

# **E145 Autumn 2007**

## **Session 9**

# **Venture Finance**

**Alex Gould, Chi-Hua Chien**

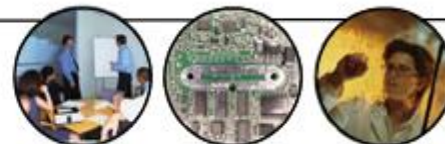
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*Up Until  
Now:  
Idea Versus  
Opportunity*

*This Month:  
Realities of  
Business  
Operations*



# Today's Agenda

**Part I.** What is the purpose of a *business plan*?

**Part II.** Given the nature of the business and the objectives of the founders, what *capital* resources are needed to build the venture?

**Part III.** The Nitty Gritty of VC Financing



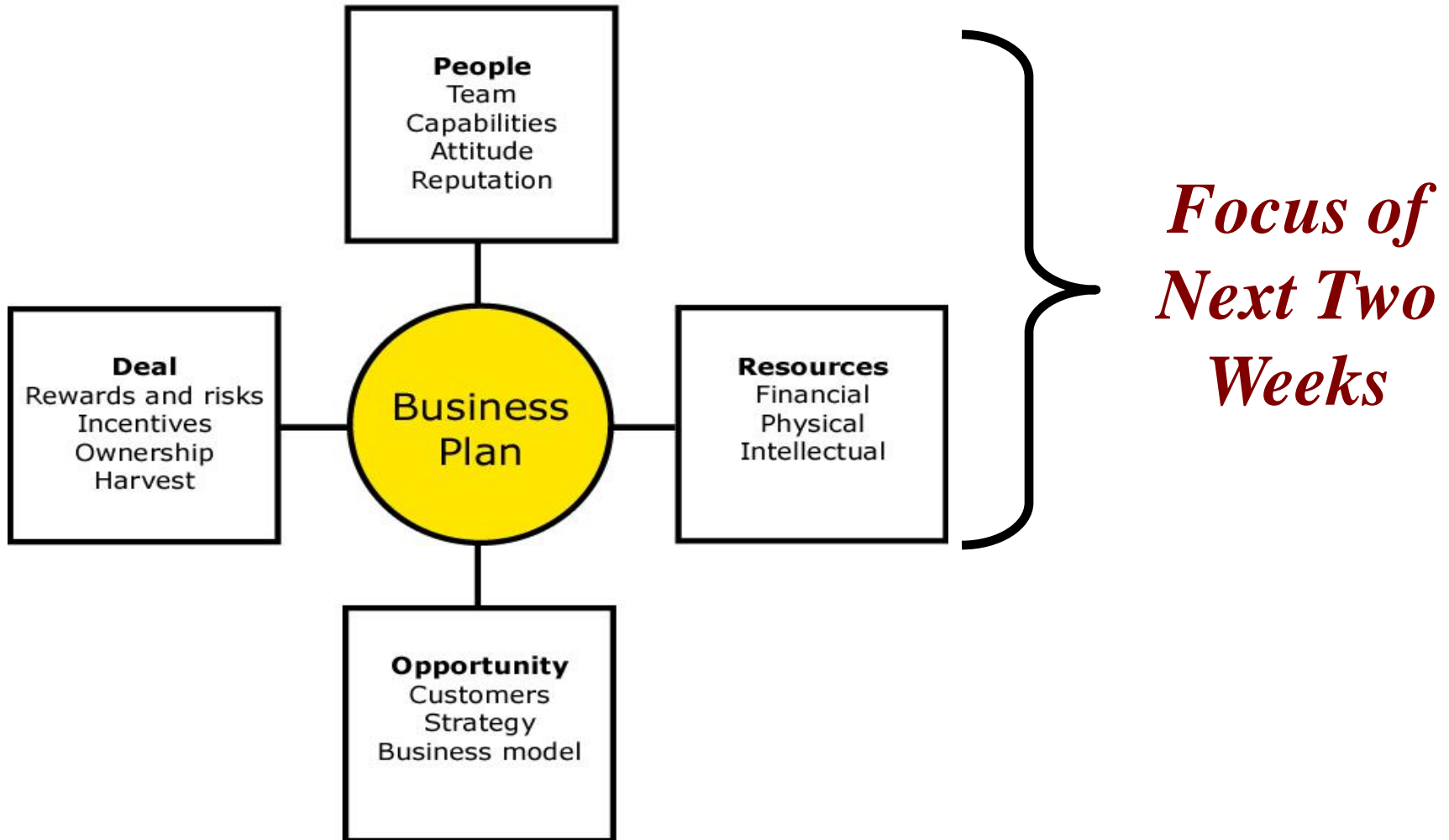
# Part I.

## What is the purpose and real value of a business plan?



# Recall Sahlman's Model

**Context** (economy, regulatory, industry)



# Outline of a Business Plan

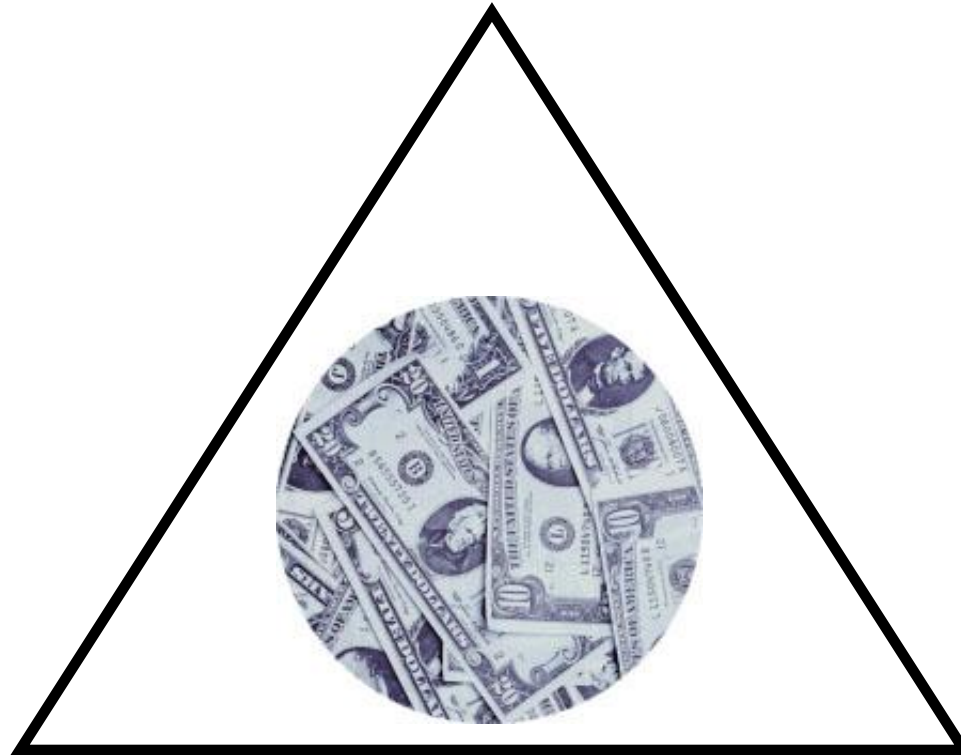
- **Executive Summary (why is this so key in reality?)**
- **Market Analysis**
- **Vision and Concept (including Technology)**
- **Competitive Positioning and Marketing**
- **Business Model**
- **Organization**
- **Financial Projections**
- **Ownership**

*Focus of  
Next Two  
Weeks*



# Part II. How Tech E's Finance Their Ventures ... The ABCs

## A. Amount of Cash Needed and Purpose



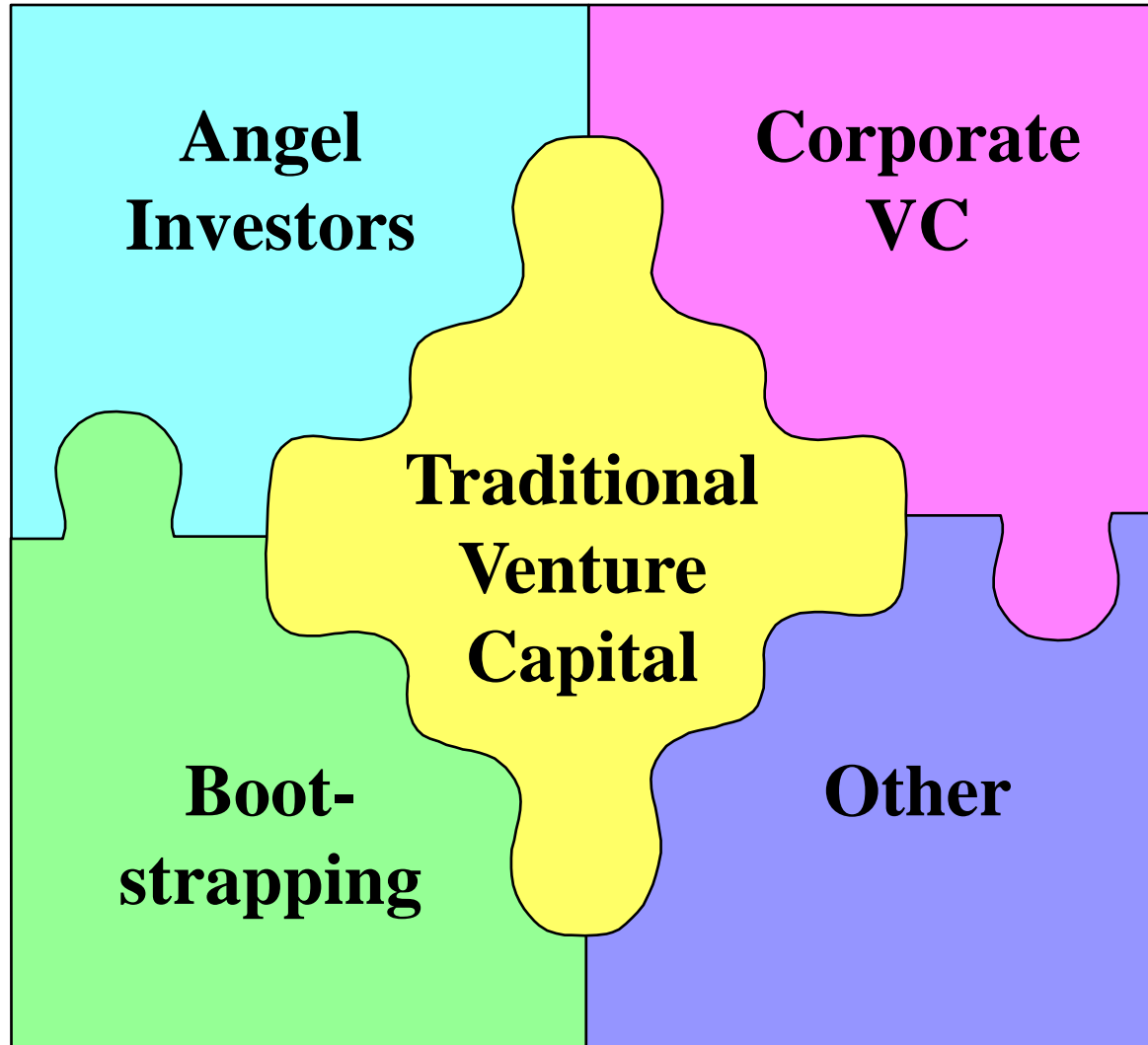
**B. Sources of Capital**

**C. Deal Structure**

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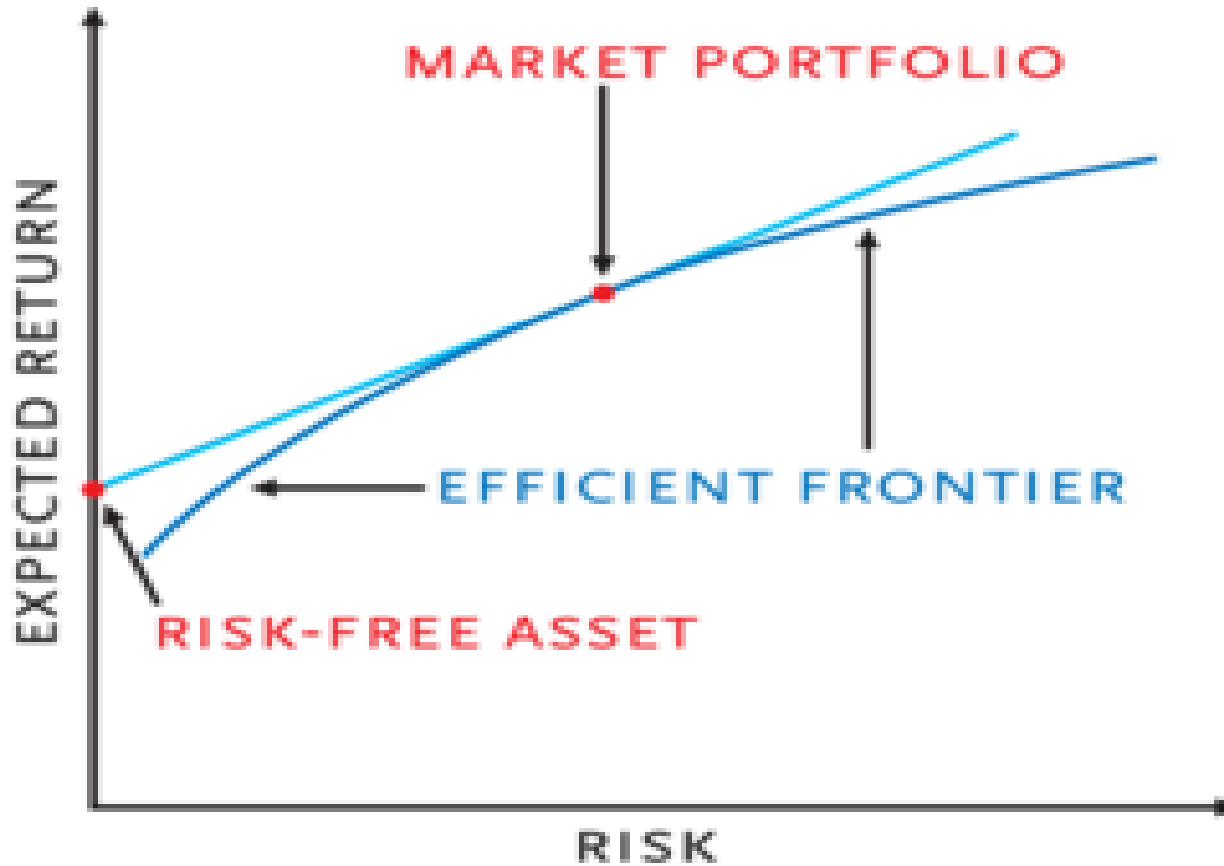
# Specific Sources: Pros and Cons



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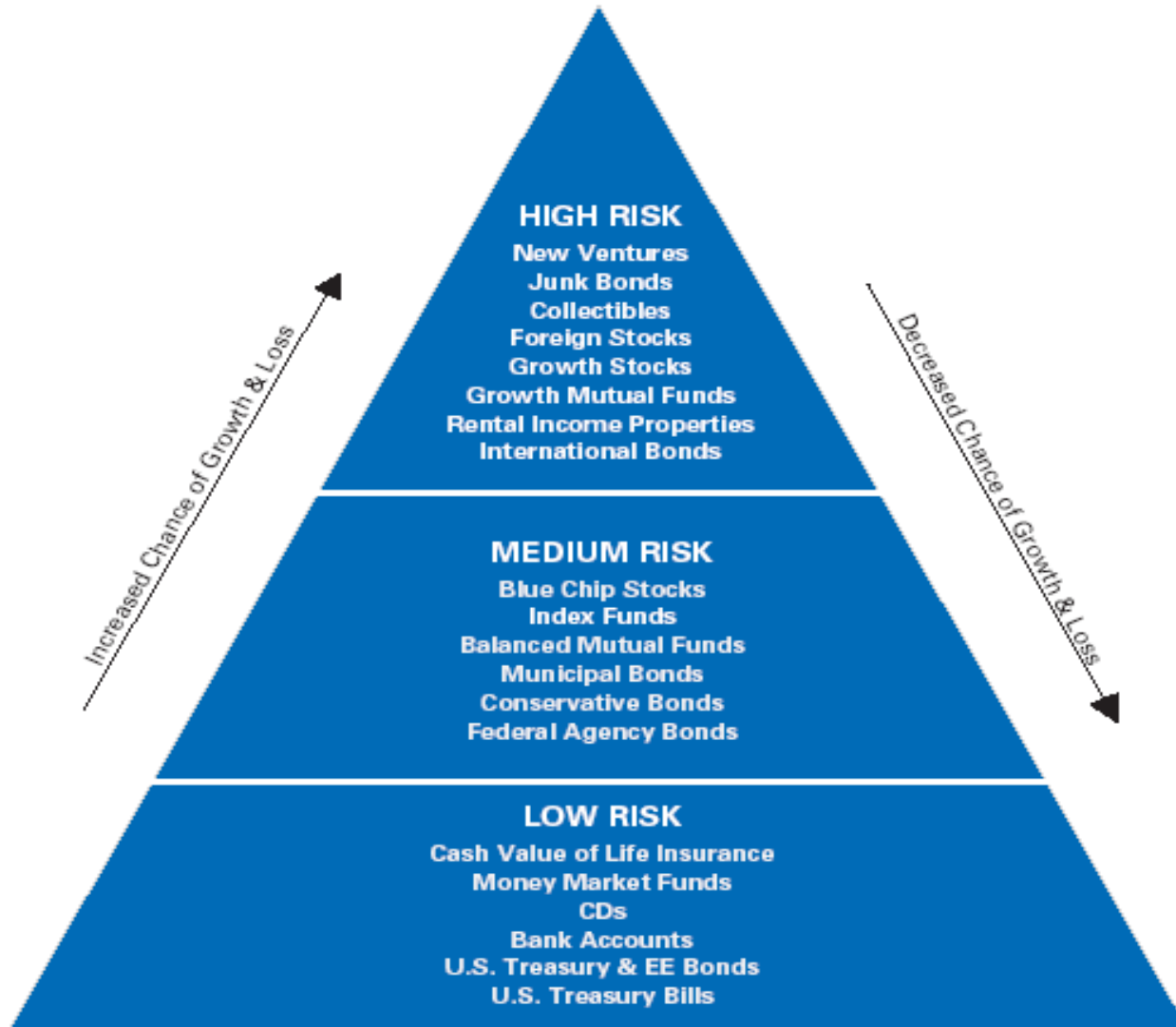
# Sources of Capital



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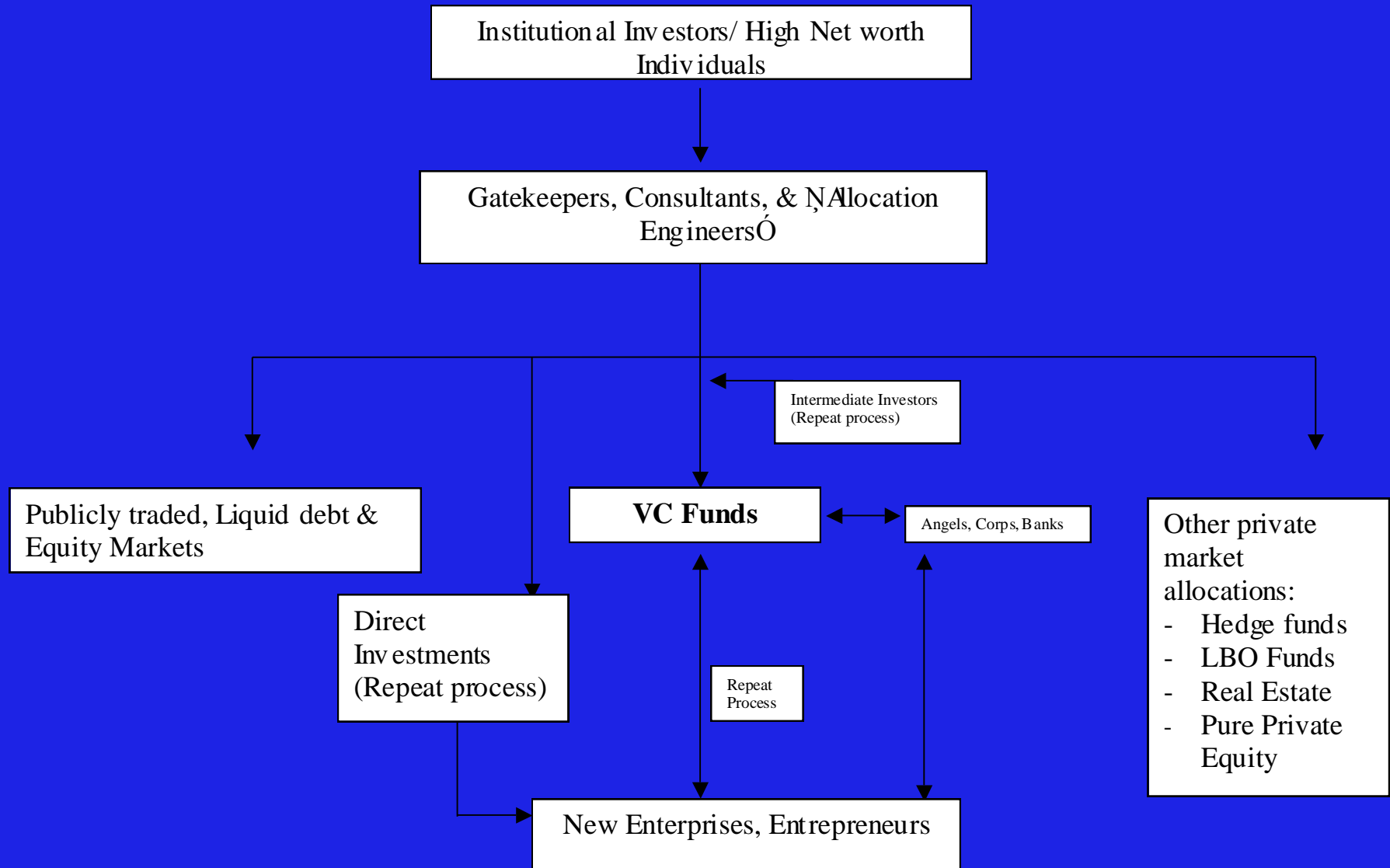
# Sources of Capital



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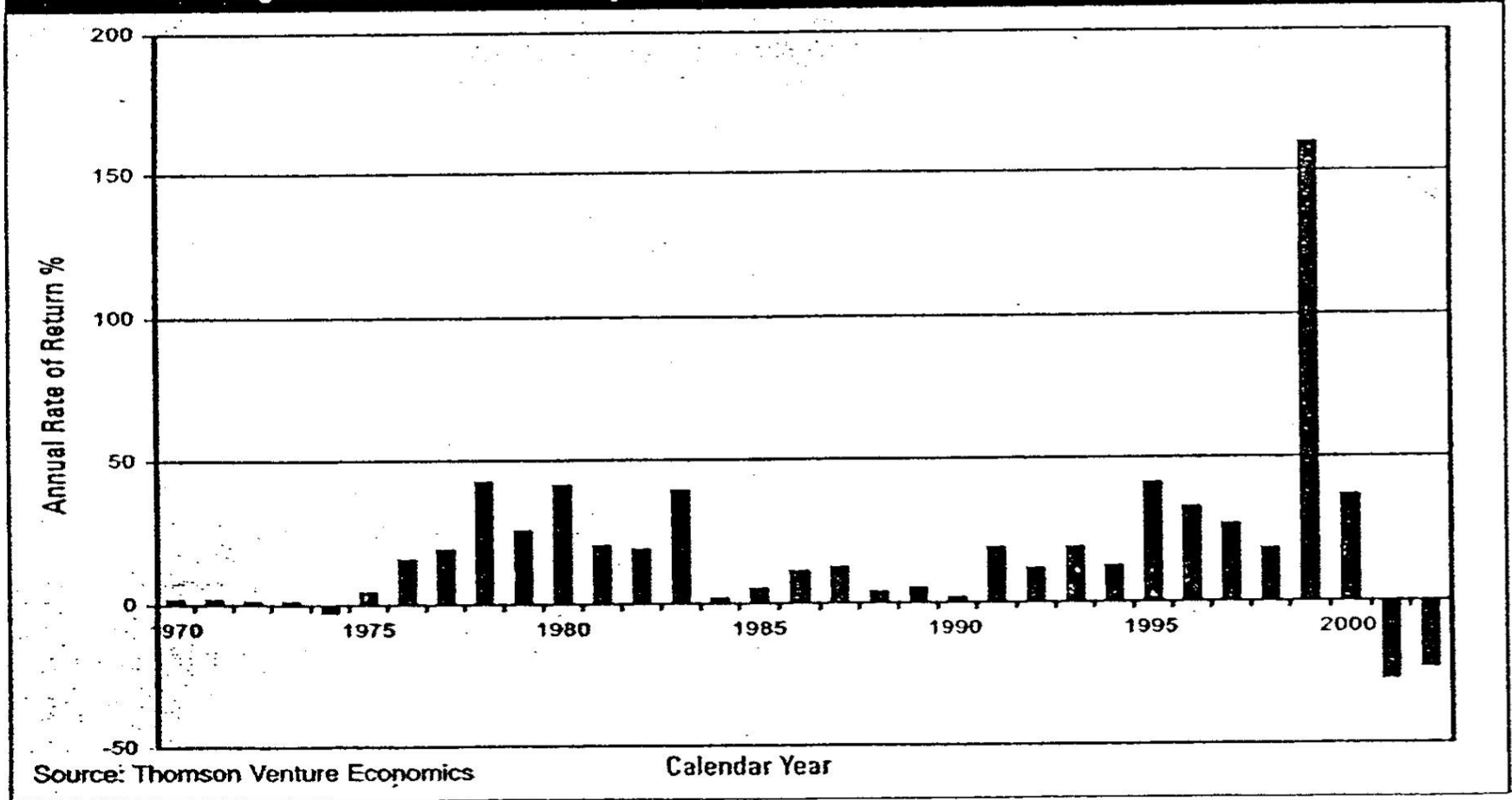


# Diagram 1: Ecology of VC Market



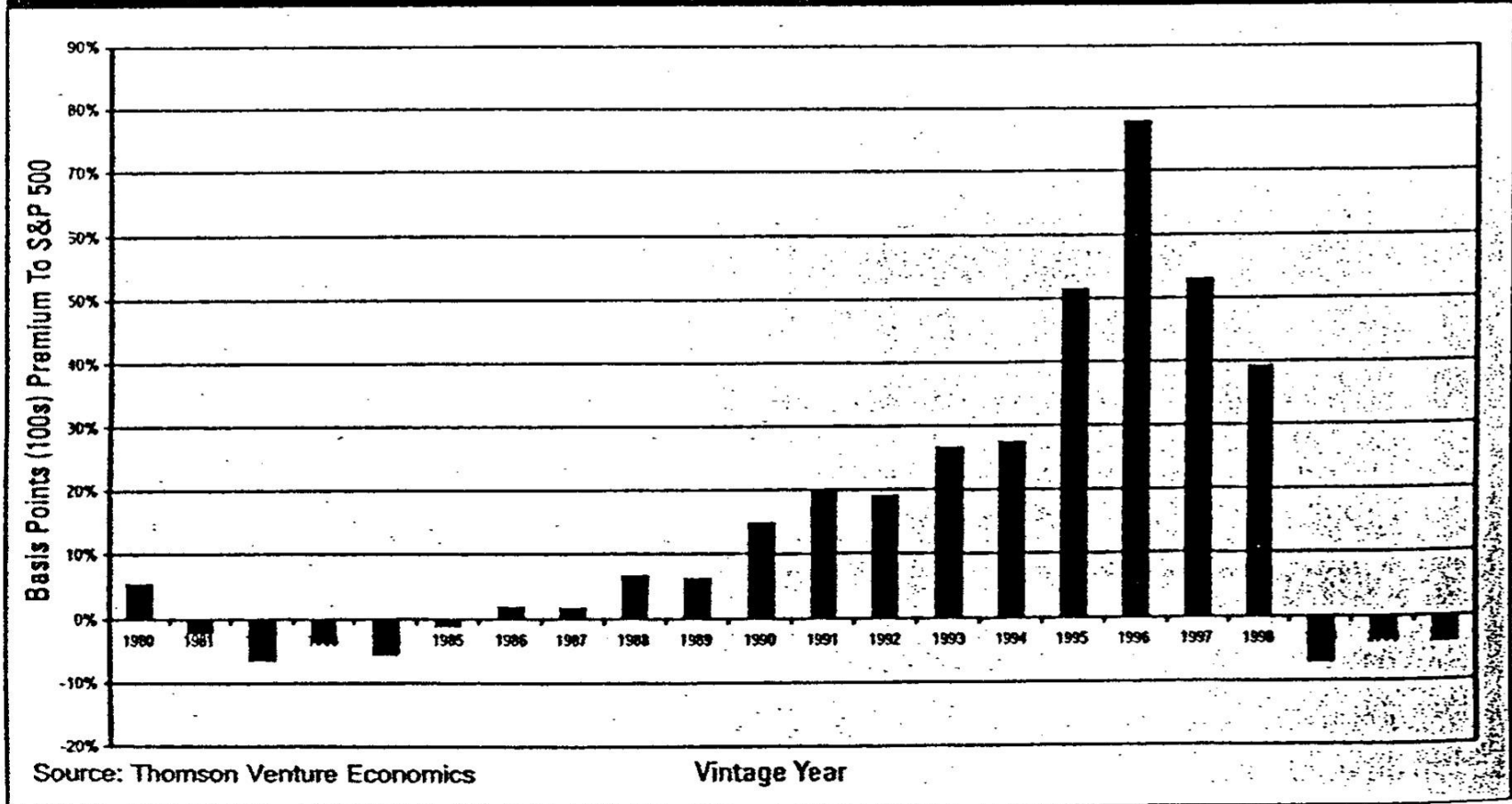
# The "Macro" Perspective: The Role of the Capital Markets

Figure 2: U.S. Venture Capital Performance—Year on Year Returns



# The "Macro" Perspective: The Role of the Capital Markets

Figure 3: U.S. Venture Capital Returns Premium To S&P 500 by Vintage Year



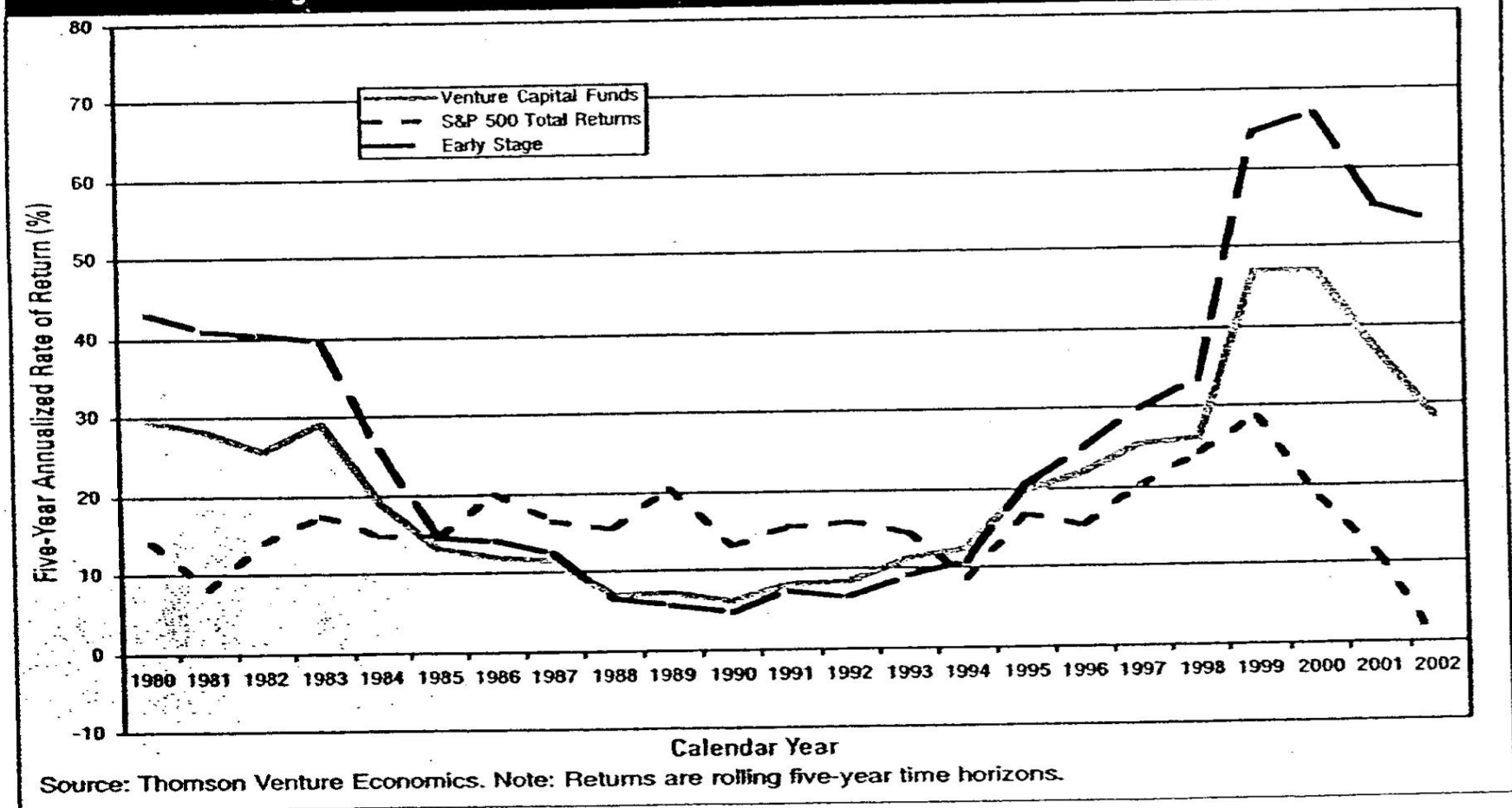
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# The "Macro" Perspective: The Role of the Capital Markets

Figure 4. Five-Year Returns—U.S. Venture Capital vs. S&P 500



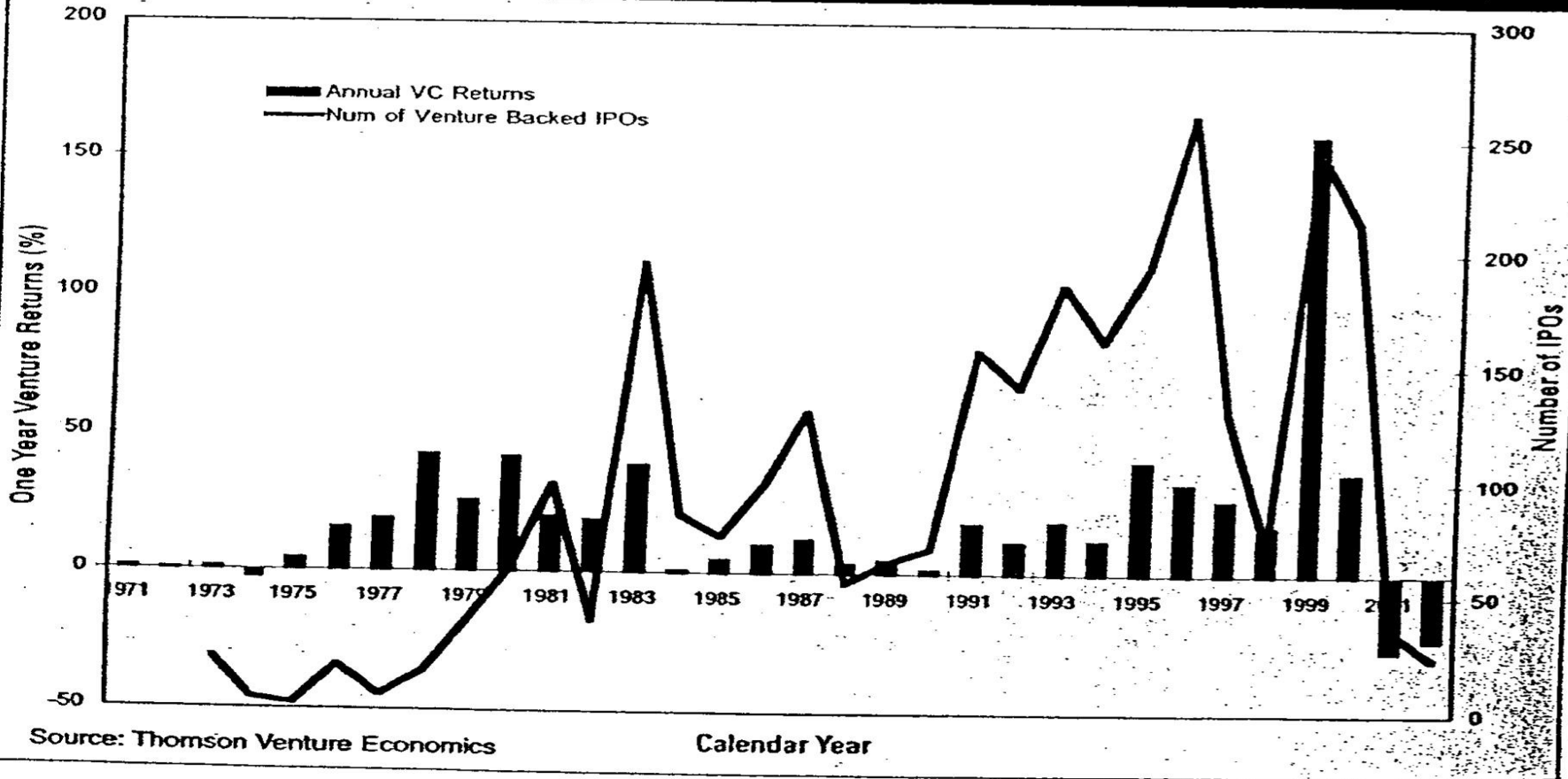
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# The "Macro" Perspective: The Role of the Capital Markets

Figure 5: The Venture and Technology IPO Cycle

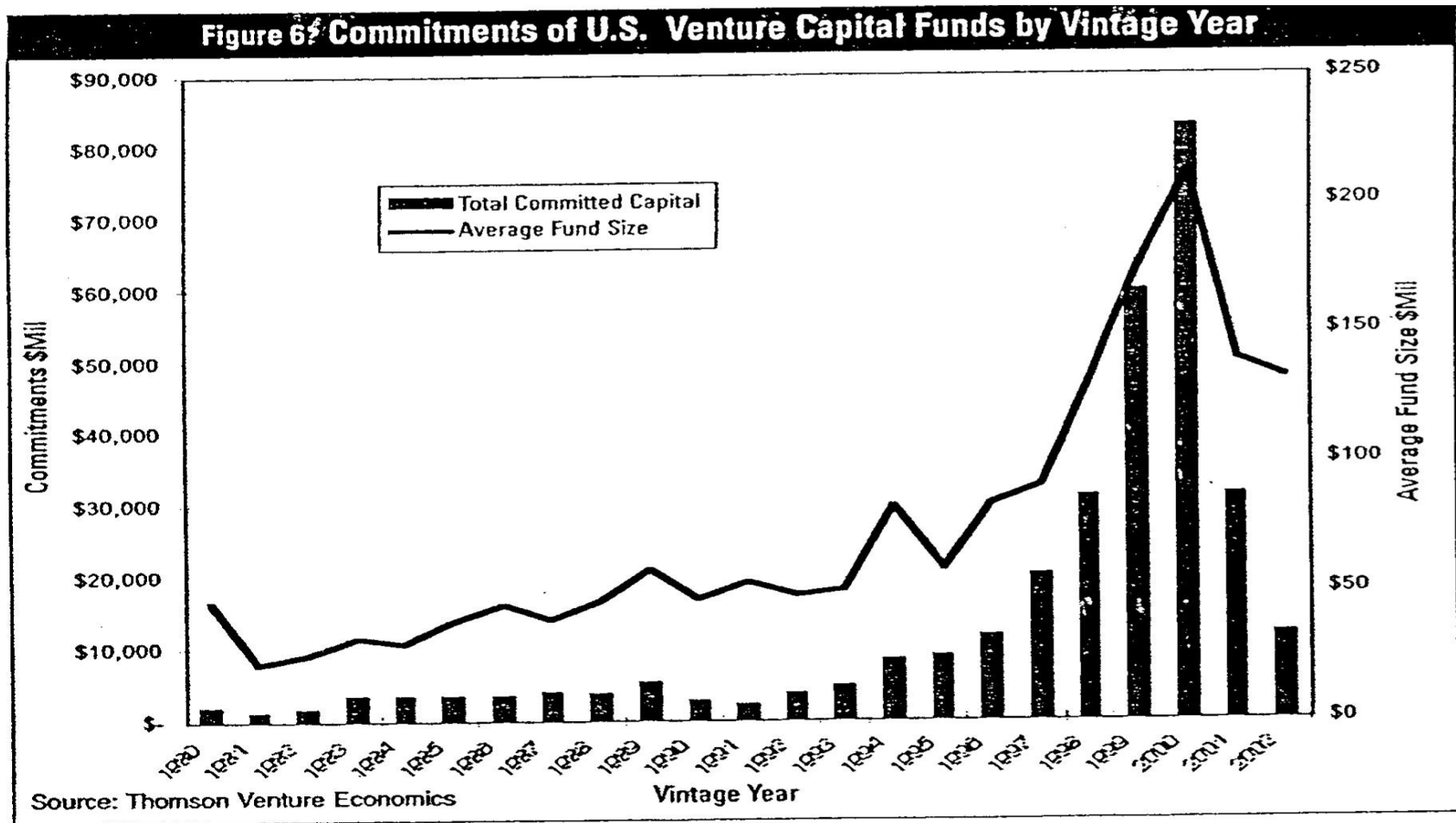


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# The "Macro" Perspective: The Role of the Capital Markets



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# US Venture Capital

- **GDP: about \$12.5 trillion annually**
- **Hedge funds: \$1 trillion over 3 years**
- **Mutual funds: \$136 billion in 2005**
- **Buyout funds: \$86 billion in 2005**
  - **Venture capital?**  
**\$25 billion in 2005... just 0.2% of GDP.**

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## But VC-Backed Companies = 17% of GDP

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are needed to see this picture.

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**Genentech**  
In Business for Life

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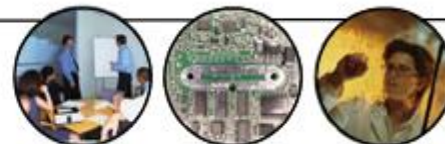
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**March 21, 2007, Washington, D.C.** – U.S. companies that received venture capital from 1970-2005 accounted for 10 million jobs and \$2.1 trillion in revenues in 2005... This represents 9 percent of the total private sector work force and 17 percent of total U.S. GDP.

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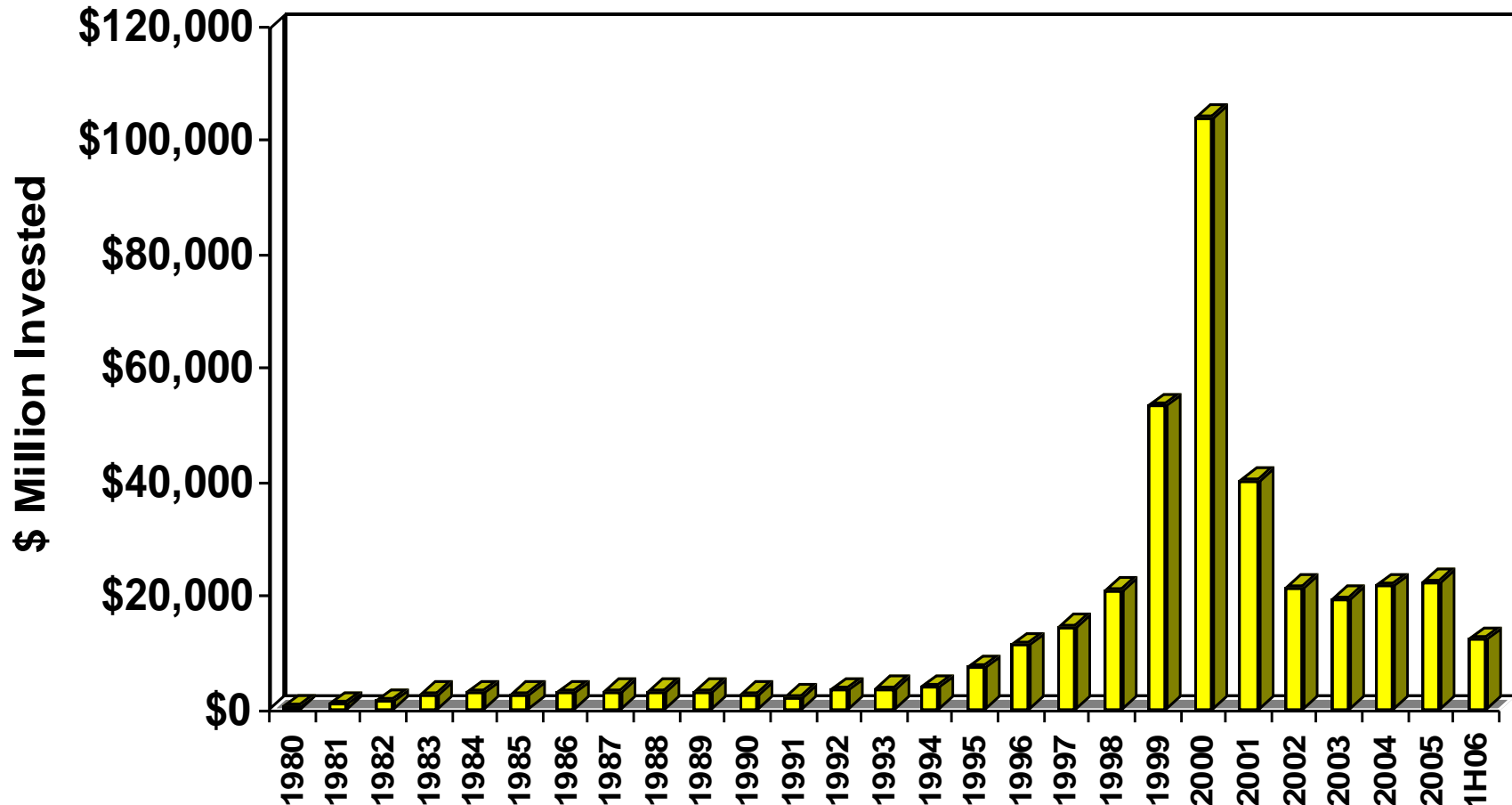
# Number of US VC Firms Has Peaked

<i>At Year End</i>	<i># Venture Firms</i>	<i>Capital Under Mgt</i>
1970	28	\$1B
1980	89	\$4B
1990	398	\$31B
2000	887	\$223B
2001	949	\$252B
2005	866	\$259B

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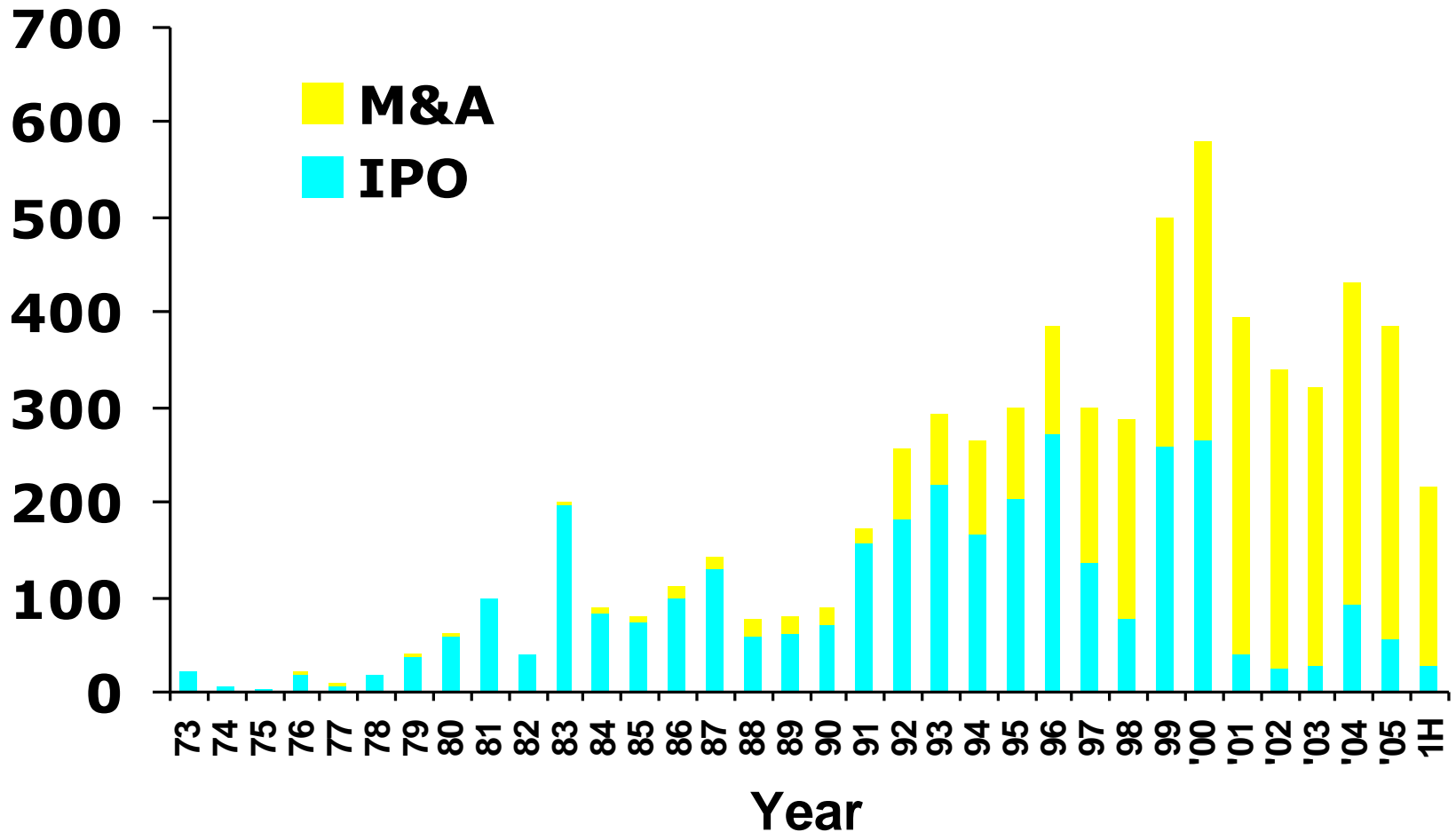
# After a 2000 US Peak of over \$100B, Now on a \$20+B Annual Pace



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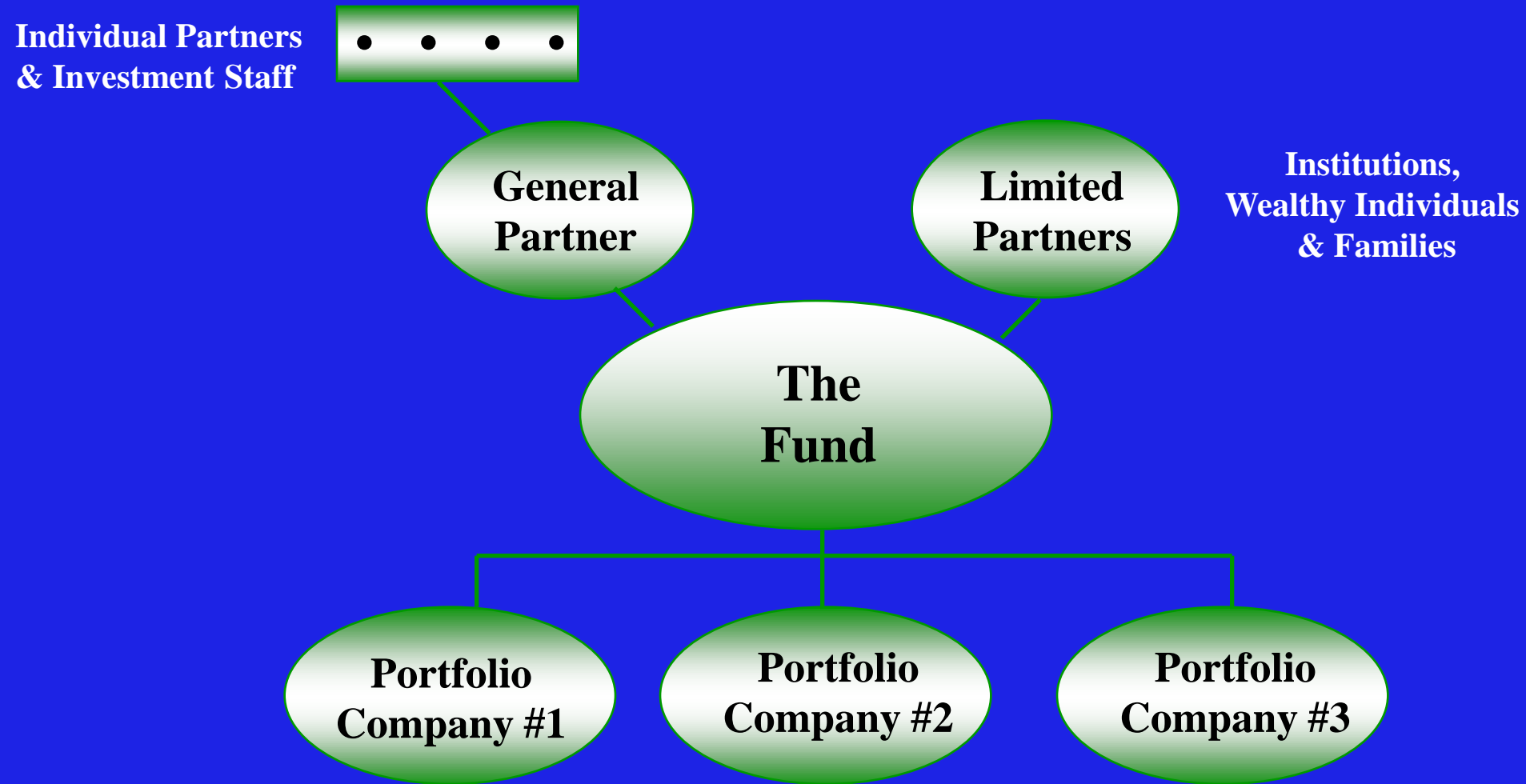
# Venture Exit Counts in US: IPOs and M&A by Year



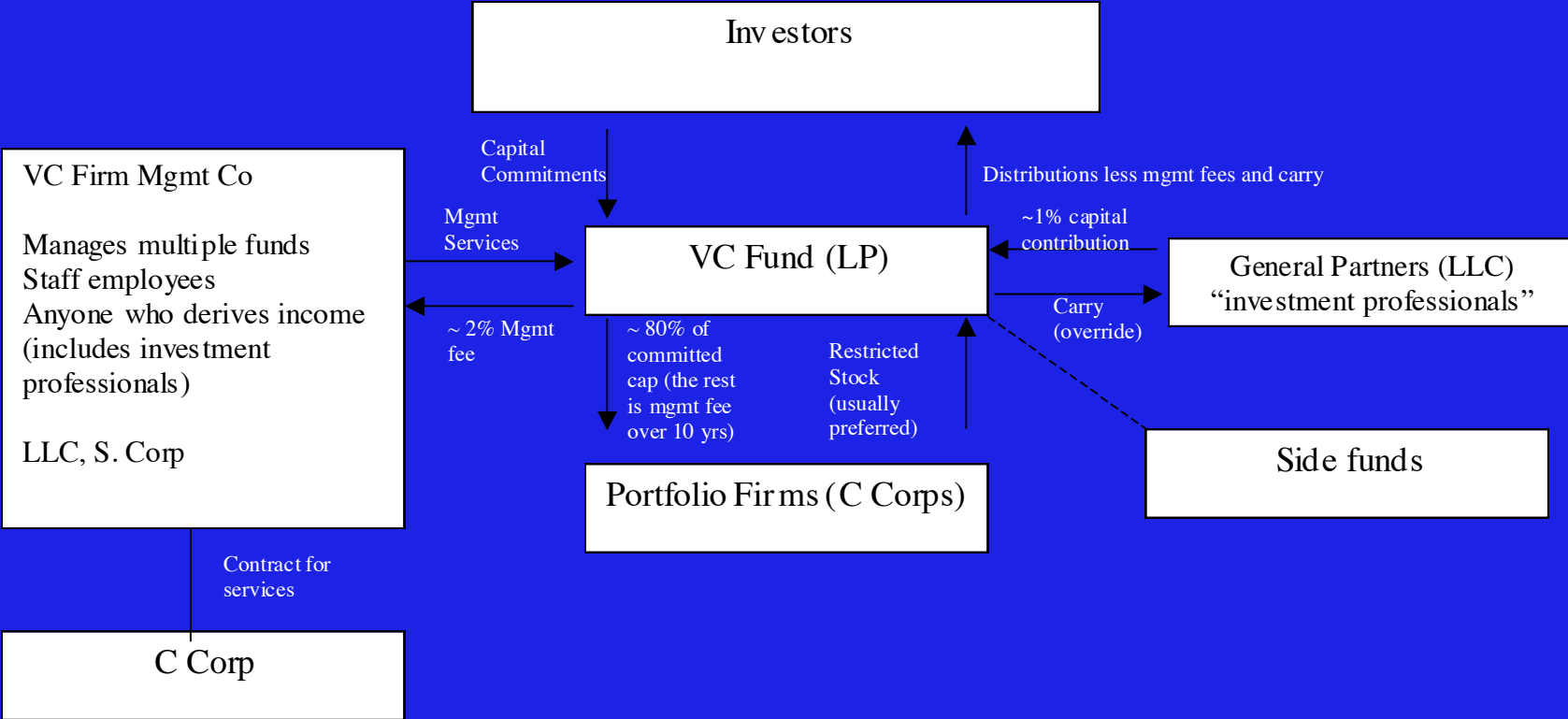
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# *Investment Funds*



# Diagram 2: VC Relationships



# *Key Fund Terms*

- Terms can be both cyclical and a function of the track record and experience of the GPs
- mgmt fee and carry (typically 2%, 80%/20%)
- size of investment; minimum and maximum size of fund; life of fund (usually 10 years)
- monetary contribution of GP (~1%)
- “takedown” schedule of capital
- pay down/distribution scheme: hurdle

# *Fund Selection Criteria*

- 1) Strategy & deal flow
- 2) **Track record: quality, length, replicability**
- 3) Reputation
- 4) **The Team: Strength and depth? Has the team changed?**
- 5) Expertise with all facets of investment process
- 6) **Targeted areas of focus**
- 7) Competitive advantage with respect to deal flow
- 8) **Fund Economics: fund size, # of partners, # of investments, size of investments, # of boards each GP is sitting on**
- 9) Terms: economics (carried interest, hurdles, management fees); key man provisions; clawbacks; etc. Are incentives aligned?

# *Fund Selection*

## **Due Diligence Process**

- 1) Meet all members of investment team (note: if you are reviewing Fund-of-Funds manager, there are some other considerations like total fund size)**
- 2) Interview CEOs of portfolio companies**
- 3) Visit selected portfolio companies**
- 4) Reference checks**
- 5) Review investment record**
  - ascertain values
  - **check calculations**
  - determine “parentage” of deals
  - **examine results vis-à-vis macro factors (e.g., IPO market)**

# *Recent Policy Issues*

- 1) Valuation**
- 2) Disclosure**
- 3) Clawback**
- 4) Overhang and Related Issues**
- 5) Succession**
- 6) Private Equity/VC as an Asset Class**

# **O&F Private Equity Fund L.P.**

**“Statistics Don’t Lie, But Liars Use  
Statistics”**

# *Investment Record Analysis*

## *Portfolio #1*

<u>Deal</u>	<u>Amount Invested</u>	<u>Holding Period</u>	<u>Amount Returned</u>	<u>IRR</u>
A	\$1.00	2	\$2.00	41%
B	2.00	4	6.00	32%
C	50.00	3	50.00	0%
D	2.00	1	3.30	65%
			Average Blended	35% 4%

# *Investment Record Analysis*

## Portfolio #2

<u>Deal</u>	<u>Amount Invested</u>	<u>Holding Period</u>	<u>Amount Returned</u>	<u>IRR</u>
A	\$10.00	2	\$22.00	48%
B	20.00	4	55.00	29%
C	50.00	3	130.00	38%
D	20.00	1	25.00	25%
			Average Blended	35%
				35%

# *Investment Record Analysis*

## *Portfolio #3*

<u>Deal</u>	<u>Amount Invested</u>	<u>Holding Period</u>	<u>Amount Returned</u>	<u>IRR</u>
A	\$1.00	2	\$2.00	41%
B	2.00	4	2.00	0%
C	50.00	3	200.00	59%
D	2.00	1	2.80	40%
			Average Blended	35% 57%

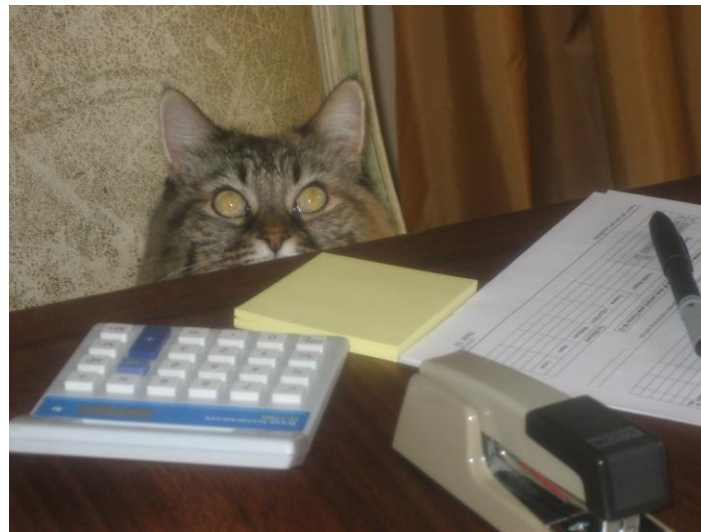
# Part III.

## Nitty Gritty VC Financing



# A. Amount of Cash ... Two Key Questions

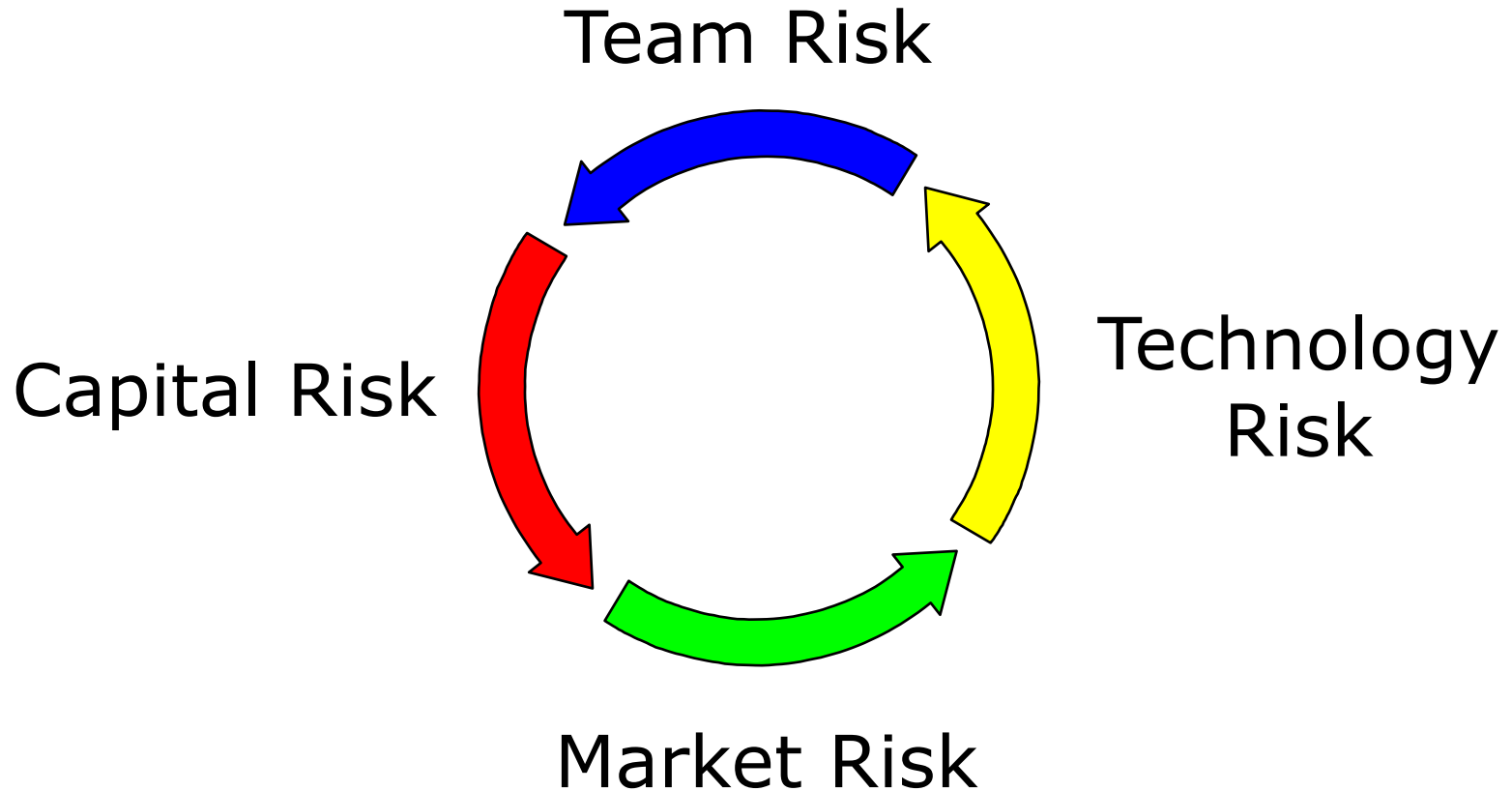
**#1** *How much money is needed for this "round" of financing?*



Typical Financing Stages (or Rounds):  
Seed → Early → Mezzanine → Late (e.g., IPO)



## ***#2 Which "white hot" risks are to be reduced with this money?***



## ***(1) Founding:***

An entrepreneur begins with a vision and shares of stock in the new venture.

*Entrepreneur trades stock for ideas, money, and people*

*Value has been successfully created*

## ***(2) Seed Stage:***

- Venture capitalists provide money in return for stock
- Employees join via friends & associates in return for cash salary and stock options
- Ideas become intellectual property which represents the initial value in the company

**Kaplan's Startup Game**  
**“A race against time to create value and reduce risk”**

## ***(4) Exit Stage (Success):***

- Company files for IPO or gets acquired (M&A)
- A viable enterprise has been created (maybe public)
- Entrepreneur, investors, and employees can cash in stock for money (eventually)
- Each party continues to build the company, starts the game again, or something else

*Further growth is delayed until milestones are reached and risk of failure is reduced*

## ***(3) Growth Stage:***

More money, ideas, and people are obtained, but for much less stock than in the earlier stage due to lower risk

*Company balances earning cash, taking investment, and spending cash to create value*

Reference: Jerry Kaplan



## **B. Key Questions Regarding the “Deal”**

- 1. What percentage of the company do the investors receive for their cash?***
- 2. What special terms and conditions are necessary to compensate them for the risk?***



# A Simple Venture Finance Example

- Roma's hot startup requires \$10 million in order to form its business. She expects to earn \$5 million in its fifth year.
- Randy's VC firm has reviewed the company's business plan and believes that he is entitled to a 50% return on his investment. Hint: how many "times" must his firm's money grow in 5 years?)
- Publicly traded companies in this category and industry trade at an average of 30 times earnings (PE ratio). There is no material difference between these companies and Roma's startup.
- What portion of the company should Randy's VC firm receive today? Hint: what is future value of that investment?

1. **Value of VC Investment in Year 5** =  $\$10 \text{ m} \cdot (1+50\%)^5 = \mathbf{\$76\text{m}}$

2. **StartUp's Value in Year 5** =  $\$5 \text{ m} \cdot (\text{P/E of } 30) = \mathbf{\$150\text{m}}$

3. **VC Firm's Share Today** = **Step 1/Step 2**  
=  $\mathbf{\$76 \text{ m} / \$150\text{m}} = \mathbf{\sim 50\%}$

4. **"Post-Money" Value Today** =  $\$10 \text{ m} / 50\% = \mathbf{\$ 20 \text{ m}}$



# A Multi-Stage Venture Finance Example

*Time*

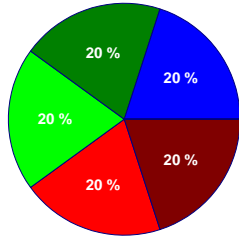
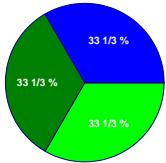
I

II

III

IV

V



1mm shares  
for each  
founder

+1mm shares  
each for CEO  
& employees

+5mm shares  
for first VC  
firm

$\Sigma=3\text{mm}$

$\Sigma= 5\text{mm}$

$\Sigma=10\text{mm}$

shares @  
\$0.001 ea.

shares @ \$0.01  
each

shares @ \$1.00  
each

Value=\$3k

Value=\$50k

Value=\$10mm

Use of \$: R&D

*Post-money value = \$10mm*

*Pre-money value = ?*

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# A Multi-Stage Venture Finance Example

I

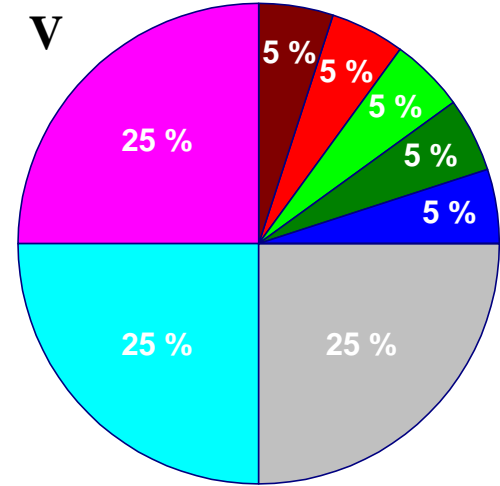
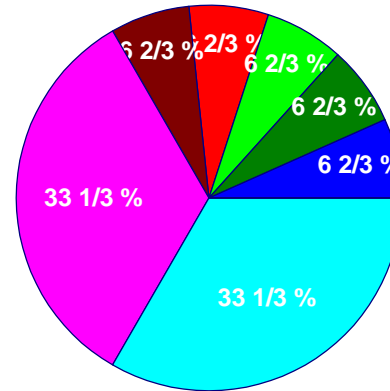
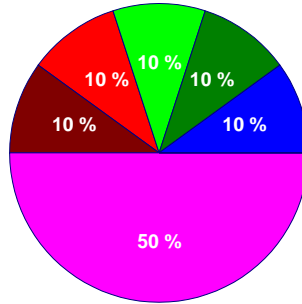
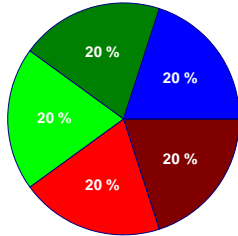
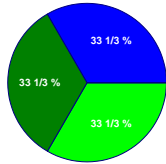
II

III

Time

IV

V



1mm shares for each founder

1mm shares each for CEO & employees

5mm shares for first VC firm

+5mm shares for second round VCs

+5mm shares for sale to public in IPO

$\Sigma=3\text{mm}$

$\Sigma= 5\text{mm}$

$\Sigma=10\text{mm}$

$\Sigma=15\text{mm}$

$\Sigma = 20\text{mm}$

shares @ \$0.001 ea.

shares @ \$0.01 each

shares @ \$1.00 each

shares @ \$5 each

shares @ \$15.00 each

Value=\$3k

Value=\$50k

Value=\$10mm

Value=\$75mm

Value=\$300mm

Note: not to scale

Use of \$: R&D

Use of \$: Mktg.

Use of \$: Operations

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# C. Term Sheet Provisions

- ☞ Type of Security and Price (Valuation)
- ☞ Capitalization (“Cap”) Table post-financing
- ☞ Conditions Precedent to Financing
- ☞ Conversion
- ☞ Liquidation Preference
  - Multiple
  - Conversion option, Participating Preferred (“double dipping”)
- ☞ Dividends
  - When and as if declared
  - Cumulative
- ☞ Pro-Rata Rights, Pay-to-Play
- ☞ Redemption Rights



# C. Term Sheet Provisions

- 📄 Voting Rights and Employee Pool
- 📄 Vesting
- 📄 Founders Activities
- 📄 Board of Directors
- 📄 Information and Registration Rights
- 📄 Initial Public Offering Shares Purchase
- 📄 Restriction on Sales, Proprietary Inventions, and Co-Sale Agreement
- 📄 Right of First Refusal
- 📄 Compelled Sale Right
- 📄 Drag Along
- 📄 No Shop Agreement/Fees?
- 📄 Indemnification and Assignment

