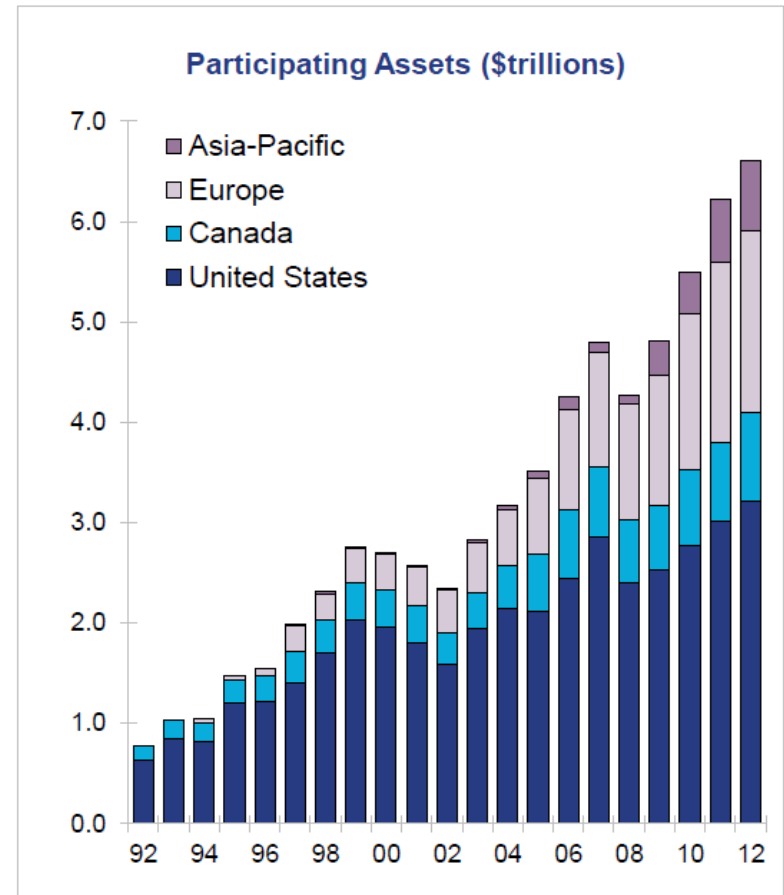


CEM Benchmarking Investment Performance & Costs

The World Bank
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Investment data and conclusions are drawn from the CEM Global Investment Benchmarking Database.

- About 360 global funds with aggregate assets of almost \$7 trillion USD participate. Included are DB funds, SWF's, buffer funds, and some DC asset management platforms.
- The database includes the following metrics:
 - Holdings
 - Policy/Reference Portfolio Weights
 - Fund & Asset Class Returns
 - Asset Class Benchmarks & Returns
 - Costs
 - Liability structure
- Benchmarking focus is:
 - What you paid
 - What you got
 - What you risked



Key performance results in the global database

- Policy returns (from asset mix) are by far the biggest component of total returns.
- Funds in the CEM database generated positive but modest net value added from active management.
- Costs include all investment costs except for transaction costs and performance fees for private market asset classes. New data from Dutch funds suggests that total investment costs for a 'typical' fund would be about 20 bps higher with these costs included.

<u>Global / All Funds*</u>	
(22-year average, ending Dec. 31, 2012)	
Total Return	9.56%
- <u>Policy Return</u>	<u>9.00%</u>
= Gross Value Added	0.56%
- <u>Costs</u>	<u>0.41%</u>
= Net Value Added	0.15%

* 22-year averages are the simple average of 22 annual averages. All fund observations within each year are included. Total # of annual fund observations is 6,351. Median fund size is \$3.1B.

Characteristics associated with better performance

1. Larger funds did better than smaller funds.
2. More internal management was better.
3. Lower cost implementation explains most of 1 and 2.

Private market investments are much more expensive than public markets.

		Median Cost in basis points			
		Global Fixed Income	Global Stock	Real Estate	Private Equity*
Internal	Passive	--	5.1	n/a	n/a
	Active	3.3	7.8	27.3	34.4
External	Passive	7.1	5.5	n/a	n/a
	Active	29.0	49.2	75.0	165.0

* Private equity costs include gross limited partnership fees and internal monitoring costs. Carry, plus transaction & other costs within LP's, are excluded. The asset base is 'amount fees are based on' rather than NAV.

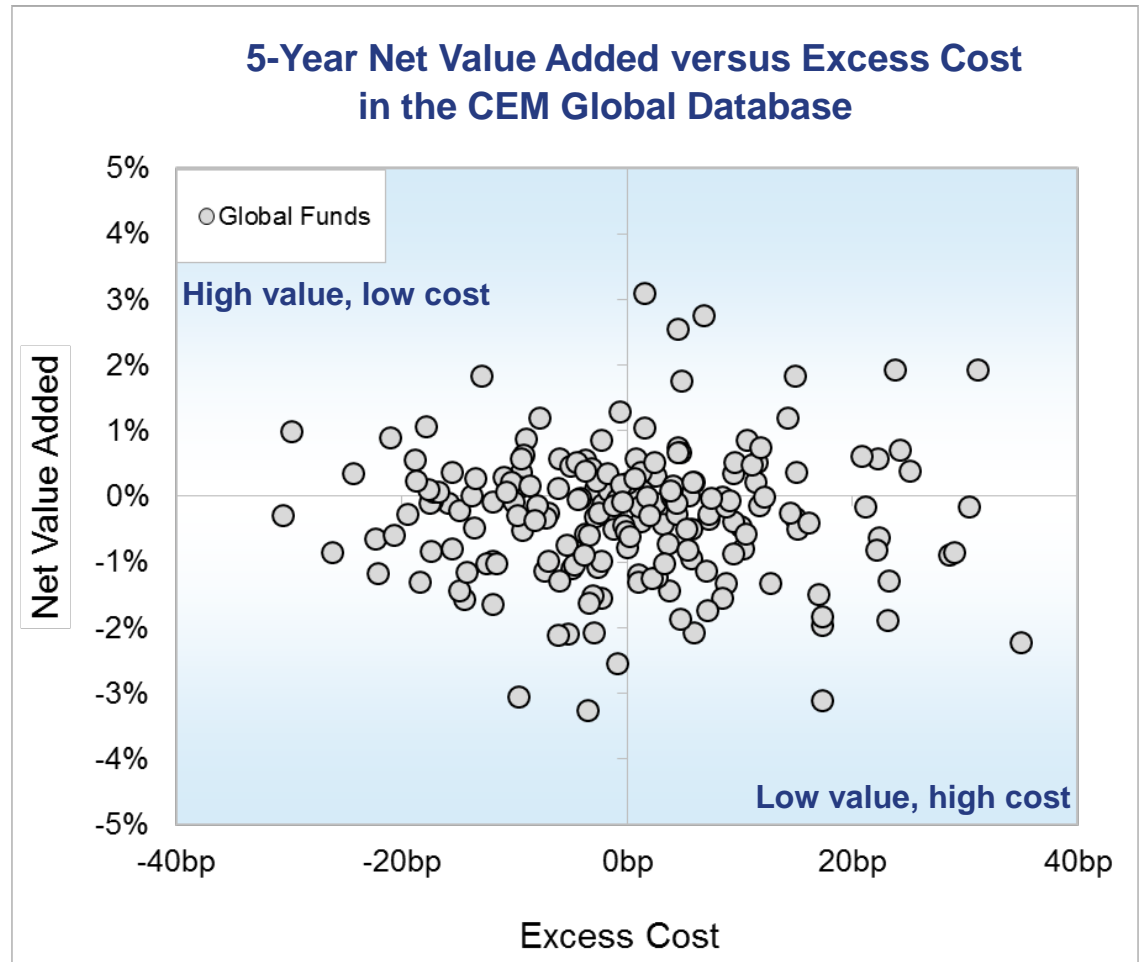
External active management is expensive. Fund of Funds add an additional cost layer.

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	Active	29.0	49.2	75.0	165.0
	FoFs			105.6	244.2

* Private equity costs include gross limited partnership fees and internal monitoring costs. Carry, plus transaction & other costs within LP's, are excluded. The asset base is 'amount fees are based on' rather than NAV.

Paying more does not get you more.

If paying more got you more, the data should cluster from the bottom left to the top right in the cost effectiveness chart to the right. It does not. Paying more does not get you more.



Despite evidence that paying more does not get you more, there are surprisingly wide ranges in what funds pay for similar services.

Cost Range in Basis Points			
	External Passive Global Fixed Inc.	Internal Active Real Estate	External Active Global Stock
90 th Percentile	8.5	60.2	83.3
75 th Percentile	7.8	41.2	62.7
Median	7.1	27.3	49.2
25 th Percentile	4.0	15.8	38.8
10 th Percentile	1.6	7.1	24.0

From 1996 to 2012, the average annual private equity return was 9.3%, inclusive of all implementation styles.

Private Equity in the CEM Global Universe (1996 – 2012)		
	Total Private Equity	Observations Used
Average Return*	9.3%	1,975
Benchmark Return**	9.2%	1,975
Average NVA	0.1%	1,975

* Average return is the average over multiple trials of selecting an individual annual return from the CEM universe for each year from 1996-2012, compounding and annualizing. This methodology is used instead of compounding annual averages in order to capture the impact of the higher volatility individual funds tend to experience in comparison with the all-fund average.

** Benchmarks consist of blended small cap equity indices with a lag as constructed by CEM for the 2013 Global Leaders Illiquid Assets research project. These annual benchmarks are then selected, compounded and annualized alongside actual returns.

Lower cost internal implementation was best.

Private Equity in the CEM Global Universe (1996 – 2012)			
	Internal	External	Fund of Funds
Average Return*	12.2%	9.6%	7.2%
Benchmark Return**	8.7%	9.4%	8.8%
Average NVA	3.5%	0.2%	-1.6%
Observations Used	154	1,494	822

* Average return is the average over multiple trials of selecting an individual annual return from the CEM universe for each year from 1996-2012, compounding and annualizing. This methodology is used instead of compounding annual averages in order to capture the impact of the higher volatility individual funds tend to experience in comparison with the all-fund average.

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Key Lessons and Insights from the CEM Benchmarking Database

- Asset mix is important. It drives returns and risk.
- ‘Alpha’ is interesting but not important.
- Private markets are not a panacea. Implementation matters, because costs matter.
- Low cost implementation is a key performance differentiator.