

# FIN 623: Entrepreneurial Finance

Overview of PE and VC

# Plan for Today

- ❑ What is Private Equity?
- ❑ What is Venture Capital?
- ❑ Venture Capital Players
- ❑ Venture Capital Trends

# Plan for Today

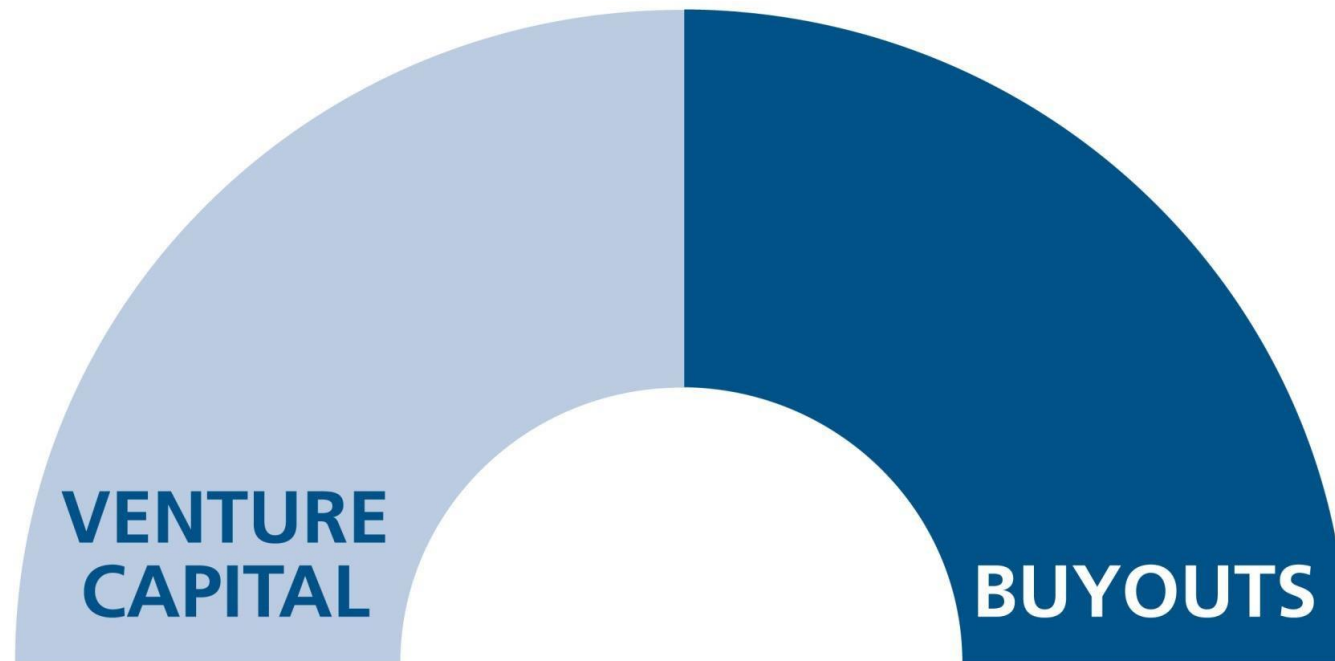
- ❑ **What is Private Equity?**
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# What is Private Equity (PE)?

- ❑ Investments that cannot be resold in public markets
- ❑ Also refers to a class of investments managed by private equity firms
  - Venture capital invests in young companies with high-growth opportunities
  - Buyout often invests using debt and takes control of a firm
  - Mezzanine invests using subordinated debt with equity participation
  - Distress invests in companies with financial issues

# What is Private Equity (PE)?

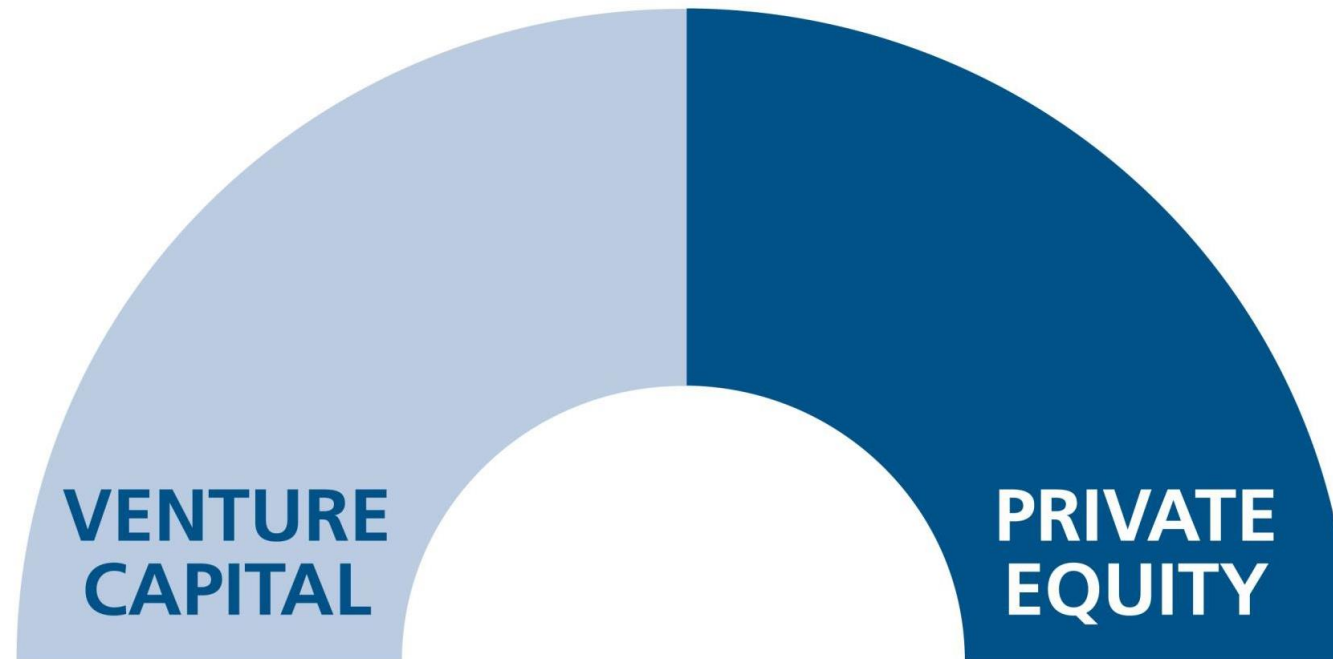
- (Equity) investments in non-publicly traded companies / securities.



1980s and 1990s nomenclature

# What is Private Equity (PE)?

- (Equity) investments in non-publicly traded companies / securities.



Late 1990s and early 2000s nomenclature



# What is Private Equity (PE)?

- (Equity) investments in non-publicly traded companies / securities.



Modern Nomenclature

# PE is a Subset of Private Capital

**Table 2.1: Segments of the Private Capital market**

Closed-End Private Capital						
Private Equity	Private Debt	Real Estate	Infrastructure	Natural Resources		
Buyout	Direct Lending	Private Equity Real Estate	Infrastructure	Energy		
Venture Capital	Distressed Debt			Private Equity Real Estate Fund of Funds	Infrastructure Fund of Funds	Agriculture/Farmland
Growth						Private Equity Real Estate Fund of Funds
Turnaround	Mezzanine	Private Equity Real Estate Fund of Funds	Infrastructure Fund of Funds			
Other Private Equity	Special Situations			Private Equity Real Estate Fund of Funds	Infrastructure Fund of Funds	
Private Equity Secondaries	Venture Debt					Private Equity Real Estate Fund of Funds
Private Equity Fund of Funds	Private Debt Fund of Funds	Private Equity Real Estate Fund of Funds	Infrastructure Fund of Funds			

Source: Preqin (2016).

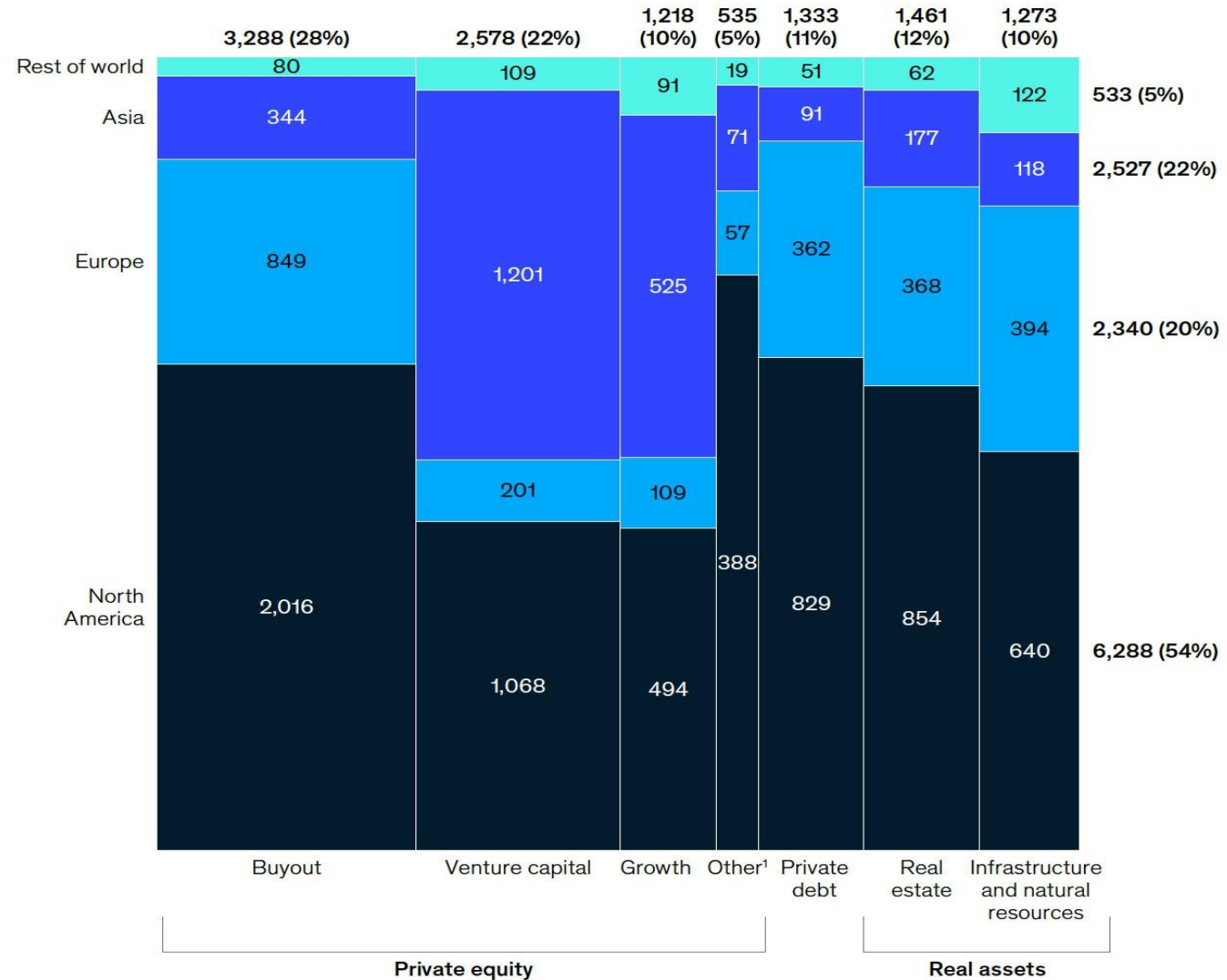


# Private Markets Assets Under Management

❑ Figures are in \$Bn

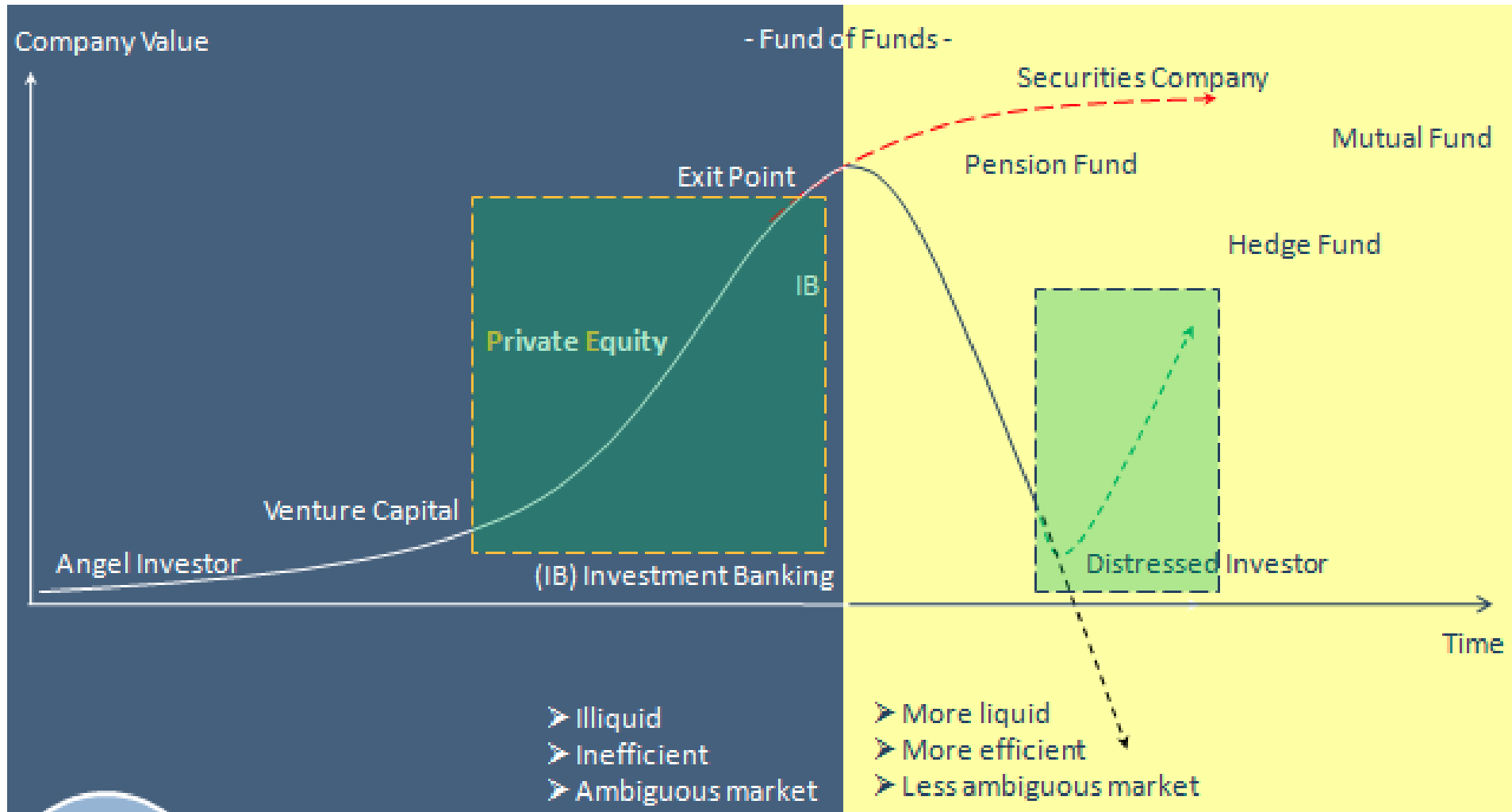
❑ 100%= \$11.7 Trillion

❑ As of 2022

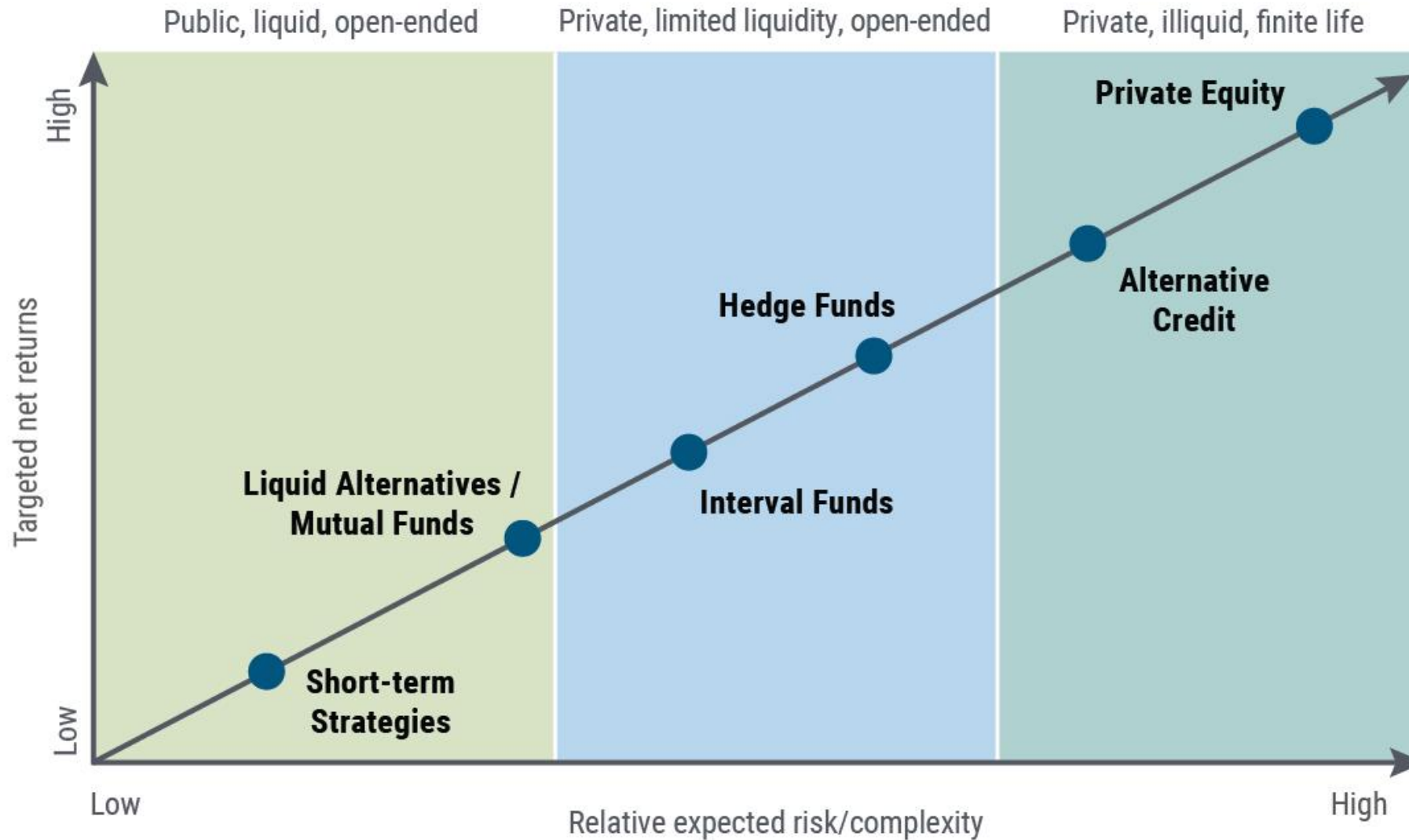


Note: Figures may not sum precisely, because of rounding.  
<sup>1</sup>Includes turnaround PE funds and PE funds with unspecified strategy.  
 Source: Preqin

# Role of PE in a Company's Life Cycle



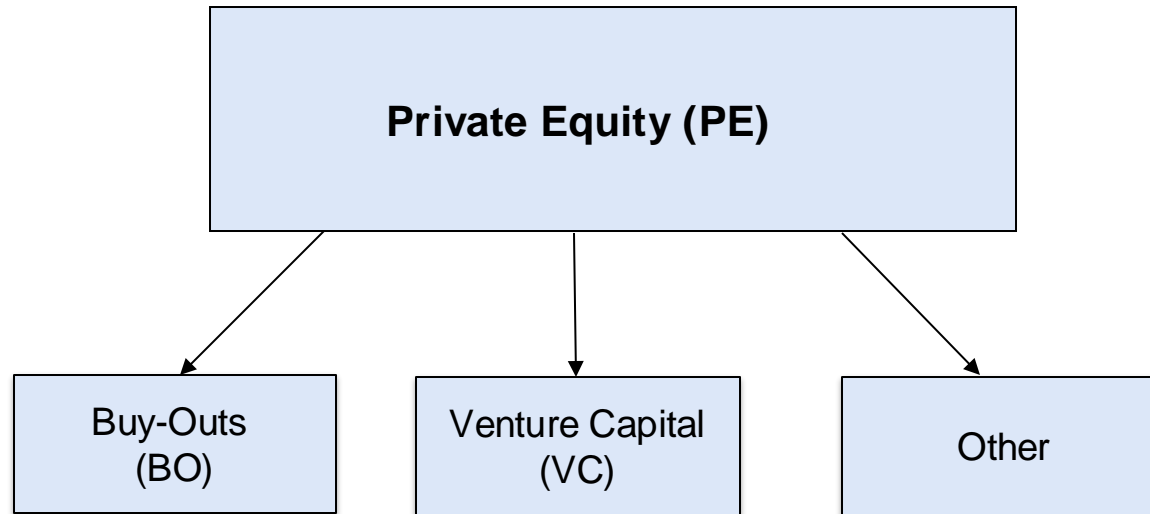
# High Risk, and High Return



# Three Ways to Invest in PE

- ❑ **Directly into company.**
  - Invest in equity of the privately-owned company.
  - Little or no diversification.
  
- ❑ **Fund.**
  - Invest in one or a few PE funds.
    - » Sequoia, Blackstone, etc.
  - PE fund invests directly into portfolio companies.
  - Some diversification.
  
- ❑ **Fund of Funds.**
  - Fund of funds invests in many PE funds.
  - More diversification.

# What is PE?

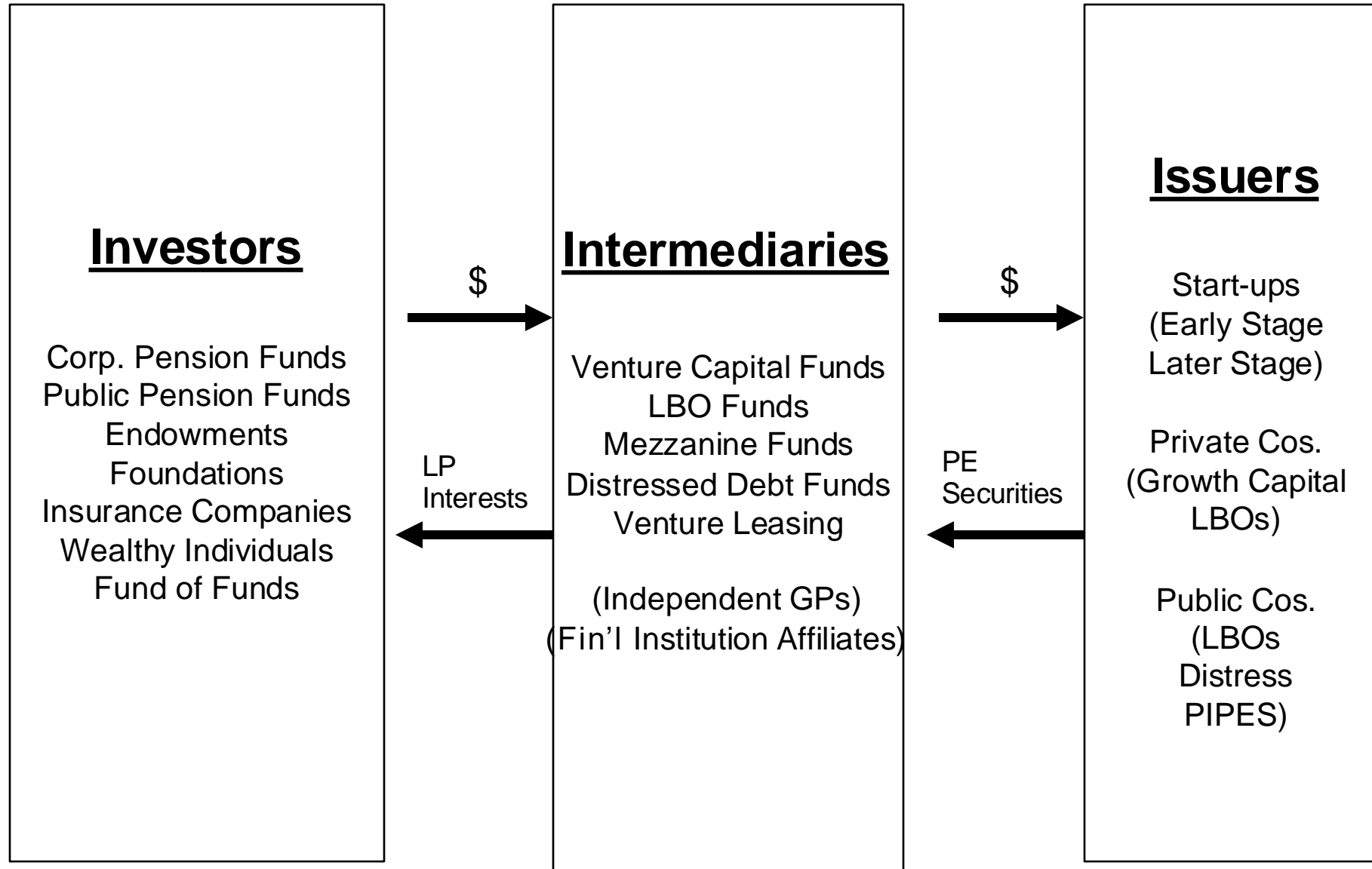


Private equity is illiquid, ownership is concentrated, valuation is difficult, intermediaries tend to be small, finance is accompanied by control and mentoring



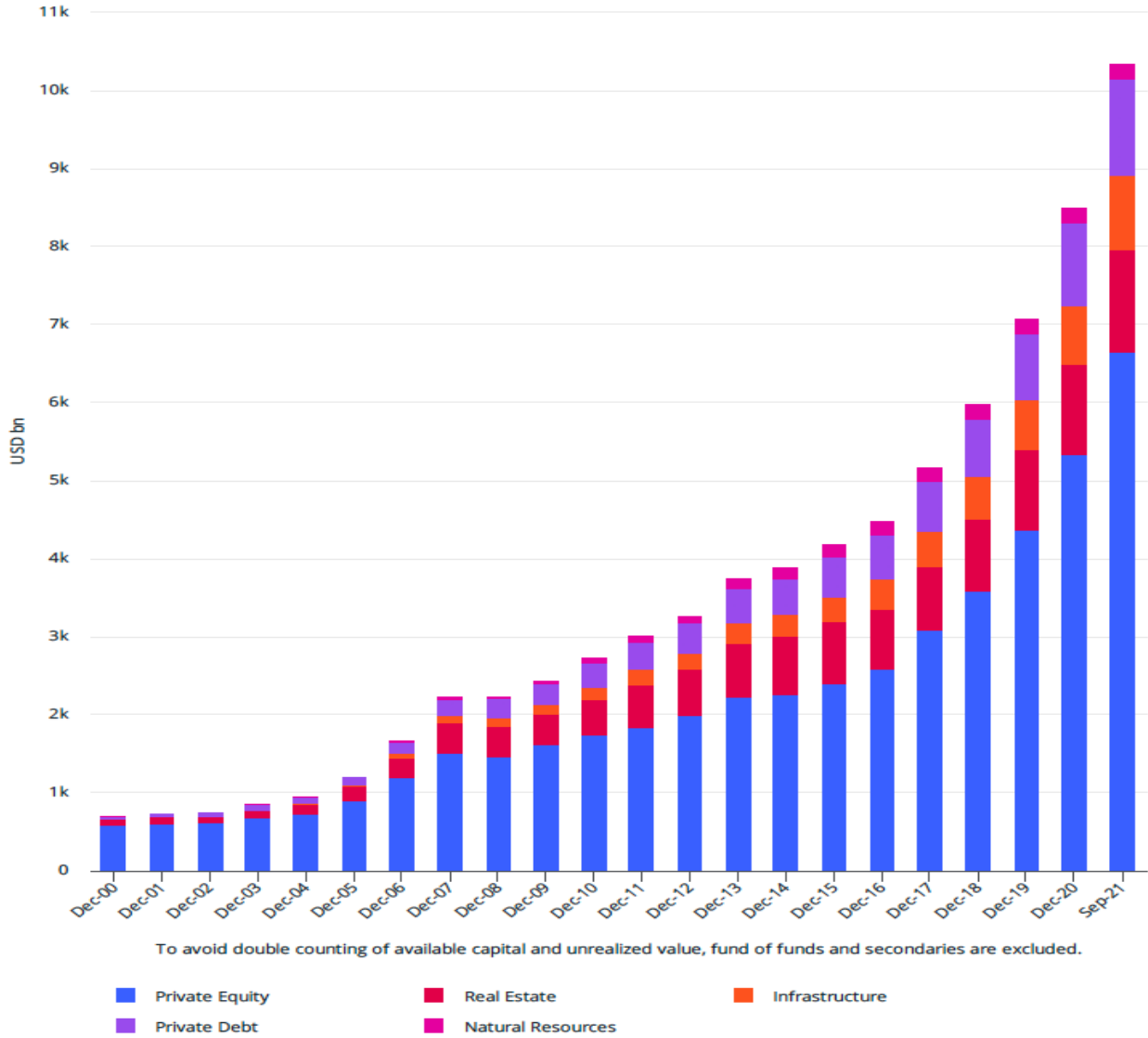
Public equity is liquid, ownership is dispersed, valuation is relatively easy, intermediaries are large, finance is often divorced from control and mentoring

# PE Ecosystem





# Market Size of PE

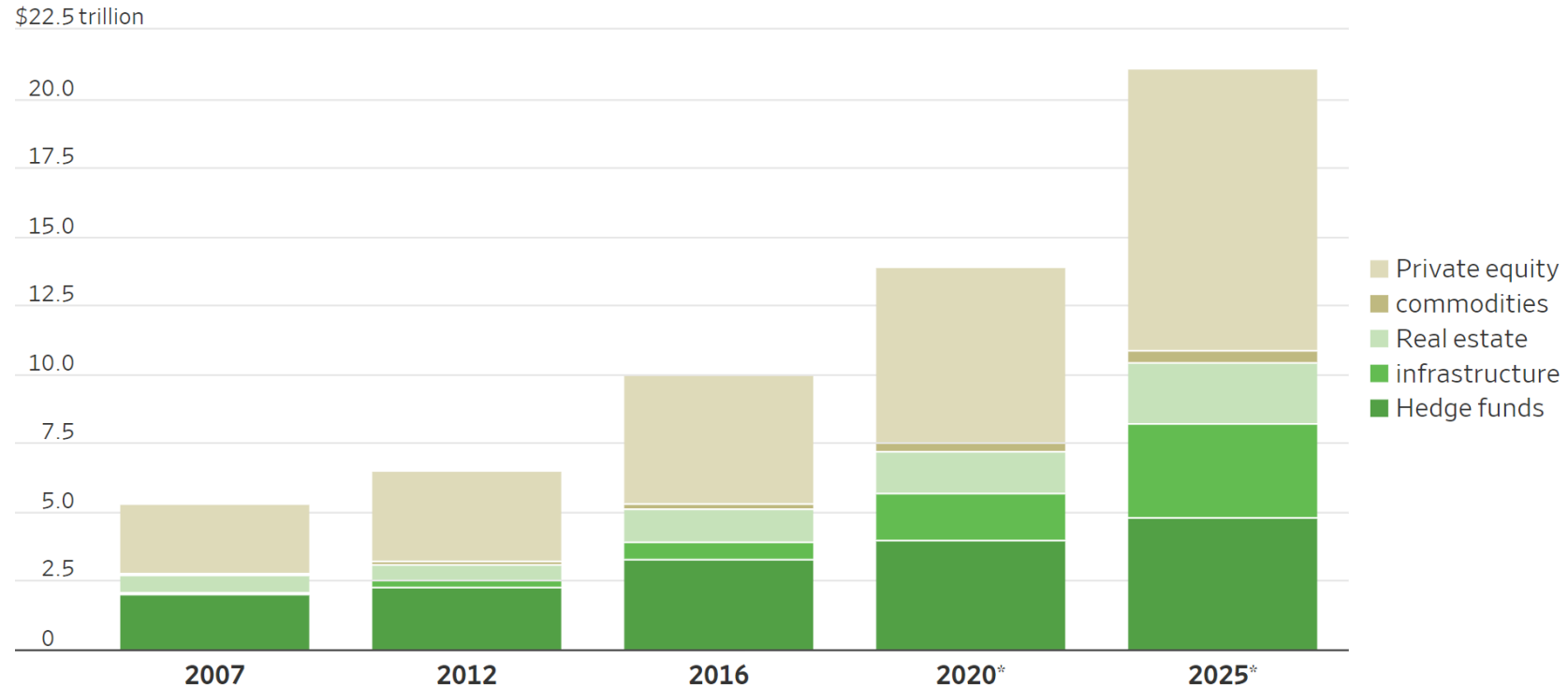


Source: Preqin

# Market Size of PE

## Fundraising Frenzy

Total assets under management



Note: \*Forecasts

Source: PwC

- ❑ “How Gargantuan Can Private Equity Get?” (WSJ, 2/22/18)

# Common Features of PE

## ❑ Illiquidity

- Drives the decision about financing and exiting.
- Motivates PE fund structure to align incentives between managers and investors
- Impacts the investment choices in alternative securities such as preferred stock for venture capital and for buyouts, deals that allow for recapitalization with dividends.

## ❑ Uncertainty and Information Gaps

- Performance valuation is hard
- No continuous observable public pricing.
- Limited Information

## ❑ Cyclicalities

## ❑ Reputation

## ❑ Incentives

# Plan for Today

- ❑ What is Private Equity?
- ❑ **What is Venture Capital?**
- ❑ Venture Capital Players
- ❑ Venture Capital Trends

# Why Study VC?

- ❑ Entrepreneurs – Unlikely to be funded unless you can answer questions like:
  - How much cash do you need?
  - How much do you think your venture is worth?
  - How can you defend your revenue projections?
  - What do you think you can achieve in the next year?
  
- ❑ Investors (VCs, angels, corporate VCs) – Unlikely to be successful unless you can assess:
  - The likelihood that the venture can be successful
  - The cash needs of the venture
  - Reasonable terms for investing

# What is Venture Capital (VC)?

Venture capital has five primary characteristics:

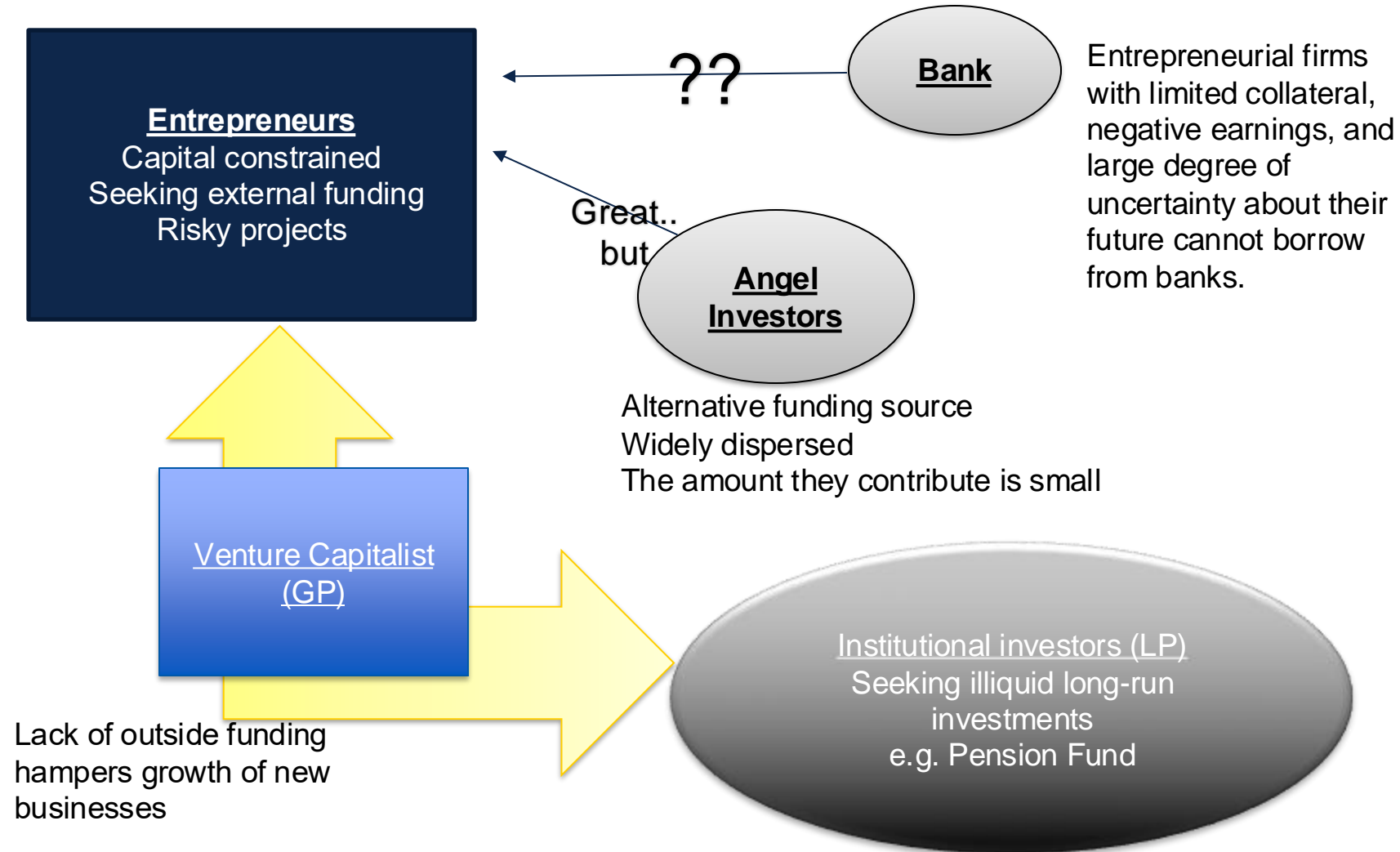
1. VC is a financial intermediary investing in high-growth entrepreneurial firms
2. Invest in private companies (PE!)
  - Typically a minority stake, which contrasts with buyout
3. VCs actively monitor and advise portfolio companies
4. VC goal: Exit through sale or IPO
5. VC invests to fund internal growth



# History of VC

- ❑ **First VC firm in 1946: American Research and Development Corporation (ARD)**
  - Recognized gap between bank lending and equity
  - Existed for 25 years with a 15.8% annualized return
  - Without “home run” investment in Digital Equipment Corporation, return drops to 7.4%
- ❑ **Investment flows**
  - In 1979, pension funds allowed to invest in VC funds
  - Supply nearly half of capital for U.S. VC
- ❑ **Boom Period**
  - Rapid growth in VC during 1980s and 1990s, leading to a boom of nearly \$104 billion invested in 2000

# Role of VC



# How VCs Add Value

1. Selecting investments and negotiating deals
  - Investment is more attractive if well managed and unlikely to require much assistance
2. Selecting entrepreneurs who are likely to be successful
3. Changing the management team
  - More than half of founding entrepreneurs are replaced
4. Allocating effort efficiently
5. Monitoring and advising portfolio companies

# Syndication and VC

- ❑ Syndication occurs when VCs co-invest in a venture
- ❑ Lead investor has the most direct involvement
- ❑ Why syndicate?
  - pool VC human capital
  - more diversified portfolios
  - barrier to entry of new VC firms
  - reduce informational asymmetries

# Reputation in VC

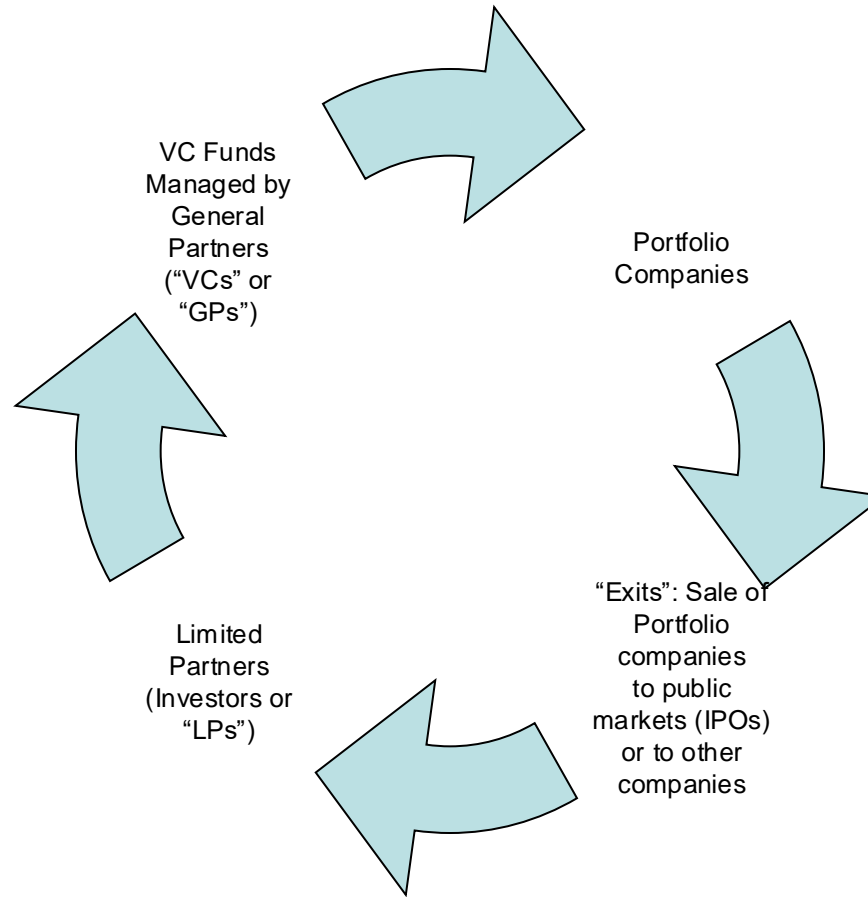
- ❑ Reputation plays a key role in venture capital
  - LP capital calls
  - institutional investors
  - GP's effort and investment decisions
  - entrepreneur's commitment
  
- ❑ Benefits of reputational contracting
  - easier to raise capital
  - higher fees and carried interest
  - access to better deals

# VC Terminology

- ❑ Venture capital (VC) funds are managed by general partners (GPs)
  - Fund is organized as a limited partnership
  - Funds usually operate for about 10 years
  - GPs often previous entrepreneur with industry expertise
- ❑ Raised capital from investors who are the limited partners (LPs)
- ❑ VC funds invest in high-growth entrepreneurial firms, which are called portfolio companies



# The Flow-of-Fund in the VC Cycle



# Plan for Today

- ❑ What is Private Equity?
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- ❑ **Venture Capital Players**
- ❑ Venture Capital Trends

# Limited Partners (LPs)

- ❑ Investors in venture capital funds
- ❑ Institutional investors
  - Pension funds (e.g., CALPERs)
  - About 44% of capital committed since 1980
  - Endowments
  - About 17% of capital committed since 1980
  - Corporations
  - Investment banks
  - Individuals and family offices
- ❑ Most LPs are diversified and use VC investments to earn a high, yet risky, return

# Limited Partners (Continued)

## ❑ Legal restrictions

- Must be “accredited investor”: \$1 million in net worth or income of \$200,000 each year

## ❑ Market restrictions

- Can make significant investment (millions of \$)
- Liquid to satisfy capital calls for 3 to 7 years

## ❑ “Limited” due to separation between GPs and LPs

- Cannot legally be involved in the day-to-day operations
- Similar to mutual fund manager and retail investor

# Angel Investors

- ❑ Angel financing is growing area of venture finance
  - Capital raised from independently wealthy individuals
- ❑ How does this differ from venture capital?
  - Angels invest their own money
  - Angels invest small amounts (often between \$25,000 and \$100,000) in local companies
  - Average VC deal was \$14.6 million in 2018
  - Largest source of seed/startup capital
  - Unlikely to take a board seat and more likely to be an advisor for founder and management team

# Angel Investing

- ❑ Significant growth in last few years
  - Focused on information technology
  - Why has it grown?
    - Recently rich entrepreneurs
    - Cheaper to fund startups
- ❑ Incubators
  - Provide capital and guidance to entrepreneurs through centralized environment
  - Prominent examples include Y Combinator and Techstars



# Other VC Players

## ❑ Fund-of-funds

- Organized as limited partnership
- Invests in other private funds
- Why? Evaluating VC funds is difficult and access can be challenging

## ❑ Corporate Venture Capital (CVC)

- Corporation can directly invest in startups
- Often different objectives than VCs, including strategic considerations

## ❑ Consulting services

- Optimal portfolio allocations and fund suggestions

# Stages of Financing

## Concept Stage:

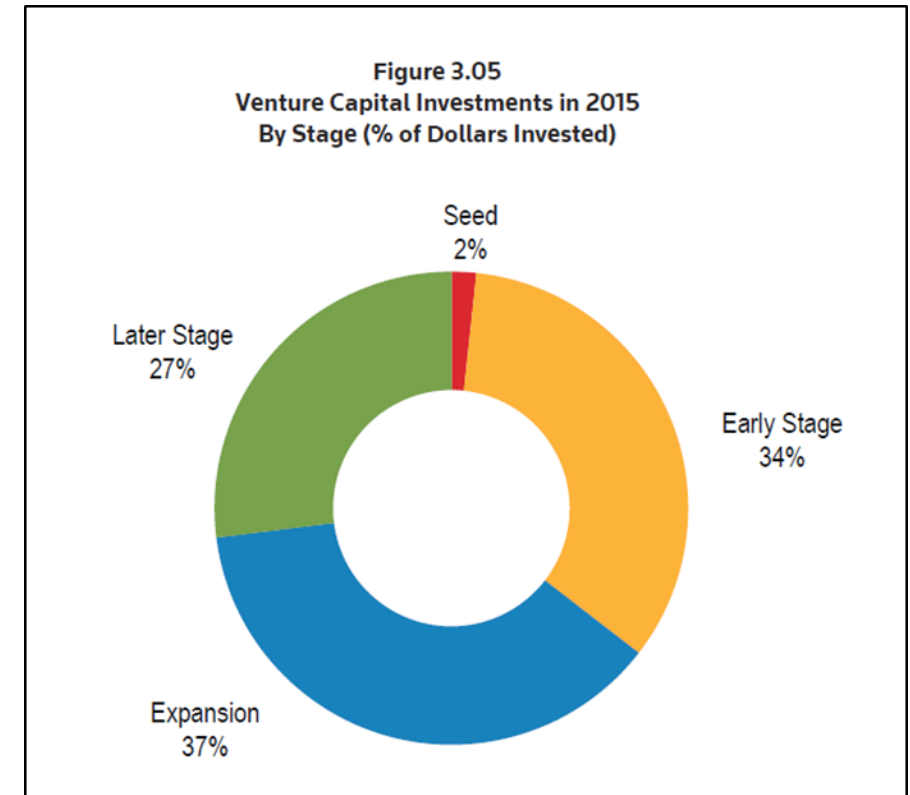
- Funding: often self-funded, working for free, and family, friends (and fools), angel investors

## Seed

- Companies with a skeletal business plan, product, or service in the preliminary stages of development
- Only the essential early management team and the technology or engineering components are in place
- Funding: Angel investors; some VC funds and Corporate VCs

## Early Stage

- The company is generating revenue from sales
- Product or service development is underway
- Expenses exceed revenues
- Funding: [Series A] VC funds and CVCs, some Angels/Networks



# Stages of Financing (Ctd)

- Late Stage
  - The lowest-risk venture capital investment is in a company that is profitable
  - Still need venture financing because of short track record, but will graduate to conventional financing soon
  - Funding: [Series B, C, D...]: VCs and CVCs
- Expansion/Recapitalization
  - The company is mature and stable but has opportunities for expansion (such as product line, geography, etc.)
  - The additional capital is used to expand the firm
  - Funding: [Series B, C, D...]: Growth Funds, Mezzanine Funds, VCs and CVCs, and ... buy-outs

# Would you have invested?



Microsoft

MICRO  
SOFT

As of 1981

- Revenue: \$16M
- Employees: 128

Entered OS business in 1980  
IBM PC introduced in 1981

# This guy did...

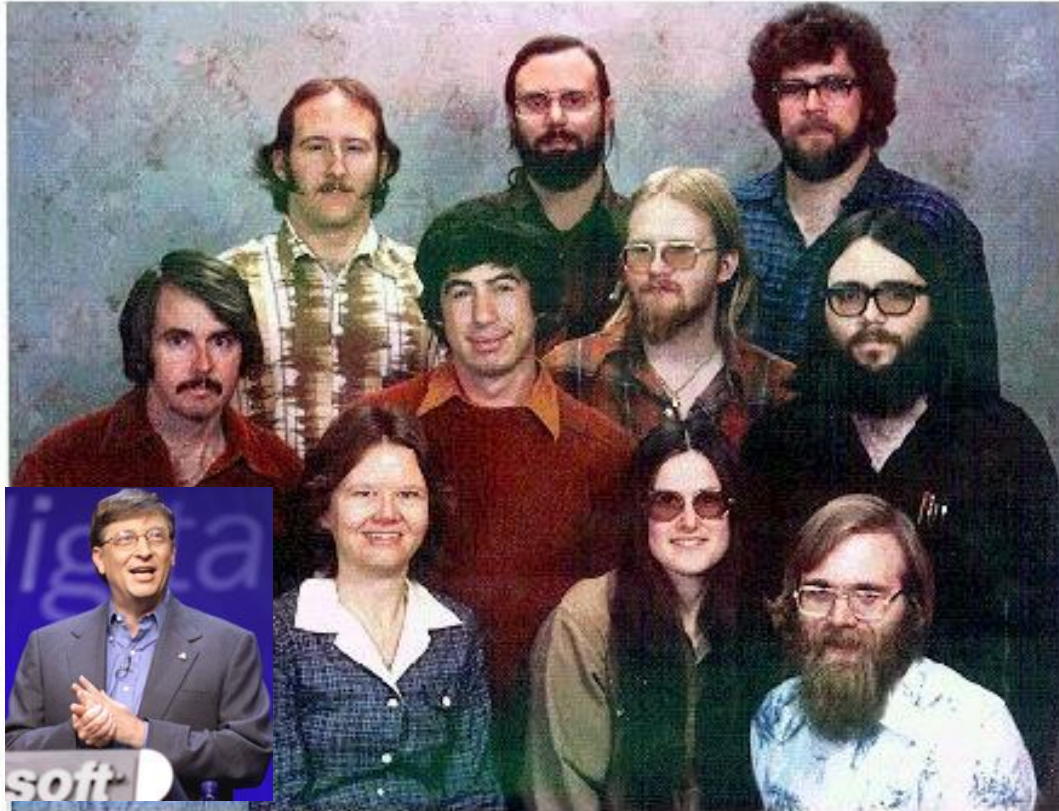


**David Marquardt**  
Technology Venture Investors (TVI)

1981, TVI purchased 5% of equity for \$1,000,000  
1981-2014, David sat on Microsoft's board of directors



# Would you have invested?



Microsoft Corporation  
(NasdaqGS:MSFT)



March 13, 1986 IPO

- Offer price: \$21/share
- New issues: 2M shares

June 30, 1986

- Shares outstanding after offering: 25.52M
- Price: \$30.75/share
- MV = \$785M

# 1986 Microsoft IPO Prospectus

Directors, Officers, and 5% Stockholders	Shares Beneficially Owned Prior to Offering		Shares To Be Sold	Shares Beneficially Owned After Offering (1)	
	Number	Percent		Number	Percent
William H. Gates III (2) (3) Microsoft Corporation 16011 NE 36th Street Redmond, WA 98073-9717	11,222,000	49.2%	80,000	11,142,000	44.8%
Paul G. Allen (3) Asymetrix Corporation 110-110th Avenue NE Suite 617 Bellevue, WA 98004	6,390,000				
Steven A. Ballmer Microsoft Corporation 16011 NE 36th Street Redmond, WA 98073-9717	1,710,001				
Technology Venture Investors 1, 2 & 3 3000 Sand Hill Road Menlo Park, CA 94025	1,378,901 (4)	6.1	294,893	1,084,008 (4)	4.4
Jon A. Shirley	400,000	1.8	60,000	340,000	1.4
David F. Marquardt (5)	21,099 (5)	.1	5,107	15,992 (5)	.1
Portia Isaacson	10,000	—	—	10,000	—
All Officers and Directors as a Group (13 Persons)	13,521,099 (5)(6)	59.1	175,107	13,345,992 (5)(6)	53.6

TVI and David owned 6.2% before IPO.

117% per annum over 5 years!

# Let's Raise Capital!

- ❑ A young company has an idea to develop a drug for a rare form of cancer
  - Led by a medical doctor and managed by a group of entrepreneurs
  - Market new drug to maximize financial return
- ❑ Five other companies are vying for first effective treatment of this disease
- ❑ Five years to develop drug, costing \$50 million
- ❑ If it is successful, the drug will earn \$200 million per year, starting in year six
- ❑ If the company loses the race to be first, then they get nothing



# Who Provides the Capital?

- Banks
- Public debt markets
- Public equity markets
- Large companies
- Friends and family
- University or government
- Angels
- Venture capitalists

# Why are there VCs?

- ❑ VCs are a big part of the solutions to the drug development problem
  - Provide the financial muscle and right incentives
  - Large capital stock
  
- ❑ Demand to solve these information problems drives many of the institutional features of VC
  - VC firms are often highly specialized
  - Conduct due diligence before investing
  - VCs are activist investors, often receiving board seats and super voting rights
  - Term sheets aim to motivate founders and curtail shirking

# Plan for Today

- ❑ What is Private Equity?
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- ❑ **Venture Capital Trends**

# Geographical Clustering of VC

- ❑ VC firms tend to cluster in geographic areas
  - efficiencies are achieved by being close to investees, rivals, and other market participants
  - industry trends are easier to monitor
  - access to specific human capital is enhanced
- ❑ The Bay Area is home to the highest concentration of capital in the VC world.



IMAGE CREDITS: [RON ALBERS](#) / GETTY IMAGES

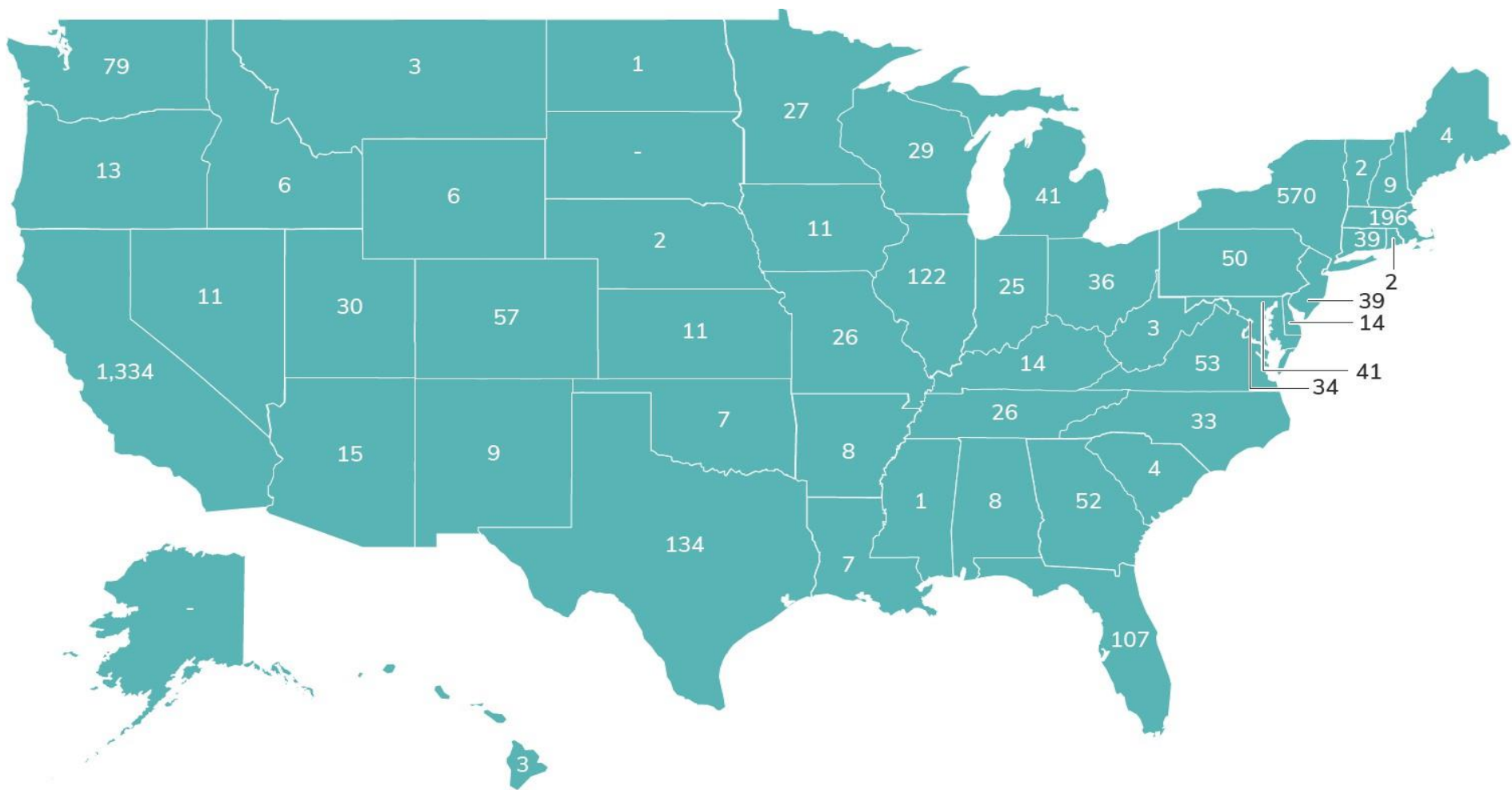
VENTURE



**Silicon Valley is so dominant again, its startups devoured over half of all global VC funding in 2024**

Julie Bort — 2:04 PM PST · January 7, 2025

# Geographical Clustering of VC

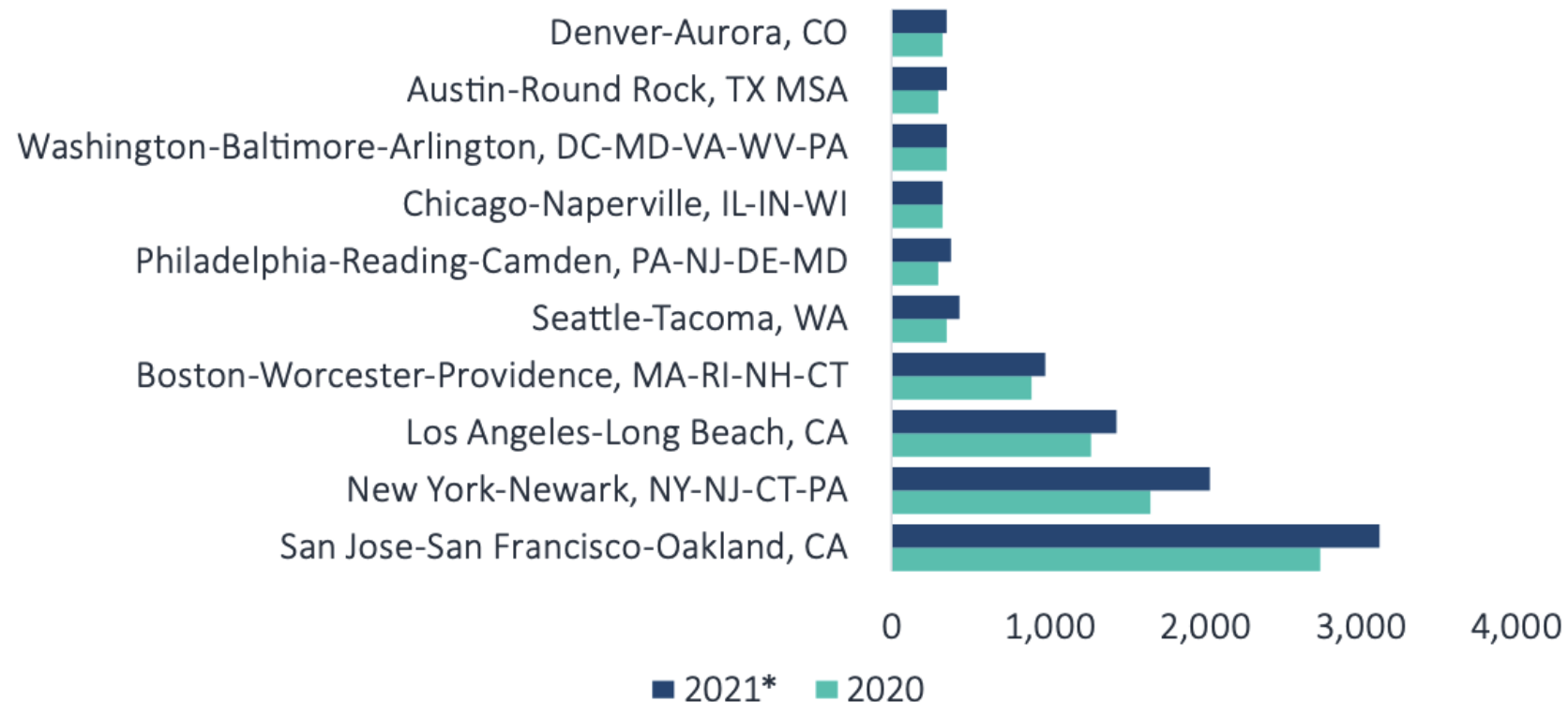


Source: NVCA 2022 Yearbook, Data provided by PitchBook

Note: This map breaks out active VC investors by their HQ state. Note that active VC investors headquartered outside of the US are not included in this map.

# Geographical Clustering of VC

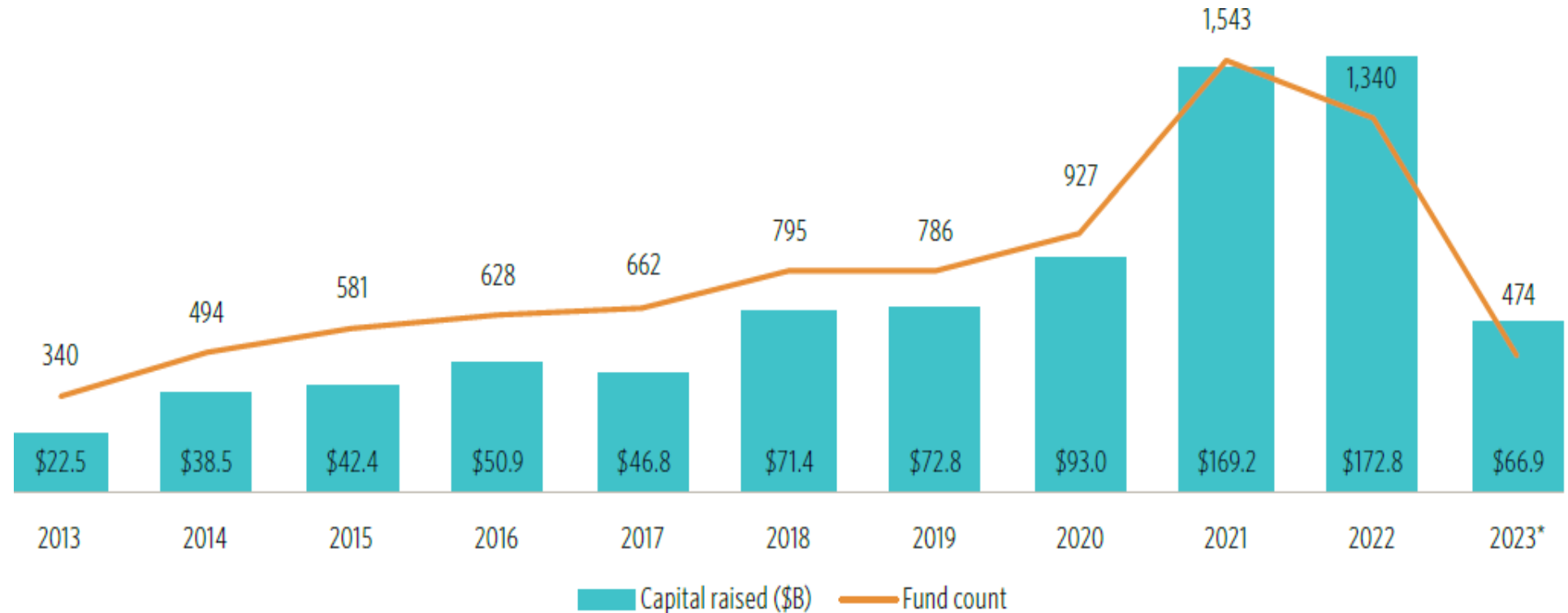
VC deal count by ecosystem



Source: PitchBook | Geography: US

\*As of November 29, 2021

# VC Fundraising



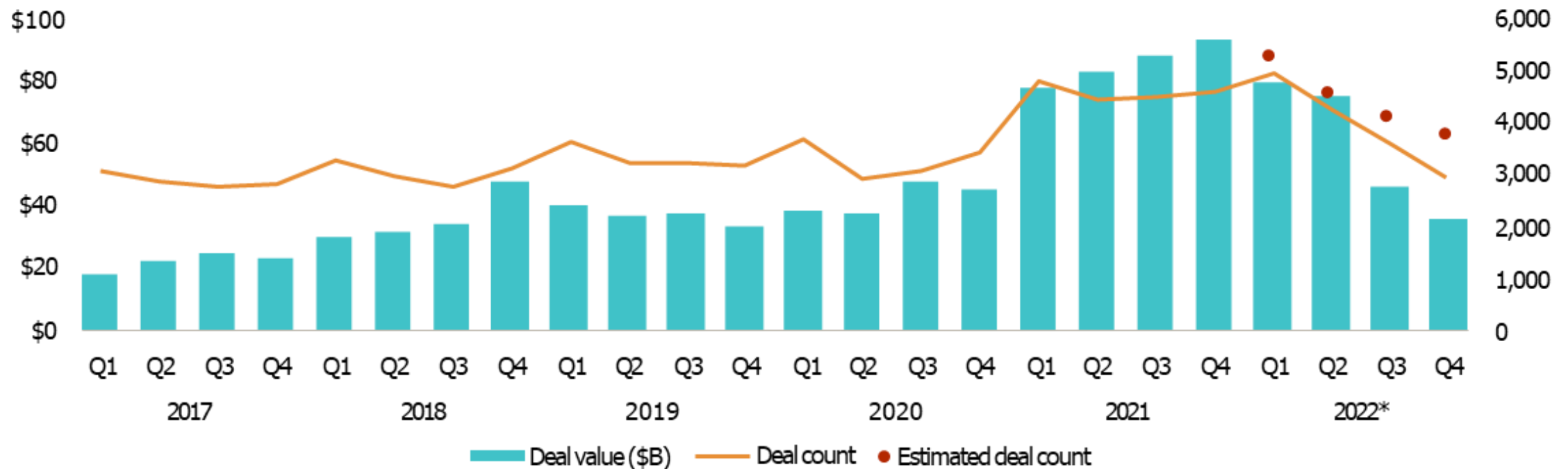
PitchBook-NVCA Venture Monitor • \*As of December 31, 2023

- ❑ Increasing over past decade, but potential upcoming decline
- ❑ How do you think LPs decided about which funds to invest in during pandemic?

# VC Deal Activity

*Deal activity continues decline, though drop-off lessens QoQ*

US VC deal activity by quarter

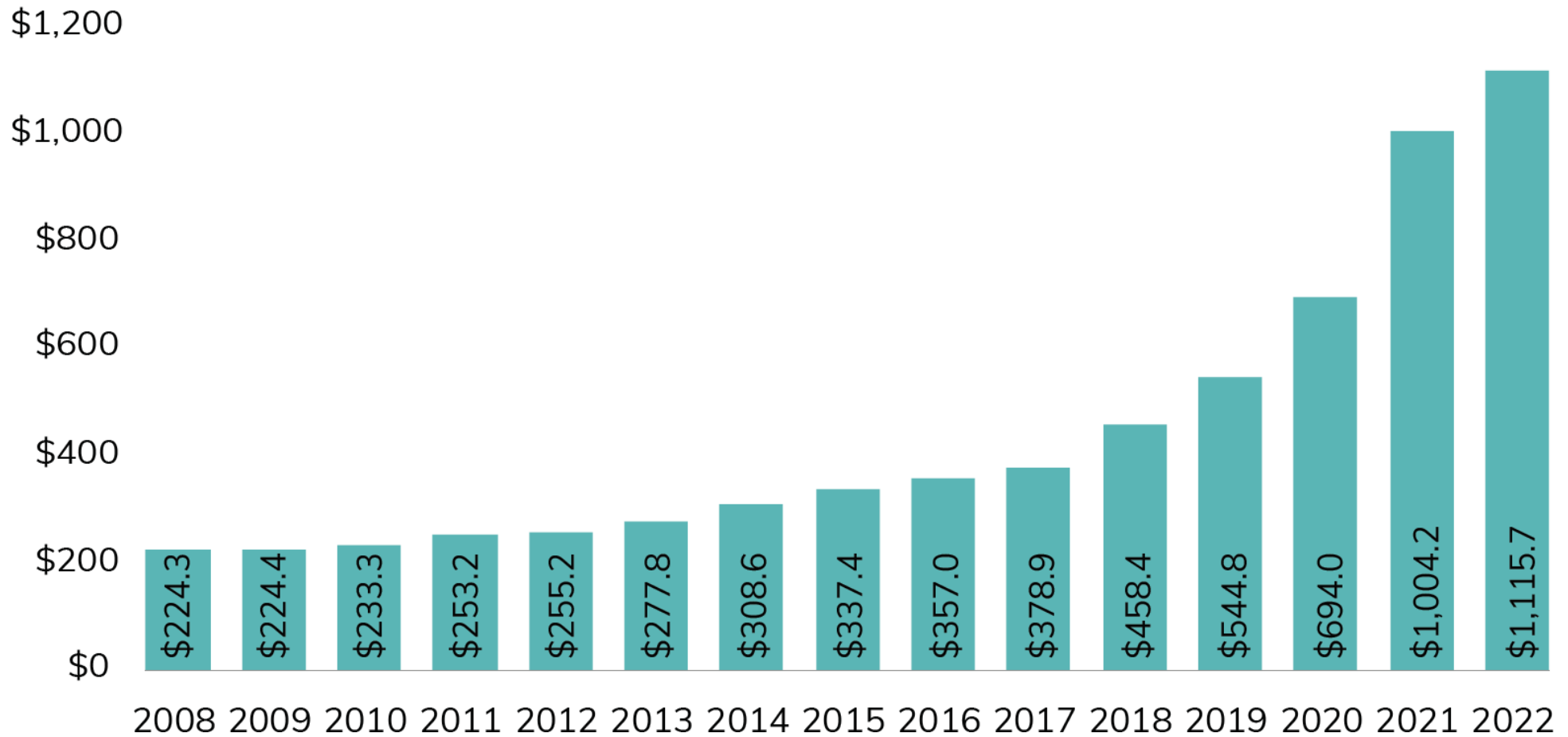


PitchBook-NVCA Venture Monitor

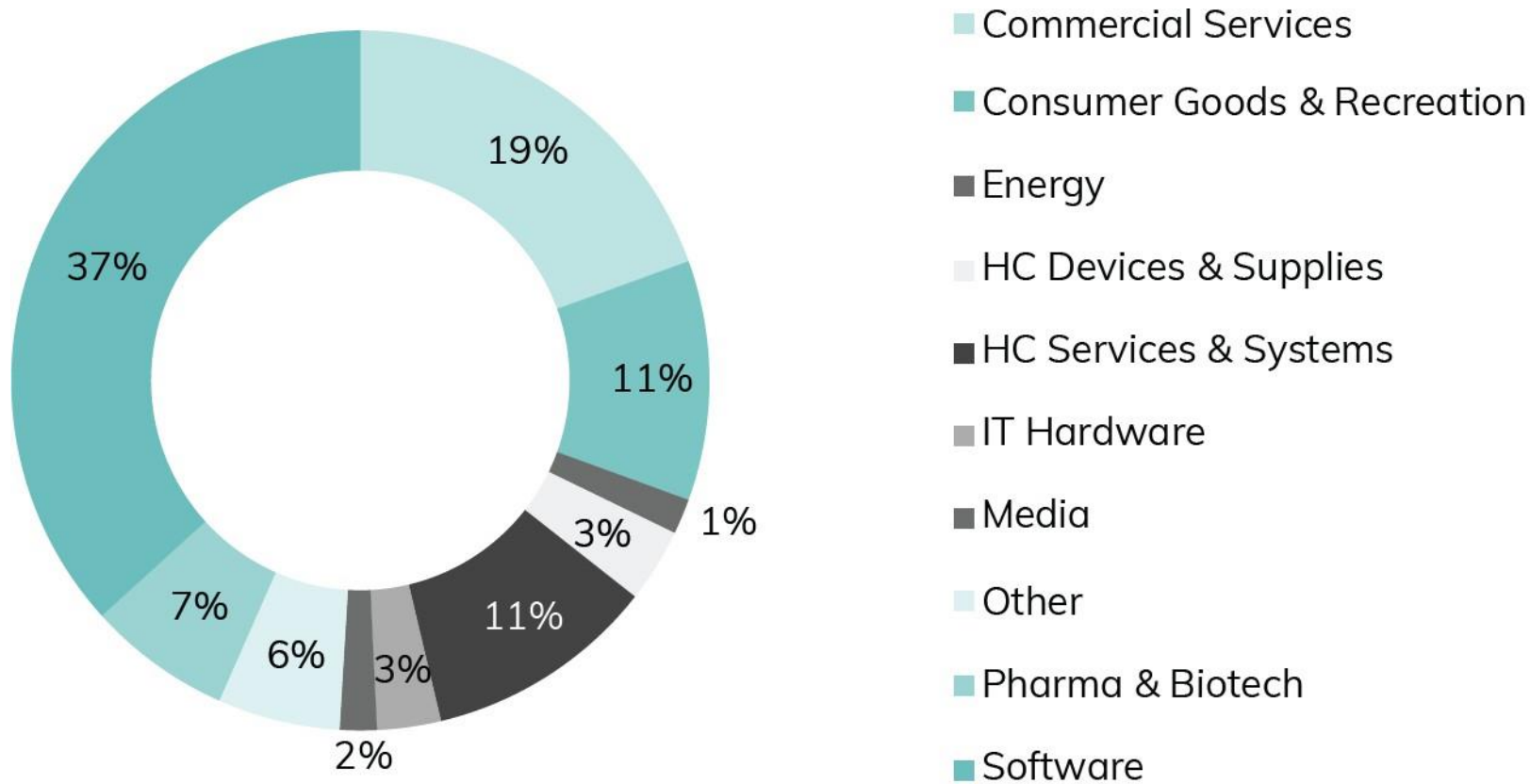
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# VC AUM (\$Bn)



# US VC Deals by Industry



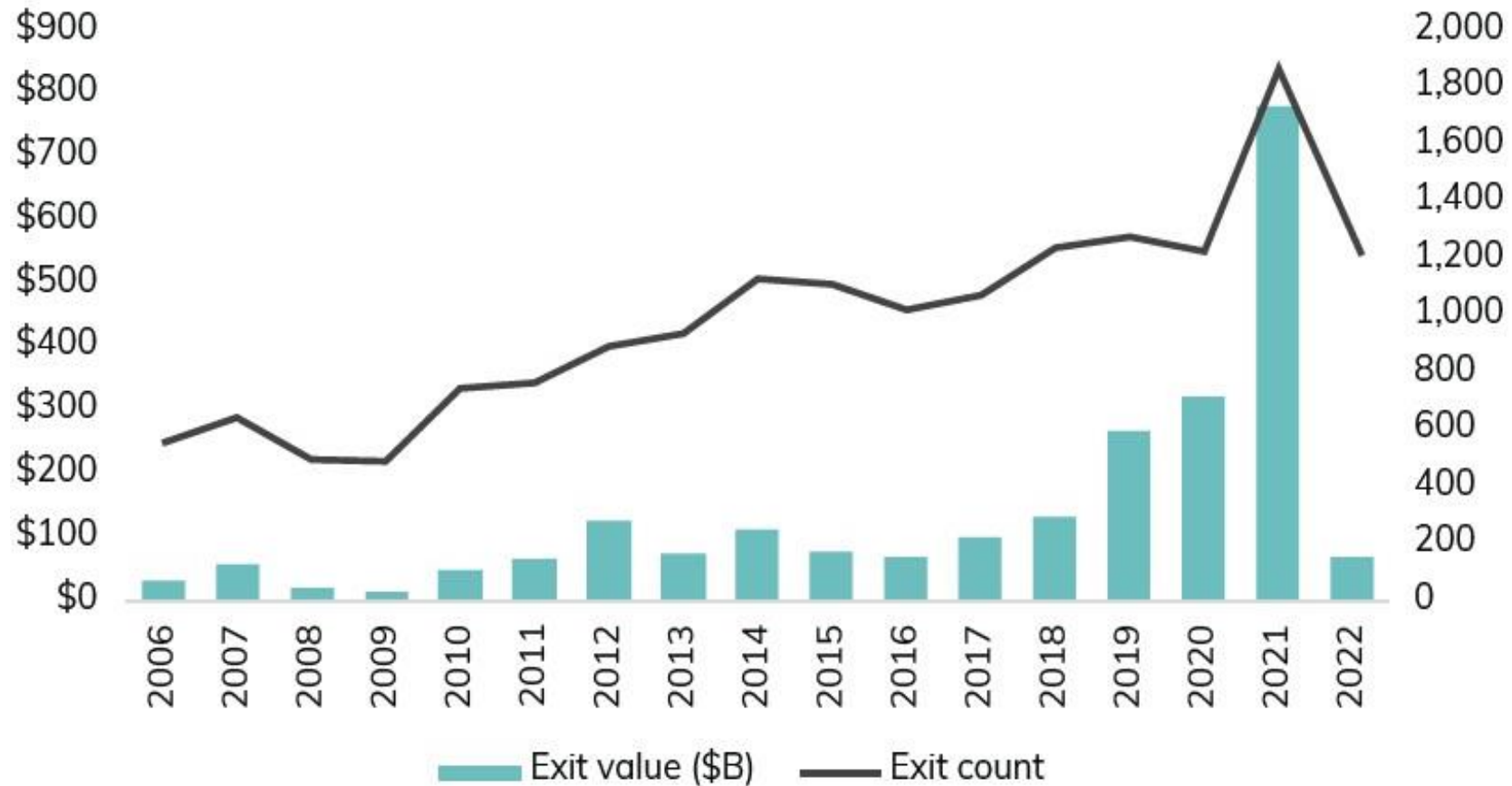
Source: NVCA 2022 Yearbook, Data provided by PitchBook

- ❑ Concentrated in biotech, information technology and energy

# Company Stage vs. Financing Round

- ❑ Company stage classifies the growth trajectory of the portfolio company
  - Seed/startup, Early, Expansion, or Later
  - Shift from early to later stage
  - Angels are more prevalent in seed stage
  
- ❑ Financing round
  - VC investment is time-consuming and costly process
  - VC funds will typically provide sufficient financing to reach a milestone (such as prototype)
  - Each financing event is called a round: Series A, Series B, and so on

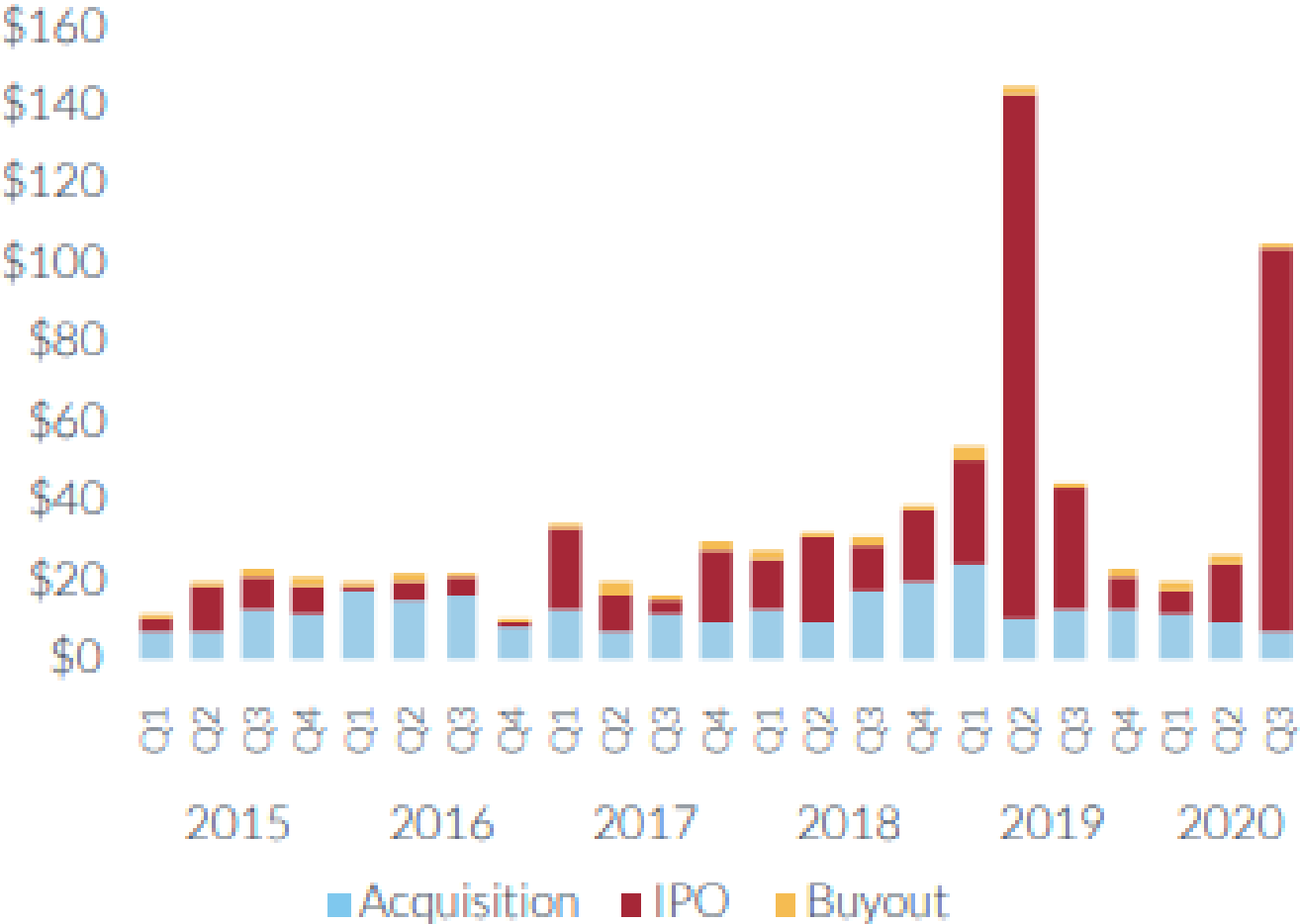
# US VC Exit Activity



Source: NVCA 2023 Yearbook; Data provided by PitchBook

# US VC Exits by Type

US VC exits (\$B) by type



# Largest VC-backed IPOs in 2021



## No. 1: Rivian



- IPO date: Nov. 10, 2021
- Money raised at IPO: \$11.9 billion
- Valuation at IPO: \$66.5 billion
- Some investors: Amazon, Ford Motor



## No. 2: Coupang



- IPO date: March 11, 2021
- Money Raised at IPO: \$4.6 billion
- Valuation at IPO: \$60 billion
- Some Investors: SoftBank Vision Fund, Sequoia Capital

# Largest VC-backed IPOs in 2021



## No. 3: Lucid Motors (via SPAC)



- IPO date: July 25, 2021
- Money raised at IPO: \$4.6 billion
- Valuation at IPO: \$24 billion
- Some investors: Saudi Arabia's Public Investment Fund, Venrock



## No. 4: Grab (via SPAC)



- IPO date: Dec. 2, 2021
- Money raised at IPO: \$4.5 billion
- Valuation at IPO: \$40 billion
- Some Investors: Signite Partners, Emtek Group

# Largest VC-backed IPOs in 2021



## No. 5: Didi



- IPO date: June 30, 2021
- Money Raised at IPO: \$4.4 billion
- Valuation at IPO: \$73 billion
- Some Investors: Toyota Motor, SoftBank Vision Fund



## No. 6: Nubank

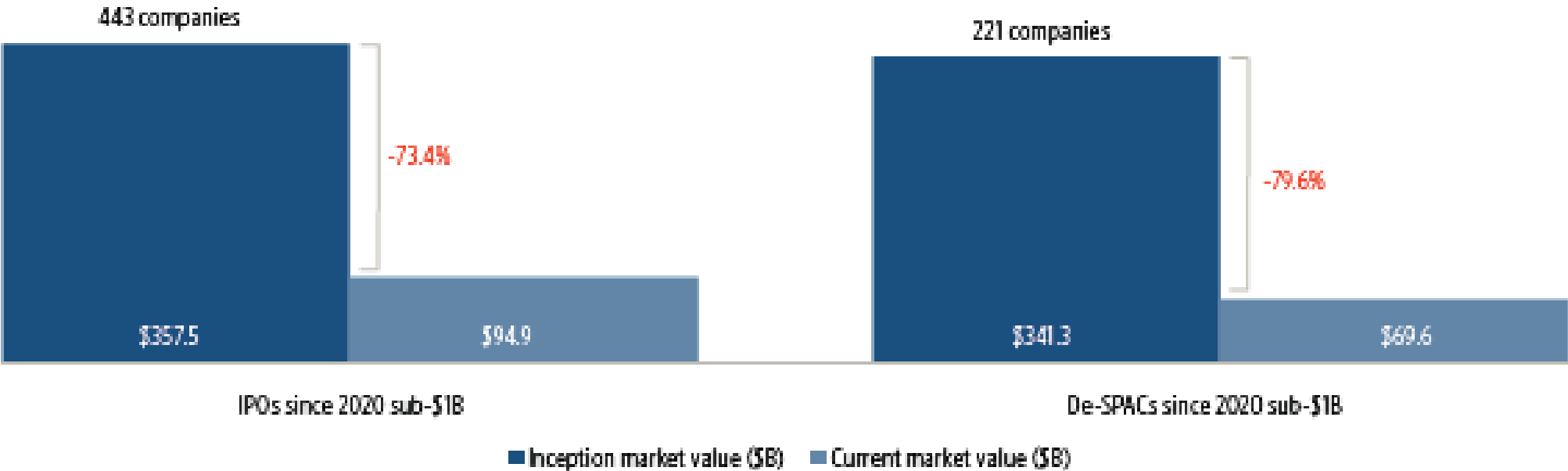


- IPO date: Dec. 9, 2021
- Money raised at IPO: \$2.6 billion
- Valuation at IPO: \$41 billion
- Some investors: Goldman Sachs, DST Global



# Harvesting

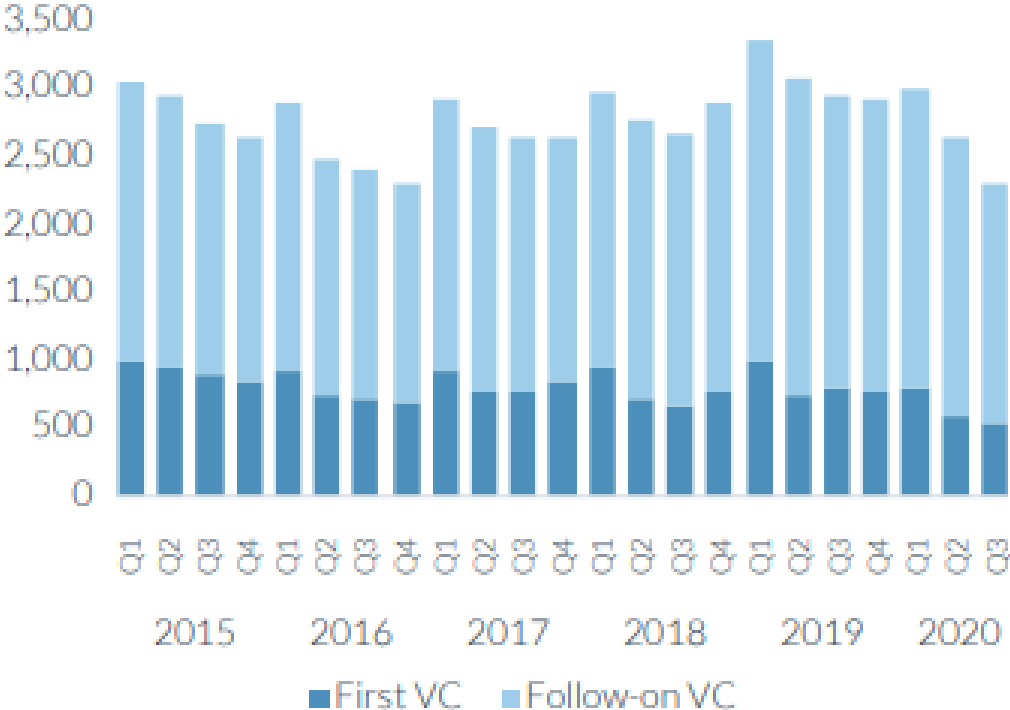
New public listings since 2020 now trading below \$1 billion



Source: PitchBook | Geography: US  
\*As of December 2, 2022

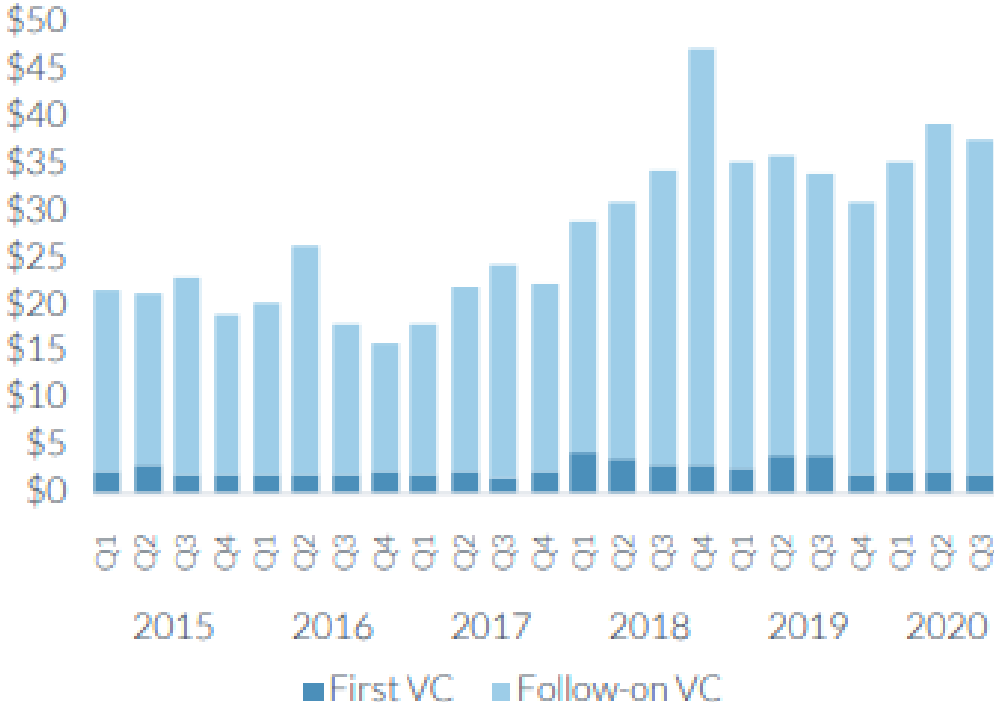
# Deals: First Financing vs. Follow-On

US VC first financing vs. follow-on financings (#)



PitchBook-NVCA Venture Monitor  
\*As of September 30, 2020

US VC first financing vs. follow-on financings (\$B)



PitchBook-NVCA Venture Monitor  
\*As of September 30, 2020

Next: Entrepreneurs, Funding, Business Plan & Pitch