Intangible but Bankable

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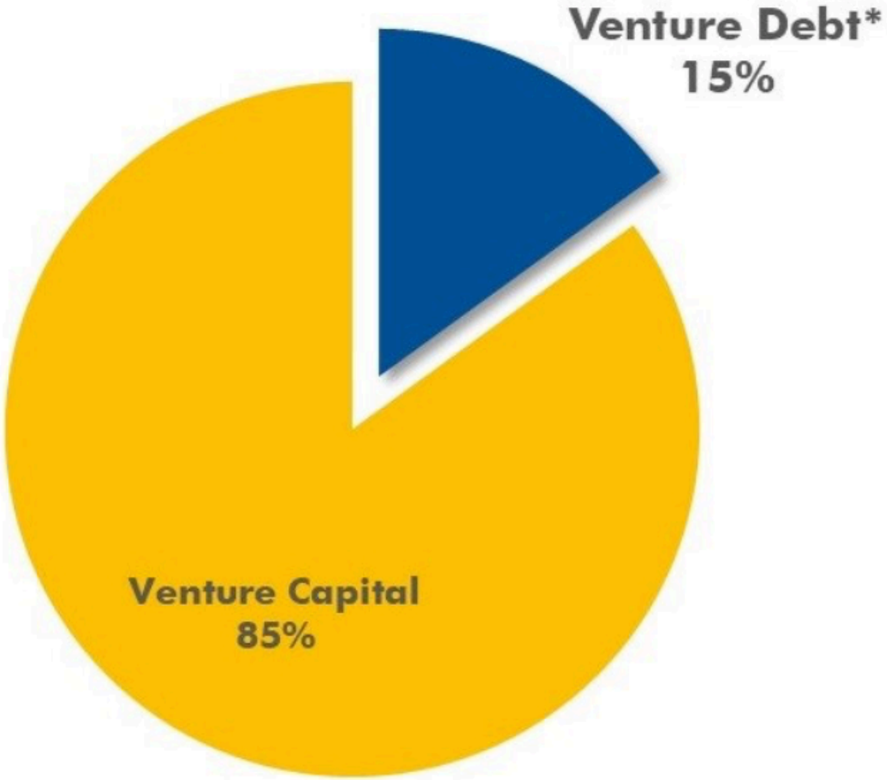
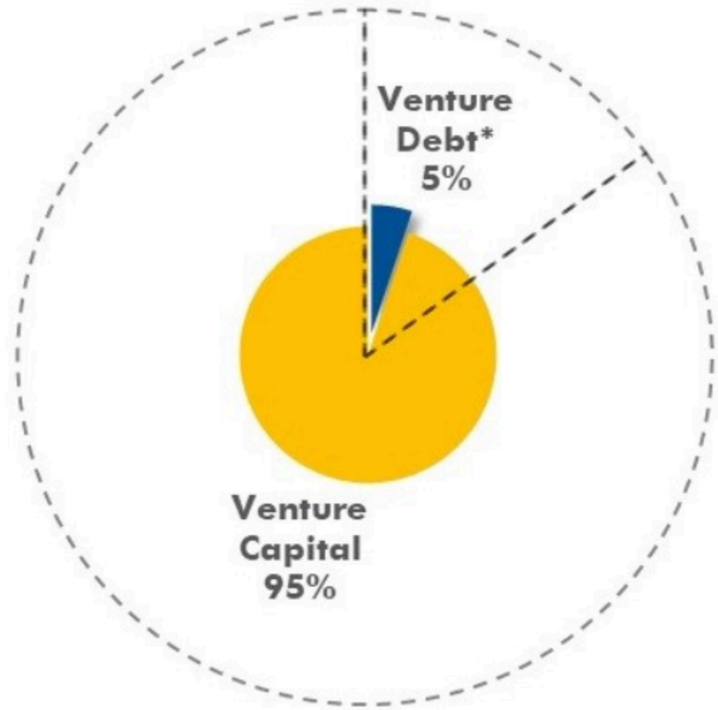
- Intangible assets, like patents, account for a rising share of corporate value (McGrattan and Prescott, 2005; Demmou et al., 2019).
- This change causes difficulties for companies when it comes to fund their investments using external debt, particularly bank debt.
- Governments and banking institutions are exploring mechanisms to adapt to this change (Brassell and King, 2013)
  - Patent loan default insurance (similar to CDS)
  - Patent loan guarantees (e.g., Singapore, Malaysia, China)
  - General idea is to use the loans' collateral –the value of patents– to make it "cheaper in regulatory terms" to lend to companies.
- Today: talk about my research on venture debt to U.S. tech start-ups
  - Venture debt is a form of debt financing for growth-oriented firms that lack the assets or cash flow for traditional debt financing.

Venture financing in the **US**



Annual US venture financing
EUR 90bn in 2018

Venture financing in **Europe**



Annual EU venture financing
EUR 21bn in 2018

Source: EIB calculations

Today: IP and Venture Debt

- Venture debt is generally structured as a short-term loan, with warrants for company stock
  - Complement to venture capital (VC) financing.
  - Senior debt secured by a blanket lien on the company's assets.

- Lenders rely both on investors' ability to choose good companies and on their presumed willingness to support the investments with future funding.

- Two possible means of repayment: future equity infusions or, as backup, the sale of intellectual property (IP), such as technology patents, trademarks, or copyrights (Hardymon et al., 2005).

- My research studies two mechanisms that can make this market work
  - **Thickness in the resale market for patents.**
  - **VC firms' intermediary role between start-ups and lenders.**

Findings and Policy Implications

(Hochberg, Serrano and Ziedonis, 2018)

- Over 35% of VC-backed start-ups obtain patent-backed loans pre-exit.

- **Thicker patent-trading** increases the annual rate of startup lending, especially for start-ups with more redeployable patent assets
  - Challenges a widespread view that patent markets are too illiquid to sway lending activity.
  - Suggests patent-market liquidity affects the financing opportunities of entrepreneurial firms.

- **VC investors** are crucial for venture debt
  - VCs play a vital intermediary role beyond selection: monitoring and continue supporting their investments in start-ups.
  - Suggests that effects of policies seeking to stimulate entrepreneurial innovation through debt financing may be muted absent a well-developed infrastructure of VCs or specialized investors.

Additional Policy Implications

- What **liquidation and bankruptcy systems** are more effective in the redeployment of intangible assets to alternative users?
  - Insolvency and bankruptcy regimes vary widely across jurisdictions.
  - Assignment for the Benefit of Creditors, an alternative to bankruptcy often used by insolvent firms in U.S., doesn’t require judge intervention and may increase speed of sale of assets.

- Should **banking supervision and regulation** adapt to the increasing importance of intangibles in the economy? And if so, how?
  - Must account for the strong interdependencies between venture lending and supply of institutional capital committed to VC investing.
  - Must take into account how valuable are intangible assets when separated from physical and human assets (see e.g., Serrano and Ziedonis, 2019).

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