Preliminary – Do Not Distribute!

What the London Stock Exchange Can Teach Us About Private Equity: A Closer Look

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Overview

- Ennis & Rasmussen posted “What the London Stock Exchange Can Teach Us About Private Equity” on SSRN on August 14, 2025 (E&R.1)
  - As of Sept. 2, it has 1,086 downloads and has been cited in major press outlets*
  - As discussed subsequently, we have attempted to replicate their analysis. After we shared a preliminary version of our analysis with them, they updated the paper on August 27 (E&R.2)
  - The authors have sent us a rebuttal to our analysis that we will present here with our findings

- We identify shortcomings in their analysis that fundamentally alter the key take-aways from their paper
  - Our analysis provides a more detailed analysis of publicly-listed private equity funds
  - We utilize best-practices in empirical finance and when possible identify the reasons for our different conclusions
  - We will make our code and data available to other researchers

* E.g., “Private Equity Funds Traded in London Hint at Hidden 401(k) Risk,” by Denitsa Tsekova, August 14, 2025, Bloomberg News.

Summary of Findings & Key Takeaways

Ennis & Rasmussen	Our Take
"…the volatility and stock market correlation of listed private equity (LPE) returns are much greater than when determined using NAVs."	There is **no contribution** from this finding as smoothed NAVs are well-studied dating back to Geltner (2003), recent papers have examined this in detail for private equity. The authors cite none of these papers.
"Discounts from NAV that routinely arise in the trading of LPE shares are greater and more volatile than those reported in the secondary market."	There are **no findings unique to private equity**. Closed-end fund discounts, and their volatility, are well-studied (see, Garay and Russel, 1999, for a review). The authors cite none of this research.
"LPE has underperformed the stock market since the Global Financial Crisis of 2008 (GFC)."	Our analysis finds similar results, however, the starting date of their analysis is "cherry-picked" – **starting the analysis in 2000 or 2010 instead of 2008 reveals outperformance of LPE**. 2008 is an arbitrary starting date and is the single worst year to start the analysis.
"LPE performance has been especially weak since the Federal Reserve started raising interest rates in 2022."	Our analysis finds similar results for 2022-2025. However, **results for 2020-2025 show outperformance for LPE**. Likewise, CAPM betas have fallen for LPE in the last 5 years and thus **CAPM alphas are essentially zero since 2022 and positive since 2020**.
Representativeness of LPE fund sample: "…Several of them are FoFs that invest in large numbers of separate PE funds. These constituent funds hold more than 2,000 individual portfolio companies diversified by geography, sector, vintage, and size."	**The sample of LPE funds is not well diversified until about 2010.** Especially important to the E&R performance analysis are returns during 2008 and 2009 when just two funds (CDI and SVI) make up more than 50% of the cap-weighted LPE index. Furthermore, data for CDI and SVI returns reported by LSEG appear to be missing distributions.
The authors report a CAPM beta of 1.7 and a CAPM alpha of -4.5% for the period 2008-2025.	The authors use annual data ending in June. Using September as the ending month results in CAPM beta of 1.0 and a CAPM alpha of -1.0%. CAPM estimates using monthly data and other horizons consistently generate betas of around 1.0 and alphas that are on average positive but statistically not different from zero.

LPE Data and Indices

- LPE Data
  - Bloomberg and LSE, supplemented with other sources as noted
  - We use monthly data. E&R use annual data from an unknown source
  - Because all of the funds are traded in GBP, we do our analysis in GBP
    - E&R appear to do their analysis in USD. Given appreciation of USD over the sample period this would bias the results against LPE
- LPE Funds
  - 10 still listed on LSE and 3 delisted (CDI, SVI, and BCAP). Two of the 3 delisted funds were primary funds (not FOFs)
  - LSE data are missing distributions for delisted funds and data are not available on Bloomberg. But, we think we have fixed this in our analysis – unsure about E&R.
    - "From LSEG: "I've coordinated with our Product Specialist and confirmed that, since BCAP.L^F20 is a delisted RIC, dividends are no longer being captured in the Total Return calculation.
- LPE Indices
  - We calculate 3 different LPE indices starting in July 2000 creating a 25-year history
    1. **Market-cap weighted (VW)** of all 13 funds -- lower-bound on returns given dividend issue for delisted funds
    2. **Equal-weighted (EW)** of all 13 funds – mitigates concentration issue of CDI+SVI > 50% of index weight through 2010
    3. The **10 currently-listed funds market-cap weighted**– Drop 3 delisted funds because of dividend issue. Consider as upper-bound on returns given delisted funds under-performed on average

LPE-VW Index Weights

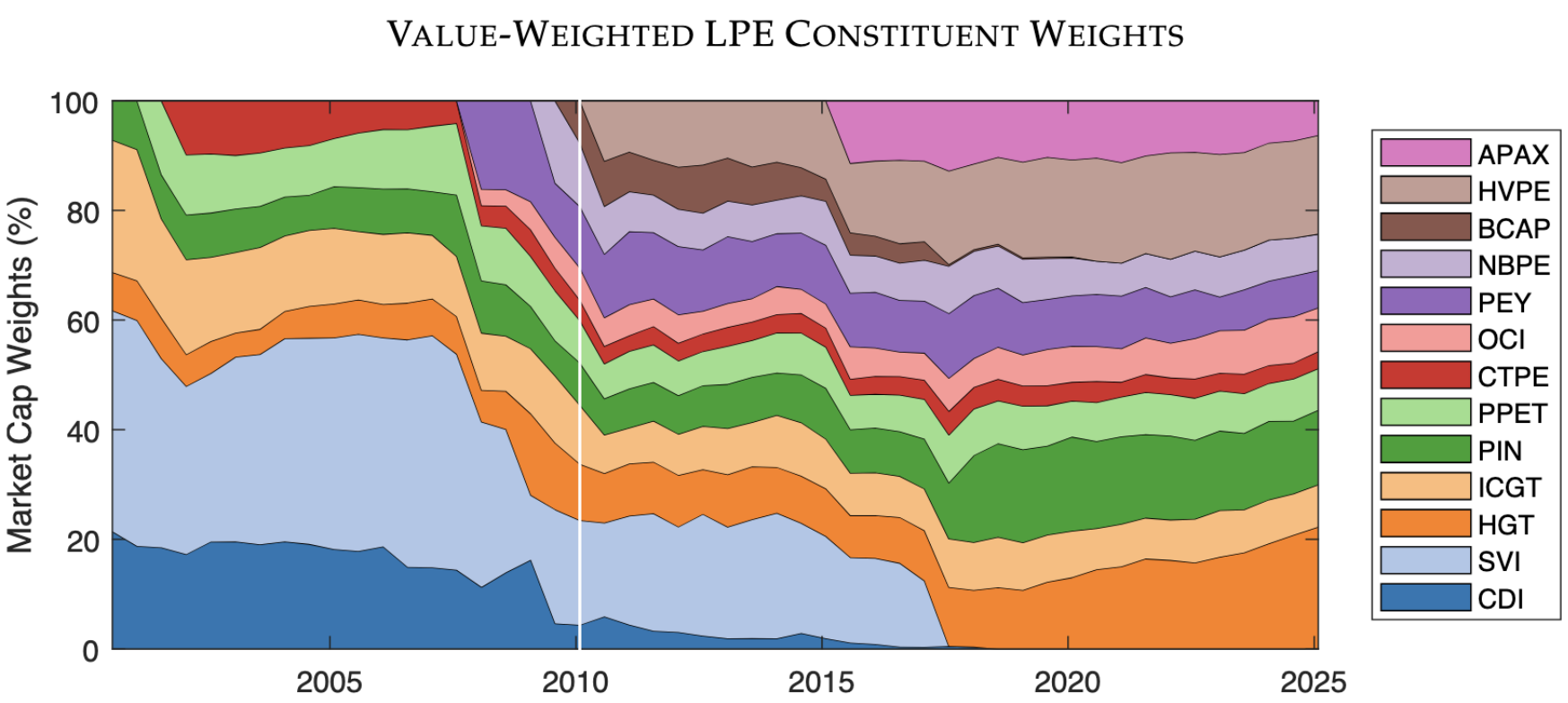

FIGURE 1: This figure shows market cap weights of constituent LPE funds from July 2000 through June 2025. To smooth the lines, only weights in January and July of each year are shown.

Public Benchmarks

- Following E&R, we utilize the MSCI-ACWI and Russell 3000 (R3K) as public equity benchmarks.
- Why R3K?
  - E&R: "Phalippou (2020) warns against the incautious use of ACWI in benchmarking private equity returns based on the fact that private equity funds have traditionally invested heavily in the US market. … ACWI has widely underperformed the US stock market, … its use in performance studies can unduly tilt the outcome to favor private equity."
- We collect data on geographic composition of LPE holdings
  - Depending on composition and weighting scheme LPE index has a North-American weight in mid-30% to 40% range
  - The average North American weight for ACWI since 2000 is 54%
  - Thus, even the ACWI is tilted somewhat against the LPE index based on geography
- R^2s from CAPM regressions are always higher for ACWI than for R3K
  - Contrary to E&R "the correlation of the LPE series with US and non-US stocks was essentially identical"
- **Conclusion:** No justification for R3K as market benchmark for LPE
  - But we also report results for R3K for completeness

Fund-Level Data Summary

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TABLE A2: STATISTICS FOR LISTED PRIVATE EQUITY FUNDS

Ticker	Listed	Delisted	Total Return	Alpha	Beta	Avg. Mkt Cap (mil GBP)	NA/US Share	NA/US Share Date
HGT	Dec-1989	-	14.4%	10.5%	0.53	612	28%	Dec-2024
HVPE	May-2010	-	13.2%	5.7%	0.69	1072	61%	Jun-2025
PIN	Sep-1987	-	7.3%	3.6%	0.90	576	52%	May-2025
OCI	Aug-2007	-	10.4%	6.4%	0.48	375	12%	Mar-2025
ICGT	Jul-1981	-	9.1%	4.3%	1.01	420	45%	Apr-2025
PPET	May-2001	-	9.4%	6.0%	0.72	382	23%	Sep-2024
NBPE	Jun-2009	-	15.5%	4.1%	1.04	455	76%	May-2025
APAX	Jun-2015	-	6.1%	-2.0%	0.80	757	58%	Mar-2025
PEY	Nov-2007	-	7.9%	-0.9%	1.20	572	45%	Jan-2025
CTPE	Mar-1999	-	10.1%	5.8%	0.71	186	17%	Mar-2025
SVI	May-1996	Jun-2017	3.0%	2.6%	0.72	702	2%	Dec-2012
CDI	Dec-1984	Apr-2018	-9.0%	2.5%	1.27	202	9%	Sep-2004
BCAP	Dec-2009	Jun-2020	-0.2%	1.4%	0.03	172	3%	Aug-2025

Alpha and beta estimated against ACWI
Mean NA/US Share: 33%
Time × Cap Weighted NA/US Share: 38%

- Note the wide range of individual fund betas (but forget about BCAP because it is an odd duck). These are consistent with different portfolio strategies, such as some funds holding private/structured debt.

Long-run Unadjusted Performance

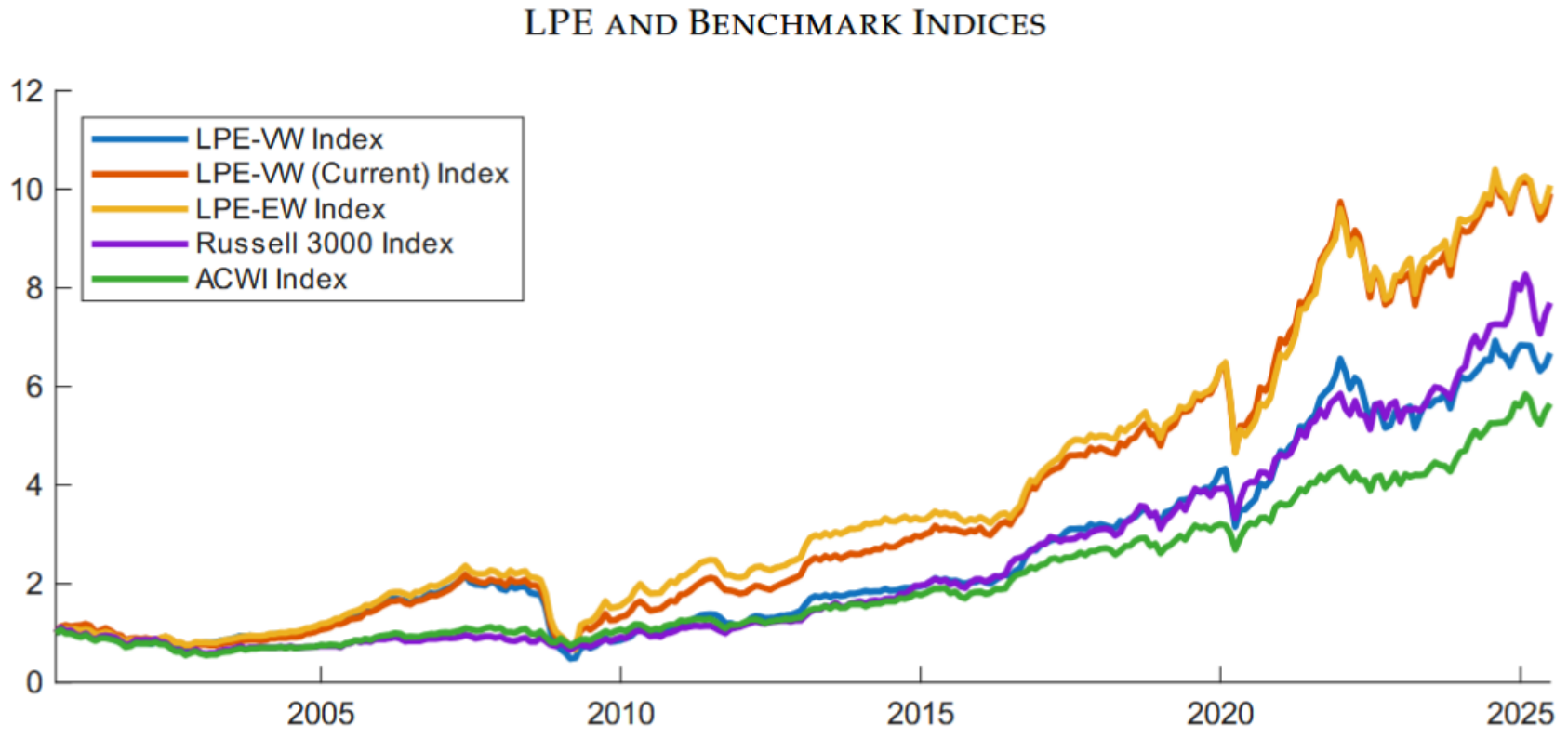

FIGURE 2: This figure shows the value-weighted LPE index, the value-weighted LPE index for currently listed funds, the equal-weighted LPE index, the Russell 3000 index, and the ACWI index normalized to a value of 100 in July 2000 and through June 2025.

Long-run Risk-Adjusted Performance

- All three LPE indices outperformed the ACWI for 15- and 25-year horizons
- CAPM betas range from 0.7 to 1.0, consistent with most current research (see references, Boyer, et al. is the exception)
- CAPM alphas are always positive, except for the 17-year horizon with LPE-VW -- but statistically never different from zero.

TABLE 1: RETURN PROFILES OF LPE AND ACWI BENCHMARK

PANEL A: DATA FROM JULY 2000 – JUNE 2025

	VALUE-WEIGHTED LPE		CURRENT VALUE-WEIGHTED LPE		EQUAL-WEIGHTED LPE	
	Return	Volatility	Return	Volatility	Return	Volatility
LPE	7.9%	18.6%	9.6%	17.9%	9.7%	21.2%
ACWI	7.2%	13.9%	7.2%	13.9%	7.2%	13.9%
Difference	0.7%	4.6%	2.4%	3.9%	2.5%	7.2%
	Estimate	p-value	Estimate	p-value	Estimate	p-value
Alpha	2.7%	0.510	4.1%	0.232	4.8%	0.235
Beta	0.807	0.000	0.813	0.000	0.789	0.000
R-squared	0.369		0.404		0.270	

PANEL B: DATA FROM JULY 2008 – JUNE 2025

	VALUE-WEIGHTED LPE		CURRENT VALUE-WEIGHTED LPE		EQUAL-WEIGHTED LPE	
	Return	Volatility	Return	Volatility	Return	Volatility
LPE	8.1%	20.8%	10.0%	19.8%	9.7%	24.6%
ACWI	11.0%	13.2%	11.0%	13.2%	11.0%	13.2%
Difference	-2.9%	7.6%	-0.9%	6.6%	-1.3%	11.4%
	Estimate	p-value	Estimate	p-value	Estimate	p-value
Alpha	-1.2%	0.816	0.3%	0.948	0.6%	0.898
Beta	0.994	0.000	0.993	0.000	0.991	0.000
R-squared	0.398		0.440		0.283	

PANEL C: DATA FROM JULY 2010 – JUNE 2025

	VALUE-WEIGHTED LPE		CURRENT VALUE-WEIGHTED LPE		EQUAL-WEIGHTED LPE	
	Return	Volatility	Return	Volatility	Return	Volatility
LPE	13.8%	12.9%	13.6%	12.7%	12.2%	12.4%
ACWI	11.7%	11.3%	11.7%	11.3%	11.7%	11.3%
Difference	2.2%	1.6%	2.0%	1.3%	0.5%	1.1%
	Estimate	p-value	Estimate	p-value	Estimate	p-value
Alpha	4.7%	0.117	4.7%	0.112	3.7%	0.230
Beta	0.765	0.000	0.744	0.000	0.713	0.000
R-squared	0.448		0.440		0.420	

Why Start in 2008?

- E&R State:

  "Most of our work is based on data for the 17 years from June 30, 2008, to June 30, 2025. This period follows adoption of the Financial Accounting Standards Board's ASC 820, which requires that consideration of "market" be incorporated in the valuation of private assets. Easton et al. (2021) show that "reported net asset valuations more accurately predict future net distributions following ASC 820," indicating a pricing improvement. Additionally and importantly, the GFC of 2008 was a watershed event in the repricing of risky assets, including private equity. For these reasons, we begin our study at June 30, 2008."

- We think 2008 is arbitrary and potentially "cherry-picked" by the authors
  - No evidence the LPE index better reflects NAVs after 2008.
    - CAPM R^2 from 2000-2005 are nearly identical to those from 2010-2015 (reported subsequently)
  - The whole point of looking at LPE returns is that public markets are going to reflect true value and not NAVs
  - Starting in 2008 generates the most negative difference between LPE and ACWI, the lowest alpha, and the highest beta of any starting year between 2000-2020
  - Returns for 2008 drive the performance results in the paper and depend crucially on SVI and CDI as described earlier

Value-Weighted LPE

Start Date	LPE Annualized Return	ACWI Annualized Return	Difference	Alpha	Beta
31-Jul-2000	7.9%	7.2%	0.7%	2.70%	0.807
31-Jul-2001	9.0%	8.2%	0.8%	2.85%	0.826
31-Jul-2002	10.0%	10.1%	-0.1%	2.16%	0.855
31-Jul-2003	9.5%	10.3%	-0.7%	1.16%	0.912
31-Jul-2004	9.4%	10.6%	-1.1%	0.74%	0.926
31-Jul-2005	8.2%	10.0%	-1.7%	0.14%	0.933
31-Jul-2006	7.5%	10.0%	-2.5%	-0.68%	0.956
31-Jul-2007	7.0%	9.9%	-2.8%	-0.92%	0.951
31-Jul-2008	8.1%	11.0%	-2.9%	-1.23%	0.994
31-Jul-2009	14.9%	12.1%	2.8%	5.05%	0.799
31-Jul-2010	13.8%	11.7%	2.2%	4.69%	0.765
31-Jul-2011	12.0%	11.5%	0.5%	3.11%	0.762
31-Jul-2012	13.4%	12.4%	1.0%	3.77%	0.764
31-Jul-2013	11.8%	11.3%	0.4%	3.16%	0.743
31-Jul-2014	12.4%	12.0%	0.4%	3.10%	0.765
31-Jul-2015	12.6%	12.0%	0.6%	3.08%	0.782
31-Jul-2016	12.9%	11.4%	1.5%	3.11%	0.859
31-Jul-2017	10.1%	10.5%	-0.4%	1.23%	0.859
31-Jul-2018	10.5%	10.3%	0.2%	1.52%	0.891
31-Jul-2019	9.5%	10.2%	-0.6%	0.53%	0.934
31-Jul-2020	12.7%	12.2%	0.4%	2.95%	0.765

Worst Start Date for LPE	
Raw Return	31-Jul-2008
Alpha	31-Jul-2008
Beta	31-Jul-2008

Why Use Annual Data Ending in June?

- Annual data results in low power for risk-adjusted performance estimates.
- E&R estimates based on June EOY again appear cherry-picked
- **Examining all months, June results in highest beta and lowest alpha**
- Picking September would have resulted in a beta of about 1 and an alpha of about zero.
- Monthly estimates generate consistent and more statistically reliable results

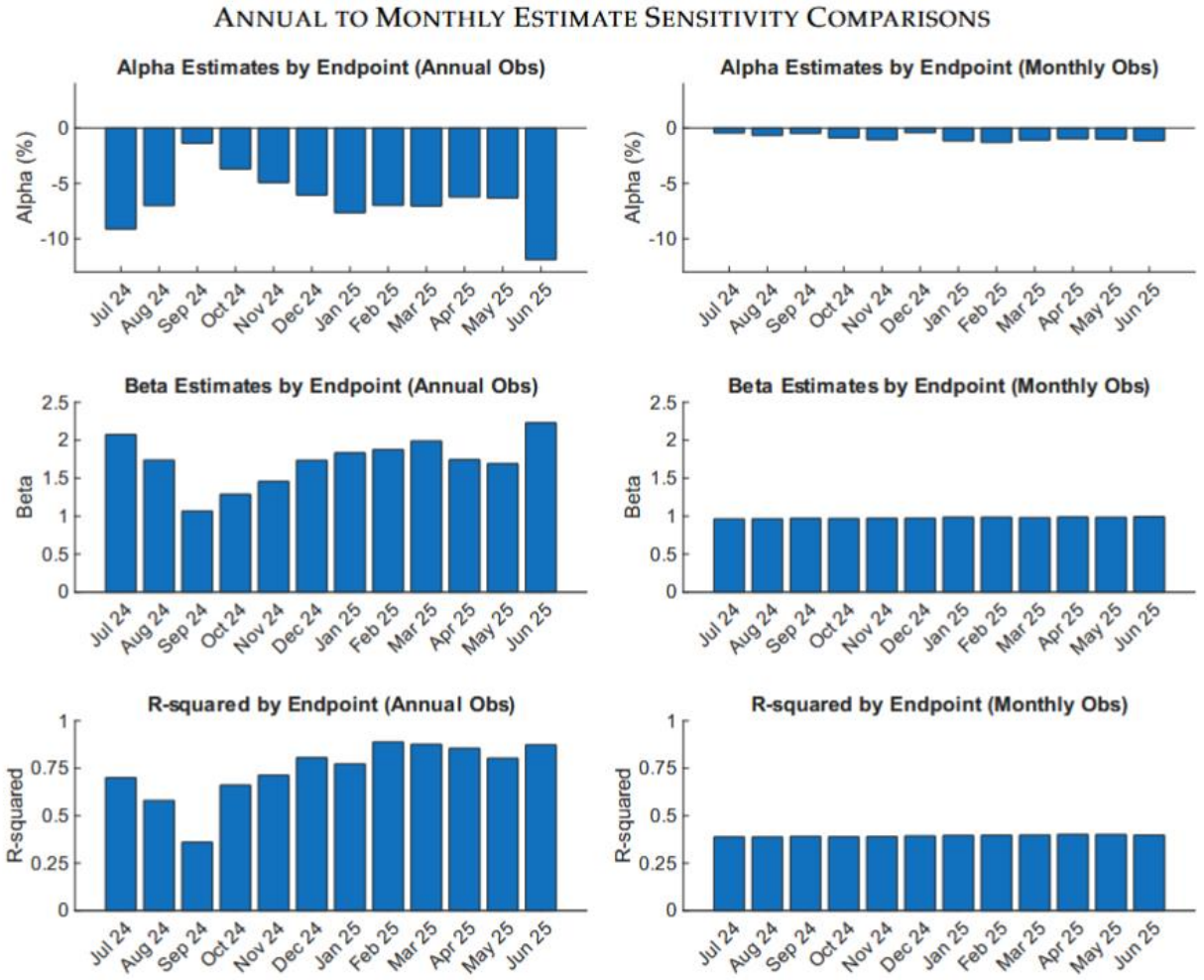

FIGURE 4: This figure shows estimated αs (Alpha), βs (Beta), and R-squareds from a 1-factor CAPM model of LPE-VW on MSCI-ACWI, using monthly and annual data, over 12 different subintervals defined by different monthly endpoints. Each annual subinterval consists of 17 years of data, and each monthly subinterval consists of 204 month-long observations.

Why Use Annual Data?

- In a rebuttal to our analysis E&R state:

  "You say, "Monthly (or even more frequent) observations are the preferred frequency in academic empirical analysis." … Perplexity states, "Monthly differencing captures more granular changes, which can be useful for identifying short-term volatility, seasonality, or irregular fluctuations. … However, monthly differencing can also introduce more 'noise,' making it harder to detect long-term trends." The nature of the data and the focus of the analysis, in other words, should drive the choice of differencing interval. It's not a case of one size fits all. The use of monthly differencing has the effect of compressing the covariance components of the CAPM model of LPE returns in an unwarranted fashion. Exhibit 1 shows the effect of shortening the differencing interval of return for the Finominal PE Index and the market index."

Squeezing Covariance

	Daily Differencing	Monthly Differencing	Annual Differencing
Volatility (1983-2025)	17.4%	21.8%	23.2%
Correlation with MSCI ACWI World Index (2004-2025)	0.47	0.76	0.94

Source: Finominal

- However, this does not make sense in our opinion given we are looking at monthly market prices with little microstructure noise. (Suspect monthly and annual values above are not statistically different given wide confidence interval on annual estimates)

Why Use Annual Data?

- In a rebuttal to our work E&R state:

  "Shortening the differencing interval compresses volatility and makes legitimate correlation vanish. The joint effect is to reduce beta and increase alpha, which occurs in your analysis. When the appropriate annual differencing is employed, the CAPM yields these results:"

CAPM Performance Statistics

Years Ended June 30	Beta	R^2	Alpha
5	1.4	87%	-2.0%
10	1.5	88	-3.3
15	1.5	87	-2.5
20	1.7	90	-4.1

Alphas are not statistically significant.

- However, this does not make sense in our opinion given since the annual estimates can vary from roughly 1.0-2.0 based on starting month (as shown on slide 11)
  - These results suggest it is a question of statistical power rarther than data frequency (note the first row above has N=5)
  - By this logic, an R-squared of 100% could be achieved by looking at two 8.5 year periods!?
  - There might also be an issue of model mis-specification which we address below

Sub-period Analysis

Value-Weighted LPE Index

Start/End	Jun 2005	Jun 2010	Jun 2015	Jun 2020	Jun 2025
Jul 2000					
Return Difference	10.6%	-1.0%	0.9%	0.6%	0.7%
Alpha	7.8%	0.7%	2.7%	2.5%	2.7%
Beta	0.54	0.83	0.82	0.81	0.81
R-Squared	0.47	0.33	0.35	0.37	0.37
Jul 2005					
Return Difference		-11.6%	-3.8%	-2.7%	-1.7%
Alpha		-8.0%	-1.8%	-0.8%	0.1%
Beta		1.14	1.04	0.97	0.93
R-Squared		0.37	0.37	0.38	0.38
Jul 2010					
Return Difference			5.7%	2.6%	2.2%
Alpha			8.4%	5.2%	4.7%
Beta			0.72	0.77	0.77
R-Squared			0.50	0.49	0.45
Jul 2015					
Return Difference				-0.1%	0.6%
Alpha				2.5%	3.1%
Beta				0.80	0.78
R-Squared				0.49	0.44
Jul 2020					
Return Difference					0.4%
Alpha					3.0%
Beta					0.77
R-Squared					0.39

Equal-Weighted LPE Index

Start/End	Jun 2005	Jun 2010	Jun 2015	Jun 2020	Jun 2025
Jul 2000					
Return Difference	11.5%	5.6%	4.5%	2.5%	2.5%
Alpha	8.2%	8.0%	6.6%	4.7%	4.8%
Beta	0.49	0.85	0.81	0.80	0.79
R-Squared	0.49	0.24	0.24	0.26	0.27
Jul 2005					
Return Difference		0.2%	1.1%	-0.4%	0.3%
Alpha		5.1%	3.4%	1.7%	2.4%
Beta		1.22	1.05	0.97	0.93
R-Squared		0.26	0.25	0.27	0.28
Jul 2010					
Return Difference			2.7%	-0.5%	0.5%
Alpha			6.8%	2.9%	3.7%
Beta			0.61	0.71	0.71
R-Squared			0.45	0.45	0.42
Jul 2015					
Return Difference				-3.4%	-0.4%
Alpha				-0.3%	2.4%
Beta				0.78	0.75
R-Squared				0.47	0.42
Jul 2020					
Return Difference					1.7%
Alpha					4.4%
Beta					0.72
R-Squared					0.38

- Meaningful negative return differences are concentrated on 2005 start date for VW and 2015-2020 for EW
- With exception of July 2005 start date, every alpha is positive for VW (though all are statistically insignificant)

CAPM Estimation – More on time-variation

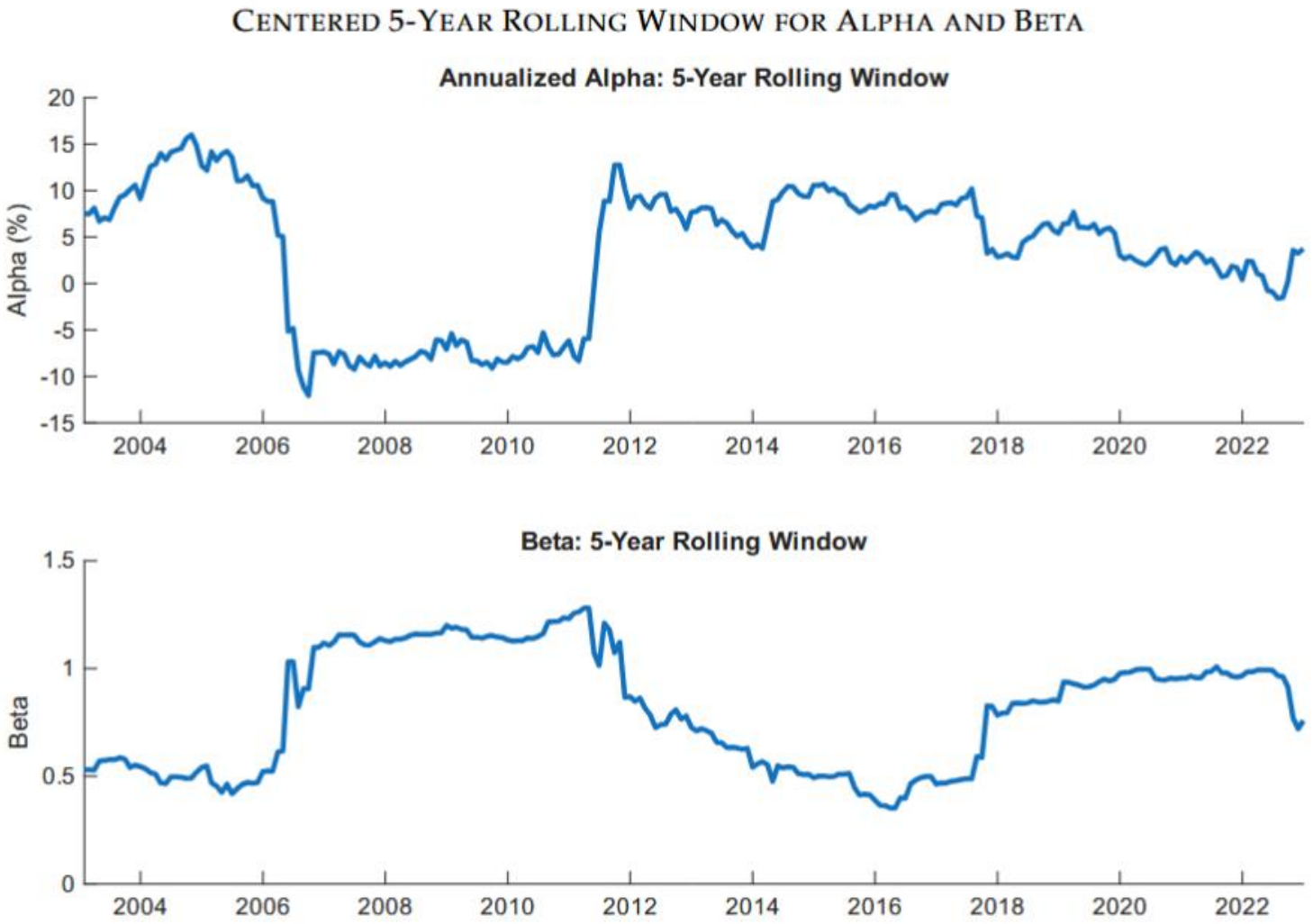

FIGURE 3: This figure shows estimated αs (Alpha), βs (Beta) using centered 5-year rolling windows for the LPE-VW index benchmarked against ACWI.

The Recent Past

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PANEL E: DATA FROM JULY 2020 – JUNE 2025

	VALUE-WEIGHTED LPE		CURRENT VALUE-WEIGHTED LPE		EQUAL-WEIGHTED LPE	
	Return	Volatility	Return	Volatility	Return	Volatility
LPE	12.7%	13.7%	12.7%	13.7%	13.9%	13.2%
ACWI	12.2%	11.2%	12.2%	11.2%	12.2%	11.2%
Difference	0.4%	2.5%	0.4%	2.5%	1.7%	1.9%
	Estimate	p-value	Estimate	p-value	Estimate	p-value
Alpha	3.0%	0.524	3.0%	0.524	4.4%	0.318
Beta	0.765	0.000	0.765	0.000	0.725	0.000
R-squared	0.387		0.387		0.376	

p-values calculated using HAC-robust standard errors.

- E&R note that LPE has underperformed MSCI over the last 3 years (ending June 2025).
  - Yet estimated CAPM alphas are close to zero because CAPM betas fell to about 0.5
- LPE outperformed ACWI on both a nominal and risk-adjusted basis since June 2000
- Again the “recent past” time period selected by E&R seems cherry-picked

Sharpe Ratios

- E&R claim that:
  - "The Sharpe ratio of LPE is 0.13, compared to 0.39 for ACWI. LPE underperformed publicly traded stocks by a wide margin when returns are adjusted for risk."
  - This analysis is based on an improper understanding of the Sharpe ratio as a measure of risk-adjusted performance

- A proper analysis of Sharpe Ratio impact estimates the effect of adding LPE to an otherwise diversified portfolio of public stocks and bonds
  - Adding 10% LPE to a 60/40 portfolio of global stocks and bonds (i.e., making a 50/10/40 portfolio) increases the Sharpe Ratio of the portfolio, except for in the 2008 starting date when Sharpe Ratio is essentially unchanged

TABLE 2: PORTFOLIO MIX PERFORMANCE

PANEL A: JULY 2000 – JUNE 2025

Portfolio Mix	Return	Volatility	Sharpe Ratio
0% LPE-VW	6.1%	9.4%	0.492
5% LPE-VW	6.2%	9.2%	0.510
10% LPE-VW	6.3%	9.1%	0.524
20% LPE-VW	6.5%	9.1%	0.544

Panel B: JULY 2008 – JUNE 2025

Portfolio Mix	Return	Volatility	Sharpe Ratio
0% LPE-VW	8.4%	9.2%	0.798
5% LPE-VW	8.3%	9.1%	0.799
10% LPE-VW	8.3%	9.1%	0.793
20% LPE-VW	8.1%	9.2%	0.764

PANEL C: JULY 2015 – JUNE 2025

Portfolio Mix	Return	Volatility	Sharpe Ratio
0% LPE-VW	8.3%	8.2%	0.780
5% LPE-VW	8.4%	8.0%	0.800
10% LPE-VW	8.4%	7.9%	0.816
20% LPE-VW	8.5%	7.8%	0.840

Public market portfolio weights are always 40% bonds and 60%, 55%, 50%, and 40% equity (ACWI), respectively.

Factor Models

Coefficients & *p*-values in parentheses

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Value-Weighted LPE Index

Start Date	End Date	Alpha	Mkt-RF	SMB	HML	PS
Jul-2000	Dec-2024	3.2%	0.827	0.696	0.287	0.084
Full Sample Period		(0.411)	(0.000)	(0.000)	(0.010)	(0.513)
Jul-2000	Jun-2005	3.2%	0.632	0.647	0.181	-0.157
		(0.598)	(0.000)	(0.004)	(0.165)	(0.248)
Jul-2005	Jun-2010	-7.7%	0.846	0.962	2.080	0.406
		(0.605)	(0.000)	(0.038)	(0.040)	(0.254)
Jul-2010	Jun-2015	6.4%	0.762	0.436	0.191	-0.017
		(0.156)	(0.000)	(0.190)	(0.364)	(0.902)
Jul-2015	Jun-2020	9.4%	0.703	0.792	0.396	0.147
		(0.016)	(0.000)	(0.055)	(0.004)	(0.391)
Jul-2020	Dec-2024	4.5%	0.875	0.766	0.036	0.029
		(0.580)	(0.000)	(0.037)	(0.813)	(0.746)

Equal-Weighted LPE Index

Start Date	End Date	Alpha	Mkt-RF	SMB	HML	PS
Jul-2000	Dec-2024	5.8%	0.876	0.882	0.391	-0.021
Full Sample Period		(0.134)	(0.000)	(0.001)	(0.008)	(0.881)
Jul-2000	Jun-2005	2.8%	0.649	0.712	0.262	-0.225
		(0.607)	(0.000)	(0.000)	(0.026)	(0.038)
Jul-2005	Jun-2010	5.2%	0.939	1.706	2.518	0.259
		(0.777)	(0.005)	(0.073)	(0.101)	(0.506)
Jul-2010	Jun-2015	5.9%	0.661	0.417	0.298	-0.037
		(0.180)	(0.000)	(0.174)	(0.156)	(0.790)
Jul-2015	Jun-2020	6.5%	0.693	0.614	0.449	0.223
		(0.086)	(0.001)	(0.107)	(0.004)	(0.210)
Jul-2020	Dec-2024	6.2%	0.882	0.739	0.101	0.009
		(0.394)	(0.000)	(0.037)	(0.506)	(0.905)

- Multifactor models using French Developed Market Factors suggest the CAPM is likely not the right model
- Coefficients for size (SMB) and value (HML) are often statistically different from zero
- Coefficients on Pastor-Stambaugh (PS) traded liquidity factor are rarely statistically different from zero
- Alphas are consistently positive (except Jul-2005 to Jun-2010 for LPE-VW) but only occasionally statistically greater than zero at common confidence levels.

Modelling Choices Seem to Always Benefit the E&R Conclusions (and align with priors of PE skeptics)

- Choosing to start the analysis in June 2008 results in the worst performance for LPE
- Choosing annual data frequency results in higher betas and lower alphas for LPE than using monthly data
- Choosing June as the year-end month results in the the lowest performance of any year-end month
- Choosing USD over GBP, even though all funds in the index trade in GBP, results in lower performance for LPE
- Improperly analyzing Sharpe ratios results in wrong conclusion on benefits of adding LPE to portfolios
- Choosing to value-weight the index, and thus assign >50% portfolio weight to just 2 funds in 2008, results in lower LPE performance than EW

Conclusions

- A careful and detailed analysis of publicly-traded PE funds on the LSE leads to very different conclusions from E&R!
  1. For most historical investment horizons LPE outperformed ACWI
  2. On a risk-adjusted basis the performance of LPE was even better because CAPM betas of LPE are typically < 1.0
  3. Adding LPE to a diversified portfolio would have increased the Sharpe Ratio over most investment horizons

- The modeling choices of E&R are consistent with choices being engineered to align with the prior beliefs of PE skeptics, rather than an objective analysis of the data

References

Couts, Spencer and Gonçalves, Andrei S and Rossi, Andrea, 2024, "Unsmoothing returns of illiquid funds" *The Review of Financial Studies* 37(7). https://doi.org/10.1093/rfs/hhae006

Brown, Gregory, Eric Ghysels, and Oleg Gredil (2023) "Nowcasting net asset values: The case of private equity," *The Review of Financial Studies*, 36 (3), 945–986.

Brown, Gregory, Christian Lundblad, and William Volckmann (2024) "Risk-adjusted performance of private funds: What do we know?" Institute for Private Capital working paper.

Garay, Urbi and Philip Russel (1999) "The closed-end fund discount puzzle: A review" Journal of Alternative Investments 2(3).

Geltner, David, Bryan D. MacGregor, and Gregory M. Schwann (2003) "Appraisal smoothing and price discovery in real estate markets" *Urban Studies* 40(5–6), 1047–64.

Getmansky, Mila, Andrew W. Lo, and Igor Makarov (2004) "An econometric model of serial correlation and illiquidity in hedge fund returns" *Journal of Financial Economics* 74(3), 529–609.

Gupta, Arpit and Stijn Van Nieuwerburgh (2021) "Valuing private equity investments strip by strip" *The Journal of Finance*, 76 (6), 3255–3307, https://doi.org/10.1111/jofi.13073.

Korteweg, Arthur (2019) "Risk adjustment in private equity returns," *Annual Review of Financial Economics*, 11, 131–152.

Korteweg, Arthur and Stefan Nagel (2024) "Risk-adjusted returns of private equity funds: a new approach" *The Review of Financial Studies*.

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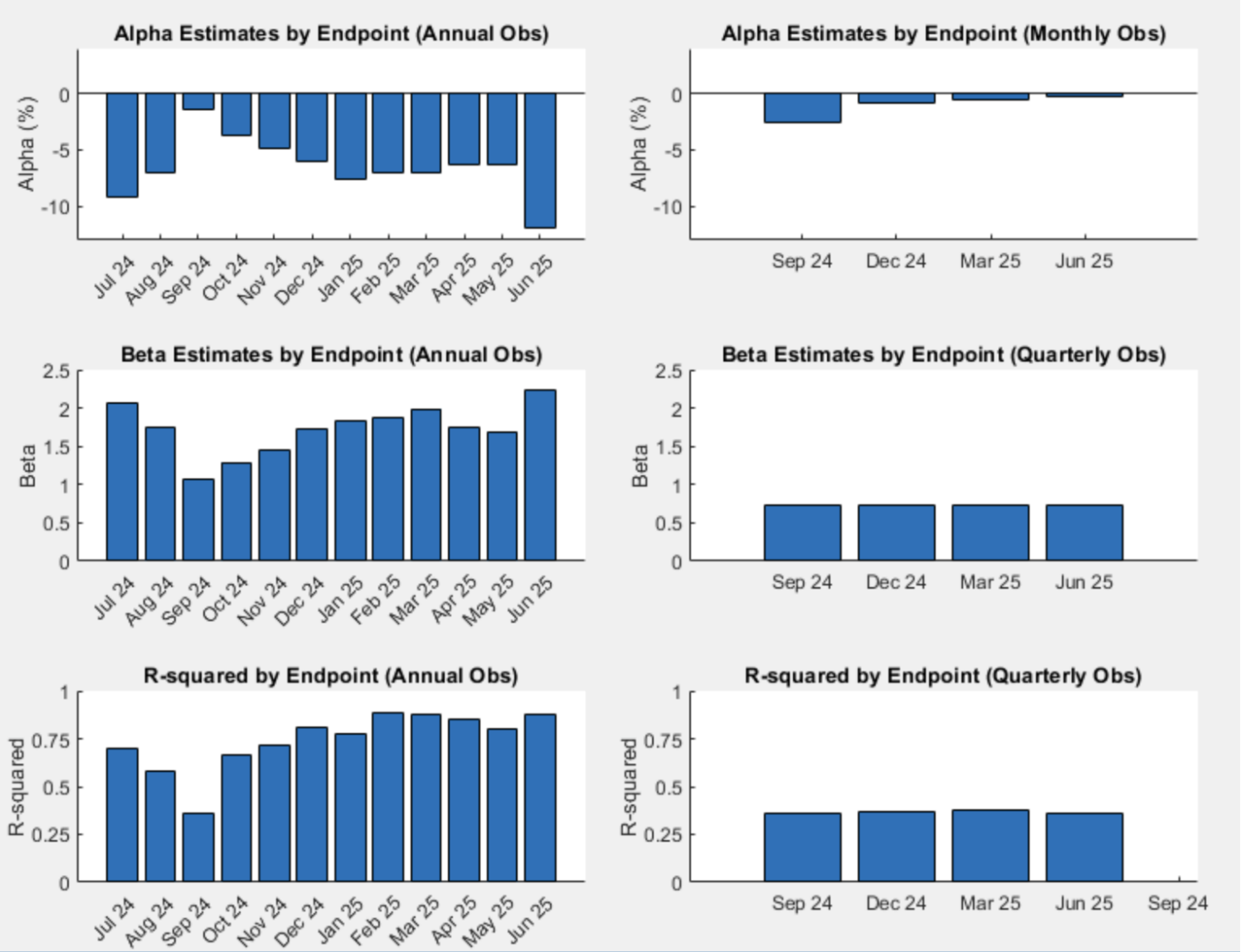
Other Results: Quarterly CAPM starting in 2007/2008



Other Results: Russell 3000 as Public Benchmark

- R^2s are lower than for MSCI-ACWI indicating R3K is inferior benchmark
- CAPM betas are lower than for MSCI-ACWI
- CAPM alphas are positive for 10-year and 25-year horizon, but negative for 17-year horizon; none are statistically different from zero

TABLE A1: RETURN PROFILES OF LPE AND RUSSELL 3000

PANEL A: DATA FROM JULY 2000 – JUNE 2025

	VALUE-WEIGHTED LPE		EQUAL-WEIGHTED LPE	
	Return	Volatility	Return	Volatility
LPE	7.8%	18.6%	9.6%	21.2%
Russell 3000	8.5%	15.1%	8.5%	15.1%
Difference	-0.7%	3.6%	1.0%	6.2%
	Estimate	p-value	Estimate	p-value
Alpha	2.3%	0.603	4.5%	0.315
Beta	0.692	0.000	0.656	0.000
R-squared	0.314		0.218	

PANEL B: DATA FROM JULY 2008 – JUNE 2025

	VALUE-WEIGHTED LPE		EQUAL-WEIGHTED LPE	
	Return	Volatility	Return	Volatility
LPE	8.0%	20.8%	9.4%	24.6%
Russell 3000	14.2%	14.3%	14.2%	14.3%
Difference	-6.2%	6.6%	-4.7%	10.3%
	Estimate	p-value	Estimate	p-value
Alpha	-2.3%	0.711	-0.2%	0.976
Beta	0.842	0.000	0.814	0.000
R-squared	0.332		0.223	

PANEL C: DATA FROM JULY 2015 – JUNE 2025

	VALUE-WEIGHTED LPE		EQUAL-WEIGHTED LPE	
	Return	Volatility	Return	Volatility
LPE	12.5%	13.9%	11.3%	13.7%
Russell 3000	14.4%	13.6%	14.4%	13.6%
Difference	-1.9%	0.4%	-3.0%	0.1%
	Estimate	p-value	Estimate	p-value
Alpha	3.0%	0.477	2.4%	0.593
Beta	0.634	0.000	0.599	0.000
R-squared	0.379		0.351	