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How do firms respond to reduced private equity buyout activity?

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Abstract

This paper presents new evidence on the economic role of private equity buyouts by exploiting the staggered adoption of the constructive fraud provision by U.S. state courts. The law unintentionally shifts the credit default risk borne by existing unsecured creditors of the buyout target to the selling shareholders and lenders in the form of ex-post litigation risk, thereby discouraging buyout activity. Using a difference-in-differences framework, I find that firms raise less capital, reduce payouts and investments, and form alliances with employees. Firms also avoid positive NPV projects that carry too much risk. These findings are consistent with managers enjoying a quiet life. Further analysis indicates that this behavior of managers adversely affects creditors.

1 Introduction

Private equity (PE) buyouts have long been controversial, as the acquisitions are financed with significant amounts of debt secured by the target firm's assets. Critics often characterize PE buyouts as "strip and flip" practices, where PE firms acquire targets, exploit tax advantages and aggressively cut costs, and eventually sell the target firm for a profit. Senator Elizabeth Warren was among the critics who called for regulation of the PE industry, in which she condemned PE firms as "vampires" who drain companies dry while enriching themselves as a result. On the other hand, proponents such as former Yale University chief investment officer David Swensen expressed his concerns regarding the public market's obsession with quarterly earnings, and argued that PE buyouts constitute a better form of capitalism that will lead to greater long-term prospects for firms.[1] Aside from the opposing views on PE buyouts, recent evidence suggests that the performance of PE funds are unremarkable. Bain & Company, one of the "Big Three" management consulting firms, reported that PE buyout funds in the U.S. offered liquidity at a higher cost but delivered returns only at par with the S&P 500 for the last decade.[2] Similarly, Phalippou (2020) reported that the annualized net returns of PE funds for the period 2006 to 2019 was 11% on average, which is about the same as public equity indicies. Taking into account the various costs associated with buyouts and the large performance fees collected by PE funds, he pointed out that PE buyouts is a costly form of financial intermediation. Given the debates and their controversial nature, it is crucial to understand the economic role of PE buyouts.

As argued by Jensen (1986, 1989), the combination of high leverage and concentrated ownerships following PE buyouts reduce the agency cost of free cash flow, thereby improving managerial incentives and hence efficiency. First, high leverage pressures managers to reduce discre-

[1] See "A Conversation with David Swensen" at the Stephen C. Freidheim Symposium on Global economics.

[2] See "Global Private Equity Report 2020," Bain & Company.

tionary spending and generate higher cash flow in order to service the heavy debt load. Second, the PE firms, having concentrated ownership, are motivated to actively monitor management. Third, increased management ownership encourages diligence. The extant literature that investigates the impact of PE buyouts on firms largely supports Jensen's view. For instance, there has been evidence of improvements in operating performance (e.g., Kaplan, 1989; Lichtenberg and Siegel, 1990; Smith, 1990), innovative activity (e.g., Lichtenberg and Siegel, 1990; Lerner et al., 2011), and the workforce (e.g., Davis et al., 2014; Agrawal and Tambe, 2016; Cohn et al., 2021) following buyouts. However, the majority of existing studies are limited by the fact that PE buyouts are not exogenous events, and therefore it is unclear whether the improvements are a result of the buyout or merely a result of PE firms being skilled at cherry picking targets with promising future prospects. While studies have sought to establish causality by comparing the performance of buyout targets with that of a matched control sample, a concern remains that the estimates may still be biased due to unobserved confounders. Alternatively, Bernstein and Sheen (2016) addresses this issue by exploiting the franchise structure in the restaurant industry, which allows comparison between twin stores with and without the involvement of private equity. However, given its focus on a specific industry, it is unclear whether the results are generalizable. In contrast to prior literature, this study uses a quasi-natural experiment to estimate the causal effect of PE buyout activity in a large sample, which is the first, to the best of my knowledge.

This paper investigates the economic consequences of reduced PE buyout activity, which also sheds light on the question of whether PE firms deserve their bad reputation. In particular, I examine two related issues. First, how do managerial behavior change in response to a decline in PE buyouts? Second, are there any consequences for creditors? To answer these questions, I exploit the staggered adoption of the constructive fraud provision (hereafter, CFL) by U.S. state courts as an exogenous shock to PE buyout activity. The U.S. system of fraudulent transfer law includes two types of fraudulent transfer—actual fraud and constructive fraud. In contrast

to the historically adopted actual fraud provision, the CFL enables existing unsecured creditors to challenge the PE buyout deal as fraudulent ex-post if the buyout target defaults on its debts after the buyout. In the event of a successful lawsuit, the buyout deal would be unwound in order to repay the existing unsecured creditors. As a result, the target's selling shareholders may be required to return the proceeds, and the lending bank which financed the buyout deal loses its lien on the target's assets. In essence, the CFL shifts the credit default risk borne by existing unsecured creditors to other participants of the buyout. As litigation risk increases with the adoption of CFL, lenders will require higher rates of return for financing PE buyouts, and fewer buyout deals will be feasible.

I begin by investigating the mechanisms of CFL effects. First, based on the analysis of a sample of Dealscan loans, I find that lenders demand higher rates of return for funding PE buyouts after the adoption of CFL. Loans used to finance PE buyouts increased by 56 basis points, representing a 28% increase compared to the sample mean, while all other loans remained unchanged. Second, studying a sample of PE buyouts, I find states that adopt CFL experience a substantial reduction in buyout activity. The estimates imply a 68% decrease relative to the sample mean. Further analysis based on firm-level data shows that firms are less likely to be targeted in a buyout following the law change, which confirms the finding of reduced buyout activity at the state-level.

Next, I investigate how reduced PE buyout activity affects managerial behavior. Two opposing perspectives have been presented in the literature regarding takeovers and corporate governance. On the one hand, the theory on the market for corporate control maintains that takeover threat reduces agency costs between managers and shareholders, and compels managers to act in the interests of shareholders (e.g., Manne, 1965; Jensen and Meckling, 1976). Therefore, management may become entrenched if the threat of a takeover is reduced. The literature puts forth a number of theories as to how entrenched managers might behave in pursuit of their private interests. For instance, the empire-building hypothesis argues that managers may

be tempted to make wasteful investments and expand their firms beyond the optimal size in order to derive private benefits from increased compensation and power as a result of managing larger firms (e.g., Baumol, 1959; Marris, 1964; Williamson, 1964; Jensen, 1986). Managers may also prefer to exert less effort and enjoy a quiet life rather than undertake difficult tasks (e.g., Grossman and Hart, 1983; Bertrand and Mullainathan, 2003). The contrary view, however, is that shareholders may benefit from reduced takeover threats. For instance, the career concern hypothesis suggests that managers may be concerned about their reputations or short-term performance when they are under takeover pressure, which may lead them to make suboptimal decisions that hinder the long-term prospects of their firm for short-term gains (e.g., Narayanan, 1985; Stein, 1988; Holmström, 1999).

While many studies have empirically examined how takeover threat affects managerial preference, it remains unclear how managers would behave in the event of reduced PE buyout threat. First, PE buyouts differ from general M&A in terms of target characteristics and motives. For instance, product market synergies are the key drivers behind general M&A (e.g., Rhodes-Kropf and Robinson, 2008; Hoberg and Philips, 2010). PE firms, on the other hand, typically acquire firms with high cash flow and unfavorable investment opportunities with the goal of improving the stand-alone value of the firm (e.g., Lehn and Poulsen, 1989; Opler and Titman, 1993). Second, studies based on different anti-takeover legislations provide mixed evidence. For instance, the more well-known studies are those that exploit the staggered adoption of Business Combination laws. These studies generally support the notion that reduced takeover threat weakens corporate governance, enabling managers to enjoy a quiet life (e.g., Bertrand and Mullainathan, 2003; Giroud and Mueller, 2010; Gormley and Matsa, 2016). However, these studies have relied on the fact that BC laws reduces takeover threat even though the evidence does not support this assertion. Using French data, Frattaroli (2020) documents a decrease in the likelihood of a takeover, but there is no evidence of a change in firm policies and performance. Third, potential concerns regarding studies that exploit legal changes as an exogenous

source of variation include the possibility that firms may have lobbied for the passage of a law (e.g., Karpoff and Wittry, 2018). This is less of an issue for the setting in this paper since the CFL was meant to prevent debtors from defrauding their creditors, and thus its effects on PE buyouts are arguably unintentional.

Given the CFL's unintended consequences on PE buyouts, it is well suited for examining the real consequences of PE buyout activity. It is difficult however, to observe managers' behavior directly. To address this challenge, I consider a set of outcomes which reflect various aspects of the firm, including financial and payout policies, investment policies, employment policies, operating performance, valuation, and risk. Managers who face lower PE buyout threats tend to reduce payouts to shareholders, cut down on capital expenditures, form alliances with employees, and avoid positive NPV projects with too much risk. In terms of firm valuation and overall risk, there is no indication of a significant change due to the combination of an increase in financial risk and a decrease in operational risk. Taken together, these findings are generally consistent with the fact that managers prefer to enjoy a quiet life. Further, and arguably due to changes in management behavior, firms are more likely to default on their debt.

This paper contributes to the literature along several dimensions. First, this paper adds to the literature on anti-takeover provisions and managerial entrenchment. Studying Business Combination (BC) laws, Bertrand and Mullainathan (2003) document an increase in worker wages but a drop in productivity, investments, and profitability. They conclude that managers exert less effort when faced with weakened corporate governance. Gormley and Matsa (2016) show that managers not only seek a quiet life but also prefer to play it safe, whereby they take on value-destroying actions to reduce firm's risk. Likewise, Low (2009) finds that managers of firms subject to the Delware takeover protection regime reduce firm risk at shareholders' expense. Studying French data, Frattaroli (2020) only finds an increase in CEO compensation. By contrast, this paper finds no evidence of higher wages. However, there has been an increase in the number of employees. While there is an increase in profitability as a result of managers

forgoing risky positive NPV projects, it appears not to affect firm's valuation or overall risk.

Second, this paper is also related to the literature on the variations of PE buyout activity. Kaplan and Stein (1993) find that the overheated PE buyout market in the late 1980s coincided with the increased use of public junk bonds. Shivdasani and Wang (2011) show that the PE buyout boom of 2004 to 2007 was fueled by increased credit supply, which was brought about by the growth in structured credit markets. In contrast, Haddad et al. (2017) argue that aggregate risk premium is the main driver of buyout waves since it explains 30% of the variation, while credit factors only account for 10%. This paper supports the view that credit market condition is an important determinant by showing that strong creditor rights substantially deter PE buyout activity.

Finally, the findings raise important regulatory issues. Law practitioners and academics are increasingly concerned about the application of fraudulent transfer laws to PE buyouts. Much of the debate is centered around agency problems. In their seminal work, Baird and Jackson (1985) argue that the law unfairly restricts PE buyout activity in the sense that the buyouts are not necessarily against the long-term interests of existing creditors. A recent article in the *Financial Times* warned that the ex-post litigation risk associated with PE buyouts may exacerbate agency conflicts since managers' top priority would be to avoid lawsuit rather than maximize shareholder value.[3] An implication of this paper is that restricting PE buyout activity could lead to managers enjoying a quiet life, and may also adversely affect creditors. Lawmakers should thus take caution when regulating the private equity industry.

The rest of the paper proceeds as follows. Section 2 discusses the institutional details of the constructive fraud provision. Section 3 provides a conceptual framework to illustrate how the law change affects PE buyouts. Section 4 describes the sample and data. Section 5 presents the main results. Section 6 offers robustness tests. Section 7 concludes.

[3]See "Dealmakers warn of chilling effect on buyouts from US court ruling." Financial Times, 15 December 2020.

2 Institutional details

2.1 Legal background: Fraudulent Transfer Law

In 1571, the British Parliament enacted the Statute of 13 Elizabeth, which prohibited transactions made by debtors with the purpose and intent to "delay, hinder, or defraud creditors."[4] However, creditors were responsible for proving fraud intents, which is challenging. As a means of easing the burden on creditors of proving the fraud intent of debtors, English courts developed a set of factors known as "badges of fraud", which may be considered to be presumptive evidence of fraudulent intent. *Twyne's Case* was a leading case that formed the basis of the badges of fraud.[5] It concerns an English farmer who attempted to defraud creditors by selling his sheep to Twyne, while remaining possession of the sheep. Several factors identified from the case were labeled as badges of fraud, including for instance, "the debtor's continued possession of the property" and "the transfer made in trust for the benefit of the debtor".

The Statute of 13 Elizabeth, along with the badges of fraud, were adopted by the U.S. system of fraudulent transfer law. With time, however, the weighting of badges of fraud and conditions for challenging transactions began to differ significantly between jurisdictions. In order to ensure consistency and predictability, the National Conference of Commissioners on Uniform State Laws (NCCUSL, also known as the Uniform Law Commission) developed the Uniform Fraudulent Conveyance Act (UFCA) in 1918. A major aspect of the UFCA was its development of various objective criteria for proving constructive fraud. Prior to this, creditors could only challenge transfers under the actual fraud provision, which required them to prove the debtor's intention to defraud. With the constructive fraud provision, a transfer may be challenged if it was exchanged for a price less than the fair value by an insolvent debtor, regardless of whether the debtors had an actual intent to defraud.

[4] *See* 13 Eliz., ch.5, § I (1571).

[5] *See* 76 Eng. Rep. 809 (Star Chamber 1601).

Over the following decades, the NCCUSL made two amendments to the UFCA, and the act was renamed the Uniform Fraudulent Transfer Act (UFTA) and subsequently, the Uniform Voidable Transactions Act (UVTA). The main purpose of both amendments was to reduce ambiguity. The new acts retained the structure and organization of the UFCA, and the substance of the law remain largely unchanged.

2.2 The effect of CFL on PE buyouts

PE buyouts refer to acquisitions in which a private equity firm acquires a target firm using a large amount of debt secured by the target's assets. An example of a typical PE buyout is as follows: First, the PE firm contributes a small amount of equity with its own capital and forms a shell company. The PE firm then uses the shell company to make an unsecured loan and purchases the target from the selling shareholders. The shell company is then merged into the target, with the target surviving. Following the merger, the target's assets are used as collateral for the debt and its future cash flows are used to service the debt. Simply put, the target firm is responsible for repaying the loan used to finance the buyout.

PE buyouts may negatively affect a target firm's existing unsecured creditors since the target's highly leveraged capital structure may increase the target's bankruptcy risk. Additionally, a large portion of the target's assets are pledged as collateral for the buyout loan. In the event that the target goes bankrupt, the existing unsecured creditors may receive little or no payment since their loan is not backed by collateral. The constructive fraud provision, however, allows existing unsecured creditors to ex-post challenge PE buyout deals as fraudulent and unwind the deal for the following reasons. First, the proceeds from the debt raised to finance the buyout deal went, effectively, from the lenders to the target's selling shareholders and not to the target. This constitutes a fraudulent transfer given that the target receives nothing in exchange for pledging assets as collateral and repaying the loan.[6] Despite the fact that the buyout deal may

[6]According to court rulings (e.g., *Robinson v. Wangemann, 75 F.2d 756*), a firm receiving its own treasury stock is not considered as receiving equivalent value in exchange.

have indirectly benefited the target, this type of transfer is nonetheless considered fraudulent since the assets available for debt repayment have been reduced as a result. Second, it may be argued that the newly incurred debt obligations impaired the target's financial condition, which subsequently led to its bankruptcy.

If the buyout deal is successfully challenged as fraudulent, the target's selling shareholders may need to return the proceeds from selling their shares. Further, the target's existing unsecured creditors will have priority claims over new creditors. This means that the lender that financed the deal will have its claims subordinated, even if its debt is secured. In sum, the adoption of CFL shifts the credit default risk from existing unsecured creditors to the selling shareholders and lenders, thereby increasing the costs of funding and discouraging PE buyouts.

2.3 Anecdotal evidence: Gleneagles case

A prominent case where a PE buyout was deemed fraudulent is the *Gleneagles Case*.[7] In 1973, Raymond Colliery Co. (hereafter, Raymond) was acquired by an investor group through Great American Coal Co., a shell company. The purchase of Raymond's stock was financed by a loan issued by the Institutional Investors Trust, in which the assets of Raymond was pledged as collateral. Shortly after the buyout, Raymond struggled to make its tax and loan payments. In 1980, the federal government filed a lawsuit against Raymond for failing to pay its taxes. Due to Raymond's insolvency following the buyout, the court declared that the transactions constitutes of constructive and actual fraud under the Pennsylvania UFCA. Specifically, the loan proceeds merely flowed through Raymond to its selling shareholders and thus was not considered as receiving fair value in exchange for Raymond. In addition, the selling shareholders were accused of breaching its fiduciary duty in the sense that they were aware the transaction would injure Raymond and its existing creditors. Having thus determined that the buyout was a fraudulent conveyance, the deal was unwound.

[7]See 565 F. Supp. 556 (M.D. Pa. 1983).

3 Conceptual framework

In this section, I provide a simple framework to illustrate how the adoption of the CFL affects PE buyouts. The CFL gives existing unsecured creditors of PE buyout targets the right to file a lawsuit to unwind the buyout deal when the target firm goes bankrupt and defaults on its debts. Let q denote the probability that the buyout deal is successfully challenged during a lawsuit. In the event of a successful lawsuit, the target's selling shareholders incurs a loss $L > 0$ for having to return the proceeds. Given that the existing unsecured creditors will have priority for repayment, the lenders which financed the buyout deal incurs a cost of $c > 0$ for loosing its lien on the buyout target's assets.

Suppose it costs $I > 0$ to acquire a PE buyout target. There are two periods. In the first period, the acquirer decides to undertake the acquisition, where he finances the purchase of the target firm by borrowing I from lenders. The required rate of return for lenders is γ. The probability that the acquisition succeeds in generating a surplus is p. In the second period, the payoff of the project is realized. In case of success, the project has payoff $R > 0$. In case of failure, the payoff is $-L$ if the target's existing creditors file a lawsuit, and zero otherwise.

The lender will agree to finance the buyout deal only if the following break-even constraint is satisfied

$$(\gamma - c)(1 - p)q + \gamma[1 - (1 - p)q] \geq 0. \tag{1}$$

The above condition can be rewritten as:

$$\gamma \geq cq(1 - p) = \gamma_{min}(c, p, q), \tag{2}$$

where $\gamma_{min}(c, p, q)$ is the minimum required rate of return for lenders. Differentiating $\gamma_{min}(c, p, q)$ with respect to q gives:

$$\frac{\partial \gamma_{min}(c, p, q)}{\partial q} = c(1 - p) > 0, \tag{3}$$

which implies that the lender's minimum required rate of return $\gamma_{min}(c, p, q)$ increases in the probability of a successful lawsuit q.

Prediction 1. The lender's required rate of return for financing a PE buyout increases following the adoption of the CFL.

Suppose an acquisition must be economically viable to occur. Therefore, the expected surplus S generated by an PE buyout deal should satisfy the following condition:

$$S = pR + (1 - p)q(-L) - \gamma_{min}(c, p, q)I > 0. \tag{4}$$

Differentiating S with respect to q gives

$$\frac{\partial S}{\partial q} = -(L + c)(1 - p) < 0, \tag{5}$$

which implies that the surplus S decreases in the probability of a successful lawsuit q. In other words, the set of viable deals decreases following the law change.

Prediction 2. PE buyout activity decreases following the adoption of the CFL.

4 Data and research design

4.1 Data sources, sample selection, and descriptive statistics

The data for this study come from multiple sources. The sample of PE buyouts comes from Refinitiv's Security Data Company (SDC) Platinum M&A database. I retrieve all completed leveraged buyouts for which the target's state of headquarters is in the U.S., excluding partial buyouts, self-tenders, and recapitalizations. The sample period begins in 1976 and ends in 2005 in order to include at least five years of data before and after the adoption of each constructive fraud provision. This leaves a sample of 4,457 buyouts. From Moody's Default and Recovery Database (DRD), I obtain data on default events. I extract all events between the year 1976 to 2005 that constitute a debt default under Moody's Definition. There is a total of 2,157 defaults

by U.S. firms. From Refinitiv's Dealscan database, I collect all U.S. dollar-denominated loans made to U.S. firms originated between 1982 and 2005.[8] I exclude loans with missing information on all-in spread drawn, loan amount, maturity, and the state where the borrower primarily operates in. Loans are considered to be used to finance PE buyouts if the primary or secondary purpose of the loan is "LBO" or "MBO". The sample of loans includes 545,337 tranches, 38,838 of which were issued to finance PE buyouts.

I construct a panel of U.S. firms and obtain financial data from Compustat. I exclude regulated utility firms (SIC codes from 4900 to 4999), financial firms (SIC codes from 6000 to 6999), and firms headquarted outside the U.S. I also exclude observations with negative book value of assets or net sales. A limitation of the Compustat database is that it only provides information on firms' most recent state of incorporation and headquarters. Given that the difference-in-differences identification strategy in this study relies on firms' headquarters state, correcting for the location using historical data reduces measurement error in the constructive fraud law indicator, which is the main independent variable of interest. To this end, I obtain historical data on firms' headquarters state from Bill McDonald's Augmented 10-X Header Data,[9] which was extracted and compiled from 10-K and 10-Q filings on EDGAR dating back to 1994. I exclude observations for which historical information on a firm's headquartered state is unavailable. The sample thus starts in 1994 and ends in 2005, five years after the last adoption of the constructive fraud law. I then match the sample of PE buyouts and default events with the sample of Compustat firms in order to study the real consequences of the law change at the firm-year level. The panel consists of 87 PE buyouts and 269 default events.

Table 1 presents summary statistics for the outcome variables in the analysis. To minimize the effect of extreme outliers, all continuous variables in Panels B and C are winsorized at the 1st and 99th percentiles. Variable construction follows the literature and are described

[8]Data coverage for loans with U.S. borrowers begins in 1982.

[9]https://sraf.nd.edu/data/augmented-10-x-header-data

in the Appendix (Table A.1). Panel A reports statistics for the state-year panel. The average number of completed PE buyouts is 2.9. Panel B reports statistics for the firm-year panel, which includes various measures that capture financial and investment policies, payout policies, firm performance and valuation, as well as firm risk. The sample sizes differ between tests based on the availability of the variables in question. Panel C reports statistics for the loan-year panel. The main variable of interest is spread, which is measured as the amount a borrower pays in basis points over LIBOR for each dollar drawn down. The average spread is 197 basis points, the average loan tranche amount is $193 million, and the average maturity is 3.3 years. Nearly all tranches are senior and around 57% are secured.

4.2 The CFL indicator

The main independent variable of interest is the CFL indicator, which indicates whether a state has adopted the constructive definition of fraud by a given year. States that adopt a constructive definition of fraud are those that either passed any version of the fraudulent transfer act legislated by the NCCUSL or introduce the concept in their statutory or case law. Columns (1) and (2) of Table 2 lists the earliest adoption of any version of the fraudulent transfer acts legislated by the NCCUSL for each state. The last column indicates whether a state adopted a constructive definition of fraud through statutory or case law prior to the enactment of the NCCUSL acts. Details on the NCCUSL fraudulent transfer acts are retrieved from NCCUSL and Thomson Reuters West Law. Pre-existing statutory or case law is identified from Ersahin et al. (2020).

I construct the CFL indicator for each state-year observation based on the earliest adoption of a constructive definition of fraud. Between the years 1976 and 2005, ten states (including the District of Columbia) adopted a constructive definition of fraud for the first time. The indicator equals one if a state currently has the constructive fraud provision in place in a given year, and zero otherwise. For the forty states in which the adoption is before the sample period, CFL

is always set to one. For Alaska, which is the only state that never adopted any constructive fraud law, CFL is always equal to zero.

4.3 Empirical specification

The analysis in this paper uses a difference-in-differences research design to examine the effect of the CFL on various outcome variables. For state-level tests, I estimate the following specification:

$$Y_{s,t} = \beta_1 CFL_{s,t} + \gamma' X_{s,t} + \alpha_s + \lambda_t + \varepsilon_{s,t} \tag{6}$$

where s indexes states and t indexes years. $Y_{s,t}$ is the outcome of interest for state s in year t. The main independent variable of interest is $CFL_{s,t}$, which is an indicator that equals one if a constructive fraud provision has been adopted in state s by year t, and zero otherwise. $X_{s,t}$ is a vector of state-level controls. α_s is a state fixed effect which controls for time-invariant unobservable differences across states; λ_t is a year fixed effect which controls for time-invariant unobservable differences across the years. $\varepsilon_{s,t}$ is the error term. Standard errors are clustered at the state level (e.g., Bertrand et al., 2004).

For firm-level tests, I estimate the following specification:

$$Y_{i,s,t} = \beta_1 CFL_{s,t} + \gamma' X_{i,s,t} + \alpha_s + \lambda_t + \omega_i + \varepsilon_{i,s,t} \tag{7}$$

where i indexes firms, s indexes states, and t indexes years. $Y_{i,s,t}$ is the outcome of interest for firm i headquartered in state s in year t. CFL is defined as before. $X_{i,s,t}$ is a vector of firm-level controls. As before, α_s and λ_t represent state and year fixed effects, respectively. ω_i is the firm or industry fixed effect which controls for time-invariant unobservable differences across firms or industries. I include state fixed effects as some borrowers may relocate their headquarters to a different state. $\varepsilon_{i,s,t}$ is the error term. Standard errors are clustered at the state level.

The specifications for loan-level tests are identical to that of firm-level tests, but with some

changes in notations. $Y_{i,s,t}$ refers to the outcome of interest for loan i issued to a borrower headquartered in state s in year t. ω_i refers to a lender fixed effect which controls for time-invariant unobservable differences across lead lenders. All other variables are defined as before.

5 Empirical results

5.1 Effect of Constructive Fraud Law on PE buyouts

As shown in section 3, following the adoption of CFL, lenders require higher rates of returns for financing PE buyouts and fewer viable buyouts become available for PE firms as a result of increased litigation risks. In this section, I investigate the mechanisms of CFL effects by testing these two predictions.

5.1.1 Spread of loans for PE buyouts

I begin by testing the prediction that the lender's required rate of return for financing PE buyouts increases after CFL is adopted. To test this, I partition the sample of loans based on their purposes and examine the effect of CFL on spreads for loans with the purpose of financing PE buyouts versus those for all other purposes. Specifically, I estimate equation (7) for each subsample separately. The dependent variable, *Spread*, is the all-in spread drawn of loan i issued to a borrower headquartered in state s in year t. The control variables include several loan characteristics, which are $Ln(Amount)$, $Ln(Maturity)$, *Secured*, *Senior*, *Covenant*, *Sole lender*, *Refinance*, *Performance pricing*. Table A.1 in the appendix defines each of these variables.

Columns (1) and (2) of Table 3 report the effect of CFL on the spreads of loans used for PE buyouts and for other purposes, respectively. As shown in column (1), the spread of loans used to finance PE buyouts increase by 56 basis points after the adoption of CFL and is statistically significant at the 1% level. This represents a 28% increase relative to the sample mean, suggesting that the effect is economically significant. By contrast, column (2) reveals

that the effect is insignificant for the sample of all other loans. In columns (3) and (4), I show that the results are robust after controlling for loan characteristics. In both specifications, the coefficient equality test yields a p-value of 0.000, indicating that the difference between the coefficient estimates for the loan spreads of the two subsamples is statistically significant at the 1% level. Results support the idea that lenders demand a higher return for financing PE buyouts as a result of CFL adoption.

5.1.2 PE buyout activity

Next, I test the prediction that PE buyout activity decreases following the adoption of CFL. As shown in Table 4, the coefficient on CFL is negative and statistically significant at the 1% level. In terms of economic magnitude, the estimate suggests that the adoption of CFL reduces the number of PE buyouts by 1.98. This represents a 68% decrease relative to the sample mean.

I also investigate whether firms are less likely to become targets of PE buyouts after the passage of CFL. I conduct the analysis at the firm-year level using both the linear probability model (LPM) and the logistic model. The dependent variable, $Target$, is an indicator that equals one if firm i was acquired in a PE buyout in year t, and zero otherwise. I include a set of control variables considered in Opler and Titman (1993) that are known to affect the probability of a firm being acquired in a PE buyout. Specifically, the vector of controls include $Operating\,income/Assets$, $Tobin's\,Q$, $Machinery\,indicator$, $R\&D/Sales$, $Selling\,expenses/Sales$, $Ln(Assets)$, HHI, $HighOpinc\times LowTobinq$, $LowOpinc\times HighTobinq$, and $HighHHI\times LowTobinq$. Table A.1 in the appendix defines each of these variables. Since it is computationally demanding to estimate a high-dimensional logit regression, I include fixed effects defined at the 2-digit SIC level instead of firm fixed effects.

Columns (1) and (2) of Table 5 present the results from the linear probability model. The coefficient estimates and standard errors are multiplied by 100 to improve readability. Column (1) show the estimation of the effect of CFL with only year, state, and industry fixed effects.

Column (2) further includes the determinants on the probability of being targeted in PE buyouts considered in Opler and Titman (1993). The coefficient estimates on CFL imply that firms are 0.68% (0.46%) less likely to be targeted in a PE buyout following the law change, with a statistical significance at the 1% (5%) level. Given that the unconditional probability of being targeted is 0.1%, the effect is large in economic terms. Columns (3) and (4) show the results from the logistic regression, where column (4) includes the set of controls. For ease of comparison with the LPM, marginal effects of CFL are multiplied by 100. The estimated coefficients on CFL continue to be negative and statistically significant at the 5% level. The marginal effects imply a 0.51% (0.56%) decrease in the probability of being targeted, which is also economically large. Overall, both the results at the state and firm level support the prediction that CFL leads to a reduction in PE buyout activity.

5.2 How do managers respond to reduced threat of PE buyouts?

The evidence presented thus far establishes that the adoption of CFL leads to a reduction in PE buyout activity. The question therefore arises as to whether the drop in PE buyout activity affects managerial behavior, which is theoretically ambiguous. On the one hand, the theory on the market for corporate control suggests that managers have the tendency to act against shareholder interests in situations where takeover threats are reduced. On the other hand, models based on managerial career concerns predict that takeover threats induce managers to pursue short-term goals. In this section, I consider a range of outcomes that capture various aspects of the firm to provide insight into how mangers' behavior changes in response to reduced PE buyout threat.

5.2.1 Financial and payout policies

I first investigate whether a reduction in PE buyout threat resulting from the adoption of CFL affects firms' financial and payout policies. Columns (1) and (2) of Table 6 report the

effect on capital structure, as measured by book leverage and net book leverage. As shown, reduced PE buyout threat does not appear to have a statistically significant impact on firms' capital structure decisions. Column (3) examines whether there is any change in new financing activities, measured as the sum of net debt and equity issuance. Results indicate that firms raise less capital, significant at the 5% level. The effect is economically large, as it represents a 20% decrease relative to the sample mean. Based on the estimates presented in columns (4) and (5), it appears that the reduction has been primarily driven by a drop in equity financing. In column (6), I examine the effect on payouts to shareholders. Payouts in the form of dividends and stock repurchases decrease by 0.7 percentage points, statistically significant at the 1% level. The estimate represents a 35% decrease relative to the sample mean. The findings are consistent with Jensen's (1986) hypothesis that entrenched managers prefer to avoid decisions that constrain their use of free cash flow to pursue personal interests by making less payouts to shareholders. However, the hypothesis also implies that managers seek to avoid leverage, which I do not find. Further, the results do not support models that predict less debt financing when faced with reduced takeover threats (e.g., Harris and Raviv, 1988; Stulz, 1988).

5.2.2 Investment policies

Next, I consider whether reduced PE buyout threat affects investment policies. Column (1) of Table 7 show a negative and statistically significant association between total investment and PE buyout threat. The estimate indicates a decrease by 1.0 percentage points, which represents a 6.4% reduction relative to the sample mean. Further analysis presented in columns (2) to (4) reveal that there is no evidence of a change in R&D and acquisitions expenses, and that the decrease is mainly the result of a reduced capital expenditures. Results from columns (5) and (6) show that firm growth, as measured by asset growth and PP&E growth, do not exhibit a statistically significant change. These findings rule out the possibility that managers are empire-builders when faced with reduced buyout threat. Subsequent subsections will provide a

better understanding of whether the underinvestment behavior is a result of short-termism or a desire to exert less effort.

5.2.3 Employment policies

As a measure of whether management alters employment policies, I examine whether the number of employees and average wage per employee have changed. Table 8 presents the results. Column (1) shows that the number of employees increase by 12.1%, statistically significant at the 1% level. In terms of economic significance, the estimate implies a 1.8% increase relative to the sample mean. Column (2) reports the results for wages. As is shown, the effect is insignificant. It is important to note, however, that only a fraction of firms report wage data. While the result should be interpreted with this caveat in mind, it is comforting to see that it is in line with the literature (e.g., Giroud and Mueller, 2010). It is not clear, however, whether the finding of more employees alone is indicative of managers' preference for a quiet life or their desire to build empires. On the one hand, it can be explained as managers offering long-term employment contracts to temporary workers, which would be consistent with the view that managers who prefer to enjoy a quiet life may form alliances with employees to secure their own positions (e.g., Pagano and Volpin, 2005). On the other hand, the literature suggests that this could be a sign of active empire building (e.g., Bertrand and Mullainathan, 2003). In the final subsection, I summarize all of the findings and present a clearer picture.

5.2.4 Operating performance, valuation, and risk

I then investigate the performance and valuation implications of reduced PE buyout threat. Columns (1) and (2) of Table 9 report the effects on operating performance, as measured by sales growth and ROA. The decline in sales growth is statistically significant at the 1% level. The 5.6 percentage point drop corresponds to a 22.5% decrease in the sample mean, which is large in economic terms. As for ROA, there is a 5.5 percentage point increase, which is

statistically significant at the 1% level. Columns (3) and (4) report the effects on firm value, as measured by Tobin's Q and the market-to-book ratio. The estimates are negative for both measures, but not statistically significant.

Finally, I examine the effect of reduced PE buyout threat on firm's risk-taking. Table 10 presents the results. Column (1) shows that operational risk, measured by cash flow volatility as in Gormley and Matsa (2016), declines by about 2.8 percentage points. The drop represents a 10.6% decrease relative to the sample mean, and is statistically significant at the 5% level. Column (2) examines cash holdings to see if there is any change in financial risk. As shown, cash holdings decrease by 20.9%, statistically significant at the 1% level. This suggests an increase in financial risk. In column (3), I examine realized stock volatility, a summary measure of firm risk that reflects the financial and non-financial aspects of risk. There is no indication that overall risk has changed significantly, which could be the result of reduced operational risk and higher financial risk.

5.2.5 Empire building or quiet life?

The above evidence supports Jensen's (1986) view that managers would prefer to make fewer payouts to shareholders. The implication that managers misuse free cash flow to build empires is, however, not supported. While hiring more employees could be indicative of empire building, when taking into account various aspects of the firm, the big picture seems to be more consistent with the fact that manager prefer to enjoy a quiet life. The rationale is as follows. First, managers are cutting down capital expenditures and there is no evidence that physical assets have grown. Second, the combination of reduced sales growth, higher return on assets, and lower cash flow volatility suggests that managers prefer to avoid positive NPV projects with too much risk. As such, it is more likely that the finding of increased employees is indicative of the manager's desire to build alliances with them for the sake of job security. In summary, managers' preference for a quiet life may lead to lower payouts and fewer investments. However,

they are also cutting their operations and hiring more employees, which results in a reduction in cash holdings and an increase in financial risk. Yet, these behaviors do not appear to affect the valuation of the firm or its overall risk.

5.3 Are there any consequences for creditors?

The previous section shows that managers prefer to enjoy a quiet life when the threat of being targeted in a PE buyout is reduced. In this section, I extend my analysis to investigate whether this behavior of managers has consequences for creditors by examining the likelihood of debt default and bankruptcies. To test this, I define two binary variables as dependent variables, each of which indicates whether a firm defaulted on its debt or filed for bankruptcy over the time interval indicated in subscript, respectively.

Table 11 presents the results from a linear probability model. Columns (1) to (3) examine the likelihood of debt default. Based on the estimate in column (1), firms are neither more nor less likely to default over a one-year period. Columns (2) and (3) consider the probability of default over a longer horizon. Results show that firms are around 0.5% more likely to default on their debt, with a statistical significance at the 5% level. The estimates correspond to a 53% increase in the sample mean, which is economically large. Columns (4) to (6) examine the likelihood of bankruptcy. Similarly, the estimates reveal that firms are around 0.5% more likely to go bankrupt when a longer horizon is considered. Overall, the evidence indicates that firms with managers who lead a quiet life have negative consequences for their creditors.

6 Robustness checks

This section provides additional tests to evaluate potential alternative explanations for the results and sharpen identification.

6.1 Alternative explanations

Prior studies suggest that strong creditor rights reduce interest rates (e.g., Qian and Strahan, 2007; Bae and Goyal, 2009). It follows that the interest rates on unsecured debt will be lower as CFL strengthens the rights of unsecured creditors. It is therefore possible that the interest advantage of secured debt is insufficient to compensate for the risk of collateral loss in bankruptcy, thereby prompting managers to issue more unsecured debt or substitute secured debt for unsecured debt to maintain operating flexibility and alleviate constraints. The findings in previous sections could therefore reflect managers' efforts to improve flexibility through increased usage of unsecured debt. However, it is also likely that managers are attempting to prevent takeovers by increasing its use of unsecured debt since unsecured creditors can challenge PE buyouts ex-post. While it is difficult to disentangle these two channels, if results reveal that unsecured debt usage has not changed, then further investigations are unnecessary.

I thus begin by examining whether debt composition changes following the adoption of CFL. Following Giambona et al. (2021), I compute the share of unsecured debt in total debt as one minus secured debt divided by the sum of book value of total long-term and short-term debt. The results, presented in Table A.2, indicate that there is no significant change in the composition of firms' debt. In addition, previous results also show no change in leverage. This alleviates the concern that the findings are driven by manangers' preference to increase flexibility through the use of unsecured debt. Furthermore, managers do not appear to actively increase unsecured debt as a means of takeover defense.

6.2 Dynamic effect of the CFL

The difference-in-differences framework leans on the identifying assumption that the pre-treatment trends in the outcomes would be statistically indistinguishable between states that adopted the law and those that did not. Common approaches include demonstrating that the outcomes for

the treated group is indifferent to that of the control group prior to the treatment. However, in a difference-in-differences setting with staggered treatment timing, firms located in states that eventually receive treatment may belong to the treatment or control group in different points of time. It is thus difficult to draw conclusions based on comparisons between firm characteristics in treated and control state-years. Therefore, I examine the dynamic effect of the law on PE buyout activity. If there is no evidence of a pre-treatment trend, this should more or less alleviate the concern regarding the comparability of the treatment and control group.

To examine the timing of changes in buyout activity, I estimate the following regression modified from equation (6):

$$Number\,of\,PE\,buyouts_{s,t} = \delta \sum_{\ell<-K} CFL^{\ell}_{s,t} + \sum_{\ell=-K,\ell\neq-1}^{K} \theta_{\ell} \times CFL^{\ell}_{s,t} + \psi \sum_{\ell>K} CFL^{\ell}_{s,t} + \alpha_s + \lambda_t + \varepsilon_{s,t} \tag{8}$$

where K is a positive constant. $CFL^{\ell}_{s,t}$ is an indicator equal to one if state s has adopted a constructive definition of fraud for ℓ years in year t, and zero otherwise. For instance, Colorado adopted the CFL in the year 1999, thus CFL^{-1} and CFL^{1} equals one for Colorado in the year 1998 and 2000, respectively. The period right before the law change ($\ell = -1$) serves as the reference point and is thus excluded. The end periods, more than K years before and after the law change, are pooled into the following indicators: $\sum_{\ell<-K} CFL^{\ell}$ and $\sum_{\ell>K} CFL^{\ell}$. Since never-treated states will never receive treatment, the indicator $\sum_{\ell<-K} CFL^{\ell}$ is always equal to one and all other indicators are equal to zero. Likewise, the indicator $\sum_{\ell>K} CFL^{\ell}$ is set to one for always-treated states, while all other indicators are set to zero. State fixed effects and year fixed effects are also included in the model. Standard errors are clustered at the state level.

Table A.3 presents the results. The coefficient estimates on CFL^{ℓ} are statistically insignificant for all periods prior to the law change, whereas the estimates are negative and significant in the years following the law change, except for the year right after. This suggests that the timing of the reduction in buyout activity coincides with the CFL's adoption. Figure 1 plots

the point estimates and 95% confidence intervals from E.q. (8). The figure suggests that the effect of the law change is not present on the periods before the adoption year. After the law change, there is a decline in buyout activity.

6.3 State-level macroeconomic conditions

A potential concern is that the adoption of CFL is driven by macroeconomic factors at the state-level. To address this issue, I re-examine the effect of CFL on PE buyout activity and incorporate state-level macroeconomic controls. The controls include real GDP, total taxes, per capita personal income, population, home ownership rate, unemployment rate, and the number of firms listed in Compustat. Table A.4 shows that the result continue to hold.

7 Conclusion

This paper examines the economic role of PE buyouts. I exploit the staggered adoption of the constructive fraud provision by U.S. state courts as an exogenous shock to PE buyout activity. The evidence indicates that the decline in PE buyouts has real consequences. In particular, it incentivizes managers to raise less capital, make fewer payouts and investments, build alliances with employees, and forgo positive NPV projects that are too risky. Further, this behavior of managers appears to increase the likelihood of defaulting on their debt. Overall, despite the law's intent to strengthen creditors' rights, it induces managers to enjoy a quiet life, which can be a double-edged sword for creditors.

This paper does not, however, take a stance on whether the disciplining effect of PE buyouts outweighs the risks of excessive leverage following buyouts, nor does it touch on whether the performance fees collected by PE funds can be justified by the potential benefits of buyouts. Rather, this paper is intended to caution lawmakers about the consequences of restricting PE buyout activity.

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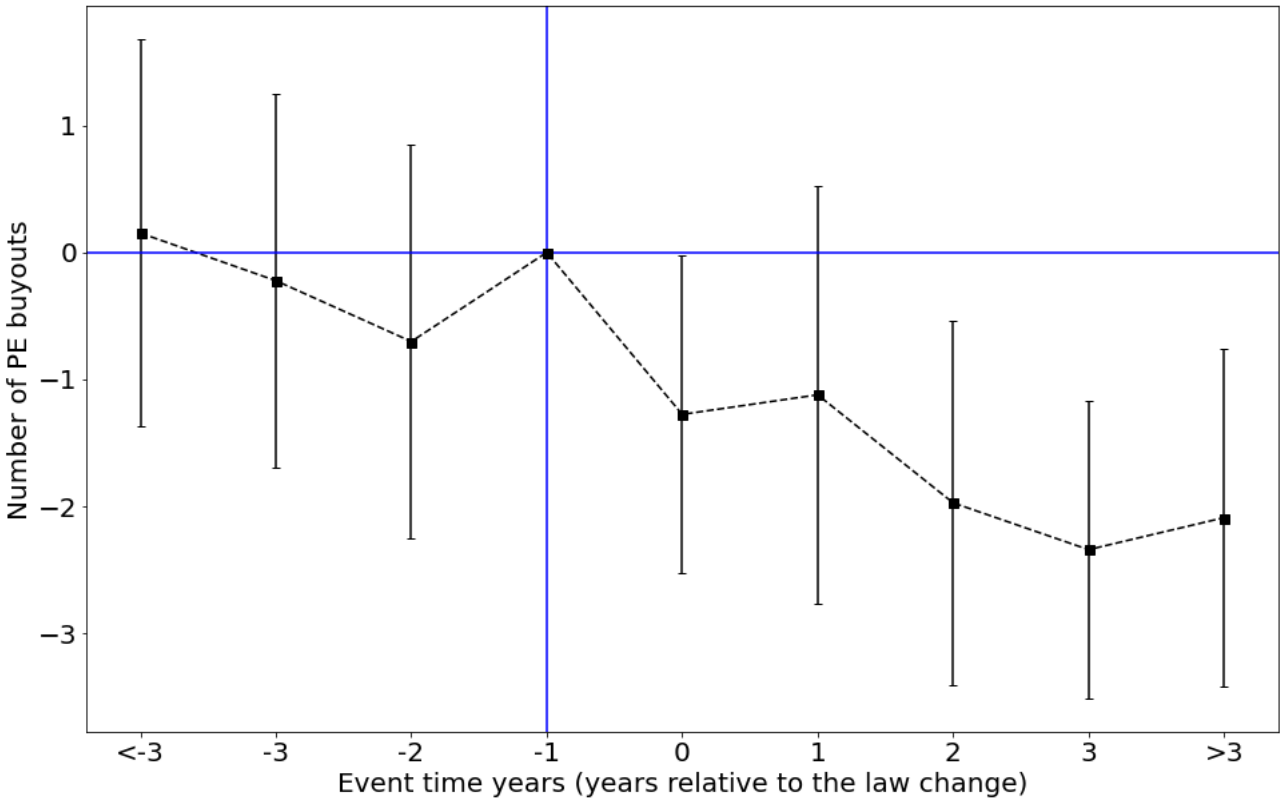

Figure 1: Timing of changes in PE buyout activity around the adoption of CFL

This figure plots the point estimates and 95% confidence interval from a state-year regression of PE buyout activities on an indicator for the adoption of the constructive fraud law. The period before the law change ($\ell = -1$) serves as the reference year.

Table 1: Summary statistics

Variable	Observations	Mean	SD	Min	p25	p50	p75	Max
Panel A: State-year level variables								
Number of PE buyouts	1,530	2.913	5.534	0.000	0.000	1.000	3.000	52.000
Panel B: Firm-year level variables								
Leverage	57,239	0.360	0.814	0.000	0.023	0.202	0.408	8.208
Net leverage	57,239	0.164	0.871	−0.956	−0.193	0.107	0.352	7.909
New financing	41,951	0.211	0.937	−0.577	−0.034	0.006	0.105	8.144
Net debt issuance	41,951	0.066	0.394	−0.834	−0.029	0.000	0.055	3.116
Net equity issuance	41,951	0.113	0.523	−0.218	0.000	0.000	0.015	4.406
Payout/Assets	51,290	0.020	0.048	0.000	0.000	0.000	0.016	0.332
Total investment	54,322	0.157	0.201	0.000	0.041	0.097	0.195	1.468
Capex/Assets	54,322	0.058	0.068	0.000	0.017	0.036	0.073	0.399
R&D/Assets	54,322	0.073	0.178	0.000	0.000	0.000	0.069	1.341
Acquisition/Assets	54,322	0.022	0.062	0.000	0.000	0.000	0.005	0.365
Asset growth	47,776	0.194	0.830	−0.834	−0.088	0.041	0.204	6.012
PPE growth	46,670	0.188	0.898	−0.973	−0.111	0.016	0.206	6.663
Ln(Employment)	55,031	6.347	2.357	0.693	4.736	6.372	8.068	11.721
Ln(Wage)	3,570	−3.375	0.857	−5.757	−3.913	−3.212	−2.837	−0.480
Sales growth	46,069	0.229	0.902	−0.999	−0.053	0.075	0.244	6.783
ROA	57,263	−0.251	1.387	−13.533	−0.110	0.046	0.109	0.348
Tobin's Q	54,259	4.147	13.950	0.521	1.094	1.566	2.691	154.366
Market-to-Book	54,533	2.699	9.659	−55.072	0.870	1.826	3.561	59.227
Cash flow volatility	53,642	0.260	1.009	0.007	0.043	0.079	0.154	10.518
Ln(Cash)	56,425	1.978	2.638	−5.809	0.358	2.227	3.816	8.221
Stock volatility	46,336	0.864	0.753	0.167	0.435	0.670	1.007	5.238
Unsecured debt/Debt	44,794	0.666	0.372	0.000	0.332	0.849	1.000	1.000
Target	52,985	0.001	0.038	0.000	0.000	0.000	0.000	1.000
Default_t	59,224	0.003	0.058	0.000	0.000	0.000	0.000	1.000
$\text{Default}_{[t,t+5]}$	59,224	0.010	0.098	0.000	0.000	0.000	0.000	1.000
$\text{Default}_{[t,t+10]}$	59,224	0.009	0.094	0.000	0.000	0.000	0.000	1.000
Bankrupt_t	59,224	0.002	0.049	0.000	0.000	0.000	0.000	1.000
$\text{Bankrupt}_{[t,t+5]}$	59,224	0.006	0.079	0.000	0.000	0.000	0.000	1.000
$\text{Bankrupt}_{[t,t+10]}$	59,224	0.005	0.068	0.000	0.000	0.000	0.000	1.000
Panel C: Loan-year level variables								
Spread	545,337	196.793	129.176	17.500	85.000	197.500	275.000	650.000
Ln(Amount)	545,337	5.264	1.402	1.386	4.443	5.298	6.215	8.445
Ln(Maturity)	545,337	3.665	0.734	1.335	3.297	3.928	4.135	4.654
Secured	545,337	0.569	0.495	0.000	0.000	1.000	1.000	1.000
Senior	545,337	0.999	0.029	0.000	1.000	1.000	1.000	1.000
Covenant	545,337	0.622	0.485	0.000	0.000	1.000	1.000	1.000
Sole lender	545,337	0.042	0.200	0.000	0.000	0.000	0.000	1.000
Refinance	545,337	0.588	0.492	0.000	0.000	1.000	1.000	1.000
Performance pricing	545,337	0.293	0.455	0.000	0.000	0.000	1.000	1.000

This table presents summary statistics for the outcome variables in this study. Panel A reports statistics for the state-year panel. The sample contains 4,457 PE buyouts from Refinitiv's SDC Platinum M&A database over the 1976-2005 period. Partial buyouts, self-tenders, recapitalizations, and buyouts for which the targets' state of headquarters are located outside of the U.S. are excluded from the sample. Panel B report statistics for the firm-year panel. The sample includes all firms listed on Compustat over the 1994-2005 period with non-negative values for total assets and net sales. Financial and utility firms are excluded from the sample. Panel C report statistics for the loan-year panel. The sample contains 545,337 loan tranches from Dealscan over the 1982-2005 period. Variables are defined in the Appendix (Table A.1). All continuous variables in Panels B and C are winsorized at the 1st and 99th percentiles.

Table 2: Adoption of a constructive definition of fraud by state

State	NCCUSL Fraudulent Transfer Act - UFCA/UFTA/UVTA		Pre-existing statutory or case law
	Statutory citation (1)	Effective (2)	Effective (3)
AK	-	-	-
AL	UFTA (Code 1975, §§ 8-9A-1 to 8-9A-12)	1990	Before 1977
AR	UFTA (A.C.A. §§ 4-59-201 to 4-59-213)	1987	Before 1977
AZ	UFCA (A.R.S. §§ 44-1001 to 44-1013)	1919	-
CA	UFCA (Cal.Civ.Code §§ 34349 to 3439.12)	1939	-
CO	UFTA (C.R.S.A. §§ 38-8-101 to 38-8-112)	1991	-
CT	UFTA (C.G.S.A. §§ 52-552a to 52-552)	1991	Before 1977
DC	UFTA (D.C. Official Code, 2001 Ed. §§ 28-3101 to 28-3111)	1996	-
DE	UFCA (Del.C. §§ 1301 to 1312)	1919	-
FL	UFTA (West's F.S.A. §§ 726.101 to 726.112)	1988	Before 1977
GA	UFTA (Ga. Code Ann. §§ 18-2-70 to 18-2-81)	2002	Before 1977
HI	UFTA (HRS §§ 651C-1 to 651C-10)	1985	-
IA	UFTA (I.C.A. §§ 684.1 to 684.12)	1995	-
ID	UFCA (I.C. §§ 55-910 to 55-922)	1969	-
IL	UFTA (S.H.A. 740 ILCS §§ 160/1 to 160/12)	1990	Before 1977
IN	UFTA (West's A.I.C. §§ 32-2-7-1 to 32-2-7-21)	1994	Before 1977
KS	UFTA (K.S.A. §§ 33-201 to 33-212)	1999	-
KY	UVTA (K.R.S. §§ 378A.005 to 378A.140)	2016	Before 1977
LA	-	-	1985
MA	UFCA (M.G.L.A. c. 109A, §§ 1 to 13)	1924	-
MD	UFCA (Code, Com. Law, §§ 15-201 to 15-214)	1920	-
ME	UFTA (14 M.R.S.A. §§ 3571 to 3582)	1986	-
MI	UFCA (M.C.L.A. §§ 566.11 to 566.23)	1919	-
MN	UFCA (M.S.A. §§ 513.20 to 513.32)	1921	-
MO	UFTA (V.A.M.S. §§ 428.005 to 428.059)	1992	Before 1977
MS	UFTA (Code 1972, §§ 15-3-101 to 15-3-121)	2006	Before 1977
MT	UFCA (M.C.A. §§ 31-2-301 to 31-2-325)	1945	-
NC	UFTA (N.C.G.S.A. §§ 39-23.1 to 39-23.12)	1997	Before 1977
ND	UFCA (N.D. Cent. Code §§ 13-02-01 to 13-02-11)	1943	-
NE	UFCA (R.R.S.1943, §§ 36-601 to 36-613)	1980	-
NH	UFCA (R.S.A. §§ 545:1 to 545:12)	1919	-
NJ	UFCA (N.J.S.A. §§ 25:2-7 to 25:2-19)	1919	-
NM	UFCA (N.M.S.A. 1978, §§ 56-10-1 to 56-10-13)	1959	-
NV	UFCA (N.R.S. §§ 112.010 to 112.130)	1931	-
NY	UFCA (N.Y. Debt. & Cred. Law, §§ 270 to 281)	1925	-
OH	UFCA (R.C. §§ 1336.01 to 1336.12)	1961	-
OK	UFCA (24 Okl.St.Ann. §§ 101 to 111)	1965	-
OR	UFTA (O.R.S. §§ 95.200 to 95.310)	1986	-
PA	UFCA (39 P.S. §§ 351 to 363)	1921	-
RI	UFTA (Gen. Laws 1956, §§ 6-16-1 to 6-16-12)	1986	Before 1977
SC	-	-	Before 1977
SD	UFCA (S.D.C.L. §§ 54-8-5 to 54-8-19)	1919	-
TN	UFCA (T.C.A. §§ 66-3-301 to 66-3-325)	1993	-
TX	UFTA (V.T.C.A. Bus. & C. §§ 24.001 to 24.013)	1987	Before 1977
UT	UFCA (U.C.A. 1953, §§ 25-1-1 to 25-1-16)	1925	-
VT	UFTA (9 V.S.A. §§ 2285 to 2295)	1996	-
VA	-	-	Before 1977
WA	UFCA (West's R.C.W.A. §§ 19.40.010 to 19.40.130)	1945	-
WI	UFCA (W.S.A. §§ 242.01 to 242.13)	1919	-
WV	UFTA (Code, §§ 40-1A-1 to 40-1A-12)	1986	Before 1977
WY	UFCA (W.S.A. §§ 34-14-101 to 34-14-113)	1929	-

This table lists the adoption of a constructive definition of fraud by state. Columns (1) and (2) lists the earliest adoption of any version of the NCCUSL Fraudulent Transfer Act and its effective year for each state. Column (3) reports whether states adopt a constructive definition of fraud through statutory or case law prior to the earliest adoption of the NCCUSL acts.

Table 3: The effect of CFL on loan spreads

Dependent variable:	Spread (bps)		Spread (bps)	
Loan purpose:	PE buyout	Others	PE buyout	Others
	(1)	(2)	(3)	(4)
CFL	56.042***	-6.018	54.333***	-8.301
	(9.635)	(12.015)	(10.071)	(7.687)
Ln(Amount)			-8.322***	-27.060***
			(1.969)	(1.064)
Ln(Maturity)			-15.395***	6.252***
			(5.628)	(1.482)
Secured			7.959**	95.653***
			(3.789)	(3.300)
Senior			-222.380***	-163.722***
			(21.775)	(31.984)
Covenant			-20.505***	15.244***
			(6.656)	(2.480)
Sole lender			19.330***	-12.570***
			(5.450)	(2.661)
Refinance			3.602	-7.338***
			(4.753)	(1.899)
Performance pricing			-21.450***	-39.861***
			(2.861)	(1.879)
Year fixed effects	Yes	Yes	Yes	Yes
State fixed effects	Yes	Yes	Yes	Yes
Lender fixed effects	Yes	Yes	Yes	Yes
Cluster at state	Yes	Yes	Yes	Yes
Observations	38,838	506,499	38,838	506,499
Adjusted R-squared	0.303	0.308	0.363	0.563
F-test(F-stat., p-value)	(39.68, 0.000)		(29.43, 0.000)	

This table presents the difference-in-differences estimates of the effect of CFL on loan spreads for subsamples of loans that were used to finance PE buyouts and those for all other purposes. The sample period is from 1982 to 2005. The dependent variable, *Spread*, is the all-in spread drawn. CFL is an indicator equal to one for states that adopt a constructive definition of fraud by year t and zero otherwise. The standard errors are clustered by state and reported in parentheses. Statistical significance at the 10%, 5%, and 1% level is indicated by *, **, and ***, respectively. Variables are defined in the Appendix (Table A.1).

Table 4: The effect of CFL on PE buyout activities

Dependent variable:	Number of PE buyouts
	(1)
CFL	-1.977***
	(0.726)
Year fixed effects	Yes
State fixed effects	Yes
Cluster at state	Yes
Observations	1,530
R-squared	0.674

This table presents difference-in-differences estimates of the effect of CFL on PE buyout activities. The dependent variable is the number of PE buyouts completed in state s in year t. CFL is an indicator equal to one for states that adopt a constructive definition of fraud by year t, and zero otherwise. The sample consists of 1,530 state-year combinations for the period 1976 to 2005. The standard errors are clustered by state and reported in parentheses. Statistical significance at the 10%, 5%, and 1% level is indicated by *, **, and ***, respectively.

Table 5: The effect of CFL on the likelihood of being a PE buyout target

Dependent variable:	Target			
	LPM	LPM	Logit	Logit
	(1)	(2)	(3)	(4)
CFL	-0.675***	-0.457**	-2.493**	-2.750**
	(0.246)	(0.190)	(1.081)	(1.065)
			[-0.510**]	[-0.561***]
Operating income/Assets		0.191**		3.802**
		(0.074)		(1.819)
Tobin's Q		-0.000		-0.008
		(0.000)		(0.021)
Machinery indicator		0.032		-0.047
		(0.557)		(0.792)
R&D/Sales		0.002		-3.728
		(0.001)		(2.937)
Selling expenses/Sales		-0.001		-0.267
		(0.001)		(0.375)
Ln(Assets)		0.004		0.065
		(0.007)		(0.058)
HHI		0.010		-0.071
		(0.082)		(0.553)
HighOpinc × LowTobinq		0.204***		0.823***
		(0.061)		(0.282)
LowOpinc × HighTobinq		-0.030		-0.141
		(0.028)		(0.463)
HighHHI × LowTobinq		-0.031		-0.069
		(0.052)		(0.337)
Year fixed effects	Yes	Yes	Yes	Yes
State fixed effects	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes
Cluster at state	Yes	Yes	Yes	Yes
Observations	52,985	52,985	37,409	37,409
R-squared/Psuedo R-squared	0.003	0.003	0.078	0.122

This table presents the difference-in-differences estimates of the effect of CFL on the likelihood of being targeted in a PE buyout. The sample period is from 1994 to 2005. The dependent variable is $Target$, which is an indicator equal to one if a firm was acquired in a PE buyout in a given year, and zero otherwise. CFL is an indicator equal to one for states that adopt a constructive definition of fraud by year t and zero otherwise. Columns (1) and (2) report the linear probability model (LPM) regression results and columns (3) and (4) report the logit regression results. The coefficient estimates and standard errors in columns (1) and (2) are multiplied by 100 to improve readability. The marginal effect of CFL from the logit regression is reported in brackets, and is multiplied by 100 for ease of comparison. The standard errors are clustered by state and reported in parentheses. Statistical significance at the 10%, 5%, and 1% level is indicated by *, **, and ***, respectively. Variables are defined in the Appendix (Table A.1).

Table 6: Reduced PE buyout threat and financial and payout policies

Dependent variable:	Leverage	Net leverage	New financing	Net debt issuance	Net equity issuance	Payout/Assets
	(1)	(2)	(3)	(4)	(5)	(6)
CFL	-0.686	1.575	-4.207**	1.572	-4.883***	-0.709***
	(2.518)	(2.744)	(1.628)	(0.995)	(1.110)	(0.102)
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
State fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Cluster at state	Yes	Yes	Yes	Yes	Yes	Yes
Observations	57,239	57,239	41,951	41,951	41,951	51,290
Adjusted R-squared	0.485	0.517	0.275	0.121	0.323	0.310

This table presents the difference-in-differences estimates of the effect of reduced PE buyout threat on firm's financial policies and capital structure. The sample period is from 1994 to 2005. *Leverage* is the sum of total long-term and short-term debt scaled by total assets. *Net leverage* is the sum of total long-term and short-term debt minus cash and cash equivalents scaled by total assets. *New financing* is the sum of net equity issuance and net debt issuance. *Net debt issuance* is the change in the sum of total long-term and short-term debt scaled by lagged total assets. *Net equity issuance* is sales minus purchases of equity scaled by lagged total assets. *Payout/Assets* is the sum of common dividends and share repurchases scaled by total assets. CFL is an indicator equal to one for states that adopt a constructive definition of fraud by year t and zero otherwise. The standard errors are clustered by state and reported in parentheses. All coefficients and standard errors are multiplied by 100 to improve readability. Statistical significance at the 10%, 5%, and 1% level is indicated by *, **, and ***, respectively.

Table 7: Reduced PE buyout threat and investment policies

Dependent variable:	Total investment	Capex/Assets	R&D/Assets	Acquisition/Assets	Asset growth	PPE growth
	(1)	(2)	(3)	(4)	(5)	(6)
CFL	-1.008**	-1.403***	0.026	0.424	-2.002	-1.395
	(0.461)	(0.464)	(0.240)	(0.295)	(1.920)	(1.258)
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
State fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Cluster at state	Yes	Yes	Yes	Yes	Yes	Yes
Observations	54,322	54,322	54,322	54,322	47,776	46,760
Adjusted R-squared	0.506	0.506	0.649	0.170	0.090	0.088

This table presents the difference-in-differences estimates of the effect of reduced PE buyout threat on firm's investment policies. The sample period is from 1994 to 2005. *Total investment* is the sum of capital expenditures, R&D expenses, and acquisition expenses scaled by total assets. *Capex/Assets* is capital expenditures scaled by total assets. *R&D/Assets* is R&D expenses scaled by total assets. *Acquisition/Assets* is acquisition expenses scaled by total assets. *Asset growth* is total assets divided by lagged total assets minus one. *PPE growth* is net PP&E divided by lagged net PP&E minus one. CFL is an indicator equal to one for states that adopt a constructive definition of fraud by year t and zero otherwise. The standard errors are clustered by state and reported in parentheses. All coefficients and standard errors are multiplied by 100 to improve readability. Statistical significance at the 10%, 5%, and 1% level is indicated by *, **, and ***, respectively.

Table 8: Reduced PE buyout threat and employment policies

Dependent variable:	Ln(Employment)	Ln(Wage)
	(1)	(2)
CFL	11.389***	-1.316
	(3.760)	(3.376)
Year fixed effects	Yes	Yes
State fixed effects	Yes	Yes
Firm fixed effects	Yes	Yes
Cluster at state	Yes	Yes
Observations	55,031	3,570
Adjusted R-squared	0.943	0.837

This table presents the difference-in-differences estimates of the effect of reduced PE buyout threat on firm's employment policies. The sample period is from 1994 to 2005. $Ln(Employment)$ is the natural logarithm of the number of employees in millions. $Ln(Wage)$ is the natural logarithm of labor and related expenses divided by the number of employees in millions. CFL is an indicator equal to one for states that adopt a constructive definition of fraud by year t and zero otherwise. The standard errors are clustered by state and reported in parentheses. All coefficients and standard errors are multiplied by 100 to improve readability. Statistical significance at the 10%, 5%, and 1% level is indicated by *, **, and ***, respectively.

Table 9: Reduced PE buyout threat and operating performance and valuation

Dependent variable:	Sales growth	ROA	Tobin's Q	Market-to-Book
	(1)	(2)	(3)	(4)
CFL	-5.161***	5.472***	-15.797	-2.344
	(1.367)	(1.421)	(13.393)	(15.658)
Year fixed effects	Yes	Yes	Yes	Yes
State fixed effects	Yes	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes	Yes
Cluster at state	Yes	Yes	Yes	Yes
Observations	46,069	57,263	54,259	54,533
Adjusted R-squared	0.145	0.530	0.497	0.127

This table presents the difference-in-differences estimates of the effect of reduced PE buyout threat on firm's operating performance and valuation. The sample period is from 1994 to 2005. $Sales\,growth$ is sales divided by lagged sales minus one. ROA is earnings before interest and taxes divided by total assets. $Tobin's\,Q$ is the sum of book value of debt and market value of equity divided by book value of total assets. $Market-to-Book$ is the market value of equity divided by the book value of equity. CFL is an indicator equal to one for states that adopt a constructive definition of fraud by year t and zero otherwise. The standard errors are clustered by state and reported in parentheses. All coefficients and standard errors are multiplied by 100 to improve readability. Statistical significance at the 10%, 5%, and 1% level is indicated by *, **, and ***, respectively.

Table 10: Reduced PE buyout threat and firm risk

Dependent variable:	Cash flow volatility	Ln(Cash)	Stock volatility
	(1)	(2)	(3)
CFL	-2.760**	-18.982***	7.334
	(1.132)	(7.035)	(4.574)
Year fixed effects	Yes	Yes	Yes
State fixed effects	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes
Cluster at state	Yes	Yes	Yes
Observations	53,642	56,425	46,336
Adjusted R-squared	0.368	0.822	0.377

This table presents the difference-in-differences estimates of the effect of reduced PE buyout threat on firm risk. The sample period is from 1994 to 2005. $Cash\,flow\,volatility$ is the annualized standard deviation of firm's quarterly ratio of cash flow to assets. $Ln(Cash)$ is the natural logarithm of cash and cash equivalents. $Stock\,volatility$ is the annualized realized volatility of daily stock returns. CFL is an indicator equal to one for states that adopt a constructive definition of fraud by year t and zero otherwise. The standard errors are clustered by state and reported in parentheses. All coefficients and standard errors are multiplied by 100 to improve readability. Statistical significance at the 10%, 5%, and 1% level is indicated by *, **, and ***, respectively.

Table 11: Reduced PE buyout threat and the likelihood of debt default

Dependent variable:	Default_t	$\text{Default}_{[t,t+5]}$	$\text{Default}_{[t,t+10]}$	Bankrupt_t	$\text{Bankrupt}_{[t,t+5]}$	$\text{Bankrupt}_{[t,t+10]}$
	(1)	(2)	(3)	(4)	(5)	(6)
CFL	-0.090	0.532**	0.478**	-0.044	0.516**	0.465**
	(0.148)	(0.202)	(0.228)	(0.130)	(0.251)	(0.186)
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
State fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Cluster at state	Yes	Yes	Yes	Yes	Yes	Yes
Observations	59,224	59,224	59,224	59,224	59,224	59,224
R-squared	0.009	0.029	0.037	0.008	0.023	0.033

This table presents the difference-in-differences estimates of the effect of reduced PE buyout threat on the likelihood of debt default. The sample period is from 1994 to 2005. The dependent variable for Columns (1) to (3) is $Default$, which is an indicator equal to one if a firm defaulted on its debt during the time interval indicated in subscript. The dependent variable for Columns (4) to (6) is $Bankrupt$, which is an indicator equal to one if a firm filed for bankruptcy during the time interval indicated in subscript. CFL is an indicator equal to one for states that adopt a constructive definition of fraud by year t and zero otherwise. The coefficient estimates and standard errors are multiplied by 100 to improve readability. The standard errors are clustered by state and reported in parentheses. Statistical significance at the 10%, 5%, and 1% level is indicated by *, **, and ***, respectively.

Table A.1: Variable Definitions

Variable	Definition
Acquisition/Assets	Acquisition expense (AQC) divided by book value of total assets (AT). Source: Compustat.
Asset growth	Book value of total assets (AT) divided by book value of total assets in the previous year minus one. Source: Compustat.
Bankrupt	Indicator that equals one if a firm filed for bankruptcy in a given year and zero otherwise. Source: Moody's Default and Recovery Database.
Capex/Assets	Capital expenditures (CAPX) divided by book value of total assets (AT). Source: Compustat.
Cash flow/Assets	Operating income after depreciation (OIADP) minus accruals [$(\text{ACT}_t - \text{ACT}_{t-1}) - (\text{CHE}_t - \text{CHE}_{t-1}) - (\text{LCT}_t - \text{LCT}_{t-1}) + (\text{DLC}_t - \text{DLC}_{t-1}) - \text{DP}_t$] divided by lagged book value of total assets (AT). Source: Compustat.
Cash flow volatility	The annualized standard deviation of firm's quarterly ratio of Cash flow/Assets. Source: Compustat.
CFL	Indicator that equals one if a state has adopted the constructive fraud provision in a given year, and zero otherwise.
CFL^{ℓ}	Indicator that equals one if state s has adopted a constructive definition of fraud for ℓ years in a given year, and zero otherwise.
Covenant	Indicator that equals one if the loan has financial covenants and zero otherwise. Source: Dealscan.
Default	Indicator that equals one if a firm defaulted on its debt in a given year and zero otherwise. Source: Moody's Default and Recovery Database.
Firm age	Number of years since Compustat listing. Source: Compustat.
HHI	Herfindahl index of sales (REVT) defined over the firm's four-digit SIC codes. Source: Compustat.
HighHHI	Indicator that equals one if the firm has above the sample median HHI and zero otherwise.
HighOpinc	Indicator that equals one if the firm has above the sample median Operating Income/Assets and zero otherwise.
HighTobinq	Indicator that equals one if the firm has above the sample median Tobin's Q and zero otherwise.
Homeownership rate	The proportion of households that is owner-occupied. Source: U.S. Census Bureau.
Leverage	The sum of book value of total long-term (DLTT) and short-term debt (DLC) divided by book value of total assets (AT). Source: Compustat.
Ln(Amount)	The natural logarithm of the amount of loan facility in millions of dollars. Source: Dealscan.
Ln(Assets)	The natural logarithm of the book value of assets (AT). Source: Compustat.
Ln(Cash)	The natural logarithm of cash and cash equivalents (CHE). Source: Compustat.
Ln(Employment)	The natural logarithm of the number of employees (EMP) in millions. Source: Compustat.
Ln(Maturity)	The natural logarithm of loan maturity in months. Source: Dealscan.

Variable	Definition
Ln(Wage)	The natural logarithm of labor and related expenses (XLR) divided by the number of employees in millions. Source: Compustat.
LowOpinc	Indicator that equals one if the firm has below the sample median Operating income/Assets and zero otherwise.
LowTobinq	Indicator that equals one if the firm has below the sample median Tobin's Q and zero otherwise.
Machinery indicator	Indicator that equals one if the standard industrial classification (SIC) code is between 3400 and 4000 and zero otherwise. Source: Compustat.
Market-to-Book	Market value of equity (PRCC_F*CSHO) divided by book value of equity (CEQ). Source: Compustat.
Net leverage	The sum of book value of total long-term (DLTT) and short-term debt (DLC) minus cash and cash equivalents (CHE) divided by book value of total assets (AT). Source: Compustat.
Net debt issuance	The change in the sum of book value of total long-term (DLTT) and short-term debt (DLC) divided by lagged book value of total assets (AT_{t-1}). Source: Compustat.
Net equity issuance	Sales of equity (SSTK) minus purchases of equity (PRSTKC) divided by lagged book value of total assets (AT_{t-1}). Source: Compustat.
New financing	The sum of net debt issuance and net equity issuance.
Number of firms	The number of firms in a given state in a given year. Source: Compustat.
Number of PE buyouts	Number of PE buyouts completed in a given state in a given year. Source: SDC Platinum.
Operating income/Assets	Earnings before interest, taxes, depreciation, and amortization (EBITDA) divided by the sum of book value of debt (LT) and the market value of equity (PRCC_F*CSHO). Source: Compustat.
Payout/Asset	The sum of common dividends (DVC) and the purchase of common and preferred stock (PRSTKC) divided by book value of total assets (AT). Source: Compustat.
Per capita personal income	Personal income of all residents divided by the resident population. Source: U.S. Bureau of Economic Analysis.
Performance pricing	Indicator that equals one if the loan has performance pricing provisions and zero otherwise. Source: Dealscan.
Population	The number of the resident population. Source: U.S. Census Bureau.
PPE growth	Net property, plant, and equipment (PPENT) divided by net PP&E in the previous year minus one. Source: Compustat.
R&D/Assets	Research and development expense (XRD) divided by book value of total assets (AT). Equal to zero if no R&D expenses are reported. Source: Compustat.
R&D/Sales	Research and development expenditures (XRD) divided by sales (REVT). Equal to zero if no R&D expenses are reported. Source: Compustat.
Real GDP	The inflation adjusted value of the goods and services produced by labor and property. Source: U.S. Bureau of Economic Analysis.
Refinance	Indicator that equals one if the loan is to repay existing debt and zero otherwise. Source: Dealscan.
ROA	Earnings before interest and taxes (EBIT) divided by book value of total assets (AT). Source: Compustat.

Variable	Definition
Sales growth	Sales (REVT) divided by sales in the previous year minus one. Source: Compustat.
Secured	Indicator that equals one if the loan is secured and zero otherwise. Source: Dealscan.
Selling expenses/Sales	Selling expenses (XSGA) divided by sales (REVT). Equal to zero if no selling expenses are reported. Source: Compustat.
Senior	Indicator that equals one if the loan is senior and zero otherwise. Source: Dealscan.
Sole lender	Indicator that equals one if the loan only has one lender and zero otherwise. Source: Dealscan.
Spread	All-in spread drawn, which is the amount a borrower pays in basis points over LIBOR for each dollar drawn down. Source: Dealscan.
Stock volatility	The square root of the sum of squared daily returns multiplied by 252 and divided by the number of trading days. Source: CRSP.
Target	Indicator equal to one if a firm was acquired in a PE buyout in a given year and zero otherwise. Source: SDC Platinum.
Tobin's Q	The sum of book value of debt (LT) and market value of equity (PRCC_F*CSHO) divided by book value of total assets (AT). Source: Compustat.
Total investment	The sum of capital expenditures (CAPX), research and development expense (XRD), and acquisition expense (AQC) divided by book value of total assets (AT). Source: Compustat.
Total taxes	State and local government tax revenue. Source: U.S. Census Bureau.
Unemployment rate	The number of unemployed as a percentage of the labor force. Source: U.S. Bureau of Labor Statistics.
Unsecured debt/Debt	One minus secured debt (DM) divided by the sum of book value of total long-term (DLTT) and short-term debt (DLC). Source: Compustat.

Table A.2: Do firms change their composition of debt?

Dependent variable:	Unsecured debt/Debt
	(1)
CFL	0.586
	(1.850)
Year fixed effects	Yes
State fixed effects	Yes
Firm fixed effects	Yes
Cluster at state	Yes
Observations	44,794
Adjusted R-squared	0.531

This table presents the difference-in-differences estimates of the effect of CFL on firm's debt composition. The sample period is from 1994 to 2005. The dependent variable is $Unsecured\,debt/Debt$, which is one minus the ratio of secured debt to total debt. CFL is an indicator equal to one for states that adopt a constructive definition of fraud by year t and zero otherwise. The standard errors are clustered by state and reported in parentheses. All coefficients and standard errors are multiplied by 100 to improve readability. Statistical significance at the 10%, 5%, and 1% level is indicated by *, **, and ***, respectively.

Table A.3: Dynamic effect of CFL on PE buyout activities

Dependent variable:	Number of PE buyouts	
	(1)	(2)
$CFL^{<-3}$	0.152	
	(0.778)	
CFL^{-3}	-0.222	
	(0.752)	
CFL^{-2}	-0.702	
	(0.793)	
CFL^{0}	-1.275**	
	(0.639)	
CFL^{1}	-1.121	
	(0.838)	
CFL^{2}	-1.971***	
	(0.730)	
CFL^{3}	-2.340***	
	(0.599)	
$CFL^{>3}$	-2.088***	
	(0.679)	
$CFL^{<-1}$		0.021
		(0.747)
$CFL^{\geq 0}$		-1.959***
		(0.607)
Year fixed effects	Yes	Yes
State fixed effects	Yes	Yes
Cluster at state	Yes	Yes
Observations	1,530	1,530
R-squared	0.675	0.674

This table presents the dynamic effect of CFL on PE buyout activities. The dependent variable is the number of PE buyouts completed in state s in year t. CFL^{ℓ} is an indicator that equals one if state s has adopted a constructive definition of fraud for ℓ years in a given year, and zero otherwise. The sample consists of 1,530 state-year combinations for the period 1976 to 2005. The standard errors are clustered by state and reported in parentheses. Statistical significance at the 10%, 5%, and 1% level is indicated by *, **, and ***, respectively.

Table A.4: Controlling for state-level macroeconomic conditions

Dependent variable:	Number of PE buyouts	
	(1)	(2)
CFL	-5.880***	-5.693***
	(0.467)	(0.562)
Real GDP ($B)		0.098***
		(0.030)
Total taxes ($B)		-0.901**
		(0.387)
Per capita personal income ($K)		-0.358
		(0.293)
Population (K)		-0.002
		(0.004)
Homeownership rate		0.064
		(0.143)
Unemployment rate		0.196
		(0.355)
Number of firms		-0.002
		(0.039)
Year fixed effects	Yes	Yes
State fixed effects	Yes	Yes
Cluster at state	Yes	Yes
Observations	400	400
R-squared	0.820	0.845

This table presents difference-in-differences estimates of the effect of CFL on PE buyout activities, controlling for state-level macroeconomic conditions. The dependent variable is the number of PE buyouts completed in state s in year t. CFL is an indicator equal to one for states that adopt a constructive definition of fraud by year t and zero otherwise. The sample consists of 400 state-year combinations for the period 1998 to 2005. The standard errors are clustered by state and reported in parentheses. Statistical significance at the 10%, 5%, and 1% level is indicated by *, **, and ***, respectively.