

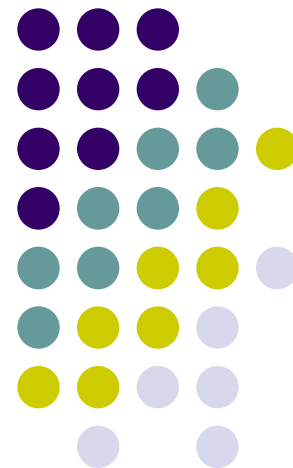
Corporate Finance

Lecture 12: Review

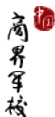
Yuan Shi ©

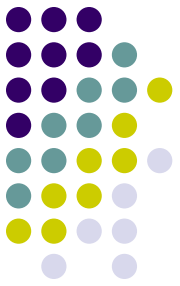
HSBC Business School

Peking University



PHBS
北京大学汇丰商学院





COMMENT ON PRESENTATIONS



International CAPM

Determining cost of debt/equity in the international setting, e.g. A Chinese company IPO in US

Which risk-free rate? Which market risk premium to calculate beta?

Tax rate?

Country-wise risk premium

https://pages.stern.nyu.edu/~adamodar/New_Home_Page/datafile/ctryprem.html

Calculating Beta Referencing Other Companies

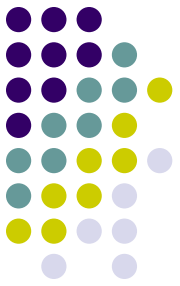


Many IPO companies did not have a previous trading history

Find Beta from other comparable companies

1. Find the levered reference company beta
2. Unlevered company beta
3. Calculate industry average beta
4. Calculate levered own-company beta

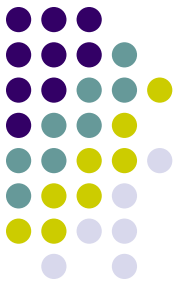
Calculating Beta Referencing Other Companies



$$\text{Levered Beta} = \text{Unlevered Beta} \times \left[1 + (1 - \text{Tax Rate}) \times \left(\frac{\text{Debt}}{\text{Equity}} \right) \right]$$

$$\text{Unlevered Beta} = \frac{\text{Levered Beta}}{\left[1 + (1 - \text{Tax Rate}) \times \left(\frac{\text{Debt}}{\text{Equity}} \right) \right]}$$

Calculating Beta Referencing Other Companies



If the company operates in multiple businesses,

1. Calculate the unlevered industry beta for each business
2. Calculate the weighted average of unlevered beta
3. Re-lever the beta

Business	Revenues	EV/Sales	ValueWeights	Unlevered Beta
Software	\$ 5.3	3.25	17.23	80% 1.30
Consulting	\$ 2.2	2.00	4.40	20% 1.05
SAP	\$ 7.5		21.63	1.25

Levered Beta = $1.25 (1 + (1 - .32)(.0141)) = 1.26$ (Tax rate = 32%; D/E = 1.41%)



Leverage ratio

Calculating WACC: leverage

D: book value, does not deviate from market value too far

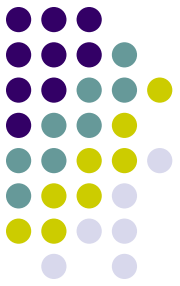
What D? D that is related to the financing activity of the company!

Exclude: operating debts like accounts payable, accrued taxes



Considerations

How would major
investments/acquisitions/R&Ds affect
Projected cash flow?
WACC?



EXAM RELATED



Exam

Same format as midterm, except that you can bring 2 A-4 double-sided cheatsheets

Covers all materials, but mainly focus on materials not covered in midterm

The quick reviews are not necessary nor sufficient condition for the final exam



Quick review, first half

Corporate financial decisions: what are they,
what's the purpose, decision structure

NPV function

Capital budgeting methods: IRR

FCF & PCF

Calculation

Special considerations

Forecasting sales, expenses, and other items



Return

$\text{Return} = \text{Cash Yield} + \text{Dividend Yield}$

$\text{Discount rate} = \text{Expected Return}$

Given Cash Flow, Higher Expected Return =
Lower Price

Bond Valuation



YTM, Current Yield, Coupon Rate

For a regular non-amortizing bond

$$F = P_1, C = \text{Coupon}$$

YTM ? Current Yield ? Coupon Rate depends on
F?P

APR vs EAR: quoting vs calculation

How is YTM calculated? Risk-free rate + Spread

Risk-free: time value of money + inflation

Spread: assorted risks (credit risk, interest
risk)

Interest rate risk and Duration



Stock Valuation: DDM & Relative

DDM: when to apply?

$$P_0 = \frac{D_1}{r-g} = \frac{D_0(1+g)}{r-g}$$

$$g = (1-\text{payout ratio}) \times \text{ROE}$$

Relative methods



Stock valuation: CAPM

Return and standard deviation of a portfolio

Diversification

Only undiversifiable risk is priced

Measurement of undiversifiable risk: Beta

CAPM

Practical considerations with CAPM



M&M Summary

How does the company's capital structure decision affect the company's:

Overall Value?

Cost of capital (WACC)?

Cost of equity/debt?

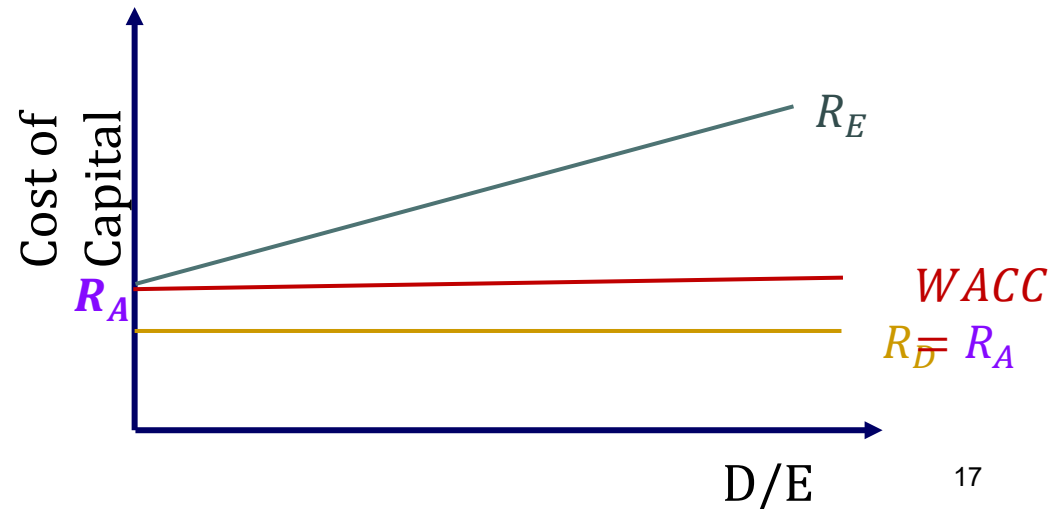


Capital structure decisions: MM

$V_U = V_L$, intuition: R_A is not affected by financing
Frictionless world = perfect capital market,
condition

Increased leverage increase cost of equity

Homemade leverage



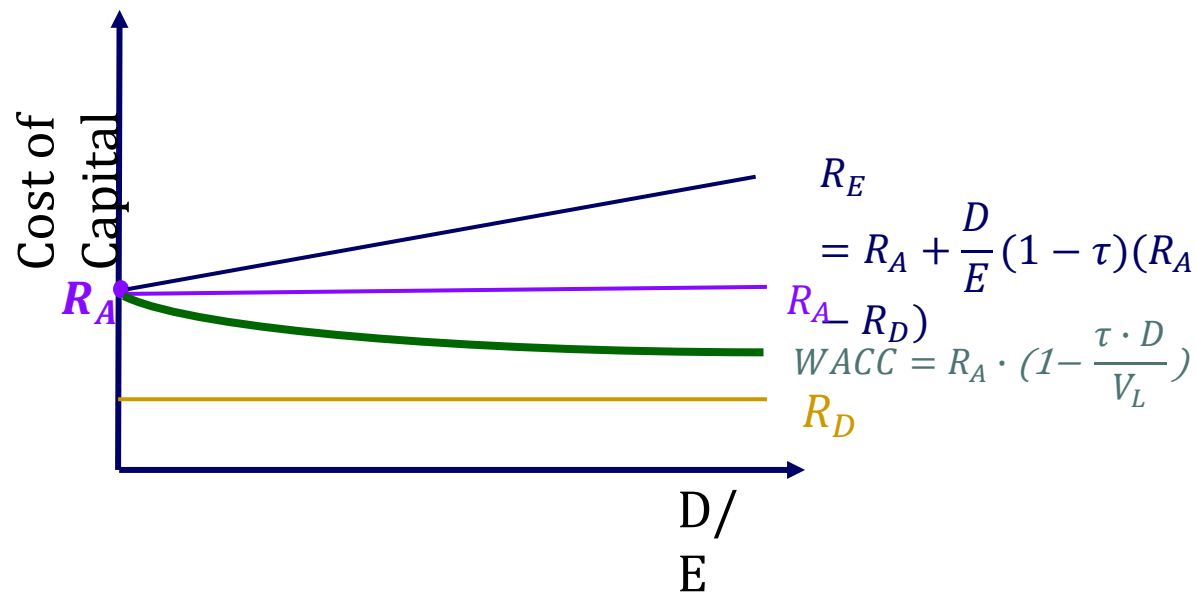


Capital structure decisions: MM2

Intuition: R_A is not affected, but FCF is due to tax shield

$$V_L = V_U + V_{ts}$$

Updated proposition II:
$$r_E = r_A + (1 - \tau)(r_A - r_D) \cdot \frac{D}{E}$$





Capital structure decisions: MM2

Tax generates tax shields

- M&M#1: $V_L = V_U + V_{ts}$
- M&M#2: $r_E = r_A + (1 - \tau)(r_A - r_D) \cdot \frac{D}{E}$
- $WACC = \frac{E}{V_L} \cdot R_E + \frac{D}{V_L} \cdot R_D \cdot (1 - \tau)$
- Connection: $WACC = r_A \cdot (1 - \frac{\tau \cdot D}{V_L})$
- $V_L = \sum_t \frac{FCF_t}{(1+WACC)^t}$; $V_U = \sum_t \frac{FCF_t}{r_A^t}$



MM with cost of bankruptcy

Why is bankruptcy costly and why it is not

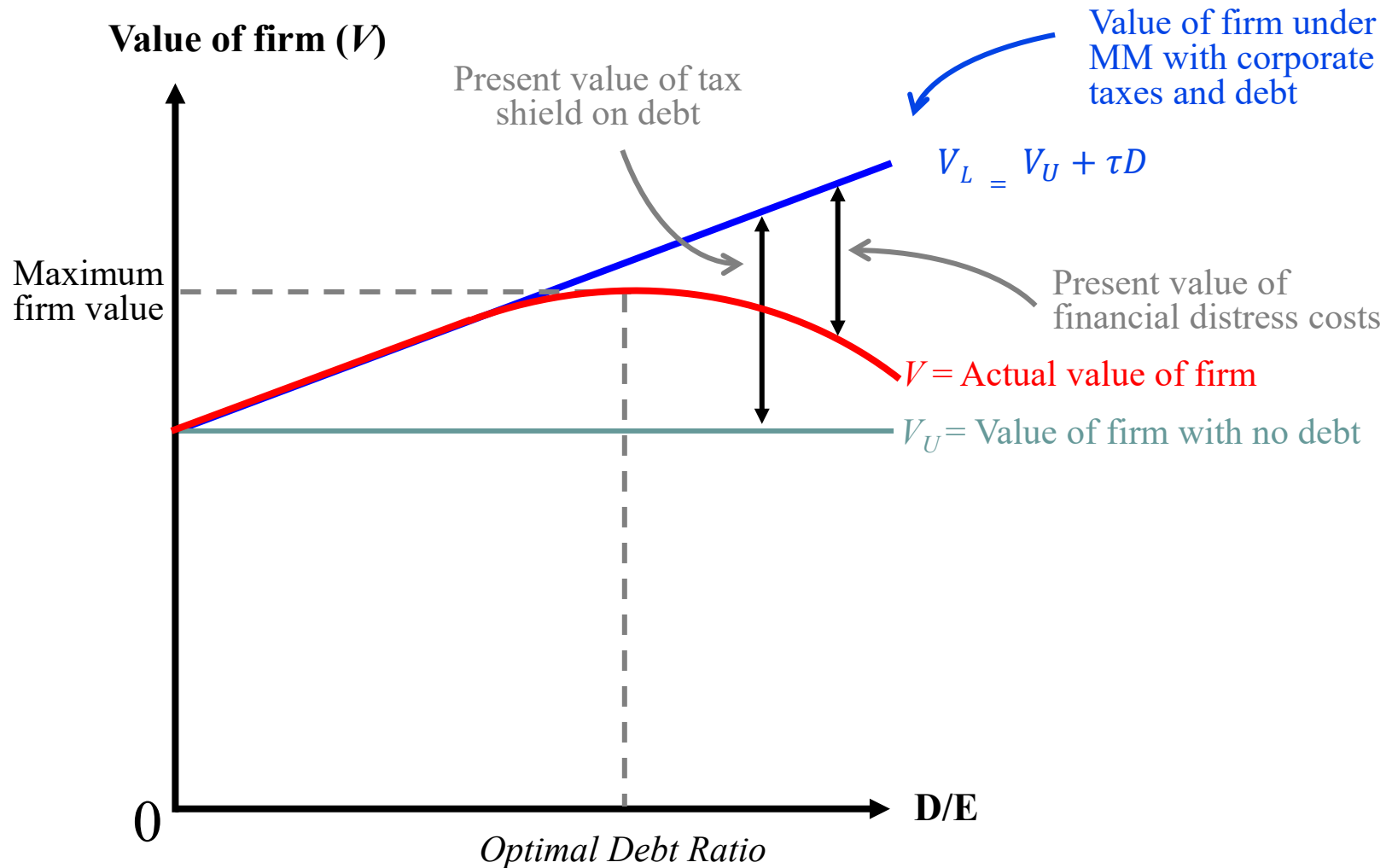
Direct and indirect costs of bankruptcy

Who bares the cost of bankruptcy?

Solution: covenant

Trade-off theory

Trade-off Theory





BONUS SLIDES

Structure of a company



Shareholder -> Board of directors -> Management team

Shareholder vote to form the board of directors
(directors can be non-shareholders)

- Board chair: voted by the directors
- Inside directors, who work day-to-day at the company
 - CEO, CFO, manager, or any other person who works for the company daily
- Outside/independent directors 独立董事, who can make impartial judgments
- NYSE & NASDAQ request more than half board to be independent directors
- China: $\geq 1/3$



LIFECYCLE OF A COMPANY AND DIFFERENT STAGES OF EQUITY RAISING

How do entrepreneurs 企业家 raise equity?



An entrepreneur needs capital to fund investment

What capital sources are available to her?

- Initially rely on own / family capital

Once outside capital is necessary:

- Angel investors 天使投资人
- Venture capital firms 风险投资
- Institutional investors
- Corporate investors 企业创业投资

Source of capital depends on life cycle of firm...

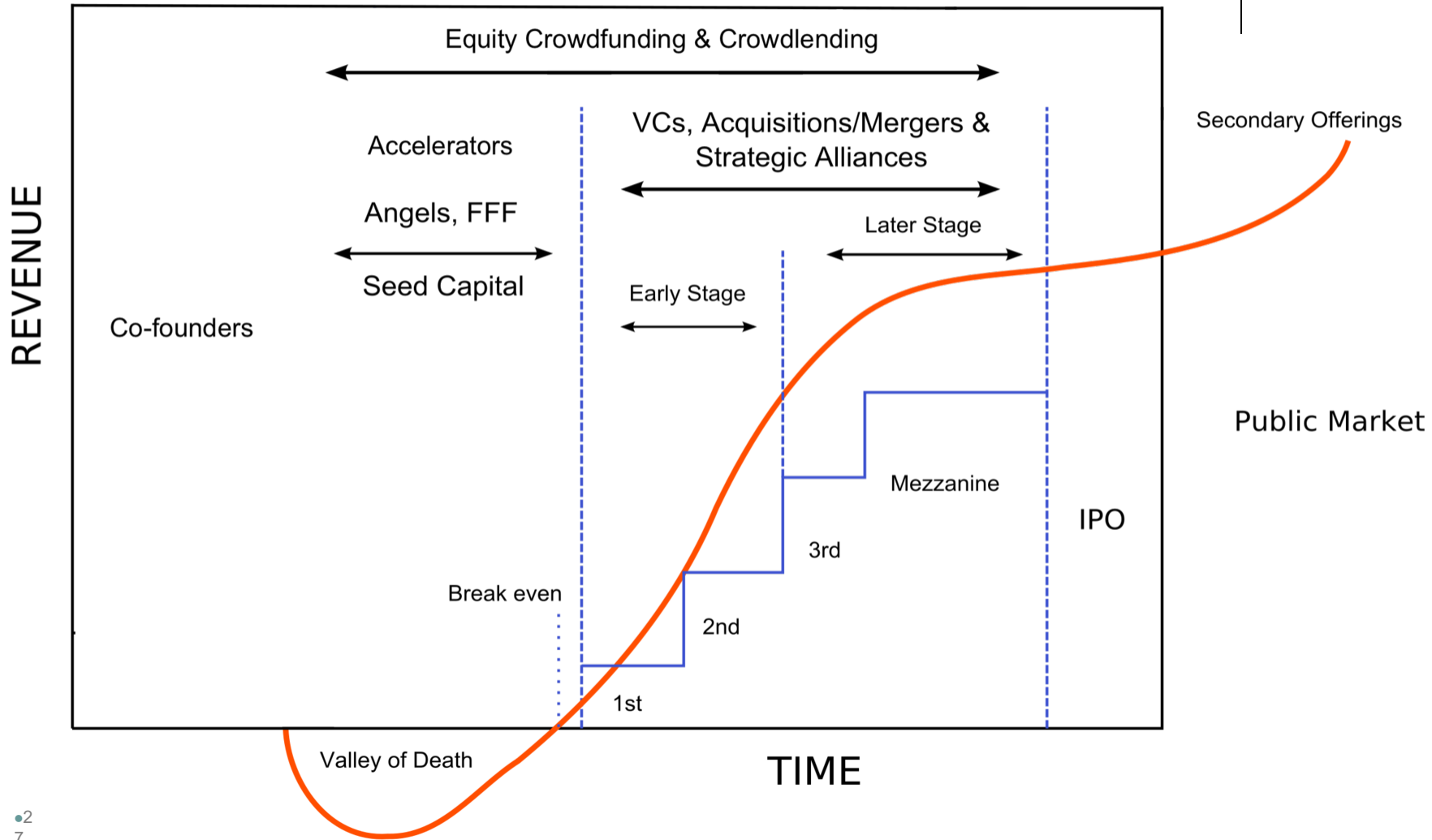


How do entrepreneurs raise equity capital?

Firm Type	Equity Financing Sources
Infant Start-Up	<ul style="list-style-type: none">• Family• Friends• Earnings
Maturing Start-Up	<ul style="list-style-type: none">• Angel Investors• Accelerators, incubators• Venture Capital Firms
Mature Private Firm	<ul style="list-style-type: none">• Private Equity Firms• Institutional Investors• Corporate Investors
Mature Public Firm	<ul style="list-style-type: none">• Public Equity



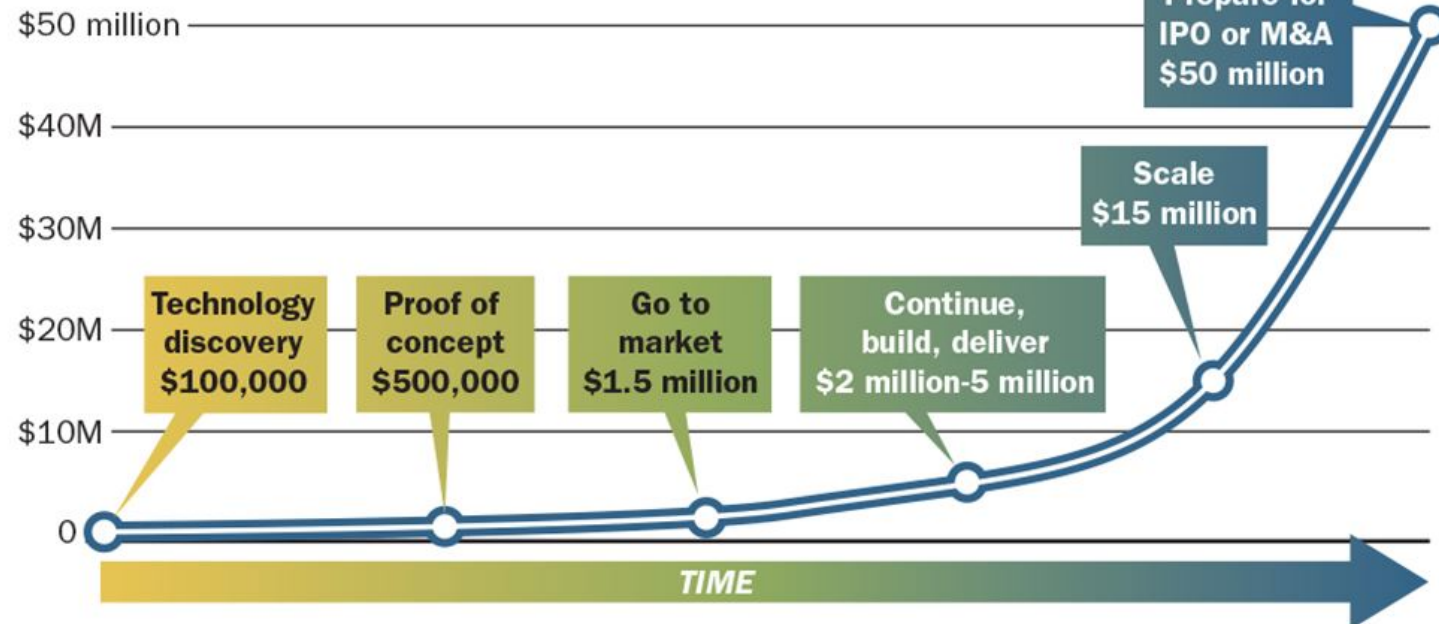
Startup Financing Cycle



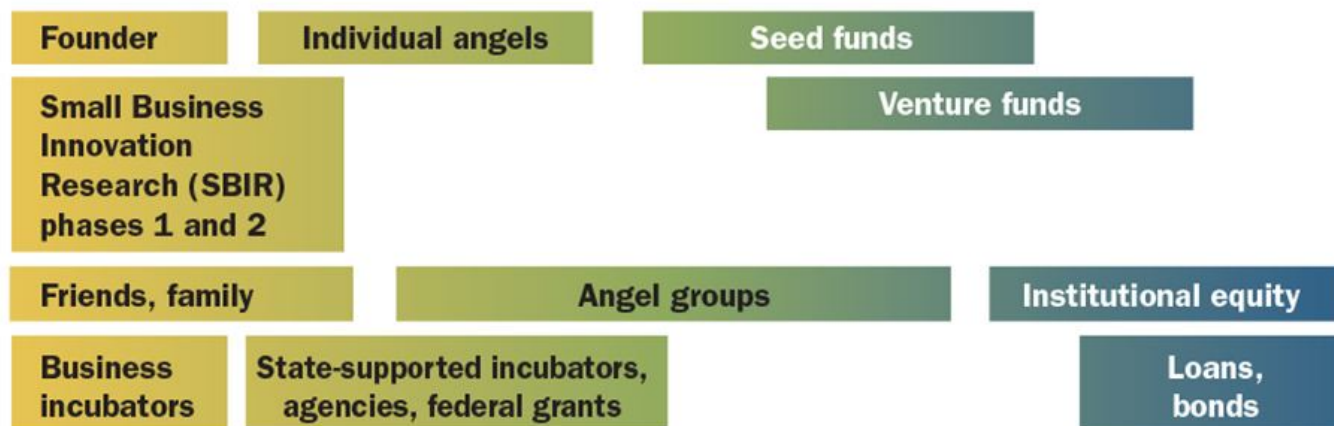
Funding rounds

A startup will go through several rounds of funding from several different investors in its life cycle. If all goes as planned, the investment and the return for investors go up at every stage. A few of the main players:

PRODUCT STAGE, INVESTMENTS NEEDED



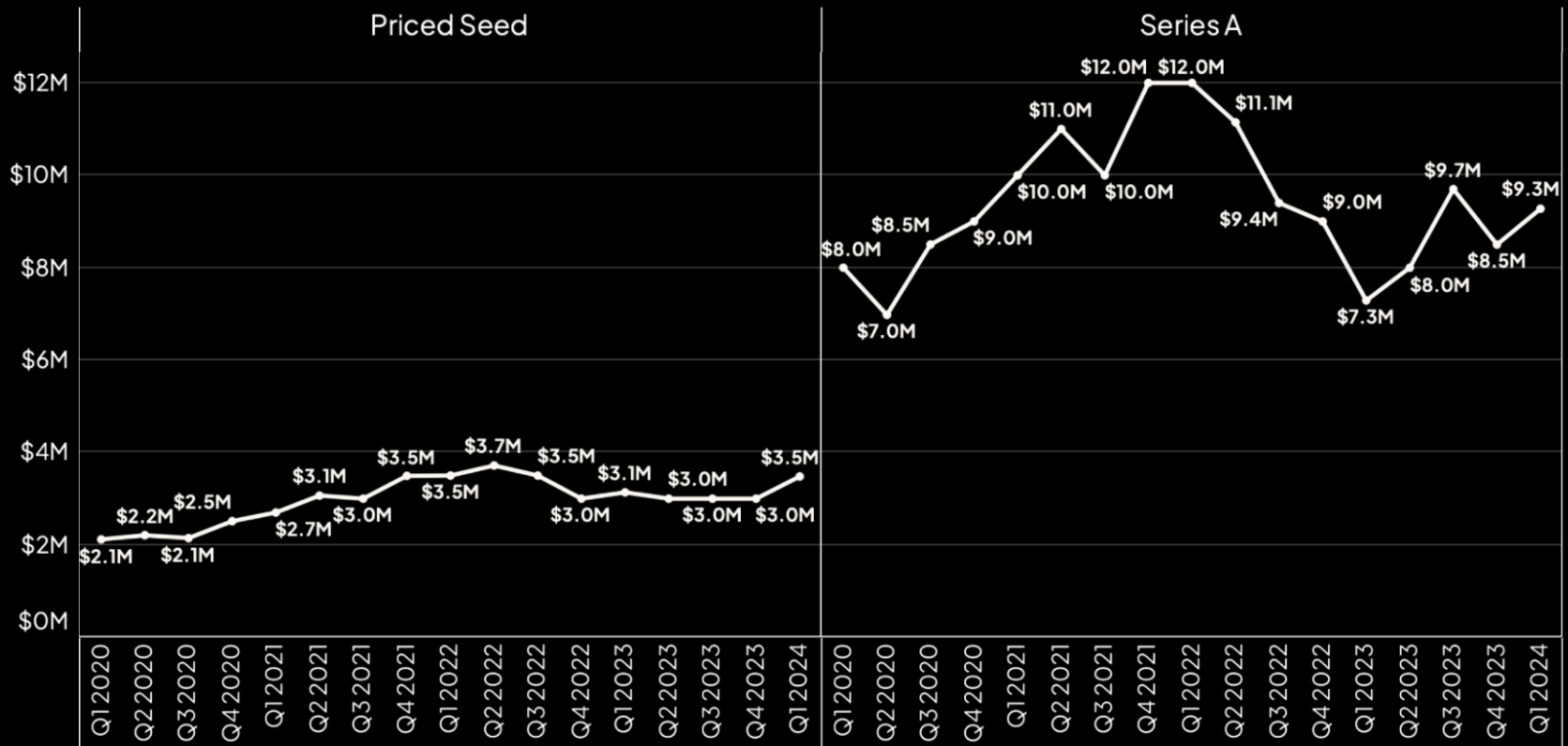
SOURCES OF FUNDING





Priced seed rounds got bigger in Q1

Median cash raised by stage and quarter, Q1 2020—Q1 2024



Provisional data, subject to updates

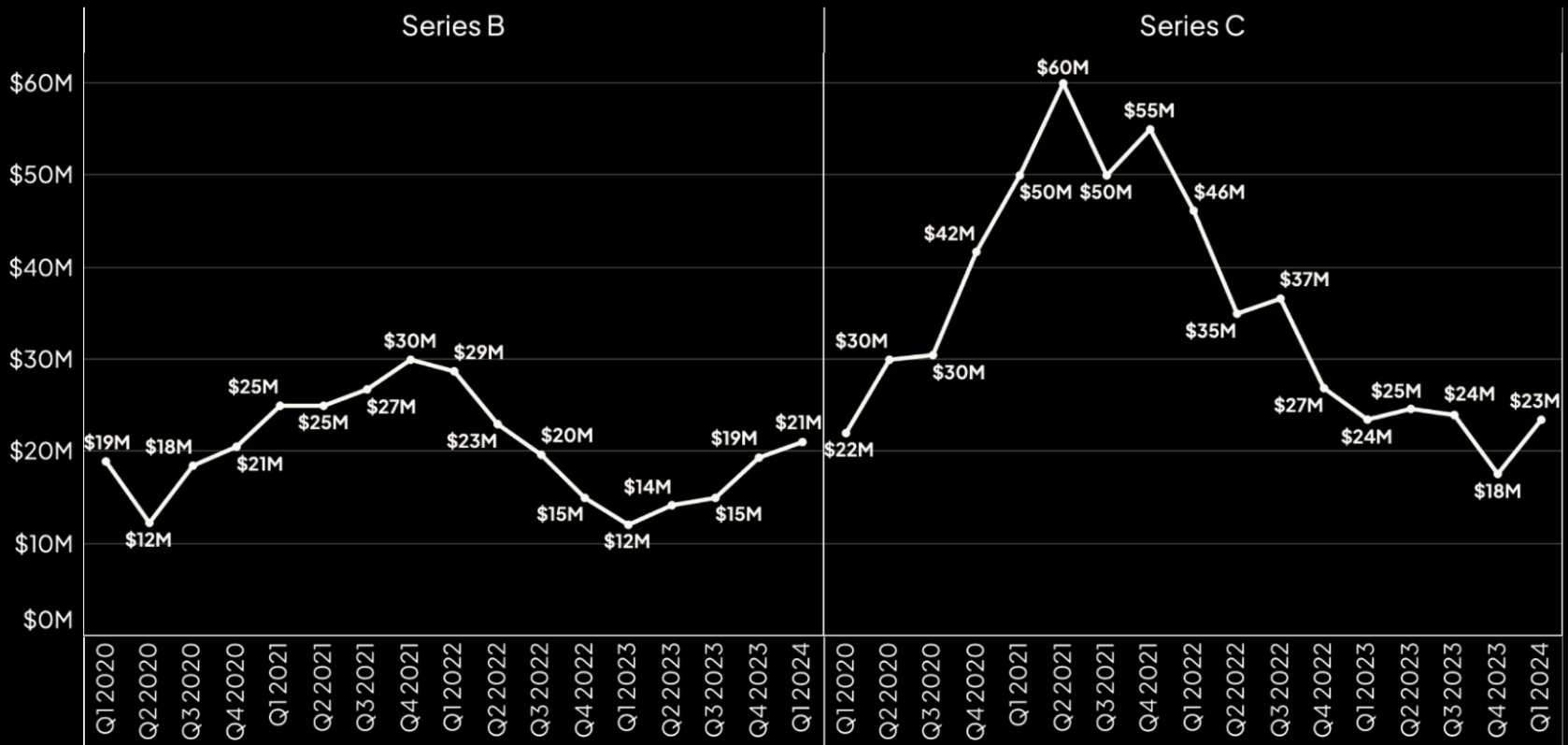
©2024 eShares Inc., d/b/a Carta Inc. ("Carta"). All rights reserved.

carta



Median cash raised at Series B continued to rise

Median cash raised by stage and quarter, Q1 2020—Q1 2024



Provisional data, subject to updates

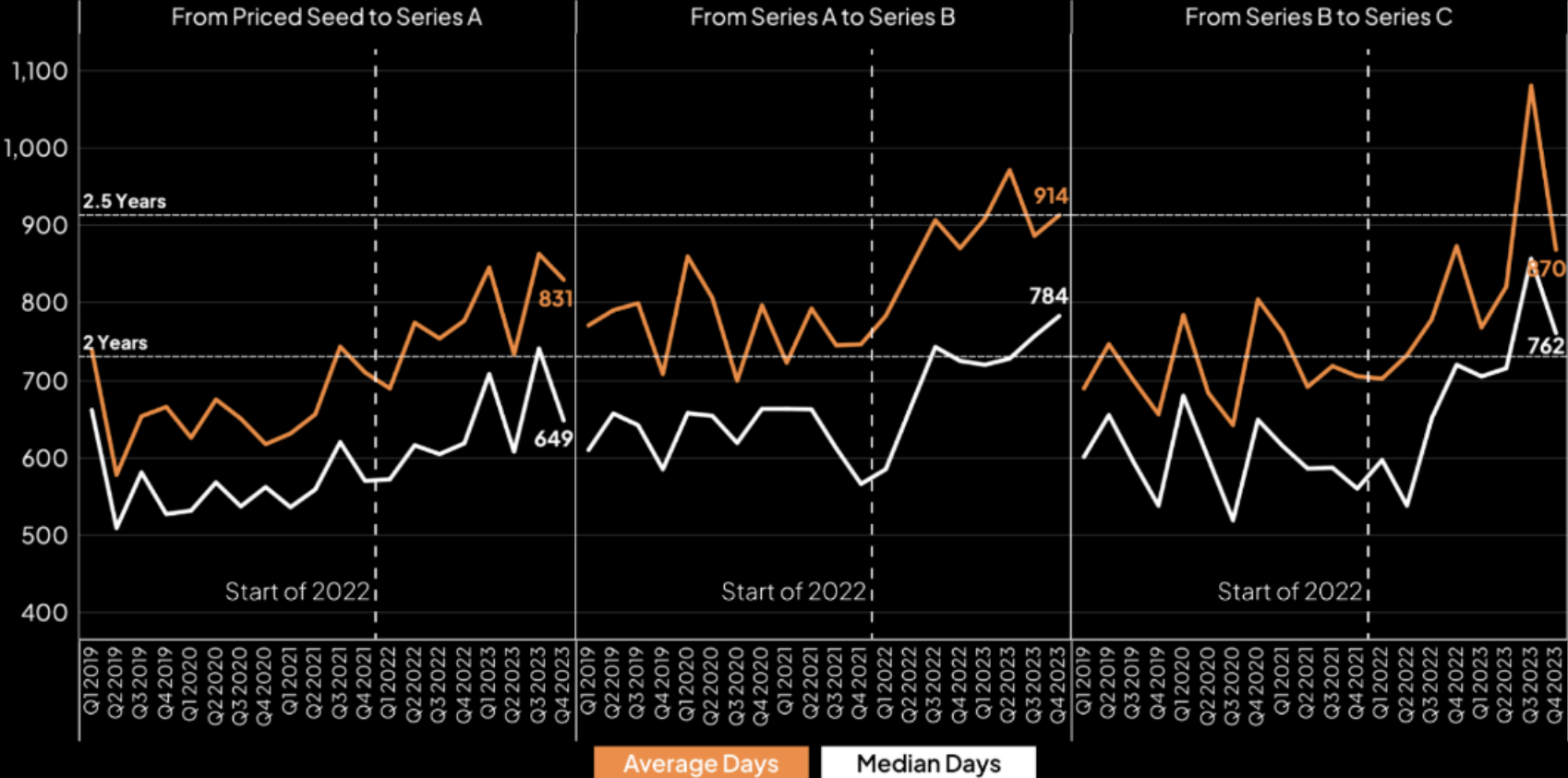
©2024 eShares Inc., d/b/a Carta Inc. ("Carta"). All rights reserved.

carta



Median time between Series A and B highest yet recorded

Days between primary financings, Q1 2019—Q4 2023



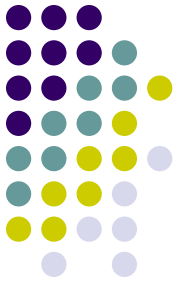
©2024 eShares Inc., d/b/a Carta Inc. ("Carta"). All rights reserved.

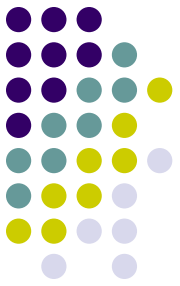


RAISING EQUITY IN THE PRIVATE MARKET

Pro-seed funding

High risk: the company has not yet proven itself within the market.





Pro-seed funding

Business idea, two to five team members, and preferably an early working prototype.

Repeat founders can secure funding without a working prototype and with just an idea.

Three main sources of financing:

- Friends, family, and fool
- Business Angels (BA)
- Accelerators

Government incubator, universities, and private companies

US company builders like YC, Techstars, and

国有、民营和研发机构三类孵化器优劣势比较

	国有孵化器	研发机构孵化器	民营孵化器
孵化思路	突破关键资源： 完善要素 政策补贴： 减免费用 地产服务： 大房东 整体规划： 学校、医院、住宅和产业集群	技术优势： 关键技术的研发、转化与咨询服务 人才引进： 顶尖科学家和他们的学生	创业导师深度服务， 家庭般的合作关系 市场经验与资源： 创业经验、行业洞察、客户与投资资源
孵化优势	1) 与当地发展结合，也是一种风口 2) 大配套成为可能，解决创业者生活问题 3) 集群优势，初创公司在产业链中成长	1) 能为创业者提供先进技术咨询和合作 2) 从教授到教授的学生，人才资源丰富	1) 导师为创业者提供个性化的行业洞察、创业辅导、市场资源 2) 多数背靠创业基金
孵化劣势	1) 国有资本只能做到有限的宽容失败 2) 专精化服务有限 3) 政策补贴式成长如何做到可持续发展	1) 怎么让科学家创业？ 2) 事业单位市场化运营有体制挑战，依赖领导个人能力和想法 3) 形成商业闭环，需要背靠市场资本	1) 在适应市场的同时适应监管和政策偶有难度 2) 大部分民营孵化器规模有限，对孵化器导师的能力要求高



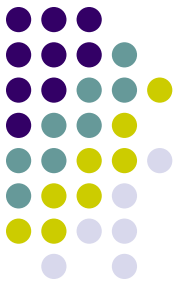
Financing early stage businesses

Given difficulty in assessing firm value at an early stage in the business, investors often rely on a **convertible note** rather than equity for financing

A convertible note is convertible into equity once the firm finances with equity for the first time.

Note holders convert the value of their initial investment plus accrued interest into equity at a discount (often 20%) to the price paid by new investors.

Investment sizes range from several hundred thousand dollars for individual investors to several million for angel groups



Angel Investors

For a new/start-up firm, angels are often a critical source of very early stage financing

Typically, successful businessmen with a particular interest in some technology or industry, former entrepreneurs, willing to help new start-ups for a share of their business

Peter Thiel and Meta: helped Meta securing series D right before 2008





VC investors

Invest in young, high-growth firms.

Investments have a high probability of failure

Investments have the potential for very high
rewards



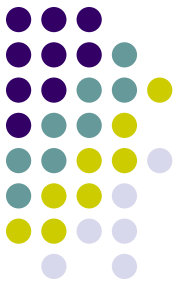
VC Investors

Fund structure: partnership

Role of VCs: deal sourcing, deal screening, deal making, monitoring, exit

Profit through successful exit: sell the stakes to another fund, acquisition or IPO

Venture Capital Structures



Organized as a limited partnership

- Typically institutional investors are the LP's
- The general partners (GP's) run the VC firm

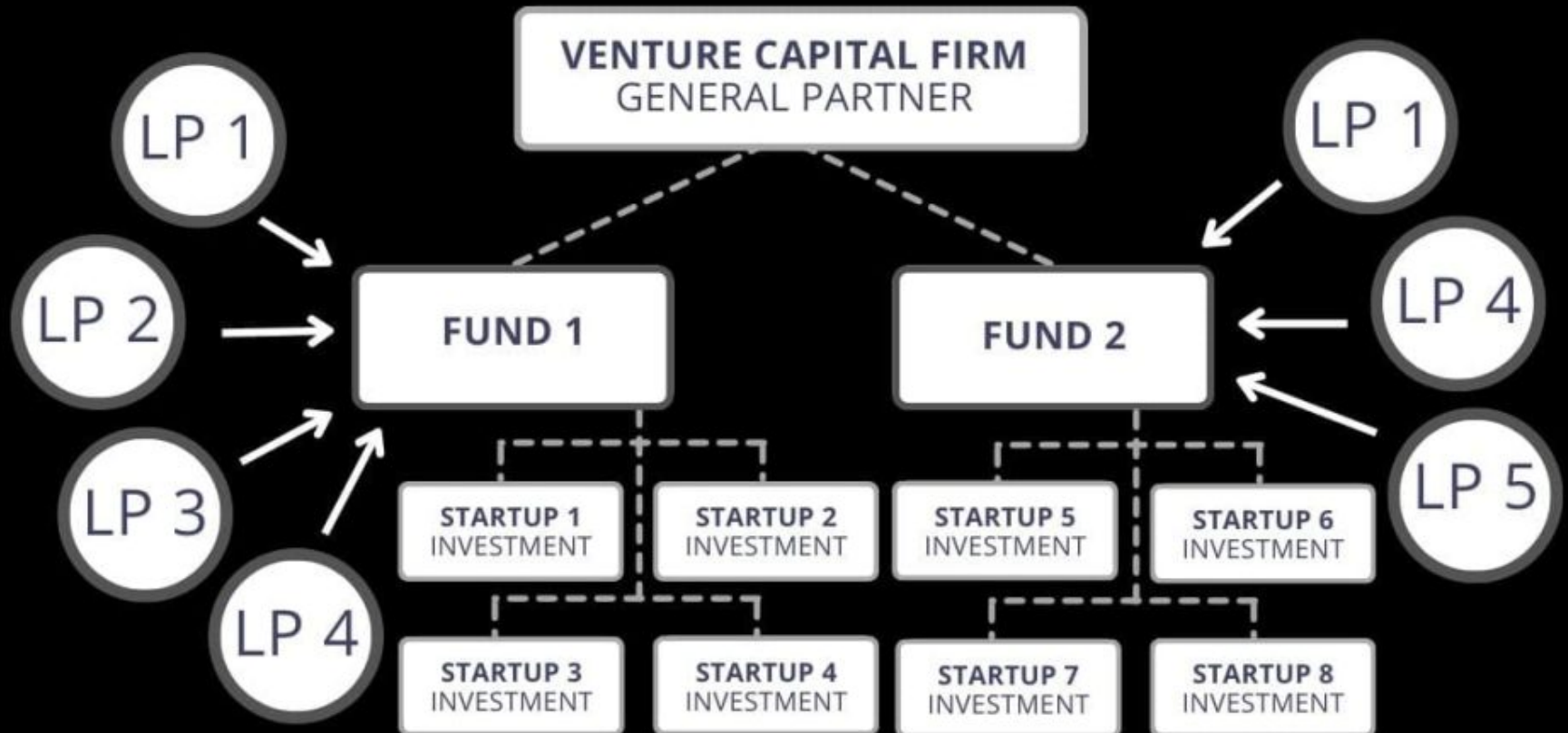
General partners have unlimited liabilities for all liabilities, and are in charge of daily operation

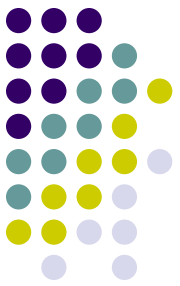
Limited partners are liable for business debt up to the contributed equity

Limited partners do not participate in daily management

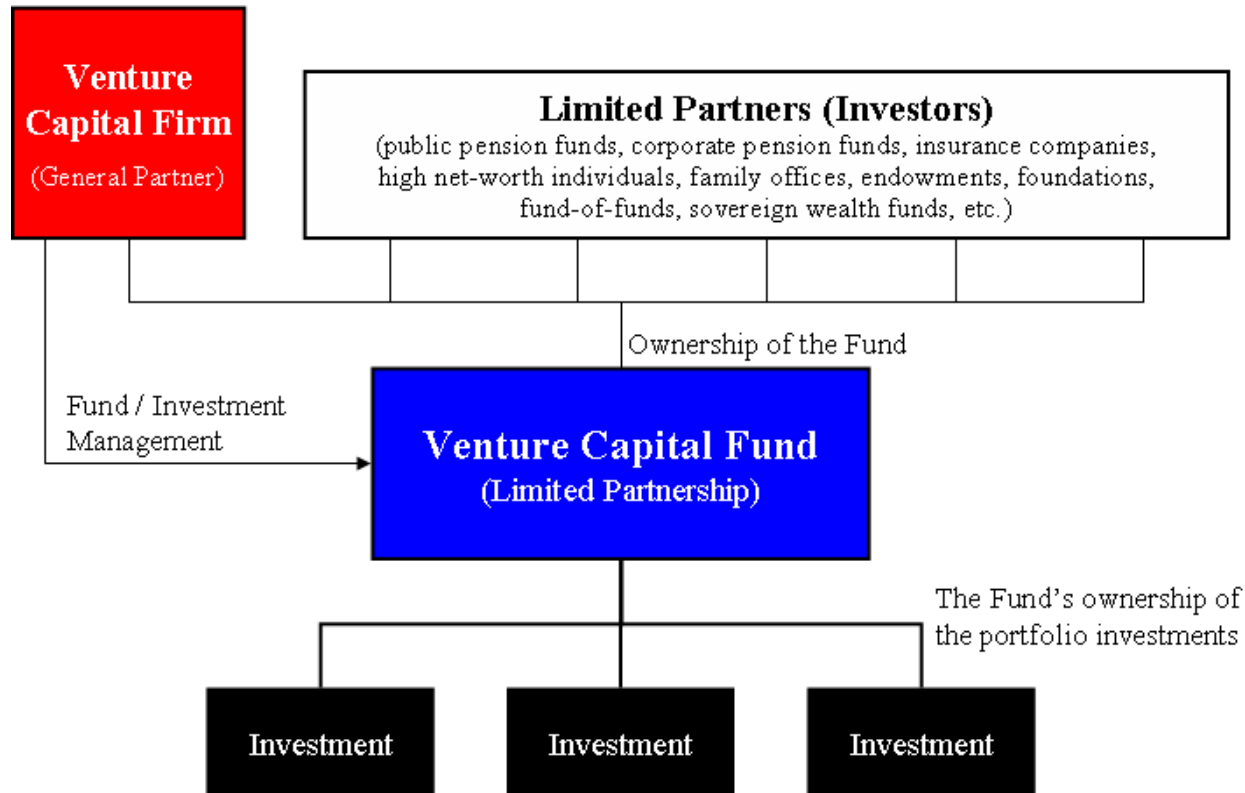


VC Structure





VC structure





VC Funds: Features

Close-ended:

- Raises capital for investment through a one-time sale to LP
- Fixed lifespan of 10 years
- At the beginning of the fund, the LP do not hand over the money (“commitment”) immediately
- VCs find the deal, negotiate the deal, and then request the LPs to send over the required amount: “capital call”

Close-ended fund: illiquid investment, hard to value



Cost of VC funds

Cost of VC investment

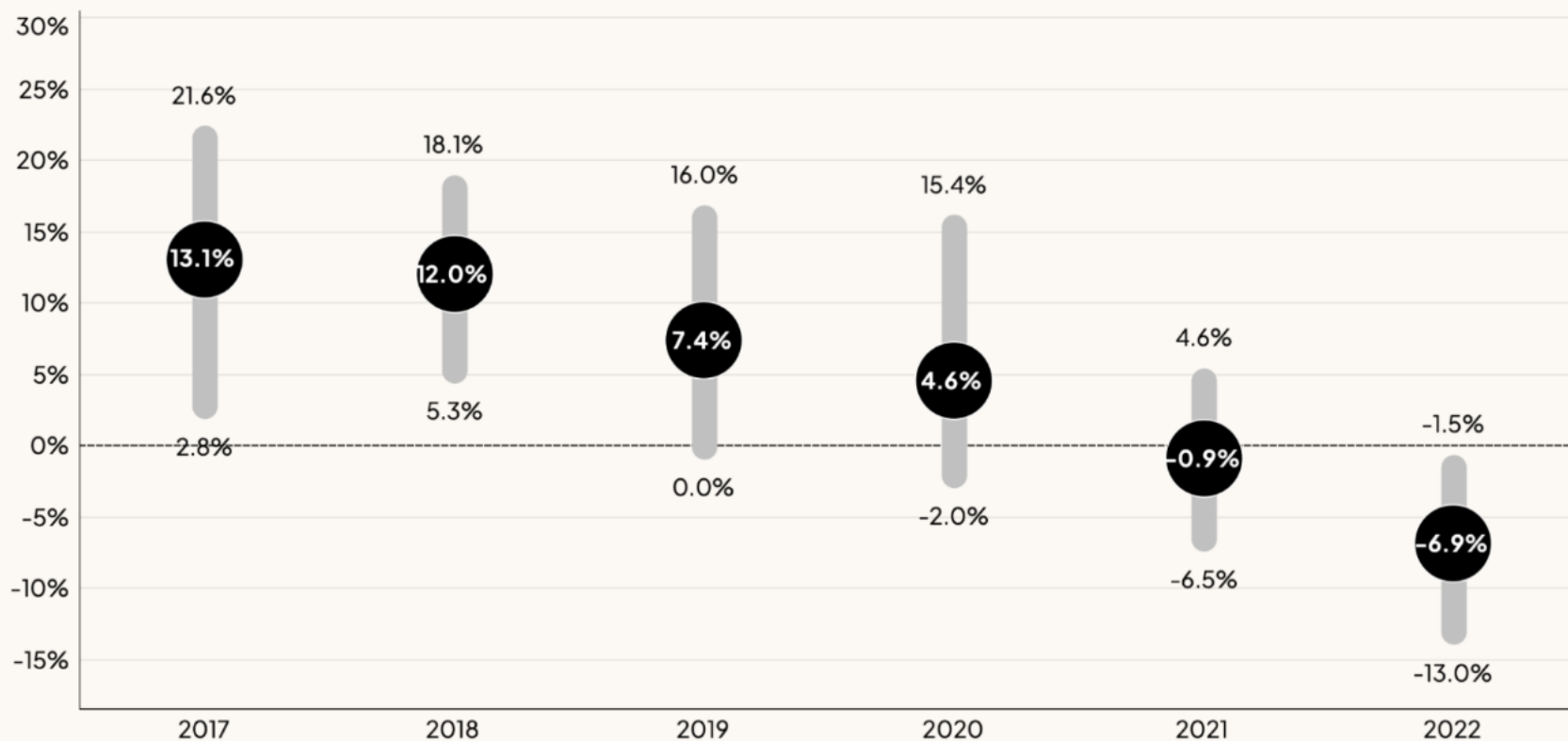
- **Annual management fee:** 1.5-2.5% of committed capital
- **Carried interest:** usually 20% (for some up to 30%) of positive returns (profits) go to the general partners

Return of VC funds



Vintage year: the year when a VC first invests in a

Unrealized IRR by vintage year | Vintage years 2017–2022 | **25th**, **Median**, and **75th** percentiles | Data as of Q1 2024

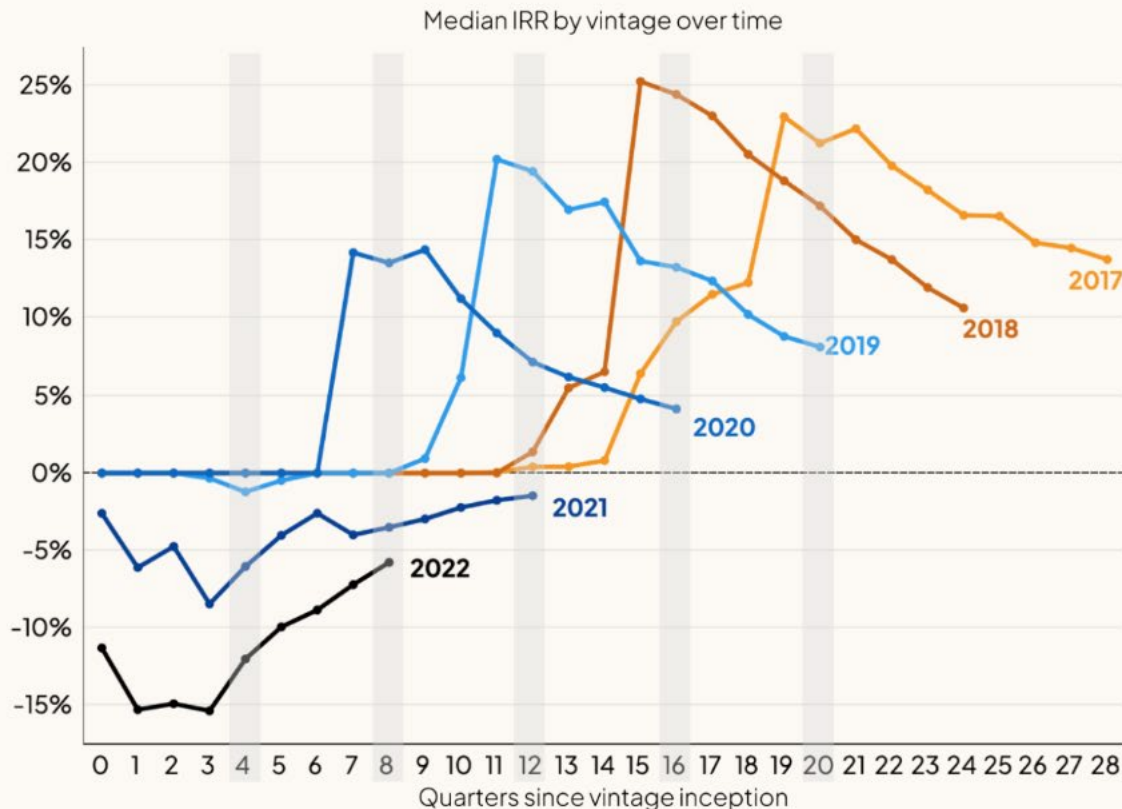


©2024 eShares Inc., d/b/a Carta Inc. ("Carta"). All rights reserved.

VC fund performance throughout its life cycle



Median net IRR by vintage year by quarters since inception | Vintage years 2017–2022 | Data as of Q1 2024



©2024 eShares Inc., d/b/a Carta Inc. ("Carta"). All rights reserved.

Median IRR at select points					
Vintage	4	8	12	16	20
2017	n/a*	n/a	0.4%	9.8%	21.3%
2018	n/a	n/a	1.4%	24.4%	17.2%
2019	-1.2%	0.0%	19.4%	13.3%	8.1%
2020	0.0%	13.5%	7.2%	4.1%	
2021	-6.0%	-3.5%	-1.5%		
2022	-12.0%	-5.8%			

* See Methodology for details

Most Active Global Venture Capital Firms



Tiger Global Management (AUM \$58.515) 老虎
环球

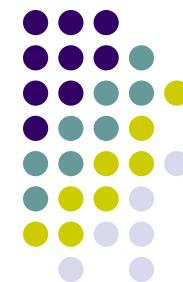
Sequoia Capital (\$55.7B) 红杉资本

Andreessen Horowitz (\$52.3B) 安德里森·霍罗
威茨

Legend Capital (\$48.1B) 君联资本 (Lenovo-
backed, China focused)

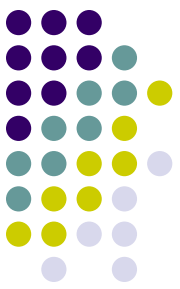
New Enterprise Associates (NEA) (\$25.9B) 恩
颐投资

Top Chinese VCs



排名		机构名称/主要管理人
1		红杉中国 沈南鹏
2		深创投 倪泽望
3		IDG资本 ——
4		五源资本 刘芹
5		经纬创投 张颖、徐传陞

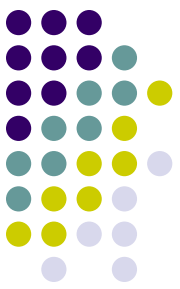
Sources of Equity Financing: Venture Capital Firms



Pros and Cons from investor's perspective

- Benefits of investing in a VC fund:
 - Diversification: the VC makes many investments in start-ups leading to diversification
 - Access to the startup market
 - Expertise of general partners

Sources of Equity Financing: Venture Capital Firms



Pros and Cons from entrepreneur's perspective

- Benefits of financing through a VC fund:
 - VC funds can provide substantial capital
- Costs of financing through a VC fund :
 - VC funds demand a great deal of control (typically 1/3 of board seats and often represent largest voting block)
 - The higher control can be viewed as an important benefit due to the nurturing / monitoring by VC firms to protect their investments



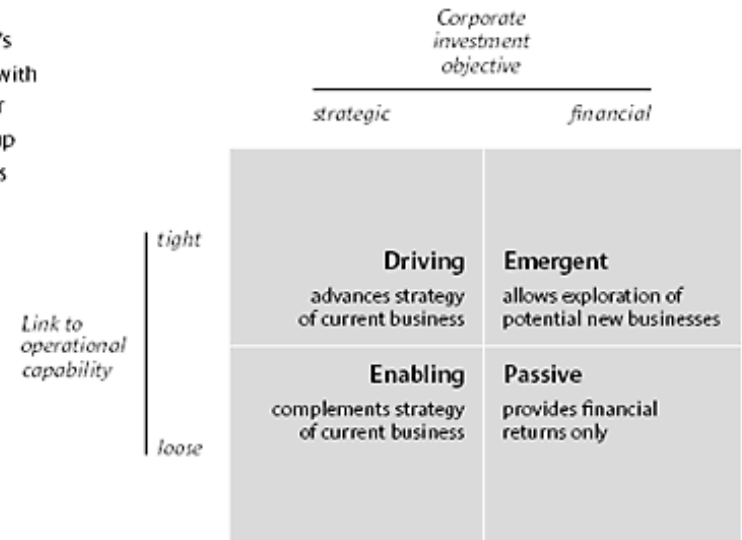
Corporate VC

Unlike financial VCs, a lot of Corporate VCs emphasize the strategic value of the startup

Big tech firms, biotechnology and telecommunication

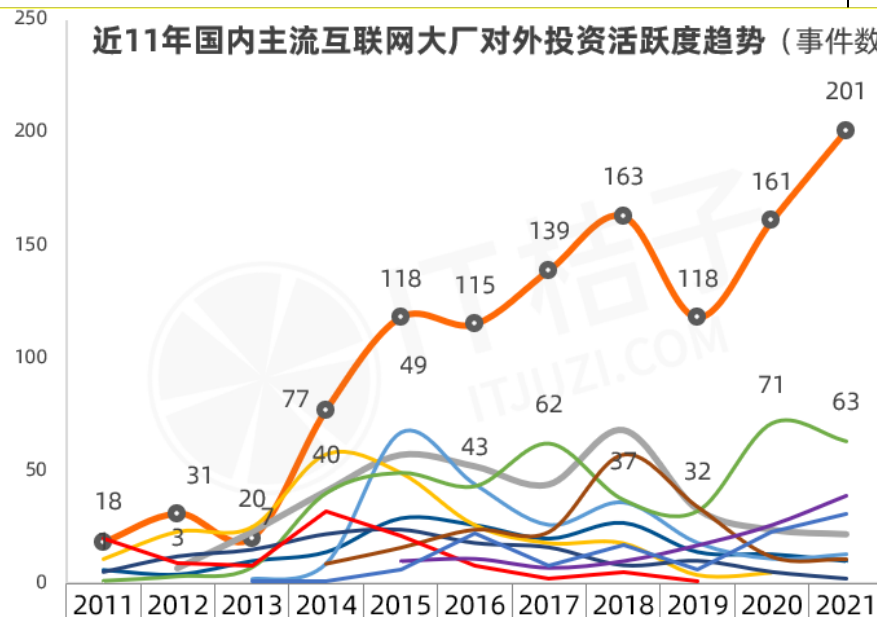
Mapping Your Corporate VC Investments

Combining an assessment of your company's corporate objective—strategic or financial—with an analysis of the degree of linkage—tight or loose—between your operation and a start-up receiving your funding reveals the four types and purposes of corporate VC investments.



Chinese CVC 2011 - 2021

近11年国内主流互联网大厂对外投资活跃度趋势（事件数）



腾讯	18	31	20	77	118	115	139	163	118	161	201
百度	6	4	10	14	29	26	20	27	14	13	10
阿里巴巴		7	23	41	57	52	44	68	33	24	22
三六零	11	23	25	57	49	26	18	18	4	5	
京东			2	9	67	44	26	36	18	11	13
小米集团	1	3	7	40	49	43	62	37	32	71	63
新浪微博	5	12	15	22	24	18	16	8	10	5	2
蚂蚁集团				9	16	24	23	57	34	12	11
盛大	20	9	8	32	21	8	2	5	1		
字节跳动					10	11	7	10	17	26	39
B站			1	1	6	22	8	17	6	23	31



Convertible preferred stock

When equity is sold for the first time to outside VC investors, **convertible preferred stock** is often used

Convertible preferred stock:

- Senior claim on the firm's assets
- Right to convert to common shares
- Usually no dividends

Why Convertible Preferred Stock?

- If business goes under, will have priority over common shareholders on the assets of the firm
- If business does well, will convert and have all the rights and benefits of common shareholders



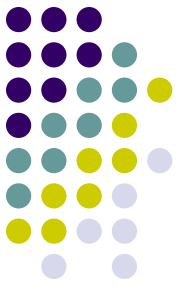
Valuation of VC-backed firms

Each time a firm raises money is referred to as a **funding round**. After the initial “seed round”, remaining capital raises are listed alphabetically.

With each round of financing valuation is estimated as follows:

Post-money Valuation = Pre-money Valuation + Amount Invested

Percentage Ownership = Amount Invested / Post-money Valuation



Source of Equity Financing: Venture Capital Firms

An important consideration for investors in private companies is their **exit strategy**:

- How to realize the return from investment

Primary exit strategies:

- US: ~80% of VC exits through M&A
- China: IPO dominated, also dominated the IPO market (237/313 IPO in 2023 has PE/VC funding)

Other exit methods: later stage PEs, institutional investors



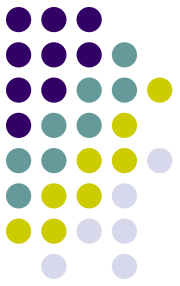
Institutional Investors in the Private Equity Space

Institutional Investors

Institutional investors, such as pension funds, insurance companies, endowments, and foundations, are active investors in private companies.

- May invest directly in private firms or invest indirectly by becoming limited partners in venture capital firms
- Example: California Public Employees' Retirement System (CalPERS) had \$27.64bn in PE in 2018

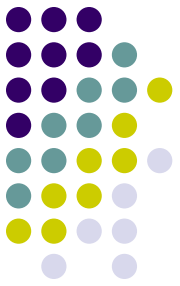
Growth Private Equity: Later Stage PE Fund



Similar to venture capital but less speculative
Fund later stage companies pre-IPO

Mature companies looking to grow their
business by entering new markets or buying
other companies

The terminologies can be sometimes hard to
separate, can refer to both late-stage VC
growth funds, and can also refer to LBOs



Discussion: “Private Equity”

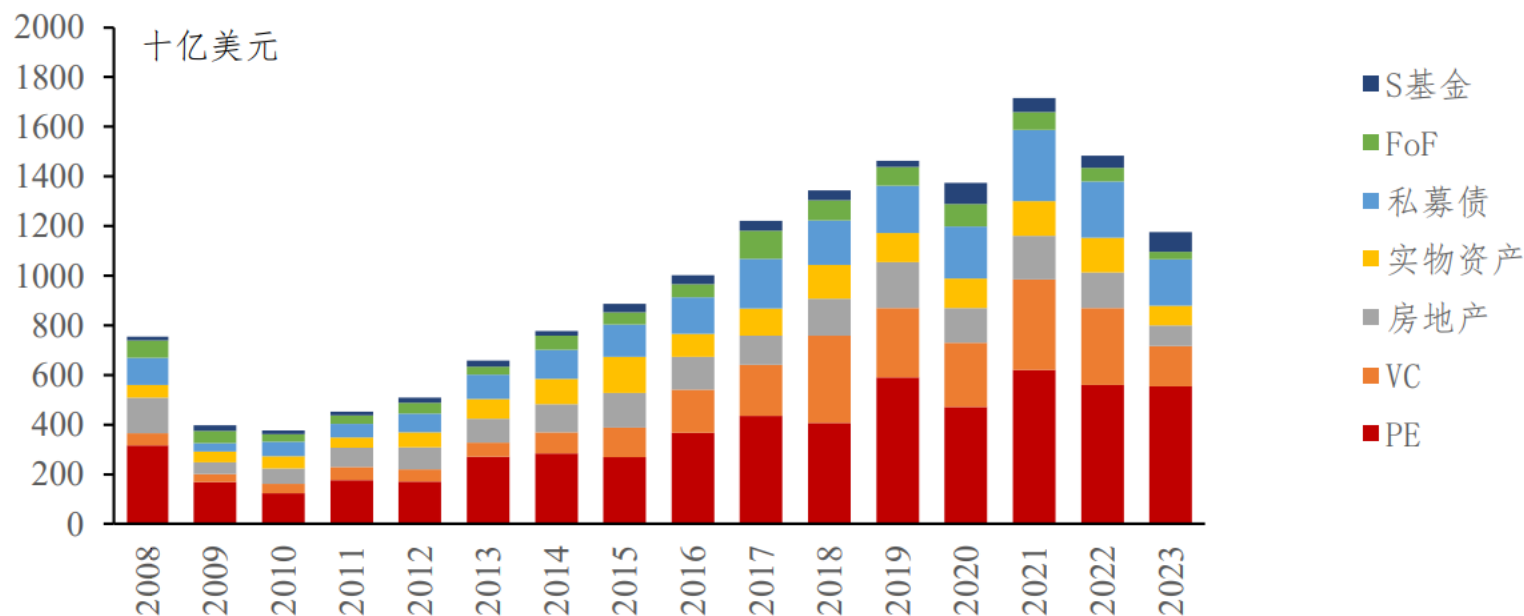
Equity investing in the private market

- VC
- Growth equity
- Leveraged Buyout
 - Acquiring a public company using mostly debt
- Private equity real estate
- Fund of fund
- Private equity in assorted assets (paintings, wines, etc)



Assorted private capital funds

图 5：各类型私人资本市场募资情况



资料来源：Pitchbook；中国银行研究院

Top 10 Private Equity Funds in 2018



The Blackstone Group Inc.

KKR & Co. Inc.

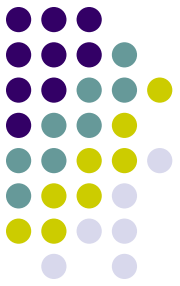
CVC Capital Partners

The Carlyle Group Inc.

Thoma Bravo



RAISING EQUITY IN THE PUBLIC MARKET



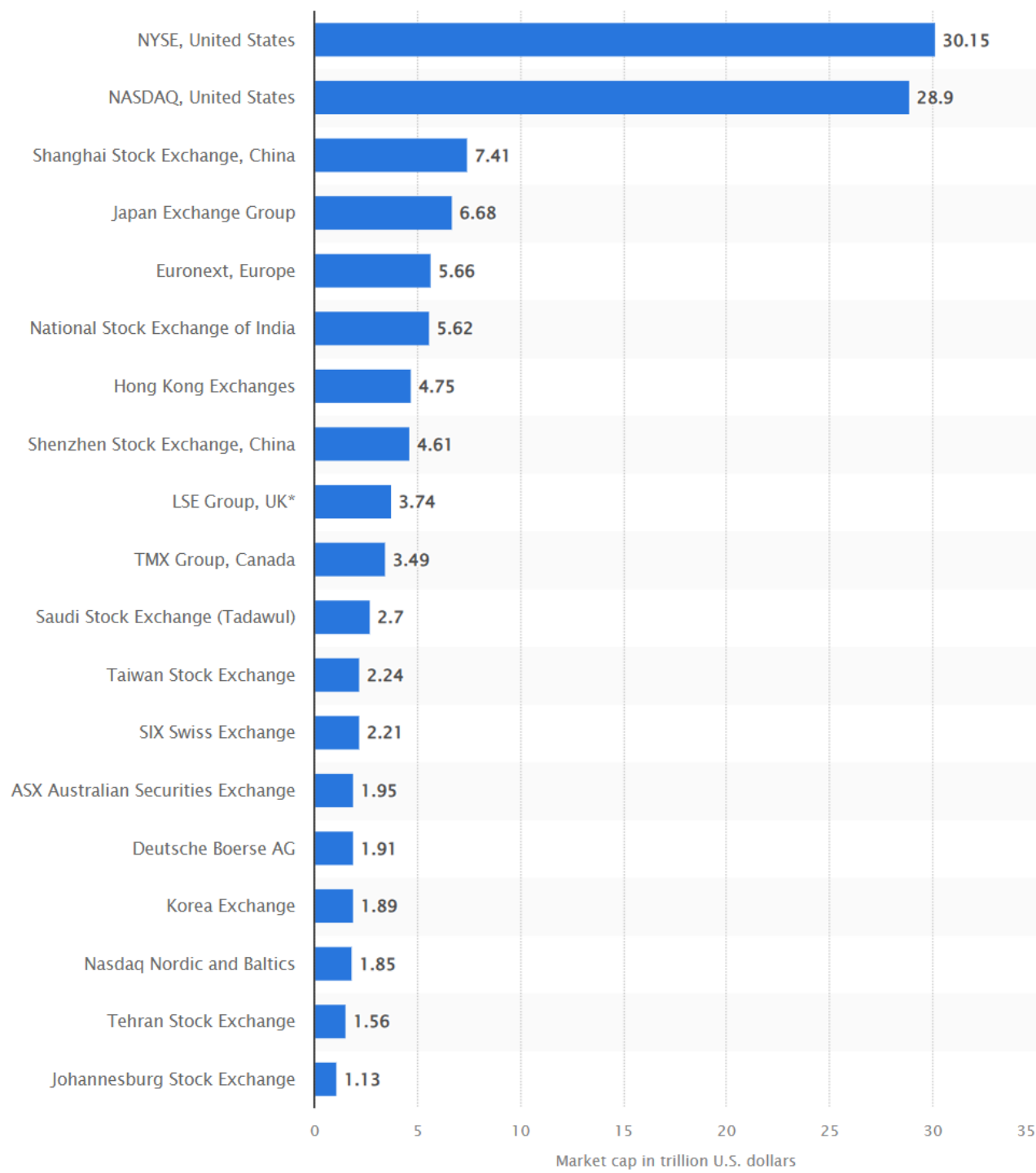
Public Company

A public company is a company whose shares can be traded on the public markets

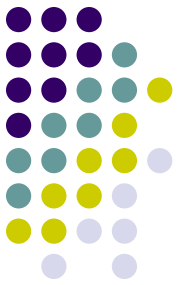
- Mostly stock exchanges
- US: NYSE & NASDAQ
- China: Shanghai & Shenzhen stock exchange 上海/深圳证券交易所

Largest stock exchange operators
worldwide as of September 2021
market capitalization of listed
companies

(in trillion U.S. dollars)



Types of Stocks in Chinese Market



A Share

- RMB Common Stock.
- Domestically issued by Chinese corporations
- Listed in Shanghai and Shenzhen exchanges
- Traded with RMB by domestic institutions, organizations and individuals (excluding Hong Kong, Macao and Taiwan investors).
- Not physical stocks, they are kept electronically.
- Price fluctuation of A shares in Shanghai and Shenzhen exchanges is restricted with limit up and limit down(10%)

Types of Stocks in Chinese Market



B Share

- RMB Special Stock.
- Issued by Chinese corporations and listed in Shanghai and Shenzhen.
- Recorded in RMB, but subscribed and traded in foreign currencies for foreign investors(including Hong Kong, Macao, Taiwan investors).
- In 2001, B shares are permitted to trade by domestic citizens.

Overview of China’s Stock Exchanges



	Shenzhen Stock Exchange		Shanghai Stock Exchange
	2024		2024
Companies Listed	2851		2278
Market Cap.(RMB bn)	33936		51963
A shares	20963		45307
B shares			101
ChiNext	20963		-
STAR	-		6554
Total Traded Value (RMB bn)	142834		94110
A shares	77137		79650
B shares			40
ChiNext	65696		-
STAR	-	-	14418



Public Company

A public company is a company whose shares can be traded on the public markets

- Mostly stock exchanges
- Unlisted public companies traded on OTC market
 - Direct transaction or through broker-dealers quoting stock prices
 - Size, listing cost, disclosure requirement, get delisted

A private company goes public through

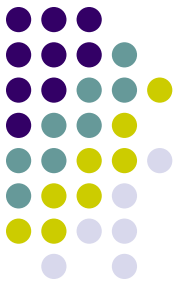
- IPO: raising new public equities through IPO
- SPAC: a publicly traded buyout company buys a private company



Being Public: Advantages

Advantages:

- Greater Liquidity for Investors
 - E.g. VC exit, staying shareholder and founders have higher liquidity for their holding
- Better access to capital
 - Public companies typically have access to larger amounts of capital through the public markets
- Higher transparency
 - Information disclosure requirements reduces information friction
- Higher business awareness



Being Public: Disadvantages

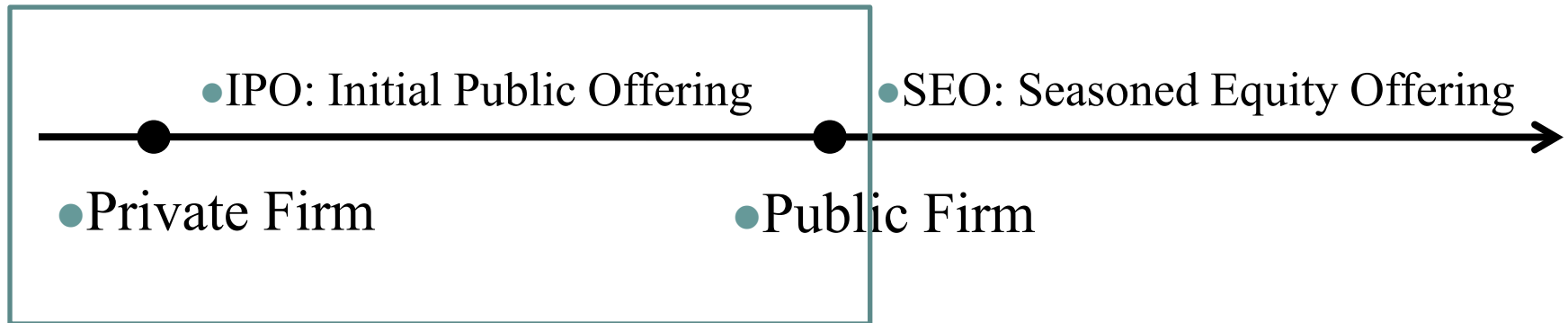
Disadvantages:

- The equity holders become more widely dispersed
 - Makes it difficult to monitor management
 - Prices may be discounted to reflect this loss of control
- The firm must satisfy all of the requirements of public companies
 - SEC filings, etc.
 - Compliance is costly and time-consuming
 - Information disclosure can force company to disclose business secret
 - Filing redacted exhibits with SEC is possible for only non-material info
- Short-termism短视: company decisions affected by real-time 实时的 stock price

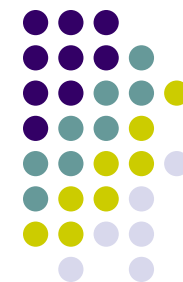


Initial Public Offering

IPO: The process of selling stock to the public for the first time



Top (



1. Saudi Aramco (2019)

- **Amount Raised:** \$25.6 billion
- **Valuation:** \$1,707 billion
- **Sector:** Energy
- **Industry:** Integrated Oil & Gas
- **Stock Exchange:** Tadawul

2. Alibaba (2014)

- **Amount Raised:** \$21.8 billion
- **Valuation:** \$175 billion
- **Sector:** Technology
- **Industry:** Internet Retail
- **Stock Exchange:** NYSE

3. SoftBank Corp (2018)

- **Amount Raised:** \$21.3 billion
- **Valuation:** \$64 billion
- **Sector:** Communication Services
- **Industry:** Wireless Telecommunication Services
- **Stock Exchange:** Tokyo Stock Exchange

4. NTT Mobile (1998)

- **Amount Raised:** \$18.1 billion
- **Valuation:** \$76 billion
- **Sector:** Communication Services
- **Industry:** Wireless Telecommunication Services
- **Stock Exchange:** Tokyo Stock Exchange

5. Visa (2008)

- **Amount Raised:** \$17.9 billion
- **Valuation:** \$34 billion
- **Sector:** Financials
- **Industry:** Specialized Finance
- **Stock Exchange:** NYSE

6. AIA (Am. Int'l Assurance) (2010)

- **Amount Raised:** \$17.8 billion
- **Valuation:** \$31 billion
- **Sector:** Financials
- **Industry:** Life & Health Insurance
- **Stock Exchange:** Hong Kong Exchange

7. ENEL SpA (1999)

- **Amount Raised:** \$16.5 billion
- **Valuation:** \$55 billion
- **Sector:** Utilities
- **Industry:** Electric Utilities
- **Stock Exchange:** NYSE

8. Facebook (2012)

- **Amount Raised:** \$16.0 billion
- **Valuation:** \$104 billion
- **Sector:** Technology
- **Industry:** Interactive Services
- **Stock Exchange:** Nasdaq

9. General Motors (2010)

- **Amount Raised:** \$15.8 billion
- **Valuation:** \$62 billion
- **Sector:** Consumer Discretionary
- **Industry:** Automobile Manufacturers
- **Stock Exchange:** NYSE

10. ICBC - H (2006)

- **Amount Raised:** \$14.0 billion
- **Valuation:** \$30 billion
- **Sector:** Financials
- **Industry:** Diversified Banks
- **Stock Exchange:** Hong Kong Exchange



The Process of IPO

IPO: a previously unlisted company sells new/existing securities to the public for the first time

IPO Timeline

- Select the underwriter
- SEC filings: preliminary prospectus
- Preliminary valuation: using cash-flow projections and/or comparables
- The road show and book building
- Sell the shares
- Post-IPO Market Making



Step 1: select the underwriter

Underwriter 承销商

- An investment banking firm that manages a security issuance and designs its structure
- Acts as an intermediary between the company seeking to go public (the issuer) and potential investors in the stock market
- Syndicate: an IPO can involve a group of underwriters (China: issuance \geq 30 million rmb has to be underwritten by syndicates)
- Lead underwriter

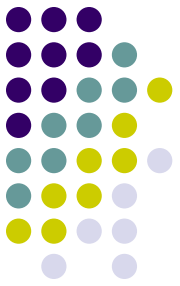
Other professionals: accountants, lawyers, 保荐人 (due diligence for registration)

Step 2: SEC /证监会 filings: preliminary prospectus



SEC/证监会 filings

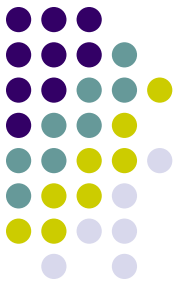
- Registration Statement:
 - Provides financial and other information about a company to investors prior to a security issuance
- Preliminary Prospectus 招股说明书 (Red Herring)
 - Preliminary information about the company
 - Doesn't include the final price of the IPO or the number of shares being offered.
 - Circulated to investors before the stock is offered
- At the end of the IPO process: final Prospectus
 - Contains all of the details of the offering, including the number of shares offered and the offer price



Step 3: Valuation

Valuation

- Determining the value of the company
- Two valuation approaches to arrive at a price range:
 - Compute the present value of the estimated future cash flows (DCF)
 - Estimate the value by examining comparable companies



Step 4: Road Show

Road show

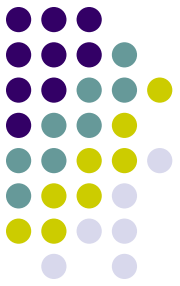
- Who?
 - Senior Management
 - Underwriters
- For what?
 - Convince potential buyers that the firm is a great investment and understand what the market thinks of the valuation
- To whom?
 - Mainly institutional investors such as mutual funds, pension funds, and hedge funds



Step 5: Book-building

Book-building role of the underwriter: the process of coming up with the offer price based on customers' expressions of interest

- At the end of the road show, customers inform underwriters of how much they would like to purchase and at what price
- Underwriters add up total demand and adjust price until it is unlikely that the issue will fail
- Set the offer price a day before or on the same day as the IPO date



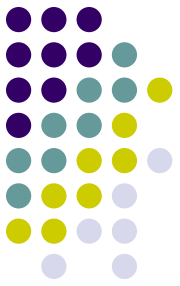
Step 6: Selling Shares

3 Ways of Underwriter Selling Shares

Best effort 代销

Firm commitment 报销

Dutch auction 荷兰式拍卖



Step 7: Post-IPO Market Making

Pricing the deal and managing risk

Once stock is traded publicly, lead underwriter usually makes a market in the stock and assigns an analyst to cover it → leads to greater liquidity

Preexisting shareholders are usually subject to a 180-day **lockup**: they cannot sell their shares for 180 days after the IPO.

IPO performances:

high first day return = underpricing



Generally, underwriters set the issue price such that the average first-day return is positive

- 75% of first day returns are positive
- Average FIRST DAY RETURN in the United States is 17%
- Annualized return = $17\% \times 360$
- China: highest initial day IPO return in 2024: 1035.85%
强邦新材, mean 187.89% 2024, 42.82% for 2022

A blessing to new shareholders, but **pre-IPO shareholders** bear the cost of the underpricing



Underpricing

Why underprice?

China: regulation over Price/Earning ratio 市盈率

- 2024 main board Shanghai Exchange: mostly under 20
- 2022: more diverse

US

- Supply side:
 - The issuing firm may underprice to ensure a successful offering
- Demand side: winner's Curse
 - Refers to a situation in which the winner of an auction, by virtue of being the highest bidder, is very likely to overpay the item he has won
 - You win when demand for the shares is low and the IPO is more likely to perform poorly



Underpricing

At the core of the Winner's Curse is the adverse selection associated with the uncertainty of what is being bought

The required underpricing gets larger as the uncertainty increases

This is why underpricing is greatest for:

- Penny stocks underwritten through best efforts arrangements
- IPOs in less developed stock markets

A firm can reduce uncertainty through:

- Greater disclosure / transparency in filings and road show



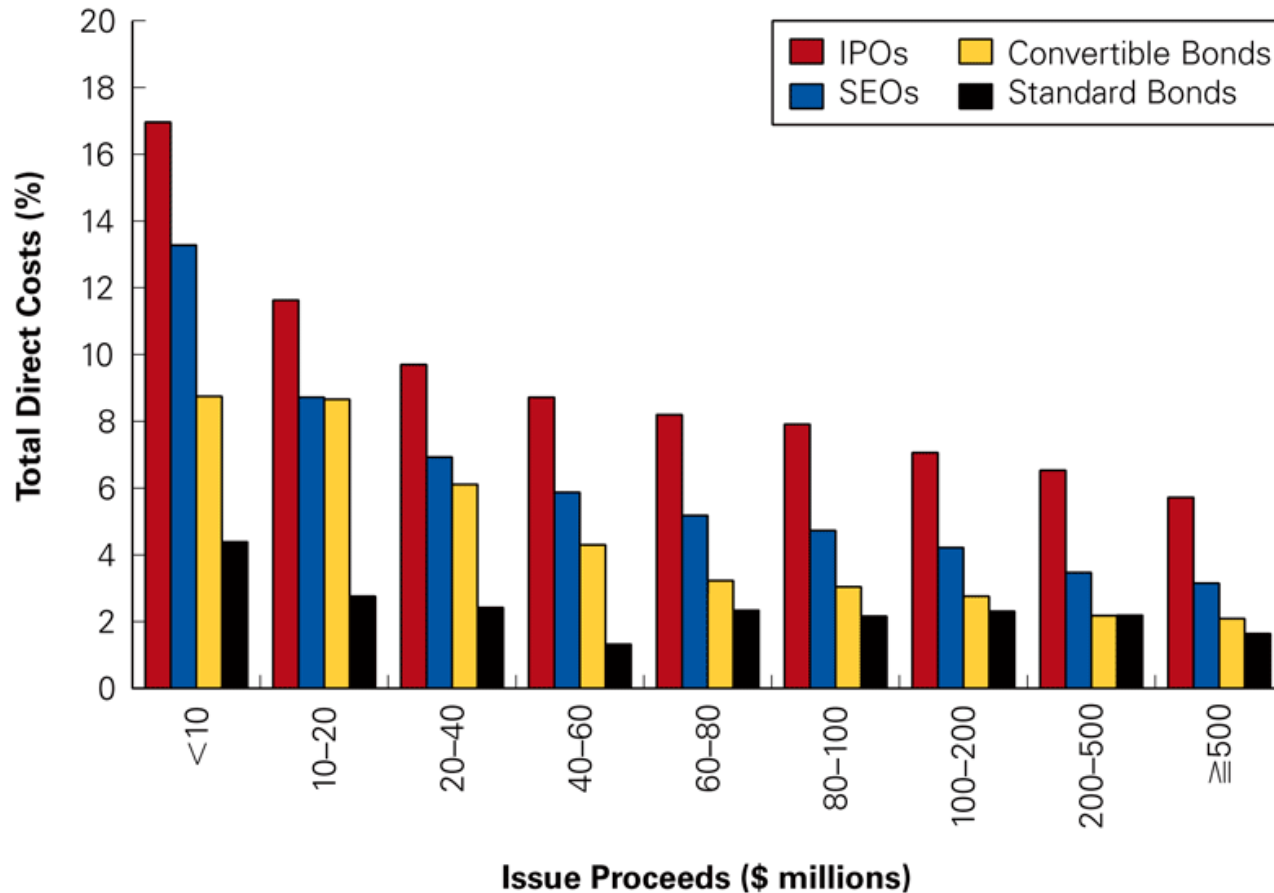
Costs of an IPO

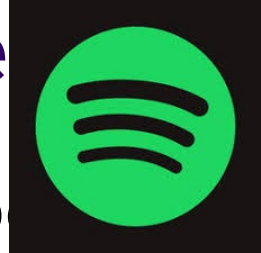
Fees from hiring professionals

- Underwriting fees: 3.5–7% of the offering proceeds (depends on size, \$1 billion -> 3.5%)
- Law firm fees: Can be around \$1.7–2 million
- Auditor fees: Can also be around \$2 million



Relative Costs of Issuing Securities





Direct listing: Spotify as an example

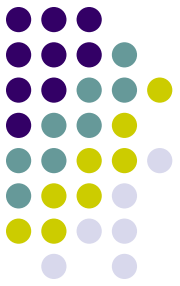
Spotify: 喜马拉雅听书 + 音乐 IPO in 2018

- No new shares will be listed and no capital will be raised
- Spotify will float existing shares and let the market find the right price
- No banks to serve as underwriters to set the pricing
- Estimated costs of \$35mm vs. \$100mm for a similarly sized Snap Inc. IPO

Why this approach?

- <https://corpgov.law.harvard.edu/2018/07/05/spotify-case-study-structuring-and-executing-a-direct-listing/>

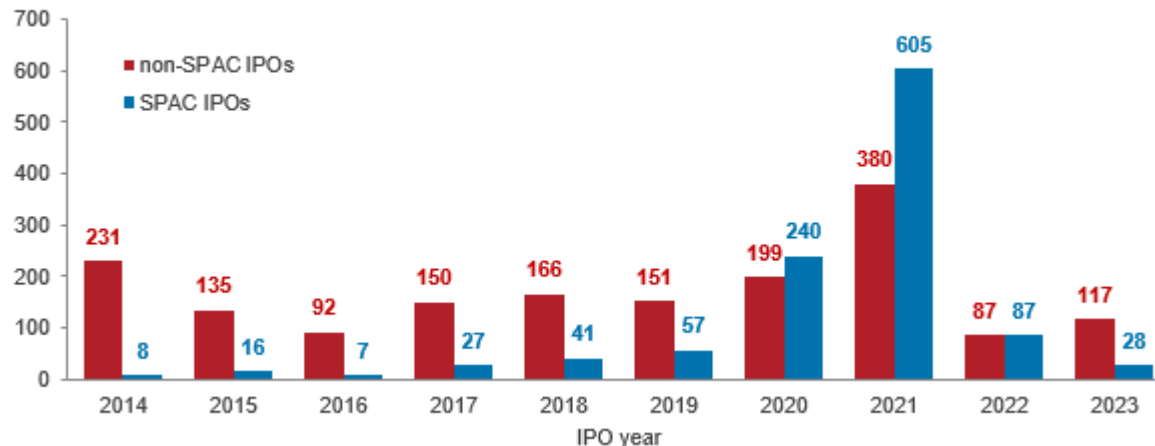
SPAC: special purpose acquisition company



A private company going public by being acquired by a public shell company

Different from 借壳上市: the public shell is established specifically for SPAC, while 借壳上市 are from existing public firms

Number of IPOs in 2014-2023

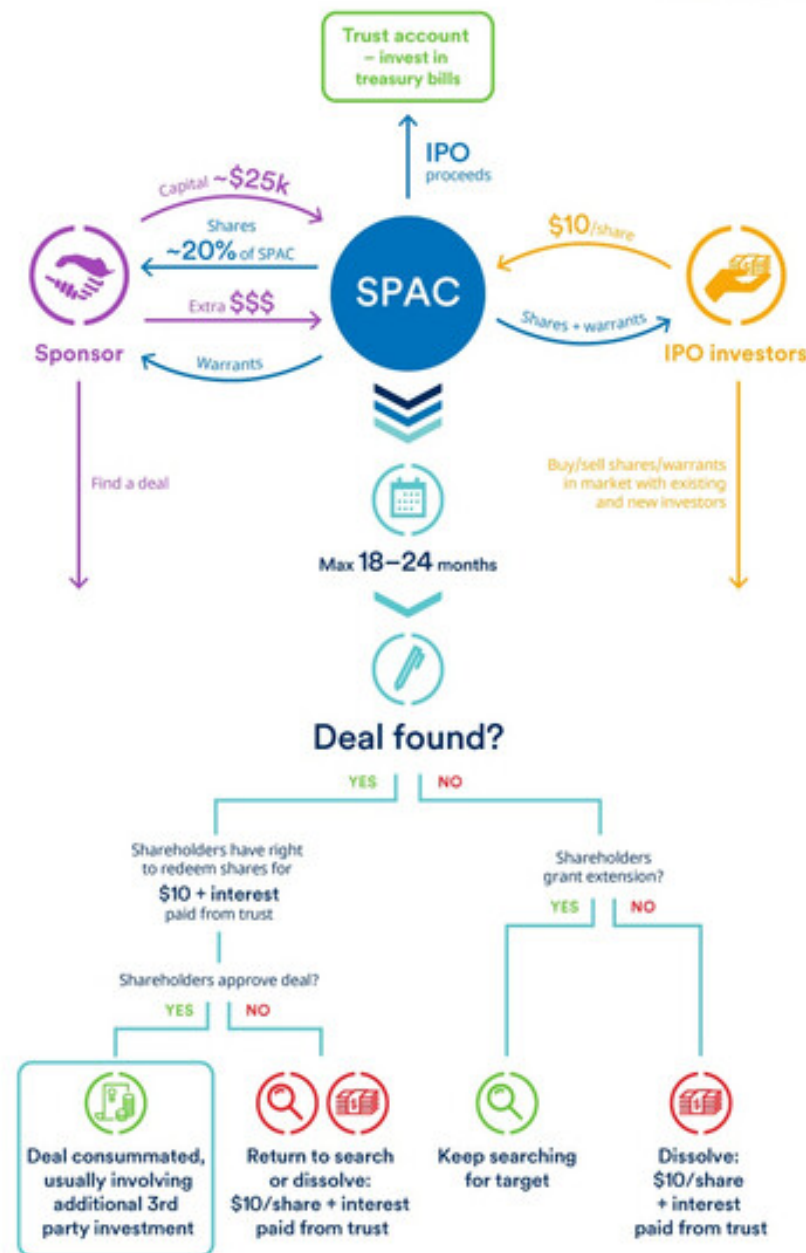


rough SPAC



SPAC structure

Warrant 权证: right to purchase shares at pre-specified price in the future



Source: Schroders. For illustrative purposes only.
 Note: Warrants give holders the right to buy a fraction of a share from the company at a specified price on a specified date in the future. They can be traded separately from the shares and will be worth more if the share price rises. 600852.



Benefit of SPAC

Acquired firm: no price uncertainty, less costly by avoiding roadshow, less stringent disclosure and regulation requirement, faster (6 months vs 12-24 months)

- e.g. a traditional IPO prospectus only shows historical financials to avoid any legal liability if forecasts are not met.
- Common for high growth companies

Investors: option to redeem their shares if not approved of the deal

Sponsors: in exchange for a relatively small cash investment, sponsors receive a 20% stake in



SPAC: low success rate

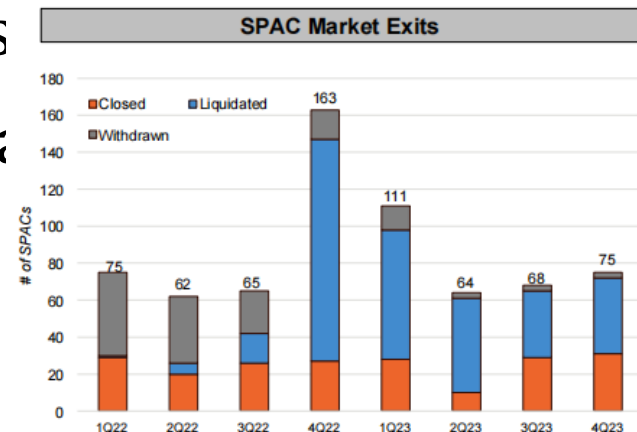
Of the 986 U.S. SPACs that have IPO'd since 2020,
362 have liquidated

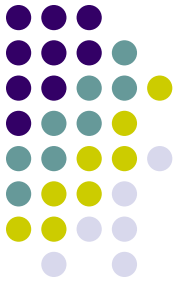
Including Digital World Acquisition Corp (SPAC
shell for Trump's Truth Social)

Limited disclosure add more uncertainty for
investors

Hard to get investors' consens

Certain investors' withdraw c
investors' withdraw





THE SEASONED EQUITY OFFERING

The Seasoned Equity Offering 供股/股权再融资



When a public company offers new shares for sale

Public firms use SEOs to raise additional equity

Main difference from IPO?

- Market price already exists, so the price-setting process is much easier

Purpose:

- Fund new projects
- Pay down debt



Different Types of SEOs

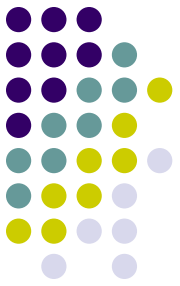
SEO by what is issued:

- **primary shares** – new shares issued
- **secondary shares** – shares sold by existing shareholders (non-dilutive)

SEO by issued to whom:

- Cash Offer: A type of SEO in which a firm offers the new shares to public investors
 - In the U.S., most offers are cash offers
- Rights Offer 定向增发/配股: A type of SEO in which a firm offers the new shares only to existing shareholders
 - Rights offers protect the existing shareholders from underpricing
 - Less dilutive
- Public offering & private placement

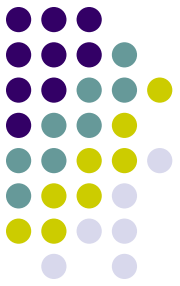
The Seasoned Equity Offering: Market Reaction



Market Reaction: 3.1% drop in stock price

Why?

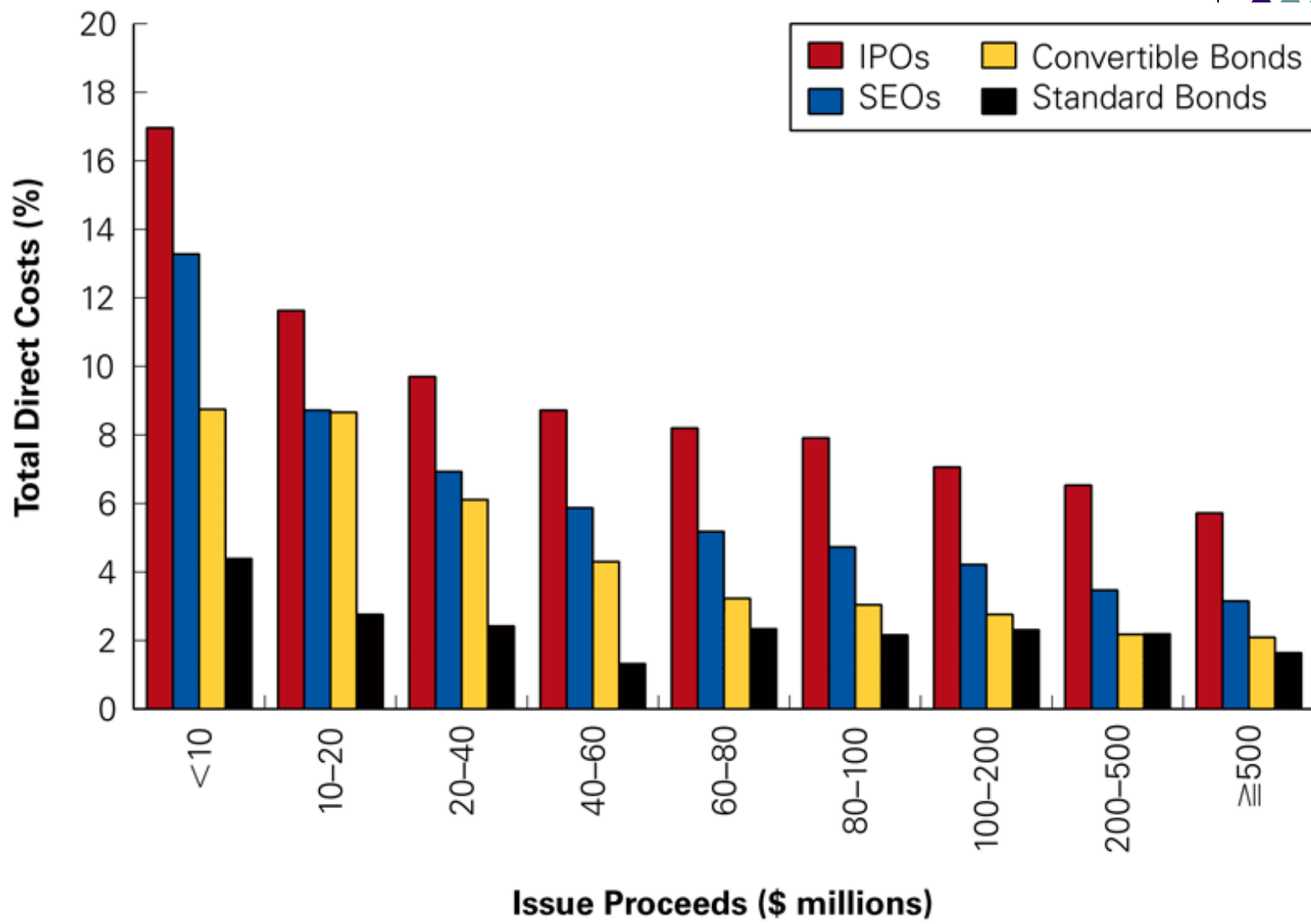
- Market timing: companies issue equity when shares are over-priced
- Might suggest lack of liquidity
- Increased supply lead to price drop
- Dilution on existing shareholders



The Seasoned Equity Offering

Issuance Costs

- Although not as costly as IPOs, seasoned offerings are still expensive
- Underwriting fees amount to 5% of the proceeds of the issue
 - Rights offers have lower costs than cash offers



Public to Private: Leveraged Buyout (LBO) 杠杆收购 (buyout: 买断)



A LBO is the acquisition of one company using a significant amount of borrowed money to meet the cost of acquisition.

The assets of the company being acquired are often used as collateral for the loans.

The acquirer (typically a PE) buyout all shares of a public company and make it private

Purpose: raise leverage, gain control, change management/operation/increase profitability

Profit by re-selling/re-IPO



Other LBO models

Split-up

- Purchasing a company then selling off its different units for an overall dismantling of the acquired company.

Portfolio

- Acquire a couple of companies and merge them together, profit through synergies.

Management buyout

- Purchase of a company by its management and employees.



LBO: Issues

“Barbarian 野蛮人 at the gate” KKR’s acquisition lead to failure of RJR Nabisco

A hostile takeover

High leverage, short-termism lead to the failure of the company

Profit-focused LBOs also can lead to negative social externalities

- LBO of hospitals, schools lead to v goods
- LBO lead to worse workplace safe

