CAUSES AND CONSEQUENCES OF VENTURE CAPITALIST LITIGATION

Xuan Liu

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ABSTRACT

Causes and consequences of venture capitalist litigation

Xuan Liu

Using a unique, hand-collected data set of lawsuits in which venture capitalists are named as co-defendants, we examine the relationship between venture capitalist litigation risk, on the one hand, and their reputation and monitoring intensity, on the other. We hypothesize that the likelihood of litigation will be decreasing with VC reputation and monitoring intensity. Further, we examine two measures of the merits of litigation, namely, lawsuit dismissal and the likelihood of a VC's continued financing of the firm after litigation. Finally, we examine the existence of reputational penalties for venture capitalists by studying the post-litigation fundraising by sued venture capitalists. We find a significant positive relationship between venture capitalist reputation and the likelihood of litigation, the finding consistent with deep pocket theory. At the same time, we also find some evidence that lawsuits are merited. In particular, we find that lawsuits against firms backed by more reputable venture capitalists are less likely to be dismissed and that sued venture-backed firms are less likely to continue receiving venture financing after the litigation. Also, venture capitalists named as co-defendants are less likely to maintain their rank in the fundraising hierarchy. Finally, we also find some evidence that more intensive monitoring by venture capitalists seems to decrease the likelihood of litigation.

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1. Introduction

Recent revelations of a number of high-profile corporate scandals have attracted considerable attention from both academics and the general public. The existing literature on the causes and consequences of litigation has almost exclusively focused on firm characteristics (e.g., executive and director compensation, composition of a firm's board of directors).[1] To our knowledge, no study has looked at the influence of major shareholders on the likelihood and outcome of litigation. Lawsuits against venture-backed firms in which venture capitalists are named as co-defendants (from now on we will refer to such lawsuits as *venture capitalist litigation*) provide an ideal setting for filling this gap in the literature. First, venture capitalists are majority shareholders actively engaged in monitoring and advising the management of their portfolio companies (see, e.g., Lerner, 1995; and Baker and Gompers, 2003). Second, they are involved in the company over a longer time period (as opposed to, for example, underwriters who engage only in short term monitoring and certification). Third, by examining the post-litigation venture capitalist fundraising we examine the consequences of litigation for major shareholders and co-defendants, which to our knowledge has not been studied in the extant literature.

In this paper, by examining venture capital litigation, we shed some light on the following three questions. First, does the reputation of a firm's backers influence the likelihood and outcome of the litigation? Second, does the monitoring by majority shareholders influence the likelihood and outcome of litigation? Third, what, if any, are the reputational penalties for both the firm and its backers?

[1] See, e.g., Agrawal and Chadha (2005) and Johnson et al. (2003).

We hypothesize that the likelihood and outcome of litigation against a venture-backed firm will be decreasing with the reputation of its venture capitalists and their monitoring intensity. First, more reputable venture capitalists are less likely to allow their portfolio companies to engage in offenses that could lead to a lawsuit. Second, we expect reputable VCs to avoid financing firms whose managers they view as unethical. Third, the (usually) significant VC equity stakes in their portfolio companies should make them more diligent at monitoring the firm's management.

Further, we examine two measures of the merits of litigation. First, we examine the determinants of the lawsuit dismissal. Second, we argue that a VC's continued financing of the firm after litigation could be seen as a signal of venture capitalist's estimate of the merits of the lawsuit. If the venture capitalist perceives the lawsuit as merited, we are less likely to observe post-litigation VC financing. Finally, we examine the existence of reputational penalties for venture capitalists by studying the post-litigation fundraising by the sued venture capitalists.

We find that firms backed by more reputable venture capitalists are more likely to be sued than firms backed by less reputable VCs. This finding could suggest three things. First, it could suggest that firms backed by more reputable venture capitalists are more likely to engage in actions that could result in a lawsuit. Second, this result is also consistent with a "deep pocket theory", according to which a defendant's deep pockets attract litigation (see, e.g., Alexander, 1991). Our finding, however, seems to suggest that it is not only the defendant's but also the co-defendant's deep pockets that attract litigation. Third, our finding could stem from the existence of fixed litigation costs. In particular, if the probability of recovering damages is low, it is possible that the expected

settlement amount (potential damages times the probability of recovery) falls short of the fixed litigation costs. In such a case plaintiffs may be unwilling to file a private lawsuit even if they have a legitimate ground to sue the firm. Consequently, we would observe lawsuits that are filed against only those firms that have committed offenses and for which the probability of recovering damages is sufficiently high. To the extent that venture capital reputation is positively related to the quality of the venture-backed firm (and therefore the expected settlement amount), it is possible that, conditional on filing a lawsuit, we are likely to observe more lawsuits against more reputable venture capitalists even when the unconditional probability is lower.

While we are not able to distinguish between the three explanations offered above, our findings of a positive relationship between venture capitalist reputation and the likelihood of settling the lawsuit seems to indicate that the lawsuits are merited and not driven by defendants' and co-defendants' deep pockets alone. Further support for this is given by our findings of a lower likelihood of post-litigation venture capitalist investments in the firm and of a decrease in venture capitalist reputation (as measured by the rank in the fundraising hierarchy) after the litigation.

Finally, we find that VC monitoring activities influence both the likelihood and merits of litigation. In particular, VC monitoring intensity is negatively related to the probability of venture capital litigation and positively related to the probability of continued venture capital financing after the litigation. Also, implied agency costs (as reflected in the time between the last two pre-litigation financing rounds) are negatively related to the likelihood of post-litigation VC financing.

Our study is related to several strands in both the venture capital and legal literature. First, a large body of literature has examined the role of venture capitalist reputation on various decisions and characteristics of venture-backed firms, such as the timing of going public and valuation at the time of going public.[2] Another strand of the venture capital literature has focused on the various aspects of the venture capitalists' active involvement in the management and monitoring of their portfolio companies (see, e.g., Gompers, 1995; Lerner, 1995; Baker and Gompers, 2003; and Hochberg, 2004). A strand of the legal literature has focused on the influence of firm's backers on the likelihood and outcome of litigation.[3] Our study contributes to all of three strands of literature by examining the causes and consequences of venture capitalist litigation.

Besides adding to the academic literature in this area, our study should be of interest to investors and the general public. A better understanding of the causes and effects of litigation represents valuable information for investors to help them avoid potential litigation targets. Ultimately, a better understanding of the events preceding a lawsuit may also lead to a more scrutinized monitoring of managers and an earlier identification of potential problems by the public.

The rest of the paper is organized as follows. In the following section, we provide a detailed review of the litigation and venture capital literature. In Section 3, we develop a number of testable hypotheses. Section 4 describes our data set and provides variable definitions. In Section 5, we discuss the methodology used to test our hypotheses and

[2] See, e.g., Gompers (1996), Lerner (1994a), and Chemmanur and Loutskina (2005).

[3] See, e.g., Drake and Vetsuypens (1993), Lowry and Shu (2002), and Turtle and Walker (2005) who examine the effect of underpricing decisions and underwriter backing on a firm's litigation risk.

provide empirical results. We discuss the importance of our results and provide concluding remarks in Section 6.

2. Literature review

In this section we review the related literature. Section 2.1 reviews the relevant litigation literature, while section 2.2. reviews the relevant venture capital literature.

2.1. Litigation literature

Lawsuits impact firms in many aspects. From a company's perspective, a securities class action lawsuit creates both direct and indirect costs. Direct costs include lawyer fees, diversion of management and staff time, and potentially ruinous verdict amounts. Indirect costs include the loss of reputation capital that results from customers, business partners, and the general public losing trust in the accountability of a firm. This may lead to lower sales and put stress on existing business relationships. Similarly, investors may lose their trust in a firm's management and may decide to reduce or terminate their investments. Alexander (1991, 1993) points out that none of these parties is able to discern between merited and unmerited lawsuits. Thus, even innocent firms and their managers are subjected to the negative consequences of securities litigation. In a similar fashion, IPO-related cases affect not only the issuing firm but often also have a negative impact on secondary defendants who were involved in the IPO process, causing a possible loss of clients for those parties (Tiniç, 1988).

The monetary and economic impacts of lawsuit filings have received a lot of attention in recent studies. These studies generally focus on the impact of a lawsuit on a firm's stock performance (e.g., Fields, 1990, and Romano, 1991) and are usually limited to a small number of observations. Fields (1990), for example, illustrates the wealth effects of the Pennzoil-Texaco lawsuits, two publicly traded companies, on both the plaintiff and defendant. He finds that the market reaction to interfirm litigation produces asymmetrical wealth effects for the plaintiff and the defendant: although he confirms a negative impact of a filing on the defendant, he adds that the defendant loses more wealth than the plaintiff gains on the announcement of a lawsuit. However, the anticipation of a settlement causes a reversal of the effect. Romano (1991) examines the market's valuation of lawsuits using event study methodology and finds that investors perceive the filing of a shareholder suit as a wealth-decreasing event. In her sample, class actions produce significant negative stock returns of 7.5 percent the day before the filing announcement, but have no effect on the filing date.

Bhagat et al. (1994) present the first heterogeneous large-sample analysis of the stock-market reactions to interfirm litigation. A firm enters their sample each time it is either a defendant or a plaintiff in a lawsuit or settlement filing. The resulting sample consists of 237 lawsuit announcements involving publicly traded defendants and 208 involving publicly traded plaintiffs between 1981 and 1983. They find that when a suit is filed, defendants experience a statistically significant wealth decrease of 0.92 percent, while plaintiff shareholders receive no abnormal returns. On the other hand, defendant firms experience a wealth gain of approximately 1.65 percent around lawsuit settlements, while the stocks of plaintiff firms show no abnormal performance. Bizjak and Coles

(1995) study the impact of interfirm antitrust litigation on both defendants and plaintiffs. They find that defendants experience an economically and statistically significant wealth loss of about 0.6 percent ($4 million on average) of the firm's equity value, while plaintiffs enjoy an average wealth gain of 1.2 percent ($3 million on average) of the equity value of the firm. Bhagat et al. (1998) examine the abnormal stock market reaction to filing and settlement announcements for a large sample of lawsuits in which at least one side, plaintiff or defendant, is a corporation. Their defendant subsample consists of 618 announcements related to a lawsuit filing and 28 to a settlement; and their plaintiff subsample consists of 261 announcements related to a lawsuit filing and 12 to a settlement. They find that the average wealth loss for a defendant is 0.97 percent of the market value of the equity. However, there is no significant negative impact on the plaintiff side. They find that no matter who brings a lawsuit against a firm, defendants experience a statistically significant wealth loss upon the filing of the suit. On the other hand, and inconsistent with previous studies, they find that there are no significant positive wealth gains for either the defendants or the plaintiffs following a settlement announcement. Moreover, they study the wealth effects for both lawsuit and settlement announcements by type of legal issue. They conclude that all but corporate governance suits entail negative returns and find none that have a significant effect upon a settlement announcement. Loh and Rathinasamy (2003) extend the Bhagat et al. (1998) study by first enlarging the sample (taking a 3-year period from 1996 to 1998) and by dividing it into subsamples according to the nature of the complaints. Similar to Bhagat et al., they find that the defendant firm's stock experiences a 1.93 percent decline over a two-day window surrounding the filing date. Moreover, among the different reasons that cause the

filing of a lawsuit, the majority shows a significant decline in stock value with the magnitude of the abnormal market response depending on the nature of plaintiff complaints.

Truly comprehensive studies have emerged only recently (see. e.g., Chaghouri and Walker, 2005, and Gande and Lewis, 2005). Of these, Chaghouri and Walker examine the impact of various types of securities class action litigation on a firm's stock performance and survivability, whereas Gande and Lewis' study focuses primarily on industry spillover effects following a litigation announcement.

Class actions are generally large complex cases, which require substantial commitment and resources on the part of both plaintiffs and defendants and their counsel. Most cases are resolved through settlements and typically take an average of two to three years to settle. Settlements shade the burden and the cost of the process of going to trial although they often do not reflect the optimal and most accurate action a firm should undertake (e.g., Alexander, 1991). Once a firm makes the decision to settle instead of going to court, many factors such as attorneys' fees, loss of reputation capital, and the opportunity costs of going to court play a role in determining settlement amounts. As we have seen in previous studies, similar to a lawsuit announcement, a settlement announcement may impact a firm's performance. Bajaj et al. (2000) examine trends in settlements for case filings spanning from 1988 to 1999. They find that mean and median settlement amounts generally increase the longer a case takes to settle. Setting the 1995 Private Securities Litigation Reform Act (PSLRA) as a comparison line, they find that settlement amounts increased for cases settled in the post-reform period. Furthermore, based on different types of co-defendants, they find that mean and median settlements of

cases involving accounting or underwriting firms as co-defendants were much greater than those for the sample as a whole. Their results further indicate that the nature of settlements varies noticeably over time, across industries and between allegation types. Dunbar et al. (1995) find that settlement amounts as a ratio of investor losses decline as investor losses increase. Simmons (2002) examines settlements announced between 1991 and 2002 to gauge the effect of the PSLRA on settlement size and confirms the results by Bajaj et al. (2000) and Dunbar et al. (1995).

2.2. Venture capital literature

Our study is related to two strands in the venture capital literature: (1) literature on the role of VC reputation and (2) literature on the monitoring by venture capitalists.

There are three measures of venture capitalist reputation that have been used in the literature: (1) age of the oldest venture capital partnership having financed the firm (see, e.g., Lerner, 1994a; Gompers, 1996; and Gompers and Lerner, 1998); (2) a ratio of funds under management to the total pool of venture capital under management in the year of investment (see, e.g., Lerner, 1994a and 1994b); and (3) venture capitalists' ranking in the fundraising hierarchy (see, e.g., Chemmanur and Loutskina, 2005).

Gompers and Lerner (1998) examine factors that affect fundraising by venture capitalists in the U.S. between 1972 and 1994. They argue that the reputation of a venture organization influences the flow of new commitments when it raises a new fund. They argue that older (larger) venture organizations are likely to have a better established reputation and may therefore receive larger capital commitments than do younger (smaller) venture organizations. Their results show that reputation (as measured by VC

age) and size (as measured by total venture capital raised during the previous ten years by the venture organization) have a positive effect on the amount of capital raised. In addition, older and larger venture organizations raise new funds more frequently.

Gompers (1996) tests the effects of venture organizations' reputation on the timing of taking their portfolio companies public and the VCs' subsequent fundraising ability. By using the age of the lead venture capitalist firm at the time of the IPO as a proxy for reputation, he finds that young venture organizations are more likely to bring companies public earlier than experienced venture organizations in an effort to establish a reputation and successfully raise capital for new funds. Young venture firms raise new funds sooner after an IPO than do old venture firms. In addition, the size of a young venture firm's next fund is more dependent on the number of IPOs that it has financed previously than is the size of an old venture firm's next fund. Companies backed by new venture capital firms go public earlier than those backed by established venture capital firms. Finally, Gompers finds that young venture capitalists have shorter tenures on the boards of their portfolio companies.

Lerner (1994a) examines the ability of venture capitalists to time initial public offerings (IPOs) by going public when equity values are high and using private financings when values are lower. He uses the age of venture capitalists to measure their reputation and finds that experienced venture capitalists appear to be more proficient in timing IPOs than are young venture capitalists. As an additional robustness test, Lerner uses the ratio of funds under management by the partnership to the total pool of venture capital under management in the year of the investment to measure venture capitalists' reputation and finds results consistent with those described above.

Adding to these tests, Lerner (1994b) examines the rationale for syndication of venture capitalist investments in privately held firms. He uses the ratio of funds under management by the partnership to the total pool of venture capital under management in the year of the investment to proxy for venture capitalists' reputation and finds that experienced venture capitalists primarily syndicate first-round investments to venture investors with similar levels of experience. In later rounds, established venture capitalists syndicate investments to both their peers and to less experienced capital providers. When experienced venture capitalists invest for the first time in later rounds, the firm is usually doing well.

Chemmanur and Loutskina (2005) use a new measure of VC reputation, namely a venture capitalist's ranking in the fundraising hierarchy, and study the relationship between VC reputation and the valuation of IPOs. They find that more reputable venture capitalists select better quality firms to invest in (as compared to those selected by less reputable venture capitalists), and attract higher quality market participants to the IPOs of firms backed by them, thus resulting in higher valuations for the equity of these firms (both in the IPO and in the secondary market immediately following the IPO).

A second strand of the venture capital literature focuses on VC monitoring. Gompers (1995) and Lerner (1995) both provide evidence for a VC monitoring function. In particular, Lerner (1995) examines venture capitalists' representation on the boards of directors of their portfolio companies. He finds that, unlike other outsiders, venture capitalists' board representation increases around the time of CEO turnover, which shows that venture capitalists are intensive monitors of managers. He also finds that the

geographical distance between the VC firm and the portfolio company is an important determinant of the board membership of venture capitalists.

Further, venture capitalists have incentives to set strong governance structures in their portfolio firms. By comparing corporate governance in venture-backed and non-venture-backed IPO firms, Hochberg (2004) argues that more independent board structures contribute to a better monitoring of management and to decision making that is more aligned with shareholder interests. She finds that venture backing reduces the level of earnings management in the firm. Venture-backed firms are more likely to be "conservative" in terms of earnings management than are similar non-venture-backed firms. In addition, venture-backed firms experience significantly higher abnormal returns upon the announcement of the adoption of a shareholder rights agreement than do non-venture-backed firms. The wealth effect at the announcement is positive for venture-backed firms, suggesting that venture-backed firms are more likely to use the rights agreements to protect shareholder interests. Finally, she shows that venture-backed firms have more independent board structures at the time of the IPO. Venture-backed firms have a higher proportion of outsiders and a lower proportion of insiders on their boards than do similar non-venture-backed firms. Venture-backed firms are less likely to have an insider-dominated board and a dual role of CEO and chairman. Furthermore, venture-backed firms tend to have more independent audit and compensation committee structures.

Baker and Gompers (2003) also study the role of venture capitalists in determining the size and composition of an IPO firm's board of directors. They find that boards of venture-backed firms have fewer insiders and more independent (outside)

directors. Furthermore, they show that the fraction of outsiders on the board of directors decreases with CEO tenure and voting control. Venture capitalists not only reduce inside representation indirectly by reducing the control of the CEO with their concentrated outside ownership stakes, but reputable venture firms are also directly associated with greater outsider representation on the board, possibly due to more frequent and/or more successful replacement of the firm's founder.

3. Theory and hypothesis development

In this section we develop the hypotheses that will serve as the basis for our empirical tests.

Since the reputation of venture capitalists is one of their main assets, we expect more reputable venture capitalists to be less likely to allow their portfolio companies to engage in offenses that could lead to a lawsuit. In a similar vein, we expect reputable VCs to avoid financing firms whose managers they view as unethical in an attempt to reduce their own litigation risk. Since VCs usually hold significant equity stakes in their portfolio companies they should be more diligent at monitoring the firm's management. Therefore, we expect to find that more active monitoring by venture capitalists leads to a lower likelihood of litigation. Thus, we propose the following hypothesis:

Hypothesis 1: The likelihood of VC litigation will be decreasing with venture capitalist reputation and monitoring intensity, and increasing with implied agency costs.

The strength of a lawsuit could also be judged by the outcome of the litigation. A dismissal of a lawsuit can call the merits of the lawsuit into question. We hypothesize that lawsuits in which more reputable venture capitalists are named as co-defendants are less likely to be merited. First, more reputable venture capitalists are less likely to allow the firm to engage in offenses that could lead to litigation. Second, we expect more reputable and experienced VCs to be better at monitoring. Both of these should lead to a lower merit of a lawsuit filed against a firm backed by more reputable venture capitalists. This, in turn, will lead to a higher likelihood of a dismissal of the lawsuit. Similarly, lawsuits against firms that are more intensively monitored by venture capitalists are less likely to be merited. Thus, we propose that:

Hypothesis 2: The likelihood of a lawsuit dismissal will be increasing with venture capital reputation and monitoring intensity, and decreasing with the implied agency costs.

The venture capitalist's perception of the merits of litigation can be judged by studying the likelihood of post-litigation financing. If venture capitalists perceive a lawsuit as unmerited (and therefore less likely to have a significant negative impact on the firm's reputation and future performance), we expect to observe no differences in the likelihood of receiving post-litigation financing between sued and matched (non-sued) firms. In the case of a merited lawsuit, however, we expect venture capitalists to be less likely to provide continued financing. This leads to the following hypothesis:

Hypothesis 3: The likelihood of post-litigation venture capital financing will be decreasing with the merits of the lawsuit.

We also expect the probability of post-litigation VC financing to vary with venture capitalist reputation and monitoring intensity. Based on our earlier assumption that lawsuits against more reputable VCs are less likely to be merited, we expect the likelihood of post-litigation financing to be higher for such firms as compared to those backed by less reputable venture capitalists. Similarly, we expect firms that are more intensively monitored by VCs and those with lower implied agency costs to be more likely to receive continued venture capital funding after the litigation. Consequently, we propose the following hypothesis:

Hypothesis 4: The likelihood of post-litigation venture capital financing will be increasing with venture capitalist reputation and monitoring intensity, and decreasing with the implied agency costs.

We now focus on the sub-sample of public venture-backed firms and examine the short-term and long-term market reaction following a litigation announcement. This provides us with yet another way to judge the merit of litigation. In particular, we examine the consequences of venture capital litigation for the venture-backed firm and the venture capitalist. In particular, we hypothesize that, if the litigation is merited, it will result in a reputational loss for both the venture-backed firm and the venture capitalist. In addition, we argue that the reputational consequences of litigation are likely to be less pronounced for firms backed by more reputable VCs since lawsuits against such firms are less likely to be merited. This, in turn, translates into lower losses for firms backed by more reputable venture capitalists. First, such firms are likely to have lower expected settlement costs as a result of both a lower settlement amount and a higher likelihood of lawsuit dismissal. Second, firms backed by more reputable venture capitalists are likely

to have a lower loss of investor confidence. Finally, the management of such firms will devote less time to litigation-related issues and will therefore spend more time on the day-to-day business of the firm. In addition, this sub-sample also allows us to examine the influence of several additional variables (that are not available for private venture-backed firms) on the likelihood of litigation. In particular, we examine the relationship between venture capital litigation, on the one hand, and VC ownership and board control, on the other. We expect the market reaction around the litigation announcement to be less negative for firms with more reputable VCs and those more closely monitored by them because such lawsuits are less likely to be merited. This leads to the following hypothesis:

Hypothesis 5: Firms backed by more reputable venture capitalists and those more closely monitored by them will experience a lower stock price decline around a lawsuit announcement.

Finally, we examine the consequences of venture capital litigation for the venture capitalist. In particular, if the litigation is merited, we expect to observe a reputational penalty for venture capitalists in terms of their ranking in the fundraising hierarchy. This leads to our last hypothesis:

Hypothesis 6: Sued venture capitalists will suffer a reputation loss following the lawsuit announcement which will be reflected in a reduced ability to raise money for subsequent funds.

4. Data

4.1. Sample selection

The data used in this study comes from several different databases. We start by identifying venture capitalists from the Securities Data Company's (SDC) VentureXpert database. In particular, we rank venture capitalists according to the total amount they raised during our 1985-2004 sample period. The names of the top 150 venture capitalists from this ranking are then entered into the Department of Justice *Public Access to Court Electronic Records* (PACER) database (http://pacer.uscourts.gov) search engine.[4,5] We exclude lawsuits that involve no alleged securities law violations (based on the Nature of Suit (NOS) identifiers provided by PACER) as well as duplicate case listings. The resultant data set contains 35 lawsuits against venture-backed firms that were filed between January 1985 and December 2004, in which venture capitalists are named as co-defendants.[6] Table 1 provides a distribution of the sample by year and status (public or private) of the firm. Out of the 35 companies in our dataset, 24 were publicly traded at the time of the lawsuit announcement. The remaining 11 firms were privately held.[7]

*** Insert Table 1 about here ***

Data on the alleged securities law violations, the litigation date, the names of plaintiffs, defendants, and co-defendants, as well as the eventual outcome of each case comes from PACER. Data on venture financing comes from the Securities Data Company's (SDC) VentureXpert database. In particular, for each firm, we collect the names of its venture capitalists, the date(s) of financing, and the amount provided in each

[4] To ensure completeness, various perturbations of names are considered.

[5] To ensure that we have sufficient information on pre- and post-litigation financing deals carried out by each venture capitalist, we only consider cases in which large, more active venture capitalists are named as co-defendants.

[6] In order to maximize the sample size for each test, we do not require that all firms in the sample have data available for all variables. This leads to variation in the sample size between different tests.

[7] Note that two firms went public after they were sued. We count them as private firms as they were privately held at the time of the lawsuit filing.

financing round. We exclude financing deals provided to non-US firms. Finally, the daily stock return data used in the event study of a sample of public venture-backed firms comes from CRSP, while the accounting data used to calculate industry-level control variables (described in section 4.3) comes from COMPUSTAT.

4.2. Variable definitions

In this section we first describe our measures of venture capitalist reputation, monitoring intensity, and implied agency costs (Section 4.2.1). In addition, we define various control variables that are used to control for known relationships in the financial and legal literature (Section 4.2.2). For a comprehensive overview of all variables used in this study and their sources, please refer to Appendix I.

4.2.1. Measures of venture capitalist reputation, monitoring intensity, and implied agency costs

We use two measures of venture capitalist reputation. Our first reputation measure is based on the highest fund number among those VCs that have invested in the firm. Lerner (1994b) argues that more established and reputable venture organizations should be better at attracting investor capital which in turn allows them to establish larger and more frequent funds. Therefore, VC fund number can be seen as a measure of venture capitalist reputation. In particular, we use VC_REP1, a dummy variable that takes on a value of one if the highest VC fund number is equal to or greater than 4, and zero otherwise, as our first measure of venture capital reputation.

Our second reputation measure is based on the amount a particular venture capitalist raised over the 10 years preceding a litigation announcement. This measure is similar to that used by Lerner (1994a, 1994b) and has been used by Chemmanur and Loutskina (2005).[8] In particular, we use fund-raising data from the SDC VentureXpert database to calculate each venture capitalist's share of the total amount raised by all venture capital funds. First, we find the parent venture firm (venture organization) for each venture capital fund that raised money over the 10 years preceding the litigation announcement. Second, we find the total amount raised by each venture capitalist. The resulting reputation measure, VC_REP2, is a dummy variable that takes on a value of one if any of the VCs that have invested in the firm (identified through SDC) are among the top 10 VCs in terms of fundraising over the 10 years preceding the litigation announcement.[9]

We measure VC monitoring intensity using several proxies. Gompers (1995) argues that the number of financing rounds can be seen as a measure of venture capitalists' monitoring intensity. First, a larger number of financing rounds indicates that venture capitalists have expended more effort in monitoring the firm. Second, the number of financing rounds is likely to be positively correlated with the venture capitalists' ownership of the firm's equity and their presence on the firm's board of directors.[10] Higher equity ownership and a larger number of board seats held by venture capitalists should lead to higher monitoring intensity. Therefore, our measure of VC monitoring

[8] Lerner's (1994a, 1994b) reputation measure is based on the ratio of funds under management to the total pool of venture capital under management in the year of investment.

[9] Our results are robust to using aggregate fundraising data over the preceding 5 years (instead of 10) and to defining the top 25 VCs (instead of the top 10) as being reputable.

[10] Lerner (1994b) reports that VC ownership is increasing with financing rounds, while Lerner (1995) shows that the number of VCs on the board of directors is increasing with the number of financing rounds.

intensity, LNNUM, is defined as the natural logarithm of the number of pre-litigation financing rounds. The higher the number of VC financing rounds, the higher the monitoring intensity.

For the sub-sample of publicly traded VC-backed firms we employ two additional measures of VC monitoring intensity that have been widely used in the literature (see, e.g., Lerner, 1995; Baker and Gompers, 2003; and Hochberg, 2004). First, we use VC_OWN, defined as the percentage of venture capitalists' ownership in the firm after its IPO, as another proxy for venture capitalists' monitoring intensity. Second, we use VC_CONTROL, defined as the percentage of board seats held by VCs after the IPO. Both of these measures indicate a higher monitoring intensity.

Finally, as shown by Gompers (1995), firms that are subject to greater potential agency costs (as measured by accounting and market value based measures) have a shorter time between financing rounds. Since venture capitalists are likely to have better information about the potential agency costs inherent in their portfolio company, this information should be reflected in the frequency with which VCs reassess their continued investment in the firm. In other words, the time between financing rounds should provide information about potential agency costs over and above that provided by accounting and market value based measures of agency costs (we discuss these measures in the next section). We therefore use LNTIME, defined as the natural logarithm of the number of days between the last two pre-litigation financing rounds, as a measure of the VCs' implied agency costs. The longer the time between two financing rounds, the less frequently venture capitalists reassess the firm, and the lower the implied agency costs.

4.2.2. Control variables

In the regressions reported in Section 5 we use various control variables derived from both the financial and legal literature in the field. Since our sample includes two types of sued venture-backed firms, namely private and public ones, we control for the potential differences between them using a dummy variable, STAT_PRIV, that takes on a value of one if the company is private, and zero otherwise.

Since firm-level data for private firms is not available, we follow Gompers (1995) and use industry-level control variables as proxies for firm-level characteristics. We assign firms to industry sectors by using the Standard Industrial Classification (SIC) System. While SIC codes for publicly traded firms can be obtained from COMPUSTAT, they are not easily available for private firms. To overcome this problem, we use the following procedure. We first check Dun & Bradstreet's *(D&B) Million Dollar Directory.* If a firm is not included in that database, we collect its major and minor industry subgroup from VentureXpert and identify the corresponding SIC code through the U.S. Department of Labor SIC System Search (http://www.osha.gov/pls/imis/sicsearch.html). Finally, unclear cases are verified by checking company websites. If there are less than five firms with the same 4-digit SIC code available on COMPUSTAT we use firms with the same 3-digit SIC code to calculate industry averages. For firms with more than one SIC code, we calculate an equally-weighted average of the industry averages. All values are calculated for the year when the lawsuit was filed.

In particular, we use the following industry-level control variables. First, we control for asset tangibility using TANGIB, defined as the industry ratio of tangible assets (COMPUSTAT item 6 minus COMPUSTAT item 33) to total assets

(COMPUSTAT item 6). Since firms with a larger percentage of tangible assets are more liquid than firms with a smaller percentage of tangible assets, they can be considered less risky. In addition, firms with more tangible assets are expected to have a higher liquidation value, increasing the plaintiffs' likelihood of recovering their losses.

Second, we control for industry growth opportunities using a market-to-book ratio, MB, defined as the ratio of the product of stock price (COMPUSTAT item 199) and shares outstanding (COMPUSTAT item 25) to the book value of equity (COMPUSTAT item 60). Myers (1977) suggests that a firm's market-to-book ratio may be related to the fraction of firm value that is comprised of future growth opportunities. Entrepreneurs have more discretion to invest in personally beneficial strategies at shareholders' expense in industries where firm value is largely dependent upon future growth opportunities. Firms with high market-to-book ratios are also more susceptible to agency costs of equity, thus increasing the likelihood of litigation.

Third, we use RD1 (an industry ratio of R&D expenses to sales) and RD2 (an industry ratio of R&D expenses to total assets) to control for research intensity. RD1 is calculated as a ratio of research and development expenses (COMPUSTAT item 46) to sales (COMPUSTAT item 12). RD2 is calculated as a ratio of research and development expenses (COMPUSTAT item 46) to total assets (COMPUSTAT item 6). We replace missing values of R&D expenses with zeros. Gompers (1995) argues that industries with higher levels of R&D intensity are subject to greater discretionary investment by managers and therefore have a higher risk associated with firm- and industry-specific assets. On one hand, theses factors increase a firm's expected agency costs and its likelihood of litigation. On the other hand, firm- and industry-specific assets may have a

lower liquidation value, decreasing the likelihood that the plaintiffs will be able to recover their losses and therefore lowering the likelihood of litigation.

4.3. Matching procedure

We match each sued venture-backed firm with a non-sued venture-backed firm using the following matching procedure. First, for each sued firm we identify all non-sued venture-backed firms in the same industry (using VentureXpert's industry definitions). Second, out of these industry-matched firms we choose firms that are founded within a year of the sued firm. Finally, out of these industry-and-age matched firms we choose a firm that is closest to the sued firm in terms of the total amount invested in the firm (this proxies for the firm size). Following this matching procedure, we get our final sample of 70 firms.

In Table 2, we provide summary statistics and a correlation matrix for our key independent variables.

*** Insert Table 2 about here ***

Due to some high correlation coefficients among the variables, potential multicollinearity problems may arise if we include them simultaneously in our regression models. To circumvent this issue, we provide regression results for various model specifications in our subsequent analyses.

5. Empirical tests and results

In this section, we discuss the empirical methodology used to test the hypotheses developed in Section 3, and report our results. In Section 5.1, we discuss a series of univariate tests designed to assess the differences in venture capitalist reputation, monitoring intensity, and implied agency costs between sued and non-sued firms. We describe the testing methodology and report results for our multivariate tests in Sections 5.2 to 5.4. In Section 5.5 we discuss the event study methodology used to assess the market reaction around a lawsuit announcement and present related results. Finally, in Section 5.6, we discuss our tests regarding the consequences of venture capitalist litigation.

5.1. Univariate tests

Results of our univariate tests are reported in Table 3. We examine the differences in various firm and venture capitalist characteristics between sued and matched (non-sued) firms. For matched non-sued firms we use the lawsuit date of the corresponding sued firm.

*** Insert Table 3 about here ***

We find that 37.1% of venture capitalists that had invested in the sued firms were among the top 10 VCs in terms of fundraising over the 10 years preceding the lawsuit announcement (VC_REP2), while the corresponding number for the non-sued firms is 17.1%. The difference in VC_REP2 between sued and matched firms is statistically significant at the 10% level. This indicates that firms with more reputable venture capitalists are more likely to be sued than are firms with less reputable venture capitalists. While unexpected, this result may stem from reputable venture capitalists having deeper

pockets (see Alexander, 1991, and Turtle and Walker, 2005, who argue that – irrespective of the merits of a given case – plaintiffs preferentially seek out wealthy defendants in hopes of extracting larger settlement amounts). At the same time we find no statistically significant differences in venture capitalist reputation as measured by VC_REP1.

An alternative explanation for the above result could stem from the fact that more reputable venture capitalists are more likely to bring their portfolio companies public. If more successful companies (i.e., those that have gone public) are more likely to be sued, then we may observe the above positive relationship between VC reputation and likelihood of litigation. In fact, as reported in Table 3, we find that sued firms are less likely to be private (STAT_PRIV) than are matched firms. In particular, 31.4% of sued firms are private, while 82.9% of matched firms are private.[11] This difference is statistically significant at the 1% level.

We also find a significant difference in monitoring intensity between sued and matched firms. Before the lawsuit the average (median) sued firm has received 3.13 (4) rounds of venture financing, while the average (median) matched firm has received 4.37 (5) financing rounds. The mean and median differences are both significant at the 10% level.

Finally, we find that 22.9% of sued firms receive post-litigation VC financing, while 45.7% of matched (non-sued) firms continue to receive VC financing (POSTLIT) after the litigation date.[12] The mean and median differences are statistically significant at the 5% level. This result indicates that sued firms are less likely to obtain financing from

[11] A higher likelihood of litigation against public firms could also stem from the fact that such firms are more likely to have a larger number of outside investors, relative to private firms.

[12] To identify the post-litigation period for a matched firm, we use the litigation announcement date of the corresponding sued firm.

venture capitalists than are non-sued firms. In line with hypothesis 3, this would suggest that the majority of lawsuits in our sample are merited causing VCs to shy away from these firms in the future.

5.2. Venture capitalists' litigation risk

To test the relationship between venture capitalist reputation and their monitoring intensity on the one hand, and litigation likelihood on the other, we run the following logit regression:

$$SUED_i = \beta_0 + \beta_1 VC\_REP1_i + \beta_2 VC\_REP2_i + \beta_3 LNTIME_i + \beta_4 LNNUM_i + \beta_5 STAT\_PRIV_i + \\ + \beta_6 TANGIB_i + \beta_7 MB_i + \beta_8 RD_i + \varepsilon_i, \quad (1)$$

where the dependent variable, SUED, takes on a value of one if a venture capitalist is named as a co-defendant in a lawsuit against the firm in which he has invested, and zero otherwise. Due to potential multicollinearity, we use the three control variables (TANGIB, MB, and RD) interchangeably. In addition, we also use (interchangeably) two definitions of RD, namely, the industry ratio of R&D expenditures to sales (RD1) and the industry ratio of R&D expenditures to total assets (RD2). Finally, since, as can be seen from Panel B of Table 2, LNTIME and LNNUM are correlated, we use these two variables interchangeably. Thus, we estimate 8 different specifications of Eq. (1).

We expect the coefficients of VC_REP1 and VC_REP2 to be negative and significant implying an inverse relationship between venture capitalists' reputation and the probability of a VC being named as a co-defendant. We also expect negative and significant coefficients of LNNUM and LNTIME, implying that the likelihood of litigation is decreasing with venture capitalists' monitoring intensity and implied agency costs.

*** Insert Table 4 about here ***

The results are reported in Table 4.[13] Our results show that the probability of VC litigation is increasing with VC reputation. In particular, we find that the coefficients of VC_REP2 are positive and significant at least at the 10% level for most specifications. These results, while consistent with the results of our univariate tests, are opposite of those expected. There are two possible explanations for our results. First, our findings are consistent with Alexander's (1991) deep pocket theory, according to which a defendant's deep pockets attract litigation. Our results, however, suggest that it is not only the defendant's deep pockets (as measured by the firm's public status), but also co-defendants' deep pockets (as measured by the money raised by the venture capitalists) that increase the likelihood of litigation. Second, consider a setting in which the litigation likelihood is driven by a trade-off between the potential settlement amount and litigation costs. In such a setting, it could be possible for plaintiffs to have a reasonably strong case and yet not to file a lawsuit if the potential settlement is low relative to plaintiffs' legal expenses. In such a setting, the expected settlement becomes a crucial determinant of litigation risk even if the lawsuit is merited and plaintiffs are not going after the defendants' and co-defendants' deep pockets.

We also find that the likelihood of venture capitalist litigation is decreasing with the VCs' monitoring intensity. The coefficients of LNNUM are negative and significant at the 1% level in all four specifications (regressions 1 to 4). Finally, we find that private firms are less likely to be sued: the coefficients of STAT_PRIV are negative and highly significant at the 1% level in all specifications.

[13] The sample size in regressions 5 to 8 is lower because we need at least two pre-litigation financing rounds to calculate LNTIME. Ten firms in our sample (8 sued firms and 2 matched firms) received only one round of financing, thus they are excluded.

Our results are also economically significant. For an average firm, the presence of a reputable venture capitalist (as measured by VC_REP2) increases the probability of being sued by between 31.59% and 35.17%, depending on the specification used. Similarly, a one standard deviation increase in LNNUM causes approximately a 7% decline in the probability of being sued. Also, there is an economically significant negative relationship between STAT_PRIV and the VCs' litigation risk: the probability of litigation against an average private firm is between 41.51% and 57.67% lower than the probability of litigation against an average public firm.

5.3. The likelihood of lawsuit dismissal

In this section we study the determinants of a lawsuit dismissal. We first examine the univariate differences in means and medians of our measures of venture capitalist reputation, their monitoring intensity, and implied agency costs. We are able to identify the outcome of 20 cases, of which 10 were dismissed, 7 settled, and 3 in which there was a judgment. In the results reported below, we exclude the three cases where the outcome of the litigation was a judgment, leaving us with a sample of dismissed and settled cases.[14]

The results of these tests are reported in Panel A of Table 5. We find a statistically significant difference in venture capitalist reputation between lawsuits that were dismissed and those that were settled. In particular, 71.4% of firms that settled their lawsuits had reputable venture capitalists, while the corresponding number for firms that had their lawsuits dismissed is 10%. The difference is significant at the 1% level. This

[14] Including these cases does not qualitatively change our results.

result, while unexpected, is consistent with our previous finding that more reputable venture capitalists are more likely to be sued. At the same time, we find no differences in the venture capitalists' monitoring intensity and implied agency costs between the firms that settled and those that had their lawsuits dismissed.

To gain a deeper understanding of the relationship between litigation dismissal on the one hand, and venture capitalist reputation, monitoring intensity, and implied agency costs on the other, we run the following logit regression:

$$DISMISS_i = \beta_0 + \beta_1 VC\_REP1_i + \beta_2 VC\_REP2_i + \beta_3 LNNUM_i + \beta_4 TANGIB_i + \beta_5 MB_i + \beta_6 RD_i + \varepsilon_i, \quad (2)$$

where the dependent variable, DISMISS, takes on a value of one if the lawsuit was dismissed, and zero if it was settled. As before, we use the three control variables (TANGIB, MB, and RD) interchangeably and use two measures of R&D intensity. Due to a smaller sample size and potential multicollinearity, we use VC_REP1, VC_REP2, and LNNUM one at a time (rather than all in the same regression).[15]

We expect the coefficients of our measures of venture capitalist reputation (VC_REP1 and VC_REP2) and the number of pre-litigation financing rounds (LNNUM) to be positive indicating that the likelihood of lawsuit dismissal is increasing with venture capitalist reputation and monitoring intensity.

*** Insert Table 5 about here ***

The results are reported in Panel B of Table 5. We find that the likelihood of lawsuit dismissal is decreasing with the venture capitalist reputation. The coefficients of VC_REP2 are negative and statistically significant at the 5% level in most specifications. This impact is also economically significant. For an average firm, the presence of a

[15] We do not report the results with LNTIME since the sample size for these regressions would be only 11.

reputable venture capitalist (as measured by VC_REP2) decreases the likelihood of lawsuit dismissal by 63.29% to 71.24%, depending on the model specification.

5.4. The likelihood of post-litigation VC financing

We examine the venture capitalists' perception of the merits of litigation by studying the relationship between the likelihood of post-litigation financing and various VC characteristics. We estimate the following logit regression model:

$$POSTLIT_i = \beta_0 + \beta_1 SUED_i + \beta_2 VC\_REP1_i + \beta_3 VC\_REP2_i + \beta_4 LNNUM_i + \beta_5 LNTIME_i + \beta_6 STAT\_PRIV_i + \beta_7 TANGIB_i + \beta_8 MB_i + \beta_9 RD_i + \varepsilon_i, \quad (3)$$

where the dependent variable, POSTLIT, takes on a value of one if a firm receives financing from VCs after the lawsuit, and zero otherwise. As before, we use the three control variables (TANGIB, MB, and RD) interchangeably and use two measures of R&D intensity. Finally, since LNTIME and LNNUM are correlated, we use these two variables interchangeably. Thus, we estimate 8 different specifications of Eq. (3).

If venture capitalists perceive a lawsuit as unmerited (and therefore unlikely to have a significant impact on the firm's reputation and future performance), we expect them to continue providing the firm with additional funding, implying an insignificant coefficient on SUED. That is, in the case of an unmerited lawsuit we expect to observe no difference in the likelihood of receiving post-litigation financing between sued and matched (non-sued) firms. In the case of a merited lawsuit, however, we expect a negative coefficient of SUED, implying a lower likelihood of continued VC funding for sued firms. Further, we also expect positive coefficients of VC_REP1, VC_REP2, and LNNUM, implying a higher likelihood of post-litigation financing of firms backed by more reputable venture capitalists and those more closely monitored by them. Finally, we

expect the coefficient of LNTIME to be positive, reflecting the hypothesized negative relationship between continued VC financing and implied agency costs.

*** Insert Table 6 about here ***

The results are reported in Table 6. In Panel A we report the results for the sample of sued and matched firms. We find that, after controlling for other firm- and industry-specific characteristics, there is no difference in the likelihood of post-litigation VC financing between sued and matched firms. The coefficients of SUED are statistically insignificant in all specifications reported in Panel A of Table 6. Nevertheless, they are economically significant. In particular, the probability of receiving post-litigation financing for sued firms is by 12.19% to 25.29% lower than for non-sued firms, depending on the regression specification. [16]

At the same time, we find some evidence that more reputable VCs (as measured by VC_REP1) are more likely to provide future financing. This finding, however, holds only for the sub-sample for which we could calculate LNTIME (regressions 5 to 8). Finally, we find that the likelihood of receiving post-litigation financing is decreasing with implied agency costs. The coefficient of LNTIME is positive and significant at the 1% level, implying that firms with a longer time between the last two pre-litigation financing rounds (and therefore lower implied agency costs) are more likely to continue receiving venture capital financing after the litigation.

In Panel B we estimate the same regressions as in Panel A but only for the sample of sued firms. As before, we find that the likelihood of receiving post-litigation financing

[16] While our results could be driven by the fact that sued firms are mostly public, making them less likely to continue receiving VC financing, we control for private versus public status by including STAT_PRIV as a control variable in our regression models. We also replicated the results reported in Table 6 using the subsample of private firms; the results were qualitatively unchanged.

is decreasing with implied agency costs (LNTIME). In addition, we find some evidence that for sued firms the likelihood of post-litigation financing is increasing with VCs' monitoring intensity (LNNUM). Our results are also economically significant. A one standard deviation increase in LNTIME increases the likelihood of post-litigation financing by between 14.22% and 44.98%, depending on the model specification. Similarly, a one standard deviation increase in LNNUM increases the likelihood of post-litigation financing by between 3.07% and 6.22%.

5.5. Determinants of abnormal returns around litigation announcements

In this section we use event study methodology to measure the abnormal stock price performance around the lawsuit announcements. In Section 5.5.1 we describe the event study methodology employed. In Section 5.5.2 we report the results of our univariate tests, while in Section 5.5.3 we describe our multivariate tests and report their results.

5.5.1. Event study methodology

Event study methodology measures the abnormal return of a stock as the difference between the *actual return* and the *expected return*, around the time of an event. Event studies draw on the efficient market hypothesis of Fama (1970, 1991) which states that capital markets are efficient in processing information by establishing a correct new stock price equilibrium as soon as new information about a firm becomes available. The logic underlying the hypothesis is the belief that investors in capital markets process publicly available information on firm activities and external events influencing a firm,

and that they consider not just the impact on current performance but also on the performance of the firm in future periods. When additional information becomes available, the firm's stock price should change rapidly and should reflect investors' revised consensus of the firm's future profitability.

The strength of the method lies in the fact that it captures the overall assessment by a large number of investors of the discounted value of current and future firm performance attributable to individual events, which are reflected in the stock price and the market value of the firm. Changes in investors' beliefs regarding the future profitability of a firm are reflected in abnormal returns – risk adjusted returns in excess of the firm's expected return – following the litigation announcement. Abnormal returns thus provide a unique means of associating the impact of a litigation announcement on the firm's expected profitability in future periods.

To calculate the effect of an event, it is necessary to estimate what the price of the stock would have been had the event not occurred. To do this, and to control for overall market effects, the price of the stock is regressed against a market index. The estimated coefficients from that regression are used to calculate the predicted value of the stock over the time window in which the stock price is adjusted. This yields the regression:

$$R_{s,t} = \beta_0 + \beta_1 R_{m,t} + \varepsilon_{s,t} \qquad (4)$$

where $R_{s,t}$ is the return of stock s at time t: $R_{s,t} = (\text{Price}_{s,t} - \text{Price}_{s,t-1})/\text{Price}_{s,t-1}$. If the firm paid a dividend during our event window, it is included in our return calculations. The subscript t indicates time, the subscript s indicates a specific stock, and the subscript m indicates the market. The $\varepsilon_{s,t}$ is a random error term for stock s at time t, and the β's are

coefficients to be estimated. For this study, we use the CRSP value-weighted market index to proxy for the market.

The litigation announcement date is denoted as date 0. To estimate the expected return we use data for 125 trading days (approximately six months) ending on the 21st day before the litigation announcement.[17]

We use the coefficient estimates from Eq. (4) to predict the expected return over various windows surrounding the event. To estimate the abnormal return of a stock on day t, we follow Brown and Warner (1985) and subtract the expected return on the stock from its actual return on that day:

$$AR_{s,t} = R_{s,t} - (\beta_0 + \beta_i R_{m,t}) \tag{5}$$

The coefficients β_0 and β_1 are estimates of the true parameters obtained via ordinary least squares (OLS) regression. The abnormal returns are simply the prediction errors of the model over the event window. Notice here that AR are abnormal returns; that is, they are returns over and above the return predicted by general market trends on a given day. The assumption of the methodology is that the abnormal returns are the result of the announcement and not some other random event occurring on the same day. The standard errors are calculated by the formula defined by Judge et al. (1988).

$$\text{var}(AR_{s,\tau}) = \left(S_S^2 \left[1 + \frac{1}{T} + \frac{(R_{m,t} - R_M)^2}{\sum_{t=1}^{T} (R_{m,t} - R_M)^2} \right] \right) \tag{6}$$

[17] Since the estimation period overlaps with the class action period (during which the crimes were committed and the stock price dropped), one can argue that the beta estimate is underestimated and therefore unreliable. This, however, is likely to bias the results against us as it would lead to an underestimation of the expected returns and overestimation (in absolute terms) of abnormal returns.

where S_S^2 is the variance of the error from the estimation model, R_m is the average market return over the prediction interval, and T represents the number of days in the estimation interval. The τ indicates observations within the event window, while the t indicates observations in the estimation interval. Notice, then, that the standard error on any given day τ of the prediction interval is a function of how much the actual market return on that day deviates from the mean market return during the estimation interval. Thus, on days on which the market return is very different from the expected market return the standard errors of abnormal returns are greater. Notice also that the standard error depends on the length of the estimation interval, such that longer estimation intervals lead to lower standard errors.

Under the assumption that the returns on each day are independent, the standard errors are cumulative, so the proper standard error is the cumulative standard error. This is due to the fact that adding independent normal variables requires adding the standard errors. Thus, we have the following equations to describe a firm's cumulative abnormal return (CAR), and the variance of the cumulative abnormal returns, var(CAR):

$$CAR_{s,t} = \sum_{i=0}^{\tau} AR_{s,i} \tag{7}$$

and

$$\text{var}(CAR_{s,\tau}) = \sum_{i=0}^{\tau} \text{var}(AR_{s,i}) \tag{8}$$

From these equations we can calculate the average CAR across all firms and the variance of the CARs. The resulting equations are:

$$\overline{CAR_\tau} = \frac{1}{N}\sum_{s=1}^{N} CAR_{s,\tau} \tag{9}$$

and

$$\text{var}\left(\overline{CAR_\tau}\right) = \frac{1}{N^2}\sum_{s=1}^{N} \text{var}\left(CAR_{s,\tau}\right) \tag{10}$$

To test the hypothesis that the mean CAR is different from zero on any given day, then, one would use a Student's t test, which under the hypothesis of zero returns, is of the form:

$$t = \frac{\overline{CAR_\tau}}{\sqrt{\text{var}\left(\overline{CAR_\tau}\right)}} \sim t_{(\alpha, df=N-1)} \tag{11}$$

The null hypothesis to be tested is that the mean excess return during our event windows is equal to zero. In addition, because t-tests are based on strong assumptions about the underlying return distribution, we use a Wilcoxon signed rank test (a non-parametric test) to ensure the robustness of our results. In a Wilcoxon test, both the sign and the magnitude of the abnormal performance are taken into consideration when calculating the test statistic.

5.5.2. Univariate tests and results

In this section we report the results of a series of univariate tests regarding the relationship between abnormal returns around a litigation announcement on the one hand,

and venture capitalist reputation, their monitoring intensity, and implied agency costs on the other.[18]

*** Insert Table 7 about here ***

Table 7 presents mean and median cumulative abnormal returns (CARs) for various event windows around the lawsuit announcement date (denoted as date 0). In particular, we observe that there is a significant stock price decline of 5.9 percent over the seven trading days starting on day 0 (event window (0, 7)) and 6.2 percent over the ten trading days starting on day 0 (event window (0, 10)). After the first 10 trading days following the litigation announcement there seems to be a mean reversion as CARs are increasing with the length of the event window. We also find some evidence of information leakage before the litigation announcement. For example, the median CAR for the (–10, 10) event window is –9.7%, while the median CAR for the (0, 10) event window is –6.9%, implying a 2.8% price drop over the 10 trading days preceding the litigation announcement. Finally, we find that over the 270 trading days starting on the 20th day before the litigation announcement for the median (average) sued firm there is a 16.8% (3.3%) decline in the stock price. While this result is not statistically significant, the economic magnitude of it (especially the median, which, given the small sample size, is more reliable) seems to indicate that there is a long-term reputational penalty for the venture-backed sued firms.

To gain additional insights into the stock price behavior of sued firms, we plot median CARs for a period from 20 trading days before to 250 trading days after a lawsuit announcement in Figure 1. While there appear to be some temporary price drops around

[18] For the tests reported in these tables, we lost one observation because one of the sample companies got delisted before the litigation announcement date.

the litigation announcement date, the permanent price drop seems to start between 60 to 70 trading days after the litigation announcement. This pattern of mean reversion and delayed permanent market reaction could be a reflection of the market's uncertainty about the merits and potential damages of the litigation.

*** Insert Table 8 about here ***

In Table 8, we examine the univariate differences in CARs for different levels of VC reputation and VC ownership. We find that the market reaction is more negative when a firm is backed by more reputable venture capitalists. These results are more pronounced and significant when venture capitalist reputation is measured based on their fundraising in the 10 years preceding the litigation announcement (VC_REP2). The median difference in CARs between high and low reputation VCs varies from 6.8% for the (0, 1) window to 29.6% for the (–7, 7) event window. Most of this difference appears to be driven by price declines that occur prior to the litigation announcement. This is confirmed in Figures 2 and 3, where we plot CARs for the subsamples of high and low reputation venture capitalists. In Figure 2 the VC reputation is based on VC_REP1, while in Figure 3 it is based on VC_REP2. These figures reveal an interesting pattern. There appears to be no market reaction for firms backed by less reputable venture capitalists: the CARs fluctuate around zero for about 140 trading days after the litigation announcement, then fall to a low of about –30% before recovering to around –5% by the 250th trading day after the litigation announcement. At the same time, there is a sustained price decline for the firms backed by more reputable venture capitalists which starts before the litigation announcement, reaches a low of around –40%, and then recovers to around –20% by the 250th trading day after the announcement.

The higher price decline for firms backed by more reputable venture capitalists while puzzling, is consistent with Alexander's (1991) deep pocket theory. It is conceivable, however, that firms backed by more reputable venture capitalists could experience a bigger price decline upon the litigation announcement if litigation against such firms is less likely to be expected and therefore less likely to be incorporated in the stock price. In other words, on the 20th trading day before the announcement, the stock price of firms backed by less reputable venture capitalists may already reflect the probability of such a litigation, while the stock price of firms backed by more reputable venture capitalists does not.

Finally, we report results for a series of univariate tests of differences in CARs for different levels of VC ownership. We find a negative relationship between venture capitalist ownership and abnormal returns upon the litigation announcement. In particular, firms with above median holdings by venture capitalists have lower CARs over most event windows. While the results are statistically largely insignificant (potentially due to the small sample size), the differences are economically meaningful. The median differences range from –2.8% to 20.2% for the event windows ending on or before the 20th day after the litigation announcement. This result seems to suggest that higher ownership by VCs leads to a more negative short-term market reaction upon the litigation announcement, potentially reflecting the fact that lawsuits against firms with significant VC ownership are less likely to be expected and therefore incorporated in the stock price before the litigation announcement.

5.5.3. Multivariate tests and results

In this section we examine the short-term and long-term consequences of litigation for the venture-backed firms in a regression framework. In particular, we run the following ordinary least squares (OLS) regression:

$$CAR_i = \beta_0 + \beta_1 VC\_CONTROL_i + \beta_2 VC\_OWN_i + \beta_3 VC\_REP1_i + \beta_4 VC\_REP2_i + \beta_5 LNAGE_i + \beta_6 LNSIZE_i + \varepsilon_i, \quad (12)$$

where the dependent variable is the cumulative abnormal return (CAR), calculated over various event windows reported in Table 7. Since in this section we examine the sub-sample of public venture-backed firms, we use firm-level control variables (instead of industry-level ones used in previous regressions). In particular, we use LNAGE, defined as the natural logarithm of the number of years between the IPO firms' founding date and the litigation date, and LNSIZE, defined as the natural logarithm of the IPO firm's market capitalization on the 20th trading day before the litigation date. It is argued that older and larger firms are more established and reputable than younger and smaller firms, implying a lower level of asymmetric information. We, therefore, expect the older and larger firms to experience a smaller market price decline upon the litigation announcement. On the other hand, however, such firms are more likely to attract litigation due to their deep pockets.

We expect the coefficients of our measures of venture capital reputation (VC_REP1 and VC_REP2) as well as those of the two measures of venture capitalists' monitoring intensity (VC_CONTROL and VC_OWN) to be positive, implying a smaller market price decline upon the litigation announcement.

*** Insert Table 9 about here ***

The results are reported in Table 9.[19] We find that firms backed by more reputable venture capitalists (as measured by VC_REP2) experience a more negative market reaction upon the litigation announcement than do firms backed by less reputable venture capitalists. The coefficient of VC_REP2 is negative and significant at the 1% level for most regressions with short-term CARs (i.e., for event windows ending on or before the 20th trading day after the litigation announcement) as dependent variables. The results indicate that firms backed by more reputable venture capitalists (as measured by VC_REP2) experience between a 13.8% and 55.2% (depending upon the event window) larger price decline than do firms backed by less reputable venture capitalists. This result could stem from the fact that lawsuits against more reputable venture capitalists are less likely to be expected and therefore the probability of litigation is less likely to have been incorporated in the stock price before the litigation announcement.

We also find a significantly negative relationship between LNAGE and CARs, indicating that older firms have a larger negative market reaction around the litigation announcement.[20] Finally, we do not find any statistically or economically significant results for long-term event windows, indicating no long-term (permanent) relationship between the market's perception of litigation on the one hand, and venture capitalist reputation and monitoring intensity on the other.

5.6. Determinants of VCs' post-litigation fundraising ability

[19] We are not able to obtain prospectuses for four firms in this sub-sample and therefore are unable to calculate VC_OWN and VC_CONTROL for these firms, reducing our sample to 19. In addition, two of our sample companies are delisted less than 125 trading days after the litigation announcement, further reducing the sample size.

[20] We also ran the above regressions with LNNUM and LNTIME as independent variables. While this increased our sample size, the results remained qualitatively unchanged.

In this section we examine the long term impact of being named a co-defendant on the affected venture capitalists' reputation. In particular, we calculate the following measures of a venture capitalist's place in the fundraising hierarchy. RANK_10 (RANK_25) is a dummy variable that takes on a value of one if any of the venture capitalist firms named as co-defendants ranked among the top 10 (top 25) VC firms in terms of total funds raised during the three years before/after a lawsuit announcement, and zero otherwise. Gompers (1996) argues that the relationship between reputation and capital raised is consistent with industry wisdom. Venture capitalists with established reputations raise large funds quickly and with little effort. Therefore, we expect a reputation loss for venture capitalists that are named as co-defendants to be reflected in their ability to raise new funds after the litigation.

*** Insert Table 10 about here ***

The results are reported in Table 10. In Panel A, we employ the subset of 35 firms that were sued and compare the ranking of their VCs in the three years before and after the lawsuit.[21] We find that in the three years before the litigation announcement 27.6% (48.3%) of VCs in sued firms were among the top 10 (top 25) VCs in terms of fundraising, while in the three years after the lawsuit the corresponding values are 6.9% (24.1%). The mean and median differences are statistically significant at the 5% level, implying that there is indeed a reputational penalty for venture capitalists that were named as co-defendants.

In Panel B and C, we compare sued firms to the matched (non-sued) firms during the 3 years before and after the lawsuit announcement, respectively. Over the three years

[21] The sample size for these tests has decreased to 29 observations because we require at least three years of post-litigation VC fundraising data and therefore can only use lawsuits filed before 2002.

before the litigation announcement (Panel B), 27.6% (48.3%) of VCs of sued firms were among the top 10 (top 25) VCs, while only 6.9% (10.3%) of VCs of matched firms were in this category. This difference is statistically significant at the 5% level for RANK_10 and at the 1% level for RANK_25. Over the three years after the litigation announcement (Panel C), however, 6.9% (24.1%) of VCs of sued firms were among the top 10 (top 25) VCs, while 13.8% (24.1%) of VCs of matched firms were in this category. The differences are statistically insignificant. In other words, while the reputation of sued firms' VCs declined after the litigation, the reputation of matched firm VCs increased, eroding the pre-litigation difference in their reputations. Thus, our results indicate that venture capitalists do indeed suffer a decline in their reputation, as reflected in their ability to raise money for subsequent funds.

6. Conclusions

We find that firms backed by more reputable venture capitalists are more likely to be sued than firms backed by less reputable VCs. This finding could suggest three things. First, it could suggest that firms backed by more reputable venture capitalists are more likely to engage in actions that could result in a lawsuit. Second, this result is also consistent with a "deep pocket theory", according to which a defendant's deep pockets attract litigation (see, e.g., Alexander, 1991). Our finding, however, seems to suggest that it is not only the defendant's but also the co-defendant's deep pockets that attract litigation. Third, our finding could stem from the existence of fixed litigation costs. In particular, if the probability of recovering damages is low, it is possible that the expected settlement amount (potential damages times the probability of recovery) falls short of the

fixed litigation costs. In such a case plaintiffs may be unwilling to file a private lawsuit even if they have a legitimate ground to sue the firm. Consequently, we would observe lawsuits that are filed against only those firms that have committed offenses and for which the probability of recovering damages is sufficiently high. To the extent that venture capital reputation is positively related to the quality of the venture-backed firm (and therefore the expected settlement amount), it is possible that, conditional on filing a lawsuit, we are likely to observe more lawsuits against more reputable venture capitalists even when the unconditional probability is lower.

While we are not able to distinguish between the three explanations offered above, our findings of a positive relationship between venture capitalist reputation and the likelihood of settling the lawsuit seems to indicate that the lawsuits are merited and not driven by defendants' and co-defendants' deep pockets alone. Further support for this is given by our findings of a lower likelihood of post-litigation venture capitalist investments in the firm and of a decrease in venture capitalist reputation (as measured by the rank in the fundraising hierarchy) after the litigation.

Finally, we find that VC monitoring activities influence both the likelihood and merits of litigation. In particular, VC monitoring intensity is negatively related to the probability of venture capital litigation and positively related to the probability of continued venture capital financing after the litigation. Also, implied agency costs (as reflected in the time between the last two pre-litigation financing rounds) are negatively related to the likelihood of post-litigation VC financing.

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Appendix I: Variable definitions

Variable	Data Sources	Description
SUED	PACER	a dummy variable which takes on a value of one if the firm was sued between 1985 and 2004 and at least one venture capitalist (VC) firm was named as co-defendant, and zero otherwise, constructed using litigation data from the U.S. Department of Justice *Public Access to Court Electronic Records* (PACER) database
VC_REP1	SDC	a measure of VC reputation, defined as a dummy variable that takes on a value of one if the highest VC fund number is equal to or greater than 4, and zero otherwise
VC_REP2	VentureXpert	a measure of VC reputation, defined as a dummy variable that takes on a value of one if any of the VCs ranked among the top 10 VC firms in terms of total funds raised during the prior 10 years, and zero otherwise
LNNUM	SDC	the natural logarithm of the number of venture capital financing rounds
LNTIME	SDC	the natural logarithm of the number of days between the last two pre-litigation financing rounds
VC_OWN	Prospectuses	the percentage of venture capitalists' ownership in the firm after its IPO
VC_CONTROL	Prospectuses	the percentage of board positions held by VCs after the IPO
STAT_PRIV	VentureXpert	a dummy variable that takes on a value of one if the venture-backed firm is private, and zero otherwise
TANGIB	COMPUSTAT	an industry average ratio of tangible assets to total assets for companies in the firm's industry
MB	COMPUSTAT	an industry average ratio of the market value of equity to the book value of equity
RD1	COMPUSTAT	an industry average ratio of R&D expenditures to sales
RD2	COMPUSTAT	an industry average ratio of R&D expenditures to assets
POSTLIT	SDC	a dummy variable that takes on a value of one if a firm receives post-litigation financing from VCs after the lawsuit, and zero otherwise
LNAGE	VentureXpert	the natural logarithm of the number of years between the IPO firms' founding date and the litigation date
LNSIZE	CRSP	the natural logarithm of the IPO firms' market capitalization on the twentieth day prior to the litigation date
RANK_10	VentureXpert	a dummy variable that takes on a value of one if a venture capitalist ranked among the top 10 VC firms in terms of total funds raised during a period of three years before/after a lawsuit announcement, and zero otherwise
RANK_25	VentureXpert	a dummy variable that takes on a value of one if a venture capitalist ranked among the top 25 VC firms in terms of total funds raised during a period of three years before/after a lawsuit announcement, and zero otherwise

Table 1: Classification of litigation cases

Our sample consists of 35 litigation cases filed between 1985 and 2004 against venture-backed firms in which at least one venture capitalist (VC) is named as co-defendant. Our litigation dataset is based on information retrieved from the U.S. Department of Justice *Public Access to Court Electronic Records* (PACER) database (http://pacer.psc.uscourts.gov). For each VC firm, we retrieve detailed information on its funding activities from VentureXpert. In addition, we access the Securities Data Company's (SDC) New Issues database to identify and collect information for venture-backed firms that went public during our sample period.

Year	Public	Private	Total
1985	0	3	3
1986	0	0	0
1987	0	0	0
1988	0	0	0
1989	0	0	0
1990	1	0	1
1991	1	1	2
1992	1	0	1
1993	4	1	5
1994	4	0	4
1995	1	0	1
1996	2	0	2
1997	2	0	2
1998	2	0	2
1999	1	0	1
2000	2	0	2
2001	2	1	3
2002	1	3	4
2003	0	1	1
2004	0	1	1
Total	***24***	***11***	***35***

Table 2: Summary statistics and correlation analysis

Our sample consists of 35 lawsuits against venture-backed firms in which venture capitalists are named as co-defendants and 35 matched venture-backed firms that are not involved in any litigation during our sample period (between 1985 and 2004). The matched firms are selected to match the sued firms with respect to industry, venture financing (amount of financing received before the litigation announcement), and firm age. In Panel A, we present the minimum, mean, median, and maximum values as well as the standard deviations for all independent variables. Panel B presents Pearson correlation coefficients and corresponding t-statistics among each variable pair. VC_REP1 is a measure of VC reputation, defined as a dummy variable that takes on a value of one if the highest VC fund number is equal to or greater than 4, and zero otherwise. VC_REP2 represents an alternative reputation measure, defined as a dummy variable that takes on a value of one if any of the VCs ranked among the top 10 VC firms in terms of total funds raised during the prior 10 years, and zero otherwise. LNTIME is the natural logarithm of the number of days between the last two pre-litigation financing rounds. LNNUM is the natural logarithm of the number of pre-litigation venture capital financing rounds. STAT_PRIV is a dummy variable that takes on a value of one if the venture-backed firm is private, and zero otherwise. The tangibility of assets (TANGIB) is measured by the average ratio of tangible assets to total assets for companies in the firm's industry. Market-to-book (MB) is the average industry ratio of the market value of equity to the book value of equity. Research and development intensity is proxied for by the average industry ratios of R&D expenditures to sales (RD1) or R&D expenditures to assets (RD2).

Panel A: Summary statistics

	min	mean	median	max	std. dev.
VC_REP1	0.000	0.443	0.000	1.000	0.500
VC_REP2	0.000	0.271	0.000	1.000	0.448
LNTIME	3.401	5.762	5.869	9.548	1.056
LNNUM	0.000	1.308	1.386	2.639	0.741
STAT_PRIV	0.000	0.571	1.000	1.000	0.498
TANGIB	0.327	1.003	0.907	9.563	1.044
MB	1.334	3.698	3.303	10.469	1.785
RD1	0.000	0.060	0.035	0.404	0.084
RD2	0.000	0.043	0.024	0.148	0.045

Panel B: Correlation matrix

	VC_REP1	VC_REP2	LNTIME	LNNUM	STAT_PRIV	TANGIB	MB	RD1	RD2
VC_REP1	1.000								
VC_REP2	0.103	1.000							
	(0.85)								
LNTIME	-0.213	-0.014	1.000						
	(1.66)	(0.11)							
LNNUM	0.275	0.128	-0.375	1.000					
	(2.36)	(1.06)	(3.08)						
STAT_PRIV	0.133	-0.121	-0.168	0.073	1.000				
	(1.10)	(1.00)	(1.30)	(0.61)					
TANGIB	-0.100	0.216	-0.044	-0.214	-0.144	1.000			
	(0.83)	(1.82)	(0.33)	(1.80)	(1.20)				
MB	0.145	0.152	0.067	0.092	-0.048	-0.097	1.000		
	(1.21)	(1.27)	(0.51)	(0.76)	(0.39)	(0.80)			
RD1	0.328	0.240	-0.080	0.142	-0.011	-0.072	0.458	1.000	
	(2.86)	(2.04)	(0.61)	(1.18)	(0.09)	(0.59)	(4.13)		
RD2	0.224	0.321	0.030	0.190	-0.121	-0.081	0.491	0.870	1.000
	(1.89)	(2.80)	(0.23)	(1.59)	(1.00)	(0.67)	(5.36)	(5.36)	

Table 3: Univariate tests

Our sample consists of 35 lawsuits against venture-backed firms in which venture capitalists are named as co-defendants and 35 matched venture-backed firms that were not involved in any litigation during our sample period (between 1985 and 2004). The matched firms are selected to match the sued firms with respect to industry, venture financing (amount of financing received before the litigation announcement), and firm age. We compare the characteristics of our subsample of sued firms with the matched sample of non-sued firms. For matched non-sued firms we use the lawsuit date of the corresponding sued firm in our analysis. For each variable, we report the mean and median. In the last two columns, we calculate the differences between the two groups and present t-statistics for a t-test of differences in means and z-values for a nonparametric Wilcoxon signed rank test of differences in medians. VC_REP1 is a measure of VC reputation, defined as a dummy variable that takes on a value of one if the highest VC fund number is equal to or greater than 4, and zero otherwise. VC_REP2 represents an alternative reputation measure, defined as a dummy variable that takes on a value of one if any of the VCs ranked among the top 10 VC firms in terms of total funds raised during the prior 10 years, and zero otherwise. LNTIME is the natural logarithm of the number of days between the last two pre-litigation financing rounds. LNNUM is the natural logarithm of the number of pre-litigation venture capital financing rounds. STAT_PRIV is a dummy variable that takes on a value of one if the venture-backed firm is private, and zero otherwise. POSTLIT is a dummy variable that takes on a value of one if a firm receives post-litigation financing from VCs , and zero otherwise. ***, **, and * indicate significance at the 1, 5, and 10 percent level, respectively.

	sued		matched		difference	
	mean	median	mean	median	mean	median
VC_REP1	0.429	0.000	0.457	0.000	-0.028	0.000
					(-0.24)	(-0.24)
VC_REP2	0.371	0.000	0.171	0.000	0.200	0.000
					(1.90)*	(1.87)*
LNTIME	5.957	6.059	5.603	5.501	0.354	0.558
					(1.30)	(1.61)
LNNUM	1.141	1.386	1.475	1.609	-0.334	-0.223
					(-1.93)*	(-1.68)*
STAT_PRIV	0.314	0.000	0.829	1.000	-0.515	-1.000
					(-5.02)***	(-4.32)***
POSTLIT	0.229	0.000	0.457	0.000	-0.228	0.000
					(-2.05)**	(-2.00)**

Table 4: Determinants of venture capitalist litigation

Our sample consists of 35 lawsuits against venture-backed firms in which venture capitalists are named as co-defendants and 35 matched venture-backed firms that were not involved in any litigation during our sample period (between 1985 and 2004). The matched firms are selected to match the sued firms with respect to industry, venture financing (amount of financing received before the litigation announcement), and firm age. We perform a series of logit regressions of the binary variable, SUED, against various independent variables that characterize both our sample firms and their venture capitalists. The dependent variable, SUED, takes on a value of one if a venture capitalist is named as a co-defendant in a lawsuit against a venture-backed firm, and zero otherwise. The independent variables are as defined in Table 2. Heteroskedasticity-adjusted (White) standard errors are used in the calculation of *t*-statistics. ***, **, and * indicate significance at the 1, 5, and 10 percent level, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
VC_REP1	0.566	0.465	0.270	0.366	0.312	0.216	0.051	0.130
	(0.89)	(0.71)	(0.38)	(0.55)	(0.49)	(0.34)	(0.07)	(0.20)
VC_REP2	1.482	1.463	1.415	1.330	1.088	0.990	0.995	0.883
	(1.80)*	(1.79)*	(1.66)*	(1.55)	(1.46)	(1.39)	(1.33)	(1.15)
LNNUM	-1.146	-1.276	-1.218	-1.272				
	(2.63)***	(2.70)***	(2.73)***	(2.77)***				
LNTIME					0.271	0.225	0.291	0.266
					(1.16)	(0.90)	(1.21)	(1.14)
STAT_PRIV	-2.633	-2.701	-2.632	-2.585	-2.247	-2.249	-2.230	-2.158
	(3.75)***	(3.82)***	(3.86)***	(3.71)***	(3.42)***	(3.51)***	(3.45)***	(3.28)***
TANGIB	0.262				1.158			
	(0.22)				(0.39)			
MB		0.333				0.274		
		(1.86)*				(1.68)*		
RD1			5.154				4.688	
			(1.42)				(1.33)	
RD2				11.607				10.363
				(1.75)*				(1.64)
Constant	2.200	1.425	2.347	2.182	-1.905	-1.595	-1.170	-1.225
	(1.62)	(1.55)	(2.82)***	(2.66)***	(0.62)	(0.90)	(0.75)	(0.78)
Wald-test	16.28	17.17	20.39	17.51	15.55	17.99	17.22	15.42
Pseudo R^2	29.77	33.33	31.65	32.36	22.99	25.64	24.79	25.27
N	70	70	70	70	60	60	60	60

Table 5: Determinants of lawsuit dismissal

Our sample consists of 17 lawsuits filed against venture-capital backed firms in which at least one venture capitalist (VC) firm is named as co-defendant between 1985 and 2004 and which are either settled or dismissed. In Panel A, we perform a series of univariate tests for differences in venture capitalist reputation, monitoring intensity, and implied agency costs. The results of a t-test for differences in means and a nonparametric Wilcoxon signed rank test for differences in medians are reported in the last two columns of Panel A. In Panel B, we perform a series of logit regressions to determine the likelihood of lawsuit dismissal. The dependent variable takes on a value of one if the lawsuit is dismissed, and zero otherwise. The independent variables are as defined in Table 2. Heteroskedasticity-adjusted (White) standard errors are used in the calculation of *t*-statistics. ***, **, and * indicate significance at the 1, 5, and 10 percent level, respectively.

Panel A: Univariate tests

	settled		dismissed		difference	
	mean	median	mean	median	mean	median
VC_REP1	0.429	0.000	0.400	0.000	0.029	0.000
					(0.11)	(0.11)
VC_REP2	0.714	1.000	0.100	0.000	0.614	1.000
					(3.16)***	(2.53)**
LNNUM	1.065	1.099	0.732	0.693	0.333	0.405
					(0.87)	(0.96)
LNTIME	6.291	6.213	6.688	6.927	-0.397	-0.714
					(-0.92)	(-1.46)

Panel B: Multivariate tests

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
VC_REP1	-0.397	-0.158	0.438	0.136								
	(0.37)	(0.15)	(0.34)	(0.12)								
VC_REP2					-2.922	-3.153	-3.031	-3.609				
					(2.06)**	(2.15)**	(1.98)**	(1.79)*				
LNNUM									-1.033	-0.718	-0.534	-0.493
									(1.24)	(0.86)	(0.74)	(0.62)
TANGIB	-0.502				-0.243				-0.635			
	(2.68)***				(1.30)				(3.00)***			
MB		0.079				0.137				0.161		
		(0.26)				(0.41)				(0.42)		
RD1			-7.231				-1.000				-5.908	
			(1.24)				(0.19)				(1.21)	
RD2				-7.870				8.486				-4.770
				(0.69)				(0.56)				(0.42)
Constant	1.129	0.118	0.790	0.766	1.719	0.990	1.558	1.201	2.090	0.380	1.338	1.079
	(1.34)	(0.09)	(1.11)	(0.87)	(1.99)**	(0.57)	(1.64)	(1.11)	(1.79)*	(0.30)	(1.38)	(1.16)
Wald-test	7.72	0.07	1.76	0.51	9.08	4.71	5.68	4.32	9.16	0.74	2.06	0.96
Pseudo R^2	7.62	0.36	6.99	2.59	32.22	31.80	31.33	32.68	15.28	4.70	8.93	4.49
N	17	17	17	17	17	17	17	17	17	17	17	17

Table 6: Determinants of post-litigation venture capital financing

Our sample consists of 35 lawsuits against venture-backed firms in which venture capitalists are named as co-defendants and 35 matched venture-backed firms that were not involved in any litigation during our sample period (between 1985 and 2004). The matched firms are selected to match the sued firms with respect to industry, venture financing (amount of financing received before the litigation announcement), and firm age. In each panel, we perform a series of logit regressions to determine a firm's likelihood of receiving post-litigation financing. The dependent variable is a dummy variable that takes on a value of one if a firm continues to receive financing from venture capitalists after it is sued, and zero otherwise. For matched non-sued firms we use the lawsuit date of the corresponding sued firm in our analysis. The independent variables are as defined in Table 2. Heteroskedasticity-adjusted (White) standard errors are used in the calculation of *t*-statistics. ***, **, and * indicate significance at the 1, 5, and 10 percent level, respectively.

Panel A: Results for the sample of sued and matched firms

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SUED	-0.754	-0.564	-0.574	-0.606	-1.170	-0.915	-1.000	-1.040
	(1.14)	(0.81)	(0.83)	(0.90)	(1.52)	(1.22)	(1.33)	(1.40)
VC_REP1	0.465	0.640	0.772	0.602	1.287	1.532	1.786	1.600
	(0.78)	(1.03)	(1.25)	(0.99)	(1.83)*	(2.00)**	(2.30)**	(2.12)**
VC_REP2	0.022	0.002	0.162	0.159	0.130	0.254	0.538	0.567
	(0.03)	(0.00)	(0.24)	(0.24)	(0.19)	(0.37)	(0.72)	(0.73)
LNNUM	0.224	0.309	0.323	0.326				
	(0.58)	(0.78)	(0.83)	(0.83)				
LNTIME					1.343	1.451	1.565	1.578
					(3.44)***	(2.99)***	(3.36)***	(3.30)***
STAT_PRIV	0.412	0.463	0.458	0.405	0.793	0.848	0.994	0.845
	(0.66)	(0.70)	(0.70)	(0.63)	(1.15)	(1.24)	(1.42)	(1.23)
TANGIB	-0.241				0.276			
	(0.85)				(0.10)			
MB		-0.288				-0.395		
		(1.54)				(1.47)		
RD1			-7.400				-9.485	
			(2.02)**				(2.04)**	
RD2				-8.680				-14.293
				(1.35)				(1.71)*
Constant	-0.857	-0.367	-1.093	-1.023	-9.209	-8.509	-10.282	-10.102
	(1.01)	(0.39)	(1.36)	(1.28)	(2.51)**	(2.89)***	(3.27)***	(3.20)***
Wald-test	8.81	7.27	10.29	8.16	12.37	9.77	14.01	12.42
Pseudo R²	7.17	10.13	10.78	8.85	18.85	23.44	24.44	22.87
N	70	70	70	70	60	60	60	60

Panel B: Results for the sample of sued firms

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
VC_REP1	0.423	0.221	0.574	0.381	0.749	0.594	1.280	1.113
	(0.41)	(0.23)	(0.57)	(0.38)	(0.55)	(0.61)	(1.17)	(1.09)
VC_REP2	-0.013	-0.483	-0.392	-0.351	0.928	0.344	1.176	1.442
	(0.01)	(0.50)	(0.39)	(0.37)	(0.59)	(0.34)	(0.97)	(1.11)
LNNUM	0.995	1.065	1.222	1.186				
	(1.49)	(1.72)*	(2.04)**	(1.92)*				
LNTIME					1.771	1.543	1.917	1.950
					(2.02)**	(2.13)**	(2.97)***	(2.95)***
STAT_PRIV	0.638	0.694	0.635	0.581	0.126	0.790	0.977	0.564
	(0.67)	(0.69)	(0.62)	(0.58)	(0.09)	(0.71)	(0.82)	(0.53)
TANGIB	-6.348				-13.166			
	(1.65)*				(1.94)*			
MB		-0.078				-0.306		
		(0.38)				(0.82)		
RD1			-6.224				-13.288	
			(1.18)				(2.07)**	
RD2				-6.873				-22.637
				(0.68)				(1.81)*
Constant	2.680	-2.418	-2.681	-2.608	-1.085	-9.879	-13.230	-13.015
	(0.84)	(2.46)**	(3.05)***	(2.92)***	(0.23)	(2.25)**	(2.80)***	(2.88)***
Wald-test	4.78	3.77	5.63	4.55	6.37	6.21	12.24	10.07
Pseudo R²	12.53	7.87	10.41	8.70	34.03	24.39	29.28	28.49
N	35	35	35	35	27	27	27	27

Table 7: Cumulative abnormal returns around litigation announcements

Our sub-sample consists of 23 litigation cases filed under Section 11 of the 1933 Securities Act against publicly-traded venture-backed firms, in which at least one venture capitalist is named as co-defendant. We perform an event study in which we calculate the firms' cumulative abnormal returns (CARs) based on a market model relative to a period from 145 to 21 trading days prior to the corresponding lawsuit announcement. We present mean and median CARs for various event windows prior to and after the lawsuit announcement. The announcement date is identified as date 0. In Column 4, we present t-statistics for a t-test of differences in means. In the last column, we present z-statistics for a non-parametric Wilcoxon signed rank tests for differences in medians. ***, **, and * indicate significance at the 1, 5, and 10 percent level, respectively.

	mean	median	t-test	Wilcoxon signed rank test
CAR (-1,1)	-0.051	-0.003	-1.43	-0.91
CAR (-2,2)	-0.056	0.000	-1.35	-0.49
CAR (-5,5)	-0.032	-0.033	-0.62	-0.70
CAR (-7,7)	-0.119	-0.055	-2.18**	-2.39**
CAR (-10,10)	-0.106	-0.097	-1.80*	-1.64
CAR (-20,20)	-0.039	-0.037	-0.58	-0.37
CAR (0,1)	-0.031	-0.014	-1.43	-0.94
CAR (0,2)	-0.043	-0.004	-1.76*	-1.19
CAR (0,5)	-0.022	-0.040	-0.74	-0.52
CAR (0,7)	-0.059	-0.074	-2.27**	-2.25**
CAR (0,10)	-0.062	-0.069	-1.76*	-1.61
CAR (0,20)	0.004	-0.056	-0.07	-0.06
CAR (0,62)	0.040	0.011	0.32	-0.12
CAR (0,125)	-0.139	-0.176	-1.51	-1.51
CAR (0,250)	0.042	0.032	0.23	-0.05
CAR (-20,250)	-0.033	-0.168	-0.18	-1.03

Table 8: Univariate comparison of cumulative abnormal returns

Our sub-sample consists of 23 litigation cases filed under Section 11 of the 1933 Securities Act against publicly-traded venture-backed firms, in which at least one venture capitalist was named as co-defendant. We perform univariate mean and median tests for differences in cumulative abnormal returns (CARs) between different subsamples. We first divide our sample into subsamples based on the venture capitalist reputation (VC_REP1 and VC_REP2) and then by the median venture capitalist ownership in the firm after its IPO (VC_OWN). VC_REP1, VC_REP2, and VC_OWN are as defined in Table 2. For each subsample, we report mean and median CARs and calculate differences in means and medians between the corresponding pairs. T-statistics for a t-test of differences in means and z-statistics for a non-parametric Wilcoxon signed rank test for differences in medians are presented in parentheses below. ***, **, and * indicate significance at the 1, 5, and 10 percent level, respectively.

	VC_REP1 = 0		VC_REP1 = 1		difference		VC_REP2 = 0		VC_REP2 = 1		difference		VC_OWN < 0.245		VC_OWN > 0.245		difference	
	mean	median	mean	median	mean	median	mean	median	mean	median	mean	median	mean	median	mean	median	mean	media
CAR (-1,1)	-0.030	-0.000	-0.079	-0.012	0.049	0.012	-0.010	0.001	-0.146	-0.120	0.136	0.121	-0.017	0.001	-0.073	-0.009	0.056	0.009
					(0.67)	(0.56)					(1.86)*	(2.27)**					(0.95)	(0.90)
CAR (-2,2)	-0.041	0.000	-0.077	0.007	0.036	-0.007	-0.005	0.008	-0.173	-0.214	0.168	0.222	-0.016	0.006	-0.082	0.000	0.066	0.006
					(0.42)	(-0.25)				*	(1.98)*	(2.14)**					(0.95)	(0.98)
CAR (-5,5)	0.006	-0.017	-0.082	-0.099	0.088	0.082	0.015	-0.004	-0.141	-0.158	0.156	0.154	0.010	-0.011	-0.047	-0.049	0.057	0.038
					(0.83)	(0.87)					(1.40)	(1.54)					(0.59)	(0.82)
CAR (-7,7)	-0.027	-0.030	-0.252	-0.261	0.225	0.231	-0.046	-0.030	-0.314	-0.326	0.268	0.296	-0.030	-0.026	-0.203	-0.074	0.173	0.048
			**	**	(2.20)**	(1.37)			**	**	(2.42)**	(2.14)**			*		(1.82)*	(1.51)
CAR (-10,10)	-0.021	-0.013	-0.217	-0.166	0.196	0.153	-0.025	0.018	-0.291	-0.236	0.266	0.254	-0.047	-0.009	-0.153	-0.100	0.105	0.092
			*		(1.73)*	(1.36)			**	*	(2.27)**	(2.21)**					(1.02)	(0.74)
CAR (-20,20)	0.053	0.038	-0.173	-0.195	0.226	0.233	0.050	0.046	-0.278	-0.204	0.328	0.250	0.066	0.046	-0.086	-0.156	0.152	0.202
					(1.72)	(1.84)*			**	*	(2.40)**	(2.51)**					(1.09)	(1.24)
CAR (0,1)	-0.009	-0.003	-0.060	-0.025	0.051	0.022	0.008	0.023	-0.120	-0.045	0.128	0.068	-0.010	0.000	-0.070	-0.035	0.059	0.035
					(1.16)	(0.37)					(3.22)***	(2.81)***					(1.24)	(1.31)
CAR (0,2)	-0.022	0.000	-0.071	-0.024	0.049	0.024	-0.001	0.001	-0.141	-0.118	0.140	0.119	-0.022	0.005	-0.069	-0.022	0.048	0.028
					(0.98)	(0.93)					(3.08)***	(2.47)**					(0.84)	(1.23)
CAR (0,5)	-0.001	-0.040	-0.048	-0.014	0.047	-0.026	0.013	0.024	-0.101	-0.088	0.114	0.112	0.010	0.039	-0.057	-0.049	0.067	0.088
					(0.78)	(-0.50)					(1.87)*	(1.47)					(0.97)	(0.82)
CAR (0,7)	-0.043	-0.074	-0.080	-0.071	0.037	-0.003	-0.036	-0.054	-0.112	-0.092	0.076	0.038	-0.019	-0.036	-0.108	-0.085	0.089	0.049
					(0.69)	(-0.25)					(1.39)	(1.14)					(1.52)	(1.06)
CAR (0,10)	-0.054	-0.069	-0.072	-0.039	0.018	-0.030	-0.028	-0.050	-0.139	-0.079	0.111	0.029	-0.048	-0.074	-0.073	-0.045	0.025	-0.028
					(0.25)	(-0.12)					(1.48)	(1.07)					(0.34)	(-0.16
CAR (0,20)	0.005	-0.056	0.003	-0.033	0.002	-0.023	0.046	-0.025	-0.093	-0.074	0.139	0.049	0.046	0.007	0.011	-0.056	0.035	0.062
					(0.02)	(-0.12)					(1.17)	(0.87)					(0.29)	(0.33)
CAR (0,62)	0.075	0.014	-0.006	0.000	0.081	0.014	0.059	0.013	-0.004	0.011	0.063	0.002	-0.040	0.024	0.270	0.014	-0.310	0.010
					(0.32)	(0.06)					(0.23)	(0.13)			**		(-1.08)	(0.57)
CAR (0,125)	-0.099	-0.106	-0.205	-0.194	0.106	0.088	-0.090	-0.059	-0.296	-0.255	0.206	0.196	-0.078	-0.133	-0.084	-0.168	0.006	0.035
			*		(0.55)	(0.36)			**	**	(0.95)	(0.91)					(0.03)	(0.00)
CAR (0,250)	0.059	-0.004	0.014	0.039	0.045	-0.043	0.032	0.014	0.073	0.047	-0.041	-0.033	0.167	-0.062	0.173	0.047	-0.006	-0.109
					(0.11)	(-0.44)					(-0.09)	(-0.58)					(-0.01)	(-0.57
CAR (-20,250)	0.050	-0.073	-0.168	-0.227	0.218	0.154	-0.024	-0.203	-0.062	-0.168	0.038	-0.035	0.147	-0.061	0.111	0.121	0.036	-0.181
				*	(0.57)	(0.07)		*			(0.09)	(-0.50)					(0.08)	(-0.10

Table 9: Determinants of cumulative abnormal returns

Our sub-sample consists of 19 litigation cases filed under Section 11 of the 1933 Securities Act against publicly-traded venture-backed firms, in which at least one venture capitalist was named as co-defendant. We perform a series of ordinary least squares (OLS) regressions to examine whether the cumulative abnormal returns (CARs) around a lawsuit announcement can be explained by factors that describe both the firm and its venture capitalist(s). The dependent variables are the cumulative abnormal returns (CARs) measured during various windows around the event. The independent variables include VC_CONTROL which measures the percentage of board positions held by VCs, and VC_OWN which measures the percentage of venture capitalists' ownership in the firm after its IPO. VC_REP1 is a measure of VC reputation, defined as a dummy variable that takes on a value of one if the highest VC fund number is equal to or greater than 4, and zero otherwise. VC_REP2 represents an alternative reputation measure, defined as a dummy variable that takes on a value of one if any of the VCs ranked among the top 10 VC firms in terms of total funds raised during the prior 10 years, and zero otherwise. In addition, we introduce LNAGE as the natural logarithm of the number of years between the IPO firms' founding date and the litigation date, and LNSIZE as the natural logarithm of the IPO firms' market capitalization on the twentieth day prior to the litigation date. Heteroskedasticity-adjusted (White) standard errors are used in the calculation of *t*-statistics. ***, **, and * indicate significance at the 1, 5, and 10 percent level, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
	CAR (-1,1)	CAR (-2,2)	CAR (-5,5)	CAR (-7,7)	CAR (-10,10)	CAR (-20,20)	CAR (0,1)	CAR (0,2)	CAR (0,5)	CAR (0,7)	CAR (0,10)	CAR (0,20)	CAR (0,62)	CAR (0,125)	CAR (0,250)	CAR (-20,250
VC_CONTROL	0.166	0.281	0.395	0.310	-0.363	-0.125	0.203	0.326	0.318	0.323	-0.134	-0.008	-1.912	1.221	0.001	-0.005
	(0.74)	(1.36)	(1.10)	(1.31)	(-1.20)	(-0.16)	(0.87)	(1.53)	(0.98)	(1.10)	(-0.43)	(-0.01)	(-1.00)	(1.12)	(0.00)	(0.00)
VC_OWN	0.127	0.059	0.046	-0.233	-0.127	-0.186	0.017	0.063	-0.048	-0.148	0.089	0.200	1.321	0.393	0.280	0.103
	(1.27)	(0.46)	(0.25)	(-0.94)	(-0.59)	(-0.71)	(0.16)	(0.76)	(-0.35)	(-0.89)	(0.53)	(0.59)	(1.49)	(0.64)	(0.27)	(0.10)
VC_REP1	-0.029	0.024	0.002	-0.039	0.128	0.090	-0.006	-0.015	-0.021	-0.005	0.071	0.133	-0.104	-0.384	-0.376	-0.384
	(-0.63)	(0.44)	(0.02)	(-0.47)	(1.30)	(0.50)	(-0.11)	(-0.30)	(-0.26)	(-0.07)	(0.76)	(0.71)	(-0.43)	(-1.78)	(-0.98)	(-1.11)
VC_REP2	-0.212	-0.293	-0.302	-0.315	-0.434	-0.552	-0.175	-0.214	-0.192	-0.138	-0.235	-0.386	-0.120	-0.080	0.061	-0.073
	(-3.78)***	(-4.76)***	(-3.50)***	(-2.82)**	(-3.68)***	(-4.94)***	(-2.89)**	(-5.33)***	(-2.57)**	(-1.73)*	(-2.43)**	(-2.15)*	(-0.42)	(-0.42)	(0.16)	(-0.20)
LNAGE	-0.082	-0.097	-0.147	-0.103	-0.162	-0.214	-0.066	-0.085	-0.125	-0.102	-0.142	-0.150	-0.230	0.237	-0.138	-0.128
	(-2.46)**	(-3.15)***	(-2.58)**	(-2.17)*	(-2.84)**	(-2.78)**	(-1.58)	(-2.86)**	(-2.87)**	(-2.09)*	(-2.40)**	(-1.50)	(-0.77)	(0.92)	(-0.37)	(-0.34)
LNSIZE	-0.000	0.000	0.012	-0.015	-0.057	-0.054	0.005	0.015	0.004	-0.000	-0.015	-0.040	0.091	0.143	0.018	0.004
	(-0.00)	(0.01)	(0.32)	(-0.32)	(-1.53)	(-0.77)	(0.27)	(0.80)	(0.12)	(-0.01)	(-0.44)	(-0.57)	(0.91)	(2.23)*	(0.10)	(0.02)
Constant	0.615	0.720	0.988	0.981	2.097	2.568	0.428	0.423	0.915	0.752	1.311	1.718	1.202	-3.924	1.148	1.277
	(1.34)	(1.55)	(1.25)	(1.11)	(2.68)**	(1.83)*	(0.90)	(1.08)	(1.33)	(1.07)	(1.87)*	(1.17)	(0.33)	(-1.40)	(0.25)	(0.28)
F-test	3.58	8.94	3.70	4.04	4.42	6.56	1.70	8.40	2.61	1.13	1.99	1.16	0.74	2.06	0.38	0.50
R^2	69.63	72.38	55.76	59.49	65.66	66.87	62.57	79.28	54.28	41.42	52.26	38.12	38.71	36.29	5.44	7.24
N	19	19	19	19	19	19	19	19	19	19	19	19	19	17	17	17

Table 10: Univariate tests of venture capitalists' post-litigation fundraising ability

Our sample consists of 29 lawsuits against venture-backed firms in which venture capitalists are named as co-defendants and 29 matched venture-backed firms that were not involved in any litigation during our sample period (between 1985 and 2001). The matched firms are selected to match the sued firms with respect to industry, venture financing (amount of financing received before the litigation announcement), and firm age. RANK_10 (RANK_25) is a dummy variable that takes on a value of one if the venture capitalist firms that are named as co-defendants ranked among the top 10 (25) VC firms in terms of total funds raised during a period of three years before/after a lawsuit announcement, and zero otherwise. In Panel A, we compare the ranking of sued firm VCs during the 3-year period before and after the lawsuit. In Panel B (C), we compare the sued firms to matched (non-sued) firms during the 3 years before (after) the lawsuit announcement. In the last two columns, we calculate the differences between the two groups and present t-statistics for a t-test of differences in means and z-values for a nonparametric Wilcoxon signed rank test of differences in medians. ***, **, and * indicate significance at the 1, 5, and 10 percent level, respectively.

Panel A: Comparison of VC fundraising rank of sued firms before and after a lawsuit announcement

	pre-litigation		post-litigation		difference	
	mean	median	mean	median	mean	median
RANK_10	0.276	0.000	0.069	0.000	0.207	0.000
					(2.27)**	(2.12)**
RANK_25	0.483	0.000	0.241	0.000	0.242	0.000
					(2.25)**	(2.11)**

Panel B: Comparison of VC fundraising rank of sued and matched firms before a lawsuit announcement

	sued firms		matched firms		difference	
	mean	median	mean	median	mean	median
RANK_10	0.276	0.000	0.069	0.000	0.207	0.000
					(2.13)**	(2.07)**
RANK_25	0.483	0.000	0.103	0.000	0.380	0.000
					(3.43)***	(3.15)***

Panel C: Comparison of VC fundraising rank of sued and matched firms after a lawsuit announcement

	sued firms		matched firms		difference	
	mean	median	mean	median	mean	median
RANK_10	0.069	0.000	0.138	0.000	-0.069	0.000
					(-0.85)	(-0.86)
RANK_25	0.241	0.000	0.241	0.000	0.000	0.000
					(0.00)	(0.00)

Figure 1: Median cumulative abnormal returns around lawsuit announcements

We present median cumulative abnormal returns for sued IPO firms within a period of 20 trading days before and 250 trading days after a lawsuit announcement (date 0). Our sub-sample consists of 23 litigation cases against publicly-traded venture-backed firms filed under Section 11 of the 1933 Securities Act, in which at least one venture capitalist was named as a co-defendant.

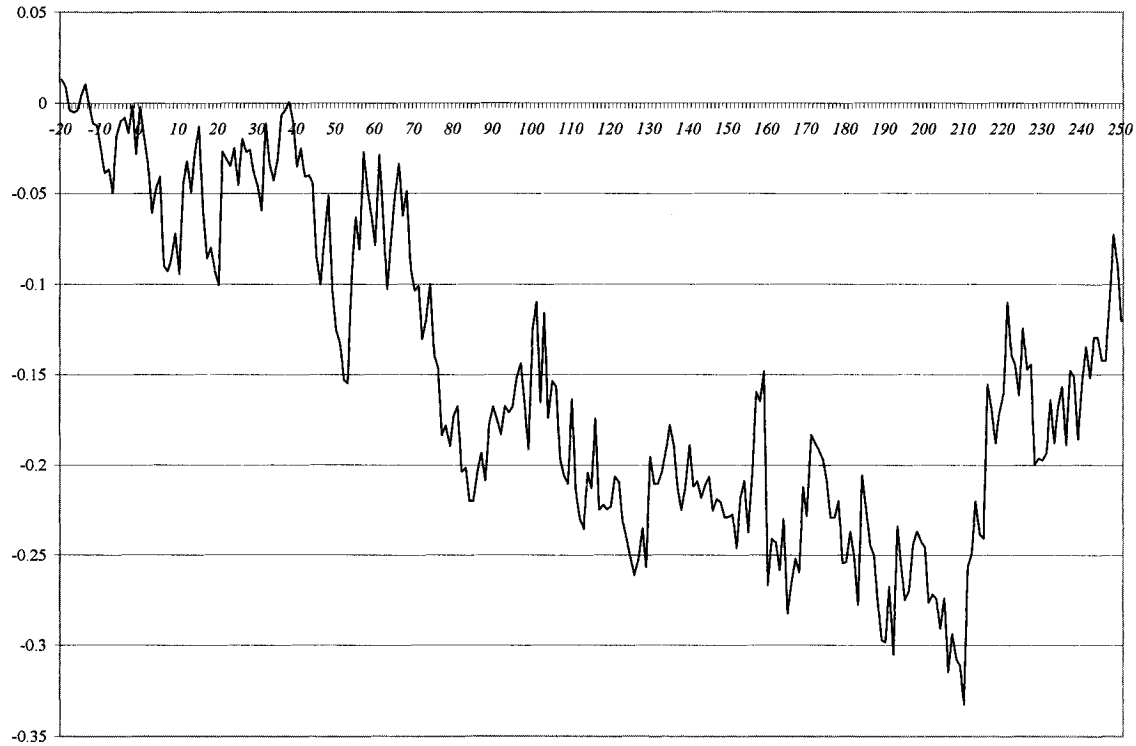

Figure 2: Median cumulative abnormal returns around lawsuit announcements for different levels of venture capitalist reputation (VC_REP1)

We present median cumulative abnormal returns for sued venture-backed firms within a period of 20 trading days before and 250 trading days after a lawsuit announcement (day 0). We divide our sample into subsamples based on the venture capitalists' reputation (VC_REP1). VC_REP1 is a measure of VC reputation, defined as a dummy variable that takes on a value of one if the highest VC fund number is equal to or greater than 4, and zero otherwise. Our sample consists of 23 litigation cases against publicly-traded venture-backed firms filed under Section 11 of the 1933 Securities Act, in which at least one venture capitalist was named as a co-defendant. The solid line represents median cumulative abnormal returns for sued firms backed by low reputation venture capitalists, while the dotted line represents median cumulative abnormal returns for sued firms backed by high reputation venture capitalists.

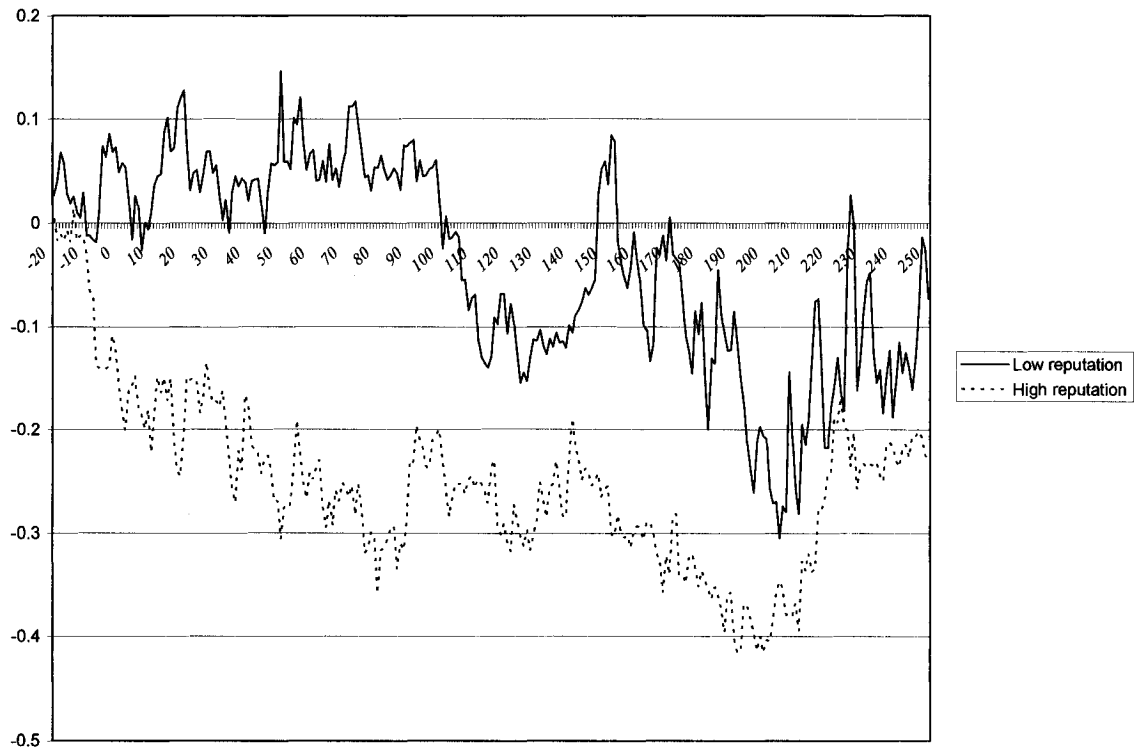

Figure 3: Median cumulative abnormal returns around lawsuit announcements for different levels of venture capitalist reputation (VC_REP2)

We present median cumulative abnormal returns for sued IPO firms within a period of 20 trading days before and 250 trading days after a lawsuit announcement (day 0). We divide our sample into subsamples based on the venture capitalists' reputation (VC_REP2). VC_REP2 is a measure of VC reputation, defined as a dummy variable that takes on a value of one if any of the VCs ranked among the top 10 VC firms in terms of total funds raised during the prior 10 years, and zero otherwise. Our sub-sample consists of 23 litigation cases against publicly-traded venture-backed firms filed under Section 11 of the 1933 Securities Act, in which at least one venture capitalist was named as a co-defendant. The solid line represents median cumulative abnormal returns for sued firms backed by low reputation venture capitalists, while the dotted line represents median cumulative abnormal returns for sued firms backed by high reputation venture capitalists.