Venture Capital and the Dynamism of Startups*

Yang Yu†

(Preliminary Version)

Abstract

I study the strategic investment decisions of competing venture capitals (VCs) in startups, focusing on the impact of uncertainty on investment and startup dynamism. My framework considers multi-round funding requirements and VC optimization based on current information and projections of future success (M&A or IPO). Using a novel dataset on the "life-cycle" of biotech and software startups, I establish that the data identifies model parameters and propose methods to correct for endogenous and dynamic selection to infer true startup values and VC information. Among several others, I find that (1) biotech investors initially possess more information than software investors but learn slower, reflecting sector-specific business models; (2) uncertainty leads to underfunding of promising startups, causing welfare losses of 22% and 21% in biotech and software, respectively; and (3) "*dynamic (positive) information externality*" from early stage investors to late stage investors causes the former to invest less, leading to welfare losses of $10 billion in biotech and $3 billion in software. I also explore policies to mitigate these losses. Additionally, I estimate that stricter M&A policies reduce VC returns, significantly decreasing startup funding and exacerbating welfare losses.

JEL classification: C15, C32, D44, D83, G24, L26, M13

Keywords: Startup, Venture Capital, Information and Learning, Auction

*I thank Federico Ciliberto, Gaurab Aryal and Simon Anderson for their insightful comments. I also thank Maxim Engers, Steven Kaplan, Chanwool Kim, Doron Ravid, Eric Richert, Peter Troyan, Boning Zhou, Luigi Zingales, Eric Zwick and participants of the IO Graduate Meetings at the University of Virginia and University of Chicago for their helpful suggestions. All errors are my own.

†Department of Economics, University of Virginia, yy5bm@virginia.edu