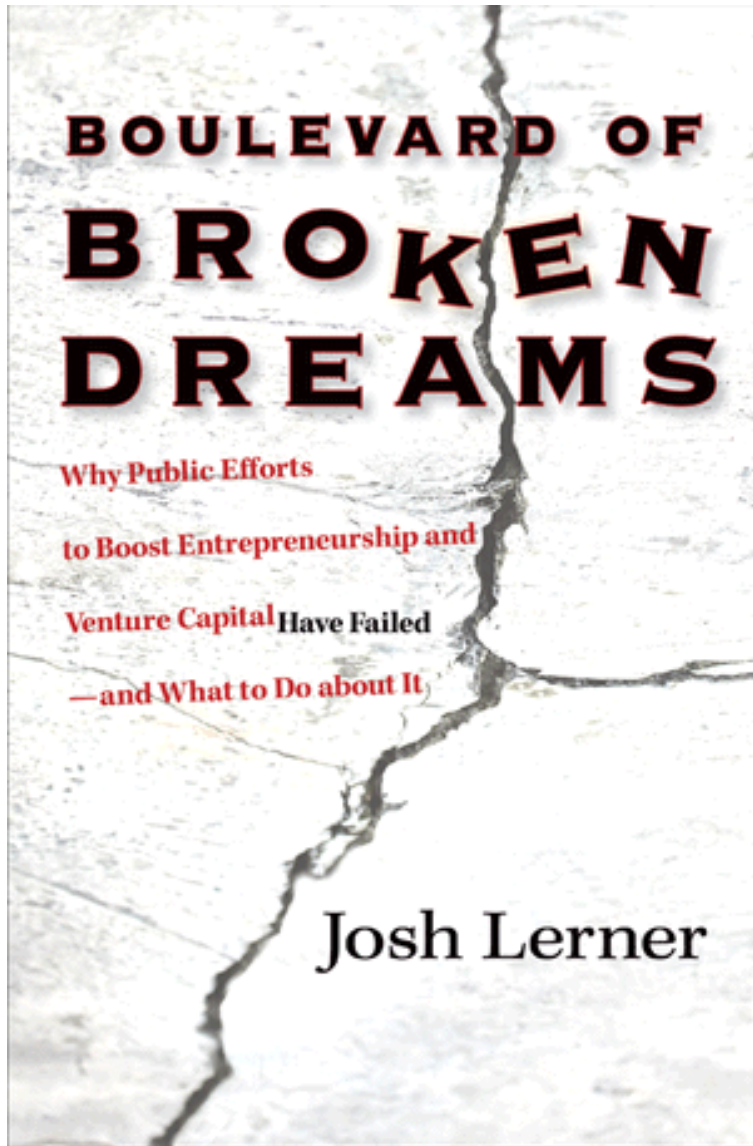




GOVERNMENT PROMOTION OF HIGH- POTENTIAL ENTREPRENEURSHIP AND VENTURE CAPITAL

Josh Lerner

**Harvard Business School and Private Capital Research
Institute**



ECONOMISTS HAVE LONG UNDERSTOOD LINK BETWEEN INNOVATION AND GROWTH

- Two ways to grow:
 - More inputs (capital, labor, ...)
 - Smarter use of inputs (innovation).
- Widespread consensus:
 - At least 85% of growth in Western nations can only be explained through innovation.



ENTREPRENEURSHIP IS AN IMPORTANT PART OF THE ANSWER

- Haltiwanger and co-authors look at job creation in U.S.:
 - Once carefully control, small firms have little advantage in new job creation,
 - But huge advantage for young firms:
 - *Essentially all growth from firms <3 years old.*



ENTREPRENEURSHIP IS AN IMPORTANT PART OF THE ANSWER (2)

- Acs and Audretsch [1988] look at 100s of key innovations in second half of 20th century:
 - Small firms contribute disproportionate share of major innovations.
 - Contribution was greatest in immature industries which were relatively unconcentrated.
 - Consistent with models of technological competition (Reinganum [1989]).



ENTREPRENEURSHIP IS AN IMPORTANT PART OF THE ANSWER (3)

- Kortum and Lerner [2000] look at relationship between venture capital and innovation:
 - Look at evidence across 20 industries, using patenting and other proxies for innovation:
 - Also control for corporate R&D, *etc.*
 - ***Venture capital appears ~3 to 4 times more powerful than corporate R&D.***
 - Even after control for causality concerns.
 - From late 70s to mid-90s, VC was only 3% of corporate R&D, but responsible for ~10%-12% of privately funded innovations.



HENCE, DESPERATE NEED FOR “GREEN SHOOTS”

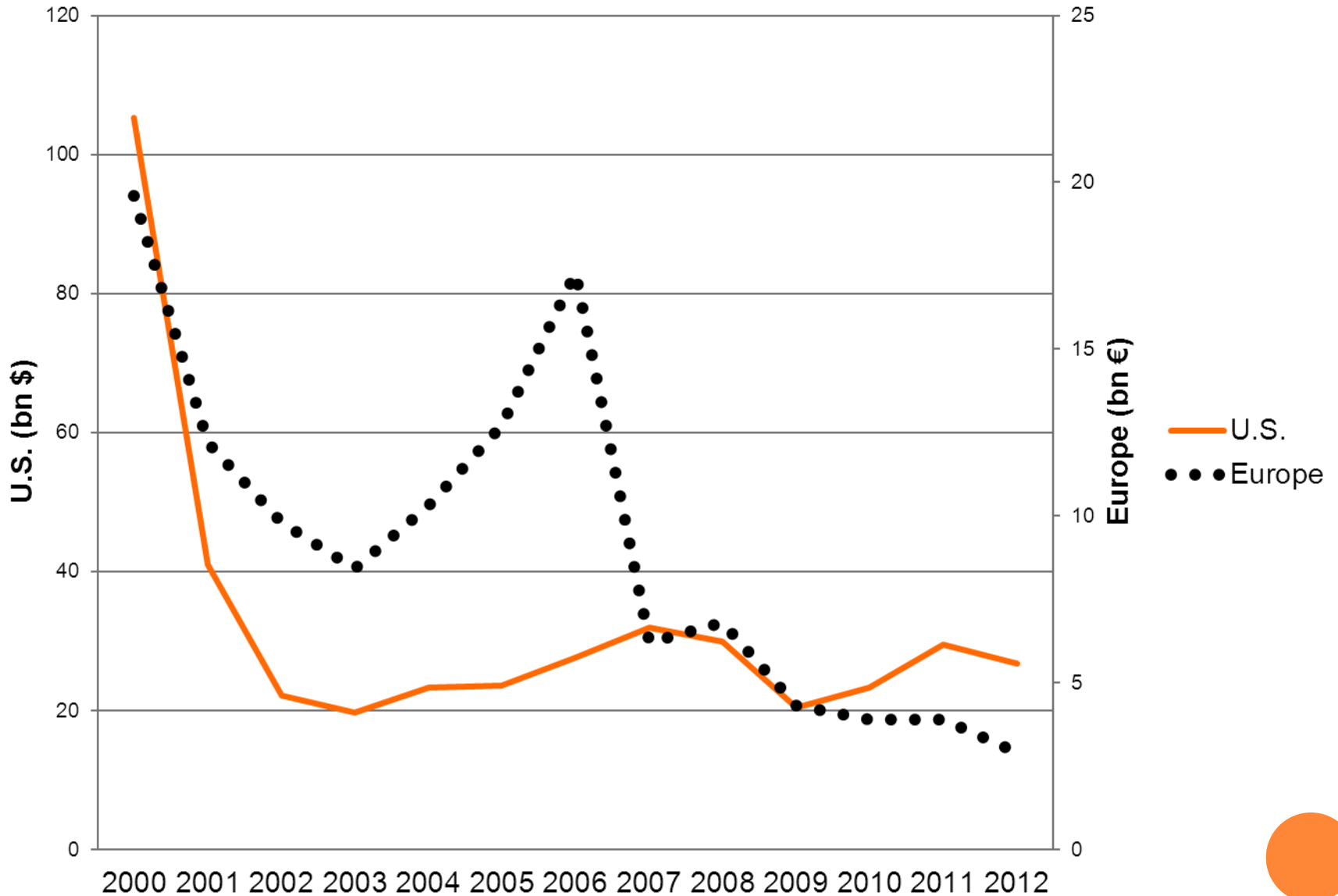


BUT ENTREPRENEURSHIP GROWTH ENGINES SPUTTERING

- Hard to see conclusively but...
 - Declining job creation from small firms.
 - Declining financing availability.
 - Downturn in venture activity world-wide since crisis.
- Concerns of wide-spread disillusionment of investors.



Venture Capital Investment, U.S. and Europe



RETURNS BEFORE AND AFTER

	Vintage Years: 1990-98	Vintage Years: 1999-2005
U.S.	37%	0%
Europe	8%	-5%

Source: Thomson/Reuters. Data as of 12/31/11.
Numbers are capital-weighted average IRRs,



WHY A GOVERNMENT ROLE?

- Increasing returns to scale
 - Much easier to do 100th deal than the first:
 - Knowledge and expectations of entrepreneurs.
 - Familiarity of intermediaries.
 - Sharing of information among peers.
 - Comfort level of institutional investors.
- Economists term these “externalities.”
- In these cases, government can frequently play a catalytic role.



ILLUSTRATIONS FROM HISTORY

- In the U.S.:
 - Critical role of SBIC program.
 - Established in 1958.
 - Many early VC firms started as SBIC awardees, then opted out.
 - Building critical “infrastructure”: Lawyers, data providers, *etc.*
- Similar insights from Israel, Singapore, *etc.*
 - Suggests that some of funding should be directed to growing industries!



BUT TWO FUNDAMENTAL PROBLEMS

- Incompetence:
 - Often, relatively little familiarity with worlds of entrepreneurship and venture capital.
 - Many well-intentioned efforts are poorly executed.
- “Capture”:
 - Public efforts can be directed to well-connected parties, who seek to benefit themselves.



THE LABOR FUND FUND INITIATIVE

- Canadian government introduces tax credits in effort to boost industry.
 - Differentiated in terms of capital sources, investment managers, and practices.
- Consequences:
 - Surge in fundraising by inexperienced funds:
 - 10X increase in funds.
 - Intensifies overheating of the market.
 - Among established funds, many exit to U.S. investing.



THE STIMULUS CLEANTECH INITIATIVE

- U.S. government sought to encourage cleantech firms as part of 2009 Recovery Act.
- Large grants by DOE to a few firms, totaling at least several billion:
 - Equal to or exceeding venture activity in segment.
- Non-transparent process for awards:
 - Many firms and VCs hired lobbyists to get access.
 - Many awardees or venture backers of firms proved to be donors.
- Many venture backers held off investing until it was clear who would get awards.



THREE KEY PRINCIPLES

- Making sure table is set.
- Ensuring effective design by listening to the market through matching fund requirements.
- Avoiding self-defeating design errors.



1. “TABLE SETTING”

- Ensuring *high potential* entrepreneurship is attractive:
 - Tax regime:
 - Studies suggest critical role of capital gains vs. income effective tax rate differential.
 - Easing formal and informal sanctions on involvement in failed ventures.
 - Singapore’s Phoenix award.
 - Easing barriers to technology transfer.
 - Entrepreneurship education for students and professionals alike.
 - Evidence from U.K. NESTA study.

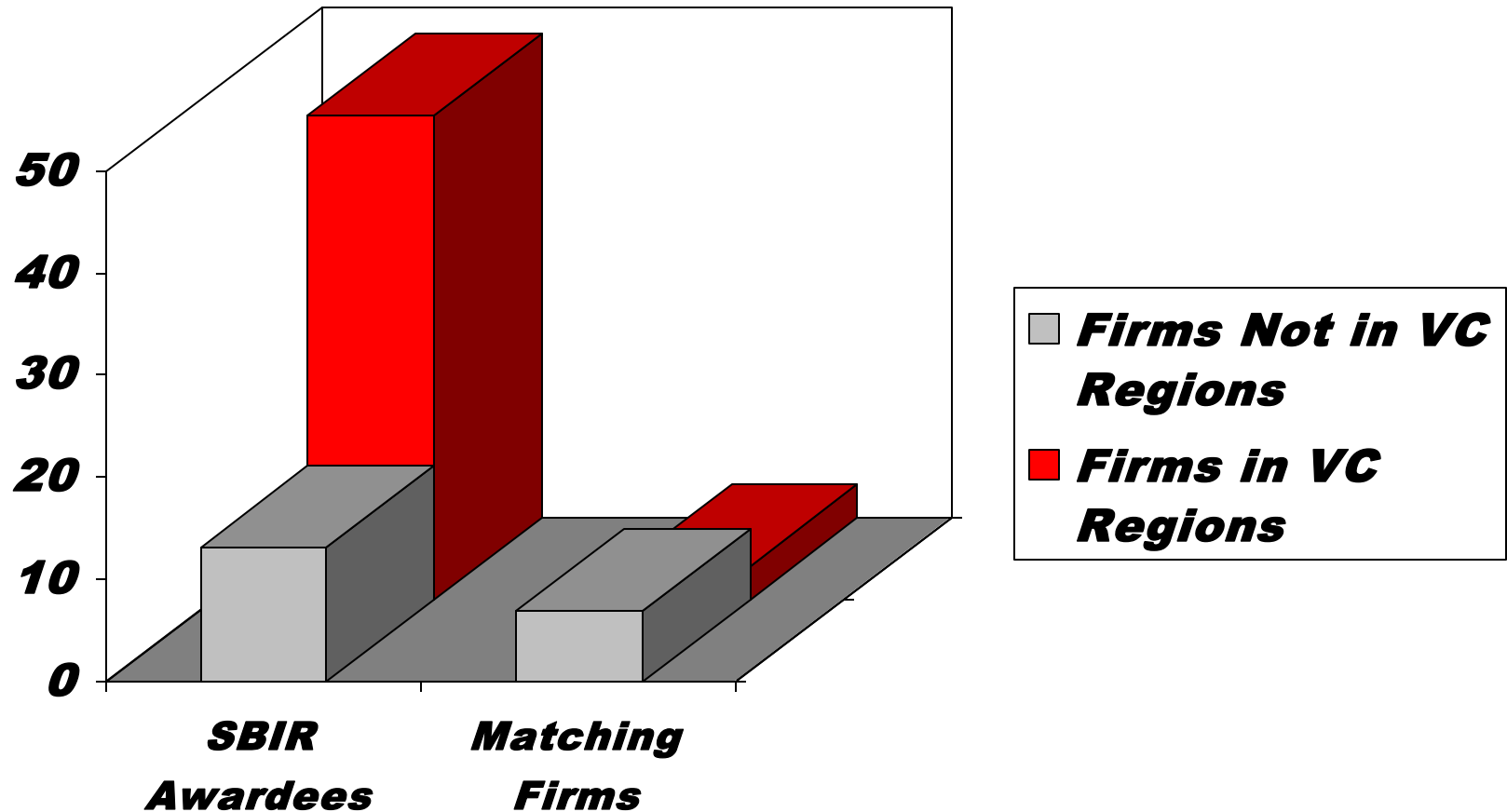


2. MATCHING FUND REQUIREMENTS

- Need to listen to market's dictates:
 - Temptation to jump into popular areas.
 - Universal temptation to “share the wealth”:
 - Spreading funds out.
 - Matching funds most appropriate way to ensure.



ILL-CONSIDERED PRESSURES FOR GEOGRAPHIC "FAIRNESS"



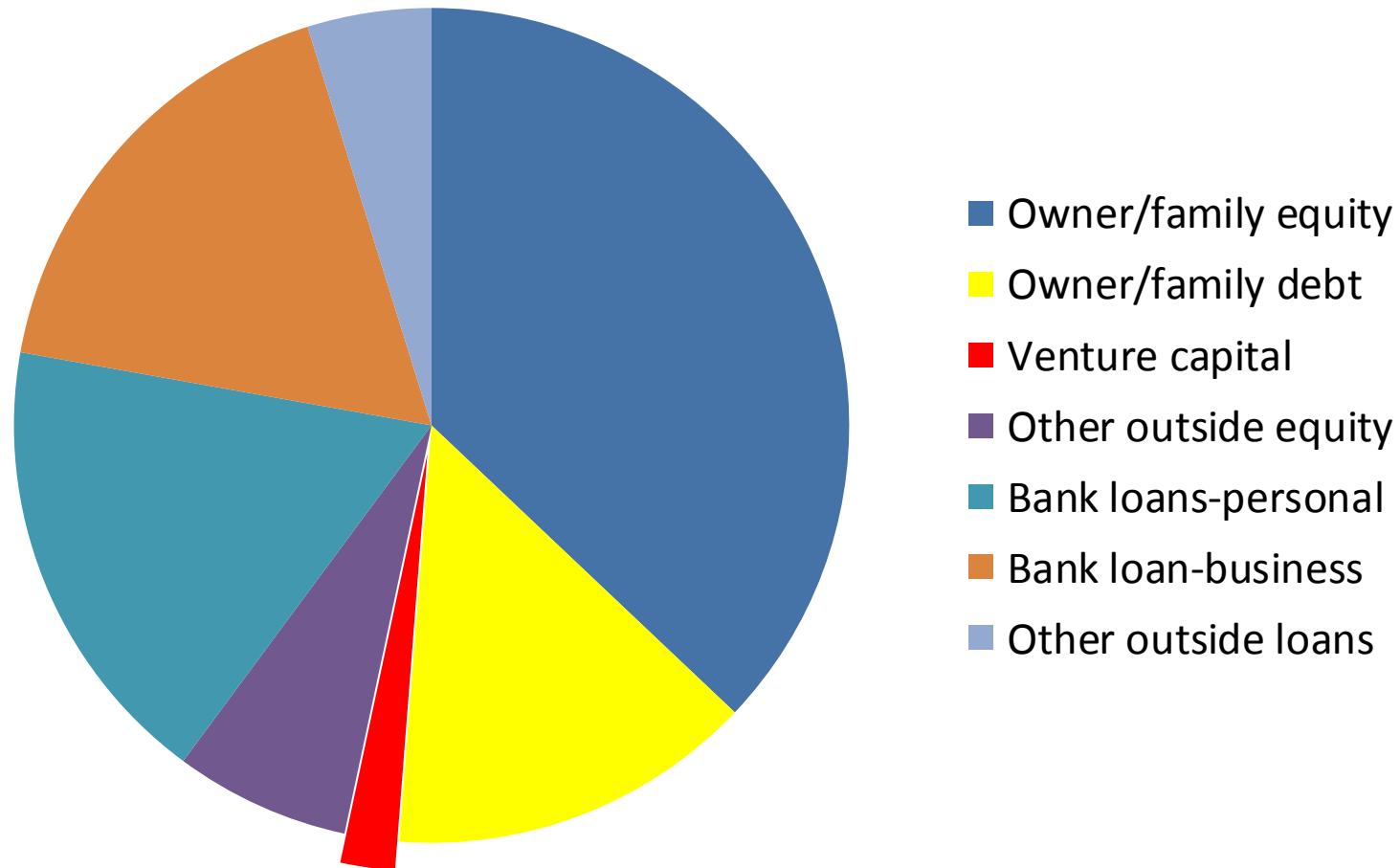
3. GETTING DETAILS RIGHT

- Appropriate sizing:
 - Too small may not make a difference.
 - Too big may flood local investor.
- Avoiding rules that go against what market needs.
- Need to ensure incentives to ensure participants do well if meet goals.
- Allowing to programs to evolve and adjust over time.
- Evaluation of managers and program itself.



ONLY PART OF THE STORY... ONLY SLICE OF SME FINANCE IN GENERAL

Financing Sources for Young U.S. Businesses



Source: Robinson and Robb [2011]



FINAL THOUGHTS

- The critical rationale...
 - And the many pitfalls.
- Three key points:
 - More than money is needed: entrepreneurship is not in a vacuum.
 - The virtues of market guidance.
 - Getting details right important as well.
- Need for patience!



Josh Lerner
Rock Center for Entrepreneurship
Harvard Business School
Boston, MA 02163 USA
617-495-6065
josh@hbs.edu
www.people.hbs.edu/jlerner

