

The Changing Landscape of Entrepreneurial Risk Capital: Origins and Implications

Thomas Hellmann

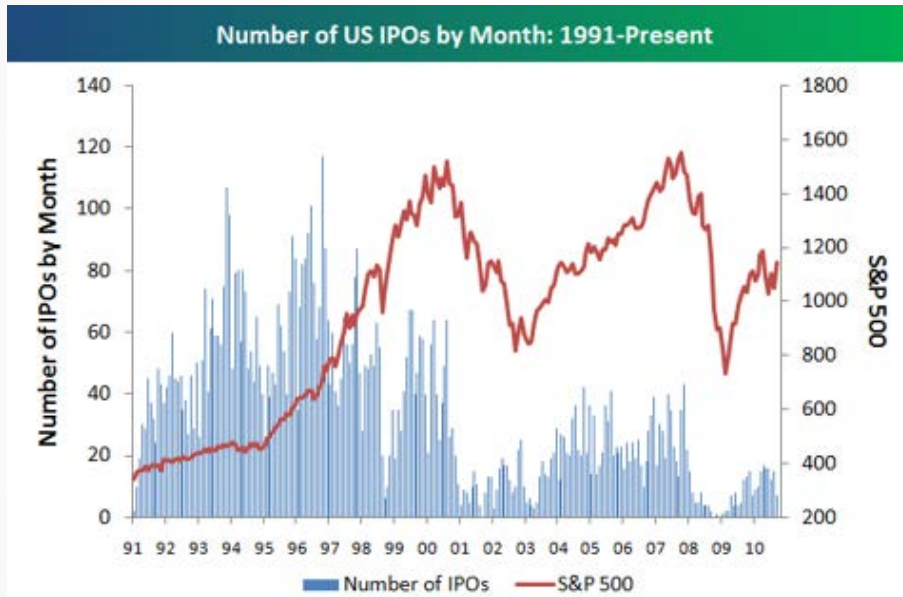
Public Policy Forum on Venture Capital and Innovation
Quebec City Conference
December 3rd 2013

• Special thanks to Josh Lerner for his help with this presentation •

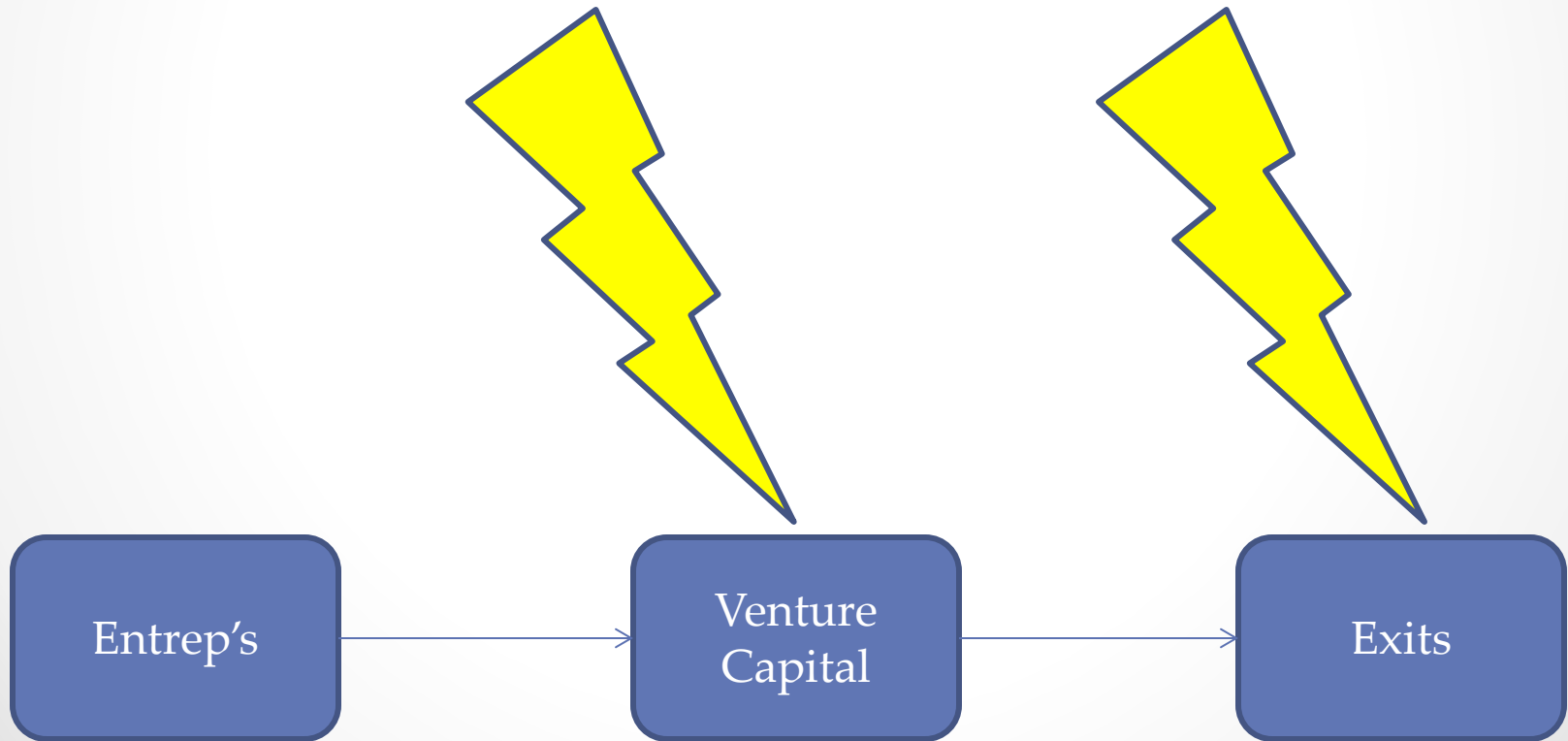
Entrepreneurial Finance: Before the Great Recession



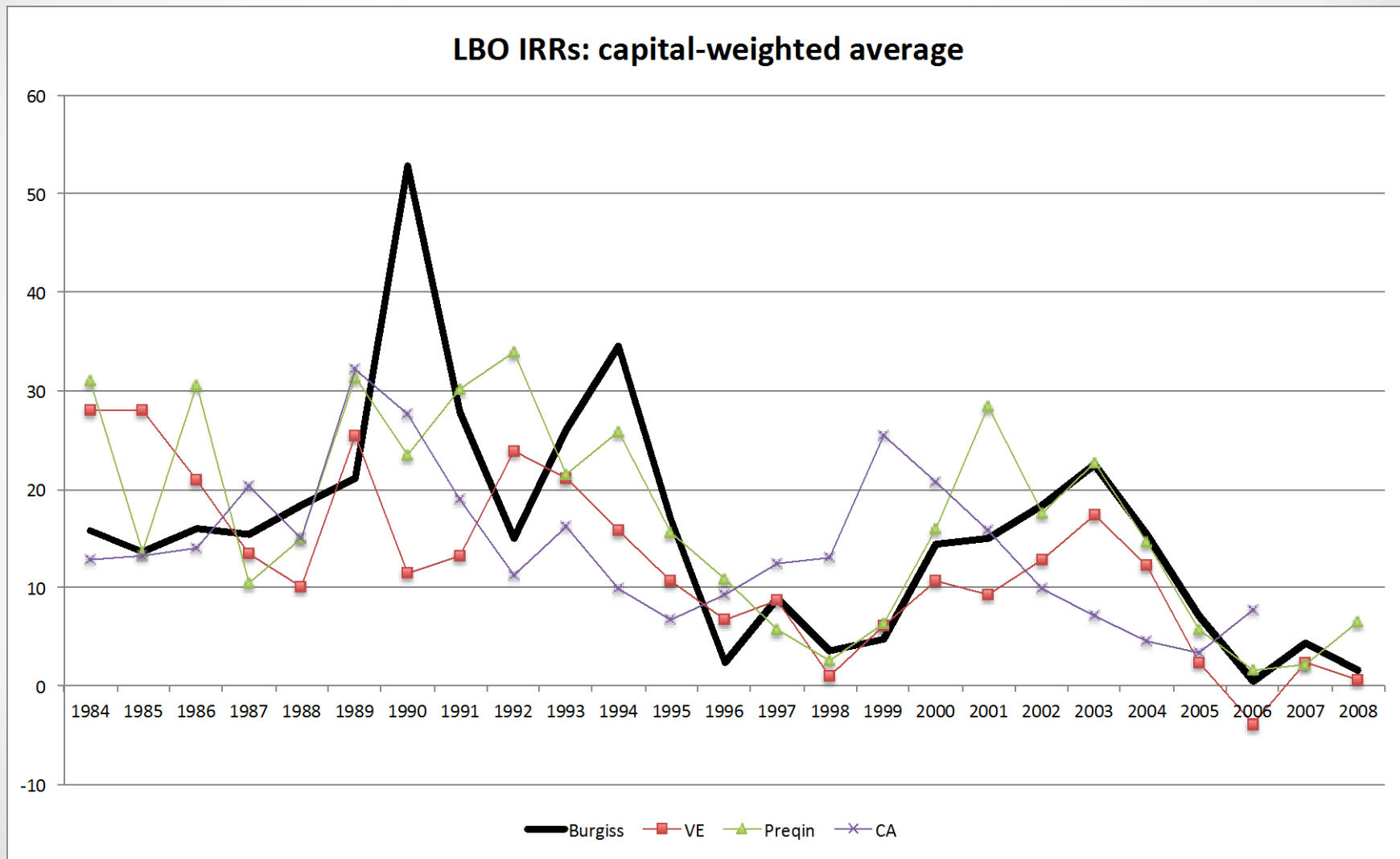
Strike #1: Demise of IPOs



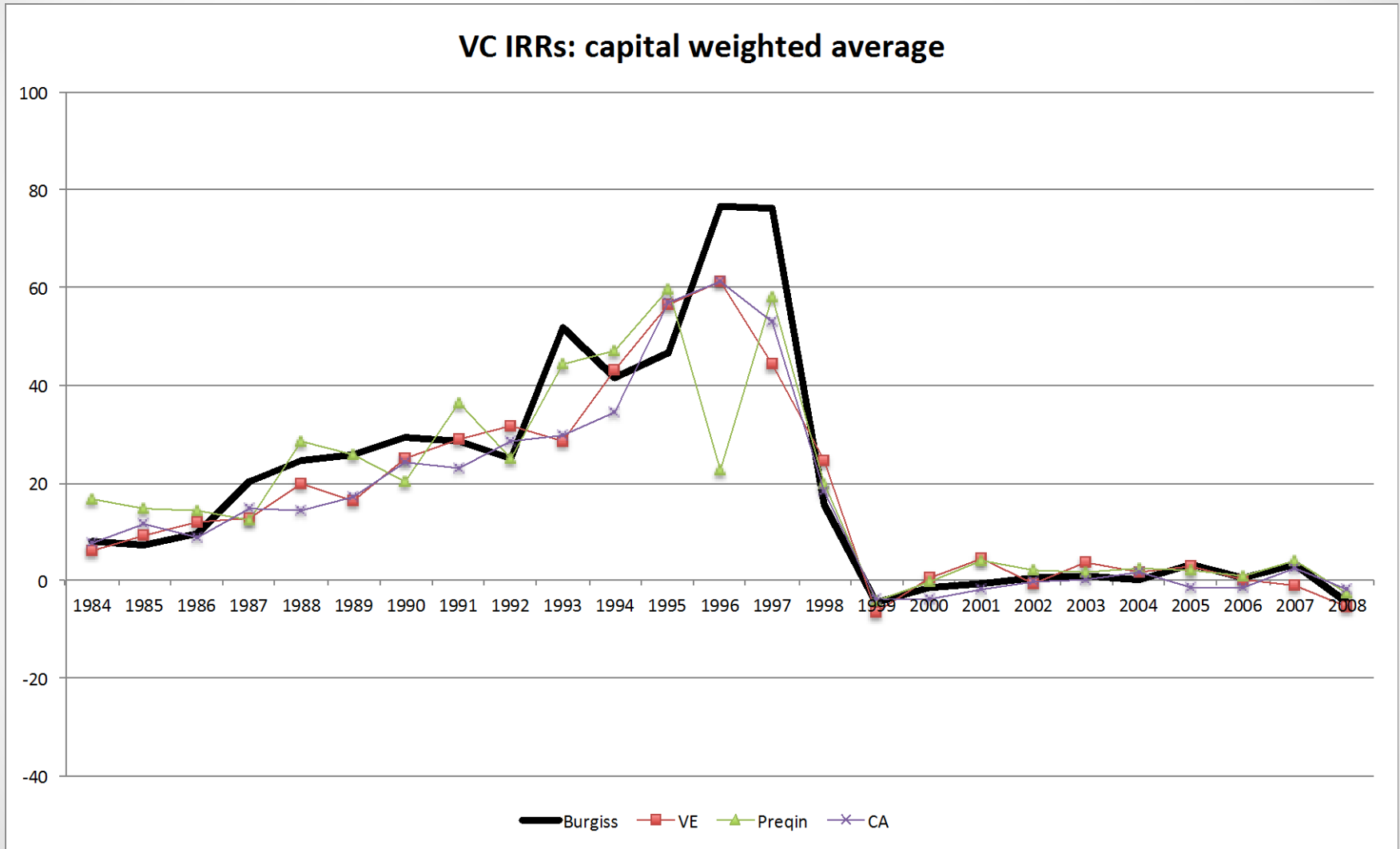
Strike #2: Returns to VC and PE



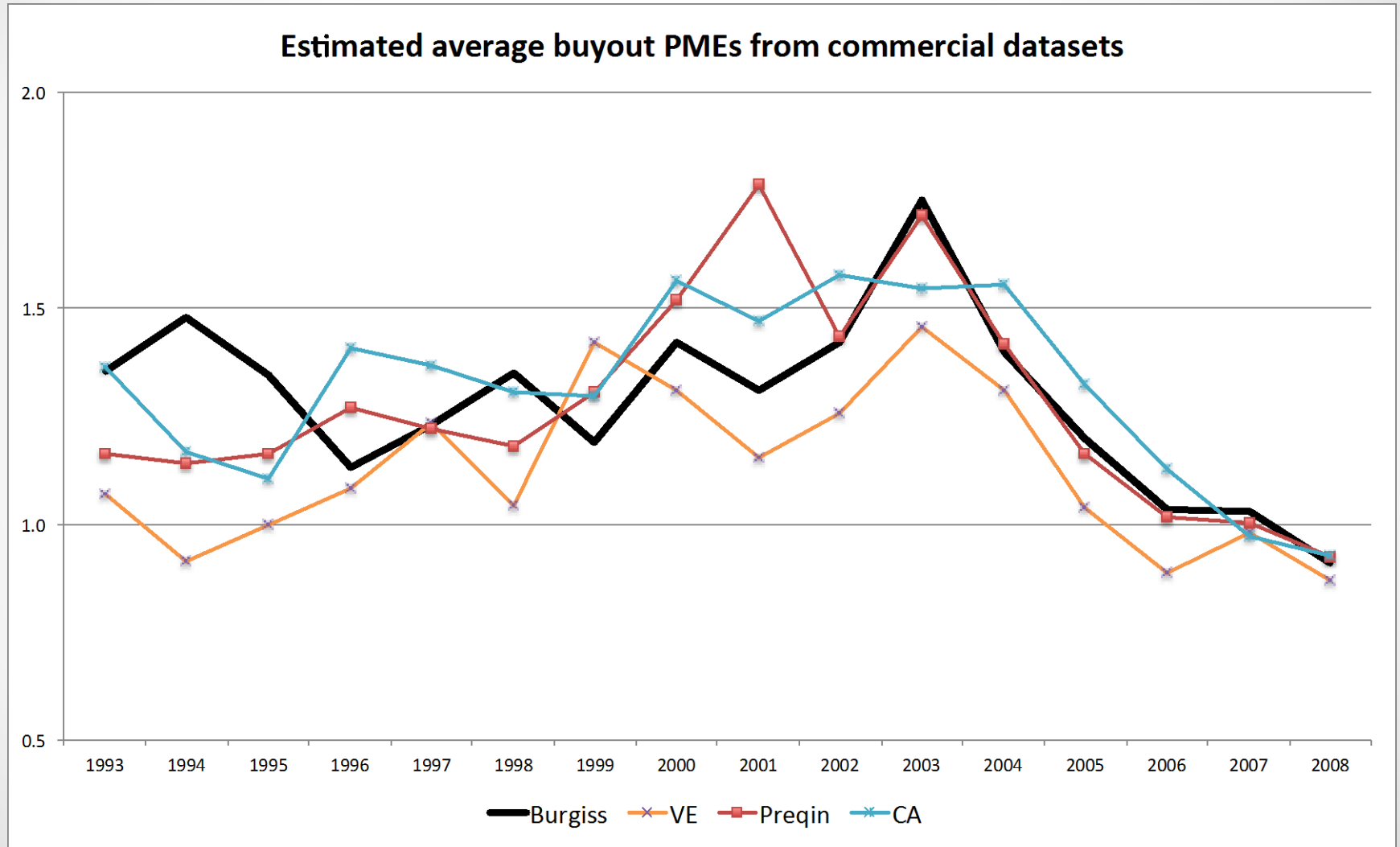
US LBO performance: vintage year IRRs



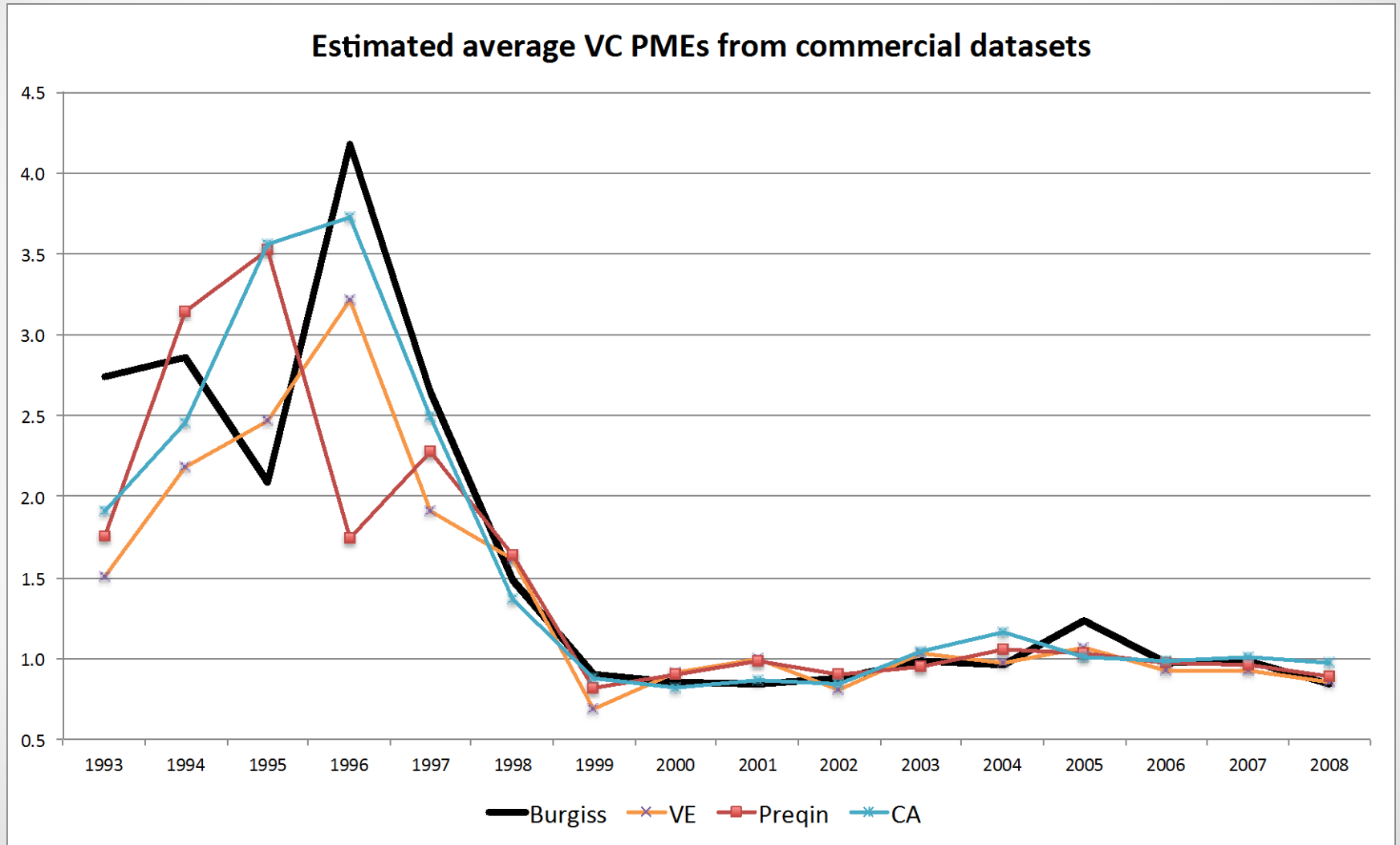
US VC performance: vintage year IRRs



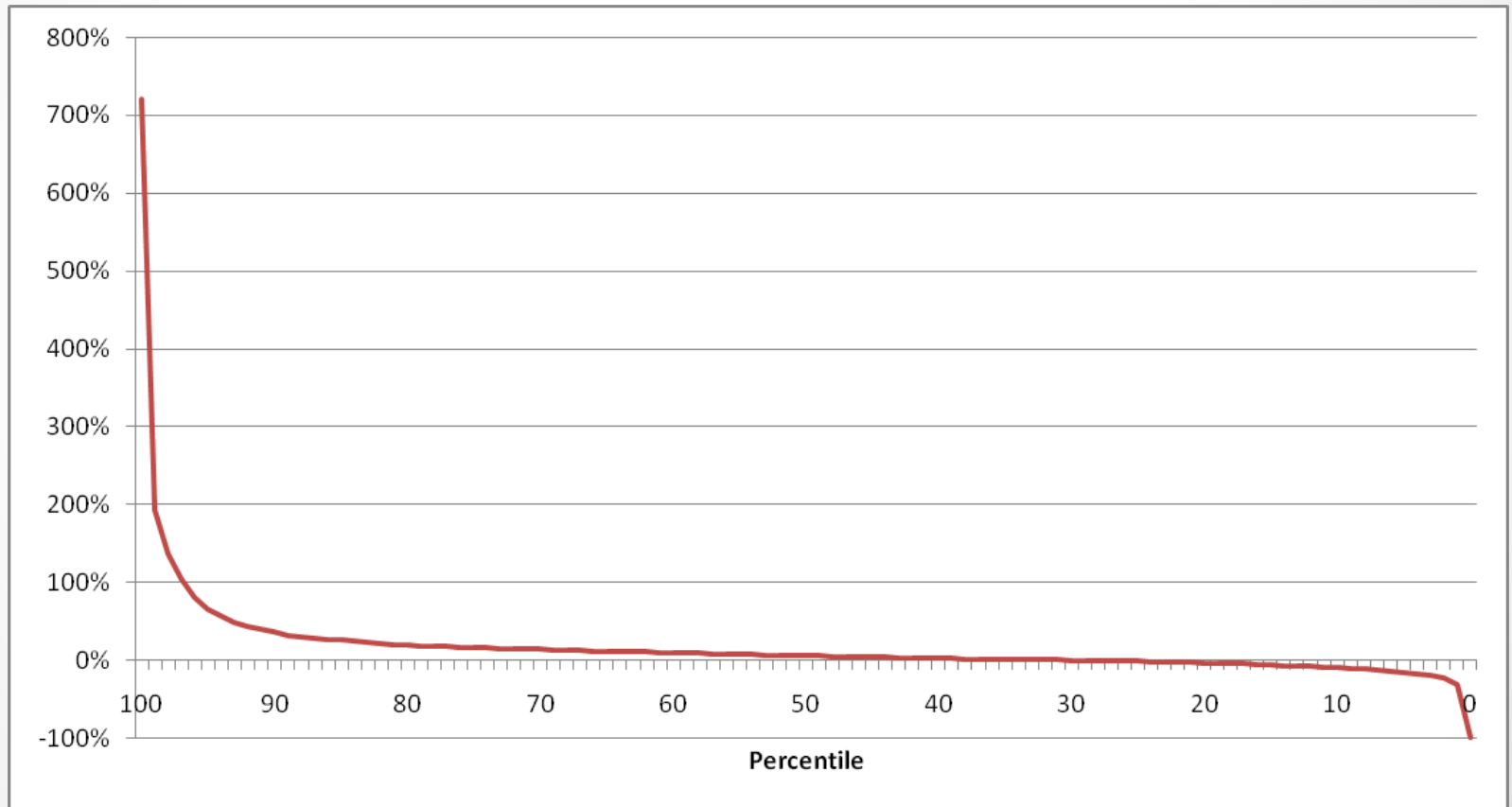
US LBO Vintage Year PME (simulated for VC, Preqin & CA)



US VC Vintage Year PME_s (simulated for VC, Preqin & CA)



Wide return distribution U.S. venture funds

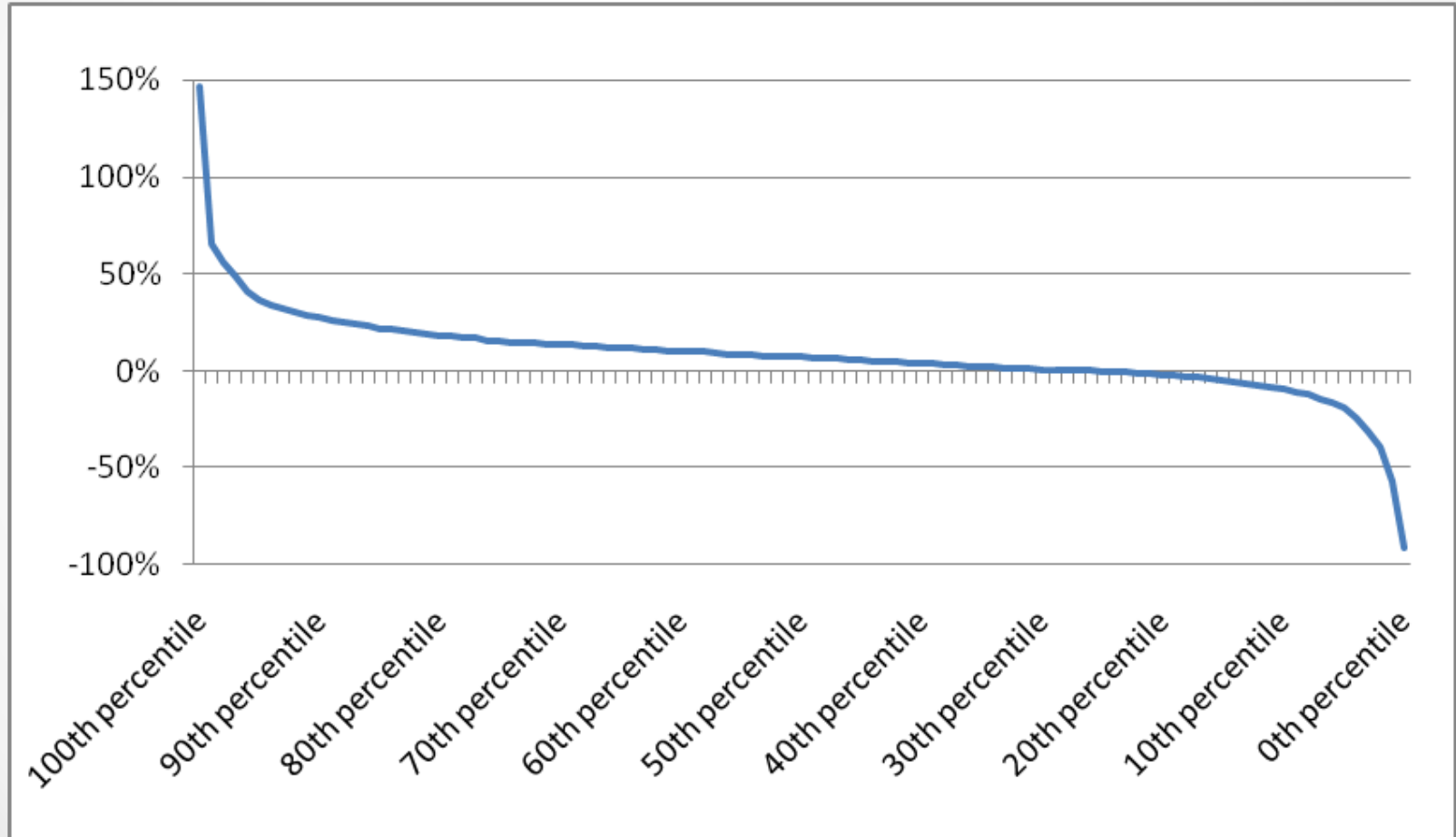


Returns from inception to 12/31/12.

Source: Josh Lerner's analysis of Thomson/Reuters data.

PROPRIETARY AND CONFIDENTIAL

U.S. buyout funds

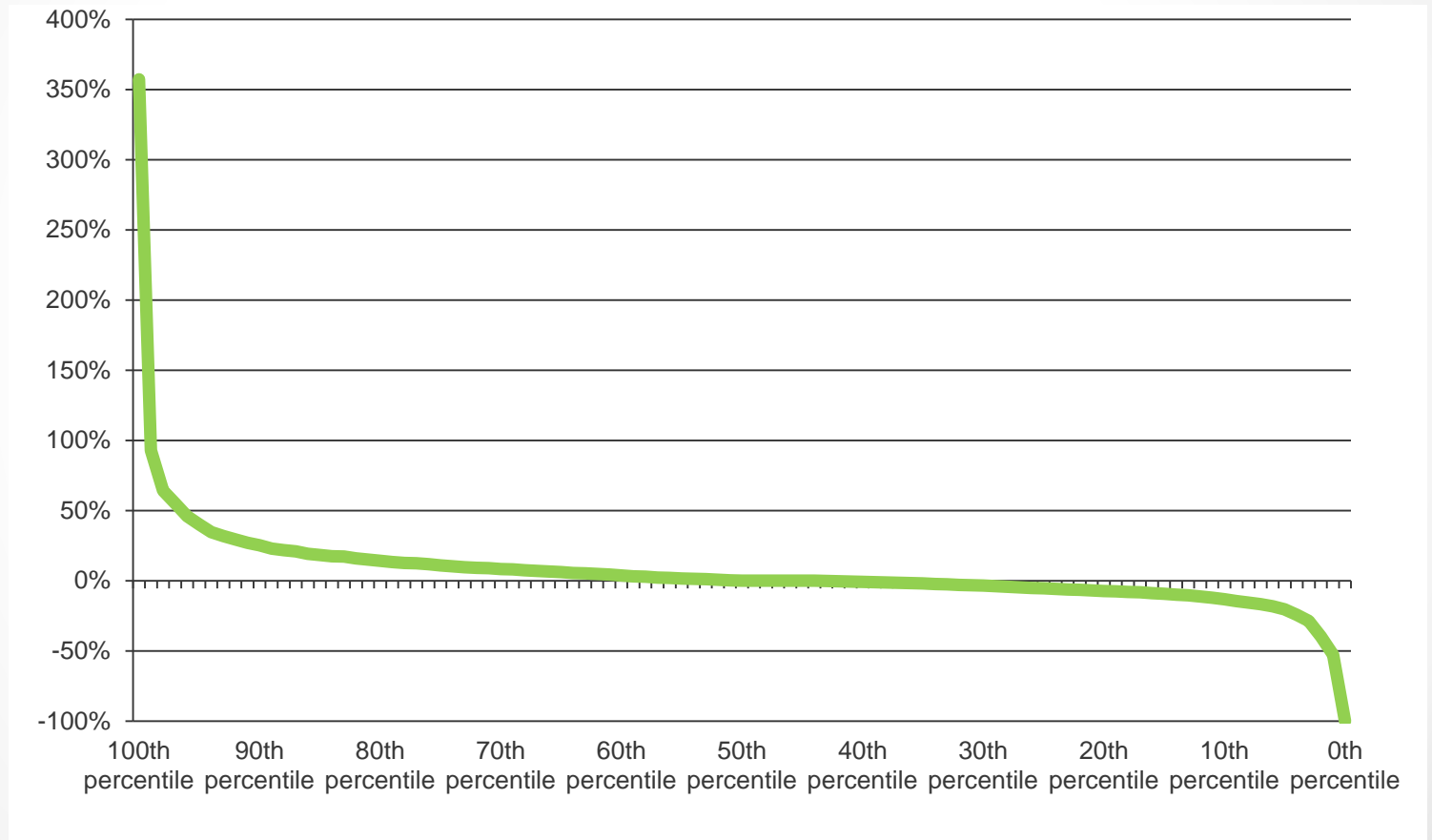


Returns from inception to 12/31/12.

Source: Josh Lerner's analysis of Thomson/Reuters data.

PROPRIETARY AND CONFIDENTIAL

...European private equity funds

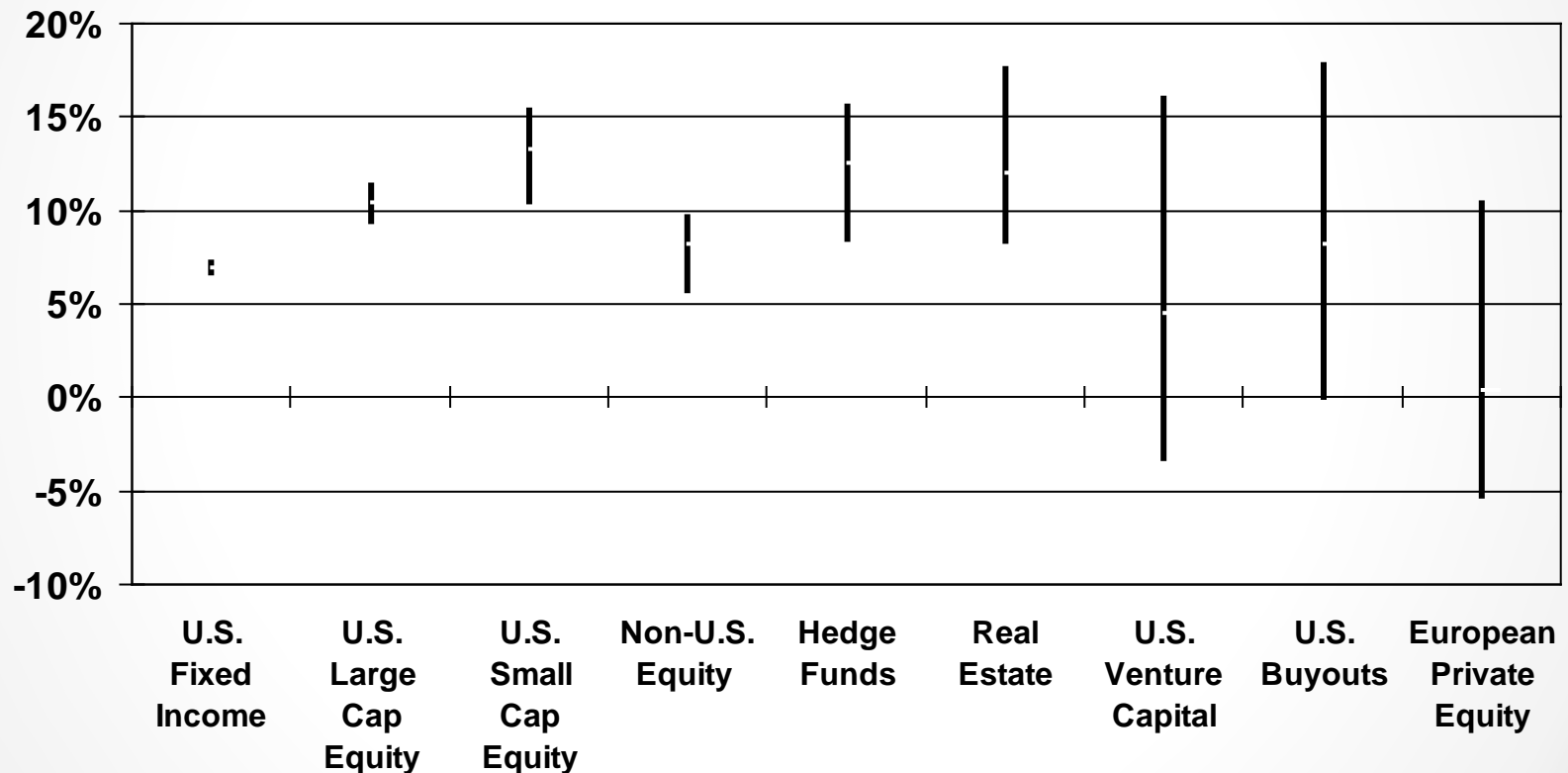


Returns from inception to 12/31/12.

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PROPRIETARY AND CONFIDENTIAL

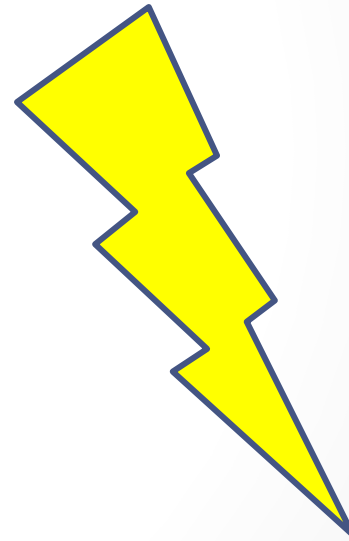
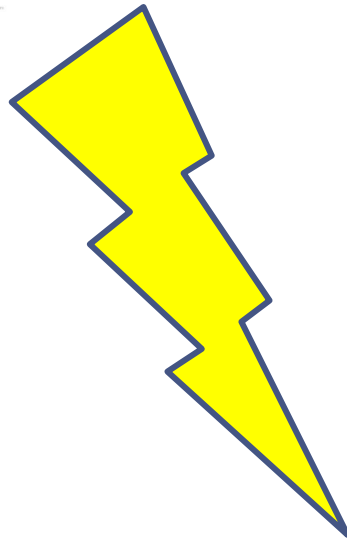
Inter-quartile ranges and medians for asset classes



PROPRIETARY AND CONFIDENTIAL

- Source: Josh Lerner, based on HBS Case study about Yale University Endowment Fund [2011] and Venture Economics.

Strike #3: Ent'ship Explosion



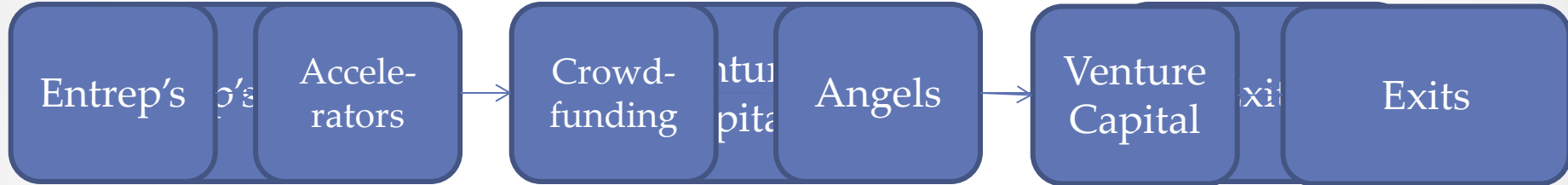
Entrepreneurship Explosion

- Falling cost of starting a business
 - Cloud-based computing
 - Outsourcing
- Lean Start-up Philosophy
 - Rise in social media
- Diminished corporate career prospects
- Changes in academic entrepreneurship
- Globalization of entrepreneurial efforts

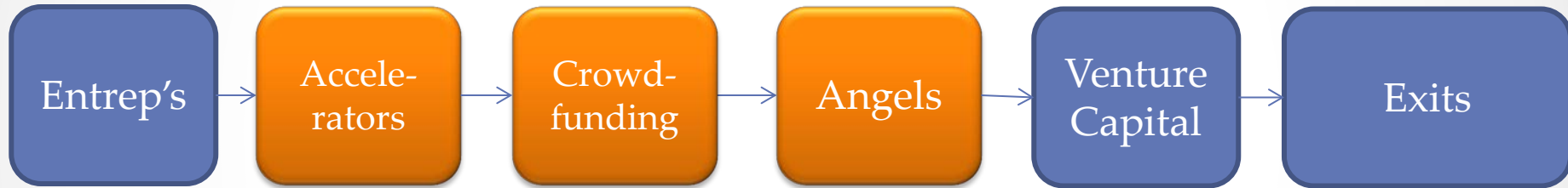
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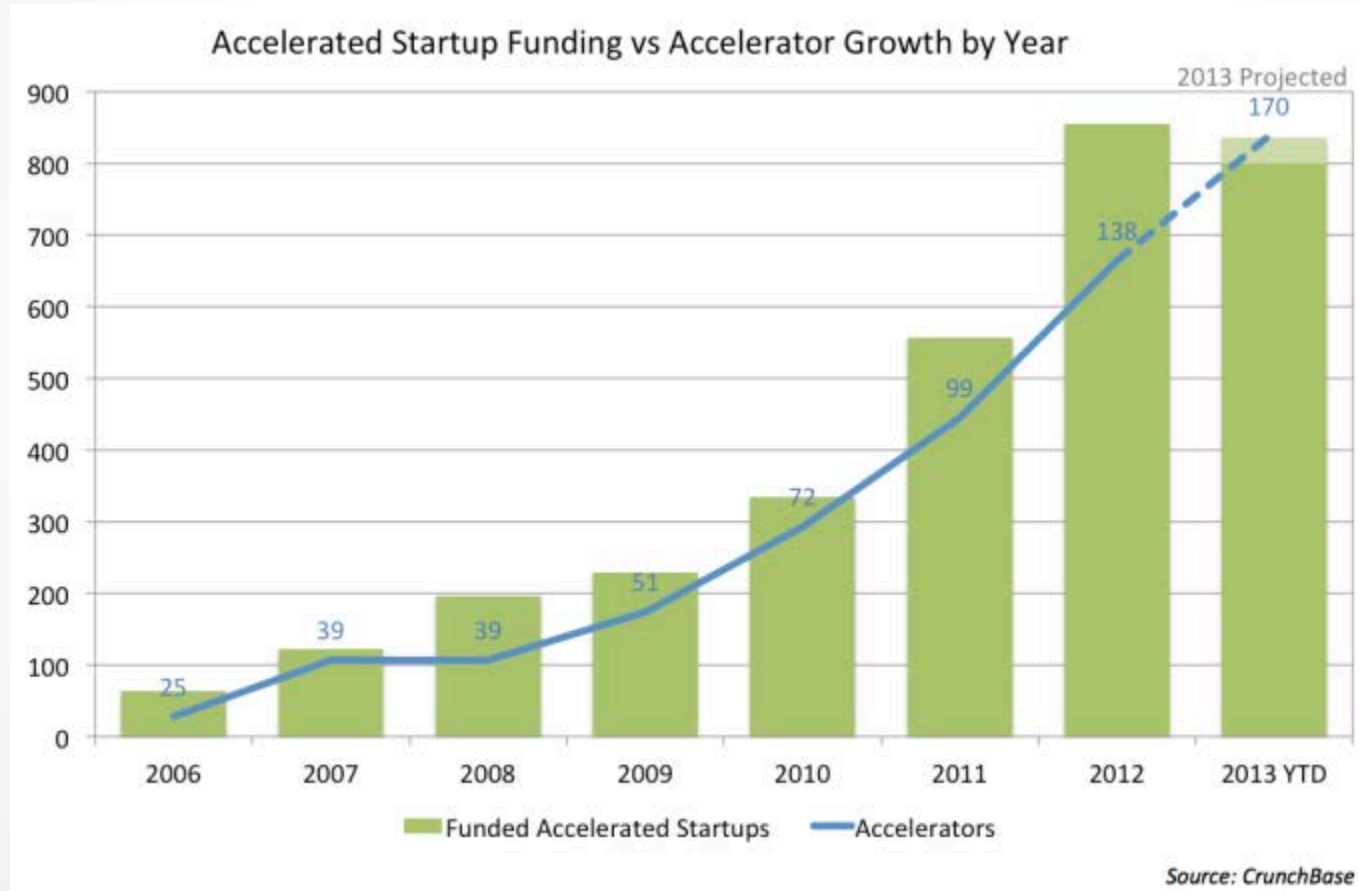
The Brave New World of Entrepreneurial Finance



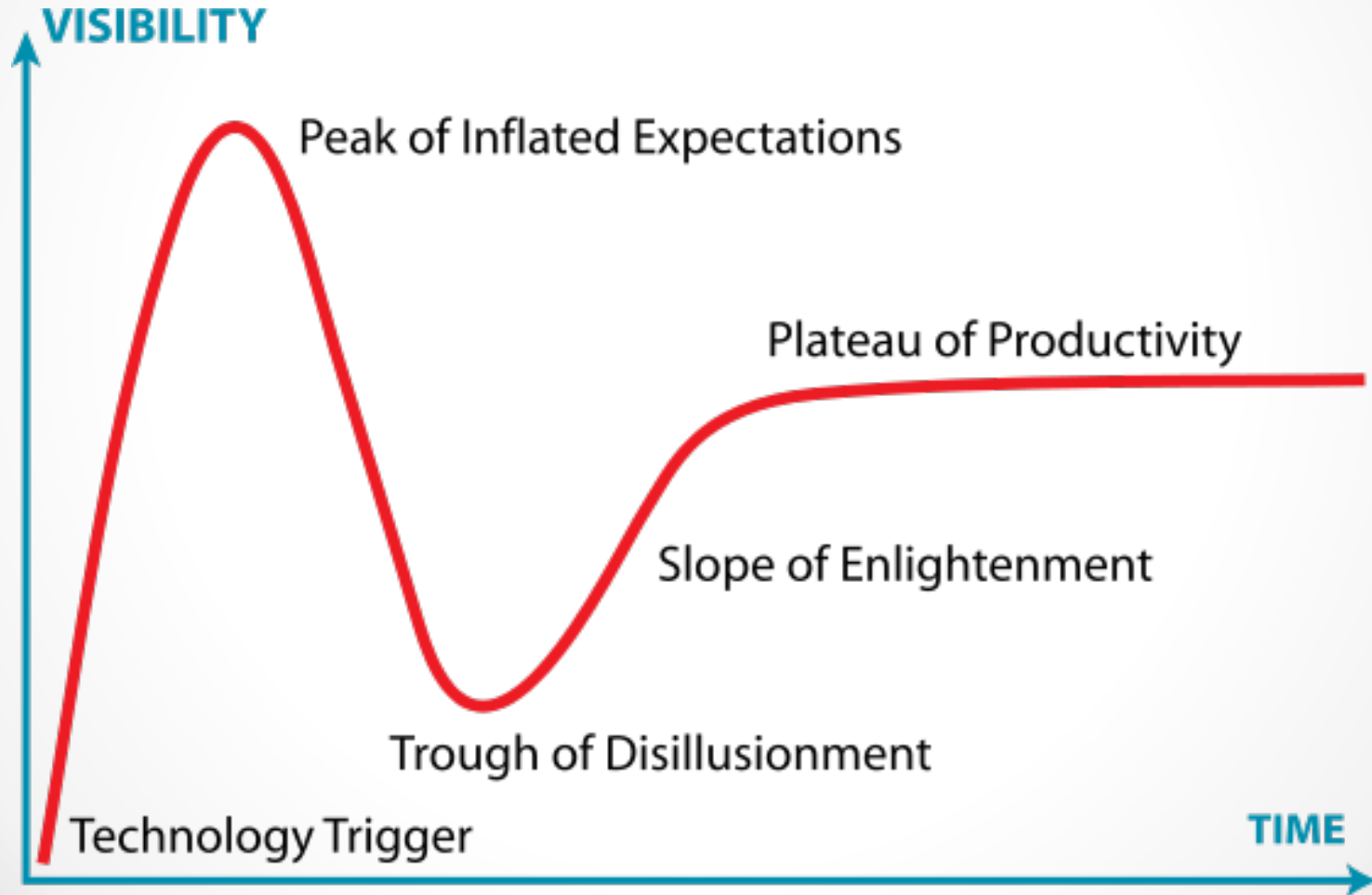
Who are the New Kids in Town?



The Rise of Accelerators



Where in the Gartner Hype Cycle?



Some Open Issues with Business Accelerators

- Separate Substance from Hype
- What business models suitable for accelerators?
- What accelerator model works best?
- What role for financing?

Crowdfunding

- Explosion of platforms
- Proliferation of non-equity platforms
- In Europe some equity platforms
- Fall 2013: SEC proposal on Crowdfunding
- Uncertain impact on financing landscape
- Keynote and Panel on Crowdfunding
- Case Study on Angellist

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Biggest New Kids in Town

Angels

Professional Angels

Angel Networks

Angel Funds

Angel Syndicates

and other...

Angel market as big as VC market

Table 2.2. Estimates of the angel market and comparisons with venture capital

USD millions

	“Visible” angel market size (share of total market) in 2009	Estimated size of angel market in 2009	Total VC^a market in 2009
United States	469 (3%)	17 700	18 275
Europe	383 (7%)	5 557	5 309
United Kingdom	74 (12%)	624	1 087
Canada	34 (9%)	388	393

*Note: VC market size includes VC investments in all stages: *i)* seed, *ii)* start-up, *iii)* early, *iv)* expansion, and *v)* later stage.

Angel Market appears to be stable

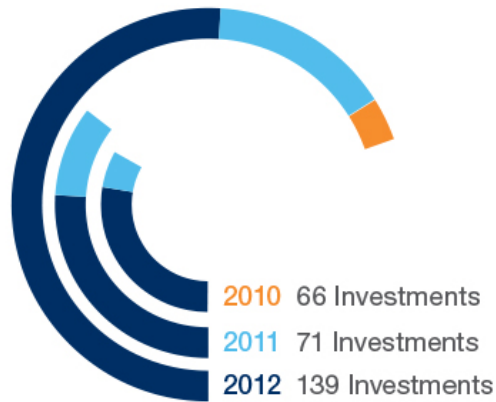
Estimates of US Angel Market	2010	2011	2012
Investment (\$B)	\$20.1	\$22.5	\$22.9
Number of Companies ('000)	62	66	67
Active Investors ('000)	265	318	268
Average Investment size (\$K)	\$76	\$71	\$85

- Source: Center for Venture Research, University of New Hampshire •

NACO Data on Canada

- 2012 saw more investments, but at smaller amounts.

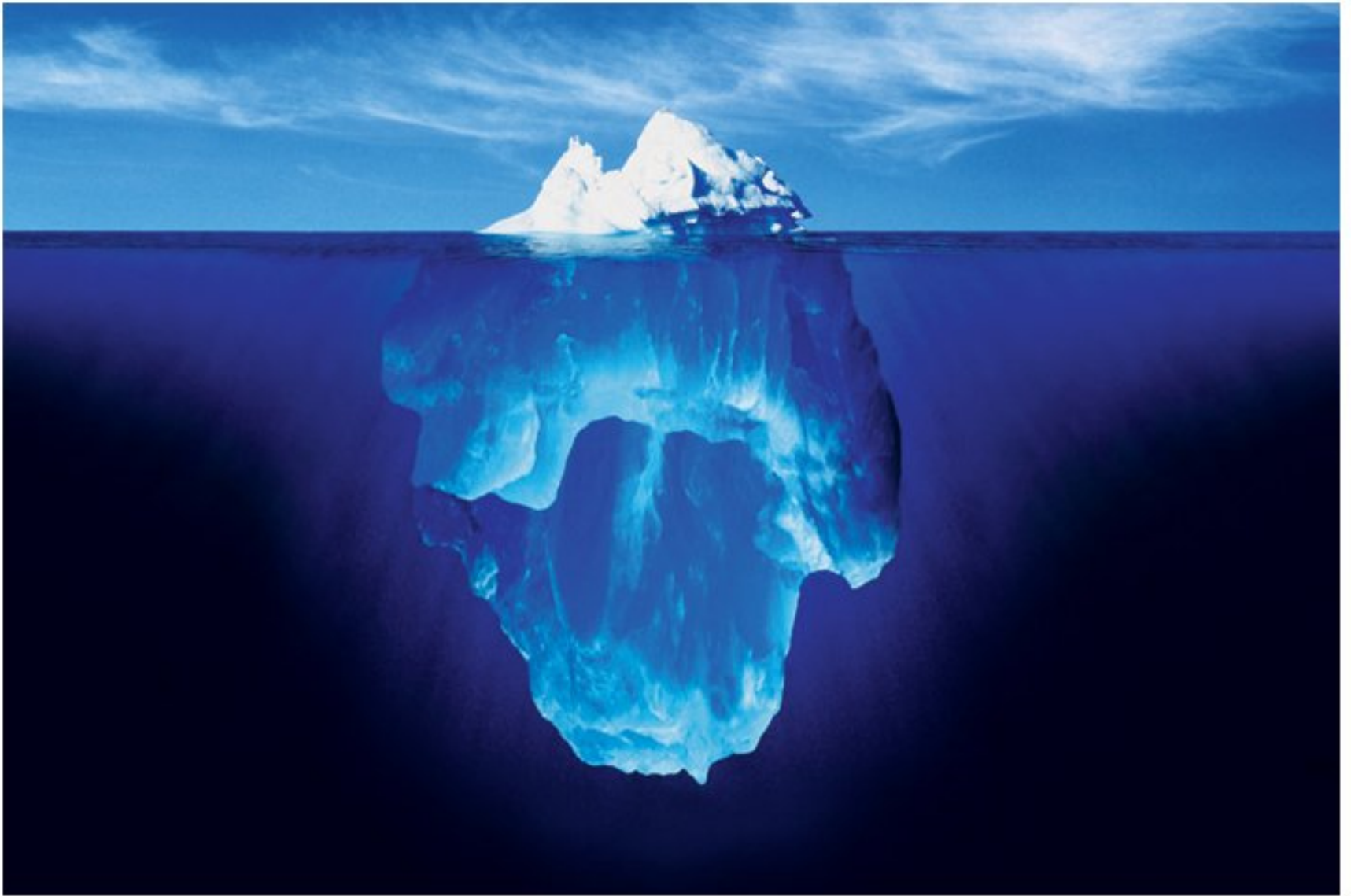
Total Number of Investments



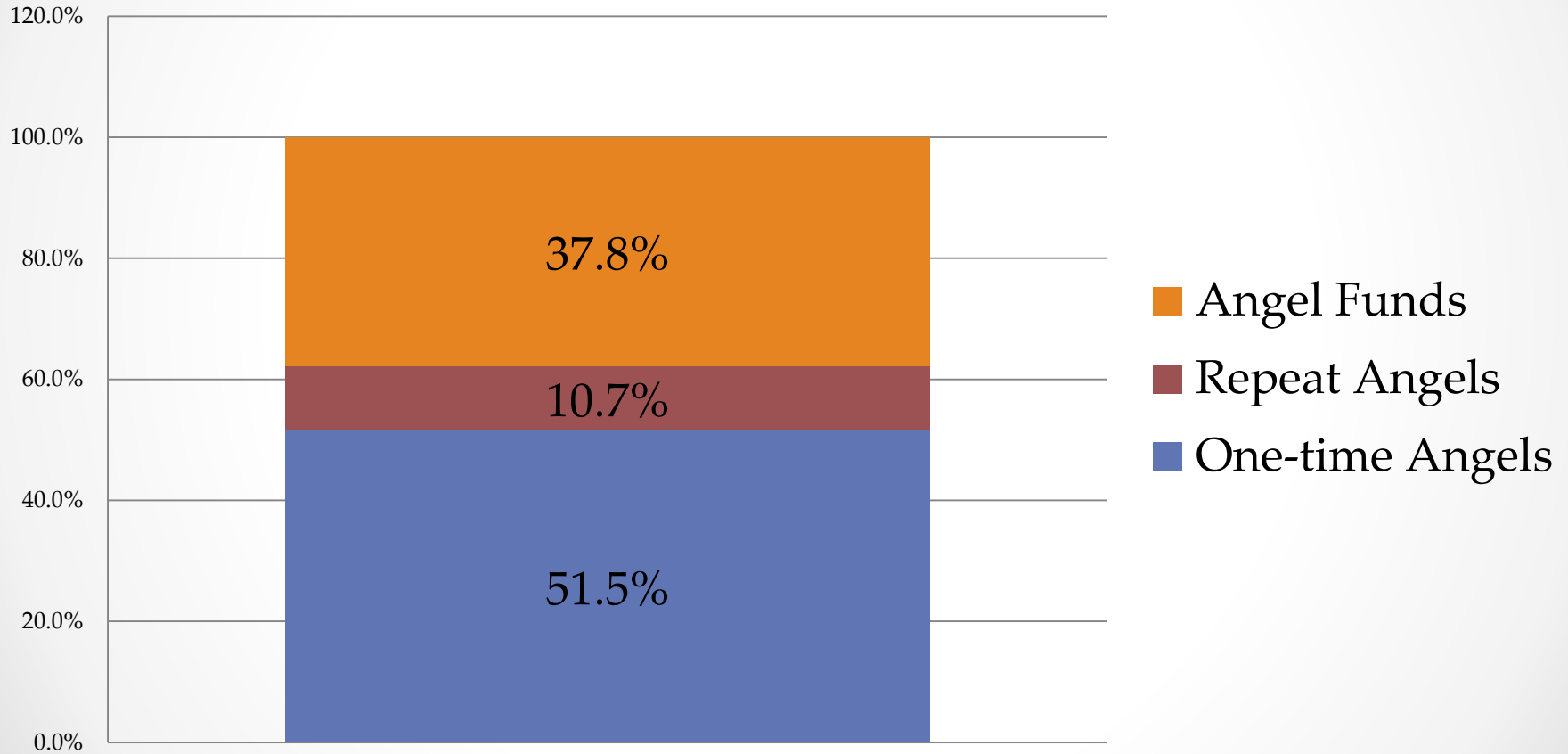
■ New ■ Follow on ■ Unspecified

Average Round Size





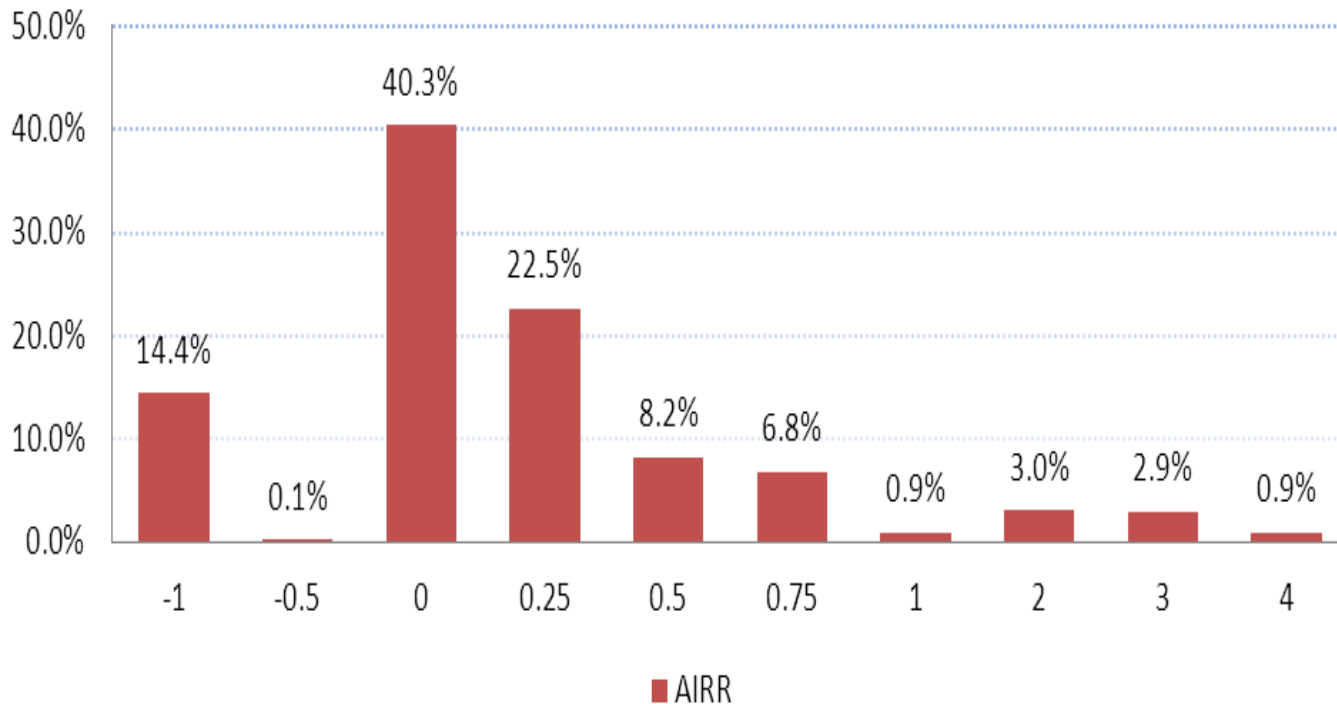
Structure of the Iceberg: Relative Share of Amounts Invested



Source: Hellmann, Schure and Vo, 2013, "Angels and Venture Capitalists: Substitutes or Complements?" Working paper, University of British Columbia

Returns to Angel Investing: Recent evidence from BC

Figure 1: Distribution of AIRR



Median
return:
0%

Mean
return:
10%

AIRR means Annualized Internal Rate of Return

Returns by Type of Angel

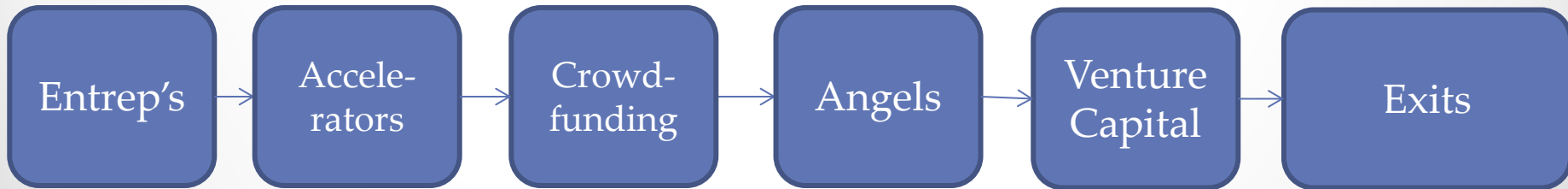
Warning:
ALL Data on Angel Investing
is Problematic.
Especially Returns!

The Angel Data Challenge

- If you are not counted, you don't count!
 - Particularly in public policy circles!
- Venture Capital Bad Role Model
 - Underreporting at the bottom / at the top
 - Dysfunctional dynamics
- Transition from Bronze Age to Digital Age
 - Online data collection
 - Social Media

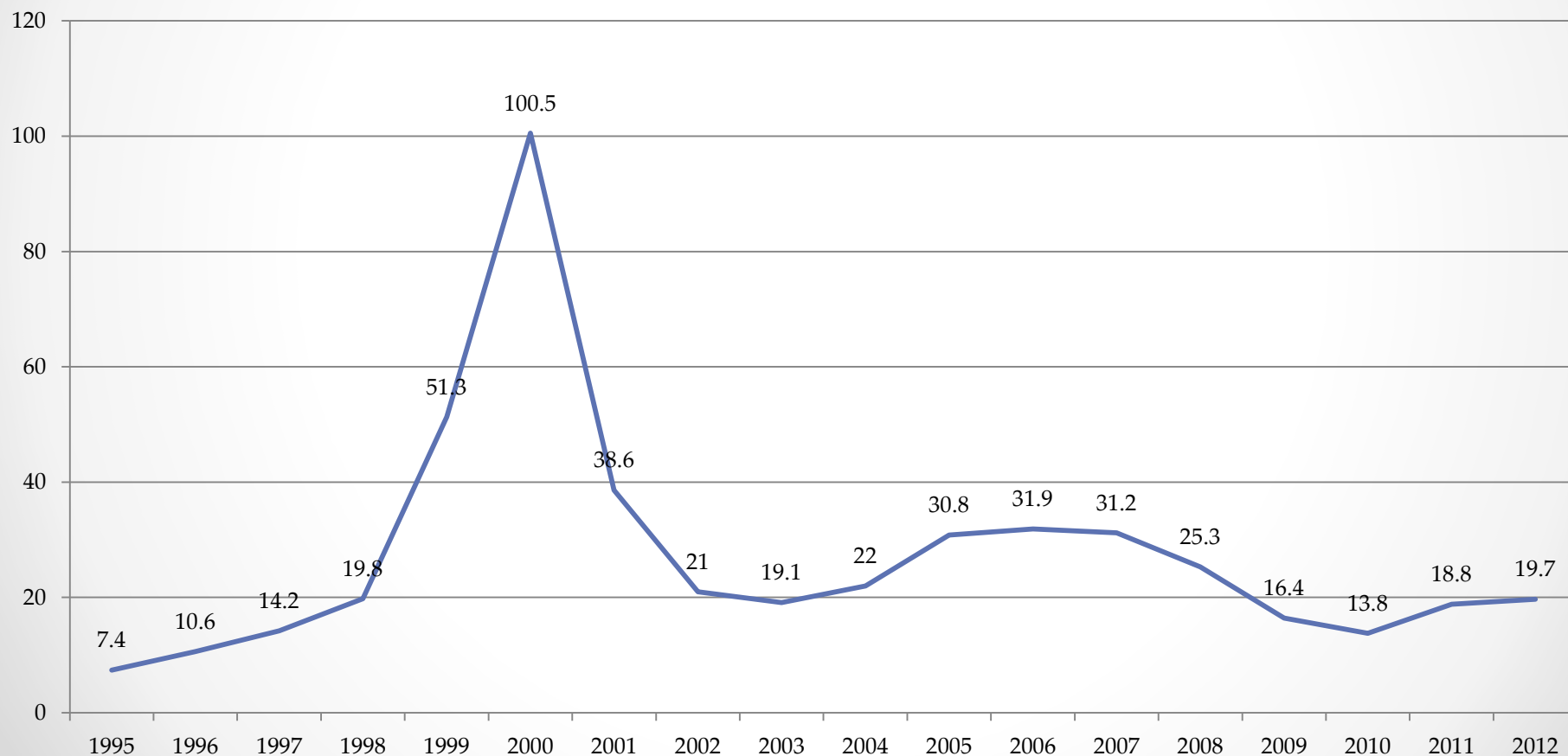


Transformation of VC



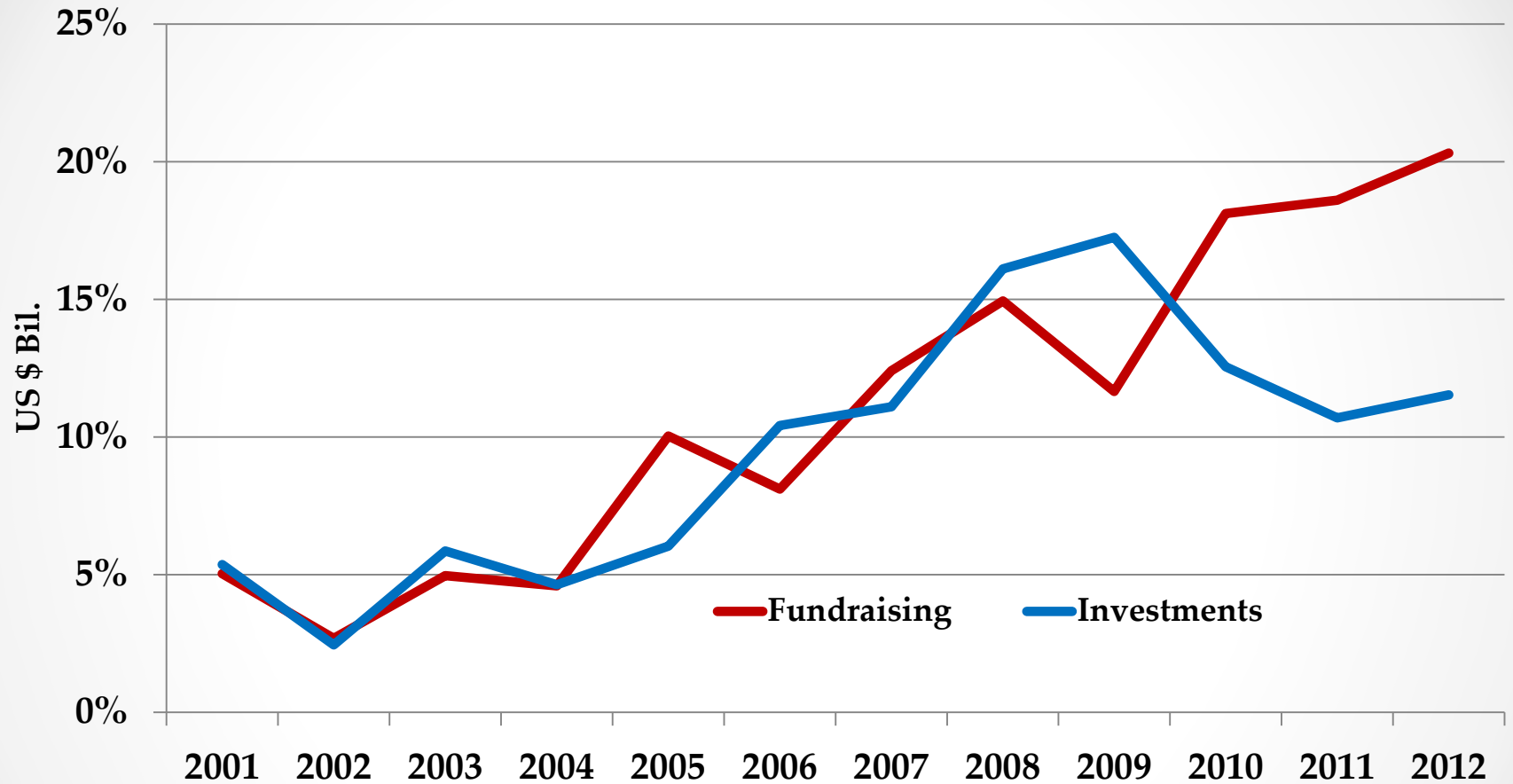
Trends in US VC Fundraising

Amounts Raised (\$B)



Source: NVCA

Emerging Market Private Equity as % of Global Volume



Source: Josh Lerner, EMPEA

Changes in VC Landscape

- Rise of Micro-VC Funds and Angel Funds
 - Fireside chat about FFVC
- Reliance on Government Funding (outside US)
 - Second Day of PPF
- LPs looking for new structures
 - Panel on Institutional Investors' View
- Changes in Fee Structure
 - GPs make various types of concessions

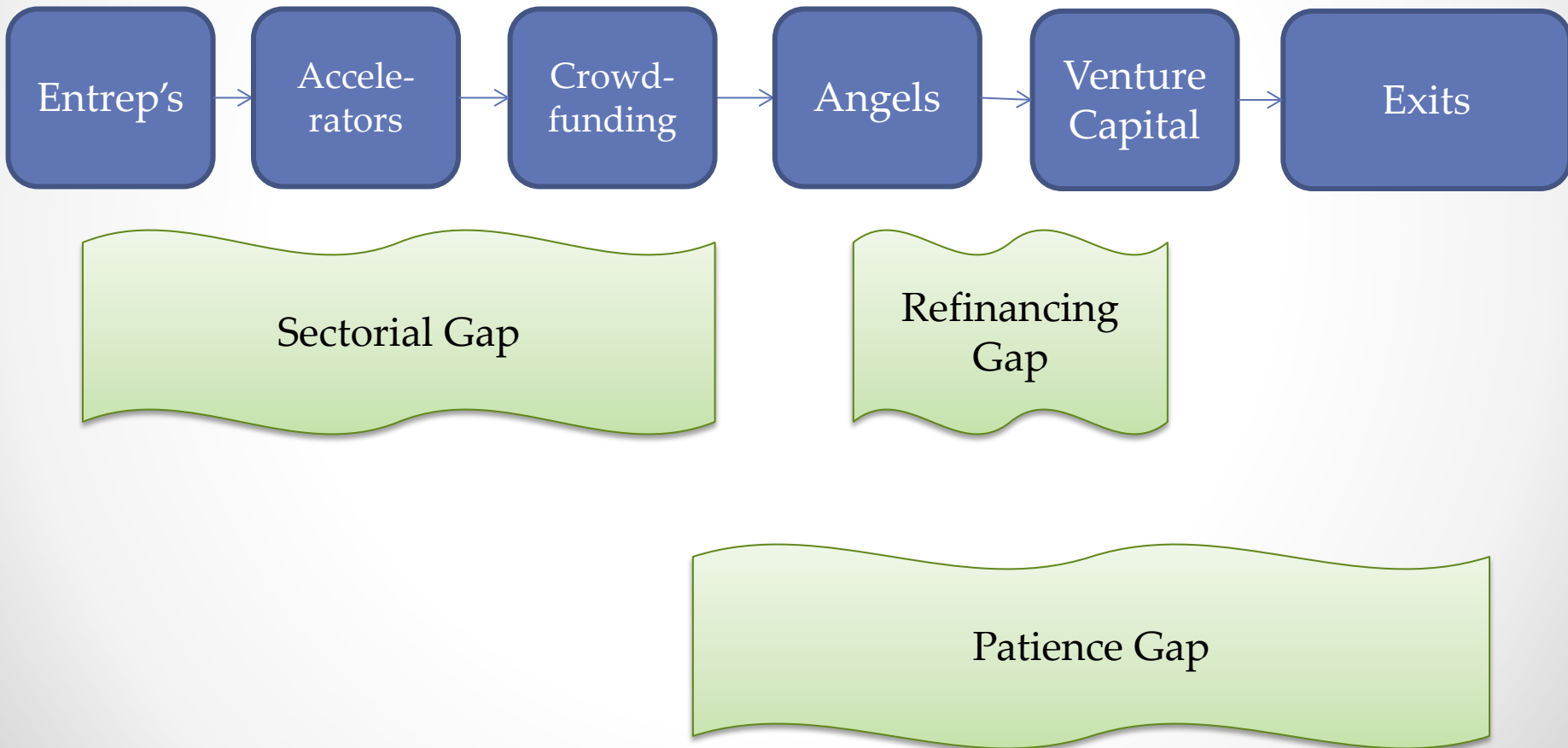
Recent Evidence on GP Compensation

- David Robinson and Berk Sensoy (2013)
 - “Do Private Equity Fund Managers Earn their Fees? Compensation, Ownership, and Cash Flow Performance” Forthcoming, The Review of Financial Studies
- Examine relationship between fees, carried interest and fund performance
- No statistical relationship between fees and performance
- Statistical relationship between carried interest and performance
 - No significant correlation for VC
 - Positive significant correlation for Buyouts
- Authors interpretation: LPs-GPs market are functioning

Gaps in the system

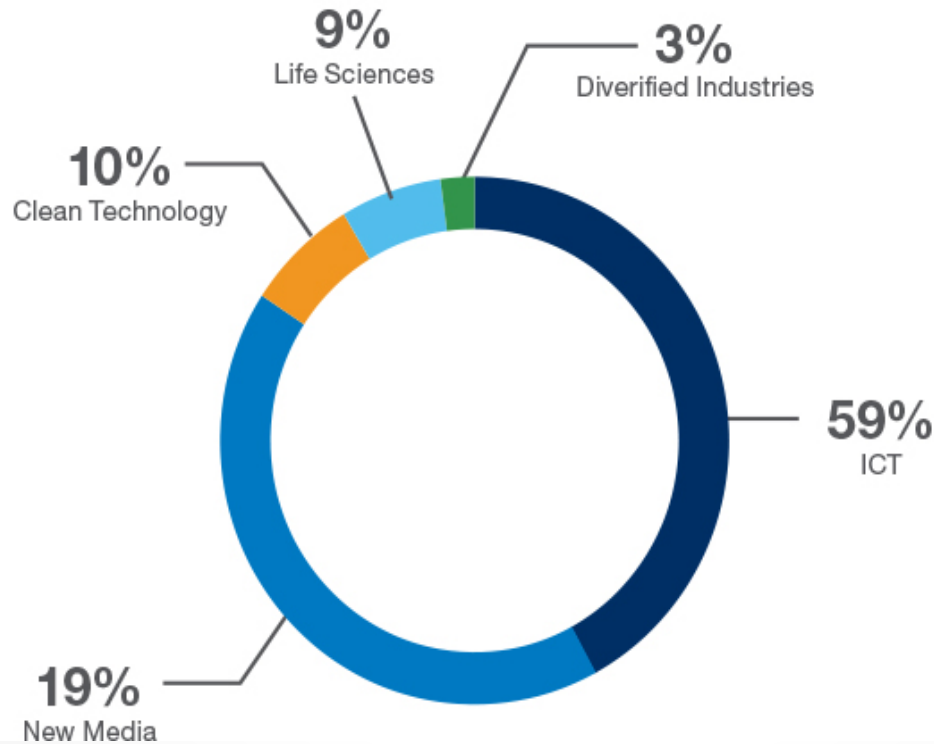


The Three Gaps



Accelerator Companies What sectors?

Investee Companies Industry Sectors

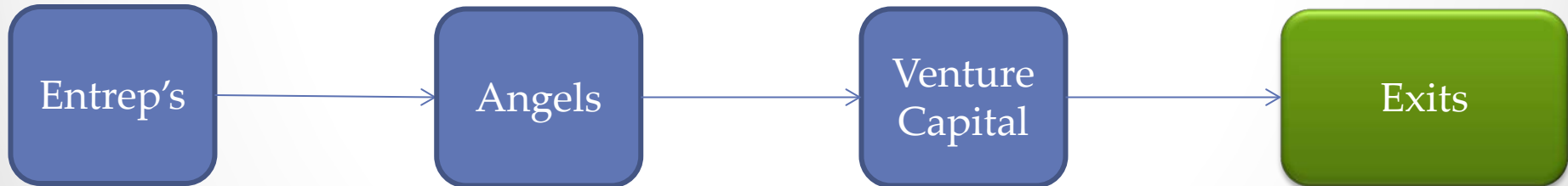


Sectorial Gap

- Accelerators suitable for “Lean start-ups”
 - Market Validation Key
 - Use of Social Media
 - UN Conference Track 1
- What about science-based start-ups?
 - Significant technology development
 - Challenging market validation (B2B; B2G)
 - University Accelerators
- Alternative approaches in the life sciences
 - UNConference Track 2
- Other orphaned sectors / business models?
 - Clean Tech
 - Service business & Non-innovative (e.g. Roll-out, Roll-up)
 - ...but software also affects all sectors

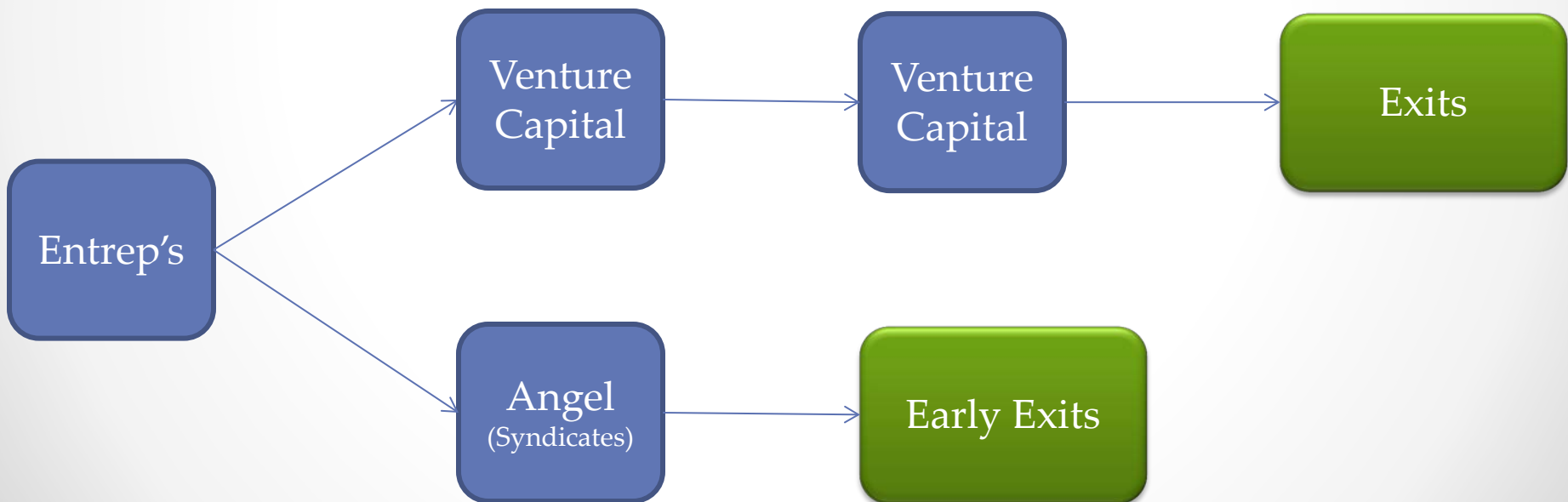
The Refinancing Gap

Conventional View:
Stepping Stone Logic



The Refinancing Gap

Alternative View:
Parallel Universes



Do Angels and VC mix?

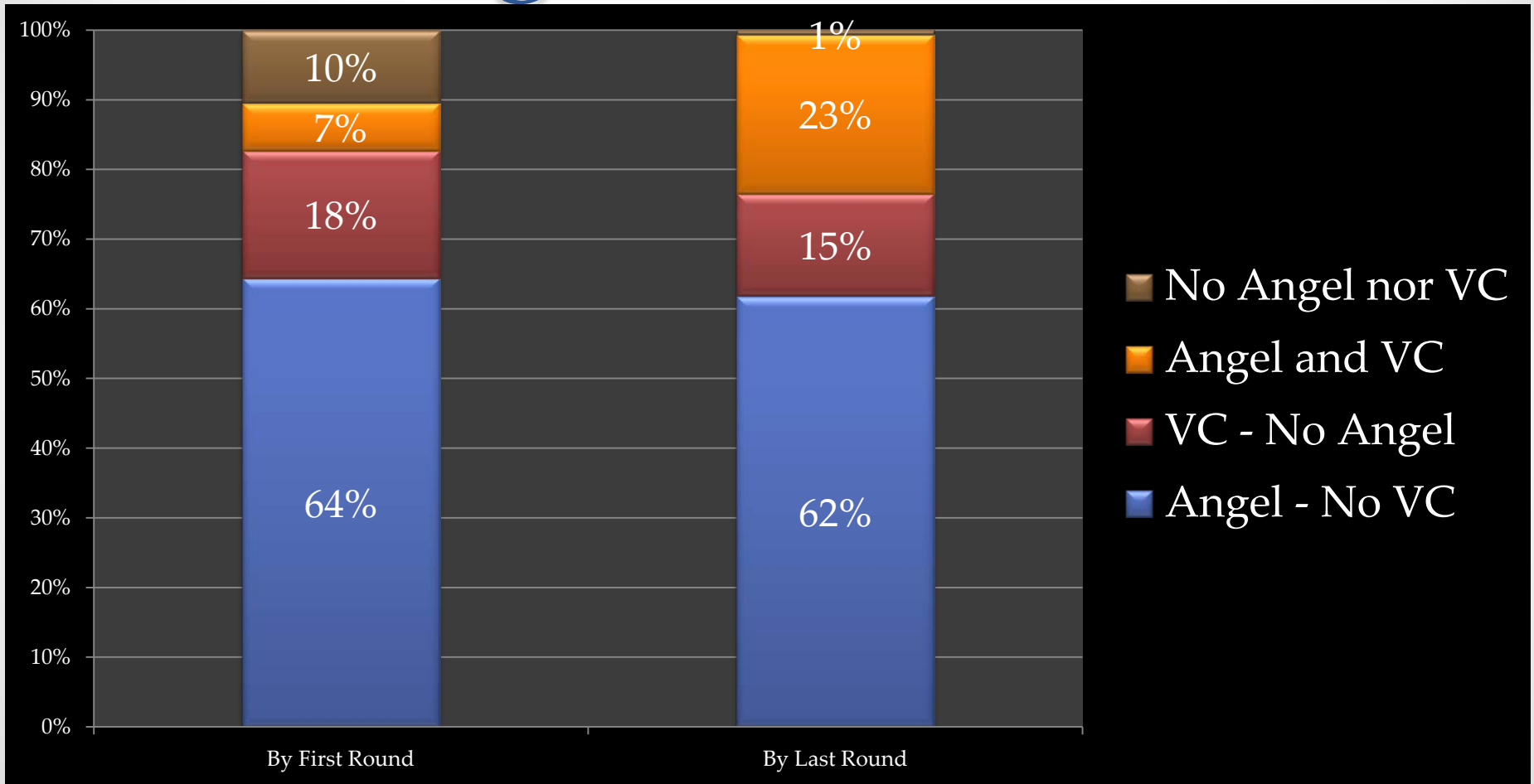


Table shows the percent of companies that receive funding from different combinations of angels and VCs

Source: Hellmann, Schure and Vo, 2013, "Angels and Venture Capitalists: Substitutes or Complements?" Working paper, University of British Columbia

Evidence on Angels & VCs: Financing Path

- Angel companies get more angel funding
- VC companies get more VC funding
- Few transitions from angel to VC
- Very few transitions from VC to angel
- Stronger separation for one-time angels
- Weaker separation for angel funds

Evidence on Angels & VCs: Performance

- Mixing angels and VCs associated with weaker performance
 - May not be causal!
- Conflict of interest at board level
- Evidence far from conclusive!

Hold-up problem between Angels & VCs

- Moderated by angel education
- Moderated by VC competition
- Moderated by angel co-investments
- Moderated by reputation / relationships
- Moderated by use of convertible note?

VC Round	Angels hold equity	Angels hold convertible note
Valuation		
Preferences		
Founders	High	High
Angels	High	Low
VCs	Low	Low

Avenues for cooperation

- Repeat relationships
 - Formal and informal
- Angels need deeper pockets
 - Syndication
 - Dynamic funding management
- VC funds buying out angels
 - Increasingly common for founders
 - Are LPs open?

The Patience Gap

- Two Models of Experimentation
- Quick resolution
 - Many independent trials
 - Early signals informative
 - Quick termination of losers
 - Patience is a vice!
- Slow resolution
 - Many sequential trials
 - Early signals uninformative / misleading
 - Tolerance for failure needed
 - Patience is a virtue!

Evidence from Life Science Research

- Howard Hughes Medical Institute (HHMI) Grants
 - Rewards long-term success
 - Tolerance for early failure
- National Institutes of Health Grants
 - Short review cycles
 - No tolerance for failure
- Effect on research performance
 - HHMI recipients have more publication “flops”
 - HHMI recipients have more publication “hits”
 - HHMI recipients generate more novel research

Path-breaking innovation requires long-term horizons & tolerance for failure!

Evidence from VC

- Financing risk: Availability of follow-on funding
 - Less financing risk in “hot” VC markets
- How does this affect VC deal selection?
- Evidence on hot market deals
 - Lower probability of IPO
 - Higher valuation in case of IPO
 - Successes are more innovative (more patents, more citations)
- Effects strongest for most experienced VCs

Reduction in financing risk
encourages experimentation

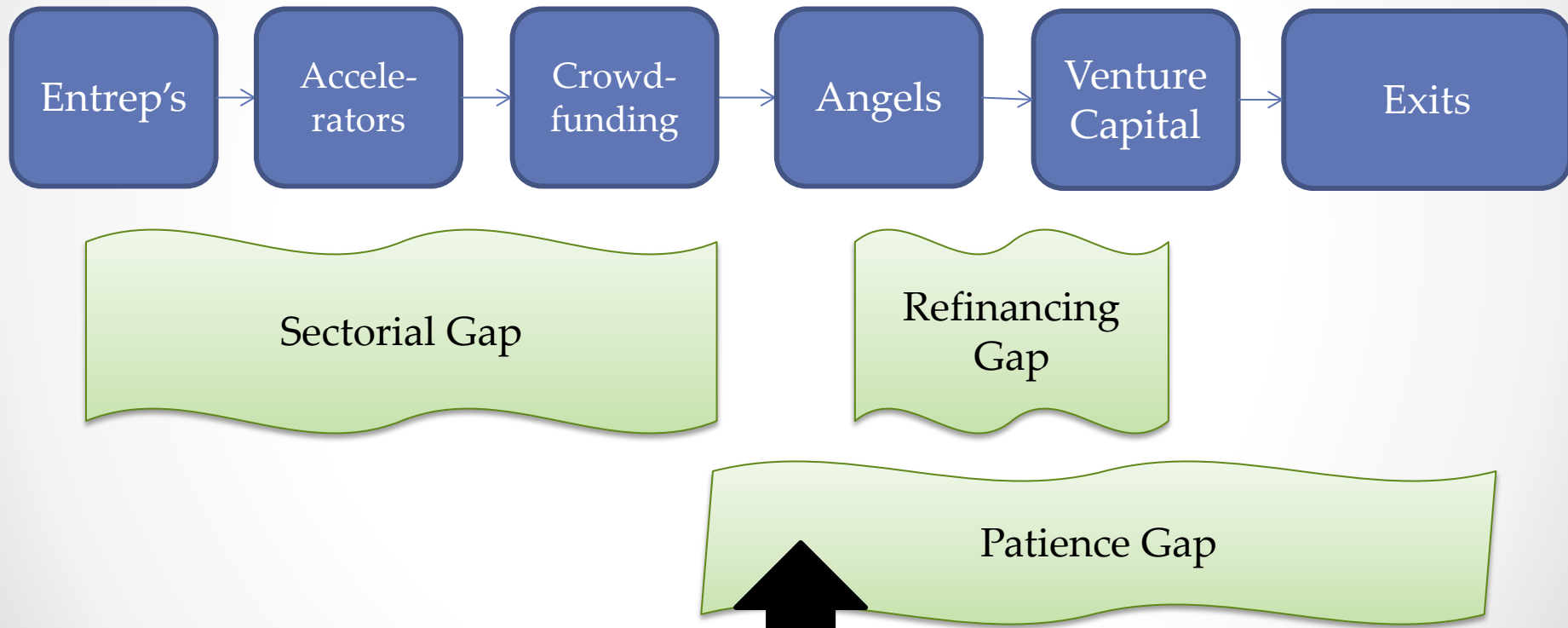
Does the new market structure foster experimentation?

- New Kids In Town well-suited for “quick resolution” experimentation
- Traditional VC model (sometimes) well-suited for “slow resolution” experimentation
- New Kids In Town seems poorly suited for “slow resolution” experimentation
 - Funding of complex technologies
 - Funding of capital intensive projects
- Yet New Kids in Town give ample inspiration!

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The Three Gaps



Welcome to the Brave New World of Entrepreneurial Finance!



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