

VENTURE CAPITAL

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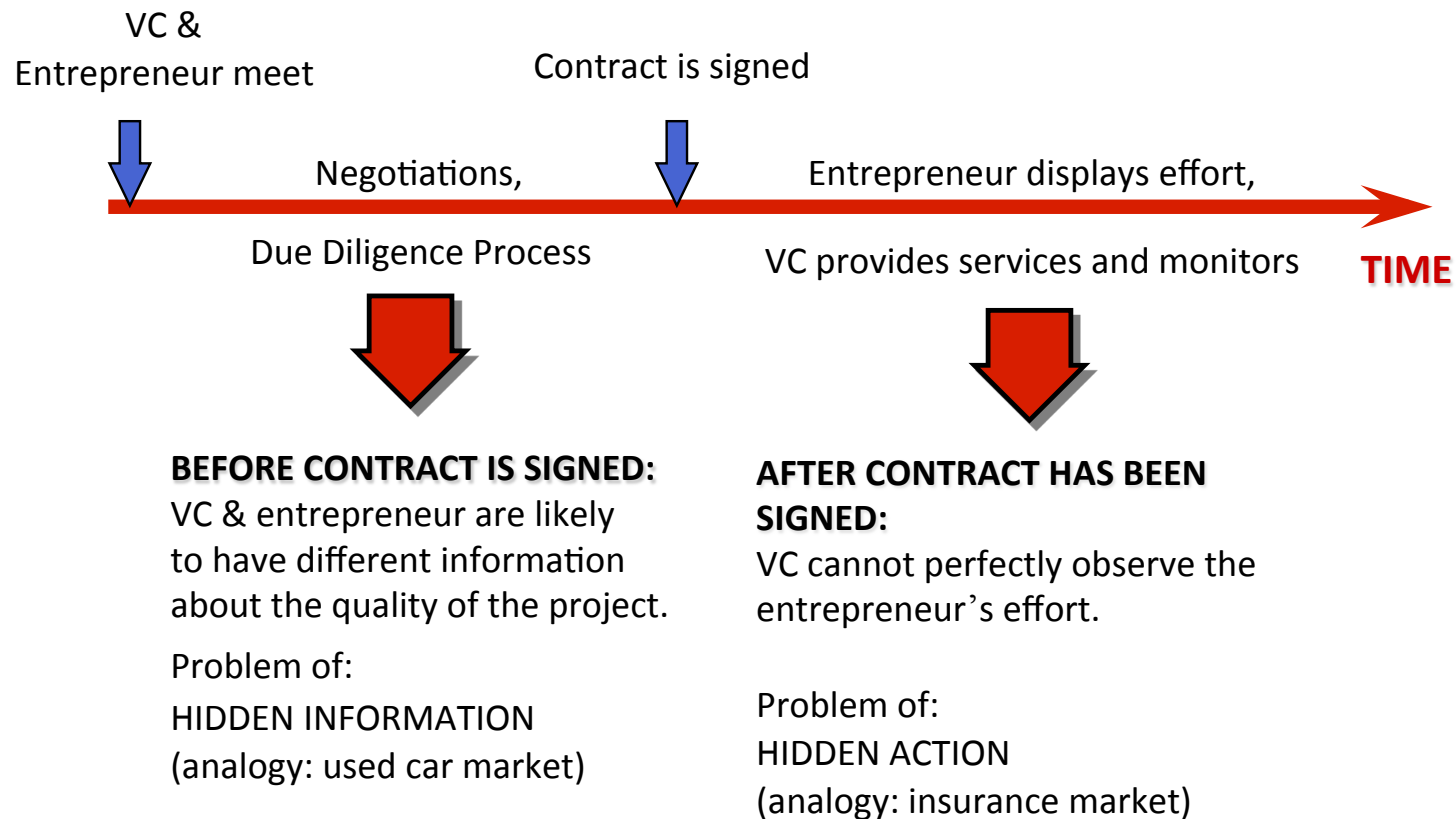
Venture capital as one form of startup financing

- Commercial banks
- Angel investors
- Crowdfunding
- Government grants
- Entrepreneurial "bootstrapping"

Financing innovation: two examples

Company	Investor	Date	Amt raised ('000)	Ownership acquired (%)	Valuation (diluted, '000)	Price/share (\$)	Ownership at IPO (%)
Apple Computer	Founders	Mar-77	\$ 1	100.0%	\$ 1	\$ -	30.7%
	Founders	Nov-77	\$ 115	38.6%	\$ 298	\$ 0.01	19.3%
	Founders	Jul-78	\$ 426	14.9%	\$ 2,867	\$ 0.09	8.7%
	VC 1	Jan-78	\$ 518	14.8%	\$ 3,364	\$ 0.09	10.2%
	VC 2	Sep-78	\$ 704	6.3%	\$ 13,406	\$ 0.28	4.6%
	VC 3	Aug-79	\$ 2,331	5.5%	\$ 59,834	\$ 0.97	4.4%
	IPO	Dec-80	\$ 88,000	7.4%	\$ 1,412,370	\$ 22.00	7.4%
Genentech	Founders	Jan-76	\$ 126	100.0%	\$ 126	\$ 0.04	41.4%
	VC 1	Apr-76	\$ 850	27.6%	\$ 3,154	\$ 0.72	15.3%
	VC 2	May-78	\$ 950	9.6%	\$ 9,890	\$ 2.00	6.1%
	Corporate	Sep-79	\$ 10,000	15.8%	\$ 63,480	\$ 10.00	12.9%
	IPO	Oct-80	\$ 38,500	14.2%	\$ 298,340	\$ 35.00	14.2%

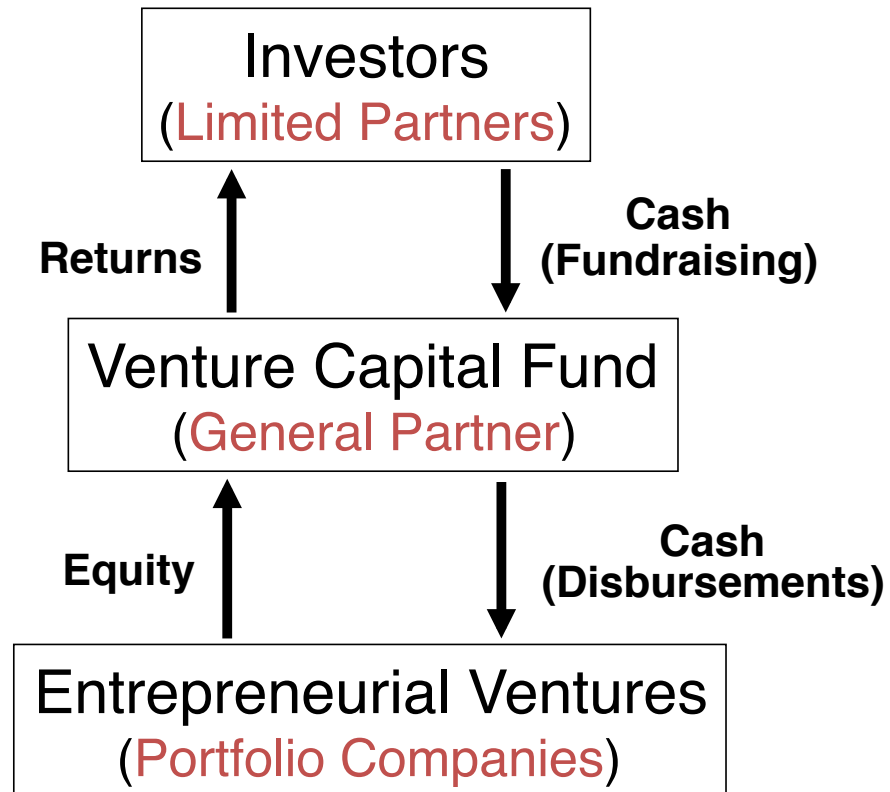
VCs help overcome information problems



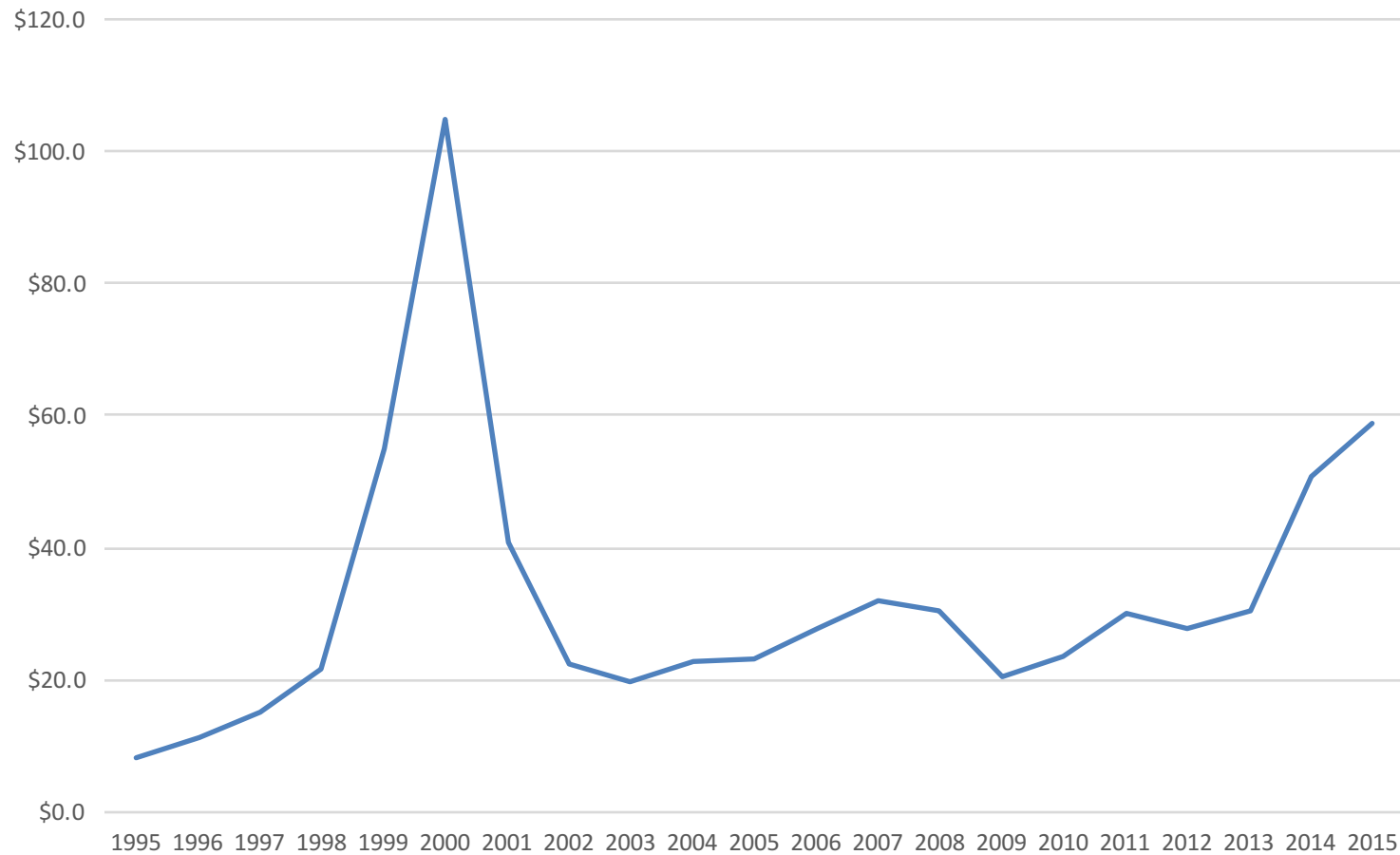
What do venture capitalists do?

- Raise money for their funds
- Source investment opportunities
- Perform due diligence on potential investees
- Price and structure investments
- Monitor and add “extra”-financial value to portfolio firms (via corporate governance)
- Exit the investment

The venture capital process



U.S. VC \$M amount invested (source: PwC MoneyTree/NVCA)



U.S. VC investment performance

- For 22,004 startups founded by U.S. VC between 1987-2008, the average exit value was \$5.8M, but ~75% of the investments resulted in zero value to venture capitalists.
 - R.E. Hall and S.E. Woodward, “The burden of non-diversifiable risk of entrepreneurship,” *American Economic Review*, 2010

What do entrepreneurs pay for VC affiliation?

- Sample of startups at the Series A round of VC financing, each with *multiple* offers for financing; unit of analysis is a funding offer
- Study two outcomes: likelihood an offer is accepted & the price/unit equity sold (relative to startups' most generous financial offer).
- Control for a wide spectrum of firm and investor characteristics; key explanatory variables: measures of VC reputation and experience
- Results: aggregate money left on the table as a % accepted valuation offers: 12.5%; high reputation VCs 3x more likely to have their offers accepted & acquire startup equity at 10-14%
- Source: DH. Hsu, *Journal of Finance* (2004), Vol. 59, pp. 1805-1844

Further research findings about entrepreneurial investors

- VCs, especially more reputable VCs:
 - accelerate startup professionalization (e.g., business development, human resource management)
 - innovation/successful exit (based on a study examining the exogenous introduction of direct airline flights between VCs and their existing portfolio companies).
- Sources: D.H. Hsu (2006), “Venture capitalists and cooperative start-up commercialization strategy,” *Management Science*, Vol. 52, pp. 204-219. T. Hellmann and M. Puri (2002). “Venture capital and professionalization of start-up firms: empirical evidence, *Journal of Finance*, Vol. 57, pp. 169-197. S. Bernstein, X. Giroud, R.R. Townsend (forthcoming), “The impact of venture capital monitoring,” *Journal of Finance*.



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