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Participating convertible preferred stock in venture capital exits ☆

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ABSTRACT

This paper develops a theory of the participating convertible preferred (PCP) stock commonly used in venture capital settings. I show that the participation and convertibility features of PCP stock can be used to reduce information asymmetry between the venture and potential investors at the time of exit. Further, the convertibility feature of PCP helps in alleviating the problem of insufficient entrepreneurial effort. I then derive implications for the two most common types of exits in venture capital—initial public offerings and trade sales—and explain how US venture capital markets differ from other VC markets.

1. Executive summary

Venture capital is an important source of equity financing for innovative ventures. Venture capitalists typically use convertible preferred equity to finance such ventures. Investors of convertible preferred equity have the option of either holding a debt-like claim-preferred equity, or converting into common equity. The literature has analyzed the main trade-offs affecting the two alternatives. However, convertible preferred equity can come with special features. With a few exceptions, scholars have not delved into the specific details of these securities. This paper examines one such convertible preferred equity with distinct features—participating convertible preferred (PCP) stock.

Participating convertible preferred stock gives its holders preference in dividend payments and at the same time allows them to participate in excess earnings (i.e. the cash flows to which equity is entitled to after all debt and preferred claims have been satisfied) along with the common stockholder. PCP holders thus concurrently hold both a debt-like claim (preferred equity) as well as an equity claim (participation rights). However, PCP holders lose their preferred rights if they convert into common stock. The specific question that I address in this paper is why are venture capitalists willing to convert their PCP stock into common equity and give up their preferred rights?

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To answer this question, I propose a signaling model for PCP stock based on its role in venture capital exits. The two major forms of exits observed in venture capital are the initial public offerings (IPOs) and the trade sale (TS). Typically, a PCP stake is converted into common equity during an IPO exit but is not converted in a TS exit. My model shows that VCs can signal the quality of their venture in an IPO, by converting their PCP stake into common equity and giving up some of their cash flow rights. Signaling is of particular importance in an IPO because new investors are relatively uninformed about the venture. In contrast, potential trade buyers are more likely to be well-informed since they are usually industry peers.

When exit is through an IPO, the entrepreneur retains control of the firm. Thus, when the firm value is high, an IPO exit rewards the entrepreneur and should be the preferred exit route. However, the VC may be reluctant to take that route given that investors in an IPO are less informed and the VC may not get the full value for his stake. So it is precisely when the firm value is high that the VC may prefer to target investors who are more informed and thus less costly—in other words to exit through a trade sale. However, the interests of VCs and entrepreneurs are more easily aligned when the latter convert their PCP stakes into common shares and exit through an IPO.

With the help of the model, I confirm some well-known empirical observations. The model first predicts that, the greater a market's informational efficiency, the greater the possibility of signaling. There is empirical evidence to suggest that the US and UK markets are informationally more efficient compared to all other markets. Hence we are more likely to observe exits through IPOs in US and UK than in other markets, which is borne out by the evidence. Secondly, the higher the value of reputational benefits that a VC derives by exiting a venture through an IPO, the higher is the probability of such an exit. This has been empirically confirmed by Gompers (1996).

Venture capitalists investing in start-ups use sophisticated financial instruments to structure their investments. This paper provides a rationale, for the use of one such financial instrument—PCP stock, based on the venture capitalist's exit decision. In doing so, it makes a connection between the exit route and entrepreneurial effort. The paper thus highlights factors that have direct implications for the incentives of venture capitalists to invest in ventures and entrepreneurs to exert effort to make them a success.

2. Introduction

Venture capitalists' (VCs) investment in a new venture typically takes the form of convertible preferred stock. Investors in convertible preferred (CP) either hold debt-like preferred equity or have the option of converting into common equity. The literature has documented the extensive use of convertible securities in venture capital contracting (Kaplan and Stromberg (, 2003)). While analyzing the use of CP stock the theoretical work has focused mostly on the plain-vanilla form of these securities and concludes that it is an optimal incentive structure between the entrepreneur and the VC (Da Rin et al. (2011)). In practice, convertibles do not always have this simple structure and come in many different flavors (Metrick and Yasuda (2011)). This paper analyzes one such variant, observed frequently in venture capital contracting, participating convertible preferred (PCP) stock which is a CP stock with participation rights.

Participation rights entitle the VC, in the event of sale or liquidation, to a liquidation preference plus a pro rata share of what remains to be paid to common shareholders. Thus, upon sale or liquidation, participating preferred shareholders have a debt-like claim equal to their liquidation preference plus a common shareholder's claim. In contrast, holders of nonparticipating convertible preferred shares either receive the liquidation preference payable on the preferred stock or they convert their shares to common stock and share pro rata with common shareholders. I give a simple numerical example to illustrate these features. Assume that a VC's investment entitles him to \$5 million from a given venture in the form of a CP stock, that is convertible into 50% of the common equity. Now suppose the company is liquidated for \$12 m. The VC can then either (a) convert his stake to common equity and receive 50% of the proceeds (i.e. \$6 m) or (b) not convert and receive his preferred proceeds (i.e. \$5 m). Let us further assume now that the VC holds a PCP with participation rights on an as-converted basis (50% in this case). If the VC converts his PCP stake to common equity then he is entitled to \$6 m (i.e. 50% of \$12 m), but if he chooses not to convert then he is entitled to receive \$5 m (his preferred claim) *plus* shares to the extent of 50% in the remaining equity pool of \$7 m (\$12 m minus \$5 m), thus giving him a total of \$8.5 m (i.e. \$3.5 m plus \$5 m) rather than \$6 m from converting CP stock. Thus the stockholders cash flow rights vary depending on whether or not the stake is converted. In this example, the VC's payoff is higher in case of nonconversion (conversion) in the presence (absence) of the participation feature.

PCP stock is routinely used in venture capital contracts. Kaplan and Strömberg (2003) report that nearly 80% of all venture contracts use convertible preferred stock and that in nearly half of those cases the stock is participating. In venture capital contracts, PCPs are structured in such a way that the allocation of cash flow rights varies depending on the type of exit. The two most common types of exit observed in venture capital are an initial public offering (IPO) or a trade sale (TS)—in which the company is sold either to a trade buyer or acquired by another company. Most venture capital investment agreements explicitly treat TS as a liquidation event, in which case the VCs retain both their participation and preferred rights whereas the same agreements usually stipulate automatic conversion of the convertible stake into common equity if exit is via an IPO. By giving up their preferred rights during an IPO, the VCs are forsaking a substantial portion of their cash flows. The question that I address in this paper is: why are the VCs willing to give up their preferred rights in the case of an IPO but not in the case of a TS?

I propose that VCs use PCP stock conversion as a signal of the firm's quality. My assumption is that signaling is especially important in a public offering since the new shareholders are relatively uninformed about the venture's value. In contrast, the firms that are bidding in a TS have the opportunity to conduct due diligence and also tend to be peers from the same industry; this gives them in-depth knowledge, which makes them relatively well informed. I argue that the VCs convert their stake into common equity—and accept a lower stake when exit is through a IPO—to signal the quality of the venture to investors. However, for a TS exit, such a costly signal is not required because target buyers are relatively well informed about the venture's value. Hence the relative costs (versus the TS scenario) of exiting through an IPO create the possibility of a signaling equilibrium, which good firms can use by converting their