

Investment
Cost Effectiveness Analysis
(for the 10-year period ending December 31, 2020)

Norwegian Government Pension Fund Global



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Key Takeaways

Returns

- All returns have been converted using the GPFG currency basket. However, differences in total returns reflect in large part home-market biases and the relative performance of currencies. So they are not the primary focus of this report.
- Your 10-year net total return was 7.9%. This was below the Global median of 9.0% and below the peer median of 8.7%.
- Your 10-year policy return was 7.8%. This was below the Global median of 8.6% and close to the peer median of 7.9%.

Value added

- Your 10-year net value added was 0.1%. This was close to the Global median of 0.3% and close to the peer median of 0.2%.

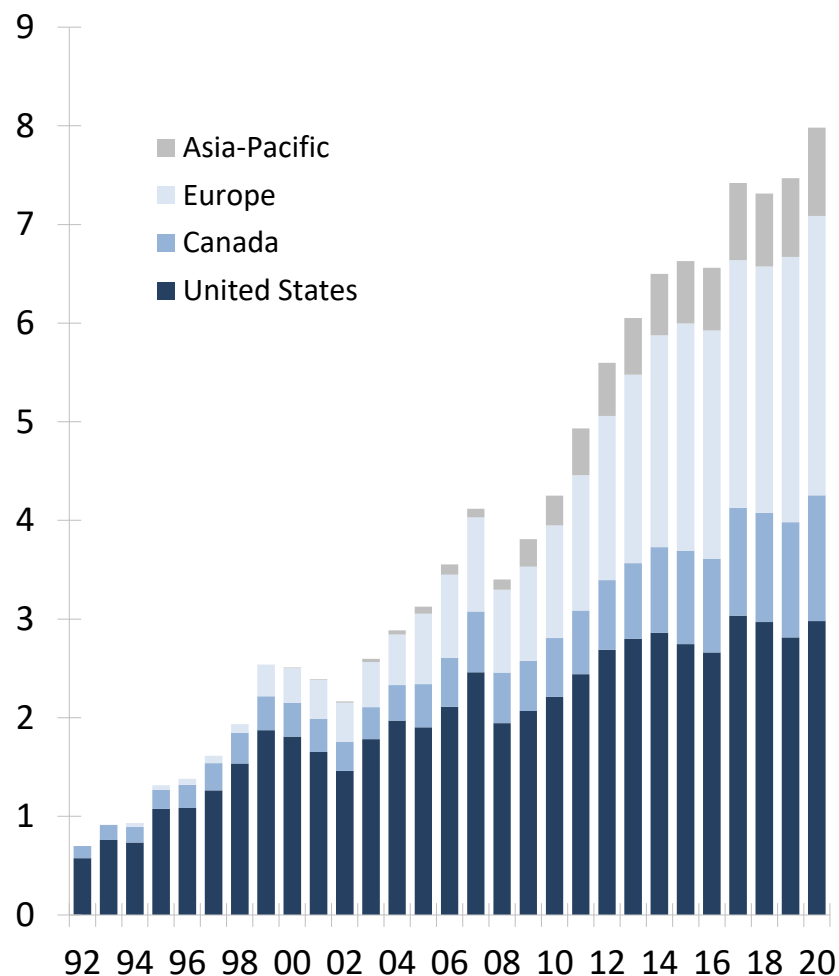
Cost

- Your 2020 investment cost of 5.2 bps was below your benchmark cost of 24.0 bps. This suggests that your fund was low cost compared to your peers.
- Your fund was low cost because it had a lower cost implementation style and it paid less than peers for similar services.

This benchmarking report compares your cost and return performance to the 308 funds in CEM's extensive pension database.

- 158 U.S. pension funds participate. The median U.S. fund had assets of €7.3 billion and the average U.S. fund had assets of €18.9 billion. Total participating U.S. assets were €3.0 trillion.
- 68 Canadian funds participate with assets totaling €1.3 trillion.
- 73 European funds participate with aggregate assets of €2.8 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 €896.3 billion. Included are funds from Australia, New Zealand, China and South Korea.
- 3 funds from other regions participate.

Participating assets (€ trillions)



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

Peer group for Norwegian Government Pension Fund Global

- 10 largest Global sponsors from €124.2 billion to €542.8 billion
 - Median size of €217.9 billion versus your €966.7 billion

- 3 Canadian funds, 2 European funds, 1 Asia-Pacific funds and 4 U.S. funds make up the Global peer group.
- In the report there are also comparisons to CEM's Global database of participants.

Your 10-year net total return of 7.9% was below the peer median of 8.7%

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

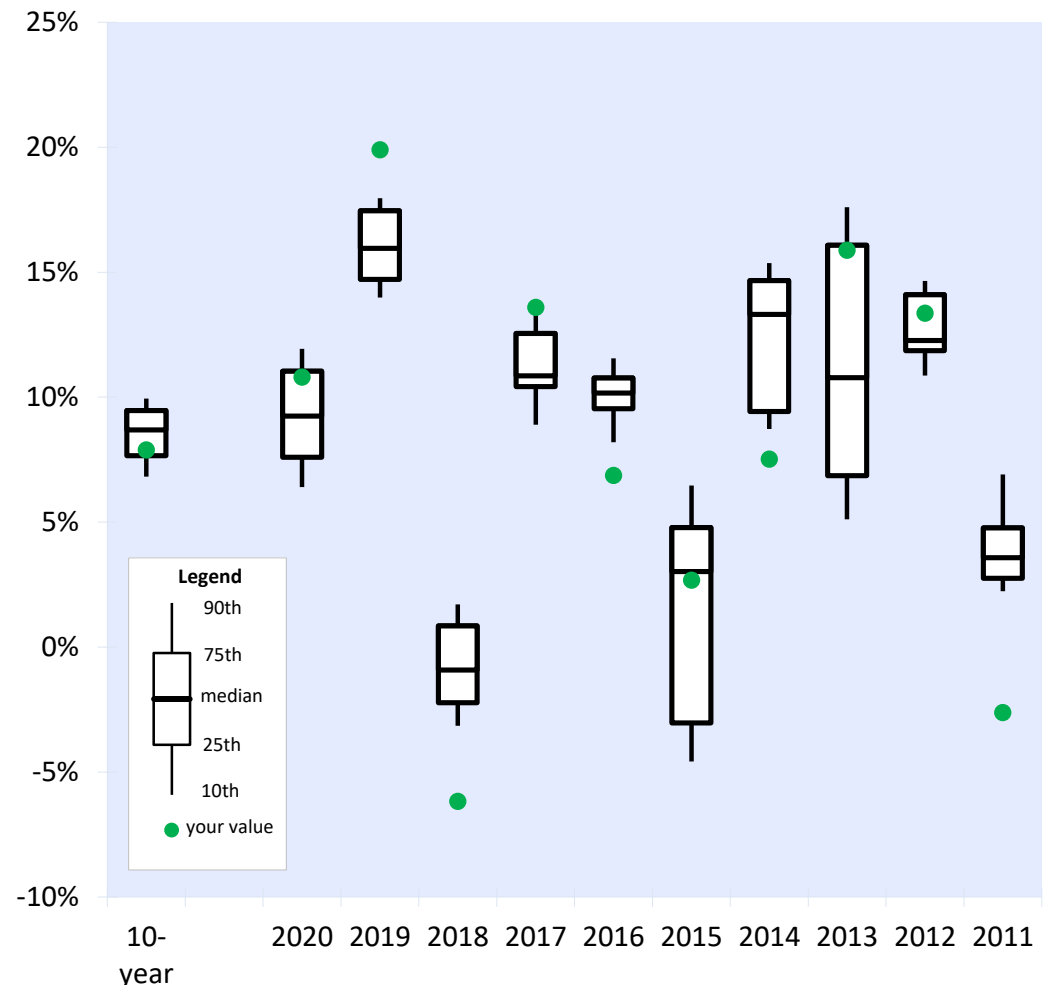
	Your 10-year
Net total fund return	7.9%
- Policy return	7.8%
= Net value added	0.1%

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).

Actual and policy returns have been converted to your currency using unhedged currency returns.

The fund return consists of Equity, Fixed Income and Real Estate. The fund benchmark is the weighted benchmark of Equity and Fixed Income. The benchmark for Real Estate used in the report prior to 2017 was the actual portfolio return, and thereafter the financing cost for the real estate investments.

Peer net total returns - quartile rankings



Your 10-year policy return of 7.8% was close to the peer median of 7.9%.

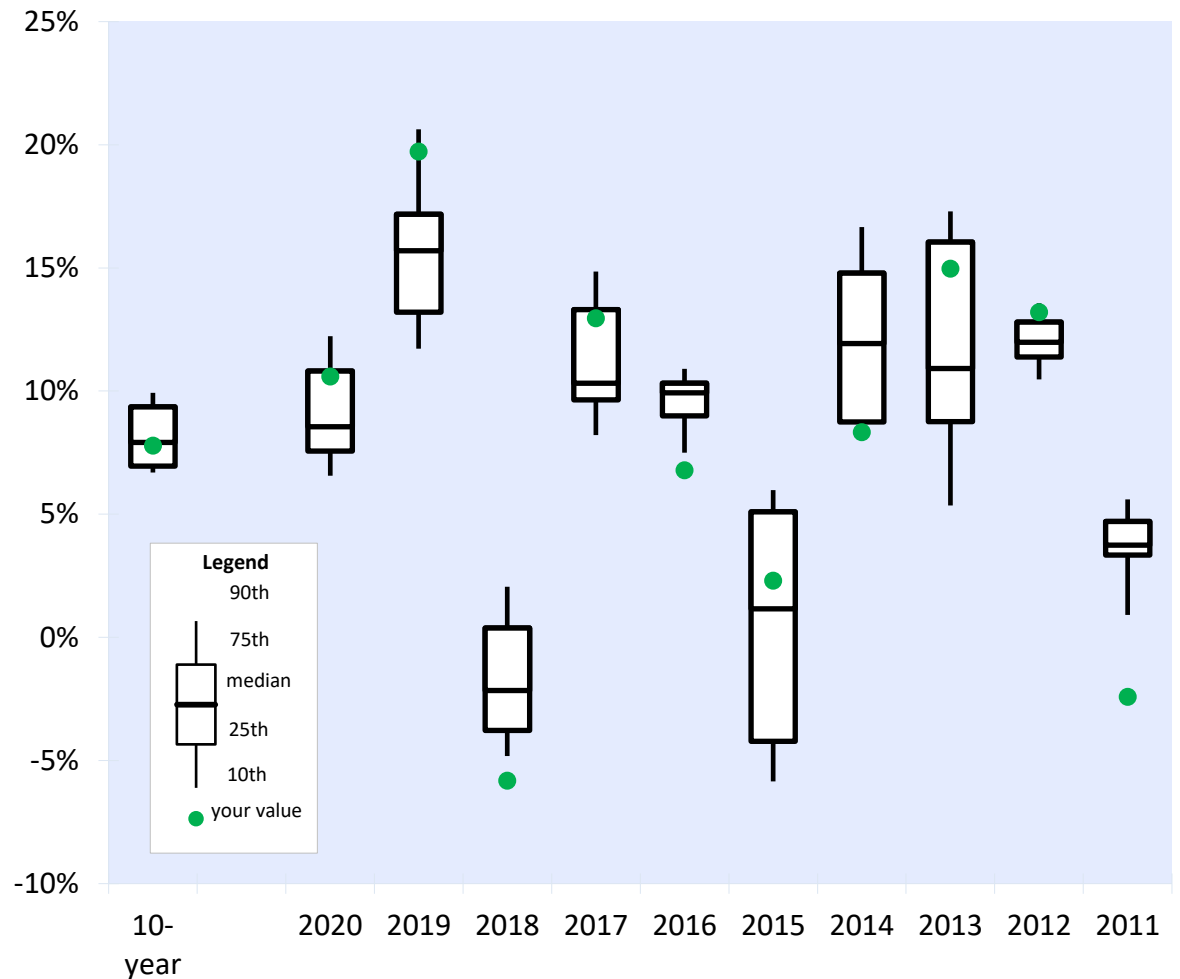
Your policy return is the return you could have earned passively by indexing your investments according to your policy mix.

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:

- 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.

Peer policy returns - quartile rankings



Your 10-year policy return of 7.8% was below the Global median of 8.6% primarily because of:

- Your fund currently has no allocation to real assets, hedge funds or private equity whereas the peer funds had average allocations of 14%, 3%, and 7% respectively. The Global funds' average allocations were 9%, 3% and 5%. The manager however can invest up to 7% in unlisted real estate and up to 2% in unlisted infrastructure for renewable energy.
- Your policy asset mix is more globally diversified than the average Peer or Global fund.

10-year average policy mix

	Your Fund	Peer Avg.	Global Avg.
Equity	64%	44%	43%
Fixed Income	35%	32%	39%
Hedge Funds	0%	3%	3%
Real Assets	1%	14%	9%
Private Equity	0%	7%	5%
Total	100%	100%	100%

Regional allocations can significantly influence the policy return. GPF's overweight in European securities and the peer group's overweight in North American securities would cause a difference in the policy returns. Variations in the fixed income portfolios, such as duration, credit quality and country allocation within regions would have an impact as well. Not being invested in asset classes like private equity and having a lower allocation to real estate also had an impact on GPF's policy return.

Net value added is the component of total return from active management. Your 10-year net value added was 0.1%.

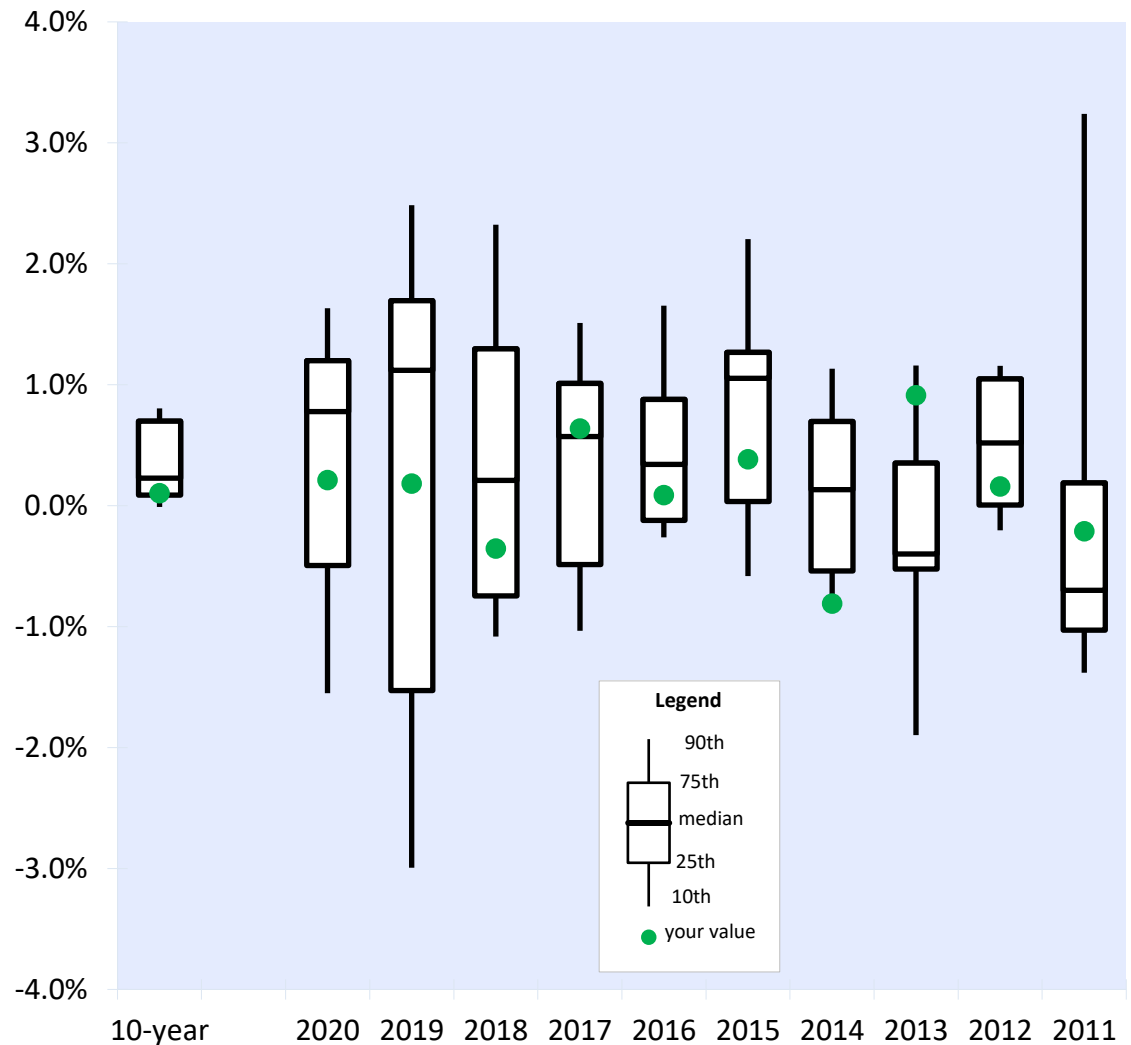
Net value added equals total net return minus policy return.

Value added for Norwegian Government Pension Fund Global

Year	Net return	Policy return	Net value added
2020	10.8%	10.6%	0.2%
2019	19.9%	19.7%	0.2%
2018	-6.2%	-5.8%	-0.4%
2017	13.6%	13.0%	0.6%
2016	6.9%	6.8%	0.1%
2015	2.7%	2.3%	0.4%
2014	7.5%	8.3%	-0.8%
2013	15.9%	15.0%	0.9%
2012	13.4%	13.2%	0.2%
2011	-2.6%	-2.4%	-0.2%
10-Year	7.9%	7.8%	0.1%

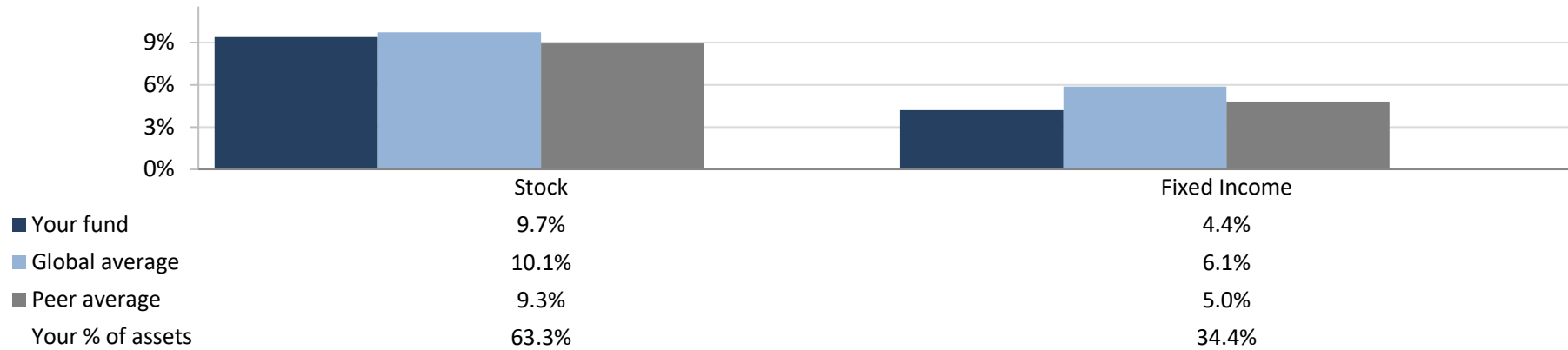
Your 10-year net value added of 0.1% compares to a median of 0.2% for your peers and 0.3% for the Global universe.

Peer net value added - quartile rankings

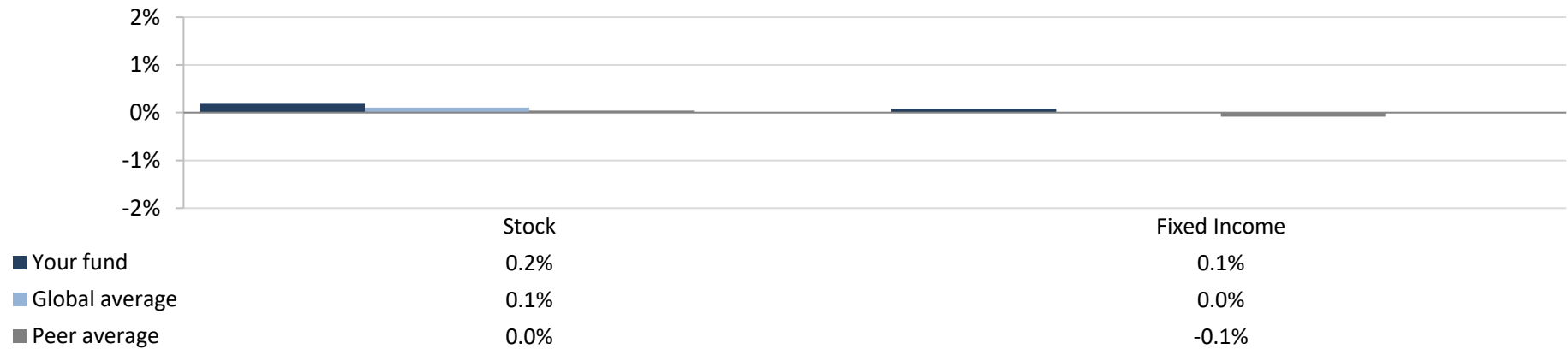


Comparisons of your 10-year net return and net value added by major asset class:

10-year average net return by major asset class



10-year average net value added by major asset class



Your investment costs, excluding private asset performance fees, were €504.3 million or 5.2 basis points in 2020.

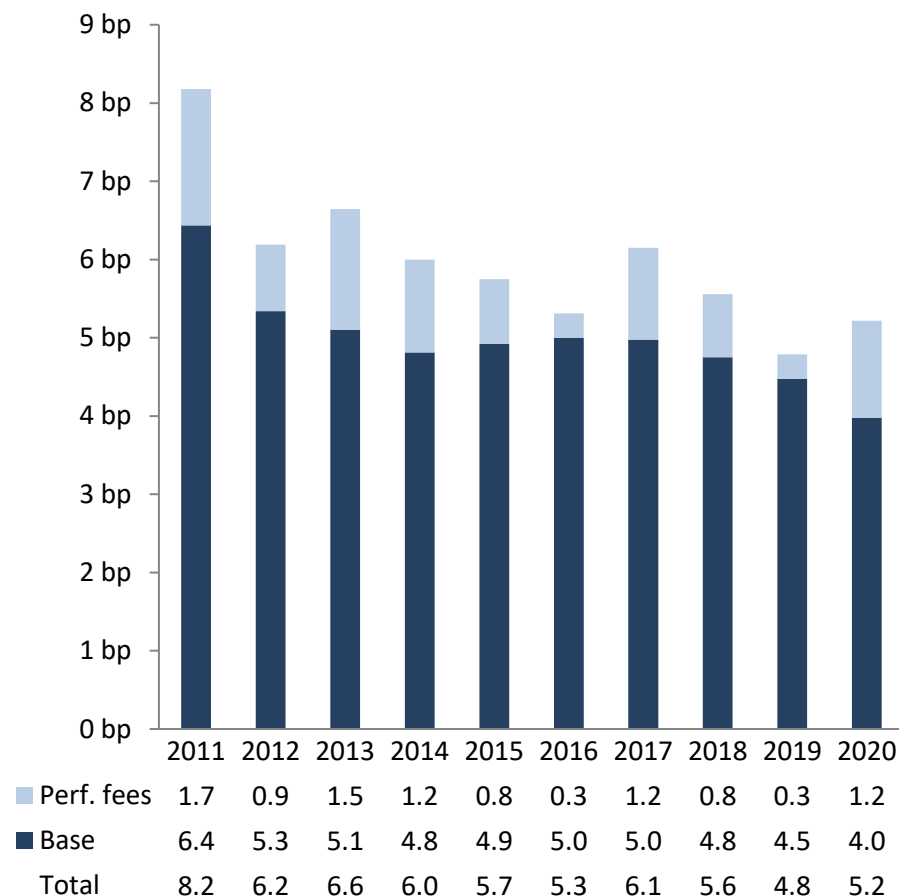
Asset management costs by asset class and style (€000s)	Internal Mgmt		External Mgmt		Total	
	Active	Overseeing of external	Active base fees	Perform. fees		
Stock - U.S.		100	802	5,819	6,720	
Stock - EAFE		1,266	12,744	15,818	29,828	
Stock - Emerging		5,286	54,324	97,933	157,543	
Stock - Global	104,566				104,566	
Fixed Income - Global	40,877				40,877	
REITs	2,681				2,681	
Real Estate	35,060				35,060	
Total excluding private asset performance fees					377,276	3.9bp
Oversight, custodial and other costs ¹						
Oversight of the fund					71,921	
Trustee & custodial					44,144	
Consulting and performance measurement					7,035	
Audit					3,892	
Other					0	
Total oversight, custodial & other costs					126,992	1.3bp
Total investment costs (excl. transaction costs & private asset performance fees)					504,268	5.2bp

Footnotes

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

Your costs decreased by 3.0 bps, from 8.2 bps in 2011 to 5.2 bps in 2020, because you paid less in 2020 for similar investment styles and had a lower cost implementation style. This was partly offset by a higher cost asset mix.

Trend in cost



Reasons why your costs decreased by 3.0 bps

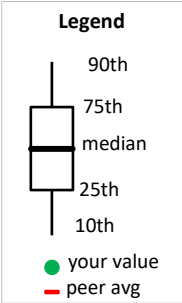
	Impact in bps
1. Higher cost asset mix	
• More Stock: 2011 60% vs 2020 70%	2.4
• More Real Estate ex-REITs: 2011 0% vs 2020 3%	2.2
• All other mix changes	(0.2)
	<hr/> 4.3
2. Lower cost implementation style	
• More internal as a % of active	(3.1)
	<hr/> (3.1)
3. Paid less, net, for similar investment styles	
Lower internal investment management costs	
• Lower internal active Real Estate costs	(2.0)
• Lower internal active Stock - Global costs	(0.7)
• All other internal investment mgmt. differences	(0.1)
• Lower oversight, custodial & other costs	(1.4)
• All other differences	0.0
	<hr/> (4.2)
Total decrease	<hr/> (3.0)

Your total investment cost of 5.2 bps was the lowest of the peers and was substantially below the peer median of 47.7 bps.

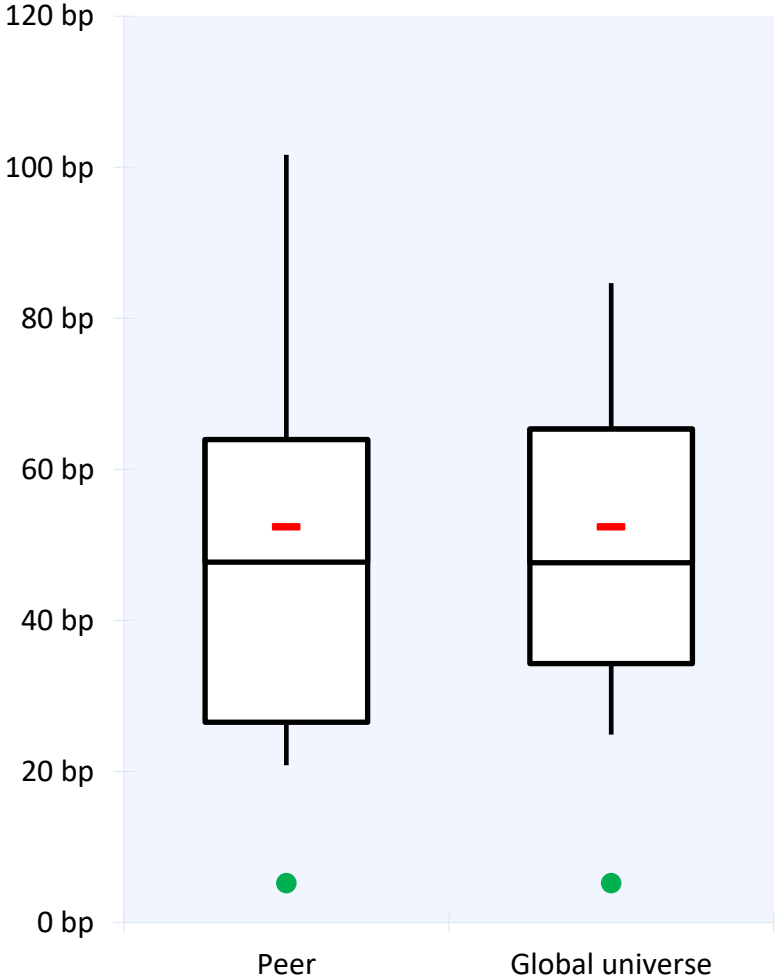
Differences in total investment cost are often caused by two factors that are often outside of management's control:

- 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 3% of your funds assets at the end of 2020 versus a peer average of 30%.
- 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 18.7 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 5.2 bp was below your benchmark cost of 24.0 bp. Thus, your cost savings were 18.7 bp.

Your cost versus benchmark

	€000s	basis points
Your total investment cost	504,268	5.2 bp
Your benchmark cost	2,316,276	24.0 bp
Your excess cost	(1,812,008)	(18.7) bp

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

Reasons for your low cost status

	Excess Cost/ (Savings)	
	€000s	bps
1. Implementation style differences	(1,275,274)	(13.2)
2. Paying less than peers for similar services		
• External investment management costs	(78,725)	(0.8)
• Internal investment management costs	(402,966)	(4.2)
• Oversight, custodial & other costs	(55,043)	(0.6)
	<u>(536,734)</u>	<u>(5.6)</u>
Total savings	(1,812,008)	(18.7)

Alternative benchmark cost:

	Average holdings in €mils	GPIG cost in bps	Cost comparison with median peer across all management styles (bps)			Cost comparison with median peer with similar management style (bps)		
			Benchmark cost	Difference to benchmark cost	Contribution to total cost difference	Benchmark cost	Difference to benchmark cost	Contribution to total cost difference
External asset management								
Stock - U.S.	580	115.9	10.2	(105.7)	(0.1)	34.3	(81.5)	(0.0)
Stock - EAFE	7,357	40.5	23.4	(17.2)	(0.1)	40.9	0.3	0.0
Stock - Emerging	30,726	51.3	44.5	(6.8)	(0.2)	78.4	27.1	0.9
Internal asset management								
Stock - Global	622,049	1.7	22.9	21.3	13.7	7.0	5.3	3.4
Fixed income - Global	265,813	1.5	7.0	5.5	1.5	3.0	1.5	0.4
REITs	12,872	2.1	8.6	6.5	0.1	6.1	4.0	0.1
Real Estate ex-REITs	27,254	<u>12.9</u>	<u>66.6</u>	53.7	<u>1.5</u>	<u>23.0</u>	10.1	<u>0.3</u>
Total, excl. Overlays and overhead		3.9	20.3		16.4	8.9		5.0
Overlay Programs	966,651	0.0	1.8	1.8	1.8	1.8	1.8	1.8
Overhead	966,651	1.3	1.9	0.6	0.6	1.9	0.6	0.6
Total	966,651	5.2	23.9		18.7	12.6		7.3

Notes:

Internal Global stock uses All stock as the benchmark.

Internal Global fixed income uses All fixed income as the benchmark.

High-level estimate of management costs incurred if GPFG were managed passively:

	Average holdings in €mils	Current cost in bps	Benchmark target cost in bps
<i>External asset management</i>			
Stock - U.S.	580	115.9	0.9
Stock - EAFE	7,357	40.5	1.7
Stock - Emerging	30,726	51.3	2.0
<i>Internal asset management</i>			
Stock - Global	622,049	1.7	1.2
Fixed income - Global	265,813	1.5	0.9
REITs	12,872	2.1	1.0
Real Estate ex-REITs	27,254	12.9	1.0
Overhead	966,651	1.3	1.3
Total	966,651	5.2	2.4

Notes:

Internal passive asset class costs at the first quartile are used for the benchmark proxies for the externally managed assets.

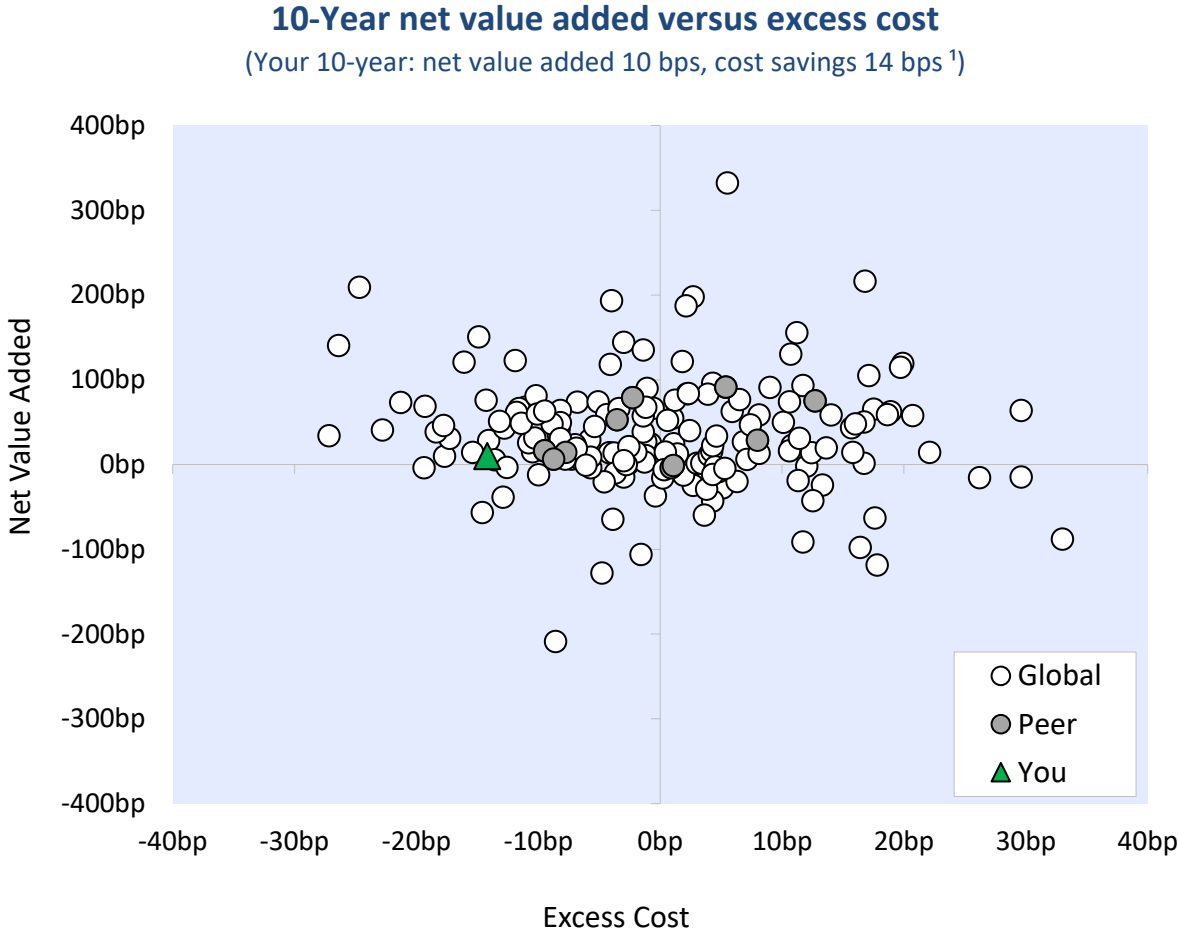
Internal Global stock uses All stock as the benchmark.

Internal Global fixed income uses All fixed income as the benchmark.

Real estate and REITs use the weighted average benchmark for stock and fixed income.

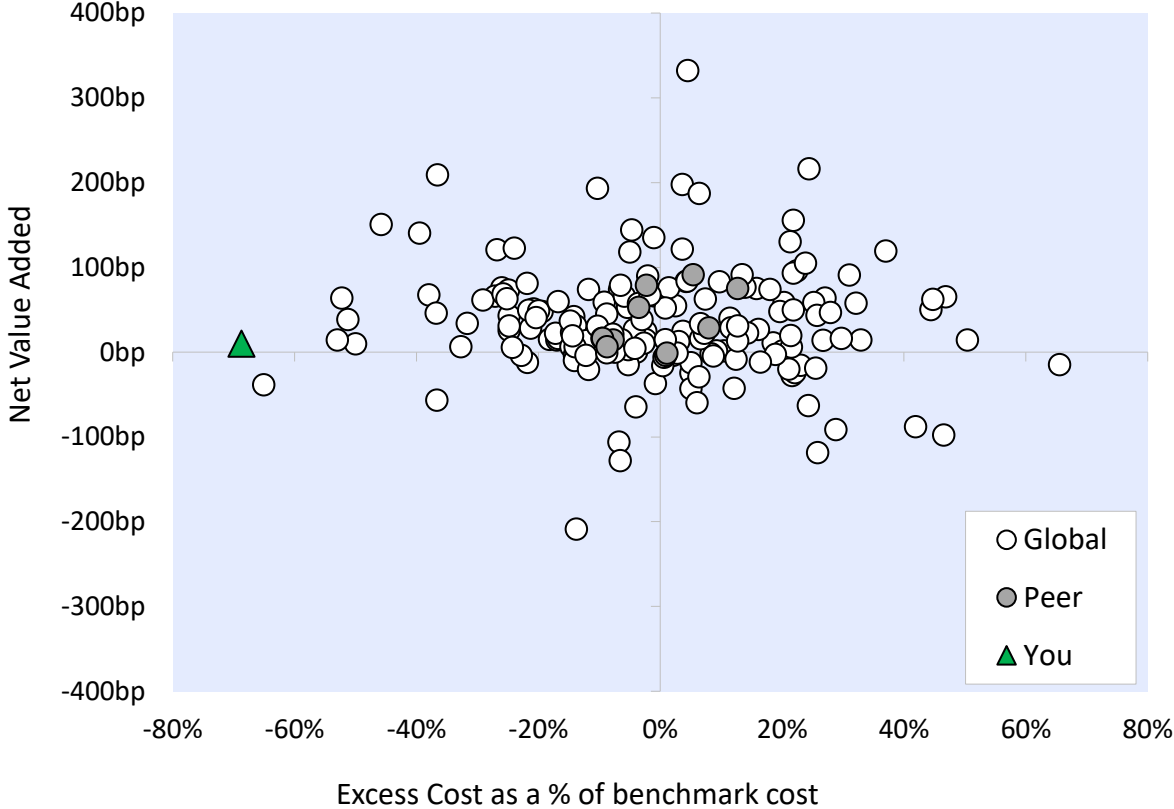
The benchmark result needs to be interpreted with caution since the value is very low and based on a limited number of observations.

Your 10-year performance placed in the positive value added, low cost quadrant of the cost effectiveness chart.



10-year excess cost as a % of benchmark cost versus net value added

10-year excess cost as a % of BM cost vs. net value added



2

Description of peer group and universe

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Implementation style, actual mix and policy mix:	
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Peer group

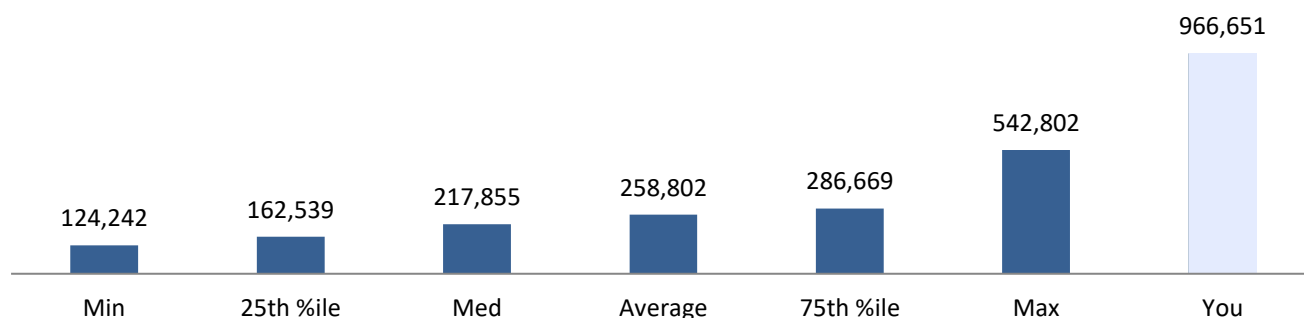
Your peer group is comprised of the 10 largest Global funds, with assets ranging from €124.2 billion to €542.8 billion versus your €966.7 billion. The median size is €217.9 billion.

In order to preserve client confidentiality, we do not disclose your peers' names in this document. Your peer group consist of plans with the following characteristics:

Peer Group Characteristics - 2020

	You	Peers	Global average
<u>Plan Assets (\$ billions)</u>			
Range	966.7	124.2 - 542.8	0.0 - 966.7
Median		217.9	6.2
<u># of Plans</u>			
Corporate		0	142
Public	1	8	129
Other		2	37
Total		10	308
<u>Implementation style</u>			
% External active	4.0	38.1	66.4
% External passive	0.0	4.1	18.4
% Internal active	96.0	30.7	11.4
% Internal passive	0.0	27.1	3.9
<u>Asset mix</u>			
% Stock	68.4	37.6	38.8
% Fixed Income	27.5	29.5	38.7
% Real Assets	4.2	16.6	9.7
% Private Equity	0.0	11.3	5.3
% Hedge Funds & Other	0.0	3.1	5.3

Total fund assets (€ millions) - you versus peers

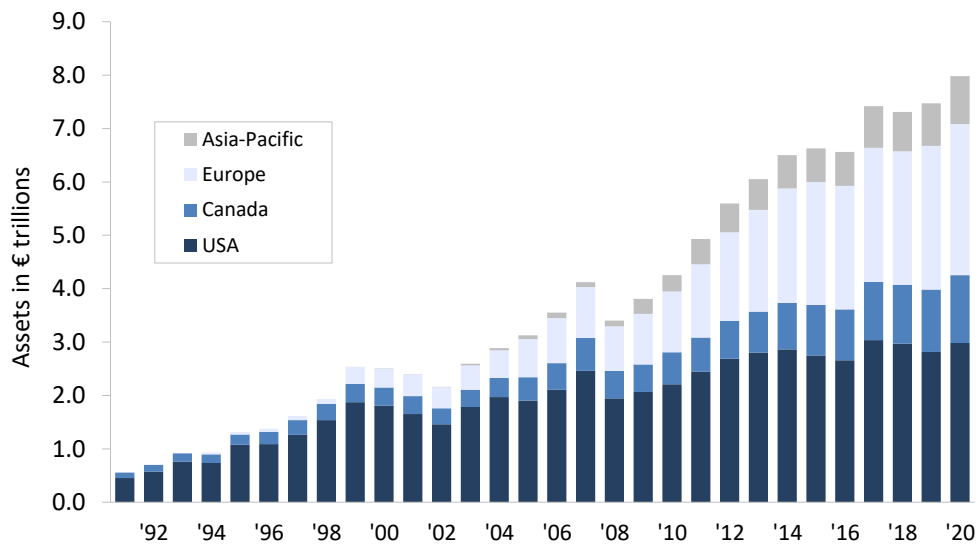


CEM global universe

CEM has been providing investment benchmarking solutions since 1991. The 2020 survey universe is comprised of 308 funds representing €8.0 trillion in assets. The breakdown by region is as follows:

- 158 U.S. pension funds with aggregate assets of €3.0 trillion.
- 68 Canadian pension funds with aggregate assets of €1.3 trillion.
- 73 European pension funds with aggregate assets of €2.8 trillion. Included are funds from the Netherlands, Norway, Sweden, Finland, Denmark, UK, and Ireland.
- 6 Asia-Pacific pension funds with aggregate assets of €0.9 trillion.

CEM global universe



Universe subsets

CEM's global survey universe is comprised of 308 funds with total assets of €8.0 trillion. Your fund's returns and costs are compared to the following two subsets of the global universe:

- Peers - Your peer group is comprised of 10 Global funds ranging in size from €124.2 - €542.8 billion. The peer median of €217.9 billion compares to your €966.7 billion.
- Global - The global universe is comprised of 308 funds ranging in size from €0.0 - €966.7 billion. The median fund is €6.2 billion.

Universe subsets by number of funds and assets

	Peer group ¹	Corp.	Public	Other	Total	U.S.	Canada	Europe	Asia-Pacific	Total
# of funds										
2020	10	142	129	37	308	158	68	73	9	308
2019	10	135	135	41	311	151	71	75	14	311
2018	10	147	147	44	338	170	78	76	14	338
2017	10	151	156	47	354	167	80	91	16	354
2016	10	155	147	47	349	170	81	83	15	349
2015	10	162	150	53	365	176	81	92	16	365
2014	10	165	205	54	424	177	88	144	15	424
2013	10	186	200	62	448	193	90	152	13	448
2012	10	189	203	58	450	203	89	144	14	450
2011	10	197	114	67	378	204	89	71	14	378
# of funds with uninterrupted data for:										
1 yr	10	142	129	37	308	158	68	73	9	308
2 yrs	10	129	120	35	284	142	65	68	9	284
3 yrs	10	121	118	34	273	137	63	64	9	273
4 yrs	10	114	113	32	259	130	57	63	9	259
5 yrs	10	109	109	32	250	127	54	60	9	250
6 yrs	10	102	103	30	235	120	48	58	9	235
7 yrs	10	95	102	30	227	117	46	55	9	227
8 yrs	10	91	99	28	218	111	45	54	8	218
9 yrs	10	84	94	25	203	106	44	46	7	203
10 yrs	10	83	68	24	175	104	42	22	7	175
Total assets (€ billions)										
2020	2,588	1,310	5,209	1,492	8,010	2,980	1,273	2,831	926	8,010
2019	2,388	1,169	4,926	1,474	7,570	2,814	1,168	2,690	898	7,570
2018	2,205	1,119	4,918	1,361	7,399	2,969	1,107	2,498	825	7,399
2017	2,188	1,139	5,022	1,498	7,659	3,035	1,093	2,512	1,019	7,659
2016	1,898	1,080	4,294	1,377	6,751	2,661	951	2,313	826	6,751
2015	1,875	1,102	4,470	1,340	6,912	2,746	948	2,302	916	6,912
2014	1,796	1,164	4,384	1,243	6,792	2,860	869	2,149	914	6,792
2013	1,630	1,106	4,078	1,120	6,304	2,802	765	1,909	827	6,304
2012	1,505	1,096	3,783	864	5,743	2,687	707	1,665	685	5,743
2011	1,325	1,078	3,211	773	5,062	2,442	644	1,371	605	5,062
2020 asset distribution (€ billions)										
Avg	258.8	9.2	40.4	40.3	26.0	18.9	18.7	38.8	102.9	26.0
Max	542.8	58.6	966.7	459.0	966.7	292.9	268.0	966.7	542.8	966.7
75th %ile	286.7	12.2	28.1	43.6	18.3	16.7	11.4	27.5	100.3	18.3
Median	217.9	4.5	8.1	13.8	6.2	7.3	4.1	8.5	22.5	6.2
25th %ile	162.5	1.8	2.9	3.0	2.3	2.3	1.5	3.1	7.0	2.3
Min	124.2	0.2	0.0	0.1	0.0	0.2	0.0	0.5	0.6	0.0

1. Peer group statistics are for your 2020 peer group only as your peer group may have included different funds in prior years.

Implementation style, actual mix and policy mix by universe subset

Implementation style, actual mix and policy mix - 2020 (as a % of year-end assets)

	Your fund ¹	Peer group	Global by type				Global by Country				
			Corp.	Public	Other	Total	U.S.	Canada	Europe	Asia-Pacific	Total
Implementation style											
External Active	4.0	36.9	69.8	58.8	59.6	64.0	71.5	62.4	51.1	47.6	64.0
Fund of funds	0.0	1.2	2.1	2.8	2.3	2.4	2.3	1.7	3.3	2.8	2.4
External passive	0.0	4.1	19.3	17.0	19.7	18.4	18.9	12.6	23.0	16.4	18.4
Internal Active	96.0	30.7	6.5	15.9	14.2	11.4	4.4	18.4	18.7	20.8	11.4
Internal Passive	<u>0.0</u>	<u>27.1</u>	<u>2.2</u>	<u>5.6</u>	<u>4.3</u>	<u>3.9</u>	<u>3.0</u>	<u>4.9</u>	<u>3.8</u>	<u>12.4</u>	<u>3.9</u>
Total	100	100	100	100	100	100	100	100	100	100	100
Actual asset mix											
Stock	68.4	37.6	31.4	46.6	40.0	38.8	37.3	37.4	42.5	45.7	38.8
Fixed Income ²	27.5	28.5	52.1	26.4	36.7	39.5	42.9	36.5	35.9	30.5	39.5
Global TAA	0.0	0.1	0.7	1.3	0.2	0.9	0.9	0.5	1.2	0.2	0.9
Real Assets	4.2	16.6	6.0	13.0	12.0	9.7	6.3	16.2	10.9	10.5	9.7
Hedge Funds	0.0	3.2	3.5	2.7	2.7	3.1	4.2	1.8	1.7	4.0	3.1
Balanced Funds	0.0	0.0	0.0	0.3	0.0	0.1	0.0	0.0	0.5	0.0	0.1
Risk Parity	0.0	0.8	0.5	0.4	0.3	0.4	0.7	0.2	0.0	1.0	0.4
Private Debt	0.0	1.9	1.7	2.6	3.3	2.3	1.4	2.8	3.7	1.1	2.3
Private Equity	<u>0.0</u>	<u>11.3</u>	<u>4.1</u>	<u>6.7</u>	<u>4.9</u>	<u>5.3</u>	<u>6.3</u>	<u>4.6</u>	<u>3.5</u>	<u>7.1</u>	<u>5.3</u>
Total	100	100	100	100	100	100	100	100	100	100	100
Policy asset mix											
Stock	73.0	44.4	31.8	45.7	41.9	38.8	37.6	37.5	41.1	51.5	38.8
Fixed Income	27.0	27.3	51.2	26.1	35.5	38.8	42.4	35.8	35.3	27.2	38.8
Global TAA	0.0	0.0	0.6	1.3	0.1	0.9	0.9	0.7	1.2	0.2	0.9
Real Assets	0.0	15.1	6.6	14.5	12.9	10.7	7.3	16.8	12.2	10.2	10.7
Hedge funds	0.0	3.0	3.3	2.3	2.1	2.8	3.8	1.3	1.9	2.9	2.8
Balanced Funds	0.0	0.0	0.0	0.2	0.0	0.1	0.0	0.0	0.3	0.0	0.1
Risk Parity	0.0	0.8	0.5	0.3	0.2	0.4	0.6	0.1	0.0	0.6	0.4
Private Debt	0.0	2.1	1.8	3.0	3.0	2.4	1.2	3.5	4.2	1.3	2.4
Private Equity	<u>0.0</u>	<u>7.4</u>	<u>4.2</u>	<u>6.7</u>	<u>4.4</u>	<u>5.3</u>	<u>6.3</u>	<u>4.3</u>	<u>3.9</u>	<u>6.1</u>	<u>5.3</u>
Total	100	100	100	100	100	100	100	100	100	100	100

1. Since your fund provided average assets, the above tables show your implementation style and asset mix using average assets rather than year-end.

2. Includes derivatives and overlays.

Implementation style, actual mix and policy mix trends

Implementation style, actual mix and policy mix - 2016 to 2020 (as a % of year-end assets)

	Your fund ¹					Peer average ²					Global average ²				
	2020	2019	2018	2017	2016	2020	2019	2018	2017	2016	2020	2019	2018	2017	2016
Implementation style															
External active	4.0	3.6	4.4	4.8	4.3	36.9	35.9	35.4	34.5	34.7	62.4	62.1	62.2	61.2	60.6
Fund of funds	0.0	0.0	0.0	0.0	0.0	1.2	1.3	1.4	1.8	1.9	2.2	2.4	2.6	2.6	2.7
External passive	0.0	0.0	0.0	0.0	0.0	4.1	4.6	5.3	5.1	4.5	16.6	16.7	16.6	17.6	18.1
Internal active	96.0	96.4	95.6	95.2	95.7	30.7	31.4	30.9	33.3	34.1	13.4	13.3	13.3	13.6	13.5
Internal passive	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>27.1</u>	<u>26.8</u>	<u>26.9</u>	<u>25.3</u>	<u>24.8</u>	<u>5.4</u>	<u>5.5</u>	<u>5.3</u>	<u>4.9</u>	<u>5.1</u>
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Actual asset mix															
Stock	68.4	67.9	66.1	65.0	60.3	37.6	37.6	37.3	39.9	38.8	37.0	37.3	37.2	40.8	40.7
Fixed income ³	27.5	28.2	30.3	32.5	36.6	28.5	27.2	28.8	28.8	29.5	40.4	39.8	39.6	37.7	37.6
Global TAA	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.1	0.1	0.8	0.9	1.0	0.9	1.2
Real assets	4.2	3.9	3.5	2.5	3.1	16.6	17.4	17.3	16.3	16.5	9.7	10.0	10.2	9.6	9.5
Hedge funds	0.0	0.0	0.0	0.0	0.0	3.2	3.3	3.6	3.3	3.4	3.4	3.6	3.9	3.8	4.1
Balanced Funds	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Risk Parity	0.0	0.0	0.0	0.0	0.0	0.8	0.8	0.5	0.5	0.4	0.4	0.4	0.5	0.6	0.3
Private credit	0.0	0.0	0.0	0.0	0.0	1.9	2.9	2.2	1.8	1.9	2.1	1.9	1.8	1.5	1.2
Private equity	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>11.3</u>	<u>10.6</u>	<u>10.1</u>	<u>9.3</u>	<u>9.4</u>	<u>6.3</u>	<u>6.0</u>	<u>5.8</u>	<u>5.3</u>	<u>5.3</u>
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Policy asset mix															
Stock	73.0	71.1	67.3	67.1	62.2	44.4	44.2	44.3	44.6	43.3	37.6	38.1	38.5	41.0	41.4
Fixed income	27.0	28.9	32.7	33.0	35.3	27.3	27.6	29.1	30.5	30.6	39.9	40.0	39.5	37.9	37.5
Global TAA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.1	1.0	1.3
Real assets	0.0	0.0	0.0	0.0	2.5	15.1	15.3	14.9	14.7	14.9	10.3	10.0	10.0	9.7	9.4
Hedge funds	0.0	0.0	0.0	0.0	0.0	3.0	3.0	3.3	2.7	1.7	2.9	3.1	3.3	3.4	3.5
Balanced Funds	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Risk Parity	0.0	0.0	0.0	0.0	0.0	0.8	0.8	0.5	0.5	0.5	0.4	0.4	0.4	0.5	0.3
Private credit	0.0	0.0	0.0	0.0	0.0	2.1	2.3	1.6	0.8	1.2	2.0	1.6	1.5	1.1	1.0
Private equity	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>7.4</u>	<u>6.8</u>	<u>6.4</u>	<u>6.2</u>	<u>7.8</u>	<u>6.0</u>	<u>5.8</u>	<u>5.6</u>	<u>5.4</u>	<u>5.6</u>
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

1. Due to the fact that your fund provided average assets, the above tables show your trend in implementation style and asset mix using average assets rather than year-end.

2. Trends are based on the 175 Global and 10 peer funds with 10 or more consecutive years of data ending 2020.

3. Includes derivatives and overlays.

Implementation style by asset class

Implementation style impacts your costs, because external active management tends to be more expensive than internal or passive (or indexed) management and fund-of-funds usage is more expensive than direct fund investment.

Implementation style by asset class - 2020 (as a % of average assets)

	Your fund %				Peer average %				Global average %				
	External		Internal		External		Internal		External		Internal		
	Active	FOFs	Index	Active	Index	Active	FOFs	Index	Active	FOFs	Index	Active	Index
Stock - U.S.	100.0		0.0	0.0	0.0	24.5	33.3	8.2	34.0	35.1	50.7	6.8	7.3
Stock - EAFE	100.0		0.0	0.0	0.0	53.0	7.5	18.6	20.9	53.0	25.3	19.5	2.2
Stock - Global	0.0		0.0	100.0	0.0	29.2	0.0	22.4	48.3	62.9	25.7	8.7	2.7
Stock - Other						36.8	0.0	42.3	21.0	68.9	9.4	13.4	8.3
Stock - Emerging	100.0		0.0	0.0	0.0	51.6	7.5	16.1	24.8	74.4	15.8	6.4	3.5
Stock - ACWI x U.S.						0.0	0.0	0.0	0.0	69.1	29.2	0.9	0.8
Stock - Aggregate	5.9		0.0	94.1	0.0	34.6	8.6	19.9	36.9	55.6	30.6	9.6	4.2
Fixed Income - U.S.						33.0	8.5	55.1	3.3	65.7	16.3	14.1	3.9
Fixed Income - EAFE						0.0	0.0	9.0	91.0	36.0	33.8	17.0	13.2
Fixed Income - Global	0.0		0.0	100.0	0.0	8.6	0.0	57.9	33.5	64.2	7.2	24.6	4.0
Fixed Income - Other						14.8	0.0	18.4	66.8	59.4	15.7	21.8	3.1
Fixed Income - Long Bonds						2.5	0.0	44.4	53.1	80.8	10.3	5.4	3.5
Fixed Income - Emerging						42.2	6.9	34.4	16.6	76.3	5.5	17.1	1.2
Fixed Income - Inflation Indexed						4.4	14.1	14.3	67.2	18.1	40.0	15.9	26.0
Fixed Income - High Yield						65.8	0.0	34.2	0.0	87.0	2.3	8.9	1.7
Fixed Income - Bundled LDI						0.0	0.0	100.0	0.0	51.5	27.6	14.5	6.4
Fixed Income - Convertibles						100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0
Cash						0.0		100.0		49.1		50.9	
Fixed Income - Aggregate	0.0		0.0	100.0	0.0	17.3	2.9	38.5	41.3	65.4	15.2	14.3	5.1
Commodities						3.2	1.0	49.8	46.0	45.8	10.6	14.3	29.4
Infrastructure						19.3	0.0	80.7		77.6	6.4	16.0	
Natural Resources						48.8	0.2	51.0		75.9	0.4	23.7	
REITs	0.0		0.0	100.0	0.0	6.7	0.0	93.3	0.0	66.3	18.6	13.1	2.1
Real Estate	0.0	0.0		100.0		69.8	0.4	29.8		78.0	6.4	15.5	
Other Real Assets						14.2	0.0	85.8		93.1	0.0	6.9	
Real Assets - Aggregate	0.0	0.0	0.0	100.0	0.0	45.6	0.2	0.1	50.4	3.7	76.7	5.6	1.3
Hedge Funds						87.3	12.7			76.5	23.5		
Global TAA						96.7		3.3		78.4		21.6	
Balanced Funds						0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0
Risk Parity						31.0		69.0		92.2		7.8	
Private Credit						56.1	0.2	43.7		89.5	2.4	8.2	
Mortgages						29.5		70.5		90.5		9.5	
Diversified Private Equity						55.1	8.0	36.9		72.7	22.5	4.7	
Venture Capital						86.2	1.9	12.0		54.3	44.9	0.8	
LBO						96.0	4.0	0.0		94.6	5.3	0.1	
Other Private Equity						65.8	0.0	34.2		75.6	0.0	24.4	
Private Equity - Aggregate						64.4	6.7	28.9		74.5	20.8	4.7	
Total Fund - Avg. Holdings	4.0	0.0	0.0	96.0	0.0	36.9	1.2	4.1	30.7	27.1	64.0	2.4	18.4

Actual mix

Actual asset mix - 2016 to 2020 (as a % of total average assets)

	Your fund ¹					Peer average %					Global average %				
	2020	2019	2018	2017	2016	2020	2019	2018	2017	2016	2020	2019	2018	2017	2016
Stock - U.S.	0.1		0.0	0.1	0.1	7.7	7.6	7.4	10.5	11.5	10.4	10.5	11.1	12.2	13.4
Stock - EAFE	0.8	0.7	1.0	1.2	1.0	4.1	4.3	4.3	6.3	5.5	6.2	6.1	6.8	8.1	8.4
Stock - Global	64.4	64.3	61.7	60.3	56.3	17.5	17.7	17.7	13.8	12.9	13.8	13.4	12.8	13.0	11.8
Stock - Other						3.1	2.9	3.0	3.9	3.8	2.8	3.2	3.4	3.8	4.3
Stock - Emerging	3.2	3.0	3.4	3.5	2.8	5.2	5.1	4.9	5.4	5.1	3.1	3.0	3.1	3.5	3.0
Stock - ACWI x U.S.											2.4	2.4	2.3	2.5	2.6
Stock - Aggregate	68.4	67.9	66.1	65.0	60.3	37.6	37.6	37.3	39.9	38.8	38.8	38.5	39.6	43.2	43.5
Fixed Income - U.S.						4.9	5.2	5.0	4.0	3.6	6.4	6.5	6.9	5.7	6.2
Fixed Income - EAFE						2.4	4.3	3.6	3.5	3.7	2.9	3.1	3.1	3.8	3.7
Fixed Income - Global	27.5	28.2	30.3	32.4	36.3	4.8	5.1	5.7	5.4	2.7	2.4	2.6	2.4	2.8	2.7
Fixed Income - Other						6.6	6.3	6.9	6.9	10.0	4.7	4.8	5.0	5.4	5.9
Fixed Income - Long Bonds						3.7	3.7	3.3	3.3	3.4	13.1	12.8	12.8	10.6	10.0
Fixed Income - Emerging				0.1	0.3	1.8	1.5	1.3	1.1	1.0	1.3	1.4	1.2	1.1	1.0
Fixed Income - Inflation Indexed						2.3	3.1	3.9	4.3	4.8	1.4	1.9	1.7	2.0	2.4
Fixed Income - High Yield						1.6	1.5	1.2	1.1	0.9	1.3	1.2	1.2	1.2	1.3
Fixed Income - Bundled LDI						3.3					3.4	2.3	2.2	1.2	0.2
Fixed Income - Convertibles						0.1	0.1	0.1	0.1		0.0	0.0	0.0	0.1	0.0
Cash						-2.0	-3.6	-2.6	-2.1	-1.9	1.5	1.4	1.6	2.1	2.0
Fixed Income - Aggregate	27.5	28.2	30.3	32.5	36.6	29.5	27.2	28.5	27.6	28.2	38.7	38.2	38.3	36.0	35.6
Commodities						1.3	1.6	1.7	1.4	1.2	0.2	0.3	0.3	0.3	0.3
Infrastructure						4.0	3.9	3.8	3.5	3.4	2.4	2.4	2.1	1.9	1.7
Natural Resources						1.1	1.3	1.2	1.0	1.0	0.3	0.3	0.4	0.5	0.4
REITs	1.3	1.1	0.9			1.2	1.3	1.2	1.2	1.4	0.5	0.5	0.6	0.6	0.5
Real Estate	2.8	2.7	2.6	2.5	3.1	8.7	9.3	9.3	8.9	9.4	6.1	6.3	6.3	5.6	5.8
Other Real Assets						0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2
Real Assets - Aggregate	4.2	3.9	3.5	2.5	3.1	16.6	17.4	17.3	16.3	16.5	9.7	10.0	9.9	9.1	9.0
Hedge Funds						3.2	3.3	3.6	3.3	3.4	3.1	3.2	3.4	3.4	3.8
Global TAA						0.1	0.2	0.2	0.1	0.1	0.9	1.0	0.9	1.0	1.2
Balanced Funds											0.1	0.4	0.4	0.5	0.5
Risk Parity						0.8	0.8	0.5	0.5	0.4	0.4	0.6	0.5	0.5	0.3
Mortgages						0.9	1.9	1.3	1.1	1.3	0.5	0.6	0.6	0.4	0.4
Private Credit						1.0	1.0	0.9	0.7	0.6	1.7	1.6	1.3	1.1	0.8
Diversified Private Equity						8.3	7.8	7.4	6.9	7.1	4.2	4.3	3.9	3.4	3.5
Venture Capital						0.5	0.4	0.4	0.3	0.2	0.2	0.3	0.3	0.2	0.2
LBO						2.1	2.0	1.9	1.8	1.7	0.6	0.6	0.5	0.5	0.5
Other Private Equity						0.4	0.4	0.3	0.3	0.4	0.2	0.2	0.2	0.2	0.2
Private Equity - Aggregate						11.3	10.6	10.1	9.3	9.4	5.3	5.3	4.8	4.3	4.5
Derivatives/Overlays Mkt Value						-1.0	0.0	0.4	1.2	1.3	0.8	0.5	0.3	0.6	0.4
Total Fund	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Count	1	1	1	1	1	10	10	10	10	10	308	311	338	354	349
Median Assets (€ billions)	966.7	937.6	872.0	844.4	776.1	217.9	207.0	189.9	180.3	160.0	6.2	6.2	5.4	5.1	4.8

1. Your asset mix is based on average assets rather than year-end.

Policy mix

Policy asset mix - 2016 to 2020 (as a % of total assets)

	Your fund %					Peer average %					Global average %				
	2020	2019	2018	2017	2016	2020	2019	2018	2017	2016	2020	2019	2018	2017	2016
Stock - U.S.						7.6	7.6	7.8	7.6	8.5	9.6	9.9	10.6	11.3	12.3
Stock - EAFE						4.5	4.7	4.9	5.1	4.6	5.5	5.6	6.4	7.5	7.8
Stock - Global	73.0	71.1	67.3	67.1	62.2	26.4	25.9	25.8	25.3	23.7	15.9	15.4	14.7	14.9	13.7
Stock - Other						2.8	2.5	2.4	3.0	3.0	2.9	3.3	3.3	3.7	4.0
Stock - Emerging						3.1	3.4	3.4	3.5	3.5	2.7	2.7	2.8	2.9	2.7
Stock - ACWI x U.S.											2.3	2.4	2.6	2.6	2.8
Stock - Aggregate	73.0	71.1	67.3	67.1	62.2	44.4	44.2	44.3	44.6	43.3	38.8	39.3	40.3	42.9	43.3
Fixed Income - U.S.						5.1	4.3	5.1	4.8	4.8	6.7	6.7	7.1	6.0	6.2
Fixed Income - EAFE						2.2	4.9	4.4	4.4	4.5	3.1	3.3	3.2	3.7	3.7
Fixed Income - Global	27.0	28.9	32.7	33.0	35.3	2.9	4.6	4.9	4.7	1.8	2.8	2.8	2.7	3.1	3.1
Fixed Income - Other						7.2	6.6	7.0	6.8	10.6	4.6	5.1	5.0	6.0	6.3
Fixed Income - Long Bonds						5.3	6.7	5.2	4.5	3.1	13.5	13.2	13.2	11.3	10.7
Fixed Income - Emerging						1.5	1.1	1.0	0.9	1.0	1.2	1.3	1.1	1.0	1.0
Fixed Income - Inflation Indexed						2.3	2.6	3.6	4.4	4.9	1.6	2.1	1.9	2.3	2.6
Fixed Income - High Yield						1.0	1.1	0.7	1.5	0.9	1.2	1.2	1.1	1.2	1.4
Fixed Income - Bundled LDI						3.1					3.5	2.4	2.3	1.2	0.1
Fixed Income - Convertibles											0.0	0.0	0.0	0.1	0.0
Cash						-3.2	-4.2	-2.8	-1.4	-0.9	0.3	0.4	0.5	0.6	0.9
Fixed Income - Aggregate	27.0	28.9	32.7	33.0	35.3	27.3	27.6	29.1	30.5	30.6	38.8	38.7	38.3	36.6	36.3
Commodities						0.7	0.8	0.8	0.8	1.1	0.3	0.3	0.3	0.3	0.4
Infrastructure						2.5	2.5	2.2	2.1	2.8	2.7	2.5	2.2	2.0	1.9
Natural Resources						0.7	0.7	0.6	0.7	1.0	0.3	0.3	0.3	0.3	0.3
REITs						1.1	1.1	1.1	1.2	1.2	0.5	0.5	0.6	0.6	0.5
Real Estate				2.5		10.1	10.2	10.0	9.9	8.6	6.7	6.6	6.4	6.1	5.9
Other Real Assets						0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.3	0.3
Real Assets - Aggregate				2.5		15.1	15.3	14.9	14.7	14.9	10.7	10.3	10.1	9.6	9.3
Hedge Funds						3.0	3.0	3.3	2.7	1.7	2.8	2.9	3.2	3.2	3.3
Global TAA											0.9	0.9	0.9	1.0	1.2
Balanced Funds											0.1	0.0	0.2	0.2	0.3
Risk Parity						0.8	0.8	0.5	0.5	0.5	0.4	0.5	0.5	0.4	0.3
Mortgages						0.8	1.1	0.4	0.3	1.0	0.7	0.6	0.6	0.5	0.4
Private Credit						1.3	1.2	1.2	0.5	0.3	1.8	1.5	1.3	1.0	0.8
Diversified Private Equity						7.0	6.8	6.4	6.2	7.7	4.5	4.5	4.1	4.0	4.2
Venture Capital						0.4				0.1	0.1	0.1	0.2	0.1	0.2
LBO											0.5	0.4	0.5	0.3	0.3
Other Private Equity											0.1	0.1	0.1	0.2	0.2
Private Equity - Aggregate						7.4	6.8	6.4	6.2	7.8	5.3	5.1	4.8	4.6	4.9
Total Fund	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Count	1	1	1	1	1	10	10	10	10	10	308	311	338	354	349

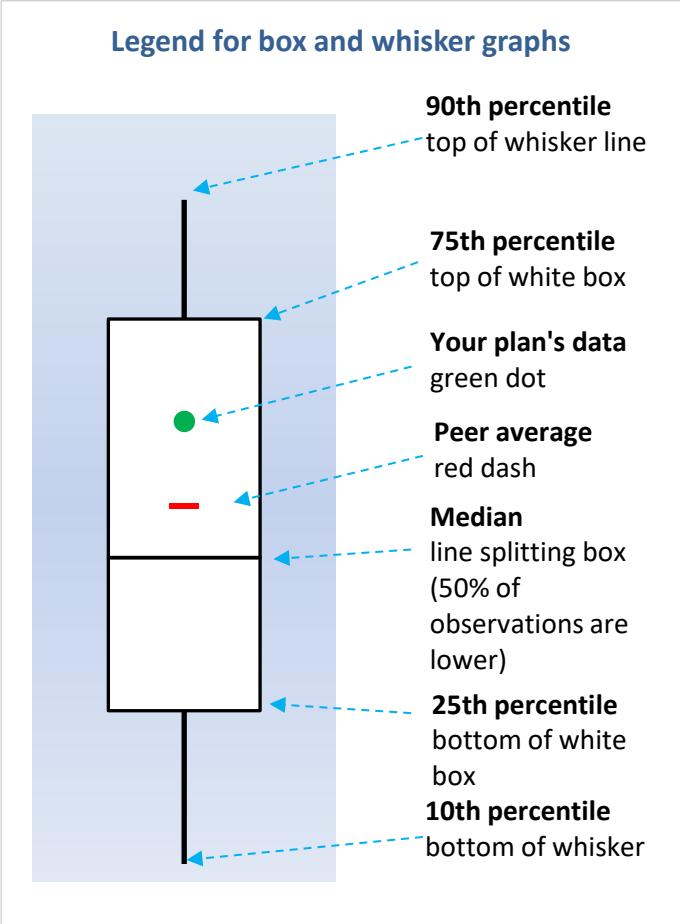
3

Returns, Benchmarks and Value Added

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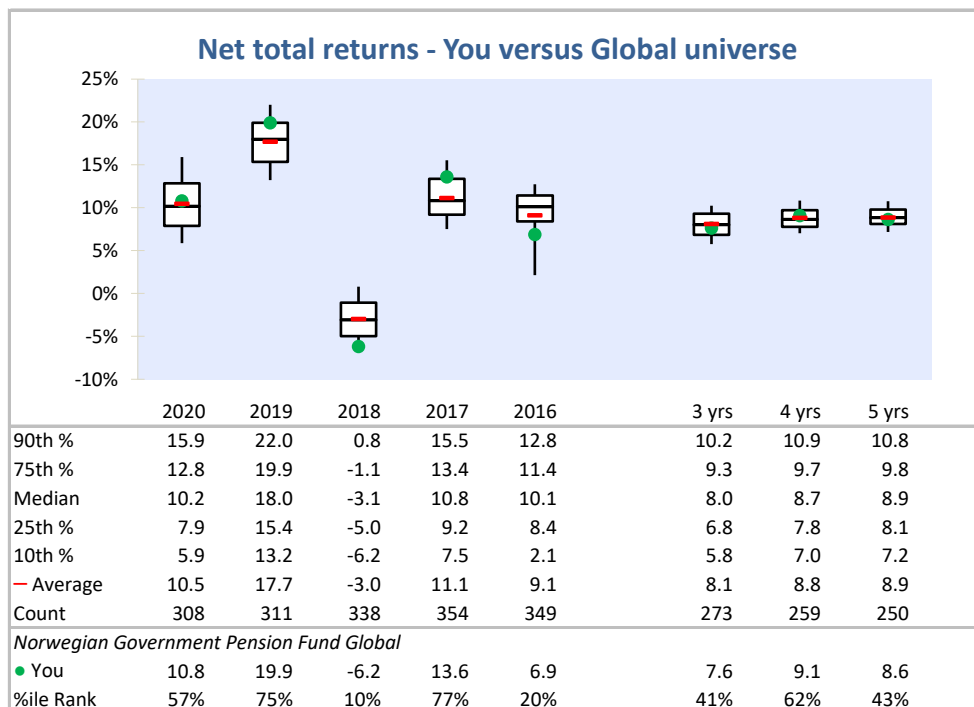
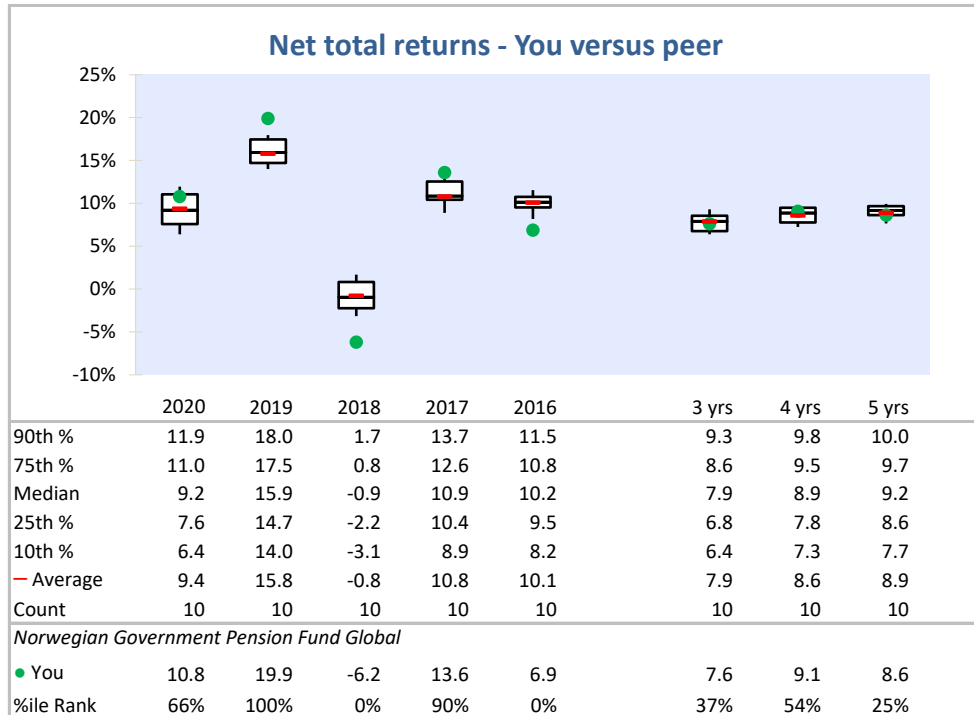
Interpreting box and whisker graphs

Box and whisker graphs are used extensively in this report because they show visually where you rank relative to all observations. At a glance you can see which quartile your data falls in.



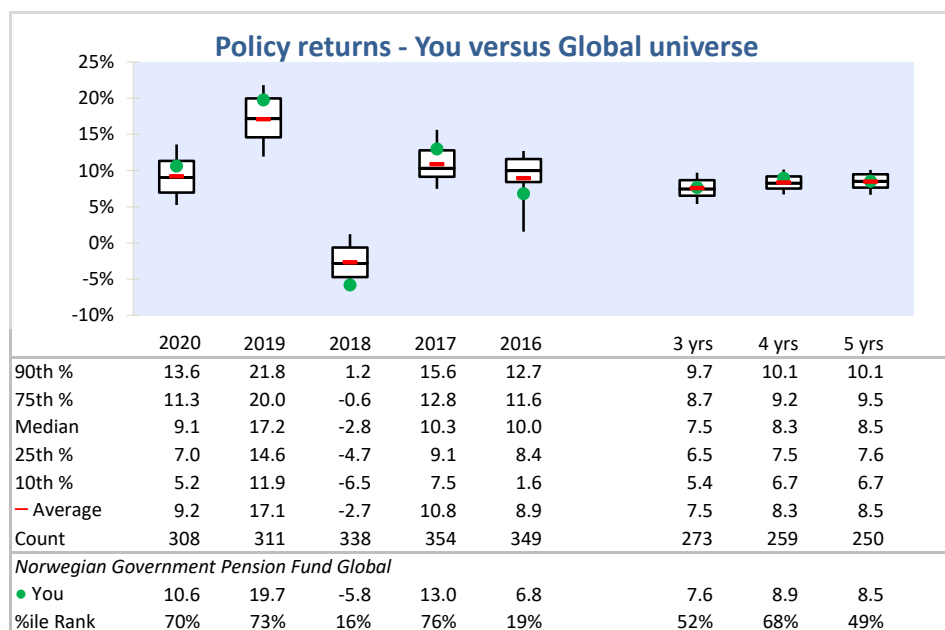
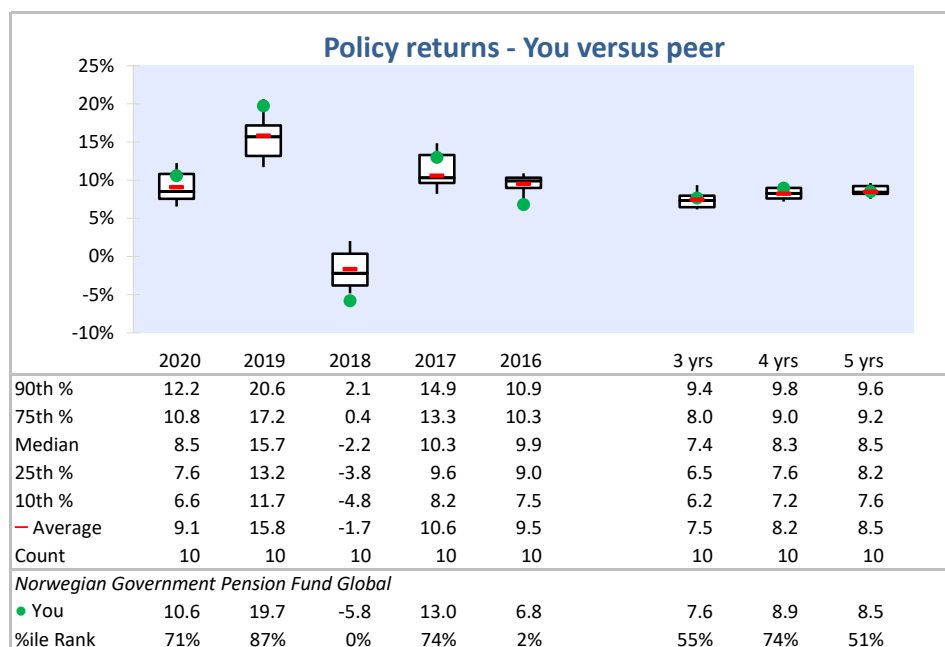
Net total returns

Your 5-year net total return of 8.6% was below the peer median and below the median of the Global universe. Comparisons of total return do not help you understand the reasons behind relative performance. To understand the relative contributions from policy asset mix decisions and implementation decisions we separate total return into its more meaningful components - policy return and implementation value added.



Policy returns

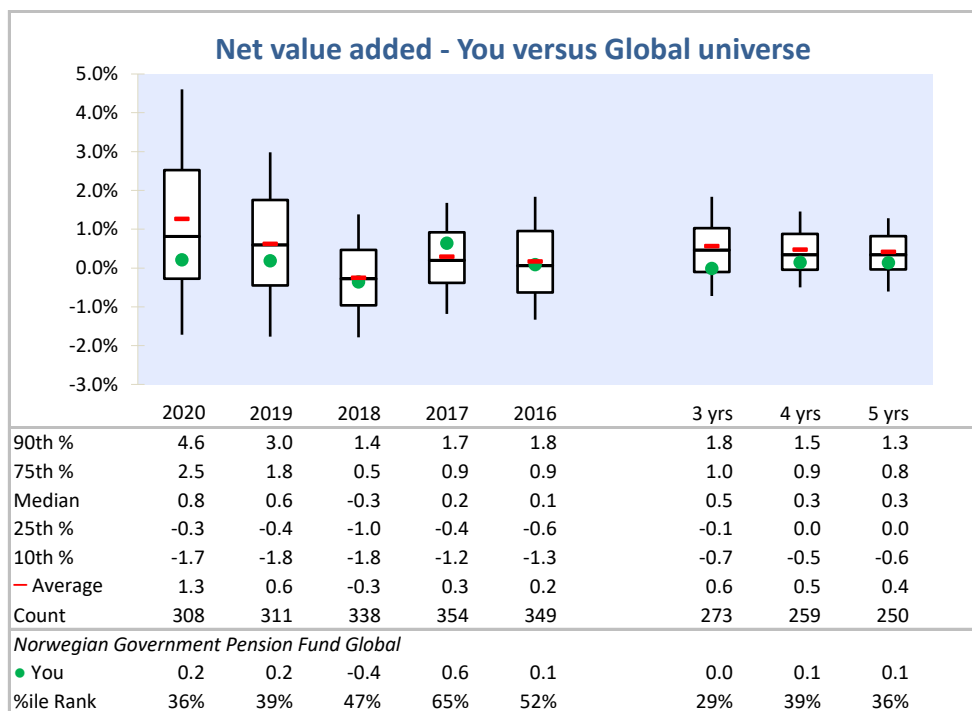
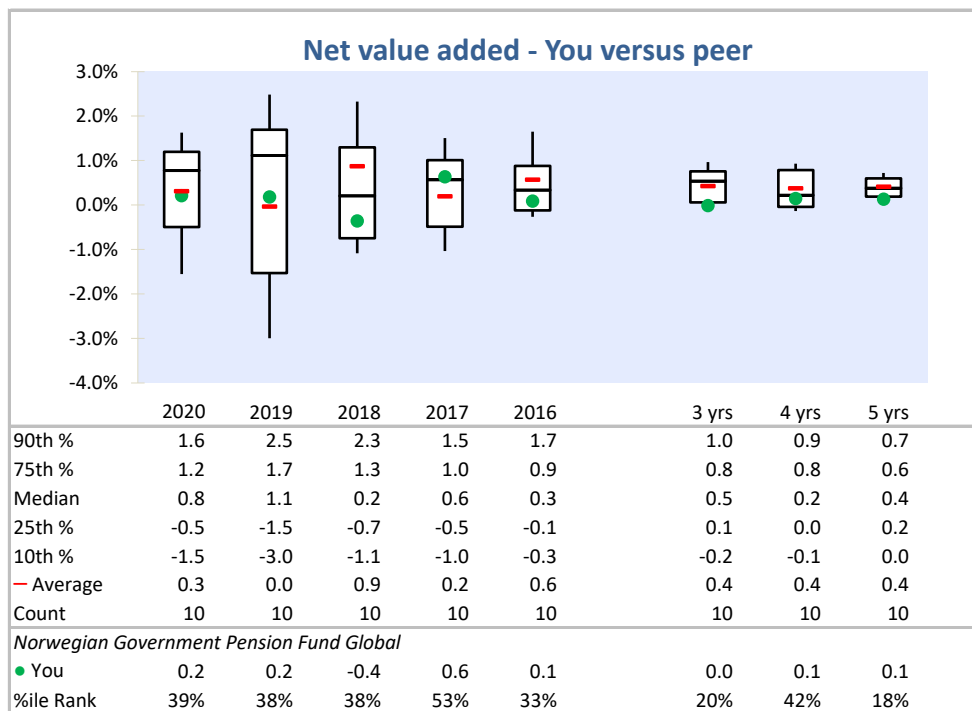
Your 5-year policy return of 8.5% was close to the peer median and close to the Global universe median. Policy return is the return you would have earned had you passively implemented your policy asset mix decision through your benchmark portfolios.



To enable fairer comparisons, the policy returns of all participants except your fund were adjusted to reflect private equity benchmarks based on lagged, investable, public-market indices. Refer to the appendix of this section for details.

Net value added

Your 5-year net value added of 0.1% was below the peer median and below the median of the Global universe. Net value added is the difference between your net total return and your policy return.



Net returns by asset class

Asset class	Your fund %						Peer average %						Global average %					
	2020	2019	2018	2017	2016	5-yr ¹	2020	2019	2018	2017	2016	5-yr ¹	2020	2019	2018	2017	2016	5-yr ¹
Stock - U.S.	49.8		0.0	18.4	22.7		14.6	25.1	-1.4	13.7	14.6	13.0	15.9	29.7	-4.0	14.9	14.9	13.7
Stock - EAFE	9.4	21.2	-15.2	27.2	2.1	7.9	6.2	23.4	-12.1	20.5	5.0	7.2	8.1	21.9	-12.3	19.6	3.7	7.5
Stock - Global	12.2	26.6	-9.2	18.9	8.7	10.8	9.3	27.6	-4.5	14.5	9.9	10.5	12.7	25.5	-6.5	19.1	8.7	11.1
Stock - Other							9.1	23.6	-13.8	13.3	16.9	8.6	8.8	20.5	-11.3	10.0	21.5	9.5
Stock - Emerging	8.1	16.0	-13.9	26.1	11.0	8.6	13.4	20.8	-11.4	27.2	14.9	12.3	15.9	20.2	-13.0	28.3	12.4	11.8
Stock - ACWI x U.S.													10.6	22.7	-12.9	22.3	5.7	8.8
Stock - Aggregate	12.7	26.1	-9.5	19.4	8.7	10.8	11.7	24.9	-7.5	17.4	11.9	11.0	12.2	25.5	-8.1	18.1	11.2	11.1
Fixed Income - U.S.							7.2	10.0	1.3	-1.1	4.1	4.0	7.6	10.1	1.6	0.0	6.1	4.8
Fixed Income - EAFE							11.9	5.2	-0.8	7.6	3.5	5.3	10.9	6.8	-2.2	7.1	0.6	4.9
Fixed Income - Global	7.4	7.5	0.5	3.3	4.2	4.6	3.3	11.7	1.1	1.0	4.6	4.0	8.0	5.7	-2.2	5.2	4.6	4.4
Fixed Income - Other							3.1	7.6	2.5	51.3	23.0	3.7	6.7	9.2	-1.5	5.9	7.3	5.2
Fixed Income - Long Bonds							12.6	14.7	-1.8	4.9	6.3	6.8	12.7	19.3	-3.4	6.2	9.6	8.8
Fixed Income - Emerging				5.8	13.1		1.6	13.1	-4.4	7.9	10.1	5.9	2.7	12.5	-4.2	8.0	12.2	6.2
Fixed Income - Inflation Indexed							-2.0	8.1	-3.6	2.8	6.7	1.4	8.8	10.7	-2.4	2.1	7.7	5.1
Fixed Income - High Yield							2.8	12.2	2.0	2.4	15.3	7.0	4.2	11.0	-0.9	3.8	13.1	6.6
Fixed Income - Bundled LDI							24.5						19.4	19.3	-2.0	8.3	13.2	20.3
Fixed Income - Convertibles								16.0	1.8	6.7			24.1	13.6	-1.2	6.6	6.9	8.8
Cash							0.0	2.8	0.9	1.7	6.1	2.3	-0.8	2.3	0.8	-0.6	1.2	0.3
Fixed Income - Aggregate	7.4	7.5	0.5	3.3	4.3	4.6	8.4	11.2	0.5	2.1	6.3	5.6	10.0	13.0	-1.8	4.1	6.9	6.3
Commodities							1.4	0.7	-15.6	12.2	20.9	-1.1	-4.3	7.8	-9.9	-0.1	15.2	0.6
Infrastructure							3.5	9.0	8.6	12.9	10.2	8.4	5.1	10.9	6.8	13.9	6.2	8.7
Natural Resources							-2.7	3.5	-0.4	0.6	7.0	1.6	-5.5	3.7	5.2	1.9	8.1	1.8
REITs	-14.9	20.9	-10.4				-16.5	31.0	-7.1	4.3	13.4	2.6	-7.6	23.0	-2.8	5.9	6.6	4.2
Real Estate	-0.2	6.7	7.3	8.8	0.6	4.6	-4.7	8.5	7.9	6.9	12.8	6.0	-0.3	7.1	9.4	7.4	6.9	6.2
Other Real Assets							1.6	-1.6	-5.5	-10.5	6.2	-2.6	-0.2	3.5	-3.6	-0.8	8.3	-3.1
Real Assets - Aggregate	-4.9	10.8	2.8	8.8	0.6	3.4	-2.9	9.7	5.2	6.7	11.8	5.8	-0.2	8.6	6.1	6.9	7.1	5.7
Hedge Funds							1.8	6.6	-1.5	-0.3	2.6	1.9	1.8	6.1	-1.0	2.3	2.3	2.6
Global TAA							-6.9	10.1	-12.2	-0.5	8.1	-1.5	1.6	11.8	-3.4	4.8	7.0	3.5
Balanced Funds													-13.1	29.5	-14.1	16.9	-7.0	0.0
Risk Parity							0.1	23.4	-4.2	9.7	16.1	8.5	6.5	18.0	-5.2	8.2	13.2	8.1
Mortgages							7.7	7.1	1.0	6.1	7.3	6.2	6.3	7.0	0.0	6.2	6.2	5.6
Private Credit							2.7	6.3	6.7	3.4	12.0	6.4	3.5	9.9	5.3	6.5	7.2	5.7
Diversified Private Equity							15.8	11.8	12.8	14.2	13.3	13.5	11.9	9.6	15.8	12.8	9.5	11.9
Venture Capital							20.8	13.2	20.3	9.5	7.7	15.0	21.8	8.7	20.0	9.7	3.7	11.4
LBO							20.0	10.7	12.4	13.9	15.2	14.0	12.1	11.9	15.7	13.0	12.7	12.4
Other Private Equity							17.2	9.4	48.1	16.2	16.7	19.4	11.4	8.5	12.2	8.7	8.6	10.5
Private Equity - Aggregate							16.5	10.5	13.1	14.2	13.1	13.3	12.6	9.3	15.8	12.6	9.6	12.0
Total Fund Return	10.8	19.9	-6.2	13.6	6.9	8.6	9.4	15.8	-0.8	10.8	10.1	8.9	10.5	17.7	-3.0	11.1	9.1	8.9

1. The 5-year return number only includes funds with continuous data over the last 5 years.

Benchmark returns by asset class

Asset class	Your fund %						Peer average %						Global average %					
	2020	2019	2018	2017	2016	5-yr ¹	2020	2019	2018	2017	2016	5-yr ¹	2020	2019	2018	2017	2016	5-yr ¹
Stock - U.S.	47.1		3.6	18.9	16.1		17.4	30.6	-3.6	14.3	16.0	14.6	16.6	30.0	-3.7	14.9	15.3	14.1
Stock - EAFE	5.4	22.7	-13.7	25.6	3.8	7.8	4.4	22.1	-11.7	18.8	5.2	6.9	4.7	22.0	-11.5	18.9	3.5	7.0
Stock - Global	11.8	25.6	-8.8	18.7	8.6	10.5	9.9	26.5	-6.8	14.7	10.7	10.6	11.9	25.9	-7.0	17.3	9.8	11.0
Stock - Other							9.6	25.6	-11.1	15.0	15.4	10.3	5.3	24.2	-10.7	11.0	21.1	9.5
Stock - Emerging	3.4	15.0	-14.7	20.5	10.7	6.2	12.1	20.7	-10.6	27.2	14.7	12.0	14.9	18.2	-12.0	29.1	13.1	11.8
Stock - ACWI x U.S.													7.7	21.6	-12.2	21.1	6.8	8.3
Stock - Aggregate	11.8	25.6	-8.8	18.7	8.6	10.5	11.7	25.3	-7.3	17.0	11.4	10.9	11.7	25.5	-7.9	17.5	11.7	11.1
Fixed Income - U.S.							6.9	11.1	0.5	0.6	2.7	4.7	6.7	9.3	1.6	-0.3	5.2	4.2
Fixed Income - EAFE							11.0	5.1	-0.5	7.2	3.6	5.3	10.9	6.5	-2.2	6.7	0.9	4.5
Fixed Income - Global	6.7	7.5	0.6	2.9	4.2	4.3	2.0	10.4	0.9	0.7	4.4	3.8	6.4	7.6	-1.3	4.2	3.6	4.3
Fixed Income - Other							4.3	6.6	1.0	1.7	6.9	3.8	5.8	9.5	-1.4	3.4	6.7	4.9
Fixed Income - Long Bonds							11.7	15.4	-1.8	4.0	5.3	6.8	11.4	19.2	-3.3	5.9	9.0	8.4
Fixed Income - Emerging				2.9	13.0		1.0	13.5	-4.4	8.3	11.3	5.5	2.3	12.9	-3.2	6.9	11.2	5.9
Fixed Income - Inflation Indexed							-0.3	8.0	-3.9	2.6	6.3	1.4	9.0	9.8	-2.3	2.3	8.0	5.0
Fixed Income - High Yield							2.1	12.1	1.5	1.3	16.2	6.3	4.1	12.4	-1.0	4.0	15.4	7.2
Fixed Income - Bundled LDI							24.6						20.7	19.5	-2.9	8.1	9.8	21.0
Fixed Income - Convertibles								22.6	3.2	9.7			18.8	15.5	-1.1	11.6	10.5	13.5
Cash							0.0	2.4	0.4	0.2	2.9	1.2	-0.3	2.6	0.8	-0.4	0.7	0.7
Fixed Income - Aggregate	6.7	7.5	0.6	2.9	4.2	4.3	9.0	10.0	-0.4	2.3	5.8	5.1	9.5	12.9	-1.8	4.0	6.6	6.2
Commodities							-13.0	13.8	-12.0	1.5	15.4	-0.2	-6.0	10.6	-9.6	-0.3	12.8	0.3
Infrastructure							4.7	9.0	3.6	6.5	8.7	6.4	5.5	11.2	2.0	9.9	3.6	6.3
Natural Resources							-1.6	2.4	3.4	-0.2	8.3	1.8	-2.6	8.4	2.5	1.8	7.5	2.6
REITs	10.1	17.1	-4.6				-19.0	32.8	-4.1	6.4	11.1	3.2	-9.1	21.7	-2.8	6.4	7.3	3.8
Real Estate	8.7	13.0	-2.1	8.3	0.8	5.6	-2.0	8.0	7.6	5.3	12.3	6.2	0.6	8.0	6.4	6.0	6.8	5.7
Other Real Assets							11.7	20.1	-0.1	8.9	9.2	9.6	4.3	11.3	-0.1	1.2	7.8	5.3
Real Assets - Aggregate	8.8	14.2	-2.7	8.3	0.8	5.7	-2.0	9.5	5.2	5.0	11.3	5.7	0.4	9.4	4.2	6.0	6.5	5.3
Hedge Funds							1.7	7.4	1.4	0.9	3.8	2.8	3.2	8.8	-0.1	3.3	3.4	3.1
Global TAA							7.9	13.1	-7.5	5.3	8.7	8.6	6.3	14.1	-1.5	7.2	5.6	6.3
Balanced Funds													-25.2	40.1	-14.4	20.1	-9.0	1.3
Risk Parity							6.7	22.5	-4.3	8.7	14.7	9.3	5.8	15.8	-1.1	6.7	12.1	8.4
Mortgages							8.4	5.3	-0.4	2.9	7.1	5.0	7.1	6.6	-1.0	4.5	5.4	4.7
Private Credit							4.0	8.0	1.2	3.1	11.6	5.9	2.3	13.1	1.2	5.5	5.3	4.9
Diversified Private Equity							-2.2	-5.8	17.3	14.6	11.3	6.4	-3.5	-7.3	19.1	17.8	7.9	6.0
Venture Capital							-0.4	-5.8	17.7	13.4	14.5	7.2	-3.0	-6.9	19.7	16.5	7.3	5.9
LBO							-0.8	-5.2	16.6	13.6	15.1	7.1	-2.3	-7.5	20.4	15.7	9.3	6.3
Other Private Equity							-0.8	-10.9	22.7	10.6	17.6	7.1	-3.4	-7.0	17.5	17.8	7.5	5.8
Private Equity - Aggregate							-2.2	-5.8	17.3	14.6	11.3	6.4	-3.2	-7.4	19.2	17.8	7.9	6.1
Total Policy Return	10.6	19.7	-5.8	13.0	6.8	8.5	9.1	15.8	-1.7	10.6	9.5	8.5	9.2	17.1	-2.7	10.8	8.9	8.5

1. The 5-year return number only includes funds with continuous data over the last 5 years.

2. To enable fairer comparisons, the policy returns of all participants except your fund were adjusted to reflect private equity benchmarks based on lagged, investable, public-market indices. Refer to the appendix of this section for details.

Net value added by asset class

Asset class	Your fund %						Peer average %						Global average %					
	2020	2019	2018	2017	2016	5-yr ¹	2020	2019	2018	2017	2016	5-yr ¹	2020	2019	2018	2017	2016	5-yr ¹
Stock - U.S.	2.8		-3.6	-0.5	6.6		-2.9	-5.6	2.2	-0.6	-1.5	-1.6	-0.6	-0.3	-0.3	0.0	-0.5	-0.3
Stock - EAFE	4.0	-1.5	-1.5	1.6	-1.7	0.1	1.9	1.4	-0.4	1.8	-0.2	0.4	3.4	-0.1	-0.8	0.7	0.2	0.5
Stock - Global	0.4	1.0	-0.4	0.2	0.1	0.2	-0.5	1.1	2.3	-0.2	-0.8	-0.2	0.8	-0.5	0.6	1.8	-1.1	0.2
Stock - Other							-0.5	-2.0	-2.8	-1.7	1.5	-1.6	6.5	-4.1	-0.6	-0.7	0.4	-0.1
Stock - Emerging	4.7	1.0	0.8	5.6	0.4	2.4	1.4	0.1	-0.8	0.3	0.2	0.3	1.0	1.9	-1.0	-0.9	-0.8	0.1
Stock - ACWI x U.S.													2.9	1.0	-0.7	1.2	-1.1	0.5
Stock - Aggregate	0.9	0.5	-0.7	0.7	0.1	0.3	0.1	-0.4	-0.2	0.4	0.6	0.1	0.5	-0.1	-0.2	0.6	-0.5	0.0
Fixed Income - U.S.							0.3	-1.1	0.9	-0.7	1.4	0.6	0.7	0.6	0.0	0.3	1.0	0.6
Fixed Income - EAFE							0.2	0.0	-0.3	0.4	-0.1	0.0	-0.2	1.0	-0.2	0.4	-0.2	0.4
Fixed Income - Global	0.7	0.1	0.0	0.4	0.1	0.3	1.3	1.9	0.2	0.3	0.3	0.3	0.9	-1.8	-0.8	1.3	0.9	0.1
Fixed Income - Other							-1.2	1.1	1.5	49.6	16.1	-0.1	0.5	-0.2	0.2	2.6	0.7	0.3
Fixed Income - Long Bonds							0.9	-0.7	0.1	0.9	0.6	0.1	1.3	0.2	-0.1	0.3	0.3	0.4
Fixed Income - Emerging				2.9	0.1		0.6	-0.4	0.0	-0.5	-1.2	0.4	0.4	-0.4	-1.1	1.1	1.0	0.3
Fixed Income - Inflation Indexed							-0.2	0.1	0.3	0.2	0.4	0.0	-0.1	0.8	-0.1	-0.1	-0.3	0.2
Fixed Income - High Yield							0.7	0.0	0.6	1.1	-0.9	0.7	0.1	-1.5	0.2	-0.3	-2.0	-0.6
Fixed Income - Bundled LDI							-0.1						0.5	0.3	-0.1	0.0	1.7	-0.7
Fixed Income - Convertibles								-6.6	-1.4	-2.9			5.3	-4.8	-0.5	-4.5	-4.4	-4.7
Cash							0.1	0.4	-0.6	2.4	4.4	1.7	-0.2	-0.3	0.0	-0.1	0.4	-0.4
Fixed Income - Aggregate	0.7	0.1	0.0	0.4	0.2	0.3	-0.6	1.2	1.0	-0.2	0.5	0.5	0.4	0.1	0.0	0.1	0.3	0.1
Commodities							14.4	-14.3	-3.6	9.5	5.5	-0.9	2.0	-3.4	-0.9	-0.1	1.5	-0.1
Infrastructure							-1.2	0.0	5.0	6.4	1.6	2.0	0.4	-0.2	4.8	4.0	2.3	2.5
Natural Resources							-1.2	1.1	-3.8	0.8	-0.6	-0.3	-3.5	-4.7	2.5	0.2	0.3	-0.9
REITs	-25.0	3.7	-5.7				2.5	-1.8	-3.1	-2.1	2.2	-0.6	1.3	1.2	-0.3	0.0	-1.1	0.5
Real Estate	-9.0	-6.4	9.4	0.5	-0.2	-1.1	-2.7	0.5	0.3	1.6	0.5	-0.2	-0.8	-0.8	2.9	1.0	0.3	0.0
Other Real Assets							-10.1	-21.7	-5.4	-19.4	-2.9	-12.2	-5.3	-8.0	-3.0	-2.0	0.2	-8.8
Real Assets - Aggregate	-13.7	-3.4	5.5	0.5	-0.2	-2.3	-0.9	0.3	0.1	1.8	0.4	0.1	-0.4	-0.8	1.8	0.9	0.6	0.4
Hedge Funds							0.0	-1.0	-3.7	-1.2	-1.1	-1.2	-2.0	-2.9	-0.9	-1.0	-1.0	-1.1
Global TAA							-14.8	-0.9	-4.8	1.8	-0.6	-7.1	-5.1	-3.0	-2.2	-2.2	1.3	-2.5
Balanced Funds													14.8	-10.0	1.1	-3.8	2.3	2.2
Risk Parity							-6.7	0.9	0.1	1.1	1.4	-0.8	-1.3	2.0	-4.0	1.4	1.4	0.1
Mortgages							-0.7	1.8	2.0	2.2	1.1	1.5	-0.9	0.4	1.2	1.4	0.8	0.9
Private Credit							0.1	-1.7	5.4	0.4	0.4	0.1	0.8	-2.9	4.0	1.2	1.0	0.6
Diversified Private Equity							18.0	17.6	-4.5	-0.5	2.1	7.2	15.3	16.7	-3.1	-5.0	1.4	5.7
Venture Capital							21.2	19.0	2.6	-3.9	-6.7	7.9	24.4	15.4	0.3	-6.2	-4.1	5.4
LBO							20.8	15.9	-4.2	0.3	0.1	7.0	14.7	19.3	-4.7	-2.8	3.3	6.1
Other Private Equity							18.1	20.3	25.4	5.7	-0.9	12.3	14.0	14.9	-5.8	-8.6	0.4	4.2
Private Equity - Aggregate							18.7	16.3	-4.2	-0.4	1.9	6.9	15.7	16.4	-3.3	-5.2	1.7	5.7
Total Fund Return	0.2	0.2	-0.4	0.6	0.1	0.1	0.3	0.0	0.9	0.2	0.6	0.4	1.3	0.6	-0.3	0.3	0.2	0.4

Total net value add is determined by both actual and policy allocation. It is the outcome of total net return (page 6) minus total benchmark return (page 7). Aggregate net returns are an asset weighted average of all categories that the fund has an actual allocation to. Aggregate benchmark returns are a policy weighted average and includes only those categories that are part of your policy fund's mix.

1. The 5-year return number only includes funds with continuous data over the last 5 years.
2. To enable fairer comparisons, the policy returns of all participants except your fund were adjusted to reflect private equity benchmarks based on lagged, investable, public-market indices. Refer to the appendix of this section for details.

Your policy return and value added calculation - 2020

2020 Policy Return and Value Added

Asset class	Policy weight	Description	Benchmark	Return	Net return	Value added
Stock - U.S.		Custom		47.1%	49.8%	2.8%
Stock - EAFE		Custom		5.4%	9.4%	4.0%
Stock - Global	73.0%	Your Stock: Global benchmark		11.8%	12.2%	0.4%
Stock - Emerging		Custom		3.4%	8.1%	4.7%
Fixed Income - Global	27.0%	Barclays Global Aggregate + Barclays Global Inflation		6.7%	7.4%	0.7%
REITs		Custom		10.1%	-14.9%	-25.0%
Real Estate		Custom		8.7%	-0.2%	-9.0%
Total	100.0%					
Net Actual Return (reported by you)						10.8%
Calculated Policy Return = sum of (policy weights X benchmark returns)					10.4%	
Adjustment to reflect rebalancing and overlay impacts					<u>0.2%</u>	
Policy Return (reported by you)						<u>10.6%</u>
Net Value Added (Net Return - Policy Return)						0.2%

The fund return consists of Equity, Fixed Income and Real Estate. The fund benchmark is the weighted benchmark of Equity and Fixed Income. The benchmark for Real Estate used in the report prior to 2017 was the actual portfolio return, and thereafter the financing cost for the real estate investments.

Your policy return and value added calculations - 2016 to 2019

2019 Policy Return and Value Added

Asset class	Policy weight	Benchmark		Net return	Value added
		Description	Return		
Stock - U.S.		Custom	22.7%	21.2%	-1.5%
Stock - EAFE		Custom	25.6%	26.6%	1.0%
Stock - Global	71.1%	Your Stock: Glot	15.0%	16.0%	1.0%
Stock - Emerging		Custom	7.5%	7.5%	0.1%
Fixed Income - Global	28.9%	Barclays Global	17.1%	20.9%	3.7%
REITs		Custom	13.0%	6.7%	-6.4%
Real Estate		Custom			
Total	100.0%				
Net Return (reported by you)					19.9%
Calculated policy return (sum: Policy weights x benchmarks)				20.4%	
Adjustment to reflect rebalancing and overlay impacts				<u>-0.7%</u>	
Policy return (reported by you)					<u>19.7%</u>
Net Value Added (Net Return - Policy Return)					0.2%

2017 Policy Return and Value Added

Asset class	Policy weight	Benchmark		Net return	Value added
		Description	Return		
Stock - U.S.		Custom	18.9%	18.4%	-0.5%
Stock - EAFE		Custom	25.6%	27.2%	1.6%
Stock - Global	67.1%	Your Stock: Glot	18.7%	18.9%	0.2%
Stock - Emerging		Custom	20.5%	26.1%	5.6%
Fixed Income - Global	33.0%	Barclays Global	2.9%	3.3%	0.4%
Fixed Income - Emerging		Barclays Global	2.9%	5.8%	2.9%
Real Estate		Custom	8.3%	8.8%	0.5%
Total	100.0%				
Net Return (reported by you)					13.6%
Calculated policy return (sum: Policy weights x benchmarks)				13.5%	
Adjustment to reflect rebalancing and overlay impacts				<u>-0.5%</u>	
Policy return (reported by you)					<u>13.0%</u>
Net Value Added (Net Return - Policy Return)					0.6%

2018 Policy Return and Value Added

Asset class	Policy weight	Benchmark		Net return	Value added
		Description	Return		
Stock - U.S.		Custom	3.6%	0.0%	-3.6%
Stock - EAFE		Custom	-13.7%	-15.2%	-1.5%
Stock - Global	67.3%	Your Stock: Glot	-8.8%	-9.2%	-0.4%
Stock - Emerging		Custom	-14.7%	-13.9%	0.8%
Fixed Income - Global	32.7%	Barclays Global	0.6%	0.5%	0.0%
REITs		Custom	-4.6%	-10.4%	-5.7%
Real Estate		Custom	-2.1%	7.3%	9.4%
Total	100.0%				
Net Return (reported by you)					-6.2%
Calculated policy return (sum: Policy weights x benchmarks)				-5.7%	
Adjustment to reflect rebalancing and overlay impacts				<u>-0.1%</u>	
Policy return (reported by you)					<u>-5.8%</u>
Net Value Added (Net Return - Policy Return)					-0.4%

2016 Policy Return and Value Added

Asset class	Policy weight	Benchmark		Net return	Value added
		Description	Return		
Stock - U.S.		Your Stock: U.S.	16.1%	22.7%	6.6%
Stock - EAFE		Your Stock: Eurc	3.8%	2.1%	-1.7%
Stock - Global	62.2%	Your Stock: Glot	8.6%	8.7%	0.1%
Stock - Emerging		Your Stock: Eme	10.7%	11.0%	0.4%
Fixed Income - Global	35.3%	Barclays Global	4.2%	4.2%	0.1%
Fixed Income - Emerging		Custom	13.0%	13.1%	0.1%
Real Estate	2.5%	Custom (Actual)	0.8%	0.6%	-0.2%
Total	100.0%				
Net Return (reported by you)					6.9%
Calculated policy return (sum: Policy weights x benchmarks)				6.8%	
Adjustment to reflect rebalancing and overlay impacts				<u>0.0%</u>	
Policy return (reported by you)					<u>6.8%</u>
Net Value Added (Net Return - Policy Return)					0.1%

Profit/Loss on overlay programs

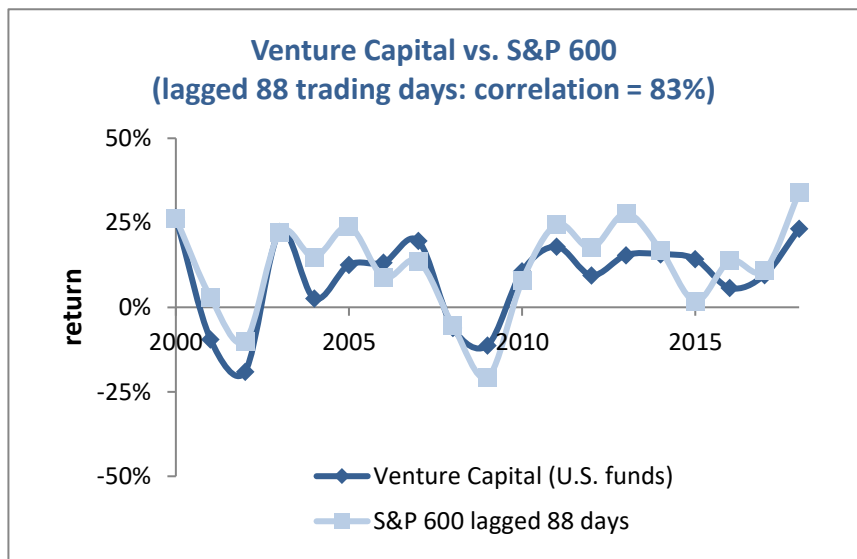
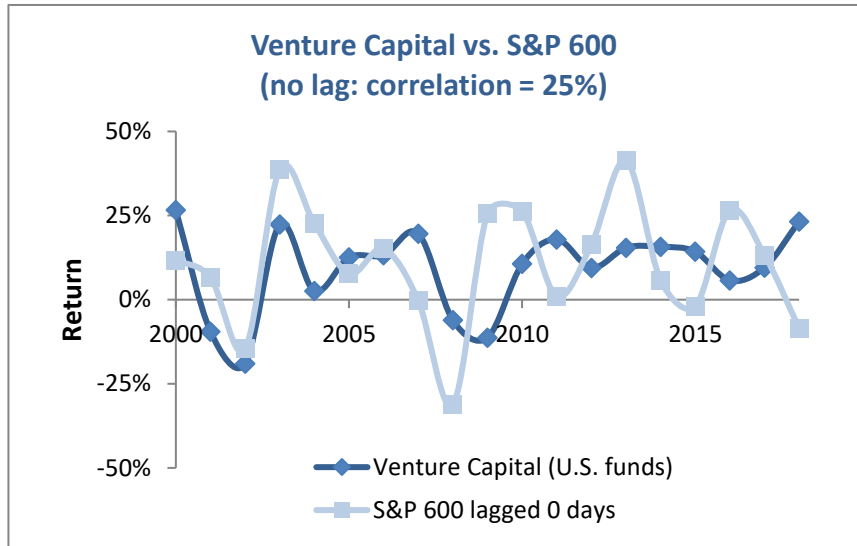
Overlay type	Your fund		Peer median				Global median			
	2020	2019	2020		2019		2020		2019	
	bps	bps	bps	#	bps	#	bps	#	bps	#
Int. Discretionary Currency			-1.0	1	9.9	1	-0.5	8	1.6	10
Ext. Discretionary Currency			50.8	1	-1.3	1	5.0	8	0.0	9
Internal Global TAA							18.9	7	20.4	7
External Global TAA										
Internal PolicyTilt TAA							12.8	8	2.0	10
External PolicyTilt TAA							14.6	1	-26.3	1
Internal Commodities							14.0	2	22.2	2
External Commodities							-1.7	2	10.5	3
Internal Long/Short							1.1	8	1.7	5
External Long/Short							3.0	1		
Internal Other			94.5	1	-12.5	1	19.6	8	-0.1	13
External Other							0.2	11	7.2	15

Profit/loss in basis points was calculated using total fund average holdings. This was done to measure the impact of the program at the total fund level.

Appendix - Private equity benchmarks used by most funds are flawed.

A high proportion of the benchmarks used for illiquid assets by participants in the CEM universe are flawed. Flaws include:

- Timing mismatches due to lagged reporting. For example, as the graphs on the right demonstrate, reported venture capital returns clearly lag the returns of stock indices. Yet most funds that use stock indices to benchmark their private equity do not use lagged benchmarks. The result is substantial noise when interpreting performance. For example, for 2008 the S&P 600 index return was -31.1% versus -5.4% if lagged 88 trading days. Thus if a fund earned the average reported venture capital return for 2008 of -6.1%, they would have mistakenly believed that their value added from venture capital was 25.0% using the un-lagged benchmarks versus -0.7% using the same benchmark lagged to match the average 88 day reporting lag of venture capital funds.



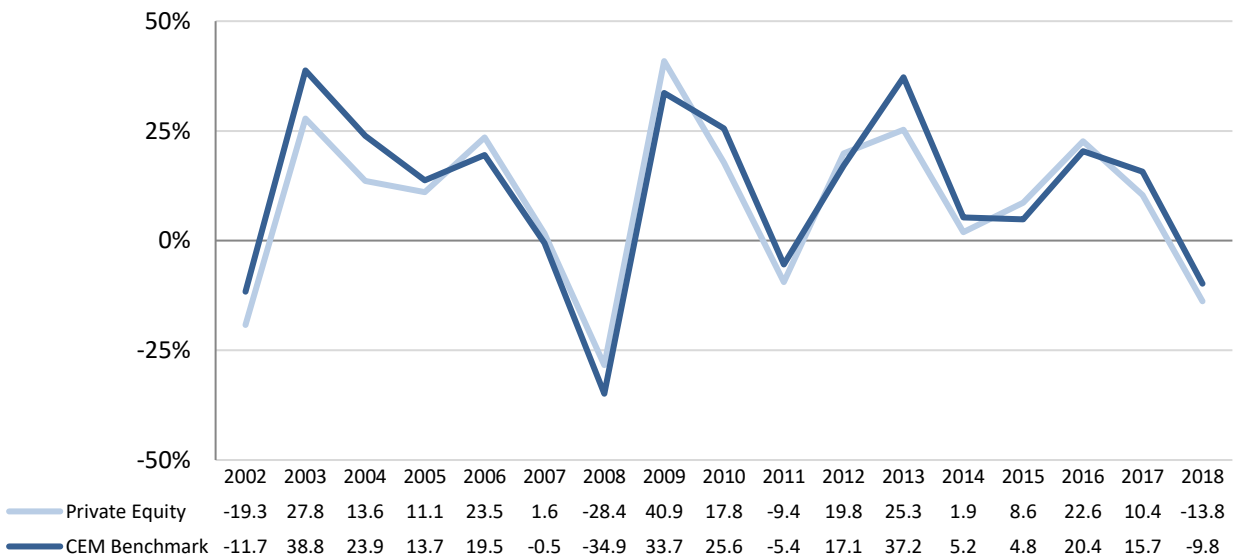
- Un-investable peer-based benchmarks. Peer based benchmarks reflect the reporting lags in peer portfolios so they have much better correlations than un-lagged investable benchmarks. But their relationship statistics are not as good as for lagged investable benchmarks.
- Aspirational premiums (i.e., benchmark + 2%). Premiums cannot be achieved passively, and evidence suggests that a fund has to be substantially better than average to attain them. More importantly, when comparing performance to other funds, they need to be excluded to ensure a level playing field.

To enable fairer comparisons, CEM uses default private equity benchmarks.

Benchmarks used for private equity by most participants in the CEM universe are flawed (see previous page). So to enable fairer comparisons, CEM replaced the reported private equity benchmarks of all funds except yours with defaults. The defaults are:

- Investable. They are comprised of lagged small cap benchmarks.
- Custom lagged for each participant. Different portfolios had different lags. CEM estimated the lag on private equity portfolios by comparing annual private equity returns to public market proxies with 1 day of lag, 2 days of lag, 3 days of lag, etc. At some number of days lag, correlation between the two series is maximized. The median lag was 85 trading days (i.e., approximately 119 calendar days or 3.9 calendar months)
- Regional mix adjusted based on the average estimated mix of regions in private equity portfolios for a given country.
- The result is the default benchmarks are superior to most self-reported benchmarks. Correlations improve to a median of 82% for the default benchmarks versus 44% for self-reported benchmarks. Other statistics such as volatility were also much better.

Private equity returns versus reported and default benchmark returns - Global median



1. To enable better comparison between lagged returns and lagged benchmarks, lags have been removed from both. See "Asset allocation and fund performance of defined benefit pension funds in the United States, 1998-2014" by Alexander D. Beath and Chris Flynn for details.

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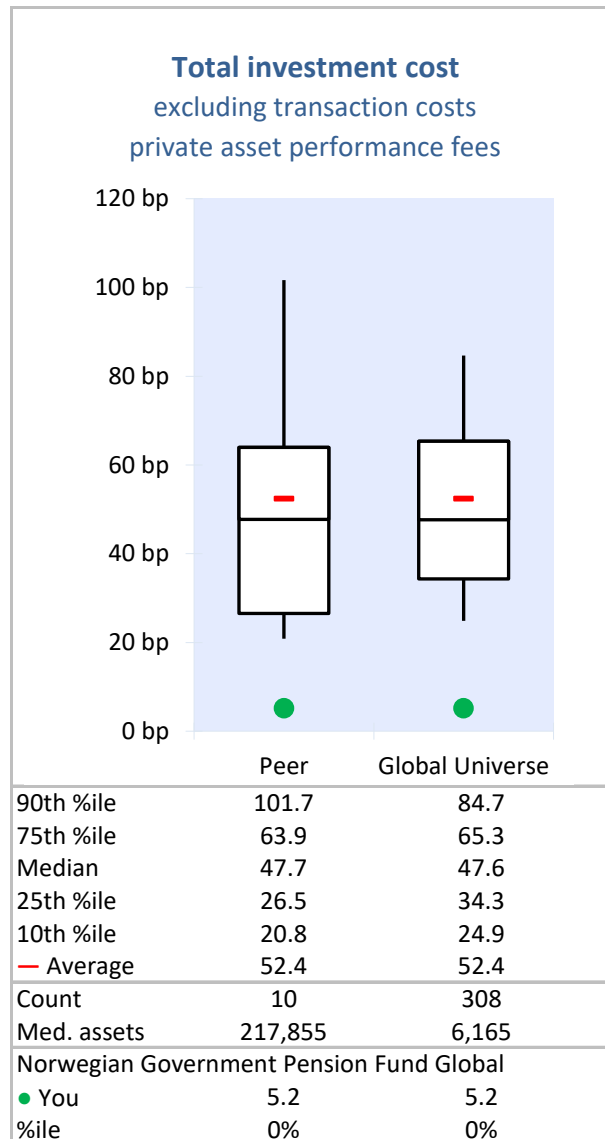
Cost: total, benchmark, trend

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Comparisons of total investment cost

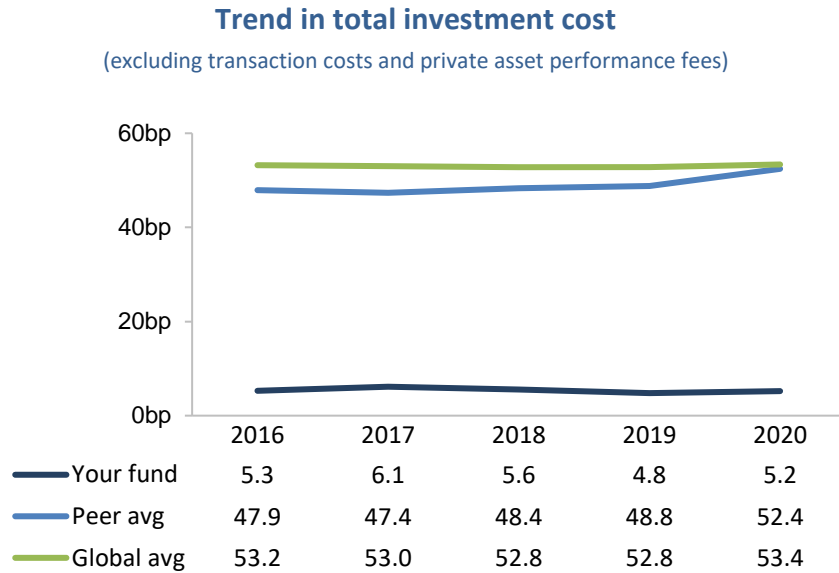
Your total investment cost, excluding transaction costs and private asset performance fees, of 5.2 bps was below the peer median of 47.7 bps.

Differences in total investment cost are often caused by two factors that are usually outside of management's control: asset mix and fund size. Therefore, to assess whether your fund's total investment cost is high or low given your unique asset mix and size, CEM calculates a benchmark cost for your fund. Benchmark cost analysis begins on page 7 of this section.



Trend in total investment cost, you versus peers and universe

Your total investment cost, excluding transaction costs and private asset performance fees, decreased from 5.3 bps in 2011 to 5.2 bps in 2020.



Trend analysis is based on 175 Global funds and 10 peer funds with 10 or more consecutive years of data.

Types of costs included in your total investment cost

The table below outlines the types of costs included in your total investment cost.

Asset class	Internal		External			
	In-house total cost	Transaction costs	Manager base fees	Monitoring & other costs	Perform. fees (active only)	Transaction costs
<u>Public</u> (Stock, Fixed income, commodities, REITs)	✓	✗	✓	✓	✓	✗
Derivatives/Overlays	✓	✗	✓	✓	✓	✗
<u>Hedge funds & Global TAA</u>						
Hedge Funds	n/a	n/a	✓	✓	✓	✗
Global TAA	✓	✗	✓	✓	✓	✗
<u>Private real assets</u> (Infrastructure, natural resources, real estate ex-REITs, other real assets)	✓	✗	✓	✓	✗	✗
<u>Private equity</u> (Diversified private equity, venture capital, LBO, other private equity)	✓	✗	✓*	✓	✗	✗

*External manager base fees represent gross contractual management fees.

- ✓ indicates cost is included.
- ✗ indicates cost is excluded.
- CEM currently excludes performance fees for certain external assets and all transaction costs from your total cost because only a limited number of participants are currently able to provide complete data.

Detailed breakdown of your total investment cost

Your 2020 total investment cost, excluding transaction costs and private asset performance fees, was 5.2 bp or €504.3 million.

	Internal		External Passive		External Active			Total ¹		
	Passive	Active	Fees	Monitoring & Other	Base Fees	Perform. Fees	Monitor. & Other	€000s	bps	% of Total
Asset management										
Stock - U.S.					802	5,819	100	6,720		1%
Stock - EAFE					12,744	15,818	1,266	29,828		6%
Stock - Emerging					54,324	97,933	5,286	157,543		31%
Stock - Global		104,566						104,566		21%
Fixed Income - Emerging										
Fixed Income - Global		40,877						40,877		8%
REITs		2,681						2,681		1%
Real Estate ¹		35,060						35,060		7%
Total asset management costs excluding private asset performance fees								377,276	3.9bp	75%
Oversight, custodial & other asset related costs										
Oversight of the Fund								71,921		14%
Trustee & Custodial								44,144		9%
Consulting and Performance Measurement								7,035		1%
Audit								3,892		1%
Other										
Total oversight, custodial & other costs								126,992	1.3bp	25%
Total investment costs excluding transaction costs and private asset performance fees								504,268	5.2bp	100%

1. Total cost excludes carry/performance fees for real estate, infrastructure, natural resources, private equity, and private debt. Performance fees are included for the public market asset classes and hedge funds.

Changes in your investment costs

The table below shows how your investment costs have changed from year to year by asset class.

Change in your investment costs (2020 - 2016)

	Investment costs (€000s)					Change (€000s)				Change (%)			
	2020	2019	2018	2017	2016	2020	2019	2018	2017	2020	2019	2018	2017
Asset management													
Stock - U.S.	6,720		855	1,608	1,827			-753	-219			-47%	-12%
Stock - EAFE	29,828	9,642	27,553	26,360	25,123	20,186	-17,911	1,193	1,237	209%	-65%	5%	5%
Stock - Emerging	157,543	87,450	122,257	156,712	67,156	70,093	-34,807	-34,455	89,556	80%	-28%	-22%	133%
Stock - Global	104,566	115,092	104,260	108,209	102,953	-10,526	10,832	-3,949	5,256	-9%	10%	-4%	5%
Fixed Income - Emerging				186	5,042				-4,856				-96%
Fixed Income - Global	40,877	44,434	42,087	41,515	40,473	-3,557	2,347	572	1,042	-8%	6%	1%	3%
REITs	2,681	1,620	2,013			1,061	-393			66%	-20%		
Real Estate ¹	35,060	44,007	50,360	54,425	0	-8,948	-6,353	-4,065	54,425	-20%	-13%	-7%	
Total excl. private asset perf. fees	377,276	302,245	349,386	389,015	290,012	75,030	-47,140	-39,629	99,003	25%	-13%	-10%	34%
Oversight, custodial & other asset related costs													
Oversight of the Fund	71,921	89,677	76,723	73,798	66,954	-17,756	12,954	2,925	6,844	-20%	17%	4%	10%
Trustee & Custodial	44,144	42,622	39,045	41,965	39,503	1,523	3,576	-2,920	2,462	4%	9%	-7%	6%
Consulting and Performance Measurement	7,035	10,715	14,930	10,050	9,570	-3,680	-4,215	4,880	480	-34%	-28%	49%	5%
Audit	3,892	3,792	4,358	4,312	6,110	100	-566	46	-1,798	3%	-13%	1%	-29%
Other													
Total oversight, custodial & other	126,992	146,806	135,056	130,125	122,137	-19,814	11,750	4,931	7,988	-13%	9%	4%	7%
Total investment costs ¹	504,268	449,051	484,442	519,140	412,149	55,216	-35,390	-34,698	106,991	12%	-7%	-7%	26%
Total in basis points	5.2bp	4.8bp	5.6bp	6.1bp	5.3bp								

1. Total cost excludes carry/performance fees for real estate, infrastructure, natural resources, private equity, and private debt. Performance fees are included for the public market asset classes and hedge funds.

Total cost versus benchmark cost

Your fund's total investment cost, excluding transaction costs and private asset performance fees, was 18.7 bps below your benchmark cost of 24.0 bps. This implies that your fund was low cost by 18.7 bps compared to the peer median, after adjusting for your fund's asset mix.

Your cost versus benchmark

	€000s	bps
Your fund's total investment costs excluding transaction costs and private asset performance fees	504,268	5.2 bp
- Your fund's benchmark	2,316,276	24.0 bp
= Your fund's cost savings	-1,812,008	-18.7 bp

Your benchmark cost is an estimate of your total costs assuming that you paid the peer median cost for each of your investment mandates and fund oversight. The calculation of your benchmark cost is shown on the following page.

The reasons why your fund's total cost was below your benchmark are summarized in the table below. Details of each of the impacts below are provided on pages 9 to 11.

Reasons why your fund was low cost

	Cost/-Savings impact	
	€000s	bps
<u>Differences in implementation style:</u>		
Less passive	1,205,682	12.5 bp
More int. active % of total active	-2,307,565	-23.9 bp
Less overlays and unfunded strategies	-173,391	-1.8 bp
Total style impact	-1,275,274	-13.2 bp
<u>Paying more/-less for similar services:</u>		
External investment management	-78,725	-0.8 bp
Internal investment management	-402,966	-4.2 bp
Oversight, custodial and other	-55,043	-0.6 bp
Total impact of paying more /-less	-536,734	-5.6 bp
Total savings	-1,812,008	-18.7 bp

Benchmark cost calculation

Your 2020 benchmark cost was 24.0 basis points or 2.3 billion. It equals your holdings for each asset class multiplied by the peer median cost for the asset class. The peer median cost is the style weighted average for all implementation styles (i.e., internal passive, internal active, external passive, external active).

Asset class	Your average assets (A)	Weighted peer median cost ¹ (B)	Benchmark €000s (A X B)
Asset management costs			
Stock - U.S.	580	10.2 bp	592
Stock - EAFE	7,357	23.4 bp	17,198
Stock - Emerging	30,726	44.5 bp	136,767
Stock - Global ⁴	622,049	22.9 bp	1,426,790
Fixed Income - Global ⁴	265,813	7.0 bp	185,812
REITs	12,872	8.6 bp	11,022
Real Estate	27,254	67.0 bp	182,670
Overlay Programs ²	966,651	1.8 bp	173,391
Benchmark for asset management	966,651	22.1 bp	2,134,240
Oversight, custody and other costs³			
Oversight	966,651	0.8 bp	
Trustee & Custodial	966,651	0.5 bp	
Consulting	966,651	0.0 bp	
Audit	966,651	0.0 bp	
Other	966,651	0.1 bp	
Benchmark for oversight, custody & other	966,651	1.9 bp	182,036
Total benchmark cost		24.0 bp	2,316,276

1. The weighted peer median cost for asset management is the style-weighted average of the peer median costs for all implementation styles (i.e., internal passive, internal active, external passive, external active, fund of fund). It excludes performance fees on private assets. The style weights by asset class for your fund and the peers are shown on page 15 of this section.

2. Total fund average holdings is used as the base when calculating the relative cost impact of the overlay programs.

3. Benchmarks for oversight total and individual lines are based on peer medians. Sum of the lines may be different from the total.

4. A different asset was used as a proxy to determine the benchmarks and style percentages: 'Stock - Aggregate' for 'Stock - Global', 'Fixed Income - Aggregate' for 'Fixed Income - Global'.

Cost impact of differences in implementation style

Differences in implementation style (passive vs. active, internal vs. external, etc.) relative to your peers saved you 13.2 bps.

Implementation choices	Assets by style	Peer benchmark cost			Style 1 %			Cost/	
		Style 1	Style 2	Style 1 -Savings	Your	Peer average	More/ -Less	-Savings €000s	bps
	a	b	c	d = b - c	e			a x d x e	
<u>Passive vs active</u>	Total assets	Passive	Active		Passive % of total assets				
Stock - U.S.	580	2 bp	27 bp	-25 bp	0%	67%	-67%	958	
Stock - EAFE	7,357	3 bp	31 bp	-28 bp	0%	28%	-28%	5,728	
Stock - Emerging	30,726	5 bp	63 bp	-59 bp	0%	32%	-32%	58,240	
Stock - Global	622,049	3 bp	40 bp	-37 bp	0%	45%	-45%	1,040,030	
Fixed Income - Global	265,813	2 bp	11 bp	-8 bp	0%	45%	-45%	100,726	
Less passive								1,205,682	12.5 bp
<u>Internal active vs external active</u>	Active assets	Internal active	External active		Internal active % of active				
Stock - U.S.	580	5 bp	34 bp	-29 bp	0%	26%	-26%	441	
Stock - EAFE	7,357	6 bp	41 bp	-35 bp	0%	28%	-28%	7,132	
Stock - Emerging	30,726	16 bp	78 bp	-62 bp	0%	24%	-24%	45,761	
Stock - Global	622,049	7 bp	59 bp	-52 bp	100%	37%	63%	-2,031,056	
Fixed Income - Global	265,813	3 bp	29 bp	-26 bp	100%	70%	30%	-206,575	
REITs	12,872	6 bp	47 bp	-41 bp	100%	94%	6%	-3,230	
Real Estate	27,254	23 bp	83 bp	-60 bp	100%	27%	73%	-120,037	
More int. active % of total active								-2,307,565	-23.9 bp
Less overlays and unfunded strategies								-173,391	-1.8 bp
Total impact of differences in implementation style								-1,275,274	-13.2 bp

Cost impact of overlays

As summarized on the previous page, the style impact of overlays saved you 1.8 bps. If you use more overlays than your peers, or more expensive types of overlays, then it increases your relative cost.

	Your average total holdings (mils)	Cost as % of total holdings		Cost/-Savings Impact (000s)
	(A)	You (B)	Peer avg. (C)	A X (B - C)
Internal Overlays				
Currency - Hedge	966,651	NA	0.00 bp	-73
Currency - Discretionary	966,651	NA	0.01 bp	-1,169
Global TAA - Discretionary	966,651	NA	0.04 bp	-3,416
Long/Short - Discretionary	966,651	NA	1.67 bp	-161,830
Other Overlay - Discretionary	966,651	NA	0.00 bp	-423
External Overlays				
Currency - Discretionary	966,651	NA	0.02 bp	-1,920
Duration Management - Hedge	966,651	NA	0.01 bp	-1,354
Long/Short - Discretionary	966,651	NA	0.03 bp	-3,206
Total impact in 000s				-173,391
Total impact in basis points				-1.8 bp

Cost impact of paying more/-less for similar services

Differences in what you paid relative to your peers for similar asset management and related oversight and support services saved you 5.6 bps.

	Style	Your avg holdings (mils) (A)	Cost in bps			Cost/-Savings	
			Your	Peer median	More/-less (B)	€000s (A X B)	bps
External asset management							
Stock - U.S.	active	580	115.9	34.3	81.5	4,730	
Stock - EAFE	active	7,357	40.5	40.9	-0.3	-230	
Stock - Emerging	active	30,726	51.3	78.4	-27.1	-83,225	
Total for external management						-78,725	-0.8 bp
Internal asset management							
Stock - Global	active	622,049	1.7	7.0	-5.3	-331,198	
Fixed Income - Global	active	265,813	1.5	3.0	-1.5	-39,086	
REITs	active	12,872	2.1	6.1	-4.0	-5,110	
Real Estate	active	27,254	12.9	23.0	-10.1	-27,572	
Total for internal management						-402,966	-4.2 bp
Oversight, custodial, other¹							
Oversight			0.7	0.8	0.0		
Trustee & Custodial			0.5	0.5	-0.1		
Consulting			0.1	0.0	0.1		
Audit			0.0	0.0	0.0		
Other			0.0	0.1	-0.1		
Total for oversight, custodial, other						-55,043	-0.6 bp
Total						-536,734	-5.6 bp

1. The benchmark for 'oversight, custodial and other costs' is based on the total costs for these activities.

Summary of why you are high or low cost by asset class

The table below summarizes where you are high and low cost by asset class. It also quantifies how much is due to differences in implementation style (i.e., differences in the mix of external active, external passive, internal active, internal passive and fund of fund usage) and how much is due to paying more or less for similar services (i.e., same asset class and style).

	Your cost	Benchmark = peer weighted median cost ¹	More/-less	Your average assets (or fee basis)	More/-less in €000s		
					Total More/-less	Due to Impl. style	Due to paying more/less
	(A)	(B)	(C = A - B)	(D)	(C X D)		
Asset management costs							
Stock - U.S.	115.9 bp	10.2 bp	105.7 bp	580	6,128	1,399	4,730
Stock - EAFE	40.5 bp	23.4 bp	17.2 bp	7,357	12,630	12,860	-230
Stock - Emerging	51.3 bp	44.5 bp	6.8 bp	30,726	20,776	104,001	-83,225
Stock - Global ⁴	1.7 bp	22.9 bp	-21.3 bp	622,049	-1,322,224	-991,027	-331,198
Fixed Income - Global ⁴	1.5 bp	7.0 bp	-5.5 bp	265,813	-144,934	-105,849	-39,086
REITs	2.1 bp	8.6 bp	-6.5 bp	12,872	-8,340	-3,230	-5,110
Real Estate	12.9 bp	67.0 bp	-54.2 bp	27,254	-147,610	-120,037	-27,572
Overlay Programs ²	0.0 bp	1.8 bp	-1.8 bp	966,651	-173,391	-173,391	0
Total asset management	3.9 bp	22.1 bp	-18.2 bp	966,651	-1,756,965	-1,275,274	-481,691
Oversight, custody and other costs³							
Oversight of the Fund	0.7 bp	0.8 bp	0.0 bp				
Trustee & Custodial	0.5 bp	0.5 bp	-0.1 bp				
Consulting	0.1 bp	0.0 bp	0.1 bp				
Audit	0.0 bp	0.0 bp	0.0 bp				
Other	0.0 bp	0.1 bp	-0.1 bp				
Total oversight, custody & other	1.3 bp	1.9 bp	-0.6 bp	966,651	-55,043	n/a	-55,043
Total	5.2 bp	24.0 bp	-18.7 bp	966,651	-1,812,008	-1,275,274	-536,734

1. The weighted peer median cost for asset management is the style-weighted average of the peer median costs for all implementation styles (i.e., internal passive, internal active, external passive, external active, fund of fund). It excludes performance fees on private assets. The style weights by asset class for your fund and the peers are shown on page 15 of this section.

2. Total fund average holdings is used as the base when calculating the relative cost impact of the overlay programs.

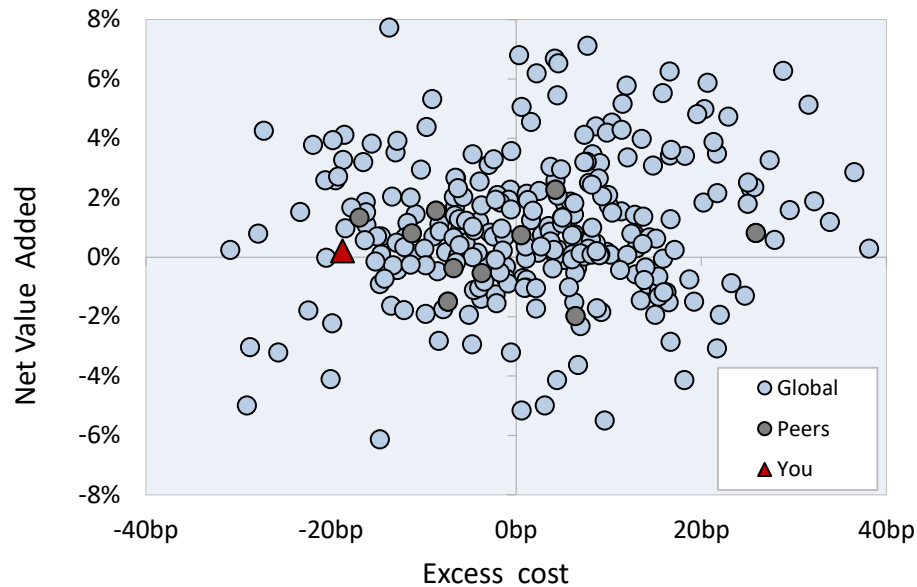
3. Benchmarks for oversight total and individual lines are based on peer medians. Sum of the lines may be different from the total.

4. A different asset was used as a proxy to determine the benchmarks and style percentages: 'Stock - Aggregate' for 'Stock - Global', 'Fixed Income - Aggregate' for 'Fixed Income - Global'.

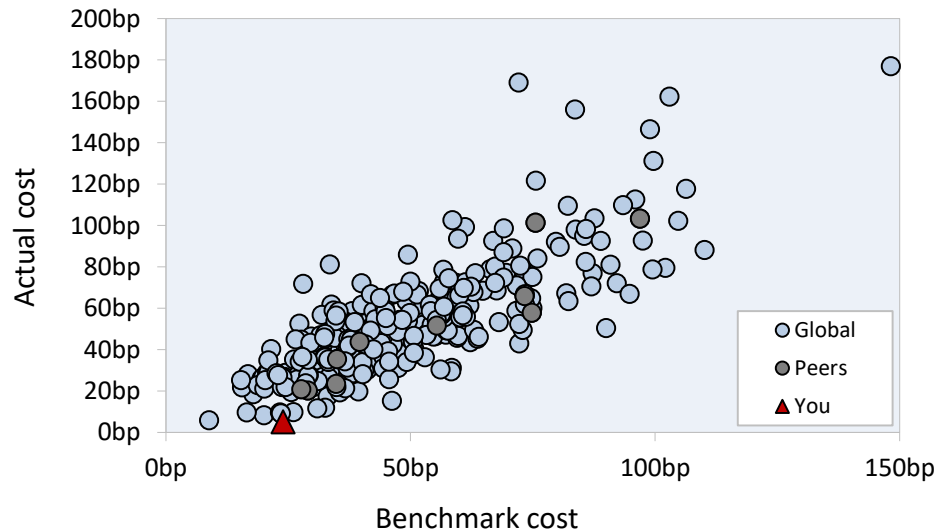
Your cost effectiveness ranking

Being high or low cost is neither good nor bad. More important is whether you are receiving sufficient value for your excess cost. At the total fund level, we provide insight into this question by combining your value added and excess cost to create a snapshot of your cost effectiveness performance relative to that of the global universe. In 2020, your fund ranked in the positive value added, low cost quadrant.

Your 2020 Net value added 0.2%, Excess cost -19 bps



Your 2020 Actual cost 5.2 bps, Benchmark cost 24.0 bps



For all funds except your fund, benchmark cost equals the sum of group median costs x fund's average holdings by asset class plus group median cost of derivatives/overlays plus group median cost of oversight/support. Group peer if the fund is in the peer group, universe - if the fund is part of the universe, and global/database otherwise. Your fund's benchmark cost is calculated using peer-based methodology per page 7 of this section.

Benchmarking methodology formulas and data

a) Formulas

Example calculations for 'Stock - U.S.'

Asset class peer cost = weighted average by peer average style of peer median costs

$$= (35\% \times 2.0 \text{ bp}) + (9\% \times 5.5 \text{ bp}) + (32\% \times 1.9 \text{ bp}) + (25\% \times 34.3 \text{ bp}) = 10.2 \text{ bp}$$

Your cost versus benchmark (-savings/+excess) = asset class your cost - asset class peer cost

$$= 115.9 \text{ bp} - 10.2 \text{ bp} = 105.7 \text{ bp}$$

Attribution of 'your cost versus benchmark' to impact of style mix and impact of cost/paying more

Cost impact of differences in implementation style (-savings/+excess)

= cost impacts of passive vs active (A), internal passive vs external passive (B), internal active vs external active (C)

$$= 16.5 \text{ bp} + 0.0 \text{ bp} + 7.6 \text{ bp} = 24.1 \text{ bp}$$

A) Impact of Passive vs Active management (-savings/+excess)

$$= (\text{peer average passive cost} - \text{peer average active cost}) \times (\text{passive \% of asset, you} - \text{passive \% of asset, peer average}) \\ = (1.9 \text{ bp} - 26.7 \text{ bp}) \times (0\% - 67\%) = 16.5 \text{ bp}$$

Peer average passive cost = weighted average by peer average style of peer median costs for internal passive and external passive management

$$= [(35\% \times 2.0 \text{ bp}) + (32\% \times 1.9 \text{ bp})] / (35\% + 32\%) = 1.9 \text{ bp}$$

Peer average active cost = weighted average by peer average style of peer median costs for internal active and external active management

$$= [(9\% \times 5.5 \text{ bp}) + (25\% \times 34.3 \text{ bp})] / (9\% + 25\%) = 26.7 \text{ bp}$$

B) Impact of Internal Passive vs External Passive management (-savings/+excess)

$$= (\text{peer average internal passive cost} - \text{peer average external passive cost}) \times (\text{internal passive \% of passive, you} - \text{internal passive \% of passive, peer average}) \times \text{passive \% of asset, you} \\ = (2.0 \text{ bp} - 1.9 \text{ bp}) \times (0\% - 0\%) \times 0\% = 0.0 \text{ bp}$$

C) Impact of Internal Active vs External Active management (-savings/+excess)

$$= (\text{peer average internal active cost} - \text{peer average external active cost}) \times (\text{internal active \% of active, you} - \text{internal active \% of active, peer avg}) \times \text{active \% of asset, you} \\ = (5.5 \text{ bp} - 34.3 \text{ bp}) \times (0\% - 26\%) \times 100\% = 7.6 \text{ bp}$$

Cost impact of paying more/-less

$$= (\text{cost internal passive, you} - \text{cost internal passive, peer}) \times \text{internal passive \% of asset, you} + (\text{cost internal active, you} - \text{cost internal active, peer}) \times \text{internal active \% of asset, you} + (\text{cost external passive, you} - \text{cost external passive, peer}) \times \text{external passive \% of asset, you} + (\text{cost external active, you} - \text{cost external active, peer}) \times \text{external active \% of asset, you} \\ = (0.0 \text{ bp} - 2.0 \text{ bp}) \times 0\% + (0.0 \text{ bp} - 5.5 \text{ bp}) \times 0\% + (0.0 \text{ bp} - 1.9 \text{ bp}) \times 0\% + (115.9 \text{ bp} - 34.3 \text{ bp}) \times 100\% = 81.5 \text{ bp}$$

Your cost versus benchmark (-savings/+excess)

$$= \text{cost impact of differences in implementation style} + \text{cost impact of paying more/-less} \\ = 24.1 \text{ bp} + 81.5 \text{ bp} = 105.7 \text{ bp}$$

Benchmarking methodology formulas and data

b) 2020 cost data used to calculate weighted peer median costs and impact of mix differences.

Asset Class	Your costs (basis points)							Peer median costs (basis points)							
	Internal Passive	Internal Active	External Passive	External Active	Co-invest	Limited Partner.	Fund of Funds	Internal Passive	Internal Active	External Passive	External Active	Co-invest	Limited Partner.	Fund of Funds	Weighted Median
Stock - U.S.				115.9				2.0	5.5	1.9	34.3				10.2
Stock - EAFE				40.5				3.1	6.0	3.7	40.9				23.4
Stock - Emerging				51.3				3.5	16.0	8.5	78.4				44.5
Stock - Global		1.7						3.0	7.0	1.3	58.6				22.9
Fixed Income - Global		1.5						2.3	3.0	3.8	28.8				7.0
REITs		2.1							6.1		46.6				8.6
Real Estate		12.9							23.0		63.2	42.5	146.6	47.0	66.6
Underlying base fees														135.4	0.5

Benchmarking methodology formulas and data

c) 2020 Style weights used to calculate the weighted peer median costs and impact of mix differences.

Style Weights	You (%)							Peer average (%)						
	Internal Passive	Internal Active	External Passive	External Active	Co-invest	Limited Partner.	Fund of Funds	Internal Passive	Internal Active	External Passive	External Active	Co-invest	Limited Partner.	Fund of Funds
Stock - U.S.	0.0%	0.0%	0.0%	100.0%				34.7%	8.8%	32.0%	24.6%			
Stock - EAFE	0.0%	0.0%	0.0%	100.0%				21.4%	20.1%	6.5%	52.0%			
Stock - Emerging	0.0%	0.0%	0.0%	100.0%				25.3%	16.2%	6.9%	51.6%			
Stock - Global	0.0%	100.0%	0.0%	0.0%				37.3%	20.1%	7.9%	34.6%			
Fixed Income - Global	0.0%	100.0%	0.0%	0.0%				41.8%	38.3%	3.4%	16.5%			
REITs		100.0%		0.0%					93.8%		6.2%			
Real Estate		100.0%		0.0%	0.0%	0.0%	0.0%		26.9%		46.7%	7.3%	18.8%	0.3%
Underlying base fees		100.0%		0.0%	0.0%	0.0%	0.0%		26.9%		46.7%	7.3%	18.8%	0.3%

The above data was adjusted when there were insufficient peers, or for other reasons where direct comparisons were inappropriate.

Methodology of the cost trend model

CEM cost trend model relies on four factors or reasons to explain the cost differences over time: asset value, asset mix, implementation style, and paying more/less for similar services.

Factors affecting the cost differences

Asset value. If we keep the last three factors constant, costs will normally follow changes in the asset holdings. For external implementations, among the reasons is the common practice of charging management fees based on the value of assets under management. For internal, more assets requires additional internal staff (front and back office) and other operating expenditures. In the current model, for simplicity, we assume that costs change proportionately to the plan average assets.

Change in asset value only affects the cost amounts and does not affect costs in basis points. These are determined by the changes in the last three factors.

Asset mix. These are the cost differences associated with increasing / decreasing allocations to one or more of the asset classes, while keeping other factors constant. Higher allocations to more expensive assets will increase the cost both in amounts and in basis points.

Implementation style. These are changes in costs associated with increasing / decreasing allocations to one or more of the management styles within the same asset class.

Paying more/less for similar services. These cost differences reflect changes in the fees / internal costs in basis points for the same implementation style within the same asset class or same oversight service.

Attribution of the cost differences and other assumptions

Change in the cost amount for one asset =

Sum of impacts of asset value, asset mix, implementation style, and paying more/less for similar services.

Change in the basis point costs for one asset =

Sum of basis point impacts of asset mix, implementation style, and paying more/less for similar services.

For overlays, we do not differentiate between implementation styles and use entire asset category.

Oversight costs are only affected by changes in asset value and paying more/less for similar services.

The base model attributes cost differences between any two years. Trends and cumulative results are built upon combinations of multiple two-year attributions. When an entire asset class is missing in one of the two years, the cost difference for that asset is attributed to the asset value and mix impacts only. Impacts of other factors is 0. When an implementation style within the same asset class is missing in one of the two years, the cost difference for that style is attributed to the effects of the implementation style, while impact of paying more/less for similar services is 0. Impacts of changes in the asset value and asset mix are still accounted for.

General simplified formula for attributing basis point cost differences for one asset class

Cost difference in bps = impact of asset mix + impacts of style & paying =

$$[\text{CostBpsL} \times (\text{HavgHpct} - \text{HavgLpct})] + [\text{HavgHpct} \times (\text{CostBpsH} - \text{CostBpsL})]$$

where L/H are lower and higher years; HavgPct is % of asset's average holdings in total nav holdings;

CostBps is the asset total cost in basis points for a particular year.

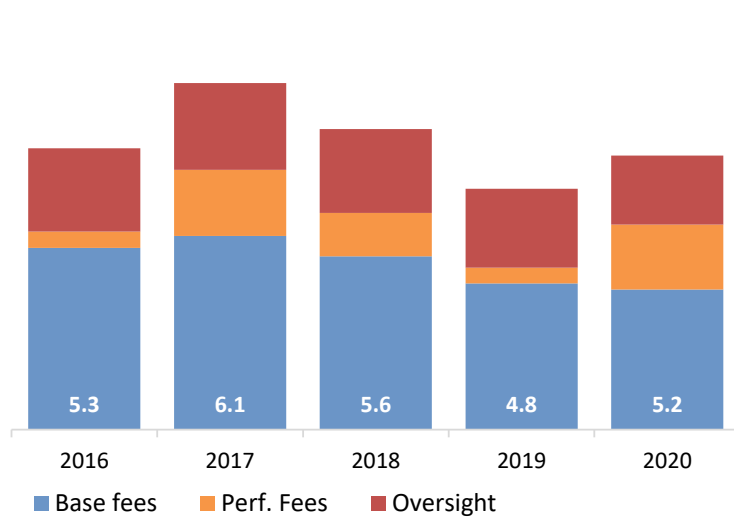
Further, cost difference for style & paying impacts (CostBpsH - CostBpsL) for one style =

$$\text{style impact} [\text{CostStyleBpsL} \times (\text{WgH} - \text{WgL})] + \text{paying impact} [\text{WgH} \times (\text{CostStyleBpsH} - \text{CostStyleBpsL})]$$

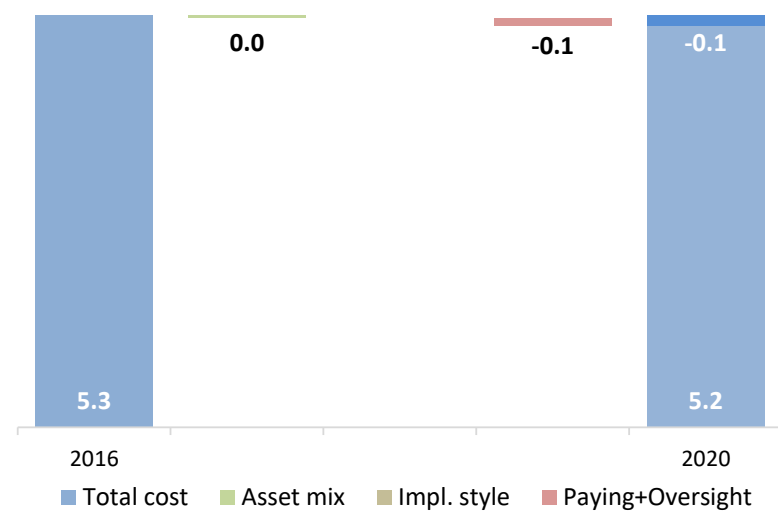
where CostStyleBps is the style cost in basis points; Wg is the weight for that style within the asset class.

Total plan cost and cost changes

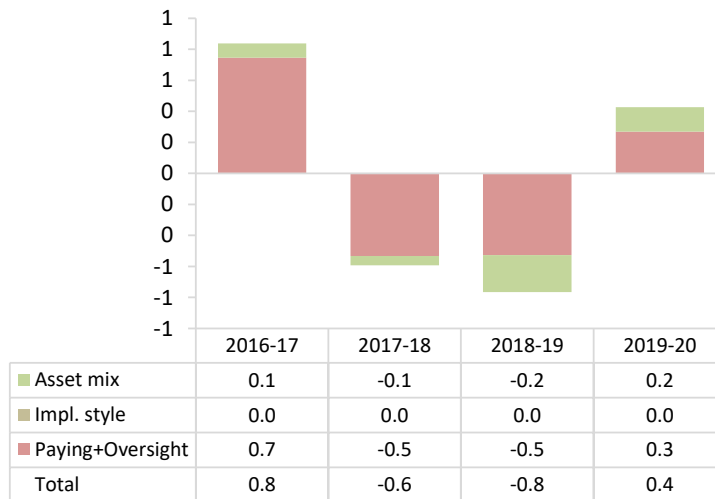
Total plan cost over time, bps



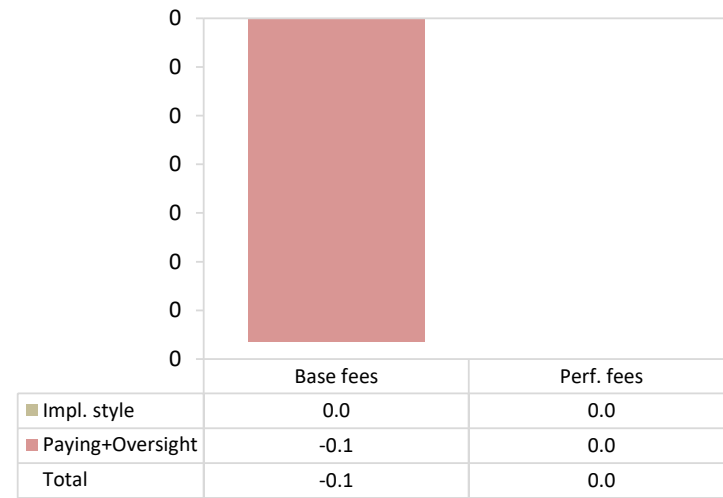
Cost differences, 2020 versus 2016, bps



Reasons for cost differences over time, bps



Impact of base and performance fees, 2020 vs. 2016, bps



Summary of cost differences, 2020 versus 2016

Your total cost decreased by 0.1 bps between 2016 and 2020 because of changes in: asset mix (0.0 bps), implementation style (0.0 bps), and paying more/less for similar services (-0.1 bps).

	bps	€000s
Starting total cost, 2016	5.3	412,149
Growth in asset value		101,165
Asset mix	<u>0.0</u>	<u>-2,613</u>
Stock	0.2	18,772
Fixed Income	-0.2	-18,550
Real Estate ex-REITs	-0.1	-5,516
Real Assets ex Real Estate	0.0	2,681
Implementation style (less expensive vs. more)	<u>0.0</u>	<u>0</u>
Paying more/-less for	<u>0.2</u>	<u>18,691</u>
Stock	0.4	34,456
Fixed Income	0.0	2,741
Real Estate ex-REITs	-0.2	-18,506
Oversight, custodial, other (pay more/-less)	<u>-0.3</u>	<u>-25,124</u>
Total difference	-0.1	92,119
Ending total cost, 2020	5.2	504,268

Summary of cost differences, year over year

	bps	€000s	bps	€000s	bps	€000s	bps	€000s	bps	€000s
	2016		2017		2018		2019		2016	
Starting total cost	5.3	412,149	6.1	519,140	5.6	484,442	4.8	449,051	5.3	412,149
Growth in asset value		36,248		16,947		36,448		13,928		101,165
Asset mix	0.1	7,795	-0.1	-5,246	-0.2	-22,378	0.2	15,189	0.0	-2,613
Stock	0.3	27,072	-0.1	-7,909	-0.2	-21,855	0.2	14,775	0.2	18,772
Fixed Income	-0.1	-8,815	0.0	-2,961	0.0	-3,151	0.0	-1,174	-0.2	-18,550
Real Estate ex-REITs	-0.1	-10,462	0.0	3,610	0.0	2,155	0.0	1,253	-0.1	-5,516
Real Assets ex Real Estate	n/a	n/a	0.0	2,013	0.0	474	0.0	334	0.0	2,681
Implementation style (less expensive vs. more)	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
Paying more/-less for	0.8	65,702	-0.5	-47,082	-0.5	-51,049	0.5	50,467	0.2	18,691
Stock	0.6	51,427	-0.5	-39,616	-0.4	-40,066	0.7	65,117	0.4	34,456
Fixed Income	0.0	998	0.0	1,986	0.0	2,331	0.0	-3,761	0.0	2,741
Real Estate ex-REITs	0.2	13,276	-0.1	-9,452	-0.1	-12,296	-0.1	-11,565	-0.2	-18,506
Real Assets ex Real Estate	n/a	n/a	0.0	0	0.0	-1,018	0.0	677	0.0	0
Oversight, custodial, other (pay more/-less)	0.0	-2,754	0.0	683	0.0	1,589	-0.3	-24,367	-0.3	-25,124
Total difference	0.8	106,991	-0.6	-34,698	-0.8	-35,390	0.4	55,216	-0.1	92,119
Ending total cost	6.1	519,140	5.6	484,442	4.8	449,051	5.2	504,268	5.2	504,268
	2017		2018		2019		2020		2020	

Sum of all changes (except for the total) between adjacent years will differ from the changes between starting and ending years in the last two columns.

Reasons by asset class and cost type, €000

Your total cost has increased by €92 million in 2020 compared to 2016. An increase of €101 million was due to the €191 billion rise in plan total average nav holdings. The remaining decrease of €9.0 million is explained by the changes in the asset mix (-€2.6 million), implementation style (€0.0 thousand), and paying more/less for similar services (-€6.4 million).

Asset class ¹	2016 cost €000s	Asset mix €000s	Implement. style €000s	Paying more/-less €000s	Total ex asset gr. €000s	Total difference €000s	Growth in asset value €000s	2020 cost €000s
	A	B	C	D	E=B+C+D	F=G-A	F-E	G
Stock - U.S.	1,827	-894	0	5,339	4,445	4,893	448	6,720
Stock - EAFE	25,123	-8,549	0	7,087	-1,462	4,705	6,167	29,828
Stock - Emerging	67,156	9,845	0	64,058	73,903	90,387	16,484	157,543
Stock - Global	102,953	18,370	0	-42,028	-23,658	1,613	25,271	104,566
Fixed Income - Emerging	5,042	-6,280	0	0	-6,280	-5,042	1,238	n/a
Fixed Income - Global	40,473	-12,271	0	2,741	-9,530	404	9,934	40,877
REITs	n/a	2,681	0	0	2,681	2,681	0	2,681
Real Estate	47,438	-5,516	0	-18,506	-24,022	-12,378	11,644	35,060
Total for asset management	290,012	-2,613	0	18,691	16,078	87,264	71,186	377,276
Oversight	66,954			-11,468	-11,468	4,967	16,434	71,921
Trustee & Custodial	9,570			-4,884	-4,884	-2,535	2,349	7,035
Consulting	39,503			-5,055	-5,055	4,641	9,696	44,144
Audit	6,110			-3,718	-3,718	-2,218	1,500	3,892
Other	0			0	0	0	0	0
Total for fund oversight ²	122,137			-25,124	-25,124	4,855	29,980	126,992
Total	412,149	-2,613	0	-6,434	-9,046	92,119	101,165	504,268

1. Cost differences for asset classes are attributed to the effects of:

- Asset growth, asset mix, implementation style, and paying for similar services, when the asset class exists in both years.
- Asset growth and asset mix, when the asset class exists only in one of the years.

2. Cost differences for oversight are attributed to the effects of asset growth and paying more/less for similar services.

Reasons by asset class and cost type, basis points

Your total cost has decreased by 0.1 bps in 2020 vs. 2016. It was driven by the changes in the asset mix (0.0 bps), implementation style (0.0 bps), and paying more/less for similar services (-0.1 bps).

Asset class	Asset mix bps	Implement. style bps	Paying more/-less bps	Total difference bps	Total ¹ ex asset gr. €000s
	B	C	D	B+C+D	
Stock - U.S.	0.0	0.0	0.1	0.0	4,445
Stock - EAFE	-0.1	0.0	0.1	0.0	-1,462
Stock - Emerging	0.1	0.0	0.7	0.8	73,903
Stock - Global	0.2	0.0	-0.4	-0.2	-23,658
Fixed Income - Emerging	-0.1	0.0	0.0	-0.1	-6,280
Fixed Income - Global	-0.1	0.0	0.0	-0.1	-9,530
REITs	0.0	0.0	0.0	0.0	2,681
Real Estate	-0.1	0.0	-0.2	-0.2	-24,022
Total for asset management	0.0	0.0	0.2	0.2	16,078
Oversight			-0.1	-0.1	-11,468
Trustee & Custodial			-0.1	-0.1	-4,884
Consulting			-0.1	-0.1	-5,055
Audit			0.0	0.0	-3,718
Other			0.0	0.0	0
Total for fund oversight			-0.3	-0.3	-25,124
Total	0.0	0.0	-0.1	-0.1	-9,046
Total basis point costs in years 2020 and 2016		5.2	5.3	-0.1	

1. Calculated by multiplying total difference in bps by plan total nav average holdings for year 2020, €967 billion. Similarly, basis point costs on this page are converted from the amounts on the previous page using the same total nav holdings as the fee basis.

Impact of changes in asset mix

Changes in the asset mix decreased your total cost by €2.6 million or 0.0 bps.

Asset class	2016 Cost bps	2020 Cost bps	2016 asset ¹ weight %	2020 asset ¹ weight %	Change in asset weight	Asset mix changes ² bps	Asset mix changes ³ €000s
	A	B	C	D	E=D-C	A (or B) x E	
Stock - U.S.	23.8	115.9	0%	0%	0%	0.0	-894
Stock - EAFE	30.9	40.5	1%	1%	0%	-0.1	-8,549
Stock - Emerging	30.4	51.3	3%	3%	0%	0.1	9,845
Stock - Global	2.4	1.7	56%	64%	8%	0.2	18,370
Fixed Income - Emerging	24.3	n/a	0%	0%	0%	-0.1	-6,280
Fixed Income - Global	1.4	1.5	36%	27%	-9%	-0.1	-12,271
REITs	n/a	2.1	0%	1%	1%	0.0	2,681
Real Estate	19.7	12.9	3%	3%	0%	-0.1	-5,516
Total for asset management						0.0	-2,613

1. Weight % = asset's average (NAV for performance lines) holdings / plan total nav average holdings.

2. If asset is not available in one of the years, the entire weighted cost difference in bps is attributed to the asset mix.

3. Calculated by multiplying asset mix changes in bps by plan total nav average holdings for year 2020, €967 billion.

Impact of changes in implementation style

Changes in implementation style (passive vs. active, internal vs. external, etc.) in 2020 vs. 2016 saved you €0.0 thousand.

Implementation choices	2020 avg. assets €mils	Cost, 2016			Style 1 %			Cost/ €000s
	A	Style 1 B	Style 2 C	Style 1 -Savings D = B - C	2020	2016	More/ -Less E	
Total								0

Cost differences are attributed exclusively to the effects of implementation style when the style existed in one of the years only.

Impact of paying more/-less for similar services

In 2020, you paid €6.4 million less for similar asset management and oversight / support services vs. 2016.

Asset class styles where you had assets in both 2020 and 2016 ¹	Style	2020 avg. assets €mils	Cost in bps		More/ -less	Cost/ -Savings €000s
			2020	2016		
<u>External asset management</u>		A			B	A x B
Stock - U.S.	active	580	115.9	23.8	92.0	5,339
Stock - EAFE	active	7,357	40.5	30.9	9.6	7,087
Stock - Emerging	active	30,726	51.3	30.4	20.8	64,058
Total for external management						76,484
<u>Internal asset management</u>		A			B	A x B
Stock - Global	active	622,049	1.7	2.4	-0.7	-42,028
Fixed Income - Global	active	265,813	1.5	1.4	0.1	2,741
Real Estate	active	27,254	12.9	19.7	-6.8	-18,506
Total for internal management						-57,794
Oversight		966,651	0.7	0.9	-0.1	-11,467.7
Trustee & Custodial		966,651	0.1	0.1	-0.1	-4,884
Consulting		966,651	0.5	0.5	-0.1	-5,055
Audit		966,651	0.0	0.1	0.0	-3,718
Other		966,651	0.0	0.0	0.0	0
Total for fund oversight						-25,124
Total						-6,434

1. Cost differences are attributed to paying more/less for similar services only if the asset-class style existed in both years.

5

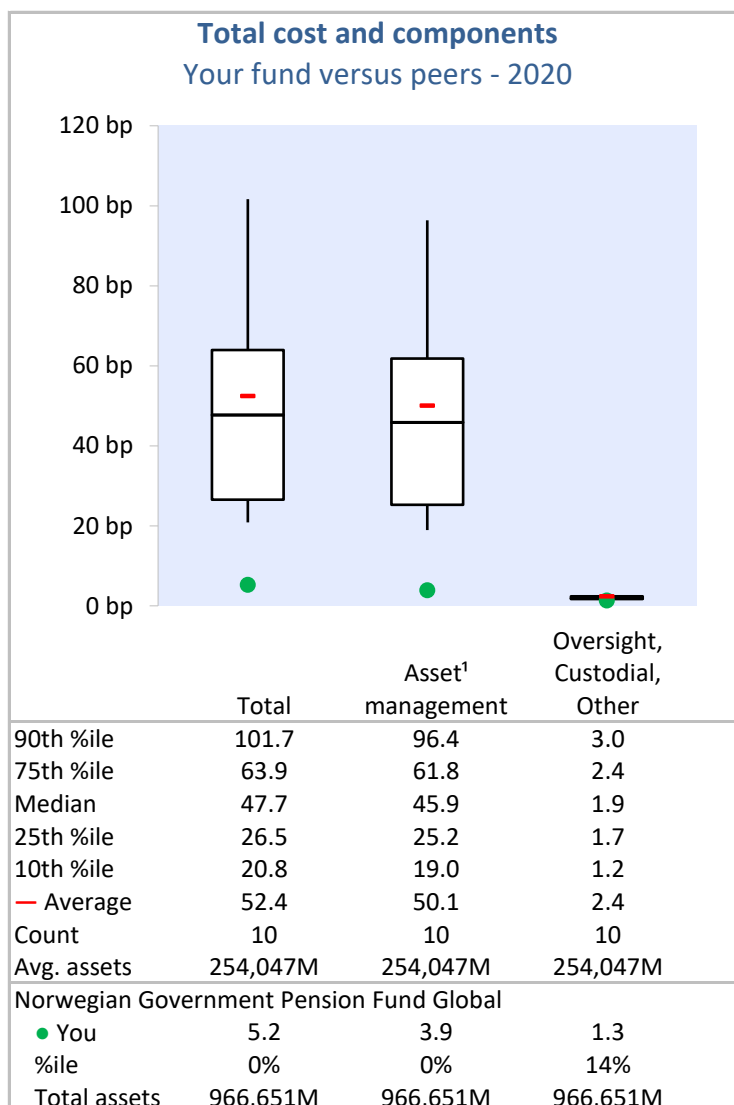
Cost comparisons

Total fund cost	2
Governance, operations & support	3
Public asset classes	
- Stock	4
- Fixed Income	10
- Commodities	20
- REITs	21
Real asset classes	
- Real estate ex-REITs	22
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Total fund cost

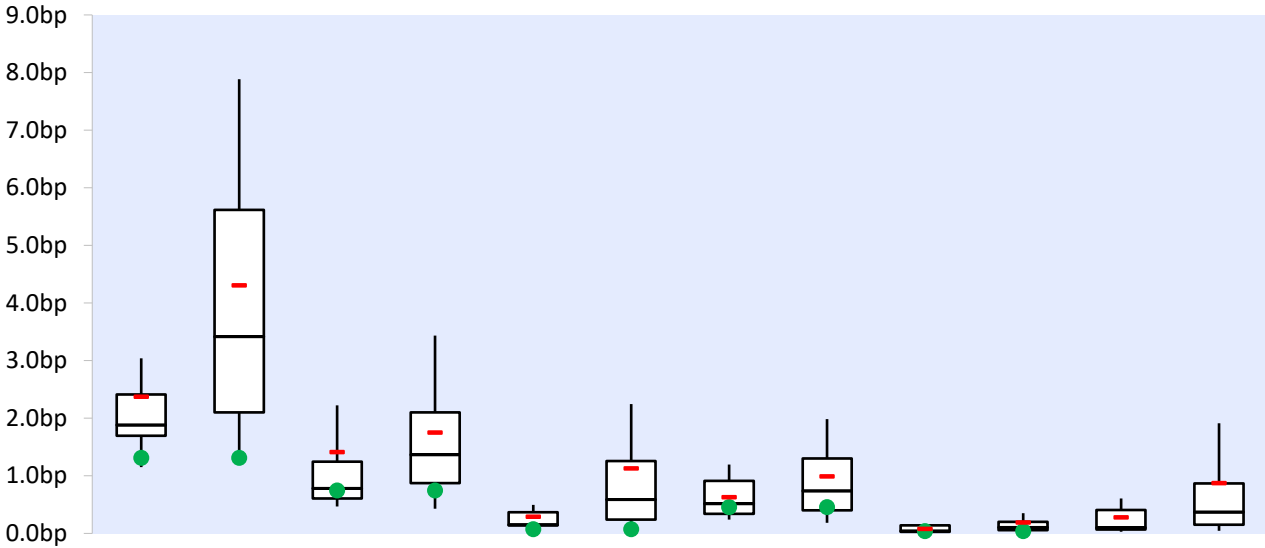
Total costs are benchmarked in the previous section. In this section, your fund's costs are compared on a line-item basis to your peers. This enables you to understand better why you may be a high or low cost fund and it also identifies and quantifies major cost differences that may warrant further investigation.

The 25th to 75th percentile range is the most relevant since higher and lower values may include outliers caused by unusual circumstances, such as performance-based fees. Count refers to the number of funds in your peer group that have costs in this category. It enables you to gauge the statistical significance.



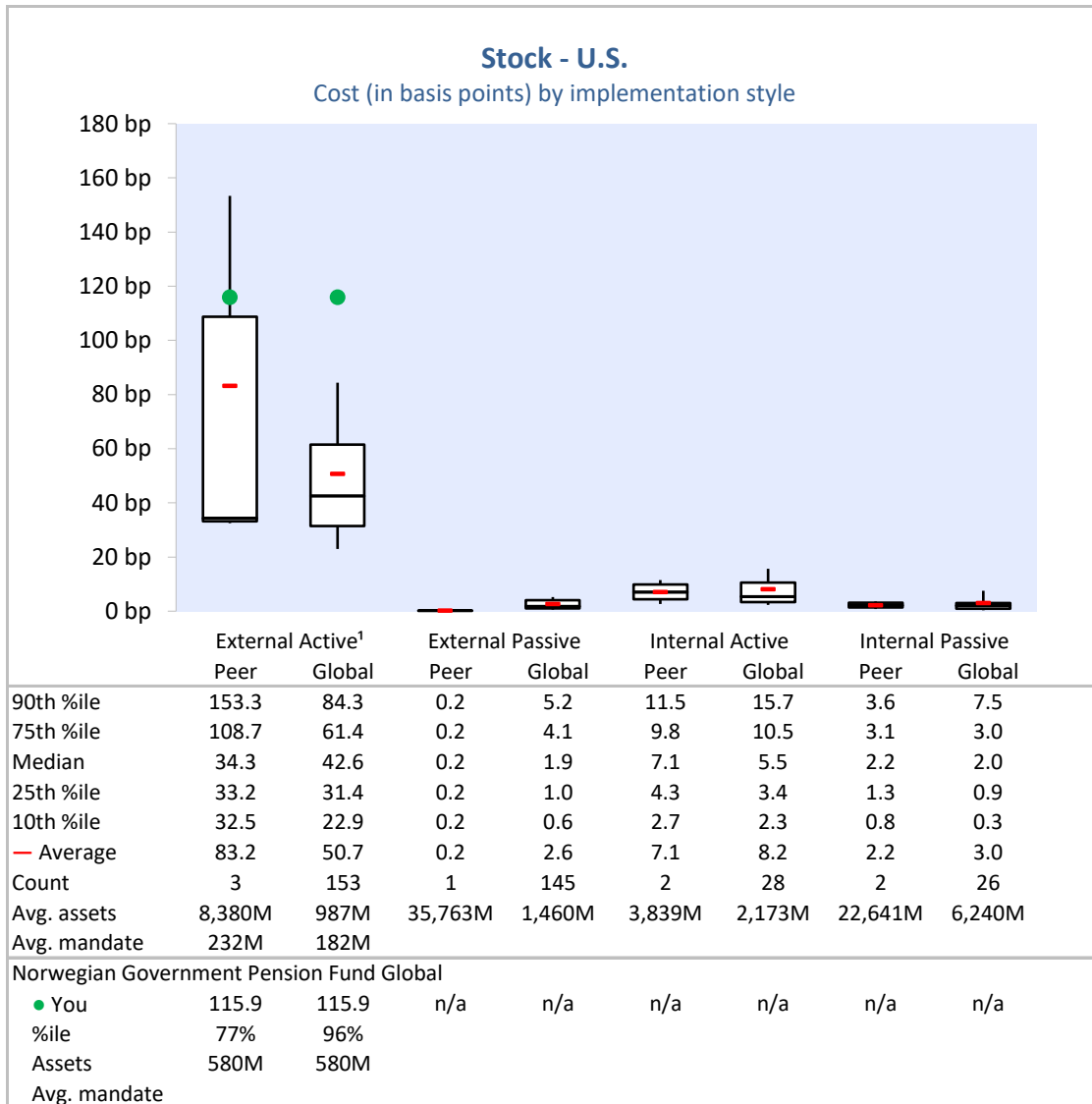
Governance, operations & support

Cost as a % of total plan assets



	Total		Oversight ¹		Consulting & Perf. Meas.		Custody		Audit		Other	
	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global
90th %ile	3.0	7.9	2.2	3.4	0.5	2.2	1.2	2.0	0.2	0.4	0.6	1.9
75th %ile	2.4	5.6	1.2	2.1	0.4	1.3	0.9	1.3	0.1	0.2	0.4	0.9
Median	1.9	3.4	0.8	1.4	0.2	0.6	0.5	0.7	0.0	0.1	0.1	0.4
25th %ile	1.7	2.1	0.6	0.9	0.1	0.2	0.3	0.4	0.0	0.1	0.1	0.2
10th %ile	1.2	1.3	0.5	0.4	0.1	0.1	0.2	0.2	0.0	0.0	0.0	0.0
— Average	2.4	4.3	1.4	1.7	0.3	1.1	0.6	1.0	0.1	0.2	0.3	0.9
Count	10	308	10	308	3	238	10	293	7	261	7	205
Avg. assets	254,047M	25,655M	254,047M	25,655M	254,047M	25,655M	254,047M	25,655M	254,047M	25,655M	254,047M	25,655M
Norwegian Government Pension Fund Global												
● You	1.3	1.3	0.7	0.7	0.1	0.1	0.5	0.5	0.0	0.0	n/a	n/a
%ile	14%	10%	42%	21%	0%	5%	42%	29%	45%	16%		
Plan assets	966,651M	966,651M	966,651M	966,651M	966,651M	966,651M	966,651M	966,651M	966,651M	966,651M	966,651M	966,651M

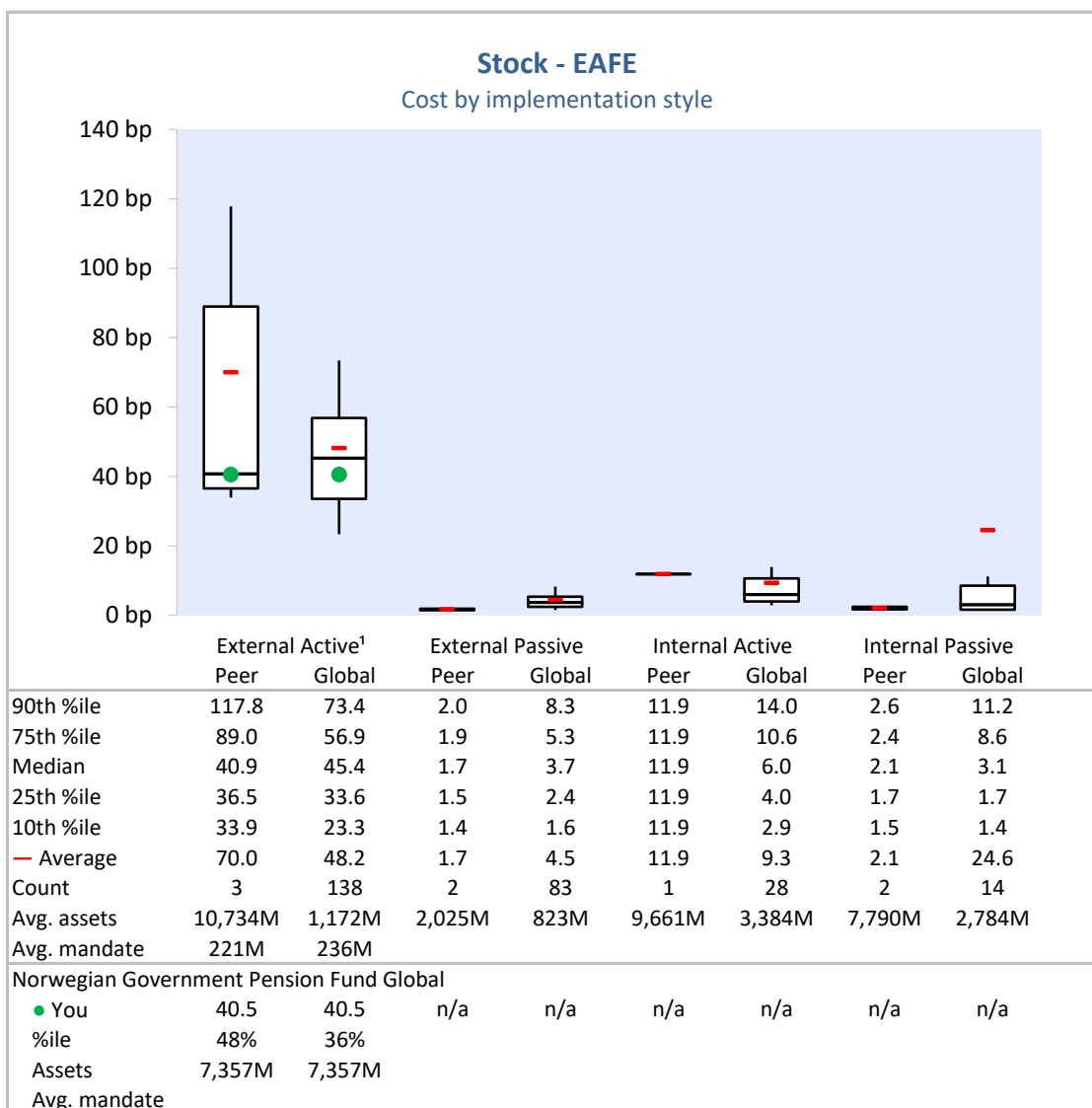
1. Oversight costs include the salaries and benefits of executives and their staff responsible for overseeing the entire fund or multiple asset classes and the fees/salaries of the Board or Investment Committee. All costs associated with the above including fees/salaries, travel, director's insurance and attributed overhead are included. Given fiduciary obligations, having the lowest oversight costs is not necessarily optimal. Some sponsors with lower-than-average executive and administration costs compensate by having-higher-than average consulting costs.



1. Breakdown of external active fees

	You	Peer Average	Global Average
Base fees	13.8	32.8	41.1
Performance fees*	100.3	48.9	8.9
Internal and other	<u>1.7</u>	<u>1.5</u>	<u>0.7</u>
Total	115.9	83.2	50.7

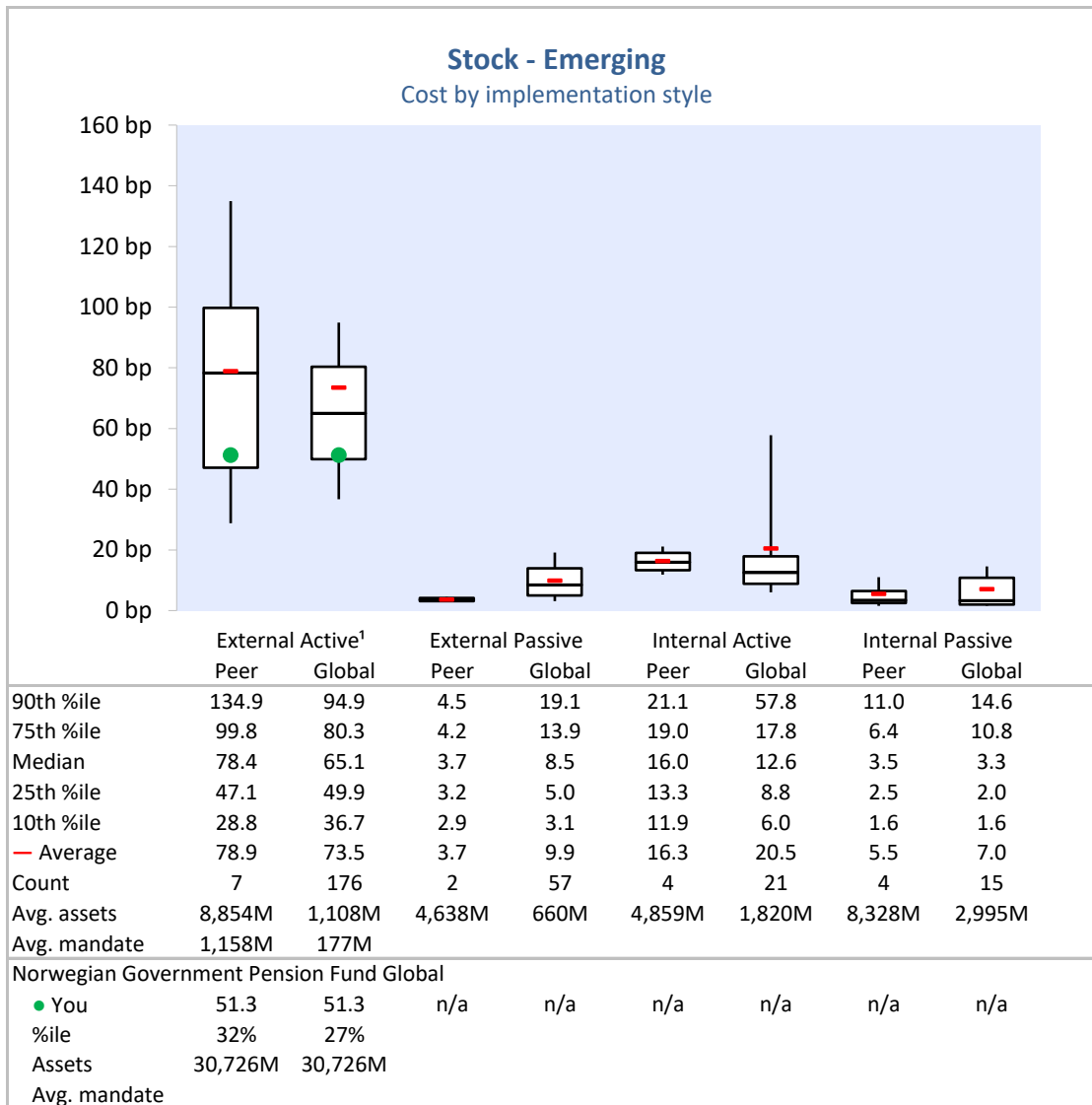
* For funds that did not report a performance fee, a value of 'zero' was used. The average performance fee for those funds that reported a performance fee is 48.9 bps for peers (3 funds) and 34.0 bps for Global participants (40 funds).



1. Breakdown of external active fees

	You	Peer Average	Global Average
Base fees	17.3	29.6	42.0
Performance fees*	21.5	39.6	5.4
Internal and other	<u>1.7</u>	<u>0.9</u>	<u>0.8</u>
Total	40.5	70.0	48.2

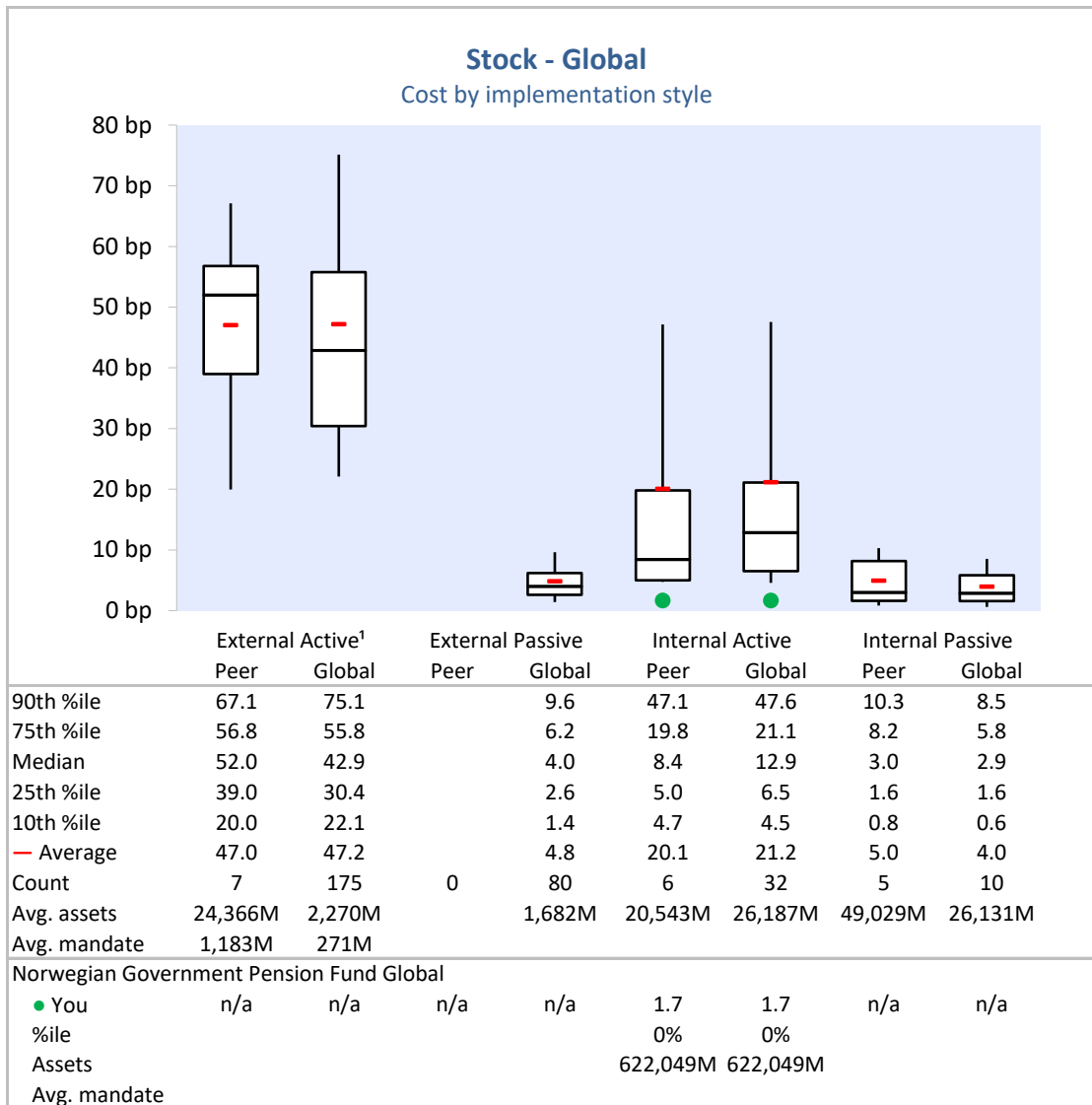
* For funds that did not report a performance fee, a value of 'zero' was used. The average performance fee for those funds that reported a performance fee is 59.3 bps for peers (2 funds) and 17.7 bps for Global participants (42 funds).



1. Breakdown of external active fees

	You	Peer Average	Global Average
Base fees	17.7	34.2	57.0
Performance fees*	31.9	42.8	14.8
Internal and other	<u>1.7</u>	<u>1.8</u>	<u>1.7</u>
Total	51.3	78.9	73.5

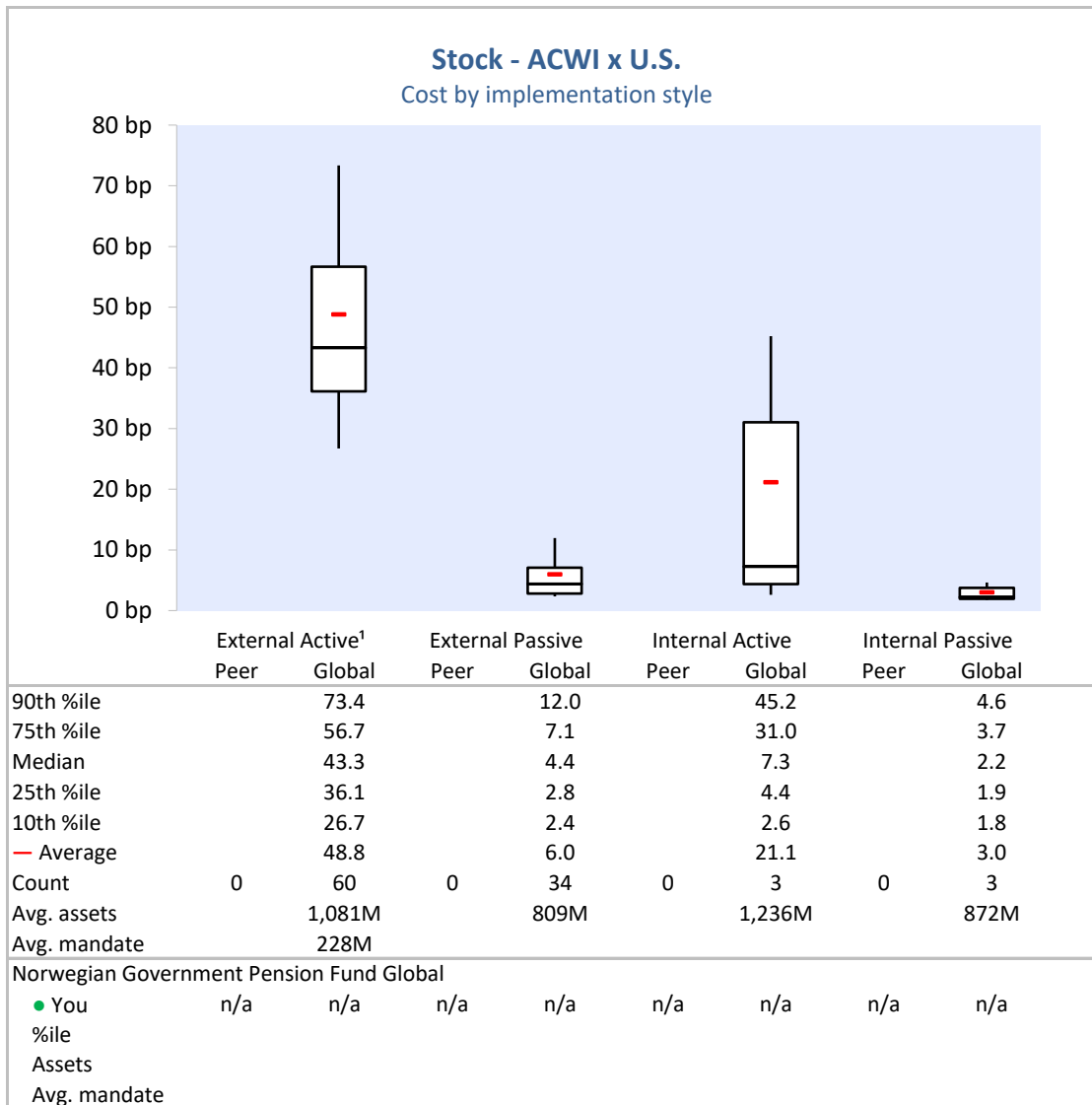
* For funds that did not report a performance fee, a value of 'zero' was used. The average performance fee for those funds that reported a performance fee is 59.9 bps for peers (5 funds) and 55.3 bps for Global participants (47 funds).



1. Breakdown of external active fees

	You	Peer Average	Global Average
Base fees	n/a	32.1	41.3
Performance fees*	n/a	11.4	4.7
Internal and other	<u>n/a</u>	<u>3.5</u>	<u>1.2</u>
Total	n/a	47.0	47.2

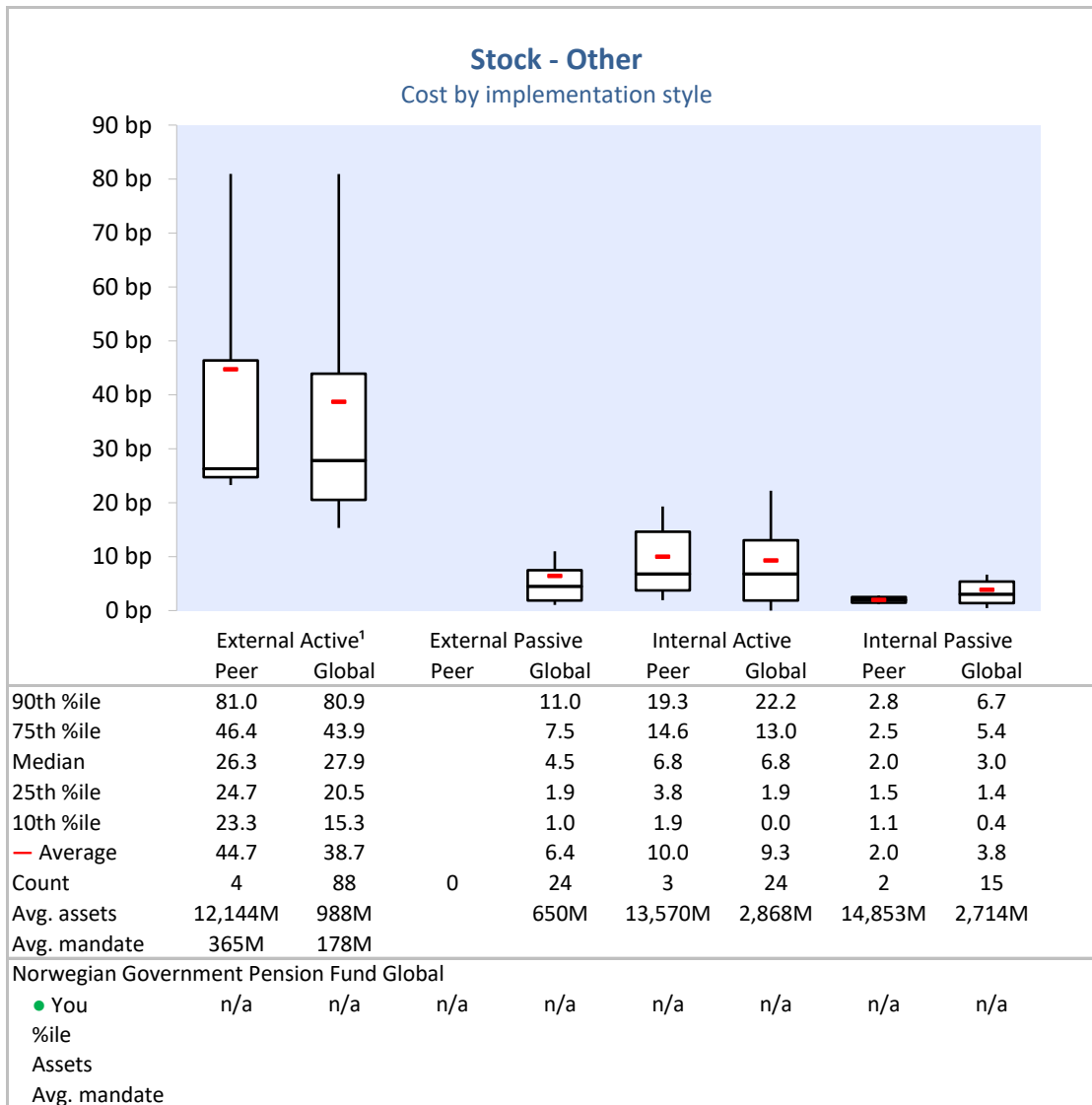
* For funds that did not report a performance fee, a value of 'zero' was used. The average performance fee for those funds that reported a performance fee is 13.3 bps for peers (6 funds) and 13.3 bps for Global participants (62 funds).



1. Breakdown of external active fees

	You	Peer Average	Global Average
Base fees	n/a	n/a	45.2
Performance fees*	n/a	n/a	3.2
Internal and other	<u>n/a</u>	<u>n/a</u>	<u>0.3</u>
Total	n/a	n/a	48.8

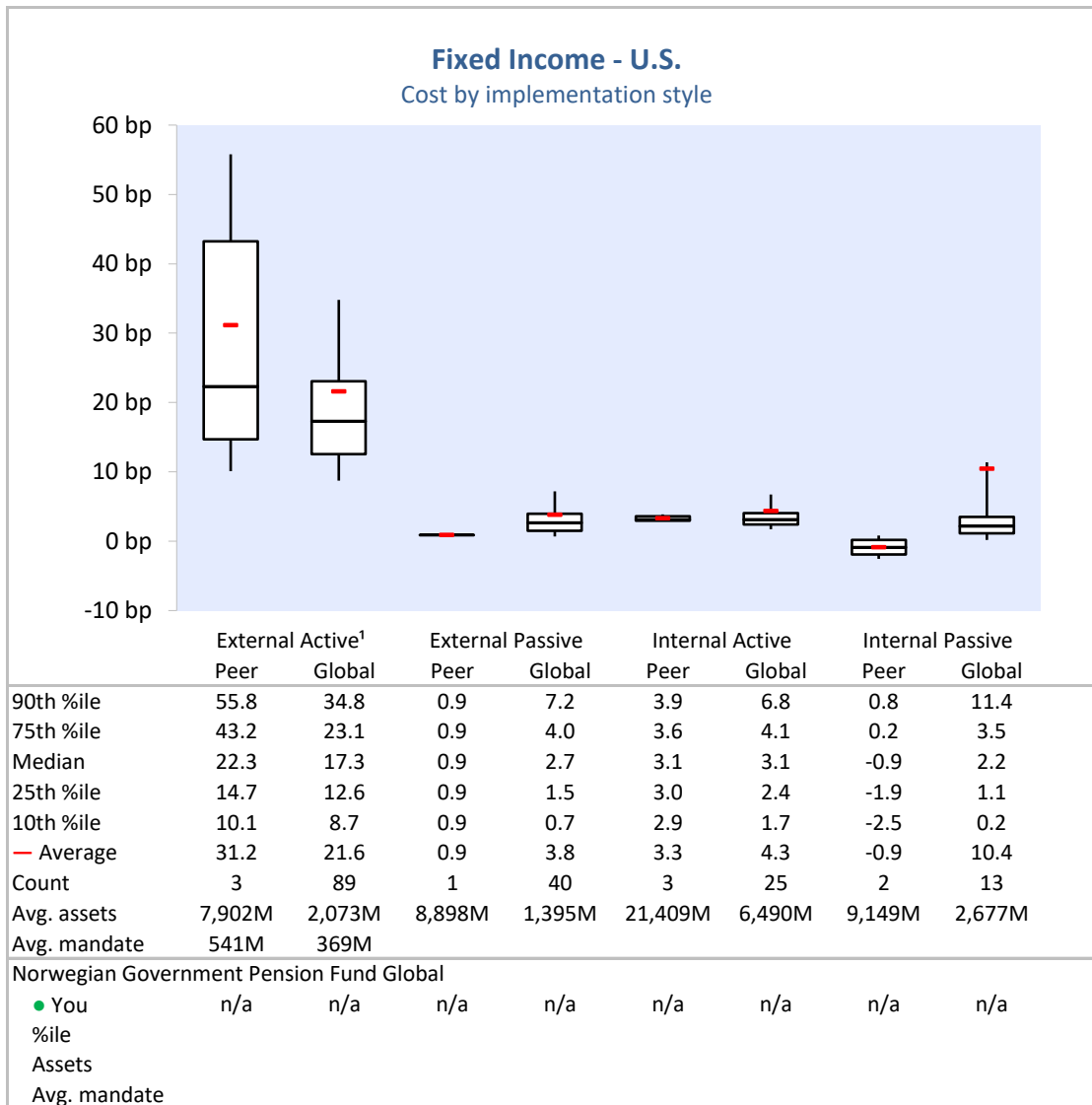
* For funds that did not report a performance fee, a value of 'zero' was used. The average performance fee for those funds that reported a performance fee is 24.2 bps for Global participants (8 funds).



1. Breakdown of external active fees

	You	Peer Average	Global Average
Base fees	n/a	40.7	33.9
Performance fees*	n/a	1.0	3.7
Internal and other	<u>n/a</u>	<u>3.0</u>	<u>1.1</u>
Total	n/a	44.7	38.7

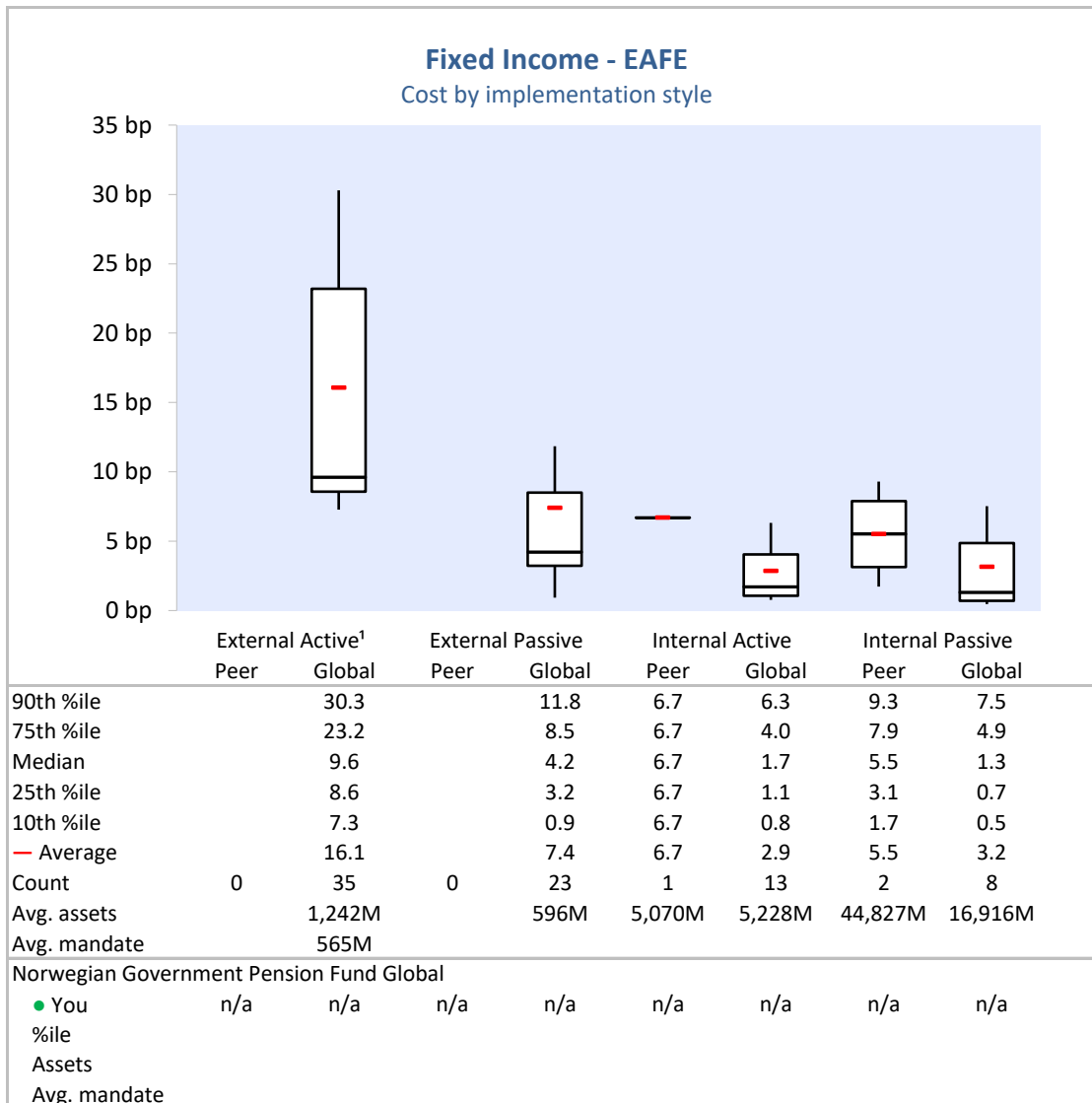
* For funds that did not report a performance fee, a value of 'zero' was used. The average performance fee for those funds that reported a performance fee is 2.0 bps for peers (2 funds) and 17.3 bps for Global participants (19 funds).



1. Breakdown of external active fees

	You	Peer Average	Global Average
Base fees	n/a	23.4	20.3
Performance fees*	n/a	6.4	0.8
Internal and other	<u>n/a</u>	<u>1.3</u>	<u>0.5</u>
Total	n/a	31.2	21.6

* For funds that did not report a performance fee, a value of 'zero' was used. The average performance fee for those funds that reported a performance fee is 9.7 bps for peers (2 funds) and 4.1 bps for Global participants (17 funds).



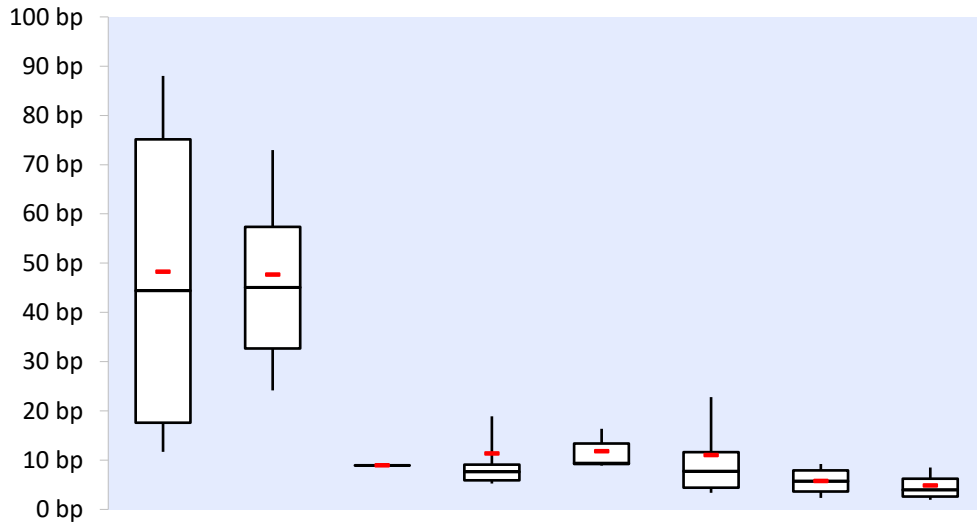
1. Breakdown of external active fees

	You	Peer Average	Global Average
Base fees	n/a	n/a	14.1
Performance fees*	n/a	n/a	1.3
Internal and other	<u>n/a</u>	<u>n/a</u>	<u>0.6</u>
Total	n/a	n/a	16.1

* For funds that did not report a performance fee, a value of 'zero' was used. The average performance fee for those funds that reported a performance fee is 3.6 bps for Global participants (13 funds).

Fixed Income - Emerging

Cost by implementation style

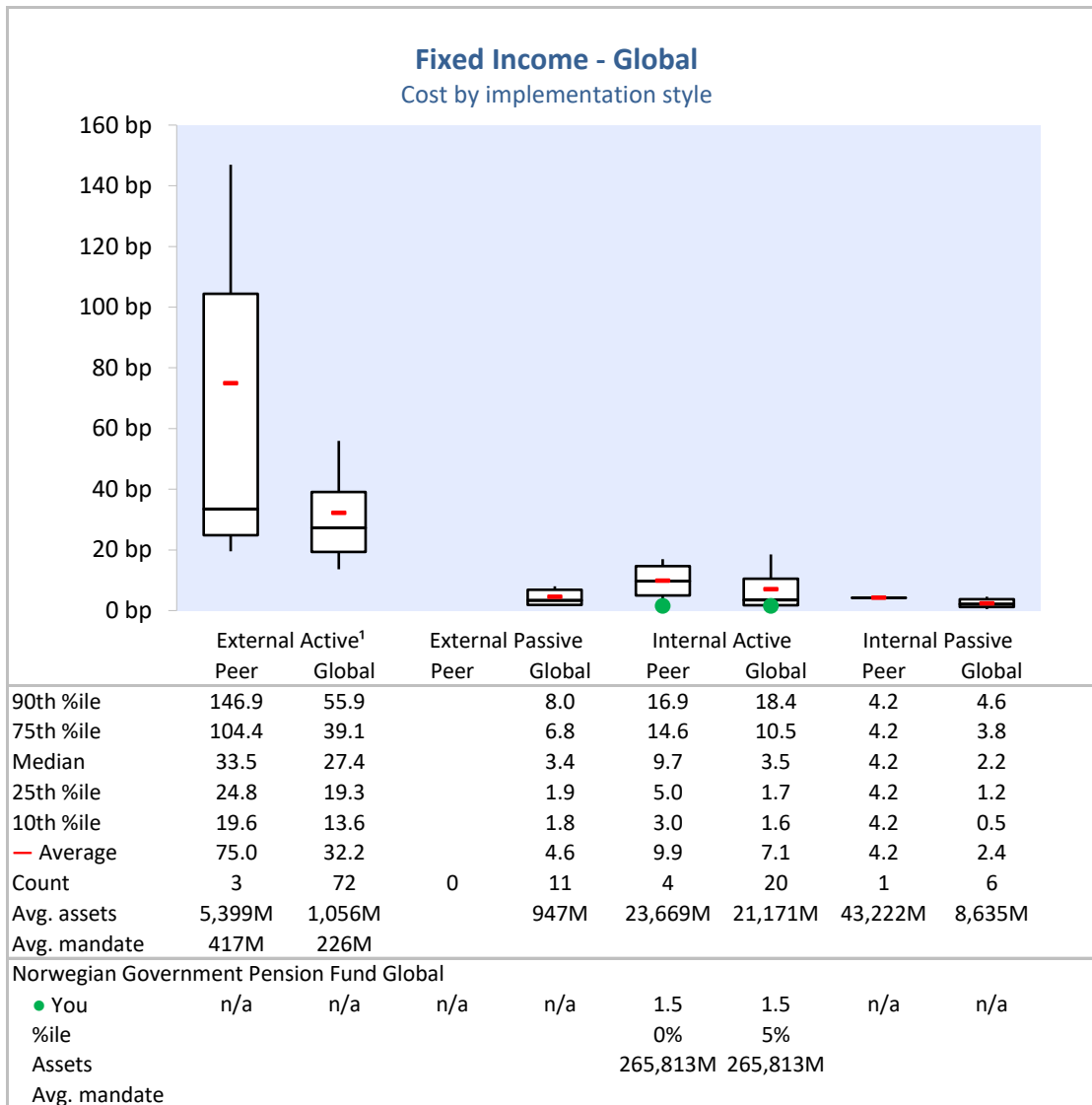


	External Active ¹		External Passive		Internal Active		Internal Passive	
	Peer	Global	Peer	Global	Peer	Global	Peer	Global
90th %ile	88.0	73.0	9.0	18.9	16.4	22.8	9.2	8.5
75th %ile	75.1	57.4	9.0	9.1	13.4	11.6	7.9	6.3
Median	44.4	45.1	9.0	7.7	9.4	7.8	5.8	4.0
25th %ile	17.6	32.7	9.0	5.9	9.2	4.4	3.6	2.6
10th %ile	11.7	24.2	9.0	5.3	8.9	3.4	2.4	2.0
— Average	48.3	47.7	9.0	11.3	11.8	11.0	5.8	4.9
Count	4	84	1	8	5	19	2	4
Avg. assets	5,443M	863M	5,779M	1,464M	3,200M	1,699M	3,492M	1,906M
Avg. mandate	636M	184M						
Norwegian Government Pension Fund Global								
● You	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%ile								
Assets								
Avg. mandate								

1. Breakdown of external active fees

	You	Peer Average	Global Average
Base fees	n/a	24.1	40.6
Performance fees*	n/a	7.6	3.5
Internal and other	<u>n/a</u>	<u>16.6</u>	<u>3.5</u>
Total	n/a	48.3	47.7

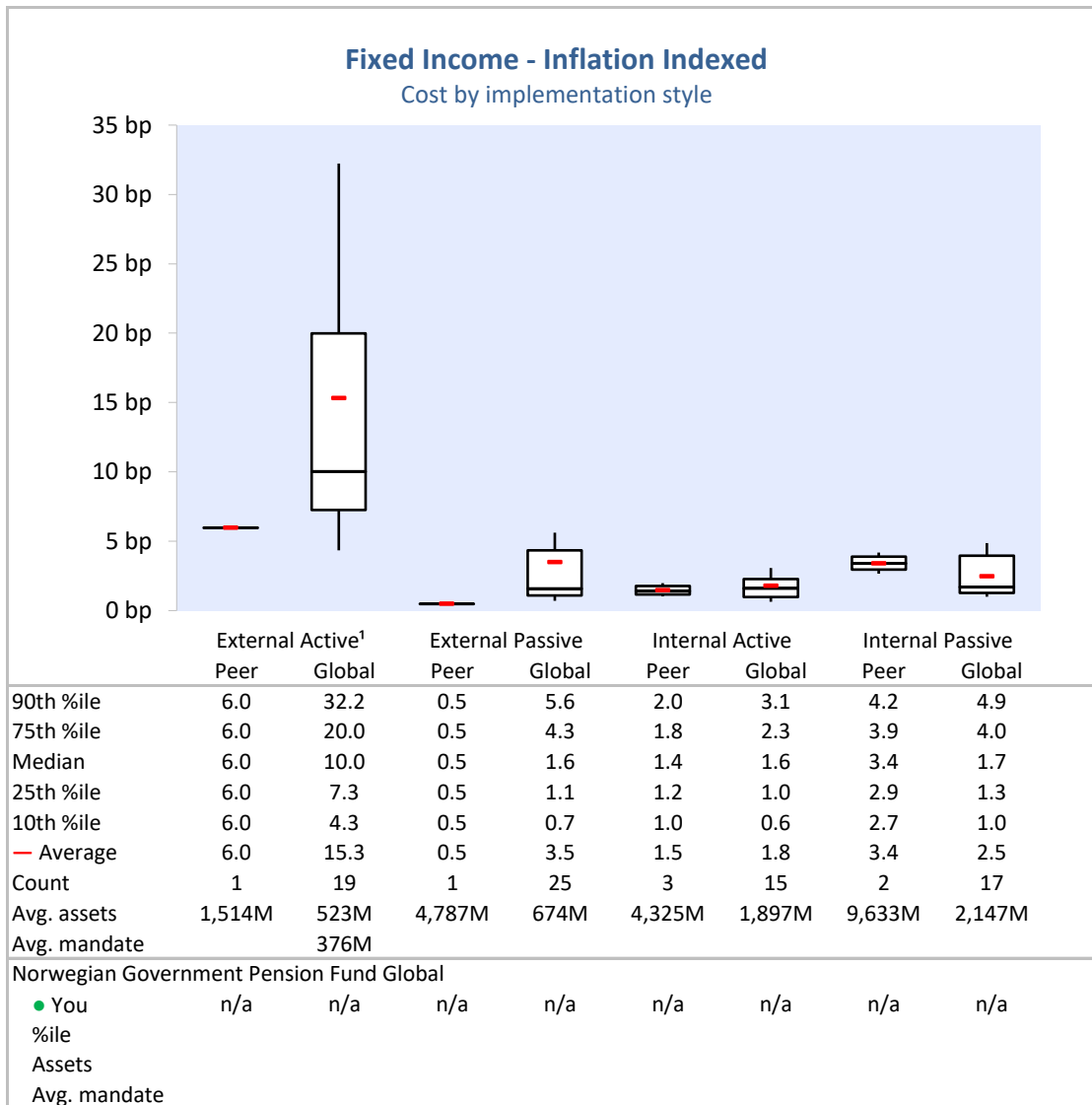
* For funds that did not report a performance fee, a value of 'zero' was used. The average performance fee for those funds that reported a performance fee is 10.1 bps for peers (3 funds) and 12.9 bps for Global participants (23 funds).



1. Breakdown of external active fees

	You	Peer Average	Global Average
Base fees	n/a	28.5	28.3
Performance fees*	n/a	6.1	1.2
Internal and other	<u>n/a</u>	<u>40.3</u>	<u>2.7</u>
Total	n/a	75.0	32.2

* For funds that did not report a performance fee, a value of 'zero' was used. The average performance fee for those funds that reported a performance fee is 6.1 bps for peers (3 funds) and 4.9 bps for Global participants (18 funds).



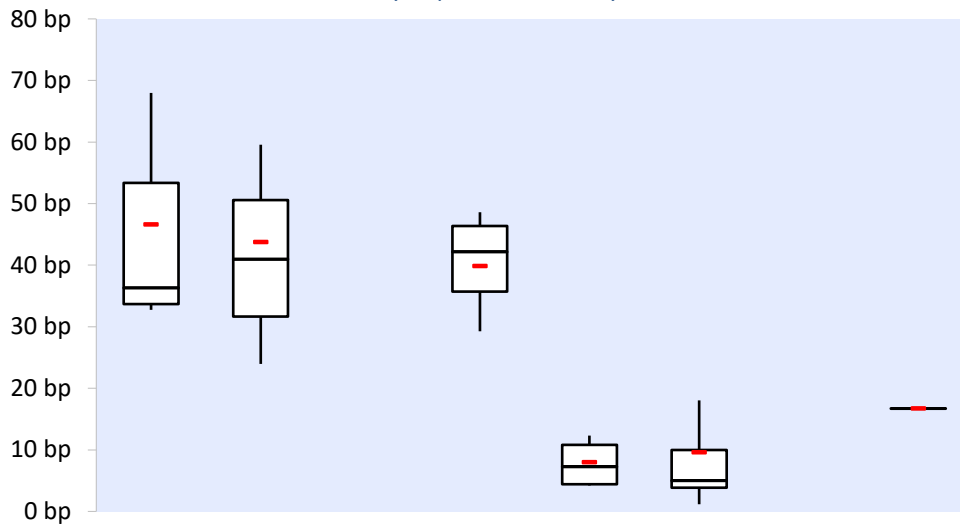
1. Breakdown of external active fees

	You	Peer Average	Global Average
Base fees	n/a	6.0	14.7
Performance fees*	n/a	n/a	0.5
Internal and other	<u>n/a</u>	<u>n/a</u>	<u>0.1</u>
Total	n/a	6.0	15.3

* For funds that did not report a performance fee, a value of 'zero' was used. The average performance fee for those funds that reported a performance fee is 4.5 bps for Global participants (2 funds).

Fixed Income - High Yield

Cost by implementation style



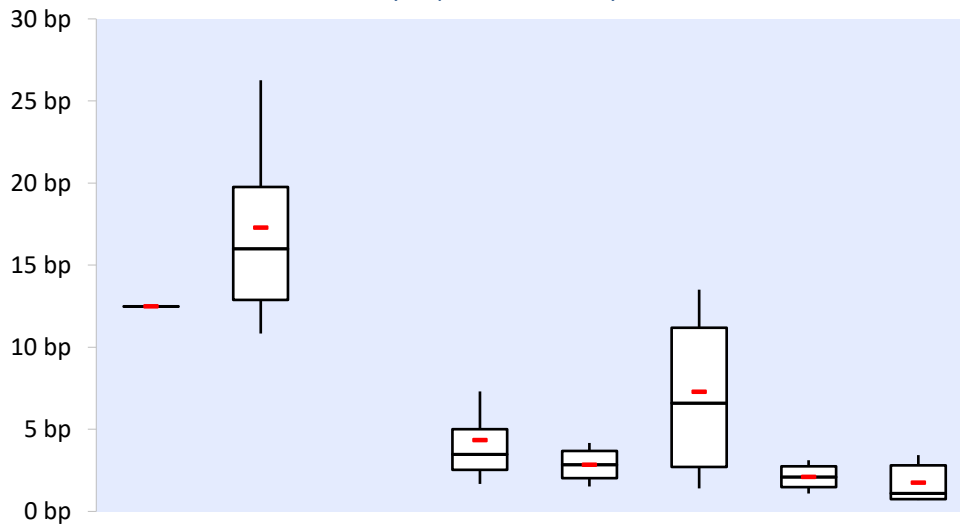
	External Active ¹		External Passive		Internal Active		Internal Passive	
	Peer	Global	Peer	Global	Peer	Global	Peer	Global
90th %ile	68.0	59.5		48.6	12.3	18.0		16.7
75th %ile	53.4	50.6		46.3	10.8	10.0		16.7
Median	36.3	41.0		42.2	7.2	5.0		16.7
25th %ile	33.7	31.6		35.7	4.4	3.9		16.7
10th %ile	32.7	24.0		29.3	4.2	1.2		16.7
— Average	46.6	43.7		39.9	8.0	9.6		16.7
Count	5	98	0	4	4	18	0	1
Avg. assets	2,953M	669M		680M	2,898M	1,156M		870M
Avg. mandate	376M	162M						
Norwegian Government Pension Fund Global								
● You	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%ile								
Assets								
Avg. mandate								

1. Breakdown of external active fees

	You	Peer Average	Global Average
Base fees	n/a	35.6	38.6
Performance fees*	n/a	7.8	3.2
Internal and other	<u>n/a</u>	<u>3.2</u>	<u>2.0</u>
Total	n/a	46.6	43.7

* For funds that did not report a performance fee, a value of 'zero' was used. The average performance fee for those funds that reported a performance fee is 13.0 bps for peers (3 funds) and 19.4 bps for Global participants (16 funds).

Fixed Income - Long Bonds Cost by implementation style



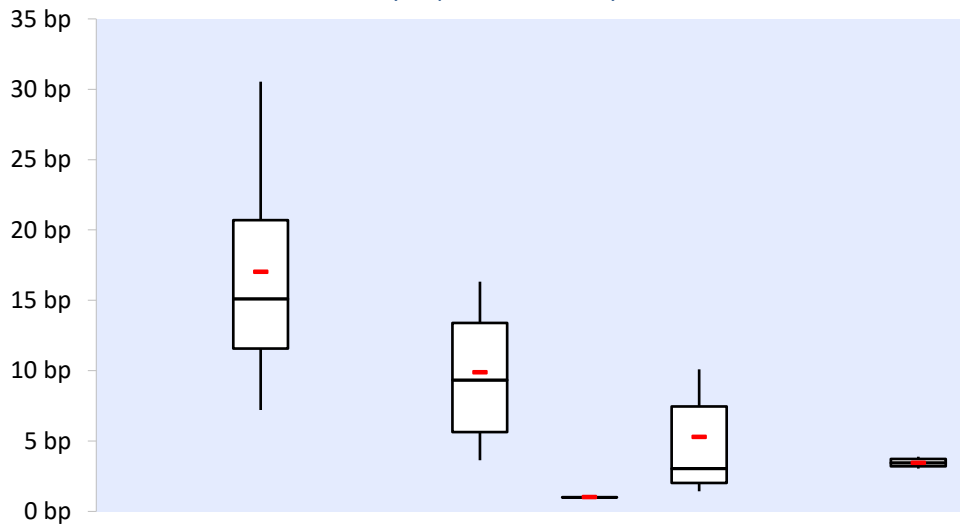
	External Active ¹		External Passive		Internal Active		Internal Passive	
	Peer	Global	Peer	Global	Peer	Global	Peer	Global
90th %ile	12.5	26.3		7.3	4.2	13.5	3.1	3.4
75th %ile	12.5	19.8		5.0	3.7	11.2	2.7	2.8
Median	12.5	16.0		3.5	2.8	6.6	2.1	1.1
25th %ile	12.5	12.9		2.5	2.0	2.7	1.5	0.7
10th %ile	12.5	10.8		1.7	1.5	1.4	1.1	0.7
— Average	12.5	17.3		4.3	2.8	7.3	2.1	1.7
Count	1	101	0	39	2	14	2	9
Avg. assets	1,326M	3,017M		331M	10,964M	3,529M	12,712M	5,160M
Avg. mandate		487M						
Norwegian Government Pension Fund Global								
● You	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%ile								
Assets								
Avg. mandate								

1. Breakdown of external active fees

	You	Peer Average	Global Average
Base fees	n/a	10.5	16.6
Performance fees*	n/a	1.8	0.5
Internal and other	<u>n/a</u>	<u>0.2</u>	<u>0.1</u>
Total	n/a	12.5	17.3

* For funds that did not report a performance fee, a value of 'zero' was used. The average performance fee for those funds that reported a performance fee is 1.8 bps for peers (1 fund) and 5.4 bps for Global participants (10 funds).

Fixed Income - Bundled LDI Cost by implementation style



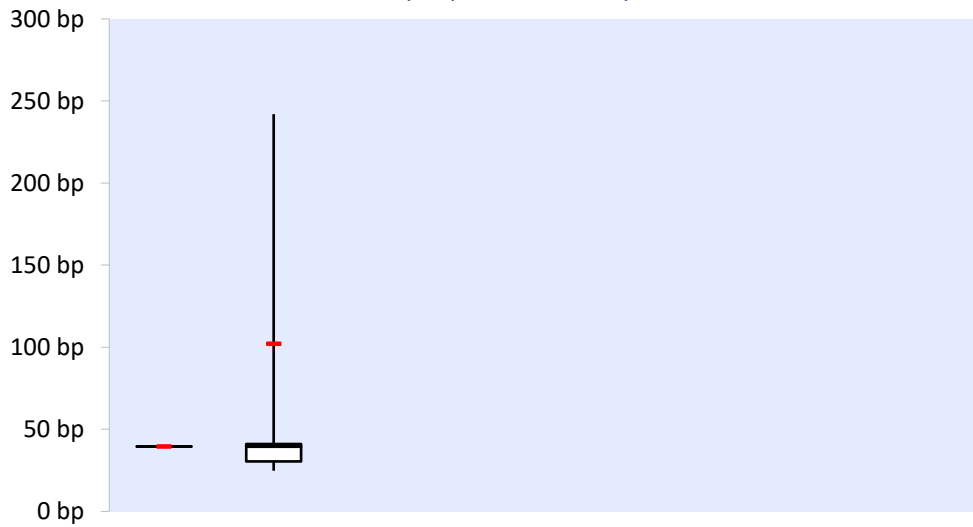
	External Active ¹		External Passive		Internal Active		Internal Passive	
	Peer	Global	Peer	Global	Peer	Global	Peer	Global
90th %ile		30.5		16.3	1.0	10.1		3.9
75th %ile		20.7		13.4	1.0	7.5		3.7
Median		15.1		9.3	1.0	3.1		3.5
25th %ile		11.6		5.6	1.0	2.0		3.2
10th %ile		7.2		3.6	1.0	1.4		3.0
— Average		17.0		9.9	1.0	5.3		3.5
Count	0	20	0	8	1	3	0	2
Avg. assets		1,825M		5,864M	77,941M	33,235M		7,238M
Avg. mandate		452M						
Norwegian Government Pension Fund Global								
● You	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%ile								
Assets								
Avg. mandate								

1. Breakdown of external active fees

	You	Peer Average	Global Average
Base fees	n/a	n/a	16.2
Performance fees*	n/a	n/a	0.1
Internal and other	<u>n/a</u>	<u>n/a</u>	<u>0.7</u>
Total	n/a	n/a	17.0

* For funds that did not report a performance fee, a value of 'zero' was used. The average performance fee for those funds that reported a performance fee is 2.6 bps for Global participants (1 fund).

Fixed Income - Convertibles Cost by implementation style

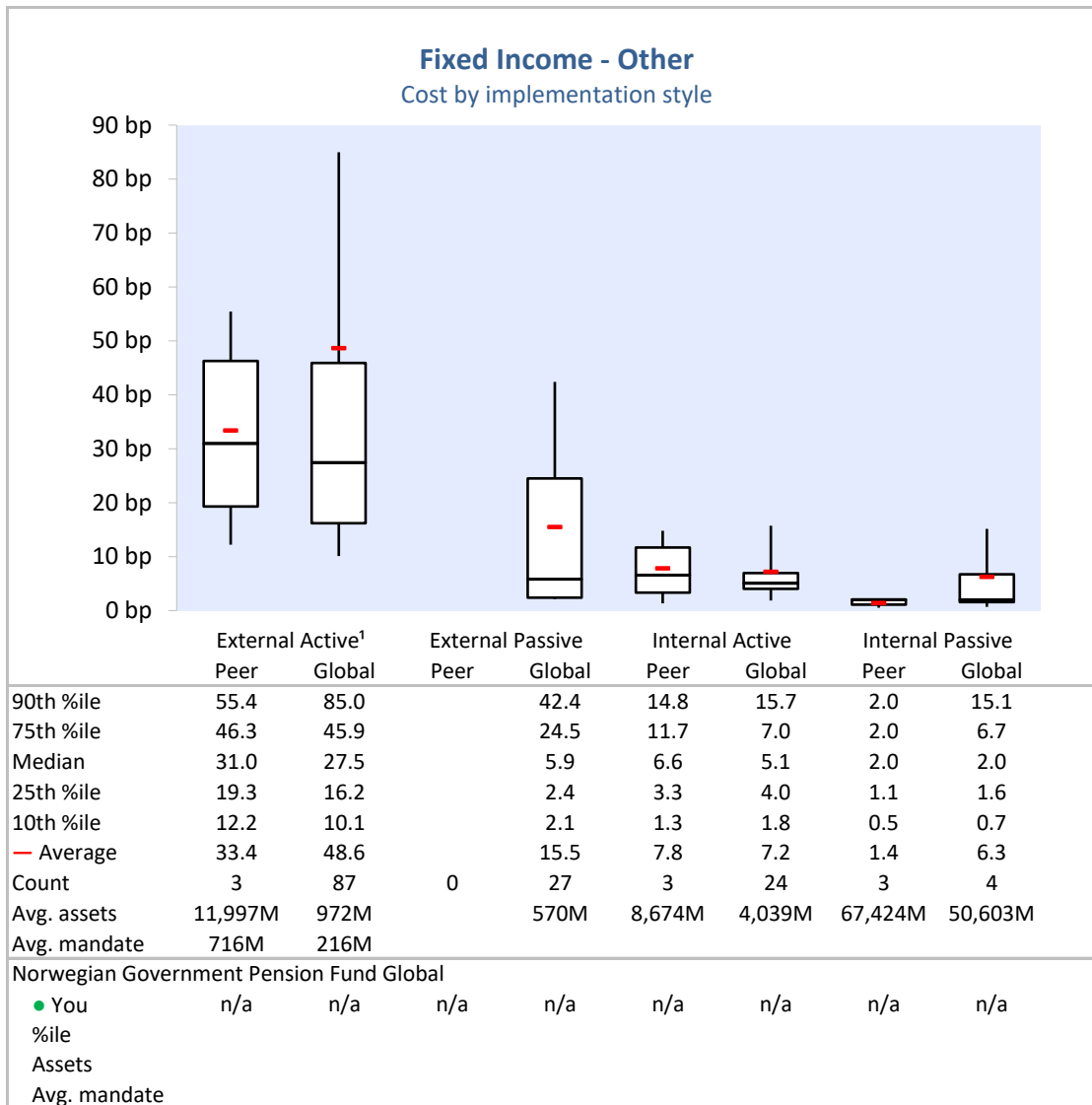


	External Peer	Active ¹ Global	External Passive Peer	External Passive Global	Internal Active Peer	Internal Active Global	Internal Passive Peer	Internal Passive Global
90th %ile	39.6	242.0						
75th %ile	39.6	41.1						
Median	39.6	39.6						
25th %ile	39.6	30.5						
10th %ile	39.6	24.8						
— Average	39.6	102.1						
Count	1	6	0	0	0	0	0	0
Avg. assets	1,417M	481M						
Avg. mandate		272M						
Norwegian Government Pension Fund Global								
● You	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%ile								
Assets								
Avg. mandate								

1. Breakdown of external active fees

	You	Peer Average	Global Average
Base fees	n/a	39.6	36.2
Performance fees*	n/a	n/a	65.6
Internal and other	<u>n/a</u>	<u>n/a</u>	<u>0.3</u>
Total	n/a	39.6	102.1

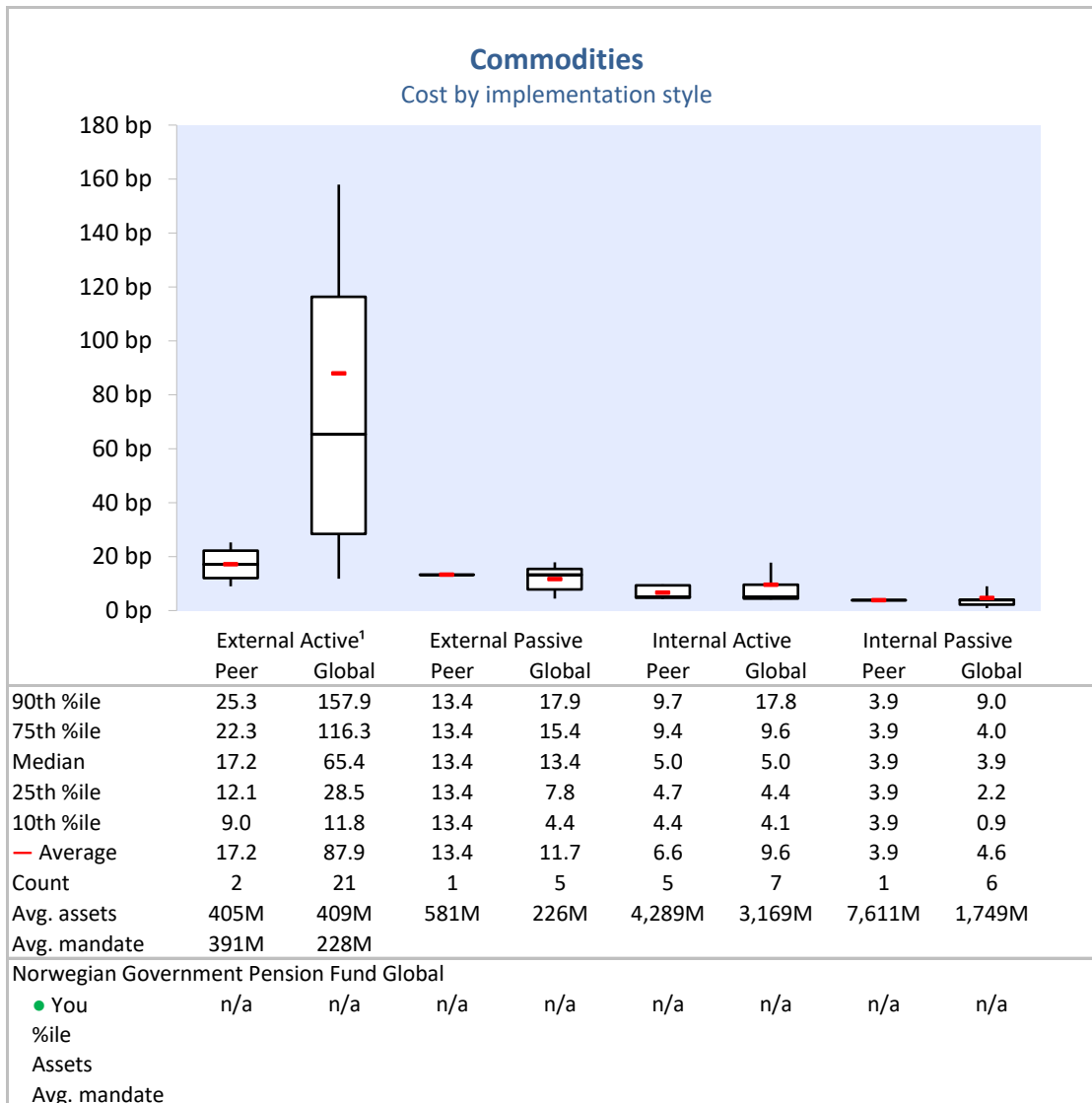
* For funds that did not report a performance fee, a value of 'zero' was used. The average performance fee for those funds that reported a performance fee is 393.7 bps for Global participants (1 fund).



1. Breakdown of external active fees

	You	Peer Average	Global Average
Base fees	n/a	32.1	37.9
Performance fees*	n/a	0.0	9.9
Internal and other	<u>n/a</u>	<u>1.2</u>	<u>0.8</u>
Total	n/a	33.4	48.6

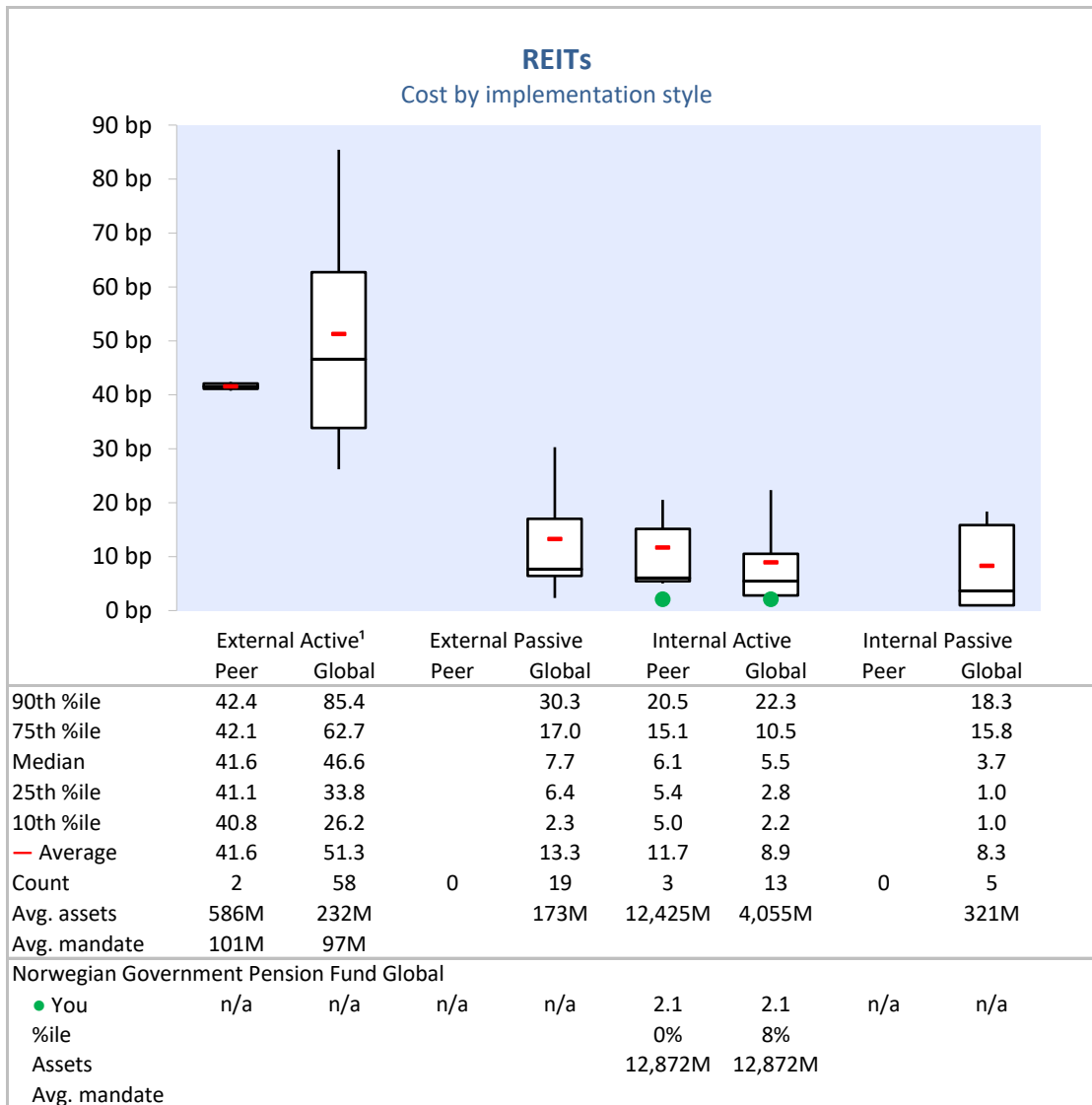
* For funds that did not report a performance fee, a value of 'zero' was used. The average performance fee for those funds that reported a performance fee is 0.1 bps for peers (1 fund) and 57.6 bps for Global participants (15 funds).



1. Breakdown of external active fees

	You	Peer Average	Global Average
Base fees	n/a	13.1	76.7
Performance fees*	n/a	0.2	9.8
Internal and other	<u>n/a</u>	<u>3.9</u>	<u>1.4</u>
Total	n/a	17.2	87.9

* For funds that did not report a performance fee, a value of 'zero' was used. The average performance fee for those funds that reported a performance fee is 0.2 bps for peers (2 funds) and 22.9 bps for Global participants (9 funds).



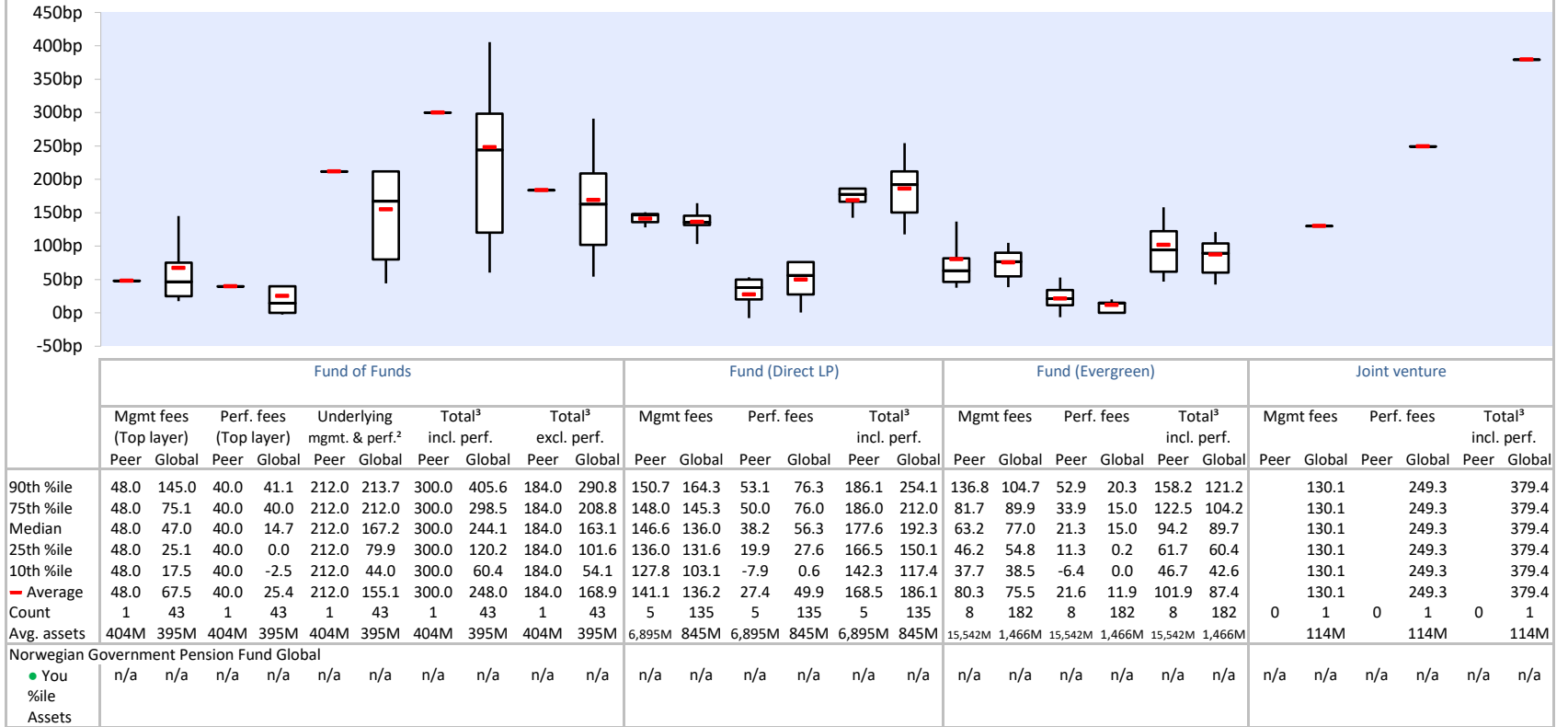
1. Breakdown of external active fees

	You	Peer Average	Global Average
Base fees	n/a	40.0	42.5
Performance fees*	n/a	0.0	6.1
Internal and other	<u>n/a</u>	<u>1.6</u>	<u>2.7</u>
Total	n/a	41.6	51.3

* For funds that did not report a performance fee, a value of 'zero' was used. The average performance fee for those funds that reported a performance fee is 0.0 bps for peers (1 fund) and 18.6 bps for Global participants (19 funds).

Real Estate

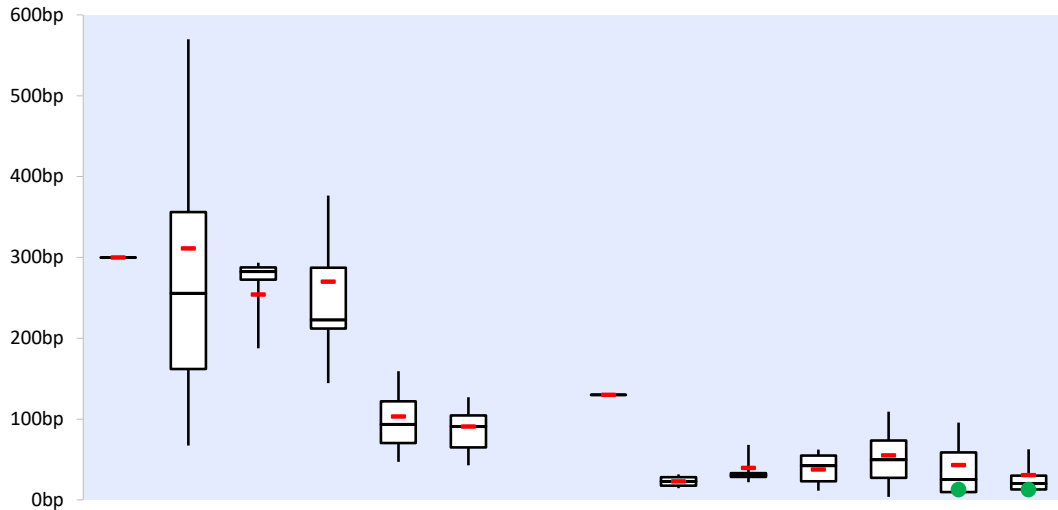
Cost as a % of the amount fees are based on¹



1. The base for fees is usually the committed amount during the commitment period, and unreturned invested capital afterwards.
 2. The fees of fund of funds include both the top layer fees paid to the fund of funds manager and the underlying fees paid to the 'underlying partnerships' held by the fund of funds. Most funds were unable to provide the underlying fees so defaults of 136 bps (on amount fees are based on) for underlying management fees and 76 bps (on NAV) for underlying performance fees were used.
 3. The total cost also includes the internal cost of monitoring and selecting real estate investments. The peer average cost of monitoring and selecting was 1.0 bps for fund of funds, 11.0 bps for LPs and 9.3

Real Estate - contd.

Cost as a % of NAV



	Fund of Funds		Fund (Direct LP)		Fund (Evergreen)		Joint venture		Oper. Sub.		Co-Inv.		Internal	
	Total ¹ incl. perf.		Total ¹ incl. perf.		Total ¹ incl. perf.		Total ¹ incl. perf.		Total ¹ incl. perf.		Total ¹ incl. perf.		Total	
	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global
90th %ile	300.0	569.9	293.6	376.4	159.1	126.9		130.1	31.4	68.0	62.0	109.3	95.6	62.7
75th %ile	300.0	356.1	287.7	287.0	121.9	104.5		130.1	28.2	33.1	54.7	73.4	58.7	30.1
Median	300.0	255.7	282.5	222.8	93.7	91.0		130.1	22.9	30.8	42.5	49.7	25.3	20.4
25th %ile	300.0	161.9	272.3	212.0	70.4	64.9		130.1	17.6	28.3	23.1	27.2	9.6	13.0
10th %ile	300.0	67.0	187.5	144.5	47.1	42.7		130.1	14.4	21.8	11.5	3.7	4.6	10.9
— Average	300.0	311.3	254.2	270.0	103.4	90.7		130.1	22.9	39.6	37.7	55.0	43.0	30.8
Count	1	43	5	135	8	182	0	1	2	12	3	28	4	39
Avg. assets	404M	336M	5,003M	638M	13,898M	1,397M		114M	18,965M	6,163M	3,058M	599M	1,887M	2,670M
Norwegian Government Pension Fund Global														
● You	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	12.9	12.9
%ile													34%	24%
Assets													27,254M	27,254M

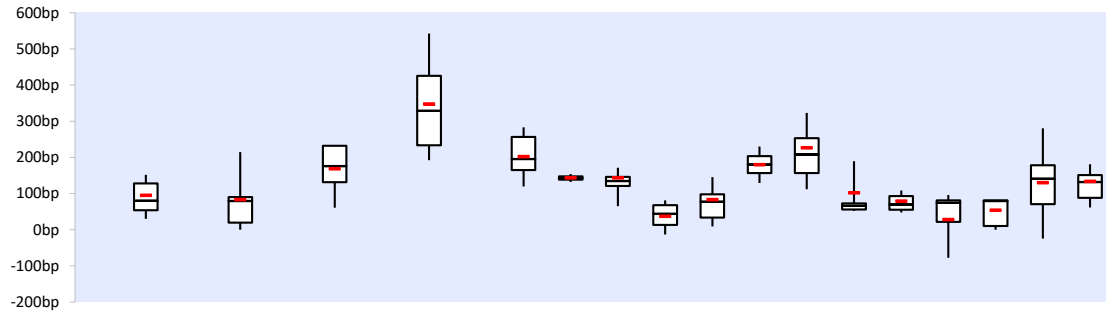
1. The total cost also includes the internal cost of monitoring and selecting real estate investments.

2. Co-investment is included with direct LPs because it can only be done alongside direct LPs. Co-investment is done by 3 of your peers and 23 of the Global funds.

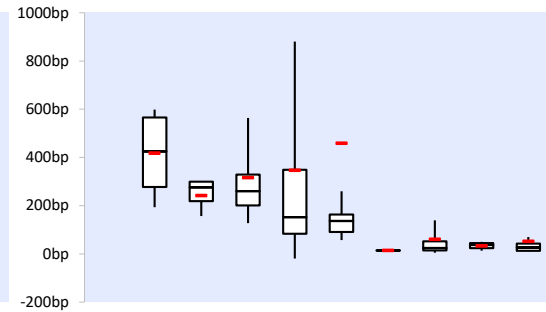
3. The total cost also includes the internal cost of monitoring and selecting real estate investments. Internal and other - FoFs The peer

Infrastructure

Cost as a % of the amount fees are based on¹



Cost as a % of NAV

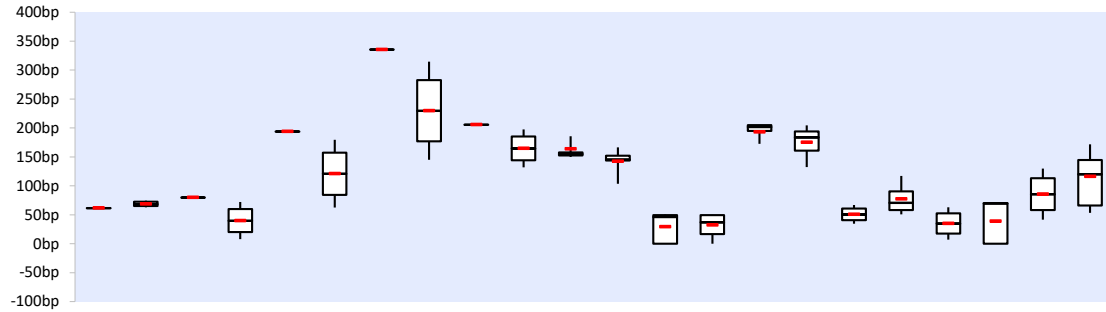


	Fund of Funds										Fund (Direct LP)						Fund (Evergreen)						Fund of Funds				Fund (Direct LP)		Fund (Evergreen)		Co-Inv.		Internal	
	Mgmt fees (Top layer)		Perf. fees (Top layer)		Underlying mgmt. & perf. ²		Total ³ incl. perf.		Total ³ excl. perf.		Mgmt fees		Perf. fees		Total ³ incl. perf.		Mgmt fees		Perf. fees		Total ³ incl. perf.		Total ³ incl. perf.		Peer		Global		Peer		Global			
	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global
	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global
90th %ile	152.1	214.8			232.0			542.4	283.5	153.9	171.3	81.3	145.6	230.3	323.5	189.6	108.6	95.8	82.3	280.5	180.9	597.9	300.4	563.6	880.5	260.1	14.6	138.8	50.1	70.1				
75th %ile	128.4	90.3			232.0			425.6	256.7	147.7	146.0	68.2	98.1	203.7	253.4	72.6	93.5	81.0	81.0	178.3	151.0	565.7	299.9	328.8	348.6	163.6	14.6	52.1	45.2	42.8				
Median	80.6	80.0			176.2			329.2	196.1	143.3	135.0	44.4	78.0	180.6	208.6	66.4	70.0	75.2	80.1	141.5	132.3	425.6	276.4	261.2	152.5	137.2	14.6	24.8	37.6	26.4				
25th %ile	53.7	20.0			131.6			233.8	165.4	138.8	121.3	13.2	34.0	157.0	156.4	55.8	55.7	21.6	10.5	70.6	88.4	278.0	218.8	201.5	83.5	90.5	14.6	14.0	23.3	12.7				
10th %ile	30.3	0.0			60.9			192.4	119.5	132.3	65.4	-13.3	9.6	129.6	112.4	51.7	47.4	-77.4	0.0	-24.4	61.9	193.5	157.0	127.8	-19.2	57.3	14.6	4.6	12.8	9.9				
Average	95.2	83.3			168.9			347.4	202.4	143.2	143.3	37.0	83.5	180.2	226.8	102.3	79.4	28.0	54.1	130.3	133.5	418.3	242.3	316.0	346.4	459.1	14.6	60.9	32.9	52.5				
Count	0	29	0	29	0	29	0	29	0	29	4	114	4	114	4	114	5	55	5	55	5	55	0	29	4	114	5	55	1	28	7	29		
Avg. assets		105M		105M		105M		105M		2,752M	492M	2,752M	492M	2,752M	492M	3,142M	629M	3,142M	629M	3,142M	629M	99M	2,284M	379M	2,870M	593M	854M	521M	10,592M	4,321M				
Norwegian Government Pension Fund Global																																		
You %ile Assets	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		
OM	OM	OM	OM	OM	OM	OM	OM	OM	OM	OM	OM	OM	OM	OM	OM	OM	OM	OM	OM	OM	OM	OM	OM	OM	OM	OM	OM	OM	OM	OM	OM	OM		

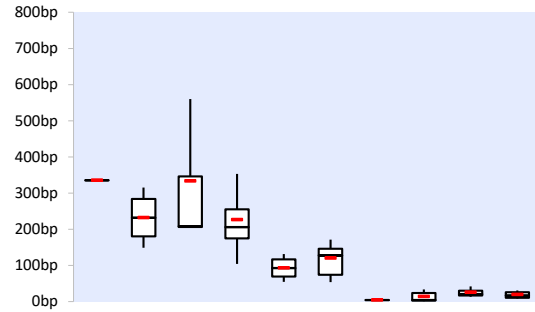
1. The base for fees is usually the committed amount during the commitment period, and unreturned invested capital afterwards.
2. The fees of fund of funds include both the top layer fees paid to the fund of funds manager and the underlying fees paid to the 'underlying partnerships' held by the fund of funds. Most funds were unable to provide the underlying fees so defaults of n/a bps (on amount fees are based on) for underlying management fees and n/a bps (on NAV) for underlying performance fees were used.
3. The total cost also includes the internal cost of monitoring and selecting infrastructure investments. The peer average cost of monitoring and selecting was 13.2 bps for LPs and 3.0 bps for external (not LPs). Some averages on the right chart may be off the chart where there is outlier data resulting from large base or performance fees divided by small NAV.

Natural Resources

Cost as a % of the amount fees are based on¹

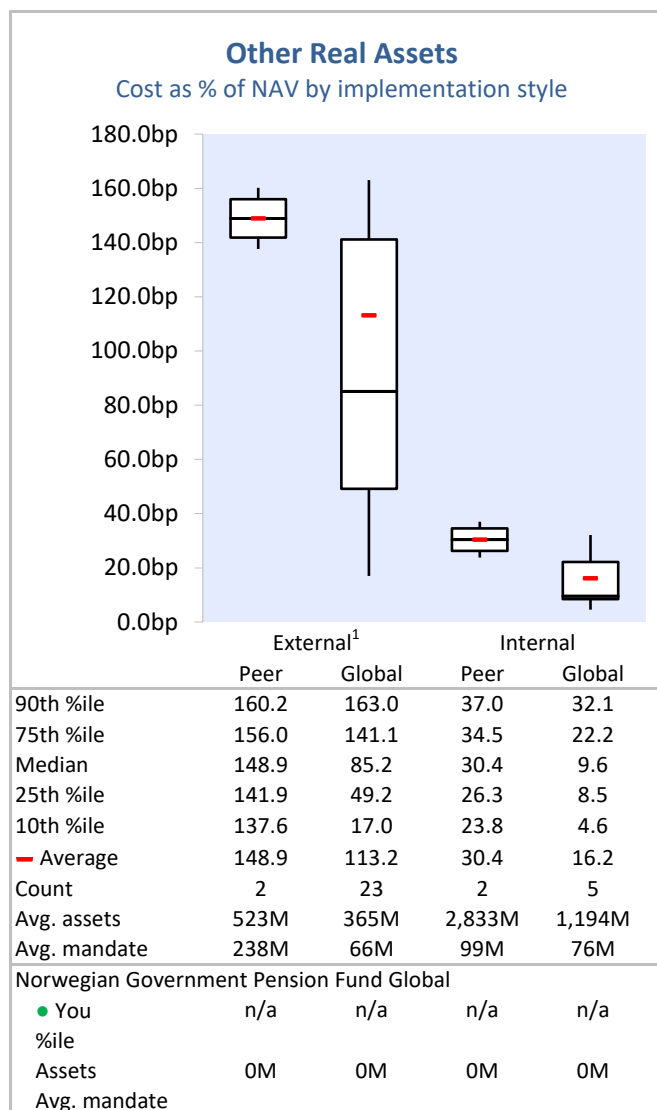


Cost as a % of NAV



	Fund of Funds										Fund (Direct LP)						Fund (Evergreen)						Fund of Funds		Fund (Direct LP)		Fund (Evergreen)		Co-Inv.		Internal			
	Mgmt fees (Top layer)		Perf. fees (Top layer)		Underlying mgmt. & perf. ²		Total ³ incl. perf.		Total ³ excl. perf.		Mgmt fees		Perf. fees		Total ³ incl. perf.		Mgmt fees		Perf. fees		Total ³ incl. perf.		Total ³ incl. perf.		Total ³ incl. perf.		Total ³ incl. perf.		Total ³ incl. perf.		Total ³ incl. perf.			
	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global		
90th %ile	61.7	74.5	80.0	72.0	194.0	179.4	335.7	314.5	205.7	197.5	185.9	166.4	50.3	50.0	205.5	204.6	66.9	117.2	63.0	70.0	129.9	171.6	335.7	315.0	560.0	352.9	131.4	171.3	4.5	33.9	42.0	30.6		
75th %ile	61.7	72.4	80.0	60.0	194.0	157.5	335.7	282.7	205.7	185.2	157.6	152.1	49.2	49.6	204.8	194.0	60.9	90.5	52.5	70.0	113.4	144.7	335.7	283.9	346.1	255.1	117.0	146.4	4.5	23.9	30.4	25.6		
Median	61.7	68.8	80.0	40.0	194.0	121.0	335.7	229.8	205.7	164.8	155.0	145.7	46.5	37.2	201.7	184.0	50.7	71.0	35.0	70.0	85.7	120.2	335.7	232.0	208.0	205.9	92.9	127.8	4.5	4.5	21.2	16.5		
25th %ile	61.7	65.3	80.0	20.0	194.0	84.5	335.7	176.8	205.7	144.3	152.4	144.0	0.0	16.6	195.1	160.6	40.6	58.1	17.5	0.0	58.1	66.2	335.7	180.2	205.9	174.5	68.9	74.2	4.5	2.9	16.7	10.4		
10th %ile	61.7	63.1	80.0	8.0	194.0	62.6	335.7	145.1	205.7	132.1	150.1	103.5	0.0	0.0	172.6	132.4	34.5	50.7	7.0	0.0	41.5	53.5	335.7	149.1	205.3	104.3	54.5	53.9	4.5	1.1	13.5	8.5		
Average	61.7	68.8	80.0	40.0	194.0	121.0	335.7	229.8	205.7	164.8	163.7	142.6	29.3	32.5	193.0	175.2	50.7	77.2	35.0	38.9	85.7	116.1	335.7	232.0	333.5	226.4	92.9	120.1	4.5	13.7	25.9	19.8		
Count	1	2	1	2	1	2	1	2	1	2	5	47	5	47	5	47	2	23	2	23	2	23	1	2	5	47	2	23	1	7	4	12		
Avg. assets	27M	17M	27M	17M	27M	17M	27M	17M	27M	17M	1,925M	513M	1,925M	513M	1,925M	513M	131M	170M	131M	170M	131M	170M	27M	17M	1,312M	384M	102M	162M	2,223M	597M	2,644M	1,775M		
Norwegian Government Pension Fund Global																																		
● You	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
%ile																																		
Assets																																		

1. The base for fees is usually the committed amount during the commitment period, and unreturned invested capital afterwards.
 2. The fees of fund of funds include both the top layer fees paid to the fund of funds manager and the underlying fees paid to the 'underlying partnerships' held by the fund of funds. Most funds were unable to provide the underlying fees so defaults of 144 bps (on amount fees are based on) for underlying management fees and 50 bps (on NAV) for underlying performance fees were used.
 3. The total cost also includes the internal cost of monitoring and selecting natural resource investments. The peer average cost of monitoring and selecting was 1.7 bps for fund of funds and 8.0 bps for LPs and 6.8 bps for external (not LPs).



1. Breakdown of external fees

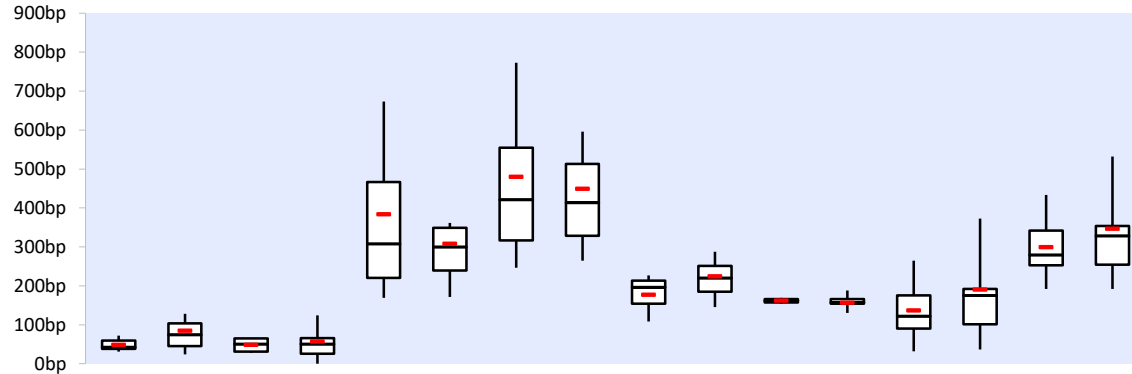
	Your Plan	Peer Average	Global Average
Base fees	n/a	143.9	107.5
Internal and other	n/a	10.1	13.1
Total*	n/a	148.9	113.2
Performance fees**	n/a	-266.4	26.2

* Total cost excludes performance fees because most participants did not provide performance fees for other real assets.

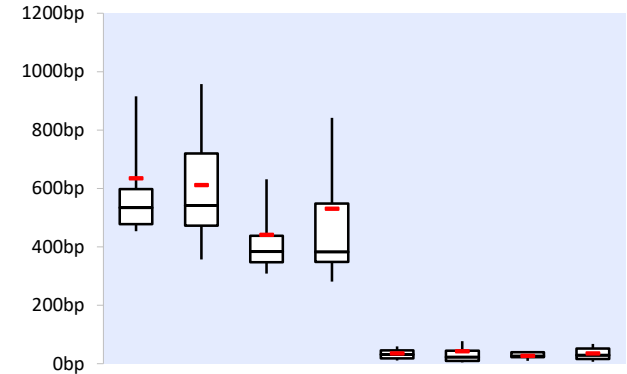
** For funds that did not report a performance fee, a value of 'zero' was used. The average performance fee for only those funds that reported a performance fee is -266.4 bps for peers (2 funds) and 26.2 bps for Global participants (23 funds).

Diversified Private Equity

Cost as a % of the amount fees are based on¹



Cost as a % of NAV



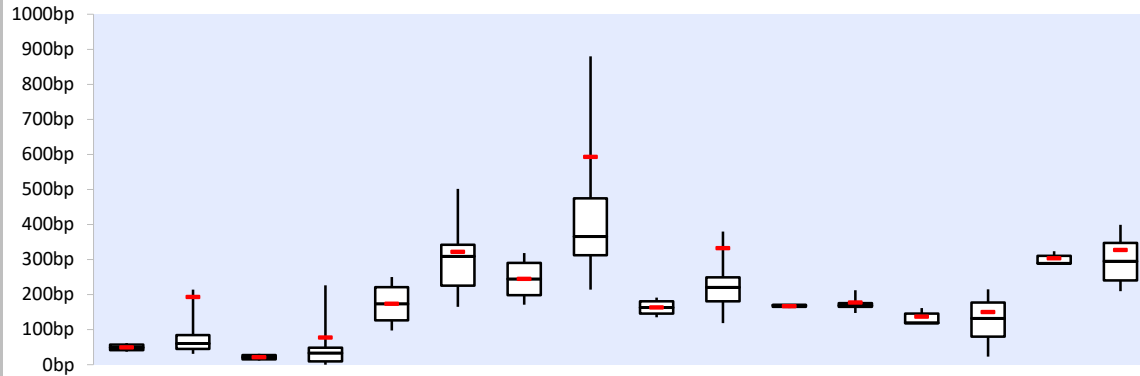
	Fund of Funds										Direct LP					
	Mgmt fees (Top layer)		Perf. fees (Top layer)		Underlying mgmt. & perf. ²		Total ³ incl. perf.		Total ³ excl. perf.		Mgmt fees		Perf. fees		Total ³ incl. perf.	
	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global
	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global
90th %ile	71.6	127.9	65.7	124.5	673.2	361.6	772.8	595.5	226.5	287.7	169.0	188.2	264.7	372.5	433.6	532.2
75th %ile	59.1	103.7	65.1	66.0	466.4	349.0	554.6	512.7	212.9	251.0	166.2	166.2	175.7	192.0	341.9	353.9
Median	42.8	74.5	51.1	50.7	308.3	300.2	421.2	413.7	196.9	220.1	162.0	157.0	122.4	175.7	279.4	328.4
25th %ile	38.1	45.2	30.9	25.5	220.5	239.0	316.5	328.4	153.7	184.6	157.0	154.1	90.1	101.3	252.4	254.6
10th %ile	31.1	23.8	27.7	0.0	169.3	171.7	246.7	264.2	108.3	145.4	154.5	130.3	31.5	36.8	191.9	192.0
— Average	48.5	84.5	48.2	56.9	383.6	308.0	480.2	449.4	177.2	224.3	162.2	156.8	136.9	190.1	299.1	346.9
Count	6	126	6	126	6	126	6	126	6	126	9	163	9	163	9	163
Avg. assets	3,095M	527M	3,095M	527M	3,095M	527M	3,095M	527M	3,095M	527M	11,653M	2,138M	11,653M	2,138M	11,653M	2,138M
Norwegian Government Pension Fund Global																
● You	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%ile																
Assets	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M

	Fund of Funds		Direct LP		Co-Investment		Internal	
	Total ³ incl. perf.		Total ³ incl. perf.		Total incl. perf.		Total	
	Peer	Global	Peer	Global	Peer	Global	Peer	Global
	Peer	Global	Peer	Global	Peer	Global	Peer	Global
90th %ile	915.9	957.4	631.7	841.6	59.6	77.6	40.2	67.2
75th %ile	598.0	719.8	438.2	548.0	45.9	44.3	39.3	51.3
Median	534.4	542.4	384.3	382.7	31.7	23.1	26.7	29.6
25th %ile	478.3	472.6	347.1	349.0	17.7	9.6	22.6	16.1
10th %ile	453.9	357.4	308.7	281.5	11.2	4.5	10.0	6.5
— Average	634.7	611.1	441.5	530.4	34.9	42.6	26.2	34.8
Count	6	126	9	163	7	35	5	19
Avg. assets	3,504M	447M	9,012M	1,629M	2,939M	1,227M	11,237M	3,851M
Norwegian Government Pension Fund Global								
● You	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%ile								
Assets	0M	0M	0M	0M	0M	0M	0M	0M

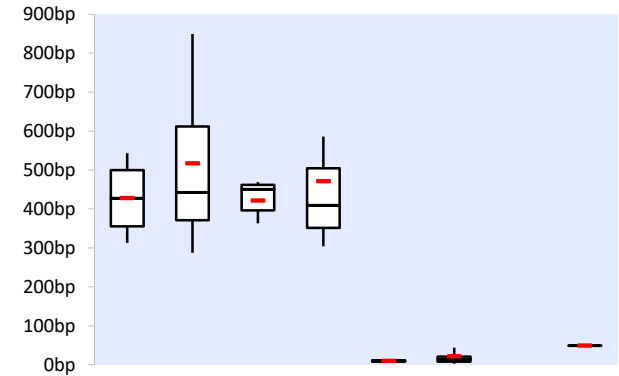
1. The base for fees is usually the committed amount during the commitment period, and unreturned invested capital afterwards.
2. The fees of fund of funds include both the top layer fees paid to the fund of funds manager and the underlying fees paid to the 'underlying partnerships' held by the fund of funds. Most funds were unable to provide the underlying fees so defaults of 155 bps (on amount fees are based on) for underlying management fees and 192 bps (on NAV) for underlying performance fees were used.
3. The total cost also includes the internal cost of monitoring and selecting private equity investments. The peer average cost of monitoring and selecting was 6.0 bps for fund of funds.

LBO

Cost as a % of the amount fees are based on¹



Cost as a % of NAV



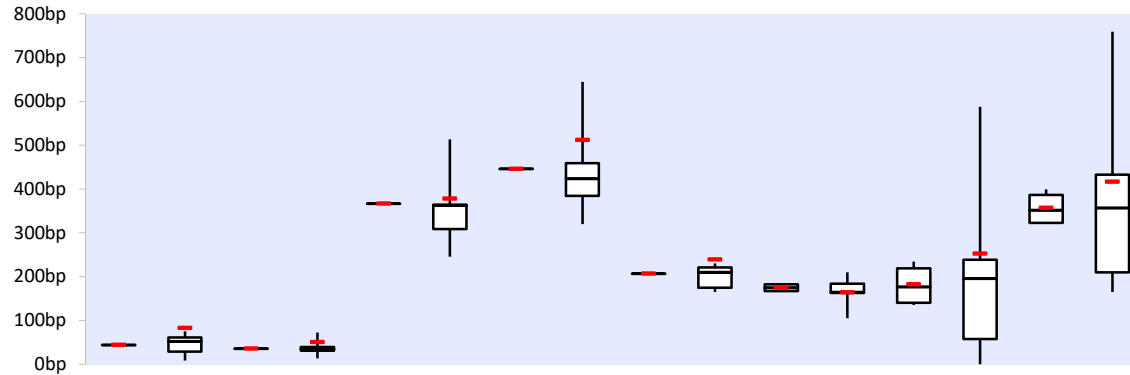
	Fund of Funds										Direct LP					
	Mgmt fees (Top layer)		Perf. fees (Top layer)		Underlying mgmt. & perf. ²		Total ³ incl. perf.		Total ³ excl. perf.		Mgmt fees		Perf. fees		Total ³ incl. perf.	
	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global
	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global
90th %ile	61.5	214.6	31.3	226.4	250.2	501.3	318.3	879.9	191.7	379.6	170.5	212.1	161.7	215.5	323.7	398.7
75th %ile	56.9	84.1	27.7	48.6	221.6	342.0	290.7	474.7	181.2	249.1	170.3	175.8	145.9	177.0	310.9	347.0
Median	49.2	61.0	21.6	33.4	174.0	310.0	244.8	365.9	163.7	220.9	170.0	169.2	119.5	132.5	289.5	295.7
25th %ile	41.5	44.9	15.5	9.5	126.4	225.9	198.8	311.9	146.1	181.1	165.0	165.0	119.0	79.7	289.3	240.9
10th %ile	36.8	31.2	11.9	0.0	97.8	165.0	171.2	214.6	135.6	118.3	162.0	147.9	118.7	23.3	289.2	209.9
— Average	49.2	193.4	21.6	77.4	174.0	321.9	244.8	592.8	163.7	332.5	166.9	177.4	136.8	150.1	303.6	327.6
Count	2	17	2	17	2	17	2	17	2	17	3	40	3	40	3	40
Avg. assets	1,571M	339M	1,571M	339M	1,571M	339M	1,571M	339M	1,571M	339M	19,161M	2,888M	19,161M	2,888M	19,161M	2,888M
Norwegian Government Pension Fund Global																
● You	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%ile																
Assets	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M

Fund of Funds		Direct LP		Co-Investment		Internal	
Total ³ incl. perf.		Total ³ incl. perf.		Total incl. perf.		Total	
Peer	Global	Peer	Global	Peer	Global	Peer	Global
543.0	849.3	468.8	585.5	11.9	43.7		49.6
499.7	611.7	462.1	504.7	11.0	21.1		49.6
427.7	443.0	450.8	409.4	9.5	14.1		49.6
355.6	370.8	396.1	351.0	8.0	7.8		49.6
312.4	287.3	363.2	303.9	7.1	2.5		49.6
427.7	517.3	421.8	471.6	9.5	21.9		49.6
2	17	3	40	2	10	0	1
873M	235M	12,732M	1,970M	2,044M	727M		126M
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
0M	0M	0M	0M	0M	0M	0M	0M

1. The base for fees is usually the committed amount during the commitment period, and unreturned invested capital afterwards.
2. The fees of fund of funds include both the top layer fees paid to the fund of funds manager and the underlying fees paid to the 'underlying partnerships' held by the fund of funds. Most funds were unable to provide the underlying fees so defaults of 114 bps (on amount fees are based on) for underlying management fees and 102 bps (on NAV) for underlying performance fees were used.
3. The total cost also includes the internal cost of monitoring and selecting private equity investments. The peer average cost of monitoring and selecting was 4.3 bps for fund of funds.

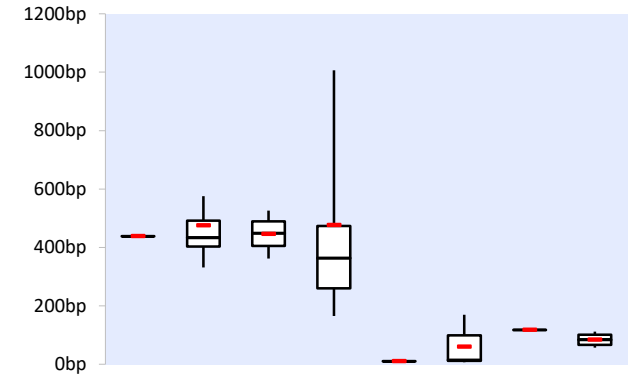
Venture Capital

Cost as a % of the amount fees are based on¹



	Fund of Funds										Direct LP					
	Mgmt fees (Top layer)		Perf. fees (Top layer)		Underlying mgmt. & perf. ²		Total ³ incl. perf.		Total ³ excl. perf.		Mgmt fees		Perf. fees		Total ³ incl. perf.	
	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global
	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global
90th %ile	44.0	75.1	35.6	72.6	366.7	513.7	446.3	644.6	207.0	229.9	185.2	209.6	234.1	588.1	398.8	759.1
75th %ile	44.0	61.3	35.6	39.2	366.7	363.9	446.3	459.1	207.0	221.0	182.7	183.6	219.1	238.7	386.4	432.9
Median	44.0	52.7	35.6	35.0	366.7	363.0	446.3	423.8	207.0	210.7	175.0	164.7	176.9	196.1	351.9	357.2
25th %ile	44.0	28.9	35.6	30.7	366.7	308.7	446.3	384.4	207.0	174.7	167.3	162.7	140.2	57.4	322.9	209.5
10th %ile	44.0	8.7	35.6	13.3	366.7	245.2	446.3	320.1	207.0	165.0	164.7	105.0	135.1	0.0	320.3	165.0
Average	44.0	83.1	35.6	50.9	366.7	378.1	446.3	512.1	207.0	239.3	175.0	164.5	182.4	252.4	357.4	416.9
Count	1	24	1	24	1	24	1	24	1	24	4	43	4	43	4	43
Avg. assets	123M	220M	123M	220M	123M	220M	123M	220M	123M	220M	2,693M	505M	2,693M	505M	2,693M	505M
Norwegian Government Pension Fund Global																
● You %ile	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Assets	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M

Cost as a % of NAV



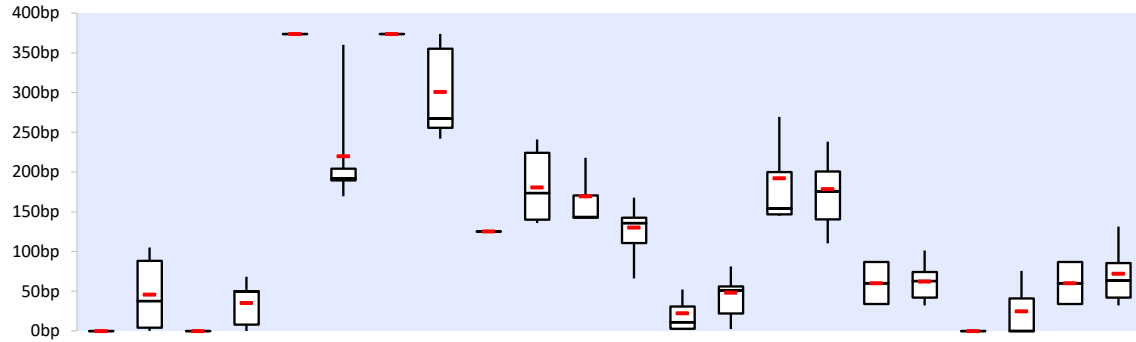
Fund of Funds		Direct LP		Co-Investment		Internal	
Total ³ incl. perf.		Total ³ incl. perf.		Total incl. perf.		Total	
Peer	Global	Peer	Global	Peer	Global	Peer	Global
438.3	576.0	526.0	1006.5	10.8	169.2	118.3	111.4
438.3	491.7	489.7	473.5	10.8	99.1	118.3	101.1
438.3	433.4	449.5	363.6	10.8	15.0	118.3	83.9
438.3	403.3	405.5	260.2	10.8	11.3	118.3	66.7
438.3	331.2	362.3	165.0	10.8	6.9	118.3	56.4
438.3	475.6	445.7	476.6	10.8	59.7	118.3	83.9
1	24	4	43	1	7	1	2
123M	220M	2,067M	425M	21M	96M	672M	369M
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
0M	0M	0M	0M	0M	0M	0M	0M

1. The base for fees is usually the committed amount during the commitment period, and unreturned invested capital afterwards.

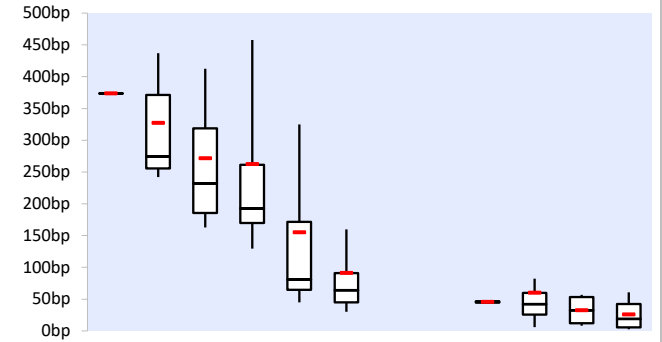
2. The fees of fund of funds include both the top layer fees paid to the fund of funds manager and the underlying fees paid to the 'underlying partnerships' held by the fund of funds. Most funds were unable to provide the underlying fees so defaults of 163 bps (on amount fees are based on) for underlying management fees and 200 bps (on NAV) for underlying performance fees were used.

Private Credit

Cost as a % of the amount fees are based on¹

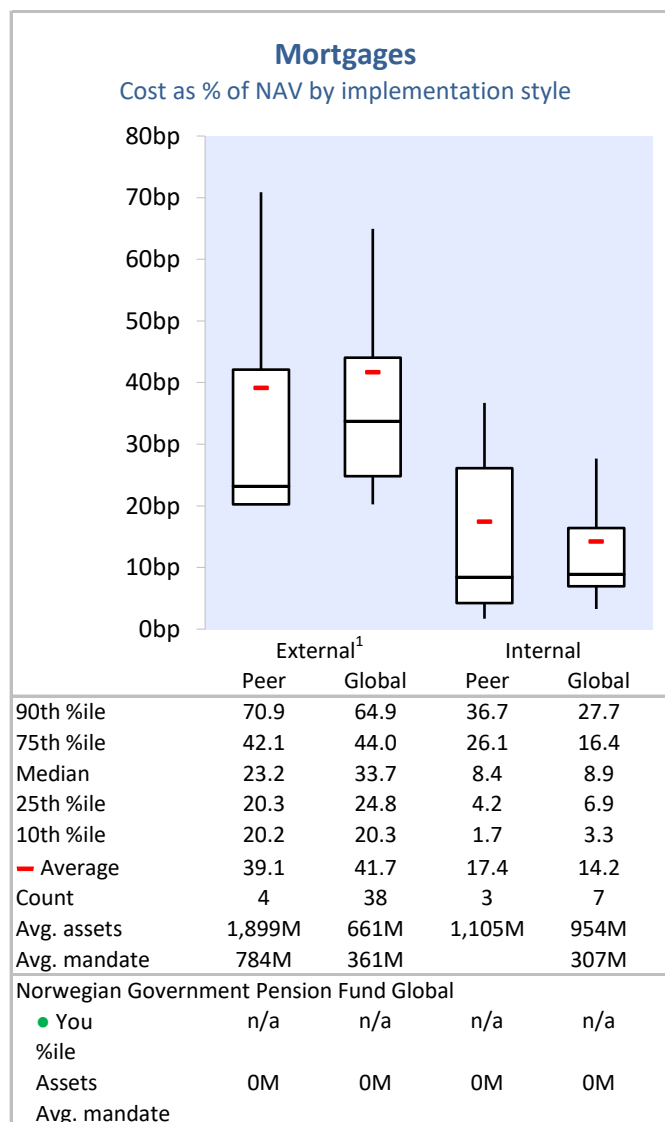


Cost as a % of NAV



	Fund of Funds										Direct LP						Evergreen						Oper. Sub.		Co-Inv.		Internal					
	Mgmt fees (Top layer)		Perf. fees (Top layer)		Underlying mgmt. & perf. ²		Total ³ incl. perf.		Total ³ excl. perf.		Mgmt fees		Perf. fees		Total ³ incl. perf.		Mgmt fees		Perf. fees		Total ³ incl. perf.		Total		Total incl. perf.		Total					
	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global				
	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global				
90th %ile	0.0	105.0	0.0	68.3	373.8	360.0	373.8	373.8	125.4	241.0	217.8	167.8	52.2	81.3	269.4	238.2	87.4	101.3	0.0	75.5	87.4	131.2					47.3	82.4	56.9	60.8		
75th %ile	0.0	88.3	0.0	50.0	373.8	204.1	373.8	355.1	125.4	224.3	170.6	142.6	30.9	56.0	199.9	200.5	86.7	74.3	0.0	41.0	86.7	85.5					46.7	59.9	53.5	42.4		
Median	0.0	37.8	0.0	50.0	373.8	192.0	373.8	267.6	125.4	173.8	143.5	136.0	11.0	51.0	154.3	175.9	60.2	63.0	0.0	0.0	60.2	63.8					45.7	42.3	32.8	19.1		
25th %ile	0.0	4.1	0.0	7.9	373.8	189.3	373.8	255.7	125.4	140.1	142.5	110.8	2.6	21.9	146.5	140.4	33.7	41.9	0.0	0.0	33.7	41.9					44.8	25.9	12.1	5.6		
10th %ile	0.0	0.0	0.0	0.0	373.8	169.6	373.8	242.0	125.4	136.0	142.4	66.2	1.9	2.5	145.1	110.1	32.9	32.3	0.0	0.0	32.9	32.3					44.2	5.8	8.4	2.6		
Average	0.0	45.7	0.0	35.2	373.8	220.0	373.8	300.9	125.4	180.7	169.6	130.2	22.5	48.4	192.1	178.6	60.2	62.4	0.0	24.7	60.2	72.2					45.7	60.4	32.7	26.4		
Count	1	11	1	11	1	11	1	11	1	11	4	104	4	104	4	104	4	66	2	26	4	66					0	0	2	12	4	22
Avg. assets	56M	62M	56M	62M	56M	62M	56M	62M	56M	62M	1,260M	606M	1,260M	606M	1,260M	606M	1,224M	435M	2,448M	1,104M	1,224M	435M					411M	256M	2,752M	1,328M		
Norwegian Government Pension Fund Global																																
● You %ile Assets	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a					n/a	n/a	n/a	n/a		

1. The base for fees is usually the committed amount during the commitment period, and unreturned invested capital afterwards.
2. The fees of fund of funds include both the top layer fees paid to the fund of funds manager and the underlying fees paid to the 'underlying partnerships' held by the fund of funds. Most funds were unable to provide the underlying fees so defaults of 125 bps (on amount fees are based on) for underlying management fees and 248 bps (on NAV) for underlying performance fees were used.
3. The total cost also includes the internal cost of monitoring and selecting real estate investments. The peer average cost of monitoring and selecting was 7.1 bps for LPs and 4.6 bps for external (not LPs).



1. Breakdown of external fees

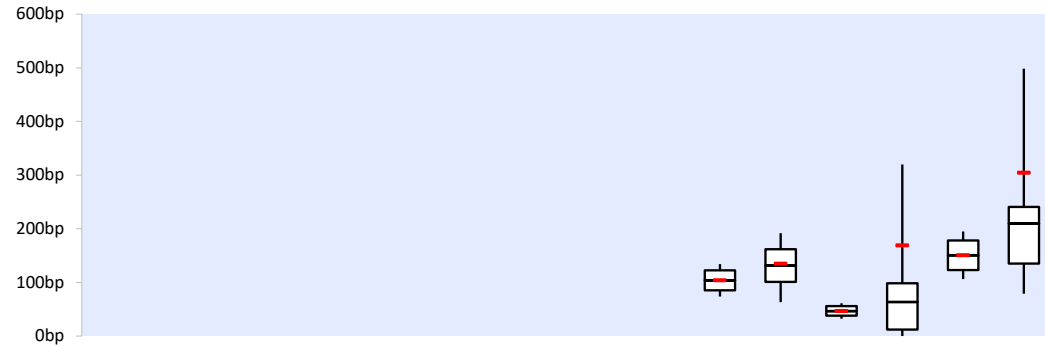
	Your Plan	Peer Average	Global Average
Base fees	n/a	36.3	38.5
Internal and other	<u>n/a</u>	<u>3.8</u>	<u>2.9</u>
Total*	n/a	39.1	41.7
Performance fees**†	n/a	0.0	3.8

* Total cost excludes performance fees because most participants did not provide performance fees for other real assets.

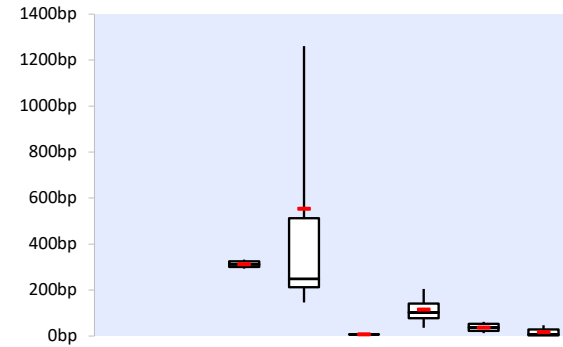
** For funds that did not report a performance fee, a value of 'zero' was used. The average performance fee for only those funds that reported a performance fee is -266.4 bps for peers (2 funds) and 26.2 bps for Global participants (23 funds).

Other Private Equity

Cost as a % of the amount fees are based on¹



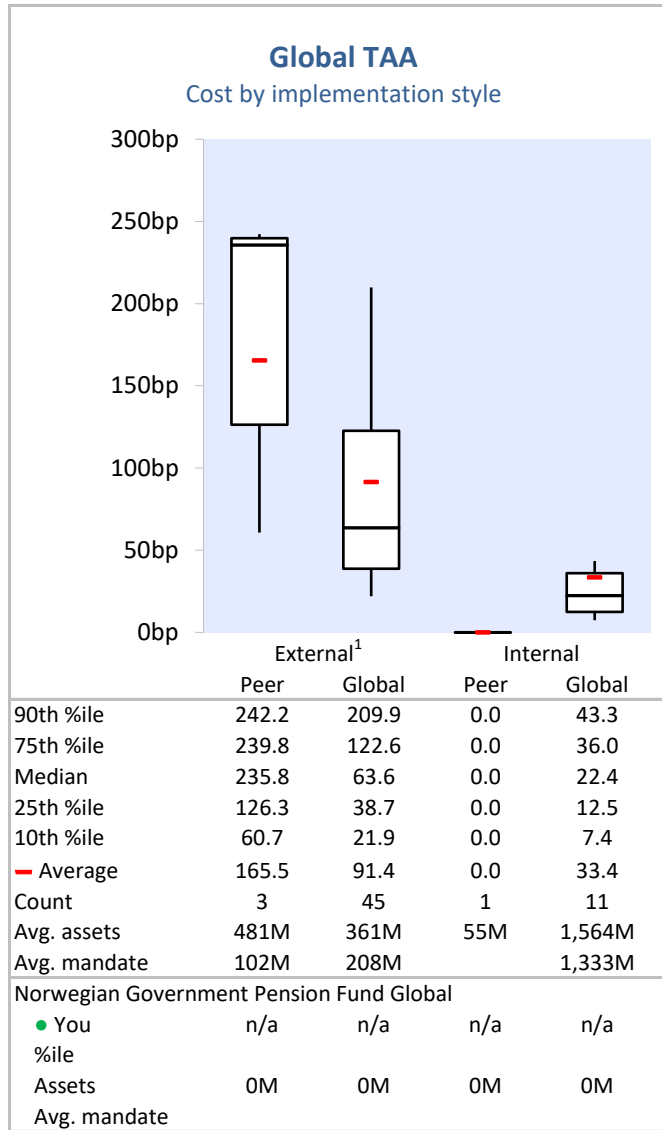
Cost as a % of NAV



	Fund of Funds										Direct LP					
	Mgmt fees (Top layer)		Perf. fees (Top layer)		Underlying mgmt. & perf. ²		Total ³ incl. perf.		Total ³ excl. perf.		Mgmt fees		Perf. fees		Total ³ incl. perf.	
	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global
	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global
90th %ile											133.9	191.9	61.0	319.9	195.0	498.3
75th %ile											122.7	161.7	55.7	98.5	178.4	240.7
Median											103.9	131.5	46.7	63.6	150.7	210.1
25th %ile											85.2	101.1	37.8	12.1	122.9	134.9
10th %ile											73.9	63.4	32.4	0.0	106.3	78.9
Average											103.9	135.4	46.7	169.3	150.7	304.7
Count	0	0	0	0	0	0	0	0	0	0	2	24	2	24	2	24
Avg. assets											6,310M	942M	6,310M	942M	6,310M	942M
Norwegian Government Pension Fund Global																
● You %ile	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Assets	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M

	Fund of Funds		Direct LP		Co-Investment		Internal	
	Total ³ incl. perf.		Total ³ incl. perf.		Total incl. perf.		Total	
	Peer	Global	Peer	Global	Peer	Global	Peer	Global
	Peer	Global	Peer	Global	Peer	Global	Peer	Global
			332.3	1260.9	7.7	205.2	62.1	47.2
			324.9	512.5	7.7	141.1	52.9	28.1
			312.7	249.4	7.7	103.3	37.7	7.6
			300.5	212.1	7.7	77.7	22.4	2.9
			293.2	146.2	7.7	35.7	13.3	1.6
			312.7	554.5	7.7	115.6	37.7	18.2
0	0		2.0	24	1	4	2	10
			3,639M	615M	7M	242M	1,950M	887M
n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a
0M	0M		0M	0M	0M	0M	0M	0M

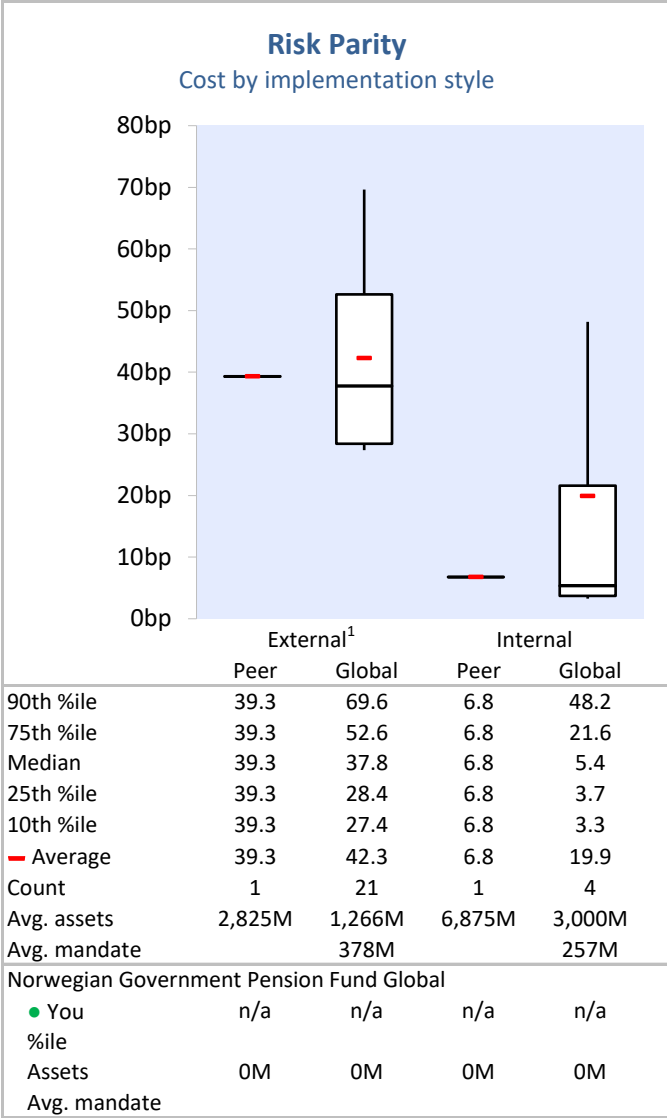
1. The base for fees is usually the committed amount during the commitment period, and unreturned invested capital afterwards.
 2. The fees of fund of funds include both the top layer fees paid to the fund of funds manager and the underlying fees paid to the 'underlying partnerships' held by the fund of funds. Most funds were unable to provide the underlying fees so defaults of n/a bps (on amount fees are based on) for underlying management fees and n/a bps (on NAV) for underlying performance fees were used.



1. Breakdown of external fees

	Your Plan	Peer Average	Global Average
Base fees	n/a	114.6	77.1
Internal and other	<u>n/a</u>	<u>18.4</u>	<u>4.9</u>
Performance fees	n/a	48.8	16.8
Total*	n/a	165.5	91.4

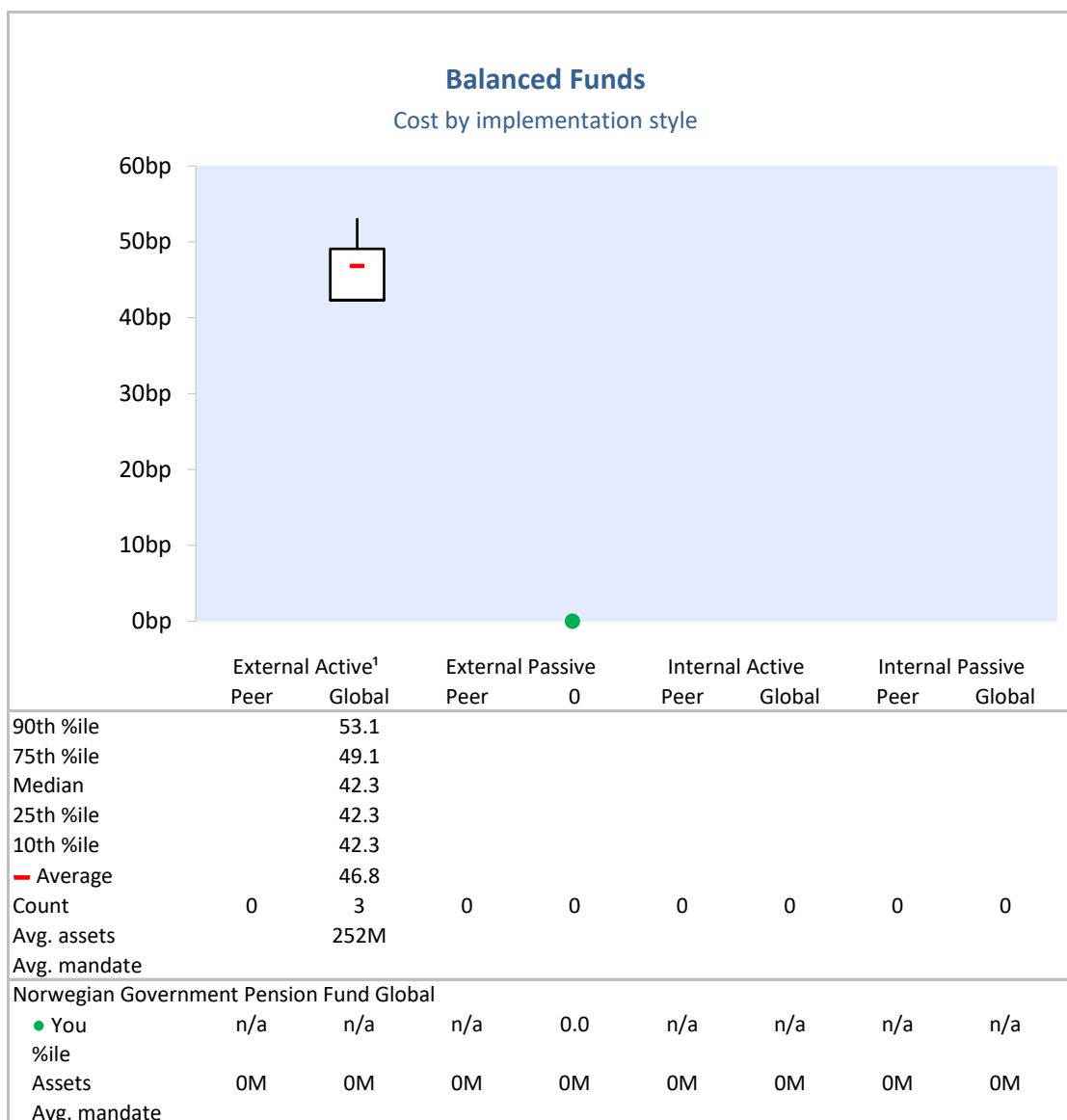
* For funds that did not report a performance fee, a value of 'zero' was used. The average performance fee for those funds that reported a performance fee is 48.8 bps for peers (2 funds) and 16.8 bps for Global participants (33 funds).



1. Breakdown of external fees

	Your Plan	Peer Average	Global Average
Base fees	n/a	37.4	39.3
Internal and other	<u>n/a</u>	<u>1.9</u>	<u>2.0</u>
Performance fees	n/a	n/a	3.1
Total*	n/a	39.3	42.3

* For funds that did not report a performance fee, a value of 'zero' was used. The average performance fee for those funds that reported a performance fee is 3.1 bps for Global participants (14 funds).



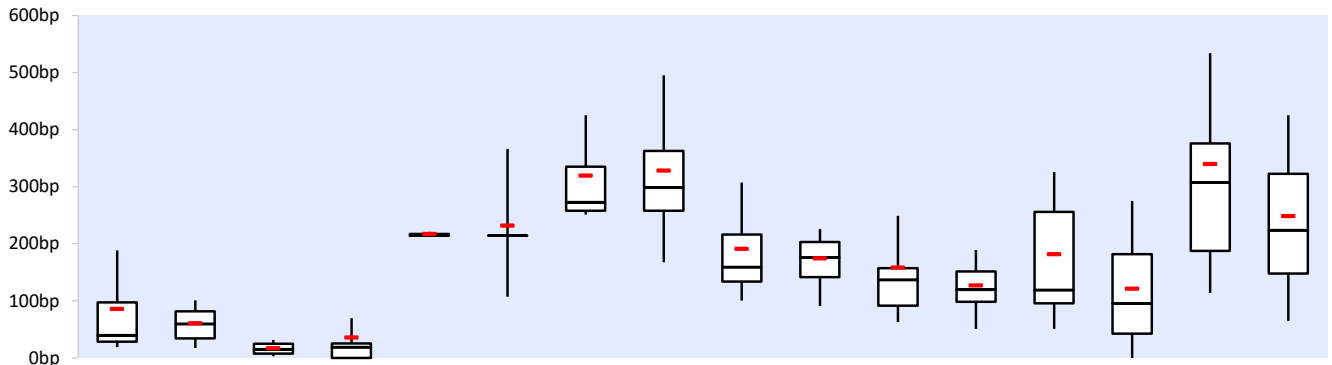
1. Breakdown of external fees

	Your Plan	Peer Average	Global Average
Base fees	n/a	n/a	46.8
Internal and other	<u>n/a</u>	<u>n/a</u>	<u>n/a</u>
Performance fees	n/a	n/a	0.0
Total*	n/a	n/a	46.8

* For funds that did not report a performance fee, a value of 'zero' was used. The average performance fee for those funds that reported a performance fee is 0.0 bps for Global participants (3 funds).

Hedge Funds

Cost by implementation style

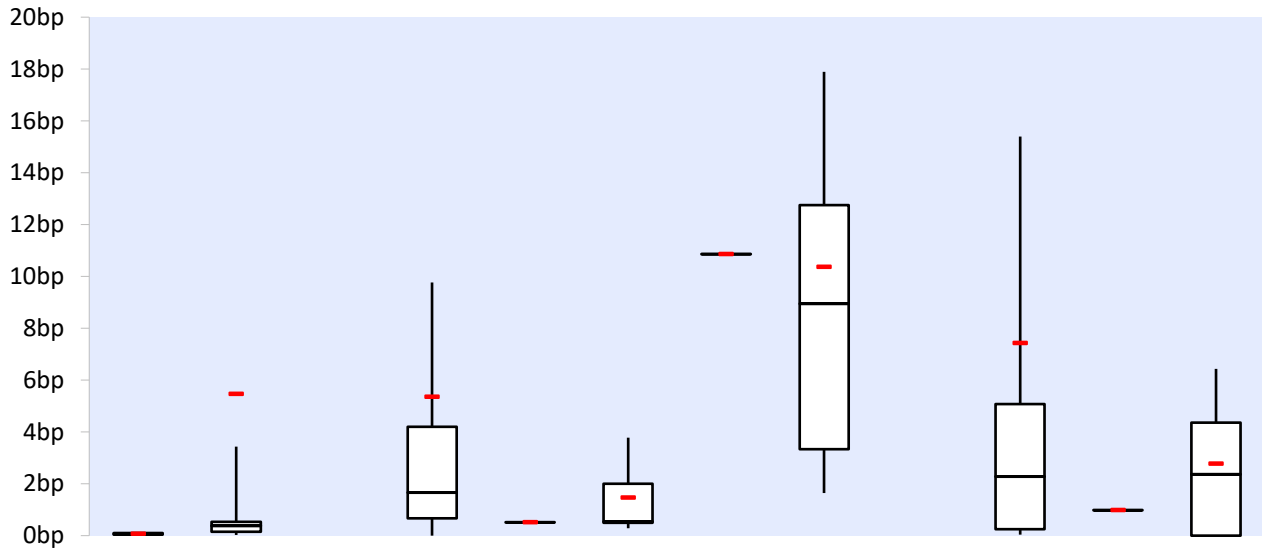


	Fund of Funds										External Direct					
	Mgmt fees (Top layer)		Perf. fees (Top layer)		Underlying mgmt. and perf. ¹		Total ² incl. perf.		Total ² excl. perf.		Mgmt fees		Perf. fees		Total ² incl. perf.	
	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global
90th %ile	188.7	101.1	31.7	70.0	221.1	366.5	425.3	495.6	307.7	226.3	249.4	189.2	325.9	275.4	534.2	425.6
75th %ile	97.5	81.5	24.8	25.3	217.2	215.0	335.1	362.7	216.5	203.5	157.5	151.9	255.7	182.1	376.0	322.6
Median	40.3	59.9	15.5	19.1	215.0	215.0	273.4	298.9	159.3	176.1	137.3	119.6	119.1	96.0	307.7	224.1
25th %ile	28.5	34.1	7.5	0.0	215.0	215.0	258.0	258.3	134.1	141.9	91.7	98.5	96.0	42.5	187.7	148.2
10th %ile	19.1	17.7	3.0	0.0	215.0	107.5	251.0	167.9	100.6	90.9	63.2	51.1	50.9	0.0	114.2	64.9
— Average	85.7	60.9	16.8	35.8	217.2	231.9	319.7	328.7	191.3	174.5	158.2	127.2	181.7	121.5	339.9	248.7
Count	4	66	4	66	4	66	4	66	4	66	9	119	9	119	9	119
Avg. assets	4,666M	645M	4,666M	645M	4,666M	645M	4,666M	645M	4,666M	645M	6,073M	1,655M	6,073M	1,655M	6,073M	1,655M
Norwegian Government Pension Fund Global																
● You	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%ile																
Assets	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M

1. The fees of fund of funds include both the top layer fees paid to the fund of funds manager and the underlying fees paid to the 'underlying partnerships' held by the fund of funds. Most funds were unable to provide the underlying fees so defaults of 119 bps (on NAV) for underlying management fees and 96 bps (on NAV) for underlying performance fees were used.

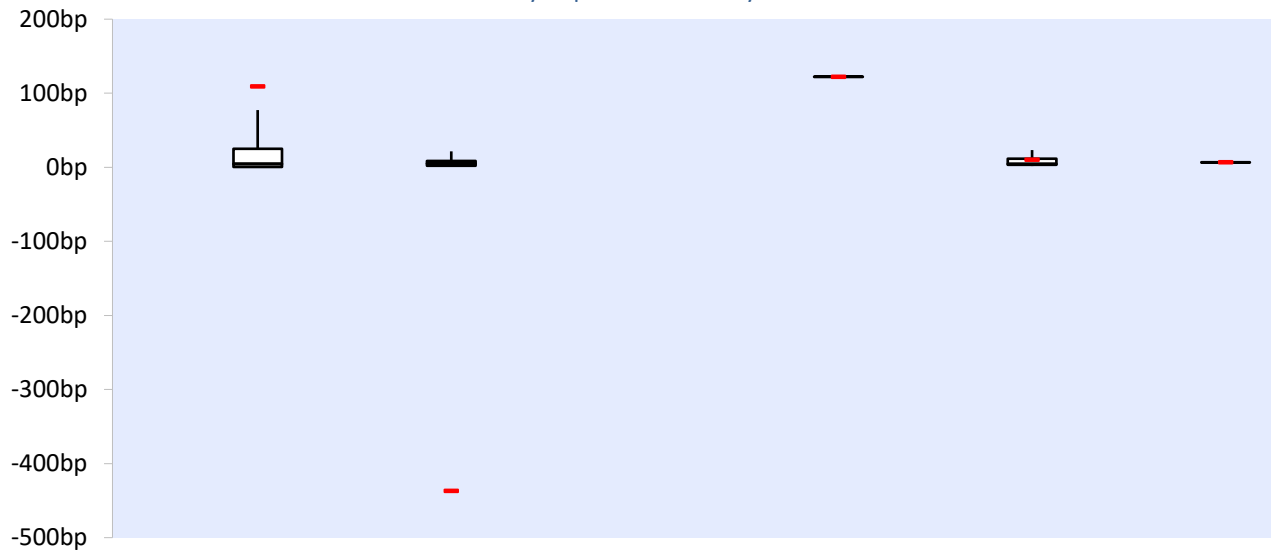
2. The total cost also includes the internal cost of monitoring and selecting real estate investments. The peer average cost of monitoring and selecting was 64.7 bps for fund of

Overlays: currency, duration Cost by implementation style



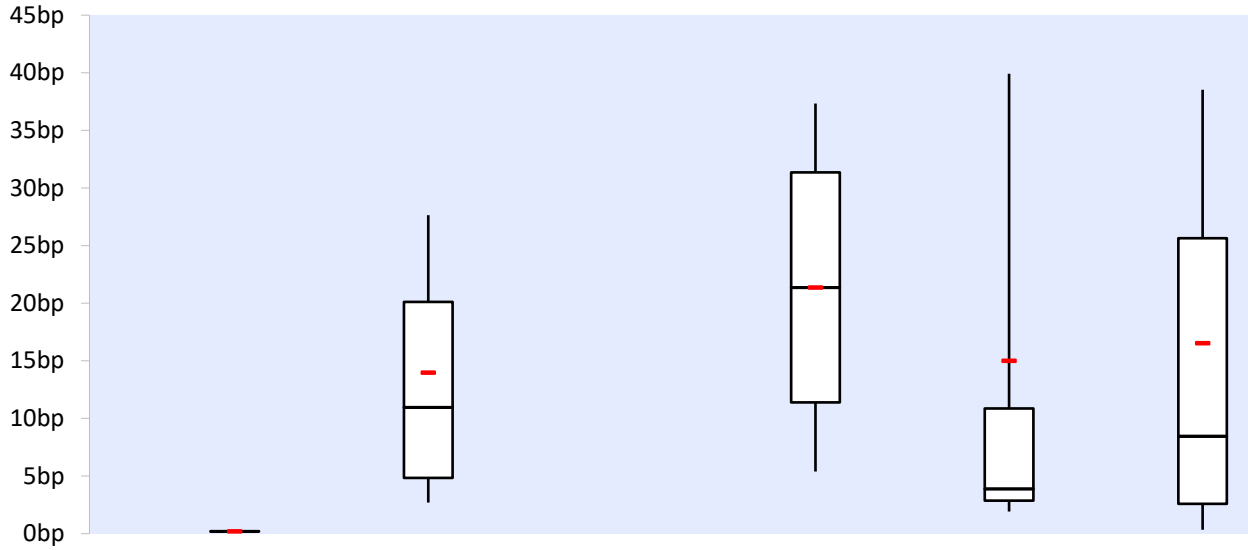
	Currency Hedge		Discretionary Currency				Duration Management					
	Internal		External		Internal		External		Internal		External	
	% of notional	% of notional	% of notional	% of notional	% of notional	% of notional	% of notional	% of notional	% of notional	% of notional	% of notional	
	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global
90th %ile	0.1	3.4		9.8	0.5	3.8	10.9	17.9		15.4	1.0	6.4
75th %ile	0.1	0.5		4.2	0.5	2.0	10.9	12.8		5.1	1.0	4.4
Median	0.1	0.4		1.7	0.5	0.5	10.9	8.9		2.3	1.0	2.4
25th %ile	0.0	0.1		0.7	0.5	0.5	10.9	3.3		0.2	1.0	0.0
10th %ile	0.0	0.0		0.0	0.5	0.3	10.9	1.6		0.0	1.0	0.0
— Average	0.1	5.5		5.4	0.5	1.5	10.9	10.4		7.4	1.0	2.8
Count	2	20	0	38	1	7	1	16	0	10	1	24
Avg. notional	43,986M	11,741M		1,418M	27,295M	259,834M	2,844M	1,276M		8,569M	65,126M	4,922M
Norwegian Government Pension Fund Global												
● You	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%ile												
Avg. notional												

Overlays: passive beta/rebalancing, global TAA, policy tilt TAA
 Cost by implementation style



	Passive Beta/Rebalancing				Global TAA				Policy Tilt TAA					
	Internal		External		Internal		External		Internal		External			
	% of notional Peer	% of notional Global	% of notional Peer	% of notional Global	% of notional Peer	% of notional Global	% of notional Peer	% of notional Global	% of notional Peer	% of notional Global	% of notional Peer	% of notional Global		
90th %ile		77.3		21.6				122.4				23.2		7.0
75th %ile		24.9		8.7				122.4				11.8		7.0
Median		4.8		5.0				122.4				4.8		7.0
25th %ile		0.5		2.3				122.4				3.3		7.0
10th %ile		0.1		0.9				122.4				1.8		7.0
— Average		109.1		-437.0				122.4				10.3		7.0
Count	0	12	0	33	0	0	0	1	0	4	0	1		
Avg. notional		5,749M		1,345M				1,938M				6,899M		77M
Norwegian Government Pension Fund Global														
● You	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%ile														
Avg. notional														

Overlays: commodity, long/short, other
Cost by implementation style



	Commodity				Long/ Short				Other			
	Internal		External		Internal		External		Internal		External	
	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global
90th %ile		0.2		27.6				37.3		39.9		38.5
75th %ile		0.2		20.1				31.4		10.9		25.6
Median		0.2		11.0				21.4		3.9		8.5
25th %ile		0.2		4.8				11.4		2.9		2.6
10th %ile		0.2		2.7				5.4		1.9		0.3
— Average		0.2		14.0				21.4		15.0		16.5
Count	0	1	0	4	0	0	0	2	0	9	0	15
Avg. notional		2,259M		821M				2,598M		1,565M		793M
Norwegian Government Pension Fund Global												
● You	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%ile												
Avg. notional												

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Appendices

Appendix A - Data Summary

Appendix B - Currency conversion

Appendix C - Data quality

Appendix D - Glossary of terms

Appendix A - Data Summary

Norwegian Government Pension Fund Global

Plan Info	2020	2019	2018	2017	2016
Survey Preparer	Peter Christian	Peter Christian	Peter Christian	Peter Christian	Peter Christian
Additional Contact	Bonno Moe Julie Belck-Olsen	Bonno Moe Julie Belck-Olsen	Bonno Moe Julie Belck-Olsen	Bonno Moe Julie Belck-Olsen	Bonno Moe Julie Belck-Olsen
Type of fund (corporate, public, other)	Public	Public	Public	Public	Public
Total fund size (€mils) as at December 31	1,041,789.7	1,022,743.8	834,042.8	864,249.0	827,241.0
Asset-class level holdings provided on survey are: year end or average?	Average	Average	Average	Average	Average
Total return for year ended	10.86%	19.95%	-6.12%	13.66%	6.92%
Is the return net or gross?	Gross	Gross	Gross	Gross	Gross
Total fund policy or benchmark return	10.60%	19.72%	-5.82%	12.96%	6.78%

Ancillary Data	2020	2019	2018	2017	2016
What is your hedging policy for: Foreign non-U.S. Holdings?					
What were your actuarial fees in 000s?		0			
How many plan members/beneficiaries do you have: Active? Active (no-accrual)? Retired? Other?					
What type of plan(s) do you have?					
To what extent are your retired members' benefits indexed to inflation? Contractual % If the indexation is subject to a cap, describe the cap					
What % of the plan's liabilities pertain to retired members?					
Actuarial valuation assumptions for funding purposes: Liability discount rate Salary progression rate					
What was your actuarial assumption for expected rate of return?					

Appendix A - Data Summary: Policy Weights and Benchmarks

Norwegian Government Pension Fund Global

Asset Class	Year	Policy Weight	Benchmark	
			Description	Return
Stock - U.S. Broad/All	2020		Custom	47.1
	2018		Custom	3.6
	2017		Custom	18.9
	2016		Your Stock: U.S. Broad/All benchmark	16.1
Stock - Europe	2020		Custom	5.4
	2019		Custom	22.7
	2018		Custom	-13.7
	2017		Custom	25.6
Stock - Emerging	2020		Custom	3.8
	2019		Custom	3.4
	2018		Custom	15.0
	2017		Custom	-14.7
Stock - Global	2020		Custom	20.5
	2019		Your Stock: Emerging benchmark	10.7
	2018	73.0	Your Stock: Global benchmark	11.8
	2017	71.1	Your Stock: Global benchmark	25.6
	2016	67.3	Your Stock: Global benchmark	-8.8
	2015	67.1	Your Stock: Global benchmark	18.7
	2014	62.2	Your Stock: Global benchmark	8.6
	2013	61.6	Your Stock: Global benchmark	3.0
	2012	61.1	Your Stock: Global benchmark	8.7
	2011	60.9	Your Stock: Global benchmark	25.0
Fixed Income - Emerging	2020		Custom	17.5
	2017		Barclays Global Aggregate + Barclays Global Inflation Linked	-8.4
	2016		Custom	2.9
Fixed Income - Global	2020	27.0	Barclays Global Aggregate + Barclays Global Inflation Linked	13.0
	2019	28.9	Barclays Global Aggregate + Barclays Global Inflation Linked	6.7
	2018	32.7	Barclays Global Aggregate + Barclays Global Inflation Linked	7.5
	2017	33.0	Barclays Global Aggregate + Barclays Global Inflation Linked	0.6
	2016	35.3	Barclays Global Aggregate + Barclays Global Inflation Linked	2.9
	2015	35.3	Barclays Global Aggregate + Barclays Global Inflation Linked	4.2
	2014	36.7	Barclays Global Aggregate + Barclays Global Inflation Linked	0.6
	2013	36.7	Barclays Global Aggregate + Barclays Global Inflation Linked	7.6
	2012	38.1	Barclays Global Aggregate + Barclays Global Inflation Linked	-0.2
	2011	38.4	Barclays Global Aggregate + Barclays Global Inflation Linked	7.0
REITs	2020	41.0	Barclays Global Aggregate + Barclays Global Inflation Linked	6.5
	2019		Custom	10.1
	2018		Custom	17.1
Real Estate ex-REITs	2020		Custom	-4.6
	2019		Custom	8.7
	2018		Custom	13.0
	2017		Custom	-2.1
	2016	2.5	Custom (Actual)	8.3
	2015	3.1	Custom (Actual)	0.8
	2014	2.2	Custom (Actual)	10.0
	2013	2.2	Custom (Actual)	10.4
	2012	1.0	Custom (Actual)	11.8
	2011	0.7	Custom (Actual)	5.8
	0.3	Custom (Actual)	-4.4	

Appendix A Data Summary - Assets, Returns and Costs: Public Market

Norwegian Government Pension Fund Global

Asset Class/Style	Year	Asset (€millions)	Return %	Cost (€000)				Cost (bps)			
				Internal & Other	Base Fees	Perf Fees	Total	Internal & Other	Base Fees	Perf Fees	Total
Stock - U.S. Broad/All External Active	2020	580.0	51.00	99.8	801.9	5,818.6	6,720.3	1.7	13.8	100.3	115.9
	2019										
	2018	283.1	0.30	38.9	815.8		854.7	1.4	28.8		30.2
	2017	664.0	18.60	82.8	1,862.0	(337.0)	1,607.8	1.2	28.0	(5.1)	24.2
	2016	767.0	22.90	156.0	1,333.0	338.0	1,827.0	2.0	17.4	4.4	23.8
Stock - Europe External Active	2020	7,357.2	9.80	1,265.8	12,744.1	15,818.0	29,827.9	1.7	17.3	21.5	40.5
	2019	6,303.0	21.40	1,025.0	10,989.0	(2,372.0)	9,642.0	1.6	17.4	(3.8)	15.3
	2018	8,758.3	-14.90	1,202.7	18,306.9	8,043.5	27,553.1	1.4	20.9	9.2	31.5
	2017	9,716.0	27.50	1,211.7	21,744.0	3,404.0	26,359.7	1.2	22.4	3.5	27.1
	2016	8,128.0	2.44	4,543.0	16,996.0	3,584.0	25,123.0	5.6	20.9	4.4	30.9
Stock - Emerging External Active	2020	30,725.5	8.62	5,286.2	54,323.7	97,933.3	157,543.3	1.7	17.7	31.9	51.3
	2019	27,759.0	16.30	4,515.0	50,999.0	31,936.0	87,450.0	1.6	18.4	11.5	31.5
	2018	29,349.0	-13.50	4,030.2	56,219.5	62,007.7	122,257.4	1.4	19.2	21.1	41.7
	2017	29,535.0	26.60	3,683.5	57,108.0	95,921.0	156,712.5	1.2	19.3	32.5	53.1
	2016	22,072.0	11.33	1,649.0	45,509.0	19,998.0	67,156.0	0.7	20.6	9.1	30.4
Stock - Global Internal Active	2020	622,049.2	12.19	104,565.8			104,565.8	1.7			1.7
	2019	602,785.0	26.64	115,092.0			115,092.0	1.9			1.9
	2018	538,129.1	-9.19	104,260.3			104,260.3	1.9			1.9
	2017	509,143.0	18.92	108,209.0			108,209.0	2.1			2.1
	2016	436,866.0	8.71	102,953.0			102,953.0	2.4			2.4
Fixed Income - Emerging External Active	2020										
	2019										
	2018										
	2017	583.0	5.79	-	186.0		186.0	-	3.2		3.2
	2016	2,075.0	13.31	287.0	4,755.0		5,042.0	1.4	22.9		24.3
Fixed Income - Global Internal Active	2020	265,813.1	7.46	40,877.4			40,877.4	1.5			1.5
	2019	264,597.4	7.56	44,434.0			44,434.0	1.7			1.7
	2018	264,501.5	0.56	42,087.3			42,087.3	1.6			1.6
	2017	273,824.0	3.28	41,515.0			41,515.0	1.5			1.5
	2016	282,097.0	4.26	40,473.0			40,473.0	1.4			1.4
REITs Internal Active	2020	12,872.2	-14.92	2,681.3			2,681.3	2.1			2.1
	2019	10,402.4	20.88	1,620.0			1,620.0	1.6			1.6
	2018	7,937.4	-10.34	2,013.0			2,013.0	2.5			2.5

Appendix A Data Summary - Assets, Returns and Costs: Hedge Funds and Private Market

Norwegian Government Pension Fund Global

Asset Class/Style	Year	Asset (€millions)	Fee basis (€millions)	Return %	Cost (€000)					
					Internal & Other	Base Fees	Perf Fees	Underlying fees		Total
							Base	Perf	excl. perf	incl. perf
Real Estate ex-REITs										
Internal Active	2020	27,253.9		-0.08	35,059.8				35,059.8	35,059.8
	2019	25,723.7		6.84	44,007.4				44,007.4	44,007.4
	2018	23,008.1		7.53	50,360.0				50,360.0	50,360.0
	2017	20,936.0		9.03	54,425.0				54,425.0	54,425.0
Operating Subsidiary	2020									
	2019									
	2018									
	2017									
	2016	24,136.0		0.78	47,438.0	0.0			47,438.0	47,438.0

Appendix A Data Summary - Costs in bps: Hedge Funds and Private Market

Norwegian Government Pension Fund Global

Asset Class/Style	Year	Cost on NAV (bps)						Cost on fee basis (bps)							
		Internal & Other	Base Fees	Perf Fees	Underlying fees Base	Perf	Total excl. perf incl. perf	Internal & Other	Base Fees	Perf Fees	Underlying fees Base	Perf	Total excl. perf incl. perf		
Real Estate ex-REITs															
Internal Active	2020	12.9					12.9	12.9						12.9	12.9
	2019	17.1					17.1	17.1						17.1	17.1
	2018	21.9					21.9	21.9						21.9	21.9
Operating Subsidiary	2017	26.0					26.0	26.0						26.0	26.0
	2020														
	2019														
	2018														
	2017														
	2016	19.7	0.0				19.7	19.7	19.7	0.0				19.7	19.7

Appendix A - Data Summary: Oversight, Custodial and Other Costs

Norwegian Government Pension Fund Global

Oversight, Custodial and Other Costs			
		000s	bps
Oversight of the fund assets ¹	2020	71,920.7	0.7bp
	2019	89,676.9	1.0bp
	2018	76,722.7	0.9bp
	2017	73,798.0	0.9bp
	2016	66,954.0	0.9bp
Custodial total	2020	44,144.1	0.5bp
	2019	42,621.5	0.5bp
	2018	39,045.2	0.4bp
	2017	41,965.0	0.5bp
	2016	39,503.0	0.5bp
Consulting / performance measurement	2020	7,035.2	0.1bp
	2019	10,715.4	0.1bp
	2018	14,930.4	0.2bp
	2017	10,050.0	0.1bp
	2016	9,570.0	0.1bp
Audit	2020	3,892.2	0.0bp
	2019	3,792.3	0.0bp
	2018	4,357.9	0.0bp
	2017	4,312.0	0.1bp
	2016	6,110.0	0.1bp
Total	2020	126,992.2	1.3bp
	2019	146,806.1	1.6bp
	2018	135,056.2	1.5bp
	2017	130,125.0	1.5bp
	2016	122,137.0	1.6bp

Summary of All Asset Management Costs			
		000s	bps
Investment Management Costs	2020	377,275.7	3.9bp
	2019	302,245.4	3.2bp
	2018	349,385.8	4.0bp
	2017	389,015.0	4.6bp
	2016	290,012.0	3.7bp
Oversight, Custodial & Other Costs	2020	126,992.2	1.3bp
	2019	146,806.1	1.6bp
	2018	135,056.2	1.5bp
	2017	130,125.0	1.5bp
	2016	122,137.0	1.6bp
Total	2020	504,267.9	5.2bp
	2019	449,051.5	4.8bp
	2018	484,442.0	5.6bp
	2017	519,140.0	6.1bp
	2016	412,149.0	5.3bp

1. Oversight includes the salaries and benefits of executives and their staff responsible for overseeing the entire fund or multiple asset classes and the fees / salaries of the board or investment committee. All costs associated with the above including fees / salaries, travel, director's insurance and attributed overhead should be included.

Appendix A - Data Summary: Comments and defaults

Norwegian Government Pension Fund Global

Appendix B - Currency conversion

Norwegian Government Pension Fund Global

All currency amounts have been converted to Euros using Purchasing Power Parity figures per the OECD¹. The table below shows the foreign exchange rates for the past 5 years.

Currency conversion table					
	2020	2019	2018	2017	2016
United States Dollars - USD*	0.711	0.714	0.723	0.747	0.732
Canada Dollars - CAD	0.594	0.572	0.580	0.597	0.576
Euro - EUR*	1.000	1.000	1.000	1.000	1.000
Sweden Kronor - SEK	0.080	0.079	0.080	0.084	0.081
United Kingdom Pounds - GBP	0.993	1.015	1.013	1.048	1.055
Australia Dollars - AUD	0.486	0.493	0.496	0.500	0.499
New Zealand Dollars - NZD	0.487	0.480	0.498	0.507	0.505

1. Source OECD website.

* USD - Some participating Asia-Pacific funds report holdings and performance in USD.

EUR - Participating funds from Denmark and Norway report holdings and performance in Euros.

Appendix C - Data quality

The value of the information contained in these reports is only as good as the quality of the data received. CEM's procedures for checking and improving the data include the following.

Improved survey clarity

Twenty years of feedback from survey participants has led to improved definitions and survey clarity. In addition to immediate feedback from participants, CEM has hosted user workshops to solicit additional feedback and to resolve issues, such as trade-offs between more information and effort on the part of participants.

Computer and desktop verification

Survey responses are compared to norms for the survey universe and to each sponsor's prior year data when available. This typically results in questions generated by our online survey engine as well as additional follow-up to clarify responses or with additional questions.

In addition to these procedures, data quality continues to improve for the following reasons:

Learning curve

This is CEM's 30th year of gathering this data and experience is teaching the firm and the participants how to do a better job.

Growing universe

As our universe of respondents continues to increase in size, so does our confidence in the results as unbiased errors tend to average themselves out.

Any suggestions on how to further improve data quality are welcome.

Currency Conversions

For reports where either the peer group or report universe includes funds from multiple countries, we have converted the returns back to the base currency of the fund we prepared the report for. For example, for a Euro zone fund with peers from the U.S. we converted U.S. returns to Euro based on the currency return for the year using December 31 spot rates.

Appendix D - Glossary of terms

Average cost

- Calculated by dividing actual annual costs by the average of beginning and end-of-year holdings. If beginning-of-year holdings are not available, they are estimated using end-of-year holdings before the effect of this year's return on investment.

Benchmark return

- Rate of return on a portfolio of investable assets (such as the S&P500) designated as the benchmark portfolio against which the fund measures its own performance for that asset class.

F statistics

- Measure of the statistical significance of the regression coefficients taken as a group. Generally, regression equations with 5 coefficients and sample sizes greater than 20 are statistically significant if its F statistic is greater than 3.

Global TAA

- Fully funded segregated asset pool dedicated to active asset allocation.

Impact coefficient

- Estimate of the impact on the dependent variable in a regression of a change in the value of a given explanatory variable

Level of significance

- Degree to which sample data explains the universe from which they are extracted.

N-year peers

- Subset of peer group that have participated in our study for at least the consecutive n years.

Oversight of the fund

- Resources devoted to the oversight of the fund.

Overlay

- Derivative based program (unfunded other than margin requirements), designed to enhance total portfolio return (such as a tactical asset allocation program) or to achieve some specific mandate such as currency hedging.

Passive proportion

- Proportion of assets managed passively, i.e., indexed to broad capital market benchmarks or dedicated to replicate market benchmarks.

Policy mix

- Reflects long-term policy or target asset weights. Policy asset mix is often established by a fund's investment committee or board and is determined by such long term considerations as liability structure, risk tolerance and long term capital markets prospects.

Policy return

- The return you would have earned if you had passively implemented your policy mix decision through your benchmark portfolios. Your policy return equals the sum of your policy weights multiplied by your asset class benchmarks for each asset class.

R squared (coefficient of determination)

- The percentage of the differences in the dependent variable explained by the regression equation. For example, an R squared of 1 means 100% of the differences are explained and an R squared of 0 means that none of the differences are explained.

Value added

- the difference between your total actual return and your policy return. It is a measure of actual value produced over what could have been earned passively.