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Conflicting Fiduciary Duties and Fire Sales of VC-backed Start-ups

Bo Bian | Yingxiang Li | Casimiro A. Nigro

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Bo Bian† Yingxiang Li‡ Casimiro A. Nigro§

Abstract

This paper studies the interactions between corporate law and venture capital (VC) exits by acquisitions, an increasingly common source of VC-related litigation. We find that transactions by VC funds under liquidity pressure are characterized by (i) a substantially lower sale price; (ii) a greater probability of industry outsiders as acquirers; (iii) a positive abnormal return for acquirers. These features indicate the existence of fire sales, which often satisfy VCs' liquidation preferences but hurt common shareholders, leaving board members with conflicting fiduciary duties and litigation risks. Exploiting an important court ruling that establishes the board's fiduciary duties to common shareholders as a priority, we find that after the ruling maturing VCs become less likely to exit by fire sales and they distribute cash to their investors less timely. However, VCs experience more difficult fundraising ex-ante, highlighting the potential cost of a common-favoring regime. Overall, the evidence has important implications for optimal fiduciary duty design in VC-backed start-ups.

Keywords: Corporate Law, Fiduciary Duties, Fire Sales, Governance, Mergers and Acquisitions, Venture Capital

JEL Classification: G24, G33, G34, K20, K22, K40, M13

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†University of British Columbia, Sauder School of Business, bo.bian@sauder.ubc.ca

‡University of British Columbia, Sauder School of Business, yingxiang.li@sauder.ubc.ca

§Goethe University Frankfurt, Foundations of Law and Finance, nigro@lawfin.uni-frankfurt.de

1 Introduction

As the most common exit mechanism for venture capitalists (VCs), acquisitions are often at the center of VC-related litigation. In many recent cases, VCs holding preferred shares have used their special rights to force an exit through sales of their portfolio companies or redemptions of their shares despite the objections from common shareholders.[1] Behind the rise of disputes is the fundamental conflict of interest between the preferred and common shareholders, as well as the dual fiduciary duties certain board members owe to both VCs and the portfolio company. On the one hand, VC-appointed board members have powerful financial incentives as well as the legal obligation at the VC fund level to maximize value of the VC fund, which typically invests in the portfolio companies through convertible preferred shares with liquidation preferences. On the other hand, the VC-backed company's board in its entirety is under the legal duty to maximize the value of the corporation for the benefit of its common shareholders.

The conflicting fiduciary duties are particularly evident when *maturing* VC funds intend to exit their investments by acquisitions. Such deals are likely to be rushed and achieve lower sale prices due to VC funds' liquidity pressure. While these sales often satisfy VCs' liquidation preferences, little might be left for the common shareholders. Common shareholders can therefore threaten to sue the board for breach of fiduciary duties, holding up the sale. In light of the heated legal disputes, are the sales by maturing VC funds indeed under-priced and therefore costly to common shareholders? If so, given the conflicted position of the dual fiduciaries, does the law support common shareholders when they sue the board on fiduciary grounds? More importantly, can the law shape common shareholders' holdup power against VCs and, in turn, discipline VCs' behavior in exit decisions?

This paper addresses the above questions by examining sales of VC-backed start-ups in a changing corporate law environment. We first study fire sales in the VC setting, the existence

[1] For example, see Manti Holdings v. the Carlyle Group, SV Inv. Partners, LLC v. ThoughtWorks, Inc, Frederick Hsu Living Trust v. ODN Holding Corp, and New Enter. Assocs. 14 LP v. Rich.

of which would pinpoint the preferred-common conflict and a looming dual fiduciary issue. Exploiting a critical case ruling of *In re Trados* (hereinafter "*Trados*") by the Delaware Court of Chancery (hereinafter "Delaware Court") in 2013, we then examine the effect of corporate law on VC exit decisions that are costly to common shareholders. Before *Trados*, Delaware law was more friendly to preferred shareholders, allowing a VC-controlled board to make decisions that favored the preferred shareholders at the expense of the common shareholders. Post-*Trados*, all else equal, common shareholders are able to credibly threaten directors with fiduciary duty litigation since the *Trados* ruling requires the board to favor the interests of common shareholders. This ruling empowers common shareholders to potentially hold up a sale, thus affecting the probability of VC exits through acquisitions, especially when VCs move closer to maturity and experience greater pressure to liquidate their investments.

We start by identifying potential "forced sales" in the VC industry. VC funds typically have a limited lifespan of up to 12 years, and face mounting pressure to return capital back to fund investors as the end of this conventional lifespan approaches. Consistent with this, we observe that for a median VC fund, the percentage of cumulative cash distribution is 92% (100%) by age 12 (15). We therefore define forced sales as acquisitions that take place when the fund is close to age 12. We use a window of one to three years around age 12 to capture the urgency of sales.

Using detailed transaction data, including price, acquirer identity, and acquirer returns, we provide strong evidence of fire sales in the VC setting. First, we find that forced sales achieve a lower deal price. In particular, when we focus on sales happening one year before and one year after the fund reaches age 12, i.e., between age 11 and age 13, the sale price is 30% lower when compared with deals closed in other years. To establish the benchmark price, we rely on variables that are known to predict investment outcomes, such as the total amount of equity raised, the number of financing rounds, and the VCs' selection skills. Moreover, we also find that the discount in the sale price increases with the *urgency* of the sale. For example, when we examine deals two years away from age 12, the discount reduces

to around 16%. Second, these VC-backed start-ups are more likely to be acquired by industry outsiders, including financial firms and most notably private equity investors. According to Shleifer and Vishny (1992), these industry outsiders face significant costs when acquiring and managing target assets, driving their valuation below the value in best use – a potential explanation for the discount observed above. Third, we detect a higher abnormal return earned by the acquirers when transactions take place under VC funds' liquidity pressure. This abnormal return also increases with the fire sale discount, suggesting that part of the target's loss becomes the acquirer's gain.

One may worry that the discount we document above is driven by an unobserved quality difference between start-ups that are sold earlier vs. later in a VC fund's life cycle. If VCs were to sell high-quality companies first and hold onto low-quality ones, they would be left with "bad" companies as they moved closer to maturity, resulting in a lower sale price. While it is difficult to completely rule out this "quality discount" story, several pieces of evidence support the proposed "fire sale discount" story. First, we collect information on sales and add it as a proxy for quality in all regressions. The estimated coefficients are highly similar with an expected increase in the explanatory power of the regression model. Second, we consider post-money valuation as an indicator of quality and find that companies sold in forced and non-forced scenarios are not fundamentally different. In the end, the quality discount story can explain neither the greater probability of acquirers being industry outsiders, nor the higher abnormal returns enjoyed by acquirers. Therefore, our results are unlikely to be *fully* driven by selection and instead indicate the existence of fire sales.

The forced sales under VC funds' liquidity pressure are on average under-priced, as evidenced by the high discount associated with these sales. While they satisfy the liquidation preferences of VCs, the discount suggests that these sales tend to be costly for common shareholders. These transactions were largely permitted by Delaware law before *Trados*. We next study how improved common shareholder power through *Trados* affects the timing of VC exits by acquisitions. More specifically, we employ a difference-in-differences (DiD) esti-

mation method and compare the probability of exits through sales by VCs *nearing maturity* versus VCs *further away from maturity*, *before* versus *after Trados*.

Consistent with the notion that *Trados* gives common shareholders more leverage to challenge the sales of VC-backed companies, we find that VC funds act more cautiously in exit decisions, especially when they are under liquidity pressure. After *Trados*, maturing VC funds are less likely to exit through sales that are under-priced and costly for common shareholders. In fact, in scenarios where we observe the most intensive liquidity pressure and therefore the most extreme fire sales, *Trados* mitigates most of the positive effect of liquidity pressure on the probability of exits by acquisitions. When the sales are less costly to common shareholders, we still observe a significant mitigating effect of *Trados*, albeit considerably smaller.

To further support causality, we investigate the dynamics of the relationship between *Trados* and the timing of VC exits through sales. We detect no pre-trends but a significant and negative post-trend, consistent with *Trados* being a surprising yet important event to the VC community in the US. Since *Trados* is a Delaware opinion, we also examine whether the treatment effect is indeed driven by start-ups incorporated in Delaware where *Trados* directly applies. We find evidence consistent with this conjecture, mitigating the concern that coinciding events or other general shocks in the VC sector may drive our findings. Moreover, our findings are robust to restricting sales to those in which VCs are unlikely to convert their preferred shares to common shares. In these sales, conflicts between preferred and common shareholders exacerbate and *Trados* becomes more relevant.

If VCs are less likely to exit through sales of their portfolio companies when they move closer to liquidation, their proceeds and cash distributions to LPs would be affected accordingly. Using a similar DiD setting, we investigate fund distribution patterns before and after *Trados*. We find that VC funds under higher liquidity pressure are more likely to delay cash distributions to LPs post-Trados, compared to pre-Trados years.

As a final step, we examine the effect of a common-favoring legal regime on ex-ante VC

fundraising and start-up financing from VCs. We document a post-*Trados* drop in fund size among VC firms that have relied on near-maturity sales as a source of fund income. By comparing the funding history of start-ups incorporated in and outside of Delaware, we also find that the former subsequently raise less capital, suggesting a reduced supply of venture capital to such start-ups since *Trados* directly applies to these start-ups.

This paper focuses on acquisitions as an exit mechanism, and we caveat that other types of exits are not explicitly studied for a few reasons. First, *Trados* directly concerns acquisitions and disciplines the sale process. Second, it is unlikely that the start-ups sold by maturing VC funds have the upside potential for a successful IPO. Third, alternative outcomes like write-offs or failure are poorly documented as VCs are unwilling to reveal such information publicly. However, with an alive and proliferating *Trados Doctorine* as well as more comprehensive data on VC exits, future research in this direction can be valuable.

Taken together, while a common-favoring legal regime reduces the likelihood of VC exits through fire sales, such benefits for VC-backed companies and common shareholders seem to come at the cost of LPs and reduced supply of venture capital ex-ante. These results highlight some of the important trade-offs in contemporary corporate law-making and offer valuable guidance to lawmakers and practitioners in the VC and start-up community.

Related literature. This paper connects several strands of literature. The large and still-growing law and finance literature is a natural starting point (La Porta, Lopez-de Silanes, Shleifer, and Vishny, 1997, 1998). More specifically, this paper is closely related to the work that establishes the link between the legal environment and various aspects of the VC investment process, including contract complexity (Lerner and Schoar, 2005), deal screening (Bottazzi, Da Rin, and Hellmann, 2009), effort provision (Cumming, Schmidt, and Walz, 2010) and success of investments (Nahata, Hazarika, and Tandon, 2014).[2] These papers rely on cross-country comparisons to uncover the role of law, so although extremely informative, they are sometimes subject to identification challenges such as omitted-variable bias. A key

[2]See Lerner and Tåg (2013) for a summary of the work on institutions and venture capital.

novelty of our paper is to exploit an unexpected yet influential case ruling. This unique setting allows us to identify the plausibly causal effect of shifts in the legal environment on VCs' exit decisions and their ex-ante fundraising. To the best of our knowledge, this is also the first empirical investigation on the consequences of the *Trados* ruling, providing a timely reference for practitioners in the VC industry.[3] In addition, we deviate from the previous law and finance literature by focusing on the role of fiduciary duties, an important but understudied component of corporate law.[4] While a handful of papers on fiduciary duties study established, public firms (Becker and Strömberg, 2012; Grinstein and Rossi, 2016; Eldar, 2018; Fich, Harford, and Tran, 2022), our setting features VC-backed start-ups.[5]

This paper also contributes to the literature on VC exits. Although there has been extensive work on the role of VCs in IPOs, less is known about alternative VC exit mechanisms – most notably acquisitions given that the importance of IPOs has weakened in the past two decades.[6] By focusing on acquisitions, this paper is the first to explicitly discuss the fire sale discount in the VC setting. In a related paper, Masulis and Nahata (2011) exclusively examine announcement returns for acquirers of VC-backed companies as opposed to acquirers of non-VC-backed companies. Our paper differs in two important ways. First, we examine acquisitions of VC-backed companies only and present a comprehensive set of analyses to support the fire sale hypothesis – we study not only acquirer announcement returns but also transaction price and acquirer identities. Second, we zoom in on the preferred-common conflicts arising from liquidity pressure and identify legal institutions as a key factor in shaping the timing and methods of exits. To this end, our study is also complementary to

[3]There is limited theoretical work related to *Trados*, see Sanga and Talley (2021).

[4]Other papers have studied a variety of legal variables including other aspects of corporate law, tax and bankruptcy regimes, contract law, enforcement accuracy, and "legal origins" in general. See La Porta, Lopez-de Silanes, and Shleifer (2013) for a review of the work on law and finance and the references therein.

[5]Ewens and Malenko (2022) show the role of independent directors in mediating conflicts of interest between entrepreneurs and VCs, in line with the fiduciary duties these board members owe to the corporation. Broughman and Fried (2010) is indirectly relevant, mentioning fiduciary duties in its discussion of renegotiation of cash flow rights in the sale of VC-backed companies. In the burgeoning literature on common ownership, the discussion of (conflicting) fiduciary duties is also relevant since directors may owe duties to different companies, see Eldar, Grennan, and Waldock (2020).

[6]For the work on IPOs, see Megginson and Weiss (1991), Lerner (1994), Gompers (1996), Brav and Gompers (1997), and Iliev and Lowry (2020) for example.

other papers on conflicts of interest between VCs and entrepreneurs in VC exits (Hellmann, 2006; Cumming, 2008; Broughman and Fried, 2010; Bayar and Chemmanur, 2011; Ewens and Farre-Mensa, 2020).

By providing evidence on fire sales in the VC context, this paper also adds to the fire sale literature. Existing work on fire sales has mostly examined financial factors as sources of fire sales such as leverage (Shleifer and Vishny, 1992; Pulvino, 1998), capital flows (Shleifer and Vishny, 1997; Coval and Stafford, 2007), collateral (Gromb and Vayanos, 2002; Benmelech and Bergman, 2008) and foreclosure (Campbell, Giglio, and Pathak, 2011; Gupta, 2019). A notable exception is Ellul, Jotikasthira, and Lundblad (2011), which studies fire sales of downgraded corporate bonds due to regulatory pressure. In contrast, this paper highlights that fire sales can be affected by contractual features and the legal environment that dictates the relations between different types of shareholders.

2 Institutional Background

In a typical VC-backed company, the entrepreneur receives common shares, while VCs receive predominantly convertible preferred shares, which are convertible at a pre-determined ratio into common shares. As long as they stay unconverted, convertible preferred shares give VCs special rights,[7] such as liquidation preferences, which specify the seniority of different classes of convertible preferred shares over common shares and the minimum share price that VC investors will receive in a liquidation event such as an acquisition. VCs also receive control rights that are often largely disproportionate to their cash flow rights, including board control or at least the ability to secure it if the firm does not reach certain milestones. Board control enables VCs to, among other things, initiate fundamental transactions such as IPOs or acquisitions.

[7]See Kaplan and Strömberg (2003), Cumming (2008) and Chernenko, Lerner, and Zeng (2021) for more details on these contractual rights.

2.1 Dual Fiduciary Duties in Forced Sales of Start-ups

Due to their board appointment rights, VCs usually sit on the board of directors, which is appointed by and thus accountable to both the common and preferred shareholders (See Figure 1). However, these VC-affiliated board members are also under the legal obligation to maximize the return of the VC funds and the ultimate LP investors, who are the preferred shareholders in VC-backed companies. Although aligned on most occasions, such dual fiduciary duties owed by VC-affiliated board members can sometimes conflict with each other. In this paper, we examine VC exits through acquisitions under liquidity pressure as a key scenario where potential conflicts arise due to misaligned investment horizons and divergent payoff functions between the common and preferred shareholders.

In particular, VC funds face liquidity pressure caused by their limited lifespan.[8] While many entrepreneurs choose to let their start-ups stay private for longer, VC investors' investment horizon is shorter - VC funds are usually organized as closed-end vehicles with a pre-determined finite life of about 8-12 years, often with an option to extend for 1-3 years (Gompers and Lerner, 1996; Metrick and Yasuda, 2010; Gompers, Gornall, Kaplan, and Strebulaev, 2020).[9] This contractual structure, as stipulated in the Limited Partnership Agreements (LPAs), aims to satisfy the need for LPs to avoid being held up by VCs once LPs have committed their capital to invest. Therefore, VCs must return most, if not all, capital back to LPs within the pre-determined time frame to maintain existing relationships with LPs and build a reputation for future fundraising.

The liquidity pressure forces VC funds to exit through a variety of exit mechanisms near the end of the fund lifespan, with M&A transactions as the most popular divestment route.[10] Anecdotally, to facilitate the sale process such forced sales can be executed at a low

[8]The limited fund lifespan in VC and private equity (PE) funds has also been studied by Barrot (2017) and Arcot, Fluck, Gaspar, and Hege (2015). They show that the liquidity pressure created by limited fund lifespan can affect VCs' investment choices in innovative firms and secondary buyouts among PE funds.

[9]While VC funds often specialize in industries where start-ups differ in growth rates, little variation exists in VC fund lifespans partly due to LPs' resistance to further extending them (Lerner and Nanda, 2020).

[10]Ewens and Farre-Mensa (2020) document that around 26% of US companies that received their first VC financing round in 1992 went public in seven years and that the ratio has steadily declined to 2% since the

price, resulting in potential value destruction. As preferred and common shareholders hold different securities, their payoffs can diverge in forced sales. More specifically, the liquidation preferences in the preferred shares offer VCs downside protection due to the debt-like payoff structure. However, under-priced sales can disproportionally harm the interests of common shareholders who are often left with little exit value. Therefore, these sales entail severe conflicting fiduciary duties faced by the VC-affiliated board of directors who initiate M&A transactions under Delaware corporate law. Such conflicts are unique to acquisitions because preferred shares are usually converted to common shares in IPOs under the automatic conversion provision, and as a result they lose liquidation preferences (Hellmann, 2006).

Are there ways to avoid fire sales? While an escape from fire sales is in theory available, in practice the solutions feature functional limitations that render them rather costly, at least in the current circumstances. We next discuss each of these solutions and their limitations.

Secondary sales. Secondary sales of portfolio company shares allow VCs to cash out their positions without forcing the entire portfolio company to be sold. VCs' liquidity pressure can also be mitigated by secondary sales of fund interest which allows LPs to exit from their fund investments. However, secondary sales materialize in a highly illiquid market, implying a significant discount on the sale price (Nadauld, Sensoy, Vorkink, and Weisbach, 2019). As such, from the standpoint of VCs and their LP investors who enjoy preferential treatment in the value distribution of acquired startups due to liquidation preferences, secondary sales may not emerge as a superior option relative to a sale of the entire portfolio company.

Continuation funds. Continuation funds can be used to take on the investments of funds close to liquidation and offer existing LPs the option to cash out or stay invested in the new continuation fund. However, the use of continuation funds is complicated because of their bespoke nature and the fact that they introduce conflicts of interest between the new and old LP investors. They are a relatively recent innovation and they have proven to be rare thus far.

early 2000s. Around 25% of VC-backed companies are acquired and there is little time-series variation.

Extension of fund lifespan. Extension of the fund life typically needs to be approved by LPs on a yearly basis for up to three years (Gompers and Lerner, 1996; Metrick and Yasuda, 2010; Gompers, Gornall, Kaplan, and Strebulaev, 2020). Several frictions may impede further renegotiation. First, LPs have limited oversight and involvement in the day-to-day fund operation. As a result, LPs' valuation of the remaining portfolio companies may differ from the VCs' valuation due to information asymmetry. Second, LPs need to commit to a limited fund lifespan to reduce the holdup power of GPs after giving up control of their capital. Third, renegotiation often involves high coordination costs among the LPs, because their heterogeneous liquidity needs and investment horizons make them differently responsive to this extension option.

Management/entrepreneur buyout. While it is possible to buy out the VC-backed company to avoid a fire sale, the entrepreneur is usually financially constrained and does not have enough funds to purchase all the shares from maturing VC funds.

Due to the various costs of these solutions, anecdotal accounts also show that the limited lifespan of VC funds has created increasingly significant frictions in the VC industry. Among other things, it has motivated Sequoia Capital to radically restructure the VC firm around a singular, permanent, open-ended fund in October 2021.[11]

2.2 The Legal Environment around Dual Fiduciary Duties

2.2.1 Before the *Trados* Case

A natural question next is whether the interests of common or preferred shareholders prevail when they are misaligned. Recognizing this tension, in a case ruling in 1997, the Delaware Court of Chancery believed that:

> "*[a] board may certainly deploy corporate power against its own shareholders in some circumstances – the greater good justifying the action – but when it does, it should be required to demonstrate that it acted both in good faith and*

[11] *The Sequoia Capital Fund: Patient Capital for Building Enduring Companies*, October 26, 2021.

reasonably."[12]

Building on this decision, subsequent scholarship has elaborated the "contingent-control approach", suggesting that a VC-controlled board can make decisions that favor preferred shareholders at the expense of common shareholders, as long as the board can plausibly defend these decisions as being in the best interests of the corporation (Fried and Ganor, 2006). In practical terms, board control seems to imply modest discretion in pursuing strategies that may favor preferred shareholders in VC-backed start-ups, most of which are incorporated in Delaware (Broughman, Fried, and Ibrahim, 2014).

2.2.2 The *Trados* Case and Delaware Court Ruling

An important decision by the Delaware Court in 2013 established a new legal precedent that changed the fiduciary priority of VC boards.[13] The case concerned the sale of Trados, a VC-backed start-up in which VCs had invested through convertible preferred shares, controlled a majority of voting rights in the shareholder meeting, and had designated a majority of the directors on the board. As Trados struggled to achieve its business milestones, the board replaced the CEO and engaged a financial advisor to advise the company about its strategic alternatives. Despite the availability of several alternatives that would allow the firm to remain stand-alone and solvent, none really offered an opportunity to achieve meaningful returns for the VCs or common shareholders. As the VCs declined to inject additional capital into Trados, the board put the company for sale. After rejecting a $40 million offer from SDL, the board later consented to the transaction for $60 million. The management received the first $7.8 million under a management incentive plan. The VCs captured the remaining $52.2 million through their liquidation preference, which amounted to $57.9 million. The common shareholders received nothing and one of them sued the directors on the board of Trados for having breached their fiduciary duties in approving the transaction.

[12]Orban v. Field, No. 12820, 1997 Del. Ch. LEXIS 48 (Apr. 1, 1997). The decision in Orban concerned the decision-making process of a preferred shareholder controlled board to dilute common shareholders' voting power below the 90% threshold required to approve the transaction at the general shareholder meeting level. However, the rule referred to in the text can nonetheless be seen as indicative of how courts would address the preferred-common conflict before Trados.

[13]*In re Trados* Incorporated Shareholder Litigation, 2013 Del. Ch.

The court concluded that Trados's board was conflicted. In fact, albeit for different reasons, the court stated that six out of seven directors had failed to comply with the fiduciary duty to "maximize the value of the corporation over the long-term for the benefit of the providers of equity capital, as warranted for an entity with perpetual life in which the residual claimants have locked in their investment".[14] Trados' directors did eventually escape liability because the court found $0 was a fair price for the then out-of-the-money common shares, but the court's decision has established itself as sanctioning a new "common shareholder value maximization rule".[15]

Appendix A provides more institutional details around *Trados*. We start with more background information and the timeline of *Trados* in A.1. Since the Trados litigation resulted in two judicial rulings (*Trados I* in 2009 and *Trados II* in 2013), we then explain the rationale behind using *Trados II* as a shock to the legal environment in A.2. We also present pertinent case law that cites *Trados* due to its emphasis on the rule of common shareholder value maximization in A.3.

2.2.3 Responses from the Legal Community and VC Industry Interest Group

Since the *Trados* ruling builds on a simple rule of common value maximization that lends itself to mechanical application, the preconditions exist for its strong enforcement. The general perception from the legal scholarship is that *Trados* shall govern all transactions in which the common shareholders get little or no consideration, implying litigation risk for the sale of many VC-backed company. *Trados* has accordingly led major US law firms to issue memos and briefings addressing the issues associated with the risk of *Trados*-like claims. Most of these memos and briefings emphasize the dramatic problems associated with the "dual-fiduciary role" that VC-appointed board members play in the context of VC-backed companies, urging their clients to manage the sale process with caution. Broadly speaking, after *Trados* boards shall engage in a more meaningful exploration of alternative

[14]See Section A.1 of Appendix A for more information on the board composition of Trados and the directors' conflicts of interest.

[15]See Bratton and Wachter (2013), Korsmo (2013), Sepe (2013), Strine (2013), Bartlett III (2015), Pollman (2019) and Cable (2020).

transactions and a more granular assessment of prospects for continuing the VC-backed company's operations.

In the meantime, *Trados* alerted the VC industry, prompting reactions aiming to devise possible solutions to the issues that the decision had created. The goal was to eventually reclaim the discretionary space in selling start-ups that the Delaware judiciary had taken away from VCs. To this end, in 2018 the National Venture Capital Association ("NVCA") published the first major release of its model contract forms since 2014. It brought in contractual provisions aimed at contracting around Trados, with "sale rights" being the solution of choice. Sales rights enable the VC, inter alia, to force the company to initiate a sales process and exercise their drag-along rights with respect to a specific transaction without participating in the board decision-making, thereby sidestepping potential fiduciary duty-related claims. However, sale rights do not work well because no acquirer would buy a firm with substantial shareholder objection and without the cooperation of the board.

Being referred to as "the most important Delaware case on the fiduciary duties of startup directors" (Broughman and Wansley, 2023), Trados has received an increasing amount of attention from prominent legal scholars. Relying on a limited number of semi-structured interviews with startup lawyers from Silicon Valley, Cable (2020) points out only modest effects of *Trados* but does highlight its role in improving the management of the sale process. Others express greater concerns, stressing a "chilling effect" on VC capital raising (Bratton and Wachter, 2013) or advocating the abandonment of the new legal regime (Bartlett III, 2015). However, to the best of our knowledge, no rigorous empirical analysis has been conducted despite the contentious legal debates.

3 Data and Empirical Strategy

Our goal is to quantitatively assess the impact of *Trados*, which can be viewed as a common-favoring ruling and offers improved fiduciary protection to common shareholders. While other scenarios can trigger *Trados*-like claims, we narrow our focus to forced sales under

VC funds' liquidity pressure as a laboratory, in light of high-quality M&A data and the prominence of the conflicting fiduciary issue in this setting.

3.1 Data and Sample Construction

Our main sample consists of the VC-backed companies that completed their first VC financing round between 1995 and 2012 and are acquired by December 31, 2020. We exclude companies that received the first round of VC financing after 2012 to allow sufficient time for VC exits. From Preqin, we obtain data on VC-backed US companies and their deal-level information, including the names of VC funds in each deal.[16]

To identify acquisition-related information of VC-backed companies, we begin with all US acquisitions completed between 1995 and 2020 in the SDC Mergers & Acquisitions database and apply the following data filtering criteria. We first require that the form of the deal is coded as acquisition of majority interests, acquisition of assets, acquisition or merger. Second, the acquirer must own less than 50% of the target prior to the transaction. Third, the acquirer must acquire more than 50% of the target firm ownership. In the end, the acquirer owns more than 90% of the target firm after the transaction. Importantly, we use fuzzy name matching combined with manual checks to merge the Preqin and SDC sample after standardizing spellings and removing legal suffixes. We supplement our analyses with variables constructed from various data sources described in detail in Appendix B.

3.2 Identifying Forced Sales

Due to their limited lifespan, VC funds face more pressure to divest in order to distribute cash back to LPs when they move closer to liquidation. This is evident in Figure 2a, which plots the 25th percentile, 75th percentile, median, and mean of cumulative cash distributions of VC funds by fund age. The gap between the 75th and 25th percentile starts to narrow quickly from age 10. By age 12 (15), a median fund will have distributed 92% (100%) of its cash back to the LPs. Very few cash distributions occur beyond age 15. In fact, a 25th

[16]Preqin is one of the few databases that provide reliable VC fund names in each VC deal (Kaplan and Lerner, 2016).

percentile fund will have 98% of its cash distributed before it reaches age 15. Figure 2b shows the 5th and 95th percentiles of cumulative cash distributions. We see a sharp increase in cash distributions when a slow-distributing fund (bottom 5%) is between 9 and 15 years old, consistent with the liquidity pressure that forces it to distribute cash back to LPs.

Our empirical approach to identify forced sales is motivated by the cash flow patterns in Figure 2a. Similar to Campbell, Giglio, and Pathak (2011), we define forced sales as acquisitions that take place close in time to the forcing event – when the VC fund becomes 12 years old. Specifically, our variable of interest *Forced [-t, +t]* is an indicator variable that is defined at the fund-company pair level and equals one if the VC fund age is between 12 - t and 12 + t years, and zero otherwise. The window length t captures the urgency of the deal since acquisitions that happen long after or long before the forcing event are arguably less urgent. While the specific limit of the fund lifespan is unobservable and can be different across funds, using a uniform 12-year threshold likely leads to attenuation bias, making it more difficult for us to find any evidence of fire sales.

Figure 3 shows the age distribution of VC funds when they first invest in their portfolio companies and when they exit by acquisitions. Consistent with anecdotal evidence on the investment patterns of VC funds over their lifecycle, a typical VC fund makes more than 90% of its initial investments in the first five years after its vintage year. When the VC exits through acquisitions, the median (mean) age is 6 (6.5) years and more than 93% (98%) of VC funds are less than 12(15) years old.

3.3 Empirical Strategy

3.3.1 Fire Sale Discount, Acquirer Industries & Announcement Returns

We first establish a set of facts on forced sales of VC-backed companies using cross-sectional regressions with fund-company paired data:[17]

$$y_{ij} = \boldsymbol{\phi_{state}} + \boldsymbol{\rho_{industry}} + \boldsymbol{\lambda_t} + \boldsymbol{\delta_{k(i)}} + \beta \times Forced_{ij} + \boldsymbol{\theta'X} + \epsilon_{ij} \tag{1}$$

in which the subscript i and j denote a VC fund and a VC-backed company respectively. The outcome variable y can be *Ln(Deal Vale)*, the natural logarithm of the acquisition deal value in USD MIL, or *Financial Acquirer*, an indicator variable equal to one if the acquirer is a financial firm. $\boldsymbol{\phi_{state}}, \boldsymbol{\rho_{industry}}, \boldsymbol{\lambda_t}$ and $\boldsymbol{\delta_{k(i)}}$ denote company headquarter state, company industry, exit year and VC firm fixed effects, in which $k(i)$ is an index function representing the VC firm that manages the fund j. The inclusion of VC firm fixed effects controls for the selection skills of VCs. $\boldsymbol{X}$ is a vector of VC- and company-level controls such as the IPO ratio of the VC firm, the total amount of equity raised by the company and the number of investors.We cluster standard errors by the VC fund and company headquarter state.[18]

3.3.2 Effects of the *Trados* Court Ruling

We consider the *Trados* court ruling as a shock to the legal institutions that shape the power of common shareholders against the preferred shareholders. While in principle all VC funds are treated by this landmark legal precedent, *Trados* should have a greater effect on maturing funds since they are ex-ante more likely to force the company into under-priced acquisitions. To this end, we use a difference-in-differences design to study the effects of *Trados* on VC-backed companies' probability of being acquired near the end of conventional

[17]VC-company paired specifications are usually used to exploit variations across different VC investors within the same portfolio company (Ewens and Rhodes-Kropf, 2015; Bernstein, Giroud, and Townsend, 2016; Ewens, Rhodes-Kropf, and Strebulaev, 2016; Ewens, Nanda, and Rhodes-Kropf, 2018).

[18]In the appendix, we also use cluster-bootstrapped standard errors as an additional robustness check. The results are highly similar, as reported in Figures D.1 to D.5 in Appendix D.

fund lifespan:

$$\begin{aligned} Acquired_{ijt} =& \boldsymbol{\phi_{state}} + \boldsymbol{\rho_{industry}} + \boldsymbol{\gamma_t} + \boldsymbol{\delta_{k(i)}} + \\ & \beta \times Forced_{ijt} + \gamma \times Forced_{ijt} \times Trados_t + \boldsymbol{\theta'X} + \epsilon_{ijt} \end{aligned} \tag{2}$$

in which the subscript i, j and t denote a VC fund, a VC-backed company, and a calendar year respectively. *Acquired* is an indicator variable that equals one if the VC-backed company is acquired in the corresponding calendar year, and zero otherwise. We include the following fixed effects: $\boldsymbol{\phi_{state}}, \boldsymbol{\rho_{industry}}, \boldsymbol{\gamma_t}$ and $\boldsymbol{\delta_{k(i)}}$ denote company headquarter state, company industry, calendar year, and VC firm fixed effects, respectively. *Trados* is an indicator variable that equals one from the year 2013 onward – 2013 being the year in which the Delaware Court made the final decision on the *Trados* case – and zero otherwise. The key variable of interest is $Forced_{ijt} \times Trados_t$, and its coefficient ($\gamma$) captures the pre-post change in the gap between the acquisition probability during "forced" years (years close to the end of VC funds' conventional lifespan) and the acquisition probability during "non-forced" years (years further away from the conventional lifespan) around *Trados*. We cluster standard errors at the same level as in Equation (1).

We also analyze the effects of *Trados* on VC fund cash distributions with a similar DiD setting to Equation (2):

$$Distribution_{it} = \boldsymbol{\xi_i} + \boldsymbol{\gamma_t} + \beta \times Forced_{it} + \gamma \times Forced_{it} \times Trados_t + \epsilon_{it} \tag{3}$$

in which the subscript i and t denote VC fund and year respectively. *Distribution* is either *Cash Distribution*, an indicator variable equal to one if the VC fund makes cash distributions in a given year and zero otherwise, or *Cash Distribution Amt (%)*, the cash distribution amount returned to LPs as the percent of fund size in a given year. We include VC fund and year fixed effects, denoted by $\boldsymbol{\xi_i}$ and $\boldsymbol{\gamma_t}$, respectively. Our coefficient of interest, γ, captures the effect of *Trados* on VC fund cash distributions over its lifespan. Standard errors in this regression are clustered at the VC fund level.

3.4 Summary Statistics

Our first sample consists of VC-backed companies that raised their first VC financing round during the period 1995-2012 and are acquired by December 31, 2020. The unit of observation is a fund-company pair. There are 3,836 unique VC-backed companies and 2,492 VC funds managed by 1,288 VC firms in the sample. Table 1 Panel A reports the summary statistics for the variables used in the cross-sectional regressions. On average, the acquisition deal value is $219.83 million and the ratio of deal value to the total amount of equity raised by the VC-backed company is 7.02 with a median value equal to 3.80. The deal multiple is upward biased because missing financing rounds and missing deal value of observed rounds (around 15% of our sample) lead to an under-estimated denominator. Approximately 9% of the companies are sold to financial firms such as private equity firms. Based on the [-1, +1] interval definition, around 9% of the VC-company pairs are under fund liquidity pressure.

The sample to evaluate the effect of the *Trados* court ruling on acquisition timing consists of the same group of companies, but the unit of observation is a fund-company year. Each fund-company pair appears in the sample from the first investment of the VC fund in the company and disappears after the acquisition. The average probability of VC exits through acquisitions is 17% in a given year. For the analyses of VC fund cash distributions, the sample consists of VC funds raised during the period 1995-2012. The unit of observation is a fund year and there are 624 unique VC funds managed by 299 VC firms in the sample. The average probability of cash distributions is 50% in a given year and the mean cash distribution amount in any year is 7% of the total cash distributions returned to LPs.

4 Fire Sales in the VC Setting

This section establishes a set of facts that indicate the existence of fire sales in the VC setting, a salient situation that creates cognizable conflicts between the preferred and common shareholders. We focus on three key acquisition characteristics: (i) price of sale; (ii) acquirer industries; (iii) acquirer announcement returns.

4.1 Fire Sale Discount

In the language of Shleifer and Vishny (2011), fire sales are *forced sales* of assets at *dislocated prices*. In the VC context, sales of portfolio companies near the end of fund lifespan are forced because VCs are under pressure to pay the LPs back within a limited time frame. The sale price is likely to be dislocated due to the illiquidity of the market for private assets and the urgency of the sale. One may argue that as the lifespan of VC funds is known ex-ante, VCs could always plan ahead and avoid fireselling a company. There are at least two reasons why VCs can only partially control the timing of their exits. First, there is significant uncertainty in the time it takes for a VC-backed company to reach a milestone that makes an exit suitable. Second, the exit decisions are affected by capital market cycles so VCs have incentives to wait for a robust market condition (Gompers, Gornall, Kaplan, and Strebulaev, 2020). As a result, shocks to startups' growth potential and capital market conditions can lead to (unplanned) sales towards the end of a fund's lifespan.

In the spirit of Pulvino (1998), we compare the price of assets in forced transactions and non-forced transactions to provide evidence for fire sales. Table 2 presents the price discount in forced sales of VC-backed companies, estimated with Equation (1). Columns 1-3 compare the deal values of forced and non-forced sales conditional on variables known to predict the portfolio outcomes, such as the total amount of equity raised, the number of financing rounds, and VCs' selection skills. We observe a significant value discount in forced sales. Overall, the discount ranges from 10% to 30% and is larger when the sale takes place closer in time to the end of the conventional fund lifespan.[19] This difference represents a $22 million to $66 million fall in the average deal value. Columns 4-6 report the analyses with the deal value scaled by the total amount of equity raised by the VC-backed company. On average, the deal multiples of forced sales are 0.69 to 1.56 lower, which account for 10% to 22% of the unconditional mean.

[19]Since we use ln(deal value) as the outcome variable, we convert the estimated coefficient on forced dummies (β) into fire sale discounts by calculating $exp(\beta) - 1$.

How does the fire sale discount we identify in the VC setting compare with the discount observed in other settings? Using commercial aircraft transactions, Pulvino (1998) documents a discount of 10% to 20% when aircraft are sold by financially constrained airlines. Campbell, Giglio, and Pathak (2011) detect large foreclosure discounts, on average about 27% of the value of a house. Turning from real assets to financial assets, Acharya, Bharath, and Srinivasan (2007) find that the debt instruments of firms in distressed industries recover about 10-15 cents less on a dollar compared to firms in healthy industries. The discount we identify is broadly in a similar range (19% on average, across three specifications).

4.2 Acquirer Industries

Having shown the value discount in forced sales, we continue to shed light on the economics behind the dislocated price. One hypothesis is that the discounts exist because the VC-backed companies are sold to industry outsiders. These acquirers have a lower valuation of the assets and tend to pay lower prices, due to the highly specialized nature of the assets owned by start-ups (Shleifer and Vishny, 1992). Because of the illiquidity of the market for private assets, VCs then face a trade-off between a higher sale price and a shorter time to locate a buyer and complete the transaction. When the pressure to sell is high, VCs might settle for an industry outsider and a lower price.

To test the above hypothesis, we link the urgency of a sale to the industry of the acquirer. Hoberg and Phillips (2010) document that merger pairs are far more similar in the product market space than SIC- or NAICS-based measures suggest. As a result, acquirers can still have a high valuation of the target's assets even when they are assigned different SIC codes. In light of this, we construct a measure based on the similarities between public firm pairs to indicate the product market closeness between the acquirer and the VC-backed target.[20] Specifically, we collapse the raw firm-pair-year level panel data in the Hoberg-Phillips Data Library into 3-digit SIC industry pairs for each year and count the number of firm pairs in

[20]We do not directly construct the similarity score between the acquirer and the VC-backed target for two reasons. First, we lack information on business descriptions of private acquirers. Second, the business descriptions of start-ups are rather short and typically do not disclose detailed information on products.

each group. For each SIC, we then keep the top 10 related SIC industries in each year based on this count. The idea is that closely related industries should have more firm pairs that reside in close proximity in the product space based on their product descriptions. It follows that acquirers in the target's top 10 related industries will likely have a higher valuation of the target's assets. We define *Remote Industry* as an indicator variable that equals one if the acquirer is not from the VC-backed target's top-10 related industries, and zero otherwise.

Table 3 reports the results from a linear probability model in which the dependent variable is either *Remote Industry* or *Financial Acquirer*, which equals one if the acquirer is a financial firm and zero otherwise. As reported in Columns 1-3 of Table 3, VC-backed companies have a 4.1 to 5.1 percentage points (18-22% of the unconditional mean) higher probability of being sold to acquirers from a remote industry if the sale is forced. The coefficient estimates in Columns 4-6 suggest that companies in forced sales have approximately a 3.5 percentage point higher probability of having financial acquirers such as private equity firms. The economic magnitude is large and represents over 35% of the unconditional mean. Our finding is robust to using the SIC industry classification to define whether the acquirer and target are from different industries (see Figure D.2).

4.3 Acquirer Announcement Returns

While the fundamental value of acquired assets is not observable, buyers may capture part of the surplus if the assets are sold at a low, dislocated price. The stock market is a useful setting to evaluate the gain that accrues to the buyers (Meier and Servaes, 2019). We thus examine whether public acquirers experience positive abnormal stock returns soon after acquisition announcements for sales that take place under VC funds' liquidity pressure.

Table 4 shows the abnormal stock returns of public acquirers in forced sales of VC-backed companies around deal announcements.[21] The first three columns present the cumulative abnormal returns (CAR) over a short window around the acquisition announcement using the

[21] We control for a wide variety of acquirer- and deal-level characteristics that are known to predict acquirers' gains. See, for example, Moeller, Schlingemann, and Stulz (2004, 2005). Appendix B provides detailed variable definitions.

CAPM model. We always observe significantly higher abnormal returns earned by acquirers when transactions occur under VCs' liquidity pressure. In addition, consistent with the pattern of the fire sale discount reported in Table 2, *CAR [-5, +5]* increases from 0.92% to 2.21% when the forced sale is closer to the end of the conventional fund lifespan, which suggests that the surplus captured by the acquirer increases with the discount we observe in these forced sales. The remaining columns report the results using the Fama French 3 factor model as the benchmark model to calculate abnormal returns and the results are similar.

4.4 Selection Concerns

One concern is that the discount we document is driven by selection rather than fire sales. An unobserved quality difference might exist between start-ups that are sold earlier and those that are sold later in a VC fund's lifespan. For example, VCs might sell high-value companies first and hold onto low-value ones that are difficult to sell, resulting in a lower sale price for companies that are sold closer to maturity. While it is difficult to completely rule out the possibility of a selection bias (the "quality discount" story), several pieces of evidence support the existence of fire sales (the "fire sale discount" story).

Controlling for start-up fundamentals. To start with, we directly control for start-up quality by adding sales as an additional explanatory variable in each regression. To obtain information on the fundamentals of private companies, we match our start-up sample to Your-economy Time Series (YTS) based on company names and locations.[22] Panel A of Table 5 reports the coefficient estimates of *Forced [-1, +1]*, which are quantitatively and qualitatively similar to our baseline results, after controlling for the sales in the last available year before deal completion.[23] Importantly, we also see an increase in the adjusted R^2 across all columns, suggesting that controlling for sales indeed reduces the unexplained variation in the outcome variables. One concern is that past volume of sales does not capture the

[22]YTS contains annual establishment-level sales and employment numbers. We do not add sales or employment as control variables in the baseline specification since only 40% of the start-ups can be matched.

[23]In additional analyses and all robustness checks, we focus on specifications with $Forced[-1,+1]$ as the key independent variable for brevity.

growth opportunities of the target start-ups. To address this, we also add future sales as a forward-looking control for start-up quality in Panel B of Table 5. The results remain similar, though some coefficient estimates become insignificant due to a lack of statistical power, as many start-ups no longer report stand-alone sales after the acquisition.[24]

Post-money valuation. Second, we track the evolution of post-money valuation before companies are eventually sold in forced and non-forced scenarios in Figure C.1. The median post-money valuation of the two groups of companies is very similar from the year when they receive their first financing round to the next 10 years, alleviating the concern that companies sold under liquidity pressure are fundamentally different from those sold earlier. Multivariate analysis in Table C.1 confirms that the difference in post-money valuation between the two groups of companies is economically small and statistically insignificant.[25] According to the point estimates, the quality discount is at worst 4.8% (Column 4) for the most urgent sales, which is substantially smaller than the fire sale discount in Column 1 of Table 2.

Economics behind the quality discount. The "quality discount" story can explain neither the greater probability of acquirers being industry outsiders, nor the higher abnormal returns enjoyed by acquirers. Importantly, these patterns are consistent with predictions from the theoretical work on fire sales (Shleifer and Vishny, 1992) and are rather unique markers of fire sales. To further ensure comparability across investments, we include an extensive set of fund- and company-level control variables, as well as more stringent fixed effects, such as industry by year and company headquarter state by year fixed effects. The discount in the sale price is always economically large and statistically significant.

It is also worth mentioning that the economics behind the selection bias in the real asset market does not apply here. For financially constrained sellers, the assets being sold often suffer from under-maintenance. Consequently, the fire sale discount is partially reflecting the lower quality of the underlying assets rather than illiquidity. In the VC setting, the

[24] In untabulated results, we find that controlling for start-up employment also yields similar estimations.

[25] We do not directly include post-money valuation as a control in the regression that studies fire sale discount because data on post-money valuation is available only for a limited subset of companies.

under-maintenance argument does not hold. If anything, companies are expected to receive more monitoring when they stay longer with the VCs, and when the VCs become more experienced and have fewer companies to manage as they move closer to maturity.

To sum up, given that each start-up is unique, it is admittedly very difficult to find out its fair value in acquisitions and infer the true fire sale discount. Our estimations, while abstracting away from some potential heterogeneities across investments, still provide a good idea of the average fire sale discount in the VC industry. While we cannot fully rule out the quality discount explanation, the combination of the above evidence leads us to conclude that our results are consistent with fire sales and are unlikely to be fully driven by selection.

4.5 Additional Results and Robustness

4.5.1 Fire Sales and Market Conditions

Existing work suggests more severe fire sales during industry downturns due to the lack of demand from high-valuation buyers in the same industry (Shleifer and Vishny, 1992; Pulvino, 1998). In Table 6, we provide evidence consistent with this prediction. *Cold Market* is an indicator that equals one if the M&A transaction volume is in the lowest quartile during the sample period for each industry, and zero otherwise. The coefficient on *Forced [-1, +1]* $\times$ *Cold Market* captures the difference in deal characteristics of forced versus non-forced sales in freezing versus active M&A markets. We find that forced sales during a cold M&A market on average have a lower deal multiple, a higher probability of being sold to acquirers in remote industries and a greater acquirer abnormal return. These findings imply that fire sales are mostly concentrated in scenarios when the industry-specific market is illiquid.

4.5.2 Intra-VC Conflicts and Discussions on Regression Specifications

Our main specification features observations at the fund-company pair level, such that multiple VC funds may exist for each start-up transaction. However, the incentives of VC funds may diverge because they have different investment horizons and hold different classes of convertible preferred shares (Nanda and Rhodes-Kropf, 2019; Chernenko, Lerner, and Zeng, 2021). Moreover, the importance of each VC fund and its influence in exit decisions likely

also differ. In the regressions, ideally one would like one observation for each deal where the independent variable of interest aggregates the liquidity pressure faced by all VCs that invest in the target start-up. However, such aggregation is challenging and depends crucially on knowing the complete set of VC investors, especially their incentives and power on the board by the time of the acquisition. Such information is difficult to gather, and worse still, the aggregated measure accumulates all the noise or measurement errors at the fund level, leading to potentially severe attenuation biases. Therefore, in the main specification, we follow the literature and conduct the analyses at the fund-company pair level (Ewens and Rhodes-Kropf, 2015; Bernstein, Giroud, and Townsend, 2016). This allows us to add fund-level controls and/or fixed effects, hence making more effective use of the data.

Nevertheless we take steps to further justify our empirical specification and dig into potential conflicts of interest among VCs. We first narrow our attention to VCs who have higher abilities and stronger incentives to push for timely exits. The importance of each VC fund and its power on the board depend on the stage of its initial investments and its total amount of investment in the start-up. Therefore, VCs that invest earlier or make larger investments arguably have more influence in exit decisions. In Figures D.1, D.2 and D.3 of Appendix D, we show that our estimates are robust to limiting our sample to these subsets of fund-company pairs. First, we focus on VC funds that participate in the first observed financing round. On average, each target start-up has around 1.7 first-round investors.[26] These early investors are also more likely to be subject to liquidity pressure at the time of the sale, inducing them to seek a quick transaction. Second, we drop less important VCs that hold less than 10% of equity investments in the company. Using these alternative sampling criteria, the results stay largely unchanged.

Second, the fund-company pair specification means that start-ups with more investors may receive a higher weight in the regression, complicating the interpretation of the estimated coefficients. The similar results yielded by the specification with first-round investors

[26]The regression using this subsample is therefore close to the specification with one observation per deal and an aggregated liquidity pressure measure.

only, where the variation in the number of VC investors in each company is limited, partially mitigate the concern already. To further address the issue, we provide OLS estimates weighted by the inverse of the number of VC funds within each company so that each target start-up will have the same unit weight in the regression. All findings remain quantitatively and qualitatively similar to the baseline results, as shown in Figures D.1 to D.3.

In the presence of intra-VC conflicts, younger VC funds are likely to disagree with fireselling portfolio companies even if older VC funds are under substantial liquidity pressure. When the age dispersion among VC funds that invest in the same start-up increases, one prediction is that fire sales become less likely and less severe due to heightened intra-VC conflicts. We find evidence consistent with this prediction in Table C.2. The coefficient estimates of *Forced [-1, +1]* $\times$ *Fund Age Dispersion* have opposite signs to those of *Forced [-1, +1]*, suggesting less severe fire sales when the dispersion in VC fund age goes up.

4.5.3 Robustness Checks

In Appendix D, all figures and tables present an extensive set of robustness checks such as adding more stringent fixed effects, applying additional sample selection criteria (exclude corporate venture capital funds, exclude the Internet bubble period, etc.) and using a non-symmetric window to define forced sales. Appendix D also discusses the motivations for each robustness check including further addressing potential econometric issues in our regression specifications and dealing with reporting bias in our data. The results are robust to all the aforementioned changes to the baseline specification.

5 Effects of a Common-Favoring Regime

Independent of the *Trados* ruling, the previous section shows that sales of start-ups under liquidity pressure of the VC funds are characterized by key features of fire sales. These deals, which were largely permitted by Delaware law before *Trados*, often satisfy the liquidation preferences of VCs but can be disproportionally costly to common shareholders who are the residual claimant. This laboratory thus features intensified preferred-common conflict and

a substantial dual fiduciary issue, underscoring the relevance and applicability of *Trados*. In this section, we first study how improved common shareholder power through *Trados* affects the timing of VCs' exits by acquisitions. We then examine the effect on VC fund cash distributions. Finally, we discuss ex-ante effects on VC fundraising and start-up financing.

5.1 Probability of VC Exits by Acquisitions

Table 7 presents the DiD estimates from Equation (2). The results in Column 1 support the notion that VCs are more likely to exit the portfolio companies through acquisitions that are likely under-priced. The coefficient of *Forced [-1, +1]* is positive and highly significant, suggesting that the relative probability that the VC will exit through acquisition increases by 4.8 percentage points (28% of the unconditional mean) when the fund age is between 11 and 13 years. The coefficient estimate of the interaction term *Forced [-1, +1]* × *Trados* is negative and significant at the 1% level, suggesting that the *Trados* court ruling has reduced VCs' propensity to initiate near-maturity sales by 3.5 percentage points. In Columns 2-6, we find consistent results using specifications with alternative indicators of forced sales and adding the control variables used in the previous tables.

One identification assumption is that VCs' probability of exiting through acquisitions would have evolved similarly across different fund ages absent the *Trados* court ruling. Figure 4a shows that there is no significant pre-trend in the years leading up to the court ruling. Moreover, there is an immediate and persistent dip in the event-study coefficient estimates in the post-*Trados* period, providing additional support for our identification strategy.[27]

5.2 Triple-Difference Based on Company Incorporation States

One might worry that our findings are driven by confounding factors, in particular the surge in venture capital fundraising since the mid-2010s. A more competitive supply of capital from LPs may increase LPs' willingness to extend the lifespan of VC funds, lifting the liquidity pressure faced by VCs. The influx of funding may also create a more entrepreneur-friendly

[27]Figure C.2 shows the estimates of dynamic effects using alternative forced measures. We again do not observe significant pre-trends, but we see negative and significant coefficients after *Trados*.

environment and strengthen common shareholders' bargaining position against VCs. These alternative channels may also lead to reduced fire sales.

To rule out these explanations, we manually check whether start-ups are incorporated in Delaware by searching the website of the Delaware Department of State Division of Corporations.[28] Since *Trados* is a Delaware opinion and if our results are indeed driven by *Trados*, we should expect the court ruling to generate a stronger effect on start-ups incorporated in Delaware than those incorporated elsewhere in the US. However, if our results are caused by a general rise in venture funding across the US, the change in the probability of forced sales after *Trados* should not depend on start-ups' incorporation states.

Table 8 reports the triple-diff estimates that are consistent with *Trados* being the driving force behind reduced forced sales. *DE* is an indicator variable equal to one if the company is incorporated in Delaware, and zero otherwise. The coefficient of interest is *Forced [-t, +t]* × *Trados* × *DE*, which measures the difference in *Trados*' impact on the probability of forced sales of companies incorporated in Delaware versus elsewhere.[29] The estimated coefficients on the triple interaction term are all negative and mostly statistically significant, indicating a substantially stronger treatment effect for companies incorporated in Delaware.

Figure 4b shows the event-study estimates for the subsamples of companies incorporated in and outside of Delaware separately. While there is an immediate drop in the probability of acquisition close to the end of the conventional fund lifespan for DE-incorporated companies after the *Trados* ruling year, the likelihood remains stable for those incorporated outside of Delaware. Since companies do not choose their incorporation states randomly, one concern is that our results could be driven by unobservable differences between DE- and non-DE incorporated companies. The dynamics in Figure 4b already indicate that these differences are not associated with a divergence in the probability of being acquired. Moreover, we use propensity score matching to explicitly deal with this issue. Although DE-incorporated

[28]We also cross-validate with the California Business Search and the Massachusetts Corporation Search.

[29]We cluster standard errors by the company incorporation state, since the treatment status is assigned at the company incorporation state level.

companies tend to raise more capital and have more financing rounds, Table D.1 shows that our findings are robust to using a subsample matched on the company's propensity score of being incorporated in Delaware.[30]

Appendix D reports robustness checks based on different sample construction and fixed effects. Our findings in this section provide additional support for causality - alternative stories must explain (1) why VCs under liquidity pressure change their exit decisions right after the year of the *Trados* ruling, and (2) why this effect is mostly concentrated among DE-incorporated companies that otherwise look similar to non-DE incorporated ones.

5.3 Acquisitions with VCs Holding Preferred Shares

Some forced sales presumably happen at a price that is sufficiently profitable for VCs to convert their preferred shares into common shares.[31] As a result, *Trados* becomes less relevant since all the selling shareholders hold common shares, even though the company could have been sold at a higher price if VC investors were not in a rush to exit. To address this issue, we repeat the above DiD and triple-diff analysis by only considering acquisitions in which VCs still likely hold preferred shares.

In Table 9 Panel A, we exclude companies sold in acquisitions with an exit multiple greater than the sample median. In these acquisitions, VCs are more likely to convert their preferred shares into common shares. According to Columns 1 and 2, *Trados* significantly reduces the probability of these low-multiple acquisitions where the litigation risk for VC-affiliated board members looms large in a common-favoring legal environment. The results also hold in the triple-diff regression in Columns 3 and 4 when we compare incorporated in and outside of Delaware.

In Panel B, we consider VCs' conversion decision in each acquisition. The conversion

[30]The propensity score that is estimated with the following characteristics: *Log(Total Equity Raised)*, *Number of Financing Rounds*, *Number of Investors*, as well as company headquarter state, company industry, and exit year fixed effects.

[31]While the unconditional mean/median of *Deal Multiple* is 7.02/3.80 in Table 1, the mean/median declines with fund age from around 10.75/5.19 to 4.66/1.95 (when the fund is 12-year-old) if we summarize deal multiple by fund age. Moreover, around 65% of our sample companies have missing acquisition valuations and these deals are likely to be unprofitable.

into common shares takes place if the value provided by the downside protection from liquidation preferences is lower than VCs' share of the acquisition value based on their ownership of common shares after conversion.[32] Due to the lack of granular data on liquidation preferences and the exact ownership structure, we make the following assumptions. First, we assume that all preferred shares have a 1× liquidation preference, which means the value of preferred shares is equal to the total amount of equity invested by VCs. Second, if conversion takes place, VCs receive a payoff equal to the acquisition value times their ownership. Their ownership is estimated based on the number of rounds raised by the company and the corresponding median dilution factor.[33] We also assume that VCs hold preferred shares in exits when acquisition value is missing.[34] Under these assumptions we exclude companies with sufficiently profitable exits that prompt VCs to convert into common shares. We continue to find a strong, negative effect of *Trados*.

Since the analysis in Table 9 comes with assumptions, we make alternative assumptions and report the coefficient estimates in Figure D.4 and Figure D.5 (bottom four specifications). For Panel A, instead of using the sample median, we use other thresholds and the results are largely unchanged. For Panel B, we use alternative dilution factors to estimate VC ownership in each round. The coefficients change little, suggesting that our results consistently hold for the subsample of acquisitions where *Trados* is most likely to apply.

[32]For example, if VCs own 50% of the common shares after conversion, they will only convert their preferred shares with 1× liquidation preferences if the acquisition multiple is > 2.

[33]We use VentureXpert to calculate the dilution factor because Preqin does not provide post-money valuation for financing rounds. Our assumptions are conservative and likely over-estimate the fraction of companies in which VCs convert into common shares for two reasons. First, the payoff from liquidation preferences is under-estimated because missing financing rounds and missing deal value of observed rounds imply that the amount of equity invested by VCs is greater than the observed value. Second, late-stage VCs tend to require more protection by having >1× liquidation preferences (Gornall and Strebulaev, 2020; Chernenko, Lerner, and Zeng, 2021).

[34]These companies are likely sold at low prices given the reporting bias - if these companies were very profitable, VCs would have incentives to make these deals known. In untabulated t-tests, we find that companies sold with missing exit valuation are significantly more likely to be sold to industry outsiders, raise less capital and have fewer financing rounds compared to their peers with exit valuation.

5.4 VC Fund Cash Distributions

We continue by exploring the impact of *Trados* on the timing and amount of cash distributions by VC funds. By changing VCs' trade-off between maximizing common shareholder value and distributing returns back to LPs in time, *Trados* disincentivizes VCs from exiting their portfolio companies in a timely way through potential fire sales. As a result, we expect to see less clustering of cash distributions near the end of the conventional fund lifespan in the post-*Trados* period.

Table 10 shows the DiD estimates from Equation (3), in which the dependent variable is either *Cash Distribution*, an indicator variable that equals one if the VC fund makes cash distributions in a given year and zero otherwise, or *Cash Distribution Amt (%)*, the cash distribution amount returned to LPs as the percent of the fund size in a given year. Our findings are consistent with the pattern observed in VC exits by acquisitions in the previous tables. Overall, while VC funds are more likely to distribute cash near the 12-year age cutoff, this tendency becomes substantially weaker in the post-*Trados* period. For example, Column 1 suggests that VC funds on average have a 15.2 percentage points (30% of the unconditional mean) higher probability of distributing cash to LPs when the fund age is in the [-1, +1] interval. However, *Trados* cuts this probability almost by half, or 6.3 percentage points, as indicated by the coefficient on the interaction term. Columns 4-6 report the intensive margin results. In Column 4, one can see that the cash distribution amount is on average 2.3 percentage points (30% of the unconditional mean) larger during the [-1, +1] interval and reduces by 1.8 percentage points after *Trados*. Figure C.3 shows the dynamic effect on cash distribution. We find no significant pre-trend but a clear negative post-trend.

Conditioning on acquisitions eventually taking place, they seem to occur later post-*Trados*, suggesting an effective extension of fund lifespan. Figure C.4a shows that the average time to acquisition increases from 5.4 to 7.7 years after *Trados*. Moreover, more VCs exit their portfolio companies through acquisitions after the fund is 12-year old, implying less pressure from fund liquidation. Consistent with this, Figure C.4b provides suggestive evidence that

it takes a longer time for LP investors to receive their capital back from VCs after *Trados*. A larger fraction of capital is distributed after a fund is 12-year old in the post-*Trados* period, implying less timely cash distributions to LPs and the potential renegotiation of fund lifespan between VCs and LPs.

5.5 Ex-ante Effects on VC Fundraising & Start-up Financing

We further examine the ex-ante effects of *Trados* on VC fundraising and financing. While in principle, all VC firms in the US face the same legal shift from a preferred-favoring to a common-favoring regime after *Trados*, VC firms with a greater tendency of engaging in forced sales are arguably more exposed to the shock and should subsequently experience more difficulty in their fundraising due to elevated litigation risks. At the same time, start-ups incorporated in Delaware likely face a reduced supply of venture capital compared to their peers incorporated in other states, since *Trados* is a Delaware Court decision that benefits common shareholders at the cost of preferred shareholders.

To test the prediction on VC fundraising, we use a sample of US VC funds raised during our sample period and conduct a DiD analysis. We first identify VC firms that have ever sold portfolio companies near the end of their fund lifespan. We then compare the trend in the funds raised by these VC firms around Trados, relative to that of other VC firms. Panel A of Table 11 reports the estimated results.[35] Consistent with our prediction, Column 1 shows that VC firms with a propensity to sell companies towards the very end of their funds' lifespan raise significantly less capital after *Trados* relative to their peers. Similar patterns can be found in Columns 3 and 5 when we use alternative windows. In even columns, we further control for *Fund Sequence* and continue to find evidence consistent with the negative impact of a common-favoring regime on fundraising.

To test the prediction on start-up VC financing, we obtain funding information of a randomly selected 10% of US start-ups that received their first VC financing during 1995-

[35]The inclusion of VC firm and fund vintage fixed effects absorbs the standalone *Forced Sales[-t, +t]* and *Trados*.

2020. We manually collected the incorporation information of these companies from state registries. In a DiD design, we then compare changes in start-up financing around *Trados* for those incorporated in Delaware versus those incorporated outside of Delaware. Table 11 Panel B presents the results. We include the full sample in Columns 1 and 3 while excluding some outliers that receive their first VC financing before the observed incorporation date in Columns 2 and 4.[36] We include a set of control variables known to predict the amount of capital raised by VC-backed companies. The DiD coefficient estimates are negative and significant across all columns, suggesting that DE-incorporated start-ups receive around 10% lower capital in the post-*Trados* period compared to their non-DE peers.

Taken together, while a common-favoring legal environment reduces the likelihood of VC exits through fire sales, such benefits to VC-backed companies and common shareholders can come at the cost of VCs and ultimately of entrepreneurs. In the long run, this may generate negative real effects on the growth of high-potential entrepreneurial businesses.

5.6 Other Ways to Deal with a Common-Favoring Regime

One may argue that instead of changing the exit timing, VCs can avoid *Trados*-like claims through other means, such as hiring independent directors or influencing the incorporation decisions of start-ups. Ex-post allocations to common shareholders and ex-ante contracting are also possible. We discuss these solutions and their potential (in)effectiveness in navigating a common-favoring legal environment.

Independent directors. To better manage the sale process, VC-backed companies may have incentives to form an independent committee of directors or seek disinterested shareholder approval of exit transactions. Yet, under the *Trados Doctrine*, it may prove practically difficult to recruit fully independent directors. On the one hand, the *Trados* ruling held that VC-backed companies' directors who receive bonus payments in connection with a sale under management incentive plans or other compensation arrangements with the acquirers could

[36] VCs usually ask entrepreneurs to incorporate their companies before offering funding. It is possible that companies with VC financing before their incorporation dates are erroneous matches. It is also possible that these companies were incorporated elsewhere and changed their incorporation states to DE later.

not be regarded as truly independent. These payments, however, are largely customary in VC-backed companies, because they play a crucial role in facilitating a quick sale of the company. On the other hand, the *Trados* court decision affirmed that seemingly independent directors have a conflict of interest if "informal relationships" with VC funds exist. Even if the independent directors are entirely disinterested, it might be suboptimal to make them the marginal voters, because a lack of VC board control will reduce the VCs' incentive to finance start-ups. In fact, the fraction of VC-backed start-ups with any independent directors has remained relatively stable over time (Ewens and Malenko, 2022).

Limited liability companies (LLCs). Another ex ante solution is to form start-ups as LLCs, which offer more freedom to contract around directors' fiduciary duties than C-corps. However, LLCs are costly for various reasons such as tax issues and difficulties in issuing preferred shares, as evidenced by the lack of LLCs in the pre-Trados period (average around 1.7%) and their limited presence in the post-Trados period (average around 5.8%) in Figure C.5a. While there has been an increase in LLCs, the increase starts a decade earlier than *Trados* and the vast majority of VC-backed companies are still formed as C-corps.

Incorporation in Delaware vs. elsewhere. Since *Trados* is a Delaware law case and has stronger effects on companies incorporated in Delaware as shown in Table 8, one might expect VCs to ask startups to incorporate in other states upon first financing after *Trados*. However, Figure C.5b shows that the percentage of VC-backed startups incorporated in Delaware has remained stable at around 77% for the past two decades or so, suggesting the substantial costs of incorporating outside of Delaware.[37]

Allocations to common shareholders. There is consensus that the *Trados* ruling "makes it harder for a venture capitalist in control to realize on its investment whatever the particular case's value posture, thus creating holdup value for the common" (Bratton and Wachter, 2013). Given the litigation risk created by the *Trados Doctrine*, boards may favor allocations to common shareholders beyond their baseline entitlements. Perceiving that common shares

[37]In Figure C.5b, the sample consists of a randomly selected 10% (3,368) of US start-ups that received their first VC financing during the 1995-2020 period in Preqin.

have some meaningful potential value or that litigation risk is concrete, a board might condition an M&A deal on VCs being willing to sacrifice some liquidation preference value to grant a modest payment to common shareholders. Although allocations to common shareholders have long been observed in Silicon Valley (Broughman and Fried, 2010), it is possible that *Trados* may expand the room for renegotiation so that common shareholders claim a side-payment in exchange for relinquishing the option to sue.

Ex-ante contracting. One might expect that when facing weaker control in exits, VCs would demand stronger cash flow rights when they invest in start-ups. However, Ewens and Farre-Mensa (2020, 2022) document a systematic decrease in the fraction of equity sold to VCs and the use of pro-preferred contractual terms such as redemption rights, cumulative dividends, and $> 1\times$ liquidation preferences over the past two decades. This is largely due to the rising competition in the private capital market, which makes it difficult for VCs to undo the impact of *Trados* by asking for greater cash flow rights ex-ante.

6 Conclusion

To the best of our knowledge, this paper makes the first attempt to empirically study fiduciary duty law's implications for the board's decision-making in the sale of VC-backed companies. We find that maturing VC funds tend to carry out fire sales that may satisfy VCs' liquidation preferences but sacrifice common shareholders' interests. These sales come with (i) a substantially lower sale price; (ii) a greater probability of acquisitions by industry outsiders; (iii) a positive abnormal return for acquirers. Such sales leave the VC-affiliated board with conflicting fiduciary duties. Leveraging the Delaware Court of Chancery's ruling of *In re Trados* in 2013, which established the landmark legal precedent of prioritizing the board's fiduciary duties to common shareholders, we find that maturing VC funds are less likely to exit through forced sales and that they distribute cash to their investors in a less timely way due to increased litigation risks. However, at the same time, VCs experience more difficult fundraising and start-ups face a reduced supply of capital, highlighting the potential costs

of moving from a preferred-favoring regime to a common-favoring one.

More generally, our evidence points to the difficult trade-offs in contemporary corporate law-making and has important implications for optimal fiduciary duty design in the presence of the inter-shareholder conflicts that prevail in VC-backed start-ups due to complicated financial structures and contractual terms. These companies are fundamentally different from public or closely-held private corporations, which have a homogeneous shareholder base and fit in well with existing corporate law. Therefore, our paper informs policymakers around the world in designing VC-friendly corporate laws and tailoring corporate governance solutions for entrepreneurial businesses.

It is also important to acknowledge that our analysis leaves many questions unanswered. For example, for start-ups that are not forced to be sold post-*Trados*, do VCs eventually exit through other methods? More generally, how does a common-favoring legal regime affect VCs' exit strategies other than the timing of acquisitions? This paper does not explicitly study other types of exits for a few reasons. First, it takes many years for VCs to exit from their portfolio companies and our post-Trados sample period is relatively short. Second, alternative outcomes like secondary sales and write-offs are poorly documented in VC databases. Third, many forces affect VCs' choice between different exit methods (e.g., IPO vs. acquisition), and isolating the effect driven by Trados is challenging. However, with an alive and proliferating *Trados Doctorine* as well as more comprehensive data on VC exits and start-up outcomes, our hope is that this paper will stimulate further explorations along these questions.

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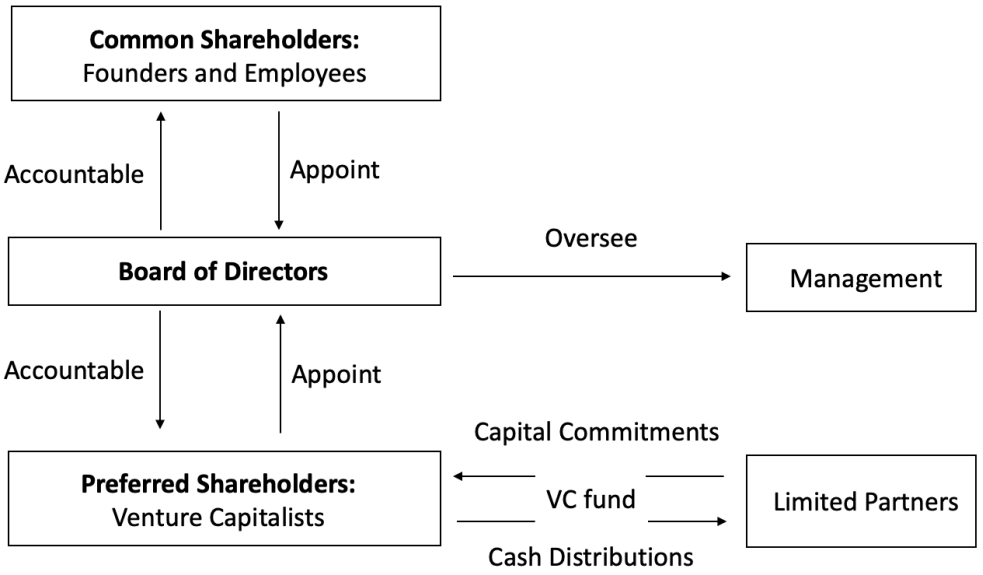
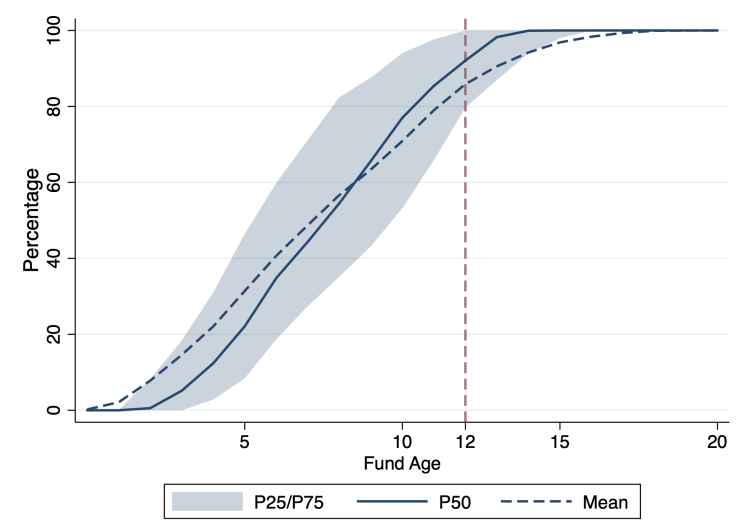
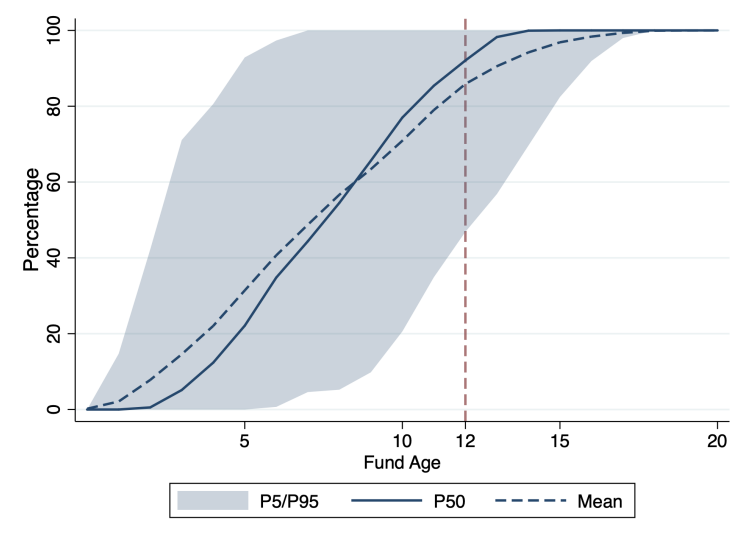


Figure 1: Dual Role of VC-appointed Board Members

This figure shows the dual role of VCs and the board members they appoint. On the one hand, these board members have powerful financial incentives as well as the legal obligation at the VC fund level to maximize value of the VC fund, which typically invests through convertible preferred shares with liquidation preferences in the portfolio companies. On the other hand, the VC-backed company's board in its entirety is under the legal duty to maximize the value of the corporation for the benefit of its common shareholders.



(a) Quartiles



(b) Tails

Figure 2: Cumulative Cash Distributions by VC Fund Age

This figure presents the quartiles, tails and mean of cumulative cash distributions in percentage of total cash distributions by VC fund age. The sample consists of VC funds raised between 1995 and 2005 so that each fund has at least 15 years to return cash back to its LPs. In Figure 2a, the shaded area shows the range between the 25th percentile and the 75th percentile. In Figure 2b, the shaded area shows the range between the 5th percentile and the 95th percentile. The red vertical dashed line indicates the year when the VC fund becomes 12 years old.

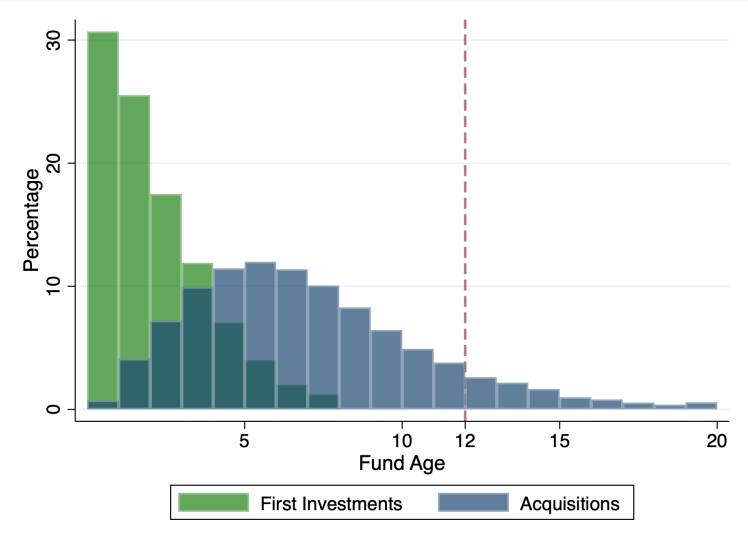
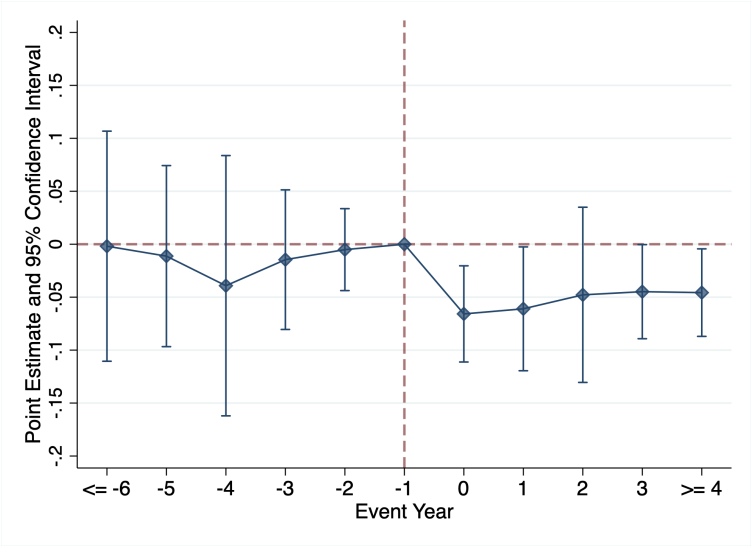
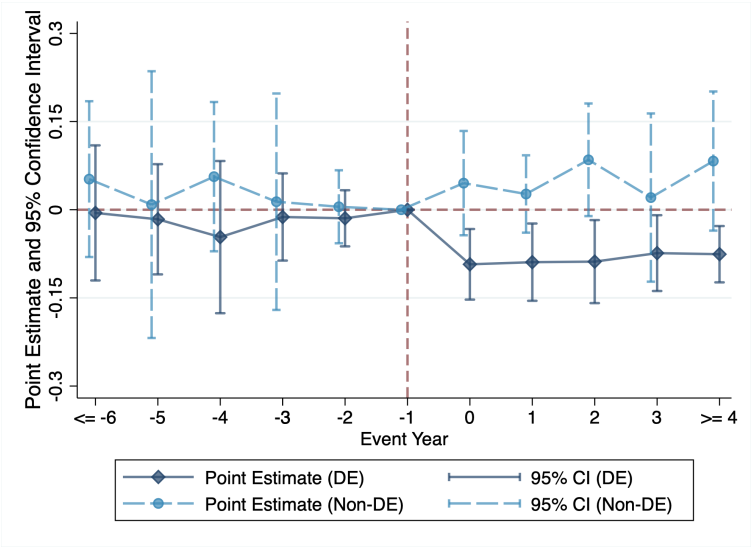


Figure 3: Distribution of VC Fund Age at First Investments and Acquisitions

This figure displays the distribution of fund age in years when the VC fund invests in each portfolio company for the first time and when the VC fund exits through acquisitions. The sample consists of VC funds investing in companies that raised their first VC financing round during the period 1995-2012 and are acquired by December 31, 2020. The red vertical dashed line indicates the year when the VC fund becomes 12 years old.



(a) Full Sample



(b) DE vs. Non-DE Incorporated Companies

Figure 4: Dynamic Effects of the *Trados* Court Ruling on Probability of Being Acquired

For *Acquisition*, this figure displays the annual event-study coefficient estimates based on *Forced[-1, +1]* and associated two-tailed 95% confidence intervals of the difference between the treatment group and the control group during 1995 and 2020. The coefficient in 2012 (t = -1) is normalized to zero and the red vertical dashed line indicates the base year of 2012, the year before the Delaware Court's final decision on the *Trados* case. The sample consists of VC-backed companies that raised their first VC financing round during the period 1995-2012 and are acquired by December 31, 2020. Figure 4a is based on the full sample and Figure 4b splits the sample into two subsamples based on whether the company is incorporated in Delaware (DE) or elsewhere (non-DE). The regression models are estimated with VC fund, company, company headquarter state by year and company industry by year fixed effects. Standard errors are two-way clustered at the VC fund and company headquarter (incorporation) state levels in Panel A (B). Detailed variable definitions are provided in Appendix B.

Table 1: Summary Statistics

This table reports the summary statistics of the major variables in our analyses. For Panel A, the sample consists of VC-backed companies that raised their first VC financing round during the period 1995-2012 and are acquired by December 31, 2020. For Panel B and C, the sample consists of VC funds that invest in the sample of VC-backed companies. For Panel D, the sample consists of US VC funds raised during the period 1995-2012. Detailed variable definitions are provided in Appendix B.

	Mean	Std.	p10	p25	p50	p75	p90	N
Panel A: Deal Level								
Value of Transaction ($ MIL)	219.83	369.68	10.00	31.00	99.66	262.50	500.00	1325
Deal Multiple	7.02	10.78	0.40	1.30	3.80	8.20	15.70	1325
Remote Industry	0.23	0.42	0.00	0.00	0.00	0.00	1.00	3836
Financial Acquirer	0.09	0.28	0.00	0.00	0.00	0.00	0.00	3836
Sales (Trailing)($ MIL)	8.49	15.32	0.47	0.98	2.34	8.70	22.50	1674
Sales (Forward-Looking)($ MIL)	9.19	20.79	0.45	0.93	2.06	7.82	21.28	1085
Total Equity Raised ($ MIL)	34.52	40.49	3.80	9.00	20.88	44.30	80.75	3836
Number of Financing Rounds	3.24	2.00	1.00	2.00	3.00	4.00	6.00	3836
Number of Investors	5.15	3.34	2.00	3.00	4.00	7.00	10.00	3836
CAR[-5, +5] (CAPM)	-0.35	8.09	-9.13	-4.16	-0.31	3.65	8.37	1406
CAR[-5, +5] (FF3)	-0.28	8.00	-9.28	-4.00	-0.28	3.56	8.54	1406
Total Assets ($ BIL)	23.54	42.12	0.18	0.67	3.35	26.81	84.35	1406
Market Value ($ BIL)	40.95	71.26	0.36	1.36	6.77	39.55	146.79	1406
Tobin's Q	2.91	2.20	1.25	1.62	2.24	3.38	5.17	1406
Leverage Ratio	0.14	0.14	0.00	0.00	0.11	0.22	0.34	1406
OCF/Total Assets	0.11	0.09	0.01	0.07	0.12	0.17	0.21	1406
ROA	0.04	0.13	-0.09	0.01	0.06	0.11	0.15	1406
All Cash	0.31	0.46	0.00	0.00	0.00	1.00	1.00	1406
Panel B: Company-VC Pair Level								
Forced [-1, +1]	0.09	0.28	0.00	0.00	0.00	0.00	0.00	10414
Forced [-2, +2]	0.15	0.36	0.00	0.00	0.00	0.00	1.00	10414
Forced [-3, +3]	0.22	0.42	0.00	0.00	0.00	0.00	1.00	10414
First Fund	0.04	0.20	0.00	0.00	0.00	0.00	0.00	10414
VC Firm IPO Ratio	0.07	0.08	0.00	0.00	0.05	0.11	0.18	10414
Total Equity Invested ($ MIL)	7.01	7.20	1.00	2.33	4.83	9.08	15.60	10414
Panel C: Company-VC-Year Level								
Acquisition	0.17	0.38	0.00	0.00	0.00	0.00	1.00	65536
Trados	0.30	0.46	0.00	0.00	0.00	1.00	1.00	65536
DE	0.81	0.39	0.00	1.00	1.00	1.00	1.00	65536
Panel D: VC-Year Level								
Forced [-1, +1]	0.14	0.35	0.00	0.00	0.00	0.00	1.00	9972
Forced [-2, +2]	0.23	0.42	0.00	0.00	0.00	0.00	1.00	9972
Forced [-3, +3]	0.32	0.47	0.00	0.00	0.00	1.00	1.00	9972
Cash Distribution	0.50	0.50	0.00	0.00	0.00	1.00	1.00	9972
Cash Distribution Amount (%)	0.07	0.14	0.00	0.00	0.00	0.07	0.20	9972
Trados	0.42	0.49	0.00	0.00	0.00	1.00	1.00	9972

Table 2: Fire Sale Discount

This table shows the value discount in forced sales. The sample consists of VC funds and their portfolio companies that raised the first VC financing round during the period 1995-2012 and are acquired by December 31, 2020. A unit of observation is a fund-company pair. *Ln(Deal Value)* is the natural logarithm of the acquisition deal value in USD MIL. *Deal Multiple* is the acquisition deal value to the total equity raised by the VC-backed company. *Forced [-t, +t]* is an indicator variable equal to one if the VC fund age is between 12 - t and 12 + t years, and zero otherwise. Detailed variable definitions are provided in Appendix B. Standard errors are two-way clustered at the VC fund and company headquarter state level and reported in brackets. ***, ** and * indicate 1%, 5% and 10% significance levels.

	Ln(Deal Value)			Deal Multiple		
	(1)	(2)	(3)	(4)	(5)	(6)
Forced [-1, +1]	-0.361***			-1.563***		
	[0.086]			[0.406]		
Forced [-2, +2]		-0.179**			-0.895**	
		[0.069]			[0.357]	
Forced [-3, +3]			-0.100			-0.692**
			[0.069]			[0.326]
First Fund	-0.049	-0.071	-0.073	0.789	0.685	0.656
	[0.392]	[0.382]	[0.383]	[1.833]	[1.825]	[1.833]
VC Firm IPO Ratio	-0.408	-0.410	-0.402	-2.595	-2.608	-2.561
	[0.718]	[0.709]	[0.708]	[2.750]	[2.697]	[2.695]
Ln(Total Equity Invested)	0.005	0.005	0.007	0.442***	0.442***	0.448***
	[0.032]	[0.033]	[0.033]	[0.146]	[0.150]	[0.148]
Ln(Total Equity Raised)	0.798***	0.798***	0.796***	-1.628***	-1.625***	-1.635***
	[0.048]	[0.048]	[0.048]	[0.238]	[0.237]	[0.233]
Number of Financing Rounds	-0.084*	-0.084*	-0.083*	-0.420***	-0.418**	-0.416**
	[0.042]	[0.042]	[0.042]	[0.152]	[0.154]	[0.155]
Number of Investors	-0.041**	-0.042**	-0.042**	-0.055	-0.056	-0.055
	[0.016]	[0.016]	[0.016]	[0.050]	[0.050]	[0.051]
VC Firm FE	✓	✓	✓	✓	✓	✓
Company Headquarter State FE	✓	✓	✓	✓	✓	✓
Company Industry FE	✓	✓	✓	✓	✓	✓
Exit Year FE	✓	✓	✓	✓	✓	✓
Observations	3576	3576	3576	3576	3576	3576
Adjusted R^2	0.308	0.306	0.306	0.281	0.280	0.280

Table 3: Acquirer Industries

This table reports results from OLS regressions on acquirer industry indicators. The sample consists of VC funds and their portfolio companies that raised the first VC financing round during the period 1995-2012 and are acquired by December 31, 2020. A unit of observation is a fund-company pair. *Remote Industry* is an indicator variable equal to one if the acquirer is not in the VC-backed target's top 10 related industries based on the text-based industry classification by Hoberg and Phillips (2010, 2016), and zero otherwise. *Financial Acquirer* is an indicator variable equal to one if the acquirer is a financial firm, and zero otherwise. *Forced [-t, +t]* is an indicator variable equal to one if the VC fund age is between 12 - t and 12 + t years, and zero otherwise. Detailed variable definitions are provided in Appendix B. Standard errors are two-way clustered at the VC fund and company headquarter state level and reported in brackets. ***, ** and * indicate 1%, 5% and 10% significance levels.

	Remote Industry			Financial Acquirer		
	(1)	(2)	(3)	(4)	(5)	(6)
Forced [-1, +1]	0.051***			0.036***		
	[0.018]			[0.011]		
Forced [-2, +2]		0.047***			0.032***	
		[0.012]			[0.008]	
Forced [-3, +3]			0.041***			0.033***
			[0.013]			[0.009]
First Fund	-0.026	-0.023	-0.021	0.014	0.016	0.018
	[0.046]	[0.045]	[0.046]	[0.041]	[0.041]	[0.043]
VC Firm IPO Ratio	-0.084	-0.087	-0.089	-0.015	-0.017	-0.019
	[0.079]	[0.075]	[0.074]	[0.046]	[0.046]	[0.046]
Ln(Total Equity Invested)	0.000	0.001	0.001	0.007***	0.007***	0.007***
	[0.005]	[0.005]	[0.005]	[0.002]	[0.002]	[0.002]
Ln(Total Equity Raised)	0.006	0.005	0.004	0.006	0.006	0.005
	[0.007]	[0.007]	[0.007]	[0.004]	[0.004]	[0.004]
Number of Financing Rounds	-0.007	-0.007	-0.007	-0.002	-0.002	-0.002
	[0.005]	[0.005]	[0.005]	[0.003]	[0.003]	[0.003]
Number of Investors	-0.001	-0.001	-0.001	0.001	0.001	0.001
	[0.002]	[0.002]	[0.002]	[0.001]	[0.001]	[0.001]
VC Firm FE	✓	✓	✓	✓	✓	✓
Company Headquarter State FE	✓	✓	✓	✓	✓	✓
Company Industry FE	✓	✓	✓	✓	✓	✓
Exit Year FE	✓	✓	✓	✓	✓	✓
Observations	9971	9971	9971	9971	9971	9971
Adjusted R^2	0.168	0.168	0.168	0.163	0.163	0.164

Table 4: Acquirer Announcement Returns

This table shows the announcement abnormal stock returns of public acquirers in forced sales of VC-backed companies. The sample consists of VC funds and their portfolio companies that raised the first VC financing round during the period 1995-2012 and are acquired by public firms by December 31, 2020. A unit of observation is a fund-company pair. *CAR [-5, +5] (CAPM/FF3)* is the acquirers' cumulative abnormal returns over a balanced window of 10 days around the acquisition announcement using the CAPM/Fama-French 3 factor model. *Forced [-t, +t]* is an indicator variable equal to one if the VC fund age is between 12 - t and 12 + t years, and zero otherwise. Acquirer control variables include *Ln(Total Assets)*, *Ln(Market Value)*, *Tobin's Q*, *Leverage Ratio*, *OCF/Total Assets*, *ROA* and *All Cash*. Detailed variable definitions are provided in Appendix B. Standard errors are two-way clustered at the VC fund and company headquarter state level and reported in brackets. ***, ** and * indicate 1%, 5% and 10% significance levels.

	CAR [-5, +5] (CAPM)			CAR [-5, +5] (FF3)		
	(1)	(2)	(3)	(4)	(5)	(6)
Forced [-1, +1]	2.213***			1.899***		
	[0.708]			[0.576]		
Forced [-2, +2]		1.189***			0.803**	
		[0.310]			[0.376]	
Forced [-3, +3]			0.921**			0.635
			[0.392]			[0.434]
First Fund	0.567	0.585	0.628	0.591	0.591	0.622
	[1.713]	[1.682]	[1.715]	[1.523]	[1.499]	[1.513]
VC Firm IPO Ratio	6.696***	6.794***	6.704***	7.040***	7.201***	7.134***
	[1.717]	[1.689]	[1.714]	[2.109]	[2.181]	[2.215]
Ln(Total Equity Invested)	0.251	0.252	0.251	0.291	0.286	0.286
	[0.264]	[0.267]	[0.259]	[0.288]	[0.289]	[0.282]
Ln(Total Equity Raised)	-0.666*	-0.656	-0.655	-0.703	-0.688	-0.688
	[0.387]	[0.395]	[0.393]	[0.426]	[0.436]	[0.434]
Number of Financing Rounds	-0.240**	-0.239**	-0.244**	-0.255*	-0.256*	-0.259*
	[0.117]	[0.117]	[0.115]	[0.128]	[0.129]	[0.128]
Number of Investors	-0.065	-0.066	-0.066	-0.039	-0.039	-0.039
	[0.047]	[0.047]	[0.047]	[0.044]	[0.044]	[0.044]
Acquirer Controls	✓	✓	✓	✓	✓	✓
VC Firm FE	✓	✓	✓	✓	✓	✓
Company Headquarter State FE	✓	✓	✓	✓	✓	✓
Company Industry FE	✓	✓	✓	✓	✓	✓
Exit Year FE	✓	✓	✓	✓	✓	✓
Observations	3644	3644	3644	3644	3644	3644
Adjusted R^2	0.065	0.063	0.062	0.074	0.071	0.071

Table 5: Fire Sales - Controlling for Sales

This table shows robustness checks of the baseline results by controlling for sales collected from the Your-economy Time Series (YTS). The matched sample consists of VC funds and their portfolio companies that raised the first VC financing round during the period 1995-2012 and have been acquired by December 31, 2020. For Panels A and B, a unit of observation is a fund-company pair and fund-company year respectively. *Forced [-1, +1]* is an indicator variable equal to one if the VC fund age is between 11 and 13 years, and zero otherwise. Detailed variable definitions are provided in Appendix B. Standard errors are two-way clustered at the VC fund and company headquarter state level and reported in brackets. ***, ** and * indicate 1%, 5% and 10% significance levels.

Panel A: Controlling for Trailing Sales

	Ln(Deal Value)	Deal Multiple	Remote Industry	Financial Acquirer	CAR $[-5,+5]$ (CAPM)	CAR $[-5,+5]$ (FF3)
	(1)	(2)	(3)	(4)	(5)	(6)
Forced [-1, +1]	-0.362**	-1.586***	0.058	0.037**	2.082***	1.385*
	[0.131]	[0.562]	[0.038]	[0.014]	[0.581]	[0.733]
Company & VC Controls	✓	✓	✓	✓	✓	✓
Acquirer Controls					✓	✓
VC Firm FE	✓	✓	✓	✓	✓	✓
Company Headquarter State FE	✓	✓	✓	✓	✓	✓
Company Industry FE	✓	✓	✓	✓	✓	✓
Exit Year FE	✓	✓	✓	✓	✓	✓
Observations	1467	1467	4373	4373	1460	1460
Adjusted R^2	0.366	0.352	0.197	0.151	0.142	0.146

Panel B: Controlling for Forward-Looking Sales

	Ln(Deal Value)	Deal Multiple	Remote Industry	Financial Acquirer	CAR $[-5,+5]$ (CAPM)	CAR $[-5,+5]$ (FF3)
	(1)	(2)	(3)	(4)	(5)	(6)
Forced [-1, +1]	-0.383**	-1.982*	0.057	0.090**	2.248	2.477
	[0.153]	[1.082]	[0.039]	[0.043]	[2.087]	[2.539]
Company & VC Controls	✓	✓	✓	✓	✓	✓
Acquirer Controls					✓	✓
VC Firm FE	✓	✓	✓	✓	✓	✓
Company Headquarter State FE	✓	✓	✓	✓	✓	✓
Company Industry FE	✓	✓	✓	✓	✓	✓
Exit Year FE	✓	✓	✓	✓	✓	✓
Observations	864	864	2546	2546	800	800
Adjusted R^2	0.351	0.282	0.200	0.190	0.125	0.127

Table 6: Fire Sales and Industry Conditions

This table shows the interaction between fire sales and industry conditions. The sample consists of VC funds and their portfolio companies that raised the first VC financing round during the period 1995-2012 and are acquired by December 31, 2020. A unit of observation is a fund-company pair. *Forced [-t, +t]* is an indicator variable equal to one if the VC fund age is between 12 - t and 12 + t years, and zero otherwise. *Cold Market* is an indicator that equals one if the M&A transaction volume is in the lowest quartile during the sample period for each industry, and zero otherwise. Detailed variable definitions are provided in Appendix B. Standard errors are two-way clustered at the VC fund and company headquarter state level and reported in brackets. ***, ** and * indicate 1%, 5% and 10% significance levels.

	Ln(Deal Value)	Deal Multiple	Remote Industry	Financial Acquirer	CAR $[-5,+5]$ (CAPM)	CAR $[-5,+5]$ (FF3)
	(1)	(2)	(3)	(4)	(5)	(6)
Forced [-1, +1]	-0.275***	-1.425***	0.047**	0.030***	2.129***	1.823***
	[0.067]	[0.435]	[0.018]	[0.011]	[0.645]	[0.530]
Forced [-1, +1] × Cold Market	-1.272***	-2.558	0.100	0.140*	4.808***	4.581***
	[0.313]	[2.202]	[0.094]	[0.073]	[1.563]	[1.309]
Company & VC Controls	✓	✓	✓	✓	✓	✓
Acquirer Controls					✓	✓
VC Firm FE	✓	✓	✓	✓	✓	✓
Company Headquarter State FE	✓	✓	✓	✓	✓	✓
Company Industry FE	✓	✓	✓	✓	✓	✓
Exit Year FE	✓	✓	✓	✓	✓	✓
Observations	3576	3576	9971	9971	3644	3644
Adjusted R^2	0.310	0.282	0.168	0.164	0.069	0.078

Table 7: *Trados* and Probability of Exits through Acquisitions

This table reports the results from OLS regressions on the effect of the *Trados* court ruling on the probability of VC exits through acquisitions. The panel sample consists of VC funds and their portfolio companies that raised the first VC financing round during the period 1995-2012 and are acquired by December 31, 2020. A unit of observation is a fund-company year. *Acquisition* is an indicator variable equal to one if the VC-backed company is acquired in a given year, and zero otherwise. *Trados* is an indicator variable equal to one if the year is equal to or greater than 2013, the year in which the Delaware Court made the final decision on the *Trados* case, and zero otherwise. *Forced [-t, +t]* is an indicator variable equal to one if the VC fund age is between 12 - t and 12 + t years, and zero otherwise. Detailed variable definitions are provided in Appendix B. Standard errors are two-way clustered at the VC fund and company headquarter state level and reported in brackets. ***, ** and * indicate 1%, 5% and 10% significance levels.

	Acquisition					
	(1)	(2)	(3)	(4)	(5)	(6)
Forced [-1, +1]	0.048***	0.043***				
	[0.010]	[0.010]				
Forced [-1, +1] × Trados	-0.035***	-0.031**				
	[0.013]	[0.012]				
Forced [-2, +2]			0.057***	0.052***		
			[0.007]	[0.006]		
Forced [-2, +2] × Trados			-0.028**	-0.028**		
			[0.011]	[0.012]		
Forced [-3, +3]					0.067***	0.064***
					[0.007]	[0.007]
Forced [-3, +3] × Trados					-0.023*	-0.020
					[0.013]	[0.015]
Company & VC Controls		✓		✓		✓
VC Firm FE	✓	✓	✓	✓	✓	✓
Company Headquarter State FE	✓	✓	✓	✓	✓	✓
Company Industry FE	✓	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓	✓
Observations	65480	61515	65480	61515	65480	61515
Adjusted R^2	0.083	0.088	0.083	0.089	0.084	0.090

Table 8: *Trados* and Probability of Exits through Acquisitions - DE vs. non-DE

This table shows the heterogeneous treatment effect of the *Trados* court ruling on the probability of VC exits through acquisitions based on companies' incorporation states. The panel sample consists of VC funds and their portfolio companies that raised the first VC financing round during the period 1995-2012 and are acquired by December 31, 2020. A unit of observation is a fund-company year. *Acquisition* is an indicator variable equal to one if the VC-backed company is acquired in a given year, and zero otherwise. *Trados* is an indicator variable equal to one if the year is equal to or greater than 2013, the year in which the Delaware Court made the final decision on the *Trados* case, and zero otherwise. *DE* is an indicator variable equal to one if the VC-backed company is incorporated in Delaware, and zero otherwise. *Forced [-t, +t]* is an indicator variable equal to one if the VC fund age is between 12 - t and 12 + t years, and zero otherwise. Detailed variable definitions are provided in Appendix B. Companies headquartered in states near Delaware (Massachusetts, New York, Pennsylvania, Maryland, Virginia, New Jersey, and Connecticut) are excluded from the regressions. The rationale for such exclusion and results with the full sample and alternative restrictions are provided in Appendix D. Control variables including the stand-alone *DE* and other two-way interaction terms are suppressed in the table. Standard errors are two-way clustered at the VC fund and company incorporation state level and reported in brackets. ***, ** and * indicate 1%, 5% and 10% significance levels.

	Acquisition					
	(1)	(2)	(3)	(4)	(5)	(6)
Forced [-1, +1]	-0.025	-0.031				
	[0.022]	[0.024]				
Forced [-1, +1] × Trados	0.035	0.038				
	[0.027]	[0.027]				
Forced [-1, +1] × Trados × DE	-0.104***	-0.104***				
	[0.028]	[0.029]				
Forced [-2, +2]			0.017	0.001		
			[0.024]	[0.024]		
Forced [-2, +2] × Trados			0.013	0.017		
			[0.025]	[0.028]		
Forced [-2, +2] × Trados × DE			-0.059**	-0.061**		
			[0.025]	[0.028]		
Forced [-3, +3]					0.037*	0.026
					[0.019]	[0.020]
Forced [-3, +3] × Trados					-0.002	0.004
					[0.016]	[0.018]
Forced [-3, +3] × Trados × DE					-0.029*	-0.031
					[0.016]	[0.018]
Company & VC Controls		✓		✓		✓
VC Firm FE	✓	✓	✓	✓	✓	✓
Company Headquarter State FE	✓	✓	✓	✓	✓	✓
Company Industry FE	✓	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓	✓
Observations	48020	45072	48020	45072	48020	45072
Adjusted R^2	0.082	0.088	0.082	0.089	0.083	0.090

Table 9: *Trados* and Probability of Exits through Acquisitions - VCs with Preferred Shares

This table shows the effect of the *Trados* court ruling on the probability of VC exits by considering acquisitions in which VCs likely hold preferred shares. Panel A excludes companies sold with an exit multiple greater than the sample median. Panel B excludes companies with sufficiently profitable exits that likely make VCs convert their preferred shares to common shares. Under the assumption that all preferred shares have a 1× liquidation preferences, VCs will convert their preferred shares to common shares if the value of their common shares is greater than the total amount of equity invested by VCs. We calculate the median dilution in each round of financing and estimate the VC ownership of the company if VCs convert their preferred shares to common shares in an acquisition. The full sample consists of VC funds and their portfolio companies that raised the first VC financing round during the period 1995-2012 and are acquired by December 31, 2020. For Panels A and B, a unit of observation is a fund-company pair. Detailed variable definitions are provided in Appendix B. Standard errors are two-way clustered at the VC fund and company headquarter/incorporation state level in Columns 1-2/3-4 and reported in brackets. ***, ** and * indicate 1%, 5% and 10% significance levels.

Panel A: Exclude Companies with High Exit Multiples

	Acquisition			
	(1)	(2)	(3)	(4)
Forced [-1, +1] × Trados	-0.036**	-0.032**	0.040	0.052*
	[0.013]	[0.012]	[0.029]	[0.030]
Forced [-1, +1] × Trados × DE			-0.117***	-0.128***
			[0.031]	[0.033]
Company & VC Controls		✓		✓
VC Firm FE	✓	✓	✓	✓
Company Headquarter State FE	✓	✓	✓	✓
Company Industry FE	✓	✓	✓	✓
Year FE	✓	✓	✓	✓
Observations	55731	52239	40636	38081
Adjusted R^2	0.088	0.094	0.085	0.092

Panel B: Exclude Companies with Sufficiently Profitable Exits

	Acquisition			
	(1)	(2)	(3)	(4)
Forced [-1, +1] × Trados	-0.036**	-0.034**	0.043	0.053
	[0.016]	[0.015]	[0.031]	[0.032]
Forced [-1, +1] × Trados × DE			-0.125***	-0.135***
			[0.035]	[0.036]
Company & VC Controls		✓		✓
VC Firm FE	✓	✓	✓	✓
Company Headquarter State FE	✓	✓	✓	✓
Company Industry FE	✓	✓	✓	✓
Year FE	✓	✓	✓	✓
Observations	50539	47097	36876	34362
Adjusted R^2	0.089	0.096	0.087	0.095

Table 10: *Trados* and VC Fund Cash Distributions

This table shows the effect of the *Trados* court ruling on VC fund cash distributions. The panel sample consists of US VC funds raised during the period 1995-2012. A unit of observation is a fund year. *Cash Distribution* is an indicator variable equal to one if the VC fund makes cash distributions to LPs in a given year, and zero otherwise. *Cash Distribution Amt (%)* is the cash distribution amount returned to LPs as the percent of fund size in a given year. *Trados* is an indicator variable equal to one if the year is equal to or greater than 2013, the year in which the Delaware Court made the final decision on the *Trados* case, and zero otherwise. *Forced [-t, +t]* is an indicator variable equal to one if the VC fund age is between 12 - t and 12 + t years, and zero otherwise. Detailed variable definitions are provided in Appendix B. Standard errors are clustered at the VC fund level and reported in brackets. ***, ** and * indicate 1%, 5% and 10% significance levels.

	Cash Distribution			Cash Distribution Amt (%)		
	(1)	(2)	(3)	(4)	(5)	(6)
Forced [-1, +1]	0.152***			0.023***		
	[0.023]			[0.006]		
Forced [-1, +1] × Trados	-0.063**			-0.018**		
	[0.031]			[0.009]		
Forced [-2, +2]		0.156***			0.031***	
		[0.023]			[0.006]	
Forced [-2, +2] × Trados		-0.056*			-0.028***	
		[0.029]			[0.008]	
Forced [-3, +3]			0.191***			0.040***
			[0.022]			[0.006]
Forced [-3, +3] × Trados			-0.090***			-0.039***
			[0.029]			[0.009]
VC Fund FE	✓	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓	✓
Observations	9972	9972	9972	9972	9972	9972
Adjusted R^2	0.174	0.178	0.182	0.116	0.118	0.120

Table 11: Ex-Ante Effects on VC Fundraising and Start-up Financing

This table shows the ex-ante effects of the *Trados* court ruling on VC fundraising and start-up financing. In Panel A, the sample consists of US VC funds raised during our sample period. A unit of observation is a fund. *Forced Sales [-t, +t]* is an indicator variable equal to one if the VC firm has ever sold its portfolio companies when the VC fund age is between 12 - t and 12 + t. In Panel B, the sample consists of the financing rounds of a randomly selected 10% of US start-ups that receive their first VC financing during 1995-2020 in Preqin. A unit of observation is a VC financing round. Columns 1 and 3 include the full sample while Columns 2 and 4 exclude companies that receive their first VC financing before the observed incorporation date. We control for *Number of Round Investors*, *Round Number*, and *Early* in the regressions. Detailed variable definitions are provided in Appendix B. Standard errors are clustered at the VC firm (company incorporation state) level in Panel A (B) and reported in brackets. ***, ** and * indicate 1%, 5% and 10% significance levels.

Panel A: VC Fundraising

	Ln(Fund Size)					
	(1)	(2)	(3)	(4)	(5)	(6)
Forced Sales [-1, 1] × Trados	-0.240*	-0.194				
	[0.141]	[0.149]				
Forced Sales [-2, 2] × Trados			-0.319**	-0.252*		
			[0.129]	[0.138]		
Forced Sales [-3, 3] × Trados					-0.322**	-0.243*
					[0.128]	[0.131]
Fund Sequence		0.072***		0.070***		0.070***
		[0.019]		[0.019]		[0.019]
VC Firm FE	✓	✓	✓	✓	✓	✓
Vintage FE	✓	✓	✓	✓	✓	✓
Observations	2347	2347	2347	2347	2347	2347
Adjusted R^2	0.618	0.624	0.619	0.625	0.619	0.625

Panel B: Start-up Financing

	Ln(Capital Raised)			
	(1)	(2)	(3)	(4)
DE	0.146**	0.195***	0.147**	0.184***
	[0.055]	[0.045]	[0.060]	[0.050]
DE × Trados	-0.110**	-0.120**	-0.110**	-0.096**
	[0.053]	[0.045]	[0.051]	[0.045]
Control Variables	✓	✓	✓	✓
Company Headquarter State × Year FE	✓	✓	✓	✓
Company Industry × Year FE	✓	✓	✓	✓
Company Cohort FE			✓	✓
Observations	16494	13972	16494	13972
Adjusted R^2	0.610	0.614	0.618	0.624

Internet Appendix for

"Conflicting Fiduciary Duties and Fire Sales of VC-backed Start-ups"

Bo Bian
University of British Columbia

Yingxiang Li
University of British Columbia

Casimiro A. Nigro
Goethe University Frankfurt

July 2023

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A Institutional Details of *Trados* and *Trados* Doctrine

A.1 Timeline of the *Trados* Case

Founded in Germany in 1984, Trados developed proprietary desktop software for translating documents. By the late 1990s, it enjoyed a dominant position in the desktop translation market. Between 2000 and 2004, Trados attracted the attention of several VC investors. These investors provided capital in exchange for preferred shares with special rights, including liquidation preferences and board appointment rights.

As Trados struggled to achieve its business milestones in 2003 and 2004, Trados appointed a new CEO, who led to a significant improvement in the company's performance. Around that time, it also introduced a management incentive plan ("MIP") aimed at encouraging the management to look for an exit.

In late 2004 and then in early 2005, Trados' management started engaging in increasingly intense exit-related discussions with potential partners. While one director suggested that Trados could be sold for some $45-55 million with 50%-75% in stock payment, another director proposed that quick liquidity, rather than higher nominal value, was the priority.

In February 2005, the board met to discuss the letter of intent regarding a sale to SDL, which implied consideration for $50 million in cash and $10 million in stock. Under this plan, $7.8 million of the $60 million proceeds would go to the management because of the MIP, while the remaining proceeds – about $52.2 million – would be paid to the VC investors due to their $57.9 million liquidation preferences. In contrast, the common stockholders would receive nothing. In June 2005, the board determined that the merger was in the best interest of the company and its stockholders and approved the merger plan. It also secured the necessary approvals from both the preferred and the common shareholders.

After the transaction was closed, a common shareholder (Mark Christen) sued Trados' directors on fiduciary grounds, alleging that most of them were conflicted in approving the transaction and had breached their duty of loyalty. In particular, the three VC-appointed

directors represented preferred shareholders, who, as a result of the liquidation preference, "sometimes gain less from increases in firm value than they lose from decreases in firm value," so their incentives deviate from those of common shareholders. Each VC-affiliated director accordingly faced a so-called "dual fiduciary problem," implying conflicts of interest stemming from the preferred shareholders' divergent payoff function from the common shareholders', as well as the former's strong incentives for timely liquidation due to the VC business model. The two directors representing the common, the CEO and the president, had an interest in approving the Trados-SDL merger, because they received personal benefits as a result of the management incentive plan (MIP) that were not equally shared by the common stockholders. A sixth board member designated by one of the VC funds as "disinterested" and "independent" was not really independent because of close business relationships with one of the VC funds in the past. Worse still, this board member also owned preferred stock in Trados through a corporate vehicle.

In 2009, the court decided that the entire fairness test would apply (*Trados I*), because the plaintiff had provided sufficient evidence that the directors were conflicted. In the 2013 post-trial decision (*Trados II*), the court concluded that the directors had not breached their duty of loyalty. However, due to their conflicts of interest, they had failed to act in good faith and on an informed basis to maximize the value of the corporation for the benefit of the common shareholders. Yet, while the evidence on fair dealing decidedly favored the plaintiff, the evidence on fair price was mixed. The defendants did in fact eventually manage at trial to demonstrate that, although failing to consider the interest of common shareholders and seeking to exit without recognizing the conflicts of interest presented by the merger, Trados's common stock had no economic value before the merger and, thus, common stockholders had received the substantial equivalent value of what they had before. As a result, the litigated merger was regarded as fair. The below table summarizes the timeline of the *Trados* case.

Table A.1: Timeline of the *Trados* Case

Date	Event
1984	Trados incorporation in Germany
Mar, 2000	Trados became a DE corporation
Apr, 2005	Controversial Transaction
5-Jul-05	Appraisal Suit
8-Jul-08	Fiduciary Suit
7-Jul-09	First Trial Submission
24-Jul-09	***Trados I:* First Decision (by Chancellor Chandler)**
2010	Re-assignment to Vice Chancellor Laster
13-May-13	Second Trial Submission
16-Aug-13	***Trados II:* Second Trial Decision (by Vice Chancellor Laster)**

A.2 Relevance of the 2009 *Trados I* Decision

The Trados litigation resulted in two judicial rulings: *Trados I* in 2009 and *Trados II* in 2013. Thus, an important issue is to identify the ruling that actually marks the legal change in fiduciary law and can serve as the "legal shock" to the institutional environment regarding VC-backed startups.

The evolution of the effects around 2009 (event year -4) in Figure 4a and Figure 4b confirms that *Trados I* seems to be immaterial as the probability of being acquired changes little between 2009 and the final ruling in 2013. On the other hand, we detect immediate and statistically significant responses to *Trados II*. Can we reconcile these findings with the substance of these two rulings and the uncertainties associated with them? We make four arguments to support the use of *Trados II* as the legal shock.

First, in *Trados I*, the Delaware court, with Chandler as Chancellor, ruled on the defendants' motion to dismiss the fiduciary duty claims, letting the trial go forward as the court had found that a majority of the board could be conflicted. The court decided that the *entire fairness standard* (in lieu of the business judgment rule) would apply. However, the court at this time did not rule – nor had to rule – on the merits. It did not hold – nor had to hold – Trados directors liable. Therefore, the court did not need to come up with a rule – the common value maximization rule – that would address the conflicting fiduciary duties. Yet, it is exactly the adoption of this rule that is responsible for triggering the legal change

that led to the effects we document.

Second, there are several sources of uncertainties in the prospects of institutional changes at the time of *Trados I*. First, Chancellor Chandler, the judge who had ruled in Trados I, was about to retire. None could reliably predict how the next Chancellor would handle the matter. Second, there were no special reasons to think that the court would deviate from the contingent-control approach that had been the rule until then. Third, for novel (i.e., departing significantly from prior precedent) and important (i.e., having a material impact on the plaintiffs and others similarly situated) decisions, initial rulings can be overturned at later trials or appealed to the Delaware Supreme Court. So even though *Trados I* signalled that changes in the legal environment could be possible (in both directions), related parties may not act on it given the high uncertainties. A stronger, more substantial response was expected when such uncertainties were resolved after *Trados II*.

Third, the evolution in the legal scholarship and the law and economics literature exclusively confirms the importance of *Trados II*. Scholars have powerful incentives to study important and novel legal changes. Yet, they did not engage in analyzing *Trados I* given its precariousness. Instead, many prominent scholars specializing in corporate law and VC law went promptly concerned about the *Trados II* and its potential effects on the VC market after 2013 (Bratton and Wachter, 2013; Bartlett III, 2015; Cable, 2020).

Fourth, law practitioners, who discussed *Trados I* immediately after, were also cautious in drawing inferences about increased liability risk for directors from *Trados I*. Most of them did not go beyond highlighting the fact that the court had created the preconditions for a change in the legal regime, but not made yet a final determination on directorial liability that marks the abandonment of the contingent-control approach.

In light of the above discussion, we conclude that the 2013 *Trados II* decision was the driver of actual legal change around directorial fiduciary duties.

A.3 The *Trados* Doctrine: Three Recent Legal Cases

In re Trados has unquestionably emerged as one of the most important corporate law rulings for the US VC industry in the recent past, prompting law firms to issue a flurry of memos and briefings for their clients and prominent academics to engage in a detailed analysis of the case and its impact on directorial fiduciary law. Moreover, it has led the NVCA to engage in a partial redrafting of their model contractual documents to undo the impacts of the ruling.

In fact, a simple search into the most used legal databases shows that, following its publication, *Trados* has been cited more than 50 times by US courts – both Delaware and, to a lesser extent, non-Delaware courts. To be precise, courts have sometimes referred to *Trados* for referencing just general corporate law issues that needed to be addressed in the case at bar, such as the structure of the entire fairness test. Therefore, *Trados* is a precedent that the Delaware judiciary cites as it sees appropriate. More importantly, the Delaware judiciary has explicitly cited or implicitly considered *Trados* exactly because of its emphasis on the rule of common shareholder value maximization.

We document this trend by succinctly reporting the pertinent case law. This case law pertains to cases in which common shareholders sued preferred shareholders on fiduciary grounds. The court then ruled in favor of the common shareholders or seriously considered their motions for one case that is going into trial, citing or implicitly considering the rule of common shareholder value maximization established by *Trados*.

The Frederick Hsu Living Trust v. Oak Hill Capital Partners III, L.P., et al., (Del. Ch. May 4, 2020, C.A. No. 12108-VCL) This case shows how Trados-like fiduciary duties may hamper VCs' ability to exercise their redemption rights. The case stresses that the overriding responsibility of directors is always to consider the ways in which their decisions can optimize outcomes for the firm's truly residual claimants – common shareholders. The facts of the case are, in short, as follows.

Founded in 2000, Oversee.net had annual revenues exceeding $200 million by 2007 and

attracted the interest of Oak Hill, which in 2008 invested $150 million through preferred stocks in Oversee.net's holding company, ODN Holding Corporation. Among other things, Oak Hill received a redemption right exercisable after five years from the investment – that is, in 2013. The redemption could be made "out of funds legally available therefor." If the funds legally available were insufficient, ODN would take any reasonable actions determined by ODN's board "in good faith and consistent with its fiduciary duties" to generate the necessary liquidity.

In 2009, Oak Hill also purchased ODN's common stock and became its controlling stockholder. Later on, ODN's board of directors passed a management incentive plan contemplating bonuses payable if the company redeemed at least $75 million of Oak Hill's preferred stock. In 2011, having abandoned its historic high growth-oriented strategy, ODN switched to cash-generating mode, selling two lines of business and hence stockpiling cash.

In 2013, Oak Hill exercised its redemption right, but ODN had no sufficient funds to redeem all Oak Hill's stock. As a result, ODN sold a third line of business and developed a new business plan that entailed significant cost-cutting and more sales of businesses to generate liquidity. By then, ODN had already redeemed preferred shares for a total of $85 million, while additional preferred shares for about $65 million were still waiting for redemption. Importantly, the underlying strategy had led ODN's annual revenues to fall from $141 million in 2011 to $89 million in 2012 and $11 million in 2013.

In 2016, one of ODN's founders and common shareholders, Frederick Hsu, sued both Oak Hill, the controlling shareholder, and ODN's board members, as well as certain officers in connection with actions relating to the redemption. Although abstaining from voting on the staged redemption, the directors designated by Oak Hill had previously voted in favor of the sale of ODN's business lines and the company's restructuring. One claim made by the plaintiff was that Oak Hill and ODN's board members had breached their fiduciary duties by causing the company to sell assets to create the liquidity buffer required for the redemption of Oak Hill's preferred stock, instead of seeking to maximize the value of the corporation

over the long term.

In 2017, the Delaware Chancery Court declined to dismiss the claims for breach of fiduciary duties, allowing the trial to proceed on the merits. In 2020, the court came to a decision. Having determined that the entire fairness applied to the conduct of each defendant, the court investigated whether the defendants provided evidence of both fair process and fair price, with the "[t]he basic inquiry for fair price [being] whether the common stockholders received in the [transaction] the substantial equivalent in value of what they had before." While establishing that the defendants had failed to provide evidence of fair process, the court determined the cash-accumulation strategy was substantively fair to the common stockholders for several reasons, concluding that the common stockholders were not harmed because, "[r]egardless of the defendants' actions, the common stockholders would have received the same value: nothing." Considering both fairness of process and price as a whole, the court conclusively let defendants go exempt from liability.

Basho Technologies Holdco B, LLC, et al. v. Georgetown Basho Investors, LLC, et al. (Delaware Court of Chancery, C.A. No. 11802-VCL) Once again, the problem here was that the preferred shareholders, as the controlling shareholders, was using their veto rights to advance their own interest to the detriment of the common shareholders. Abstracting from the specific circumstances of the case and the precise legal issue at bar, the underlying conflict between the preferred shareholders and common shareholders is fundamentally the same as in *Trados* - both cases see "divergent interests created by different priorities in the capital structure," even though [t]he principal difference is that in *Trados* the VC investors were trying to avoid a "sideways situation", whilst "[i]n this case, Basho could not self-fund its business plan." The facts are, in short, as follows.

In 2008, Earl Gallagher and a colleague founded Basho Technologies, Inc. ("Basho"), a promising early-stage high-tech company behind once popular database RiaK that had managed to establish a virtuous reputation for being a leader in the burgeoning markets for

NoSQL and distributed systems software.

In spite of having raised capital through a series of financing rounds between 2008 and 2010, in early 2011 Basho needed more capital. That is when Georgetown Basho Investors, LLC ("Georgetown") invested in Basho through a series D financing round with the expectation that Georgetown "could generate quick and outsized profits by investing and selling Basho within two years". Securing the right to appoint one director of Basho, Chester Davenport, who controlled Georgetown and served as its president and managing member, joined Basho's board shortly after.

Starting in 2010, Georgetown led and co-led a series of financing rounds entailing the issuance of preferred stock by Basho. But by early 2012, Basho again needed capital for growth. Along with another external investor, Georgetown then invested an additional $5 million through series F preferred stock and received an option to invest another $5 million, as well as securing the right to appoint a second director and, more importantly, special blocking rights by holding the majority of the series F preferred stock. Basho accordingly needed Georgetown's approval to "either directly or indirectly by amendment, merger, consolidation or otherwise, ... issue any class of stock having any right, preference, or priority superior to or pari passu with the [s]eries F [p]referred [s]tock, or amend, alter or repeal any provision of the [c]ertificate of [i]ncorporation or [b]ylaws of the [c]orporation in a manner that changes the powers, preferences, or special rights of the [s]eries F [p]referred [s]tock so as to affect them adversely, which does not so affect the entire class of [p]referred [s]tock."

In late 2012, Georgetown used its veto rights to block external investments, offering Basho a loan with highly favorable terms for Georgetown instead. Once Basho accepted the loan, Georgetown levered its position as the creditor and the fact that Basho's survival was de facto contingent on the borrowed capital to force Basho's management to cooperate with Georgetown.

In 2014, Georgetown invested in a G series round with highly favorable terms, including 2× participating liquidation preferences, 8% cumulative dividends per annum and conversion

rights into common shares carrying ten votes each. In the same year, Georgetown also consummated a number of insider transactions that enabled it to extract a significant share of value from Basho. In April 2014, for instance, Basho got a $650,000 loan from Georgetown payable on demand with a 5% interest per annum that would increase to 7% if Basho were to fail to pay on demand.

These self-dealing transactions drove away key employees and placed Basho into financial distress, causing it to fall behind its competitors. In early 2015, Basho showed some signs of a turnaround and attracted new potential investments, which Georgetown turned down once again due to its concerns that additional equity issuance would de-consolidate its control. As of June 2015, Basho experienced another significant downturn, eventually having to cease operations and entering receivership in 2017.

Meanwhile, in December 2015, Gallagher and other shareholders sued Georgetown and some of its directors for supposedly breaching their fiduciary duties both in connection with the series G financing and the operation of the company following that round.

In 2018, the court applied the entire fairness standard to both the actions of Georgetown as well as Basho's directors and ruled in favor of the plaintiffs. It concluded that Gallagher and the other common shareholders had suffered damages of $17.5 million as a direct result of the series G financing and an additional $2.8 million in damages resulting from the defendants' mismanagement of Basho following that financing round – with the overall $20.3 million figure being the difference between the value of the plaintiffs' shares after the Series G financing and the value at the time of trial, which was zero.

Manti Holdings, LLC v. Carlyle Group Inc. (Del. Ch. June 3, 2022, C.A. No. 2020-0657-SG) It is the most recent episode concerning the sale of a Delaware private company in which common shareholders received too little and sued on fiduciary grounds. Importantly, the plaintiffs are claiming that the conflict of interest that plagues the board's decision-making process regarding the company sale is rooted in the private

equity ("PE") fund's liquidity needs near the end of its lifespan. While somewhat different from *Trados*, the case clearly borrows the shareholder value maximization rule that *Trados* had established back in 2013. Below we chiefly describe the facts at bar and the subsequent judicial developments.

Authentix Acquisition Company, Inc. ("Authentix") is a Delaware corporation that over time had maintained a capital structure consisting of common and preferred stock, both controlled by the Carlyle Group – directly and indirectly as one of Carlyle's funds owned a majority of Authentix's stock. The manager of that fund had a management agreement with Authentix, and the ultimate parent, the Carlyle Group, held Authentix stock as well. The plaintiffs are individual and entity stockholders of Authentix, each of whom held Authenix stock when the sale took place. One of the plaintiffs, Manti Holdings, LLC ("Manti"), had a representative on the Authentix Board.

Under the terms governing the deal, preferred stockholders were entitled to the first $70 million of any sale consideration. Additionally, Authentix's shareholders entered into a stockholders agreement that required all stockholders not to oppose any sale of Authentix approved by the board and by a majority of the outstanding shares – that is, by Carlyle. Under this agreement, the plaintiffs purportedly waived their right to challenge the sale.

In late 2015, Authentix began to explore a potential sale, but the process was complicated by the fact that Authentix's customer base was rather concentrated, which created a risk that one or more of its customers might terminate their relationship with the company. The sole director representing plaintiff Manti on the Authentix board therefore favored delaying the sale process until the company had clarified the issue. By contrast, Authentix's CEO and other directors were allegedly pressured by Carlyle into selling the company as soon as possible so that Carlyle could monetize its investment and close the fund that had invested in Authentix.

In mid-2017, the prospective acquirer Blue Water Energy submitted a $105 million all-cash offer, with $77.5 million in guaranteed consideration and $27.5 million contingent on

the renewal of some contracts. Having stopped providing information to the sole director designated by Manti, who had suggested abandoning the deal, the board pushed forward the sale without trying to renegotiate better terms, despite the fact that two of Authentix's major customers had meanwhile renewed their contracts and Authentix had even earned a new contract. The board approved the sale, with the sole director designated by Manti voting against it. As no stockholder voting was required under the stockholders agreement, the sale was closed. Holding a majority of Authentix's preferred stock, Carlyle received the bulk of the $77.5 million in guaranteed sale consideration. Another preferred shareholder also recouped its investment. A director whose employment agreement stipulated that he would receive a $3 million bonus for a sale above the $80 million price pocketed another part of the sale's proceeds.

Common shareholders then went to court to claim that Caryle, the controlling shareholder, and most board members had breached their fiduciary duties. The litigation is now still unfolding in the Delaware Chancery Court. To date, the court has established that Carlyle's alleged liquidity needs rendered the company sale conflicted in this case. The court also found that the terms in the stockholders agreement did not preclude the plaintiffs from suing on fiduciary grounds.

Having established that Carlyle and the Carlyle-affiliated Authentix directors may have breached their fiduciary duties, the court thus denied a motion to dismiss the plaintiffs' claims and disposed that the entire fairness test should apply: the case shall make it to the trial stage.

B Data Sources & Variable Definitions

This appendix describes the data used in the paper and provides detailed variable definitions:

B.1 Data Sources

Preqin. To construct our main sample of analyses, we collect VC deal-level data including the names of the startup companies and their VC fund investors as well as the investment amount. Preqin also provides detailed information on VC funds, such as their vintage year, LP investors and fund cash flows.

SDC Platinum. We use the SDC Platinum to identify VC-backed companies that are acquired, as well as the name and industry of the acquirer in each deal. It also allows us to observe the acquisition deal value.

CRSP. To analyze acquirer announcement returns, we obtain daily stock returns of public acquirers from the Center for Research in Security Prices (CRSP).

COMPUSTAT. To control for the characteristics of publicly-listed acquirers in our analysis of acquisition announcement returns, we collect the financial statement data from COMPUSTAT.

Hoberg-Phillips Data Library. To measure the closeness between the VC-backed target's and its acquirer's industries, we use the text-based industry classifications developed by Hoberg and Phillips (2010, 2016).

Your-economy Time Series (YTS). YTS contains annual establishment-level sales and employment numbers, going back to 1997.

Business Registries. We manually collect the incorporation states for our sample companies from the Delaware Department of State Division and further cross-validate our data using the California Business Search and Massachusetts Corporation Search.[1]

VentureXpert. We supplement our analyses with data collected from VentureXpert. These

[1]See https://icis.corp.delaware.gov/ecorp/entitysearch/namesearch.aspx for the Delaware Department of State Division. See https://bizfileonline.sos.ca.gov/search/business for the California Business Search and https://corp.sec.state.ma.us/corpweb/CorpSearch/CorpSearch.aspx for the Massachusetts Corporation Search.

data include post-money valuation in each financing round and the amount of capital raised by start-ups in each VC financing round.

B.2 Variable Definitions

Variable Name	Definition
Forced [-t, +t]	An indicator variable that equals one if the VC fund age is between 12 - t and 12 + t years, and zero otherwise
Ln(Deal Value)	Natural logarithm of the acquisition deal value in USD MIL
Deal Multiple	Acquisition deal value to the total equity raised by the VC-backed company
Remote Industry	An indicator variable that equals one if the acquirer is not in the top 10 connected industries based on the text-based network industries in Hoberg and Phillips (2010, 2016), and zero otherwise
Financial Acquirer	An indicator variable that equals one if the acquirer is a financial firm (two digit SIC code: 60-64 or 67)
CAR [-5, +5] (CAPM/FF3)	The cumulative abnormal stock return of the acquirer five days before and after the acquisition announcement, in which the CAPM/Fama-French 3 factor model is used as the benchmark model
Ln(Total Assets)	Natural logarithm of the acquirer's total assets in USD MIL
Ln(Market Value)	Natural logarithm of the acquirer's market value of equity in USD MIL
Tobin's Q	Acquirer's Tobin's Q defined as market value of common stock + book value of total assets – book value of common equity, all divided by the book value total assets
Leverage Ratio	Acquirer's leverage ratio defined as total debt to total assets
OCF/Total Assets	Acquirer's operating cash flow to total assets
ROA	Acquirer's return on assets
All Cash	An indicator variable equal to one if the transaction is paid in all cash, and zero otherwise
Sales (Trailing)	The VC-backed company's last observed sales in USD MIL before being acquired
Sales (Forward-Looking)	The VC-backed company's first observed sales in USD MIL after being acquired
Cold Market	An indicator variable equal to one if the M&A transaction volume is in the lowest quartile of the 4-digit target SIC industry during the period 1995-2020, and zero otherwise
Acquisition	An indicator variable that equals one if the VC-backed company is acquired in a given year, and zero otherwise
Cash Distribution	An indicator variable that equals one if the VC fund makes cash distributions to LPs in a given year, and zero otherwise
Cash Distribution Amt (%)	The cash distribution amount returned to LPs as the percent of fund size in a given year
Trados	An indicator variable that equals one after 2013 (including 2013), the year when the Delaware Court made the final decision on the *Trados* case, and zero otherwise
DE	An indicator variable equal to one if the VC-backed company is incorporated in Delaware, and zero otherwise
FOF	An indicator variable that equals one if the fraction of LPs that are fund of funds (FOF) managers is greater than the sample median, and zero otherwise
First Fund	An indicator variable that equals one if the VC fund is a first fund raised by the VC firm
VC Firm IPO Ratio	The ratio of VC-backed companies that have gone public in a VC firm's portfolio
Ln(Total Equity Invested)	Natural logarithm of total equity in USD MIL invested by the VC fund
Ln(Total Equity Raised)	Natural logarithm of total equity in USD MIL raised by the VC-backed company
Ln(Number of Financing Rounds)	Natural logarithm of total number of financing rounds the VC-backed company has received

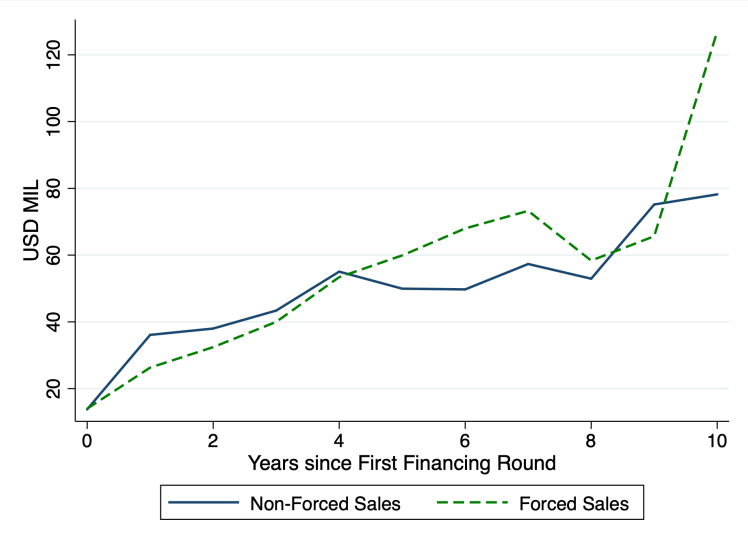
Ln(Number of Investors)	Natural logarithm of total number of investors of the VC-backed company
Ln(Fund Size)	Natural logarithm of the VC fund size in USD MIL
Forced Sales [-t, +t]	An indicator variable equal to one if the VC firm ever sold its portfolio companies when the VC fund age is between 12 - t and 12 + t
Fund Sequence	The order in which a fund is raised by a VC firm
Ln(Capital Raised)	Natural logarithm of the amount of capital raised in USD MIL in a VC financing round
Number of Round Investors	Number of investors in a financing round
Round Number	The order in which a financing round is raised by a VC-backed company
Early	An indicator variable equal to one if the financing round is a Seed or Series A round, and zero otherwise
Different Industry	An indicator variable that equals one if the acquirer is in a different four-digit SIC industry from the acquired VC-backed company, and zero otherwise
Ln(Post-Money Valuation)	Natural logarithm of the post-money valuation in USD MIL in each financing round
Missing Deal Value	An indicator variable that equals one if the acquisition deal value is missing in the SDC Platinum database, and zero otherwise
Fund Age Dispersion	The standard deviation of VC fund age within the same syndicate

C Additional Results

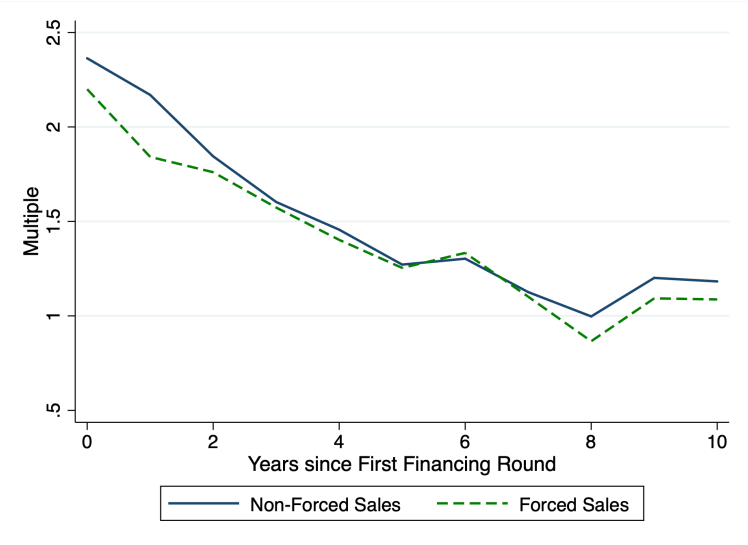
C.1 Heterogeneity

We investigate whether the treatment effect of *Trados* depends on the bargaining between VCs and their investors, the LPs. By endorsing the rule of common shareholder value maximization, *Trados* constrains the control rights of the preferred shareholders, potentially harming the interests of VC fund investors, the LPs. VC-appointed board members face a higher litigation risk after *Trados*, and they might be unwilling to initiate controversial sales, especially when their LPs are less powerful and demanding. We therefore expect a stronger treatment effect in VC funds with weaker LP bargaining power. Fund of funds (FOF) managers are often considered one of the least prestigious types of LPs with limited bargaining power vis-à-vis VCs. We thus use fund-level LP data in Preqin to construct the variable *FOF*, which is an indicator that equals one if the ratio of LPs being FOF managers is greater than the sample median (approximately 0.15), and zero otherwise. Table C.3 reports the triple-diff coefficient estimates. The coefficient on *Forced [-t, +t]* $\times$ *Trados* $\times$ *FOF* is negative and significant, suggesting that the mitigating effect of *Trados* on VCs' propensity to exit through forced sales is indeed stronger for funds with high exposure to FOF LPs.

Similar to Table C.3, Table C.4 presents heterogeneous effects depending on LP bargaining power for fund cash distributions. As shown in Columns 1-3, funds with higher exposure to FOF LP investors seem to be more affected on the extensive margin, though the coefficient estimates are not significant. On the intensive margin, the heterogeneous treatment effects are economically large and statistically significant (Columns 5 and 6). This is consistent with the notion that VCs are better able to avoid fund liquidation and under-priced exit sales when the LP investors have weaker bargaining power.



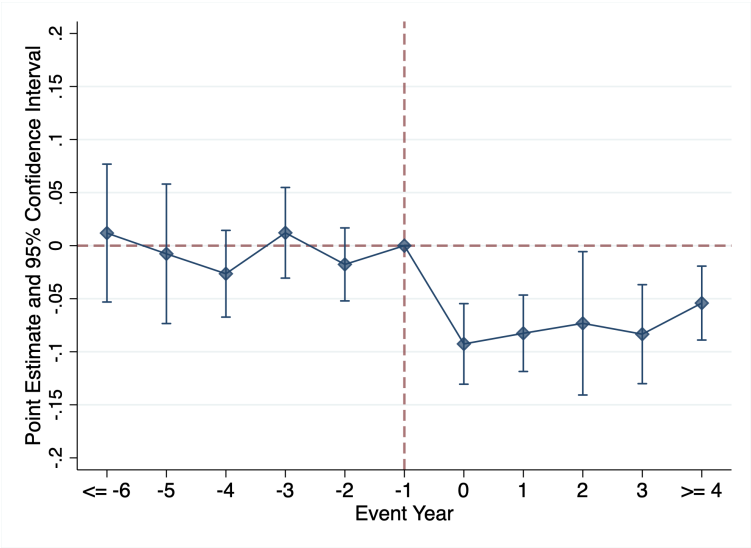
(a) Post-Money Valuation



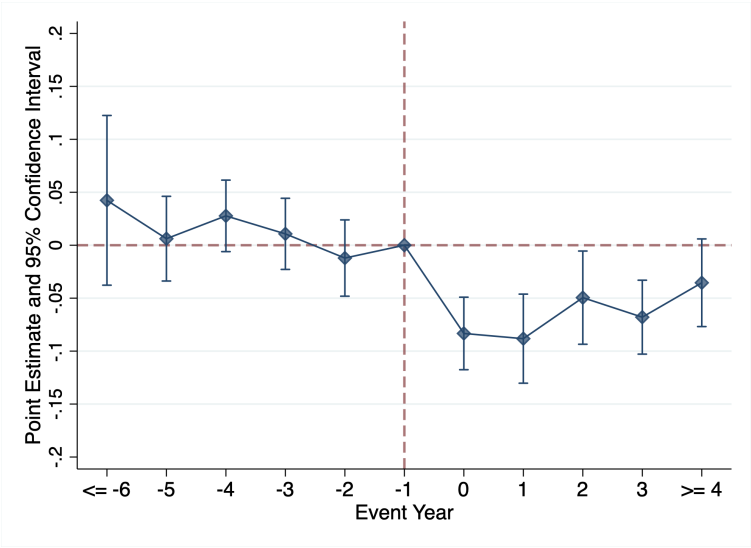
(b) Post-Money Valuation/Total Equity Raised

Figure C.1: Evolution of Post-Money Valuation

This figure displays the evolution of the median post-money valuation of VC-backed companies since their first VC financing round. The sample consists of financing rounds of VC-backed companies that raised their first financing rounds during the period 1995-2012 and are acquired by December 31, 2020. Forced sales consist of companies with any VC funds that are 11 - 13 years old at the acquisition. Non-forced sales consist of companies only with VC funds that are all less than 11 years old at the acquisition.



(a) *Forced [-2, 2]*



(b) *Forced [-3, 3]*

Figure C.2: Dynamic Effects of *Trados* on *Acquisition* - Alternative Forced Sales Window

For *Acquisition*, this figure displays the annual event-study coefficient estimates based on *Forced[-2, +2]*/*Forced[-3, +3]* and associated two-tailed 95% confidence intervals of the difference between the treatment group and the control group during 1995 and 2020. The coefficient in 2012 (t = -1) is normalized to zero and the red vertical dashed line indicates the base year of 2012, the year before the Delaware Court's final decision on the *Trados* case. The sample consists of VC-backed companies that raised their first VC financing round during the period 1995-2012 and are acquired by December 31, 2020. The regression model is estimated with VC fund, company, company headquarter state by year and company industry by year fixed effects. Standard errors are two-way clustered at the VC fund and company headquarter state level. Detailed variable definitions are provided in Appendix B.

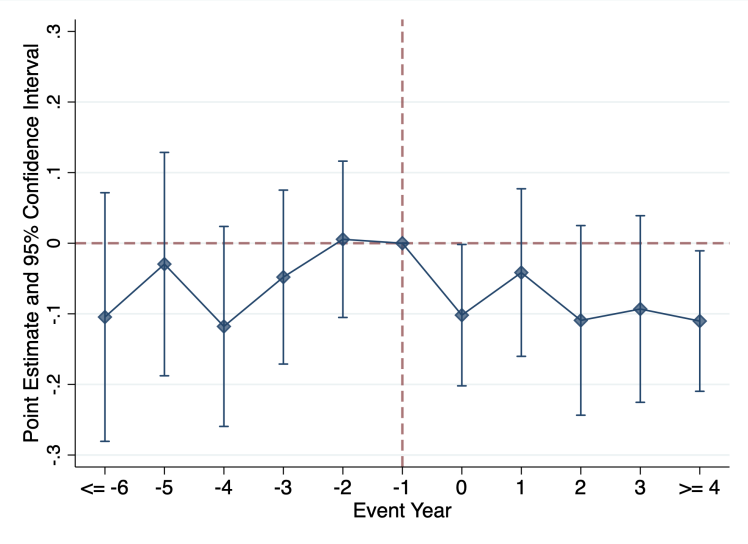
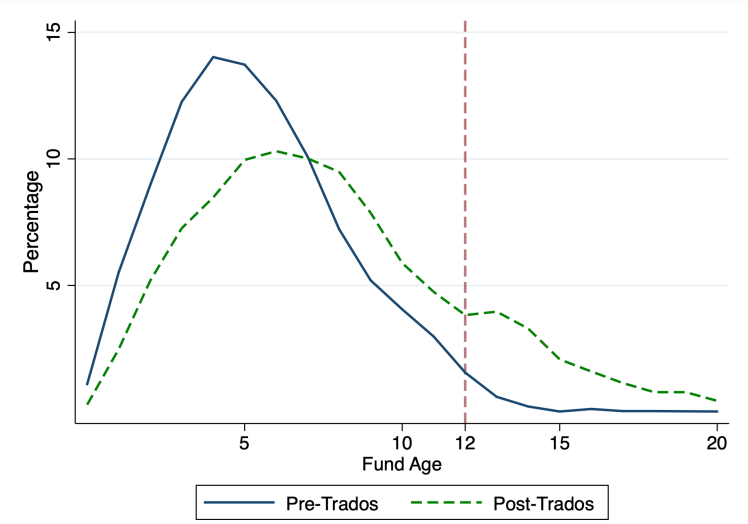
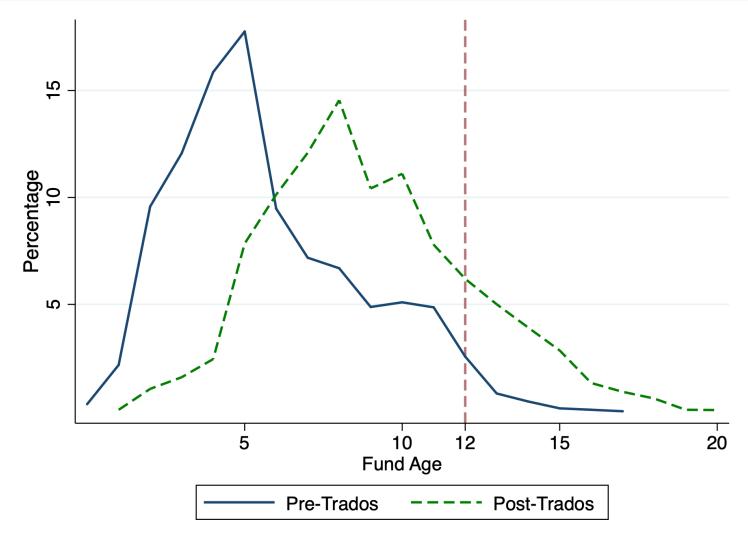


Figure C.3: Fund Cash Distribution

For *Cash Distribution*, the figure displays the annual event-study coefficient based on *Forced[-1, +1]* and associated two-tailed 95% confidence intervals of the difference between the treatment group and the control group. The coefficient in 2012 (t = -1) is normalized to zero and the red vertical dashed line indicates the base year of 2012, the year before the Delaware Court's final decision on the *Trados* case. The sample consists of US VC funds raised during the period 1995-2012. The regression model is estimated with VC fund and year fixed effects. Standard errors are clustered at the VC fund level. Detailed variable definitions are provided in Appendix B.



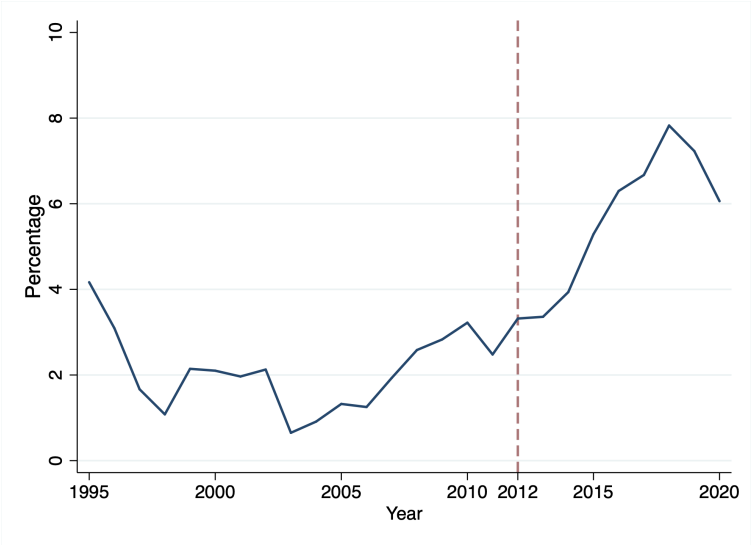
(a) Acquisitions



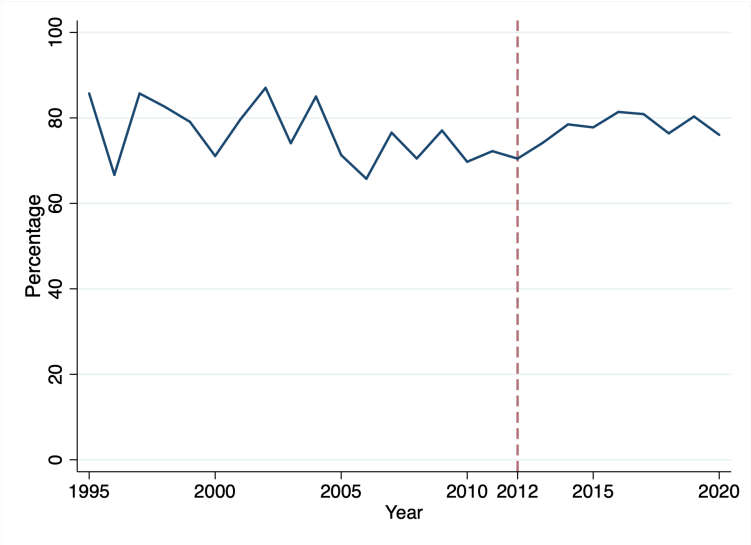
(b) Cash Distributions

Figure C.4: Distribution of VC Fund Age at Acquisitions and Cash Distributions

This figure shows the distribution of VC fund age at acquisitions and cash distributions for the pre- and post-*Trados* samples. The sample in Figure C.4a consists of VC funds investing in companies that raised their first financing round during the 1995-2012 period and are acquired by December 31, 2020. The fund age is equally weighted for each VC fund. The sample in Panel Figure C.4b consists of US VC funds raised between the period 1995-2012. The fund age is weighted by the amount of cash distributions. The red vertical dashed line indicates the year when the VC fund becomes 12 years old.



(a) Limited Liability Companies (LLCs)



(b) Delaware Incorporated Companies

Figure C.5: Evolution of LLCs and Delaware-incorporated VC-backed Companies

Figure C.5a displays the evolution of VC-backed companies formed as LLCs by year of their first VC financing rounds. The sample consists of the entire Preqin universe of start-ups that received VC financing between 1995 and 2020. Figure C.5b shows the time-series variation of VC-backed companies that are incorporated in Delaware by year of their first VC financing rounds. The sample consists of a randomly selected 10% of US start-ups that received their first VC financing during 1995-2020 in Preqin. The red vertical dashed line in each figure indicates the base year of 2012, the year before the Delaware Court's final decision on the *Trados* case.

Table C.1: Post-Money Valuation

This table shows the post-money valuation matched from VentureXpert. The matched sample consists of VC funds and their portfolio companies that raised the first VC financing round during the period 1995-2012 and have been acquired by December 31, 2020. A unit of observation is a fund-company pair. Column 1-3 restrict the sample to companies that have non-missing acquisition deal value. Column 4-6 restrict the sample to companies with post-money valuation in the last three years before the acquisition. *Ln(Post-Money Valuation)* is the natural logarithm of the post-money valuation in USD MIL in each financing round. *Forced [-t, +t]* is an indicator variable equal to one if the VC fund age is between 12 - t and 12 + t years, and zero otherwise. Detailed variable definitions are provided in Appendix B. Standard errors are two-way clustered at the VC fund and company headquarter state level and reported in brackets. ***, ** and * indicate 1%, 5% and 10% significance levels.

	Ln(Post-Money Valuation)					
	(1)	(2)	(3)	(4)	(5)	(6)
Forced [-1, +1]	-0.027			-0.048		
	[0.109]			[0.125]		
Forced [-2, +2]		-0.011			-0.001	
		[0.067]			[0.082]	
Forced [-3, +3]			-0.026			0.013
			[0.046]			[0.079]
First Fund	0.507***	0.509***	0.505***	0.312*	0.313**	0.319*
	[0.111]	[0.116]	[0.119]	[0.151]	[0.150]	[0.161]
VC Firm IPO Ratio	-0.169	-0.167	-0.167	-0.011	-0.017	-0.024
	[0.238]	[0.242]	[0.241]	[0.221]	[0.217]	[0.215]
Ln(Total Equity Invested)	-0.023	-0.023	-0.023	-0.035	-0.035	-0.034
	[0.060]	[0.060]	[0.060]	[0.044]	[0.043]	[0.042]
Ln(Total Equity Raised)	0.773***	0.773***	0.772***	0.932***	0.932***	0.932***
	[0.105]	[0.105]	[0.105]	[0.035]	[0.035]	[0.034]
Number of Financing Rounds	-0.098***	-0.098***	-0.098***	-0.131***	-0.131***	-0.131***
	[0.018]	[0.019]	[0.019]	[0.026]	[0.026]	[0.026]
Number of Investors	0.005	0.005	0.005	0.006	0.006	0.006
	[0.014]	[0.014]	[0.014]	[0.010]	[0.010]	[0.010]
VC Firm FE	✓	✓	✓	✓	✓	✓
Company Headquarter State FE	✓	✓	✓	✓	✓	✓
Company Industry FE	✓	✓	✓	✓	✓	✓
Exit Year FE	✓	✓	✓	✓	✓	✓
Observations	1874	1874	1874	1450	1450	1450
Adjusted R^2	0.422	0.422	0.422	0.602	0.602	0.602

Table C.2: Fire Sales and Intra-VC Conflicts of Interest

This table shows the interaction between fire sales and intra-VC conflicts of interest measured by *Fund Age Dispersion*, the standard deviation of VC fund age in the same syndicate. The sample consists of VC funds and their portfolio companies that raised the first VC financing round during the period 1995-2012 and are acquired by December 31, 2020. A unit of observation is a fund-company pair. *Forced [-t, +t]* is an indicator variable equal to one if the VC fund age is between 12 - t and 12 + t years, and zero otherwise. Detailed variable definitions are provided in Appendix B. Standard errors are two-way clustered at the VC fund and company headquarter state level and reported in brackets. ***, ** and * indicate 1%, 5% and 10% significance levels.

	Ln(Deal Value)	Deal Multiple	Remote Industry	Financial Acquirer	CAR $[-5,+5]$ (CAPM)	CAR $[-5,+5]$ (FF3)
	(1)	(2)	(3)	(4)	(5)	(6)
Forced [-1, +1]	-0.681***	-4.493***	0.096**	0.055**	5.059***	4.855***
	[0.166]	[1.212]	[0.038]	[0.027]	[1.692]	[1.540]
Forced [-1, +1] × Fund Age Dispersion	0.136**	1.226**	-0.020*	-0.008	-1.243**	-1.287**
	[0.058]	[0.470]	[0.011]	[0.009]	[0.505]	[0.511]
Company & VC Controls	✓	✓	✓	✓	✓	✓
Acquirer Controls					✓	✓
VC Firm FE	✓	✓	✓	✓	✓	✓
Company Headquarter State FE	✓	✓	✓	✓	✓	✓
Company Industry FE	✓	✓	✓	✓	✓	✓
Exit Year FE	✓	✓	✓	✓	✓	✓
Observations	3576	3576	9971	9971	3644	3644
Adjusted R^2	0.309	0.283	0.168	0.163	0.068	0.075

Table C.3: *Trados* and Probability of Exits through Acquisitions - Heterogeneity

This table shows the heterogeneous treatment effect of the *Trados* court ruling on the probability of VC exits through acquisitions. The panel sample consists of VC funds and their portfolio companies that raised the first VC financing round during the period 1995-2012 and are acquired by December 31, 2020. A unit of observation is a fund-company year. *Acquisition* is an indicator variable equal to one if the VC-backed company is acquired in a given year, and zero otherwise. *Trados* is an indicator variable equal to one if the year is equal to or greater than 2013, the year in which the Delaware Court made the final decision on the *Trados* case, and zero otherwise. *FOF* is an indicator variable equal to one if the fraction of LPs that are fund of funds (FOF) managers is greater than the sample median, and zero otherwise. *Forced [-t, +t]* is an indicator variable equal to one if the VC fund age is between 12 - t and 12 + t years, and zero otherwise. Detailed variable definitions are provided in Appendix B. Control variables including the stand-alone *FOF* and other two-way interaction terms are suppressed in the table. Standard errors are two-way clustered at the VC fund and company headquarter state level and reported in brackets. ***, ** and * indicate 1%, 5% and 10% significance levels.

	Acquisition					
	(1)	(2)	(3)	(4)	(5)	(6)
Forced [-1, +1]	0.055***	0.049***				
	[0.014]	[0.014]				
Forced [-1, +1] × Trados	-0.001	0.006				
	[0.024]	[0.026]				
Forced [-1, +1] × Trados × FOF	-0.072**	-0.085**				
	[0.030]	[0.033]				
Forced [-2, +2]			0.065***	0.058***		
			[0.010]	[0.010]		
Forced [-2, +2] × Trados			0.000	0.004		
			[0.015]	[0.021]		
Forced [-2, +2] × Trados × FOF			-0.048**	-0.058***		
			[0.018]	[0.021]		
Forced [-3, +3]					0.064***	0.058***
					[0.009]	[0.011]
Forced [-3, +3] × Trados					0.013	0.020
					[0.019]	[0.023]
Forced [-3, +3] × Trados × FOF					-0.071***	-0.080***
					[0.018]	[0.018]
Company & VC Controls		✓		✓		✓
VC Firm FE	✓	✓	✓	✓	✓	✓
Company Headquarter State FE	✓	✓	✓	✓	✓	✓
Company Industry FE	✓	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓	✓
Observations	54285	51191	54285	51191	54285	51191
Adjusted R^2	0.076	0.081	0.076	0.082	0.077	0.083

Table C.4: *Trados* and VC Fund Cash Distributions - Heterogeneity

This table shows the heterogeneous treatment effect of the *Trados* court ruling on time to acquisitions. The panel sample consists of US VC funds raised during the period 1995-2012. A unit of observation is a fund year. *Cash Distribution* is an indicator variable equal to one if the VC fund makes cash distributions to LPs in a given year, and zero otherwise. *Cash Distribution Amt (%)* is the cash distribution amount returned to LPs as the percent of fund size in a given year. *Trados* is an indicator variable equal to one if the year is equal to or greater than 2013, the year in which the Delaware Court made the final decision on the *Trados* case, and zero otherwise. *FOF* is an indicator variable equal to one if the fraction of LPs that are fund of funds (FOF) managers is greater than the sample median, and zero otherwise. *Forced [-t, +t]* is an indicator variable equal to one if the VC fund age is between 12 - t and 12 + t years, and zero otherwise. Detailed variable definitions are provided in Appendix B. Control variables including other two-way interaction terms are suppressed in the table. *FOF* is absorbed by the VC fund fixed effects. Standard errors are clustered at the VC fund level and reported in brackets. ***, ** and * indicate 1%, 5% and 10% significance levels.

	Cash Distribution			Cash Distribution Amt (%)		
	(1)	(2)	(3)	(4)	(5)	(6)
Forced [-1, +1]	0.136***			0.010		
	[0.031]			[0.007]		
Forced [-1, +1] × Trados	-0.038			-0.001		
	[0.043]			[0.013]		
Forced [-1, +1] × Trados × FOF	-0.056			-0.038**		
	[0.061]			[0.018]		
Forced [-2, +2]		0.140***			0.017**	
		[0.029]			[0.008]	
Forced [-2, +2] × Trados		-0.048			-0.007	
		[0.040]			[0.012]	
Forced [-2, +2] × Trados × FOF		-0.023			-0.045***	
		[0.056]			[0.017]	
Forced [-3, +3]			0.163***			0.024***
			[0.028]			[0.008]
Forced [-3, +3] × Trados			-0.079**			-0.016
			[0.040]			[0.012]
Forced [-3, +3] × Trados × FOF			-0.032			-0.049***
			[0.054]			[0.017]
VC Fund FE	✓	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓	✓
Observations	9972	9972	9972	9972	9972	9972
Adjusted R^2	0.175	0.178	0.183	0.117	0.119	0.122

D Robustness Checks

This appendix discusses the motivation and results of robustness checks that are not reported in the paper. We visualize the contrast between the estimated coefficients from the baseline specification and more than ten alternative specifications in Figures D.1, D.2, D.3, D.4, and D.5.

D.1 Alternative Fixed Effects

To account for time-varying state-level economic fundamentals, we add company headquarter state by exit year fixed effects. To account for time-varying trends in the acquisition market for different industries, we also include industry by exit year fixed effects. The coefficients are largely similar to those in the main specification. Our results are also robust to adding company cohort year fixed effects. To further address the selection concern that portfolio companies sold earlier might be fundamentally different from those sold later during a VC fund's lifespan, we add VC holding period fixed effects. This allows us to control for any unobservable differences related to VC holding period by comparing companies that stay in the VC's portfolio for the same period of time. The coefficient estimates are all in the same direction as the baseline estimates. However, this additional control absorbs substantial identifying variations in the key explanatory variable due to collinearity, reducing the statistical power of the tests.

Moreover, to mitigate unobservable company characteristics that could potentially conflate with the impact of *Trados*, we add various forms of company fixed effects and show that our results stay quantitatively and qualitatively similar to the baseline estimate. In our analysis of fire sale discount, acquirer industries and abnormal announcement returns, we do not control for company fixed effects because there is no within-company variation in our outcome variables and the econometric model shown in Equation (1) will be unidentified after including company fixed effects.

D.2 Alternative Sample Selection Criteria

We first narrow our attention to VCs who have higher abilities and stronger incentives to push for timely exits. The importance of each VC fund and its power on the board depends on the stage of their initial investments and their total amount of investment in the start-up. Therefore, VCs that invest earlier or make larger investments arguably have more influence in exit decisions. First, we focus on VC funds that participate in the first observed financing around. These early investors are also more likely to be subject to liquidity pressure at the time of the sale, inducing them to seek a quick transaction. Second, we drop less important VCs that hold less than 10% of equity investments in the company. Comparing Panel A of both tables with the baseline estimations, one can conclude that the result stays largely unchanged.

Some peculiarities in the VC data are worth noting. In terms of fund age, we sometimes observe extreme values. This is already evident in Figure 2a and Figure 3: some funds continue for many years beyond the conventional VC lifespan. One may argue that the acquisition deals VCs complete beyond a certain age might be special and are no longer related to liquidity pressure. We thus drop deals that take place when the VC fund age is beyond the conventional VC lifespan. These deals are rare in our sample and dropping them does not affect the estimated coefficients in different regressions.

Corporate venture capital (CVC) funds are structured as the subsidiaries of corporations. They have longer investment horizons, share the strategic objectives of the parent corporations, and have fewer high-powered performance-based compensation contracts in start-up investments (Chemmanur, Loutskina, and Tian, 2014; Strebulaev and Wang, 2021). Considering these differences from traditional VCs, we exclude CVC-related deals and our sample drops by around 5%. Our results are robust to this exclusion.

Our sample overlaps with the Internet bubble period (1995-2001) in the US. One concern is that VC-backed companies during the Internet bubble period might be different from the rest of our sample in terms of unobservable characteristics such as contractual terms and

quality. Moreover, Preqin has relatively poor coverage of VC deals in the 90s, giving rise to potential selection issues. As a robustness check, we drop companies that received their first financing round during the 1995 to 2001 period and re-estimate our baseline regressions. The coefficient estimates are similar to the baseline estimates.

The sample varies in our analysis of fire sale discount, acquirer industries, and CAR because acquisition deal value is missing for more than 60% of the observations and CAR can only be calculated for companies sold to public acquirers. One may worry about such a sample selection issue and argue that the effects would differ if we were to use a consistent sample. Our findings are robust to using the subsample with non-missing acquisition deal value and acquirer CAR throughout.

D.3 Econometrics

Our fund-company pair specification means that start-ups with more investors may receive a higher weight in the regression, complicating the interpretation of the estimated coefficients. The similar results yielded by the specification with first-round investors only, where the variation in the number of VC investors in each company is limited, partially mitigate this concern already. To further address the issue, we provide OLS estimates weighted by the inverse of the number of VC funds within each company so that each target start-up will have the same unit weight in the regression. All findings remain quantitatively and qualitatively similar to the baseline results. Moreover, each target start-up has around 1.7 first-round investors on average in the subsample used in the specification in which we limit the VC funds to those in the first financing round raised by a company. The regression is therefore close to the specification with one observation per deal and an aggregated liquidity pressure measure. We also use cluster-bootstrapped standard errors as an additional robustness check. The results are highly similar.

D.4 Reporting Bias

Around 65% of transactions during our sample period have missing transaction values. For some transactions, we cannot match them to the M&A database in SDC Platinum. Even if they are matched, the information on deal value is sometimes missing. Therefore, our sample for the fire sale discount regression does not include the universe of private sales, but only the ones with non-missing deal values. One may worry that the sales with non-missing information are not representative. More specifically, if some sales by maturing VC funds are of extremely low value and hence more likely to be missing from the M&A database, our estimations of fire sale discount could be biased downward.[2] To evaluate the merit of this argument, we examine whether the transactions near the end of VCs' conventional lifespan are indeed more likely to have deal values missing. We regress an indicator for missing deal value on the forced sale indicators and the results are reported in Table D.3. The coefficients are all close to zero and insignificant, alleviating the concern of reporting bias.

D.5 Alternative Measures

Our forced sale measures have a symmetric window around the conventional fund lifespan. As a robustness check, we create an alternative measure *Forced[-1, +3]*, an indicator variable equal to one if the VC fund age is between 11 and 15 years, and zero otherwise. Our results stay qualitatively and quantitatively similar when using this alternative measure of liquidity pressure.

The choice of our outcome variable *Remote Industry* is motivated by the evidence that merger pairs are far more similar in the product market space than SIC- or NAICS-based measures suggest (Hoberg and Phillips, 2010). Nevertheless, we re-estimate Equation (1) using the SIC industry classification to define whether the acquirer and target are from different industries. The result in Figure D.4 suggests that our conclusions are robust to

[2]The coverage of deal value is biased towards larger transactions. In our sample, total equity raised by the company, which can be considered a proxy for size, also negatively predicts the probability of missing deal value. Netter, Stegemoller, and Wintoki (2011) study the sample representativeness of earlier M&A studies with common data restrictions such as excluding acquisitions without a deal value. The authors find that many existing findings on M&As are attenuated after using a more representative sample.

different measures to decide whether the acquirer is an industry outsider to the target.

D.6 Triple-Differences Based on Company Incorporation States

Note that we exclude companies headquartered in the east coast states close to Delaware in the triple-difference analysis. Two considerations motivate this choice. First, changes in Delaware law might be more likely to generate an indirect effect on corporate laws in nearby states. Such spillover effects would bias our estimations. Second, it is more convenient for companies headquartered in these states to move back and forth between Delaware and their home state in terms of the incorporation decision, due to the geographical proximity. This complicates the measurement of the incorporation state. Nevertheless, our findings are robust to including companies headquartered in every state or applying other sample selection criteria, as shown in Table D.2 of Appendix D.

Specifically, we include companies headquartered in all states in the US in Column 1, instead of excluding companies headquartered in states geographically close to Delaware. In Column 2, we drop companies headquartered in the three states adjacent to Delaware. For companies headquartered in several states, including Montana, Kentucky, Iowa, South Carolina, Oklahoma, Delaware, Massachusetts and Rhode Island, the probability of incorporation in Delaware is either extremely low or extremely high. Therefore, in Column 3, we exclude these companies in outlier states. In Column 4, we study only companies headquartered in California, where we observe the largest number of start-ups among all US states. Our conclusions are also robust to alternative fixed effects and standard clustering as reported in Columns 5 and 6.

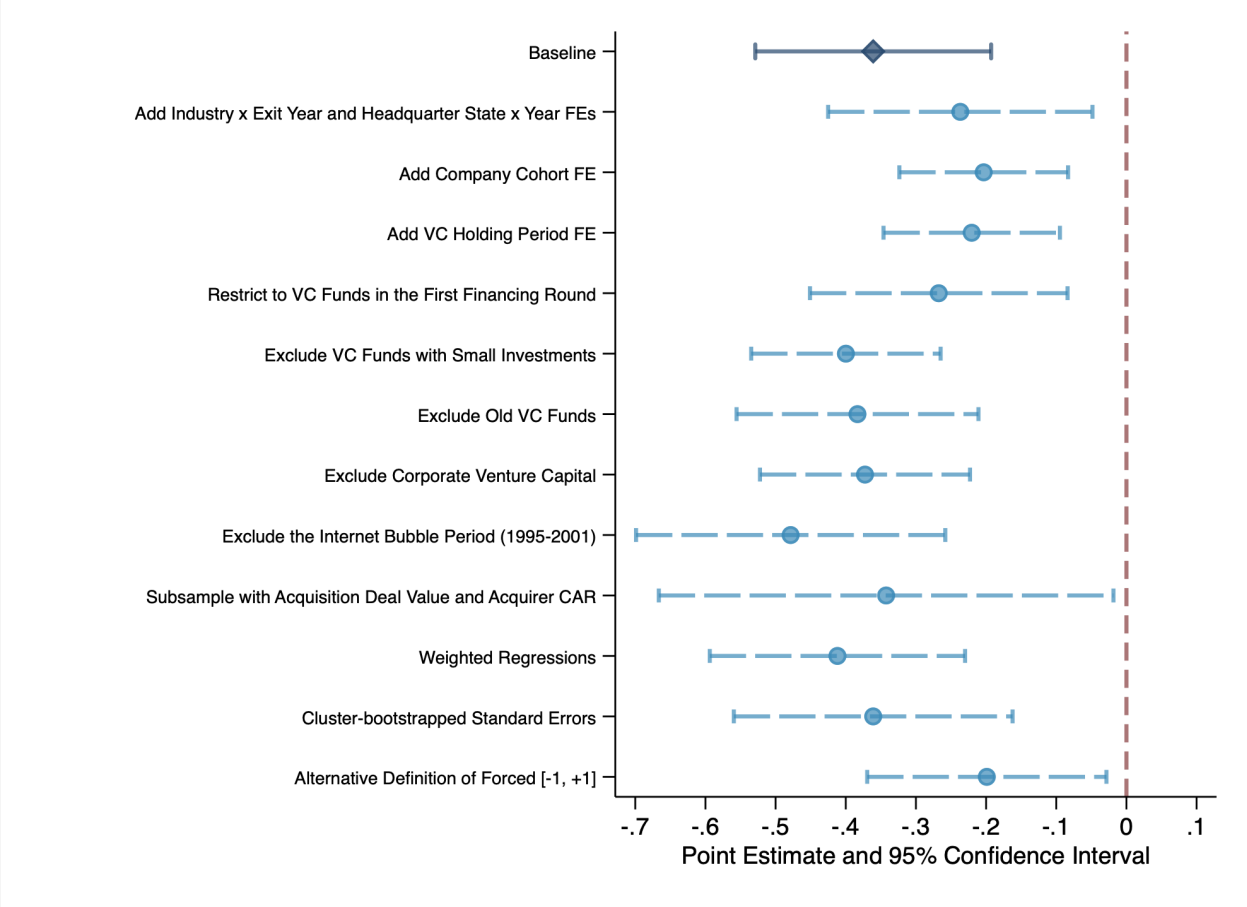


Figure D.1: Fire Sale Discount - Coefficient of *Forced [-1, +1]* in Alternative Specifications

For *Ln(Deal Value)*, this figure plots the coefficient estimates and associated two-tailed 95% confidence intervals of *Forced [-1, +1]* with various alternative specifications of Equation (1) indicated on the y-axis. The baseline estimate is reported in Column 1 of Table 2. The baseline sample consists of VC funds and their portfolio companies that raised the first VC financing round during the period 1995-2012 and are acquired by December 31, 2020. A unit of observation is a fund-company pair. *Ln(Deal Value)* is the natural logarithm of the acquisition deal value in USD MIL. *Forced [-1, +1]* is an indicator variable equal to one if the VC fund age is between 11 and 13 years, and zero otherwise. Detailed variable definitions are provided in Appendix B. Standard errors are two-way clustered at the VC fund and company headquarter state level.

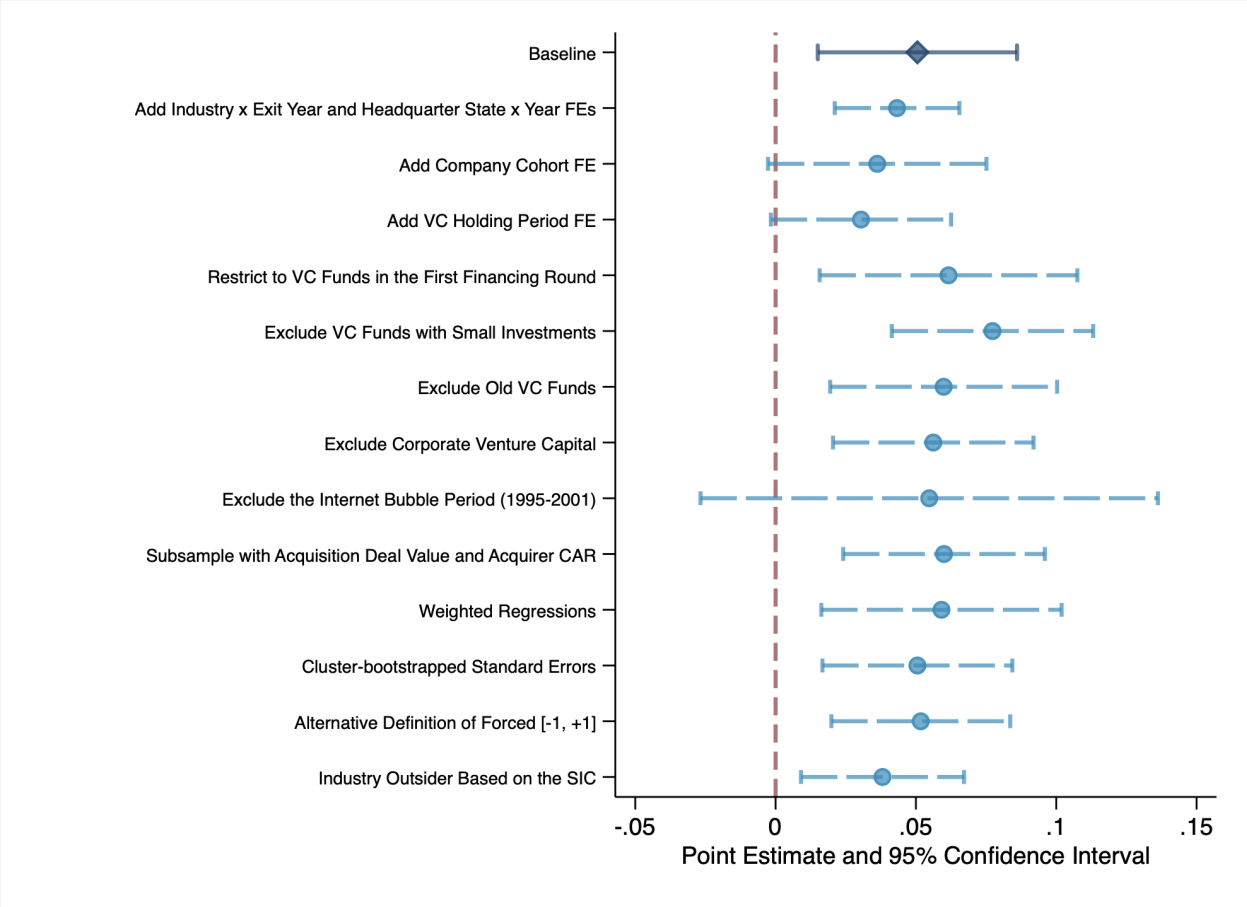


Figure D.2: Acqurirer Industries - Coefficient of *Forced [-1, +1]* in Alternative Specifications

For *Remote Industry*, this figure plots the coefficient estimates and associated two-tailed 95% confidence intervals of *Forced [-1, +1]* with various alternative specifications of Equation (1) indicated on the y-axis. The baseline estimate is reported in Column 1 of Table 3. The baseline sample consists of VC funds and their portfolio companies that raised the first VC financing round during the period 1995-2012 and are acquired by December 31, 2020. A unit of observation is a fund-company pair. *Remote Industry* is an indicator variable equal to one if the acquirer is not in the VC-backed target's top 10 related industries based on the text-based industry classification by Hoberg and Phillips (2010, 2016), and zero otherwise. *Forced [-1, +1]* is an indicator variable equal to one if the VC fund age is between 11 and 13 years, and zero otherwise. Detailed variable definitions are provided in Appendix B. Standard errors are two-way clustered at the VC fund and company headquarter state level.

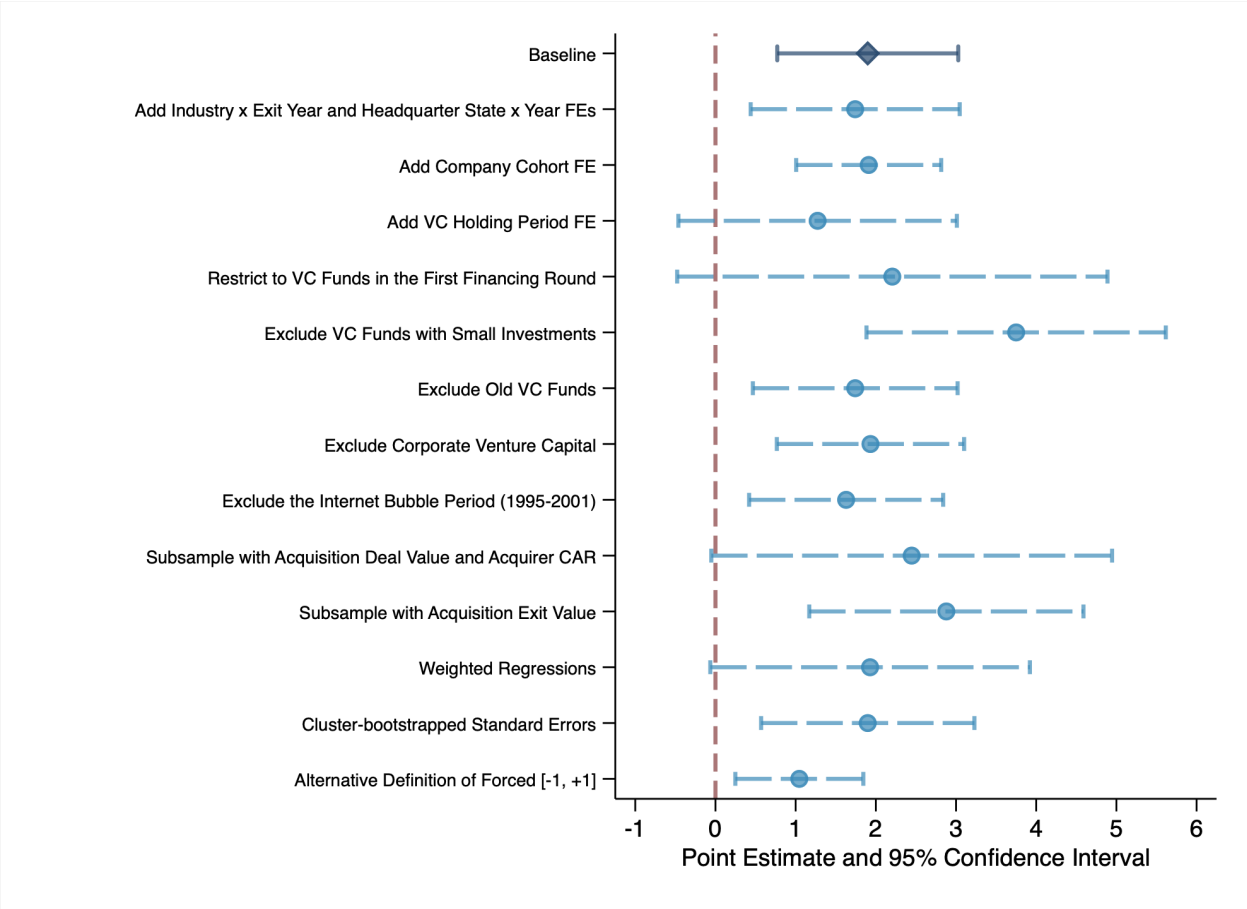


Figure D.3: Announcement Returns - Coefficient of *Forced [-1, +1]* in Alternative Specifications

For *CAR [-5, +5] (FF3))*, this figure plots the coefficient estimates and associated two-tailed 95% confidence intervals of *Forced [-1, +1]* with various alternative specifications of Equation (1) indicated on the y-axis. The baseline estimate is reported in Column 4 of Table 4. The baseline sample consists of VC funds and their portfolio companies that raised the first VC financing round during the period 1995-2012 and are acquired by December 31, 2020. A unit of observation is a fund-company pair. *CAR [-5, +5] (FF3)* is the acquirers' cumulative abnormal returns over a balanced window of 10 days around the acquisition announcement using the Fama-French 3 factor model. *Forced [-1, +1]* is an indicator variable equal to one if the VC fund age is between 11 and 13 years, and zero otherwise. Acquirer control variables include *Ln(Total Assets)*, *Ln(Market Value)*, *Tobin's Q*, *Leverage Ratio*, *OCF/Total Assets*, *ROA* and *All Cash*. Detailed variable definitions are provided in Appendix B. Standard errors are two-way clustered at the VC fund and company headquarter state level.

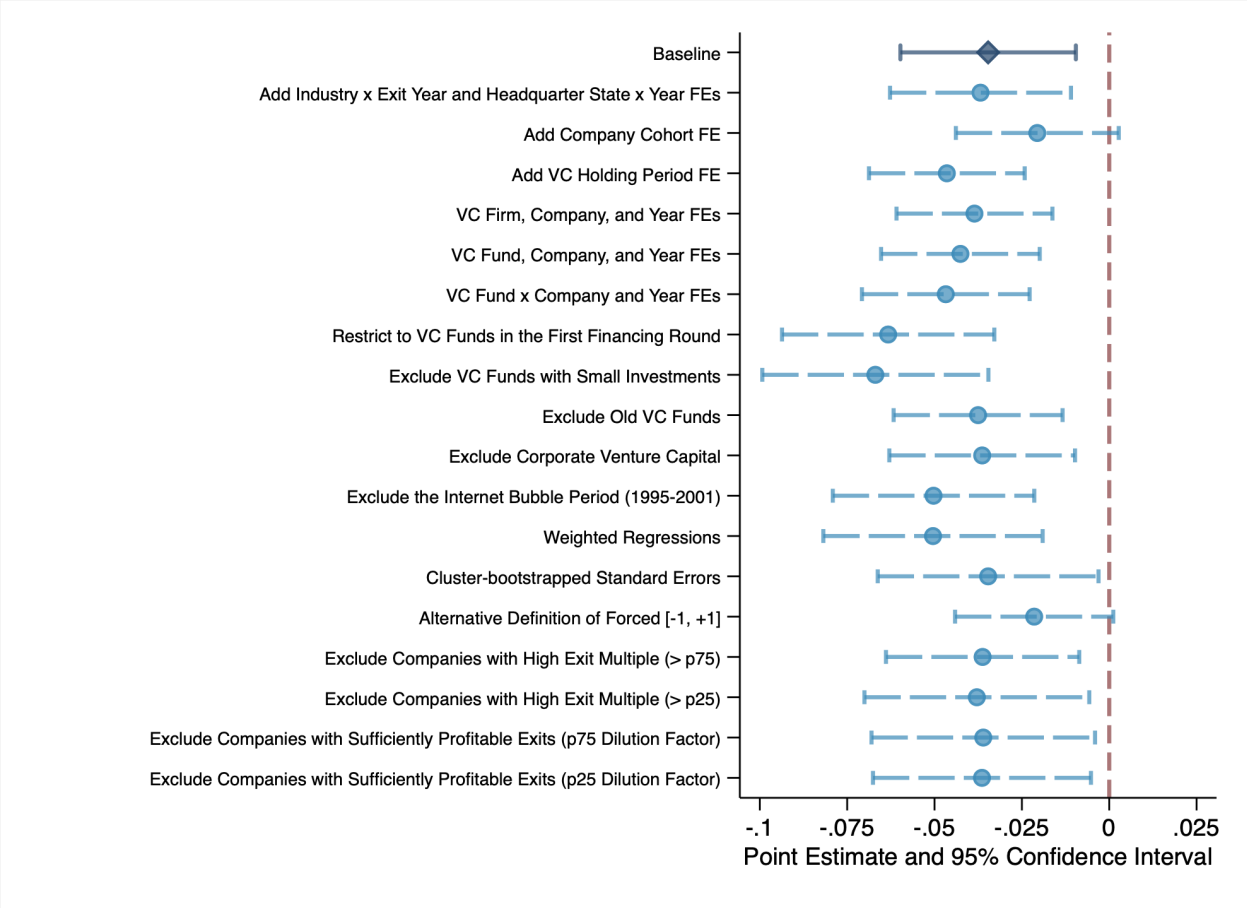


Figure D.4: Acquisition - Coefficient of *Forced [-1, +1]* × *Trados* in Alternative Specifications

For *Acquisition*, this figure plots the coefficient estimates and associated two-tailed 95% confidence intervals of *Forced [-1, +1]* × *Trados* with various alternative specifications of difference-in-differences estimation of Equation (2) without any control variables. The baseline estimate is reported in Column 1 of Table 7. Detailed specifications are indicated on the y-axis. The baseline panel sample consists of VC funds and their portfolio companies that raised the first VC financing round during the period 1995-2012 and are acquired by December 31, 2020. A unit of observation is a fund-company year. *Acquisition* is an indicator variable equal to one if the VC-backed company is acquired in a given year, and zero otherwise. *Trados* is an indicator variable equal to one if the year is equal to or greater than 2013, the year in which the Delaware Court made the final decision on the *Trados* case, and zero otherwise. *Forced [-1, +1]* is an indicator variable equal to one if the VC fund age is between 11 and 13 years, and zero otherwise. Detailed variable definitions are provided in Appendix B. Standard errors are two-way clustered at the VC fund and company headquarter state level.

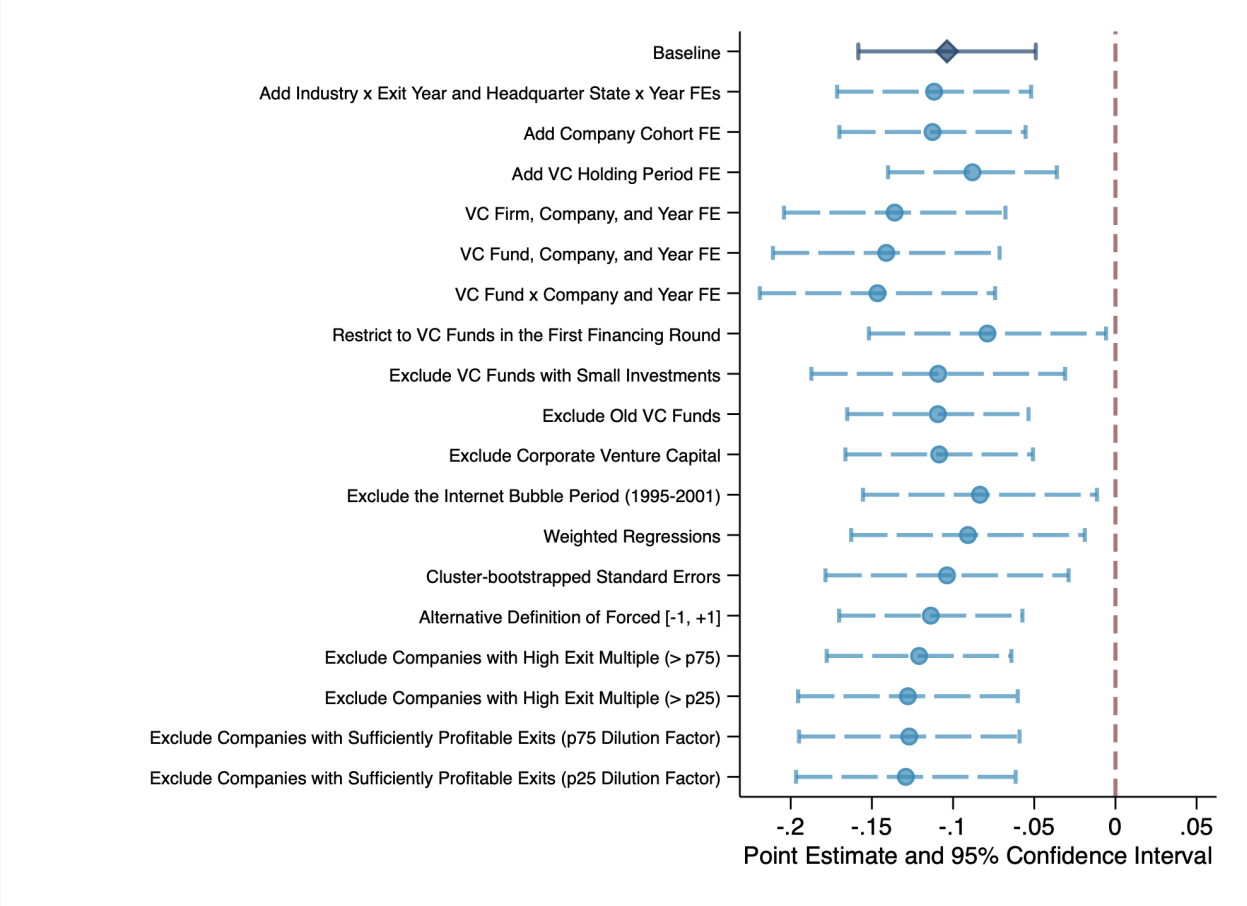


Figure D.5: Acquisition - Coefficient of *Forced [-1, +1]* × *Trados* × *DE* in Alternative Specifications

For *Acquisition*, this figure plots the coefficient estimates and associated two-tailed 95% confidence intervals of *Forced [-1, +1]* × *Trados* × *DE* with various alternative specifications of the triple-diff estimation. Detailed specifications are indicated on the y-axis. The baseline estimate is reported in Column 1 of Table 7. The baseline panel sample consists of VC funds and their portfolio companies that raised the first VC financing round during the period 1995-2012 and are acquired by December 31, 2020. Companies headquartered in states near Delaware (Massachusetts, New York, Pennsylvania, Maryland, Virginia, New Jersey, and Connecticut) are excluded from the regressions. A unit of observation is a fund-company year. *Acquisition* is an indicator variable equal to one if the VC-backed company is acquired in a given year, and zero otherwise. *Trados* is an indicator variable equal to one if the year is equal to or greater than 2013, the year in which the Delaware Court made the final decision on the *Trados* case, and zero otherwise. *DE* is an indicator variable equal to one if the VC-backed company is incorporated in Delaware, and zero otherwise. Detailed variable definitions are provided in Appendix B. Standard errors are two-way clustered at the VC fund and company incorporation state level

Table D.1: Delaware Triple-Diff with a Propensity Score Matched Subsample

This table shows the results from Delaware triple-diff estimation with a propensity score matched subsample, constructed by finding the nearest neighbor match for each non-DE-incorporated company. The propensity score is estimated using the following characteristics: *Log(Total Equity Raised)*, *Number of Financing Rounds*, *Number of Investors*, as well as company headquarter state FE, company industry FE, and exit year FE. The regression sample consists of matched portfolio companies that raised the first VC financing round during the period 1995-2012 and are acquired by December 31, 2020. A unit of observation is a fund-company year. *Acquisition* is an indicator variable equal to one if the VC-backed company is acquired in a given year, and zero otherwise. *Trados* is an indicator variable equal to one if the year is equal to or greater than 2013, the year in which the Delaware Court made the final decision on the *Trados* case, and zero otherwise. *DE* is an indicator variable equal to one if the VC-backed company is incorporated in Delaware, and zero otherwise. *Forced [-t, +t]* is an indicator variable equal to one if the VC fund age is between 12 - t and 12 + t years, and zero otherwise. Detailed variable definitions are provided in Appendix B. Control variables including the stand-alone *DE* and other two-way interaction terms are suppressed in the table. Standard errors are two-way clustered at the VC fund and company incorporation state level and reported in brackets. ***, ** and * indicate 1%, 5% and 10% significance levels.

Panel A: Probability of Acquisitions

	Acquisition					
	(1)	(2)	(3)	(4)	(5)	(6)
Forced [-1, +1] × Trados × DE	-0.177***	-0.186***				
	[0.035]	[0.036]				
Forced [-2, +2] × Trados × DE			-0.101**	-0.099***		
			[0.038]	[0.035]		
Forced [-3, +3] × Trados × DE					-0.090***	-0.080***
					[0.027]	[0.025]
Company & VC Controls		✓		✓		✓
VC Firm FE	✓	✓	✓	✓	✓	✓
Company Headquarter State FE	✓	✓	✓	✓	✓	✓
Company Industry FE	✓	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓	✓
Observations	14965	14372	14965	14372	14965	14372
Adjusted R^2	0.066	0.073	0.066	0.072	0.066	0.073

Panel B: Covariate Balance Summary

	Standardized Differences		Variance Ratio	
	Raw	Matched	Raw	Matched
Log(Total Equity Raised)	0.187	0.023	0.931	0.901
Number of Financing Rounds	0.122	0.038	1.031	0.954
Number of Investors	0.060	-0.026	0.999	0.894

Table D.2: Delaware Triple-Diff Robustness Checks

This table shows robustness checks of the Delaware triple-diff estimation. The full sample consists of VC funds and their portfolio companies that raised the first VC financing round during the period 1995-2012 and are acquired by December 31, 2020. A unit of observation is a fund-company year. Column 1 shows the estimates with the full sample. Column 2 excludes companies headquartered in states adjacent to Delaware (Pennsylvania, Maryland, and New Jersey). Column 3 drops companies headquartered in states with an outlier probability of being incorporated in Delaware (Montana, Kentucky, Iowa, South Carolina, Oklahoma, Delaware, Massachusetts, and Rhode Island). Column 4 restricts the sample to companies headquartered in California. Column 5 uses more stringent fixed effects. Column 6 clusters the standard errors by the VC fund and company headquarter state. *Forced [-1, +1]* is an indicator variable equal to one if the VC fund age is between 11 and 13 years, and zero otherwise. Detailed variable definitions are provided in Appendix B. Control variables including the stand-alone *DE* and other two-way interaction terms are suppressed in the table. In Columns 1-3 and 5, standard errors are two-way clustered at the VC fund and company incorporation state level and reported in brackets. Standard errors are clustered at the VC fund level in Column 4 and at the VC fund and company headquarter state level in Column 6. ***, ** and * indicate 1%, 5% and 10% significance levels.

	Acquisition					
	(1)	(2)	(3)	(4)	(5)	(6)
Forced [-1, +1] × Trados × DE	-0.060*	-0.068*	-0.071**	-0.111**	-0.153***	-0.104***
	[0.035]	[0.035]	[0.032]	[0.056]	[0.037]	[0.038]
VC Firm FE	✓	✓	✓	✓		✓
Company Headquarter State FE	✓	✓	✓	✓		✓
Company Industry FE	✓	✓	✓	✓		✓
Year FE	✓	✓	✓	✓		✓
VC Firm × Company FE					✓	
Company Headquarter State × Year FE					✓	
Company Industry × Year FE					✓	
Observations	65480	61906	57364	31229	47311	48020
Adjusted R^2	0.083	0.084	0.085	0.072	0.235	0.082

Table D.3: Missing Deal Value

This table reports results from OLS regressions on the missing deal value indicator. The sample consists of VC funds and their portfolio companies that raised the first VC financing round during the period 1995-2012 and are acquired by December 31, 2020. A unit of observation is a fund-company pair. *Missing Deal Value* is an indicator variable equal to one if the acquisition deal value is missing in the SDC Platinum database, and zero otherwise. *Forced [-t, +t]* is an indicator variable equal to one if the VC fund age is between 12 - t and 12 + t years, and zero otherwise. Detailed variable definitions are provided in Appendix B. Standard errors are two-way clustered at the VC fund and company headquarter state level and reported in brackets. ***, ** and * indicate 1%, 5% and 10% significance levels.

	Missing Deal Value		
	(1)	(2)	(3)
Forced [-1, +1]	0.010		
	[0.014]		
Forced [-2, +2]		0.013	
		[0.013]	
Forced [-3, +3]			0.011
			[0.014]
First Fund	0.098*	0.099*	0.100*
	[0.055]	[0.055]	[0.054]
VC Firm IPO Ratio	-0.310***	-0.311***	-0.312***
	[0.086]	[0.087]	[0.089]
Ln(Total Equity Invested)	0.000	0.000	0.000
	[0.008]	[0.008]	[0.008]
Ln(Total Equity Raised)	-0.086***	-0.086***	-0.086***
	[0.015]	[0.015]	[0.016]
Number of Financing Rounds	-0.003	-0.003	-0.003
	[0.004]	[0.004]	[0.004]
Number of Investors	0.001	0.001	0.001
	[0.004]	[0.004]	[0.004]
VC Firm FE	✓	✓	✓
Company Headquarter State FE	✓	✓	✓
Company Industry FE	✓	✓	✓
Exit Year FE	✓	✓	✓
Observations	9971	9971	9971
Adjusted R^2	0.199	0.199	0.199