

**Investment**  
**Benchmarking Analysis**  
(for the 10-year period ending December 31, 2023)

**Government Pension Fund Norway**



# Table of contents

## 1 Executive summary

## 2 Peer group and universe

Peer group	2 - 2
CEM global universe	2 - 3
Universe subsets	2 - 4
Implementation style, asset mix, policy mix:	
- by universe subset	2 - 5
- trends from 2019 to 2023	2 - 6
Implementation style by asset class	2 - 7
Actual asset mix - trends from 2019 to 2023	2 - 8
Policy asset mix - trends from 2019 to 2023	2 - 9

## 3 Returns, benchmarks, value added

Interpreting box and whisker graphs	3 - 2
Net total returns	3 - 3
Policy returns	3 - 4
Net value added	3 - 5
Net returns by asset class	3 - 6
Benchmark returns by asset class	3 - 7
Net value added by asset class	3 - 8
Your policy return and value added calculation:	
- 2023	3 - 9
- 2019 to 2022	3 - 10
Profit/Loss on overlay programs	3 - 11
Appendix - CEM's Private equity benchmark	3 - 12

## 4 Total cost and benchmark cost

Comparisons of total investment cost	4 - 2
- Trend	4 - 3
- Types of costs	4 - 4
- Detailed breakdown	4 - 5
- Material changes	4 - 6
Total cost versus benchmark cost	4 - 7

Benchmark cost calculation	4 - 8
Cost impact of:	
- differences in implementation style	4 - 9
- overlays	4 - 10
- paying more/-less for similar services	4 - 11
Why you are high/low cost by asset class	4 - 12
Your cost effectiveness ranking	4 - 13
Benchmarking methodology	4 - 14
Cost trend methodology and calculation	4 - 16

## 5 Cost comparisons

Total investment cost	5 - 2
Governance, operations & support	5 - 3
Asset class costs by implementation style	5 - 4

## 6 Appendices

Appendix A - Data Summary	6 - 2
Appendix B - Currency conversion	6 - 6
Appendix C - Data Integrity	6 - 7
Appendix D - Glossary of terms	6 - 8

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# Key Takeaways

## Value added

- Your 10-year net value added was 0.9%. This was above both the Global median of 0.3% and the peer median of 0.6%.

## Cost

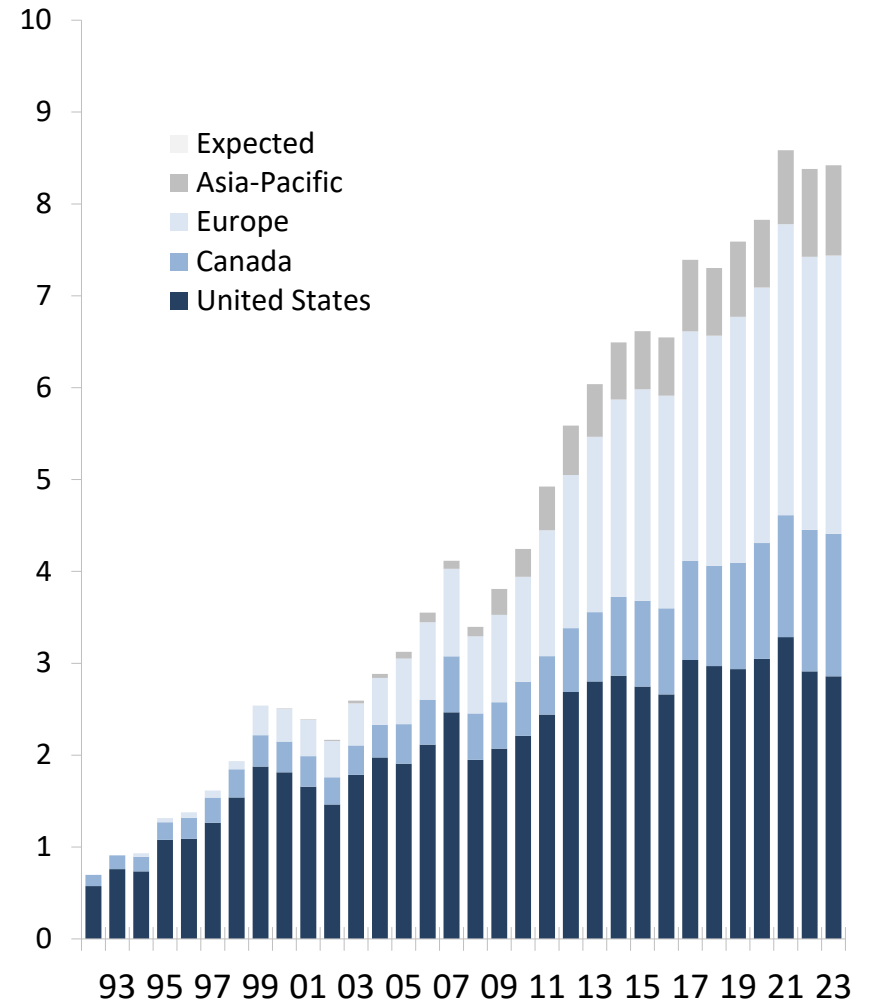
- Your investment cost of 6.1 bps in 2023 was below your benchmark cost of 15.1 bps. This suggests that your fund was low cost compared to your peers.
- Your fund was below benchmark cost because it had a lower cost implementation style and it paid less than peers for similar services.
- Your costs decreased by 1.6 bps, from 7.7 bps in 2014 to 6.1 bps in 2023, primarily because you paid less in total for similar investment styles.

# This benchmarking report compares your cost and performance to the 295 funds in CEM's extensive pension database.

- 149 U.S. pension funds participate. The median U.S. fund had assets of €6.8 billion and the average U.S. fund had assets of €19.2 billion. Total participating U.S. assets were €2.9 trillion.
- 66 Canadian funds participate with assets totaling €1.6 trillion.
- 64 European funds participate with aggregate assets of €3.0 trillion. Included are funds from the Netherlands, Norway, Sweden, Finland, Ireland, Denmark and the UK.
- 10 Asia-Pacific funds participate with aggregate assets of €981.8 billion. Included are funds from Australia, New Zealand and South Korea.
- 6 funds from other regions participate.

The most meaningful comparisons for your returns and value added are to the Global universe, which consists of 295 funds. The Global universe assets totaled €8.6 trillion and the median fund had assets of €6.9 billion.

Participating assets (€ trillions)



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

### Peer group for Government Pension Fund Norway

- 16 Global sponsors from €16.4 billion to €138.6 billion
- Median size of €61.8 billion versus your €31.6 billion

- Your global peer group is composed of 3 Canadian funds, 7 European funds, 5 U.S. funds and 1 Asia-Pacific fund.
- In the report there are also comparisons to CEM's Global database of participants.

The names of the above fund sponsors in your peer group are confidential and may not be disclosed to third parties. All other information in this report is confidential and may not be disclosed to third parties without the express written mutual consent of CEM Benchmarking Inc and Government Pension Fund Norway. For some of the peers, 2022 cost data was used as a proxy for 2023.

# Net value added is the component of total return from active management. Your 10-year net value added was 0.9%.

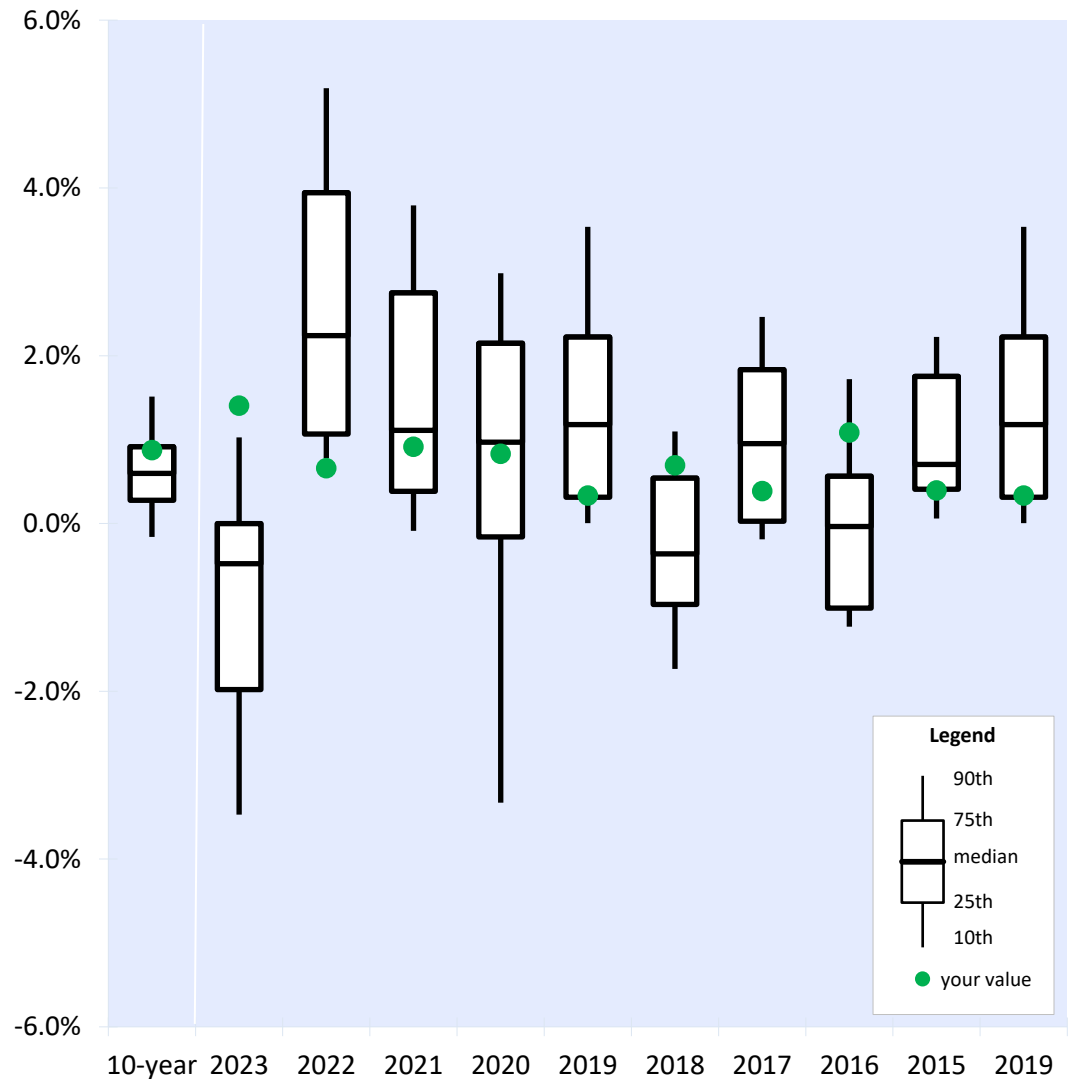
Net value added equals total net return minus policy return.

## Value added for Government Pension Fund Norway

Year	Net return	Policy return	Net value added
2023	11.3%	9.9%	1.4%
2022	-4.4%	-5.1%	0.7%
2021	13.9%	13.0%	0.9%
2020	8.7%	7.9%	0.8%
2019	12.4%	12.0%	0.3%
2018	-0.4%	-1.1%	0.7%
2017	13.2%	12.8%	0.4%
2016	7.0%	5.9%	1.1%
2015	6.9%	6.5%	0.4%
2014	10.6%	8.5%	2.1%
10-Year	7.8%	6.9%	0.9%

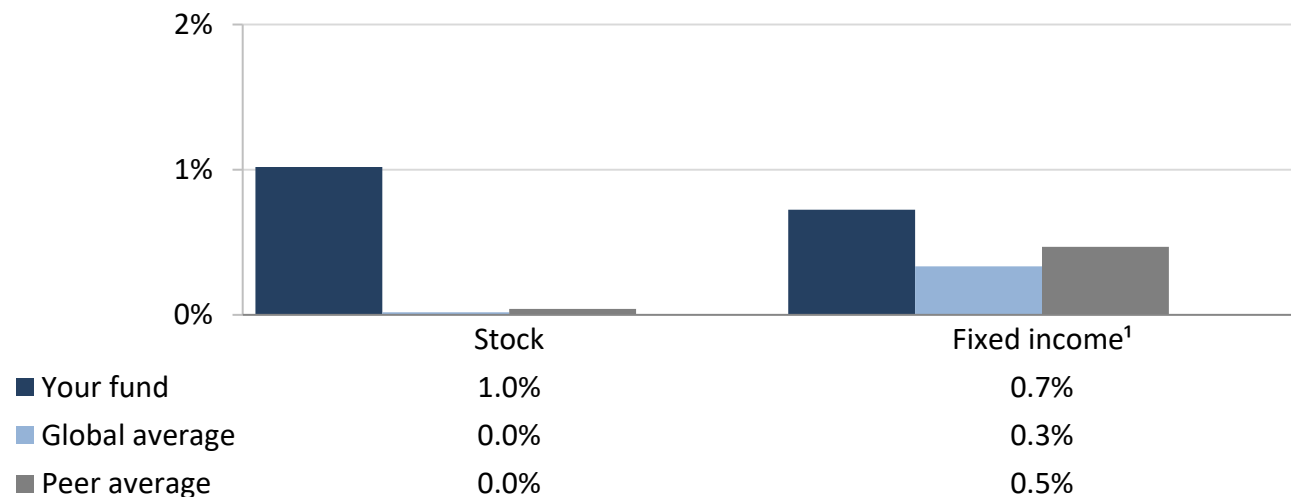
Your 10-year net value added of 0.9% compares to a median of 0.6% for your peers and 0.3% for the Global universe.

## Peer net value added - quartile rankings



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

10-year average net value added by major asset class



1. Excludes cash and leverage.

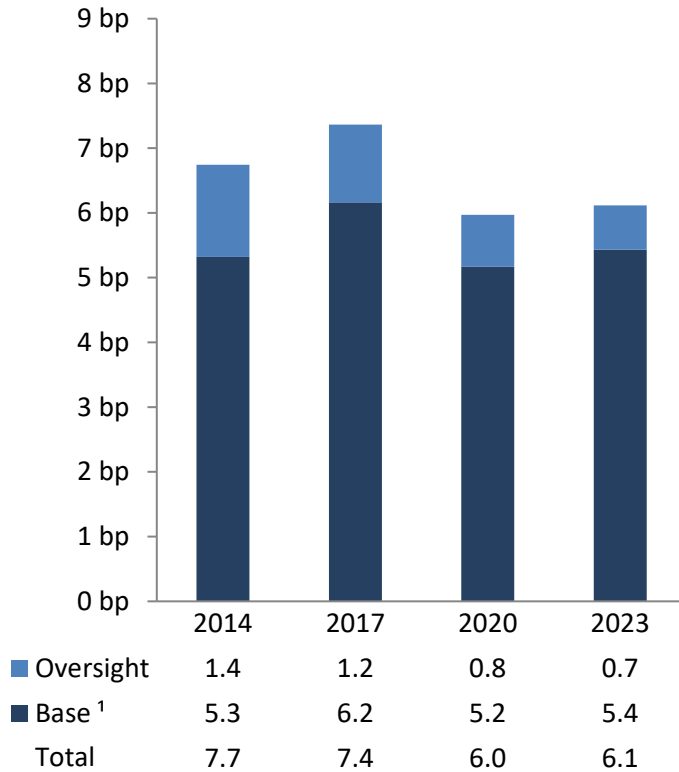
## Your investment costs, excluding private asset performance fees, were €19.3 million or 6.1 basis points in 2023.

Asset management costs by asset class and style (€000s)	Internal Active	Total	
Stock - EAFE	7,979	7,979	
Fixed income - EAFE	9,176	9,176	
<b>Total excluding private asset performance fees</b>		<b>17,155</b>	<b>5.4bp</b>
<b>Oversight, custodial and other costs</b>			
Oversight of the fund		1,123	
Trustee & custodial		592	
Consulting and performance measurement		51	
Audit		278	
Other		118	
<b>Total oversight, custodial &amp; other costs</b>		<b>2,162</b>	<b>0.7bp</b>
<b>Total investment costs (excl. transaction costs &amp; private asset performance fees)</b>		<b>19,317</b>	<b>6.1bp</b>



# Your costs decreased by 1.6 bps, from 7.7 bps in 2014 to 6.1 bps in 2023, primarily because you paid less in total for similar investment styles.

Trend in cost



Reasons why your costs decreased by 1.6 bps

	Impact in bps	
1. Lower cost asset mix		(0.0)
2. Similar cost implementation style		0.0
3. Paid less in total for similar investment styles	<b>2014</b>	<b>2023</b>
Lower internal investment management costs		
• Lower internal active EAFE Stock costs	5.8 bp	4.1 bp
• All other internal investment mgmt. differences		0.2
• Lower oversight, custodial & other costs	1.4 bp	0.7 bp
• All other differences		0.0
		<u>(1.6)</u>
Total decrease		<u>(1.6)</u>

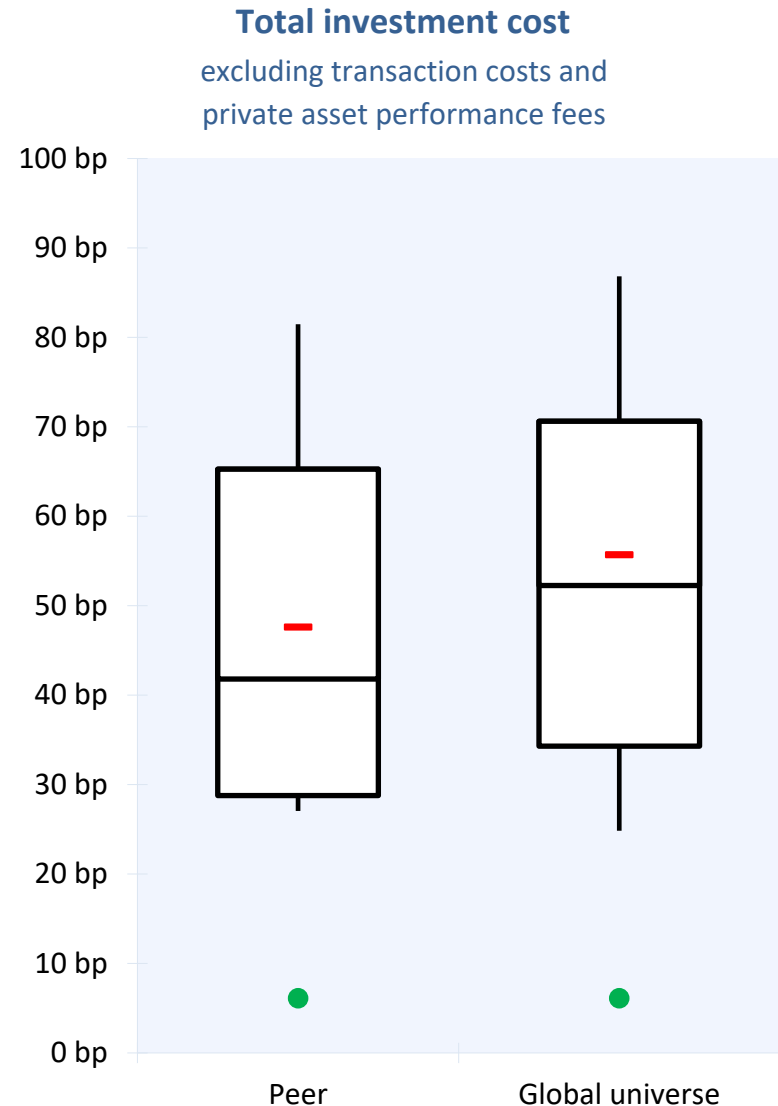
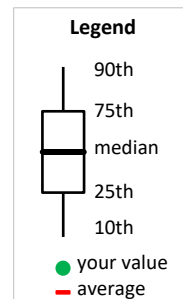
1. Includes fees for managing internal assets and internal costs of monitoring external programs, where allocated.

## Before adjusting for asset mix differences, your total investment cost of 6.1 bps was the lowest of the peers and was substantially below the peer median of 41.8 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 0% of your assets at the end of 2023 versus a peer average of 35%.
- Fund size - bigger funds have advantages of scale.

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



## Benchmark cost analysis suggests that, after adjusting for fund size and asset mix, your fund was below benchmark cost by 9.0 basis points in 2023.

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 6.1 bp was below your benchmark cost of 15.1 bp. Thus, your cost savings were 9.0 bp.

### Your cost versus benchmark

	€000s	basis points
Your total investment cost	19,317	6.1 bp
Your benchmark cost	47,778	15.1 bp
Your excess cost	(28,461)	(9.0) bp

## Your fund was below benchmark 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. Lower cost implementation style		
• More active management, less lower cost passive	5,517	1.7
• Less external management, more lower cost internal	(19,689)	(6.2)
• Less overlays	(1,590)	(0.5)
	<u>(15,762)</u>	<u>(5.0)</u>
2. Paying less than peers for similar services		
• Internal investment management costs	(7,847)	(2.5)
• Oversight, custodial & other costs	(4,852)	(1.5)
	<u>(12,698)</u>	<u>(4.0)</u>
<b>Total savings</b>	<b>(28,461)</b>	<b>(9.0)</b>

## Alternative benchmark cost:

	Average holdings in €mils	GPFN 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
<b><i>Internal asset management</i></b>								
Stock - Europe	19,434	4.1	13.8	9.7	6.0	8.9	4.8	3.0
Fixed income - Europe	12,146	7.6	10.2	2.6	1.0	6.3	(1.3)	(0.5)
<b>Total, excl. Overlays and overhead</b>		<b>0.7</b>	<b>12.4</b>		<b>7.0</b>	<b>7.9</b>		<b>2.5</b>
Overlay Programs	31,581	0.0	0.5	0.5	0.5	0.5	0.5	0.5
Overhead	31,581	0.7	2.2	1.5	1.5	2.2	1.5	1.5
<b>Total</b>	<b>31,581</b>	<b>6.1</b>	<b>15.1</b>		<b>9.0</b>	<b>10.6</b>		<b>4.5</b>

### Notes:

Internal European stock uses All stock as the benchmark.

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

Rounding may cause summation issues

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

	Average holdings in €mils	Current cost in bps	Benchmark target cost in bps
<i>Internal asset management</i>			
Stock - Europe	19,434	4.1	3.1
Fixed income - Europe	12,146	7.6	1.8
Overhead	31,581	0.7	0.7
<b>Total</b>	<b>31,581</b>	<b>6.1</b>	<b>3.3</b>

Notes:

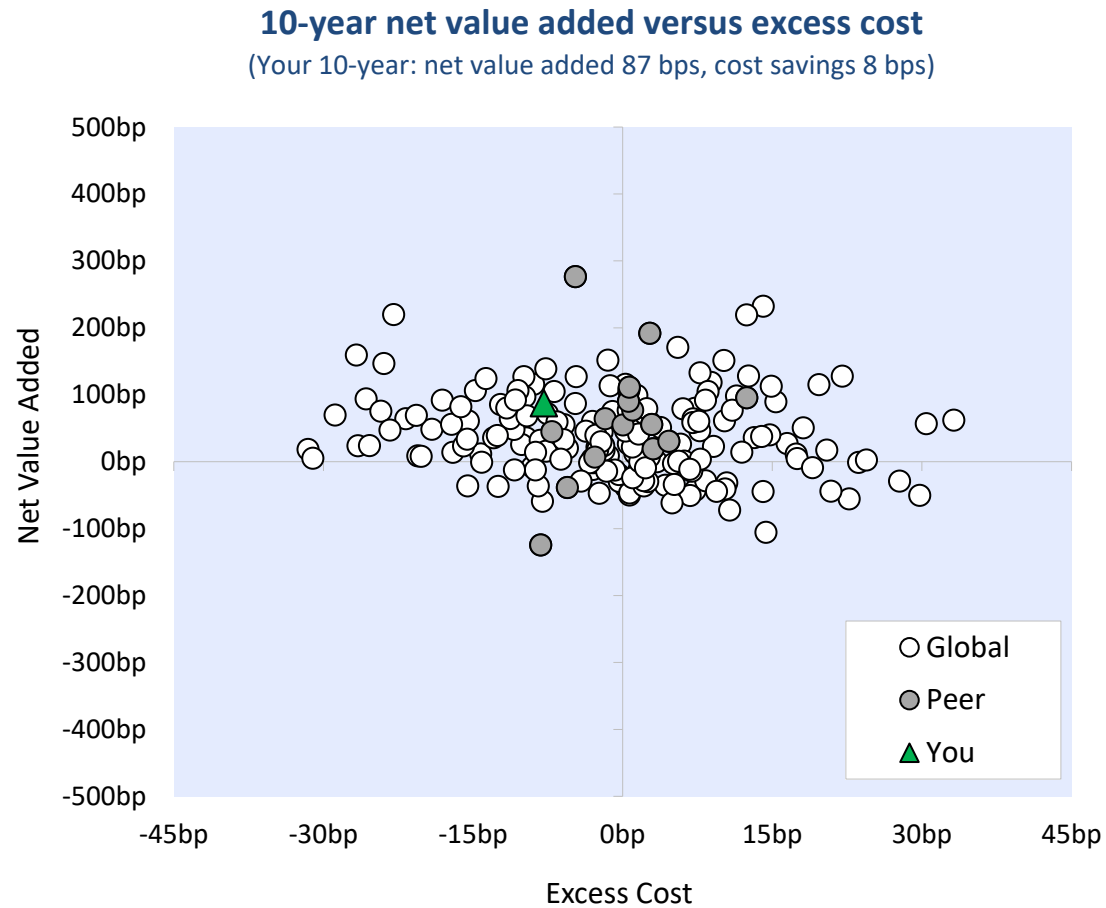
Internal European stock uses All stock as the benchmark.

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

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

This also does not take into consideration possible issues with owning a relatively large proportion of a given benchmark index or any constraints around ESG factors.

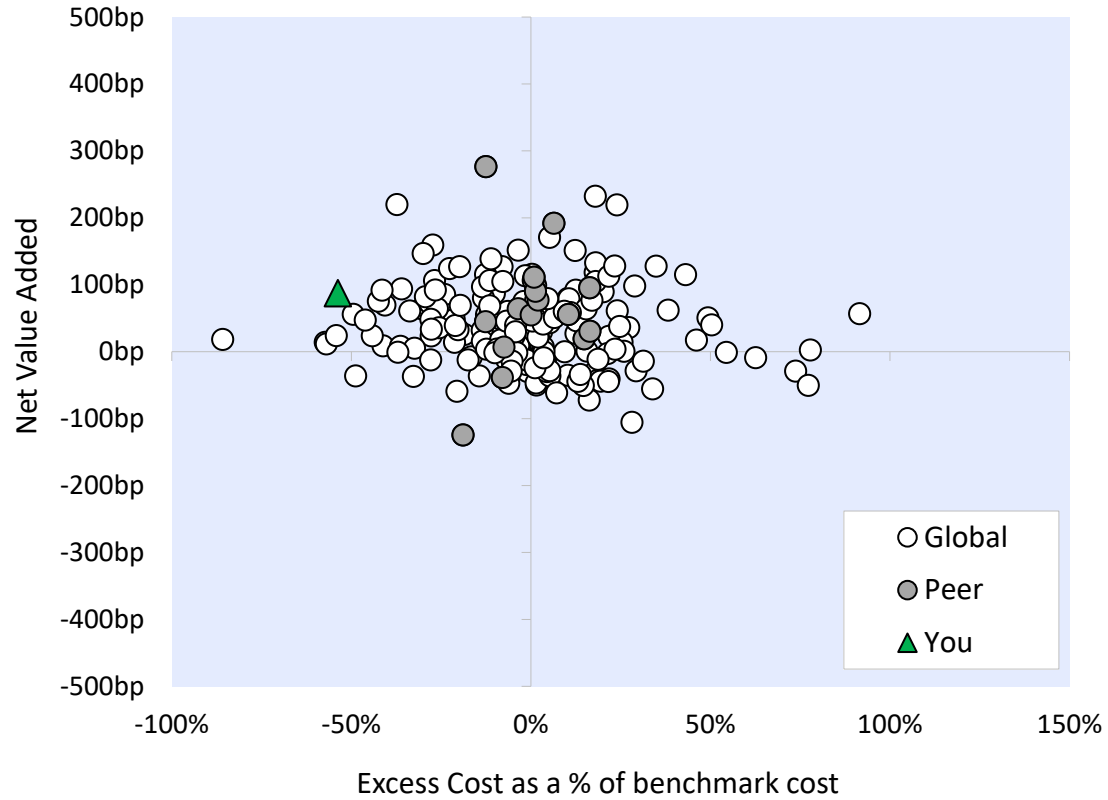
Your 10-year performance placed in the positive value added, low cost quadrant of the cost effectiveness chart.



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

## 10-year net value added versus excess cost

(Your 10-year: net value added 87 bps, cost savings 54 %)





# 2

## Description of peer group and universe

Peer group	2
CEM global universe	3
Universe subsets	4
Implementation style, actual mix and policy mix:	
- by universe subset	5
- trends from 2019 to 2023	6
Implementation style by asset class	7
Actual mix from 2019 to 2023	8
Policy mix from 2019 to 2023	9

## Peer group

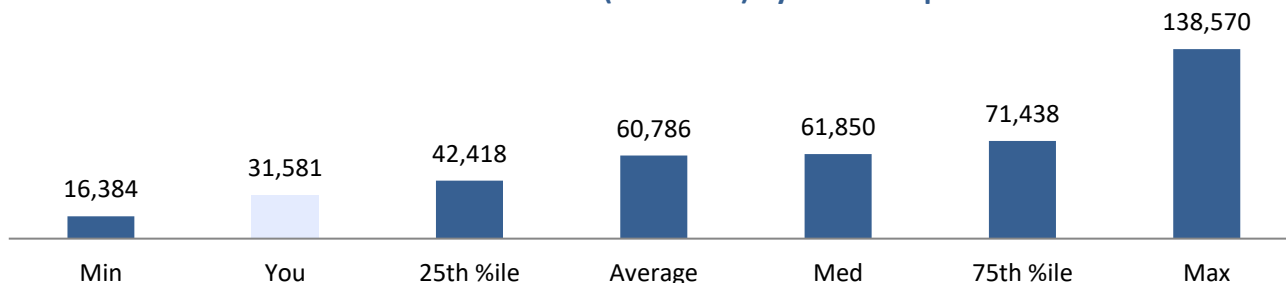
Your peer group is comprised of 16 Global funds, with assets ranging from €16.4 billion to €138.6 billion versus your €31.6 billion. The median size is €61.8 billion.

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

### Peer Group Characteristics - 2023

	You	Peers	Global average
<u>Plan Assets (\$ billions)</u>			
Range	31.6	16.4 - 138.6	0.1 - 1,283.5
Median		61.8	6.9
<u># of Plans</u>			
Corporate		0	120
Public	1	12	123
Other		4	52
Total		16	295
<u>Implementation style</u>			
% External active	0.0	32.9	66.9
% External passive	0.0	3.1	16.0
% Internal active	100.0	57.4	12.9
% Internal passive	0.0	6.5	4.2
<u>Asset mix</u>			
% Stock	61.5	38.0	33.6
% Fixed Income	38.5	26.2	37.7
% Real Assets	0.0	16.3	12.7
% Private Equity	0.0	11.4	7.9
% Private Credit	0.0	5.0	3.7
% Hedge Funds & Other	0.0	3.1	4.4

### Total fund assets (€ millions) - you versus peers

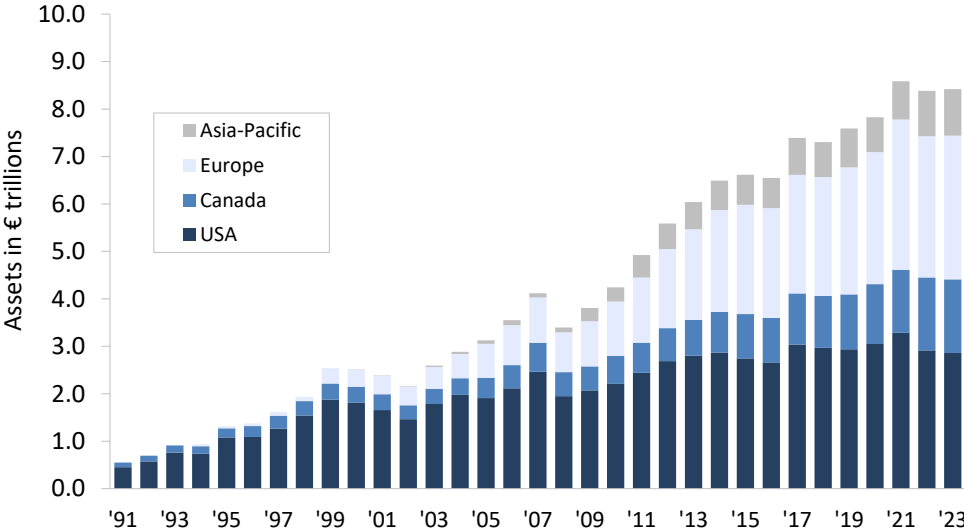


# CEM global universe

CEM has been providing investment benchmarking solutions since 1991. The 2023 survey universe is comprised of 295 funds representing €8.6 trillion in assets. The breakdown by region is as follows:

- 149 U.S. pension funds with aggregate assets of €2.9 trillion.
- 66 Canadian pension funds with aggregate assets of €1.6 trillion.
- 64 European pension funds with aggregate assets of €3.0 trillion. Included are funds from the Netherlands, Norway, Sweden, Finland, Denmark, UK, and Ireland.
- 10 Asia-Pacific pension funds with aggregate assets of €1.0 trillion.
- 6 funds from other regions participate.

CEM global universe



## Universe subsets

CEM's global survey universe is comprised of 295 funds with total assets of €8.6 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 16 Global funds ranging in size from €16.4 - €138.6 billion. The peer median of €61.8 billion compares to your €31.6 billion.
- Global - The global universe is comprised of 295 funds ranging in size from €0.1 - €1,283.5 billion. The median fund is €6.9 billion.

### Universe subsets by number of funds and assets

	Peer group <sup>1</sup>	Corp.	Public	Other	Total	U.S.	Canada	Europe	Asia-Pacific	Total
<b># of funds</b>										
2023	16	120	123	52	295	149	66	64	16	295
2022	16	130	117	56	303	148	72	66	17	303
2021	16	131	119	45	295	146	70	67	12	295
2020	16	136	134	43	313	160	69	73	11	313
2019	16	136	135	46	317	155	71	75	16	317
2018	16	148	143	48	339	170	77	77	15	339
2017	16	152	150	50	352	168	78	89	17	352
2016	16	156	142	49	347	170	79	83	15	347
2015	16	163	146	54	363	176	79	92	16	363
2014	16	166	201	56	423	178	86	144	15	423
<b># of funds with uninterrupted data for:</b>										
1 yr	16	120	123	52	295	149	66	64	16	295
2 yrs	16	116	111	48	275	138	64	61	12	275
3 yrs	16	106	103	38	247	126	59	53	9	247
4 yrs	16	102	102	36	240	121	58	53	8	240
5 yrs	16	96	98	34	228	115	56	49	8	228
6 yrs	16	93	97	33	223	112	55	48	8	223
7 yrs	16	88	92	29	209	107	49	46	7	209
8 yrs	16	85	91	28	204	104	47	46	7	204
9 yrs	16	81	87	27	195	99	44	45	7	195
10 yrs	16	79	86	27	192	97	43	45	7	192
<b>Total assets (€ billions)</b>										
2023	973	797	5,793	1,969	8,559	2,859	1,551	3,029	1,120	8,559
2022	961	943	5,354	2,168	8,465	2,913	1,539	2,973	1,040	8,465
2021	985	1,312	5,579	1,834	8,725	3,286	1,326	3,168	944	8,725
2020	893	1,230	5,095	1,611	7,937	3,048	1,260	2,783	846	7,937
2019	846	1,182	4,951	1,578	7,712	2,937	1,158	2,677	940	7,712
2018	776	1,130	4,844	1,437	7,412	2,969	1,092	2,506	845	7,412
2017	772	1,150	4,923	1,581	7,653	3,036	1,077	2,499	1,041	7,653
2016	690	1,090	4,265	1,383	6,738	2,661	938	2,313	826	6,738
2015	681	1,113	4,443	1,342	6,899	2,746	934	2,302	916	6,899
2014	662	1,175	4,357	1,253	6,785	2,866	856	2,149	914	6,785
<b>2023 asset distribution (€ billions)</b>										
Avg	60.8	6.6	47.1	37.9	29.0	19.2	23.5	47.3	70.0	29.0
Max	138.6	39.5	1,283.5	467.7	1,283.5	295.1	329.5	1,283.5	532.5	1,283.5
75th %ile	71.4	8.8	36.4	51.8	20.3	16.4	11.2	29.9	60.1	20.3
Median	61.8	3.5	10.7	15.9	6.9	6.8	4.1	9.4	28.6	6.9
25th %ile	42.4	1.3	4.1	3.0	2.4	1.9	1.6	3.7	18.0	2.4
Min	16.4	0.2	0.2	0.1	0.1	0.2	0.1	0.5	2.2	0.1

1. Peer group statistics are for your 2023 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 - 2023 (as a % of year-end assets)

	Your fund <sup>1</sup>	Peer group	Global by type				Global by Country				
			Corp.	Public	Other	Total	U.S.	Canada	Europe	Asia-Pacific	Total
<b>Implementation style</b>											
External active	0.0	32.1	74.0	55.9	59.0	63.8	73.2	59.2	49.9	51.3	63.8
Fund of funds	0.0	0.8	3.3	3.0	2.5	3.0	2.8	2.3	4.4	2.3	3.0
External passive	0.0	3.1	15.1	15.9	18.2	16.0	16.8	12.0	18.7	14.4	16.0
Internal active	100.0	57.4	5.4	19.0	15.8	12.9	4.1	21.3	21.9	24.6	12.9
Internal passive	<u>0.0</u>	<u>6.5</u>	<u>2.1</u>	<u>6.1</u>	<u>4.5</u>	<u>4.2</u>	<u>3.1</u>	<u>5.1</u>	<u>5.1</u>	<u>7.3</u>	<u>4.2</u>
Total	100	100	100	100	100	100	100	100	100	100	100
<b>Actual asset mix</b>											
Stock	61.5	38.0	22.1	42.4	39.1	33.6	29.7	31.6	42.1	44.0	33.6
Fixed income	38.5	25.2	53.0	22.7	31.1	36.5	42.5	33.7	29.3	21.3	36.5
Cash & derivatives <sup>2</sup>	n/a	0.9	2.8	0.8	2.4	1.9	2.7	-0.4	1.0	6.9	1.9
Global TAA	0.0	0.3	0.3	0.4	0.5	0.4	0.4	0.4	0.3	0.3	0.4
Real assets	0.0	16.3	7.9	16.7	14.3	12.7	8.2	20.3	15.5	12.9	12.7
Hedge funds	0.0	2.7	4.0	2.5	2.2	3.1	4.5	1.9	1.1	2.7	3.1
Balanced funds	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Risk parity	0.0	0.1	0.3	0.3	0.0	0.3	0.5	0.0	0.0	0.2	0.3
Private debt	0.0	5.0	2.8	4.1	5.0	3.7	2.6	5.4	4.8	2.1	3.7
Private equity	<u>0.0</u>	<u>11.4</u>	<u>6.7</u>	<u>10.1</u>	<u>5.4</u>	<u>7.9</u>	<u>8.9</u>	<u>7.1</u>	<u>5.8</u>	<u>9.5</u>	<u>7.9</u>
Total	100	100	100	100	100	100	100	100	100	100	100
<b>Policy asset mix</b>											
Stock	61.6	42.0	23.5	43.0	39.6	34.4	31.2	32.9	39.9	49.3	34.4
Fixed income	38.5	28.9	56.9	24.8	31.9	39.2	45.9	35.8	30.8	22.9	39.2
Cash <sup>2</sup>	0.0	-1.5	0.2	-0.5	2.2	0.2	0.2	-1.9	1.5	4.5	0.2
Global TAA	0.0	0.2	0.3	0.3	0.5	0.4	0.4	0.4	0.2	0.3	0.4
Real assets	0.0	14.3	7.3	16.9	14.1	12.5	8.2	19.4	15.6	11.4	12.5
Hedge funds	0.0	1.4	3.2	1.7	1.7	2.4	3.4	1.2	1.1	2.1	2.4
Balanced funds	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.2	0.0	0.0
Risk parity	0.0	0.2	0.3	0.4	0.0	0.3	0.5	0.0	0.0	0.4	0.3
Private debt	0.0	4.1	2.4	4.5	5.0	3.7	2.0	6.4	5.3	2.4	3.7
Private equity	<u>0.0</u>	<u>10.3</u>	<u>5.8</u>	<u>8.8</u>	<u>5.0</u>	<u>6.9</u>	<u>8.1</u>	<u>5.8</u>	<u>5.3</u>	<u>6.8</u>	<u>6.9</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. Negative allocations indicate use of leverage.

## Implementation style, actual mix and policy mix trends

### Implementation style, actual mix and policy mix - 2019 to 2023 (as a % of year-end assets)

	Your fund <sup>1</sup>					Peer average <sup>2</sup>					Global average <sup>2</sup>				
	2023	2022	2021	2020	2019	2023	2022	2021	2020	2019	2023	2022	2021	2020	2019
<b>Implementation style</b>															
External active	0.0	0.0	0.0	0.0	0.0	32.1	31.7	28.8	28.7	28.7	62.7	62.9	61.0	60.9	61.2
Fund of funds	0.0	0.0	0.0	0.0	0.0	0.8	0.8	0.7	0.7	0.7	3.2	3.0	2.6	2.3	2.4
External passive	0.0	0.0	0.0	0.0	0.0	3.1	4.0	4.8	4.5	4.1	15.9	16.0	17.6	18.1	17.7
Internal active	100.0	100.0	100.0	100.0	100.0	57.4	57.7	58.3	58.4	57.4	13.6	13.6	14.0	14.2	13.9
Internal passive	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>6.5</u>	<u>5.7</u>	<u>7.3</u>	<u>7.6</u>	<u>9.1</u>	<u>4.6</u>	<u>4.4</u>	<u>4.7</u>	<u>4.6</u>	<u>4.7</u>
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
<b>Actual asset mix</b>															
Stock	61.5	60.2	63.1	65.1	61.8	38.0	39.6	42.9	41.1	40.8	33.4	34.8	38.7	39.8	39.5
Fixed income	38.5	39.8	36.9	34.9	37.9	25.2	23.8	25.2	26.2	26.9	35.7	34.8	35.0	34.9	34.7
Cash & derivatives	0.0	0.0	0.0	0.0	0.2	0.9	1.8	2.2	3.5	3.1	1.2	1.3	1.8	2.4	2.3
Global TAA	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.4	1.4	1.6	0.3	0.4	0.6	0.8	0.9
Real assets	0.0	0.0	0.0	0.0	0.0	16.3	16.2	13.4	13.1	13.2	13.4	13.3	10.7	10.4	10.8
Hedge funds	0.0	0.0	0.0	0.0	0.0	2.7	2.7	2.8	3.2	3.7	3.1	3.2	3.0	2.9	3.2
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	0.3
Risk Parity	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.3	0.3	0.3	0.4	0.4	0.5	0.5	0.5
Private credit	0.0	0.0	0.0	0.0	0.0	5.0	4.4	3.8	3.2	2.7	3.6	3.2	2.5	2.3	2.1
Private equity	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>11.4</u>	<u>11.1</u>	<u>9.1</u>	<u>7.9</u>	<u>7.6</u>	<u>8.8</u>	<u>8.5</u>	<u>7.2</u>	<u>5.9</u>	<u>5.6</u>
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
<b>Policy asset mix</b>															
Stock	61.6	60.2	63.1	65.1	62.0	42.0	43.5	45.7	43.3	43.8	34.9	36.5	38.7	39.8	40.3
Fixed income	38.5	39.8	36.9	34.9	38.0	28.9	28.1	29.7	29.2	29.9	38.6	38.2	37.7	36.8	36.8
Cash <sup>3</sup>	0.0	0.0	0.0	0.0	0.0	-1.5	-1.7	-2.1	0.2	0.5	-0.2	-0.6	-0.3	-0.1	0.1
Global TAA	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.4	2.8	3.1	0.3	0.4	0.5	0.8	0.9
Real assets	0.0	0.0	0.0	0.0	0.0	14.3	14.0	12.7	12.4	12.0	12.7	12.5	11.4	11.4	11.0
Hedge funds	0.0	0.0	0.0	0.0	0.0	1.4	1.2	1.2	1.8	1.9	2.4	2.4	2.4	2.6	2.9
Balanced Funds	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
Risk Parity	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.3	0.3	0.3	0.4	0.5	0.4	0.4	0.4
Private credit	0.0	0.0	0.0	0.0	0.0	4.1	4.4	3.9	2.7	1.9	3.3	3.1	2.7	2.3	1.9
Private equity	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>10.3</u>	<u>9.9</u>	<u>8.2</u>	<u>7.4</u>	<u>6.5</u>	<u>7.5</u>	<u>6.9</u>	<u>6.4</u>	<u>5.9</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 192 Global and 16 peer funds with 10 or more consecutive years of data ending 2023.
3. Negative allocations indicate use of leverage.

## 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 - 2023 (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.					5.4	6.8	49.4	38.4	30.9	49.6	10.0	9.5						
Stock - EAFE	0.0		0.0	100.0	0.0				15.5	3.6	76.8	4.0	51.9	22.9	22.8	2.5		
Stock - Global					26.6	8.5	64.4	0.5	56.4	26.7	13.1	3.9						
Stock - other					0.0	4.9	90.0	5.1	62.1	7.7	21.9	8.3						
Stock - Emerging					21.7	15.2	54.9	8.2	66.6	21.4	7.4	4.6						
Stock - ACWI x U.S.					73.5	0.0	26.5	0.0	63.4	34.4	0.9	1.3						
Stock - Aggregate	0.0		0.0	100.0	0.0				16.6	6.5	63.9	13.0	50.9	30.5	13.3	5.3		
Fixed income - U.S.					7.2	2.1	89.6	1.1	68.7	16.3	11.9	3.1						
Fixed income - EAFE	0.0		0.0	100.0	0.0				4.7	0.0	67.9	27.3	34.4	30.3	17.5	17.7		
Fixed income - Global					11.1	3.1	80.9	4.9	43.5	18.5	31.0	7.0						
Fixed income - other					22.9	5.1	69.8	2.2	61.4	12.4	20.8	5.4						
Fixed income - Long bonds					1.3	0.0	98.7	0.0	82.5	7.7	5.1	4.7						
Fixed income - Emerging					56.5	3.3	40.2	0.0	80.6	5.3	12.8	1.3						
Fixed income - Inflation indexed					0.0	0.5	86.7	12.8	11.1	39.6	22.5	26.8						
Fixed income - High yield					63.3	3.8	32.9	0.0	84.8	2.2	11.1	1.9						
Fixed income - Bundled LDI					3.7	0.0	96.3	0.0	65.5	7.0	20.8	6.7						
Fixed income - Convertibles					100.0	0.0	0.0	0.0	57.5	0.0	42.5	0.0						
Public mortgages					28.2	0.0	71.8	0.0	55.4	0.0	44.6	0.0						
Cash					82.3		17.7		69.1		30.9							
Fixed income - Aggregate	0.0		0.0	100.0	0.0				16.0	1.7	73.9	8.4	66.0	13.2	14.4	6.3		
Commodities					16.8	0.0	83.2	0.0	23.7	11.2	28.7	36.5						
Infrastructure					30.9	0.4	68.7		77.5	4.7	17.8							
Natural resources					39.9	0.0	60.1		76.7	3.3	20.1							
REITs					11.4	11.2	77.5	0.0	65.0	19.9	14.4	0.7						
Real estate					42.6	0.2	57.2		75.3	8.1	16.5							
Other real assets					100.0	0.0	0.0		63.8	0.0	36.2							
Other listed real assets					0.0	23.3	76.7	0.0	58.8	21.7	7.7	11.8						
Real assets - Aggregate					38.0	0.2	0.3	61.4	0.0	74.8	6.3	1.1	17.3	0.6				
Hedge funds					92.2	7.8			77.1	22.9								
Global TAA					48.2		51.8		76.4		23.6							
Balanced funds					0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0						
Risk parity					73.0		27.0		93.6		6.4							
Private credit					69.1	0.0	30.9		87.9	3.1	9.0							
Private mortgages					63.8		36.2		92.1		7.9							
Private equity - Diversified					74.0	4.2	21.8		73.7	19.3	6.9							
Venture capital					81.9	18.0	0.0		56.5	41.6	1.9							
LBO					95.1	3.6	1.2		93.8	6.0	0.2							
Private equity - Other					69.1	13.0	17.9		77.0	5.9	17.1							
Private equity - Aggregate					80.2	5.2	14.7		75.5	18.3	6.2							
Total Fund - Avg. Holdings	0.0	0.0	0.0	100.0	0.0				32.1	0.8	3.1	57.4	6.5	63.8	3.0	16.0	12.9	4.2

## Actual mix

### Actual asset mix - 2019 to 2023 (as a % of total average assets)

	Your fund <sup>1</sup>					Peer average %					Global average %				
	2023	2022	2021	2020	2019	2023	2022	2021	2020	2019	2023	2022	2021	2020	2019
Stock - U.S.						10.4	10.7	11.6	10.3	11.1	8.5	8.4	9.8	10.4	10.7
Stock - EAFE	61.5	60.2	63.1	65.1	61.8	13.1	13.4	14.7	15.5	15.3	4.6	4.8	5.8	6.5	6.1
Stock - Global						8.0	8.6	9.1	8.0	7.7	13.5	14.1	14.1	14.0	13.4
Stock - other						2.0	2.1	2.2	1.9	1.7	2.8	3.1	3.2	3.2	3.3
Stock - Emerging						3.3	3.7	4.1	4.5	4.1	2.3	2.4	3.0	3.2	3.0
Stock - ACWI x U.S.						1.2	1.1	1.1	1.0	0.8	2.0	1.9	2.0	2.4	2.4
Stock - Aggregate	61.5	60.2	63.1	65.1	61.8	38.0	39.6	42.9	41.1	40.8	33.6	34.8	37.9	39.7	38.9
Fixed income - U.S.						5.5	5.6	6.0	6.3	6.6	7.8	6.8	6.4	6.4	6.7
Fixed income - EAFE	38.5	39.8	36.9	34.9	37.9	6.0	5.5	6.0	5.8	5.7	2.4	2.3	2.6	2.6	3.0
Fixed income - Global						3.2	3.0	2.8	3.2	4.3	2.3	2.4	2.4	2.3	2.5
Fixed income - other						2.3	2.2	2.5	2.3	2.3	5.2	5.3	4.9	4.8	4.9
Fixed income - Long bonds						1.3	1.0	1.2	1.6	2.1	11.0	11.3	12.2	12.8	12.6
Fixed income - Emerging						1.6	1.8	1.8	1.9	2.1	0.9	1.0	1.1	1.2	1.3
Fixed income - Inflation indexed						2.3	1.9	1.8	1.9	2.0	2.0	1.6	1.5	1.4	1.8
Fixed income - High yield						1.2	1.2	1.1	1.2	0.7	1.1	1.1	1.2	1.1	1.2
Fixed income - Bundled LDI						1.8	1.6	1.8	1.8	0.9	3.0	3.4	3.4	3.2	2.3
Fixed income - Convertibles						0.0	0.0	0.1	0.1	0.2	0.1	0.1	0.1	0.0	0.0
Public mortgages						0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Cash					0.2	1.0	1.8	1.8	2.2	2.0	1.2	1.5	1.3	1.5	1.4
Fixed income - Aggregate	38.5	39.8	36.9	34.9	38.2	26.2	25.6	27.0	28.3	29.0	37.7	37.6	37.8	38.0	38.1
Commodities						0.3	0.3	0.3	0.1	0.1	0.1	0.2	0.2	0.2	0.3
Infrastructure						5.0	4.6	3.8	3.7	3.5	4.0	3.7	2.6	2.3	2.3
Natural resources						0.9	0.8	0.6	0.6	0.7	0.5	0.4	0.4	0.3	0.3
REITs						0.2	0.4	0.3	0.2	0.2	0.5	0.5	0.6	0.5	0.5
Real estate						9.7	9.9	8.3	8.4	8.6	7.3	7.7	6.1	6.1	6.2
Other real assets						0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.2	0.2	0.2
Other listed real assets						0.1	0.1	0.0			0.2	0.2	0.1	0.1	0.1
Real assets - Aggregate						16.3	16.2	13.4	13.1	13.2	12.7	12.8	10.1	9.7	9.9
Hedge funds						2.7	2.7	2.8	3.2	3.7	3.1	3.2	3.1	3.1	3.2
Global TAA						0.3	0.3	0.4	1.4	1.6	0.4	0.5	0.6	0.9	1.0
Balanced funds											0.0	0.0	0.0	0.0	0.2
Risk parity						0.1	0.2	0.3	0.3	0.3	0.3	0.3	0.4	0.5	0.6
Private mortgages						0.5	0.5	0.5	0.5	0.5	0.7	0.8	0.6	0.5	0.7
Private credit						4.5	3.9	3.3	2.7	2.1	3.0	2.5	2.2	1.6	1.6
Private equity - Diversified						7.3	7.1	5.9	5.1	5.1	6.3	6.1	5.2	4.2	4.2
Venture capital						0.8	0.9	0.8	0.5	0.5	0.4	0.3	0.3	0.3	0.2
LBO						3.1	2.9	2.3	2.0	1.8	1.0	0.8	0.7	0.6	0.6
Private equity - Other						0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Private equity - Aggregate						11.4	11.1	9.1	7.9	7.6	7.9	7.4	6.4	5.3	5.2
Derivatives/Overlays Mkt Value						-0.2	0.0	0.4	1.3	1.1	0.7	0.3	0.7	0.7	0.6
Total Fund	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Count	1				1	16	16	16	16	16	295	303	295	313	317
Median Assets (€ billions)	31.6	30.3	33.2	27.9	27.3	61.8	57.7	63.4	60.4	56.2	6.9	6.1	7.5	6.0	6.2

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



## Policy mix

### Policy asset mix - 2019 to 2023 (as a % of total assets)

	Your fund %					Peer average %					Global average %				
	2023	2022	2021	2020	2019	2023	2022	2021	2020	2019	2023	2022	2021	2020	2019
Stock - U.S.						8.5	8.7	10.5	9.7	9.9	7.9	8.2	8.6	9.7	9.9
Stock - EAFE	61.6	60.2	63.1	65.1	62.0	12.6	12.9	13.2	13.8	14.2	4.2	4.4	5.3	5.8	5.6
Stock - Global						13.8	14.7	14.7	12.8	13.0	15.4	16.0	16.3	15.9	15.1
Stock - other						3.1	2.9	2.7	2.6	2.6	3.1	3.2	3.2	3.2	3.5
Stock - Emerging						3.3	3.6	3.9	3.6	3.6	2.0	2.1	2.6	2.8	2.7
Stock - ACWI x U.S.						0.7	0.8	0.7	0.6	0.5	1.9	2.1	1.9	2.3	2.5
Stock - Aggregate	61.6	60.2	63.1	65.1	62.0	42.0	43.5	45.7	43.3	43.8	34.4	35.9	37.8	39.6	39.3
Fixed income - U.S.						6.0	5.9	6.0	6.3	6.4	8.0	7.1	7.0	6.8	6.8
Fixed income - EAFE	38.5	39.8	36.9	34.9	38.0	6.4	7.1	6.3	6.4	6.3	2.6	2.6	2.7	2.7	3.3
Fixed income - Global						6.3	4.9	5.3	4.6	5.8	2.6	2.5	2.8	2.6	2.8
Fixed income - other						2.4	2.9	2.9	2.8	2.8	5.4	5.7	5.1	4.8	5.2
Fixed income - Long bonds						1.3	1.1	1.2	1.6	1.5	12.7	13.1	13.6	13.3	13.0
Fixed income - Emerging						1.3	1.5	1.6	1.5	1.8	0.9	1.0	1.1	1.1	1.3
Fixed income - Inflation indexed						3.7	3.4	2.9	2.9	4.5	2.3	1.9	1.8	1.6	2.1
Fixed income - High yield						1.5	1.1	1.1	0.9	0.6	0.9	0.9	1.1	1.1	1.2
Fixed income - Bundled LDI								2.4	2.3		2.9	3.1	3.1	3.2	2.4
Fixed income - Convertibles							0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0
Public mortgages						0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1
Cash						-1.5	-1.7	-2.1	0.2	0.5	0.2	0.1	0.1	0.3	0.4
Fixed income - Aggregate	38.5	39.8	36.9	34.9	38.0	27.4	26.4	27.6	29.4	30.5	39.4	38.8	39.1	38.1	38.7
Commodities						0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.3
Infrastructure						4.0	3.8	3.1	3.1	2.9	3.9	3.9	3.1	2.8	2.5
Natural resources						0.5	0.4	0.4	0.5	0.4	0.4	0.3	0.3	0.3	0.3
REITs						0.3	0.3	0.2	0.2	0.2	0.4	0.4	0.5	0.5	0.5
Real estate						9.2	9.3	8.7	8.4	8.4	7.3	7.3	6.7	6.7	6.6
Other real assets						0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2
Other listed real assets						0.1	0.0	0.1			0.1	0.1	0.1	0.1	0.0
Real assets - Aggregate						14.3	14.0	12.7	12.4	12.0	12.5	12.3	11.1	10.8	10.3
Hedge funds						1.4	1.2	1.2	1.8	1.9	2.4	2.5	2.4	2.7	2.9
Global TAA						0.2	0.2	0.4	2.8	3.1	0.4	0.4	0.5	0.9	0.9
Balanced funds											0.0	0.1	0.0	0.0	0.1
Risk parity						0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.5
Private mortgages						0.5	0.6	0.5	0.6	0.6	0.8	0.8	0.6	0.7	0.7
Private credit						3.6	3.9	3.4	2.1	1.2	3.0	2.6	2.5	1.8	1.5
Private equity - Diversified						7.8	7.4	6.3	5.7	4.7	6.0	5.5	4.8	4.5	4.5
Venture capital						0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2
LBO						2.4	2.2	1.7	1.6	1.6	0.6	0.4	0.5	0.5	0.4
Private equity - Other							0.2	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.1
Private equity - Aggregate						10.3	9.9	8.2	7.4	6.5	6.9	6.2	5.6	5.3	5.2
Total Fund	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Count	1	1	1	1	1	15	15	16	16	16	292	299	292	312	317

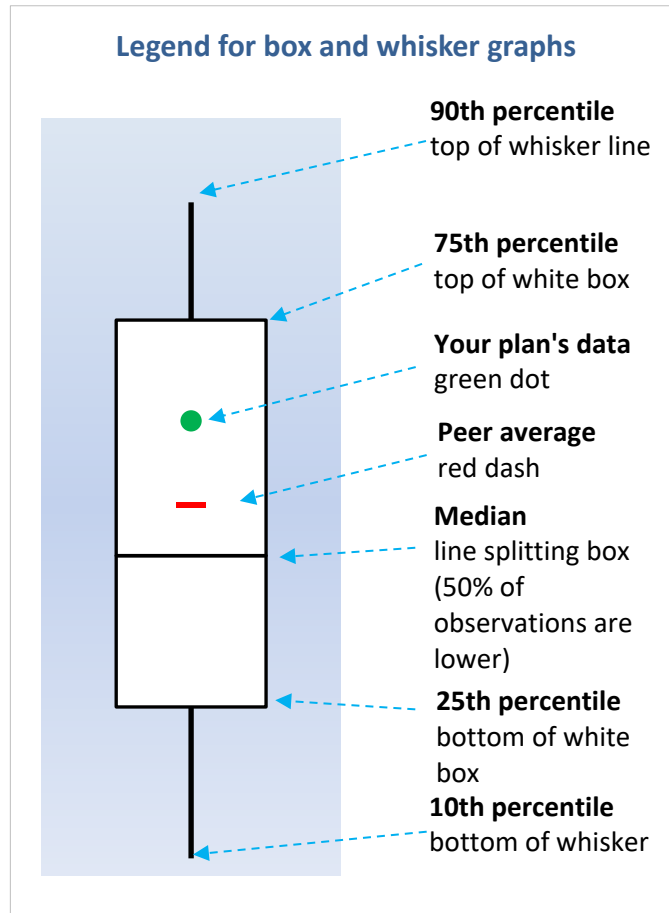
# 3

## Returns, Benchmarks and Value Added

Interpreting box and whisker graphs	2
Net total returns	3
Policy returns	4
Net value added	5
Net returns by asset class	6
Benchmark returns by asset class	7
Net value added by asset class	8
Your policy return and value added calculation:	
- 2023	9
- 2019 to 2023	10
Profit/Loss on overlay programs	11
Appendix - CEM's Private equity benchmark	12

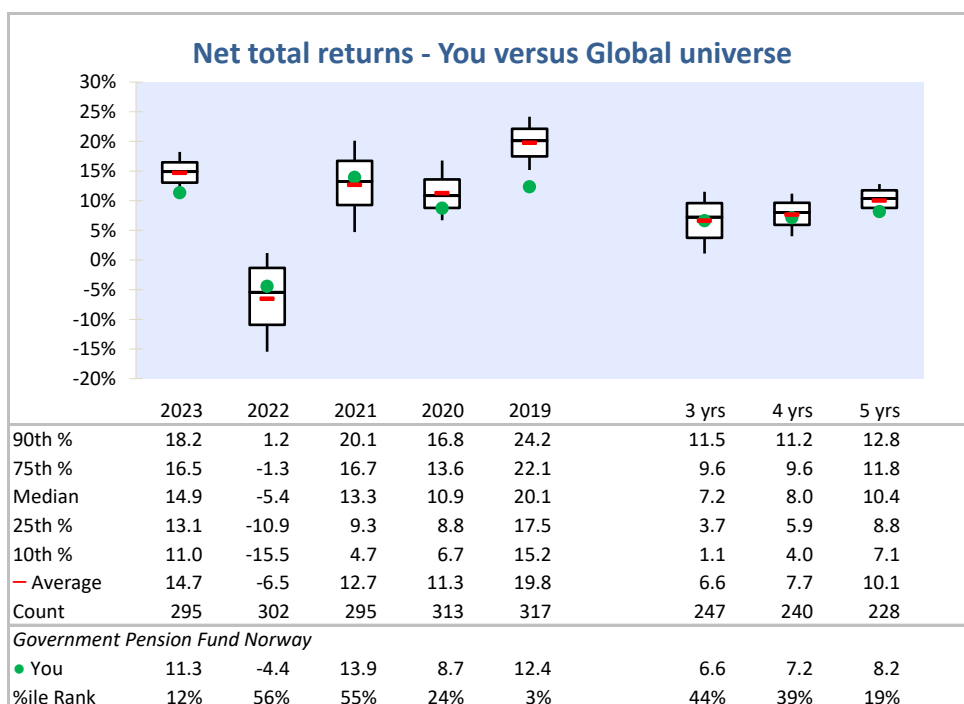
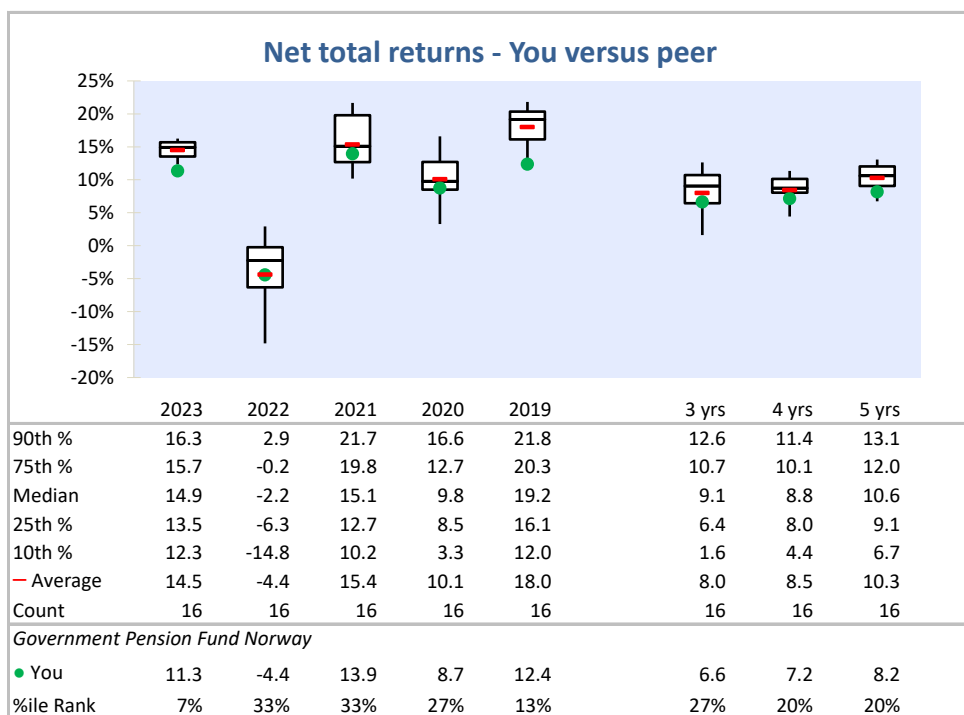
## Interpreting box and whisker graphs

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.



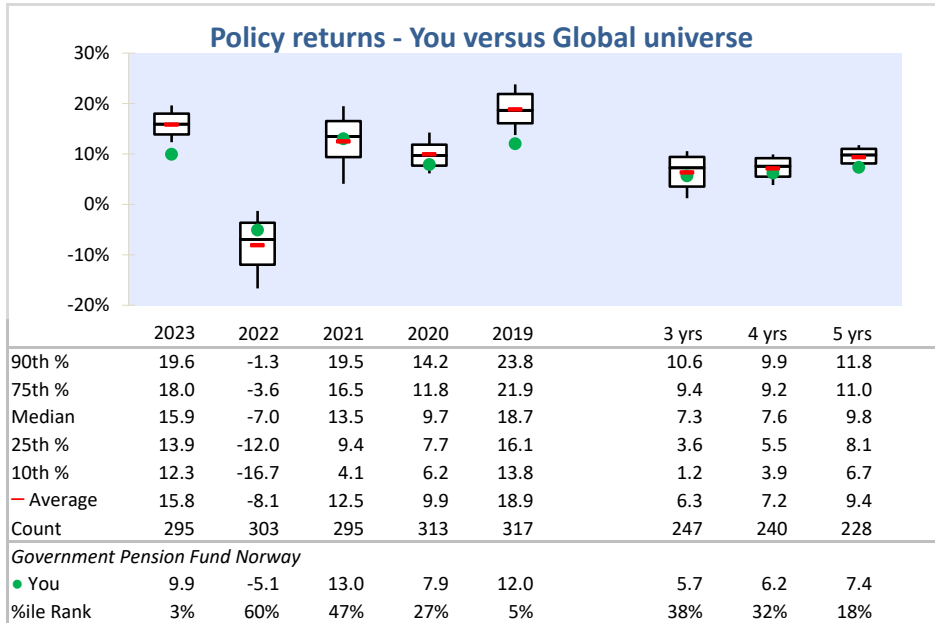
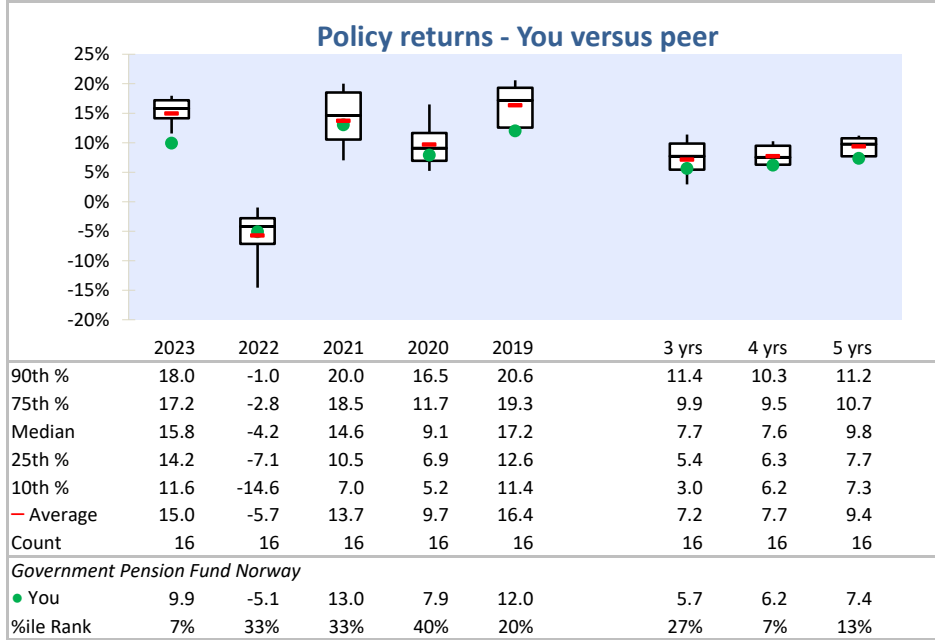
## Net total returns

Your 5-year net total return of 8.2% 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

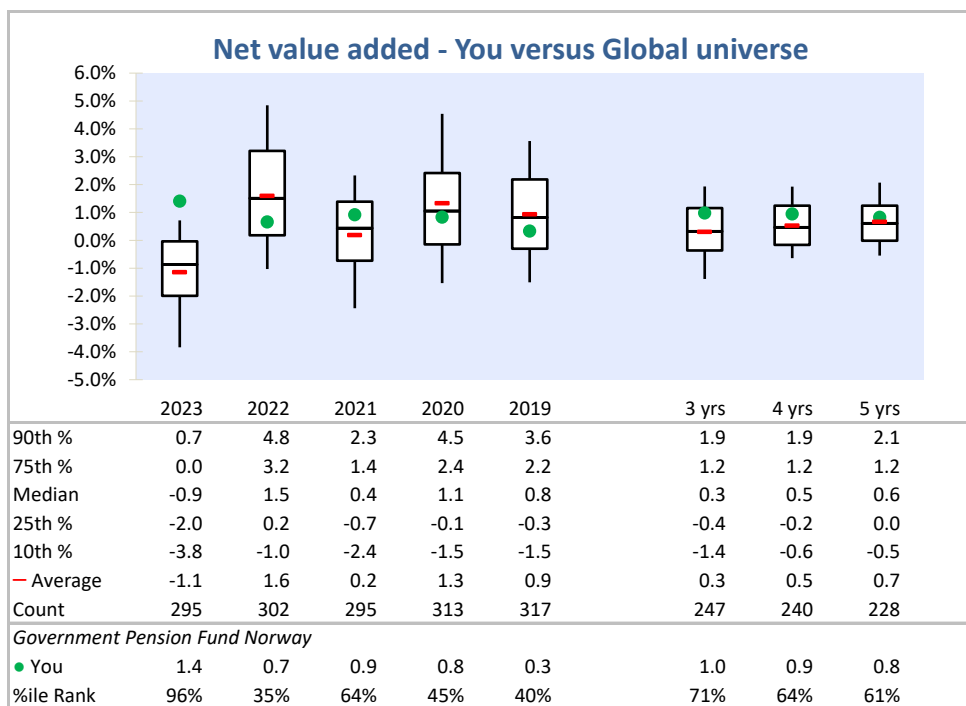
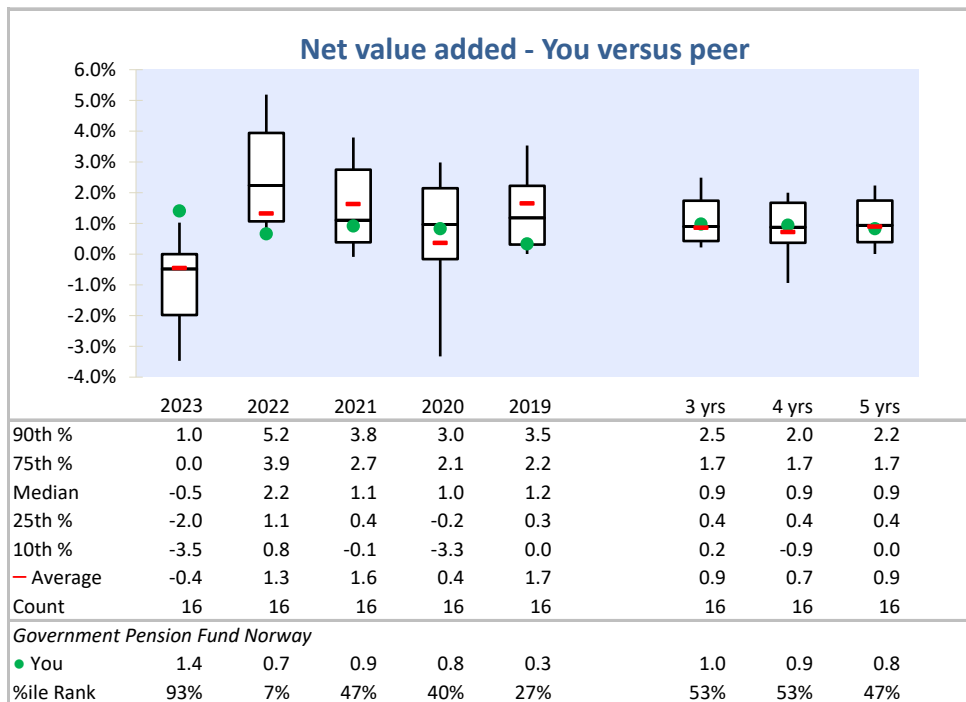
Your 5-year policy return of 7.4% was below the peer median and below the median of the Global universe. Policy return is the return you would have earned had you passively implemented your policy asset mix decision through your benchmark portfolios.



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 0.8% was close to the peer median and above 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 %					
	2023	2022	2021	2020	2019	5-yr <sup>1</sup>	2023	2022	2021	2020	2019	5-yr <sup>1</sup>	2023	2022	2021	2020	2019	5-yr <sup>1</sup>
Stock - U.S.							29.5	-11.8	29.8	18.3	33.2	18.1	28.2	-9.1	28.4	16.7	32.2	18.2
Stock - EAFE	13.5	-1.7	24.8	8.0	18.1	12.2	21.0	-6.6	18.5	8.9	24.4	12.6	20.5	-5.3	14.2	8.8	24.2	12.2
Stock - Global							22.9	-9.3	19.9	6.8	28.7	13.6	24.5	-8.4	20.8	14.1	27.9	14.9
Stock - other							17.3	-1.8	-1.7	129.7	18.6	15.3	17.2	-1.5	19.8	9.8	22.8	13.9
Stock - Emerging							17.5	-10.8	3.6	15.2	20.3	8.4	14.7	-11.5	1.7	16.5	22.3	7.7
Stock - ACWI x U.S.							20.3	-2.8	13.5	9.4	25.7	12.7	21.4	-8.6	12.2	11.5	25.0	12.3
Stock - Aggregate	13.5	-1.7	24.8	8.0	18.1	12.2	22.7	-8.2	21.1	11.1	27.4	14.0	23.8	-7.5	20.2	13.2	27.8	14.7
Fixed income - U.S.							11.6	-4.4	-0.4	8.1	11.0	4.8	10.3	-7.0	0.9	8.5	12.2	5.0
Fixed income - EAFE	8.1	-8.9	-1.5	7.3	4.1	1.6	12.6	-12.7	-3.1	11.1	5.8	1.5	14.5	-19.1	-3.9	12.7	8.8	1.9
Fixed income - Global							12.2	-5.4	-0.3	6.9	8.5	4.5	14.0	-6.7	0.0	9.3	7.5	4.8
Fixed income - other							12.5	-2.0	1.0	5.6	7.8	5.0	18.2	-4.0	3.2	6.9	11.4	7.0
Fixed income - Long bonds							15.8	-10.2	-3.4	18.0	22.9	4.9	13.0	-18.5	-0.3	13.7	21.4	4.9
Fixed income - Emerging							17.0	-4.2	-2.8	1.9	14.2	4.8	15.5	-4.6	-2.2	3.9	14.7	4.7
Fixed income - Inflation indexed							9.2	-7.7	6.2	8.8	10.9	5.3	8.9	-12.1	6.5	9.5	12.5	5.1
Fixed income - High yield							19.9	-1.1	6.5	6.6	13.5	9.0	15.9	0.8	7.5	4.9	13.2	8.3
Fixed income - Bundled LDI							4.3	-56.5	7.1	17.1	10.4	-8.9	8.4	-33.1	-1.2	22.9	21.4	1.9
Public mortgages							8.1	2.9	7.1	0.7	10.1	5.6	11.3	-1.7	4.0	1.1	10.1	5.6
Fixed income - Convertibles								-16.5	-4.6	37.5	12.2		12.6	-5.8	3.8	21.9	15.8	11.8
Cash							9.5	8.5	0.1	4.2	3.9	5.2	9.2	8.6	1.5	0.0	4.3	4.3
Fixed income - Aggregate	8.1	-8.9	-1.5	7.3	4.1	1.6	11.8	-6.6	0.4	8.2	10.7	4.7	13.0	-11.0	0.6	11.2	15.0	5.1
Commodities							2.0	19.1	27.0	-16.7	12.5	9.6	2.3	26.8	25.4	-3.4	9.9	11.2
Infrastructure							10.3	15.0	12.2	8.1	8.1	10.4	12.8	17.5	13.3	7.0	12.4	12.1
Natural resources							12.2	30.2	15.1	-4.6	6.6	10.3	10.9	22.7	15.8	-4.7	5.1	9.3
REITs							17.0	-17.8	33.9	-11.7	26.0	10.4	14.2	-14.3	31.7	-7.6	25.3	8.7
Real estate							-3.2	13.3	16.0	2.2	9.9	7.7	-4.0	15.0	19.3	1.1	8.9	7.8
Other real assets							8.7	196.2	24.3	-10.7	-44.5	-28.6	12.0	21.6	20.9	-0.8	5.4	3.0
Real assets - Aggregate							1.5	15.0	16.1	2.8	10.5	9.2	2.5	14.9	19.3	1.1	10.5	9.3
Hedge funds							11.1	7.0	11.6	2.7	10.9	9.0	9.7	12.8	10.5	3.0	8.0	8.4
Global TAA							16.0	1.4	16.8	7.2	19.8	11.8	11.5	3.5	9.4	2.9	13.9	8.3
Balanced funds													12.8	3.5	6.7	-10.8	32.5	
Risk parity							15.0	-21.9	14.7	3.5	32.4	7.2	21.7	-12.0	11.6	6.6	20.2	9.0
Private mortgages							9.9	0.9	4.8	8.9	9.9	4.2	12.3	-1.0	3.7	7.2	9.0	5.3
Private credit							14.6	6.8	9.9	3.9	8.0	9.2	14.7	8.0	14.6	3.4	11.8	10.5
Private equity - Diversified							11.8	8.3	46.0	12.2	12.8	18.1	6.9	9.8	45.8	13.9	11.7	16.8
Venture capital							-3.8	-1.6	71.7	30.0	10.6	17.2	-4.1	0.5	58.1	23.8	11.0	17.0
LBO							12.7	8.1	37.6	14.3	15.4	17.5	10.6	11.5	46.3	13.9	13.9	18.2
Private equity - Other							11.5	21.2	5.5	14.5	18.3	31.4	8.3	11.2	27.1	12.8	10.6	15.6
Private equity - Aggregate							10.7	9.1	45.6	13.4	13.2	18.3	6.7	9.8	46.8	14.6	11.3	16.9
Total Fund Return	11.3	-4.4	13.9	8.7	12.4	8.2	14.5	-4.4	15.4	10.1	18.0	10.3	14.7	-6.5	12.7	11.3	19.8	10.1

You were not able to provide full year returns for all of the components of returns of asset classes with values shown in italics. The composite calculation only uses those components with a full year return.

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 %					
	2023	2022	2021	2020	2019	5-yr <sup>1</sup>	2023	2022	2021	2020	2019	5-yr <sup>1</sup>	2023	2022	2021	2020	2019	5-yr <sup>1</sup>
Stock - U.S.							30.0	-10.9	27.4	17.4	32.3	17.8	28.7	-9.8	28.0	17.4	32.3	18.3
Stock - EAFE	12.5	-2.8	23.6	8.2	17.7	11.5	20.3	-6.4	18.1	8.2	24.8	12.5	20.9	-4.2	14.6	5.3	24.2	11.6
Stock - Global							23.9	-8.5	21.2	14.3	27.8	14.9	25.7	-8.5	21.8	13.1	28.3	15.3
Stock - other							18.5	-6.7	3.0	12.1	28.7	13.9	17.4	-2.7	21.4	6.7	26.1	14.7
Stock - Emerging							16.0	-10.9	3.5	16.6	21.0	8.6	13.7	-10.5	1.6	15.6	20.4	7.1
Stock - ACWI x U.S.							20.3	-4.6	13.1	7.4	23.8	11.5	20.5	-7.0	11.9	8.5	23.9	11.0
Stock - Aggregate	12.5	-2.8	23.6	8.2	17.7	11.5	22.9	-7.4	20.2	13.4	26.8	14.5	24.4	-7.8	20.7	12.6	27.7	14.7
Fixed income - U.S.							11.3	-3.8	-0.9	7.1	11.3	4.5	9.7	-6.9	0.5	7.5	11.2	4.4
Fixed income - EAFE	6.1	-8.9	-2.1	4.9	3.8	0.6	11.5	-13.0	-5.1	11.1	5.9	0.9	13.8	-18.3	-4.4	12.3	8.5	1.8
Fixed income - Global							12.7	-5.2	-1.3	8.0	8.6	4.0	13.5	-5.9	-0.3	7.9	9.6	4.7
Fixed income - other							13.0	-3.4	0.2	6.0	9.9	4.9	17.8	-5.4	2.4	6.3	11.6	6.2
Fixed income - Long bonds							15.3	-28.3	-3.0	13.6	22.1	2.0	12.3	-18.1	-0.4	12.3	21.5	4.3
Fixed income - Emerging							14.8	-2.4	-2.3	4.1	14.3	5.6	15.1	-4.8	-2.1	3.5	15.1	5.3
Fixed income - Inflation indexed							9.2	-12.2	4.3	11.2	9.3	5.3	8.2	-13.0	6.1	9.9	11.7	4.5
Fixed income - High yield							17.6	-2.2	3.8	6.1	13.9	8.2	16.8	-0.8	6.4	4.6	14.5	8.2
Fixed income - Bundled LDI									5.5	14.3			5.8	-33.3	-2.3	22.8	21.7	2.4
Public mortgages							3.2	-3.4	7.3	-1.1	12.5	3.5	10.7	-1.0	2.7	0.7	7.6	3.2
Fixed income - Convertibles								1.5	-1.6	11.1	24.1		15.5	-7.4	8.5	24.5	17.6	15.8
Cash							8.4	6.2	0.4	2.2	4.6	4.2	10.0	8.6	1.9	0.2	4.5	4.9
Fixed income - Aggregate	6.1	-8.9	-2.1	4.9	3.8	0.6	13.0	-8.2	-1.3	8.8	10.1	4.0	12.1	-12.2	0.1	10.4	14.8	4.2
Commodities							3.9	29.1	39.1	-4.8	19.5	8.8	1.0	26.1	26.8	-6.6	12.7	11.3
Infrastructure							13.0	9.1	11.2	9.6	9.9	10.2	13.4	11.6	10.8	7.0	13.0	10.9
Natural resources							14.0	15.1	9.5	0.6	8.1	8.5	10.2	18.1	19.1	-1.6	10.2	9.5
REITs							15.9	-18.1	33.6	-17.9	26.1	10.3	13.4	-14.8	31.1	-8.8	23.8	8.3
Real estate							-1.8	13.9	13.7	4.1	8.6	7.7	0.2	14.2	17.3	1.8	9.9	8.5
Other real assets							16.4	5.9	-2.3	16.2	12.1	8.3	18.4	10.5	19.5	4.6	13.0	10.4
Real assets - Aggregate							0.9	14.0	13.0	3.8	9.4	8.3	4.3	13.4	16.8	1.6	11.4	9.1
Hedge funds							13.5	4.2	6.4	5.5	13.5	7.8	10.5	7.5	7.8	4.0	10.7	8.3
Global TAA							15.5	1.8	13.7	6.6	18.3	11.3	11.8	1.1	10.3	3.6	16.2	9.3
Balanced funds													18.2	-2.1	6.3	-25.2	42.7	
Risk parity							14.9	-23.1	14.4	2.9	32.0	6.5	14.1	-6.5	12.8	6.0	18.1	7.7
Private mortgages							12.0	-8.6	-0.6	6.1	10.5	4.1	13.7	-5.6	-1.0	7.9	8.5	4.3
Private credit							16.2	4.1	6.4	2.5	11.2	8.5	16.5	3.0	8.7	2.0	15.2	8.8
Private equity - Diversified							15.4	-9.3	46.8	-0.9	-9.2	6.8	12.8	-8.3	52.1	-2.5	-10.7	6.7
Venture capital							15.5	-9.6	44.6	0.7	-9.2	6.6	12.5	-8.5	50.8	-2.4	-10.5	7.0
LBO							15.5	-9.6	44.6	0.7	-9.2	6.6	13.7	-8.6	51.2	-1.5	-11.0	6.9
Private equity - Other							15.0	-12.0	36.3	1.4	-7.0	5.2	11.8	-9.0	49.5	-2.3	-10.6	6.0
Private equity - Aggregate							15.3	-9.2	47.4	-1.0	-9.4	6.9	13.0	-8.3	52.1	-2.4	-10.7	6.7
Total Policy Return	9.9	-5.1	13.0	7.9	12.0	7.4	15.0	-5.7	13.7	9.7	16.4	9.4	15.8	-8.1	12.5	9.9	18.9	9.4

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 %					
	2023	2022	2021	2020	2019	5-yr <sup>1</sup>	2023	2022	2021	2020	2019	5-yr <sup>1</sup>	2023	2022	2021	2020	2019	5-yr <sup>1</sup>
Stock - U.S.							-0.4	-0.8	2.4	1.0	0.9	0.3	-0.5	0.7	0.2	-0.7	-0.1	0.0
Stock - EAFE	1.1	1.1	1.3	-0.2	0.4	0.7	1.2	-0.5	0.4	0.7	-0.4	0.4	-0.5	-1.2	-0.4	3.5	-0.1	0.5
Stock - Global							-0.8	-2.1	-1.8	-6.2	-0.2	-1.3	-1.2	0.1	-1.0	1.0	-0.5	-0.4
Stock - other							0.9	6.2	-9.8	143.7	-10.0	0.7	0.3	1.3	-0.4	6.0	-3.8	-0.6
Stock - Emerging							1.9	0.3	0.1	-1.4	-0.7	-0.4	1.2	-0.8	0.1	0.9	1.9	0.6
Stock - ACWI x U.S.							0.0	1.8	0.4	2.1	1.9	1.2	0.9	-1.3	0.4	3.0	1.1	1.4
Stock - Aggregate	1.1	1.1	1.3	-0.2	0.4	0.7	0.1	-0.8	0.9	-2.3	0.6	-0.4	-0.6	0.2	-0.4	0.6	0.0	0.0
Fixed income - U.S.							0.2	0.4	0.5	0.9	-0.3	0.3	0.7	-0.2	0.6	0.8	0.8	0.6
Fixed income - EAFE	1.9	0.0	0.5	2.4	0.3	1.0	-0.8	-0.5	2.0	0.0	-0.1	-0.3	0.9	-1.4	0.0	0.4	1.0	0.1
Fixed income - Global							0.0	-1.1	0.8	-2.5	0.6	-0.7	0.8	-0.3	0.2	0.9	-2.0	0.0
Fixed income - other							-0.4	0.9	0.6	-0.3	-2.1	0.1	0.5	1.1	1.1	0.2	-0.1	0.7
Fixed income - Long bonds							0.5	6.9	-0.5	4.5	0.8	3.0	0.5	-0.7	0.1	1.2	0.0	0.4
Fixed income - Emerging							1.8	0.2	-0.5	-2.3	-0.1	0.2	0.2	0.5	-0.1	0.6	-0.5	-0.5
Fixed income - Inflation indexed							0.0	3.9	2.3	-0.8	1.7	1.2	0.5	1.1	0.6	-0.4	0.8	0.6
Fixed income - High yield							3.8	0.1	2.7	0.5	-0.4	1.1	0.2	1.3	1.0	0.3	-1.5	0.3
Fixed income - Bundled LDI									1.6	2.8			0.7	-1.4	0.3	0.5	0.3	1.0
Public mortgages							7.5	-0.2	-1.0	5.4	0.5	2.4	1.5	-1.8	0.9	1.7	0.5	2.4
Fixed income - Convertibles								-18.0	-0.8	26.4	-12.0		-2.9	-1.3	-2.5	-2.7	-4.9	-4.0
Cash							0.7	3.7	-0.3	2.0	-0.6	1.2	-0.5	-0.3	-0.5	-0.2	-0.3	-0.8
Fixed income - Aggregate	1.9	0.0	0.5	2.4	0.3	1.0	-1.3	2.5	1.7	-0.7	0.5	0.8	1.0	1.3	0.5	0.8	0.1	0.9
Commodities							-1.9	-0.2	1.6	-11.9	-0.1	0.8	1.5	0.1	-3.5	2.3	-3.4	-0.7
Infrastructure							-2.7	7.6	1.1	-1.4	-1.8	0.2	-0.7	5.9	2.5	-0.2	-0.5	1.2
Natural resources							-1.8	15.1	5.6	-5.2	-0.7	1.8	0.9	4.2	-2.3	-3.5	-4.9	-0.5
REITs							1.1	0.3	0.2	-0.5	-0.1	0.2	0.9	-0.4	0.7	1.7	1.3	0.2
Real estate							-1.3	0.7	2.3	-1.9	1.3	0.1	-4.1	1.0	2.0	-0.8	-1.0	-0.5
Other real assets							-7.7	190.3	27.2	-26.8	-56.6	-33.6	-8.9	17.6	-0.7	-5.3	-8.2	-9.5
Real assets - Aggregate							0.6	2.3	3.1	-1.0	1.1	0.9	-1.6	1.6	2.6	-0.5	-0.9	0.3
Hedge funds							-3.4	4.4	5.0	-1.7	-3.1	1.0	-0.4	4.3	2.7	-1.5	-2.8	0.6
Global TAA							0.5	-0.4	3.0	0.6	-1.2	0.6	0.4	2.2	-1.5	-1.3	-3.0	-0.4
Balanced funds													-6.4	-3.3	1.0	16.7	-10.2	
Risk parity							0.1	1.2	0.4	0.7	0.4	0.6	3.5	-3.8	-0.8	-1.1	1.9	0.3
Private mortgages							-0.8	0.6	1.1	0.3	-0.6	0.1	-1.4	4.0	4.6	-1.0	0.5	1.0
Private credit							-1.5	4.5	2.8	1.3	-1.6	1.5	-1.3	4.9	5.4	0.7	-3.0	1.8
Private equity - Diversified							-3.1	17.6	-2.0	13.2	21.9	11.0	-6.0	18.1	-6.3	16.3	22.3	9.9
Venture capital							-18.5	8.0	25.3	29.3	19.7	10.4	-17.3	8.8	8.3	25.4	21.3	9.9
LBO							-2.1	17.7	-7.3	13.6	24.5	10.7	-3.2	20.1	-5.1	14.9	24.8	11.2
Private equity - Other							0.2	32.4	-30.2	11.1	26.4	26.2	-3.6	20.0	-22.8	14.3	21.2	9.6
Private equity - Aggregate							-4.2	18.3	-2.9	14.4	22.5	11.2	-6.3	18.1	-5.3	17.0	21.9	10.1
Total Net Value Added	1.4	0.7	0.9	0.8	0.3	0.8	-0.4	1.3	1.6	0.4	1.7	0.9	-1.1	1.6	0.2	1.3	0.9	0.7

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.

You were not able to provide full year returns for all of the components of returns of asset classes with values shown in italics. The composite calculation only uses those components with a full year return.

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 - 2023

### 2023 Policy Return and Value Added

Asset class	Policy weight	Benchmark Description	Return	Net return	Value added
Stock - EAFE	61.6%	CMVINXBINN - Custom Index 15 % - OSEBX 85'	12.5%	13.5%	1.1%
Fixed income - EAFE	38.5%	Bloomberg Global Treasuries Norway 30% 70% I	6.1%	8.1%	1.9%
<b>Total</b>	<b>100.0%</b>				
Net Actual Return (reported by you)					11.3%
Calculated Policy Return = sum of (policy weights X benchmark returns)				10.0%	
Adjustment to reflect rebalancing and overlay impacts				<u>-0.1%</u>	
Policy Return (reported by you)					<u>9.9%</u>
Net Value Added (Net Return - Policy Return)					1.4%

## Your policy return and value added calculations - 2019 to 2022

### 2022 Policy Return and Value Added

Asset class	Policy	Benchmark		Net return	Value added
	weight	Description	Return		
Stock - EAFE	60.2%	CMVINXBXINN	-2.8%	-1.7%	1.1%
Fixed income - EAFE	39.8%	Bloomberg Glot	-8.9%	-8.9%	0.0%
<b>Total</b>	<b>100.0%</b>				
Net Return (reported by you)					-4.4%
Calculated policy return (sum: Policy weights x benchmarks)				-5.2%	
Adjustment to reflect rebalancing and overlay impacts				<u>0.1%</u>	
Policy return (reported by you)					<u>-5.1%</u>
Net Value Added (Net Return - Policy Return)					0.7%

### 2020 Policy Return and Value Added

Asset class	Policy	Benchmark		Net return	Value added
	weight	Description	Return		
Stock - EAFE	65.1%	CMVINXBXINN	8.2%	8.0%	-0.2%
Fixed income - EAFE	34.9%	Barclays Capital	4.9%	7.3%	2.4%
Cash					
<b>Total</b>	<b>100.0%</b>				
Net Return (reported by you)					8.7%
Calculated policy return (sum: Policy weights x benchmarks)				7.1%	
Adjustment to reflect rebalancing and overlay impacts				<u>0.8%</u>	
Policy return (reported by you)					<u>7.9%</u>
Net Value Added (Net Return - Policy Return)					0.8%

### 2021 Policy Return and Value Added

Asset class	Policy	Benchmark		Net return	Value added
	weight	Description	Return		
Stock - EAFE	63.1%	CMVINXBXINN	23.6%	24.8%	1.3%
Fixed income - EAFE	36.9%	Barclays Capital	-2.1%	-1.5%	0.5%
<b>Total</b>	<b>100.0%</b>				
Net Return (reported by you)					13.9%
Calculated policy return (sum: Policy weights x benchmarks)				14.1%	
Adjustment to reflect rebalancing and overlay impacts				<u>-1.1%</u>	
Policy return (reported by you)					<u>13.0%</u>
Net Value Added (Net Return - Policy Return)					0.9%

### 2019 Policy Return and Value Added

Asset class	Policy	Benchmark		Net return	Value added
	weight	Description	Return		
Stock - EAFE	62.0%	CMVINXBXINN	17.7%	18.1%	0.4%
Fixed income - EAFE	38.0%	Barclays Capital	3.8%	4.1%	0.3%
Cash					
<b>Total</b>	<b>100.0%</b>				
Net Return (reported by you)					12.4%
Calculated policy return (sum: Policy weights x benchmarks)				12.4%	
Adjustment to reflect rebalancing and overlay impacts				<u>-0.4%</u>	
Policy return (reported by you)					<u>12.0%</u>
Net Value Added (Net Return - Policy Return)					0.3%

## Profit/Loss on overlay programs

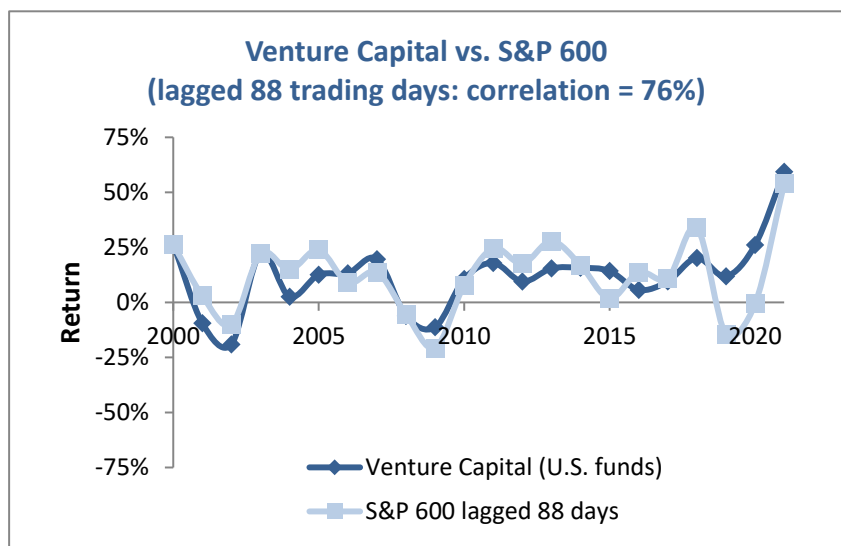
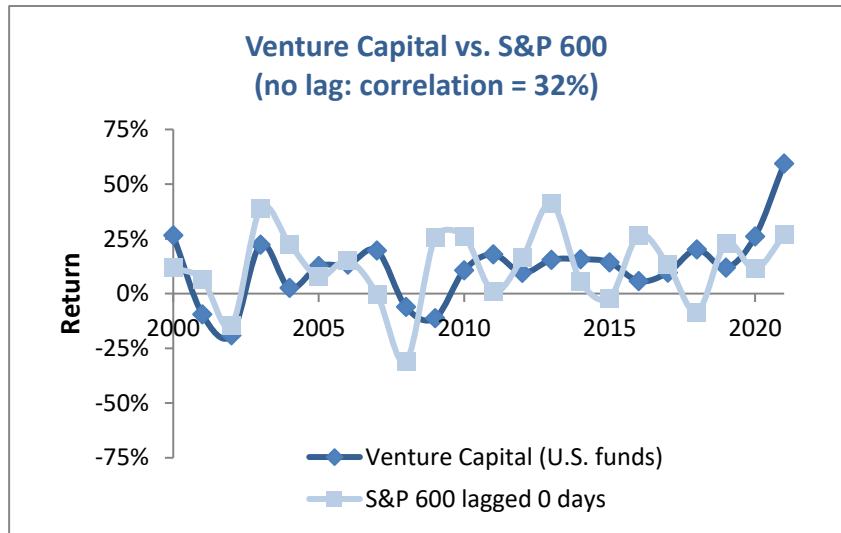
Overlay type	Your fund		Peer median				Global median			
	2023	2022	2023		2022		2023		2022	
	bps	bps	bps	#	bps	#	bps	#	bps	#
Int. Discretionary Currency			4.5	3	-44.9	3	2.4	7	-10.9	7
Ext. Discretionary Currency							6.3	8	0.0	9
Internal Global TAA			3.3	2	18.1	2	2.4	8	18.1	4
External Global TAA							-3.9	3	11.2	2
Internal PolicyTilt TAA			-4.0	1	-4.3	2	0.1	6	2.7	6
External PolicyTilt TAA										
Internal Commodities			0.1	1			0.1	1	0.0	1
External Commodities							3.0	1	15.5	4
Internal Long/Short			-16.9	2	12.3	3	0.0	5	3.0	5
External Long/Short							-1.2	1	0.4	1
Internal Other			0.0	1	6.9	1	1.9	6	7.5	6
External Other							8.1	7	-33.3	6

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 standardized 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 a standardized benchmark. The standard benchmark is:

- Investable. They are comprised of a blend of small cap indices that are investable.
- Lagged. CEM estimated the lag on private equity portfolios with multi-year histories 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 85 days (i.e., approximately 119 calendar days or 3.9 calendar months), the correlation between the two series is maximized for most plans.
- Regional mix adjusted based on the average estimated mix of regions in private equity portfolios for a given country.
- The result is the standardized benchmarks are superior to most self-reported benchmarks. Correlations improve to a median of 82% for the standardized benchmarks versus 44% for self-reported benchmarks. Other statistics such as volatility were also much better.

# 4

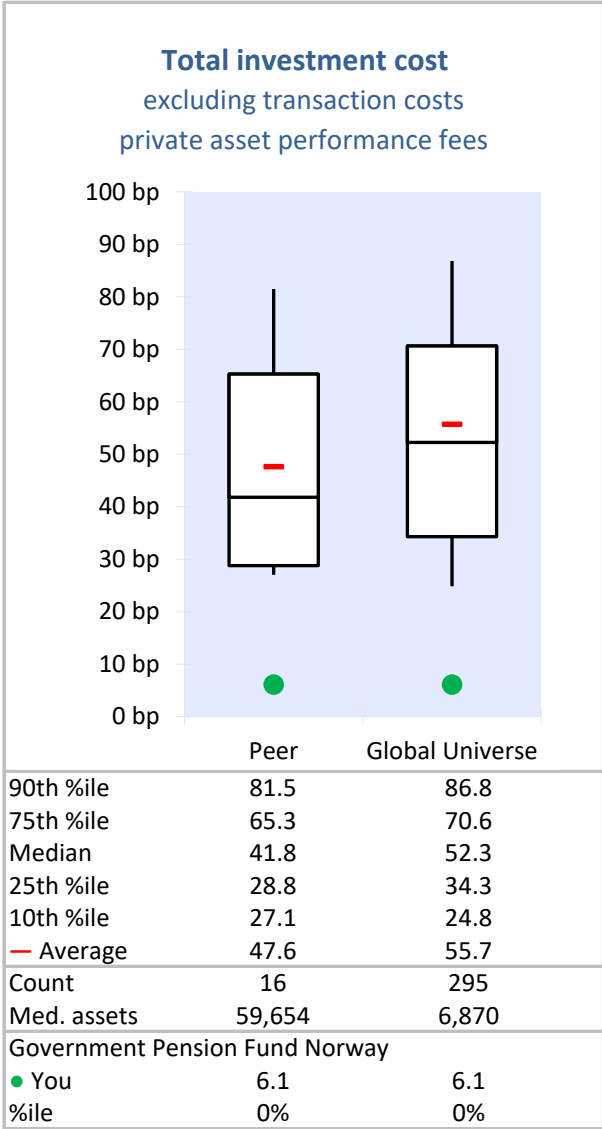
## Cost: total, benchmark, trend

Comparisons of total investment cost	2
Trend in total investment cost, you versus peers and universe	3
Types of costs included in your total investment cost	4
Detailed breakdown of your total investment cost	5
Changes in your investment costs	6
Benchmark cost model	
Total cost versus benchmark cost	7
Benchmark cost calculation	8
Cost impact of:	
- differences in implementation style	9
- overlays	10
- paying more/-less for similar services	11
Summary of why you are high or low cost by asset class	12
Your cost impact ranking	13
Benchmarking methodology formulas and data	14
Cost trend model, 2014 - 2023	
Methodology of the cost trend model	17
Summary of cost differences, 2023 versus 2014	18
Summary of cost differences, year over year	19
Reasons by asset class and cost type, €000	20
Reasons by asset class and cost type, basis points	21
Impact of changes in asset mix	22
Impact of changes in implementation style	23
Impact of paying more/-less for similar services	24

## Comparisons of total investment cost

Your total investment cost, excluding transaction costs and private asset performance fees, of 6.1 bps was below the peer median of 41.8 bps.

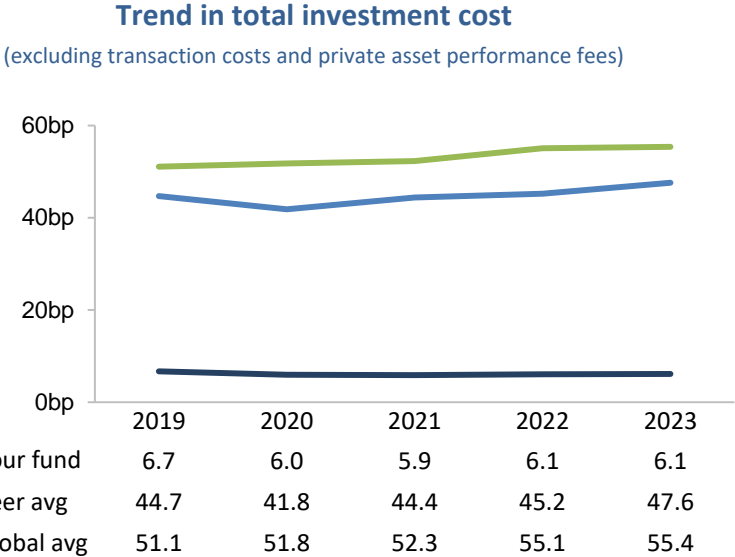
Differences in total investment cost are often caused by two factors that are usually outside of management's control: asset mix and fund size. Therefore, to assess whether your fund's total investment cost is high or low given your unique asset mix and size, CEM calculates a benchmark cost for your 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 6.7 bps in 2014 to 6.1 bps in 2023.



Trend analysis is based on 192 Global funds and 16 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 &amp; 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 2023 total investment cost, excluding transaction costs and private asset performance fees, was 6.1 bp or €19.3 million.

	Internal		External passive		External active			Total <sup>1</sup>		
	Passive	Active	Fees	Monitoring & Other	Base Fees	Perform. Fees	Monitor. & Other	€000s	bps	% of Total
<b>Asset management</b>										
Stock - EAFE		7,979						7,979		41%
Fixed income - EAFE		9,176						9,176		48%
Total asset management costs excluding private asset performance fees								17,155	5.4bp	89%
<b>Oversight, custodial &amp; other asset related costs</b>										
Oversight of the fund								1,123		6%
Trustee & custodial								592		3%
Consulting and performance measurement								51		0%
Audit								278		1%
Other								118		1%
Total oversight, custodial & other costs								2,162	0.7bp	11%
Total investment costs excluding transaction costs and private asset performance fees								19,317	6.1bp	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 (2023 - 2019)

	Investment costs (€000s)					Change (€000s)				Change (%)			
	2023	2022	2021	2020	2019	2023	2022	2021	2020	2023	2022	2021	2020
<b>Asset management</b>													
Stock - EAFE	7,979	7,649	7,015	6,792	7,017	330	634	223	-225	4%	9%	3%	-3%
Fixed income - EAFE	9,176	8,150	8,162	7,483	7,921	1,026	-12	679	-438	13%	0%	9%	-6%
Total excl. private asset perf. fees	17,155	15,799	15,177	14,275	14,937	1,356	622	902	-662	9%	4%	6%	-4%
<b>Oversight, custodial &amp; other asset related costs</b>													
Oversight of the fund	1,123	1,253	1,388	1,202	1,270	-130	-135	186	-68	-10%	-10%	15%	-5%
Trustee & custodial	592	625	612	575	582	-33	13	37	-7	-5%	2%	6%	-1%
Consulting and performance measurement	51	123	155	61	56	-72	-32	94	5	-59%	-21%	154%	9%
Audit	278	285	239	222	252	-7	46	17	-30	-2%	19%	8%	-12%
Other	118	287	361	142	131	-169	-74	219	11	-59%	-20%	154%	8%
Total oversight, custodial & other	2,162	2,573	2,755	2,202	2,291	-411	-182	553	-89	-16%	-7%	25%	-4%
Total investment costs <sup>1</sup>	19,317	18,372	17,932	16,477	17,228	945	440	1,455	-751	5%	2%	9%	-4%
Total in basis points	6.1bp	6.1bp	5.9bp	6.0bp	6.7bp								

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 9.0 bps below your benchmark cost of 15.1 bps. This implies that your fund was low cost by 9.0 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	19,317	6.1 bp
- Your fund's benchmark	47,778	15.1 bp
= Your fund's cost savings	-28,461	-9.0 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	5,517	1.7 bp
More int. active % of total active	-19,689	-6.2 bp
Less overlays and unfunded strategies	-1,590	-0.5 bp
Total style impact	-15,762	-5.0 bp
<u>Paying more/-less for similar services:</u>		
External investment management	0	0.0 bp
Internal investment management	-7,847	-2.5 bp
Oversight, custodial and other	-4,852	-1.5 bp
Total impact of paying more /-less	-12,698	-4.0 bp
Total savings	-28,461	-9.0 bp

## Benchmark cost calculation

Your 2023 benchmark cost was 15.1 basis points or 47.8 million. 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	Weighted peer median cost <sup>1</sup>	Benchmark €000s
	(A)	(B)	(A X B)
<b>Asset management costs</b>			
Stock - EAFE <sup>4</sup>	19,434	13.8 bp	26,802
Fixed income - EAFE <sup>4</sup>	12,146	10.2 bp	12,372
Overlay Programs <sup>2</sup>	31,581	0.5 bp	1,590
Benchmark for asset management	31,581	12.9 bp	40,764
<b>Oversight, custody and other costs<sup>3</sup></b>			
Oversight	31,581	1.3 bp	
Trustee & custodial	31,581	0.3 bp	
Consulting	31,581	0.0 bp	
Audit	31,581	0.0 bp	
Other	31,581	0.1 bp	
Benchmark for oversight, custody, other	31,581	2.2 bp	7,014
<b>Total benchmark cost</b>		<b>15.1 bp</b>	<b>47,778</b>

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 16 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 - EAFE', 'Fixed income - Aggregate' for 'Fixed income - EAFE'.

## Cost impact of differences in implementation style

Differences in implementation style (passive vs. active, internal vs. external, etc.) relative to your peers saved you 5.0 bps.

Implementation choices	Assets by style	Peer benchmark cost			Style 1 %			Cost/ -Savings €000s	bps
		Style 1	Style 2	Style 1 -Savings	Your	Peer average	More/ -Less		
	a	b	c	d = b - c			e	a x d x e	
<u>Passive vs active</u>	Total	Passive	Active		Passive % of total assets				
Stock - EAFE	19,434	4 bp	16 bp	-12 bp	0%	19%	-19%	4,567	
Fixed income - EAFE	12,146	3 bp	11 bp	-8 bp	0%	10%	-10%	950	
Less passive								5,517	1.7 bp
<u>Internal active vs external active</u>	Active assets	Internal active	External active		Internal active % of active				
Stock - EAFE	19,434	9 bp	44 bp	-35 bp	100%	80%	20%	-13,990	
Fixed income - EAFE	12,146	6 bp	34 bp	-28 bp	100%	83%	17%	-5,699	
More int. active % of total active								-19,689	-6.2 bp
Less overlays and unfunded strategies								-1,590	-0.5 bp
<b>Total impact of differences in implementation style</b>								<b>-15,762</b>	<b>-5.0 bp</b>

## Cost impact of overlays

As summarized on the previous page, the style impact of overlays saved you 0.5 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)
		You	Peer avg.	
	(A)	(B)	(C)	A X (B - C)
<b>Internal Overlays</b>				
Currency - Hedge	31,581	NA	0.10 bp	-303
Currency - Discretionary	31,581	NA	0.04 bp	-134
Rebalancing / Passive beta - Hedge	31,581	NA	0.08 bp	-263
Duration management - Hedge	31,581	NA	0.00 bp	-7
Global TAA - Discretionary	31,581	NA	0.06 bp	-195
Policy tilt TAA - Discretionary	31,581	NA	0.05 bp	-170
Commodity futures - Discretionary	31,581	NA	0.00 bp	-5
Long/Short - Discretionary	31,581	NA	0.04 bp	-119
Other overlay - Discretionary	31,581	NA	0.03 bp	-90
<b>External Overlays</b>				
Currency - Hedge	31,581	NA	0.00 bp	-5
Currency - Discretionary	31,581	NA	0.02 bp	-61
Rebalancing / Passive beta - Hedge	31,581	NA	0.04 bp	-126
Global TAA - Discretionary	31,581	NA	0.04 bp	-114
Total impact in 000s				-1,590
Total impact in basis points				-0.5 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 4.0 bps.

	Style	Your avg holdings (mils)	Cost in bps			Cost/-Savings	
			Your	Peer median	More/-less	€000s	bps
<b>Internal asset management</b>		(A)	(B)			(A X B)	
Stock - EAFE	active	19,434	4.1	8.9	-4.8	-9,400	
Fixed income - EAFE	active	12,146	7.6	6.3	1.3	1,553	
Total for internal management						-7,847	-2.5 bp
<b>Oversight, custody and other costs<sup>1</sup></b>							
Oversight			0.4	1.3	-1.0		
Trustee & custodial			0.2	0.3	-0.1		
Consulting			0.0	0.0	0.0		
Audit			0.1	0.0	0.1		
Other			0.0	0.1	-0.1		
Benchmark for oversight, custody, other		31,581	0.7	2.2	-1.5	-4,852	-1.5 bp
Total						-12,698	-4.0 bp

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

## 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 <sup>1</sup>	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)		
<b>Asset management costs</b>							
Stock - EAFE <sup>4</sup>	4.1 bp	13.8 bp	-9.7 bp	19,434	-18,823	-9,424	-9,400
Fixed income - EAFE <sup>4</sup>	7.6 bp	10.2 bp	-2.6 bp	12,146	-3,196	-4,749	1,553
Overlay Programs <sup>2</sup>	0.0 bp	0.5 bp	-0.5 bp	31,581	-1,590	-1,590	0
Total asset management	5.4 bp	12.9 bp	-7.5 bp	31,581	-23,609	-15,762	-7,847
<b>Oversight, custody and other costs<sup>3</sup></b>							
Oversight of the fund	0.4 bp	1.3 bp	-1.0 bp				
Trustee & custodial	0.2 bp	0.3 bp	-0.1 bp				
Consulting	0.0 bp	0.0 bp	0.0 bp				
Audit	0.1 bp	0.0 bp	0.1 bp				
Other	0.0 bp	0.1 bp	-0.1 bp				
Total oversight, custody & other	0.7 bp	2.2 bp	-1.5 bp	31,581	-4,852	n/a	-4,852
<b>Total</b>	<b>6.1 bp</b>	<b>15.1 bp</b>	<b>-9.0 bp</b>	<b>31,581</b>	<b>-28,461</b>	<b>-15,762</b>	<b>-12,698</b>

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 16 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.

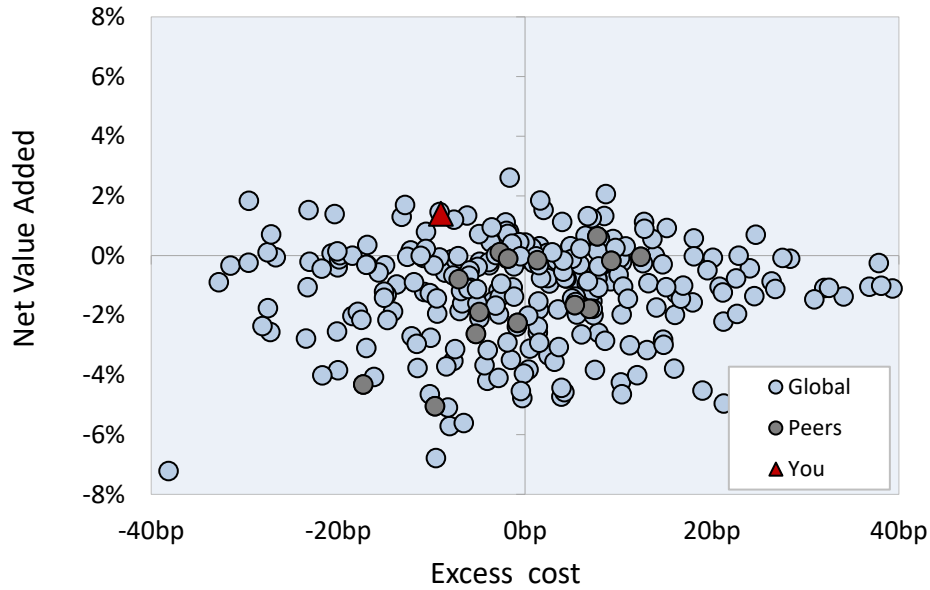
4. A different asset was used as a proxy to determine the benchmarks and style percentages: 'Stock - Aggregate' for 'Stock - EAFE', 'Fixed income - Aggregate' for 'Fixed income - EAFE'.

## Your cost impact ranking

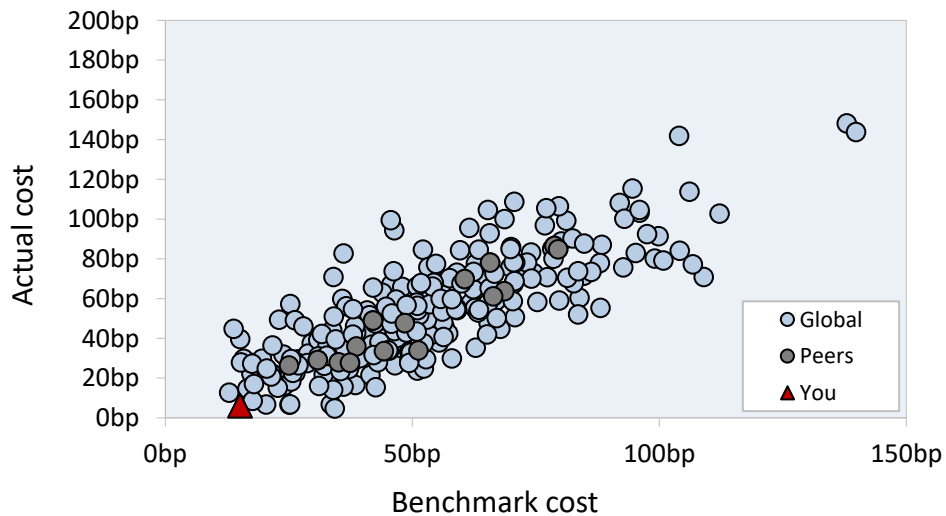
Being high or low cost is neither good nor bad. More important is whether you are receiving sufficient value for your excess cost. At the total fund level, we provide insight into this question by combining your excess return above benchmark and excess cost to create a snapshot of your cost impact performance relative to that of the global universe.

In 2023, your fund ranked in the positive net value added, low cost quadrant.

**Your 2023 Net value added 1.4%, Excess cost -9 bps**



**Your 2023 Actual cost 6.1 bps, Benchmark cost 15.1 bps**



For all funds except your fund, benchmark cost equals the sum of group median costs times the fund's average holdings by asset class plus group median cost of derivatives/overlays plus group median cost of oversight/support. Group is 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 14 of this section.

## Benchmarking methodology formulas and data

### a) Formulas

Example calculations for 'Stock - EAFE'

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

$$= (13\% \times 3.1 \text{ bp}) + (64\% \times 8.9 \text{ bp}) + (7\% \times 5.7 \text{ bp}) + (17\% \times 44.1 \text{ bp}) = 13.8 \text{ bp}$$

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

$$= 4.1 \text{ bp} - 13.8 \text{ bp} = -9.7 \text{ bp}$$

#### 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)

$$= 2.3 \text{ bp} + 0.0 \text{ bp} + -7.2 \text{ bp} = -4.8 \text{ bp}$$

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

$$\begin{aligned} &= (\text{peer average passive cost} - \text{peer average active cost}) \times \\ &\quad (\text{passive \% of asset, you} - \text{passive \% of asset, peer average}) \\ &= (4.0 \text{ bp} - 16.1 \text{ bp}) \times (0\% - 19\%) = 2.3 \text{ bp} \end{aligned}$$

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

$$= [(13\% \times 3.1 \text{ bp}) + (7\% \times 5.7 \text{ bp})] / (13\% + 7\%) = 4.0 \text{ bp}$$

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

$$= [(64\% \times 8.9 \text{ bp}) + (17\% \times 44.1 \text{ bp})] / (64\% + 17\%) = 16.1 \text{ bp}$$

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

$$\begin{aligned} &= (\text{peer average internal passive cost} - \text{peer average external passive cost}) \times \\ &\quad (\text{internal passive \% of passive, you} - \text{internal passive \% of passive, peer average}) \times \text{passive \% of asset, you} \\ &= (3.1 \text{ bp} - 5.7 \text{ bp}) \times (0\% - 0\%) \times 0\% = 0.0 \text{ bp} \end{aligned}$$

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

$$\begin{aligned} &= (\text{peer average internal active cost} - \text{peer average external active cost}) \times \\ &\quad (\text{internal passive \% of active, you} - \text{internal active \% of active, peer avg}) \times \text{active \% of asset, you} \\ &= (8.9 \text{ bp} - 44.1 \text{ bp}) \times (100\% - 80\%) \times 100\% = -7.2 \text{ bp} \end{aligned}$$

##### Cost impact of paying more/-less

$$\begin{aligned} &= (\text{cost internal passive, you} - \text{cost internal passive, peer}) \times \text{internal passive \% of asset, you} + \\ &\quad (\text{cost internal active, you} - \text{cost internal active, peer}) \times \text{internal active \% of asset, you} + \\ &\quad (\text{cost external passive, you} - \text{cost external passive, peer}) \times \text{external passive \% of asset, you} + \\ &\quad (\text{cost external active, you} - \text{cost external active, peer}) \times \text{external active \% of asset, you} \\ &= (0.0 \text{ bp} - 3.1 \text{ bp}) \times 0\% + (4.1 \text{ bp} - 8.9 \text{ bp}) \times 100\% + (0.0 \text{ bp} - 5.7 \text{ bp}) \times 0\% + (0.0 \text{ bp} - 44.1 \text{ bp}) \times 0\% = -4.8 \text{ bp} \end{aligned}$$

##### Your cost versus benchmark (-savings/+excess)

= cost impact of differences in implementation style + cost impact of paying more/-less

$$= -4.8 \text{ bp} + -4.8 \text{ bp} = -9.7 \text{ bp}$$

## Benchmarking methodology formulas and data

### b) 2023 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 - EAFE		4.1						3.1	8.9	5.7	44.1				13.8
Fixed income - EAFE		7.6						2.1	6.3	8.8	33.8				10.2

## Benchmarking methodology formulas and data

### c) 2023 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 - EAFE	0.0%	100.0%	0.0%	0.0%				12.9%	64.1%	6.5%	16.5%			
Fixed income - EAFE	0.0%	100.0%	0.0%	0.0%				8.4%	74.6%	1.7%	15.3%			

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 =

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

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 =

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

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

## Summary of cost differences, 2023 versus 2014

Your total cost decreased by 1.6 bps between 2014 and 2023 because of changes in: asset mix (0.0 bps), implementation style (0.0 bps), and paying more/less for similar services (-1.6 bps).

	bps	€000s
Starting total cost, 2014	7.7	15,656
Growth in asset value		8,801
Asset mix	<u>0.0</u>	<u>-42</u>
Stock	0.1	196
Fixed income	-0.1	-238
Implementation style (less expensive vs. more )	<u>0.0</u>	<u>0</u>
Paying more/-less for	<u>-0.9</u>	<u>-2,762</u>
Stock	-1.1	-3,340
Fixed income	0.2	577
Oversight, custodial, other (pay more/-less)	<u>-0.7</u>	<u>-2,335</u>
Total difference	-1.6	3,661
Ending total cost, 2023	6.1	19,317



## Summary of cost differences, year over year

	bps	€000s	bps	€000s	bps	€000s	bps	€000s	bps	€000s
	2019		2020		2021		2022		2014	
Starting total cost	6.7	17,228	6.0	16,477	5.9	17,932	6.1	18,372	7.7	15,656
Growth in asset value		1,247		1,759		-164		797		8,801
Asset mix	<u>-0.1</u>	<u>-273</u>	<u>0.0</u>	<u>-31</u>	<u>0.1</u>	<u>448</u>	<u>0.0</u>	<u>-110</u>	<u>0.0</u>	<u>-42</u>
Stock	0.1	373	0.0	63	-0.1	-418	0.1	180	0.1	196
Fixed income	-0.2	-646	0.0	-94	0.3	866	-0.1	-290	-0.1	-238
Implementation style (less expensive vs. more )	<u>0.0</u>	<u>0</u>	<u>0.0</u>	<u>0</u>	<u>0.0</u>	<u>0</u>	<u>0.0</u>	<u>0</u>	<u>0.0</u>	<u>0</u>
Paying more/-less for	<u>-0.5</u>	<u>-1,471</u>	<u>-0.2</u>	<u>-590</u>	<u>0.1</u>	<u>312</u>	<u>0.2</u>	<u>780</u>	<u>-0.9</u>	<u>-2,762</u>
Stock	-0.4	-1,106	-0.2	-565	0.4	1,116	-0.1	-182	-1.1	-3,340
Fixed income	-0.1	-365	0.0	-26	-0.3	-804	0.3	962	0.2	577
Oversight, custodial, other (pay more/-less)	<u>-0.1</u>	<u>-255</u>	<u>0.1</u>	<u>318</u>	<u>-0.1</u>	<u>-157</u>	<u>-0.2</u>	<u>-523</u>	<u>-0.7</u>	<u>-2,335</u>
Total difference	-0.7	-751	-0.1	1,455	0.2	440	0.0	945	-1.6	3,661
Ending total cost	6.0	16,477	5.9	17,932	6.1	18,372	6.1	19,317	6.1	19,317
	2020		2021		2022		2023		2023	

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 €3.7 million in 2023 compared to 2014. An increase of €8.8 million was due to the €11 billion rise in plan total average nav holdings. The remaining decrease of €5.1 million is explained by the changes in the asset mix (-€42 thousand), implementation style (€0.0 thousand), and paying more/less for similar services (-€5.1 million).

Asset class <sup>1</sup>	2014 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	2023 cost €000s
	A	B	C	D	E=B+C+D	F=G-A	F-E	G
Stock - EAFE	7,120	196	0	-3,340	-3,144	859	4,002	7,979
Fixed income - EAFE	5,657	-238	0	577	339	3,519	3,180	9,176
Total for asset management	12,777	-42	0	-2,762	-2,804	4,378	7,182	17,155
Oversight	1,480			-1,189	-1,189	-357	832	1,123
Trustee & custodial	59			-41	-41	-8	33	51
Consulting	721			-534	-534	-129	405	592
Audit	283			-164	-164	-5	159	278
Other	336			-407	-407	-218	189	118
Total for fund oversight <sup>2</sup>	2,879			-2,335	-2,335	-717	1,618	2,162
Total	15,656	-42	0	-5,098	-5,140	3,661	8,801	19,317

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 1.6 bps in 2023 vs. 2014. 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 (-1.6 bps).

Asset class	Asset mix bps	Implement. style bps	Paying more/-less bps	Total difference bps	Total <sup>1</sup> ex asset gr. €000s
	B	C	D	B+C+D	
Stock - EAFE	0.1	0.0	-1.1	-1.0	-3,144
Fixed income - EAFE	-0.1	0.0	0.2	0.1	339
Total for asset management	0.0	0.0	-0.9	-0.9	-2,804
Oversight			-0.4	-0.4	-1,189
Trustee & custodial			0.0	0.0	-41
Consulting			-0.2	-0.2	-534
Audit			-0.1	-0.1	-164
Other			-0.1	-0.1	-407
Total for fund oversight			-0.7	-0.7	-2,335
Total	0.0	0.0	-1.6	-1.6	-5,140
Total basis point costs in years 2023 and 2014		6.1	7.7	-1.6	

1. Calculated by multiplying total difference in bps by plan total nav average holdings for year 2023, €32 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 €42 thousand or 0.0 bps.

Asset class	2014 Cost bps	2023 Cost bps	2014 asset <sup>1</sup> weight %	2023 asset <sup>1</sup> weight %	Change in asset weight	Asset mix changes <sup>2</sup> bps	Asset mix changes <sup>3</sup> €000s
	A	B	C	D	E=D-C	A (or B) x E	
Stock - EAFE	5.8	4.1	60%	62%	1%	0.1	196
Fixed income - EAFE	7.1	7.6	40%	38%	-1%	-0.1	-238
Total for asset management						0.0	-42

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 2023, €32 billion.

## Impact of changes in implementation style

Changes in implementation style (passive vs. active, internal vs. external, etc.) in 2023 vs. 2014 saved you €0.0 thousand.

Implementation choices	2023	Cost, 2014			Style 1 %			Cost/ €000s
	avg. assets €mils	Style 1	Style 2	Style 1 -Savings	2023	2014	More/ -Less	
	A	B	C	D = B - C			E	A x D x 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 2023, you paid €5.1 million less for similar asset management and oversight / support services vs. 2014.

Asset class styles where you had assets in both 2023 and 2014 <sup>1</sup>	Style	2023 avg. assets €mils	Cost in bps			Cost/ -Savings €000s
			2023	2014	More/ -less	
<u>Internal asset management</u>		A			B	A x B
Stock - EAFE	active	19,434	4.1	5.8	-1.7	-3,340
Fixed income - EAFE	active	12,146	7.6	7.1	0.5	577
Total for internal management						-2,762
Oversight		31,581	0.4	0.7	-0.4	-1,189.0
Trustee & custodial		31,581	0.0	0.0	0.0	-41
Consulting		31,581	0.2	0.4	-0.2	-534
Audit		31,581	0.1	0.1	-0.1	-164
Other		31,581	0.0	0.2	-0.1	-407
Total for fund oversight						-2,335
Total						-5,098

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

# 5

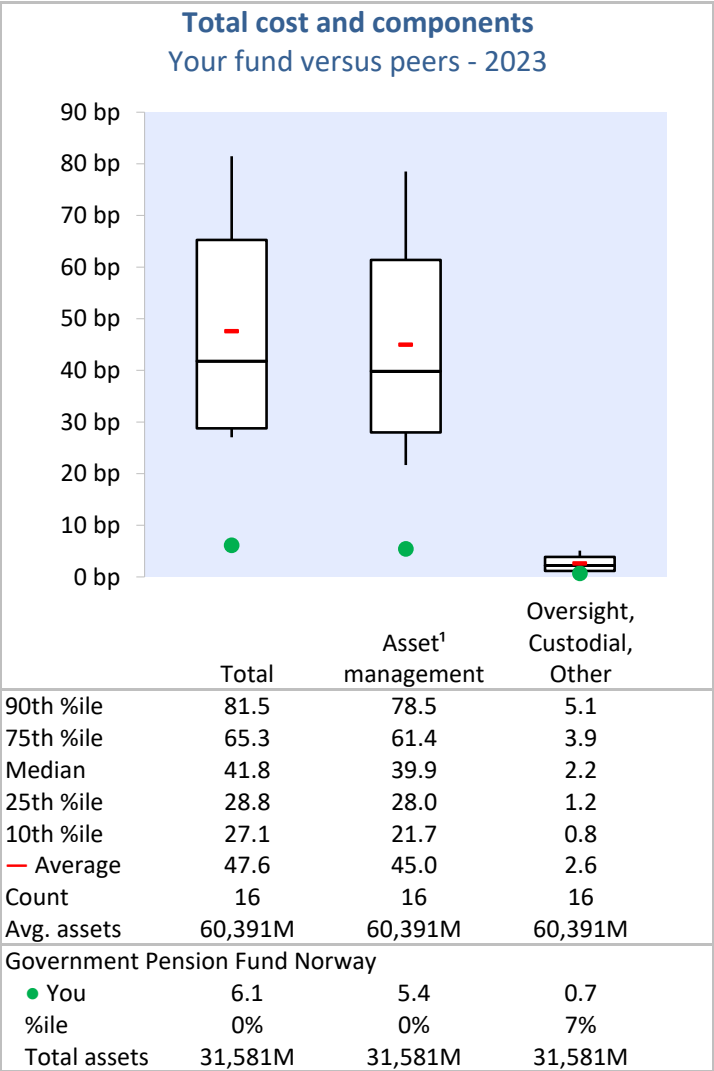
## Cost comparisons

Total fund cost	2
Governance, operations & support	3
Public asset classes	
- Stock	4
- Fixed Income	10
- Commodities	21
- REITs	22
Real asset classes	
- Real estate ex-REITs	24
- Infrastructure	26
- Natural resources	27
- Other real assets	28
Private equity	
- Diversified private equity	29
- LBO	30
- Venture capital	31
- Private credit	32
- Mortgages	33
- Other private equity	34
Global TAA	35
RiskParity	36
Hedge Funds	37
Overlays	38

# 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.

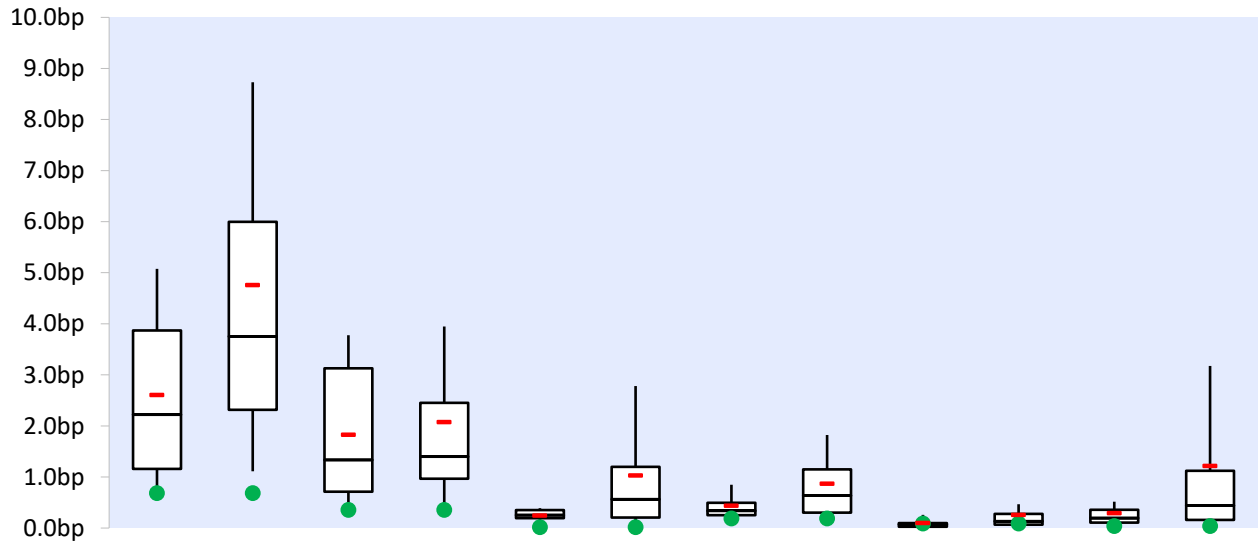


1. Excluding private asset performance fees.



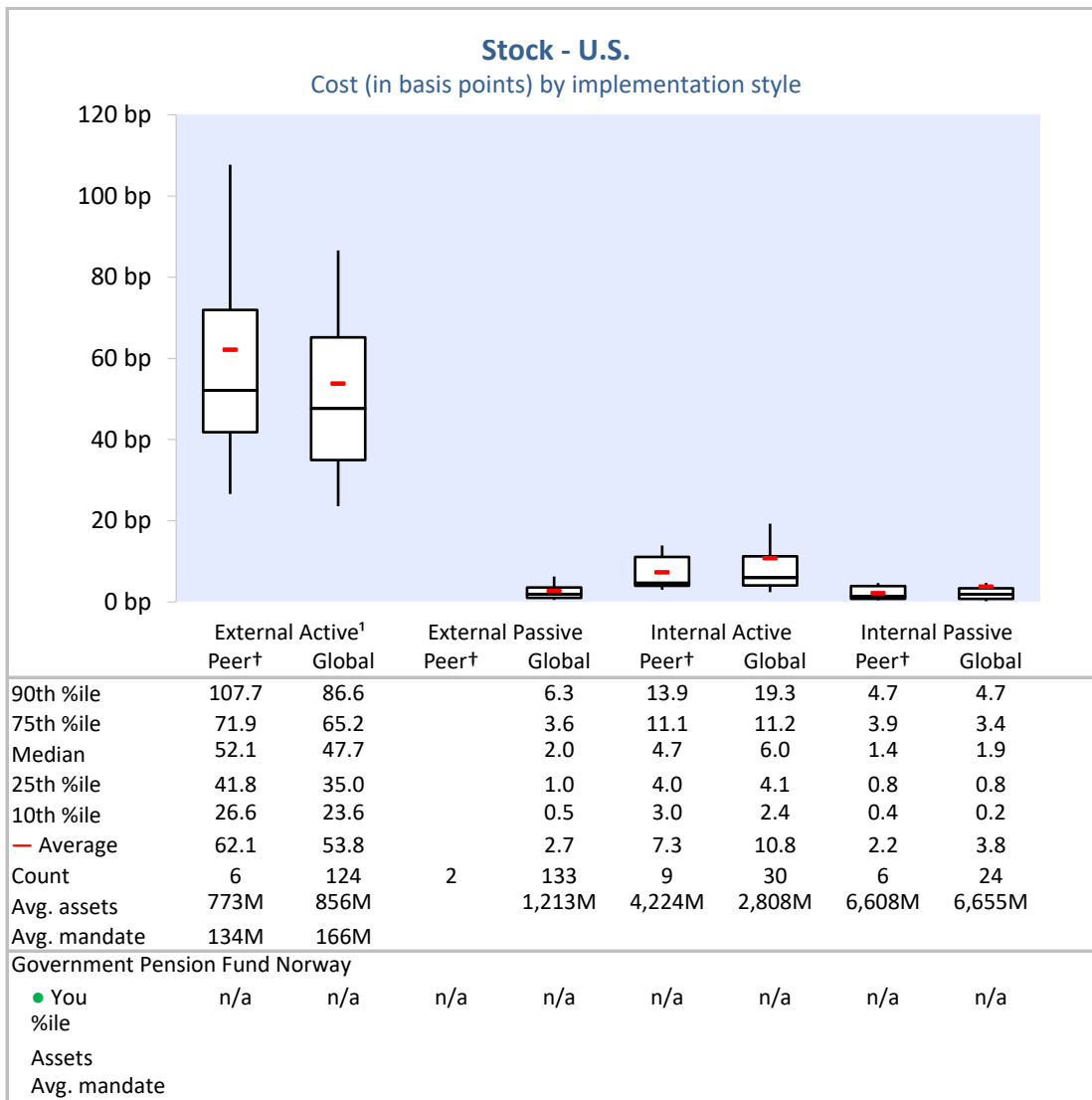
## Governance, operations & support

Cost as a % of total plan assets



	Total		Oversight <sup>1</sup>		Consulting & Perf. Meas.		Custody		Audit		Other	
	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global
90th %ile	5.1	8.7	3.8	3.9	0.4	2.8	0.8	1.8	0.3	0.5	0.5	3.2
75th %ile	3.9	6.0	3.1	2.5	0.4	1.2	0.5	1.1	0.1	0.3	0.4	1.1
Median	2.2	3.8	1.3	1.4	0.3	0.6	0.3	0.6	0.1	0.1	0.2	0.4
25th %ile	1.2	2.3	0.7	1.0	0.2	0.2	0.3	0.3	0.0	0.1	0.1	0.2
10th %ile	0.8	1.1	0.3	0.4	0.1	0.1	0.2	0.1	0.0	0.0	0.1	0.1
— Average	2.6	4.8	1.8	2.1	0.2	1.0	0.4	0.9	0.1	0.3	0.3	1.2
Count	16	295	16	295	5	231	15	281	12	251	12	202
Avg. assets	60,391M	28,781M	60,391M	28,781M	60,391M	28,781M	60,391M	28,781M	60,391M	28,781M	60,391M	28,781M
Government Pension Fund Norway												
● You	0.7	0.7	0.4	0.4	0.0	0.0	0.2	0.2	0.1	0.1	0.0	0.0
%ile	7%	5%	13%	8%	0%	1%	14%	15%	64%	36%	0%	5%
Plan assets	31,581M	31,581M	31,581M	31,581M	31,581M	31,581M	31,581M	31,581M	31,581M	31,581M	31,581M	31,581M

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.

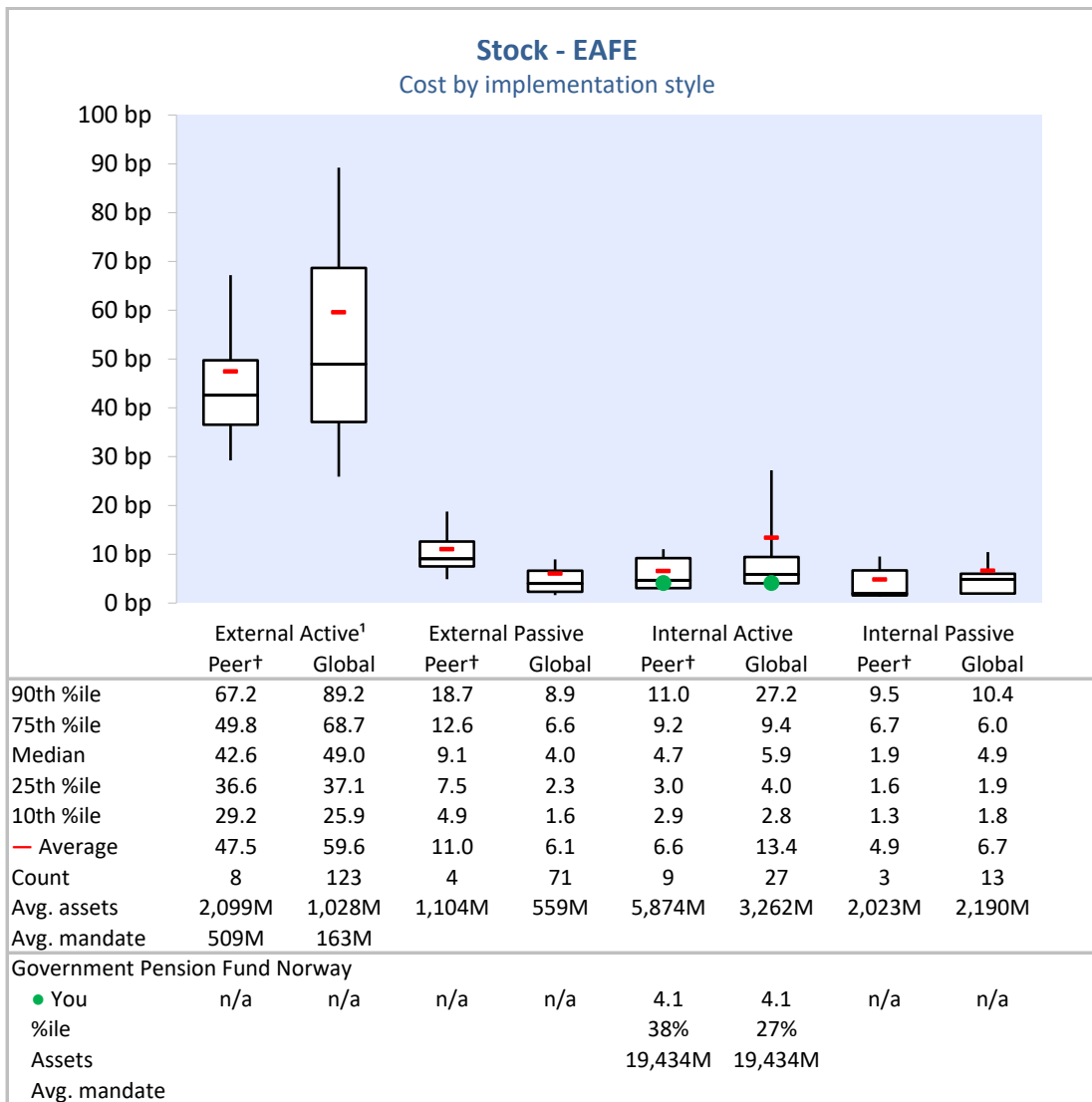


1. Breakdown of external active fees

	You	Peer Average	Global Average
Base fees	n/a	58.9	45.2
Performance fees*	n/a	1.9	7.6
Internal and other	<u>n/a</u>	<u>1.3</u>	<u>1.1</u>
Total	n/a	62.1	53.8

\* 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 3.9 bps for peers (3 funds) and 23.5 bps for Global participants (40 funds).

†Peer cost distributions, and in certain cases the Universe cost distributions, are not shown where count is less than 3 to protect anonymity.

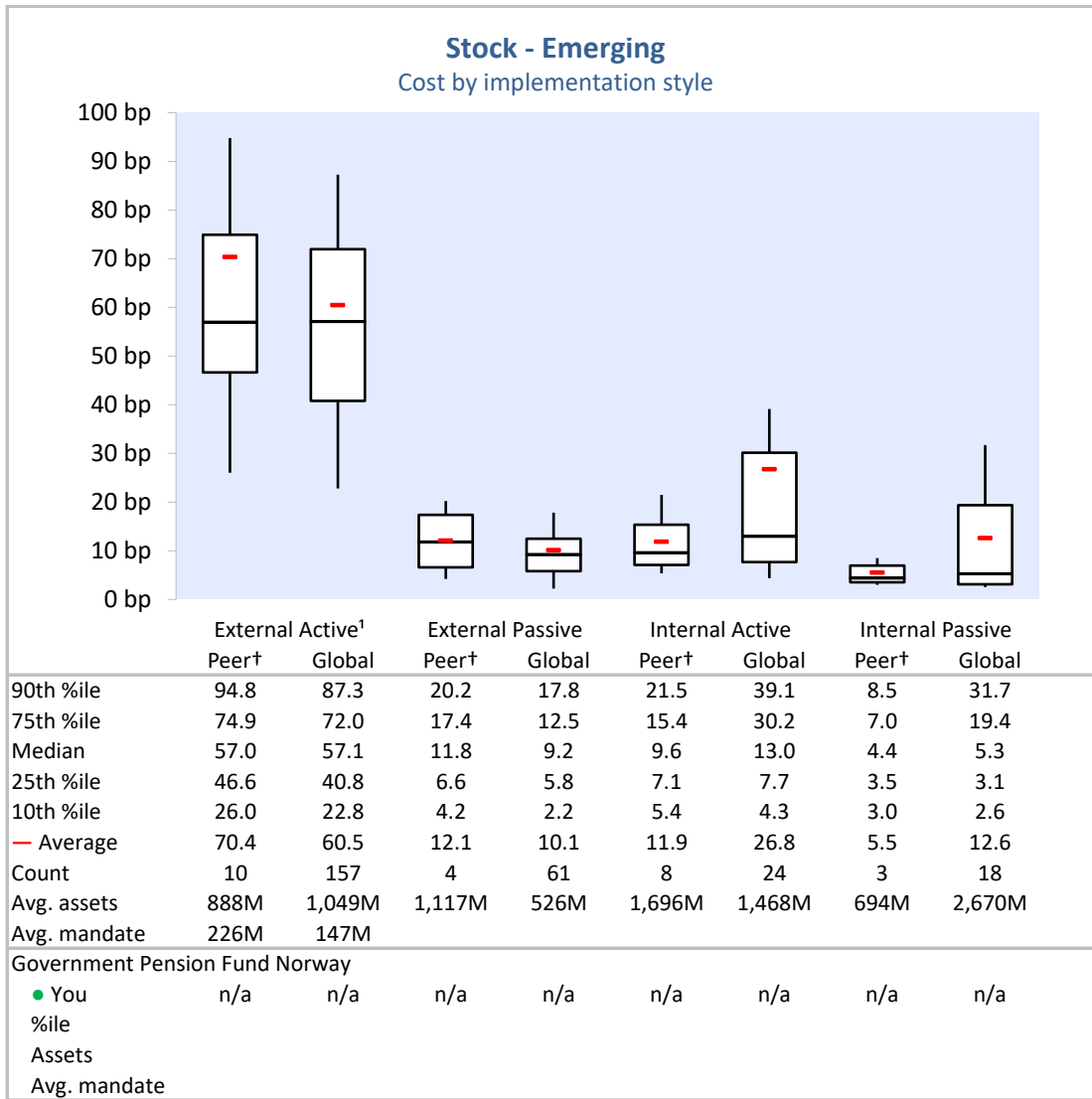


1. Breakdown of external active fees

	You	Peer Average	Global Average
Base fees	n/a	41.7	51.6
Performance fees*	n/a	4.7	7.0
Internal and other	<u>n/a</u>	<u>1.1</u>	<u>0.9</u>
Total	n/a	47.5	59.6

\* 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 9.4 bps for peers (4 funds) and 18.8 bps for Global participants (46 funds).

†Peer cost distributions, and in certain cases the Universe cost distributions, are not shown where count is less than 3 to protect anonymity.

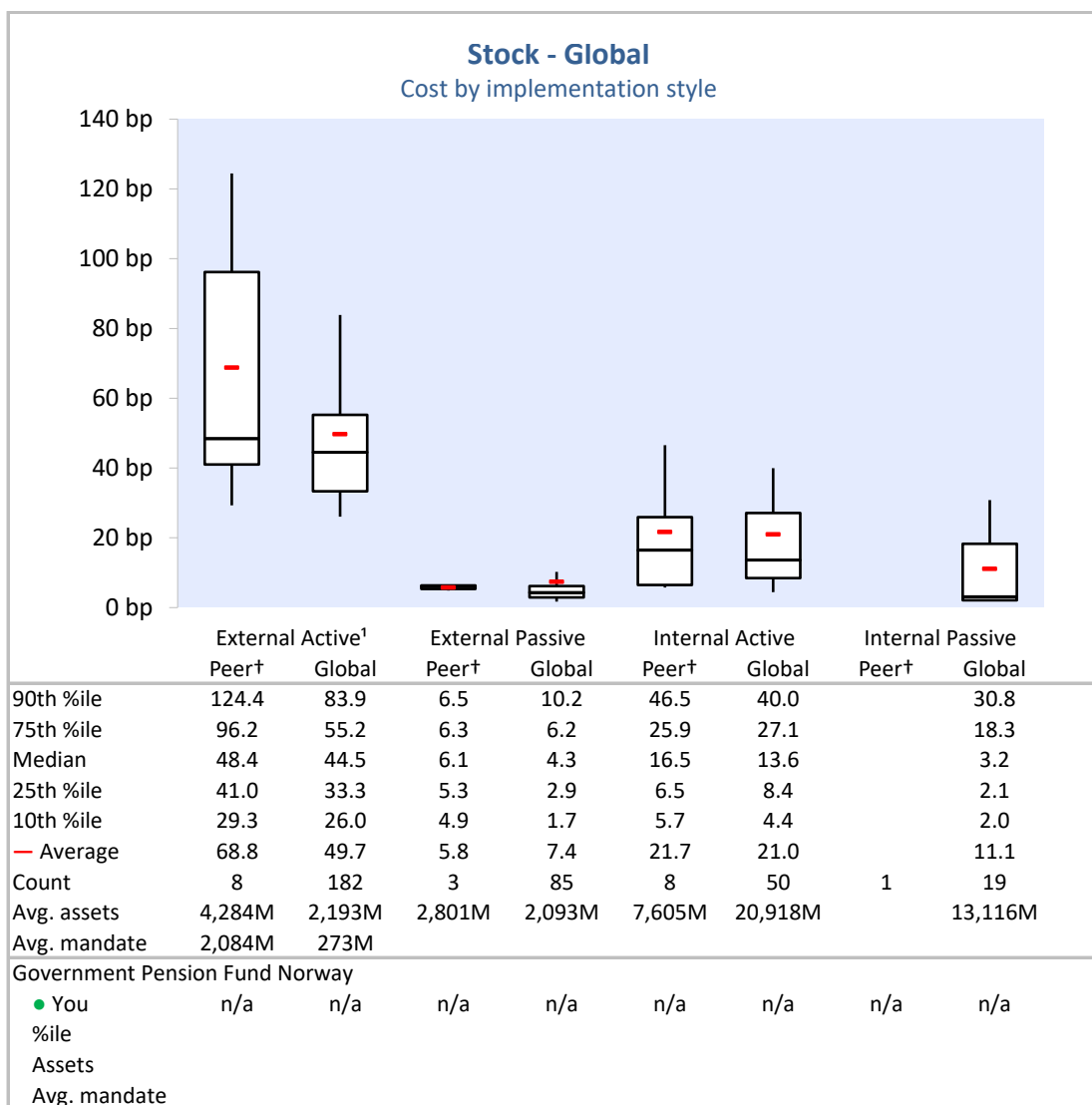


1. Breakdown of external active fees

	You	Peer Average	Global Average
Base fees	n/a	52.6	52.0
Performance fees*	n/a	16.1	6.7
Internal and other	<u>n/a</u>	<u>1.7</u>	<u>1.7</u>
Total	n/a	70.4	60.5

\* 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 40.3 bps for peers (4 funds) and 18.5 bps for Global participants (57 funds).

†Peer cost distributions, and in certain cases the Universe cost distributions, are not shown where count is less than 3 to protect anonymity.

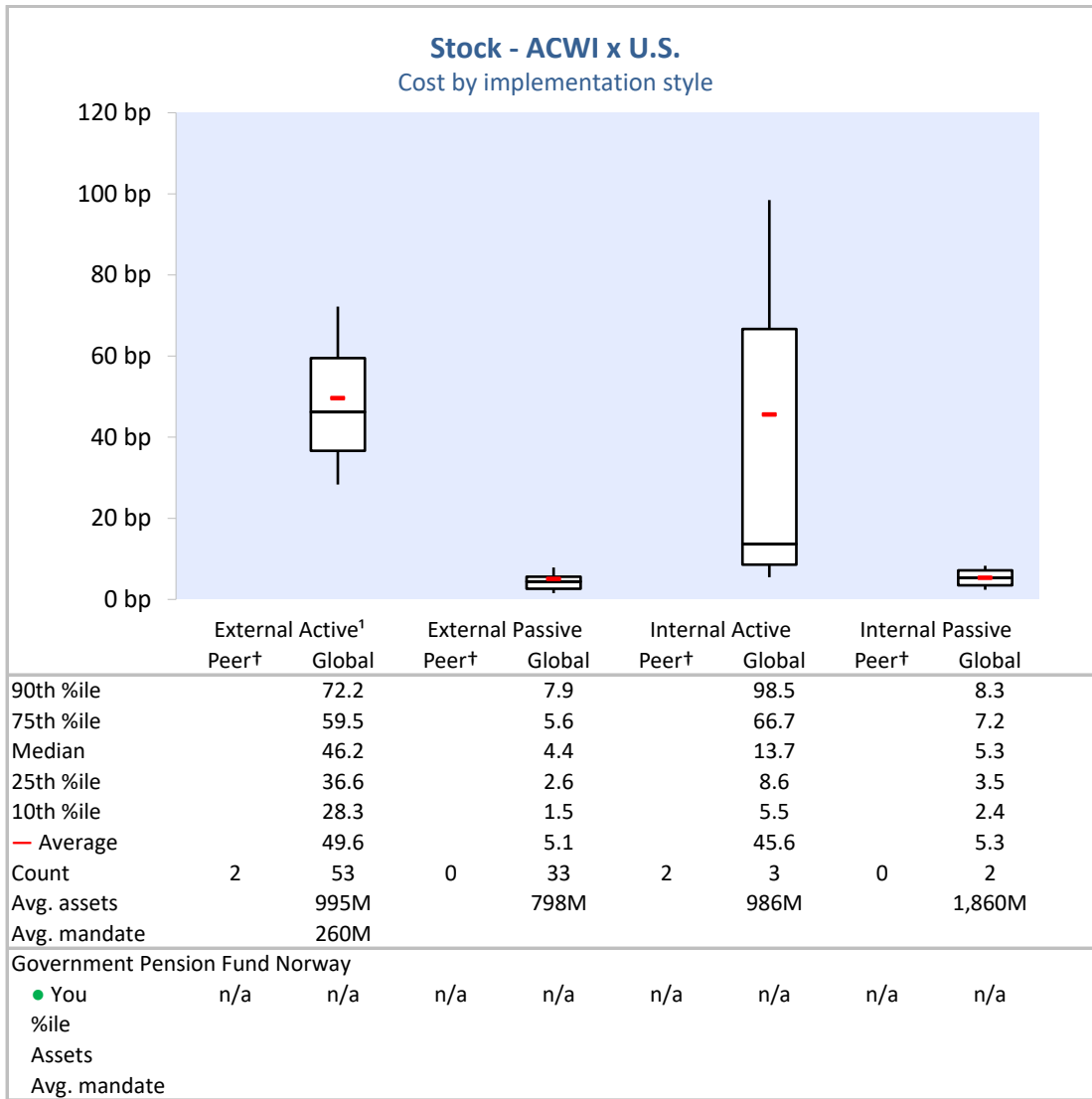


1. Breakdown of external active fees

	You	Peer Average	Global Average
Base fees	n/a	50.3	40.5
Performance fees*	n/a	8.3	7.3
Internal and other	<u>n/a</u>	<u>10.2</u>	<u>1.9</u>
Total	n/a	68.8	49.7

\* 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 9.5 bps for peers (7 funds) and 17.0 bps for Global participants (78 funds).

†Peer cost distributions, and in certain cases the Universe cost distributions, are not shown where count is less than 3 to protect anonymity.

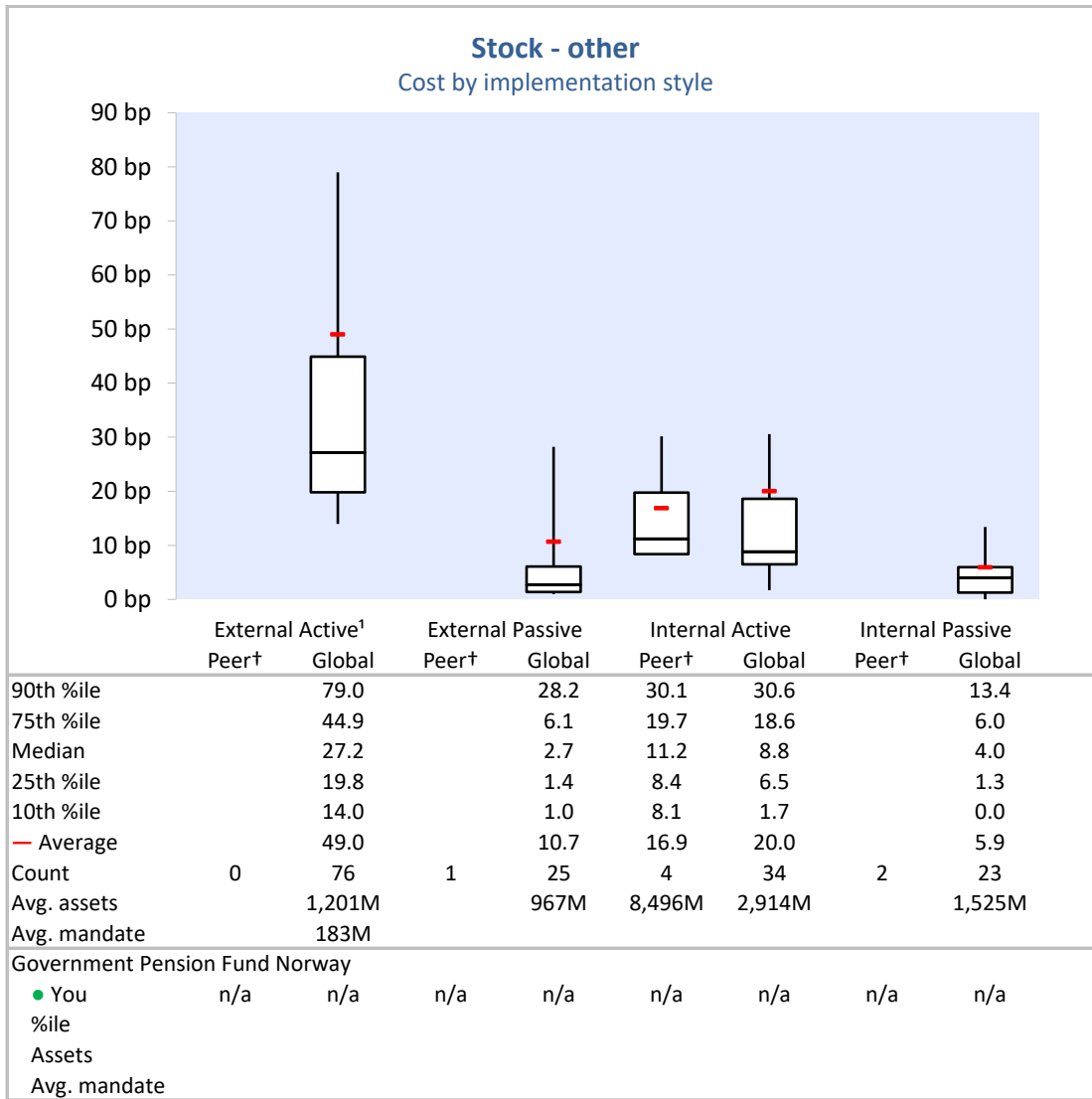


1. Breakdown of external active fees

	You	Peer Average	Global Average
Base fees	n/a	n/a	46.4
Performance fees*	n/a	n/a	2.6
Internal and other	<u>n/a</u>	<u>n/a</u>	<u>0.6</u>
Total	n/a	n/a	49.6

\* 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 9.8 bps for Global participants (14 funds).

†Peer cost distributions, and in certain cases the Universe cost distributions, are not shown where count is less than 3 to protect anonymity.

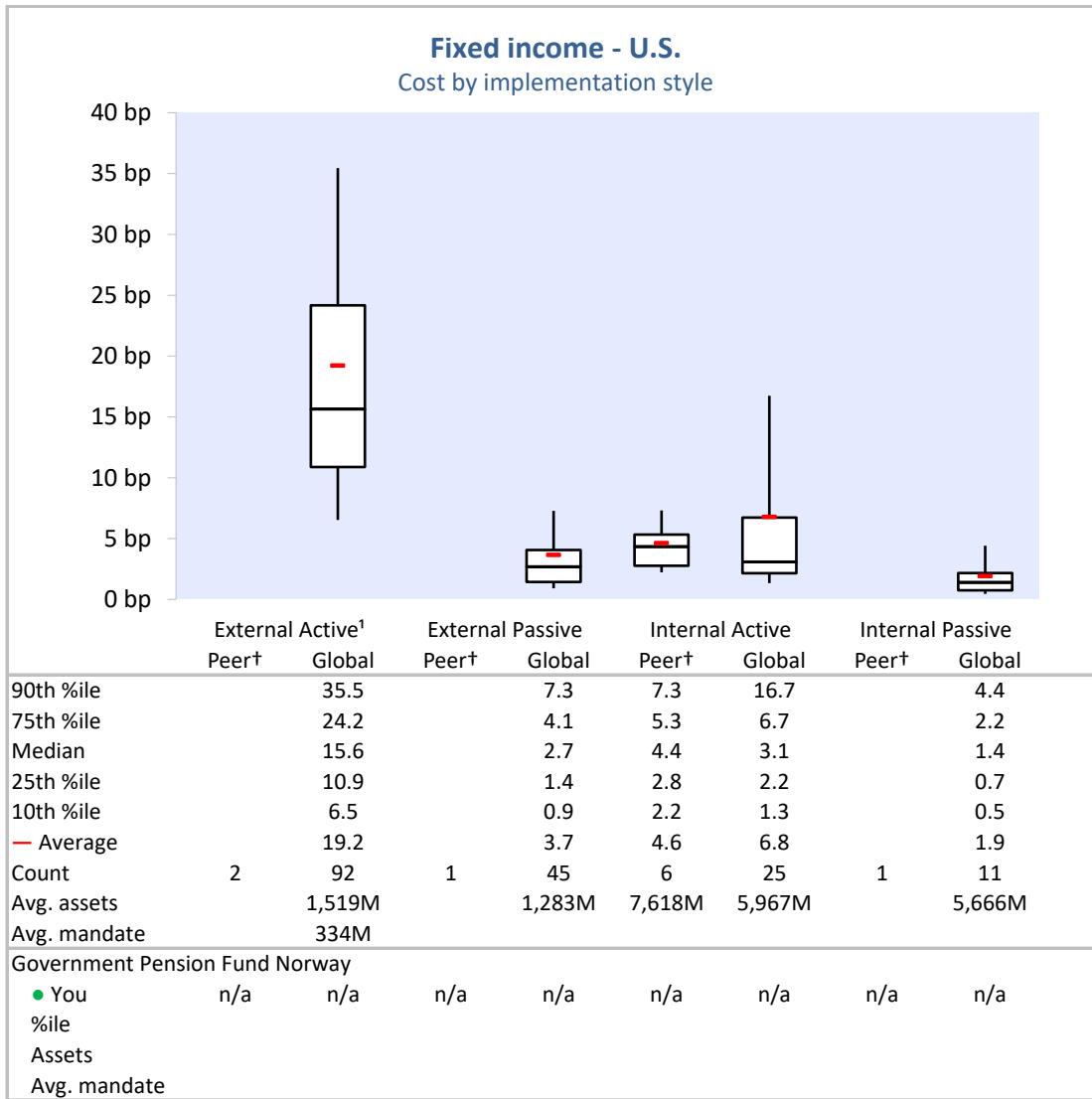


1. Breakdown of external active fees

	You	Peer Average	Global Average
Base fees	n/a	n/a	44.9
Performance fees*	n/a	n/a	2.6
Internal and other	<u>n/a</u>	<u>n/a</u>	<u>1.5</u>
Total	n/a	n/a	49.0

\* 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 8.0 bps for Global participants (25 funds).

†Peer cost distributions, and in certain cases the Universe cost distributions, are not shown where count is less than 3 to protect anonymity.



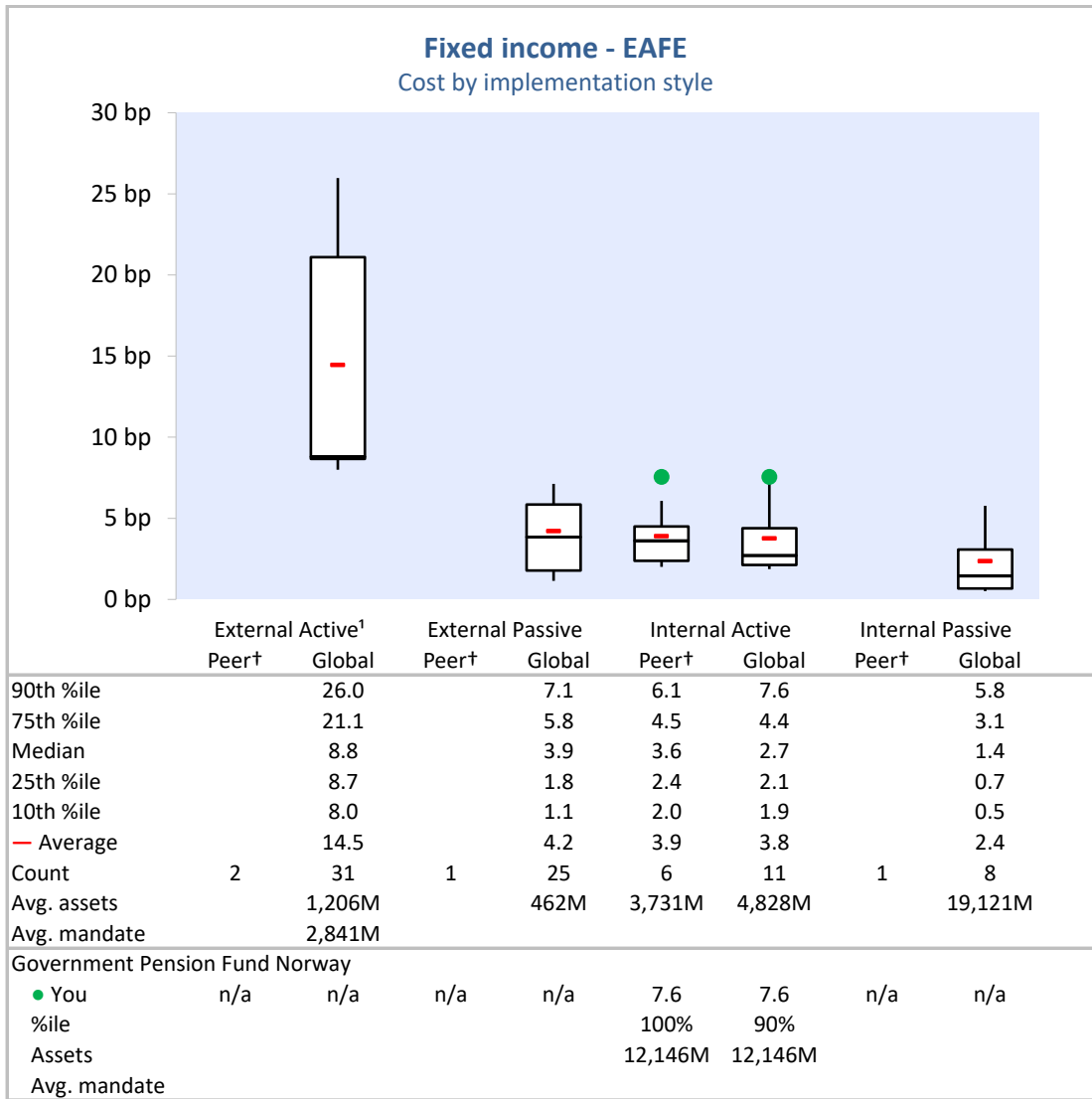
#### 1. Breakdown of external active fees

	You	Peer Average	Global Average
Base fees	n/a	n/a	18.3
Performance fees*	n/a	n/a	0.4
Internal and other	<u>n/a</u>	<u>n/a</u>	<u>0.5</u>
Total	n/a	n/a	19.2

\* 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 0.0 bps for peers (1 fund) and 1.4 bps for Global participants (25 funds).

†Peer cost distributions, and in certain cases the Universe cost distributions, are not shown where count is less than 3 to protect anonymity.



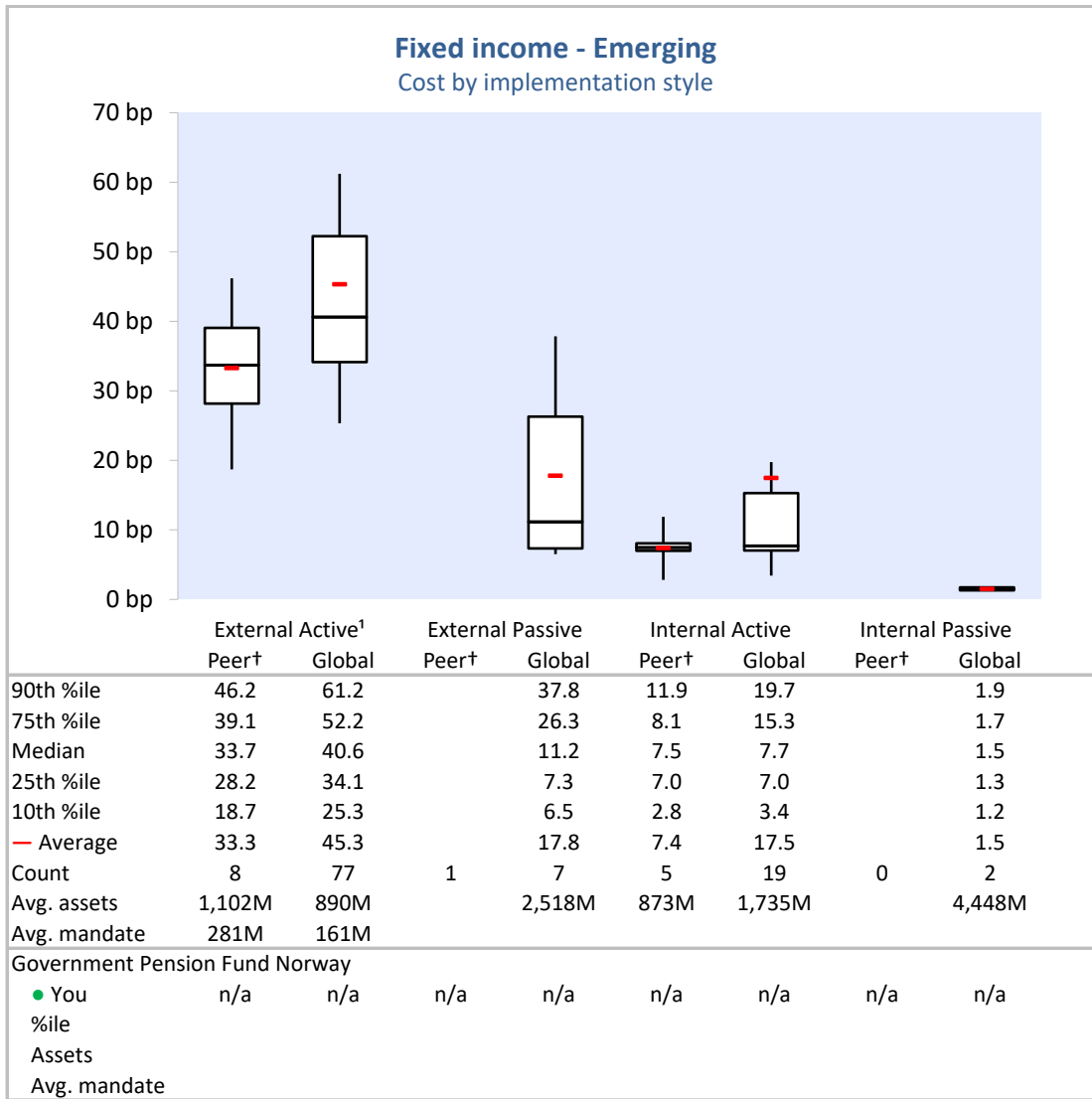


1. Breakdown of external active fees

	You	Peer Average	Global Average
Base fees	n/a	n/a	12.9
Performance fees*	n/a	n/a	0.7
Internal and other	<u>n/a</u>	<u>n/a</u>	<u>0.9</u>
Total	n/a	n/a	14.5

\* 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 8.2 bps for peers (2 funds) and 1.2 bps for Global participants (18 funds).

†Peer cost distributions, and in certain cases the Universe cost distributions, are not shown where count is less than 3 to protect anonymity.

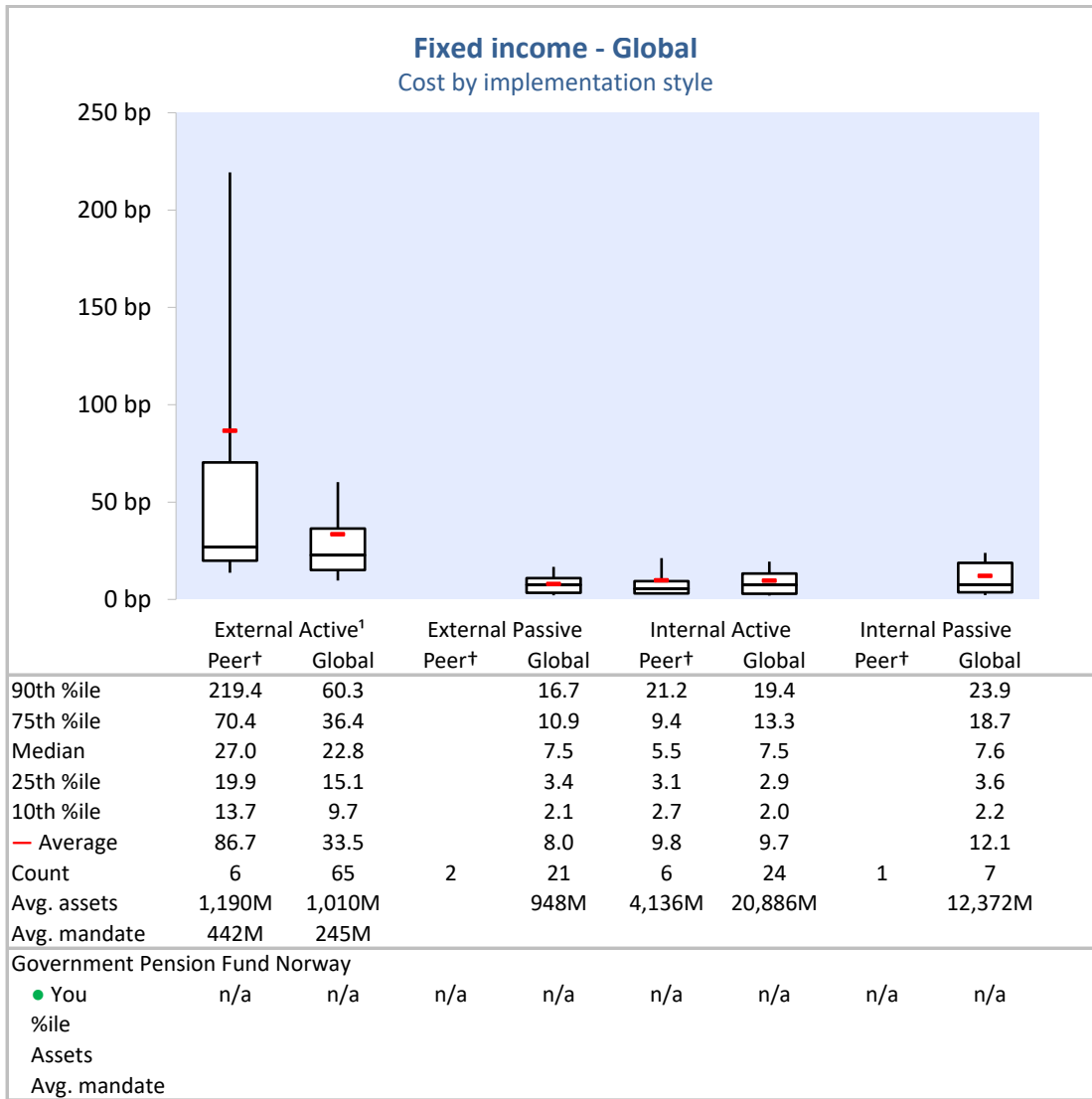


#### 1. Breakdown of external active fees

	You	Peer Average	Global Average
Base fees	n/a	28.0	39.8
Performance fees*	n/a	2.6	2.3
Internal and other	<u>n/a</u>	<u>2.6</u>	<u>3.3</u>
Total	n/a	33.3	45.3

\* 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 4.2 bps for peers (5 funds) and 6.0 bps for Global participants (30 funds).

†Peer cost distributions, and in certain cases the Universe cost distributions, are not shown where count is less than 3 to protect anonymity.

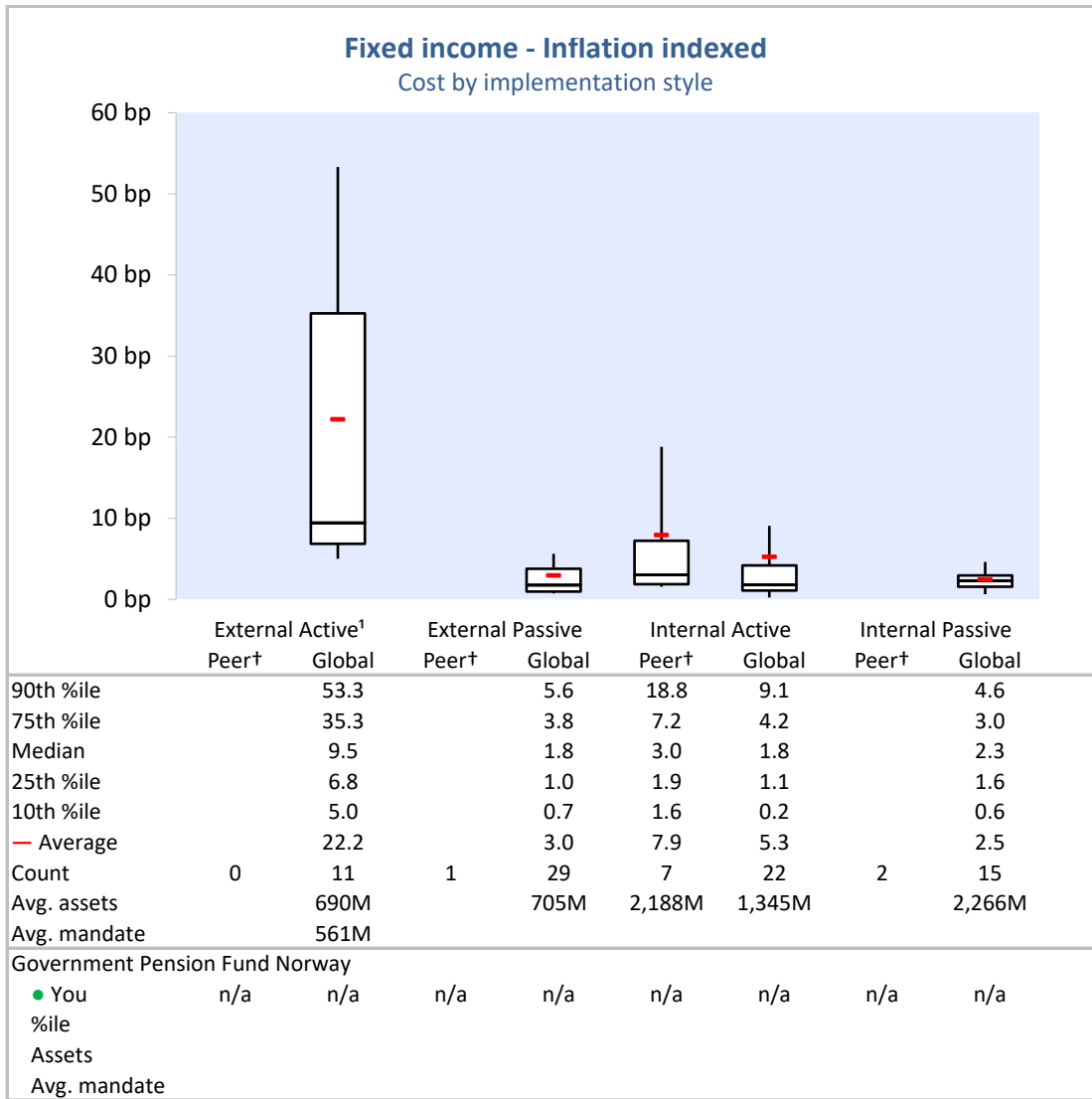


1. Breakdown of external active fees

	You	Peer Average	Global Average
Base fees	n/a	41.5	26.3
Performance fees*	n/a	37.1	4.0
Internal and other	<u>n/a</u>	<u>8.1</u>	<u>3.2</u>
Total	n/a	86.7	33.5

\* 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 44.5 bps for peers (5 funds) and 8.6 bps for Global participants (30 funds).

†Peer cost distributions, and in certain cases the Universe cost distributions, are not shown where count is less than 3 to protect anonymity.

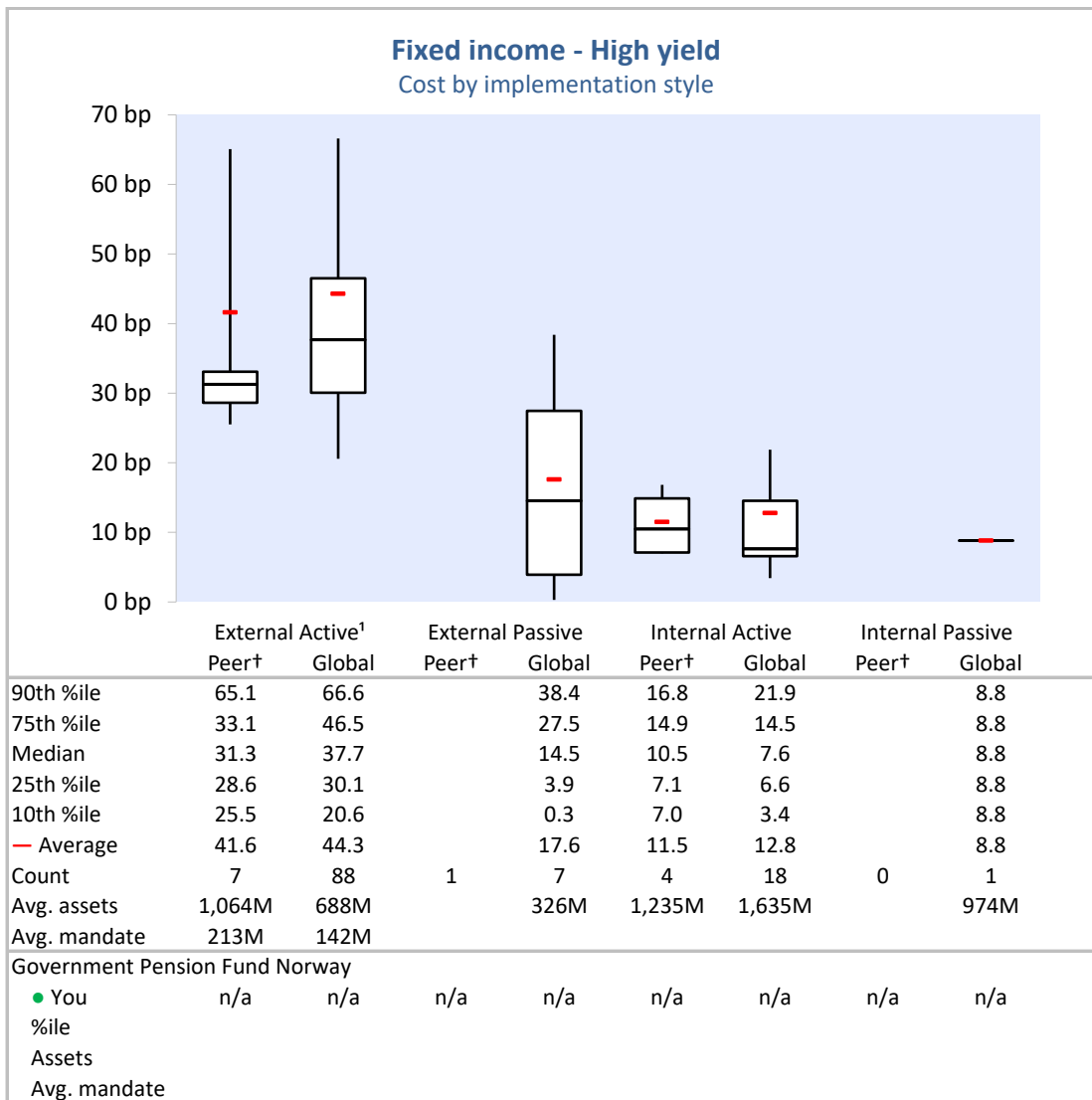


#### 1. Breakdown of external active fees

	You	Peer Average	Global Average
Base fees	n/a	n/a	22.0
Performance fees*	n/a	n/a	0.0
Internal and other	<u>n/a</u>	<u>n/a</u>	<u>0.2</u>
Total	n/a	n/a	22.2

\* 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 0.0 bps for Global participants (2 funds).

†Peer cost distributions, and in certain cases the Universe cost distributions, are not shown where count is less than 3 to protect anonymity.



#### 1. Breakdown of external active fees

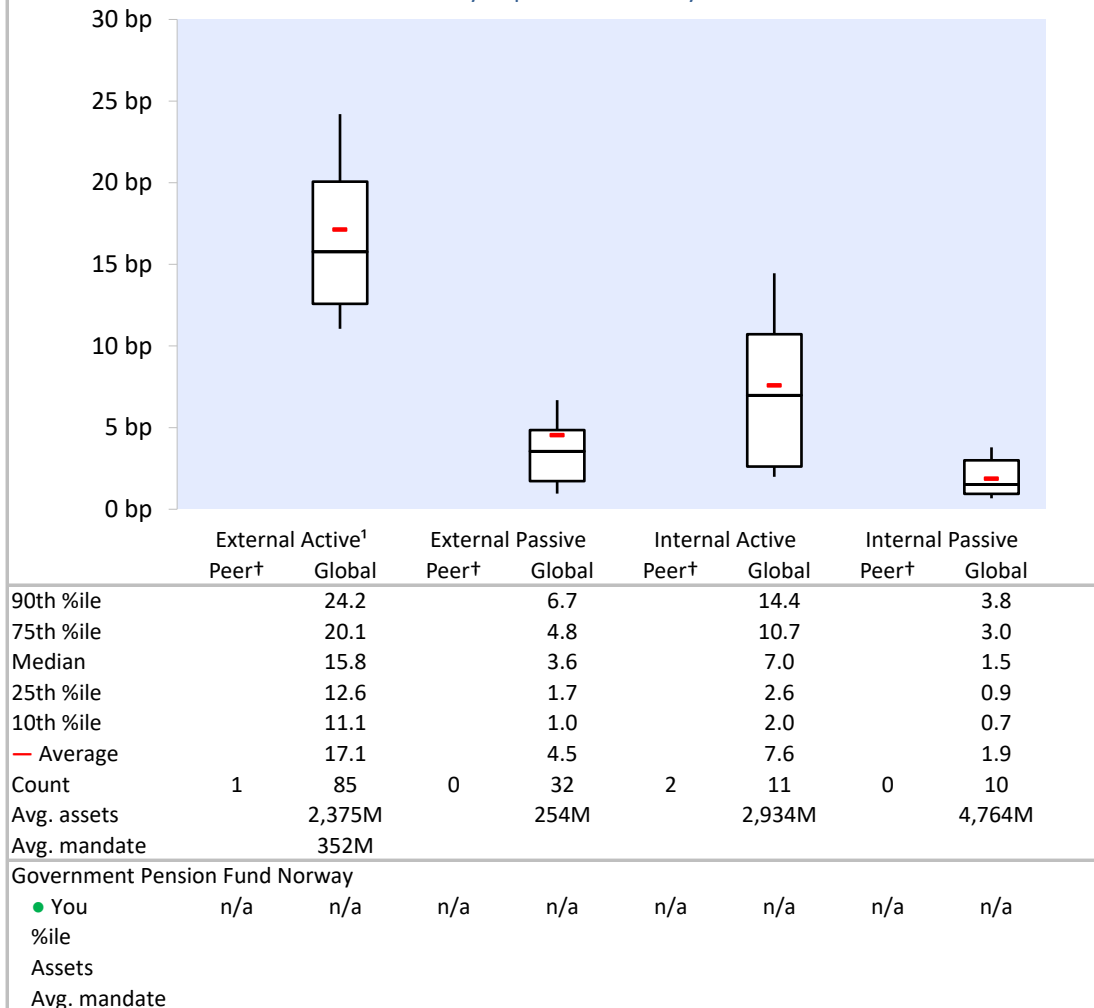
	You	Peer Average	Global Average
Base fees	n/a	31.8	38.1
Performance fees*	n/a	7.7	4.0
Internal and other	<u>n/a</u>	<u>2.1</u>	<u>2.2</u>
Total	n/a	41.6	44.3

\* 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 18.0 bps for peers (3 funds) and 10.9 bps for Global participants (32 funds).

†Peer cost distributions, and in certain cases the Universe cost distributions, are not shown where count is less than 3 to protect anonymity.

## Fixed income - Long bonds

Cost by implementation style

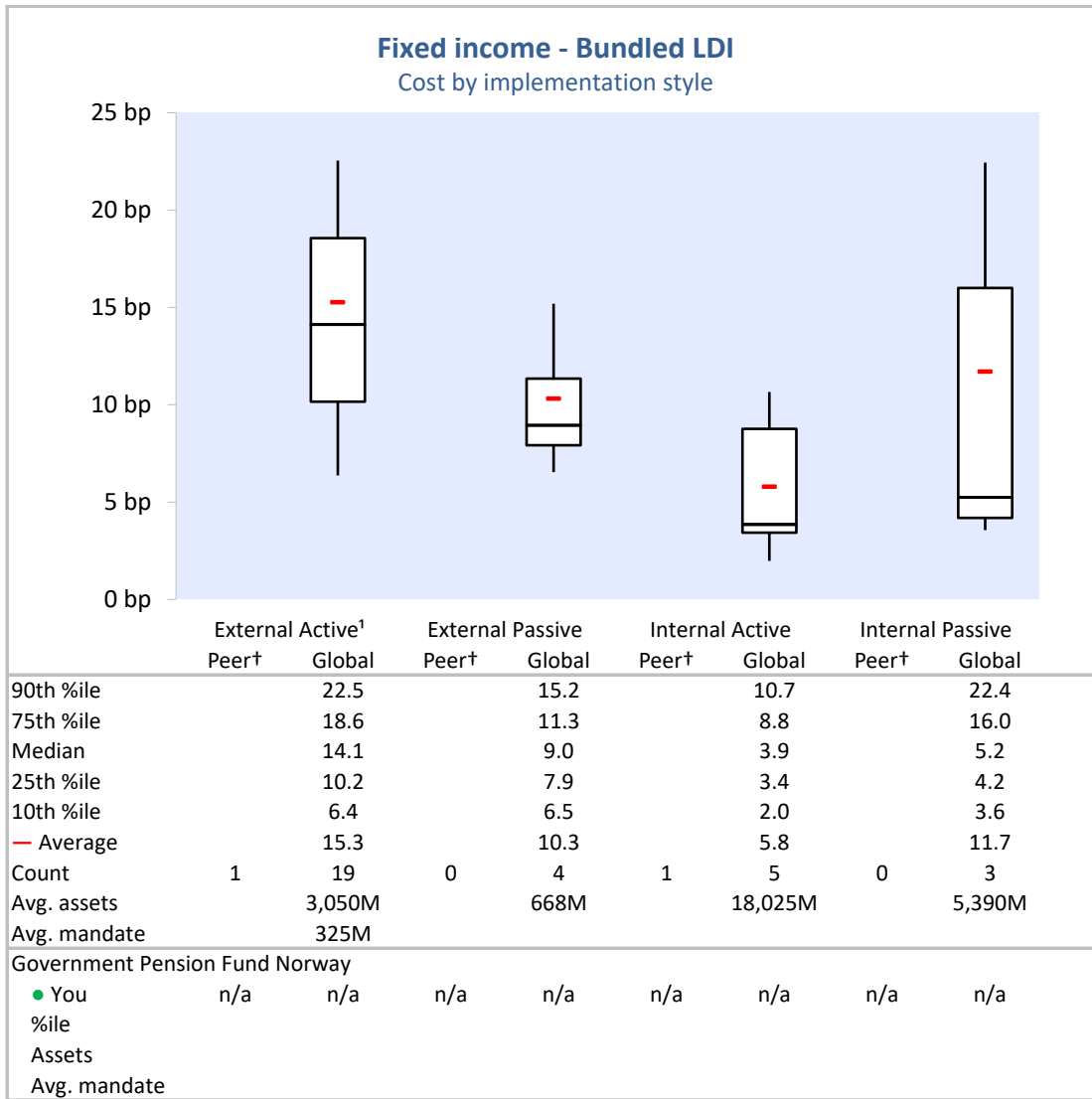


### 1. Breakdown of external active fees

	You	Peer Average	Global Average
Base fees	n/a	n/a	16.4
Performance fees*	n/a	n/a	0.3
Internal and other	<u>n/a</u>	<u>n/a</u>	<u>0.4</u>
Total	n/a	n/a	17.1

\* 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 0.0 bps for peers (1 fund) and 1.4 bps for Global participants (19 funds).

†Peer cost distributions, and in certain cases the Universe cost distributions, are not shown where count is less than 3 to protect anonymity.



1. Breakdown of external active fees

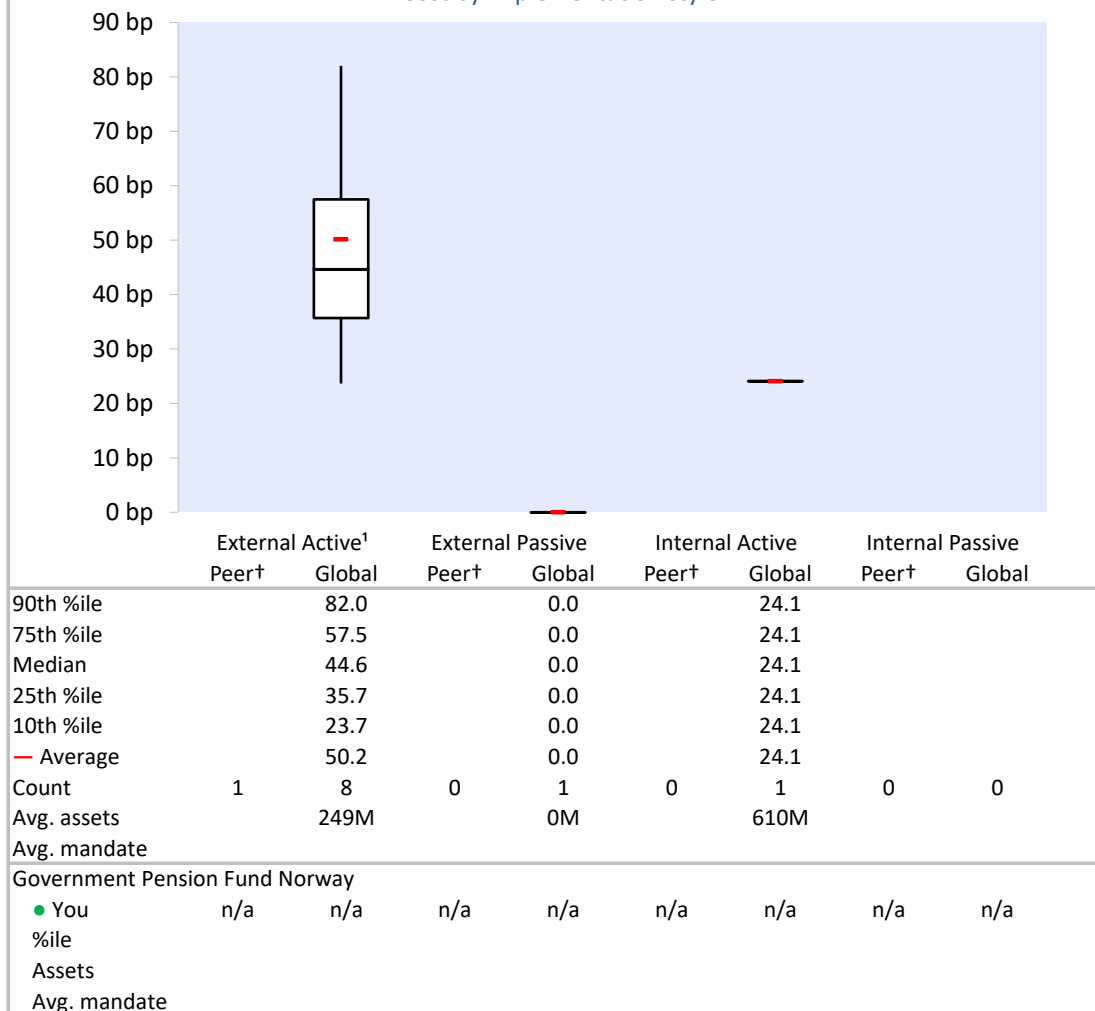
	You	Peer Average	Global Average
Base fees	n/a	n/a	14.8
Performance fees*	n/a	n/a	0.0
Internal and other	<u>n/a</u>	<u>n/a</u>	<u>0.4</u>
Total	n/a	n/a	15.3

\* 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 0.0 bps for peers (1 fund) and 0.0 bps for Global participants (1 fund).

†Peer cost distributions, and in certain cases the Universe cost distributions, are not shown where count is less than 3 to protect anonymity.

## Fixed income - Convertibles

Cost by implementation style



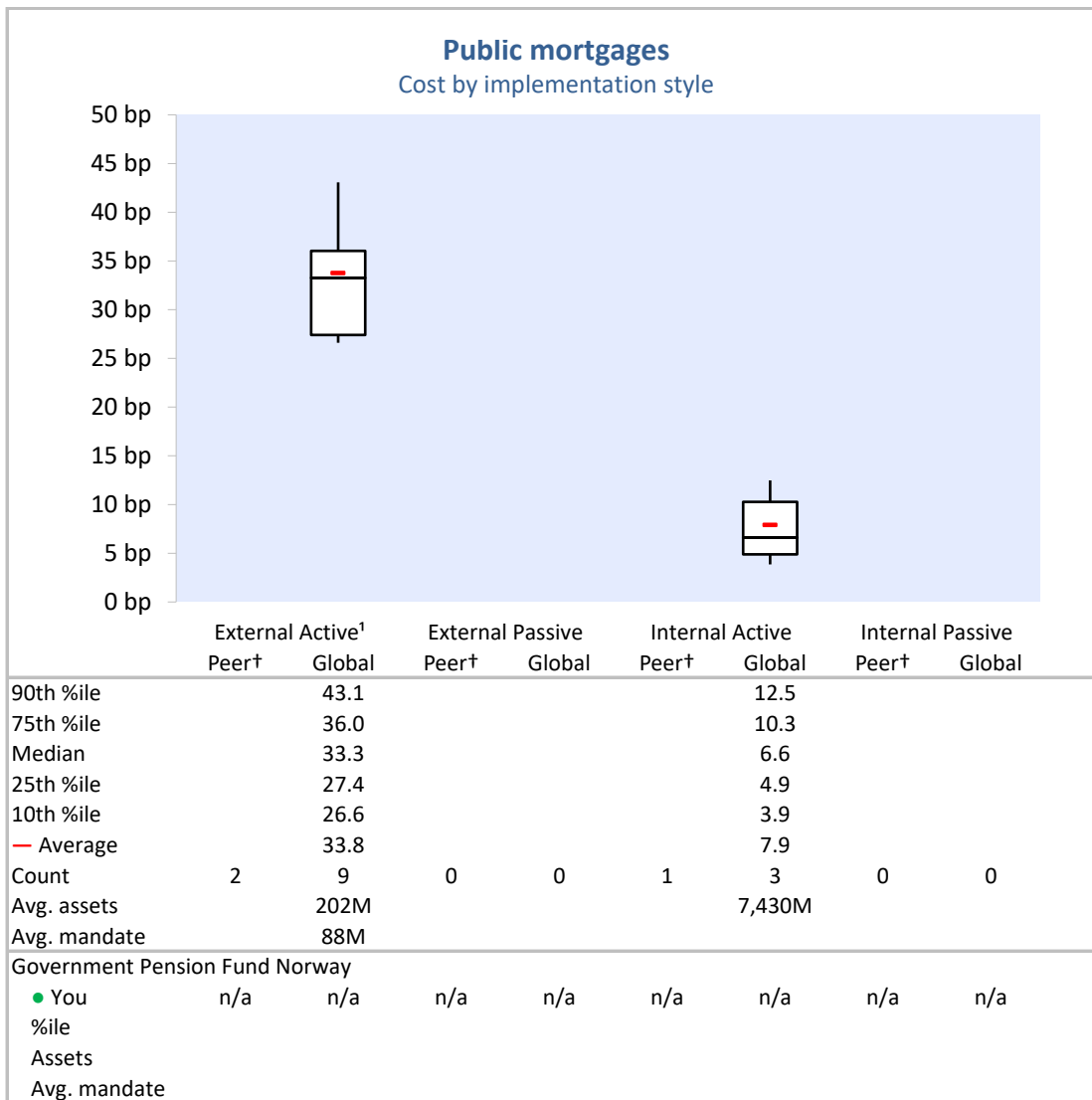
### 1. Breakdown of external active fees

	You	Peer Average	Global Average
Base fees	n/a	n/a	49.4
Performance fees*	n/a	n/a	0.0
Internal and other	<u>n/a</u>	<u>n/a</u>	<u>0.8</u>
Total	n/a	n/a	50.2

\* 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 0.0 bps for Global participants (1 fund).

†Peer cost distributions, and in certain cases the Universe cost distributions, are not shown where count is less than 3 to protect anonymity.



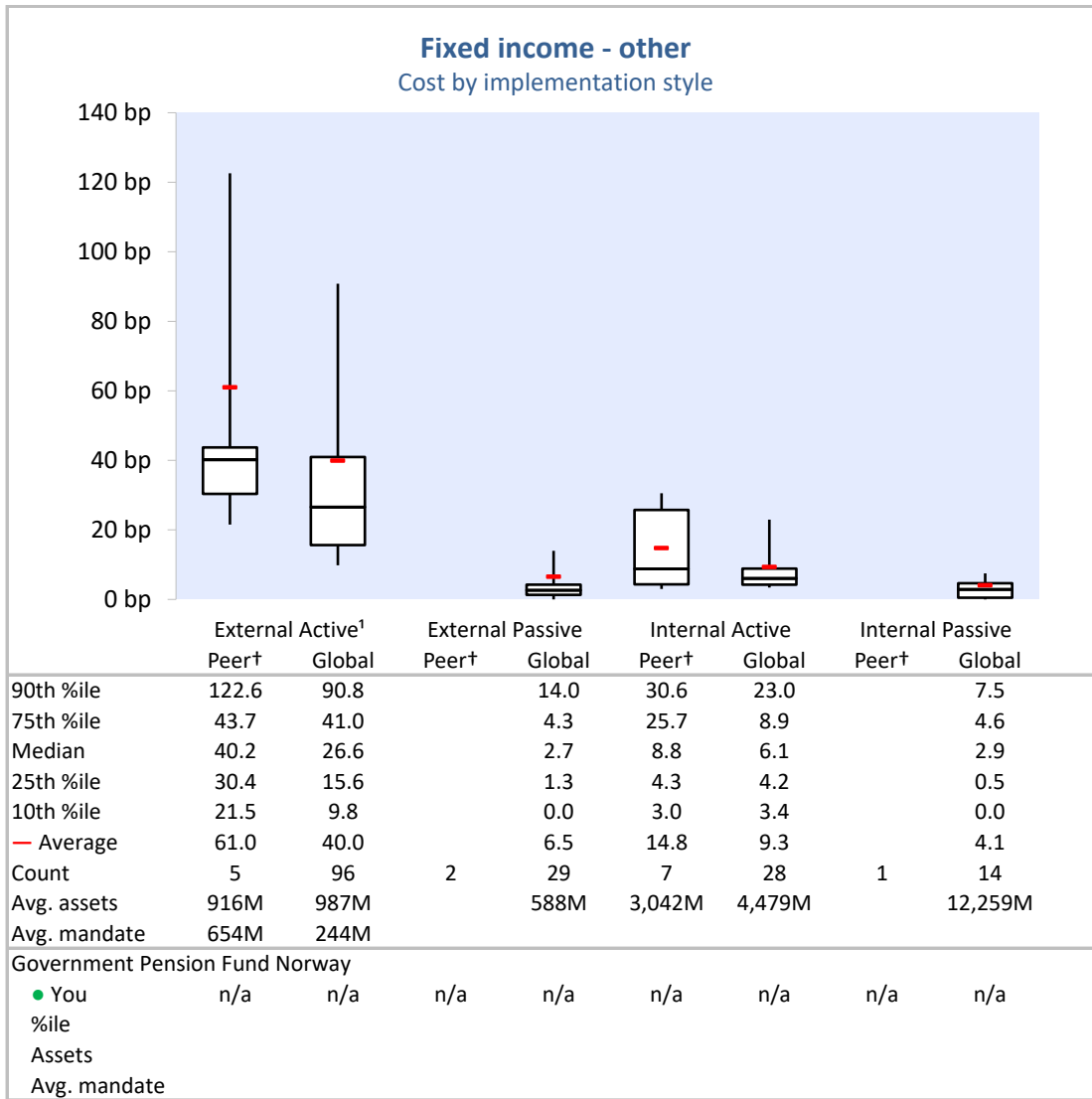


#### 1. Breakdown of external active fees

	You	Peer Average	Global Average
Base fees	n/a	n/a	33.6
Performance fees*	n/a	n/a	0.0
Internal and other	<u>n/a</u>	<u>n/a</u>	<u>0.2</u>
Total	n/a	n/a	33.8

\* 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 (1 fund).

†Peer cost distributions, and in certain cases the Universe cost distributions, are not shown where count is less than 3 to protect anonymity.

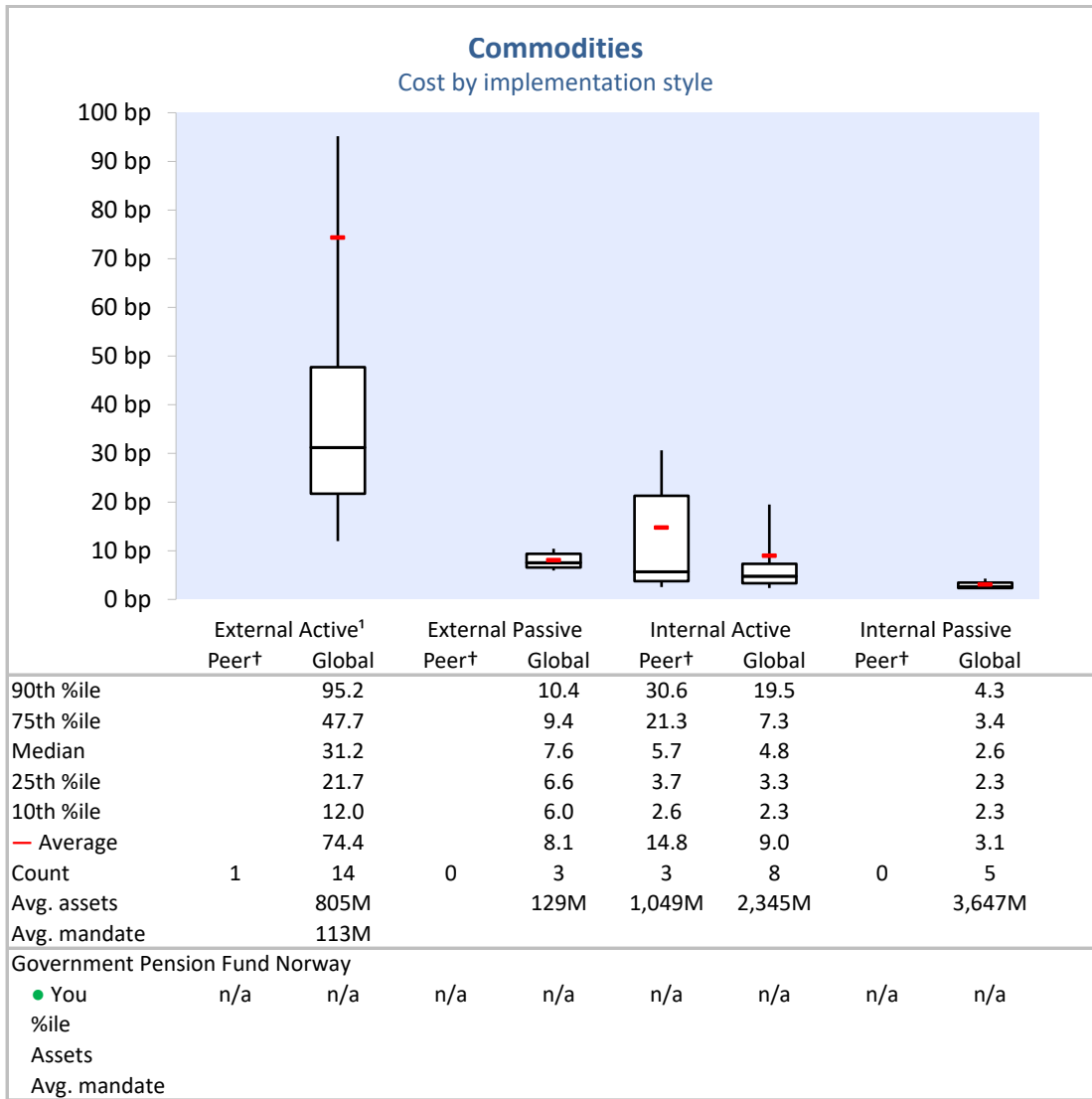


#### 1. Breakdown of external active fees

	You	Peer Average	Global Average
Base fees	n/a	53.0	34.6
Performance fees*	n/a	0.0	4.5
Internal and other	<u>n/a</u>	<u>8.0</u>	<u>0.9</u>
Total	n/a	61.0	40.0

\* 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 0.0 bps for peers (1 fund) and 20.4 bps for Global participants (21 funds).

†Peer cost distributions, and in certain cases the Universe cost distributions, are not shown where count is less than 3 to protect anonymity.

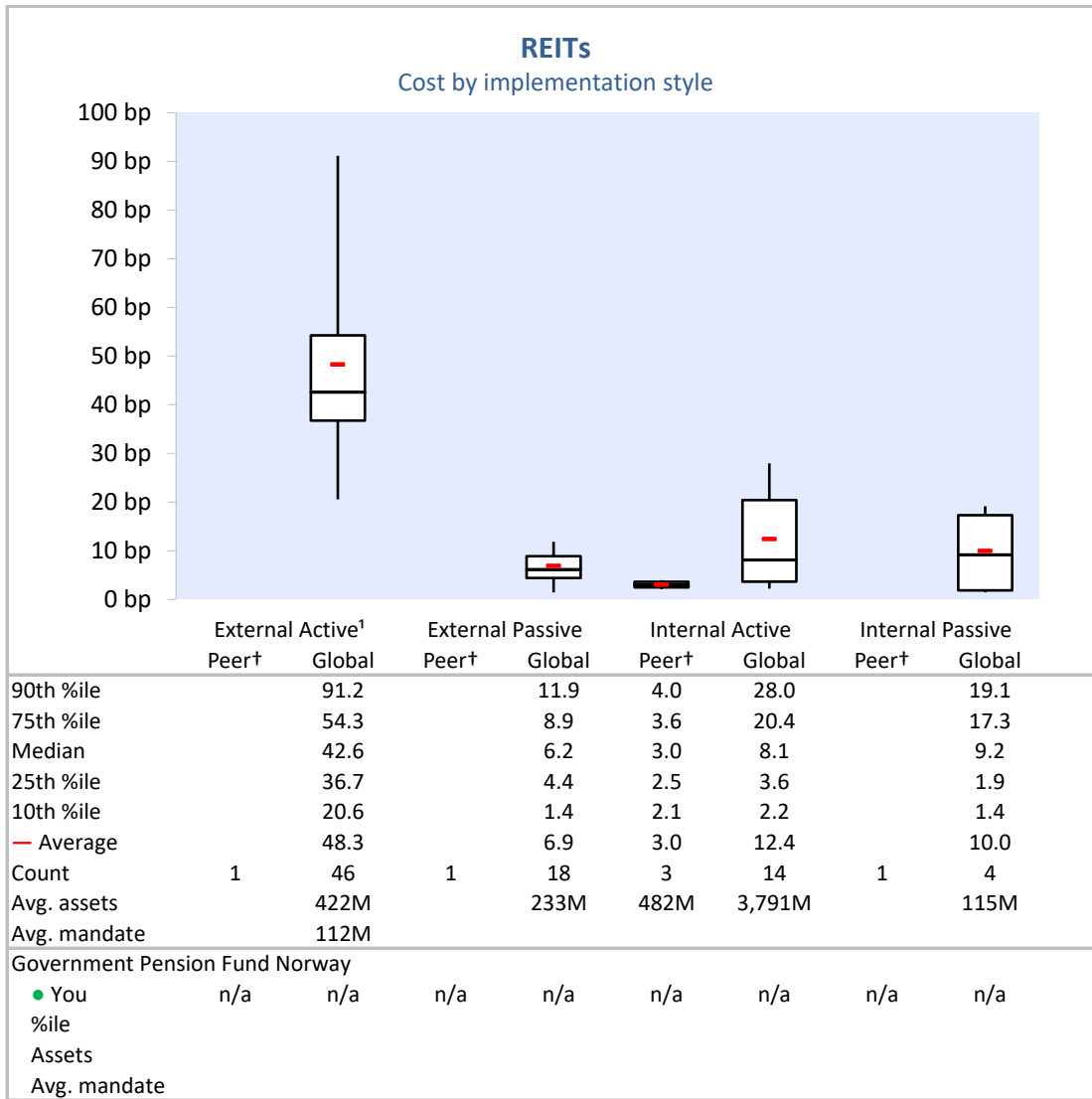


1. Breakdown of external active fees

	You	Peer Average	Global Average
Base fees	n/a	n/a	48.0
Performance fees*	n/a	n/a	24.9
Internal and other	<u>n/a</u>	<u>n/a</u>	<u>1.5</u>
Total	n/a	n/a	74.4

\* 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 0.0 bps for peers (1 fund) and 43.5 bps for Global participants (8 funds).

†Peer cost distributions, and in certain cases the Universe cost distributions, are not shown where count is less than 3 to protect anonymity.

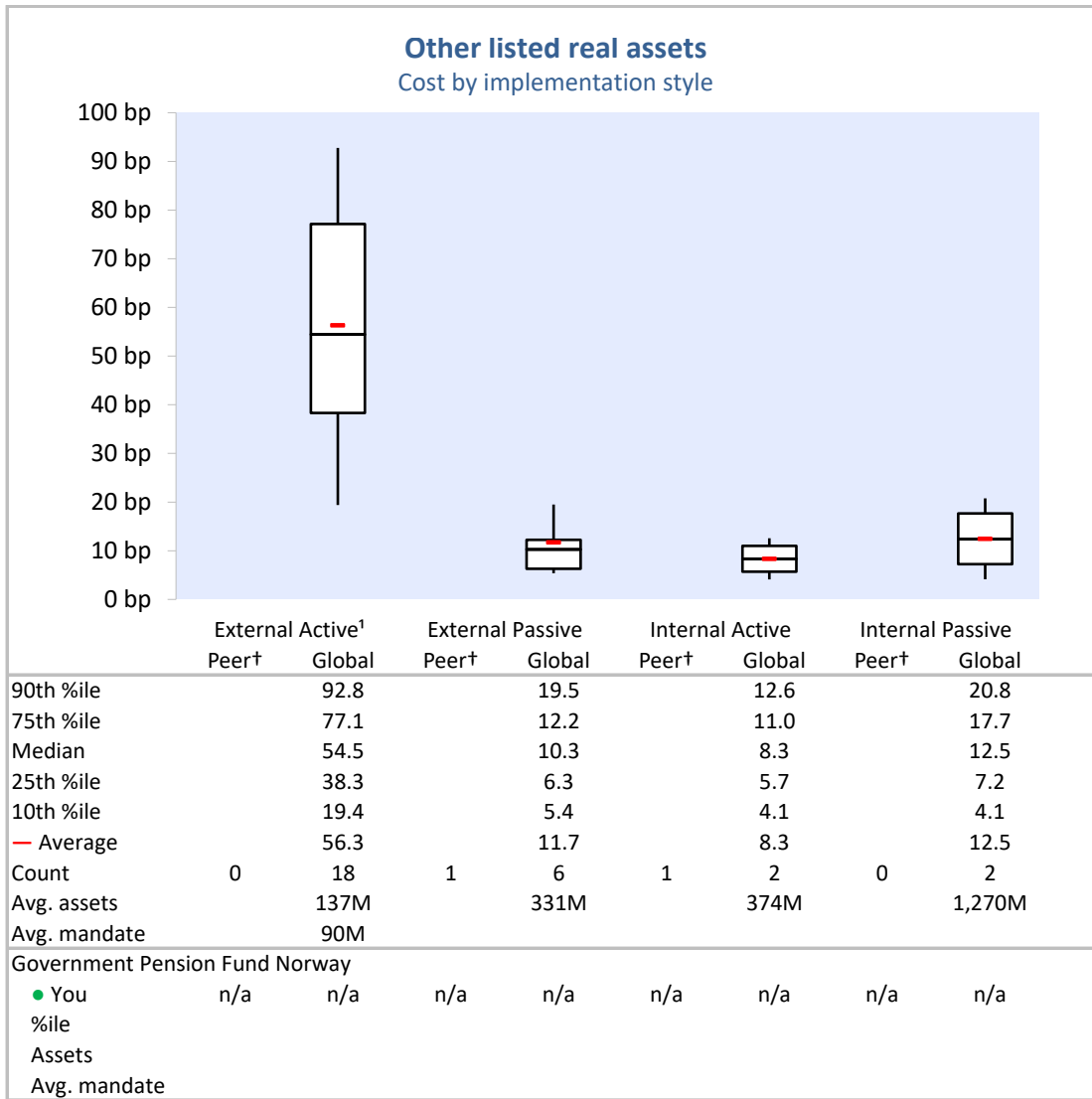


1. Breakdown of external active fees

	You	Peer Average	Global Average
Base fees	n/a	n/a	45.1
Performance fees*	n/a	n/a	1.6
Internal and other	<u>n/a</u>	<u>n/a</u>	<u>1.6</u>
Total	n/a	n/a	48.3

\* 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 3.4 bps for Global participants (22 funds).

†Peer cost distributions, and in certain cases the Universe cost distributions, are not shown where count is less than 3 to protect anonymity.



#### 1. Breakdown of external active fees

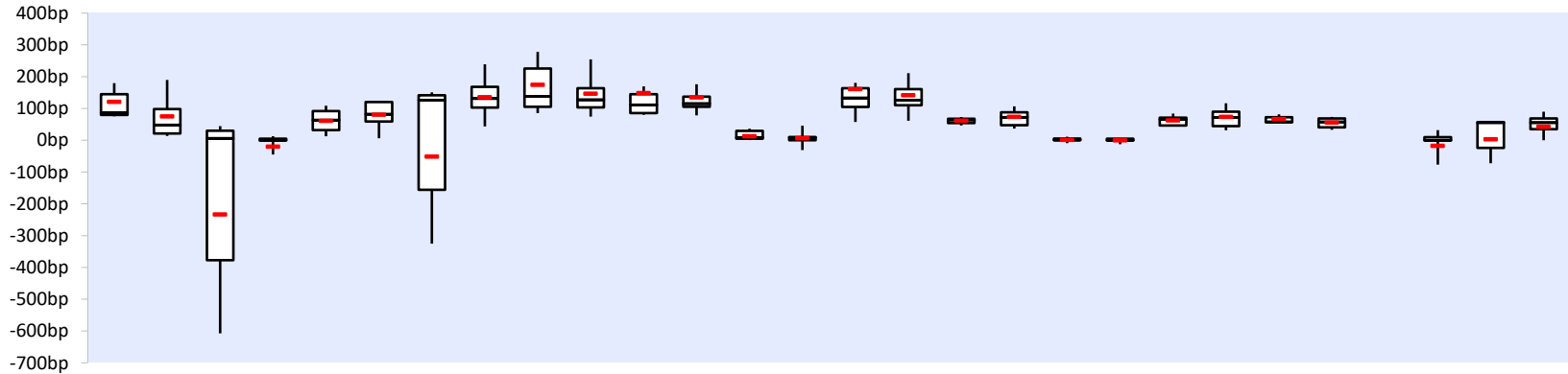
	You	Peer Average	Global Average
Base fees	n/a	n/a	55.4
Performance fees*	n/a	n/a	0.0
Internal and other	<u>n/a</u>	<u>n/a</u>	<u>1.0</u>
Total	n/a	n/a	56.3

\* 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 Global participants (6 funds).

†Peer cost distributions, and in certain cases the Universe cost distributions, are not shown where count is less than 3 to protect anonymity.

## Real estate

Cost as a % of the amount fees are based on<sup>1</sup>



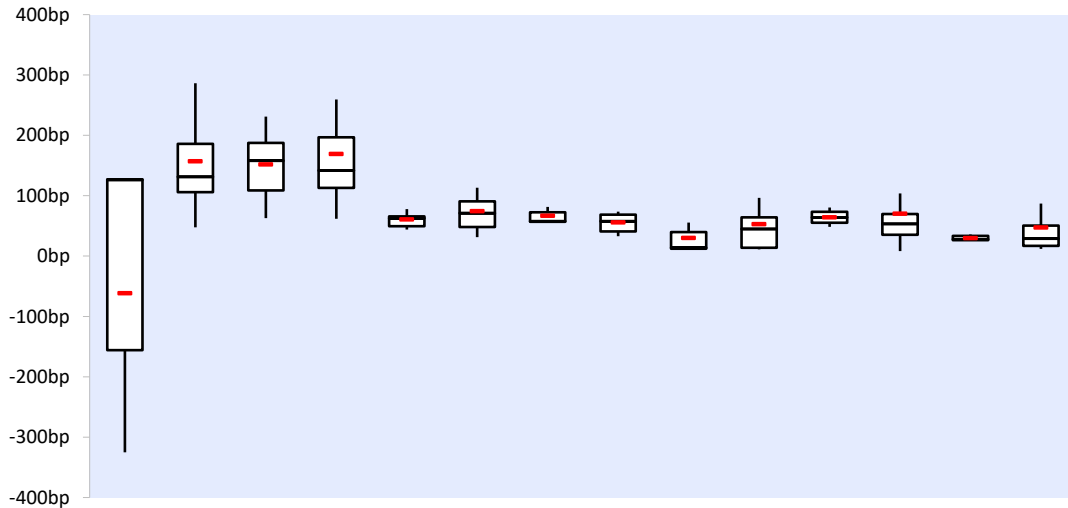
	Fund of Funds										Fund (Direct LP)						Fund (Evergreen)						Joint venture					
	Mgmt fees <sup>3</sup> (Top layer)		Perf. fees (Top layer)		Underlying mgmt. & perf. <sup>2</sup>		Total <sup>3</sup> incl. perf.		Total <sup>3</sup> excl. perf.		Mgmt fees <sup>3</sup>		Perf. fees		Total <sup>3</sup> incl. perf.		Mgmt fees <sup>3</sup>		Perf. fees		Total <sup>3</sup> incl. perf.		Mgmt fees <sup>3</sup>		Perf. fees		Total <sup>3</sup> 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
90th %ile	179.5	189.4	44.3	12.8	108.7	120.0	150.7	239.0	277.8	254.3	169.5	176.2	36.3	45.7	180.5	210.6	72.8	106.8	11.0	6.7	83.8	116.3	81.4	73.6	31.8	57.4	89.8	
75th %ile	144.9	97.8	30.0	5.0	91.8	120.0	141.6	167.7	225.6	163.5	144.8	137.1	29.5	10.0	163.4	160.5	67.5	87.7	5.5	5.0	71.0	89.6	72.6	68.6	9.8	56.7	68.6	
Median	87.1	48.2	6.1	0.0	63.7	82.2	126.3	131.4	138.5	127.4	111.5	115.3	8.5	8.8	133.1	126.4	64.3	72.4	1.0	0.2	65.7	71.8	57.9	57.9	0.0	55.6	55.6	
25th %ile	79.7	21.3	-377.2	0.0	31.8	58.8	-155.9	103.0	105.4	103.5	85.2	105.0	5.1	0.0	104.6	110.0	54.0	47.3	0.3	0.0	46.4	44.2	56.7	40.7	0.0	-24.3	34.5	
10th %ile	75.3	13.6	-607.3	-45.0	12.7	6.1	-325.1	43.4	85.6	74.2	80.1	78.0	0.5	-31.1	57.2	61.5	46.3	36.6	-9.1	-12.8	43.5	31.3	56.1	32.9	-76.6	-72.2	0.2	
— Average	120.7	75.0	-233.5	-19.9	61.2	80.4	-51.6	135.5	174.5	146.6	148.2	135.1	12.6	6.7	160.9	141.7	61.3	73.7	1.2	-0.4	62.5	73.4	66.9	56.0	-17.4	3.1	42.4	
Count	3	47	3	47	3	47	3	47	3	47	12	141	12	141	12	141	7	173	7	173	7	173	3	9	2	7	3	9
Avg. assets	47M	419M	47M	419M	47M	419M	47M	419M	47M	419M	1,465M	991M	1,465M	991M	1,465M	991M	3,475M	1,690M	3,475M	1,690M	3,475M	1,690M	563M	5,511M	7,085M	563M	5,511M	
Government Pension Fund Norway																												
● 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

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 imputed costs of 51 bps (on amount fees are based on) for underlying management fees and 10 bps (on NAV) for underlying performance fees were used.
3. The management fees and total cost also include the internal cost of monitoring and selecting real estate investments. The peer average cost of monitoring and selecting was 3.0 bps for fund of funds, 44.0 bps for LPs and 3.5 bps for external (not LPs).

†Peer cost distributions, and in certain cases the Universe cost distributions, are not shown where count is less than 3 to protect anonymity.

## Real estate - contd.

### Cost as a % of NAV



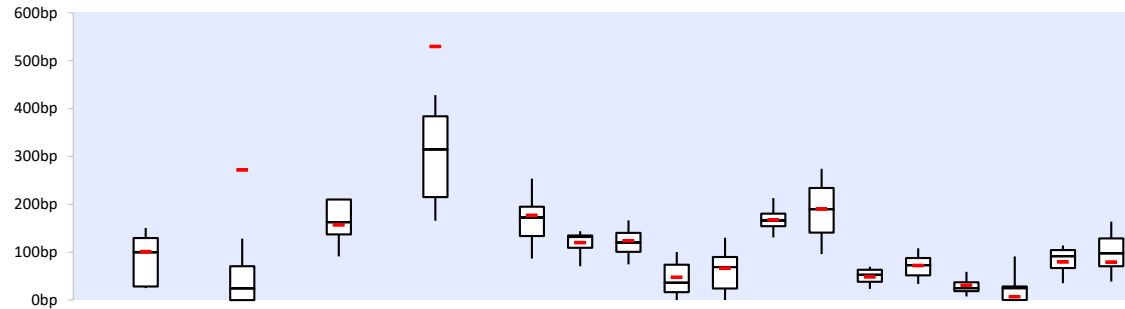
	Fund of Funds		Fund (Direct LP)		Fund (Evergreen)		Joint venture		Oper. Sub.		Co-Inv.		Internal	
	Total <sup>1</sup> incl. perf.		Total <sup>1</sup> incl. perf.		Total <sup>1</sup> incl. perf.		Total <sup>1</sup> incl. perf.		Total <sup>1</sup> incl. perf.		Total <sup>1</sup> incl. perf.		Total	
	Peer†	Global	Peer†	Global	Peer†	Global	Peer†	Global	Peer†	Global	Peer†	Global	Peer†	Global
90th %ile	127.5	286.3	231.0	259.3	77.8	113.1	81.4	73.6	55.5	96.4	80.4	103.9	35.7	87.0
75th %ile	127.0	185.9	187.4	196.8	65.9	90.7	72.6	68.6	39.9	64.2	73.4	69.6	33.6	50.6
Median	126.3	131.4	158.1	141.9	62.7	71.1	57.9	57.9	13.8	45.0	64.2	53.5	28.0	29.1
25th %ile	-155.9	105.8	108.8	113.0	49.4	48.2	56.7	40.7	12.3	13.8	55.2	35.4	26.4	16.9
10th %ile	-325.1	47.5	62.7	61.9	43.9	31.4	56.1	32.9	11.3	11.1	48.4	8.4	25.9	11.9
— Average	-61.3	157.2	151.8	169.1	60.9	74.4	66.9	56.0	30.1	53.1	64.4	70.2	29.9	47.5
Count	3	47	12	141	7	173	3	9	3	13	4	37	6	43
Avg. assets	56M	391M	1,244M	829M	3,664M	1,585M	563M	5,511M	7,022M	9,075M	456M	615M	5,018M	2,521M
Government Pension Fund Norway														
● 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														
Assets														

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 4 of your peers and 31 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 average cost of monitoring and selecting was 3.0 bps for fund of funds, 44.0 bps for LPs and 3.5 bps for external (not LPs).

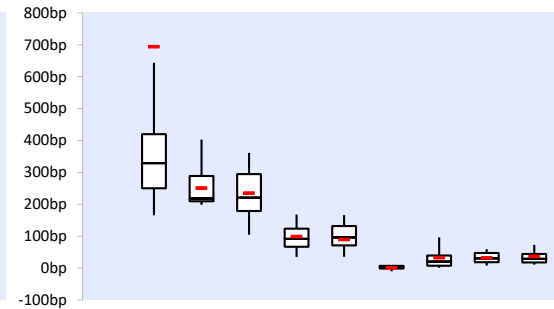
†Peer cost distributions, and in certain cases the Universe cost distributions, are not shown where count is less than 3 to protect anonymity.

## Infrastructure

Cost as a % of the amount fees are based on<sup>1</sup>



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 <sup>3</sup> (Top layer)		Perf. fees (Top layer)		Underlying mgmt. & perf. <sup>2</sup>		Total <sup>3</sup> incl. perf.		Total <sup>3</sup> excl. perf.		Mgmt fees <sup>3</sup>		Perf. fees		Total <sup>3</sup> incl. perf.		Mgmt fees <sup>3</sup>		Perf. fees		Total <sup>3</sup> incl. perf.		Total <sup>3</sup> incl. perf.		Total		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
90th %ile	150.7	128.3	210.0	428.1	253.7	143.7	166.5	100.5	130.1	213.1	274.2	69.8	108.1	59.2	91.4	114.0	164.0	643.4	402.9	361.1	167.9	166.2	7.6	96.5	59.7	73.2		
75th %ile	129.5	70.7	210.0	383.9	195.1	134.8	140.4	74.0	90.0	180.7	234.0	63.3	87.8	37.2	28.6	104.4	128.8	419.8	288.8	294.9	123.7	131.9	7.3	39.7	47.9	44.7		
Median	100.0	24.7	162.8	314.9	172.5	132.0	120.3	36.4	69.2	166.5	190.0	53.1	73.0	25.0	25.0	91.9	98.0	329.2	218.9	221.2	91.9	96.9	5.5	20.6	31.2	29.4		
25th %ile	28.6	0.0	137.2	215.1	133.8	109.4	101.0	16.5	24.2	154.4	140.9	38.3	51.7	18.8	0.2	67.0	70.8	250.3	209.5	179.1	67.0	71.4	-1.0	7.8	18.7	18.1		
10th %ile	25.1	0.0	91.4	165.6	86.9	70.8	74.7	0.0	0.0	130.9	96.1	23.6	33.8	7.7	0.0	35.3	38.8	165.6	198.7	104.6	35.3	36.0	-9.6	1.5	7.9	11.1		
— Average	101.1	271.7	156.8	529.6	177.0	120.1	124.0	47.5	66.3	167.6	190.3	48.5	72.2	31.0	7.0	79.6	79.2	693.5	251.2	235.3	98.8	89.9	0.8	32.7	32.4	36.9		
Count	2	26	2	26	2	11	130	11	130	4	86	4	86	4	86	4	86	2	26	11	130	4	86	4	48	7	38	
Avg. assets	140M	140M	140M	140M	140M	980M	878M	980M	878M	980M	878M	2,396M	589M	2,396M	589M	2,396M	589M	122M	669M	691M	2,387M	579M	373M	424M	5,778M	5,532M		
Government Pension Fund Norway	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	
• 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	

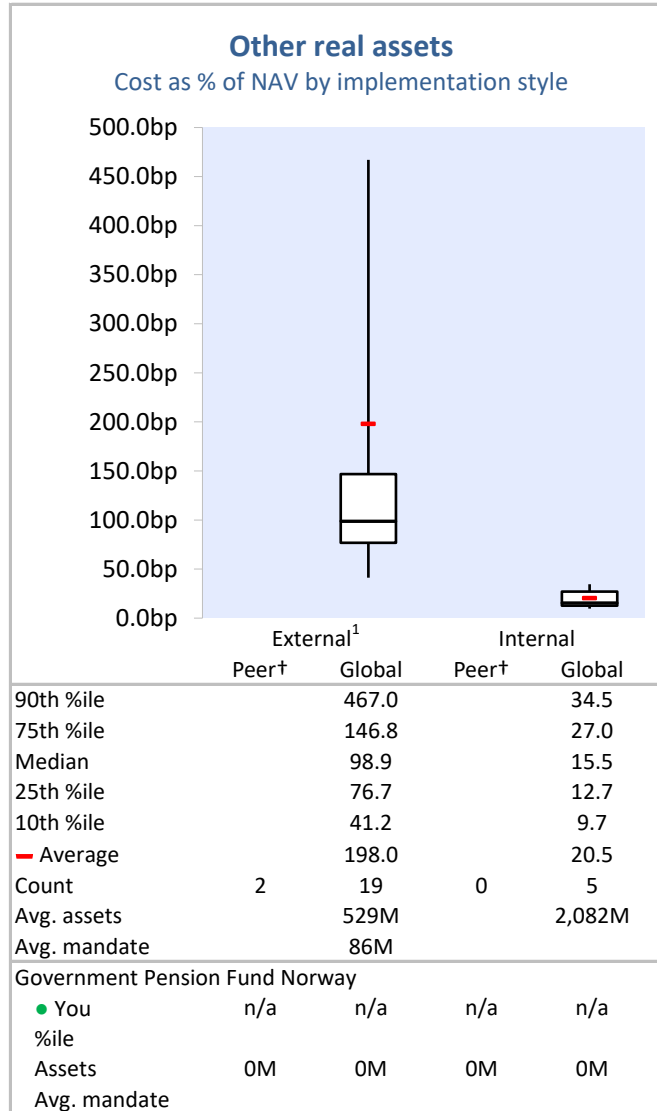
- The base for fees is usually the committed amount during the commitment period, and unreturned invested capital afterwards.
- The fees of fund of funds include both the top layer fees paid to the fund of funds manager and the underlying fees paid to the 'underlying partnerships' held by the fund of funds. Most funds were unable to provide the underlying fees so imputed costs of 60 bps (on amount fees are based on) for underlying management fees and 45 bps (on NAV) for underlying performance fees were used.
- The management fees and total cost also include the internal cost of monitoring and selecting infrastructure investments. The peer average cost of monitoring and selecting was 1.2 bps for fund of funds, 6.2 bps for LPs and 2.5 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.

\*Peer cost distributions, and in certain cases the Universe cost distributions, are not shown where count is less than 3 to protect anonymity.







#### 1. Breakdown of external fees

	Your Plan	Peer Average	Global Average
Base fees	n/a	n/a	140.0
Internal and other	<u>n/a</u>	<u>461.5</u>	<u>58.0</u>
Total*	n/a	n/a	198.0
Performance fees**	n/a	20.7	-0.4

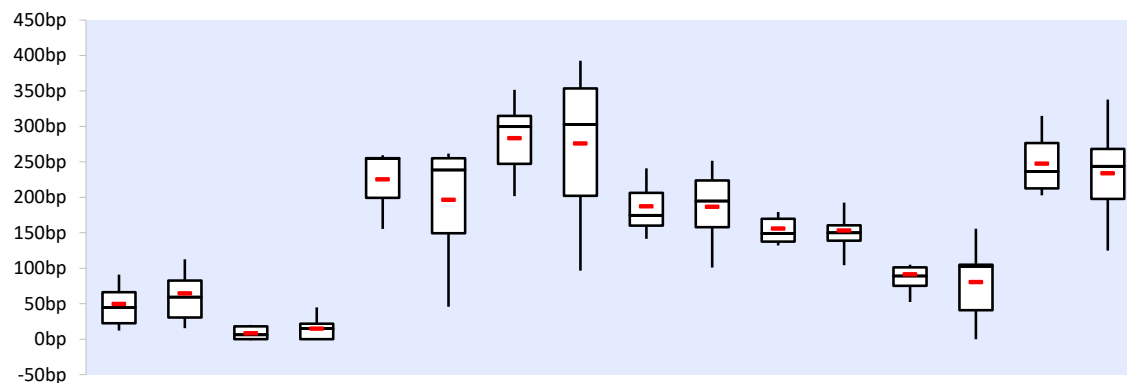
\* Total cost excludes performance fees because most participants did not provide performance fees for other real assets.

†Peer cost distributions, and in certain cases the Universe cost distributions, are not shown where count is less than 3 to protect anonymity.

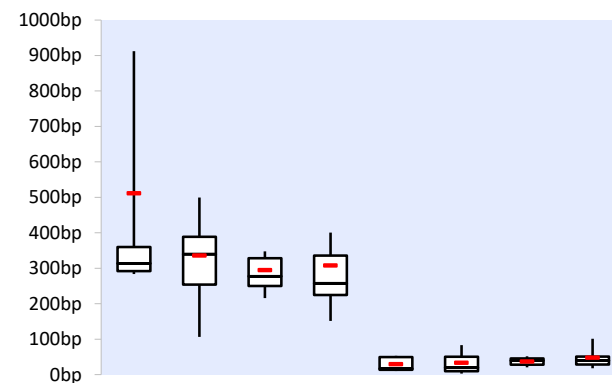
\*\* For funds that did not report a performance fee, an imputed cost of 5 bps was applied. The average performance fee for only those funds that reported a performance fee is 20.7 bps for peers (2 funds) and -3.6 bps for Global participants (12 funds).

## Private equity - Diversified

Cost as a % of the amount fees are based on<sup>1</sup>



Cost as a % of NAV



	Fund of Funds										Direct LP					
	Mgmt fees <sup>3</sup> (Top layer)		Perf. fees (Top layer)		Underlying mgmt. & perf. <sup>2</sup>		Total <sup>3</sup> incl. perf.		Total <sup>3</sup> excl. perf.		Mgmt fees <sup>3</sup>		Perf. fees		Total <sup>3</sup> incl. perf.	
	Peer†	Global	Peer†	Global	Peer†	Global	Peer†	Global	Peer†	Global	Peer†	Global	Peer†	Global	Peer†	Global
90th %ile	90.9	112.6	20.0	44.7	259.3	261.7	351.6	392.6	240.9	251.6	179.4	192.6	104.9	155.8	314.8	337.8
75th %ile	66.1	82.6	18.1	21.7	255.0	255.0	314.8	353.6	206.3	223.9	169.6	160.6	101.3	105.0	276.6	268.2
Median	44.9	59.5	6.2	15.0	255.0	238.6	299.8	302.9	174.8	194.9	149.1	150.0	89.2	103.0	236.4	244.0
25th %ile	22.5	30.6	0.0	0.0	199.3	149.4	247.3	202.2	160.1	158.0	137.7	138.9	75.2	40.8	212.6	197.8
10th %ile	12.2	15.4	-1.5	-0.5	155.5	45.7	201.7	96.5	141.5	101.1	132.1	104.2	52.5	0.0	202.8	124.9
— Average	49.7	64.5	8.4	15.0	225.5	196.6	283.5	276.1	187.4	186.7	156.1	153.2	91.4	80.7	247.5	233.9
Count	7	107	7	107	7	107	7	107	7	107	12	176	12	176	12	176
Avg. assets	449M	602M	449M	602M	449M	602M	449M	602M	449M	602M	4,531M	2,463M	4,531M	2,463M	4,531M	2,463M
Government Pension Fund Norway																
● 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

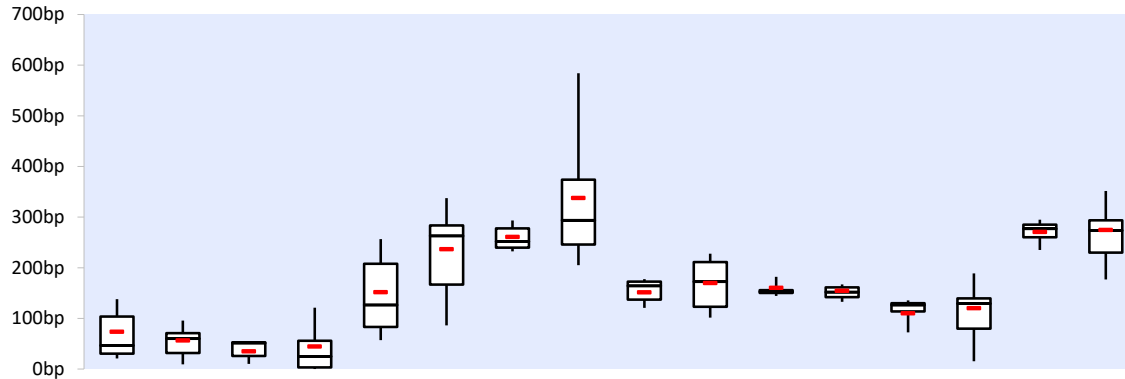
	Fund of Funds		Direct LP		Co-Investment		Internal	
	Total <sup>3</sup> incl. perf.		Total <sup>3</sup> incl. perf.		Total incl. perf.		Total	
	Peer†	Global	Peer†	Global	Peer†	Global	Peer†	Global
90th %ile	912.3	499.4	347.6	400.5	53.0	83.3	51.8	100.9
75th %ile	359.8	388.6	328.4	335.8	49.3	50.2	45.5	50.6
Median	314.1	340.0	277.3	257.8	16.9	19.5	39.6	40.0
25th %ile	292.2	253.8	250.1	224.4	13.8	9.6	27.9	28.4
10th %ile	283.5	106.3	215.7	151.5	9.9	2.9	20.5	17.8
— Average	511.4	336.1	295.0	308.0	29.5	33.5	36.9	48.1
Count	7	107	12	176	7	57	5	24
Avg. assets	399M	593M	3,576M	2,255M	1,365M	1,384M	3,634M	4,836M
Government Pension Fund Norway								
● 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

- The base for fees is usually the committed amount during the commitment period, and unreturned invested capital afterwards.
- 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 imputed costs of 150 bps (on amount fees are based on) for underlying management fees and 105 bps (on NAV) for underlying performance fees were used.
- The management fees and total cost also includes the internal cost of monitoring and selecting private equity investments. The peer average cost of monitoring and selecting was 2.9 bps for fund of funds, 10.7 bps for LPs and 7.0 bps for co-investments.

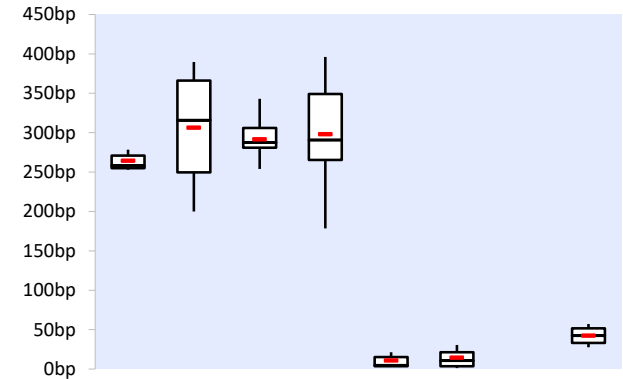
†Peer cost distributions, and in certain cases the Universe cost distributions, are not shown where count is less than 3 to protect anonymity.

## LBO

### Cost as a % of the amount fees are based on<sup>1</sup>



### Cost as a % of NAV

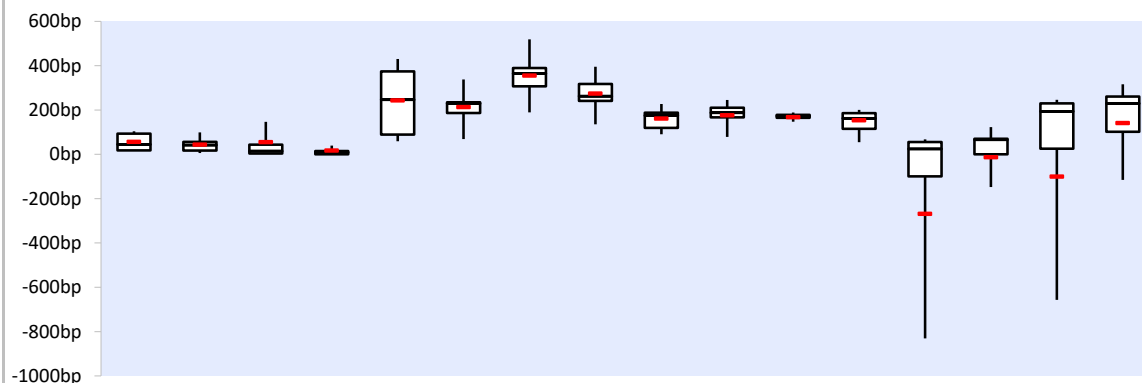


	Fund of Funds										Direct LP						Fund of Funds		Direct LP		Co-Investment		Internal		
	Mgmt fees <sup>3</sup> (Top layer)		Perf. fees (Top layer)		Underlying mgmt. & perf. <sup>2</sup>		Total <sup>3</sup> incl. perf.		Total <sup>3</sup> excl. perf.		Mgmt fees <sup>3</sup>		Perf. fees		Total <sup>3</sup> incl. perf.		Total <sup>3</sup> incl. perf.		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	
90th %ile	137.9	95.8	53.6	121.2	256.7	337.3	293.3	584.0	177.4	227.6	182.1	166.9	135.6	188.9	294.8	351.5	278.5	389.7	343.0	396.1	21.3	30.6		57.3	
75th %ile	103.6	70.8	52.8	55.9	207.9	283.5	277.7	373.9	172.6	211.2	155.8	161.1	130.0	139.4	285.2	293.5	270.8	366.1	305.9	349.2	15.1	21.3		51.7	
Median	46.6	60.0	51.5	25.0	126.6	262.9	251.8	293.9	164.5	172.6	258.0	316.0	287.6	290.8	4.9	10.8	254.9	249.6	280.9	265.3	3.6	3.6		42.4	
25th %ile	30.5	31.6	25.8	3.2	83.1	166.7	239.6	245.7	137.1	123.1	150.1	142.1	113.9	79.9	260.1	229.8	254.9	249.6	280.9	265.3	3.6	3.6		33.1	
10th %ile	20.9	9.3	10.3	0.0	57.0	86.3	232.2	205.0	120.7	101.6	144.3	132.6	72.4	15.4	235.0	176.9	253.1	200.1	253.9	178.5	2.9	1.2		27.6	
— Average	73.9	56.6	35.2	44.6	151.8	236.7	260.9	337.9	151.6	170.1	160.5	154.6	110.3	120.3	270.9	274.8	264.5	306.4	291.8	298.3	10.9	14.5		42.4	
Count	3	16	3	16	3	16	3	16	3	16	8	43	8	43	8	43	3	16	8	43	3	16	2	2	
Avg. assets	406M	360M	406M	360M	406M	360M	406M	360M	406M	360M	3,532M	3,005M	3,532M	3,005M	3,532M	3,005M	373M	352M	3,187M	2,812M	1,582M	1,115M		403M	
Government Pension Fund Norway																									
● 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	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	0M	0M	0M	0M	0M	0M	0M	0M	0M

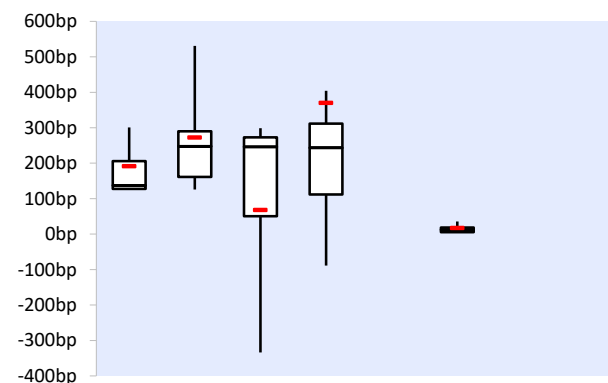
1. The base for fees is usually the committed amount during the commitment period, and unreturned invested capital afterwards.
2. The fees of fund of funds include both the top layer fees paid to the fund of funds manager and the underlying fees paid to the 'underlying partnerships' held by the fund of funds. Most funds were unable to provide the underlying fees so imputed costs of 63 bps (on amount fees are based on) for underlying management fees and 72 bps (on NAV) for underlying performance fees were used.
3. The management fees and total cost also include the internal cost of monitoring and selecting private equity investments. The peer average cost of monitoring and selecting was 6.4 bps for fund of funds, 8.5 bps for LPs and +Peer cost distributions, and in certain cases the Universe cost distributions, are not shown where count is less than 3 to protect anonymity.

## Venture capital

Cost as a % of the amount fees are based on<sup>1</sup>



Cost as a % of NAV



	Fund of Funds										Direct LP					
	Mgmt fees <sup>3</sup> (Top layer)		Perf. fees (Top layer)		Underlying mgmt. & perf. <sup>2</sup>		Total <sup>3</sup> incl. perf.		Total <sup>3</sup> excl. perf.		Mgmt fees <sup>3</sup>		Perf. fees		Total <sup>3</sup> incl. perf.	
	Peer†	Global	Peer†	Global	Peer†	Global	Peer†	Global	Peer†	Global	Peer†	Global	Peer†	Global	Peer†	Global
90th %ile	103.9	99.0	146.3	39.5	430.3	337.6	518.9	395.1	227.0	245.4	188.4	200.4	67.2	122.8	246.0	316.3
75th %ile	93.2	56.5	44.0	14.7	374.0	234.8	389.6	317.6	187.7	210.2	178.5	185.6	55.6	70.0	230.3	260.5
Median	45.4	42.4	14.9	9.0	246.8	230.0	364.6	262.9	175.6	187.7	173.4	162.8	24.9	66.0	194.1	230.0
25th %ile	18.1	16.8	3.6	0.0	89.2	186.7	307.1	241.5	119.4	167.0	164.7	115.3	-99.5	0.0	25.5	101.6
10th %ile	16.6	5.8	1.4	-0.8	59.1	69.1	189.3	135.3	90.8	78.9	147.4	54.7	-830.6	-147.8	-656.4	-115.4
— Average	56.6	43.9	55.4	17.1	243.4	213.7	355.4	274.7	161.5	176.3	167.9	154.1	-268.5	-12.9	-100.6	141.2
Count	5	27	5	27	5	27	5	27	5	27	8	41	8	41	8	41
Avg. assets	218M	221M	218M	221M	218M	221M	218M	221M	218M	221M	773M	686M	773M	686M	773M	686M
Government Pension Fund Norway																
● 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

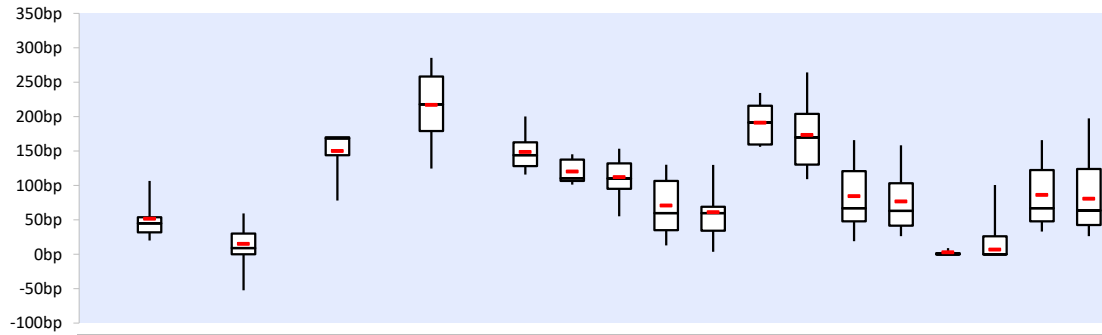
  

	Fund of Funds		Direct LP		Co-Investment		Internal	
	Total <sup>3</sup> incl. perf.		Total <sup>3</sup> incl. perf.		Total incl. perf.		Total	
	Peer†	Global	Peer†	Global	Peer†	Global	Peer†	Global
90th %ile	301.1	530.9	298.9	404.2			35.7	
75th %ile	205.7	290.0	272.9	311.7			18.5	
Median	137.6	247.9	246.0	243.6			12.3	
25th %ile	127.4	161.3	50.5	111.9			5.4	
10th %ile	125.3	126.0	-333.8	-88.5			3.3	
— Average	191.8	272.9	68.1	370.2			17.4	
Count	5	27	8	41	2	11	1	2
Avg. assets	309M	309M	711M	655M	92M		1,444M	
● You %ile	n/a	n/a	n/a	n/a			n/a	
Assets	0M	0M	0M	0M			0M	

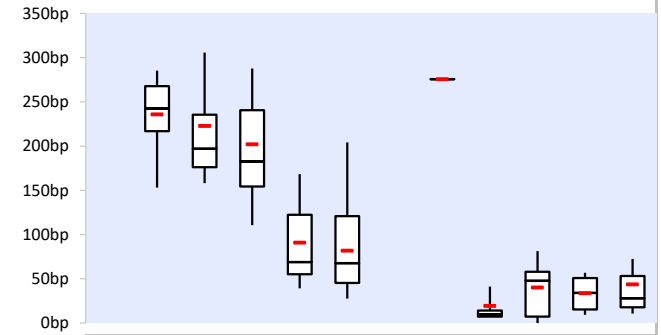
- The base for fees is usually the committed amount during the commitment period, and unreturned invested capital afterwards.
  - The fees of fund of funds include both the top layer fees paid to the fund of funds manager and the underlying fees paid to the 'underlying partnerships' held by the fund of funds. Most funds were unable to provide the underlying fees so imputed costs of 142 bps (on amount fees are based on) for underlying management fees and 70 bps (on NAV) for underlying performance fees were used.
  - The management fees and total cost also include the internal cost of monitoring and selecting private equity investments. The peer average cost of monitoring and selecting was 7.6 bps for fund of funds, 15.5 bps for LPs and
- †Peer cost distributions, and in certain cases the Universe cost distributions, are not shown where count is less than 3 to protect anonymity.

## Private credit

Cost as a % of the amount fees are based on<sup>1</sup>

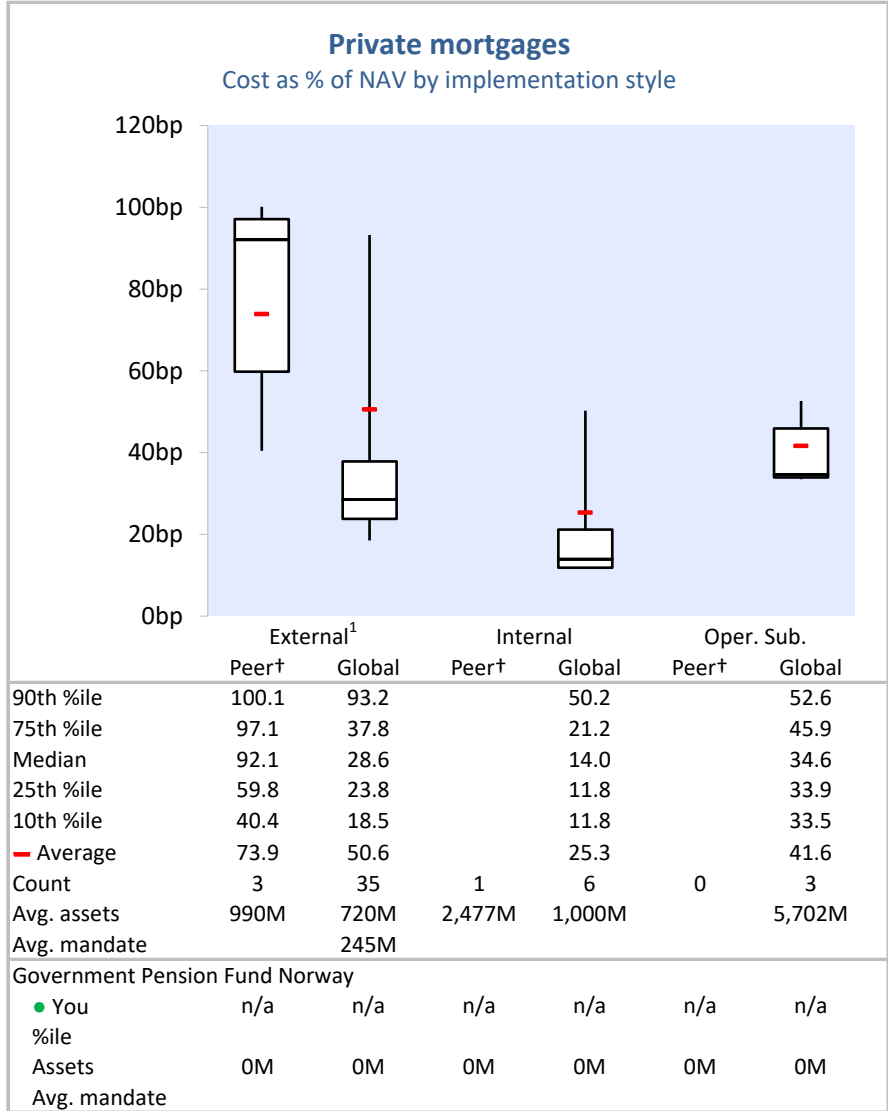


Cost as a % of NAV



	Fund of Funds										Direct LP						Evergreen						Fund of Funds		Direct LP		Evergreen		Oper. Sub.		Co-Inv.		Internal	
	Mgmt fees <sup>3</sup> (Top layer)		Perf. fees (Top layer)		Underlying mgmt. & perf. <sup>2</sup>		Total <sup>3</sup> incl. perf.		Total <sup>3</sup> excl. perf.		Mgmt fees <sup>3</sup>		Perf. fees		Total <sup>3</sup> incl. perf.		Mgmt fees <sup>3</sup>		Perf. fees		Total <sup>3</sup> incl. perf.		Total <sup>3</sup> 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	Peer†	Global	Peer†	Global				
90th %ile	106.5	59.2	170.0	285.3	200.2	145.3	153.5	130.1	129.9	234.3	264.3	165.8	158.4	9.0	100.6	165.8	197.5	285.3	305.7	287.7	168.4	204.2	275.7	41.2	81.3	56.8	72.6							
75th %ile	53.8	30.0	170.0	258.2	162.6	137.5	132.1	106.6	69.0	215.8	203.9	120.7	103.2	1.7	26.1	122.4	123.9	267.7	235.4	240.5	122.4	120.8	275.7	14.2	57.9	50.9	53.1							
Median	45.0	9.1	168.6	218.0	144.1	110.4	110.3	60.0	60.0	191.4	170.0	67.0	63.0	0.0	0.0	67.0	63.6	242.8	197.1	182.7	69.1	67.8	275.7	9.7	47.9	34.2	28.2							
25th %ile	31.8	0.0	143.9	179.1	128.0	106.6	95.0	35.0	34.2	159.4	130.2	47.9	41.6	0.0	0.0	47.9	42.4	216.9	176.2	154.4	55.1	45.4	275.7	7.3	7.3	15.4	17.9							
10th %ile	20.1	-52.3	78.1	124.4	115.8	101.2	55.2	12.9	3.6	156.2	109.2	18.9	26.2	0.0	0.0	33.0	26.2	153.0	158.1	110.7	39.3	27.7	275.7	7.2	0.0	9.5	10.8							
Average	51.8	15.2	150.1	217.1	148.7	120.2	112.2	71.0	61.3	191.2	173.4	84.4	76.8	3.0	6.9	86.2	80.7	235.8	222.9	202.1	91.0	81.9	275.7	19.5	40.3	33.8	43.8							
Count	0	14	0	14	0	14	14	0	14	7	142	7	142	7	142	10	75	6	43	10	75	0	1	5	21	8	26							
Avg. assets	182M	182M	182M	182M	182M	2,180M	764M	2,180M	764M	2,180M	764M	1,255M	726M	2,091M	1,267M	1,255M	726M	0	14M	1,986M	684M	1,286M	717M	380M	472M	285M	2,049M	3,066M						
Government Pension Fund Norway	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					
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					

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 imputed values 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 management fees and total cost also include the internal cost of monitoring and selecting real estate investments. The peer average cost of monitoring and selecting was 9.0 bps for LPs and 16.6 bps for external (not LPs).  
 †Peer cost distributions, and in certain cases the Universe cost distributions, are not shown where count is less than 3 to protect anonymity.



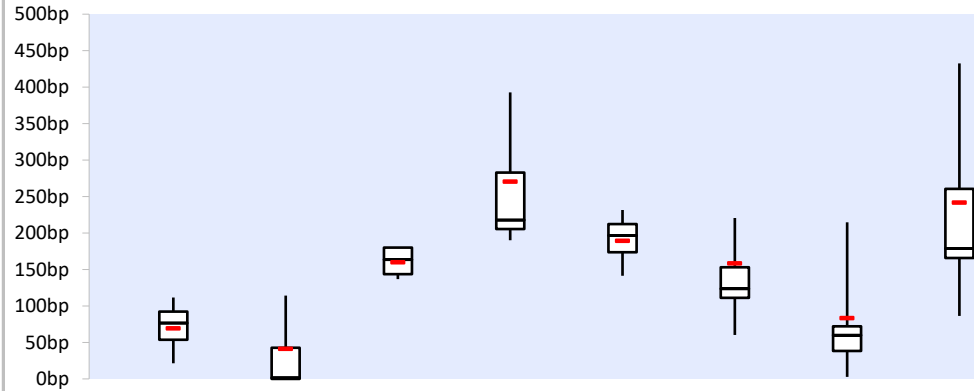
1. Breakdown of external fees

	Your Plan	Peer Average	Global Average
Base fees	n/a	64.5	48.0
Internal and other	<u>n/a</u>	<u>9.4</u>	<u>2.6</u>
Total	n/a	73.9	50.6
Performance fees	n/a	0.7	15.0

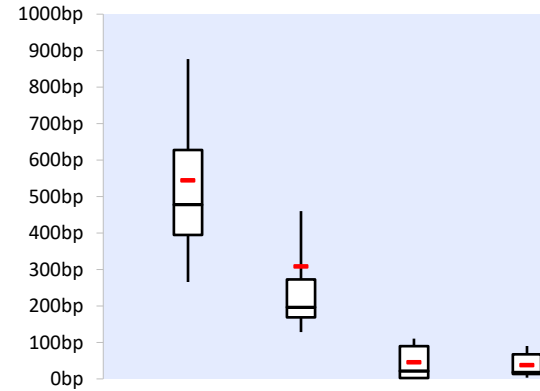
†Peer cost distributions, and in certain cases the Universe cost distributions, are not shown where count is less than 3 to protect anonymity.

## Private equity - Other

Cost as a % of the amount fees are based on<sup>1</sup>



Cost as a % of NAV

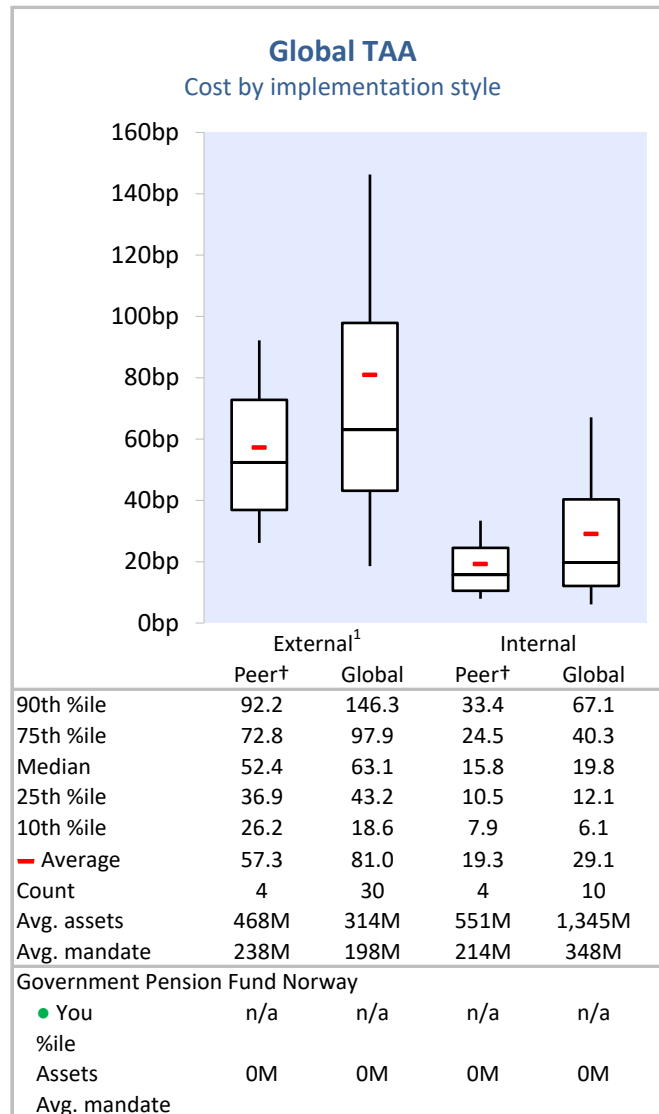


	Fund of Funds										Direct LP						Fund of Funds		Direct LP		Co-Investment		Internal	
	Mgmt fees <sup>3</sup> (Top layer)		Perf. fees (Top layer)		Underlying mgmt. & perf. <sup>2</sup>		Total <sup>3</sup> incl. perf.		Total <sup>3</sup> excl. perf.		Mgmt fees <sup>3</sup>		Perf. fees		Total <sup>3</sup> incl. perf.		Total <sup>3</sup> incl. perf.		Total <sup>3</sup> 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		
90th %ile			111.5	114.2	180.0	180.0	392.8	231.5		220.7	214.6	432.5		876.9	459.9	110.2	90.2							
75th %ile			92.3	42.7	180.0	180.0	282.9	212.3		152.9	72.1	260.6		627.6	272.7	89.8	67.2							
Median			76.6	1.5	163.6	163.6	217.9	196.6		123.6	60.0	178.8		477.6	196.6	22.0	18.5							
25th %ile			53.7	0.0	143.5	143.5	205.5	173.7		111.2	38.2	165.7		394.6	168.9	2.4	13.7							
10th %ile			21.5	0.0	136.8	136.8	190.2	141.5		60.2	2.9	86.4		265.8	128.2	0.0	3.4							
— Average			69.4	41.2	159.9	159.9	270.5	189.4		158.4	83.4	241.8		544.6	308.3	45.6	38.0							
Count	1	4	1	4	1	4	1	4	1	4	1	28	1	28	1	28	1	28	0	10	2	10		
Avg. assets	906M	309M	906M	309M	906M	309M	906M	309M	906M	309M	867M	1,072M	867M	1,072M	867M	1,072M	906M	309M	867M	899M	0	678M	262M	587M
Government Pension Fund Norway																								
● 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	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	0M	0M	0M	0M	0M	0M	0M	

- The base for fees is usually the committed amount during the commitment period, and unreturned invested capital afterwards.
- 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 imputed values of 120 bps (on amount fees are based on) for underlying management fees and 60 bps (on NAV) for underlying performance fees were used.
- The management fees and total cost also include the internal cost of monitoring and selecting private equity investments. The peer average cost of monitoring and selecting was 14.3 bps for fund of funds.

†Peer cost distributions, and in certain cases the Universe cost distributions, are not shown where count is less than 3 to protect anonymity.



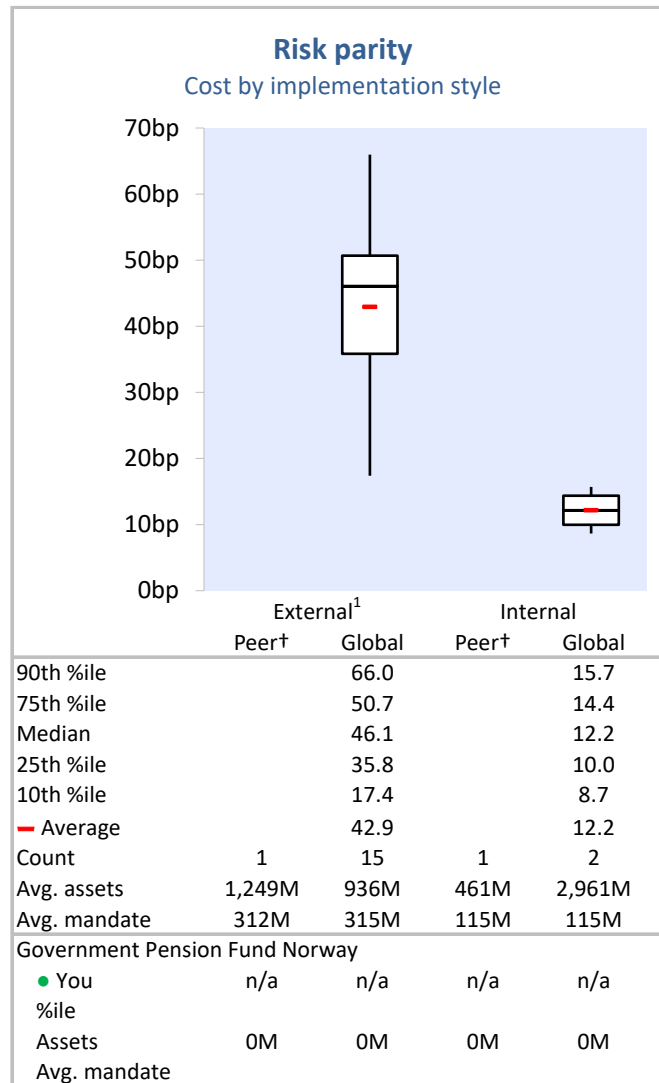


#### 1. Breakdown of external fees

	Your Plan	Peer Average	Global Average
Base fees	n/a	47.8	64.3
Internal and other	n/a	1.4	7.3
Performance fees	<u>n/a</u>	<u>16.8</u>	<u>20.0</u>
Total*	n/a	57.3	81.0

\* 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 16.8 bps for peers (2 funds) and 20.0 bps for Global participants (20 funds).

<sup>†</sup>Peer cost distributions, and in certain cases the Universe cost distributions, are not shown where count is less than 3 to protect anonymity.



#### 1. Breakdown of external fees

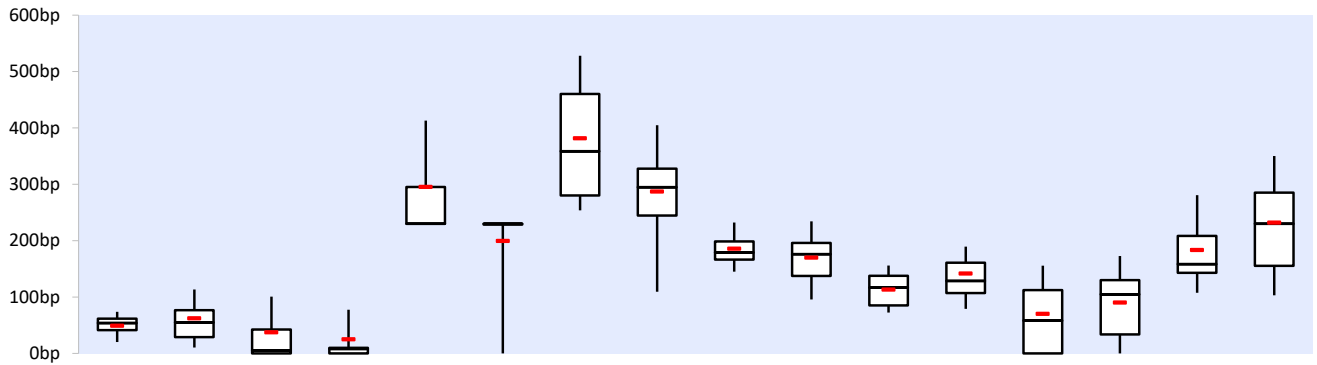
	Your Plan	Peer Average	Global Average
Base fees	n/a	45.3	42.6
Internal and other	n/a	0.8	0.9
Performance fees	<u>n/a</u>	<u>n/a</u>	<u>0.0</u>
Total*	n/a	n/a	42.9

\* 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 0.0 bps for Global participants (6 funds).

†Peer cost distributions, and in certain cases the Universe cost distributions, are not shown where count is less than 3 to protect anonymity.

## Hedge funds

### Cost by implementation style



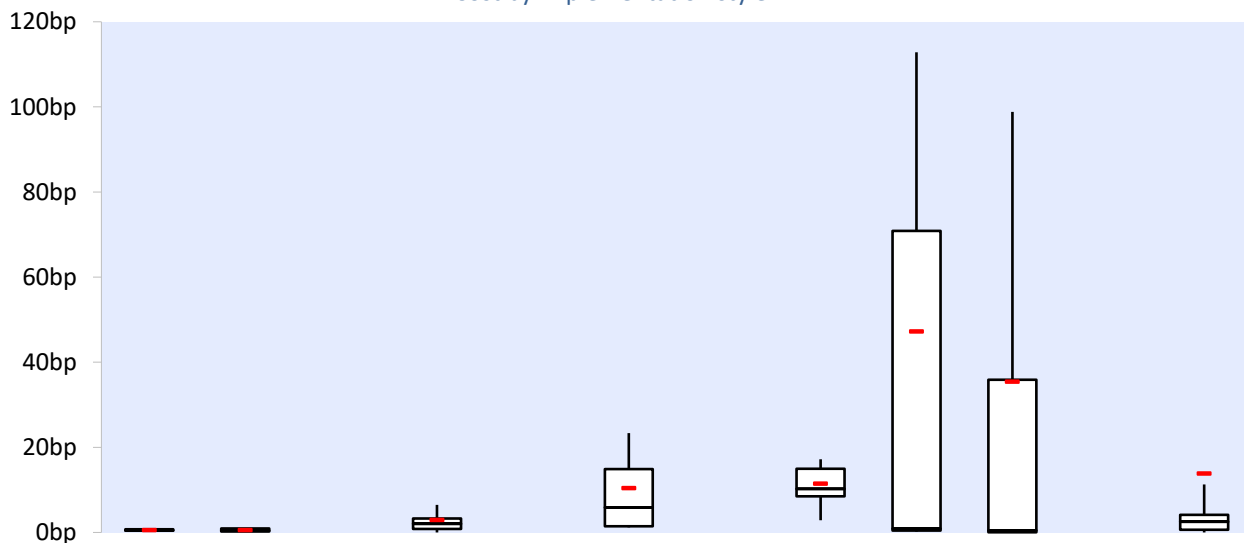
	Fund of Funds										External Direct					
	Mgmt fees (Top layer)		Perf. fees (Top layer)		Underlying mgmt. and perf. <sup>1</sup>		Total <sup>2</sup> incl. perf.		Total <sup>2</sup> excl. perf.		Mgmt fees		Perf. fees		Total <sup>2</sup> incl. perf.	
	Peer†	Global	Peer†	Global	Peer†	Global	Peer†	Global	Peer†	Global	Peer†	Global	Peer†	Global	Peer†	Global
90th %ile	73.8	113.5	100.6	77.4	412.9	230.0	528.0	404.7	232.0	234.3	155.8	189.4	155.7	172.6	280.8	350.1
75th %ile	61.7	76.7	42.4	10.0	295.3	230.0	460.2	327.7	198.6	195.9	137.8	160.8	112.4	130.0	208.5	285.2
Median	54.1	55.0	5.0	8.0	230.0	230.0	358.8	295.0	179.1	176.2	116.7	128.6	58.1	105.0	158.5	230.0
25th %ile	41.4	28.9	0.0	0.0	230.0	228.4	280.3	244.6	166.4	137.5	85.1	107.0	0.0	33.7	142.8	155.4
10th %ile	20.2	10.5	0.0	0.0	230.0	0.0	253.7	109.5	145.2	95.8	72.4	79.1	0.0	0.0	107.7	103.1
Average	49.0	62.4	37.4	25.1	295.3	199.6	381.7	287.1	185.9	170.1	113.3	141.9	70.1	90.2	183.4	232.0
Count	4	56	4	56	4	56	4	56	4	56	8	106	8	106	8	106
Avg. assets	324M	358M	324M	358M	324M	358M	324M	358M	324M	358M	3,448M	1,880M	3,448M	1,880M	3,448M	1,880M
Government Pension Fund Norway																
● 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 imputed costs of 125 bps (on NAV) for underlying management fees and 105 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 3.6 bps for fund of funds †Peer cost distributions, and in certain cases the Universe cost distributions, are not shown where count is less than 3 to protect anonymity.

### Overlays: currency, duration

Cost by implementation style

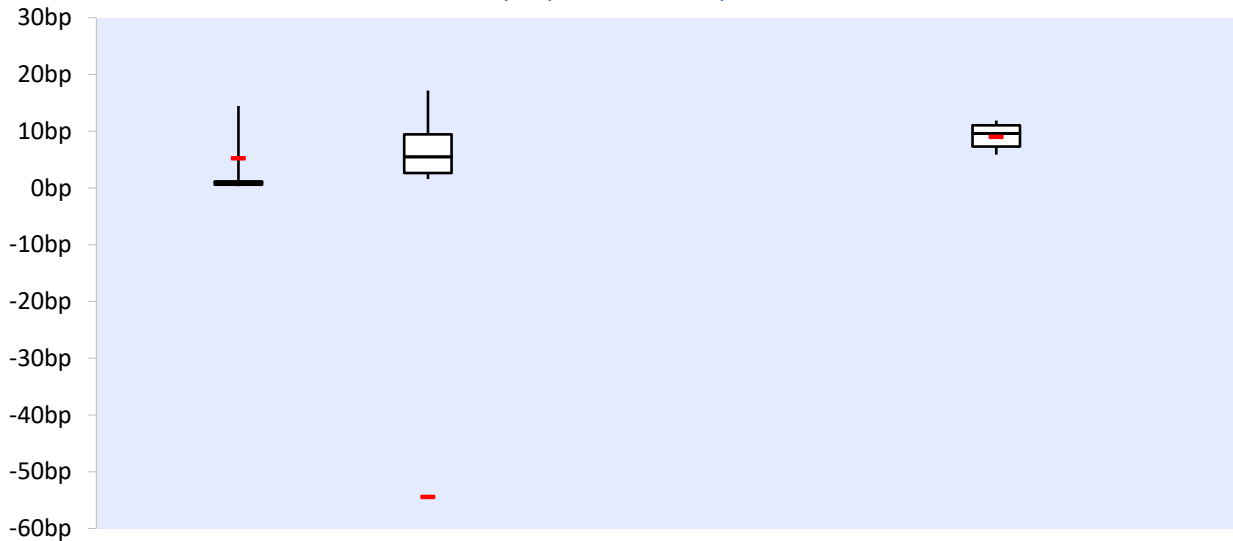


	Currency Hedge				Discretionary Currency				Duration Management			
	Internal		External		Internal		External		Internal		External	
	% of notional		% of notional		% of notional		% of notional		% of notional		% of notional	
	Peer†	Global	Peer†	Global	Peer†	Global	Peer†	Global	Peer†	Global	Peer†	Global
90th %ile	0.9	1.0		6.5		23.3		17.2	112.8	98.8		11.3
75th %ile	0.7	0.9		3.3		14.9		15.0	70.9	35.9		4.1
Median	0.5	0.5		2.1		5.9		10.3	0.9	0.5		2.5
25th %ile	0.4	0.2		0.8		1.5		8.5	0.5	0.0		0.6
10th %ile	0.3	0.2		0.0		1.2		2.9	0.2	0.0		0.0
— Average	0.6	0.6		3.0		10.4		11.5	47.2	35.4		13.9
Count	3	11	1	27	1	4	1	17	3	4	0	29
Avg. notional	16,417M	19,456M	7,095M	4,725M	150M	12,242M	1,191M	797M	5,403M	10,853M		7,003M
Government Pension Fund Norway												
● 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												

†Peer cost distributions, and in certain cases the Universe cost distributions, are not shown where count is less than 3 to protect anonymity.

### 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	
	Peer†	Global	Peer†	Global	Peer†	Global	Peer†	Global	Peer†	Global	Peer†	Global
90th %ile		14.4		17.2						11.9		
75th %ile		1.2		9.5						11.1		
Median		1.0		5.5						9.6		
25th %ile		0.6		2.7						7.3		
10th %ile		0.3		1.6						5.9		
— Average		5.3		-54.4						9.0		
Count	1	6	1	22	0	0	0	0	0	3	0	0
Avg. notional	5,185M	7,379M	13,706M	4,708M						1,054M		
Government Pension Fund Norway												
● 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												

†Peer cost distributions, and in certain cases the Universe cost distributions, are not shown where count is less than 3 to protect anonymity.

### 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		531.6		11.1				26.9		321.6		10.5
75th %ile		443.1		8.0				25.4		25.6		8.5
Median		295.6		6.0				22.9		2.9		7.1
25th %ile		148.1		2.0				20.4		1.2		3.0
10th %ile		59.7		0.8				18.9		0.1		-10.3
— Average		295.6		5.8				22.9		120.7		0.8
Count	1	2	0	5	0	0	0	2	2	8	0	9
Avg. notional	2M	1,620M		885M				328M	10,625M	4,254M		7,689M
Government Pension Fund Norway												
● 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												

†Peer cost distributions, and in certain cases the Universe cost distributions, are not shown where count is less than 3 to protect anonymity.

# 6

## Appendices

- Appendix A - Data Summary
- Appendix B - Currency conversion
- Appendix C - Data Integrity
- Appendix D - Glossary of terms

## Appendix A - Data Summary

### Government Pension Fund Norway

Plan Info	2023	2022	2021	2020	2019
Survey Preparer	Jørn Terje Krekling	Jørn Terje Krekling	Jørn Terje Krekling	Jørn Terje Krekling	Jørn Terje Krekling
Additional Contact	Jørn Nilsen	Jørn Nilsen	Jørn Nilsen	Jørn Nilsen	Jørn Nilsen
Type of fund (corporate, public, other)	Public	Public	Public	Public	Public
Total fund size (€mils) as at December 31	31,580.9	30,268.0	33,200.0	27,892.0	27,245.0
Asset-class level holdings provided on survey are: year end or average?	Average	Average	Year End	Year End	Year End
Total return for year ended Is the return net or gross?	11.40% Gross	-4.37% Gross	14.00% Gross	8.80% Gross	12.42% Gross
Total fund policy or benchmark return	9.94%	-5.09%	13.03%	7.91%	12.02%

Ancillary Data	2023	2022	2021	2020	2019
What is your hedging policy for: Foreign non-U.S. Holdings?					
What were your actuarial fees in 000s?					
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

### Government Pension Fund Norway

Asset Class	Year	Policy Weight	Benchmark	
			Description	Return
Stock - Europe	2023	61.6	CMVINXBXINN - Custom Index 15 % - OSEBX 85 %	12.5
	2022	60.2	CMVINXBXINN - Custom Index 15 % - OSEBX 85 %	-2.8
	2021	63.1	CMVINXBXINN - Custom Index 15 % - OSEBX 85 %	23.6
	2020	65.1	CMVINXBXINN - Custom Index 15 % - OSEBX 85 %	8.2
	2019	62.0	CMVINXBXINN - Custom Index 15 % - OSEBX 85 %	17.7
	2018	59.0	CMVINXBXINN - Custom Index - OSEBX	-2.6
	2017	64.5	CMVINXBXINN - Custom Index - OSEBX	19.1
	2016	61.1	CMVINXBXINN - Custom Index - OSEBX	8.7
	2015	59.5	CMVINXBXINN - Custom Index - OSEBX	9.2
	2014	58.1	CMVINXBXINN - Custom Index - OSEBX	7.4
	Fixed income - Europe	2023	38.5	Bloomberg Global Treasuries Norway 30% 70% Bloomberg Global Aggregated Norway ex. treasuries
2022		39.8	Bloomberg Global Treasuries Norway 30% 70% Bloomberg Global Aggregated Norway ex. treasuries	-8.9
2021		36.9	Barclays Capital Global Aggregate Nordic ex Norway Custom Index 30% 70% Barclays Capital Clobal Aggregated Norway ex. treasuries Barclays Capital Treasuries Norway	-2.1
2020		34.9	Barclays Capital Global Aggregate Nordic ex Norway Custom Index 30% 70% Barclays Capital Clobal Aggregated Norway ex. treasuries Barclays Capital Treasuries Norway	4.9
2019		38.0	Barclays Capital Global Aggregate Nordic ex Norway Custom Index 30% 70% Barclays Capital Clobal Aggregated Norway ex. treasuries Barclays Capital Treasuries Norway	3.8
2018		41.0	Barclays Capital Global Aggregate Nordic ex Norway Custom Index 30% 70% Barclays Capital Clobal Aggregated Norway ex. treasuries Barclays Capital Treasuries Norway	1.0
2017		35.5	Barclays Capital Global Aggregate Nordic ex Norway Custom Index 30% 70% Barclays Capital Clobal Aggregated Norway ex. treasuries Barclays Capital Treasuries Norway	2.9
2016		38.9	Barclays Capital Global Aggregate Nordic ex Norway Custom Index 30% 70% Barclays Capital Clobal Aggregated Norway ex. treasuries Barclays Capital Treasuries Norway	1.8
2015		40.5	Barclays Capital Global Aggregate Nordic ex Norway Custom Index 30% 70% Barclays Capital Clobal Aggregated Norway ex. treasuries Barclays Capital Treasuries Norway	2.7
2014		41.9	Barclays Capital Global Aggregate Nordic ex Norway Custom Index - 70% Barclays Capital Clobal Aggregated Norway ex. treasuries - 30% Barclays Capital Treasuries Norway	9.2
Cash	2023			
	2019			

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

Government Pension Fund Norway

	Imputed cost for missing fees		Fee estimate from LP details
	Forward fill from last year's fees		Override for offsets netted from LP fees

Asset Class/Style	Year	Asset (€millions)	Net Return %	Cost (€000)				Cost (bps)			
				Internal & Other	Base Fees	Perf Fees	Total	Internal & Other	Base Fees	Perf Fees	Total
Stock - Europe Internal active	2023	19,434.4	13.56	7,978.8			7,978.8	4.1			4.1
	2022	18,216.0	-1.65	7,649.0			7,649.0	4.2			4.2
	2021	20,953.0	24.86	7,014.8			7,014.8	3.6			3.6
	2020	18,168.2	8.05	6,792.0			6,792.0	3.9			3.9
	2019	16,888.3	18.15	7,016.5			7,016.5	4.5			4.5
Fixed income - Europe Internal active	2023	12,146.4	8.15	9,176.1			9,176.1	7.6			7.6
	2022	12,052.0	-8.86	8,150.0			8,150.0	6.8			6.8
	2021	12,248.3	-1.43	8,162.2			8,162.2	7.4			7.4
	2020	9,723.7	7.37	7,483.0			7,483.0	7.5			7.5
	2019	10,356.9	4.19	7,920.8			7,920.8	7.8			7.8
Cash Internal active	2023										
	2022										
	2021										
	2020										
	2019		64.7								

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

### Government Pension Fund Norway

Oversight, Custodial and Other Costs			
		000s	bps
Oversight of the fund assets <sup>1</sup>	2023	1,123.0	0.4bp
	2022	1,253.0	0.4bp
	2021	1,388.0	0.5bp
	2020	1,202.0	0.4bp
	2019	1,270.0	0.5bp
Custodial total	2023	592.0	0.2bp
	2022	625.0	0.2bp
	2021	612.0	0.2bp
	2020	575.0	0.2bp
	2019	582.0	0.2bp
Consulting / performance measurement	2023	51.0	0.0bp
	2022	123.0	0.0bp
	2021	155.0	0.1bp
	2020	61.0	0.0bp
	2019	56.0	0.0bp
Audit	2023	278.0	0.1bp
	2022	285.0	0.1bp
	2021	239.0	0.1bp
	2020	222.0	0.1bp
	2019	252.0	0.1bp
Other (legal etc)	2023	118.0	0.0bp
	2022	287.0	0.1bp
	2021	361.0	0.1bp
	2020	142.0	0.1bp
	2019	131.0	0.1bp
Total	2023	2,162.0	0.7bp
	2022	2,573.0	0.9bp
	2021	2,755.0	0.9bp
	2020	2,202.0	0.8bp
	2019	2,291.0	0.9bp

Summary of All Asset Management Costs			
		000s	bps
Investment Management Costs	2023	17,154.9	5.4bp
	2022	15,799.0	5.2bp
	2021	15,177.0	5.0bp
	2020	14,275.0	5.2bp
	2019	14,937.3	5.8bp
Oversight, Custodial & Other Costs	2023	2,162.0	0.7bp
	2022	2,573.0	0.9bp
	2021	2,755.0	0.9bp
	2020	2,202.0	0.8bp
	2019	2,291.0	0.9bp
Total	2023	19,316.9	6.1bp
	2022	18,372.0	6.1bp
	2021	17,932.0	5.9bp
	2020	16,477.0	6.0bp
	2019	17,228.3	6.7bp

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 B - Currency conversion

Government Pension Fund Norway

All currency amounts have been converted to Euros using Purchasing Power Parity figures per the OECD<sup>1</sup>. Foreign peers' returns have been converted to Norwegian Krone. The table below shows the foreign exchange rates for the past 5 years.

Currency conversion table					
	2023	2022	2021	2020	2019
United States Dollars - USD*	0.661	0.684	0.690	0.711	0.714
Canada Dollars - CAD	0.561	0.544	0.553	0.594	0.572
Euro - EUR*	1.000	1.000	1.000	1.000	1.000
Sweden Kronor - SEK	0.074	0.079	0.079	0.080	0.079
United Kingdom Pounds - GBP	0.949	0.990	1.015	0.993	1.015
Australia Dollars - AUD	0.466	0.473	0.461	0.486	0.493
New Zealand Dollars - NZD	0.445	0.461	0.483	0.487	0.480

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 Integrity

The value of the information contained in these reports is only as good as the quality of the data received. As a data and insights company, our reputation is built on high standards of data quality. CEM upholds the following

**Data Principles** for quality:

- Completeness
- Comparability
- Accuracy
- Confidentiality
- Providence
- Timeliness
- Transparency
- Security

CEM's **Data Governance Committee**, with input from our clients, sets the data principles and ensures the compliance of the principles.

To ensure the completeness and comparability of the cost data, we:

- **Forward fill costs** for mandates from last year's reporting where missing for this year, or
- **Estimate costs** from your contractual deal terms (e.g., LP details) where missing, or
- **Impute costs** based on the experiences of the peers where an estimation or forward fill is not possible.

**Return conversion:** For comparability of performance data, the reports where either the peer group or universe include funds from multiple countries, we typically convert 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 convert U.S. returns to Euro based on the currency return for the year using December 31 spot rates.

**Data cleaning for accuracy:** CEM's procedures for checking the accuracy of data include the following:

- Data with material errors or omissions cannot be submitted to CEM.
- Once a survey is submitted, our rules engine identifies potential areas of discrepancies.
- Our internal experts then review the discrepancies and engage the survey respondent to iron out issues. In specific circumstances, our team is permitted to enrich the data for completeness and comparability using the approaches described above.
- Where we do not have clarity and confidence in the data, it is rejected.
- Finally, our Relationship Managers perform a final check before the material is shipped.

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.

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

## 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.