

# ESSAYS IN PRIVATE EQUITY AND VENTURE CAPITAL

BY

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## **A summary of the dissertation**

The thesis consists of three essays related to private equity investments and exits out of which two essays are empirical and one essay is theoretical.

### *1. Information leakage, foreign certification and business groups – Evidence from PIPE deals*

In this chapter, we examine the private investment in public equity (PIPE) deals market in India focussing on the effect of foreign certification and business group affiliation on short term and long term performance of these deals. We analyse if foreign private equity investors are able to better certify a PIPE investment than domestic private equity investors. We also study if business group affiliation affects the market reaction around PIPE deal announcements. We use event studies to analyse all PIPE deals in India and find strong evidence of pre-announcement information leakage and post-announcement market efficiency. We find evidence of foreign certification since foreign private equity investor-led PIPEs perform significantly better than domestic private equity investor-led PIPEs in the short term. We also find that business group PIPEs perform better than non-business group PIPEs in the short term. Interestingly, we find that foreign certification is a temporary effect since the difference in performance between foreign and domestic invested PIPEs vanishes in the long term. However, business group PIPEs perform significantly better than non-business group PIPEs in the long term thus showing that the business group effect persists in the long run.

### *2. Private Equity Exits – Effect of syndicate size, foreign certification and buyout entry on the type of exit*

This chapter examines the effect of size of the PE syndication, certification by foreign PE firms and type of entry on the method of exit of PE firms. The existing literature addresses four categories of factors which influence the choice of exit between IPO and acquisition: industry-related factors, market-timing variables, deal-specific factors and demand for funds factors. We introduce a new category of variables called ‘private equity investor characteristics’ and test if this category has a significant effect on the choice of exit method between IPOs and acquisitions. We also test if type of entry (especially if it is a buyback) has an influence on type of exit. The methodology used to test the hypotheses is

logistic regressions. We find that the size of a syndicate of private equity investors in the same firm is directly proportional to the probability of an IPO exit but the presence of a foreign private equity investor reduces this probability. Next, we analyse the effect of PE investor characteristics on specific exit methods like strategic sale, financial sale and buyback and find results consistent with IPO vs acquisition analysis. The methodology used to test these hypotheses is multinomial logistic regressions. We find that in buyout transactions, the probability of an IPO exit is less than that of a strategic sale. Finally, we present a unique finding that the probability of a buyback as opposed to an IPO is higher if a firm is in the real estate sector.

### *3. Theory of exit choice: IPOs vs acquisitions with differential bargaining, book building and auctions*

This chapter is a theoretical treatment of the choice of exit method between IPOs and acquisitions faced by entrepreneurs and PE investors. Currently, Bayar and Chemmanur (2011) is the only theory paper which analyses the factors which influence the decision of a firm to choose between IPO and acquisition. In their model, they divide the firms into two types: high and low, based on the probability of success in the product market and show that under certain conditions high type firms always go for an IPO i.e. use a pure strategy and low type firms use a mixed strategy between IPO and acquisition in equilibrium. We extend the existing literature in two ways: (1) we introduce the concept of differential bargaining with the acquirer and show that in the presence of differential bargaining, it is possible for both high type and low type firms to use mixed strategies in equilibrium i.e. go for both IPOs and acquisitions, but with different probabilities. We prove for the first time in a theoretical framework that PE investors are inclined to take more H-type firms public than entrepreneurs because probability of success of H-type firm is high. (2) we introduce the two IPO methods: book building and auctions, and show how the parameters of the IPO methods (road show investors, cost of information acquisition, fixed costs, certainty of auction, number of bidders) affect the choice between IPOs and acquisitions. We show that for both the IPO methods the probability of choosing IPOs decreases when cost to investors for acquiring information increases and fixed entry cost for investors increases. In the case of book building, we show that the probability of choosing IPOs decreases when the number of informed investors in the road-show increases. In the case of auctions, we show that the probability of choosing IPOs decreases when certainty of the auction being successful

decreases and the number of potential bidders increases. We will analyse these extensions in two cases: when the firm is controlled by the entrepreneur and when the firm is controlled by the private equity investor. We end by proposing a number of empirical applications of the theoretical model.