



Iowa Public Employees' Retirement System

CEM Investment Benchmarking Report - 2022

September 2023

Key Takeaways

Returns

- Your 5-year net total return was 7.0%. This was above both the U.S. Public median of 5.9% and the peer median of 5.7%.
- Your 5-year policy return was 5.3%. This was above both the U.S. Public median of 4.6% and the peer median of 4.8%.

Value added

- Your 5-year net value added was 1.7%. This was above both the U.S. Public median of 1.1% and the peer median of 0.8%.

Cost

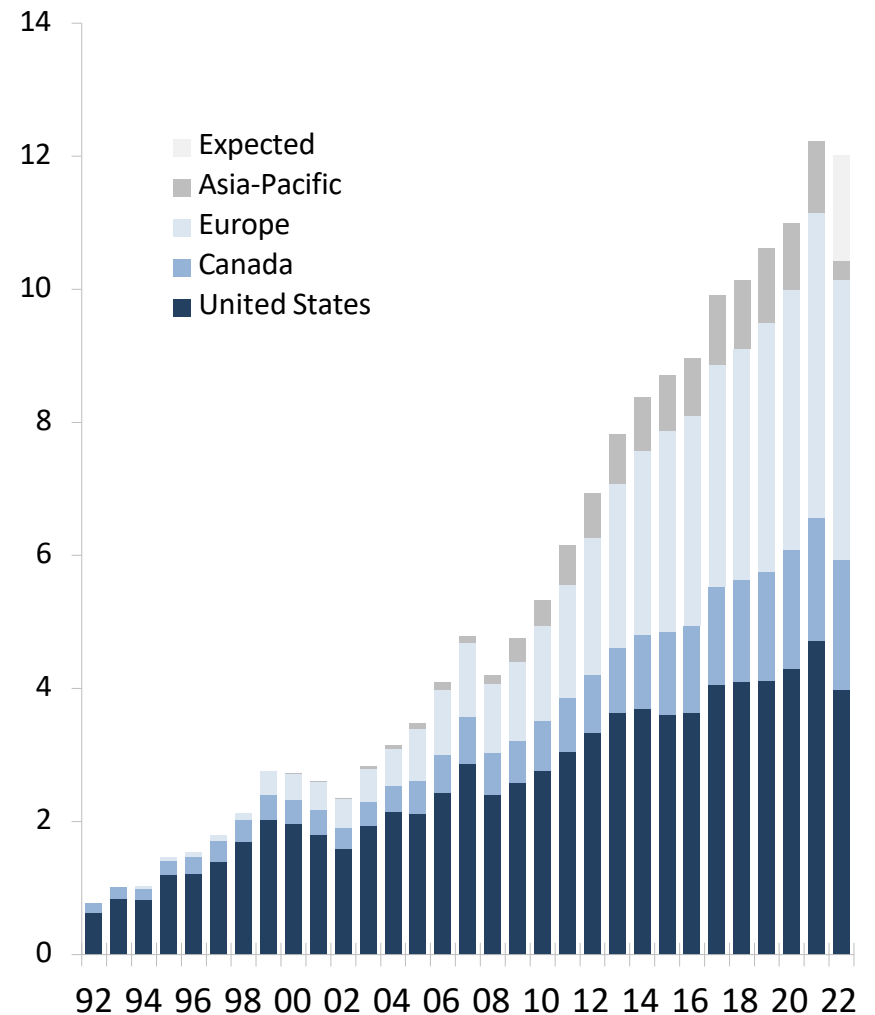
- Your investment cost of 44.3 bps was below your benchmark cost of 57.7 bps. This suggests that your fund was low cost compared to your peers.
- Your fund was low cost because it paid less than peers for similar services and it had a lower cost implementation style.
- Your costs increased by 5.4 bps, from 38.9 bps in 2018 to 44.3 bps in 2022, primarily because you had a higher cost asset mix. This was partly offset by paying less in total for similar investment styles.

This benchmarking report compares your cost and return performance to the 258 funds in CEM's extensive pension database.

- 140 U.S. pension funds participate. The median U.S. fund had assets of \$9.4 billion and the average U.S. fund had assets of \$28.5 billion. Total participating U.S. assets were \$4.0 trillion.
- 68 Canadian funds participate with assets totaling \$2.0 trillion.
- 45 European funds participate with aggregate assets of \$4.2 trillion. Included are funds from the Netherlands, Norway, Sweden, Finland, Ireland, Denmark and the U.K.
- 4 Asia-Pacific funds participate with aggregate assets of \$276.0 billion. Included are funds from Australia, New Zealand, China and South Korea.
- 1 funds from other regions participate.

The most meaningful comparisons for your returns and value added are to the U.S. Public universe, which consists of 37 funds.

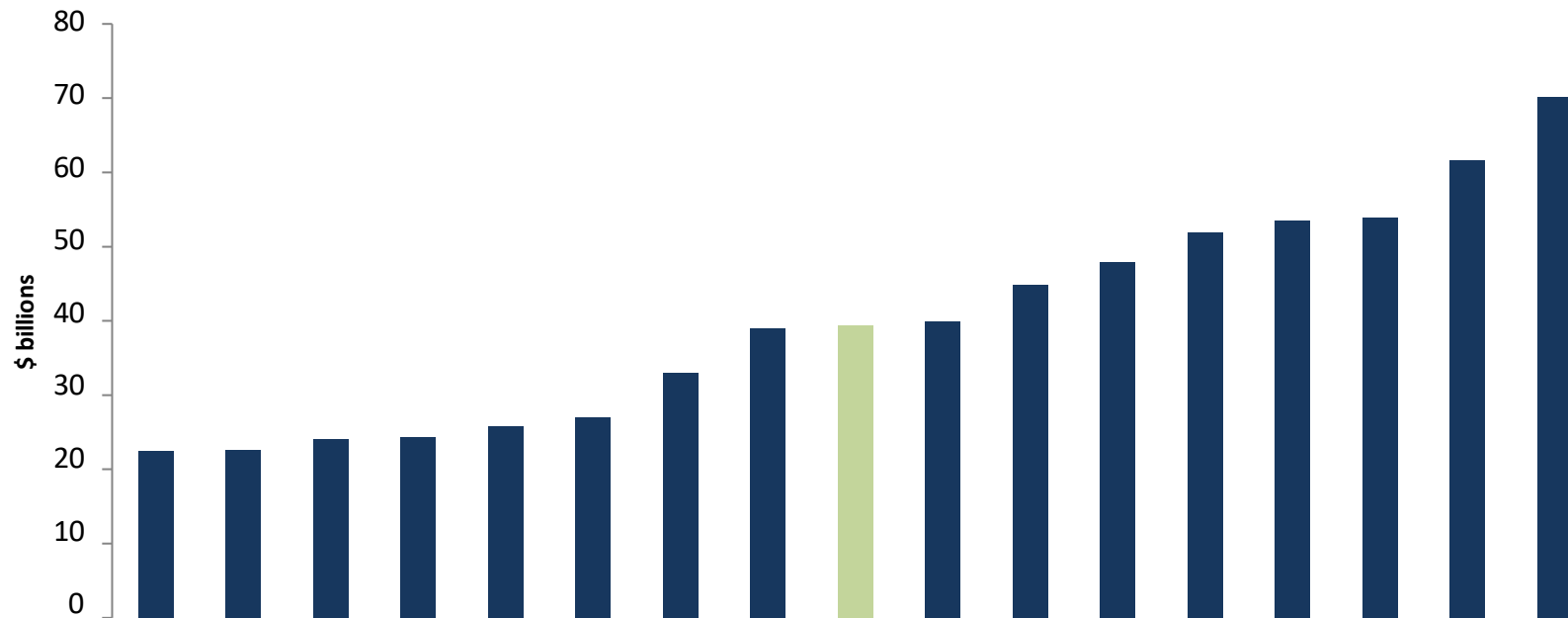
Participating assets (\$ trillions)



The most valuable comparisons for cost performance are to your custom peer group because size impacts costs.

Peer group for Iowa Public Employees' Retirement System

- 17 U.S. Public sponsors from \$22.5 billion to \$70.1 billion
- Median size of \$39.3 billion versus your \$39.3 billion



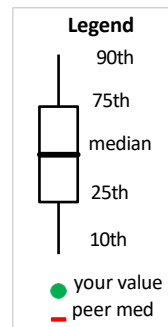
To preserve client confidentiality, given potential access to documents as permitted by the Freedom of Information Act, we do not disclose your peers' names in this document. For some of the peers, 2021 cost data was used as a proxy for 2022.

Your 5-year net total return of 7.0% was above both the U.S. Public median of 5.9% and the peer median of 5.7%.

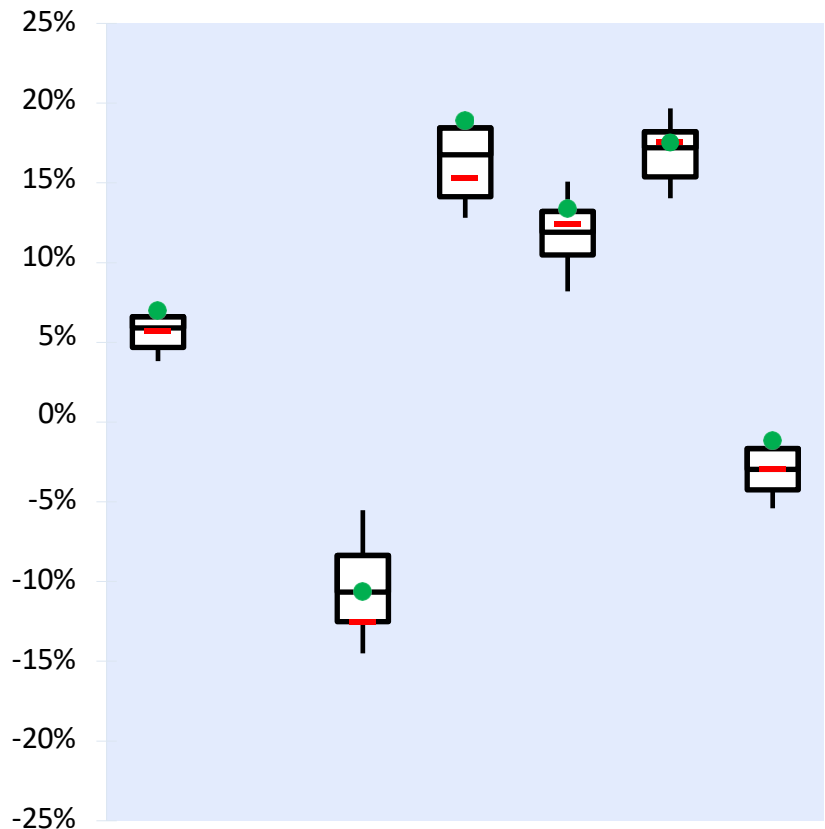
Total returns, by themselves, provide little insight into the reasons behind relative performance. Therefore, we separate total return into its more meaningful components: policy return and value added.

	Your 5-year
Net total fund return	7.0%
- Policy return	5.3%
= Net value added	1.7%

This approach enables you to understand the contribution from both policy mix decisions (which tend to be the board's responsibility) and implementation decisions (which tend to be management's responsibility).



U.S. Public net total returns - quartile rankings



	5-year	2022	2021	2020	2019	2018
You	7.0%	-10.6%	18.9%	13.4%	17.5%	-1.1%
Peer med	5.7%	-12.5%	15.3%	12.4%	17.6%	-2.9%
Univ med	5.9%	-10.6%	16.8%	11.9%	17.2%	-2.9%

Your 5-year policy return of 5.3% was above both the U.S. Public median of 4.6% and the peer median of 4.8%.

Your policy return is the return you could have earned passively by indexing your investments according to your policy mix.

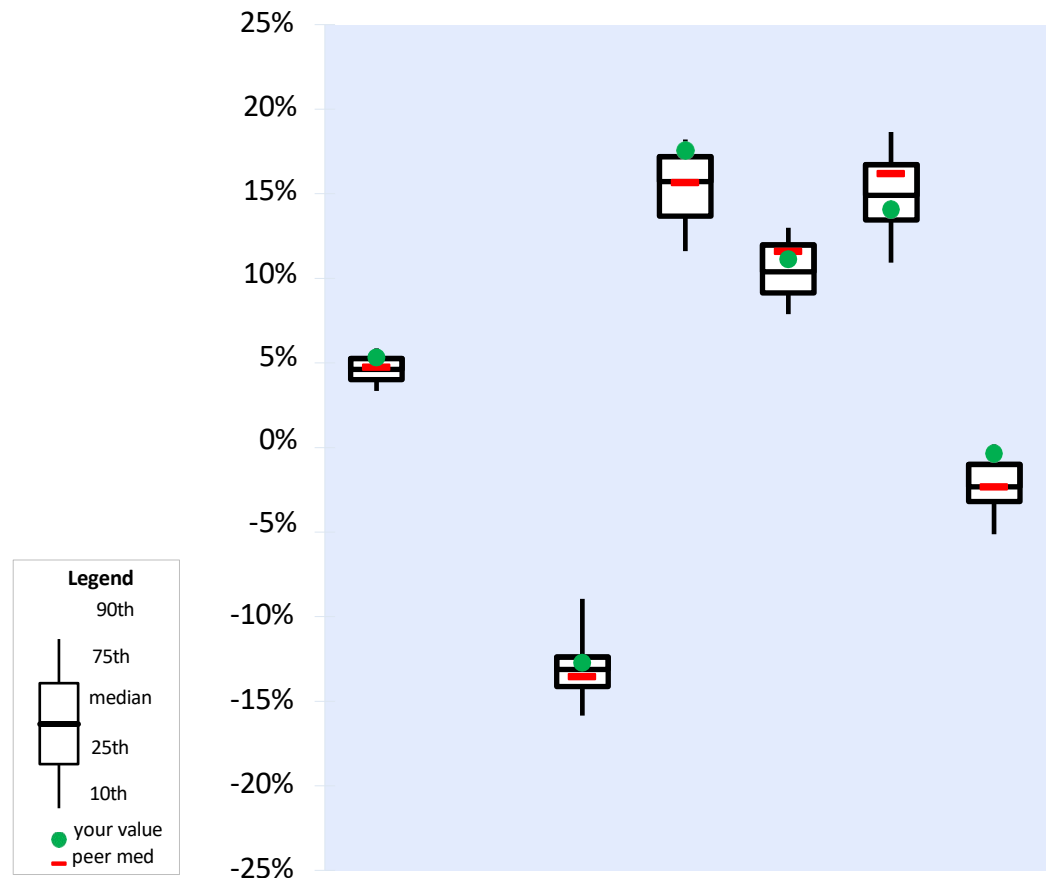
Having a higher or lower relative policy return is not necessarily good or bad. Your policy return reflects your investment policy, which should reflect your:

- Long term capital market expectations
- Liabilities
- Appetite for risk

Each of these three factors is different across funds. Therefore, it is not surprising that policy returns often vary widely between funds.

To enable fairer comparisons, the policy returns of all participants, including your fund, were adjusted to reflect private equity benchmarks based on lagged, investable, public-market indices. Prior to this adjustment, your 5-year policy return was 7.0%, 1.6% higher than your adjusted 5-year policy return of 5.3%. Mirroring this, your 5-year total fund net value added would be 1.6% lower.

U.S. Public policy returns - quartile rankings



	5-year	2022	2021	2020	2019	2018
You	5.3%	-12.7%	17.6%	11.1%	14.0%	-0.4%
Peer med	4.8%	-13.5%	15.7%	11.6%	16.2%	-2.3%
Univ med	4.6%	-13.1%	15.7%	10.4%	14.9%	-2.3%

Your 5-year policy return of 5.3% was above the U.S. Public median of 4.6% primarily because of:

- Your higher allocation to U.S. Stock (your 25% 5-year average weight versus a U.S. Public average of 18%), which was one of the better performing asset classes over the past 5 years.
- This was partly offset by your higher allocation to Fixed Income - U.S. (your 26% 5-year average weight versus a U.S. Public average of 17%), which was one of the poorer performing asset classes over the past 5 years.

	5-year average policy mix ¹			5-year benchmark return	
	Your Fund	U.S. Publ Avg.	More/ Less	Your Fund	U.S. Publ Avg.
Stock - U.S.	25%	18%	7%	9.0%	8.6%
Stock - EAFE	0%	5%	-5%	n/a ³	1.8%
Stock - ACWI x U.S.	18%	6%	12%	0.9%	1.8%
Stock - Global	0%	14%	-14%	n/a ³	5.4%
Other Stock ²	0%	5%	-5%	n/a ³	n/a ³
Total Stock	43%	47%	-4%	5.6%	5.4%
Fixed income - U.S.	26%	17%	9%	0.2%	0.2%
Fixed income - Long bonds	0%	2%	-2%	n/a ³	-1.7%
Fixed income - Inflation indexed	2%	3%	-1%	n/a ³	1.6%
Cash	1%	-1%	2%	1.3%	1.2%
Other Fixed Income ²	4%	5%	-1%	n/a ³	n/a ³
Total Fixed Income	33%	26%	6%	0.3%	0.3%
Hedge funds	0%	3%	-3%	n/a ³	4.0%
Natural resources	1%	1%	1%	8.8%	5.4%
REITs	1%	1%	0%	n/a ³	2.6%
Real estate ex-REITs	6%	8%	-2%	7.7%	8.3%
Other Real Assets ²	1%	2%	-2%	n/a ³	n/a ³
Private equity	13%	10%	3%	6.5%	6.5%
Private debt	3%	2%	1%	7.0%	4.7%
Total	100%	100%			

1. 5-year weights are based only on plans with 5 years of continuous data.

2. Other stock includes: Stock - Emerging. Other fixed income includes: Fixed income - U.S. gov't and Fixed income - U.S. credits. Other real assets include: Commodities and Infrastructure.

3. A value of 'n/a' is shown if asset class returns are not available for the full 5 years or if they are broad and incomparable.

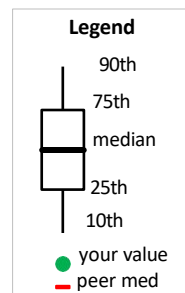
Net value added is the component of total return from active management. Your 5-year net value added was 1.7%.

Net value added equals total net return minus policy return.

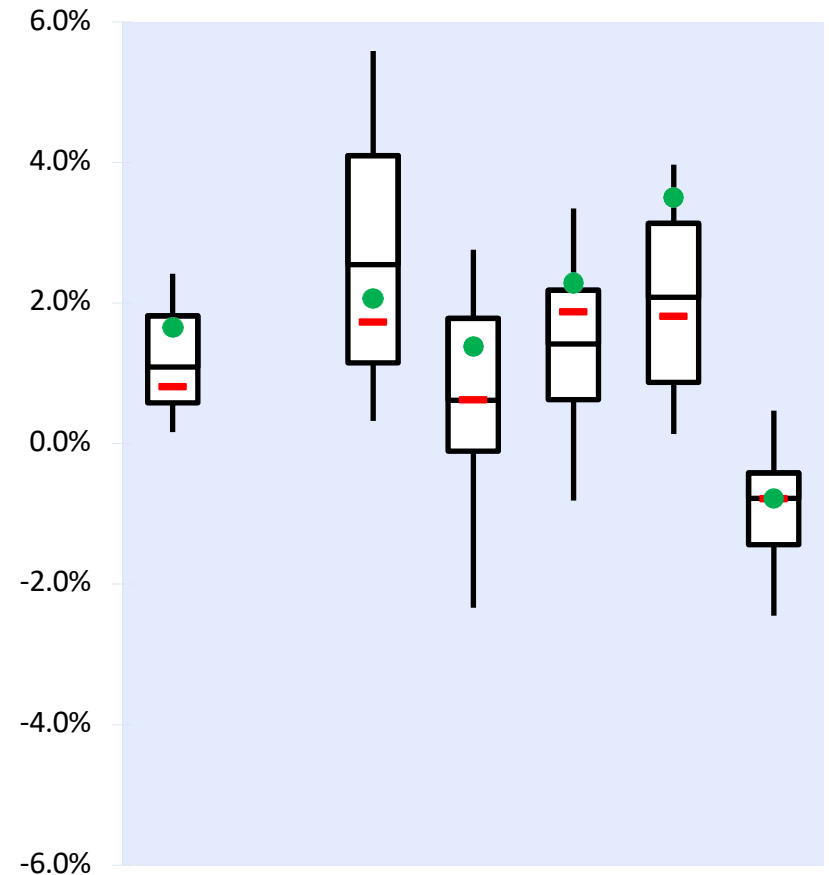
Value added for Iowa Public Employees' Retirement System

Year	Net return	Policy return	Net value added
2022	-10.6%	-12.7%	2.1%
2021	18.9%	17.6%	1.4%
2020	13.4%	11.1%	2.3%
2019	17.5%	14.0%	3.5%
2018	-1.1%	-0.4%	-0.8%
5-Year	7.0%	5.3%	1.7%

Your 5-year net value added of 1.7% compares to a median of 0.8% for your peers and 1.1% for the U.S. Public universe.



U.S. Public net value added - quartile rankings

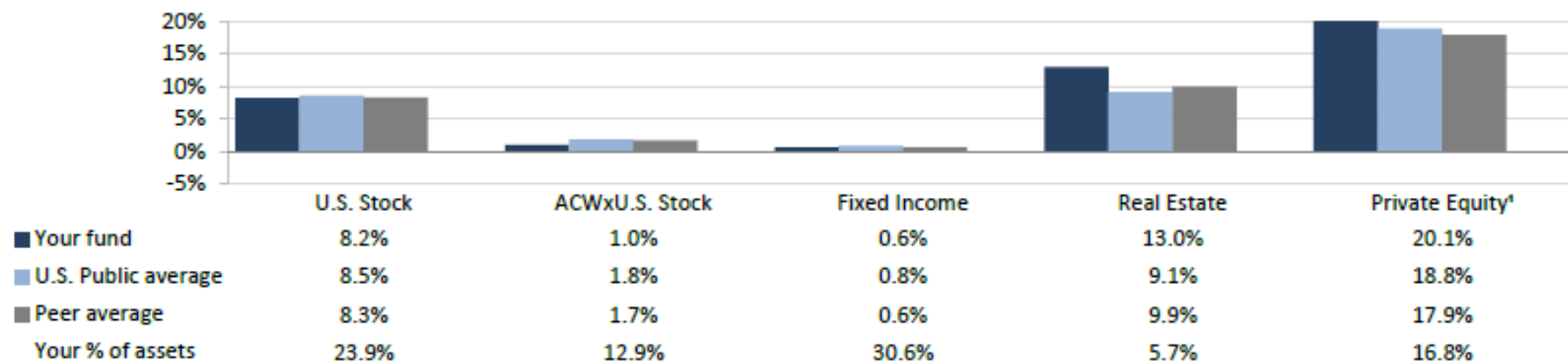


	5-year	2022	2021	2020	2019	2018
You	1.7%	2.1%	1.4%	2.3%	3.5%	-0.8%
Peer med	0.8%	1.7%	0.6%	1.9%	1.8%	-0.8%
Univ med	1.1%	2.5%	0.6%	1.4%	2.1%	-0.8%

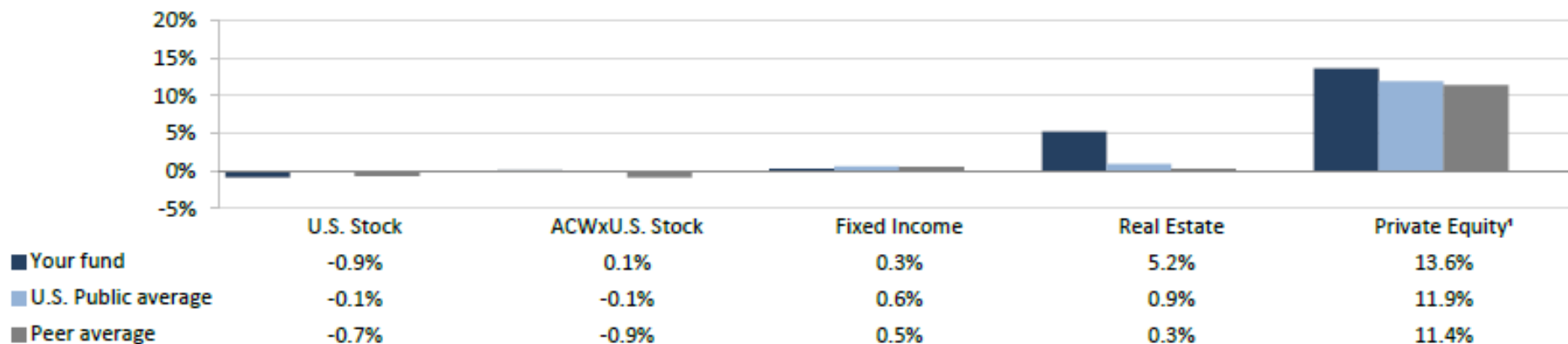
To enable fairer comparisons, the value added for each participant including your fund was adjusted to reflect private equity benchmarks based on lagged, investable public market indices. Prior to this adjustment, your fund's 5-year total fund net value added was 0.0%.

Comparisons of your 5-year net return and net value added by major asset class:

5-year average net return by major asset class



5-year average net value added by major asset class



1. To enable fairer comparisons, the private equity benchmarks of all participants, including your fund were adjusted to reflect lagged, investable, public-market indices. Prior to this adjustment, your fund's 5-year private equity net value added was -1.2%.

Your investment costs, excluding private asset performance fees, were \$190.9 million or 44.3 basis points in 2022.

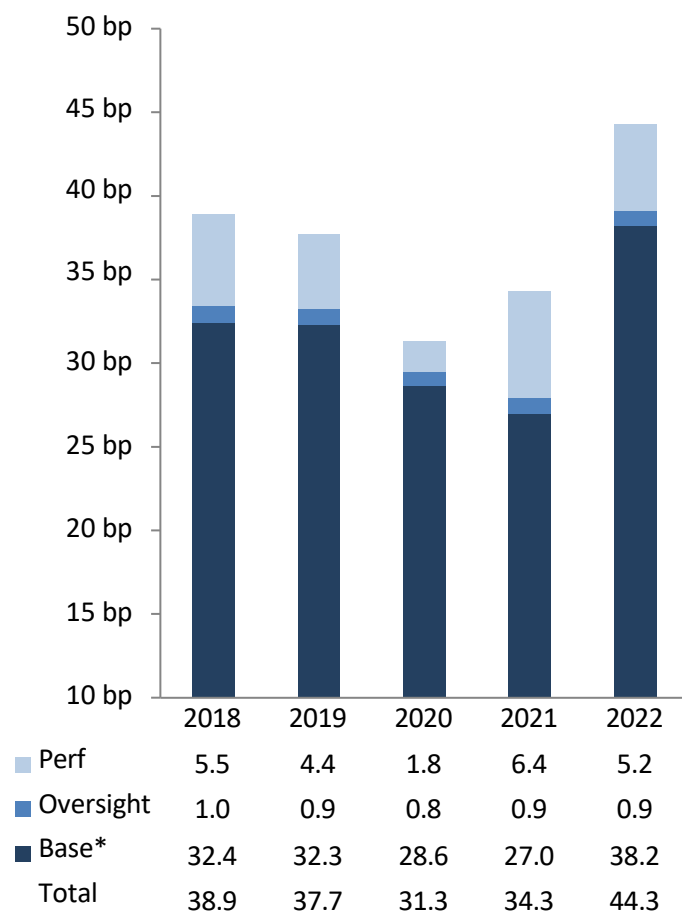
Asset management costs by asset class and style (\$000s)	Internal Overseeing of external	External Management			Total	
		Passive fees	Active base fees	Perform. fees ²		
Stock - U.S. broad/all		288	324	387	999	
Stock - Emerging		39	1,361	671	2,070	
Stock - ACWI x U.S.		621	757	288	1,667	
Fixed income - U.S.		31	1,723	3,121	4,874	
Fixed income - High yield			570	1,522	2,092	
Cash			234		234	
Infrastructure ²			1,095	1,194	1,095	
Natural resources ²			1,971	1,958	1,971	
Real estate ex-REITs ²			12,200	9,706	12,200	
Private equity - Diversified - LP ^{1 2}	9,792		121,321	126,047	131,113	
Private equity - Diversified - Co-invest. ²	1,088				1,088	
Private credit - Evergreen ²			10,596		10,596	
Derivatives/Overlays	340	239	6	16,217	16,802	
Total excluding private asset performance fees					186,801	43.3bp
Oversight, custodial and other costs ³						
Oversight of the fund					2,263	
Trustee & custodial					809	
Consulting and performance measurement					480	
Audit					164	
Other					345	
Total oversight, custodial & other costs					4,061	0.9bp
Total investment costs (excl. transaction costs & private asset performance fees)					190,862	44.3bp

Footnotes

1. Default base fees were added: Private equity - Diversified - LP 154 bp. Refer to Appendix A for full details regarding defaults.
2. Total cost excludes carry/performance fees for real estate, infrastructure, natural resources and private equity. Performance fees are included for the public market asset classes and hedge funds.
3. Excludes non-investment costs, such as benefit insurance premiums and preparing cheques for retirees.

Your costs increased by 5.4 bps, from 38.9 bps in 2018 to 44.3 bps in 2022, primarily because you had a higher cost asset mix. This was partly offset by paying less in total for similar investment styles.

Trend in cost



Reasons why your costs increased by 5.4 bps

			Impact in bps
1. Higher cost asset mix			
• More Private equity: 2018 13% vs 2022 20%			12.5
• More Private debt: 2018 2% vs 2022 3%			1.6
• All other mix changes			(1.1)
			<hr/> 13.1
2. Lower cost implementation style			
• More passive, less active			(3.1)
• All other implementation style changes			0.2
			<hr/> (2.9)
3. Paid less in total for similar investment styles	<u>2018 cost</u>	<u>2022 cost</u>	
• Lower Private Equity LP base fees	186.1 bp	166.4 bp	(3.6)
• Lower external active U.S. Broad/All Stock costs	34.8 bp	3.0 bp	(1.8)
• Lower Private Credit base fees	91.1 bp	72.7 bp	(0.6)
• Lower external active ACWI X U.S. Stock costs	11.9 bp	3.7 bp	(0.5)
• Higher costs for overlays and unfunded strategies	1.0 bp	3.9 bp	2.9
• All other differences			(1.2)
			<hr/> (4.8)
Total increase			<hr/> <hr/> 5.4

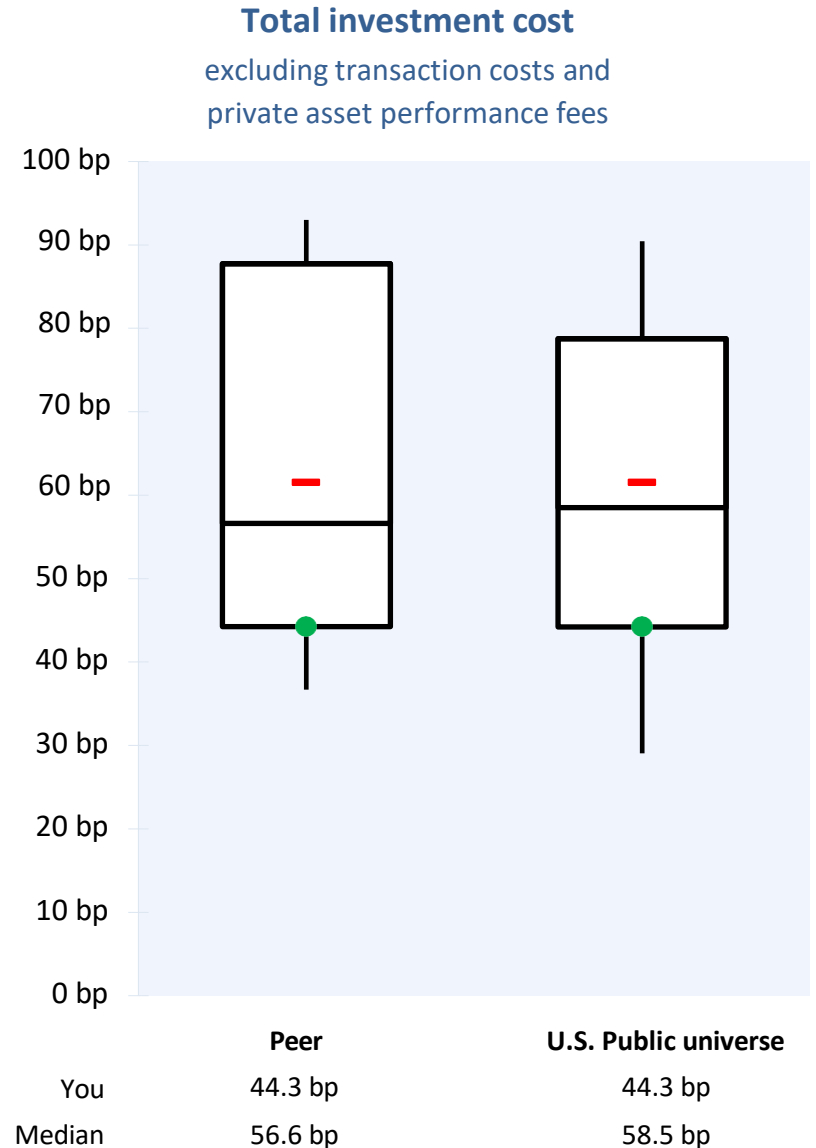
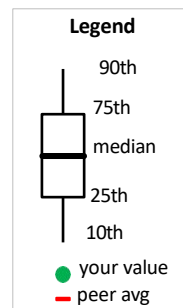
*Includes fees for managing internal assets and internal costs of monitoring external programs, where allocated.

Your total investment cost of 44.3 bps was below the peer median of 56.6 bps.

Differences in total investment cost are often caused by two factors that are often outside of management's control:

- Asset mix, particularly holdings of the highest cost asset classes: real estate (excl. REITs), infrastructure, hedge funds, private equity and private credit. These high cost assets equaled 33% of your assets at the end of 2022 versus a peer average of 28%.
- Fund size. Bigger funds have advantages of scale.

Therefore, to assess whether your costs are high or low given your unique asset mix and size, CEM calculates a benchmark cost for your fund. This analysis is shown on the following page.



Benchmark cost analysis suggests that, after adjusting for fund size and asset mix, your fund was low cost by 13.4 basis points in 2022.

Your benchmark cost is an estimate of what your cost would be given your actual asset mix and the median costs that your peers pay for similar services. It represents the cost your peers would incur if they had your actual asset mix.

Your total cost of 44.3 bp was below your benchmark cost of 57.7 bp. Thus, your cost savings were 13.4 bp.

Your cost versus benchmark

	\$000s	basis points
Your total investment cost	190,862	44.3 bp
Your benchmark cost	248,792	57.7 bp
Your excess cost	(57,930)	(13.4) bp

Your fund was low cost because it paid less than peers for similar services and it had a lower cost implementation style.

Reasons for your low cost status

	Excess Cost/ (Savings)	
	\$000s	bps
1. Lower cost implementation style		
• Less active management, more lower cost passive	(6,027)	(1.4)
• More external management, less lower cost internal	1,820	0.4
• Less LPs as a percentage of external	(8,474)	(2.0)
• Less fund of funds	(11,380)	(2.6)
• More co-investment as a percentage of LP/Co	(6,075)	(1.4)
• More overlays	13,633	3.2
	<u>(16,503)</u>	<u>(3.8)</u>
2. Paying less than peers for similar services		
• External investment management costs	(35,745)	(8.3)
• Oversight, custodial & other costs	(5,682)	(1.3)
	<u>(41,427)</u>	<u>(9.6)</u>
Total savings	<u>(57,930)</u>	<u>(13.4)</u>

Your implementation style was 3.8 bps lower cost than the peer average.

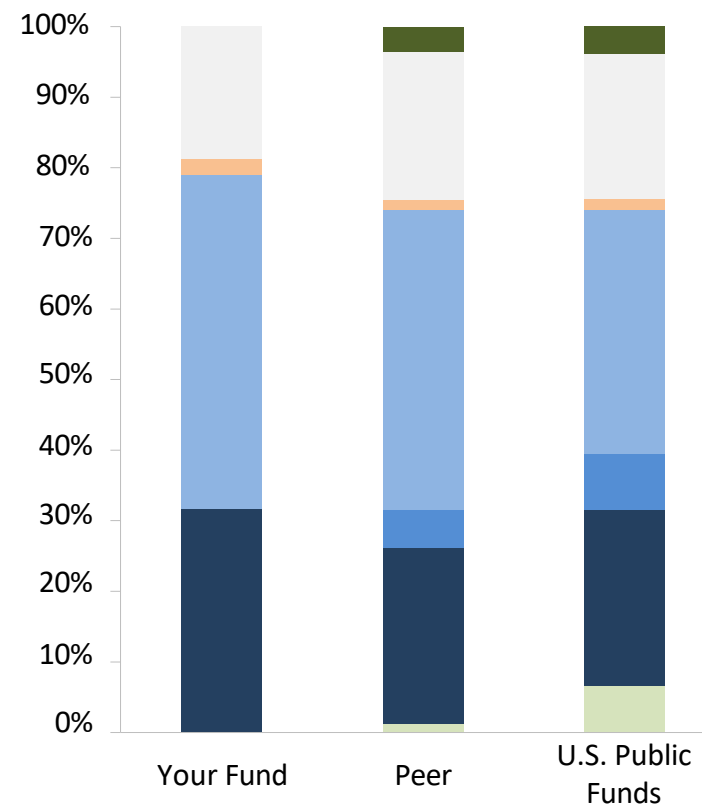
Implementation style is the way in which your fund implements asset allocation. Each implementation choice has a cost. Your first choice is how much to implement passively or actively. The table below summarizes your aggregate choices versus peers and their cost impact.

Implementation choices	Impact
More passive, less active	(1.4) bp
Less internal as a % of passive	(0.0) bp
Less internal as a % of active	0.4 bp
More evergreen % in private assets, excl. PE	(2.0) bp
Less fund of funds % of LP/Co/FoF	(2.6) bp
More co-investment % of LP/Co	(1.4) bp
More overlays	3.2 bp
Total impact	(3.8) bp

1. Implementation style is shown as a % of total fund fee basis because the fee basis is the primary driver of cost for private assets (e.g., new private equity LP commitments increase costs before LP NAV increases). Style weights are based on average holdings. Cash and derivatives are excluded.

The peer and universe style was adjusted to match your asset mix. It equals their average style for each asset class weighted by your fee basis for the asset class. It shows how the average peer would implement your asset mix.

Implementation style¹



Fund of funds	0.0%	3.5%	3.9%
LP	18.8%	21.0%	20.6%
Co-investment	2.2%	1.3%	1.5%
External active	47.3%	42.6%	34.5%
Internal active	0.0%	5.4%	7.8%
External passive	31.7%	25.0%	25.1%
Internal passive	0.0%	1.2%	6.5%

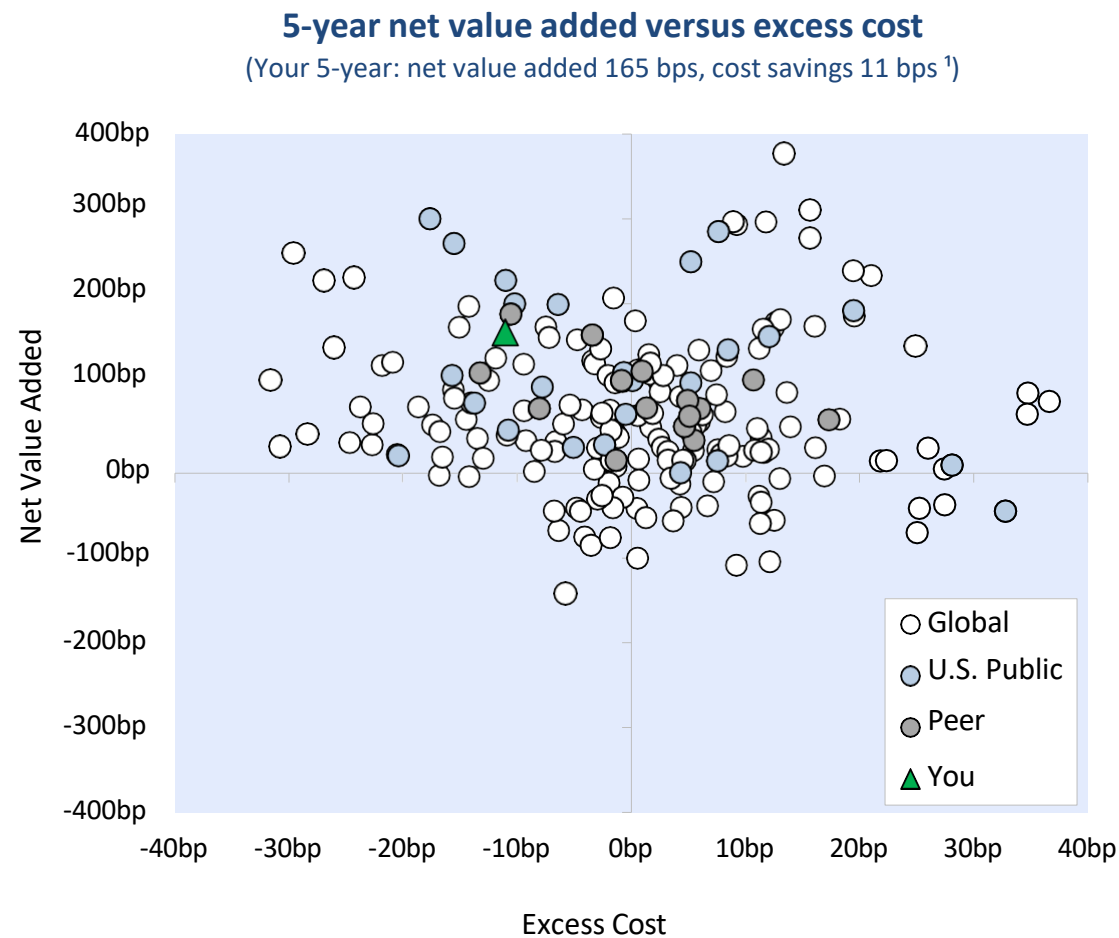
The table below summarizes why your fund is high/low cost relative to the peer-median by asset class.

Why are you high/(low) cost by asset class?

Asset class/category	Style weighted cost			Your average assets (or fee basis) ²	Due to impl. style	Due to paying more/(less) ³	Total more/(less)
	Your cost	Peer median ¹ = Benchmark	More/(less)				
	(A)	(B)	(C = A - B)	(D)			(C x D)
Asset management costs							
Stock - U.S. broad/all	1.0 bp	6.7 bp	(5.7) bp	9,999	(833)	(4,866)	(5,699)
Stock - Emerging	9.8 bp	36.6 bp	(26.8) bp	2,121	(941)	(4,746)	(5,687)
Stock - ACWI x U.S.	3.0 bp	29.2 bp	(26.2) bp	5,557	(3,738)	(10,802)	(14,540)
Fixed income - U.S.	5.0 bp	8.0 bp	(3.0) bp	9,684	846	(3,727)	(2,880)
Fixed income - Emerging	0.0 bp	32.7 bp	(32.7) bp	463	138	(1,653)	(1,514)
Fixed income - High yield	22.4 bp	28.8 bp	(6.5) bp	935	73	(679)	(606)
Real estate ex-REITs	48.0 bp	100.5 bp	(52.5) bp	2,539	(4,017)	(9,309)	(13,326)
Infrastructure	73.1 bp	78.7 bp	(5.6) bp	150	(228)	144	(85)
Natural resources	74.1 bp	89.8 bp	(15.8) bp	266	(420)	0	(420)
Private equity - Diversified	149.9 bp	169.9 bp	(19.9) bp	8,817	(17,455)	(107)	(17,562)
Private credit	72.7 bp	97.1 bp	(24.4) bp	1,458	(3,561)	0	(3,561)
Derivatives/Overlays	3.9 bp	0.7 bp	3.2 bp	43,093	13,633	0	13,633
Total asset management	43.3 bp	55.5 bp	(12.1) bp	43,093	(16,503)	(35,745)	(52,247)
Oversight, custody and other costs⁴							
Oversight of the Fund	0.5 bp	0.8 bp	(0.3) bp				
Trustee & Custodial	0.2 bp	0.4 bp	(0.2) bp				
Consulting	0.1 bp	0.2 bp	(0.0) bp				
Audit	0.0 bp	0.1 bp	(0.0) bp				
Other	0.1 bp	0.2 bp	(0.1) bp				
Total oversight, custody & other	0.9 bp	2.3 bp	(1.3) bp	43,093	n/a	(5,682)	(5,682)
Total	44.3 bp	57.7 bp	(13.4) bp	43,093	(16,503)	(41,427)	(57,930)

1. The weighted peer median cost for asset management is the style-weighted average of the peer median costs for all implementation styles (e.g., internal passive, external active, fund of fund, etc.). It excludes performance fees on private assets.
2. Total fund average holdings is used as the base when calculating the relative cost impact of the overlay programs.
3. Total more/less differences include the impact of performance fees, which are not shown separately on this page. Refer to section 4 for a comprehensive breakdown of your differences.
4. Benchmarks for oversight total and individual lines are based on peer medians. Sum of the lines may be different from the total.

Your 5-year performance placed in the positive value added, low cost quadrant of the cost effectiveness chart.



1. Your 5-year savings of 11.0 basis points is the average of your peer-based savings for the past 5 years.

	2022	2021	2020	2019	2018	5-year
Net value added	206.7bp	138.4bp	228.7bp	349.9bp	(78.0) bp	165.3bp
Excess cost	(13.4) bp	(9.0) bp	(14.0) bp	(10.3) bp	(8.4) bp	(11.0) bp

Summary of key takeaways

Returns

- Your 5-year net total return was 7.0%. This was above both the U.S. Public median of 5.9% and the peer median of 5.7%.
- Your 5-year policy return was 5.3%. This was above both the U.S. Public median of 4.6% and the peer median of 4.8%.

Value added

- Your 5-year net value added was 1.7%. This was above both the U.S. Public median of 1.1% and the peer median of 0.8%.

Cost and cost effectiveness

- Your investment cost of 44.3 bps was below your benchmark cost of 57.7 bps. This suggests that your fund was low cost compared to your peers.
- Your fund was low cost because it paid less than peers for similar services and it had a lower cost implementation style.
- Your costs increased by 5.4 bps, from 38.9 bps in 2018 to 44.3 bps in 2022, primarily because you had a higher cost asset mix. This was partly offset by paying less in total for similar investment styles.

Thank you



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