Performance Persistence in Private Equity

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A standard “warning label”

“Past performance is no guarantee of future results”

Performance Persistence in Private Equity

- Are some GPs consistently good performers?
- Is past performance of a GP's fund a good indicator of the performance of the next fund?
- And can LPs profit from persistence given the information they have when investing in a new fund?

Conventional wisdom- based on research(sometimes flawed due to low quality data)up to about 2010

- PE fund performance varies hugely
- Average PE net returns are not very impressive
- So investors need to be in top performing funds
- Performance tends to be persistent
- So getting into (previously) top quartile funds is key

Outline for Today

- Performance Measures in Private Equity (quick recap)
- Dispersion of Performance in PE
- Measuring Performance Persistence- What do we know from research now?
  - Data
  - Prior fund performance at fund's end
  - Prior fund performance at time GP is raising next fund
- Performance Persistence in Buyout
- Performance Persistence in Venture Capital
- Summary and Takeaways

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Measuring Private Asset Performance

- **Returns –** Various methods, but most common are:
  - Multiples (MOIC & TVPI)
  - Internal Rate of Return (IRR)
  - Public Market Equivalent (PME)- market adjusted multiple
  - Direct Alphas (DA) –market adjusted excess return

Source: adapted from
Greg Brown, “Performance Analysis and Attribution with Alternative Investments” This is available as part of the IPC classroom series

Public Market Equivalent (PME)

- Like the multiple, the PME measures the ratio of cash inflows to cash outflows, however the cash flows are future values calculated using realized rates of return for a public market benchmark.

- A PME>1 (<1) means the investment returned more (less) than the public benchmark.

$$PME = \frac{\sum_{t=0}^{T} CF_t^{inflow}(1 + R_t^M)}{\sum_{t=0}^{T} CF_t^{outflow}(1 + R_t^M)}$$

where R_t^M is the total return on the public market benchmark between t and T.

Pros	Cons
• Allows for explicit comparison to a public market benchmark • Provides a precise estimate of the total outperformance, e.g., a PME=1.25 means the investment provided a total return that was 25% higher than the public market benchmark	• Need to pick an appropriate public market benchmark • Does not adjust for investment time horizon, e.g., a PME of 1.25 for a 5-year investment is much better than for a 10-year investment

Source: Greg Brown, "Performance Analysis and Attribution with Alternative Investments" Note this is available as part of the IPC classroom series

Dispersion of Fund Performance

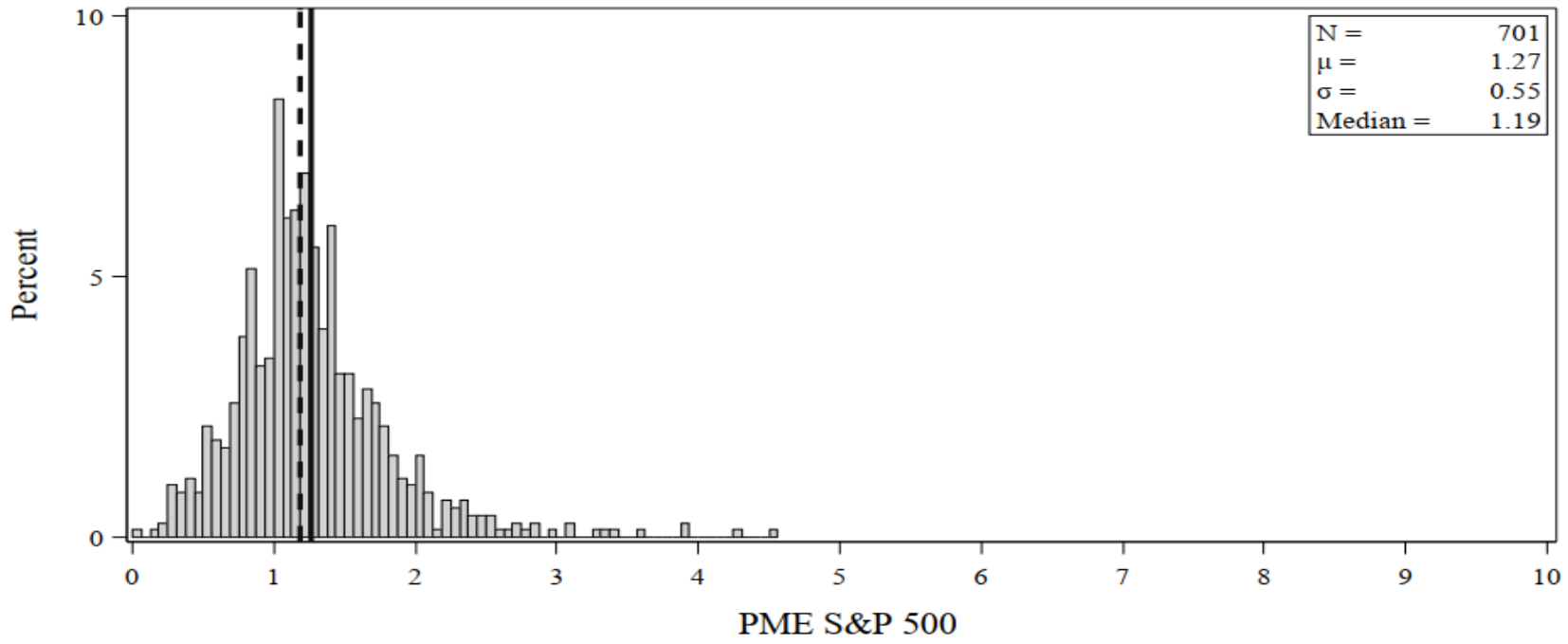
from Harris, Jenkinson, Kaplan and Stucke , Journal of Financial Economics, 2018.

Figure 2: Histogram of Direct Fund PMEs

This figure plots the histogram of the Public Market Equivalents (PMEs) relative to the S&P 500 for the direct funds in our sample. The sample covers the period 1987 to 2007. Panel A reports the PMEs for buyout funds. Panel B reports the for venture capital funds. The solid (dashed) vertical line in each panel denotes the sample mean (median).

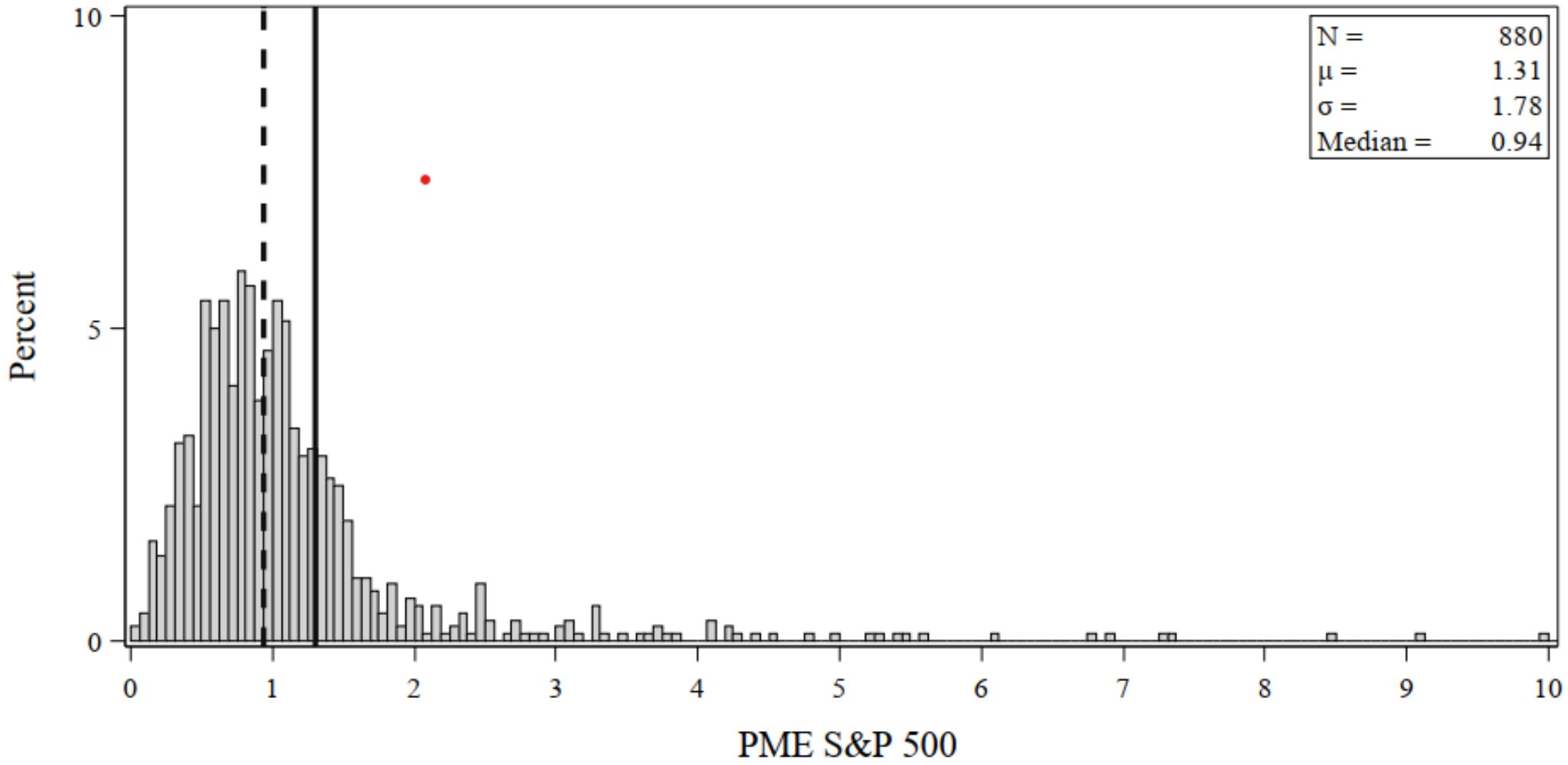
Mean 1.27, Median 1.19

Panel A: Buyout Fund PME



Mean 1.31, Median .94

Panel B: VC Fund PME



Dispersion of Performance

- There is a wide dispersion of performance among private equity funds, much more so than for public equity funds.
- The dispersion is especially large in venture capital where the median return is typically well below the mean which is driven by outsized performance of top funds

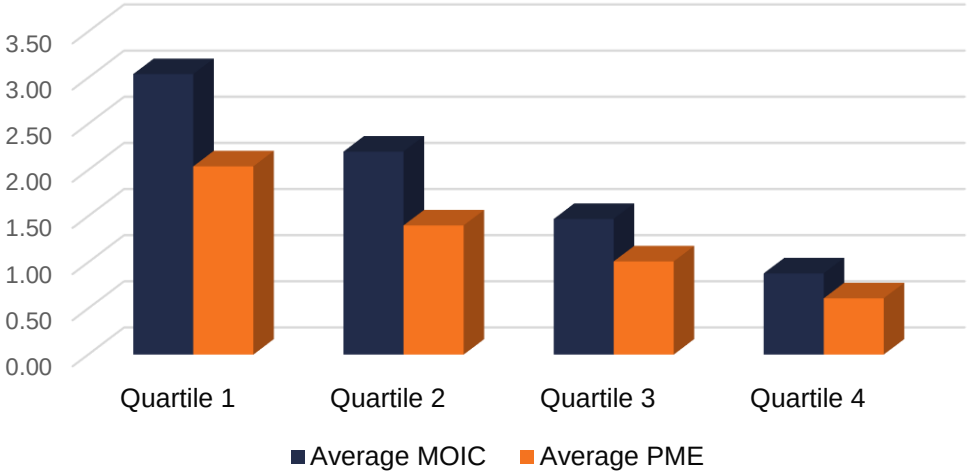
DATA (See Harris, Jenkinson, Kaplan And Stucke, Journal Of Corporate Finance 2023 For Details on data and the results that follow)

- Data: Cash Flow data through year end 2020, from Burgiss/MSCI for 2337 funds covering vintage years 1984-2015
- Since we are interested in fund persistence we need a prior fund
- 507 buyout and 756 VC funds have prior funds in the sample
- There is not always a complete sequence of funds
- Also look at second previous fund
- We also look at the performance of first-time funds, and funds where we do not have their prior fund performance

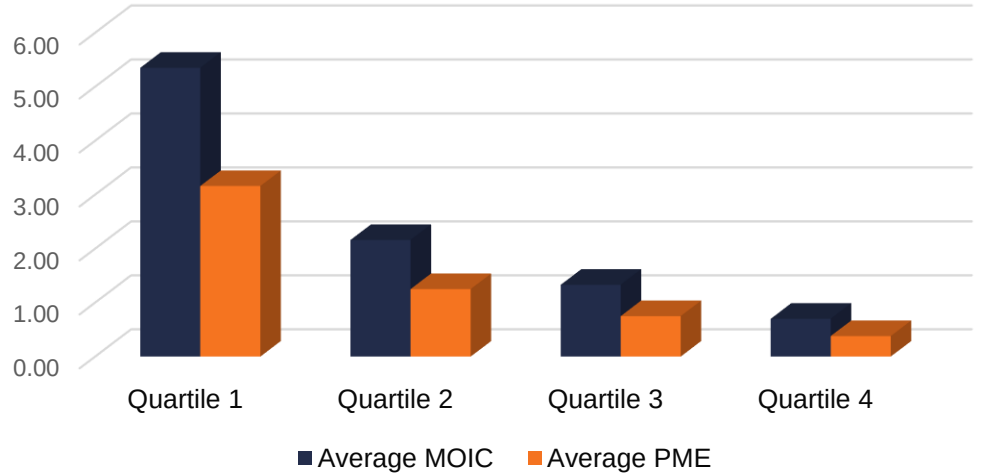
Big Potential Benefits
Performance by Quartile, Vintage Years 1984-2015, data through 2020

Pre - 2001 Funds

Panel A: Buyout Funds

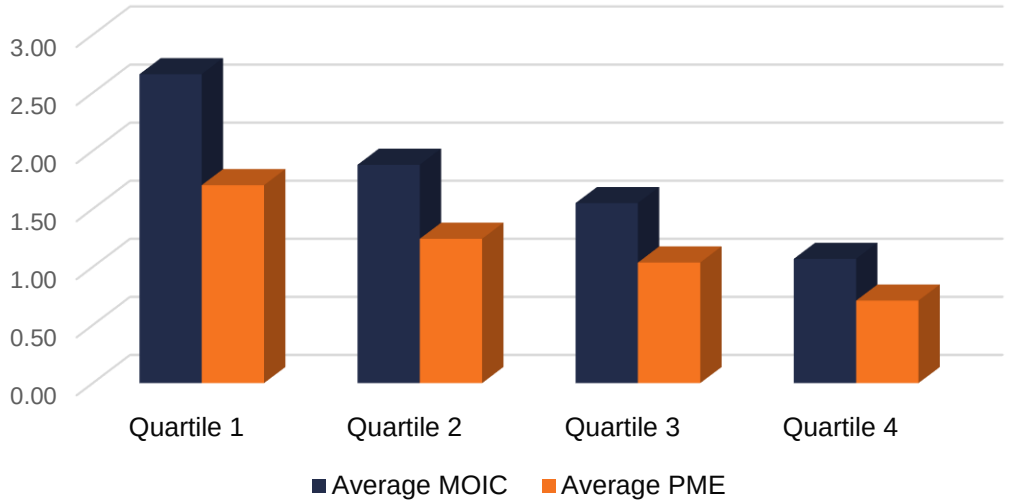


Panel B: Venture Capital Funds

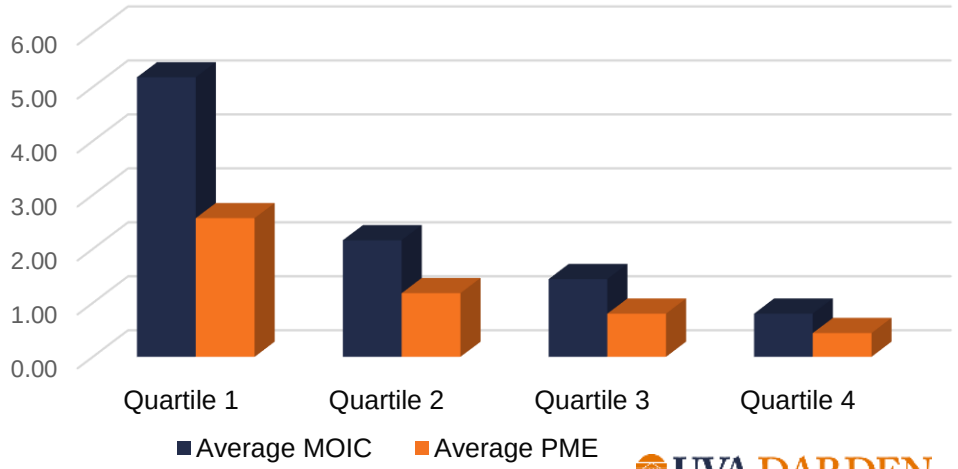


Post - 2000 Funds

Panel A: Buyout Funds



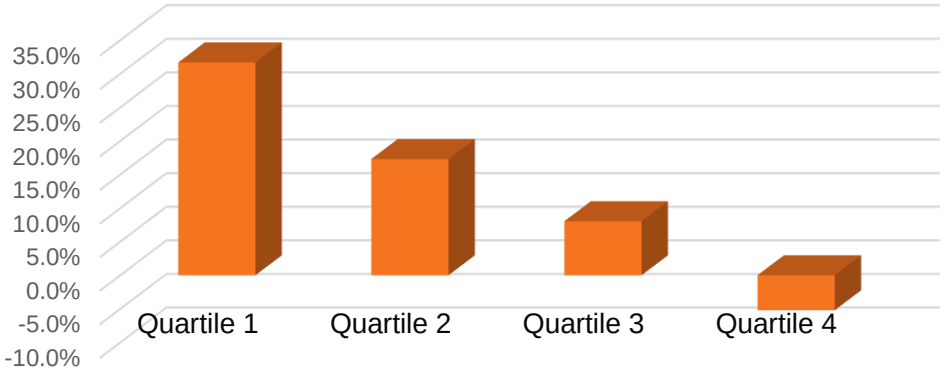
Panel B: Venture Capital Funds



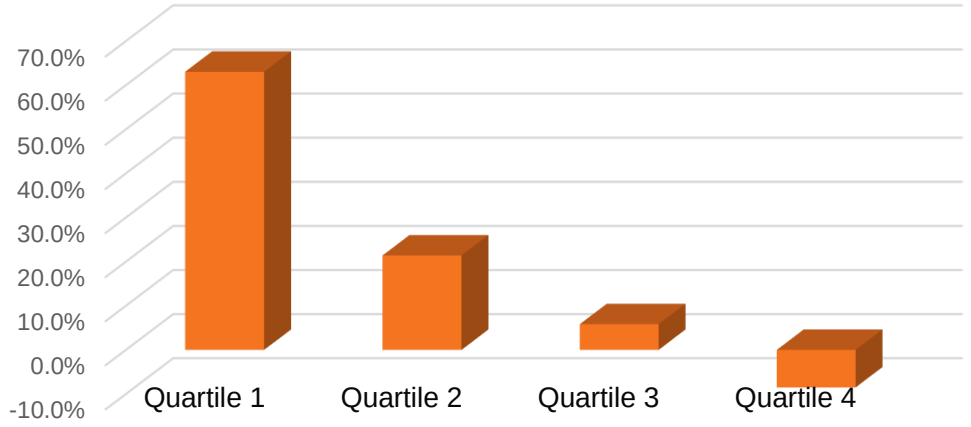
Big Potential Benefits
Performance by Quartile, Vintage Years 1984-2015, data through 2020

Pre - 2001 Funds

Panel A: Buyout Funds
Average IRR

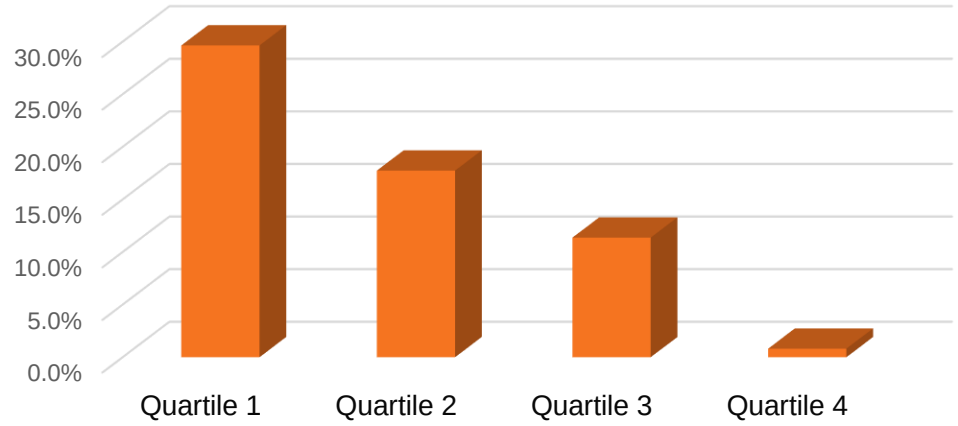


Panel B: Venture Capital Funds
Average IRR

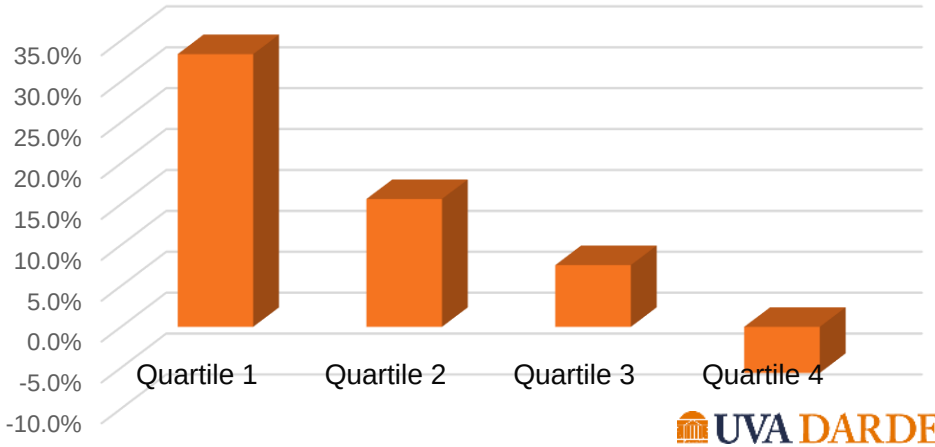


Post - 2000 Funds

Panel A: Buyout Funds
Average IRR



Panel B: Venture Capital Funds
Average IRR



Persistence of Buyout Funds by PME Quartile of Previous Fund, Using Final performance

		Current Fund Quartile					Average Current Fund		
		1	2	3	4	N	IRR (%)	MOIC	PME
Pre-2001 Funds									
Previous Fund Quartile at Fund End	1	42.9%	17.9%	21.4%	17.9%		13.9	1.85	1.39
		12	5	6	5	28			
	2	25.0%	31.3%	28.1%	15.6%		13.4	2.08	1.27
		8	10	9	5	32			
	3	16.3%	20.9%	34.9%	27.9%		6.8	1.58	1.07
		7	9	15	12	43			
	4	14.3%	19.0%	33.3%	33.3%		6.2	1.36	1.00
		3	4	7	7	21			
NA, but not first fund		22.2%	34.7%	27.8%	15.3%		14.3	1.85	1.26
		16	25	20	11	72			
First funds		19.3%	26.1%	23.9%	30.7%		15.1	2.10	1.33
		17	23	21	27	88			
Post-2000 Funds									
Previous Fund Quartile at Fund End	1	33.6%	25.0%	25.9%	15.5%		17.9	2.04	1.27
		39	29	30	18	116			
	2	22.1%	21.2%	36.3%	20.4%		15.8	1.82	1.16
		25	24	41	23	113			
	3	22.1%	34.7%	25.3%	17.9%		16.0	1.75	1.13
		21	33	24	17	95			
	4	13.6%	22.0%	23.7%	40.7%		9.8	1.50	0.96
		8	13	14	24	59			
NA, but not first fund		24.8%	24.8%	21.8%	28.6%		12.5	1.68	1.08
		33	33	29	38	133			
First funds		31.0%	19.5%	22.1%	27.4%		15.1	1.79	1.20
		35	22	25	31	113			

Top end Persistence in Buyout has Decreased over time

Bottom end persistence is stronger, But not many bottom quartile funds Raise new fund

Average PMEs >1 for each of top 3 buyout quartiles

Persistence of Buyout Funds by PME Quartile of Previous Fund at Fundraise

		Current Fund Quartile 1	2	3	4	N	Average Current Fund IRR (%)	Average Current Fund MOIC	Average Current Fund PME
Pre-2001 Funds									
Previous Fund Quartile at Fundraise	1	36.7%	20.0%	23.3%	20.0%		12.9	1.74	1.30
		11	6	7	6	30			
	2	25.0%	31.3%	25.0%	18.8%		11.3	1.75	1.26
		12	15	12	9	48			
	3	18.5%	11.1%	40.7%	29.6%		6.7	1.80	1.00
		5	3	11	8	27			
	4	10.5%	21.1%	36.8%	31.6%		6.9	1.59	1.08
		2	4	7	6	19			
NA, but not first fund		22.2%	34.7%	27.8%	15.3%		14.3	1.85	1.26
		16	25	20	11	72			
First funds		19.3%	26.1%	23.9%	30.7%		15.1	2.10	1.33
		17	23	21	27	88			
Post-2000 Funds									
Previous Fund Quartile at Fundraise	1	24.0%	26.4%	25.6%	24.0%		15.8	1.82	1.17
		30	33	32	30	125			
	2	26.2%	20.6%	34.1%	19.0%		15.7	1.83	1.16
		33	26	43	24	126			
	3	22.6%	25.8%	30.1%	21.5%		15.3	1.77	1.13
		21	24	28	20	93			
	4	23.1%	41.0%	15.4%	20.5%		15.1	1.91	1.18
		9	16	6	8	39			
NA, but not first fund		19.3%	28.6%	19.3%	32.9%		12.5	1.68	1.08
		27	40	27	46	140			
First funds		30.3%	20.5%	23.8%	25.4%		15.1	1.79	1.20
		37	25	29	31	122			

Post 2000 essentially no Persistence based on previous Fund performance at Time of new fund raise, also True if look at second previous fund

Average PME>1 for each Buyout quartile and for first Time funds

Persistence of Venture Capital Funds by PME Quartile of Previous Fund, Using Final performance

		Current Fund Quartile					Average Current Fund		
		1	2	3	4	N	IRR	MOIC	PME
Pre-2001 Funds									
Previous Fund Quartile at Fund End	1	46.2%	20.4%	18.3%	15.1%		52.7	4.57	2.78
		43	19	17	14	93			
	2	30.1%	24.1%	32.5%	13.3%		25.2	2.45	1.49
		25	20	27	11	83			
	3	19.8%	25.9%	29.6%	24.7%		11.8	1.84	1.05
		16	21	24	20	81			
	4	15%	15%	23%	48%		0.1	1.12	0.67
		7	7	11	23	48			
NA, but not first fund		11.8%	31.7%	28.0%	28.6%		10.3	1.77	0.96
		19	51	45	46	161			
First funds		24.7%	27.3%	24.7%	23.4%		18.3	2.21	1.24
		38	42	38	36	154			
Post-2000 Funds									
Previous Fund Quartile at Fund End	1	44.4%	25.7%	19.4%	10.4%		24.6	3.77	1.86
		64	37	28	15	144			
	2	22.6%	27.8%	30.1%	19.5%		12.1	2.03	1.09
		30	37	40	26	133			
	3	14.2%	36.8%	31.1%	17.9%		11.2	1.91	1.05
		15	39	33	19	106			
	4	7.8%	23.4%	27.3%	41.6%		4.1	1.49	0.80
		6	18	21	32	77			
NA, but not first fund		16.9%	20.9%	29.7%	32.6%		7.1	1.83	0.94
		29	36	51	56	172			
First funds		29.5%	22.4%	17.3%	30.8%		12.8	2.70	1.45
		46	35	27	48	156			

Persistence in VC has declined
But still significant

Frist time funds have average PME>1

Persistence of Venture Capital Funds by PME Quartile of Previous Fund at Fundraise

		Current Fund Quartile					Average Current Fund IRR (%)	Average Current Fund MOIC	Average Current Fund PME
		1	2	3	4	N			
Pre-2001 Funds									
Previous Fund Quartile at Fundraise	1	38.8%	24.5%	20.4%	16.3%		46.1	4.10	2.56
		38	24	20	16	98			
	2	34.7%	21.1%	24.2%	20.0%		26.6	2.71	1.53
		33	20	23	19	95			
	3	14.7%	21.3%	32.0%	32.0%		8.5	1.54	0.92
		11	16	24	24	75			
	4	24.3%	18.9%	32.4%	24.3%		7.1	1.50	0.95
		9	7	12	9	37			
NA, but not first fund		11.8%	31.7%	28.0%	28.6%		10.3	1.77	0.96
		19	51	45	46	161			
First funds		24.7%	27.3%	24.7%	23.4%		18.3	2.21	1.24
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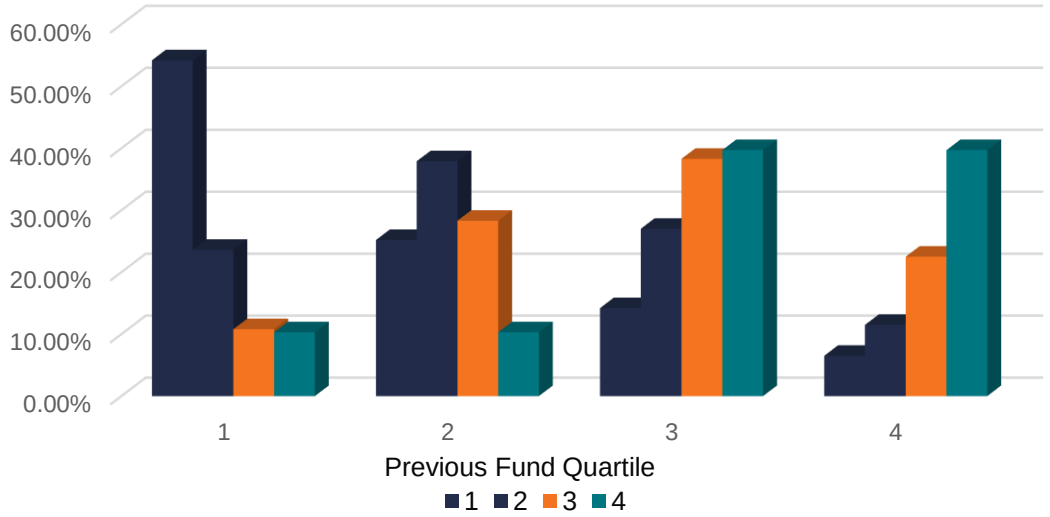
Post-2000 Funds									
Previous Fund Quartile at Fundraise	1	30.4%	23.8%	27.4%	18.5%		17.4	2.70	1.37
		51	40	46	31	168			
	2	24.1%	33.8%	23.4%	18.6%		14.4	2.57	1.29
		35	49	34	27	145			
	3	22.5%	25.5%	30.4%	21.6%		12.2	2.15	1.19
		23	26	31	22	102			
	4	13.3%	35.6%	24.4%	26.7%		9.0	1.86	1.05
		6	16	11	12	45			
NA, but not first fund		16.9%	20.9%	29.7%	32.6%		7.1	1.83	0.94
		29	36	51	56	172			
First funds		29.5%	22.4%	17.3%	30.8%		12.8	2.70	1.45
		46	35	27	48	156			

Persistence has decreased Over time but some still Exists post 2000

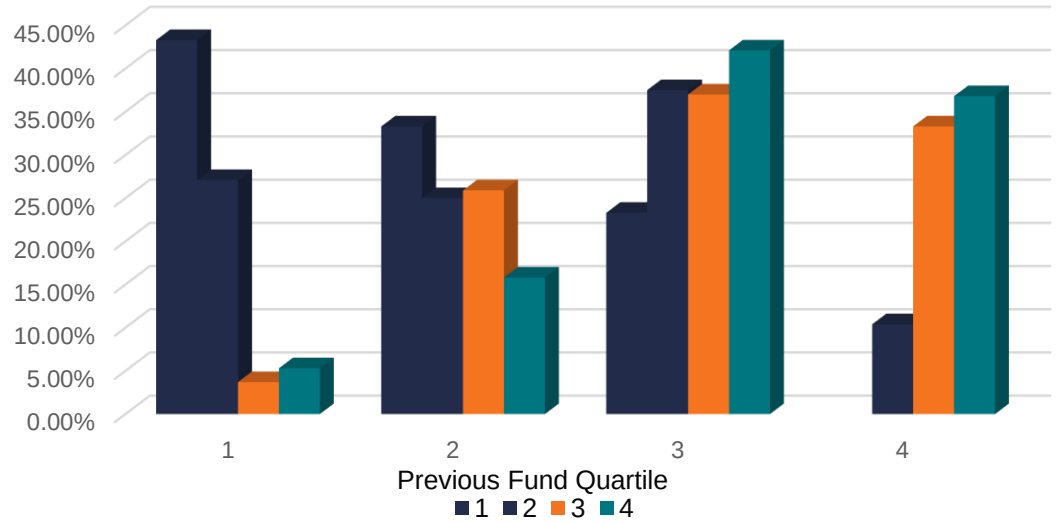
Performance of Second Previous fund is also informative (results not shown)

Interim Performance is a Noisy Signal-PME Quartile of Previous Buyout Fund from Fundraise to Fund End

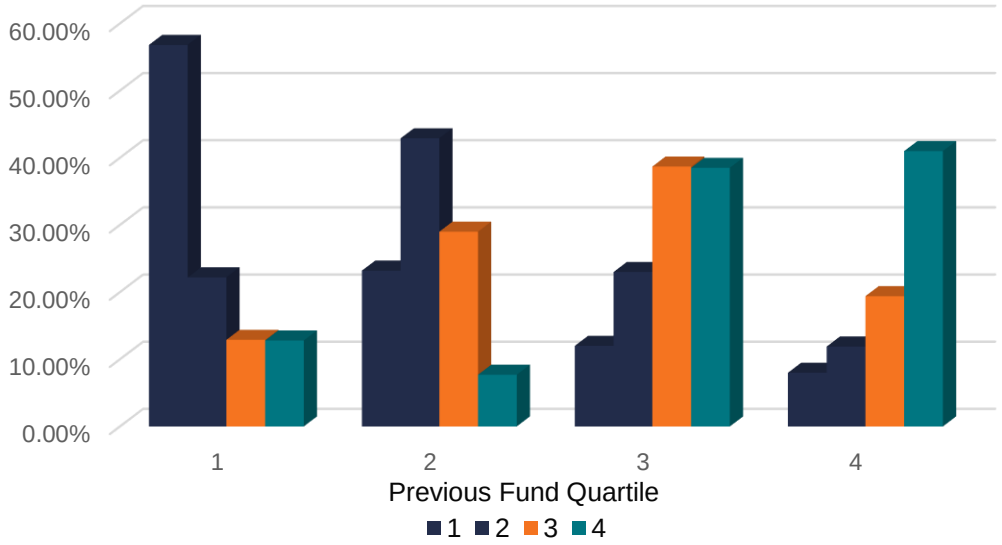
Whole Sample



Pre - 2001



Post 2000

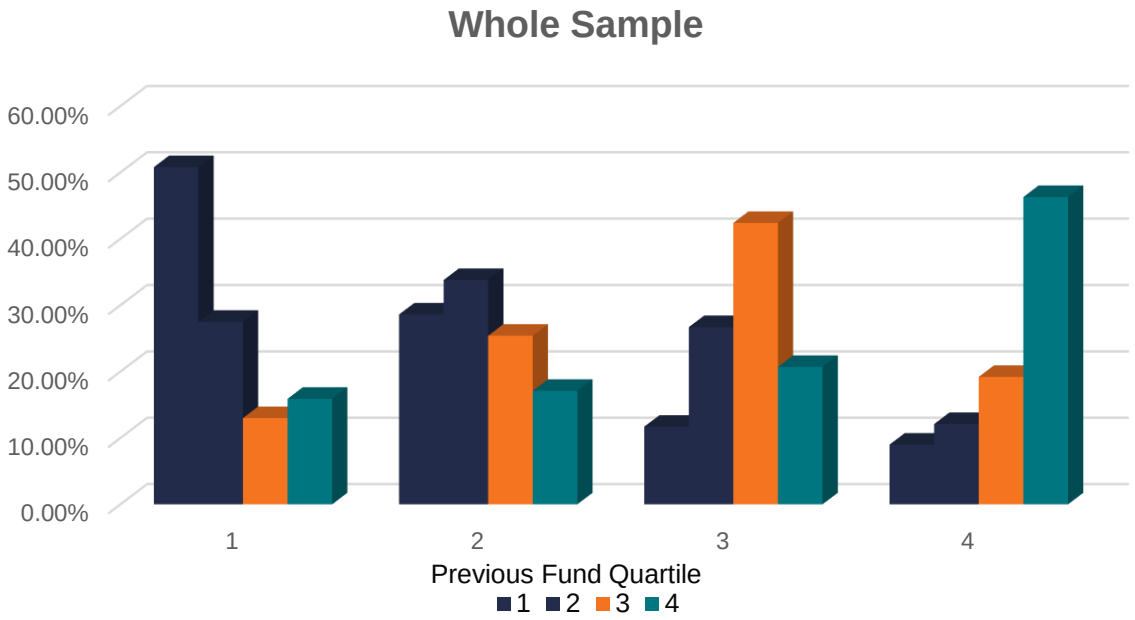


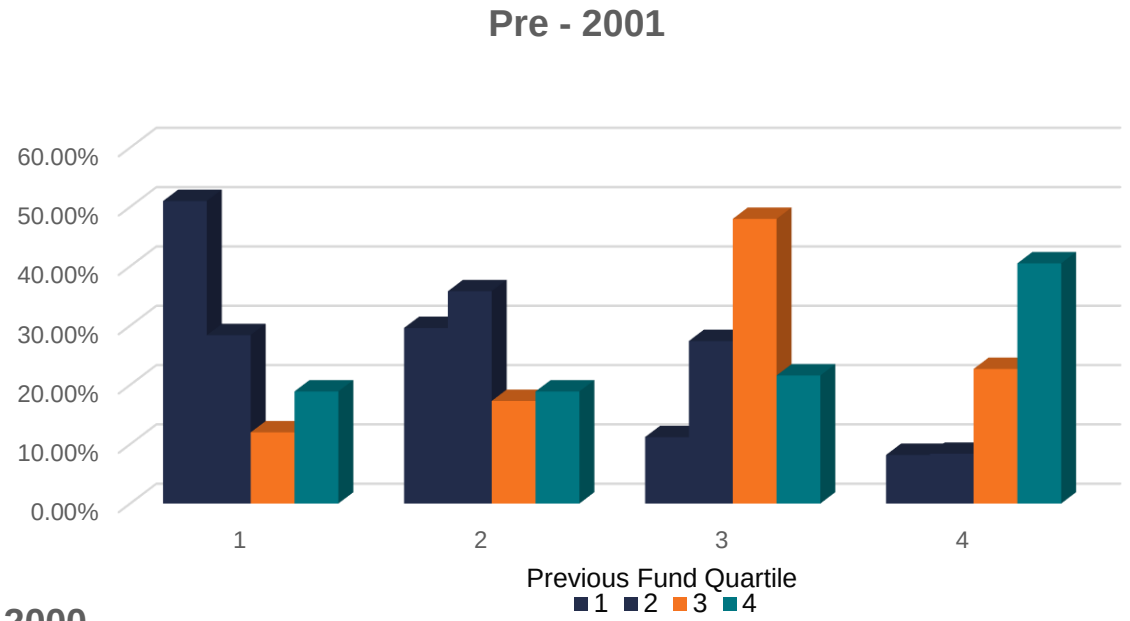
Horizonal axis is at time
Of fund raise
Vertical axis is final performance

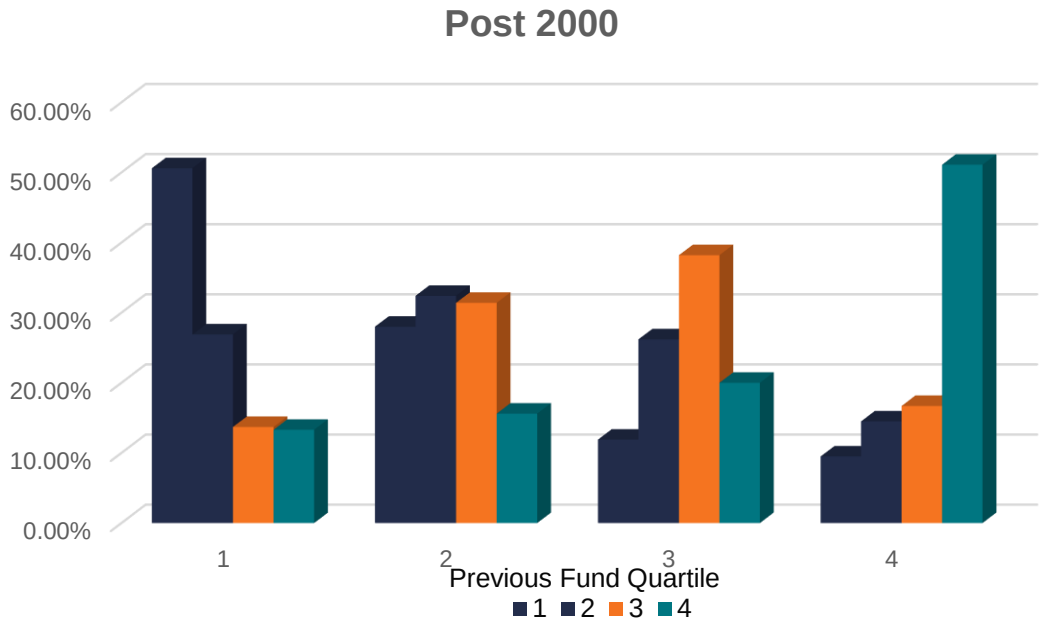
Performance at fund raise
Is a noisy signal of final
Performance,

GPs avoid fundraising
When performance is poor

PME Quartile of Previous VC Fund from Fundraise to Fund End







Performance at fund raise
Is a noisy signal of final
Performance

In part due to GP behavior
On when to raise a fund
And NAV valuations

Revisiting the Convential Wisdom: How things stand now-circa 2024

- PE fund performance varies hugely? Yes and especially in venture capital.
- Average PE net returns are not very impressive? No, PE performance has been strong relative to public markets over long horizons.
- So investors need to be in top performing funds? Not necessarily so in the buyout space. Venture capital is different.
- Performance tends to be persistent? (based on prior fund final performance)
  - In Buyout, persistence has declined over time and essentially disappeared.
  - In VC some persistence remains post 2000.

How things stand now-circa 2024

- Performance tends to be persistent? (based on prior fund performance at the time new fund is raised)
  - In Buyout, there is essentially no persistence.
  - In VC persistence has dropped but some still remains
  - The information on a fund's performance that is available at the time of new fund raising is a very noisy signal of performance

- So getting into (previously) top quartile funds is key
- Buyout performance (PME>1) has been positive across three top quartiles and close to one for the bottom quartile.
- In Venture Capital, getting into top performing funds is more important than in buyout.
- Past performance alone is not sufficient to identify what will be top performing funds. That said it has more value in VC.
- First time funds have done reasonably well.

END

Footer/Source: Arial 10 pt, Gray