Will Private Markets Kill Them All?

Ludovic Phalippou

About Me

Saïd Business School, University of Oxford
  Professor of Financial Economics
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Twenty years of research on PE
One of the most cited financial economists in the world
            In the press (e.g. 50x in the Financial Times www.ft.com)
            In academia (3,000x, Google Scholar)
Research (freely) available on www.ssrn.com
            100,000x paper downloads
Website with information about PE: www.pelaidbare.com
My book on PE, available on www.amazon.fr – 3rd edition – hardcover available

Podcast series – available on your favourite platform: private equity laid bare

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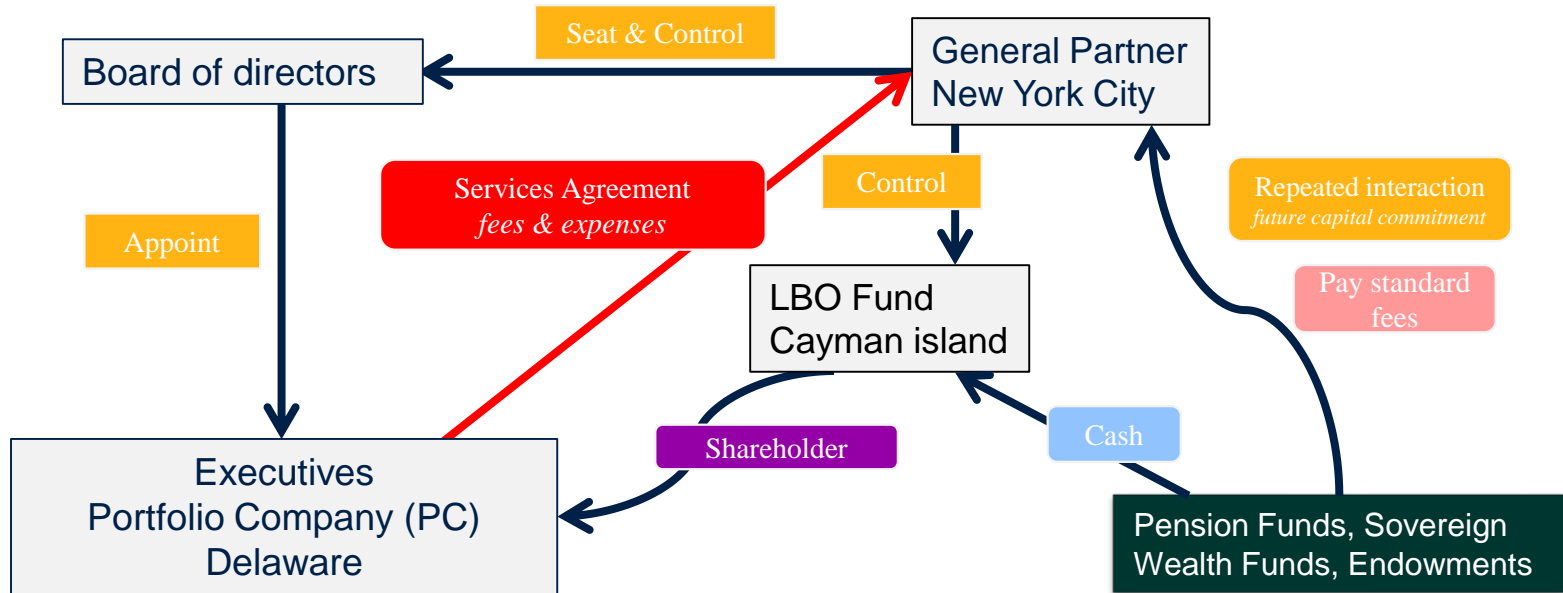
Private Markets Funds

Now at $10 trillion

Assets Under Management By Date

Source: Preqin
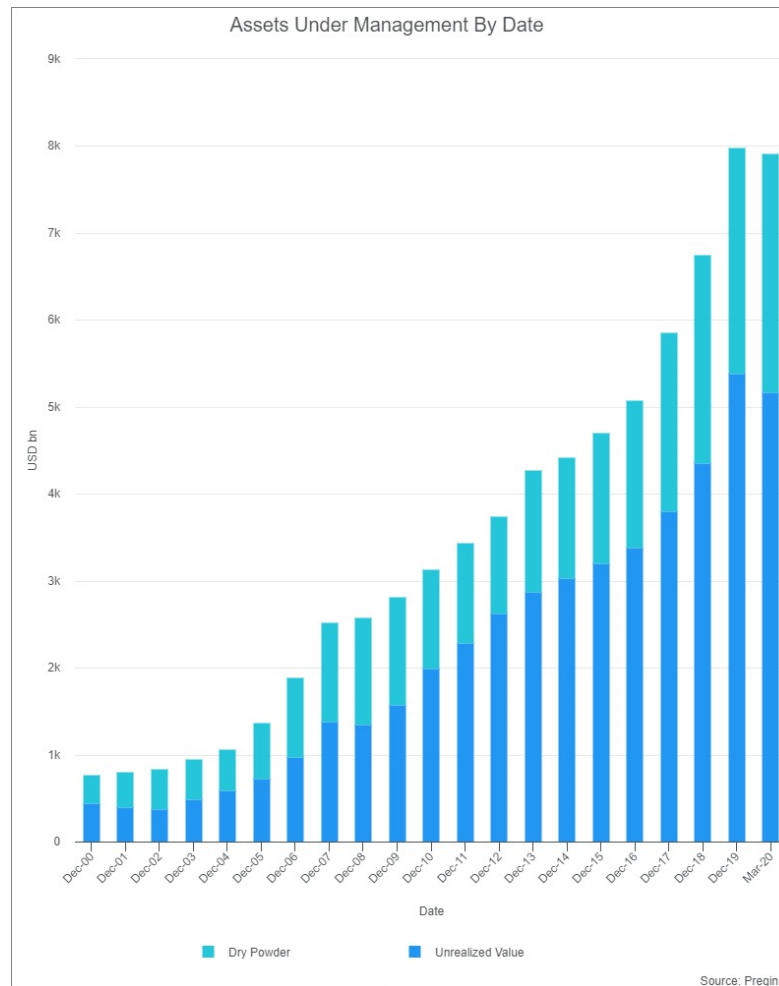
TYPES	DRY	UNR.	AUM
TOTAL	2746	5169	7915
Buyout	852	1273	2125
Growth	257	520	777
Venture (General)	170	550	720
Fund of Funds	138	278	416
Real Estate Opp	129	232	362
Real Estate Value Add	100	173	274
Secondaries	99	148	246
Early Stage	71	156	226
Distressed Debt	74	134	208
Direct Lending - Senior	67	131	198
Balanced	62	131	192
Real Estate Debt	61	129	190
Infrastructure Core Plus	59	123	182
Infrastructure Value Add	64	107	171
Natural Resources	50	117	167
Mezzanine	60	102	162
Infrastructure Core	63	90	153
Special Situations	48	90	138
Expansion / Late Stage	31	91	123
Real Estate Core	34	77	111
Infrastructure Debt	32	51	83

Compare?

- Euronext -- $5T

- LSE -- $3.7T

- Deutsche Borse – $2T

The PE setup

Board of directors

Seat & Control

General Partner
New York City

Services Agreement
fees & expenses

Control

Repeated interaction
future capital commitment

Pay standard
fees

Appoint

LBO Fund
Cayman island

Executives
Portfolio Company (PC)
Delaware

Shareholder

Cash

Pension Funds, Sovereign
Wealth Funds, Endowments

Key features:
. Company truly run for profit
. Significant Management equity

Big Questions

- Worries when person in control is not the owner

- Pros and cons for management vs publicly listed

- Why do we worry so much about stakeholders here?

- If serious about impact investing. It is here or nowhere.

- How much LPs (and everyone else) pay for this financial intermediation?

- How to measure returns and volatility when assets are not traded?

For this and much more

Can follow me on LinkedIn and Twitter

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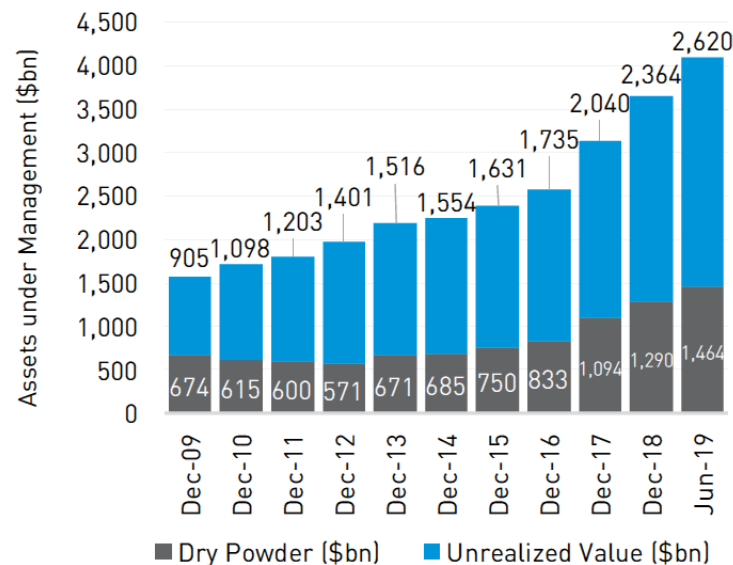**Private Equity Laid Bare**

Ludovic Phalippou

Using Big Data to create the Closest Public Market Equivalent to Private Equity Fund Returns

Ludovic Phalippou

Private Markets Funds At a glance

- Net Asset Value of $5.4 trillion reached at the end of year 2019! Plus committed but uncalled capital (dry powder) of $2.6 trillion -- AUM passing $8 trillion!!!

- Most prominent segment: Leveraged Buy-Out (LBO)
  - NAV of $1.4 trillion, plus dry powder of $800bn --> AUM of $2+ trillion

- LBO funds represent (in aggregate) about 10% of the assets of Defined Benefits Pension Funds (similar for Sovereign Wealth Funds), and a higher fraction for Endowments and Foundations.

Fig. 18: Private Equity: Assets under Management, 2009 - 2019

Assets under Management ($bn)

Date	Dry Powder ($bn)	Unrealized Value total ($bn)
Dec-09	674	905
Dec-10	615	1,098
Dec-11	600	1,203
Dec-12	571	1,401
Dec-13	671	1,516
Dec-14	685	1,554
Dec-15	750	1,631
Dec-16	833	1,735
Dec-17	1,094	2,040
Dec-18	1,290	2,364
Jun-19	1,464	2,620

Dry Powder ($bn)   Unrealized Value ($bn)

Hedging LBO Fund Returns

- Need for institutional investors to have a readily accessible and accurate hedging solution
  - To quickly alter exposure
  - To reduce risk associated with over-commitment strategies
  - To correct deviations from Strategic Asset Allocations
  - Etc.

- Hedging portfolio may also represent a simpler (cheaper, more transparent exposure to PE fund returns)

Solutions for HNW people

- PE is widely predicted to deliver highest returns over next 5-10 years
- But HNW clients do not like:
  - The high fees
  - Lack of transparency
  - The illiquidity
  - Short decision window
  - Minimum ticket
- No minimum ticks means expanding client base for PE products
- But if they do not like PE, they can make a tactical bet on the short side!

Existing solutions

- Select a group of stocks that are deemed to belong to the Private Equity industry and create a Listed PE index
  - Different providers have different definitions of PE industry
    - Some include Real Estate, some not, some consider any listed conglomerate to be part of the PE industry, some not, some include BDCs, some not etc.
  - Usually highly concentrated in five names; rest is made up of highly illiquid stocks
  - Costly (to monitor the industry, track IPOs, de-listings etc.), ad-hoc weights and definitions,
- Factor analysis
  - LBO funds seem to target low-vol, small/mid cap, value stocks; hence a multi-factor portfolio can be assembled to mimic PE.
  - Issue is that exposures to some factors are not stable. E.g. recently, PE funds target more growth companies. Also, factor returns are highly volatile.
- Industry analysis
  - Track the fraction of investments made in different industries by PE funds and create a portfolio that weights different industry ETFs accordingly
  - Issue is that industry definitions are quite arbitrary/rough, and not clear that industry is the key driver of PE fund returns

Big Data and Natural Language Processor as an alternative solution

- Construct a portfolio that uses easy-to-trade assets (stocks) to dynamically hedge against private equity risk, i.e. mimic private equity fund returns as closely as possible
- Cannot use pure statistical approach due to risk of overfitting
- We start from the following observations
    - Revenue of organizations working in the PE industry strongly depends on a single metric: Aggregate PE fund returns
        - E.g. Cambridge Associates (Quarterly) PE Benchmark
        - If PE returns are high, consultants, lawyers, placement agents, investment banks … who have a large PE division will benefit (and vice versa).
    - When a company works in the PE space, information about these activities will likely lead to newspaper coverage of these activities
- Our approach consists of extracting PE exposure of companies from textual analysis of news sources. The more a company is mentioned in the news is conjunction with words such as LBO and PE, the more it is deemed to be ultimately exposed to aggregate PE fund returns

Benefits of this approach

- Cost effective

- Dynamic
  - Quickly captures new entrants, exits, or organizations ramping up PE business (e.g. Blackrock)

- Precise
  - Alternative would be a thorough analysis of thousands of company accounting info

- Flexible
  - Can add words (e.g. venture capital), or languages (e.g. Chinese) to capture a different universe

- Liquid
  - Weights are strongly constrained (and dynamically adjusted) by trading volumes
  - Can sell short PE fund returns
  - Reasonable volatility (diversified across organization types), but adjustable with derivative securities

- Ravenpack digitalizes news articles
- Number of unique articles has increased from 520,419 in 2004 (start of digitalization) to 2,214,891 in 2019, covering 43,000 unique companies in the world.
- News articles transformed into structured data that can be searched for specific tags
- We use the following unambiguous tags (plural and singular): Leveraged buy-out, Leveraged buyout, Private Equity, Private Market
- Fraction of news item for each company that mentions key words
- Three years moving average (equally weighted)
- Weight of company *i* in month *T*, $Pos_{i,T}$, is the solution to the following constrained optimization problem

$$Min \left(Pos_{i,T} - \frac{PEES_{i,T}}{\sum_{s=1}^{Np} PEES_{s,T}} \right)^2$$

Subject to   (1) $Cap_{i,T} > Pos_{i,T} > 0$

(2) $|Pos_{i,T} - Pos_{i,T-1}| < Tcap_{i,T}$

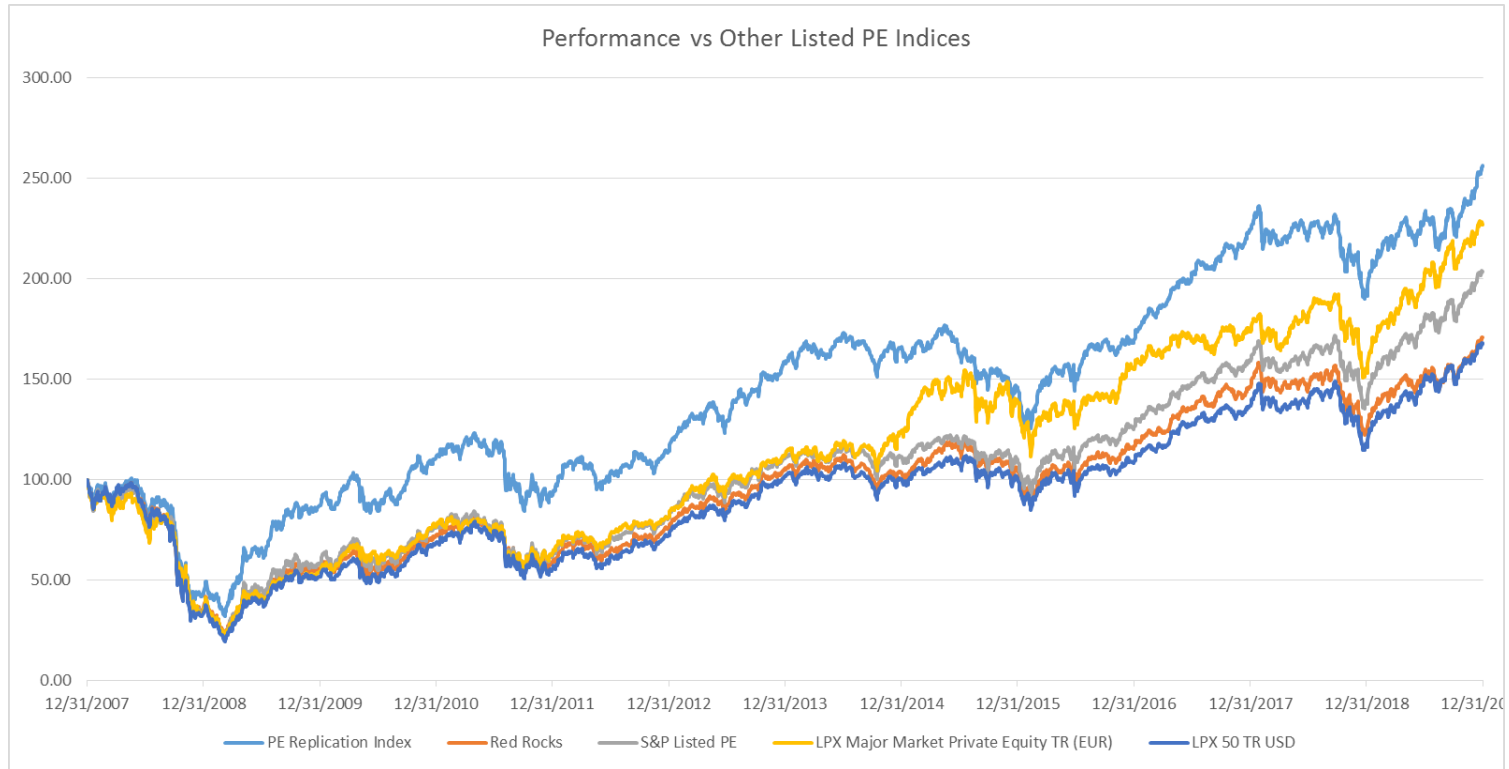|	Company Name	Weight	Main Stock Exchange	Type	Number of PE indices this stock Is included in
1	HARBOURVEST GLOBAL	3.4%	USA	Fund of funds	2
2	3I GROUP	3.4%	UK	Fund sponsor	3
3	EURAZEO	3.2%	France	Fund sponsor	3
4	KKR	3.0%	USA	Fund sponsor	3
5	PANTHEON INTERNATIONAL	3.0%	UK	Fund of funds	2
6	CARLYLE GROUP	2.8%	USA	Fund sponsor	3
7	PARTNERS GROUP	2.8%	Switzerland	Fund sponsor	3
11	BLACKSTONE	2.2%	USA	Fund sponsor	3
13	SANNE GROUP	2.2%	UK	Serv. provider	0
15	HAMILTON LANE	2.0%	USA	Fund of funds	2
16	HOULIHAN LOKEY	2.0%	USA	Serv. provider	0
21	PJT PARTNERS	1.8%	USA	Serv. provider	0

Examples of companies not included in other indices

Houlihan Loukey is a placement agent, advisor in PE restructuring and a sell-side advisor for mid-cap companies. Contributed to the organization and raising of 221 PE funds aggregating more than $334bn, plus offers a wide range of investor relations activities.

Sanne conducted IPO in 2015. Specializes in PE fund administration (fund establishment, regulatory applications, transaction management, financial reporting, consulting on fee arrangements and verification).

Performance

Performance vs Other Listed PE Indices

Legend: PE Replication Index — Red Rocks — S&P Listed PE — LPX Major Market Private Equity TR (EUR) — LPX 50 TR USD

Return characteristics

	Our PE Index	S&P Listed PE	MSCI World	S&P 500	CA Global PE
Arithmetic Average	12.6%	11.8%	7.7%	10.6%	10.4%
Volatility	20.8%	24.2%	16.5%	19.3%	9.8%
Geometric Average	8.2%	6.1%	6.1%	9.1%	9.9%
Sharpe Ratio	0.61	0.49	0.47	0.55	n.m.

The correlation of quarterly returns is 77% with CA index, but it is lower than the true correlation due to the artificial smoothness of the CA index. If we measure correlation at annual frequency for example, it is close to 90%. Similarly if we apply a non-linear fee, or use derivatives, correlation goes up

For more on PE
www.pelaidbare.com

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