



Silicon Valley and its Innovation Ecosystem

Boğaziçi University

November 17th, 2014

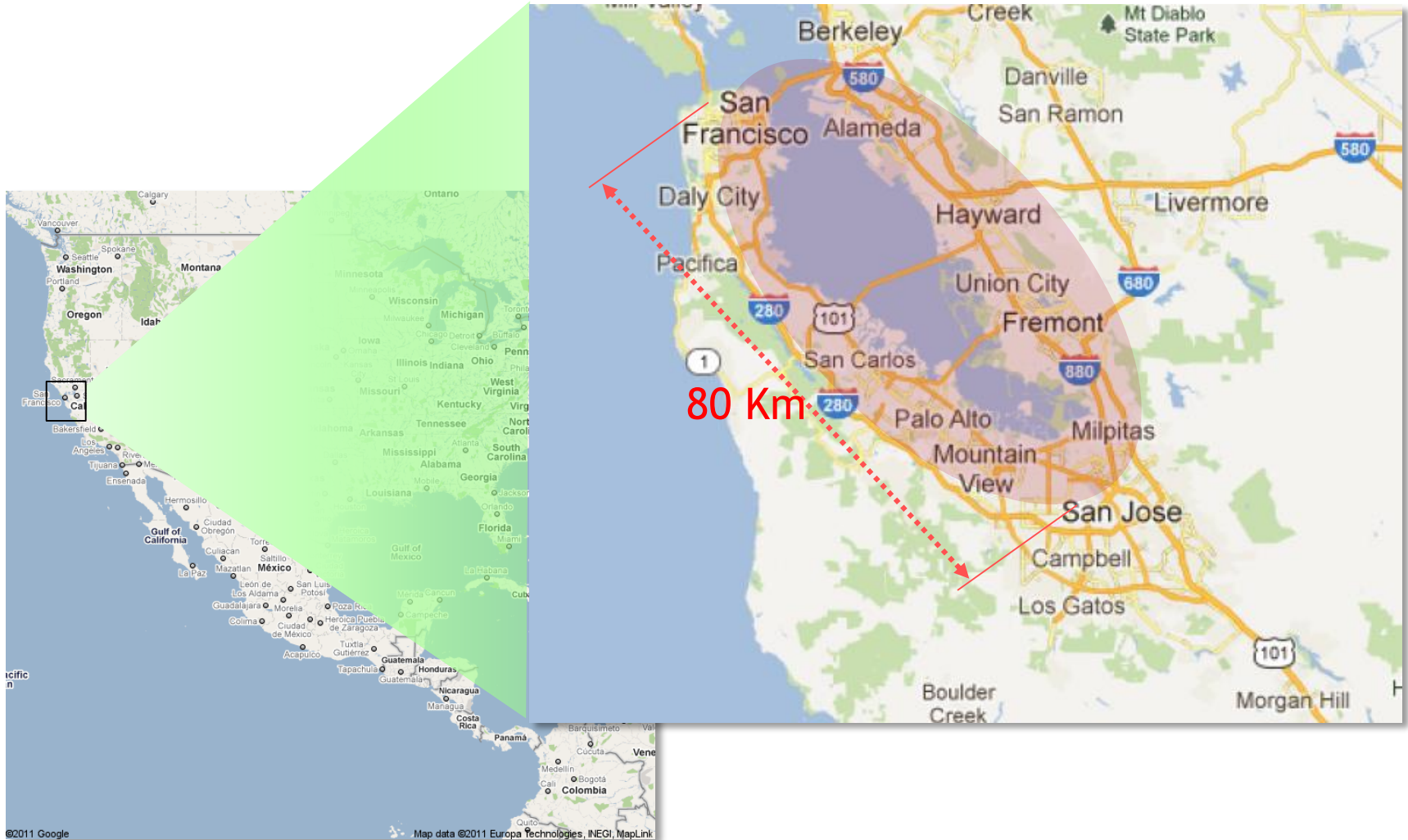
Masa Ishii

Managing Director, AZCA, Inc. and AZCA Venture Partners

Visiting Professor, Waseda Business School

Visiting Professor, Graduate School of engineering, Shizuoka University

Where is Silicon Valley anyway?



Notable Players in Silicon Valley



Key Facts of Silicon Valley

■ People with diverse cultural background

- 36% of the population is foreign born
- 55% of engineering professional is foreign born
- 48% of people speak languages other than English at home



■ High education level

- Universities and research institutions such as Stanford University, UC Berkeley, PARC, SRI International
- 8 of top 25 graduate schools in the U.S. are in California
- More than 40% of people have bachelor or higher degrees (US average 27%)



■ Abundant financial source to back venture activity

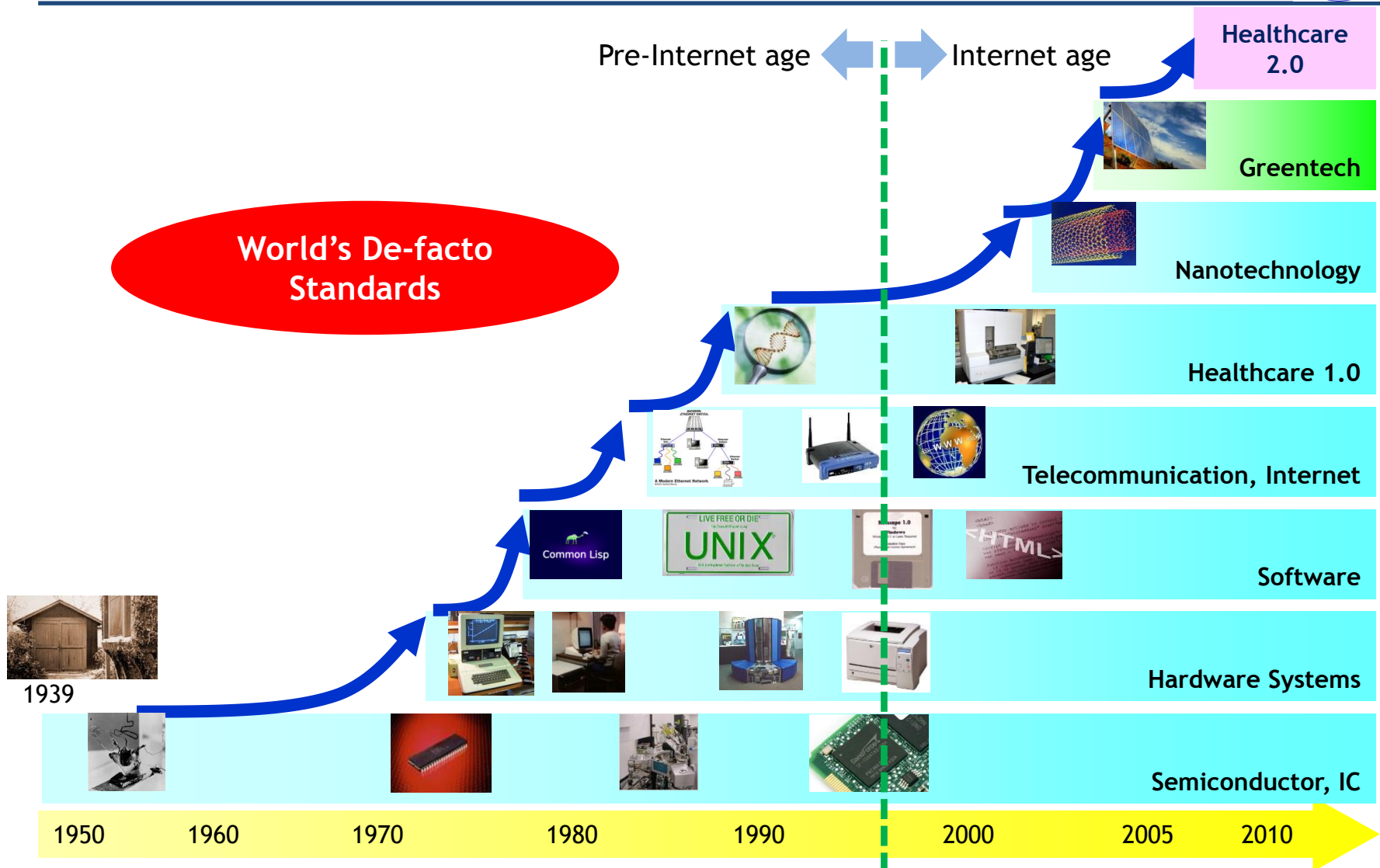
- \$10.9B of VC money invested (2012) - 41% of US total (\$26.7B)
- Over 300 VC firms - 841 firms in US total



Bay Area before Becoming “Silicon Valley”

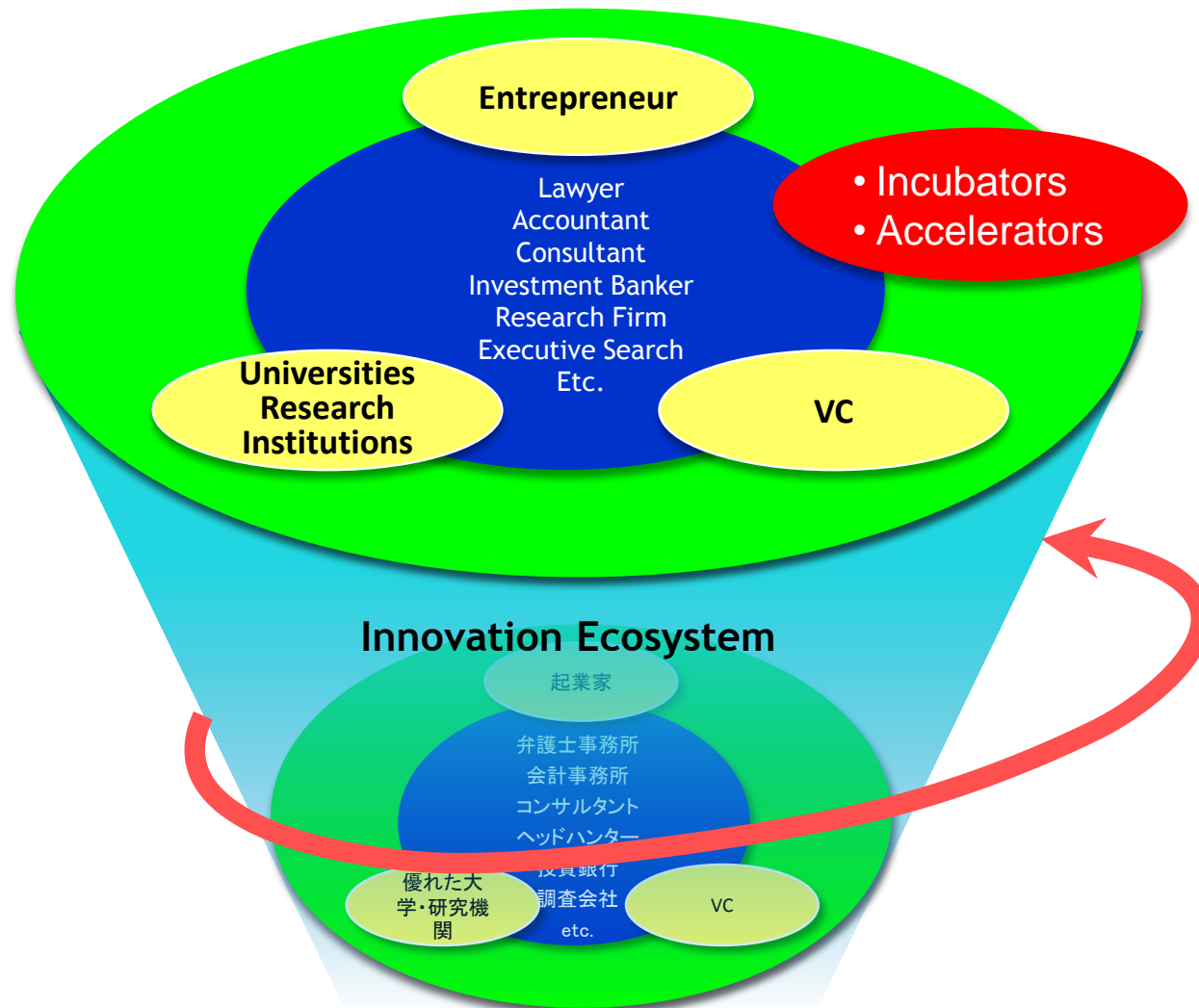


Waves of High Technology



Note: The term “Silicon Valley” was first used by Don Hoefler when he started his news column titled “Silicon Valley in the USA” in 1971 for the journal *Electronic News*.

Innovation Ecosystem of Silicon Valley



US Graduate School Ranking

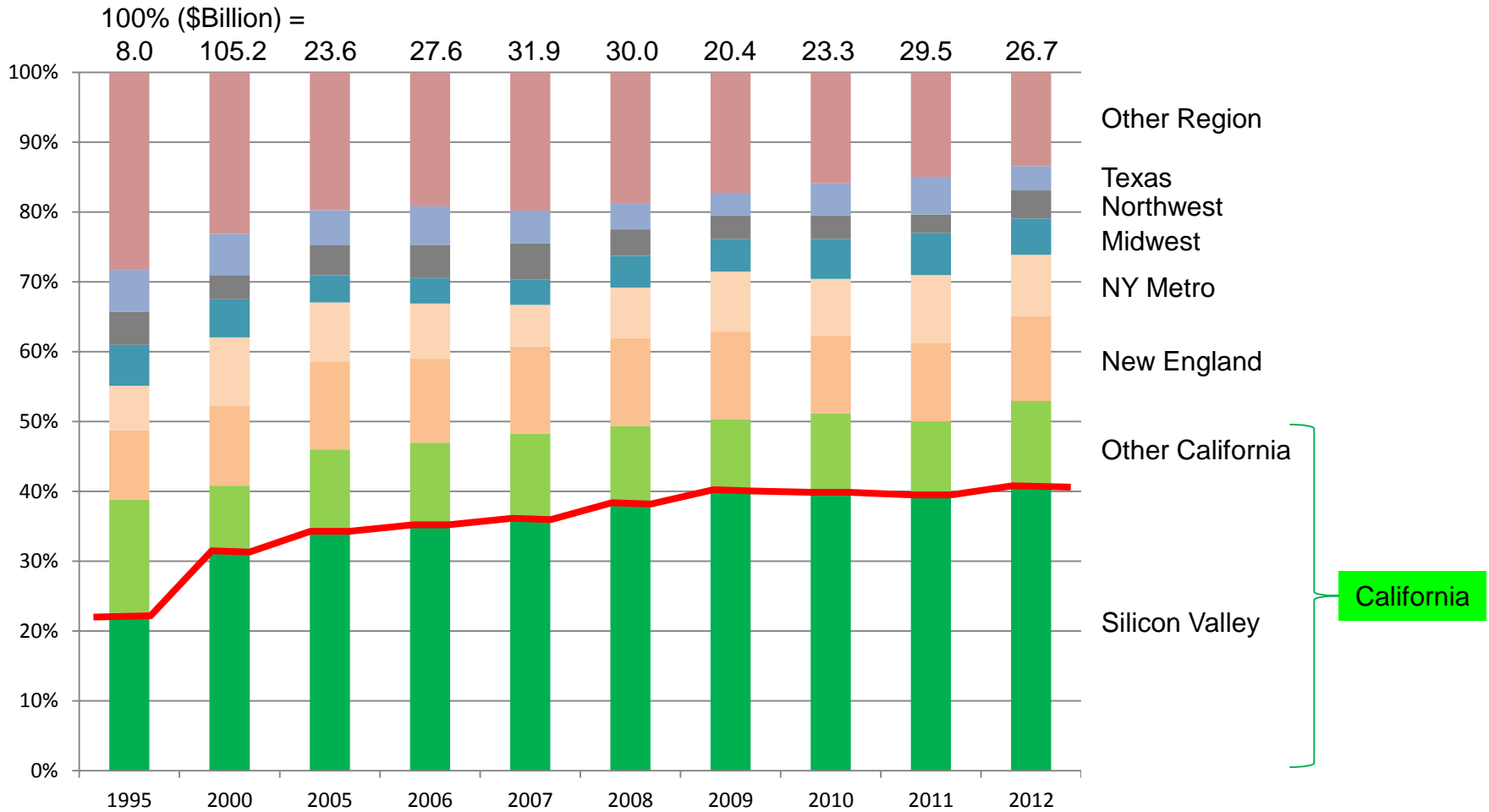


大学院	所在地	州	スコア*				
			Biological Sciences	Chemistry	Computer Science	Physics	Total Score
Stanford University	Stanford	CA	4.9	4.9	5.0	5.0	19.8
Massachusetts Institute of Technology	Cambridge	MA	4.8	4.9	5.0	5.0	19.7
University of California--Berkeley	Berkeley	CA	4.8	4.9	5.0	4.9	19.6
California Institute of Technology	Pasadena	CA	4.7	4.9	4.2	4.9	18.7
Harvard University	Boston	MA	4.7	4.8	3.9	4.9	18.3
Cornell University	Ithaca	NY	4.4	4.4	4.5	4.7	18.0
Princeton University	Princeton	NJ	4.4	4.0	4.5	4.9	17.8
Columbia University	New York	NY	4.3	4.3	3.9	4.3	16.8
University of Michigan--Ann Arbor	Ann Arbor	MI	4.3	4.0	4.0	4.2	16.5
University of California--San Diego	La Jolla	CA	4.2	3.9	3.9	4.1	16.1
University of Illinois--Urbana-Champaign	Urbana	IL		4.5	4.6	4.6	13.7
University of Chicago	Chicago	IL	4.2	4.2		4.6	13.0
University of Wisconsin--Madison	Madison	WI		4.5	4.2	4.1	12.8
Yale University	New Haven	CT	4.5	4.1		4.1	12.7
University of Texas--Austin	Austin	TX		4.2	4.3	4.1	12.6
University of California--Los Angeles	Los Angeles	CA		4.2	4.0	4.1	12.3
Scripps Research Institute	La Jolla	CA	4.5	4.6			9.1
University of Washington	Seattle	WA	4.2		4.5		8.7
Johns Hopkins University	Baltimore	MD	4.6			4.0	8.6
University of Pennsylvania	Philadelphia	PA	4.3			4.2	8.5
University of Maryland--College Park	College Park	MD			4.0	4.2	8.2
Carnegie Mellon University	Pittsburgh	PA			4.9		4.9
University of California--San Francisco	San Francisco	CA	4.5				4.5
University of California--Santa Barbara	Santa Barbara	CA				4.5	4.5
Washington University in St. Louis	St. Louis	MO	4.5				4.5
Rockefeller University	New York	NY	4.5				4.5
Northwestern University	Evanston	IL		4.4			4.4
Duke University	Durham	NC	4.4				4.4
Georgia Institute of Technology	Atlanta	GA			4.3		4.3
University of North Carolina--Chapel Hill	Chapel Hill	NC		4.0			4.0
Pennsylvania State University--University Park	University Park	PA		4.0			4.0
Purdue University--West Lafayette	West Lafayette	IN			3.8		3.8
Brown University	Providence	RI			3.7		3.7

VC's Impact on US Economy (2010)

- **80% of Innovation**
- **11% of Private Sector Jobs (11.9 Million)**
 - 90% of Software jobs
 - 74% of Biotechnology jobs
 - 72% of Semiconductor/Electronics jobs
 - 54% of Computer jobs
 - 48% of Telecommunication jobs
- **21% of US GDP (\$3.08 Trillion)**
 - 88% of Semiconductor/Electronics revenue
 - 67% of Biotechnology revenue
 - 46% of Computer revenue
 - 40% of Software revenue
 - 39% of IT services revenue

VC Investments by State



Source: NVCA

Incubators: “Silicon Valley in a Box”



Plug and Play Tech Center



Y Combinator



Cultural Differences: Silicon Valley vs. Route 128



Silicon Valley	Route 128
Open, Flexible	Conservative, Secretive
Collaboration, Alliance	Self-contained, Vertically Integrated
Faithful to your own Capability	Faithful to Company
Objective: Self-realization	Objective: Reputation of Company
High Mobility of People	Long-term Employment
Open Systems Architecture	Proprietary Architecture
Incubators; Accelerators	(to less extent)

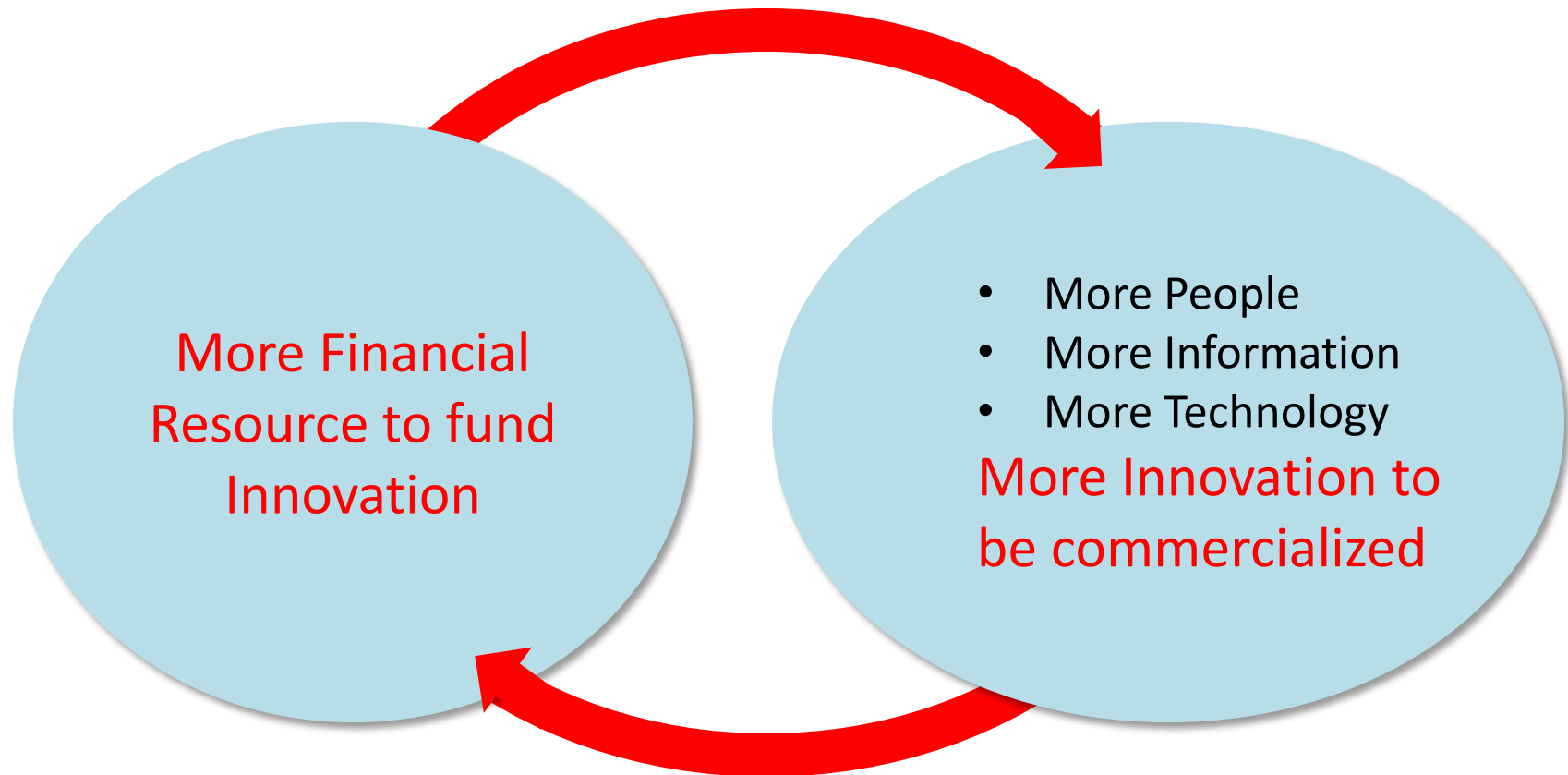
Further Reading



AnnaLee Saxenian is Dean and Professor in the School of Information and Professor in the Department of City and Regional Planning at the University of California, Berkeley.

- **1994: *Regional Advantage: Culture and Competition in Silicon Valley and Route 128*** (Harvard University Press, 1994)
- **1999: *Silicon Valley's New Immigrant Entrepreneurs*** (Public Policy Institute of California, 1999)
www.ppic.org/content/pubs/report/R_699ASR.pdf
- **2002: *Local and Global Networks of Immigrant Professionals in Silicon Valley*** (Policy Institute of California, 2002)
www.ppic.org/content/pubs/report/R_502ASR.pdf
- **2006: *The New Argonauts*: Regional Advantage in a Global Economy*** (Harvard University Press, 2006)

In Essence,...



Fundamental Culture Supporting Silicon Valley



Element 1: *Openness*

- Openness to people with different background
- Openness to new ideas (technology, business model)
→ “*Out of the Box Thinking*”

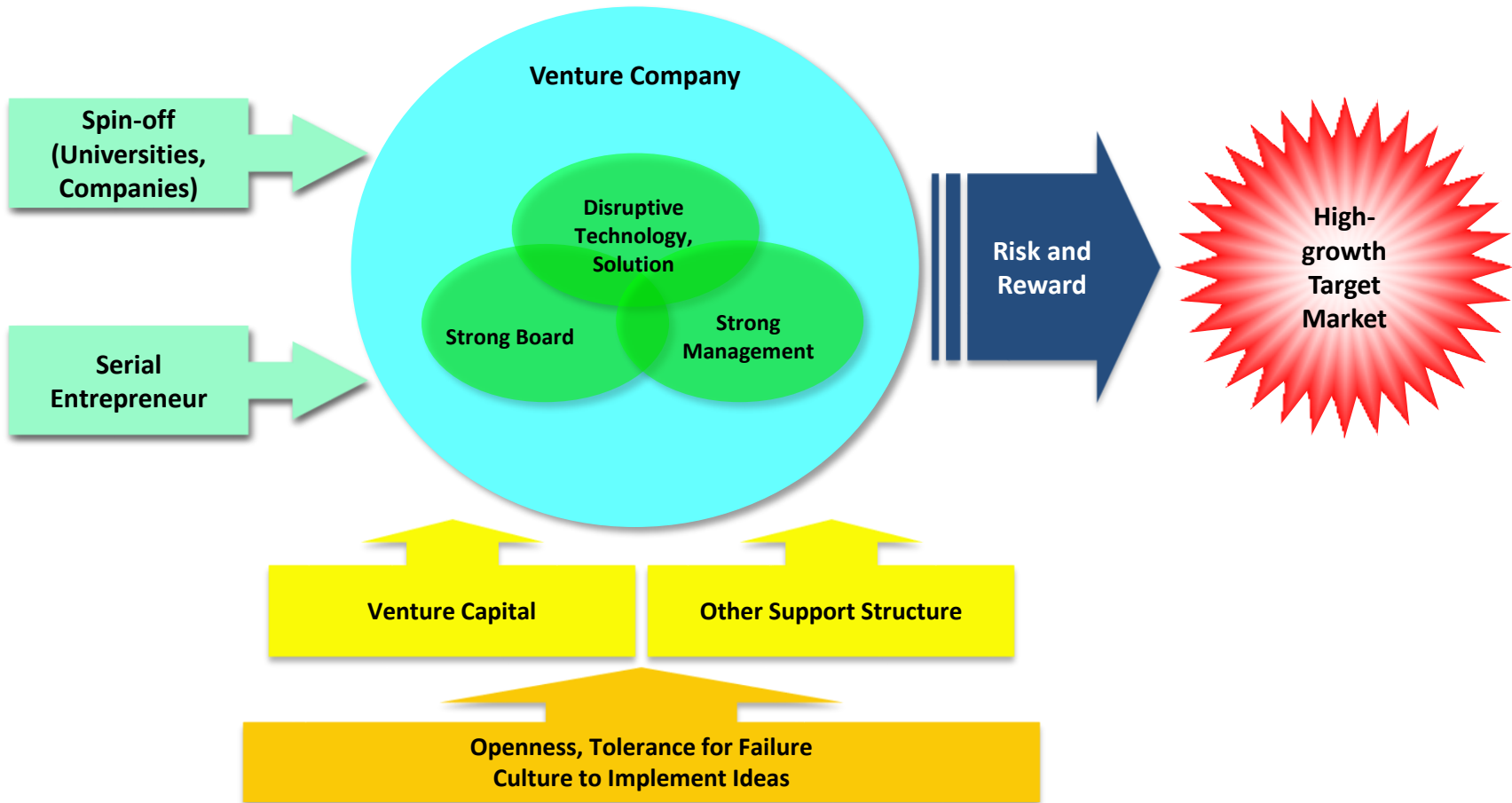


Element 2: *Tolerance for Failure*

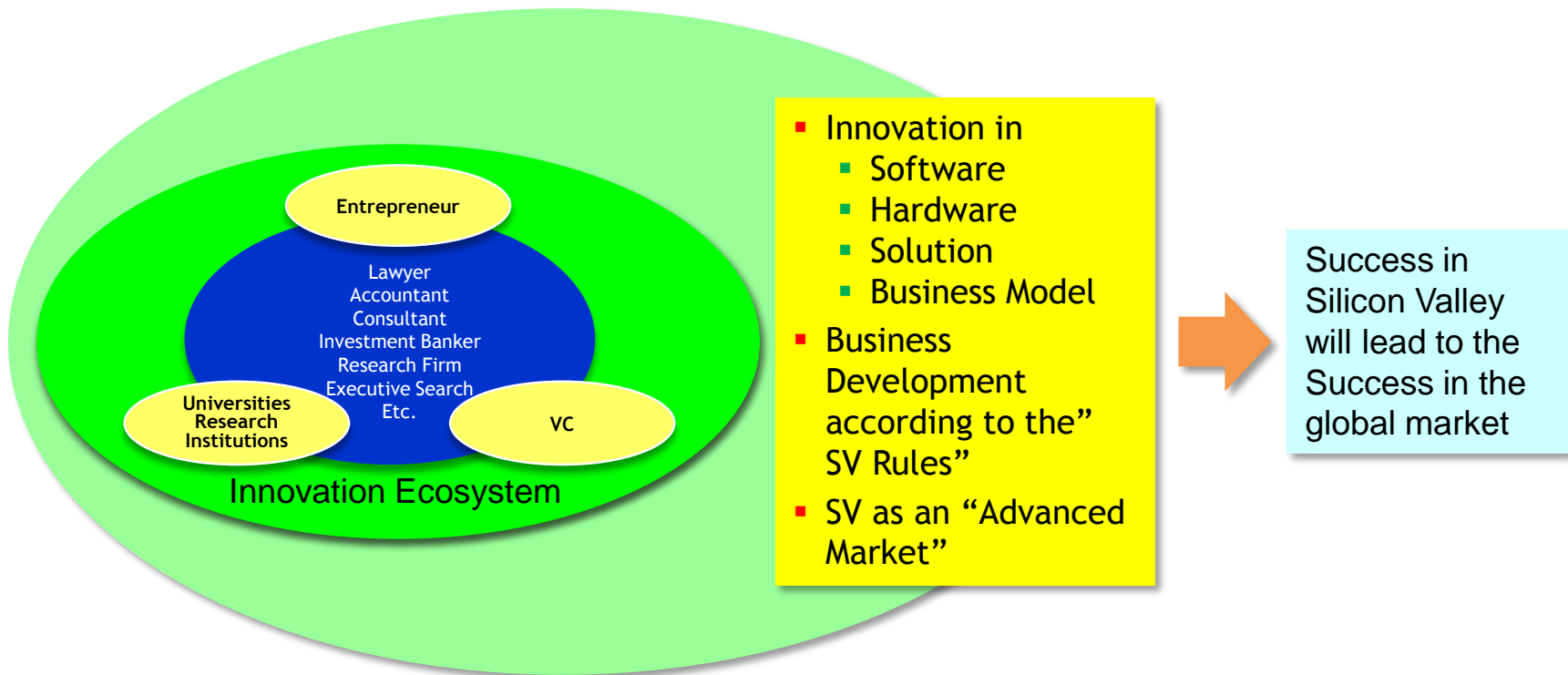
- Many attempts and many failures behind some success
- Low risk high return for entrepreneurs



Key Components of Venture Company



SV Ecosystem Allowing for Global Business Success



- Innovation in
 - Software
 - Hardware
 - Solution
 - Business Model
- Business Development according to the "SV Rules"
- SV as an "Advanced Market"

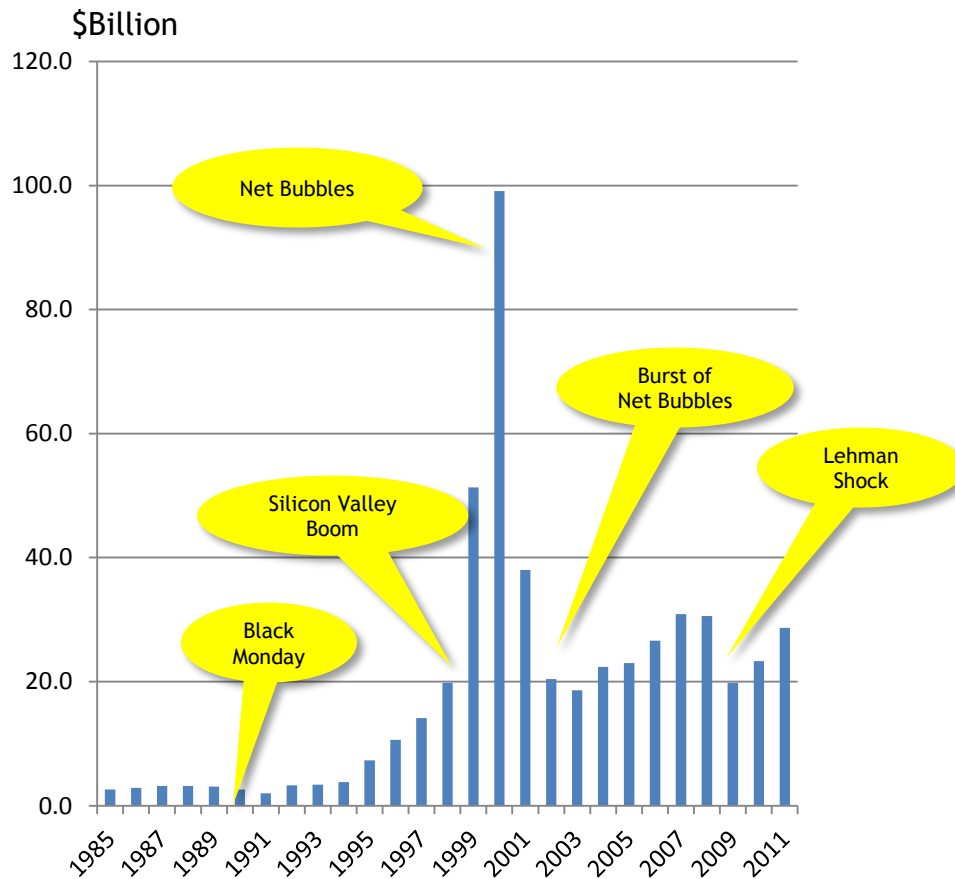
Success in Silicon Valley will lead to the Success in the global market

Appendix

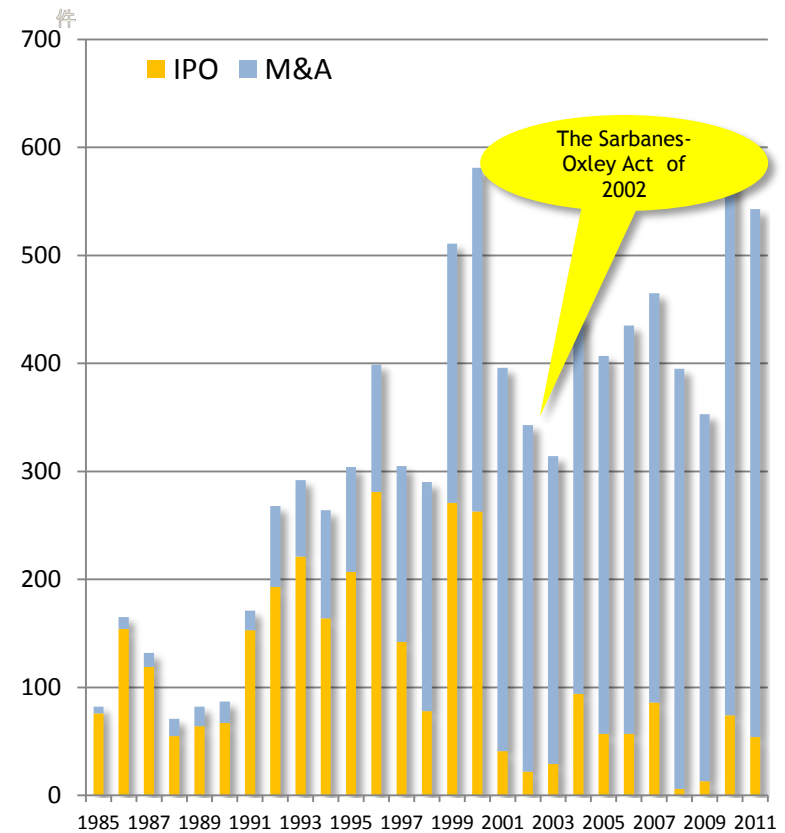
VC Investments and Exits in the US



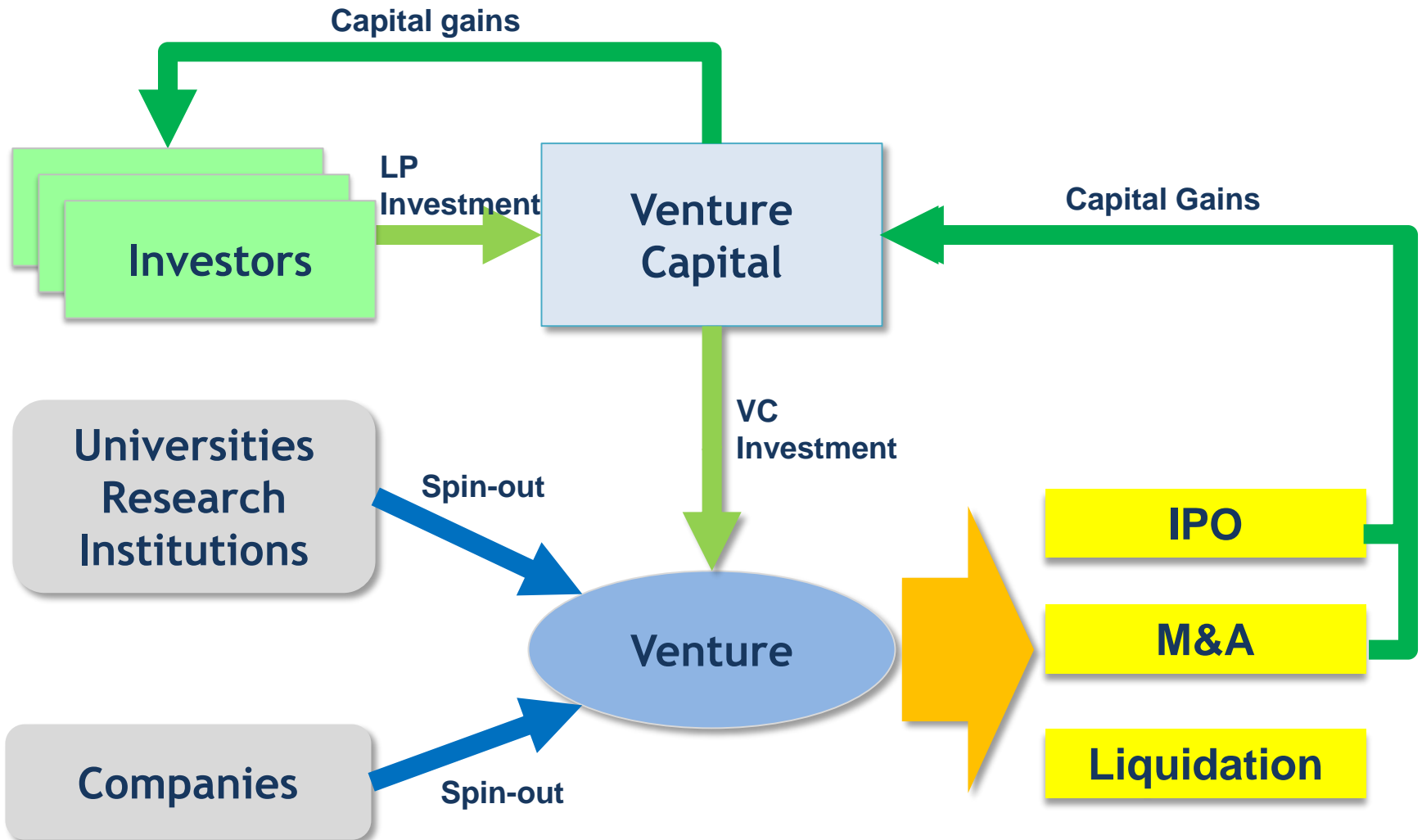
VC Investments



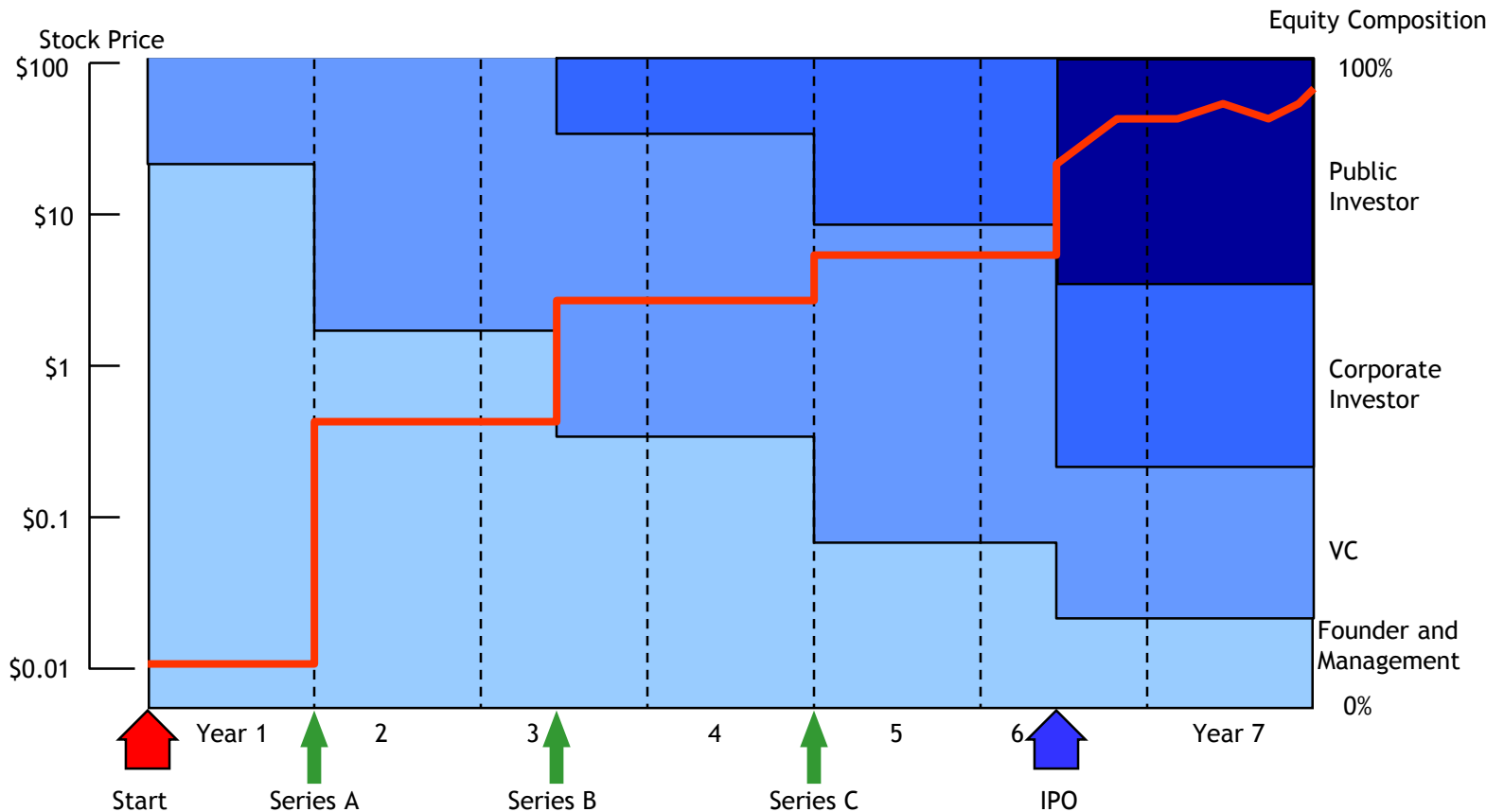
Venture Exits



Venture Ecosystem



Growth Model of Startup Companies



	Start	Series A	Series B	Series C	IPO
Major Challenge	Business Plan	Product Development Prototype	Manufacturing Initial Shipment	Manufacturing Sales Expansion	Business Expansion
Revenue Size	0	\$0.4 - 1M	\$1 - 5M	\$5 - 20	\$20M -
Organization	Founder, Friends	A few employees	Participation by Experienced Manger	Solid Organizational Structure	International Operation

Key Due Diligence Questions

Market Potential	Value Proposition (Technology/ Service)	Management Capability	Financial and Others
<ul style="list-style-type: none"> • Who are the target customers? • Is the target market big enough or expected to grow big in a reasonable time frame? • Why would the customer buy the company's product? • How will the company reach the target customers? 	<ul style="list-style-type: none"> • Is the technology indeed superior vis-à-vis competition? • Is company's IP position well protected? • Are there enough entry barriers? • Is the product development plan realistic? 	<ul style="list-style-type: none"> • Does the management team have relevant set of skills and team dynamics (R&D, Mfg, Finance, Marketing)? • Does the management team have sustained passion and leadership for achieving a long term success? • Is the management team flexible enough to listen to other people's bright ideas? 	<ul style="list-style-type: none"> • How much investment is required over what time span to achieve a self sustainability? • How much investment is required for what purpose in this round of financing? • Does the opportunity fit our investment criteria (strategy, investment stage, value added, valuation range)?

9 C's of Effective Elevator Pitch

1. Concise	An effective elevator pitch contains as few words as possible, but no fewer.
2. Clear	Rather than being filled with acronyms, MBA-speak, and ten-dollar words, an effective elevator pitch can be understood by your grandparents, your spouse, and your children.
3. Compelling	An effective elevator pitch explains the problem your Solution solves.
4. Credible	An effective elevator pitch explains why you are qualified to see the problem and to build your Solution.
5. Conceptual	An effective elevator pitch stays at a fairly high level and does not go into too much unnecessary detail.
6. Concrete	As much as is possible, an effective elevator pitch is also specific and tangible.
7. Customized	An effective elevator pitch addresses the specific interests and concerns of the audience.
8. Consistent	Every version of an effective elevator pitch conveys the same basic message.
9. Conversational	Rather than being to close the deal, the goal of an elevator pitch is to just set the hook; to start a conversation, or dialogue, with the audience.

How to Kill Ideas

- ✓ *Don't be ridiculous.*
- ✓ *We tried that before.*
- ✓ *It costs too much.*
- ✓ *It can't be done.*
- ✓ *That's beyond our responsibility.*
- ✓ *It's too radical a change.*
- ✓ *We don't have the time.*
- ✓ *That will make other equipment (or service) obsolete.*
- ✓ *We are too small for it.*
- ✓ *That's not our problem.*
- ✓ *We have never done it before.*
- ✓ *Let's get back to reality.*
- ✓ *Why change it, it's still working O.K.*
- ✓ *You're two years ahead of your time.*
- ✓ *We are not ready for that.*
- ✓ *It isn't in the budget.*
- ✓ *Can't teach an old dog new tricks.*
- ✓ *Let's form a committee.*
- ✓ *Too hard to sell.*
- ✓ *If it was good – we'd already be doing it.*
- ✓ *We'll be the laughing stock.*
- ✓ *That doesn't apply to us.*
- ✓ *We're doing the best we can.*
- ✓ *We did all right without it.*
- ✓ *Has anyone else ever tried it?*
- ✓ *doesn't work in our industry.*