer that increase risk for the lender are widespread in the leveraged loan market. However, the clauses that weaken these restrictions, deductibles and carve-outs, are ubiquitous. The average credit agreement in our sample includes 80 distinct carve-outs and 8 deductibles to negative covenants. Importantly, there is significant heterogeneity in the use of these contractual provisions, even across firms of the same industry. In addition, the measures of contractual weakening we propose are not spanned by the existing measures in the literature, which typically focus on financial covenants. For example, they differ from weak financial covenant enforcement, also known as "cov-lite" provisions.

A key challenge for interpreting carve-outs and deductibles as weakening creditor rights is that including such clauses has a legitimate economic rationale in the first place. Negative

covenants typically are written in a way that restricts a broad class of actions in all states of the world. Carve-outs and deductibles, therefore, help tailor the restrictions imposed by these all-encompassing covenants to individual borrowers. In the absence of such qualifications, the borrower could for instance be contractually forced to pass on NPV-positive projects.

However, we show that such clauses are 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. At origination about half of the firms in our sample have Total debt/EBITDA below 5x; 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. Similarly, over three quarters of firms with 5x EBITDA leverage at the loan origination are allowed to issue debt in excess of 6x EBITDA later on. About the same fraction of firms with 6x EBITDA leverage can actually issue debt in excess of 7x EBITDA. The potential for dilution of senior secured creditors in distress is therefore large. The consequences for subordinated debt are potentially even more severe.

We also conduct an event study around the most prominent liability management transaction, the high-profile debt restructuring from J.Crew in 2017, to establish that these clauses are valuable and are not necessarily accurately priced in at issuance. In a nutshell, J.Crew management used a set of carve-outs and deductibles in its credit agreement to extract a significant share of collateral that was securing its existing loan, and issued new debt against this collateral to refinance expiring unsecured debt. This event led to market-wide consequences that go beyond direct applications of a "J.Crew maneuver": senior loan and stock prices of leveraged borrowers react –in opposite direction– as a function of the number carve-outs and deductibles their credit agreement possess, controlling for the presence of the specific clause used in the J.Crew episode. This market reaction implies a value transfer from creditors facing weakened covenants to equity holders.

Next, we focus on understanding the mechanism driving the intensity of the use of weakening clauses. Private equity firms appear to be playing an important role, as buyout transactions stand out as the most intensive users of carve-outs and deductibles, and particularly so when the financial sponsor has high credit expertise. Financial sponsors have contracting expertise, strong incentives and bargaining power due to their repeat business, all of these likely contributing to them seeking to obtain maximal contractual optionality from lenders to protect their equity.

Given the ubiquity of carve-outs and deductibles, creditors are arguably aware of their existence. Originating banks are informed and experienced agents, have resources to conduct diligence, and have some economic exposure to the transactions and could therefore play a disciplining role. However, their incentives are partly undone through syndication, and we thus show that contracts tend to have more weakening clauses when banks' economic stake in the loan is low. As fully assessing the consequences of these provisions carries significant cost, it is unlikely that individual CLOs or mutual funds, the typical institutional investors in the leveraged loan market, have the expertise and exert the effort required to carefully examine these clauses.

For completeness, we also investigate whether the intensive use of carve-outs and deductibles may result from addressing ex ante renegotiation costs or debt overhang, which are not mutually exclusive from the previous mechanism. Our data does not provide evidence in support of such mechanisms playing an important role. For instance, more complex capital structures are associated with fewer carve-outs and deductibles, not more. Addressing debt overhang should increase firm value, which we do not find evidence for.

Our findings have direct policy implications. As lax credit conditions are a leading indicator of economic downturns (López-Salido et al., 2017, Greenwood and Hanson, 2013), measuring financial contract strength and understanding the underlying economic mechanism is of key interest to the regulators. The Leverage Lending Guidance issued jointly by the OCC, the Federal Reserve Board, and the FDIC on March 21, 2013 was a key macro-prudential tool.[3] The goal of the Guidance was to assist financial institutions in providing leveraged lending to creditworthy borrowers in a safe-and-sound manner.[4] The regulator's 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)).[5] 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

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

[4]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.

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

through the use of such clauses, including optionality to increase the leverage, is substantial and concentrated in highly-levered transactions.

Our work directly relates to a set of academic studies that aim to assess debt contract strengths and weaknesses, and more broadly understand the drivers and effects of debt contract design. By leveraging new data that became available due to technological advances in contract analytics, we are able to analyze in a large sample a broad set of widely-used contractual terms that were previously overlooked in the literature. 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. Murfin (2012) and Demerjian and Owens (2016) focus on financial covenants "slack", the headroom from the current level of financial ratios to violation threshold to measure contractual weakness. Both studies recognize the limitations in terms of scope and data availability for their exercise. Berlin et al. (2020) provides a framework to accurately measure "covenant-lite-ness". Most closely, our paper relates to Demiroglu and James (2010), Bradley and Roberts (2015), Billett et al. (2007). These studies integrate multiple contractual features, including financial covenants, in a holistic measure of contractual strength by aggregating dummies indicating whether some core contractual categories are present in a given contract. Their approach has three limitations. First, loan contract provisions have narrow coverage in public databases. Second, several of the variables that appear in such data sources have many missing values, creating the risk of significant composition effects.[6] Third, such methodology misses the variation in contractual weakness conditional on having a given negative covenant, and therefore does not account for carve-outs or deductibles, which we establish as a predominant tool for weakening credit agreements. We are able to substantially improve on all of these dimensions. Consistent with our assessment, we show that while directionally correlated, measures used in the previous literature, collectively or individually, capture little as compared to our variables of contractual weakness. Similarly, the previous measures have little explanatory power for understanding the market adjustment following the previously-mentioned court resolution.

Our paper also ties 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

[6]For instance, in Dealscan the variable on asset sales sweep exhibits 96.7% of missing values for the transactions over $100 million since 2011.

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 funds exert their debt expertise, and some of the consequences associated with it.

A developing literature studies how private equity firms' contracting expertise enables value transfers across various margins, including agreements with their investors and portfolio companies. Phalippou et al. (2018) studies how financial sponsors charge substantial fees to their portfolio companies. Begenau and Siriwardane (2024) document significant heterogeneity in fees paid by LPs resulting from fine-print languages in the clauses on the fee structure. Our results complement this literature by identifying a third margin for this phenomenon: creditor agreements.

Our study connects with the broader literature on financial contracting, both theoretical (Hart and Moore, 1988, Hart, 2001) and empirical (Kaplan and Strömberg, 2003, Roberts and Sufi, 2009), by documenting a novel mechanism driving contractual design. 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.[7] 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. Relatedly, this study adds to the literature on the motives and effects of optionality and complexity in financial contracts. As options typically get ignored or mispriced by less informed 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 in which a sophisticated party introduces contingent clauses in a financial contract to exploit the other party's low demand elasticity to this type of clause.

[7] 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.

This paper is organized as follows: Section II discusses the negative covenant structure typical of a credit agreement in the leveraged loan market. Section III introduces the dataset and assesses its representativeness. This section also presents aggregate stylized facts and introduces empirical proxies of contractual weakening. Section IV provides evidence that contract weakening might be a source of concern. Section V studies the contracting mechanism at play. Section VI considers alternative mechanisms for our empirical findings. Section VII concludes.

2 Elements of a Covenant Structure

2.1 Types of 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 that are covered by the contractual agreement. 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 (because loans are excluded from the 1933 Securities Act and are covered by a confidentiality agreement) 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., 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. For an overview of the literature on this subject, see Berger and Udell (1995) or, more recently, Saunders and Steffen (2011).

There are other reasons why contractual governance rights might not be valuable to creditors. 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 for 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 are 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 the 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 (its brand), but there is high uncertainty on its 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 (2021) show that over 80% of syndicated corporate loans reported in the commonly used DealScan database are cash-flow based.

Turning to the actual provisions included in a credit agreement, 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 principals outlined above, protection of collateral and desire to manage the sources of misalignment of incentives between equity and debt underpins 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 borrower 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 toward 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 The Role of "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 – but to understand the role of specific clauses that qualify them. The two main types of clauses that affect negative covenants we investigate are the introduction of "carve-outs" and deductibles ("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, the 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:[8]

- Indebtedness: General deductible of $100 million;

- Liens: General deductible of $40 million;

- Asset Dispositions: Deductible of $35 million;

- Investments: Deductible of $100 million;

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

- Restricted Payments: Deductible of $50 million.[9]

Outback therefore has the contractual option/permission from creditors to issue additional debt of up to $100 million, pledge up to $40 million in collateral (that otherwise lenders would have senior claim on) to new creditors, sell certain assets for up to $35 million in value, do investments for up to $100 million, and 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; 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 2016 to 2020. Table 1 displays the list of the 15 most frequently reported carve-outs per covenant in this sample, and their incidence in our sample.

We draw several conclusions from this 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 have important economic consequences for the creditors. For instance, carving-out acquisition debt from the indebtedness covenant is not neutral to the risk of the loan, and the existence of such clauses is consistent with providing borrowers higher flexibility, in other words with weakening the lender control rights.

[Insert Table 1]

How do borrowers decide on which clauses to introduce? Given the sheer quantity of these provisions, some of them are included as part of a standard contracting, and might be essentially neutral for the creditors. 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. So, part of these provisions are technically necessary and provide no significant optionality to the borrower and therefore no significant risk to the creditors. Such clauses are likely to be just copy-pasted into new contracts. But this exercise evidences a set of customized provisions, where contractual weakening is more likely to take place.

[9] 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 issuance of new debt.

Not every customized provision, however, is there to benefit borrowers at the expense of the creditors. Negative covenants typically are written in a way that restricts a broad class of actions in all states of the world. Many carveouts and deductibles are likely to be included to maximize the value of the firm. In the absence of such qualifications, the borrower could indeed be contractually forced to pass on NPV-positive projects, at the detriment of both equity holders and lenders. Consistent with this observation, acquisition debt is prominent among carveouts. However, while such clauses can be value-enhancing, by weakening the control rights resulting from the inclusion of covenants, some of these options-like clauses might raise the risk of a transfer from lenders to equity holders. This typically happens in the context of financial distress when equity-debtor incentive misalignment is particularly acute.

Some of these clauses have already been put to use by issuers with substantial economic consequences for both the senior secured creditors and the shareholders. In Section 4, we will elaborate on the 2017 J.Crew restructuring, but several others have followed since.

3 Data, Facts, and Empirical Proxies

3.1 Data

The central challenge of doing large sample analysis of contractual provisions is that loan agreements are very long and complex. Even for studying an individual type of clause, data collection is highly intensive.[10] 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 baskets and carve-outs, however, is not included in DealScan or standard databases covering commercial loan market. The backbone of data for this study comes from a dataset developed by StreetDiligence, a private FinTech firm specializing in contract covenant visualization. StreetDiligence builds its loan database from SEC filings and document contributions from its clients. 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

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

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, instead focusing on comprehensively parsing contracts.

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 be mostly a transparent processing tool, it displays each individual carve out and deductible as a separate bullet point – the data we aggregate for this study.

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. We combine this dataset 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. We match borrowers to financial data from Compustat. 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, Total Debt/EBITDA leverage ratio is close to the DealScan leveraged subsample. However, 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 credit agreements being 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]

We complement this main dataset with two other data sources covering contractual provisions. As mentioned in the previous section, Fitch Covenant Review reports provides summaries of contractual terms for a selected sample of credit agreements, which include the list of the deductibles and carveouts clauses included for each covenant. We scrape these reports to obtain the data necessary for table 1.

To study the potential evolution of contract design following the J.Crew event, we used original credit agreements downloaded through Intelligize for loans originated within a six-year window centered around the J.Crew event. These contracts appear to be downloaded from EDGAR. We then use a Python script that zooms on the Negative Covenants section and itemizes the carve-outs within a covenant. We present an example of the overall parsing exercise in the Appendix in 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.

3.2 Aggregate Stylized Facts

We first document the extent to which credit agreements tend to restrict borrowers' actions. 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.[11]

[11] 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.

[Insert Figure 2]

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. However, the mere existence of a negative covenant does not necessarily grant full protection to the lender in that regard, as this can be significantly weakened through the use of carve-outs and deductibles. The natural next step of our analysis is therefore to study which restrictions are getting weakened using these contractual elements, and to which extent.

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 ones that are most frequently weakened 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.[12] 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. Carve-outs are the most numerous for the restrictions on liens (22 on average) and indebtedness (15 on average), while the average contract allows for twelve modifications to the standard financial definition of EBITDA.

Panel B of the same figure displays the average size of deductibles by covenant type, which we scale by EBITDA.[13] 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 half of the 5x EBITDA debt levels, which is common for leveraged loans. Senior secured loan creditors historically recover about 70 cents on a dollar,

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

[13] 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.

which gives a sense of the value of the 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.[14]

[Insert Figure 3]

3.3 Contractual Optionality Proxies

To study the cross-sectional variation in contractual terms, we focus on the following measures: the total number of carve-outs and deductibles over all negative covenants and the EBITDA definition. Figure 4 plots the distribution of these variables and illustrates the significant heterogeneity in the use of such clauses. More sophisticated numerical aggregation techniques are also possible. However, such approaches do not change the central takeaways, yet they lose the intuitive appeal.[15] Our methodological choice is also immune against miscategorization of the covenant for which carve-outs and deductibles apply. The rationale for these proxies is to measure the amount of optionality embedded in the credit agreement. Some of the contractual provisions that we observe are mutually exclusive. The numbers of carve-outs and of deductibles should therefore be interpreted as an upper bound of the contract flexibility, as we cannot account for the degree of additivity of these provisions -a widely used measure of shareholders' rights, the G-index (Gompers et al., 2003), is subject to the same critique-. As previously discussed, some of the carve-outs and deductibles are also benign. For example, the restriction on investments should carve out cash and liquid assets, which they typically do. All of the regressions in our empirical analysis therefore include industry fixed effects that absorb industry-specific standard clauses.

[Insert Figure 4]

Several existing studies use elements of debt contracting to assess contractual strength/weakness. One question that arises is whether analyzing the full range of negative covenants, and their deductibles and carve-outs, sheds new light on the economic mechanism

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

[15] 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 4.

underlying debt contracting. To what degree do the existing measures of weak contractual creditor rights, such as the number of financial covenants, or "cov-lite"-ness, span our measures?

Before evaluating the relative power of these approaches, we want to highlight the substantial measurement improvement that our study brings: (i) we have a comprehensive approach to covenants, (ii) we provide a detailed insight into the use of carve-outs and deductibles, and (iii) we do not rely on covenant data provided by DealScan. Whereas DealScan focuses on a limited set of contractual terms, namely financial covenants and cash-proceeds sweeps, our data offer comprehensive coverage of the credit agreement. For example, as previously documented, restrictions on liens – which are not covered in DealScan – are central to any credit agreement, as this contract is intended to protect senior secured debt. Furthermore, DealScan variables on contractual terms are hard to exploit due to their high share of missing values. For instance, the variable on asset sales sweep exhibits 96.7% of missing values for transactions over $100 million since 2011. Limitations of the DealScan data are also highlighted by Demerjian and Owens (2016) and Ganglmair and Wardlaw (2017). All that said, these differences need however to be economically meaningful for purposes of analyzing contractual optionality. For example, we should be able to rule out that "cov-lite" indicator is a sufficient shortcut to capture contractual weakness (which is how the market and policymakers have been using it.)

In Table 3, we evaluate the relation between our weakness indices and measures previously used in the literature. The focus is on the R^2 in the OLS regressions, and the takeaway is that the relationship is weak. The combination of the three main measures from the literature only yield a R^2 of 0.5. We run separate regressions for the slack measures as their coverage is by construction significantly lower. We find an even lower R^2. When looking at coefficients in details, more numerous (and larger) deductibles and carve-outs appear in general correlated with contract weakness as measured by the literature. Cov-lite transactions and contracts with few financial covenants exhibit more and larger deductibles and more carve-outs. However, we can observe some counterintuitive relations. For instance, covenant intensity, developed in Bradley and Roberts (2015), displays a weak positive correlation with our measures of weakness.

[Insert Table 3]

We also investigate whether the quantity of carve-outs and deductibles is mostly driven by the borrower industry. To do so, we decompose the variance of the number of carve-outs and

deductible into their (i) between (2-digit SIC) industry component and (ii) within industry component, and observe that for both quantities the within-industry variance is more than twice larger than the between-industry variance. This fact suggests that the heterogeneity in the number of such clauses does not primarily result from the heterogeneity in firm assets or operations.

3.4 The Latent Share of Highly Leveraged Deals

As an illustration of the possible consequences of borrowers using the contractual optionality provided the clauses we study, we investigate the incidence and size of indebtedness deductibles – i.e., the additional allowed leverage – as a function of current 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 and 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 4, 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.[16] 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. In the third line of Table 4, we introduce the maximal Debt/EBITDA, which corresponds to the leverage 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 4 works exclusively with the StreetDiligence data and provides transitions from one bucket of leverage to higher buckets of leverage based on indebtedness deductibles. These

[16]Original LCD reports are disaggregated by year, borrower size (above and below $50 million in EBITDA which is a cut-off for 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).

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 4]

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. Similar to Table 4, 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 at the origination about half of the companies have leverage below 5x EBITDA, in reality over 70% of companies funded in the leverage 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.[17]

[Insert Figure 5]

The shift in the distribution of potential leverage attributable to indebtedness deductibles is even more pronounced for leveraged buyouts, as evidenced 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 weaker contracts to buyout firms might create additional risk, and is exactly what the regulator has been trying to monitor.

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 A1. 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 A1]

[17] 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.

In the next section, we provide evidence supporting the claim that our approach better captures contractual *weakness* than other contract features used for this purpose in the literature, and that it allows us to document novel findings in the cross-section of contracts.

4 Event Study on the J.Crew Episode

Our goal is not merely to highlight the pervasive use of baskets and carve-outs in the leveraged loan market, but to study whether they weaken lenders' rights, thereby representing a value transfer from creditors to equity holders. This is an empirical question, given that theoretically the additional flexibility granted to the borrower through these clauses could also have no distributional effects among capital providers, or be value-enhancing and therefore beneficial to both stakeholders. 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 to investigate the existence of such a potential value transfer.

For creditors, grasping the implications of contractual optionality provided to the borrower through carve-outs and deductibles in credit agreements requires time and sophistication. The bulk of institutional investors exposed to such contractual provisions might be reluctant to pay the information acquisition and processing costs they create. This tradeoff however might change if there is a tangible illustration of harmful borrower actions that weaker contractual languages permit. If the extent of the value transfer that such actions create is large, investors' attention is likely to shift to the provisions that allow them, and they will invest in information acquisition. The security price adjustment associated with contractual optionality should therefore speak to an update in the average expected value of such clauses for the different parties. This is the setting offered by J.Crew's 2017 restructuring.

4.1 Background

The significance and legacy of this event are 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." "[18,19]

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 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.[20] 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.[21]

4.2 Price Impact

Figure 6 plots the price of J.Crew's outstanding senior loans around the announcement of the new debt issuance using the transferred collateral. We observe a significant drop in the loan price that happens in conjunction to the June 12th 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 the context of high bankruptcy risk. We also observe a subsequent second drop to loan prices on July 13th when the announced transaction is completed. This sharp and pronounced price reaction motivates an event study looking at the broader market reaction to this episode.

[18] "Return of the J.Crew Blocker," Fitch, Covenant Review, May 1, 2020.

[19] Unrestricted Subsidiary means that the subsidiary is not a party to the debt covered by the credit agreement.

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

[21] 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.

[Insert Figure 6]

As our main test of interpreting the contractual optionality provided by carve-outs and deductibles as contractual weakness, 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 contractual optionality, 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. We set the period for the event study to a 30 days period centered on June 12, 2017, the date that J. Crew announced and initiated the procedure to issue new debt using the extracted collateral. While market further updated on the realization of this maneuver, enlarging the window trades-off comprehensiveness with increased noise. We expect a more pronounced reallocation effect from lender to shareholders for firms with credit agreements including a significant amount of optional clauses, that is: upon updating on how carve-outs and deductibles are used, the value of senior secured claims should drop, as expected recovery rates on senior secured debt are revised down, while equity value should increase, as the number of states where the firm is in default is reduced. Our findings support these hypotheses.

We first present the raw data on loan prices for the whole sample of firms for which we have daily loan prices from Markit: we aggregate them by quartiles of our weakness measures, and plot these time series around the J.Crew event.[22] Figure 7 displays the results, using the number of carve-outs as the measure of contractual weakness 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 weakest contracts, while stronger loan contracts do not exhibit such adjustment. This drop is around half a percentage point. This lower magnitude compared to J.Crew is to be expected: the dilution effect is attenuated by the low unconditional likelihood of J.Crew-type actions.

[Insert Figure 7]

We then conduct regressions to control for observable characteristics and assess whether previously used measures of contractual weakness would capture this price adjustment. Table 5 presents the coefficients. The dependent variable is the absolute change of the loan price, in %

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

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 optionality: 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, measures frequently used as "short-cut" measures to assess contractual weakness, exhibit significant coefficients, but do not affect the predictive power of our measure over the price adjustment. This result speaks to the complementarity of the measures we introduce.

In columns (6) and (10), we interact our measures of contractual optionality 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 option value of such clauses being higher in this context. We run the same specifications with the number of deductibles as a measure of weakness and find similar

results.

[Insert Table 5]

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 is 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. Results are reported in the appendix Table A3.

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 optionality. The result is statistically significant for our first proxy of covenant weakness, 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. As shown in Panel B, these results are robust to implementing the portfolio OLS approach to conduct hypothesis testing, as proposed in Cohn et al. (2023).

4.3 Associated Issuance Design and Pricing Evolution

Given the evidence of secondary markets reaction to J.Crew restructuring, it is likely that, at least in the short-run, the market updates on the value of these clauses, and their implicit price increases. As the price of such clauses increases, contract design may also at least temporarily adjust towards a lower use of such clauses. These predictions are challenging to precisely test given the absence of a relevant counterfactual, and data constraints we face.

To conduct an explorative analysis, 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.[23] 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 obtain the corresponding issuance spreads from Dealscan when they are available.

[23] Reassuringly, the average number of optional clauses per credit agreement we obtain is broadly aligned with the one we observe in our main sample.

For Panel A of Figure 8, we regress in each given year the issuance spreads, on the number of carve-outs present in the credit agreement, and plot the coefficients we obtain. In Panel B , we present box plots of the distribution of the number of carveouts per credit agreement over time. We conduct the same exercises restricting to carve-outs from the investment covenant in the appendix. Overall, these exercises suggest a short-term strengthening of the relationship between issuance spreads and the number of carve-outs, and no clear adjustment in the overall design beyond a reduction in the specific clauses related to the J.Crew episode.

[Insert Figure 8]

5 Understanding the Mechanism behind Contractual Weakening

The evidence presented so far shows that optionality commonly embedded in credit agreements through carve-outs and deductibles is economically large, that a substantial fraction of this phenomenon is concentrated in transactions that are already highly leveraged, and that recent examples of use of these elements have been acknowledged by the market as something that enhances the value of equity, at the expense of senior creditors. In this section, we explore the characteristics of contracting parties that are conducive to weaker contractual terms.

5.1 The Role of Private Equity Firms

We first test the hypothesis that loans issued by firms backed by a financial sponsor are more likely to contain abundant contractual optionality. 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. A CFO is responsible solely for the financial decisions of their company, and this company may or may not pursue acquisitions or special dividends. A financial sponsor, on the other hand, manages a portfolio of firms that are routinely acquired, levered, delevered, and sold (with potential mergers and leveraged dividend recaps along the way). Private equity firms therefore develop expertise in debt markets, contracting, and renegotiation.[24] This expertise may allow private equity firms to capture value by exploiting inefficiencies related

[24] Arguably, the economic incentives of an average CFO are also different from that of a senior investment professional at a private equity firm.

to the mispricing of credit terms in boom and bust cycles of credit supply. The Great Recession offered supportive evidence that debt market inefficiencies are an important aspect of private equity value creation, as many private equity firms started investing in leveraged loans at that time. The fact that they are repeat borrowers also provide them with bargaining power towards creditors, which can be used towards improving both financial and non financial terms of the credit agreements.

Discussions with several financial sponsors suggest that it is hard, even for large financial sponsors, to predict which clauses actually might become useful to restructure debt down the road, and consequently on which 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.[25] Experienced borrowers therefore most likely try to figure out what covenants they can drop from the credit agreement, and what carve-outs and deductibles they might include without substantially driving the cost of debt up. Economically, this corresponds to the borrower assessing lenders price elasticity to these optional clauses through bargaining, and embedding as many options as it can without substantially raising the credit spread of the loan.

To provide supporting evidence of whether borrowers backed by financial sponsors contract debt in a systematically more flexible manner than more traditional borrowers, we run OLS regressions on our measures of contractual optionality, 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. Table 6 displays the regression coefficients. The results are consistent with private equity firms relying more heavily on covenant weakening. Both carve-outs and deductibles are significantly more frequent in leveraged buyouts, controlling for leverage. The magnitude is particularly large: the lowest coefficients on the LBO indicator variable are equal to 30 for carve-outs, compared with an average number of 79, and 1.5 for deductibles, to compare with an average number of 8.

Another possible interpretation of why lenders are willing to forfeit more control to borrowers when they are backed by financial sponsors, is that sponsors have a higher reputational capital that results from their repeated borrowing activity (Badoer et al., 2020). However, such an interpretation is hard to reconcile with sponsors ex post behaviors such as the J.Crew episode,

[25] E.g., in the J.Crew's case that we use in our event study, the deductible on liens was written nearly five years before it got used.

as sponsors are comfortable bearing the associated reputational costs.

We further explore the role of private equity sponsor contractual expertise in driving the design of loan contracts, by using two different proxies for higher sophistication 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 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 optionality, 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 optionality 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, which further speaks to the role of borrower sophistication in determining contract design.

[Insert Table 6]

5.2 Creditors' Perspective

A private equity sponsor naturally prefers weaker contractual terms: the credit agreement – and the covenant structure specified in it – is the key governance mechanism for debt holders. However, an explanation for why creditors would be willing to accept weaker contractual terms is in order. It is highly unlikely that individual CLOs or mutual funds would carefully work

through covenant carve-outs and deductibles. But there are other market mechanisms that could be in place to implement such monitoring. Specifically, we look at the variation in screening and monitoring incentives by the arranging bank in the cross-section of loans. We hypothesize that, if the value of contractual optionality is not fully incorporated in loan issuance prices, arranging banks will be more lenient towards their inclusion when their skin in the game is lower, as the loan ends up mostly with institutional investors. Institutional investors are indeed likely to be less informed about the fundamentals of the borrower and the contractual terms of the transaction than the arranging banks (Sufi, 2007, Ivashina, 2009). In particular, 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. Laxer screening leading to a deterioration in lending standards in the context of securitization is well documented (e.g., Keys et al. (2010)).[26] The evidence also shows that the lead share –"the skin in the game" for the lead bank – is important in aligning screening and monitoring incentives of the lead bank (also see Wang and Han (2014)). With this in mind, 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 Term Loan B or "TLb" facility.[27] 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. 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 7. The number of observations is reduced due to lender data availability. All specifications control for the (log) number of lenders, as well as a leveraged buyout indicator variable, industry and quarter

[26] Although Benmelech et al. (2012) point out that if this issue is less severe in the syndicated loan market, it is not because of CLOs being better informed, but because of other mechanisms that are facilitating a well-functioning syndicated loan market.

[27] 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 pre-funded 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."

fixed effects.[28] Consistent with looser screening and monitoring incentives, we find that larger institutional participation and a smaller lead share are tied to weaker contractual terms. Loans from the institutional segment exhibit on average 19 more carve-outs 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 weaker contractual terms, for which we control.

[Insert Table 7]

5.3 A Reaching-for-yield Phenomenon?

The mechanism we have been focusing on so far 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 expertise 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 receive a below fair premium for a risk they knowingly bear, because it helps them cater to the yield appetite of their own investors. Consistent with this hypothesis, we show in Figure 9 that proxies of contract weakness are associated with a higher loan spread.[29] We regress the all-in-drawn spread of a given facility on the proxies of contractual weakness, controlling for 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 then plot the predicted issuance spread by quartiles of the weakness measures.

This analysis reveals a statistically and economically significant relationship between loan issuance prices and proxies for contractual weakness. Thus, moving from the bottom quartile to the top quartile on these measures of weakness corresponds to a more than 40 bps higher issuance spread. These magnitudes compare to an average spread of 266bps in the sample. We

[28] 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.

[29] 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.

cannot however assess whether creditors are being compensated fairly for the risk they take, as estimating the risk ex-ante is challenging. Ultimately, this result supports some level of awareness from creditors as they receive a modest premium for high contractual optionality, which is suggestive evidence of a reaching-for-yield phenomenon playing a role.

[Insert Figure 9]

6 Alternative Mechanisms

Both the event study and the cross-sectional evidence on the characteristics of contracting parties conducive of contract weakening are consistent with the weakening of creditor rights benefiting large and experienced borrowers. However, for completeness, we consider a set of alternative, non-mutually exclusive mechanisms for the previous set of empirical results.

6.1 Avoiding Costly Renegotiations

The intense use of carve-outs and deductibles that we observe in certain transactions could aim at reducing frictions associated with ex post renegotiations. While such a mechanism is hard to reconcile with the event study evidence, as avoiding costly renegotiations should have a positive impact on debt, both could be at work.

Despite the prominence of the concept of renegotiation cost in the theoretical literature, there is no off-the-shelf measure of renegotiation cost in the empirical literature. We therefore consider a battery of variables that proxy for contexts of high renegotiation cost, and study whether they are associated with more covenant weakening. The results are presented in Table 8, and are not supportive of the inclusion of covenant deductibles and carve-outs being primarily driven by avoiding costly renegotiations.

Renegotiation costs arguably have a fixed and a variable component. For example, the renegotiation process requires coordination/time, legal steps and paperwork that carry fixed cost. On the other hand, the banks typically charge a variable fee for renegotiation. An immediate prediction, due to the fixed component, is that renegotiation cost is relatively smaller for large loans, and therefore the contracts should be stronger. The results in columns 1 and 5 of Table 8 show that it is not the case, larger loans have a more eroded covenant structure.

In columns 2 and 6, we investigate whether the use of carve-outs and deductibles positively correlates with the number of lenders, controlling for transaction size, as a large number of parties make renegotiation more complex and costly.[30] We find the opposite sign: a larger number of lenders is associated with a lower number of such provisions.

In columns 3 and 7, we look at a dummy equal to one if the company has a public debt outstanding at the time of loan issuance, and zero otherwise. Having a more complex capital structure should increase a renegotiation/restructuring process. However, we find the opposite results, firms with bonds outstanding use fewer carve-outs and deductibles, not more.

According to Garleanu and Zwiebel (2008), covenant structure could also be a response to asymmetric information between lenders and borrowers, with a stronger covenant structure mitigating the conflict. We consider intangibles as a share of assets and leverage as proxies for the level of asymmetric information in columns 4 and 8. We find that the sign on the coefficient is in the opposite direction to the prediction in Garleanu and Zwiebel (2008).

[Insert Table 8]

6.2 Other Explanations

As carve-outs and deductibles are more frequent in highly leveraged transactions, a second alternative mechanism would be that these clauses aim at alleviating debt overhang, which is likely to be acute in this context. The stock value reaction we document in Section 4 could be consistent with this view, as solving debt overhang is positive for equity holders. But solving debt overhang is also positive for creditors. Yet, we find the opposite effect when looking at the loan price reaction. In Table A4 in the appendix, we regress the aggregate change in firm value associated with the J.Crew episode, calculated as the value-weighted average of loan-, bond- and stock-price adjustments, on our measures of contractual optionality. We observe mostly insignificant coefficients, which are consistent with the value transfer from creditors to equity-holders dominating any aggregate value effects.

Moreover, the contractual nature of the clauses we study is at odds with a resolution of debt overhang as an explanation as many of these clauses are designed to allow for increased debt, not for facilitating equity issuances. Such a mechanism is also difficult to reconcile with our

[30] This is one key rationale for which bond contracts are weaker than loan contracts, as the former have an atomistic investor base.

two cross-sectional results: the higher concentration of these clauses in buyouts, controlling for leverage, and when creditor monitoring is laxer. Lastly, this mechanism would predict lower issuance spreads for loans with higher contractual optionality, while we observe that these loans exhibit higher spreads, although we acknowledge that this particular result could be driven by an unobservable selection effect.

An alternative explanation for our cross-sectional results on buyout firms would be that everything else remaining equal, firms held by a sponsor firm are safer for creditors, leading them to offer higher contractual flexibility in form of deductibles and carve-outs. Private equity firms are indeed typically financed through a fund structure, which facilitates their access to equity capital. So, debt overhang problems or other financing frictions could be a lesser issue for sponsor-backed companies, allowing them to issue more flexible debt contracts. While we cannot rule out this possibility, our favored interpretation for the contracting mechanism at play relies on more targeted tests including the event study and the cross-section of creditor types. Moreover, access to additional, rescue equity capital for a buyout firm is far from inconsequential, as it evidently has an impact on the fund IRR, which is the most important indicator of fund performance and affects both explicit and implicit incentives of the fund manager. This focus on maximizing IRR has for instance led private equity firms to use subscription lines.[31] Furthermore, any capital call requires a written statement of its purpose to the LPs, which imposes an additional reputation cost for the sponsor firm. As a result, equity injections by private equity firms are typically used as a last resort, and there are several anecdotal examples of major buyout firms exploiting contractual weaknesses when facing financial distress to avoid an equity cure.[32]

7 Conclusion

Credit standards, particularly in the leveraged loan market, have been a point of substantial attention in the post Great Financial Crisis world. Yet, in spite of evident contractual complexity in the loan space, the actual measurement of weak credit standards has been largely building on "cov-lite" provision. The reason for frequent references to the fraction of cov-lite loans is

[31] Subscription lines are revolving lines backed by capital commitments that are commonly used by buyout firms to improve IRRs reported to LPs. For more details see: https://www.oaktreecapital.com/docs/default-source/memos/lines-in-the-sand.pdf?sfvrsn=2

[32] In addition to the J.Crew and PetSmart cases, see Gompers et al. (2012).

prosaic: it is simple, and it is objective. But for the same reasons, cov-lite is unlikely to be a fruitful ground for borrowers to obtain quasi-free contractual enhancements.

Recent developments in contractual data analytics should allow backing the flurry of concerns on credit standards with better measurements of what contractual weakness represents. In this paper, we take advantage of such 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 first document the importance of negative covenants as a governance tool for large leveraged corporate issuers. Virtually all contracts rely on such mechanisms to protect the creditors. However, the restrictions created by these covenants are frequently weakened through two main types of contractual elements deductibles (or "baskets") and exclusions (or "carve-outs"), which are broader and different from enforcement clauses (i.e., different from cov-liteness).

We propose a set of simple measures that assess contractual weakness, and show that clauses weakening the strength of the contract are concentrated in the most leveraged transactions, thereby offering room for the issuer to reach even higher levels of leverage. We are able to overcome limited default data by looking at a market-wide adjustment following a high-profile case that exploited deductibles on liens to significantly dilute lenders' claims over collateral. The redistribution of value to stockholders for contracts with similar provisions and generally weaker contracts is consistent with these features being mispriced options granted to borrowers.

Finally, when exploring the cross-section of the use of carve-outs and deductibles, we observe that leveraged buyouts are significantly more likely to use these clauses, which is consistent with private equity sponsors having high incentives to obtain contractual optionality, a high bargaining power towards lenders, especially in large transactions, as well as a high level of expertise in writing contracts.

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8 Figures and Tables

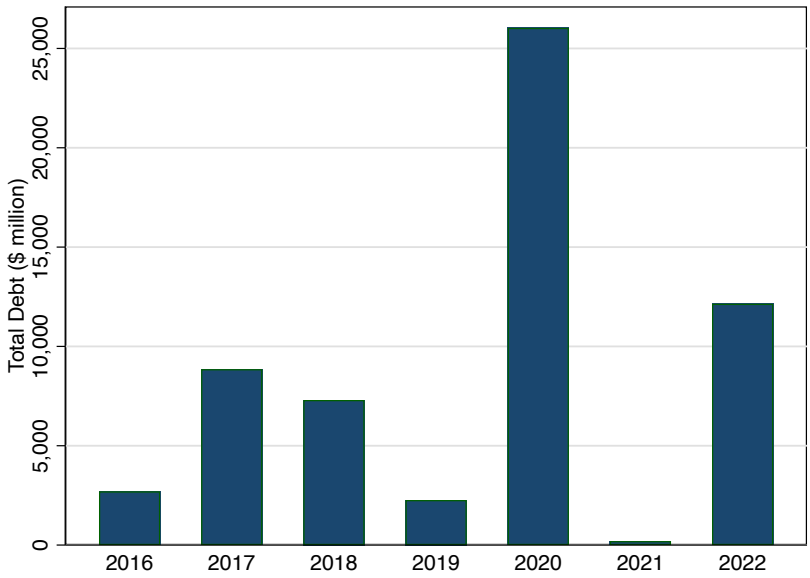
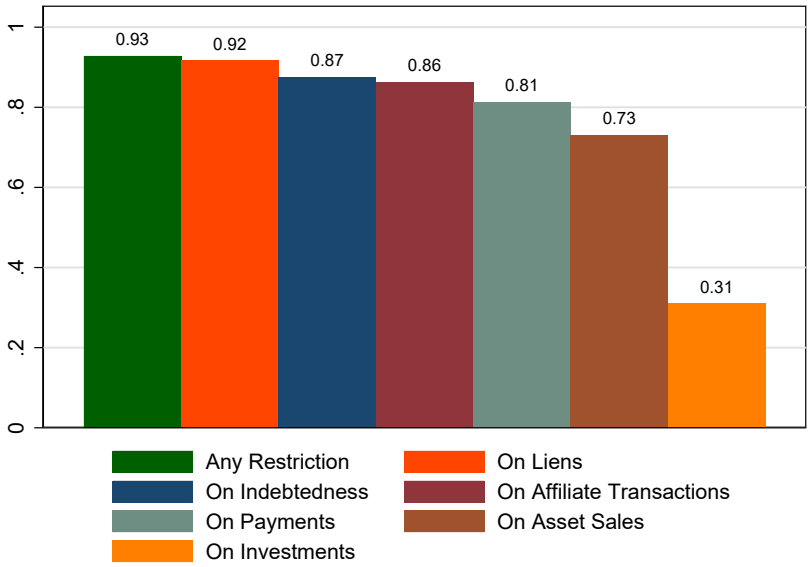


Figure 1
Total Debt Effected By Liability Management Transactions

Note: This figure uses the list of all dropdown transactions since 2015 from Table 1 and 2 of Buccola (2023). The Dealscan debt is calculated for each company that executes a dropdown or a non-pro rata uptier transaction in a given year. Each bar then reports the total amount of debt effected by the dropdown transactions for a given year. The y axis is in units of million USD.

Panel A: Incidence of Restrictions

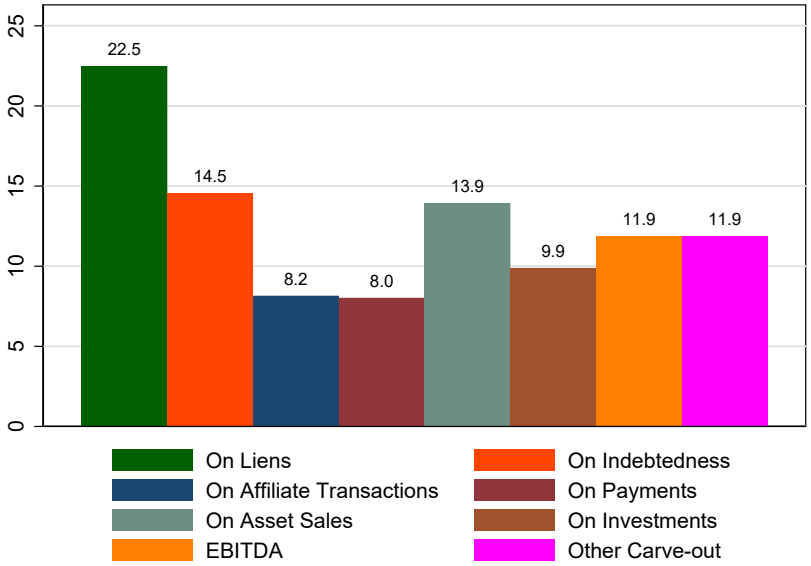


Panel B: Incidence of Deductibles on Restrictions

Figure 2
Incidence of Restrictions on Borrower's actions and of Deductibles on these Restrictions

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

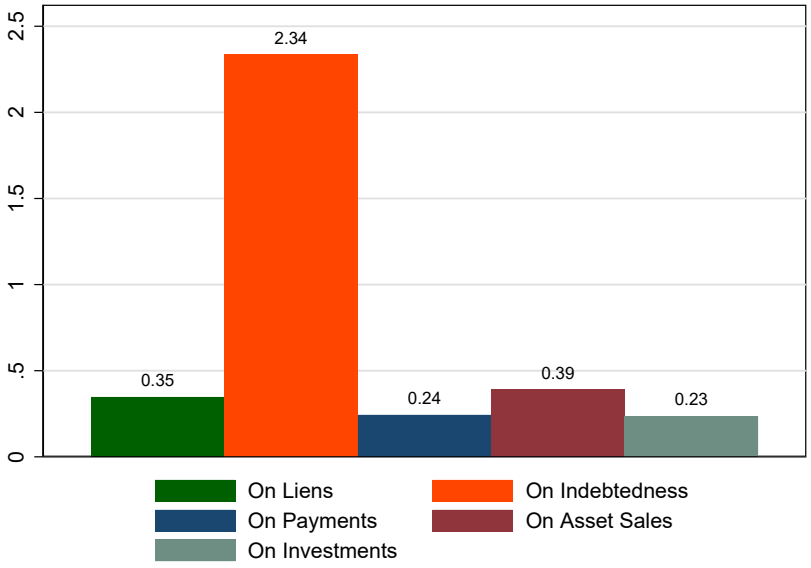
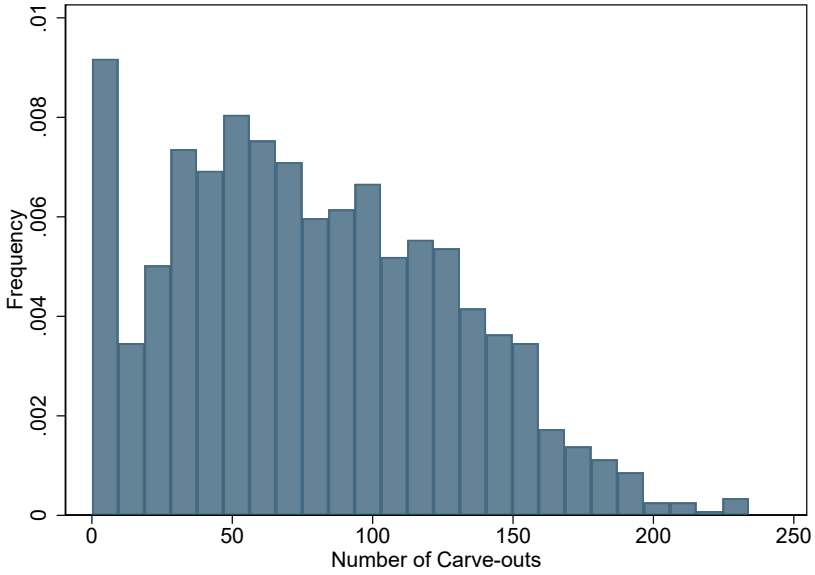


Figure 3
Contractual Optionality by Covenant

Note: The upper panel for this figure reports the average number of carve-outs per credit agreement, and 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 end of the fiscal year preceding the year of the loan issuance.

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



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

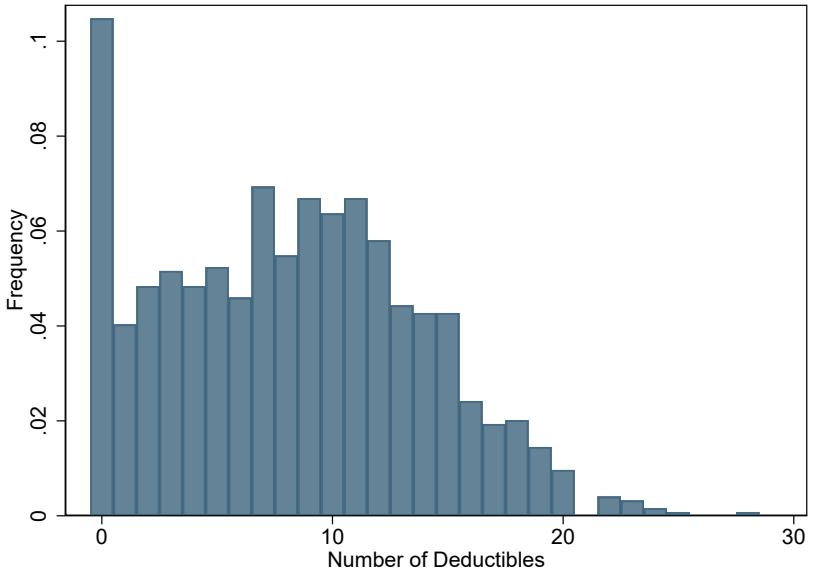


Figure 4
Heterogeneity in Contractual Optionality

The higher panel of this figure displays the distribution of the total number of carve-outs. The lower panel displays the distribution of the total number of deductibles.

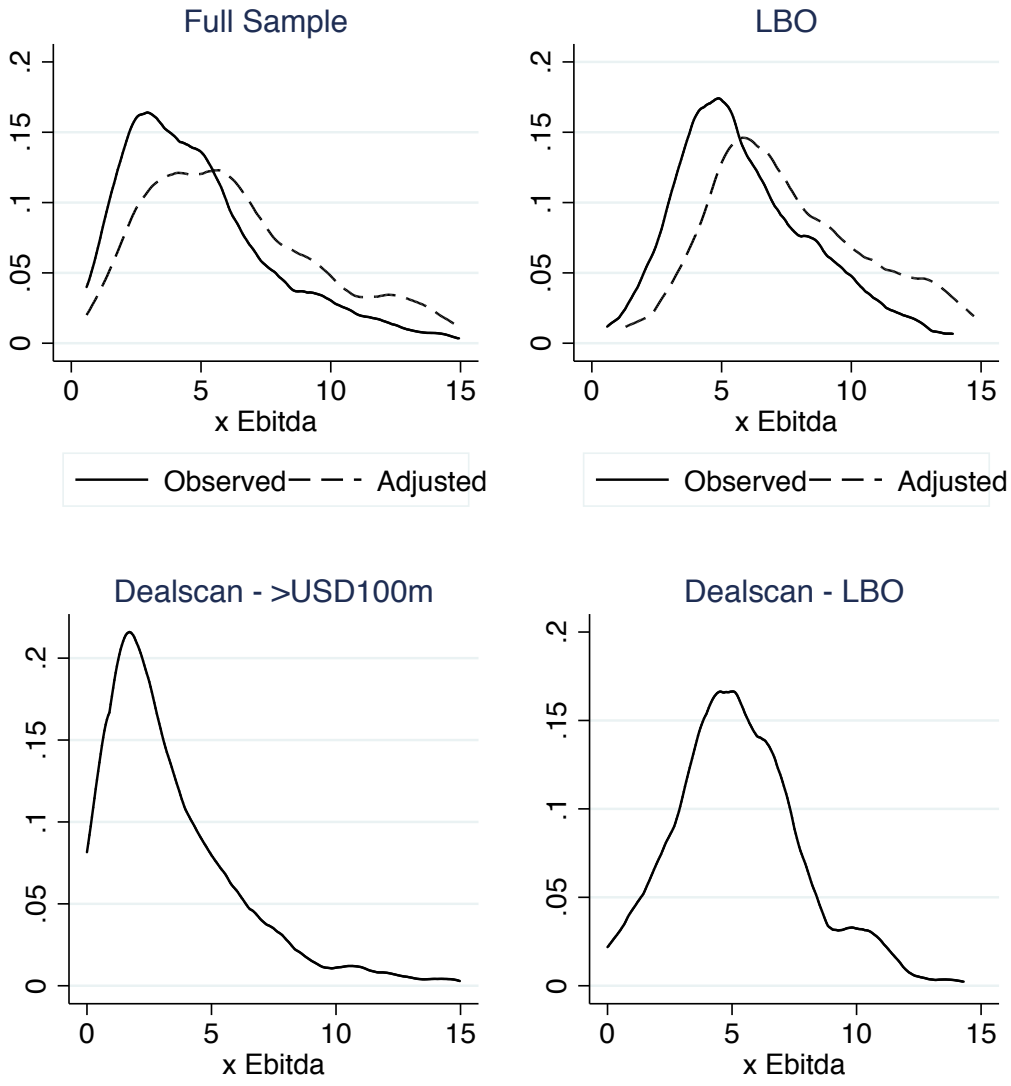


Figure 5
Distribution of Leverage with and without Adjusting for Indebtedness Deductibles

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 leverage buyouts since 2011.

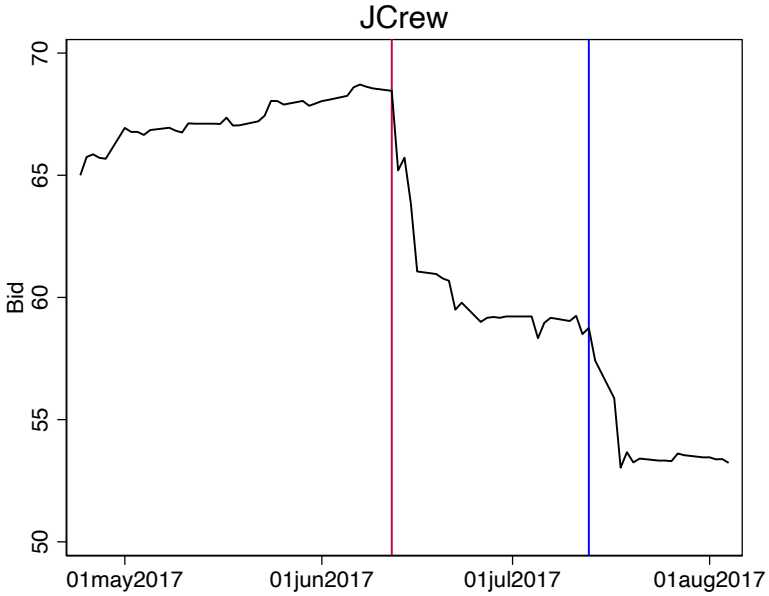


Figure 6
Loan Prices Around J.Crew Announcement: J.Crew

This figures plots the senior secured loan daily prices of J.Crew over a -50days/+50days event window around the June 12, 2017 J.Crew announcement date. A vertical red line is placed on the June 12, 2017 J.Crew announcement date and a vertical blue line is placed on July 13, 2017 when the transaction was complete.

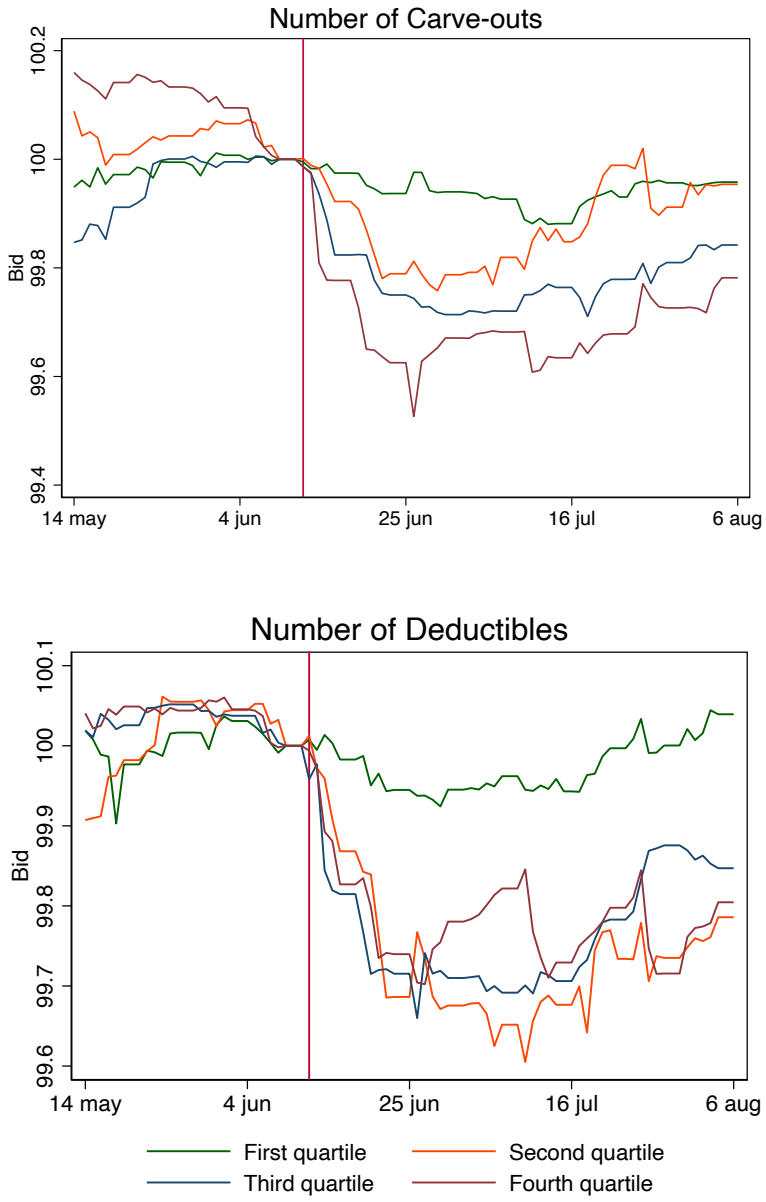
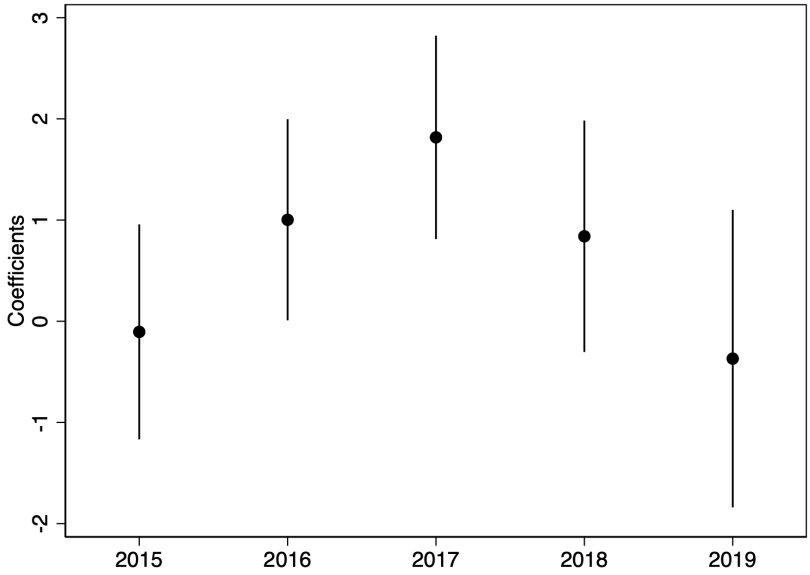


Figure 7
Loan Prices Around J.Crew Announcement: Full Sample

This figures 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 number of carve-outs, and the bottom figure (Panel B) presents the price reaction for loans aggregated by quartiles of number of deductibles.

Panel A: Relationships Between Credit Spread and Number of Carve-Outs



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

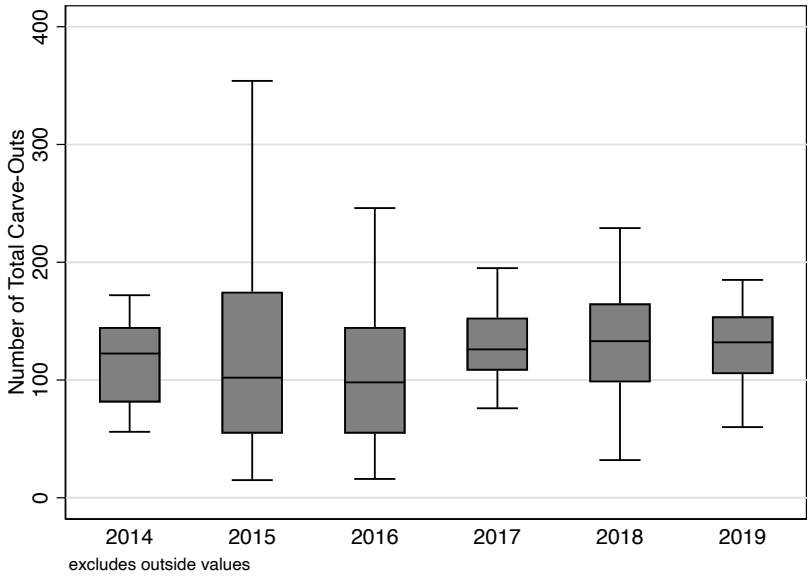


Figure 8
Carve Outs by Year

Panel A presents the yearly OLS coefficients corresponding to the credit spreads regressed on the number of carve-outs from the sample of credit agreements available on EDGAR covering the period 2014 to 2019. Panel B presents yearly boxplots of the number of carve-outs from the sample of credit agreements available on EDGAR covering the period 2014 to 2019. All points outside of the graph's whiskers are excluded from the figure for visual reasons. Due to limited data, the data from 2014 is merged into 2015. Credit spreads data is from Dealscan.

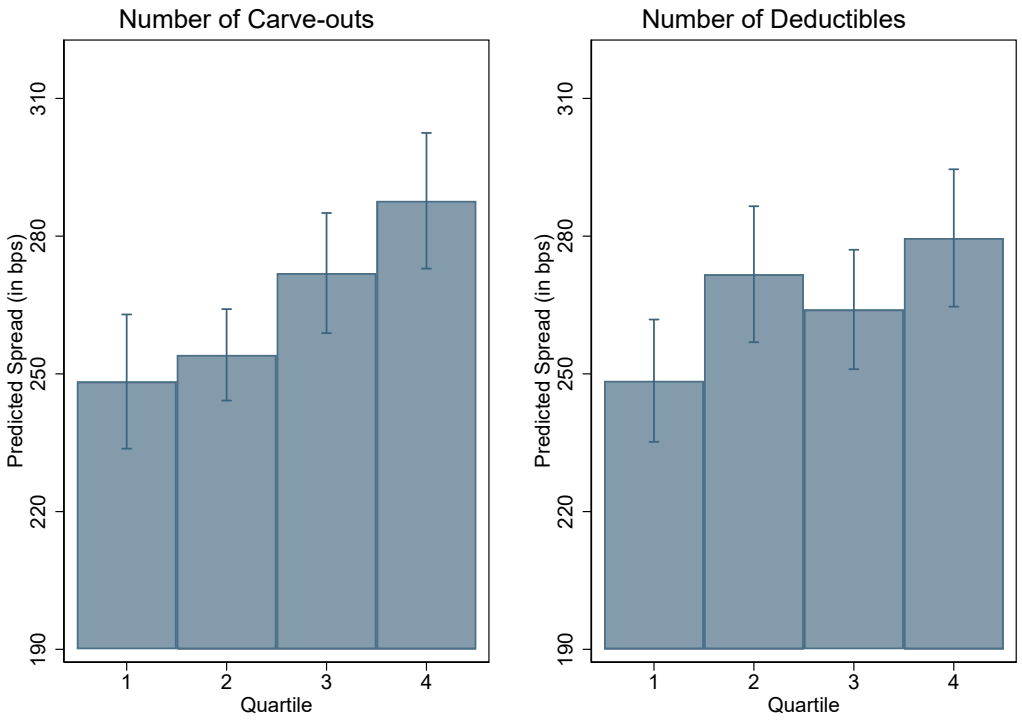


Figure 9
Contractual Weakness and Issuance Spreads

Note: This figure displays predicted issuance spreads by quartile of weakness 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 weakness 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.

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 illustrative 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. Only the count (per covenant), but not the list of carveouts, is observable in the Street Diligence data.

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
Alternative Measures of Covenant Weakness

	(1)	(2)	(3)	(4)	(5)	(6)
All Covenants	Number of Carve-outs			Number of Deductibles		
Cov-lite (dummy)	31.309***			2.272***		
	(8.42)			(6.76)		
Covenant Intensity	0.446			0.496***		
	(0.61)			(5.56)		
Number of financial covenants	-4.078***			-0.608***		
	(-3.23)			(-4.87)		
Slack Debt/EBITDA		0.795***			0.141***	
		(3.99)			(5.29)	
Normalized Slack Debt/EBITDA			0.030			0.004
			(1.05)			(1.52)
# Neg. Covenants FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1240	377	369	1240	377	369
R^2	0.503	0.358	0.345	0.456	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: Covenant intensity is a measure used Demiroglu and James (2010) and Bradley and Roberts (2015). It is a discrete variable that takes value between 0 and 6. 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. t-statistics are reported in parenthesis. 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. ***, ** and * indicate statistical significance at the 1%, 5% and 10% level, respectively. Standard errors are clustered at the issuance month level and GIC industry groups.

Table 4
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 5
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*		
	(-2.66)	(-2.39)		(-2.10)				(-2.01)		
𝟙(Restricted Payments deductible)		-0.297*								
		(-2.06)								
𝟙(Indebtedness deductible)		-0.246*								
		(-1.81)								
𝟙(Asset Sale deductible)		-0.071								
		(-0.48)								
𝟙(Liens deductible)		0.106								
		(0.45)								
𝟙(Affiliated Transactions deductible)		0.146								
		(0.83)								
Number of Carve-outs			-0.003*	-0.002	-0.001	-0.001				
			(-1.97)	(-1.28)	(-1.70)	(-0.58)				
Number Financial Covenants					0.106				0.128	
					(1.42)				(1.11)	
Cov-lite Deal					-0.244				-0.269	
					(-1.58)				(-1.25)	
Remaining Maturity (in years)					0.028				0.049	
					(0.55)				(0.69)	
Leveraged					-0.045				0.005	
					(-0.54)				(0.07)	
Operating Distress Proxy						0.152**				0.265*
						(2.66)				(2.05)
Operating Distress Proxy × Number of Carve-outs						-0.001*				
						(-2.04)				
Number of Deductibles							-0.038**	-0.020	-0.033	0.000
							(-2.16)	(-1.58)	(-1.65)	(0.04)
Operating Distress Proxy × Number of Deductibles										-0.024**
										(-2.12)
Sector FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
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. Main explanatory variables are the number of carve-outs, and number of deductibles. Operational distress proxy is calculated as the quartile of the inverse of 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. Standard errors are clustered by GIC industry groups.

Table 6
Inclusion of Deductibles and Carve-outs in 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***	24.235***	20.742***	1.961***	1.700***	1.589***	1.190**	0.884*
	(9.13)	(7.95)	(7.40)	(4.45)	(5.95)	(5.79)	(6.34)	(5.40)	(2.66)	(2.03)
Leveraged	10.273**	6.436	7.338	7.973	7.898	1.760***	1.293***	1.355***	1.358***	1.351***
	(2.70)	(1.55)	(1.64)	(1.79)	(1.76)	(7.15)	(4.11)	(4.14)	(4.67)	(4.50)
Highly Leveraged	9.248**	8.261**	7.378**	7.391*	7.181*	1.000**	1.088***	0.998**	1.137**	1.116**
	(2.59)	(2.75)	(2.45)	(2.14)	(2.03)	(2.74)	(3.28)	(2.65)	(2.96)	(2.81)
Log (Assets)				4.413***	4.171**				0.385***	0.367**
				(3.36)	(3.00)				(3.45)	(2.89)
Credit Expertise				10.526***					0.411	
				(3.37)					(0.59)	
Bankrupcty Experience					19.488***					1.166
					(3.14)					(1.76)
# Neg. Covenants FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes
Quarter FE	No	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
Observations	1213	1210	1206	1089	1089	1213	1210	1206	1089	1089
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 (column 6 to 10). The proxies for credit expertise and bankruptcy experience are described in section 5.1. Industry fixed effects are 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 and GIC industry groups.

Table 7
Contractual Weakness and Bank Skin in the Game

All Covenants	Number of Carve-outs				Number of Deductibles			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Institutional	16.273***				1.432***			
	(6.98)				(8.70)			
Instit. Share		16.946***				2.049***		
		(3.46)				(7.11)		
Instit. Share (TL)			15.961***				1.716***	
			(4.85)				(8.09)	
Lead Share				-3.737*				-1.539**
				(-1.81)				(-2.87)
Buyout	26.664***	26.245***	26.432***	28.092***	1.238***	1.071**	1.118**	1.264***
	(5.78)	(5.25)	(5.14)	(5.27)	(3.64)	(2.91)	(2.95)	(3.14)
Log (# of Lenders)	0.595	1.466	1.334	-0.426	0.348**	0.498***	0.455***	0.349*
	(0.36)	(0.66)	(0.63)	(-0.18)	(2.21)	(3.77)	(3.27)	(1.91)
Log(Amount)	4.555*	5.229**	4.884**	7.425***	0.054	0.059	0.054	0.278*
	(2.16)	(2.49)	(2.35)	(3.96)	(0.33)	(0.35)	(0.33)	(1.84)
Leveraged	6.050	9.026*	8.548*	10.227**	1.182***	1.430***	1.398***	1.513***
	(1.49)	(2.16)	(2.05)	(2.33)	(4.45)	(4.48)	(4.28)	(3.99)
Highly Leveraged	1.124	0.878	1.180	7.218	0.700	0.504	0.624	1.218**
	(0.26)	(0.18)	(0.25)	(1.41)	(1.37)	(0.90)	(1.14)	(2.37)
Log (Assets)	1.388	0.801	1.011	0.732	0.236	0.134	0.155	0.127
	(1.01)	(0.49)	(0.65)	(0.45)	(1.61)	(1.13)	(1.31)	(1.06)
Number of 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
Cluster	Month	Month	Month	Month	Month	Month	Month	Month
Observations	1,087	972	972	972	1,087	972	972	972
R^2	0.640	0.650	0.652	0.642	0.574	0.591	0.590	0.584

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. *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 and GIC industry groups.

Table 8
Renegotiation Costs

All Covenants	Number of Carve-outs				Number of Deductibles			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Institutional	16.273***				1.432***			
	(6.98)				(8.70)			
Instit. Share		16.946***				2.049***		
		(3.46)				(7.11)		
Instit. Share (TL)			15.961***				1.716***	
			(4.85)				(8.09)	
Lead Share				-3.737*				-1.539**
				(-1.81)				(-2.87)
Buyout	26.664***	26.245***	26.432***	28.092***	1.238***	1.071**	1.118**	1.264***
	(5.78)	(5.25)	(5.14)	(5.27)	(3.64)	(2.91)	(2.95)	(3.14)
Log (# of Lenders)	0.595	1.466	1.334	-0.426	0.348**	0.498***	0.455***	0.349*
	(0.36)	(0.66)	(0.63)	(-0.18)	(2.21)	(3.77)	(3.27)	(1.91)
Log(Amount)	4.555*	5.229**	4.884**	7.425***	0.054	0.059	0.054	0.278*
	(2.16)	(2.49)	(2.35)	(3.96)	(0.33)	(0.35)	(0.33)	(1.84)
Leveraged	6.050	9.026*	8.548*	10.227**	1.182***	1.430***	1.398***	1.513***
	(1.49)	(2.16)	(2.05)	(2.33)	(4.45)	(4.48)	(4.28)	(3.99)
Highly Leveraged	1.124	0.878	1.180	7.218	0.700	0.504	0.624	1.218**
	(0.26)	(0.18)	(0.25)	(1.41)	(1.37)	(0.90)	(1.14)	(2.37)
Log (Assets)	1.388	0.801	1.011	0.732	0.236	0.134	0.155	0.127
	(1.01)	(0.49)	(0.65)	(0.45)	(1.61)	(1.13)	(1.31)	(1.06)
Number of 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
Cluster	Month	Month	Month	Month	Month	Month	Month	Month
Observations	1,087	972	972	972	1,087	972	972	972
R^2	0.640	0.650	0.652	0.642	0.574	0.591	0.590	0.584

Note: This table presents OLS regression coefficients, where the dependent variable is the total number of carve-outs (columns 1 to 4) and the total number of deductibles (column 5 to 8). *Bond Dummy* is an indicator variable for the issuer having at least one bond issuance outstanding. ***, ** and * indicate statistical significance at the 1%, 5% and 10% level, respectively. Standard errors are clustered at the issuance month level and GIC industry groups.

APPENDIX

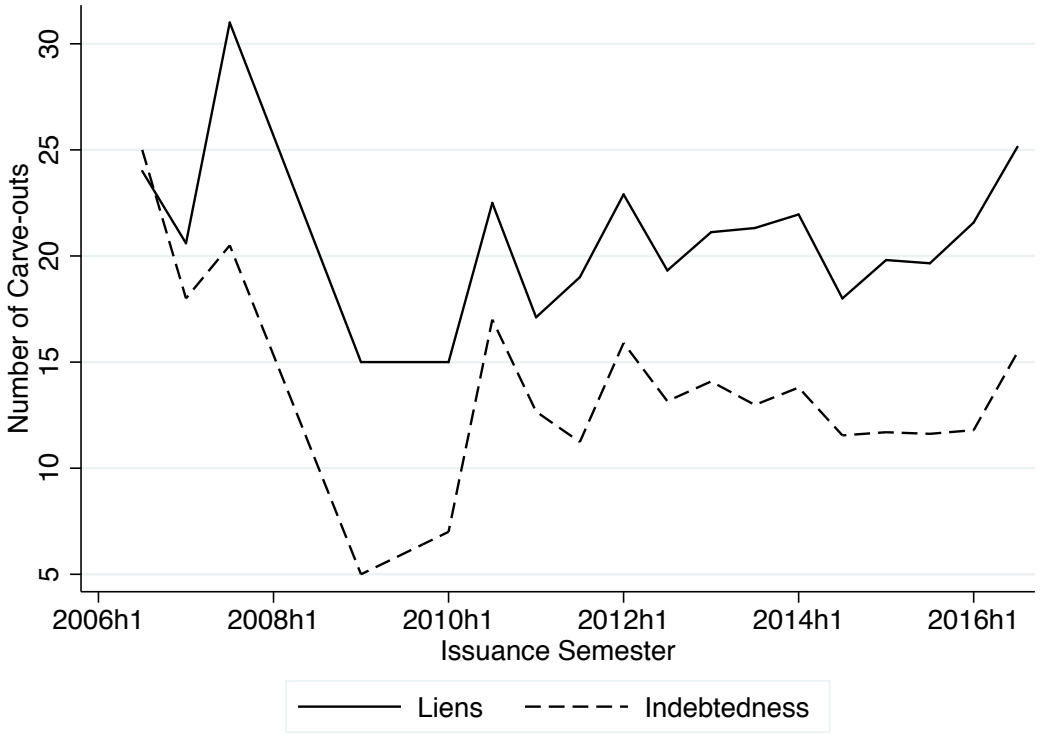


Figure A1
Evolution of Number of Carve-Outs on Liens and Indebtedness Restrictions

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

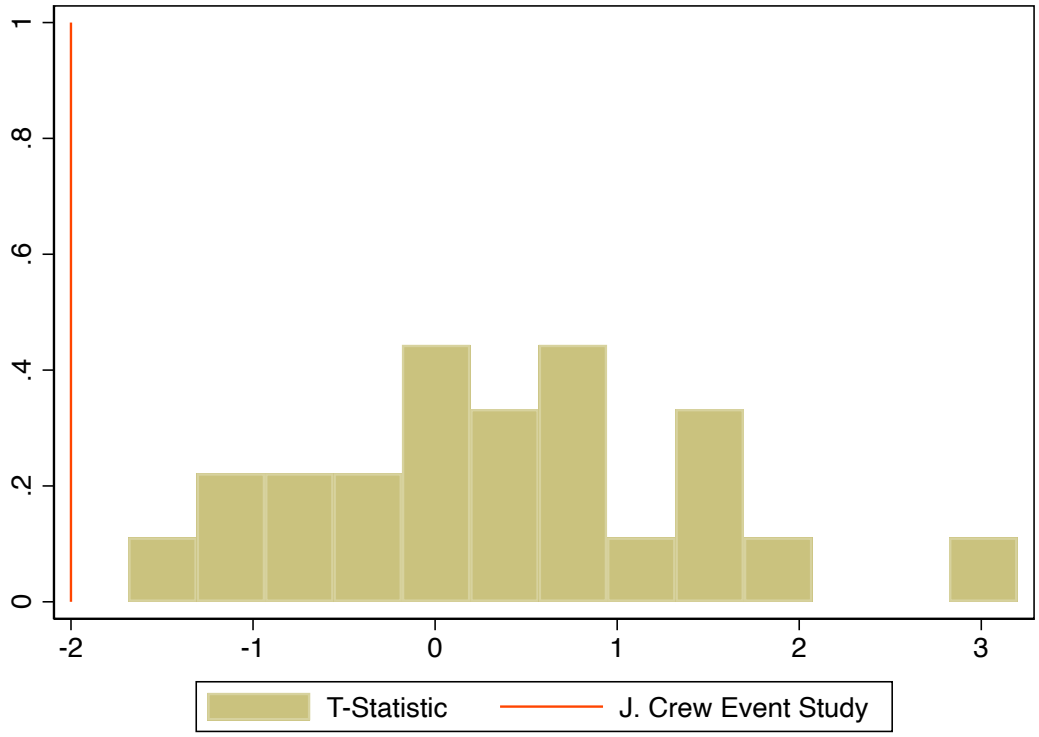
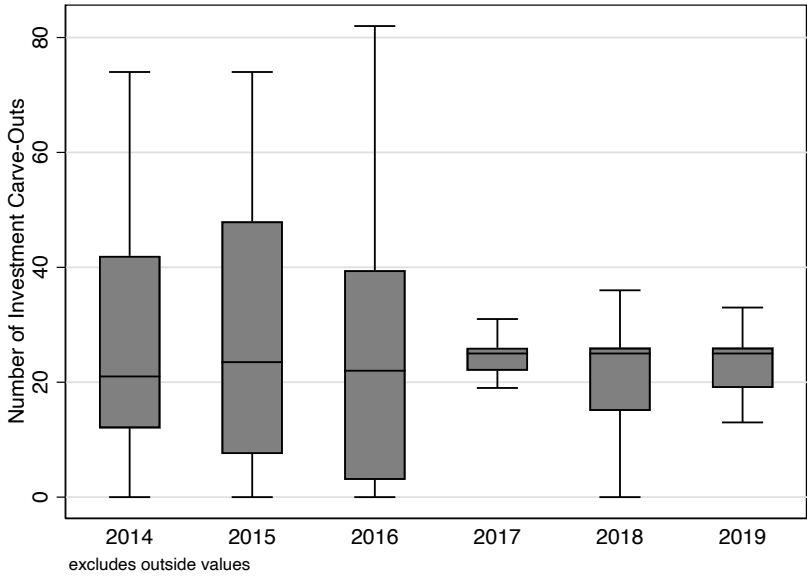


Figure A2
J. Crew Loan Event Study: Robustness Check

Note: This figure presents t-statistics from loan event studies conducted monthly, spanning one year before and one year after the reference date of June 12, 2017. The vertical red line indicates the specific t-statistics associated with the event study conducted on June 12, 2017.

Panel A: Distribution of the Investment Deductibles per Credit Agreement



Panel B: Relationships Between Credit Spread and Number of Investment Deductibles

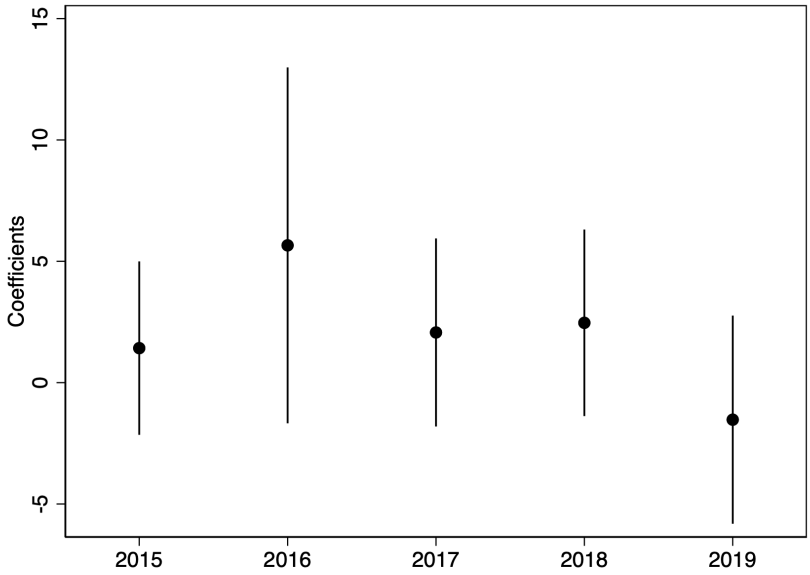


Figure A3
Investment Deductibles by Year

Panel A presents yearly boxplots of the number of investment deductibles from the sample of credit agreements available on EDGAR covering the period 2014 to 2019. All standard errors in Panel A are are clustered by GIC industry groups. Panel B presents the yearly OLS coefficients corresponding to the credit spreads regressed on the number of investment deductibles from the sample of credit agreements available on EDGAR covering the period 2014 to 2019. Due to limited data, the data from 2014 is merged into 2015. Credit spreads data is from Dealscan.

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) Bradley and Roberts (2015)	Billett, King, and Mauer (2007)
Loans, senior secured	Loans	Bonds
Restrictions on liens • Deductibles • Carve-outs	- Debt issuance sweep	
Restrictions on indebtedness • Deductibles • Carve-outs		Restrictions on: - Funded debt - Subordinated debt - Senior debt - Secured debt - Total leverage test
Restrictions on affiliate transactions • Deductibles • Carve-outs		
Restrictions on payments • Deductibles • Carve-outs	Restrictions on: - Dividends	Restrictions on: - Dividends - Share repurchases
Restrictions on asset sales • Deductibles • Carve-outs	Restrictions on: - Asset sales sweep	Restrictions on: - Sale and leaseback - Asset sale clause
Restrictions on capital expenditures • Deductibles • Carve-outs	Restrictions on:	Restrictions on: - 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 - Merger restrictions
(standard)	(standard)	- Cross-default provisions

Table A3
Event Study: Stock Reaction to J.Crew Announcement

Panel A: Standard Methodology							
	Cumulative Abnormal Return (in %) -15/+15 days						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
𝟙(Investments deductible)	2.309		1.103			2.026	
	(0.75)		(0.32)			(0.57)	
Number of Carve-outs		0.032**	0.030**	0.033**			
		(2.79)	(2.11)	(2.52)			
Number of Deductibles					0.103	0.062	0.113
					(0.69)	(0.34)	(0.70)
Remaining Maturity (in days)				0.001			0.001
				(0.49)			(0.65)
Number Financial Covenants				-0.394			-0.576
				(-0.60)			(-0.88)
Cov-lite Deal				-1.131			-0.680
				(-1.00)			(-0.62)
Leveraged				-0.693			-0.322
				(-0.35)			(-0.14)
Industry FE							
Cluster	Industry	Industry	Industry	Industry	Industry	Industry	Industry
Observations	230	230	230	230	230	230	230
R^2	0.264	0.272	0.273	0.275	0.262	0.264	0.266

Panel B: Cohn Methodology							
	Cumulative Abnormal Return (in %) -15/+15 days						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
𝟙(Investments deductible)	-0.986		-2.713	-2.690		-1.217	
Number of Carve-outs		0.037*	0.042	0.040			
Number of Deductibles					0.031	0.052	-0.002
Remaining Maturity (in days)				0.002			0.002
Number Financial Covenants				-0.193			-0.274
Cov-lite Deal				-1.594			-1.197
Leveraged				1.257			2.114
Observations	220	220	220	220	220	220	220

Note: Panel A of 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. Panel B repeats the same analysis using the event study methodology from **?** with the pre-event window correlations calculated set to 250 days. All 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.

Table A4
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. Main explanatory variables are the number of carve-outs, and number of deductibles. T-statistics are reported in parenthesis. ***, ** and * indicate statistical significance at the 1%, 5% and 10% level, respectively.