

North Carolina Retirement Systems
Investment Cost Effectiveness Analysis - Summary of Results
For the 5 year period ending December 31, 2020



Michael Reid
Vice President

Key Takeaways

Returns

- Your 5-year net total return was 8.7%. This was below both the U.S. Public median of 9.6% and the peer median of 9.9%.
- Your 5-year policy return was 8.3%. This was below both the U.S. Public median of 9.2% and the peer median of 9.2%.

Value added

- Your 5-year net value added was 0.4%. This was equal to the U.S. Public median of 0.4% and slightly below the peer median of 0.6%.

Cost

- Your investment cost of 28.0 bps was below your benchmark cost of 35.9 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.
- Your costs decreased by 22.6 bps, from 50.5 bps in 2016 to 28.0 bps in 2020, primarily because you had a lower cost asset mix.

Risk

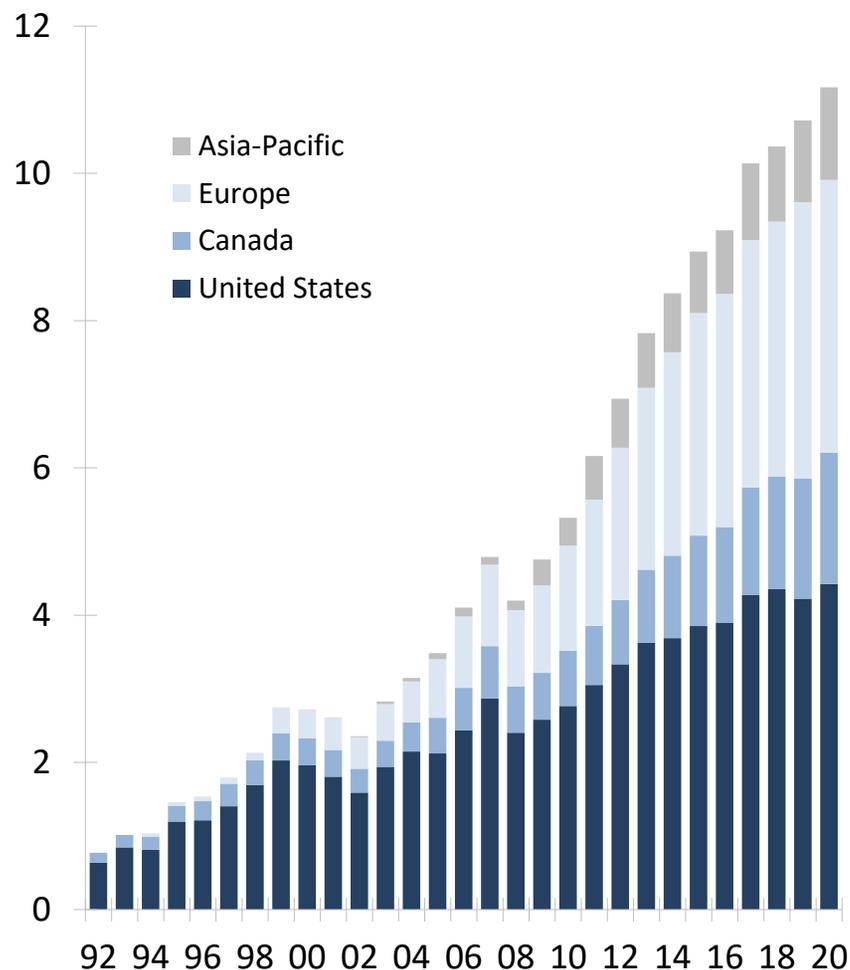
- Your asset risk of 9.6% was below the U.S. Public median of 10.7%.

This benchmarking report compares your cost and return performance to the 279 funds in CEM's extensive pension database.

- 158 U.S. pension funds participate. The median U.S. fund had assets of \$10.1 billion and the average U.S. fund had assets of \$28.0 billion. Total participating U.S. assets were \$4.4 trillion.
- 67 Canadian funds participate with assets totaling \$1.8 trillion.
- 45 European funds participate with aggregate assets of \$3.7 trillion. Included are funds from the Netherlands, Norway, Sweden, Finland, Ireland, Denmark and the U.K.
- 6 Asia-Pacific funds participate with aggregate assets of \$1.3 trillion. Included are funds from Australia, New Zealand, China and South Korea.
- 3 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 49 funds.

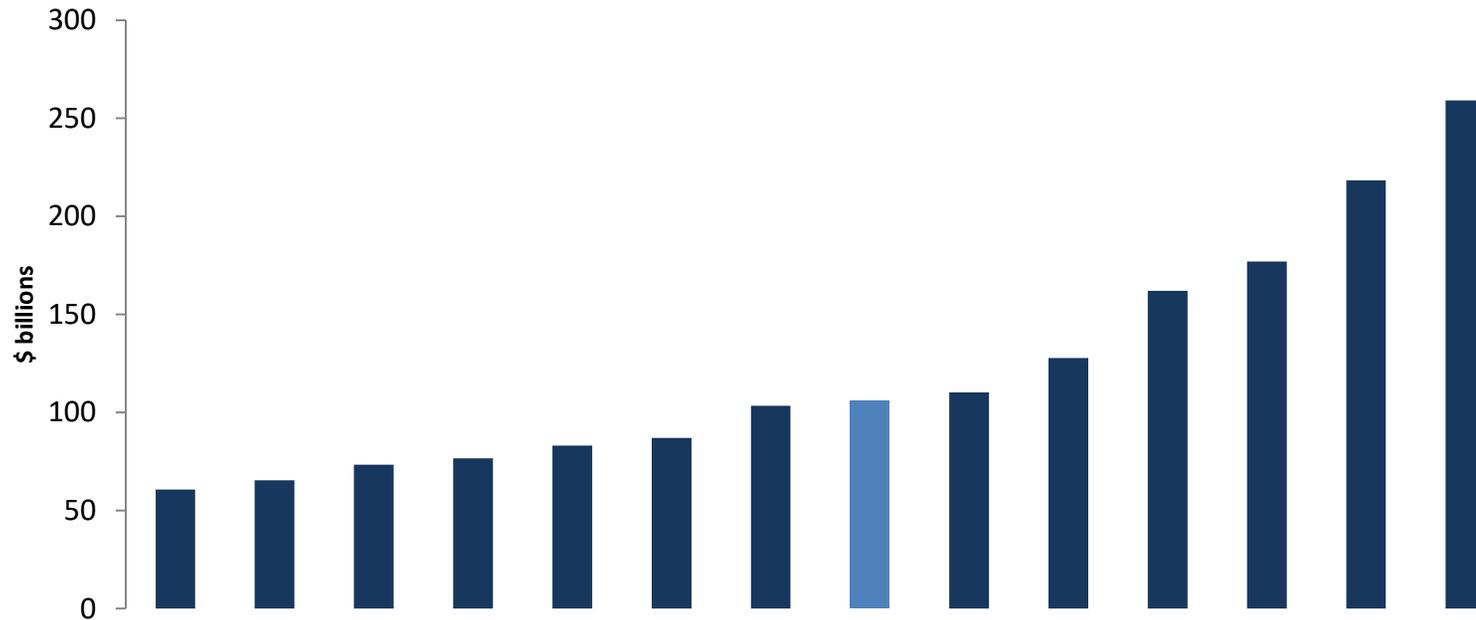
Participating assets (\$ trillions)



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

Peer group for North Carolina Retirement Systems

- 14 U.S. Public sponsors from \$60.6 billion to \$259.2 billion
- Median size of \$104.7 billion versus your \$106.1 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, 2019 cost data was used as a proxy for 2020.

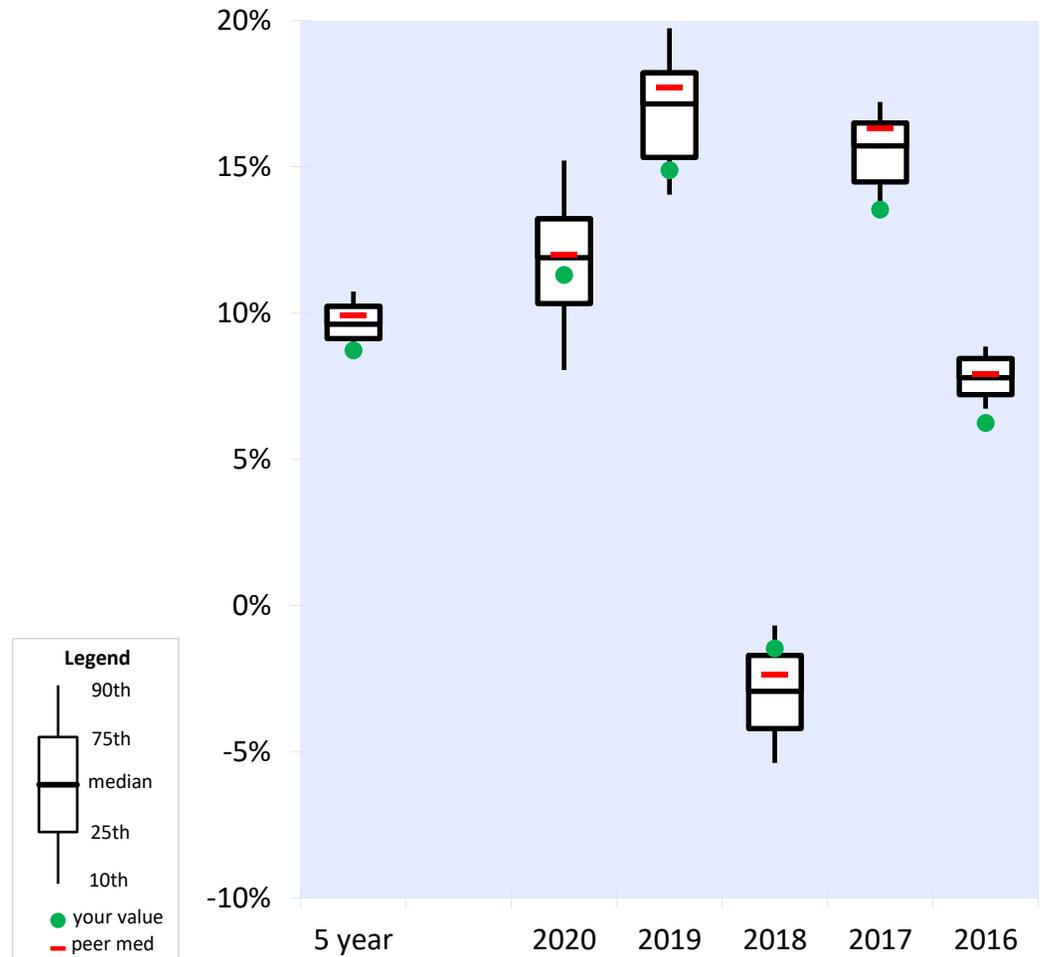
Your 5-year net total return of 8.7% was below both the U.S. Public median of 9.6% and the peer median of 9.9%.

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	8.7%
- Policy return	8.3%
= Net value added	0.4%

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



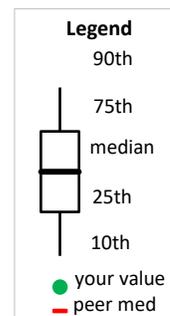
Your 5-year policy return of 8.3% was below both the U.S. Public median of 9.2% and the peer median of 9.2%.

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

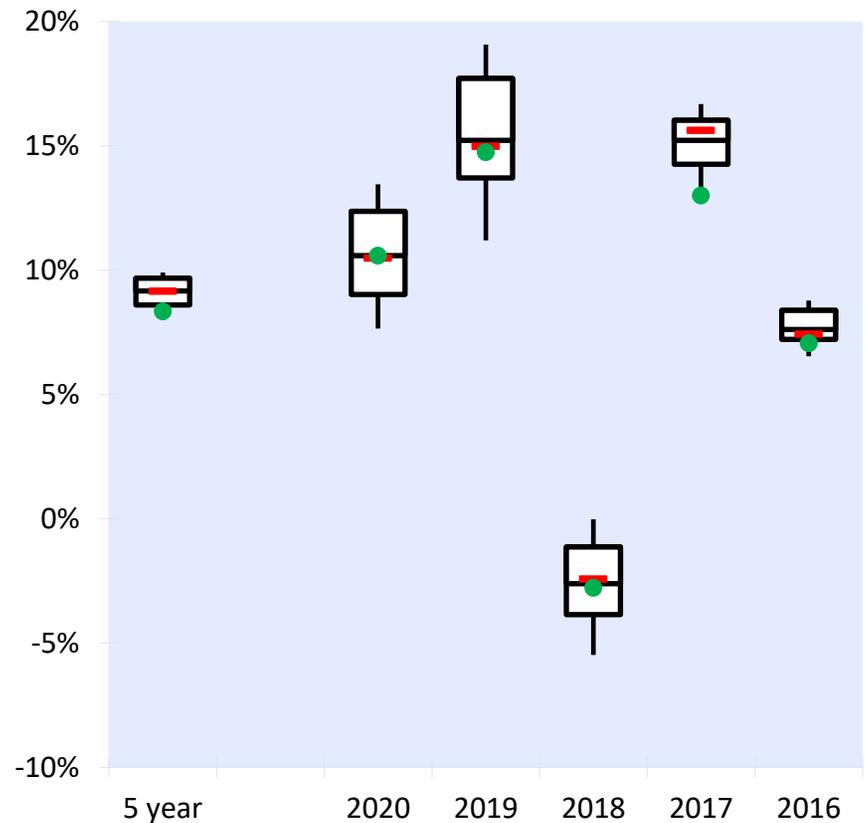
Having a higher or lower relative policy return is not necessarily good or bad. Your policy return reflects your investment policy, which should reflect your:

- 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.



U.S. Public policy returns - quartile rankings



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 8.4%, 0.04% higher than your adjusted 5-year policy return of 8.3%. Mirroring this, your 5-year total fund net value added would be 0.04% lower.

Your 5-year policy return of 8.3% was below the U.S. Public median of 9.2% primarily because of:

- The negative impact of your lower weight in Stocks (your 42% 5-year average weight versus a U.S. Public average of 47%). Stocks, both US and global have preformed well over the past 5 years.
- The negative impact of your higher weight in Fixed Income - U.S. (your 25% 5-year average weight versus a U.S. Public average of 16%). It was one of the worse performing asset classes of the past 5 years.
- The negative impact of your higher weight in Natural Resources (your 3% 5-year average weight versus a U.S. Public average of 1%). It was one of the worse performing asset classes of the past 5 years.

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 - High Yield and Fixed Income - Global. Other real assets include: Infrastructure and REITs.

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.

	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.	21%	19%	2%	15.4%	15.2%
Stock - EAFE	0%	5%	-5%	7.4%	7.9%
Stock - ACWI x U.S.	21%	7%	14%	9.0%	9.1%
Stock - Global	0%	12%	-12%	n/a ³	12.2%
Other Stock ²	0%	4%	-5%	n/a ³	n/a ³
Total Stock	42%	47%	-5%	12.3%	12.5%
Fixed Income - U.S.	25%	17%	9%	5.7%	4.6%
Fixed Inc. - Inflation Index	2%	3%	-1%	2.4%	5.4%
Cash	4%	-1%	5%	1.1%	1.2%
Other Fixed Income ²	0%	7%	-7%	n/a ³	n/a ³
Total Fixed Income	31%	25%	6%	5.0%	5.6%
Global TAA	2%	1%	1%	5.0%	7.1%
Hedge Funds	3%	4%	-1%	4.4%	4.5%
Commodities	1%	1%	0%	1.0%	0.0%
Natural Resources	3%	1%	2%	2.0%	2.8%
Real Estate ex-REITs	7%	8%	-1%	5.4%	5.6%
Other Real Assets ²	1%	2%	-1%	n/a ³	n/a ³
Private Equity	7%	9%	-2%	8.1%	7.0%
Private Debt	3%	2%	1%	n/a ³	6.3%
Total	100%	100%			

Net value added is the component of total return from active management. Your 5-year net value added was 0.4%.

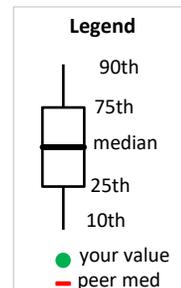
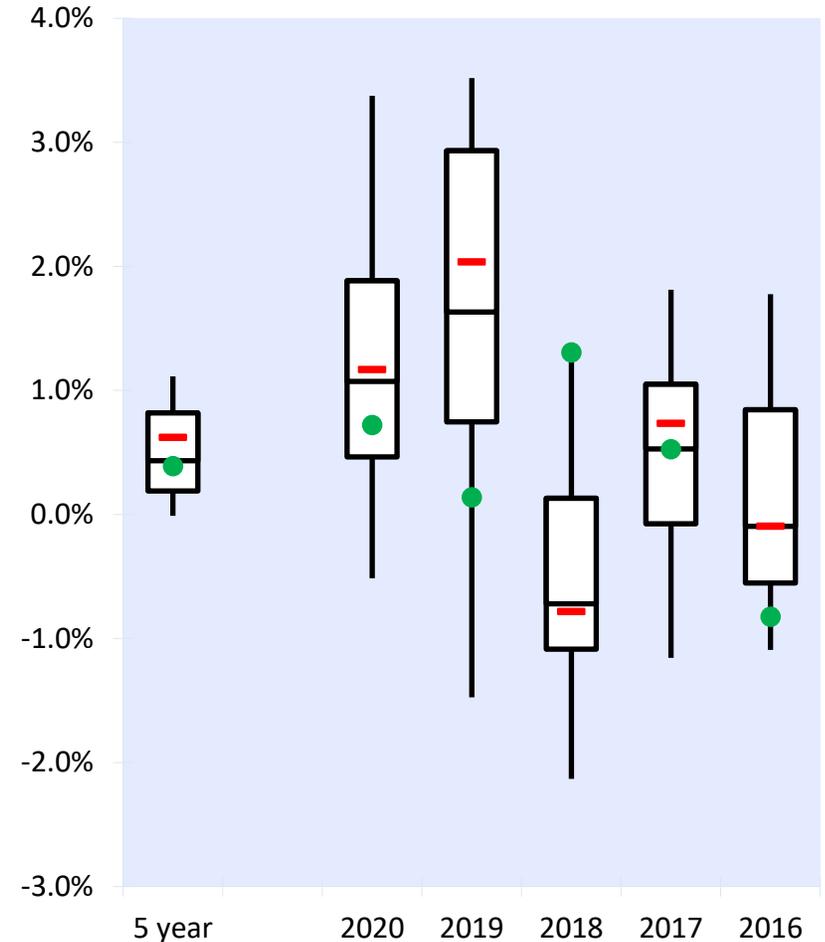
Net value added equals total net return minus policy return.

Value added for North Carolina Retirement Systems

Year	Net return	Policy return	Net value added
2020	11.3%	10.6%	0.7%
2019	14.9%	14.7%	0.1%
2018	-1.5%	-2.8%	1.3%
2017	13.5%	13.0%	0.5%
2016	6.2%	7.1%	-0.8%
5-Year	8.7%	8.3%	0.4%

Your 5-year net value added of 0.4% compares to a median of 0.6% for your peers and 0.4% for the U.S. Public universe.

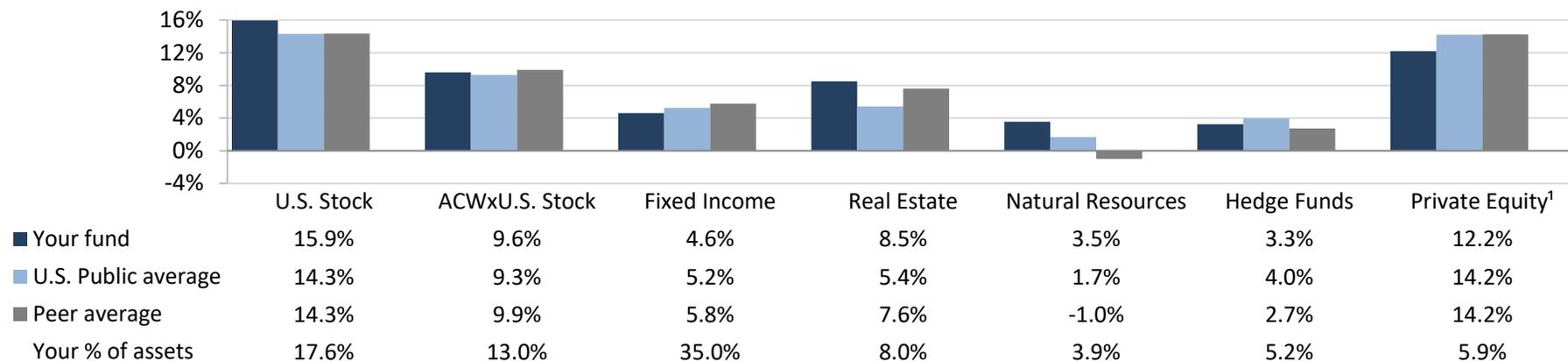
U.S. Public net value added - quartile rankings



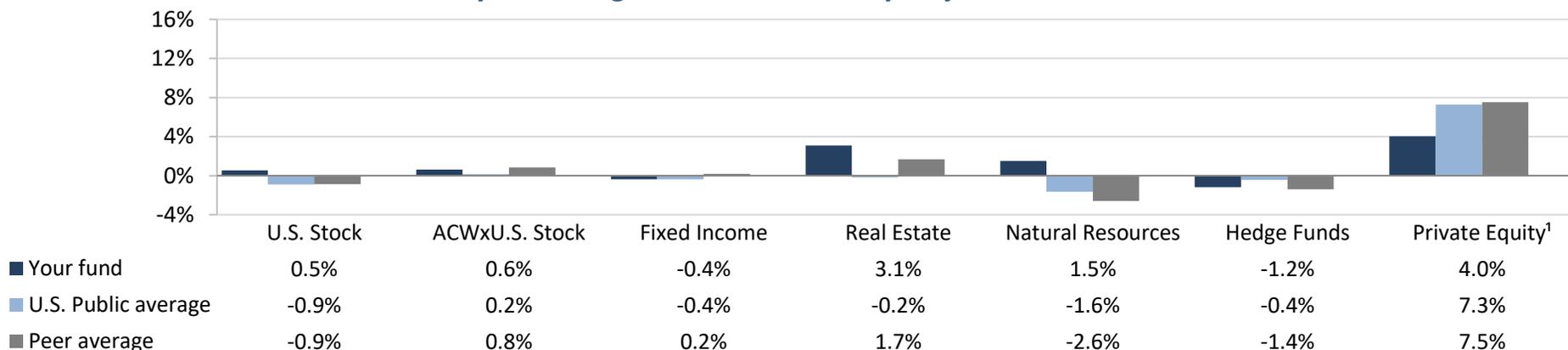
To enable fairer comparisons, the value added for each participant including your fund was adjusted to reflect private equity benchmarks based on lagged, investable public market indices. Prior to this adjustment, your fund's 5-year total fund net value added was 0.3%.

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 1.4%.

Your investment costs, excluding private asset performance fees, were \$296.8 million or 28.0 basis points in 2020.

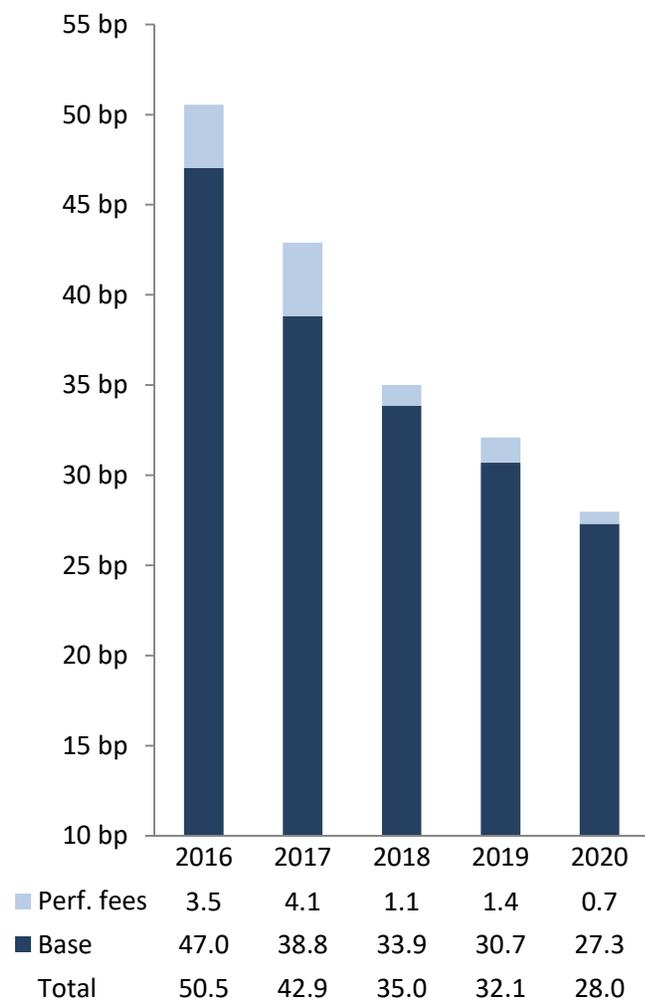
Asset management costs by asset class and style (\$000s)	Internal Management			External Management			Total	
	Passive	Active	Overseeing of external	Passive fees	Active base fees	Perform. fees ¹		
Stock - U.S. Broad/All			107		4,309		4,416	
Stock - U.S. Large Cap	163	0					163	
Stock - U.S. Mid Cap	42		84		4,644		4,770	
Stock - U.S. Small Cap			81		4,388		4,469	
Stock - EAFE			283	0	9,271		9,555	
Stock - Emerging			65		1,554		1,619	
Stock - ACWI x U.S.			814	1,644	21,974		24,431	
Stock - Other				137			137	
Fixed Income - U.S.		1,562					1,562	
Fixed Income - Inflation Indexed			115	18	4,219		4,352	
Cash		625					625	
Commodities			17		184		201	
REITs			87	0	2,193		2,279	
Infrastructure - LP ¹			60		6,067	5,962	6,127	
Natural Resources - LP ¹			288		26,549	12,942	26,836	
Natural Resources - Co-Invest. ¹			25		578	437	603	
Real Estate ex-REITs ¹			522		29,957	7,828	30,479	
Real Estate ex-REITs - LP ¹			322		36,479	16,799	36,801	
Real Estate ex-REITs - Co-Invest. ¹			67		2,584		2,651	
Real Estate ex-REITs - FoFs ¹			13		2,234	132	2,247	
Global TAA			133		2,000		2,133	
Hedge Funds - External Active			311		31,946	6,748	39,005	
Hedge Funds - FoFs			38		6,235	379	6,652	
Diversified Private Equity - FoFs ¹			73		10,481	6,562	10,554	
LBO - LP ¹			233		22,638	34,664	22,871	
Venture Capital - LP ¹			146		14,569	15,185	14,715	
Venture Capital - Co-Invest. ¹			15				15	
Private Credit - LP ¹			370		16,304	19,725	16,675	
Private Credit - Co-Invest. ¹			35		1,908		1,943	
Other Private Equity - LP ¹			146		13,645	1,369	13,792	
Other Private Equity - Co-Invest. ¹			3		293		296	
Total excluding private asset performance fees							292,973	27.6bp
Oversight, custodial and other costs²								
Oversight of the fund							2,150	
Trustee & custodial							1,550	
Audit							80	
Total oversight, custodial & other costs							3,780	0.4bp
Total investment costs (excl. transaction costs & private asset performance fees)							296,753	28.0bp

Footnotes

1. 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.
2. Excludes non-investment costs, such as benefit insurance premiums and preparing cheques for retirees.

Your costs decreased by 22.6 bps, from 50.5 bps in 2016 to 28.0 bps in 2020, primarily because you had a lower cost asset mix.

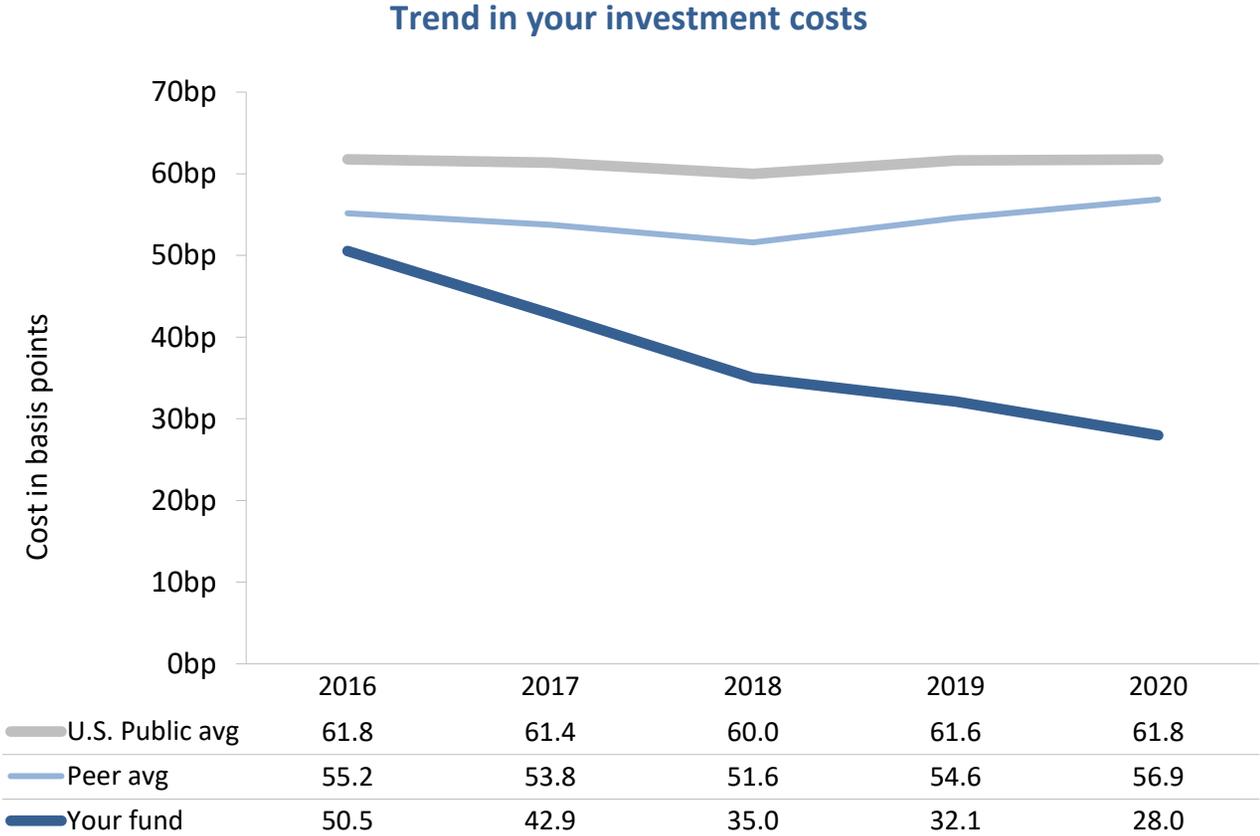
Trend in cost



Reasons why your costs decreased by 22.6 bps

			Impact in bps
1. Lower cost asset mix			
• Less Stock: 2016 41% vs 2020 34%			(1.9)
• Less Real Estate ex-REITs: 2016 11% vs 2020 7%			(3.2)
• Less REITs & Commodities & Infrastructure & Natural Resources: 2016 8% vs 2020 5%			(3.1)
• Less Hedge Funds & Multi-Asset: 2016 9% vs 2020 5%			(5.1)
• Less Private Equity: 2016 10% vs 2020 6%			(5.0)
• More Private Debt: 2016 0% vs 2020 3%			1.8
• All other mix changes			0.3
			<hr/> (16.3)
2. Lower cost implementation style			
• More passive, less active			(1.3)
• All other implementation style changes			(0.8)
			<hr/> (2.1)
3. Paid less, net, for similar investment styles			
	<u>2016 cost</u>	<u>2020 cost</u>	
• Lower external active Stock - ACWI x U.S. costs	44.6 bp	34.3 bp	(0.6)
• Lower Other Private Equity LP base fees	96.9 bp	62.1 bp	(0.7)
• Lower LBO LP base fees	135.2 bp	112.3 bp	(0.4)
• Higher Hedge Funds base fees	80.4 bp	100.0 bp	0.6
• Lower Hedge Funds performance fees	45.2 bp	20.9 bp	(0.7)
• Lower internal investment management costs			(0.4)
• Lower oversight, custodial & other costs	0.6 bp	0.4 bp	(0.2)
• All other differences			(1.6)
			<hr/> (4.2)
Total decrease			<hr/> <hr/> (22.6)

Trend in total investment cost, you versus peers and universe



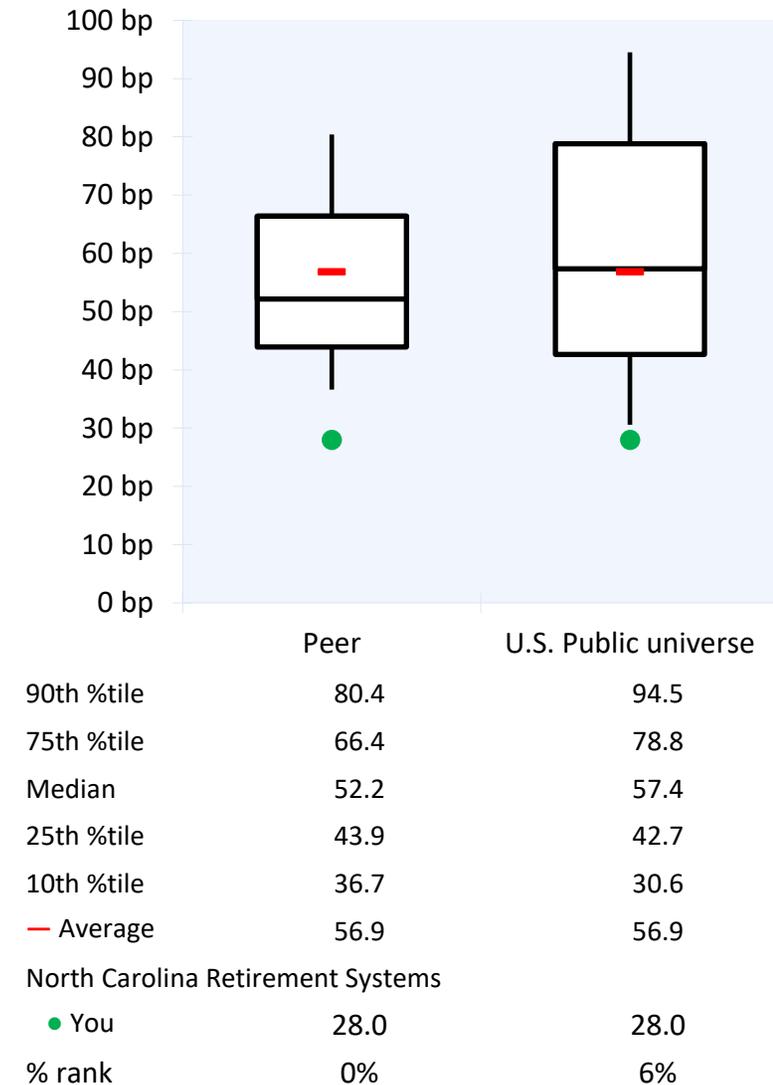
Your total investment cost of 28.0 bps was the lowest of the peers and was substantially below the peer median of 52.2 bps.

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 23% of your funds assets at the end of 2020 versus a peer average of 29%.
- 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.

Total investment cost
excluding transaction costs and private asset performance fees



Benchmark cost analysis suggests that, after adjusting for fund size and asset mix, your fund was low cost by 7.9 basis points in 2020.

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 28.0 bp was below your benchmark cost of 35.9 bp. Thus, your cost savings were 7.9 bp.

Your cost versus benchmark

	\$000s	basis points
Your total investment cost	296,753	28.0 bp
Your benchmark cost	380,537	35.9 bp
Your excess cost	(83,784)	(7.9) bp

Your fund was low cost because it paid less than peers for similar services.

Reasons for your low cost status

	Excess Cost/ (Savings)	
	\$000s	bps
1. Higher cost implementation style		
• Use of active management vs. lower cost passive	(8,035)	(0.8)
• Use of external management vs. lower cost internal	13,838	1.3
• More LPs as a percentage of external	16,608	1.6
• More fund of funds	5,379	0.5
• Less co-investment as a percentage of LP/Co	6,823	0.6
• Less overlays	(2,217)	(0.2)
	<u>32,396</u>	<u>3.1</u>
2. Paying less than peers for similar services		
• External investment management costs	(98,888)	(9.3)
• Internal investment management costs	(9,449)	(0.9)
• Oversight, custodial & other costs	(7,843)	(0.7)
	<u>(116,180)</u>	<u>(11.0)</u>
Total savings	(83,784)	(7.9)

Your implementation style was 3.1 bps higher 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.

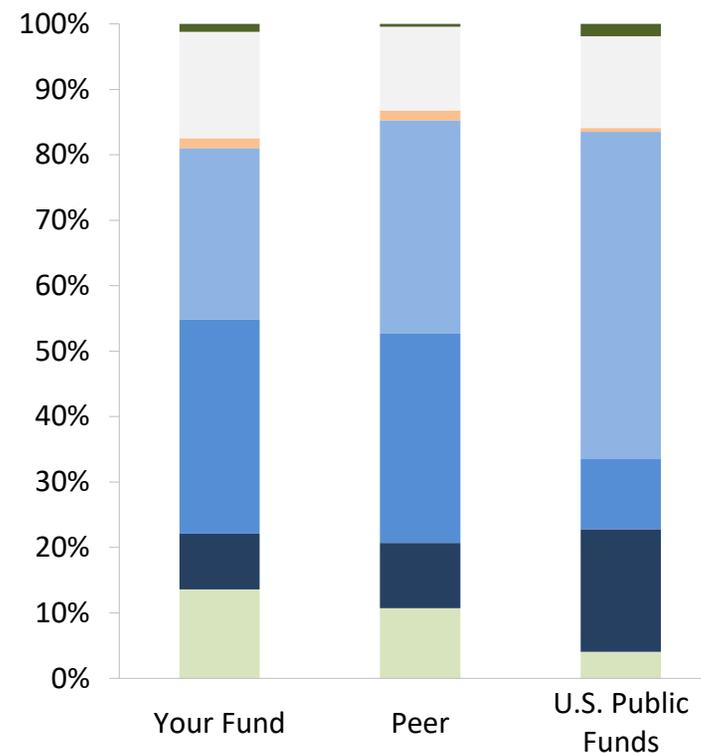
Implementation choices	Impact
More passive (20% vs 18%), less active	(0.8) bp
More internal as a % of active (55% vs 50%)	1.3 bp ²
Less evergreen % private excl. PE (24% vs 46%)	1.6 bp
More fund of funds % of LP/Co/FoF (7% vs 3%)	0.5 bp
Less co-investment % of LP/Co (8% vs 11%)	0.6 bp
Less overlays	(0.2) bp
Total impact	3.1 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.

2. Typically, more internal as a % of active is lower cost. But your mix of internal by asset class increased your cost.

Implementation style¹



■ Fund of Funds	1.2%	0.4%	1.9%
■ LP	16.3%	12.8%	14.0%
■ Co-Investment	1.5%	1.5%	0.6%
■ External Active	26.3%	32.6%	50.0%
■ Internal Active	32.7%	32.0%	10.7%
■ External Passive	8.5%	10.0%	18.7%
■ Internal Passive	13.6%	10.7%	4.1%

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	34.4 bp	7.7 bp	26.7 bp	1,283	2,894	532	3,425
Stock - U.S. Large Cap	0.2 bp	2.7 bp	(2.6) bp	10,083	-2,120	-486	-2,606
Stock - U.S. Mid Cap	13.2 bp	12.5 bp	0.7 bp	3,624	506	-253	253
Stock - U.S. Small Cap	46.0 bp	32.2 bp	13.8 bp	972	2,296	-953	1,343
Stock - EAFE	28.1 bp	22.8 bp	5.3 bp	3,405	3,640	-1,849	1,791
Stock - Emerging	20.8 bp	34.9 bp	(14.2) bp	779	1,099	-2,202	-1,103
Stock - ACWI x U.S.	16.9 bp	24.5 bp	(7.6) bp	14,441	-8,617	-2,287	-10,904
Fixed Income - U.S.	0.5 bp	4.9 bp	(4.4) bp	30,604	-4,655	-8,710	-13,365
Fixed Income - Inflation Indexed	34.3 bp	2.5 bp	31.8 bp	1,267	849	3,182	4,031
Commodities	10.8 bp	19.9 bp	(9.1) bp	186	138	-309	-170
REITs	30.5 bp	24.0 bp	6.5 bp	747	1,195	-709	486
Real Estate ex-REITs	94.0 bp	82.4 bp	11.5 bp	7,680	12,332	-3,466	8,866
Infrastructure	143.2 bp	122.5 bp	20.7 bp	428	905	-19	886
Natural Resources	76.6 bp	120.0 bp	(43.4) bp	3,583	5,827	-21,371	-15,544
Hedge Funds	106.8 bp	102.1 bp	4.7 bp	3,608	1,178	-26,889	-25,711
Global TAA	13.0 bp	27.1 bp	(14.1) bp	1,643	2,961	-5,276	-2,315
Diversified Private Equity	157.9 bp	151.1 bp	6.8 bp	669	5,227	-4,776	452
Venture Capital	116.5 bp	154.7 bp	(38.1) bp	1,264	-1,007	-3,811	-4,818
LBO	112.3 bp	160.9 bp	(48.5) bp	2,036	1,392	-11,273	-9,881
Other Private Equity	62.7 bp	62.7 bp	0.0 bp	2,248	0	0	0
Private Credit	61.0 bp	89.9 bp	(28.9) bp	3,054	8,573	-17,414	-8,840
Derivatives/Overlays	0.0 bp	0.2 bp	(0.2) bp	106,055	-2,217	0	-2,217
Total asset management	27.6 bp	34.8 bp	(7.2) bp	106,055	32,396	-108,338	-75,941
Oversight, custody and other costs⁴							
Oversight of the Fund	0.2 bp	0.6 bp	(0.4) bp				
Trustee & Custodial	0.1 bp	0.3 bp	(0.1) bp				
Other	0.0 bp	0.1 bp	(0.1) bp				
Total oversight, custody & other	0.4 bp	1.1 bp	(0.7) bp	106,055	n/a	-7,843	-7,843
Total	28.0 bp	35.9 bp	(7.9) bp	106,055	32,396	-116,180	-83,784

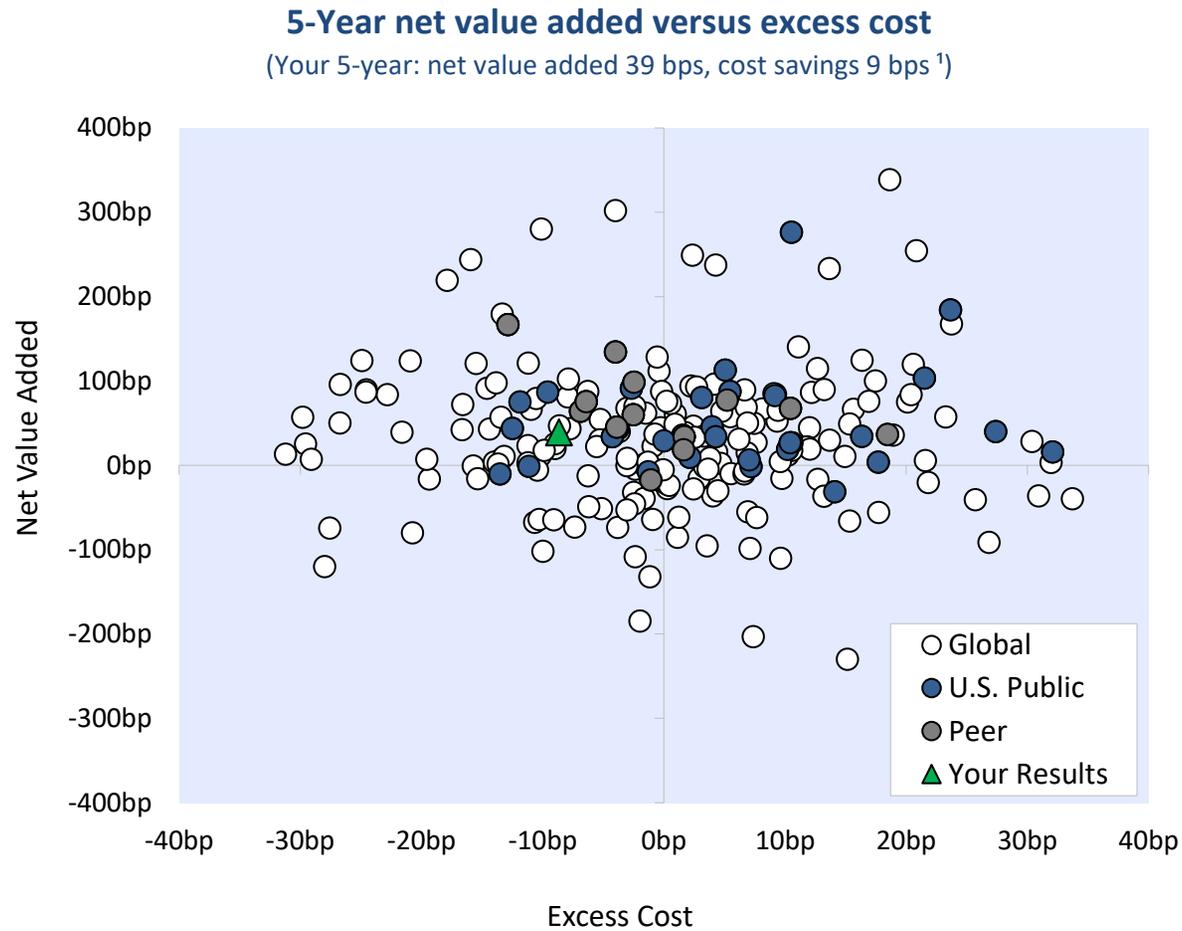
1. The weighted peer median cost for asset management is the style-weighted average of the peer median costs for all implementation styles (e.g., internal passive, external active, fund of fund, etc.). It excludes performance fees on private assets.

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 versus benchmark cost.

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.



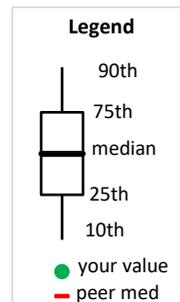
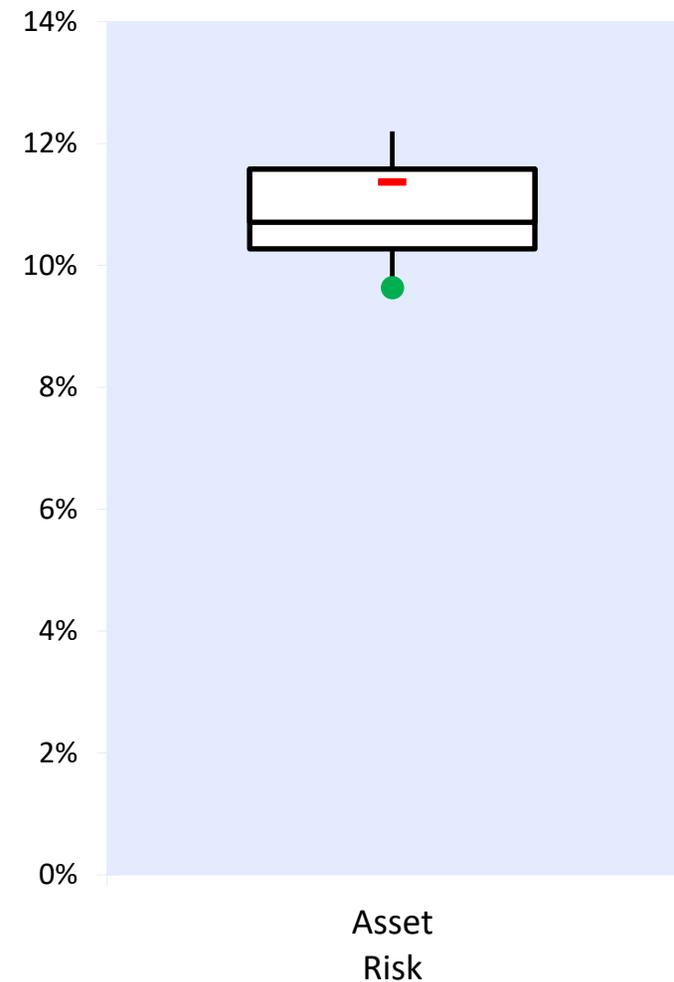
1. Your 5-year cost savings of 9 basis points is the average of your cost savings for the past 5 years.

	2020	2019	2018	2017	2016	5-year
Net value added	72.0bp	13.7bp	130.6bp	52.5bp	(82.4) bp	38.9bp
Excess cost	(7.9) bp	(8.0) bp	(10.3) bp	(7.0) bp	(10.0) bp	(8.6) bp

Comparison of risk levels:

Your asset risk of 9.6% was below the U.S. Public median of 10.7%. Asset risk is the standard deviation of your policy return. It is based on the historical variance of, and covariance between, the asset classes in your policy mix.

U.S. Public risk levels at December 31, 2020



Appendix: Differences in implementation styles cost you 3.1 bp relative to your peers.

Calculation of the cost impact of differences in implementation style

Asset class by implementation choice*	Assets by style (\$mils) ¹	Style %			Benchmark cost		More/ (less) ¹	Cost/ (savings) in \$000s	bps
		Your fund	Peer average	More/ (less)					
	A			B			C		
	Total assets	Passive % of total assets			Passive	Active	More/ (less)	A X B X C	
<u>Passive vs. Active</u>									
Stock - U.S. Broad/All	1,283	0.0%	71.6%	(71.6%)	1.0 bp	24.6 bp	(23.6) bp	2,165	
Stock - U.S. Large Cap	10,083	100.0%	62.2%	37.8%	0.8 bp	6.0 bp	(5.2) bp	(1,988)	
Stock - U.S. Mid Cap	3,624	72.3%	44.7%	27.6%	1.3 bp	21.5 bp	(20.3) bp	(2,030)	
Stock - U.S. Small Cap	972	0.0%	14.0%	(14.0%)	1.5 bp	37.2 bp	(35.7) bp	487	
Stock - EAFE	3,405	0.1%	22.5%	(22.3%)	1.8 bp	28.9 bp	(27.0) bp	2,053	
Stock - Emerging	779	0.0%	18.2%	(18.2%)	3.9 bp	41.8 bp	(38.0) bp	538	
Stock - ACWI x U.S.	14,441	54.5%	25.2%	29.3%	3.1 bp	31.7 bp	(28.6) bp	(12,104)	
Fixed Income - U.S.	30,604	0.0%	15.4%	(15.4%)	1.8 bp	5.4 bp	(3.6) bp	1,698	
Fixed Income - Inflation Indexed	1,267	4.7%	68.0%	(63.3%)	1.1 bp	5.5 bp	(4.4) bp	350	
Commodities	186	0.0%	25.0%	(25.0%)	3.9 bp	25.2 bp	(21.3) bp	99	
REITs	747	4.4%	34.8%	(30.4%)	4.0 bp	34.7 bp	(30.7) bp	697	
More passive								(8,035)	(0.8) bp
	Passive assets	Internal passive % of passive assets			Internal passive	External passive	More/ less		
<u>Internal passive vs. external passive</u>									
Stock - U.S. Large Cap	10,082	100.0%	72.2%	27.8%	0.6 bp	1.1 bp	(0.5) bp	(132)	
Stock - U.S. Mid Cap	2,621	100.0%	95.6%	4.4%	1.1 bp	4.0 bp	(2.9) bp	(33)	
Stock - EAFE	5	0.0%	59.6%	(59.6%)	2.1 bp	1.4 bp	0.8 bp	(0)	
Stock - ACWI x U.S.	7,871	0.0%	16.4%	(16.4%)	5.0 bp	2.7 bp	2.3 bp	(294)	
Fixed Income - Inflation Indexed	59	0.0%	49.7%	(49.7%)	1.1 bp	1.1 bp	0.0 bp	(0)	
REITs	33	0.0%	98.5%	(98.5%)	4.0 bp	6.0 bp	(2.0) bp	6	
More int. passive as % of total passive								(454)	(0.0) bp
Total impact of differences in active vs. passive implementation styles								(8,489)	(0.8) bp

* Implementation styles where you are exactly the same as your peers (i.e. style impact is zero) are not shown.

1. The 'style premium' is calculated as the difference between the style-weighted peer-median cost of the two styles being compared.

Appendix: Differences in implementation style and their impacts are shown below.

Calculation of the cost impact of differences in implementation style

Asset class by implementation choice*	Assets by style (\$mils) ¹	Style %			Benchmark cost		More/ (less) ²	Cost/ (savings) in \$000s	bps
		Your fund	Peer average	More/ (less)					
	A	B			C		A X B X C		
	Active assets	Internal active % of active assets			Internal active	External active	More/ (less)		
<u>Internal active vs. external active</u>									
Stock - U.S. Broad/All	1,283	0.0%	20.6%	(20.6%)	2.7 bp	30.3 bp	(27.6) bp	729	
Stock - U.S. Large Cap	0	100.0%	84.8%	15.2%	3.1 bp	22.4 bp	(19.4) bp	(0)	
Stock - U.S. Mid Cap	1,003	0.0%	64.3%	(64.3%)	7.3 bp	47.2 bp	(39.9) bp	2,569	
Stock - U.S. Small Cap	972	0.0%	36.4%	(36.4%)	4.6 bp	55.8 bp	(51.1) bp	1,809	
Stock - EAFE	3,400	0.0%	20.2%	(20.2%)	10.4 bp	33.5 bp	(23.1) bp	1,586	
Stock - Emerging	779	0.0%	18.9%	(18.9%)	10.9 bp	49.0 bp	(38.1) bp	561	
Stock - ACWI x U.S.	6,570	0.0%	19.1%	(19.1%)	7.3 bp	37.4 bp	(30.1) bp	3,782	
Fixed Income - U.S.	30,604	100.0%	77.6%	22.4%	3.4 bp	12.6 bp	(9.3) bp	(6,353)	
Fixed Income - Inflation Indexed	1,208	0.0%	54.9%	(54.9%)	2.1 bp	9.6 bp	(7.5) bp	499	
Commodities	186	0.0%	11.6%	(11.6%)	9.4 bp	27.3 bp	(18.0) bp	39	
REITs	714	0.0%	19.2%	(19.2%)	5.8 bp	41.6 bp	(35.8) bp	491	
Real Estate ex-REITs	7,680	0.0%	11.0%	(11.0%)	35.5 bp	88.2 bp	(52.7) bp	4,458	
Natural Resources	3,583	0.0%	0.7%	(0.7%)	17.0 bp	120.7 bp	(103.7) bp	257	
Global TAA	1,643	0.0%	54.8%	(54.8%)	12.2 bp	45.1 bp	(32.9) bp	2,961	
Diversified Private Equity	669	0.0%	0.2%	(0.2%)	9.8 bp	151.4 bp	(141.6) bp	20	
Private Credit	3,054	0.0%	3.7%	(3.7%)	14.1 bp	92.8 bp	(78.7) bp	883	
Mix of int. active vs. int. active								14,292	1.3 bp
	External assets	Evergreen fund % of external			Ever-green	LP/Co/ FoF	More/ (less)		
<u>Evergreen vs. LP/Co/FoF</u>									
Real Estate ex-REITs	7,680	46.9%	61.2%	(14.4%)	69.7 bp	117.4 bp	(47.7) bp	5,258	
Infrastructure	428	0.0%	22.4%	(22.4%)	67.4 bp	138.5 bp	(71.1) bp	682	
Natural Resources	3,583	0.0%	12.8%	(12.8%)	82.3 bp	126.3 bp	(44.0) bp	2,013	
Private Credit	3,054	0.0%	52.4%	(52.4%)	67.1 bp	121.1 bp	(54.1) bp	8,655	
Less evergreen % of external								16,608	1.6 bp
Total impact of differences in implementation style on this page								30,899	2.9 bp

* Implementation styles where you are exactly the same as your peers (i.e. style impact is zero) are not shown.

1. 'Amount fees are based on' is the basis for calculating costs for private assets.

2. The 'style premium' is calculated as the difference between the style-weighted peer-median cost of the two styles being compared.

Appendix: The net impact of paying more/less for external asset management costs saved 7.6 bps.

Cost impact of paying more/(less) for external asset management

	Style	Your avg holdings in \$mils	Cost in bps			Cost/ (savings) \$000s
			Your Fund	Peer median	More/ (less)	
External asset management		(A)			(B)	(A X B)
Stock - U.S. Broad/All	active	1,283	34.4	30.3	4.1	532
Stock - U.S. Mid Cap	active	1,003	47.2	47.2	0.0	0
Stock - U.S. Small Cap	active	972	46.0	55.8	(9.8)	(953)
Stock - EAFE	passive	5	0.0	1.4	(1.4)	(1)
Stock - EAFE	active	3,400	28.1	33.5	(5.4)	(1,848)
Stock - Emerging	active	779	20.8	49.0	(28.3)	(2,202)
Stock - ACWI x U.S.*	passive	7,871	2.4	2.7	(0.3)	(226)
Stock - ACWI x U.S.	active	6,570	34.3	37.4	(3.1)	(2,060)
Stock - Other	passive	11	124.6	Excluded	--	--
Fixed Income - Inflation Indexed	passive	59	3.9	1.1	2.8	17
Fixed Income - Inflation Indexed*	active	1,208	35.8	9.6	26.2	3,166
Commodities	active	186	10.8 ¹	27.3	(16.6)	(309)
REITs*	passive	33	1.2	6.0	(4.8)	(16)
REITs	active	714	31.9 ¹	41.6	(9.7)	(693)
Real Estate ex-REITs	active	3,599	84.7	69.7	15.0	5,381
Real Estate ex-REITs*	FoF	108	73.6	60.8	12.8	138
Underlying base fees	FoF	108	135.4	136.0	(0.6)	(6)
Real Estate ex-REITs	CO	576	46.0	38.4	7.7	441
Real Estate ex-REITs	LP	3,399	108.3	136.0	(27.7)	(9,420)
Infrastructure	LP	428	143.2	143.7	(0.4)	(19)
Natural Resources	CO	273	22.1	4.1	18.0	490
Natural Resources	LP	3,310	81.1	147.1	(66.0)	(21,861)
Hedge Funds	active	3,226	100.0	100.4	(0.4)	(145)
Performance fees (on NAV)	active	3,226	20.9	96.0	(75.1)	(24,224)
Hedge Funds	FoF	381	88.4	56.6	31.8	1,213
Top layer perf. fees (on NAV)*	FoF	381	0.0	9.7	(9.7)	(371)
Underlying base fees	FoF	381	76.1	97.6	(21.4)	(817)
Underlying perf. fees (on NAV)	FoF	381	9.9	76.7	(66.8)	(2,545)
Global TAA	active	1,643	13.0 ¹	45.1	(32.1)	(5,276)
Diversified Private Equity	FoF	669	58.8	72.3	(13.5)	(903)
Underlying base fees	FoF	669	99.1	157.0	(57.9)	(3,873)
Venture Capital	CO	142	1.0	10.8	(9.7)	(138)
Venture Capital	LP	1,122	131.1	163.9	(32.7)	(3,673)
LBO	LP	2,036	112.3	167.7	(55.4)	(11,273)
Other Private Equity	CO	28	105.5	Excluded	--	--
Other Private Equity	LP	2,220	62.1	Excluded	--	--
Private Credit	CO	356	54.6	32.0	22.6	805
Total impact of paying more/less for external management						(80,669)
Total in bps						(7.6) bp

Footnotes:

1. You paid performance fees in these asset classes. 'Excluded' indicates that the asset class was excluded from this analysis due to comparability concerns with peers.
*Universe median used as peer data was insufficient.

2. 'Amount fees are based on' is the basis for calculating costs for private assets.

Appendix: The net impact of paying more/less for internal asset management costs saved 0.9 bps.

Cost impact of paying more/(less) for internal asset management

	Style	Your avg holdings in \$mils	Cost in bps			Cost/ (savings) \$000s
			Your Fund	Peer median	More/ (less)	
<i>Internal asset management</i>		(A)			(B)	(A X B)
Stock - U.S. Large Cap	passive	10,082	0.2	0.6	(0.5)	(486)
Stock - U.S. Mid Cap*	passive	2,621	0.2	1.1	(1.0)	(253)
Fixed Income - U.S.	active	30,604	0.5	3.4	(2.8)	(8,710)
Cash	active	12,233	0.5	Excluded	--	--
Total for internal management						(9,449)
Total in bps						(0.9) bp

'Excluded' indicates that the asset class was excluded from this analysis due to comparability concerns with peers.

*Universe median used as peer data was insufficient.

Appendix: The net impact of differences in oversight, custodial & other costs saved 0.7 bps.

Cost impact of differences in oversight, custodial & other costs

	Your avg holdings in \$mils (A)	Cost in bps			Cost/ (savings) \$000s (A X B)
		Your Fund	Peer median	More/ (less) (B)	
Oversight	106,055	0.2	0.6	(0.4)	
Consulting	106,055	0.0	0.0	0.0	
Custodial	106,055	0.1	0.3	(0.1)	
Audit	106,055	0.0	0.0	(0.0)	
Other	106,055	0.0	0.1	(0.1)	
Total for oversight, custodial, other¹		0.4	1.1	(0.7)	-7,843
Total in bps					(0.7) bp

1. Comparisons on this page are to the Dutch universe, to reflect the unique governance structure in the Netherlands.

1. Oversight, custodial, and other costs are benchmarked using the peer median cost for the total of the pieces. the individual line items are shown for comparison but not used in the benchmark.