

# Unlisted (Private) Equity Investing

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# Introduction

Summarizing the asset class of *unlisted equity* from the perspective of a institutional investor.

The lecture is based on the Døskeland and Strömberg (2018) report.

Report – commissioned by Norway's Ministry of Finance –  
Question: Should Norway's Government Pension Fund Global (GPFG – the “Oil Fund”) move into non-listed equity.

Topics covered:

- ▶ Overview of the private equity market.
- ▶ The investable market for private equity.
- ▶ The risk and return to private equity.
- ▶ Institutional investors strategies.

# What is the Private Equity market?

General definition: Unlisted equity – equity positions in companies not listed on exchanges.

But your average mom-and-pop store is not of interest, too small

Hence: Narrow definition

*private equity market*: Equity investments interesting for professional investors.

## Private capital market (not just equity)

- ▶ Private equity
- ▶ Private debt
- ▶ Real estate
- ▶ Infrastructure
- ▶ Natural resources

# Segments of the private capital market

**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			Agriculture/Farmland
Growth		Mezzanine	Private Equity Real Estate Fund of Funds	Infrastructure Fund of Funds
Turnaround	Special Situations	Timberland		
Other Private Equity	Venture Debt	Private Equity Real Estate Fund of Funds	Infrastructure Fund of Funds	Water
Private Equity Secondaries	Private Debt Fund of Funds			Private Equity Real Estate Secondaries

Source: Preqin (2016).

Source: Døskeland and Strömberg (2018).

## Segments within PE

- ▶ Venture capital
- ▶ Growth (beyond venture)
- ▶ Buyout (mature companies)
- ▶ Distress (mature, unprofitable – “refurbishing projects”)
- ▶ Balanced (mix of above)

## PE ownership model

- ▶ Large stake
- ▶ Limited horizon
- ▶ Active governance
- ▶ Exit by IPO

# PE ownership model ctd

PE companies do

- ▶ Governance engineering
  - ▶ high powered incentives
  - ▶ active board
  - ▶ procedural focus
- ▶ Financial engineering
  - ▶ complex financial contracts
  - ▶ high leverage
  - ▶ high powered incentives
- ▶ Operational engineering
  - ▶ expertise



## PE as a process - does it work?

Empirically, On average, PE works, provide improvements in performance.

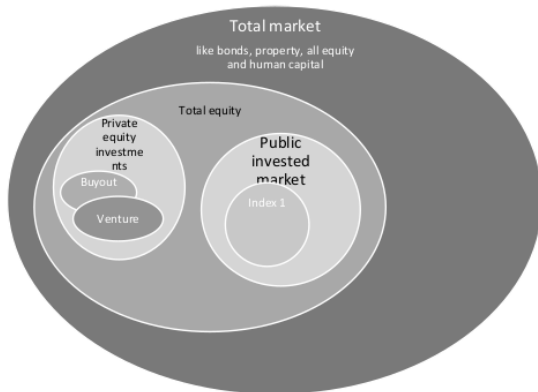
Need structures for channeling capital to PE investments

- ▶ Private Equity Firms
- ▶ Private Equity Funds

# The investable market for unlisted securities

Modern portfolio theory: Invest in the “total market portfolio”, all assets in the economy.

**Figure 3.1: The total market portfolio**



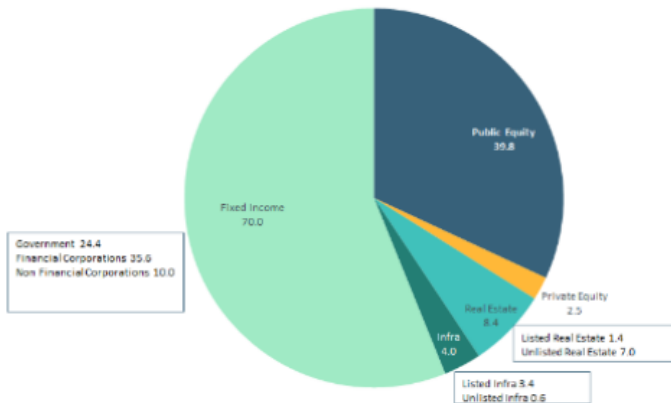
Source: Døskeland and Strömberg (2018).

# Asset classes accessible for institutional investors

- ▶ Public equity
- ▶ Fixed income
- ▶ Alternative assets
  - ▶ Private equity
  - ▶ Commodities
  - ▶ Infrastructure

# Investable global market portfolio

**Figure 3.3: Investable Global Market Portfolio according to MSCI**



By the end of June 2015, USD trillions. Source: Gupta et al (2016), chart 1.

Source: Døskeland and Strömberg (2018).

## Investable global market portfolio, ctd

Debt is the largest component of the worlds investment portfolio, followed by public equity.

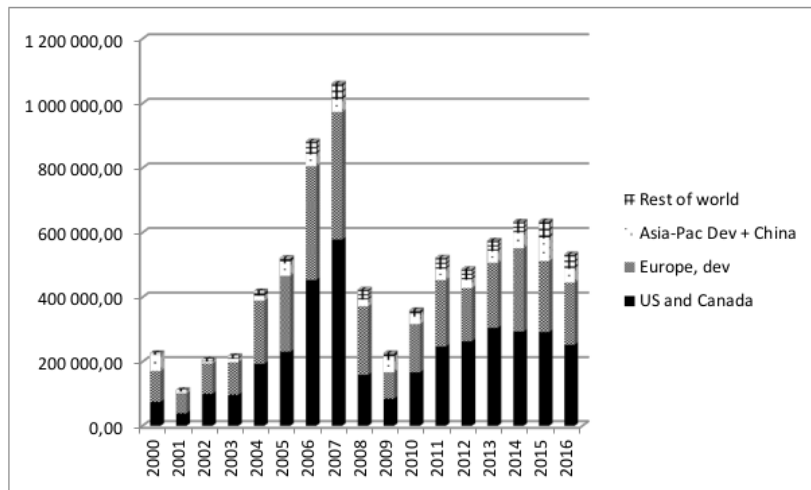
Private equity, by contrast, seems small

But that is only relative to this huge total.

In absolute (dollar) terms, private equity still huge

# Value of worldwide PE transactions

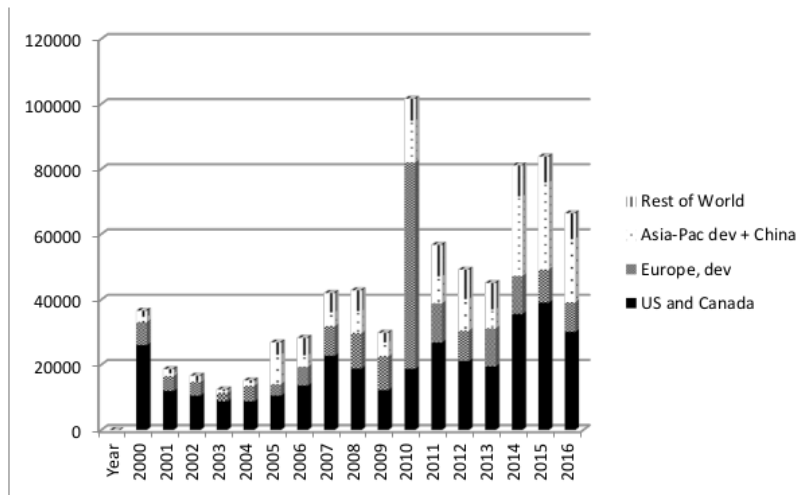
Panel A: Buyout Transactions (transaction values)



Source: Døskeland and Strömberg (2018).

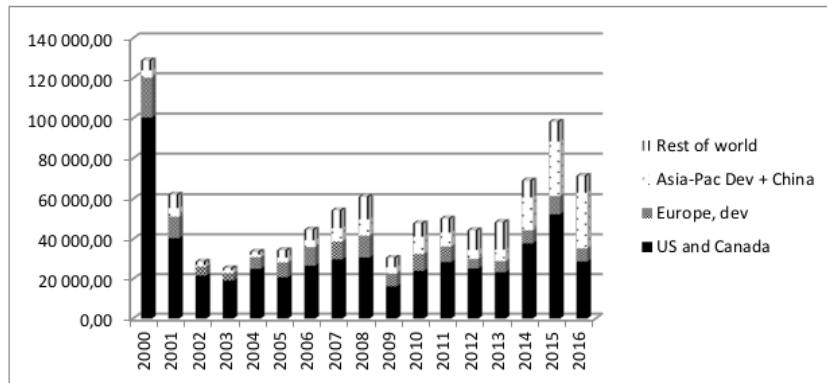
# Value of worldwide PE transactions

Panel B: Growth Equity Transactions and other PE Private Placements (transaction values)



# Value of worldwide PE transactions

Panel C: Venture Capital (transaction values)

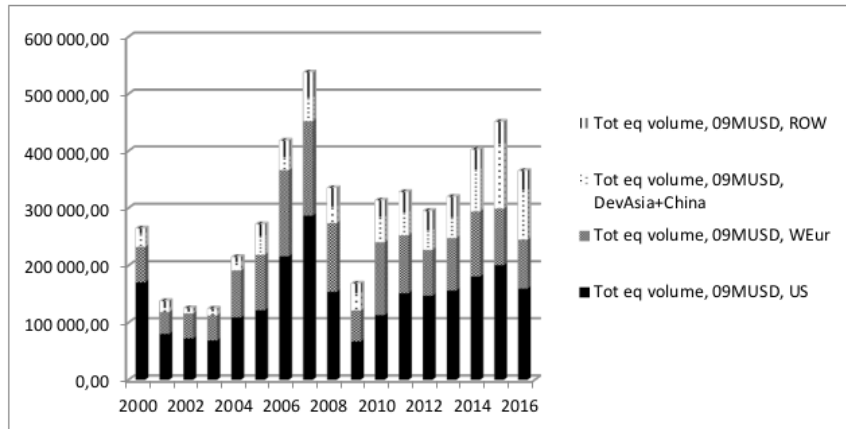


Source: Døskeland and Strömberg (2018).



# Value of worldwide PE transactions

Panel D: Total PE equity investments (assuming 65% leverage in buyouts, 0% in growth and VC)



Source: Døskeland and Strömberg (2018).

## The private equity fund segment

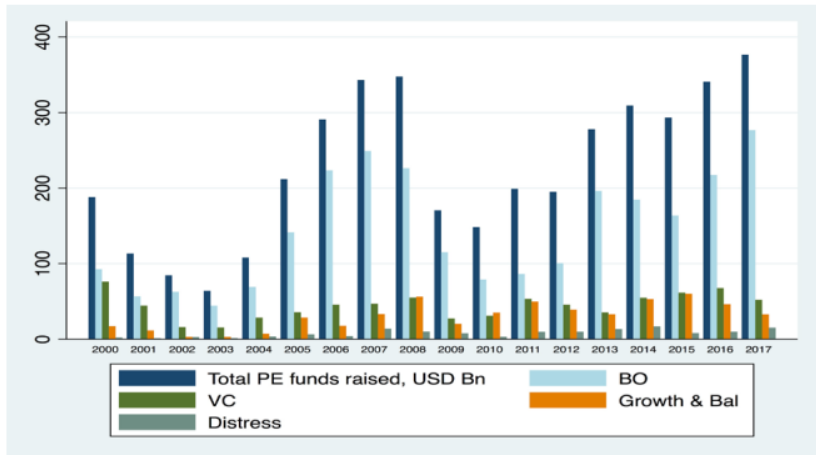
The size of the private capital fund market segment

Fund type	Dry powder (USD bn)	Unrealized value (USD bn)	Total (USD bn)	% of total
Private Equity (incl distress)	1077	2054	3131	64%
Real Estate	245	565	810	16%
Private Debt (excl distress)	126	208	335	7%
Infrastructure	149	268	417	8%
Natural Resources	71	158	229	5%
Total	1670	3265	4924	

Source: Døskeland and Strömberg (2018).

# Global fundraising in Private Transactions

Figure 3.5: Global fundraising 2000 – (nov) 2017, billions of USD.



Source: Preqin, authors' calculations.

Source: Døskeland and Strömberg (2018).

## Global fundraising in Private Transactions, ctd

Largest segment:

- ▶ buyout funds, which buys existing companies, often listed, with the purpose of reorganizing their operations.

Rest - investments in companies at an early stage

- ▶ venture capital (sequential structure, from start).
- ▶ growth (beyond VC)

## Estimating total PE assets under management

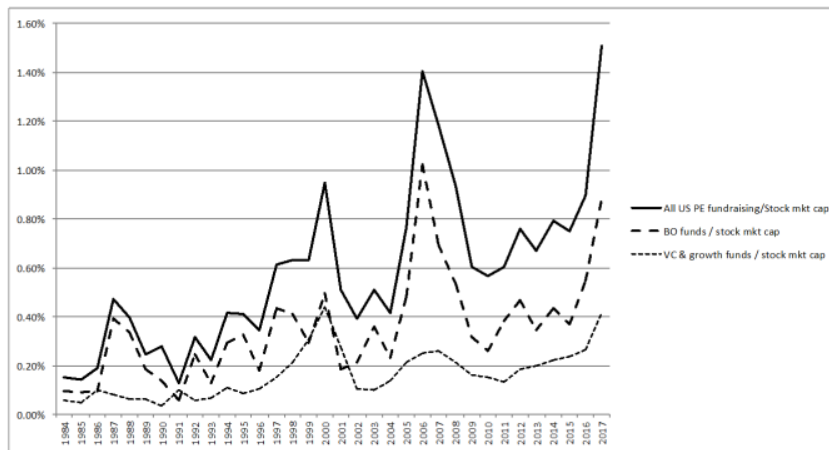
Hard: These assets are not traded.

Rough estimate: USD 1.5 trillion

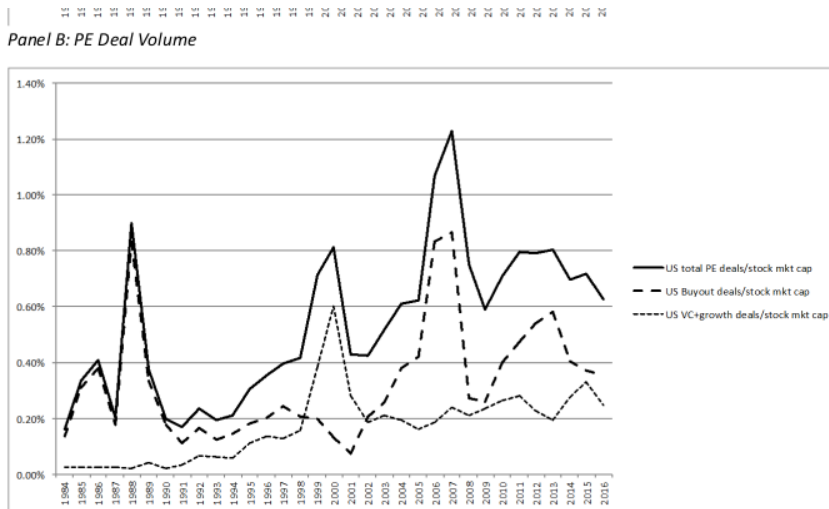
# PD activity relative to public stock market cap, Commitments to PE funds

**Figure 3.6: U.S. PE Activity Relative to Public Stock Market Capitalization**

*Panel A: Commitments to PE funds*



# PE activity relative to public stock market cap, Deal volume



Source: Døskeland and Strömberg (2018).

# Why increase in PE?

What is driving this trend?

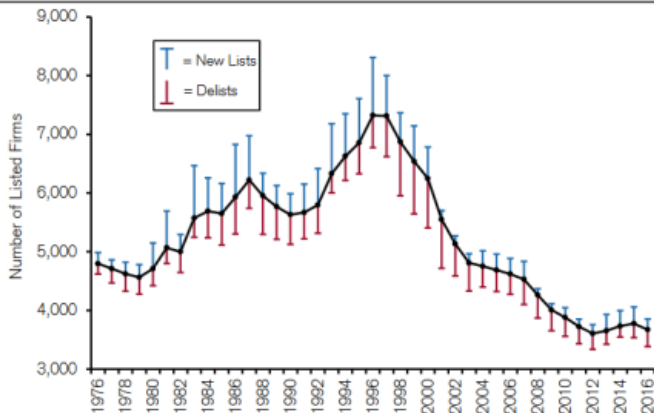
- ▶ Increase in demand by institutional investors.  
One demand source: Perceived high returns.
- ▶ Increase in supply  
Decrease in listings



# Additions and subtractions to US listed companies

**Figure 3.7: Additions and Subtractions to Listed Companies in the U.S.**

**Exhibit 2: Additions and Subtractions to Listed Companies, 1976-2016**



Source: Craig Doidge, G. Andrew Karolyi, René M. Stulz, "The U.S. Listing Gap," *Journal of Financial Economics*, Vol. 123, No. 3, March 2017, 464-487 and Credit Suisse estimates.

Source: Exhibit 2 in Mauboussin et al (2017)

# Worldwide number of listed firms.



Data Source: St Louis Fed

# Private Equity investment returns and risks

Big question: Are returns in the private equity segment different?

## **Why should PE returns differ?**

Equilibrium arguments

- ▶ Liquidity premium - positive
- ▶ Systemic characteristics, such as industry, size, growth opportunities, that leads to higher/lower returns
- ▶ Spanning – PE may provide characteristics not achievable otherwise, may be both positive and negative (insurance)

Additionally:

- ▶ Excess risk-adjusted returns (alpha) Do PE firms have skills that add value.

Skills may be compensated through PE fees (Berk and Green, 2004), but if the fees do not fully capture gains, PE owners may get excess returns.

Overall, though, less likely that PE on average earn alpha.

# Liquidity risk

PE not traded in public markets. Investors may demand a liquidity premium (lower price) for liquidity

Types of illiquidity:

- ▶ market liquidity
- ▶ funding liquidity – limited partners may need to provide capital

## **Different loadings on public equity risk factors**

- ▶ In principle these could be replicated by publicly traded assets.

## **PE-specific risk factors**

- ▶ Factors that can not be replicated from public assets.

# Issues in measuring PE performance

Evaluating performance in PE difficult.

- ▶ PE is less transparent.  
Hard to get a complete sample, necessary to calculate representative returns.
- ▶ PE is not traded – hard to get prices for calculating returns.  
Reports of NAV at infrequent intervals, hard to evaluate factor exposures.

No consensus in academic literature

# Issues in measuring PE performance

Dominant measures

- ▶ IRR
- ▶ Multiple of Invested capital

However, no risk adjustment in these measures.

Most common alternative method: Public Market Equivalent (PME)

Capital calls and distributions discounted using the returns from a public benchmark, such as the S&P 500.

PME greater than one, PE higher return than public benchmark.

## Estimates of PE PME

### Panel A: Average Buyout PMEs

	All S&P500	US S&P500	Europe MSCI Eur
Average	1.20	1.20	1.21
2000s	1.23	1.20	1.16
1990s	1.23	1.20	1.30
1980s	1.16	1.16	

### Panel B: Average Venture PMEs

	All S&P500	US S&P500	Europe MSCI Eur
Average	1.35	1.48	0.96
2000s	0.96	0.97	0.83
1990s	2.05	2.42	1.24
1980s	0.89	0.89	

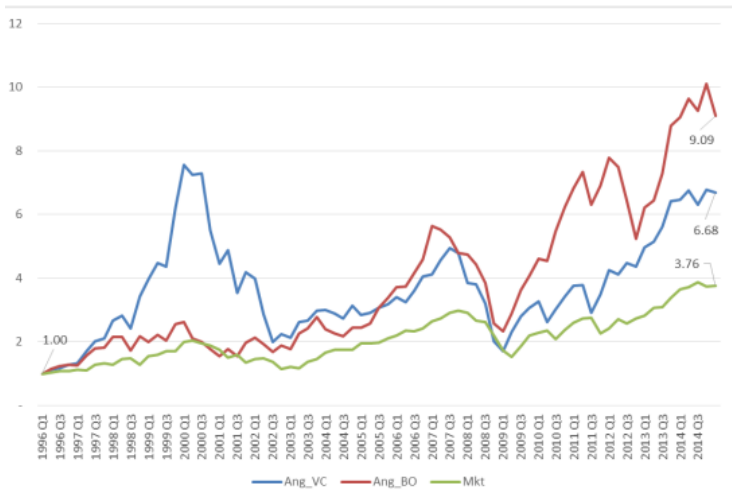
Source: Harris, Jenkinson, and Kaplan (2016)

Estimates of time variation in returns on PE, from Ang, Chan, Goetzman, and Phillipou (2013).



# Return evolution, PE vs market

Figure 4.4: Time series Ang et al.(2017)



Note: BO: Buyout, VC: Venture Capital

Source: Ang et al. (2013).

## PE returns. Averages 1996–2014

	Ang_BO	Ang_VC	Mkt
Mean (arithmetic)	16.22	15.98	6.34
Mean (geometric)	12.32	10.51	4.61
Standard Deviation (arithmetic)	26.80	31.45	18.22
Sharpe Ratio	0.51	0.43	0.22
Skewness	0.04	0.04	0.02
Autocorrelation	0.08	0.13	0.08

Note: BO: Buyout, VC: Venture Capital

Source: Ang et al. (2013).

## Bottom line

Empirically - Do PE add returns?

- ▶ Qualify – hard to estimate
- ▶ Estimates shown – mainly positive (see also Yale numbers)
- ▶ So – Qualified yes, there are return opportunities in PE.

# PE investment strategies

Three main rationales for adding PE to an institutional investor portfolio

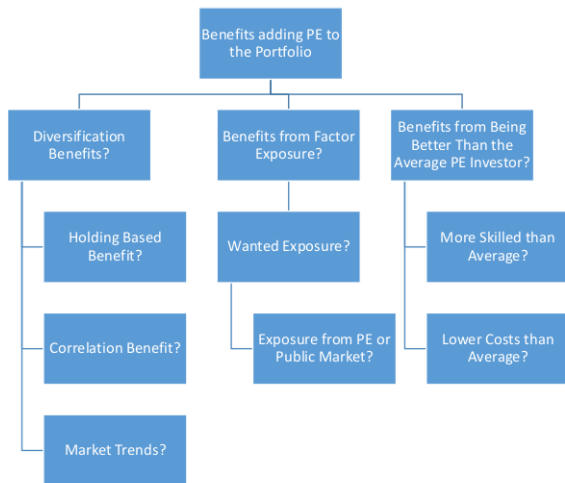
- ▶ Diversification
- ▶ Beta Exposure
- ▶ Alpha creation

Costs not present in public equity

- ▶ Liquidity and other risks
- ▶ Non-financial risks
- ▶ Organizational costs

# PE investment rationales for an institutional investor

Figure 5.1: PE investment rationales for an institutional investor



# Best Practice Models

## Best practice models

- ▶ Endowment model – example - Yale University
- ▶ Canadian model

# Best Practice Models

## Characterizing Yale's model

- ▶ A large allocation to PE as a whole, and a larger allocation to VC compared to other LPs
- ▶ Developing capabilities to screen outside fund managers
- ▶ focus on fund incentive alignment
- ▶ Development of skills in liquidity management
- ▶ Avoidance of market timing
- ▶ Flexible governance
- ▶ Small, but high-quality internal teams

# Best Practice Models

## **Characterizing the Canadian model**

- ▶ A large allocation to PE as a whole
- ▶ A large allocation to direct investments.
- ▶ Large investment in in-house teams
- ▶ Development of considerable quantitative skills in evaluating and managing alternative and illiquid assets
- ▶ Avoidance of market timing
- ▶ A flexible fund governance, insulated from short-term political changes
- ▶ Hiring of experienced talent from the private sector.



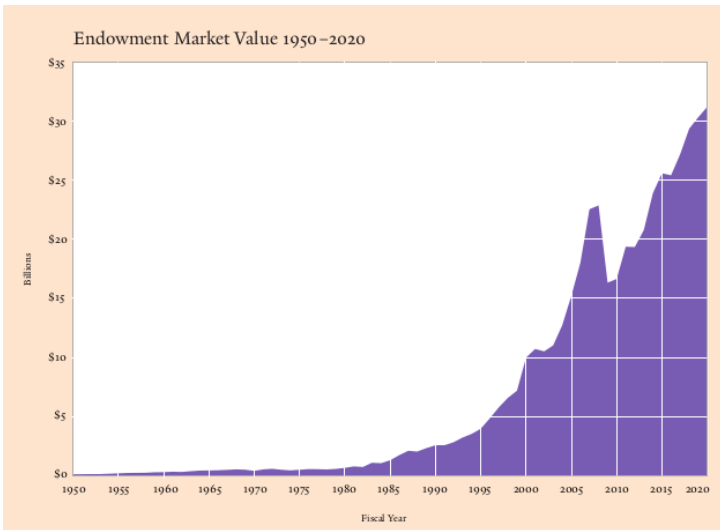
## Non-financial risks

- ▶ Performance measurement risk
- ▶ Political risk
- ▶ Conflicts of interest
- ▶ ESG and headline risks
- ▶ Organizational and compensation risks

# The Yale Endowment Investment Strategy

The Endowment of Yale University is an example of an institutional investor who is willing to move outside of listed equity and fixed income as major parts of their asset mix.

# The evolution of the value of the Yale Endowment Fund. 1950-2020



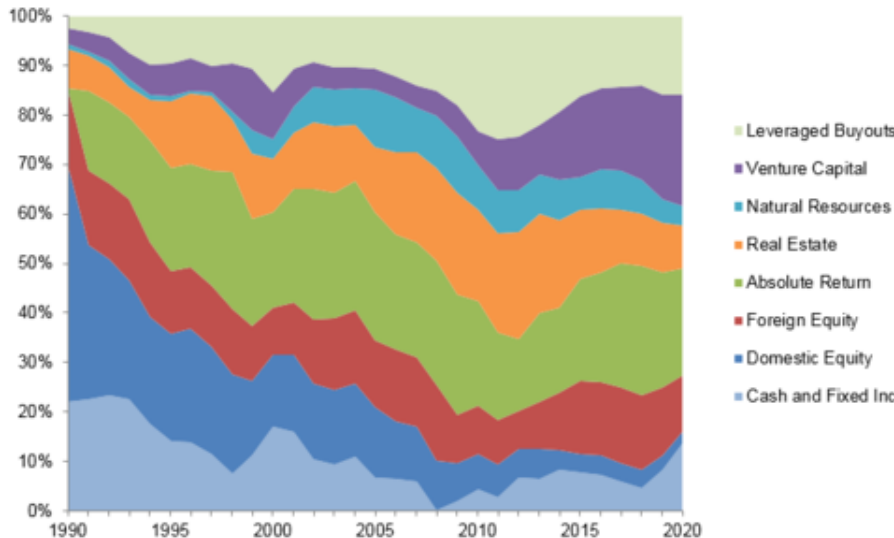
Source: [investments.yale.edu](https://investments.yale.edu)

## The Yale Endowment Fund. Asset class mix. 2020

Asset class	Allocation
Absolute Return	21.6%
Domestic Equity	2.3%
Foreign Equity	11.4%
Leveraged Buyouts	15.8%
Natural Resources	3.9%
Real Estate	8.6%
Venture Capital	22.6%
Cash & Fixed Income	13.7%

Source: [investments.yale.edu](https://investments.yale.edu)

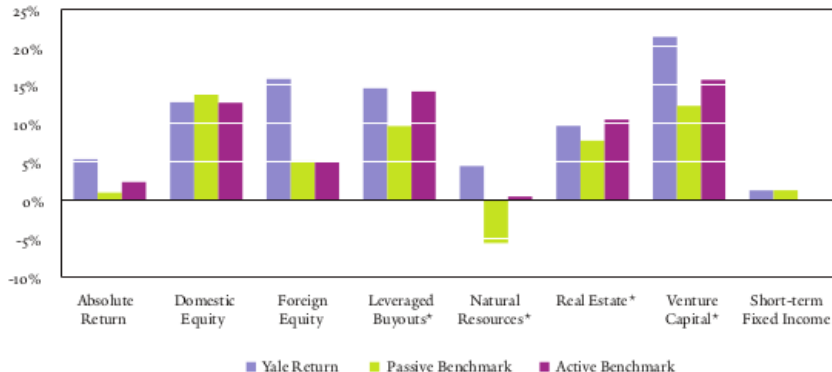
## Asset mix of the Yale endowment, 2010–2020



Source: [investments.yale.edu](https://investments.yale.edu)

# Returns to asset classes, Yale Endowment Fund vs Comparables. 2010–2020

Most Yale Asset Class Results Beat Benchmarks  
July 1, 2010 to June 30, 2020



## Update – What is happening in 2023?

The tech “crash” of 2021-2022 has given the venture capital industry a negative shock, as much of their portfolio is in tech.



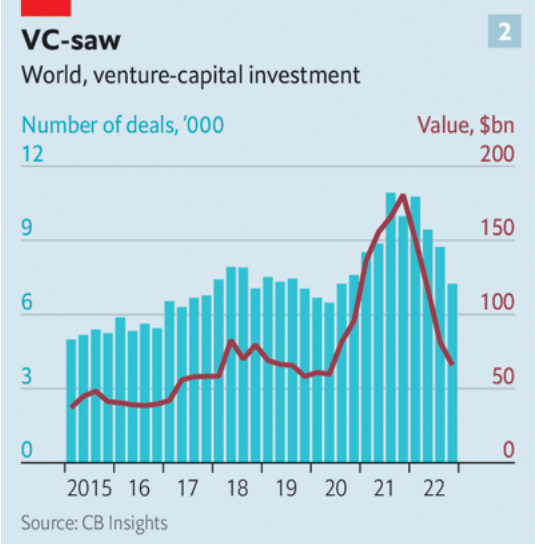
The Economist

Source: “How the titans of tech investing are staying warm over the VC winter”, *The Economist* feb 2023.

# Update – What is happening in 2023?

The consequences are substantial, both in terms of a lack of new capital

## Venture – new investments

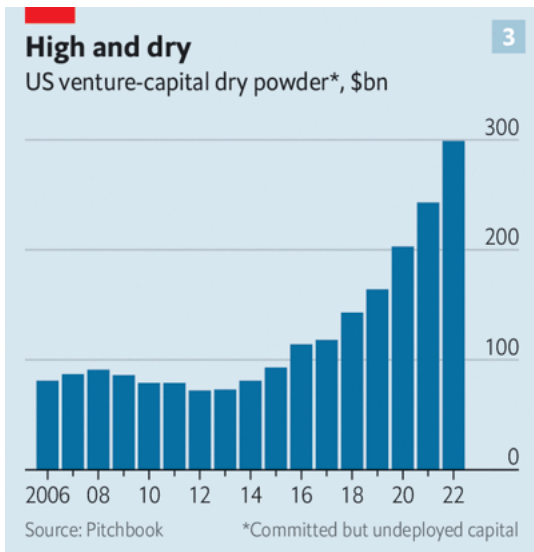




# Update – What is happening in 2023?

## Venture – dry powder

Reluctance in using already committed capital



## Summarizing Private Equity

*Private equity market:* Equity investments in unlisted stocks of interest (i.e. large enough) for professional investors.

Important categories

- ▶ Venture
- ▶ Growth/Buyout
- ▶ Distress

PE Firms – Business model

- ▶ Governance engineering
- ▶ Financial engineering
- ▶ Operational engineering

Empirically – on average – PE firms work – provide improvements in corporate performance.

Investable market – identifying

Empirically - Do PE add returns?

- ▶ Qualification – hard to estimate
- ▶ Qualified yes, there are return opportunities in PE.

- Andrew Ang, Bingxu Chan, William N Goetzman, and Ludovic Phillipou. Estimating private equity returns from limited partner cash flows. Working Paper, Columbia University, 2013.
- Jonathan B Berk and Richard C Green. Mutual fund flows and performance in rational markets. *Journal of Political Economy*, 112(6):1269–1295, 2004.
- Trond M Døskeland and Per Strömberg. Evaluating investments in unlisted equity for the Norwegian Government Pension Fund Global (GPFGB). Technical report, Report to Norwegian Ministry of Finance, 2018.
- Robert Harris, Tim Jenkinson, and Steven Kaplan. How do private equity investment perform compared to public equity? *Journal of Investment Management*, 2016.