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Brian Broughman
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ABSTRACT

This dissertation contains three essays exploring the risk of opportunistic conduct between entrepreneurs and investors. The first essay formally models the risk of opportunism under alternative governance arrangements, including arrangements involving a third-party independent director. The second essay provides a new theory for the role of independent directors in the governance of VC-backed firms. The third essay measures VC opportunism related to CEO replacement and follow-on financing. This project has implications for the literature on financial contracting and the design of fiduciary obligations under corporate law.

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Opportunistic Conduct and Governance Structure in Startup Firms

Executive Summary

My dissertation focuses on the problem of opportunistic conduct between entrepreneurs and investors in startup firms. Both parties want the startup to succeed, but their interests are not perfectly aligned. Deciding whether to sell the firm, replace its CEO, or seek additional financing, for instance, can redistribute value between the entrepreneur and investor. Naturally, the parties may disagree on such issues. One reason for conflict is that the entrepreneur may gain non-pecuniary benefits from her affiliation with the firm (e.g. the joy of seeing her idea brought to market, etc.), whereas the investor may only care about the project's financial return (Aghion and Bolton, 1992). Another reason is that the parties may hold different financial claims, with the entrepreneur typically holding common stock and the investor holding preferred stock or debt (Sahlman, 1990).

Given conflicting interests, the allocation of decision-making (control) rights between the entrepreneur and the investor becomes particularly important. If the entrepreneur, for example, has sufficient board seats or other governance rights to unilaterally control the firm, she can use this position opportunistically, causing the firm to pursue

actions which benefit her at the expense of the firm's aggregate welfare. Conversely, if the investor has control, the opposite problem arises.

The issue of opportunism is well recognized by the incomplete contracting literature generally and by the financial contracting literature in particular (Tirole, 1999; Hart, 2001). Ideally the contracting parties – here the entrepreneur and the investor – would design a complete contingent contract aligning their interests and removing any risk of opportunism. Unfortunately, due to bounded rationality, transaction costs or incomplete information, a complete contract is often infeasible, and the parties are unable to perfectly align their interests across all contingencies. In an incomplete contract there remains a risk of ex post opportunism and holdup (Williamson 1975, 1985).[1]

Underlying my project is the recognition that financial contracts are inherently incomplete (Aghion and Bolton, 1992). Financing arrangements typically last for an extended time period, during which numerous unforeseeable contingencies may arise. The contract cannot specify the appropriate action for each situation; however, it can specify a decision-making process (Hart, 2001). For example, an investor can

[1] Williamson (1975) and Coase (1937) focus on the transaction costs associated with opportunism to explain why certain activities occur within a firm rather than over an open market. Williamson (1975) assumes that a firm's hierarchical authority structure can remove the risk of opportunistic conduct within the firm. Opportunistic conduct, however, can also occur within a firm, as the example of the entrepreneur and investor illustrates. My focus is not on optimal firm boundaries, but rather on the allocation of decision-making power within the firm.

negotiate for board seat and voting rights in connection with her investment, potentially giving the investor the ability to determine the firm's action when unforeseen contingencies should arise. The contracting literature following Grossman and Hart (1986) refers to such rights as *residual control.* To the extent that control can be specified via contract, the entrepreneur and investor have an incentive to allocate residual control so as to minimize the cost of ex post opportunism. In the financing context, this asks whether it is better to give control to the entrepreneur, to the investor, to share control between the parties, or to use some alternative governance arrangement.

I address this question in the context of startup firms. In particular, my dissertation examines governance arrangements and the risk of opportunistic conduct in firms financed by venture capital ('VC'). Venture capital is an ideal setting to study opportunism. First, the relationship between VCs and startup entrepreneurs roughly corresponds to the single investor and entrepreneur from contract theory (Hart, 2001; Kaplan and Strömberg, 2003). The relative absence of other constituencies, at least for early stage startups, makes it easier to isolate the effect of different governance arrangements. Second, similar patterns in the basic financing structure allow me to meaningfully compare governance rights used in different VC-backed firms, facilitating empirical analysis (Suchman, 1995). Third, startup firms face high levels of uncertainty and a relative absence of asset collateral. These features increase the risk of opportunism and force the VC investor to actively engage in governance rather than relying on collateral provided by secured debt.

I divide my dissertation into three essays.

In the first essay I formally model the risk of ex post opportunism under three alternative governance arrangements: (1) entrepreneur control, (2) investor control, and (3) shared control with a third party independent director holding a tie-breaking board seat. The existing literature only considers full entrepreneur control or full investor control. Control is seen as “an indivisible right that can be held at any given time by only one party” (Kirilenko, 2001). In contrast, data from VC-backed firms shows that board control is typically shared – more than 60% of the time – with a third-party independent director holding the tie-breaking board seat (Kaplan and Strömberg, 2003). Existing financial contracting models cannot explain the most commonly observed startup board configuration.

To fill this gap in the literature, I model the incentives created by a three member board composed of an entrepreneur, an investor, and an independent director (“Independent Director Arbitration”). I use a bargaining game similar to final-offer arbitration to specify a firm’s choice of action under Independent Director Arbitration. I show that Independent Director Arbitration can reduce opportunistic behavior by causing the entrepreneur and the investor to converge towards the action most preferred by the independent director.

The basic intuition is fairly straightforward. Under Independent Director Arbitration neither the entrepreneur nor the investor can unilaterally cause the firm to pursue a particular action. Instead, each party needs the support of the independent director to pursue any action opposed by the other party. The entrepreneur and investor effectively compete for the vote of the independent director, and in so doing they are forced to propose more reasonable actions. Independent Director Arbitration can lead to the efficient outcome in circumstances where alternative governance arrangements – entrepreneur control, investor control, or state-contingent control – are either unavailable or likely to lead to suboptimal results.

My analysis suggests a 'pecking order' theory of control rights. To reach the most efficient outcome and still satisfy the investor's financing constraint, firms should first move from (i) Entrepreneur Control, to (ii) Independent Director Arbitration, and finally to (iii) Investor Control as the amount invested increases, and as the divergence between the interests of the entrepreneur and the investor widens. These predictions are consistent with empirical evidence from VC contracts. VC-backed firms are more (less) likely to use Independent Director Arbitration relative to Entrepreneur Control (Investor Control) when there is greater uncertainty regarding the project's financial viability, and as additional funds are invested. This essay has implications for the literature on financial contracting and the theory of the firm.

The second essay provides a new theory for the role of independent directors in the governance of VC-backed firms. The existing theory of independent directors only applies to publicly traded firms. In startup firms I show that a tie-breaking independent director can arbitrate conflicts between a firm's entrepreneurs and VC investors. Provided the independent director is relatively unbiased this arrangement commits the entrepreneur and VCs to reasonable behavior and can reduce the opportunism that would result if either party were to control the board. Consistent with my theory, data from a sample of Silicon Valley startups illustrate several mechanisms – appointment rights, removal rights, and relational ties to the independent director – that entrepreneurs and VCs use to find an unbiased independent director. I consider implications for corporate law and fiduciary obligations in startup firms.

The third essay measures VC opportunism related to CEO replacement and follow-on financing. VCs negotiate for extensive control rights when investing in startups. Some commentators suggest that VCs may exploit their control to opportunistically fire the founder-CEO, or to conduct follow-on financing rounds that dilute the founder. However, there is no evidence on whether either form of misbehavior is common. Using data collected from the founders of over 50 Silicon Valley firms, I find no evidence of opportunistic termination and only very little evidence of dilutive financing. This essay suggests these two forms of VC opportunism rarely occur outside of litigated conflicts. Law and reputational considerations appear to provide a stronger constraint against opportunism, at least with respect to CEO replacement and follow-on financing, than is commonly thought.

My dissertation project considers the risk of opportunism between entrepreneurs and investors in startup firms. I model the incentives created by a novel governance arrangement (Independent Director Arbitration) frequently used in startups financed by venture capital, and I show that opportunistic conduct, at least with respect to CEO replacement and follow-on financing, may be less common than is often thought. My analysis suggests that even though financing contracts remain highly incomplete, numerous mechanisms are available to reduce the risk of opportunistic conduct.

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