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Investor abilities and financial contracting: Evidence from venture capital

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ABSTRACT

Using a large, new database of contractual provisions governing the allocation of cash flow rights in venture capital (VC) financings, we investigate how contract design is related to VC abilities to monitor and provide value-added services to the entrepreneur. We find that more experienced VCs, who have superior abilities and more frequently join the boards of their portfolio companies, obtain weaker downside-protecting contractual cash flow rights than less experienced VCs. Several pieces of evidence suggest that this relation is unlikely to be driven by selection effects. The results suggest that VCs with better governance abilities focus less on obtaining downside protections, which entail risk-sharing costs, and more on other aspects of the contract (such as obtaining board representation) during negotiations with entrepreneurs. The results also imply that previous estimates of the amount entrepreneurs pay for affiliation with high-quality VCs are overstated.

1. Introduction

Understanding the factors that impact contract design is a central issue in many areas of economics. In finance, contracting theories explore how agency and information problems can be mitigated by the contingent allocation of cash flow and control rights between managers and investors.[1] At the same time, investors often have access to other mechanisms to solve incentive problems. Investors may attempt to monitor managerial effort and actions directly, or may stage investments and terminate

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[1] See, for example, Jensen and Meckling (1976), Holmström (1979), Aghion and Bolton (1992), and Dewatripont and Tirole (1994).

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funding if interim performance is poor (Bolton and Scharfstein, 1990). An important open question is whether and why investors' abilities to effectively employ these other governance mechanisms are related to the design of financial contracts.

In this paper we provide evidence on this question from the venture capital (VC) industry, which has several advantages as a setting to investigate the determinants of real-world financial contracts and their relation to theory. VCs are sophisticated investors who face substantial information and agency problems, have strong incentives to maximize value, and have considerable flexibility in designing contracts with the entrepreneurs they finance.[2]

Importantly for our purpose, VCs are actively involved in their portfolio companies and almost always stage investments, creating scope for mitigating financing problems through not only contractual contingencies, but also direct monitoring and intervention and the deterrent created by the possibility of refusal to provide follow-on funding and withdrawal of value-added services. The greater a particular VC's monitoring and value-added abilities, the more effective the monitoring and deterrent channels will be at constraining the entrepreneur's behavior.

We study how a VC's abilities to mitigate agency problems through these channels are related to the design of its contracts with entrepreneurs. In doing so, this paper is the first to show that VC characteristics, in addition to the portfolio company characteristics emphasized in prior research, are significantly related to VC contract design in the US. The analysis unites the literature examining US VC contracts through an agency lens, which so far has implicitly treated VCs as a single uniform class (Gompers, 1998; Kaplan and Strömberg, 2003, 2004; Cumming, 2008), with the growing literature documenting that VCs differ substantially in quality, behavior, and ability to add value to portfolio companies. By relating VC abilities to contracting outcomes, our analysis complements recent work relating VC quality and reputation to outcomes such as valuation (Hsu, 2004) and firm failure (Puri and Zarutskie, forthcoming), and thereby adds a contracting perspective to the literature exploring the implications of differing VC quality and abilities for entrepreneurial companies.[3]

Our analysis uses a new dataset of contractual provisions governing the allocation of cash flow rights in US investments by 646 private–partnership VCs in 1266 start-up companies over 1534 investment rounds, which is several times larger than datasets used in previous work on VC contracts. These provisions – liquidation preference, anti-dilution rights, cumulative dividends, redemption rights, participation rights, and pay-to-play provisions – jointly determine the extent to which the VC receives a greater fraction of company cash flows if company performance is poor or mediocre. We call them *downside protections*. The prevalence and magnitude of downside protections in VC contracts indicates that they are of first-order importance in these transactions (Sahlman, 1990; Kaplan and Strömberg, 2003, 2004). Consistent with this, Broughman and Fried (2010) find that ex post deviations from the cash flow rights established by these provisions are relatively small.

We investigate the relation between the strength of downside protections in a VC contract and the monitoring and value-added abilities of the VC. On the one hand, because affiliation with better VCs is valuable to entrepreneurs, it is possible that VCs with greater abilities use their bargaining power to negotiate contracts with more downside protections. Consistent with this, Hsu (2004) finds that better VCs invest at lower pre-money valuations.

On the other hand, downside protections differ in an important way from pre-money valuations: their cash flow implications depend on whether company performance is good or bad. From an agency perspective, this property suggests a tradeoff. While downside protections provide incentives to the entrepreneur by penalizing him in bad states of the world (they give the VC a more "debt-like" claim), they are costly from a risk-sharing perspective (Holmström, 1979). To avoid these costs, it may be better for downside protections to be weaker when other mechanisms to contain agency problems are

[2] Hart (2001) and Kaplan and Strömberg (2003, 2004) argue that VCs and the entrepreneurs they finance closely resemble the principals and agents of theory. Schmidt (2003), Cornelli and Yosha (2003), Repullo and Suarez (2004), Inderst and Mueller (2004), and Hellmann (2006), among others, provide theoretical analyses of venture capital contracts. The general conclusion of this literature is that the contractual features observed in practice, and the resulting incentives, are consistent with optimal contracting.

[3] Other work investigating differences in VC quality and behavior includes Kaplan and Schoar (2005), Chemmanur et al. (2007), Bottazzi et al. (2008), Sorensen (2007), Gompers et al. (2008), and Zarutskie (2010).