Internet Appendix A93: IPOs

A93.1 Illustrative Pitch Template Example - Reverse-engineered

This pitch is reverse engineered from the paper: Bernstein, S. (2015). Does going public affect innovation? *Journal of Finance*, 70(4), 1365-1403.

Pitcher's Name	Jie Teng	For Category	Finance	**Date Completed**	26/05/2016
(A) Title	Does going public affect innovation?				
(B) Basic Research Question	What do we learn about the impact of going public on innovative activity by comparing IPO firms with counterparts that withdraw IPO filing?				
(C) Key Paper(s)	Aggarwal, V. A., & Hsu, D. H. (2013). Entrepreneurial exits and innovation. *Management Science*, 60(4), 867-887. Aghion, P., Van Reenen, J., & Zingales, L. (2013). Innovation and Institutional Ownership. *American Economic Review*, 103(1), 277-304. Jain, B. A., & Kini, O. (1994). The post-issue operating performance of IPO firms. *Journal of Finance*, 49(5), 1699-1726.				
(D) Motivation/Puzzle	With the critical role of innovation in promoting economic growth (Solow (1957)) and the prevalence of technological firms in the IPO market over recent years, the relationship between innovation and public listing becomes more and more important. Although much research examines the performance of firms around their IPO, little is known about the effects of going public on innovation. Exploring this relationship would be beneficial both in theory and in practice.				
THREE	**Three** core aspects of any empirical research project i.e. the "**ID**io**T**s" guide				
(E) Idea?	The **core idea** is to investigate the effects of going public on innovation by comparing the innovation activity of firms that go public with firms that withdraw their IPO filing and remain private. The **central hypothesis** is public listing reduces innovation novelty and changes the strategies that firms employ in pursuing innovation to acquiring more externally. According to the literature, public listing can lead to an increase in innovation activity or undermine firms' incentives to innovate. It is necessary to disentangle the positive and negative effects of public listing on innovation by empirical investigation. The paper compares the innovation activity measured by patent citations of public firms with firms that withdraw IPO filings. The effects are shown in three dimensions of innovation activity: the creation of internally generated innovation, the productivity and mobility of individual inventors, and the acquisition of external innovation.				
(F) Data?	The data comprise information on IPO filings, patents, hand-collected financial information, and information on other firm characteristics. IPO filings are obtained from Thomson Financial's SDC New Issues database from 1985 to 2003. IPO filings of financial firms, unit offers, closed-end funds, American depositary receipts, limited partnerships, special acquisition vehicles, and spin-offs are excluded. The patent data come from the NBER patent database from 1976 to 2006. Harvard Business School patent database is used to supplement patents granted between 2006 and 2009. The paper uses the NBER bridge file to COMPUSTAT to match patents to firms that completed the IPO filing, and manually matches patents to withdrawn IPO filings. The sample is restricted to firms with at least one successful patent application over the period from three years before to five years after the IPO filing. Cross-sectionally, the sample size comprises 1,488 innovative firms that went public and 323 that withdrew the IPO application. Withdrawn firms' financial information are collected from initial registration statements by downloading Form S-1 filings from the SEC's EDGAR database. Information for IPO firms are collected from COMPUSTAT and CapitalIQ. Additional information on firm characteristics comes from various sources (omitted).				

(G) Tools?	The research uses multivariate analysis to compare innovation performance of public and private firms. To overcome the inherent selection bias associated with the life cycle effect, a sample of firms that either complete or withdraw their IPO filings is constructed. To ease the new bias associated with the decision to withdraw IPO filings, NASDAQ fluctuations are used as an instrument for IPO completion. A placebo test is used to ensure NASDAQ fluctuations affect long-run innovation only through the IPO completion choice.
TWO	**Two** key questions
(H) What's New?	The novelty is in the introduction of a new index, namely either complete or withdraw the IPO filings, to make comparison, and using an identification strategy that exploits NASDAQ fluctuations to instrument for IPO completion.
(I) So What?	The research reveals a complex trade-off between public and private ownership on innovation. Following public listing, internal innovation becomes less novel and firms experience an exodus of skilled inventors. However, IPO firms can rely more on acquisition of technologies externally. These results can partly explain the concern whether the recent decline in IPOs marks a breakdown in the engine of innovation and growth (Weild and Kim (2009)). The findings can also help corporate managers to make a balance between internal project selection, human capital and outsourcing strategies when deciding to go public.
ONE	**One** bottom line
(J) Contribution?	The paper makes a further exploration between innovation and public listing. It contributes to the IPO literature that explores firm behaviour following the IPO and documents a decline in firm performance. It adds a new dimension, namely innovation, to a growing body of work that compares the behaviour of public and private firms. This work also contributes to a growing literature that explores the role of governance, capital structure, and ownership on corporate innovation.
(K) Three Key Findings	1. Going public causes a substantial decline in innovation novelty. 2. Individual inventors' productivity declines and key inventors are more likely to leave after public listing. 3. Firms rely more heavily on acquiring technologies externally after the IPO.