

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

**Norwegian Government Pension Fund Global**



# 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 - 8
Appendix C - Data Integrity	6 - 9
Appendix D - Glossary of terms	6 - 10

Prepared January 21, 2025. Although the information in this report has been based upon and obtained from sources we believe to be reliable, CEM Benchmarking Inc. ("CEM") does not guarantee its accuracy or completeness. The information contained herein is proprietary and confidential and may not be disclosed to third parties without the express written mutual consent of both CEM and Norwegian Government Pension Fund Global.

# Key Takeaways

## Returns

- All returns have been converted using the GPFG currency basket. However, differences in total return between funds reflect in large part home-market biases and the relative performance of currencies. So they are not the primary focus of this report.
- Your 10-year net total return was 6.7%. This was above the Global median of 6.6% and below the peer median of 7.5%.
- Your 10-year policy return was 6.5%. This was above the Global median of 6.4% and below the peer median of 7.3%.

## Value added

- Your 10-year net value added was 0.2%. This was close to the Global median of 0.3% and slightly below the peer median of 0.5%.

## Cost

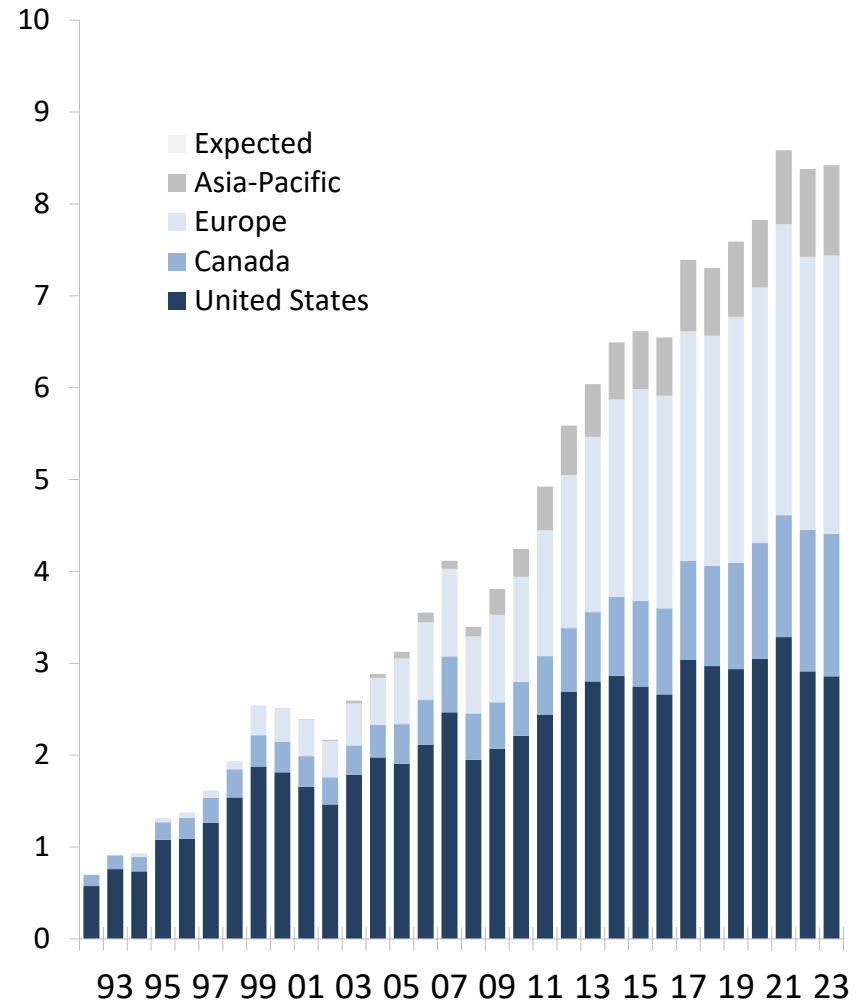
- Your investment cost of 4.7 bps in 2023 was below your benchmark cost of 18.0 bps. This suggests that your fund was low cost compared to your peers.
- Your fund was below benchmark cost because it paid less than peers for similar services and it had a lower cost implementation style.

# 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 Norwegian Government Pension Fund Global**

- 10 Global sponsors from €127.5 billion to €532.5 billion
- Median size of €228.1 billion versus your €1,283.5 billion

- Your global peer group is composed 3 Canadian funds, 2 European funds, 4 U.S. funds and 1 Asian-Pacific fund.
- In the report there are also comparisons to CEM's Global database of participants.

## Your 10-year net total return of 6.7% was below the Peer median of 7.5% and above the Global median of 6.6%

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

	Your 10-year	5-year
Net total fund return	6.7%	8.7%
- Policy return	6.5%	8.3%
= Net value added	0.2%	0.4%

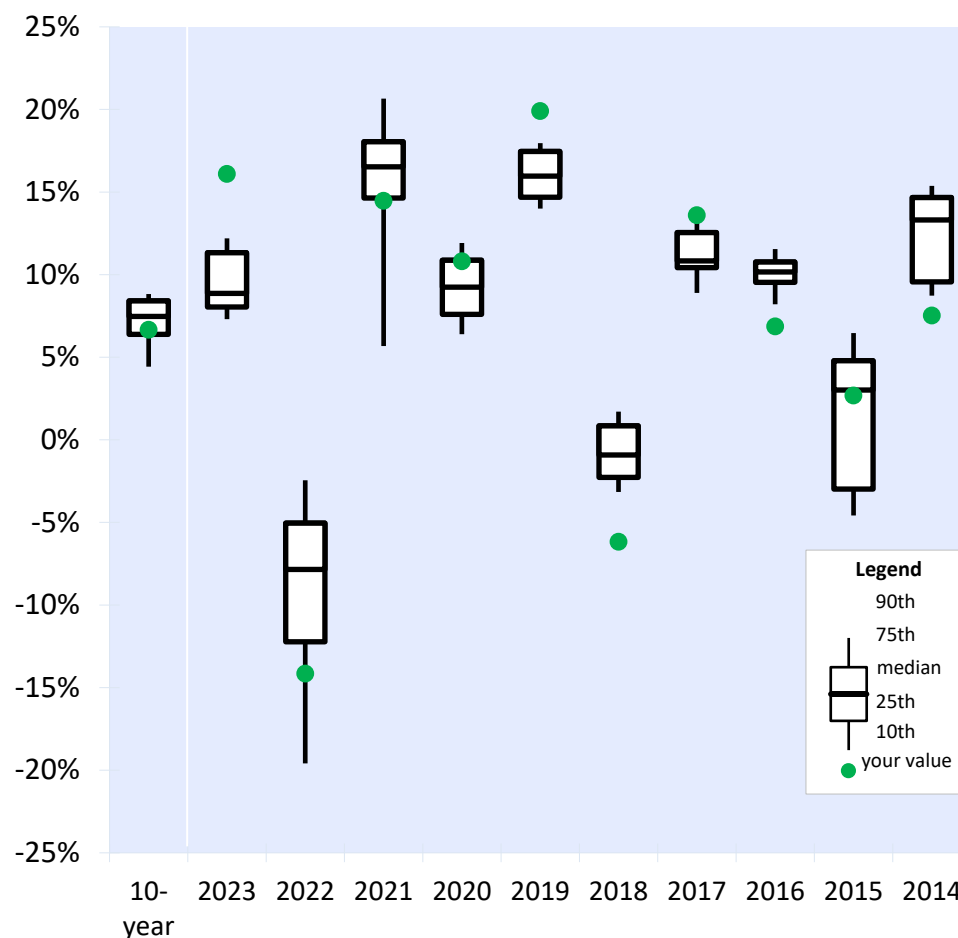
This approach enables you to understand the contribution from both policy mix decisions (which tend to be the board's responsibility) and implementation decisions (which tend to be management's).

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

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

*Actual and policy returns have been converted to your currency using unhedged currency returns. A currency conversion table is provided in Appendix-B of the report.*

Peer net total returns - quartile rankings



# Your 10-year policy return was 6.5%. This was above the Global median of 6.4% and below the peer median of 7.3%.

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

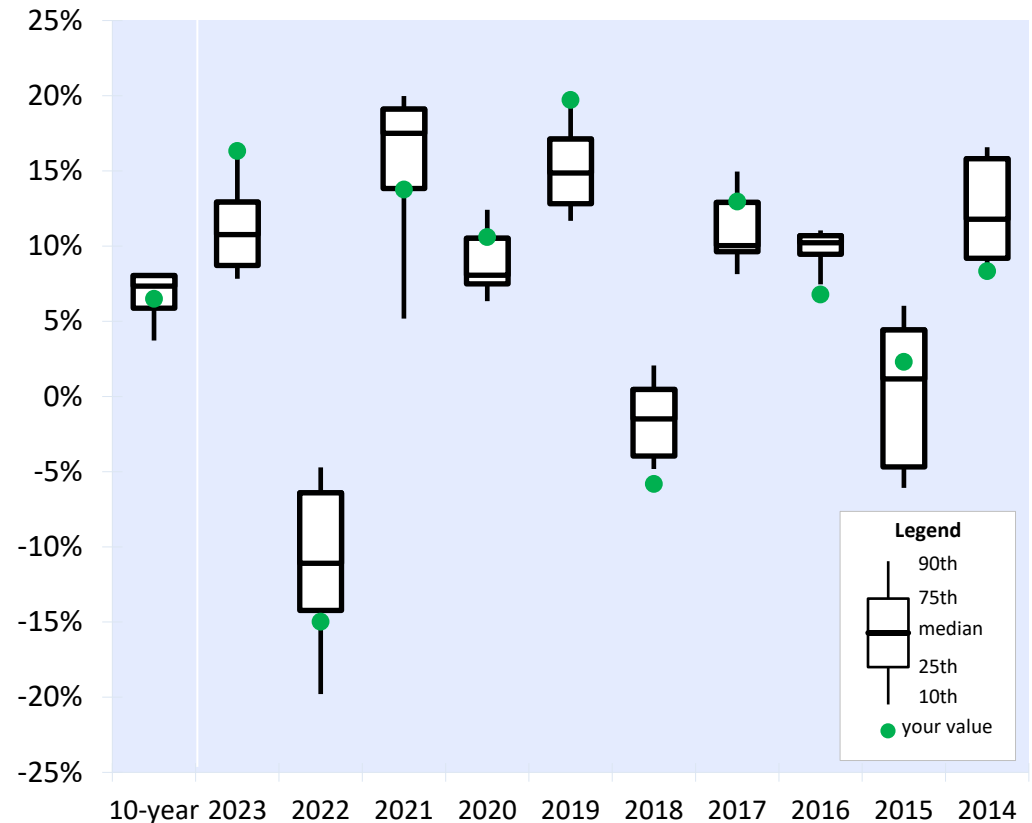
Having a higher or lower relative policy return is not necessarily good or bad. Your policy return reflects your investment policy, which should reflect your:

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

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

To enable fairer comparisons, the policy returns of all participants with policy weight in private equity were adjusted to reflect private equity benchmarks based on lagged, investable, public-market indices.

### Peer policy returns - quartile rankings



## Your 10-year policy return of 6.5% was close to the Global median of 6.4% and below the peer median of 7.3% primarily because:

- Your policy mix currently has no allocation to real assets, hedge funds or private equity whereas the peer funds had average allocations of 15%, 3%, and 8% respectively. The Global funds' average allocations were 11%, 4% and 6%. The manager however can invest up to 7% in unlisted real estate and up to 2% in unlisted infrastructure for renewable energy.
- Your policy asset mix is more globally diversified than the average Peer or Global fund.

### 10-year average policy mix

	Your Fund	Peer Avg.	Global Avg.
Equity	68%	43%	41%
Fixed Income	31%	29%	36%
Hedge Funds	0%	3%	4%
Real Assets	1%	15%	11%
Private Equity	0%	8%	6%
Private Debt	0%	2%	2%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

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



# Net value added is the component of total return from active management. Your 10-year net value added was 0.2%.

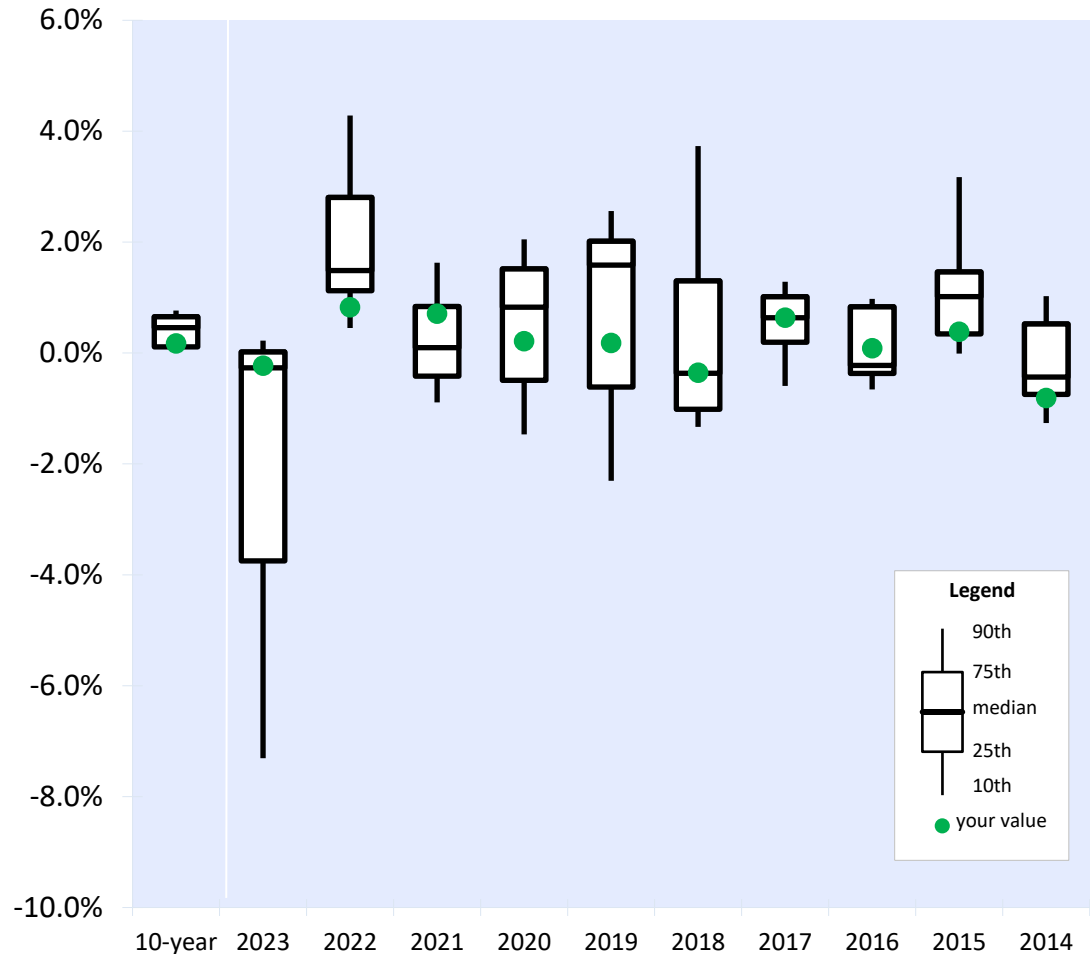
Net value added equals total net return minus policy return.

## Value added for Norwegian Government Pension Fund Global

Year	Net return	Policy return	Net value added
2023	16.1%	16.3%	-0.2%
2022	-14.2%	-15.0%	0.8%
2021	14.5%	13.8%	0.7%
2020	10.8%	10.6%	0.2%
2019	19.9%	19.7%	0.2%
2018	-6.2%	-5.8%	-0.4%
2017	13.6%	13.0%	0.6%
2016	6.9%	6.8%	0.1%
2015	2.7%	2.3%	0.4%
2014	7.5%	8.3%	-0.8%
10-Year	6.7%	6.5%	0.2%

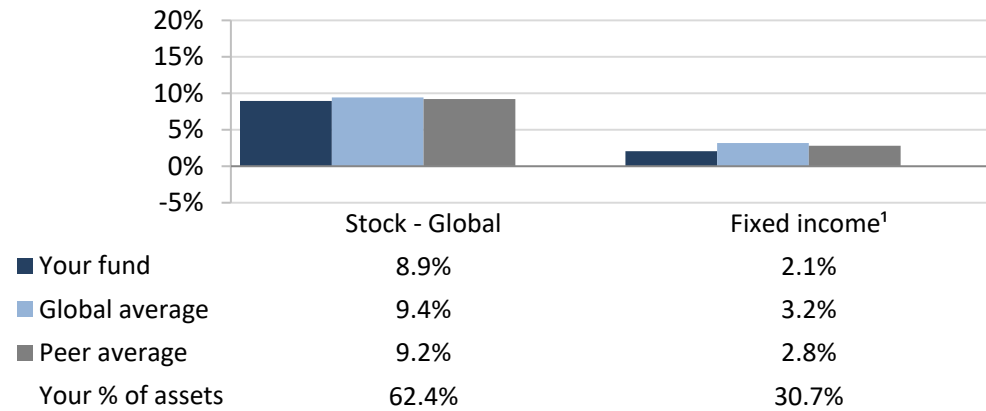
Your 10-year net value added of 0.2% compares to a median of 0.5% for your peers and 0.3% for the Global universe.

## Peer net value added - quartile rankings

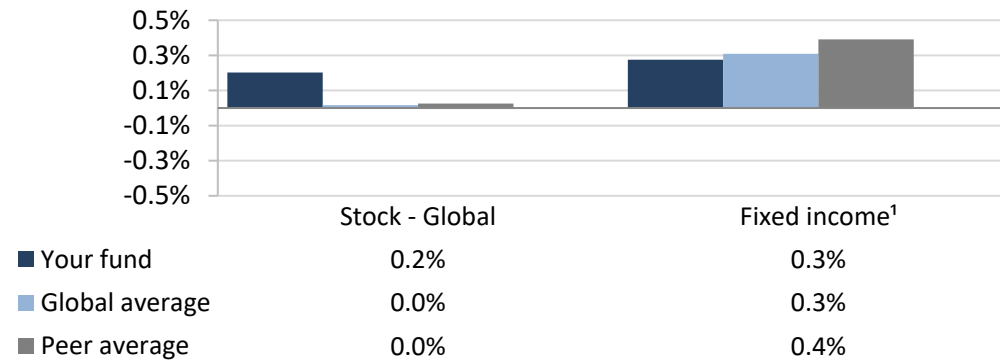


# Comparisons of your 10-year net return and net value added by major asset class:

## 10-year average net return by major asset class



## 10-year average net value added by major asset class



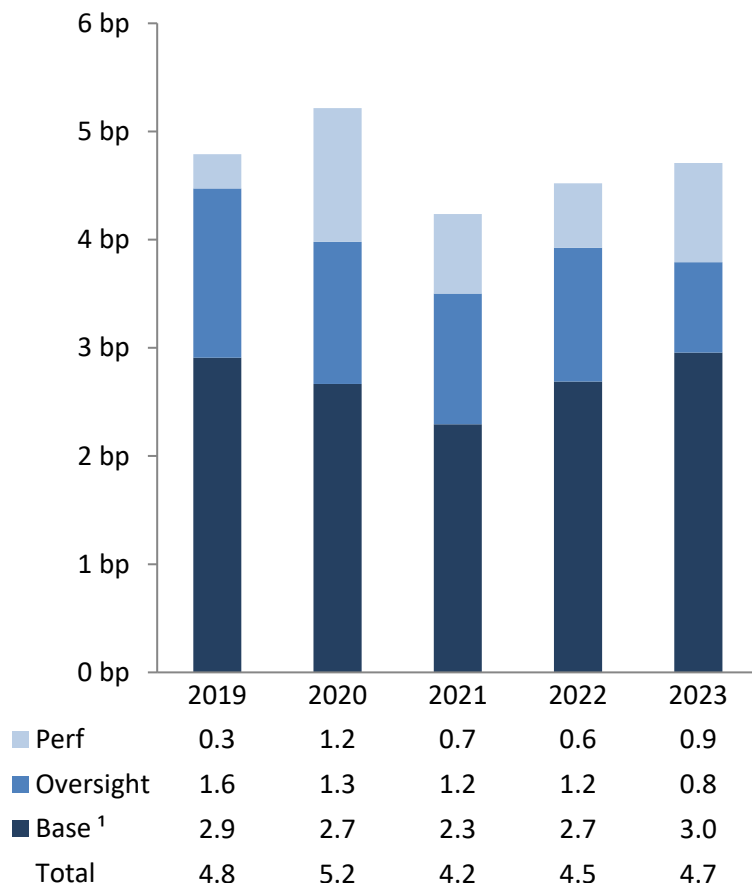
1. Excludes cash and leverage.

## Your investment costs were €604.3 million or 4.7 basis points in 2023.

Asset management costs by asset class and style (€000s)	Internal Mgmt		External Mgmt		Total	
	Active	Overseeing of external	Active base fees	Perform. fees		
Stock - U.S.		398	4,074	3,387	7,859	
Stock - EAFE		2,030	20,932	14,215	37,177	
Stock - Emerging		7,672	80,489	99,994	188,155	
Stock - Global	151,414				151,414	
Fixed income - Global	52,457				52,457	
REITs	7,563				7,563	
Infrastructure	5,610				5,610	
Real estate	46,721				46,721	
<b>Total</b>					<b>496,956</b>	<b>3.9bp</b>
<b>Oversight, custodial and other costs</b>						
Oversight of the fund					57,822	
Trustee & custodial					40,642	
Consulting and performance measurement					4,856	
Audit					4,020	
Other					0	
<b>Total oversight, custodial &amp; other costs</b>					<b>107,340</b>	<b>0.8bp</b>
<b>Total investment costs (excl. transaction costs &amp; private asset performance fees)</b>					<b>604,296</b>	<b>4.7bp</b>

# Your costs changed very little between 2019 and 2023. You paid less in total for similar investment styles but it was mostly offset by a higher cost asset mix.

Trend in cost



Reasons why your costs decreased by 0.1 bps

	Impact in bps		
1. Higher cost asset mix		0.2	
2. Similar cost implementation style		0.0	
3. Paid less in total for similar investment styles			
• Higher external active Emerging Stock costs	<u>31.5 bp</u>	<u>42.1 bp</u>	0.4
• Lower internal investment management costs			(0.1)
• Lower oversight, custodial & other costs	1.6 bp	0.8 bp	(0.7)
• All other differences			0.2
			<u>(0.3)</u>
<b>Total decrease</b>			<u><u>(0.1)</u></u>

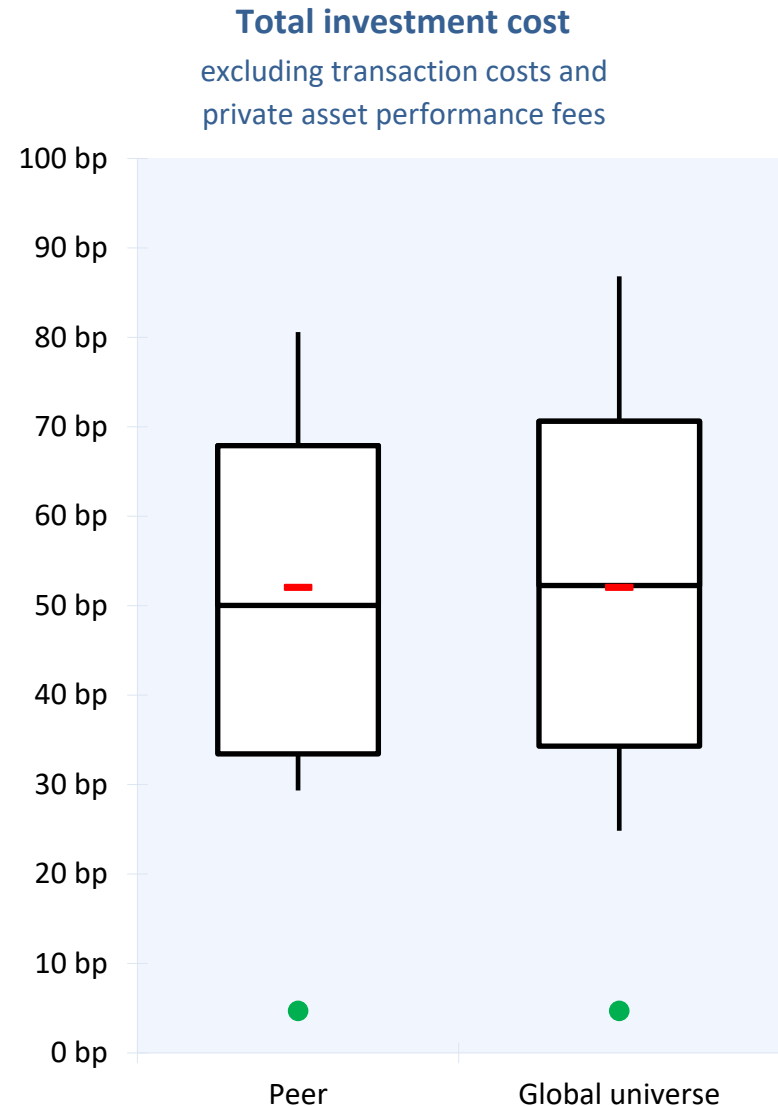
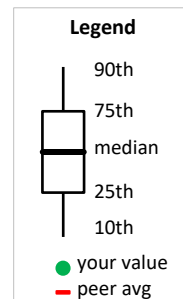
1. Includes fees for managing internal assets and internal costs of monitoring external programs, where allocated.

## Before adjusting for asset mix differences, your total investment cost of 4.7 bps was the lowest of the peers and was substantially below the peer median of 50.0 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 2% of your assets at the end of 2023 versus a peer average of 41%.
- 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 13.3 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 4.7 bp was below your benchmark cost of 18.0 bp. Thus, your cost savings were 13.3 bp.

### Your cost versus benchmark

	€000s	basis points
Your total investment cost	604,296	4.7 bp
Your benchmark cost	2,310,767	18.0 bp
Your excess cost	(1,706,471)	(13.3) bp

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

### Reasons for your low cost status

	Excess Cost/ (Savings)	
	€000s	bps
1. Lower cost implementation style		
• More active management, less lower cost passive	1,249,072	9.7
• Less external management, more lower cost internal	(1,624,118)	(12.7)
• Less overlays	(195,485)	(1.5)
	<u>(570,531)</u>	<u>(4.4)</u>
2. Paying less than peers for similar services		
• External investment management costs	(30,791)	(0.2)
• Internal investment management costs	(988,557)	(7.7)
• Oversight, custodial & other costs	(116,592)	(0.9)
	<u>(1,135,940)</u>	<u>(8.9)</u>
<b>Total savings</b>	<b>(1,706,471)</b>	<b>(13.3)</b>

## Alternative benchmark cost:

	Average holdings in €mils	GPFG 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>External asset management</b>								
Stock - U.S.*	2,318	33.9	13.6	(20.3)	(0.0)	47.7	13.8	0.0
Stock - EAFE	11,814	31.5	22.2	(9.3)	(0.1)	37.8	6.4	0.1
Stock - Emerging	44,656	42.1	30.3	(11.9)	(0.4)	46.6	4.5	0.2
<b>Internal asset management</b>								
Stock - Global	825,550	1.8	15.5	13.6	8.8	11.9	10.1	6.5
Fixed income - Global	345,791	1.5	6.0	4.4	1.2	2.8	1.3	0.3
REITs	21,886	3.5	21.5	18.1	0.3	11.1	7.6	0.1
Real estate ex-REITs	30,089	15.5	63.3	47.8	1.1	47.9	32.4	0.8
Infrastructure	1,363	<u>41.2</u>	<u>63.3</u>	22.2	<u>0.0</u>	<u>29.4</u>	(11.7)	<u>(0.0)</u>
<b>Total, excl. Overlays and overhead</b>		<b>3.9</b>	<b>14.7</b>		<b>10.9</b>	<b>11.8</b>		<b>7.9</b>
Overlay Programs	1,283,467	0.0	1.5	1.5	1.5	1.5	1.5	1.5
Overhead	1,283,467	0.8	1.7	0.9	0.9	1.7	0.9	0.9
<b>Total</b>	<b>1,283,467</b>	<b>4.7</b>	<b>18.0</b>		<b>13.3</b>	<b>15.1</b>		<b>10.4</b>

### Notes:

Internal Global stock uses All stock as the benchmark.

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

Rounding may cause summation issues.

Your Real estate ex-REITs comparable management styles include internally managed assets, joint ventures, and operating subsidiaries.

\* The universe median has been used instead of your peer group median due to a low number of observations.



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

	Average holdings in €mils	Current cost in bps	Benchmark target cost in bps
<i>External asset management</i>			
Stock - U.S.*	2,318	33.9	0.8
Stock - EAFE	11,814	31.5	1.9
Stock - Emerging	44,656	42.1	3.1
<i>Internal asset management</i>			
Stock - Global	825,550	1.8	3.1
Fixed income - Global	345,791	1.5	1.8
REITs	21,886	3.5	2.7
Real estate ex-REITs	30,089	15.5	2.7
Infrastructure	1,363	41.2	2.7
Overhead	1,283,467	0.8	0.8
<b>Total</b>	<b>1,283,467</b>	<b>4.7</b>	<b>3.6</b>

### Notes:

Internal Global stock uses All stock as the benchmark.

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

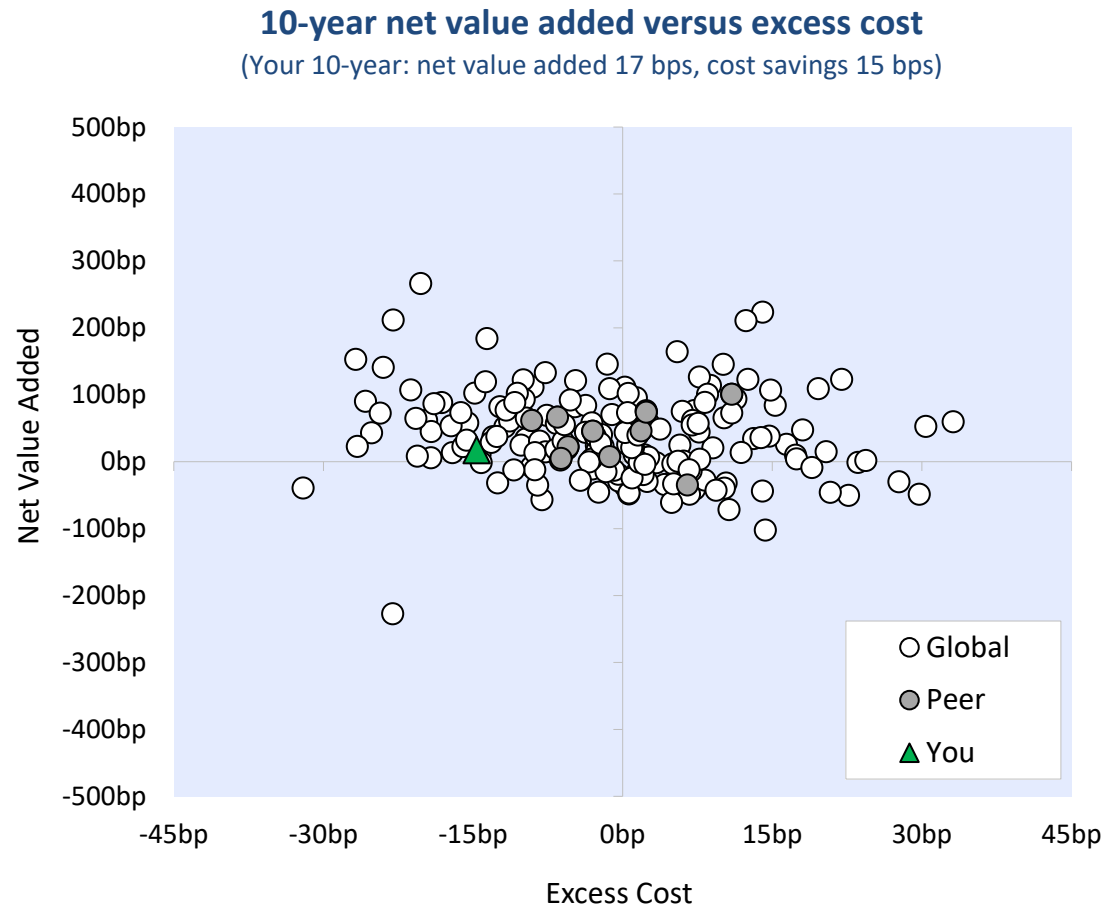
Real estate, REITs, and Infrastructure use the weighted average benchmark for stock and fixed income.

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

Externally managed assets are compared to the lowest quartile cost, internally managed assets are compared to the median cost.

\* The universe median has been used instead of your peer group's median due to a low number of observations.

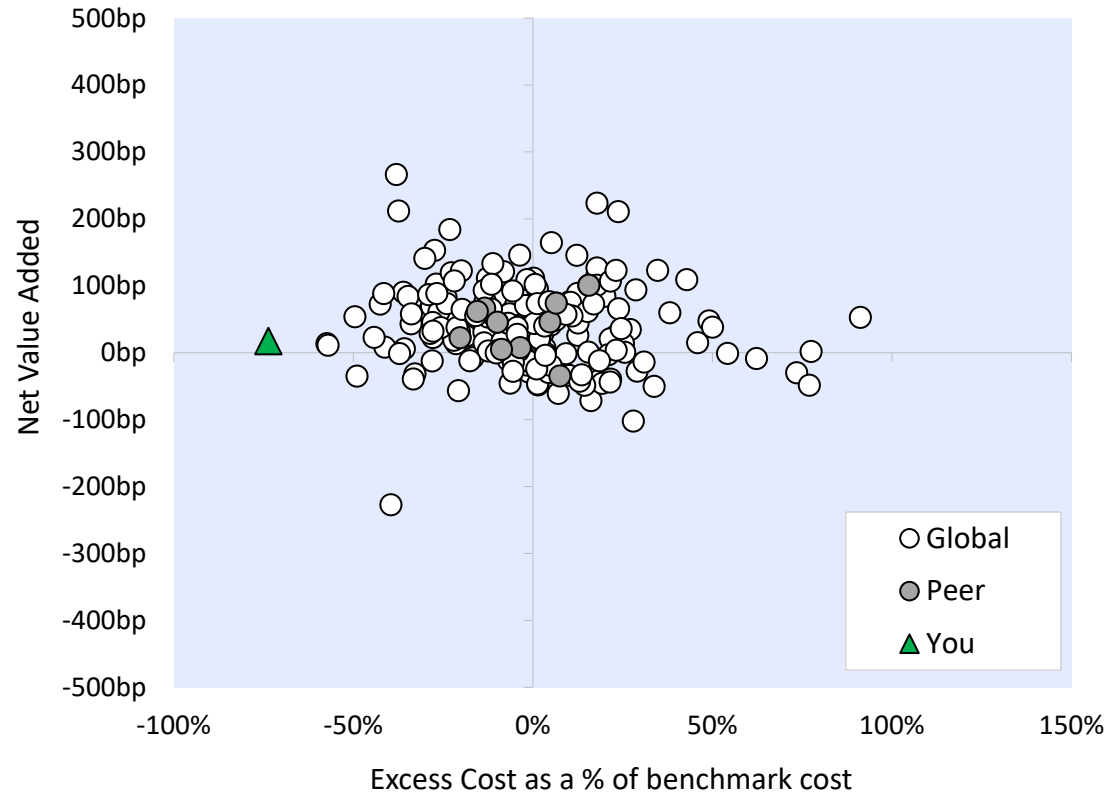
Your 10-year performance placed in the positive value added, low cost quadrant of the cost effectiveness chart.



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

## 10-year net value added versus excess cost

(Your 10-year: net value added 17 bps, cost savings 74 %)



# 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

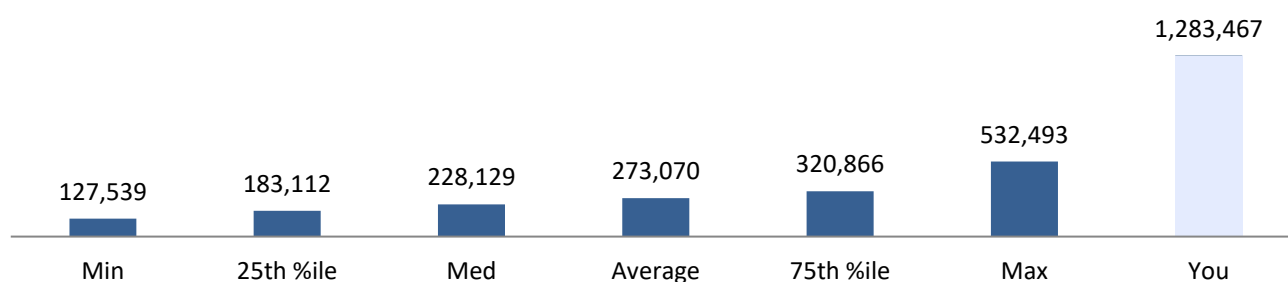
Your peer group is comprised of 10 Global funds, with assets ranging from €127.5 billion to €532.5 billion versus your €1,283.5 billion. The median size is €228.1 billion.

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	1,283.5	127.5 - 532.5	0.1 - 1,283.5
Median		228.1	6.9
<u># of Plans</u>			
Corporate		0	120
Public	1	8	123
Other		2	52
Total		10	295
<u>Implementation style</u>			
% External active	4.6	41.9	66.9
% External passive	0.0	3.9	16.0
% Internal active	95.4	26.9	12.9
% Internal passive	0.0	27.3	4.2
<u>Asset mix</u>			
% Stock	68.9	31.5	33.6
% Fixed Income	26.9	25.3	37.7
% Real Assets	4.2	21.7	12.7
% Private Equity	0.0	15.4	7.9
% Private Credit	0.0	3.8	3.7
% Hedge Funds & Other	0.0	2.3	4.4

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

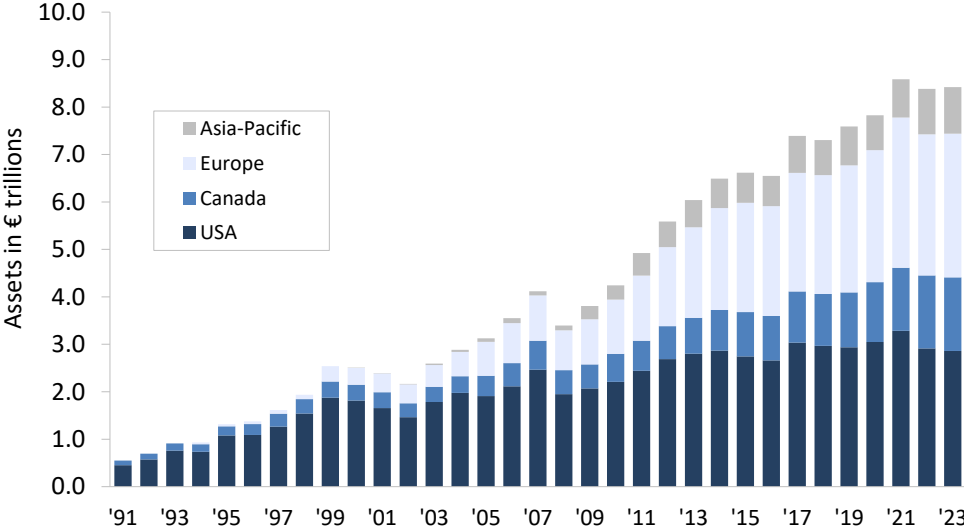


# CEM global universe

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 10 Global funds ranging in size from €127.5 - €532.5 billion. The peer median of €228.1 billion compares to your €1,283.5 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	10	120	123	52	295	149	66	64	16	295
2022	10	130	117	56	303	148	72	66	17	303
2021	10	131	119	45	295	146	70	67	12	295
2020	10	136	134	43	313	160	69	73	11	313
2019	10	136	135	46	317	155	71	75	16	317
2018	10	148	143	48	339	170	77	77	15	339
2017	10	152	150	50	352	168	78	89	17	352
2016	10	156	142	49	347	170	79	83	15	347
2015	10	163	146	54	363	176	79	92	16	363
2014	10	166	201	56	423	178	86	144	15	423
<b># of funds with uninterrupted data for:</b>										
1 yr	10	120	123	52	295	149	66	64	16	295
2 yrs	10	116	111	48	275	138	64	61	12	275
3 yrs	10	106	103	38	247	126	59	53	9	247
4 yrs	10	102	102	36	240	121	58	53	8	240
5 yrs	10	96	98	34	228	115	56	49	8	228
6 yrs	10	93	97	33	223	112	55	48	8	223
7 yrs	10	88	92	29	209	107	49	46	7	209
8 yrs	10	85	91	28	204	104	47	46	7	204
9 yrs	10	81	87	27	195	99	44	45	7	195
10 yrs	10	79	86	27	192	97	43	45	7	192
<b>Total assets (€ billions)</b>										
2023	2,731	797	5,793	1,969	8,559	2,859	1,551	3,029	1,120	8,559
2022	2,671	943	5,354	2,168	8,465	2,913	1,539	2,973	1,040	8,465
2021	2,844	1,312	5,579	1,834	8,725	3,286	1,326	3,168	944	8,725
2020	2,610	1,230	5,095	1,611	7,937	3,048	1,260	2,783	846	7,937
2019	2,388	1,182	4,951	1,578	7,712	2,937	1,158	2,677	940	7,712
2018	2,205	1,130	4,844	1,437	7,412	2,969	1,092	2,506	845	7,412
2017	2,188	1,150	4,923	1,581	7,653	3,036	1,077	2,499	1,041	7,653
2016	1,898	1,090	4,265	1,383	6,738	2,661	938	2,313	826	6,738
2015	1,875	1,113	4,443	1,342	6,899	2,746	934	2,302	916	6,899
2014	1,796	1,175	4,357	1,253	6,785	2,866	856	2,149	914	6,785
<b>2023 asset distribution (€ billions)</b>										
Avg	273.1	6.6	47.1	37.9	29.0	19.2	23.5	47.3	70.0	29.0
Max	532.5	39.5	1,283.5	467.7	1,283.5	295.1	329.5	1,283.5	532.5	1,283.5
75th %ile	320.9	8.8	36.4	51.8	20.3	16.4	11.2	29.9	60.1	20.3
Median	228.1	3.5	10.7	15.9	6.9	6.8	4.1	9.4	28.6	6.9
25th %ile	183.1	1.3	4.1	3.0	2.4	1.9	1.6	3.7	18.0	2.4
Min	127.5	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	4.6	41.0	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	3.9	15.1	15.9	18.2	16.0	16.8	12.0	18.7	14.4	16.0
Internal active	95.4	26.9	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>27.3</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	68.9	31.5	22.1	42.4	39.1	33.6	29.7	31.6	42.1	44.0	33.6
Fixed income	26.9	32.3	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	-8.6	2.8	0.8	2.4	1.9	2.7	-0.4	1.0	6.9	1.9
Global TAA	0.0	0.1	0.3	0.4	0.5	0.4	0.4	0.4	0.3	0.3	0.4
Real assets	4.2	21.7	7.9	16.7	14.3	12.7	8.2	20.3	15.5	12.9	12.7
Hedge funds	0.0	3.1	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	0.7	0.3	0.3	0.0	0.3	0.5	0.0	0.0	0.2	0.3
Private debt	0.0	3.8	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>15.4</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	71.8	42.9	23.5	43.0	39.7	34.4	31.2	32.9	40.0	49.3	34.4
Fixed income	28.2	30.1	56.9	24.8	31.9	39.2	45.9	35.8	30.8	22.9	39.2
Cash <sup>2</sup>	0.0	-5.0	0.2	-0.5	2.2	0.2	0.2	-1.9	1.5	4.5	0.2
Global TAA	0.0	0.0	0.3	0.3	0.5	0.4	0.4	0.4	0.2	0.3	0.4
Real assets	0.0	16.6	7.3	16.9	14.1	12.5	8.2	19.4	15.6	11.4	12.5
Hedge funds	0.0	2.7	3.2	1.7	1.7	2.3	3.4	1.2	1.1	2.1	2.3
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	0.8	0.3	0.4	0.0	0.3	0.5	0.0	0.0	0.4	0.3
Private debt	0.0	4.0	2.4	4.5	4.9	3.7	2.0	6.4	5.3	2.4	3.7
Private equity	<u>0.0</u>	<u>8.0</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	4.6	4.4	4.4	4.0	3.6	41.0	39.8	37.4	35.9	35.9	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	1.0	1.0	1.2	1.3	3.2	3.0	2.6	2.3	2.4
External passive	0.0	0.0	0.0	0.0	0.0	3.9	3.9	4.3	4.2	4.6	15.9	16.0	17.6	18.1	17.7
Internal active	95.4	95.6	95.6	96.0	96.4	26.9	28.0	29.4	30.4	30.1	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>27.3</u>	<u>27.3</u>	<u>27.9</u>	<u>28.4</u>	<u>28.1</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	68.9	67.9	70.6	68.4	67.9	31.5	32.4	37.3	37.3	37.6	33.4	34.8	38.7	39.8	39.5
Fixed income	26.9	27.1	25.2	27.5	28.2	32.3	30.4	29.8	31.4	30.8	35.7	34.8	35.0	34.9	34.7
Cash & derivatives <sup>3</sup>	0.0	0.0	0.0	0.0	0.0	-8.6	-5.6	-3.8	-2.8	-3.6	1.2	1.3	1.8	2.4	2.3
Global TAA	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.2	0.3	0.4	0.6	0.8	0.9
Real assets	4.2	4.9	4.3	4.2	3.9	21.7	20.1	16.8	16.5	17.4	13.4	13.3	10.7	10.4	10.8
Hedge funds	0.0	0.0	0.0	0.0	0.0	3.1	3.6	3.2	3.5	3.3	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	0.7	0.7	0.8	0.8	0.8	0.4	0.4	0.5	0.5	0.5
Private credit	0.0	0.0	0.0	0.0	0.0	3.8	3.5	2.7	1.9	2.9	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>15.4</u>	<u>15.0</u>	<u>13.1</u>	<u>11.3</u>	<u>10.6</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	71.8	70.9	73.2	73.0	71.1	42.9	42.1	43.1	44.2	44.2	35.0	36.5	38.7	39.8	40.3
Fixed income	28.2	29.1	26.8	27.0	28.9	30.1	30.2	30.9	30.5	31.8	38.6	38.2	37.7	36.8	36.8
Cash <sup>3</sup>	0.0	0.0	0.0	0.0	0.0	-5.0	-4.1	-3.7	-3.2	-4.2	-0.2	-0.6	-0.3	-0.1	0.1
Global TAA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.4	0.5	0.8	0.9
Real assets	0.0	0.0	0.0	0.0	0.0	16.6	16.2	15.5	15.1	15.3	12.7	12.5	11.4	11.4	11.0
Hedge funds	0.0	0.0	0.0	0.0	0.0	2.7	2.9	3.0	2.9	3.0	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	0.8	0.8	0.8	0.8	0.8	0.4	0.5	0.4	0.4	0.4
Private credit	0.0	0.0	0.0	0.0	0.0	4.0	3.5	2.4	2.3	2.3	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>8.0</u>	<u>8.5</u>	<u>8.0</u>	<u>7.5</u>	<u>6.8</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 10 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	Index	Active	Index	
Stock - U.S.	100.0		0.0	0.0	0.0	25.8	29.5	12.2	32.5	30.9	49.6	10.0	9.5
Stock - EAFE	100.0		0.0	0.0	0.0	54.1	5.3	18.5	22.1	51.9	22.9	22.8	2.5
Stock - Global	0.0		0.0	100.0	0.0	31.5	0.0	20.8	47.7	56.4	26.7	13.1	3.9
Stock - other						41.0	0.0	35.1	23.9	62.1	7.7	21.9	8.3
Stock - Emerging	100.0		0.0	0.0	0.0	52.8	4.9	15.1	27.2	66.6	21.4	7.4	4.6
Stock - ACWI x U.S.						0.0	0.0	0.0	0.0	63.4	34.4	0.9	1.3
Stock - Aggregate	6.6		0.0	93.4	0.0	36.0	7.8	19.0	37.3	50.9	30.5	13.3	5.3
Fixed income - U.S.						16.7	12.7	27.6	43.0	68.7	16.3	11.9	3.1
Fixed income - EAFE						0.0	0.0	0.0	100.0	34.4	30.3	17.5	17.7
Fixed income - Global	0.0		0.0	100.0	0.0	6.5	0.0	49.5	44.0	43.5	18.5	31.0	7.0
Fixed income - other						13.5	0.0	22.6	63.9	61.4	12.4	20.8	5.4
Fixed income - Long bonds						5.2	0.0	10.5	84.4	82.5	7.7	5.1	4.7
Fixed income - Emerging						36.4	14.8	37.2	11.6	80.6	5.3	12.8	1.3
Fixed income - Inflation indexed						5.9	18.2	8.5	67.4	11.1	39.6	22.5	26.8
Fixed income - High yield						55.7	0.0	44.3	0.0	84.8	2.2	11.1	1.9
Fixed income - Bundled LDI						0.0	0.0	100.0	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						0.0	0.0	100.0	0.0	55.4	0.0	44.6	0.0
Cash						0.0		100.0		69.1		30.9	
Fixed income - Aggregate	0.0		0.0	100.0	0.0	17.9	5.7	17.2	59.2	66.0	13.2	14.4	6.3
Commodities						14.4	0.0	35.1	50.4	23.7	11.2	28.7	36.5
Infrastructure	0.0	0.0		100.0		21.2	0.0		78.8	77.5	4.7		17.8
Natural resources						53.9	0.2		45.8	76.7	3.3		20.1
REITs	0.0		0.0	100.0	0.0	33.3	0.0	66.7	0.0	65.0	19.9	14.4	0.7
Real estate	0.0	0.0		100.0		61.7	0.2		38.1	75.3	8.1		16.5
Other real assets						11.3	0.0		88.7	63.8	0.0		36.2
Other listed real assets						0.0	0.0	0.0	0.0	58.8	21.7	7.7	11.8
Real assets - Aggregate	0.0	0.0	0.0	100.0	0.0	43.5	0.1	0.0	52.7	3.7	74.8	6.3	1.1
Hedge funds						98.4	1.6			77.1	22.9		
Global TAA						63.3			36.7	76.4			23.6
Balanced funds						0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0
Risk parity						35.4			64.6	93.6			6.4
Private credit						47.6	0.4		51.9	87.9	3.1		9.0
Private mortgages						36.4			63.6	92.1			7.9
Private equity - Diversified						61.8	5.4		32.8	73.7	19.3		6.9
Venture capital						63.0	4.0		33.0	56.5	41.6		1.9
LBO						96.3	3.7		0.0	93.8	6.0		0.2
Private equity - Other						84.4	0.0		15.6	77.0	5.9		17.1
Private equity - Aggregate						69.3	4.8		25.9	75.5	18.3		6.2
Total Fund - Avg. Holdings	4.6	0.0	0.0	95.4	0.0	41.0	0.8	3.9	26.9	27.3	63.8	3.0	16.0

## 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.	0.2	0.1	0.1	0.1		7.1	6.7	8.2	7.4	7.6	8.5	8.4	9.8	10.4	10.7
Stock - EAFE	0.9	0.8	0.8	0.8	0.7	3.1	3.3	3.6	3.9	4.3	4.6	4.8	5.8	6.5	6.1
Stock - Global	64.3	63.6	66.2	64.4	64.3	14.8	15.6	18.0	17.5	17.7	13.5	14.1	14.1	14.0	13.4
Stock - other						2.4	2.4	2.7	3.2	2.9	2.8	3.1	3.2	3.2	3.3
Stock - Emerging	3.5	3.4	3.4	3.2	3.0	4.1	4.4	4.8	5.2	5.1	2.3	2.4	3.0	3.2	3.0
Stock - ACWI x U.S.											2.0	1.9	2.0	2.4	2.4
Stock - Aggregate	68.9	67.9	70.6	68.4	67.9	31.5	32.4	37.3	37.3	37.6	33.6	34.8	37.9	39.7	38.9
Fixed income - U.S.						6.9	5.7	5.5	5.0	5.2	7.8	6.8	6.4	6.4	6.7
Fixed income - EAFE						2.5	2.4	2.1	2.4	4.3	2.4	2.3	2.6	2.6	3.0
Fixed income - Global	26.9	27.1	25.2	27.5	28.2	5.5	5.1	4.3	4.8	5.1	2.3	2.4	2.4	2.3	2.5
Fixed income - other						6.2	7.1	8.0	6.4	6.3	5.2	5.3	4.9	4.8	4.9
Fixed income - Long bonds						2.4	2.4	1.7	3.7	3.7	11.0	11.3	12.2	12.8	12.6
Fixed income - Emerging						2.2	2.0	2.0	1.8	1.5	0.9	1.0	1.1	1.2	1.3
Fixed income - Inflation indexed						1.3	1.4	1.6	2.2	3.1	2.0	1.6	1.5	1.4	1.8
Fixed income - High yield						1.9	1.6	1.7	1.6	1.5	1.1	1.1	1.2	1.1	1.2
Fixed income - Bundled LDI						2.7	2.5	2.9	3.3		3.0	3.4	3.4	3.2	2.3
Fixed income - Convertibles						0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0
Public mortgages						0.6					0.1	0.1	0.1	0.1	0.1
Cash						-6.9	-4.0	-2.7	-1.9	-3.6	1.2	1.5	1.3	1.5	1.4
Fixed income - Aggregate	26.9	27.1	25.2	27.5	28.2	25.3	26.3	27.1	29.5	27.2	37.7	37.6	37.8	38.0	38.1
Commodities						1.6	1.9	1.7	1.3	1.6	0.1	0.2	0.2	0.2	0.3
Infrastructure	0.1	0.1	0.1			6.4	5.6	4.3	4.0	3.9	4.0	3.7	2.6	2.3	2.3
Natural resources						1.5	1.4	1.2	1.1	1.3	0.5	0.4	0.4	0.3	0.3
REITs	1.7	2.0	1.7	1.3	1.1	1.1	1.3	1.2	1.1	1.3	0.5	0.5	0.6	0.5	0.5
Real estate	2.3	2.8	2.4	2.8	2.7	10.8	9.7	8.2	8.7	9.3	7.3	7.7	6.1	6.1	6.2
Other real assets						0.3	0.3	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2
Other listed real assets											0.2	0.2	0.1	0.1	0.1
Real assets - Aggregate	4.2	4.9	4.3	4.2	3.9	21.7	20.1	16.8	16.5	17.4	12.7	12.8	10.1	9.7	9.9
Hedge funds						3.1	3.6	3.2	3.5	3.3	3.1	3.2	3.1	3.1	3.2
Global TAA						0.1	0.1	0.1	0.1	0.2	0.4	0.5	0.6	0.9	1.0
Balanced funds											0.0	0.0	0.0	0.0	0.2
Risk parity						0.7	0.7	0.8	0.8	0.8	0.3	0.3	0.4	0.5	0.6
Private mortgages						0.9	1.0	0.9	0.9	1.9	0.7	0.8	0.6	0.5	0.7
Private credit						2.9	2.5	1.8	1.0	1.0	3.0	2.5	2.2	1.6	1.6
Private equity - Diversified						11.2	10.9	9.6	8.3	7.8	6.3	6.1	5.2	4.2	4.2
Venture capital						0.6	0.7	0.6	0.4	0.4	0.4	0.3	0.3	0.3	0.2
LBO						2.8	2.9	2.5	2.2	2.0	1.0	0.8	0.7	0.6	0.6
Private equity - Other						0.7	0.7	0.5	0.4	0.4	0.2	0.2	0.2	0.2	0.2
Private equity - Aggregate						15.4	15.0	13.1	11.3	10.6	7.9	7.4	6.4	5.3	5.2
Derivatives/Overlays Mkt Value						-1.6	-1.6	-1.1	-1.0	0.0	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	1	1	1	10	10	10	10	10	295	303	295	313	317
Median Assets (€ billions)	1283.5	1190.3	1122.7	966.7	937.6	228.1	222.6	246.4	218.0	207.0	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.						4.6	4.6	4.6	7.4	7.6	7.9	8.2	8.6	9.7	9.9
Stock - EAFE						2.3	2.3	2.3	4.4	4.7	4.2	4.4	5.3	5.8	5.6
Stock - Global	71.8	70.9	73.2	73.0	71.1	30.9	30.3	30.7	26.4	25.9	15.4	16.0	16.3	15.9	15.1
Stock - other						2.0	2.0	2.3	3.0	2.5	3.1	3.2	3.2	3.2	3.5
Stock - Emerging						3.1	2.9	3.2	3.0	3.4	2.0	2.1	2.6	2.8	2.7
Stock - ACWI x U.S.											1.9	2.1	1.9	2.3	2.5
Stock - Aggregate	71.8	70.9	73.2	73.0	71.1	42.9	42.1	43.1	44.2	44.2	34.4	35.9	37.8	39.6	39.3
Fixed income - U.S.						4.2	4.8	5.5	5.3	4.3	8.0	7.1	7.0	6.8	6.8
Fixed income - EAFE						2.3	2.3	2.2	2.2	4.9	2.6	2.6	2.7	2.7	3.3
Fixed income - Global	28.2	29.1	26.8	27.0	28.9	3.2	3.2	3.3	2.9	4.6	2.6	2.5	2.8	2.6	2.8
Fixed income - other						6.5	6.8	6.7	7.0	6.6	5.4	5.7	5.1	4.8	5.2
Fixed income - Long bonds						5.0	5.0	5.0	5.3	6.7	12.7	13.1	13.6	13.3	13.0
Fixed income - Emerging						1.9	1.7	1.5	1.5	1.1	0.9	1.0	1.1	1.1	1.3
Fixed income - Inflation indexed						2.3	2.3	2.3	2.2	2.6	2.3	1.9	1.8	1.6	2.1
Fixed income - High yield						1.0	1.1	1.1	1.0	1.1	0.9	0.9	1.1	1.1	1.2
Fixed income - Bundled LDI						3.0	3.0	3.1	3.1		2.9	3.1	3.1	3.2	2.4
Fixed income - Convertibles						0.1	0.1	0.1	0.1		0.0	0.0	0.0	0.0	0.0
Public mortgages						0.5					0.2	0.1	0.1	0.1	0.1
Cash						-5.0	-4.1	-3.7	-3.2	-4.2	0.2	0.1	0.1	0.3	0.4
Fixed income - Aggregate	28.2	29.1	26.8	27.0	28.9	25.0	26.1	27.2	27.2	27.6	39.4	38.8	39.1	38.1	38.7
Commodities						0.6	0.5	0.6	0.7	0.8	0.1	0.1	0.2	0.3	0.3
Infrastructure						5.3	3.4	3.0	2.6	2.5	3.9	3.9	3.1	2.8	2.5
Natural resources						0.6	0.7	0.7	0.7	0.7	0.4	0.3	0.3	0.3	0.3
REITs						0.6	1.2	1.1	1.1	1.1	0.4	0.4	0.5	0.5	0.5
Real estate						9.5	10.4	10.2	9.9	10.2	7.3	7.3	6.7	6.7	6.6
Other real assets						0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.2	0.2
Other listed real assets											0.1	0.1	0.1	0.1	0.0
Real assets - Aggregate						16.6	16.2	15.5	15.1	15.3	12.5	12.3	11.1	10.8	10.3
Hedge funds						2.7	2.9	3.0	2.9	3.0	2.3	2.5	2.4	2.7	2.9
Global TAA						0.0	0.0	0.0			0.4	0.4	0.5	0.9	0.9
Balanced funds											0.0	0.1	0.0	0.0	0.1
Risk parity						0.8	0.8	0.8	0.8	0.8	0.3	0.3	0.4	0.4	0.5
Private mortgages						0.8	0.8	0.7	0.9	1.1	0.7	0.8	0.6	0.7	0.7
Private credit						3.2	2.6	1.7	1.4	1.2	3.0	2.6	2.5	1.8	1.5
Private equity - Diversified						8.0	8.1	7.6	7.1	6.8	6.0	5.5	4.8	4.5	4.5
Venture capital							0.4	0.4	0.4		0.1	0.1	0.2	0.2	0.2
LBO											0.6	0.4	0.5	0.5	0.4
Private equity - Other											0.2	0.1	0.1	0.1	0.1
Private equity - Aggregate						8.0	8.5	8.0	7.5	6.8	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	10	10	10	10	10	292	299	292	312	317

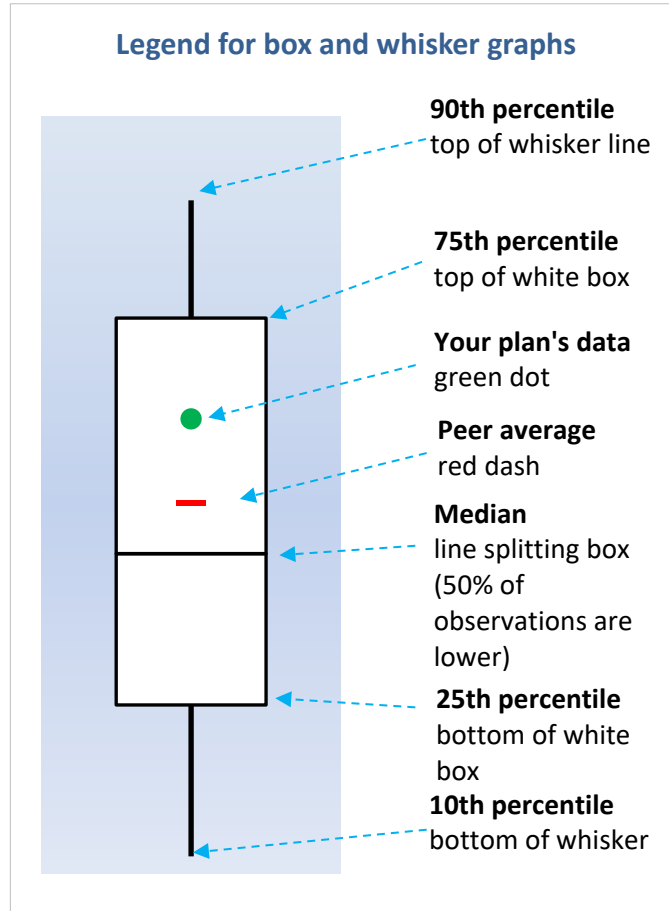
# 3

## 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

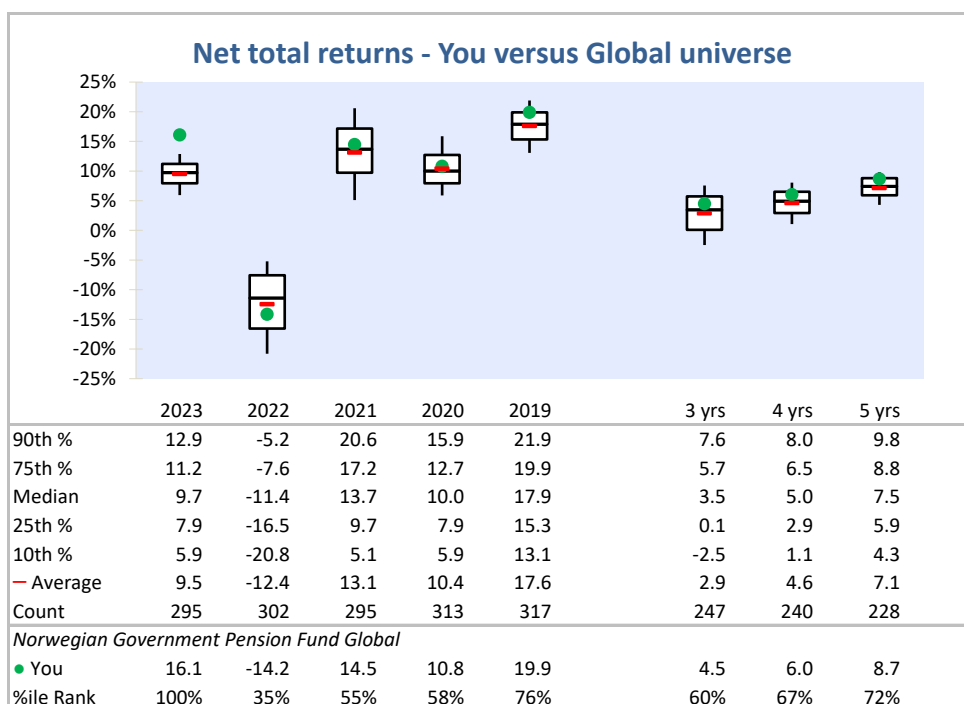
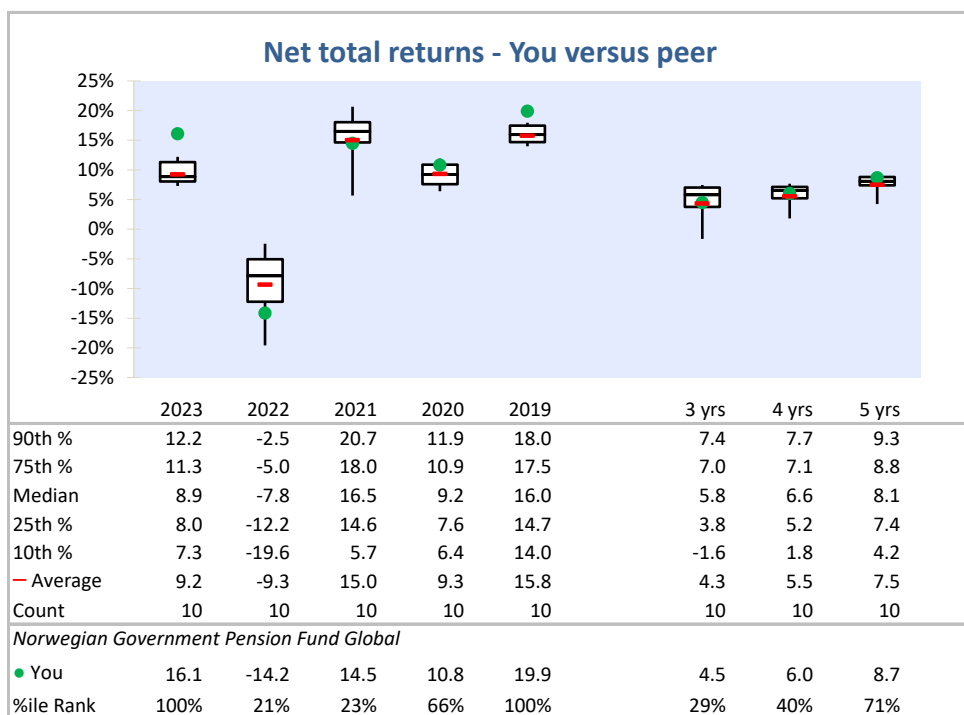
## Interpreting box and whisker graphs

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.



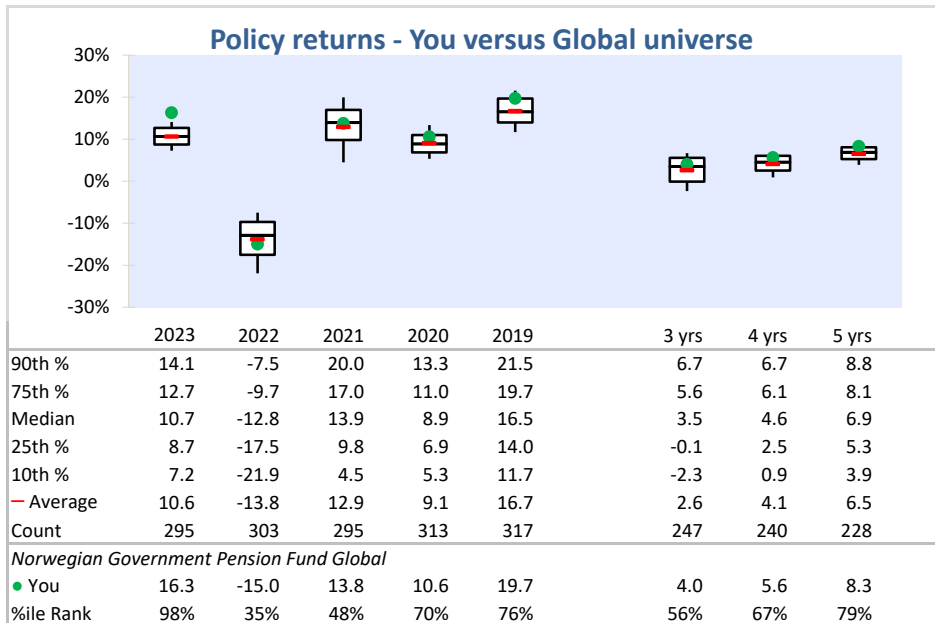
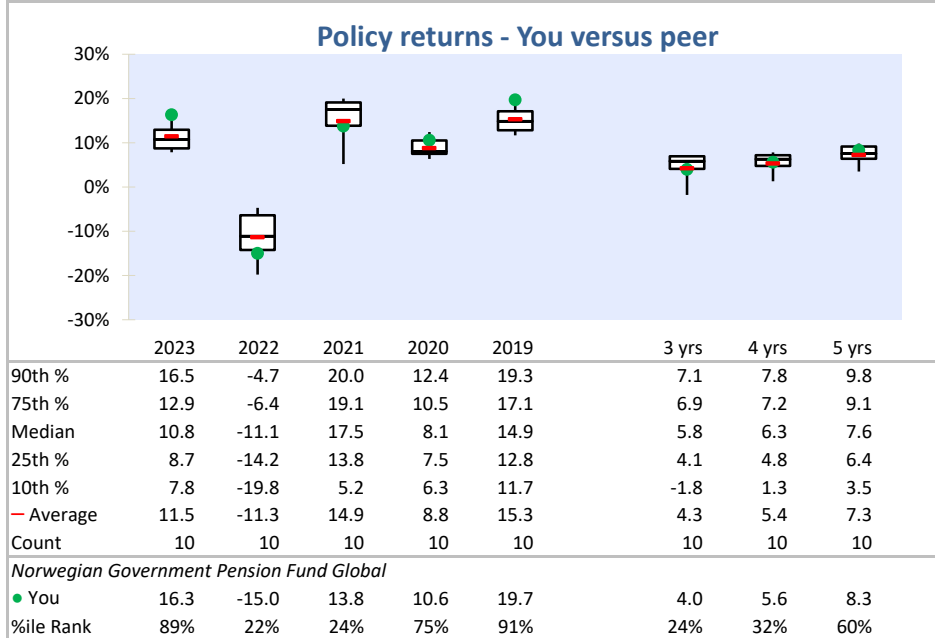
## Net total returns

Your 5-year net total return of 8.7% was above the peer median and above the median of the Global universe. Comparisons of total return do not help you understand the reasons behind relative performance. To understand the relative contributions from policy asset mix decisions and implementation decisions we separate total return into its more meaningful components - policy return and implementation value added.



## Policy returns

Your 5-year policy return of 8.3% was above the peer median and among the highest in 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.

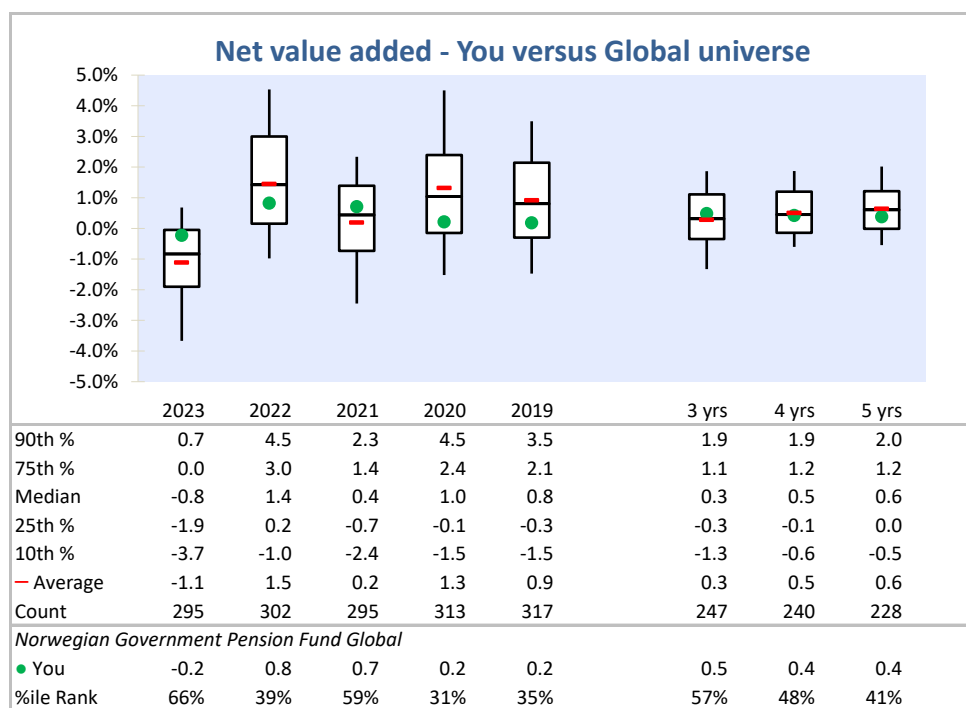
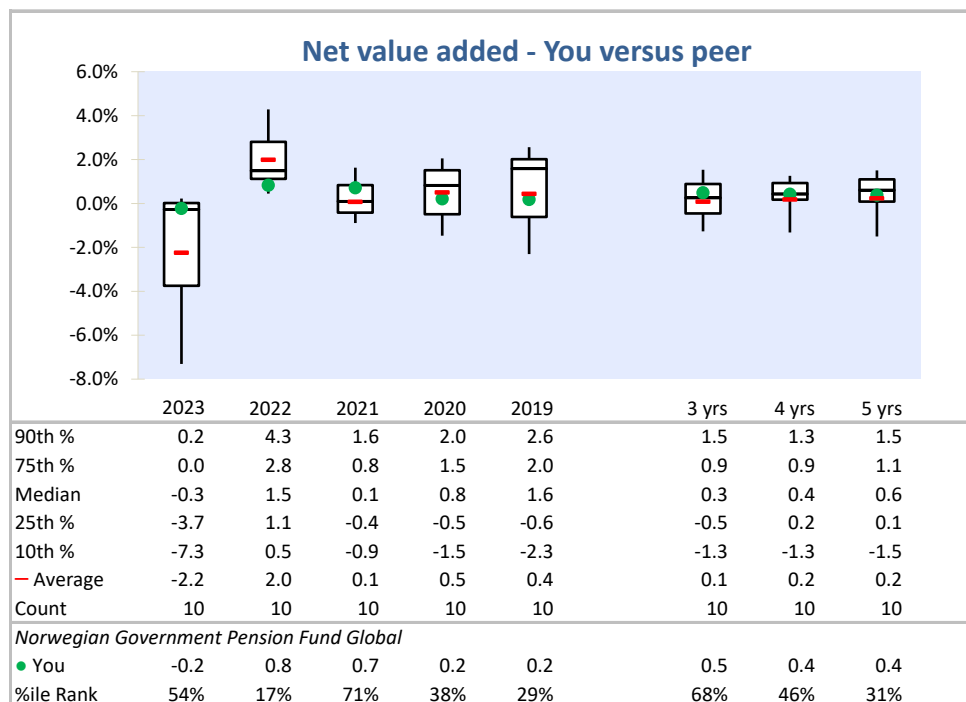


To enable fairer comparisons, the policy returns of all participants except your fund were adjusted to reflect private equity benchmarks based on lagged, investable, public-market indices. Refer to the appendix of this section for details.



## Net value added

Your 5-year net value added of 0.4% was below the peer median and below the median of the Global universe. Net value added is the difference between your net total return and your policy return.



## Net returns by asset class

Asset class	Your fund %						Peer average %						Global average %					
	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.	36.7	-33.3	3.0	49.8			23.2	-14.6	32.1	13.6	25.1	15.2	22.4	-14.9	28.9	15.8	29.8	15.1
Stock - EAFE	14.0	-19.1	16.7	9.4	21.2	7.4	17.9	-13.9	14.4	8.6	23.4	9.2	15.1	-11.2	14.7	8.0	21.9	9.2
Stock - Global	22.0	-15.1	21.2	12.9	26.6	12.4	20.5	-14.7	22.2	10.6	27.6	12.1	18.9	-14.2	21.3	13.2	25.5	11.8
Stock - other							13.1	-12.0	18.0	9.3	23.6	10.4	11.9	-7.8	20.2	8.9	20.5	10.9
Stock - Emerging	10.5	-9.8	11.1	8.1	16.0	6.8	10.3	-16.4	3.4	13.4	20.8	5.4	9.5	-17.1	2.1	15.6	20.1	4.9
Stock - ACWI x U.S.													15.9	-14.4	12.7	10.6	22.7	9.4
Stock - Aggregate	21.3	-14.9	20.6	12.7	26.1	12.1	19.2	-14.4	19.7	11.9	24.9	11.3	18.2	-13.4	20.7	12.3	25.4	11.7
Fixed income - U.S.							3.6	-12.1	4.4	6.6	10.0	2.9	5.3	-12.9	1.3	7.6	10.1	2.2
Fixed income - EAFE							4.1	-16.6	-7.8	11.9	5.2	-3.2	9.3	-24.3	-3.5	11.9	6.8	-0.8
Fixed income - Global	6.1	-12.1	-2.0	7.4	7.5	1.1	8.5	-11.5	2.8	3.3	11.7	2.5	8.9	-12.6	0.4	8.5	5.6	2.0
Fixed income - other							7.8	-4.9	3.1	2.2	7.6	4.9	12.8	-10.1	3.6	6.1	9.4	4.1
Fixed income - Long bonds							3.4	-24.8	-0.4	12.6	14.7	-0.1	7.9	-23.7	0.1	12.8	19.2	2.1
Fixed income - Emerging							11.1	-8.6	6.5	1.6	13.1	4.9	10.3	-10.6	-1.8	3.1	12.6	1.9
Fixed income - Inflation indexed							3.2	-2.6	5.2	-0.4	8.1	4.7	3.9	-17.6	6.9	8.6	10.5	2.3
Fixed income - High yield							12.4	-3.6	8.6	2.9	12.2	6.3	10.7	-5.6	7.9	4.1	11.1	5.4
Fixed income - Bundled LDI							15.1	-55.0	-19.6	24.5			3.5	-37.3	-0.8	22.0	19.2	-0.8
Public mortgages							4.2						6.2	-7.9	4.4	0.3	8.1	2.9
Fixed income - Convertibles							7.7	-7.1	8.7	4.8	16.0	5.8	7.5	-11.8	4.3	20.9	13.6	8.8
Cash							1.8	2.5	3.5	-0.4	2.8	2.7	4.3	1.7	1.9	-0.8	2.4	1.5
Fixed income - Aggregate	6.1	-12.1	-2.0	7.4	7.5	1.1	8.1	-16.2	1.4	8.0	11.2	1.8	7.9	-16.7	1.0	10.3	12.9	2.3
Commodities							-2.5	18.7	23.7	1.4	0.7	5.1	-2.4	18.8	25.9	-4.2	7.8	8.3
Infrastructure	3.3	4.8	3.9				5.5	10.9	15.1	3.6	8.9	8.7	7.7	10.0	13.7	6.2	10.4	9.1
Natural resources							6.1	16.1	18.4	-2.7	3.5	7.8	5.9	14.9	16.2	-5.5	3.2	6.4
REITs	16.6	-30.8	26.8	-14.9	20.9	1.0	12.3	-18.8	29.3	-13.7	31.0	3.0	9.1	-19.8	32.2	-8.3	23.0	5.8
Real estate	-12.6	0.0	13.5	-0.2	6.7	1.1	-6.8	12.4	16.3	-4.6	8.5	4.6	-8.4	7.7	19.8	0.3	6.9	5.0
Other real assets							6.7	-0.4	19.7	1.6	-1.6	4.7	6.9	13.9	21.4	-1.5	3.5	0.3
Real assets - Aggregate	-0.2	-13.8	18.3	-4.9	10.2	1.3	-1.5	12.7	19.2	-2.8	9.7	7.0	-2.2	7.6	19.7	0.3	8.5	6.5
Hedge funds							-1.1	9.8	11.1	3.8	6.6	6.1	4.7	5.7	10.9	2.2	6.1	5.5
Global TAA							3.9	0.4	-0.1	-6.9	10.1	0.0	6.5	-3.1	9.8	2.1	11.8	5.4
Balanced funds													7.7	-3.0	7.2	-11.5	30.1	
Risk parity							10.2	-3.5	15.5	0.1	23.4	8.7	16.2	-17.6	12.0	5.8	18.0	6.1
Private mortgages							6.3	-6.9	4.4	7.0	7.1	3.4	7.2	-7.2	4.1	6.3	7.0	2.5
Private credit							9.9	3.0	11.8	2.6	6.3	6.1	9.6	1.2	15.0	2.6	9.8	7.5
Private equity - Diversified							6.7	3.1	38.9	15.2	11.4	14.2	2.0	2.8	46.4	13.0	9.6	13.7
Venture capital							-0.2	-4.1	40.2	22.7	13.2	12.7	-8.4	-5.9	58.8	22.8	8.9	13.9
LBO							6.6	4.4	42.4	19.9	10.7	15.9	5.6	4.4	46.8	13.0	11.8	15.0
Private equity - Other							7.6	7.1	17.1	22.4	9.4	14.3	3.4	4.1	27.6	11.9	8.6	12.5
Private equity - Aggregate							5.9	2.6	41.6	16.4	12.1	14.8	1.9	2.9	47.3	13.8	9.2	13.9
Total Fund Return	16.1	-14.2	14.5	10.8	19.9	8.7	9.2	-9.3	15.0	9.3	15.8	7.5	9.5	-12.4	13.1	10.4	17.6	7.1

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.	27.3	-24.2	13.3	47.1			24.6	-15.3	30.1	17.4	30.6	15.9	22.9	-15.5	28.5	16.5	29.9	15.1
Stock - EAFE	16.1	-15.9	18.0	5.4	22.7	8.3	16.9	-10.9	15.6	4.4	22.1	9.0	15.4	-10.3	15.0	4.5	22.0	8.7
Stock - Global	21.8	-15.6	20.4	12.2	26.1	11.9	20.6	-13.5	22.7	10.2	26.5	12.3	20.1	-14.3	22.3	12.2	25.9	12.2
Stock - other							14.8	-8.7	16.8	9.6	25.6	11.9	12.1	-9.2	21.9	5.9	23.8	11.7
Stock - Emerging	8.2	-11.3	8.9	3.4	15.0	4.4	9.1	-15.5	3.7	12.4	20.7	5.3	8.5	-16.2	2.0	14.7	18.2	4.3
Stock - ACWI x U.S.													15.1	-12.8	12.3	7.7	21.6	8.1
Stock - Aggregate	21.0	-15.4	19.8	11.8	25.6	11.5	19.5	-14.0	20.0	11.9	25.3	11.6	18.8	-13.6	21.1	11.7	25.4	11.7
Fixed income - U.S.							3.3	-11.8	3.8	8.7	11.1	2.6	4.8	-12.7	0.9	6.7	9.2	1.7
Fixed income - EAFE							4.2	-16.6	-7.9	11.0	5.1	-3.1	8.7	-23.5	-4.0	11.5	6.5	-0.9
Fixed income - Global	5.6	-13.8	-1.9	6.7	7.4	0.5	7.6	-10.7	3.0	2.0	10.4	1.9	8.4	-11.9	0.1	7.0	7.6	2.0
Fixed income - other							7.1	-7.2	3.6	3.5	6.6	3.6	12.5	-11.4	2.8	5.4	9.5	3.3
Fixed income - Long bonds							4.3	-24.5	-2.4	11.7	15.4	0.0	7.2	-23.3	0.0	11.5	19.2	1.5
Fixed income - Emerging							9.5	-9.9	3.5	1.0	13.5	4.0	9.9	-10.8	-1.8	2.7	13.0	2.5
Fixed income - Inflation indexed							2.9	-4.0	6.6	0.8	8.0	5.3	3.3	-18.5	6.5	9.0	9.7	1.8
Fixed income - High yield							11.2	-6.9	7.1	2.4	12.1	5.6	11.5	-7.0	6.8	3.8	12.4	5.3
Fixed income - Bundled LDI							14.4	-53.5	-20.3	24.6			1.1	-37.5	-1.9	21.9	19.5	-0.3
Public mortgages							4.1						5.7	-7.2	3.1	-0.1	5.6	0.5
Fixed income - Convertibles							12.6	-16.2	7.3	47.4	22.6	12.9	10.3	-13.2	8.9	23.6	15.5	12.7
Cash							4.7	1.0	1.5	0.0	2.4	2.2	5.0	1.8	2.3	-0.6	2.6	2.2
Fixed income - Aggregate	5.6	-13.8	-1.9	6.7	7.4	0.5	6.9	-18.1	-1.5	9.3	10.0	0.5	7.0	-17.7	0.5	9.5	12.7	1.5
Commodities							-4.9	22.4	33.2	-13.0	13.8	8.4	-3.5	18.2	27.3	-7.3	10.6	8.4
Infrastructure	9.4	-20.0	-3.9				4.3	11.6	9.9	4.4	9.0	7.6	8.3	4.6	11.3	6.2	11.0	7.9
Natural resources							-0.4	20.4	25.9	-1.6	2.4	8.5	5.3	10.6	19.6	-2.3	8.2	6.6
REITs	11.2	-13.7	17.1	10.1	17.1	7.7	10.1	-10.5	31.7	-18.0	32.8	5.0	8.3	-20.1	31.6	-9.5	21.6	5.5
Real estate	9.7	-14.5	7.3	8.7	13.0	4.3	-6.3	13.8	15.4	-2.1	8.0	5.2	-4.3	7.0	17.8	1.0	7.9	5.6
Other real assets							9.6	-9.8	11.1	11.7	20.1	7.8	13.0	3.5	20.0	3.8	10.9	7.5
Real assets - Aggregate	10.3	-14.4	10.9	8.8	14.3	5.4	-2.4	12.4	16.6	-1.9	9.5	6.4	-0.4	6.3	17.2	0.8	9.4	6.3
Hedge funds							5.0	4.5	6.8	3.6	7.4	6.0	5.5	0.7	8.3	3.2	8.7	5.4
Global TAA							15.2	-2.9	10.0	7.9	13.1	8.9	6.7	-5.3	10.8	2.8	14.1	6.4
Balanced funds													12.8	-8.3	6.8	-25.8	40.1	
Risk parity							6.7	-21.3	13.7	6.7	22.5	4.5	8.9	-12.4	13.3	5.2	15.9	4.8
Private mortgages							9.2	-9.4	0.9	8.4	5.3	2.5	8.5	-11.6	-0.6	7.1	6.6	1.5
Private credit							11.7	-0.3	6.6	4.0	8.0	3.9	11.2	-3.5	9.1	1.2	13.1	5.9
Private equity - Diversified							9.1	-14.2	52.6	-1.4	-13.5	3.9	7.7	-14.1	52.7	-3.2	-12.4	3.9
Venture capital							9.5	-14.0	58.2	-2.5	-16.6	3.8	7.5	-14.2	51.4	-3.2	-12.1	4.1
LBO							8.8	-13.8	59.1	-2.8	-18.8	3.3	8.6	-14.4	51.8	-2.3	-12.6	4.1
Private equity - Other							8.6	-14.3	60.7	-2.8	-21.4	2.6	6.7	-14.8	50.1	-3.1	-12.2	3.2
Private equity - Aggregate							9.1	-14.2	52.6	-1.4	-13.5	3.9	7.9	-14.1	52.7	-3.2	-12.3	3.9
Total Policy Return	16.3	-15.0	13.8	10.6	19.7	8.3	11.5	-11.3	14.9	8.8	15.3	7.3	10.6	-13.8	12.9	9.1	16.7	6.5

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

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

## Net value added by asset class

Asset class	Your fund %						Peer average %						Global average %					
	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.	9.4	-9.1	-10.3	2.8			-1.3	0.8	2.0	-3.7	-5.6	-0.8	-0.5	0.7	0.2	-0.6	-0.1	0.0
Stock - EAFE	-2.1	-3.2	-1.3	4.0	-1.5	-0.9	1.0	-3.0	-1.3	4.2	1.4	0.3	-0.5	-1.1	-0.4	3.5	-0.1	0.5
Stock - Global	0.2	0.5	0.8	0.7	0.5	0.5	-0.1	-1.3	-0.6	0.4	1.1	-0.2	-1.2	0.1	-1.0	1.0	-0.5	-0.4
Stock - other							-1.7	-1.8	1.2	-0.5	-2.0	0.8	0.2	1.6	-0.4	6.0	-3.7	-0.5
Stock - Emerging	2.3	1.5	2.2	4.7	1.0	2.4	1.2	-0.9	-0.3	0.9	0.1	0.1	1.1	-0.7	0.1	0.9	1.9	0.6
Stock - ACWI x U.S.													0.8	-1.2	0.4	2.9	1.1	1.3
Stock - Aggregate	0.3	0.5	0.8	0.9	0.5	0.6	-0.4	-0.4	-0.3	0.1	-0.4	-0.3	-0.6	0.2	-0.4	0.6	0.0	0.0
Fixed income - U.S.							0.2	-0.3	4.1	-2.1	-1.1	0.2	0.6	-0.2	0.6	0.8	0.8	0.6
Fixed income - EAFE							-0.1	0.0	0.1	0.2	0.0	-0.1	0.9	-1.4	0.0	0.4	1.0	0.1
Fixed income - Global	0.5	1.7	-0.1	0.7	0.1	0.6	0.1	0.1	-0.2	1.3	1.9	0.2	0.8	-0.3	0.2	0.9	-1.9	0.0
Fixed income - other							2.9	0.5	-0.5	-1.3	1.1	1.3	0.4	1.0	1.1	0.2	-0.1	0.7
Fixed income - Long bonds							-0.9	-0.3	2.0	0.9	-0.7	-0.2	0.5	-0.7	0.1	1.2	0.0	0.4
Fixed income - Emerging							1.6	1.3	3.0	0.6	-0.4	0.9	0.2	0.5	-0.1	0.5	-0.5	-0.5
Fixed income - Inflation indexed							0.0	0.4	-0.3	-0.1	0.1	0.0	0.4	1.0	0.6	-0.4	0.8	0.6
Fixed income - High yield							1.2	1.2	1.5	0.6	0.0	0.0	0.2	1.2	1.0	0.3	-1.4	0.3
Fixed income - Bundled LDI							0.7	-1.5	0.7	-0.1			0.7	-1.3	0.3	0.5	0.3	0.9
Public mortgages							0.2						1.5	-1.7	0.9	1.7	0.5	2.4
Fixed income - Convertibles							-4.9	9.1	1.4	-42.6	-6.6	-7.1	-2.8	-1.2	-2.6	-2.6	-4.8	-3.9
Cash							-1.0	1.2	-0.3	0.1	0.4	0.0	-0.5	-0.3	-0.5	-0.2	-0.3	-0.7
Fixed income - Aggregate	0.5	1.7	-0.1	0.7	0.1	0.6	1.2	1.9	2.9	-1.3	1.2	1.3	0.9	1.1	0.5	0.7	0.1	0.8
Commodities							2.3	-3.6	-9.5	14.4	-14.3	-3.3	1.4	0.0	-3.5	2.3	-3.3	-0.7
Infrastructure	-6.1	24.8	7.8				1.3	-0.7	5.1	-0.8	0.0	1.1	-0.7	5.5	2.5	-0.2	-0.5	1.1
Natural resources							6.4	-4.3	-7.5	-1.2	1.1	-0.7	0.8	3.9	-2.3	-3.5	-4.8	-0.5
REITs	5.4	-17.1	9.7	-25.0	3.7	-6.7	2.9	-8.4	-2.4	4.3	-1.8	-2.0	0.8	-0.4	0.7	1.7	1.3	0.1
Real estate	-22.3	14.5	6.2	-9.0	-6.4	-3.2	-0.5	-1.4	0.9	-2.5	0.5	-0.6	-4.0	1.0	2.0	-0.8	-1.0	-0.5
Other real assets							-2.3	9.4	8.7	-10.1	-21.7	-3.1	-8.6	16.5	-0.7	-5.2	-8.1	-9.2
Real assets - Aggregate	-10.5	0.6	7.4	-13.7	-4.1	-4.1	0.9	0.3	2.7	-0.9	0.2	0.6	-1.6	1.5	2.6	-0.5	-0.9	0.3
Hedge funds							-5.9	5.3	4.3	0.3	-1.0	0.5	-0.4	4.0	2.7	-1.5	-2.8	0.6
Global TAA								-0.2	-7.3	-14.8	-0.9		0.4	2.1	-1.5	-1.3	-3.0	-0.4
Balanced funds													-6.1	-3.1	1.0	16.5	-10.0	
Risk parity							3.5	17.7	1.8	-6.7	0.9	4.1	3.3	-3.5	-0.8	-1.1	1.9	0.3
Private mortgages							-2.9	2.6	3.5	-0.7	1.8	1.0	-1.3	3.7	4.6	-0.9	0.5	1.0
Private credit							-1.8	3.3	6.3	0.1	-1.7	1.5	-1.3	4.6	5.5	0.7	-2.9	1.8
Private equity - Diversified							-2.4	17.3	-13.7	16.5	24.9	10.3	-5.7	16.9	-6.3	16.2	21.9	9.6
Venture capital							-9.7	9.9	-18.0	25.2	29.8	8.9	-16.5	8.2	8.3	25.2	21.0	9.6
LBO							-2.2	18.1	-16.7	22.7	29.5	12.6	-3.0	18.9	-5.1	14.8	24.4	10.9
Private equity - Other							-1.0	21.4	-48.1	25.2	30.8	13.7	-3.4	18.7	-22.9	14.2	20.8	9.4
Private equity - Aggregate							-3.2	16.8	-11.0	17.7	25.6	10.9	-6.0	17.0	-5.3	16.9	21.5	9.8
Total Net Value Added	-0.2	0.8	0.7	0.2	0.2	0.4	-2.2	2.0	0.1	0.5	0.4	0.2	-1.1	1.5	0.2	1.3	0.9	0.6

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

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

## Your policy return and value added calculation - 2023

### 2023 Policy Return and Value Added

Asset class	Policy weight	Benchmark Description	Return	Net return	Value added
Stock - U.S.		Custom	27.3%	36.7%	9.4%
Stock - EAFE		Custom	16.1%	14.0%	-2.1%
Stock - Global	71.8%	Your Stock: Global benchmark	21.8%	22.0%	0.2%
Stock - Emerging		Custom	8.2%	10.5%	2.3%
Fixed income - Global	28.2%	Barclays Global Aggregate + Barclays Global Infl	5.6%	6.1%	0.5%
Infrastructure		Custom	9.4%	3.3%	-6.1%
REITs		Custom	11.2%	16.6%	5.4%
Real estate		Custom	9.7%	-12.6%	-22.3%
<b>Total</b>	<b>100.0%</b>				
Net Actual Return (reported by you)					16.1%
Calculated Policy Return = sum of (policy weights X benchmark returns)				17.2%	
Adjustment to reflect rebalancing and overlay impacts				<u>-0.9%</u>	
Policy Return (reported by you)					<u>16.3%</u>
Net Value Added (Net Return - Policy Return)					-0.2%

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

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

### 2022 Policy Return and Value Added

Asset class	Policy	Benchmark		Net return	Value added
	weight	Description	Return		
Stock - U.S.		Custom	-24.2%	-33.3%	-9.1%
Stock - EAFE		Custom	-15.9%	-19.1%	-3.2%
Stock - Global	70.9%	Your Stock: Glol	-15.6%	-15.1%	0.5%
Stock - Emerging		Custom	-11.3%	-9.8%	1.5%
Fixed income - Global	29.1%	Barclays Global	-13.8%	-12.1%	1.7%
Infrastructure		Custom	-20.0%	4.8%	24.8%
REITs		Custom	-13.7%	-30.8%	-17.1%
Real estate		Custom	-14.5%	0.0%	14.5%
<b>Total</b>	<b>100.0%</b>				
Net Return (reported by you)					-14.2%
Calculated policy return (sum: Policy weights x benchmarks)				-15.1%	
Adjustment to reflect rebalancing and overlay impacts				<u>0.1%</u>	
Policy return (reported by you)					<u>-15.0%</u>
Net Value Added (Net Return - Policy Return)					0.8%

### 2020 Policy Return and Value Added

Asset class	Policy	Benchmark		Net return	Value added
	weight	Description	Return		
Stock - U.S.		Custom	47.1%	49.8%	2.8%
Stock - EAFE		Custom	5.4%	9.4%	4.0%
Stock - Global	73.0%	Your Stock: Glol	12.2%	12.9%	0.7%
Stock - Emerging		Custom	3.4%	8.1%	4.7%
Fixed income - Global	27.0%	Barclays Global	6.7%	7.4%	0.7%
REITs		Custom	10.1%	-14.9%	-25.0%
Real estate		Custom	8.7%	-0.2%	-9.0%
<b>Total</b>	<b>100.0%</b>				
Net Return (reported by you)					10.8%
Calculated policy return (sum: Policy weights x benchmarks)				10.7%	
Adjustment to reflect rebalancing and overlay impacts				<u>-0.1%</u>	
Policy return (reported by you)					<u>10.6%</u>
Net Value Added (Net Return - Policy Return)					0.2%

### 2021 Policy Return and Value Added

Asset class	Policy	Benchmark		Net return	Value added
	weight	Description	Return		
Stock - U.S.		Custom	13.3%	3.0%	-10.3%
Stock - EAFE		Custom	18.0%	16.7%	-1.3%
Stock - Global	73.2%	Your Stock: Glol	20.4%	21.2%	0.8%
Stock - Emerging		Custom	8.9%	11.1%	2.2%
Fixed income - Global	26.8%	Barclays Global	-1.9%	-2.0%	-0.1%
Infrastructure		Custom	-3.9%	3.9%	7.8%
REITs		Custom	17.1%	26.8%	9.7%
Real estate		Custom	7.3%	13.5%	6.2%
<b>Total</b>	<b>100.0%</b>				
Net Return (reported by you)					14.5%
Calculated policy return (sum: Policy weights x benchmarks)				14.4%	
Adjustment to reflect rebalancing and overlay impacts				<u>-0.7%</u>	
Policy return (reported by you)					<u>13.8%</u>
Net Value Added (Net Return - Policy Return)					0.7%

### 2019 Policy Return and Value Added

Asset class	Policy	Benchmark		Net return	Value added
	weight	Description	Return		
Stock - U.S.		Custom	22.7%	21.2%	-1.5%
Stock - EAFE		Custom	22.7%	21.2%	-1.5%
Stock - Global	71.1%	Your Stock: Glol	26.1%	26.6%	0.5%
Stock - Emerging		Custom	15.0%	16.0%	1.0%
Fixed income - Global	28.9%	Barclays Global	7.4%	7.5%	0.1%
REITs		Custom	17.1%	20.9%	3.7%
Real estate		Custom	13.0%	6.7%	-6.4%
<b>Total</b>	<b>100.0%</b>				
Net Return (reported by you)					19.9%
Calculated policy return (sum: Policy weights x benchmarks)				20.7%	
Adjustment to reflect rebalancing and overlay impacts				<u>-1.0%</u>	
Policy return (reported by you)					<u>19.7%</u>
Net Value Added (Net Return - Policy Return)					0.2%

## Profit/Loss on overlay programs

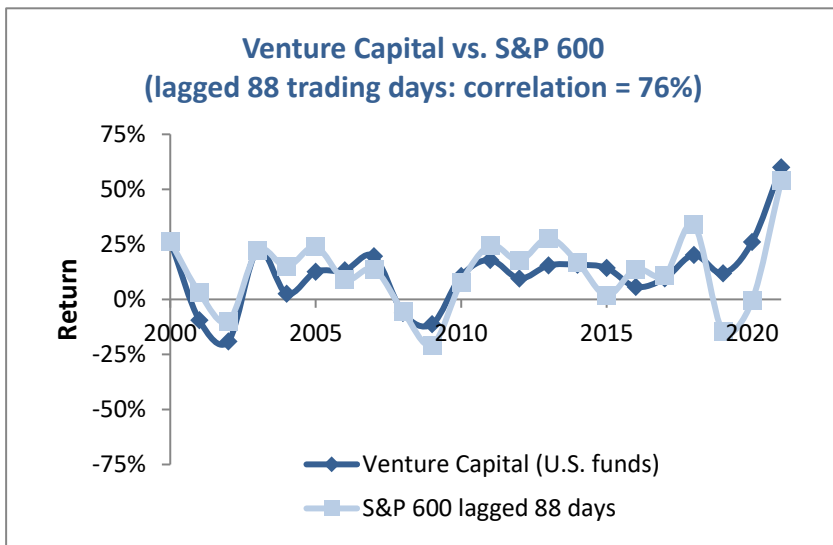
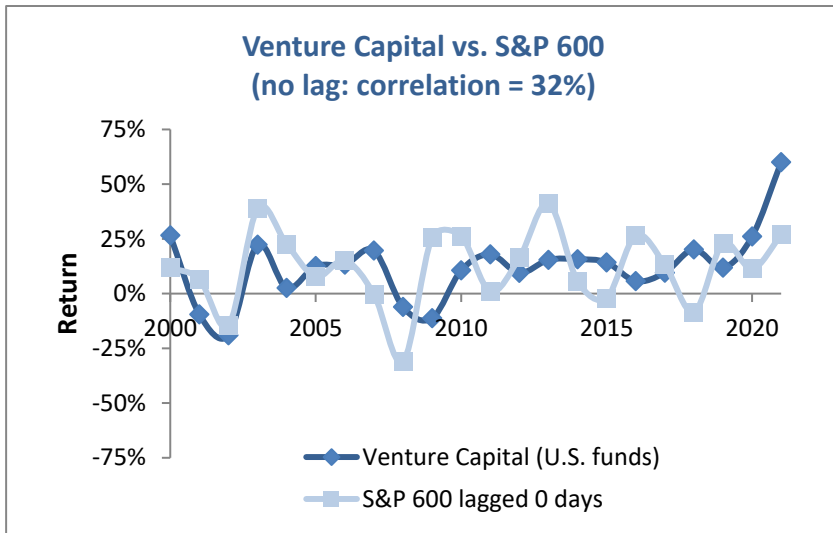
Overlay type	Your fund		Peer median				Global median			
	2023	2022	2023		2022		2023		2022	
	bps	bps	bps	#	bps	#	bps	#	bps	#
Int. Discretionary Currency			22.1	1	-15.2	1	2.4	7	-10.9	7
Ext. Discretionary Currency			2.4	1	-1.7	1	6.3	8	0.0	9
Internal Global TAA			-12.6	1			2.4	8	18.1	4
External Global TAA			-4.0	1	23.9	1	-3.9	3	11.2	2
Internal PolicyTilt TAA							0.1	6	2.7	6
External PolicyTilt TAA										
Internal Commodities							0.1	1	0.0	1
External Commodities							3.0	1	15.5	4
Internal Long/Short							0.0	5	3.0	5
External Long/Short							-1.2	1	0.4	1
Internal Other			50.7	1	43.2	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

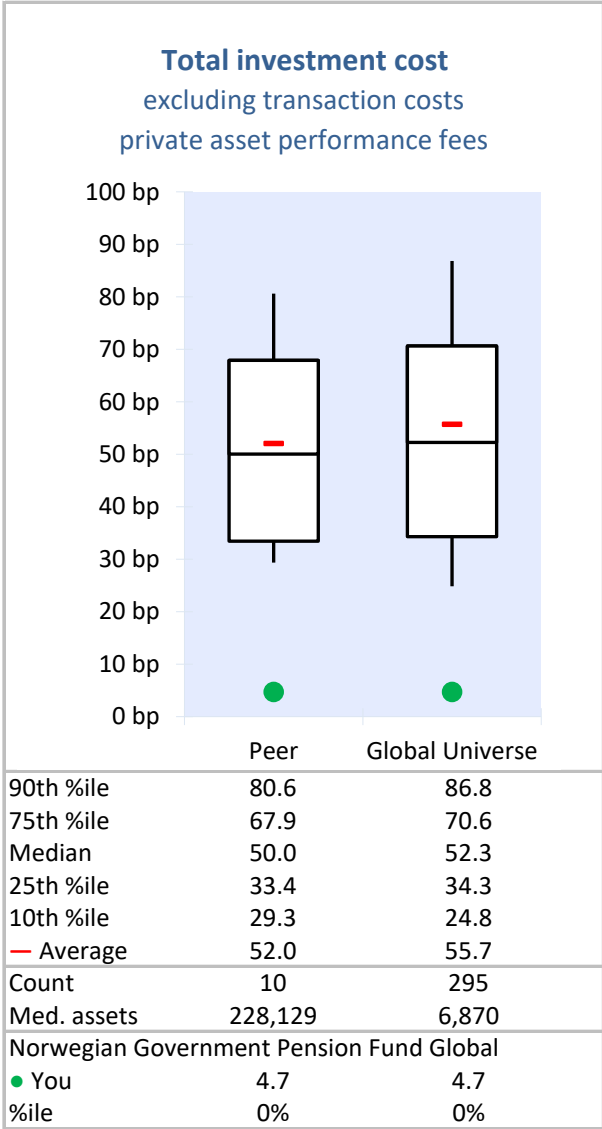
## Cost: total, benchmark, trend

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 4.7 bps was below the peer median of 50.0 bps.

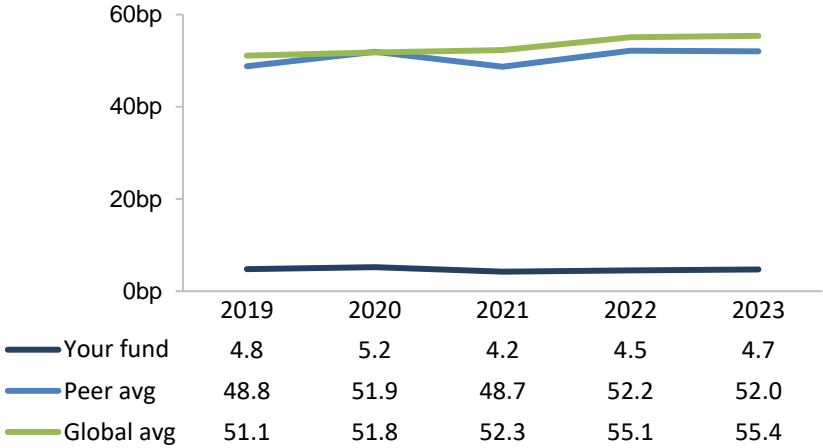
Differences in total investment cost are often caused by two factors that are usually outside of management's control: asset mix and fund size. Therefore, to assess whether your fund's total investment cost is high or low given your unique asset mix and size, CEM calculates a benchmark cost for your 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 4.8 bps in 2014 to 4.7 bps in 2023.

**Trend in total investment cost**  
(excluding transaction costs and private asset performance fees)



Trend analysis is based on 192 Global funds and 10 peer funds with 10 or more consecutive years of data.

## Types of costs included in your total investment cost

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

Asset class	Internal		External			
	In-house total cost	Transaction costs	Manager base fees	Monitoring & other costs	Perform. fees (active only)	Transaction costs
<u>Public</u> (Stock, Fixed income, commodities, REITs)	✓	✗	✓	✓	✓	✗
Derivatives/Overlays	✓	✗	✓	✓	✓	✗
<u>Hedge funds &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 4.7 bp or €604.3 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 - U.S.					4,074	3,387	398	7,859		1%
Stock - EAFE					20,932	14,215	2,030	37,177		6%
Stock - Emerging					80,489	99,994	7,672	188,155		31%
Stock - Global		151,414						151,414		25%
Fixed income - Global		52,457						52,457		9%
REITs		7,563						7,563		1%
Real estate <sup>1</sup>		46,721						46,721		8%
Infrastructure <sup>1</sup>		5,610						5,610		1%
Total asset management costs excluding private asset performance fees								496,956	3.9bp	82%
<b>Oversight, custodial &amp; other asset related costs</b>										
Oversight of the fund								57,822		10%
Trustee & custodial								40,642		7%
Consulting and performance measurement								4,856		1%
Audit								4,020		1%
Other										
Total oversight, custodial & other costs								107,340	0.8bp	18%
Total investment costs excluding transaction costs and private asset performance fees								604,296	4.7bp	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 - U.S.	7,859	1,865	2,426	6,720		5,994	-561	-4,295		321%	-23%	-64%	
Stock - EAFE	37,177	21,887	23,713	29,828	9,642	15,290	-1,826	-6,115	20,186	70%	-8%	-20%	209%
Stock - Emerging	188,155	151,727	151,239	157,543	87,450	36,428	488	-6,304	70,093	24%	0%	-4%	80%
Stock - Global	151,414	124,816	87,800	104,566	115,092	26,598	37,016	-16,766	-10,526	21%	42%	-16%	-9%
Fixed income - Global	52,457	41,040	31,769	40,877	44,434	11,417	9,271	-9,108	-3,557	28%	29%	-22%	-8%
REITs	7,563	4,490	2,951	2,681	1,620	3,073	1,539	270	1,061	68%	52%	10%	66%
Real estate <sup>1</sup>	46,721	41,801	37,863	35,060	44,007	4,920	3,938	2,803	-8,948	12%	10%	8%	-20%
Infrastructure <sup>1</sup>	5,610	3,376	2,272			2,234	1,104			66%	49%		
Total excl. private asset perf. fees	496,956	391,003	340,033	377,276	302,245	105,953	50,970	-37,243	75,030	27%	15%	-10%	25%
<b>Oversight, custodial &amp; other asset related costs</b>													
Oversight of the fund	57,822	88,565	78,246	71,921	89,677	-30,743	10,319	6,325	-17,756	-35%	13%	9%	-20%
Trustee & custodial	40,642	46,811	45,995	44,144	42,622	-6,169	815	1,851	1,523	-13%	2%	4%	4%
Consulting and performance measurement	4,856	7,692	7,681	7,035	10,715	-2,836	11	646	-3,680	-37%	0%	9%	-34%
Audit	4,020	4,134	3,800	3,892	3,792	-114	334	-93	100	-3%	9%	-2%	3%
Other													
Total oversight, custodial & other	107,340	147,202	135,722	126,992	146,806	-39,862	11,479	8,730	-19,814	-27%	8%	7%	-13%
Total investment costs <sup>1</sup>	604,296	538,205	475,755	504,268	449,051	66,092	62,449	-28,513	55,216	12%	13%	-6%	12%
Total in basis points	4.7bp	4.5bp	4.2bp	5.2bp	4.8bp								

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 13.3 bps below your benchmark cost of 18.0 bps. This implies that your fund was low cost by 13.3 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	604,296	4.7 bp
- Your fund's benchmark	2,310,767	18.0 bp
= Your fund's cost savings	-1,706,471	-13.3 bp

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

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

### Reasons why your fund was low cost

	Cost/-Savings impact	
	€000s	bps
<u>Differences in implementation style:</u>		
Less passive	1,249,072	9.7 bp
More int. active % of total active	-1,624,118	-12.7 bp
Less overlays and unfunded strategies	-195,485	-1.5 bp
Total style impact	-570,531	-4.4 bp
<u>Paying more/-less for similar services:</u>		
External investment management	-30,791	-0.2 bp
Internal investment management	-988,557	-7.7 bp
Oversight, custodial and other	-116,592	-0.9 bp
Total impact of paying more /-less	-1,135,940	-8.9 bp
Total savings	-1,706,471	-13.3 bp



## Benchmark cost calculation

Your 2023 benchmark cost was 18.0 basis points or 2.3 billion. It equals your holdings for each asset class multiplied by the peer median cost for the asset class. The peer median cost is the style weighted average for all implementation styles (i.e., internal passive, internal active, external passive, external active).

Asset class	Your average assets	Weighted peer median cost <sup>1</sup>	Benchmark €000s
	(A)	(B)	(A X B)
<b>Asset management costs</b>			
Stock - U.S.	2,318	13.6 bp	3,158
Stock - EAFE	11,814	22.2 bp	26,187
Stock - Emerging	44,656	30.3 bp	135,182
Stock - Global <sup>4</sup>	825,550	15.5 bp	1,276,400
Fixed income - Global <sup>4</sup>	345,791	6.0 bp	205,755
REITs	21,886	21.5 bp	47,145
Real estate	30,089	63.5 bp	190,963
Infrastructure	1,363	48.1 bp	6,561
Overlay Programs <sup>2</sup>	1,283,467	1.5 bp	195,485
Benchmark for asset management	1,283,467	16.3 bp	2,086,835
<b>Oversight, custody and other costs<sup>3</sup></b>			
Oversight	1,283,467	0.8 bp	
Trustee & custodial	1,283,467	0.5 bp	
Consulting	1,283,467	0.0 bp	
Audit	1,283,467	0.1 bp	
Other	1,283,467	0.1 bp	
Benchmark for oversight, custody, other	1,283,467	1.7 bp	223,932
<b>Total benchmark cost</b>		<b>18.0 bp</b>	<b>2,310,767</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 - Global', 'Fixed income - Aggregate' for 'Fixed income - Global'.

## Cost impact of differences in implementation style

Differences in implementation style (passive vs. active, internal vs. external, etc.) relative to your peers saved you 4.4 bps.

Implementation choices	Assets by style	Peer benchmark cost			Style 1 -Savings	Style 1 %			Cost/ -Savings €000s	bps
		Style 1	Style 2	Style 1		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 - U.S.	2,318	2 bp	34 bp	-33 bp	0%	64%	-64%	4,837		
Stock - EAFE	11,814	5 bp	29 bp	-25 bp	0%	29%	-29%	8,459		
Stock - Emerging	44,656	4 bp	43 bp	-39 bp	0%	32%	-32%	55,358		
Stock - Global	825,550	3 bp	26 bp	-23 bp	0%	46%	-46%	864,070		
Fixed income - Global	345,791	1 bp	15 bp	-14 bp	0%	65%	-65%	316,348		
Less passive								1,249,072	9.7 bp	
<u>Internal active vs external active</u>	Active assets	Internal active	External active				Internal active % of active			
Stock - U.S.	2,318	8 bp	48 bp	-39 bp	0%	33%	-33%	3,057		
Stock - EAFE	11,814	6 bp	38 bp	-32 bp	0%	27%	-27%	10,037		
Stock - Emerging	44,656	29 bp	47 bp	-18 bp	0%	22%	-22%	17,707		
Stock - Global	825,550	12 bp	33 bp	-22 bp	100%	35%	65%	-1,157,615		
Fixed income - Global	345,791	3 bp	27 bp	-24 bp	100%	49%	51%	-425,010		
REITs	21,886	11 bp	43 bp	-32 bp	100%	67%	33%	-22,951		
Real estate	30,089	48 bp	72 bp	-24 bp	100%	34%	66%	-46,792		
Infrastructure	1,363	29 bp	102 bp	-73 bp	100%	74%	26%	-2,552		
More int. active % of total active								-1,624,118	-12.7 bp	
Less overlays and unfunded strategies								-195,485	-1.5 bp	
Total impact of differences in implementation style								-570,531	-4.4 bp	

## Cost impact of overlays

As summarized on the previous page, the style impact of overlays saved you 1.5 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	1,283,467	NA	0.02 bp	-2,359
Currency - Discretionary	1,283,467	NA	0.03 bp	-3,492
Rebalancing / Passive beta - Hedge	1,283,467	NA	0.00 bp	-580
Inflation linked - Hedge	1,283,467	NA	0.00 bp	-1
Global TAA - Discretionary	1,283,467	NA	0.04 bp	-5,339
Long/Short - Discretionary	1,283,467	NA	0.97 bp	-124,630
Other overlay - Discretionary	1,283,467	NA	0.01 bp	-738
<b>External Overlays</b>				
Currency - Discretionary	1,283,467	NA	0.02 bp	-2,777
Duration management - Hedge	1,283,467	NA	0.03 bp	-4,283
Global TAA - Discretionary	1,283,467	NA	0.34 bp	-43,335
Long/Short - Discretionary	1,283,467	NA	0.06 bp	-7,951
Total impact in 000s				-195,485
Total impact in basis points				-1.5 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 8.9 bps.

	Style	Your avg holdings (mils) (A)	Cost in bps			Cost/-Savings	
			Your	Peer median	More/-less (B)	€000s (A X B)	bps
<b>External asset management</b>							
Stock - U.S. <sup>1</sup>	active	2,318	33.9	47.7	-13.8	-3,192	
Stock - EAFE	active	11,814	31.5	37.8	-6.4	-7,506	
Stock - Emerging	active	44,656	42.1	46.6	-4.5	-20,093	
Total for external management						-30,791	-0.2 bp
<b>Internal asset management</b>							
Stock - Global	active	825,550	1.8	11.9	-10.1	-831,441	
Fixed income - Global	active	345,791	1.5	2.8	-1.3	-44,635	
REITs	active	21,886	3.5	11.1	-7.6	-16,631	
Real estate	active	30,089	15.5	47.9	-32.4	-97,450	
Infrastructure	active	1,363	41.2	29.4	11.7	1,600	
Total for internal management						-988,557	-7.7 bp
<b>Oversight, custody and other costs<sup>2</sup></b>							
Oversight			0.5	0.8	-0.4		
Trustee & custodial			0.3	0.5	-0.2		
Consulting			0.0	0.0	0.0		
Audit			0.0	0.1	0.0		
Other			0.0	0.1	-0.1		
Benchmark for oversight, custody, other		1,283,467	0.8	1.7	-0.9	-116,592	-0.9 bp
Total						-1,135,940	-8.9 bp

1. Universe median is used because peer data was insufficient.

2. 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
<b>Asset management costs</b>	(A)	(B)	(C = A - B)	(D)	(C X D)		
Stock - U.S.	33.9 bp	13.6 bp	20.3 bp	2,318	4,701	7,893	-3,192
Stock - EAFE	31.5 bp	22.2 bp	9.3 bp	11,814	10,990	18,496	-7,506
Stock - Emerging	42.1 bp	30.3 bp	11.9 bp	44,656	52,973	73,065	-20,093
Stock - Global <sup>4</sup>	1.8 bp	15.5 bp	-13.6 bp	825,550	-1,124,986	-293,545	-831,441
Fixed income - Global <sup>4</sup>	1.5 bp	6.0 bp	-4.4 bp	345,791	-153,297	-108,662	-44,635
REITs	3.5 bp	21.5 bp	-18.1 bp	21,886	-39,581	-22,951	-16,631
Real estate	15.5 bp	63.5 bp	-47.9 bp	30,089	-144,242	-46,792	-97,450
Infrastructure	41.2 bp	48.1 bp	-7.0 bp	1,363	-951	-2,552	1,600
Overlay Programs <sup>2</sup>	0.0 bp	1.5 bp	-1.5 bp	1,283,467	-195,485	-195,485	0
<b>Total asset management</b>	<b>3.9 bp</b>	<b>16.3 bp</b>	<b>-12.4 bp</b>	<b>1,283,467</b>	<b>-1,589,879</b>	<b>-570,531</b>	<b>-1,019,348</b>
<b>Oversight, custody and other costs<sup>3</sup></b>							
Oversight of the fund	0.5 bp	0.8 bp	-0.4 bp				
Trustee & custodial	0.3 bp	0.5 bp	-0.2 bp				
Consulting	0.0 bp	0.0 bp	0.0 bp				
Audit	0.0 bp	0.1 bp	0.0 bp				
Other	0.0 bp	0.1 bp	-0.1 bp				
<b>Total oversight, custody &amp; other</b>	<b>0.8 bp</b>	<b>1.7 bp</b>	<b>-0.9 bp</b>	<b>1,283,467</b>	<b>-116,592</b>	<b>n/a</b>	<b>-116,592</b>
<b>Total</b>	<b>4.7 bp</b>	<b>18.0 bp</b>	<b>-13.3 bp</b>	<b>1,283,467</b>	<b>-1,706,471</b>	<b>-570,531</b>	<b>-1,135,940</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.

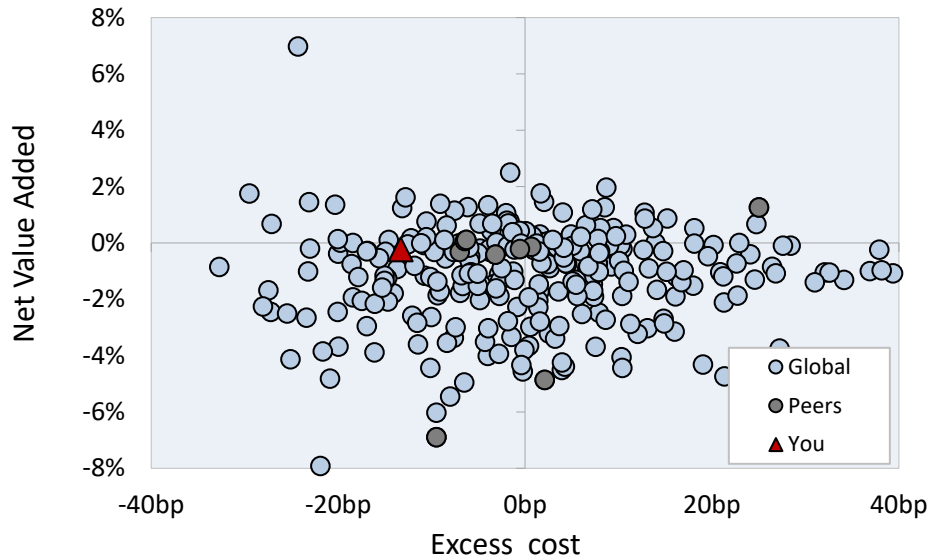
4. A different asset was used as a proxy to determine the benchmarks and style percentages: 'Stock - Aggregate' for 'Stock - Global', 'Fixed income - Aggregate' for 'Fixed income - Global'.

## Your cost impact ranking

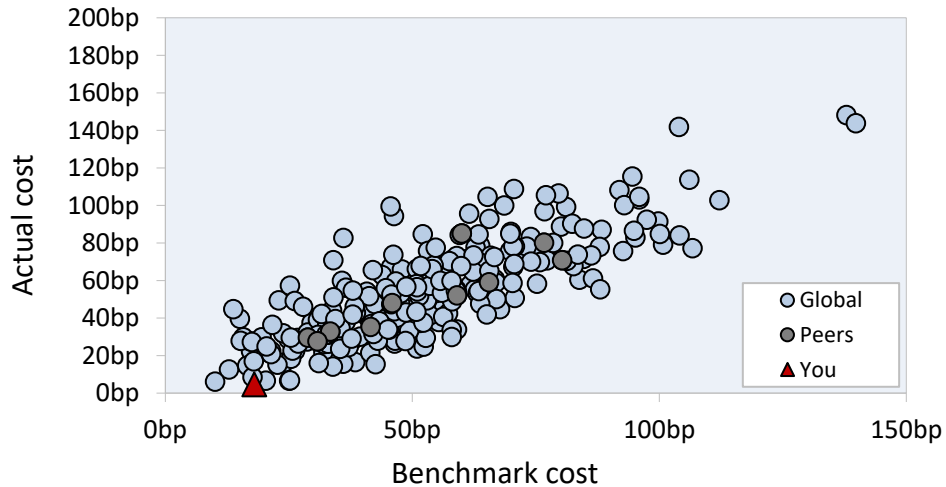
Being high or low cost is neither good nor bad. More important is whether you are receiving sufficient value for your excess cost. At the total fund level, we provide insight into this question by combining your excess return above benchmark and excess cost to create a snapshot of your cost impact performance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

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

**Your 2023 Net value added -0.2%, Excess cost -13 bps**



**Your 2023 Actual cost 4.7 bps, Benchmark cost 18.0 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 - U.S.'

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

$$= (34\% \times 1.9 \text{ bp}) + (12\% \times 8.3 \text{ bp}) + (30\% \times 2.0 \text{ bp}) + (24\% \times 47.7 \text{ bp}) = 13.6 \text{ bp}$$

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

$$= 33.9 \text{ bp} - 13.6 \text{ bp} = 20.3 \text{ bp}$$

#### 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)

$$= 20.9 \text{ bp} + 0.0 \text{ bp} + 13.2 \text{ bp} = 34.1 \text{ bp}$$

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

$$\begin{aligned} &= (\text{peer average passive cost} - \text{peer average active cost}) \times \\ &\quad (\text{passive \% of asset, you} - \text{passive \% of asset, peer average}) \\ &= (1.9 \text{ bp} - 34.5 \text{ bp}) \times (0\% - 64\%) = 20.9 \text{ bp} \end{aligned}$$

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

$$= [(34\% \times 1.9 \text{ bp}) + (30\% \times 2.0 \text{ bp})] / (34\% + 30\%) = 1.9 \text{ bp}$$

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

$$= [(12\% \times 8.3 \text{ bp}) + (24\% \times 47.7 \text{ bp})] / (12\% + 24\%) = 34.5 \text{ bp}$$

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

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

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

$$\begin{aligned} &= (\text{peer average internal active cost} - \text{peer average external active cost}) \times \\ &\quad (\text{internal passive \% of active, you} - \text{internal active \% of active, peer avg}) \times \text{active \% of asset, you} \\ &= (8.3 \text{ bp} - 47.7 \text{ bp}) \times (0\% - 33\%) \times 100\% = 13.2 \text{ bp} \end{aligned}$$

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

$$\begin{aligned} &= (\text{cost internal passive, you} - \text{cost internal passive, peer}) \times \text{internal passive \% of asset, you} + \\ &\quad (\text{cost internal active, you} - \text{cost internal active, peer}) \times \text{internal active \% of asset, you} + \\ &\quad (\text{cost external passive, you} - \text{cost external passive, peer}) \times \text{external passive \% of asset, you} + \\ &\quad (\text{cost external active, you} - \text{cost external active, peer}) \times \text{external active \% of asset, you} \\ &= (0.0 \text{ bp} - 1.9 \text{ bp}) \times 0\% + (0.0 \text{ bp} - 8.3 \text{ bp}) \times 0\% + (0.0 \text{ bp} - 2.0 \text{ bp}) \times 0\% + (33.9 \text{ bp} - 47.7 \text{ bp}) \times 100\% = -13.8 \text{ bp} \end{aligned}$$

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

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

$$= 34.1 \text{ bp} + -13.8 \text{ bp} = 20.3 \text{ bp}$$

## 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 - U.S.				33.9				1.9	8.3	2.0	47.7				13.6
Stock - EAFE				31.5				4.9	5.9	4.0	37.8				22.2
Stock - Emerging				42.1				3.1	28.6	9.2	46.6				30.3
Stock - Global		1.8						2.3	11.9	6.1	33.5				15.5
Fixed income - Global		1.5						0.9	2.8	3.1	26.9				6.0
REITs		3.5							11.1		42.6				21.5
Real estate		15.5							47.9		56.6	53.5	118.5	48.2	63.3
Underlying base fees														69.9	0.2
Infrastructure		41.2							29.4		44.2	19.8	125.0		48.1
Underlying base fees															0.0



## 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 - U.S.	0.0%	0.0%	0.0%	100.0%				34.2%	12.0%	29.9%	23.9%			
Stock - EAFE	0.0%	0.0%	0.0%	100.0%				23.5%	18.9%	5.6%	52.0%			
Stock - Emerging	0.0%	0.0%	0.0%	100.0%				27.1%	14.9%	5.0%	53.0%			
Stock - Global	0.0%	100.0%	0.0%	0.0%				37.7%	19.1%	7.8%	35.4%			
Fixed income - Global	0.0%	100.0%	0.0%	0.0%				59.5%	17.0%	5.8%	17.7%			
REITs		100.0%		0.0%					66.7%		33.3%			
Real estate		100.0%		0.0%	0.0%	0.0%	0.0%		34.3%		41.7%	7.7%	16.1%	0.2%
Underlying base fees		100.0%		0.0%	0.0%	0.0%	0.0%		34.3%		41.7%	7.7%	16.1%	0.2%
Infrastructure		100.0%		0.0%	0.0%	0.0%			74.3%		5.3%	1.5%	18.9%	
Underlying base fees		100.0%		0.0%	0.0%	0.0%			74.3%		5.3%	1.5%	18.9%	

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 1.3 bps between 2014 and 2023 because of changes in: asset mix (2.2 bps), implementation style (-2.1 bps), and paying more/less for similar services (-1.5 bps).

	bps	€000s
Starting total cost, 2014	6.0	393,271
Growth in asset value		376,519
Asset mix	<u>2.2</u>	<u>288,366</u>
Stock	2.0	254,356
Fixed income	-0.1	-15,833
Real estate ex-REITs	0.3	36,671
Real assets ex real estate	0.1	13,173
Implementation style (less expensive vs. more )	<u>-2.1</u>	<u>-264,712</u>
More int. active % of total active	-2.1	-264,712
Paying more/-less for	<u>-0.5</u>	<u>-57,779</u>
Stock	-0.2	-28,799
Fixed income	0.1	16,033
Real estate ex-REITs	-0.4	-45,013
Oversight, custodial, other (pay more/-less)	<u>-1.0</u>	<u>-131,367</u>
Total difference	-1.3	211,025
Ending total cost, 2023	4.7	604,296

## 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	4.8	449,051	5.2	504,268	4.2	475,755	4.5	538,205	6.0	393,271
Growth in asset value		13,928		81,422		28,643		42,113		376,519
Asset mix	0.2	15,189	0.2	25,352	0.0	5,612	0.0	-389	2.2	288,366
Stock	0.2	14,775	0.3	31,628	0.0	-4,782	0.1	8,155	2.0	254,356
Fixed income	0.0	-1,174	0.0	-4,015	0.0	2,637	0.0	-330	-0.1	-15,833
Real estate ex-REITs	0.0	1,253	0.0	-5,503	0.1	5,997	-0.1	-7,370	0.3	36,671
Real assets ex real estate	0.0	334	0.0	3,242	0.0	1,761	0.0	-844	0.1	13,173
Implementation style (less expensive vs. more )	0.0	0	0.0	0	0.0	0	0.0	0	-2.1	-264,712
Paying more/-less for	0.5	50,467	-1.1	-123,512	0.2	24,886	0.6	75,747	-0.5	-57,779
Stock	0.7	65,117	-1.0	-113,330	0.2	23,935	0.4	52,657	-0.2	-28,799
Fixed income	0.0	-3,761	-0.1	-11,694	0.0	4,721	0.1	8,536	0.1	16,033
Real estate ex-REITs	-0.1	-11,565	0.0	2,645	0.0	-4,338	0.1	9,019	-0.4	-45,013
Real assets ex real estate	0.0	677	0.0	-1,133	0.0	568	0.0	5,535	0.0	0
Oversight, custodial, other (pay more/-less)	-0.3	-24,367	-0.1	-11,775	0.0	3,308	-0.4	-51,380	-1.0	-131,367
Total difference	0.4	55,216	-1.0	-28,513	0.3	62,449	0.2	66,092	-1.3	211,025
Ending total cost	5.2	504,268	4.2	475,755	4.5	538,205	4.7	604,296	4.7	604,296
	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 €211 million in 2023 compared to 2014. An increase of €377 million was due to the €628 billion rise in plan total average nav holdings. The remaining decrease of €165 million is explained by the changes in the asset mix (€288 million), implementation style (-€265 million), and paying more/less for similar services (-€189 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 - U.S.	n/a	7,859	0	0	7,859	7,859	0	7,859
Stock - EAFE	n/a	37,177	0	0	37,177	37,177	0	37,177
Stock - Emerging	n/a	188,155	0	0	188,155	188,155	0	188,155
Stock - Global	214,185	21,164	-260,198	-28,799	-267,833	-62,771	205,061	151,414
Fixed income - Global	29,004	-15,833	-4,514	16,033	-4,315	23,453	27,769	52,457
REITs	n/a	7,563	0	0	7,563	7,563	0	7,563
Real estate	28,131	36,671	0	-45,013	-8,343	18,590	26,933	46,721
Infrastructure	n/a	5,610	0	0	5,610	5,610	0	5,610
Total for asset management	271,320	288,366	-264,712	-57,779	-34,126	225,636	259,763	496,956
Oversight	59,310			-58,272	-58,272	-1,488	56,784	57,822
Trustee & custodial	6,363			-7,599	-7,599	-1,507	6,092	4,856
Consulting	51,964			-61,073	-61,073	-11,322	49,750	40,642
Audit	4,314			-4,424	-4,424	-294	4,130	4,020
Other	0			0	0	0	0	0
Total for fund oversight <sup>2</sup>	121,951			-131,367	-131,367	-14,611	116,756	107,340
Total	393,271	288,366	-264,712	-189,147	-165,493	211,025	376,519	604,296

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 1.3 bps in 2023 vs. 2014. It was driven by the changes in the asset mix (2.2 bps), implementation style (-2.1 bps), and paying more/less for similar services (-1.5 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 - U.S.	0.1	0.0	0.0	0.1	7,859
Stock - EAFE	0.3	0.0	0.0	0.3	37,177
Stock - Emerging	1.5	0.0	0.0	1.5	188,155
Stock - Global	0.2	-2.0	-0.2	-2.1	-267,833
Fixed income - Global	-0.1	0.0	0.1	0.0	-4,315
REITs	0.1	0.0	0.0	0.1	7,563
Real estate	0.3	0.0	-0.4	-0.1	-8,343
Infrastructure	0.0	0.0	0.0	0.0	5,610
Total for asset management	2.2	-2.1	-0.5	-0.3	-34,126
Oversight			-0.5	-0.5	-58,272
Trustee & custodial			-0.1	-0.1	-7,599
Consulting			-0.5	-0.5	-61,073
Audit			0.0	0.0	-4,424
Other			0.0	0.0	0
Total for fund oversight			-1.0	-1.0	-131,367
Total	2.2	-2.1	-1.5	-1.3	-165,493
Total basis point costs in years 2023 and 2014		4.7	6.0	-1.3	

1. Calculated by multiplying total difference in bps by plan total nav average holdings for year 2023, €1,283 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 increased your total cost by €288 million or 2.2 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 - U.S.	n/a	33.9	0%	0%	0%	0.1	7,859
Stock - EAFE	n/a	31.5	0%	1%	1%	0.3	37,177
Stock - Emerging	n/a	42.1	0%	3%	3%	1.5	188,155
Stock - Global	5.3	1.8	61%	64%	3%	0.2	21,164
Fixed income - Global	1.2	1.5	37%	27%	-10%	-0.1	-15,833
REITs	n/a	3.5	0%	2%	2%	0.1	7,563
Real estate	30.5	15.5	1%	2%	1%	0.3	36,671
Infrastructure	n/a	41.2	0%	0%	0%	0.0	5,610
Total for asset management						2.2	288,366

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, €1,283 billion.

## Impact of changes in implementation style

Changes in implementation style (passive vs. active, internal vs. external, etc.) in 2023 vs. 2014 saved you €265 million.

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
<u>Internal active vs external active</u>	Active assets	Internal active	External active		Internal active % of active			
Stock - Global	825,550	2 bp	51 bp	-49 bp	100%	94%	6%	-260,198
Fixed income - Global	345,791	1 bp	26 bp	-25 bp	100%	99%	1%	-4,514
More int. active % of total active								-264,712
<b>Total</b>								<b>-264,712</b>

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 €189 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 - Global	active	825,550	1.8	2.2	-0.3	-28,799
Fixed income - Global	active	345,791	1.5	1.1	0.5	16,033
Real estate	active	30,089	15.5	30.5	-15.0	-45,013
Total for internal management						-57,779
Oversight		1,283,467	0.5	0.9	-0.5	-58,271.6
Trustee & custodial		1,283,467	0.0	0.1	-0.1	-7,599
Consulting		1,283,467	0.3	0.8	-0.5	-61,073
Audit		1,283,467	0.0	0.1	0.0	-4,424
Other		1,283,467	0.0	0.0	0.0	0
Total for fund oversight						-131,367
Total						-189,147

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

# 5

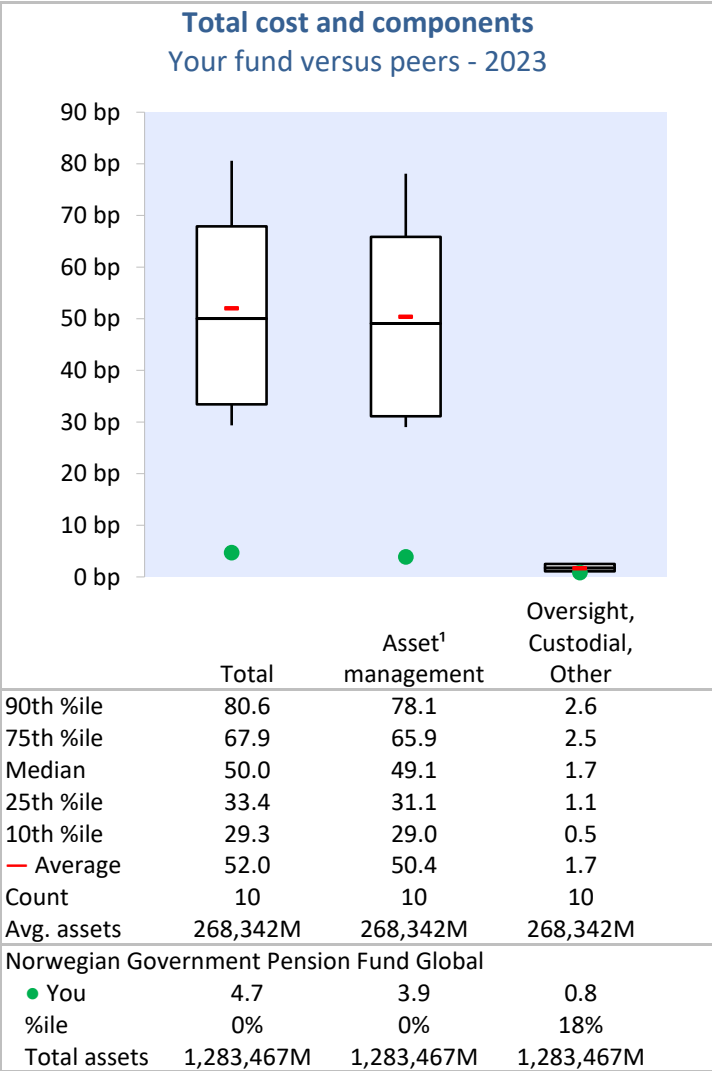
## Cost comparisons

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.

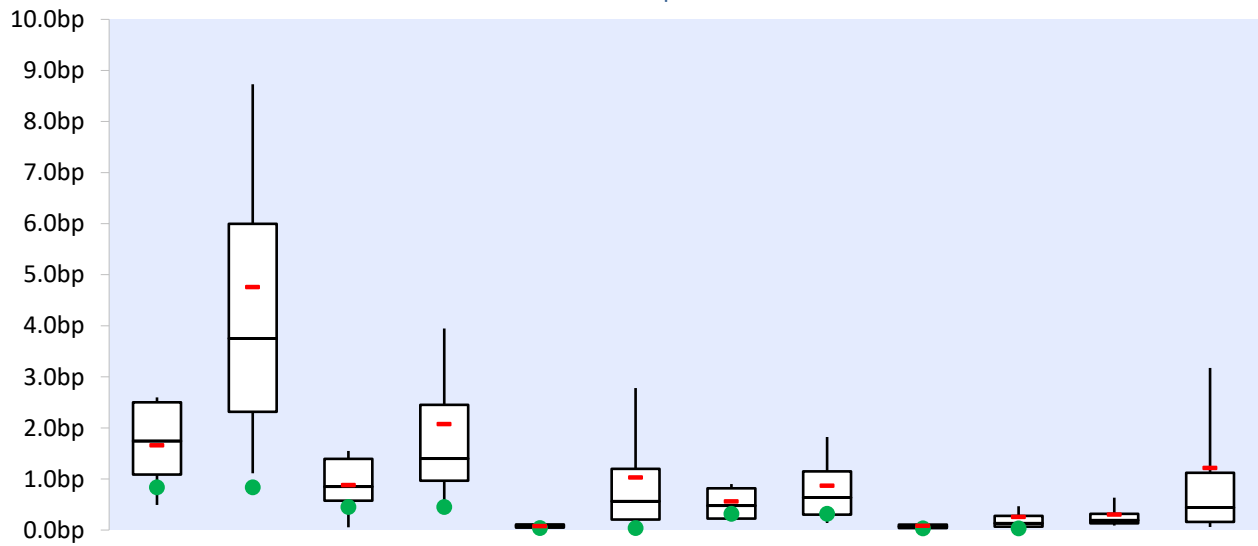
The 25th to 75th percentile range is the most relevant since higher and lower values may include outliers caused by unusual circumstances, such as performance-based fees. Count refers to the number of funds in your peer group that have costs in this category. It enables you to gauge the statistical significance.



1. Excluding private asset performance fees.

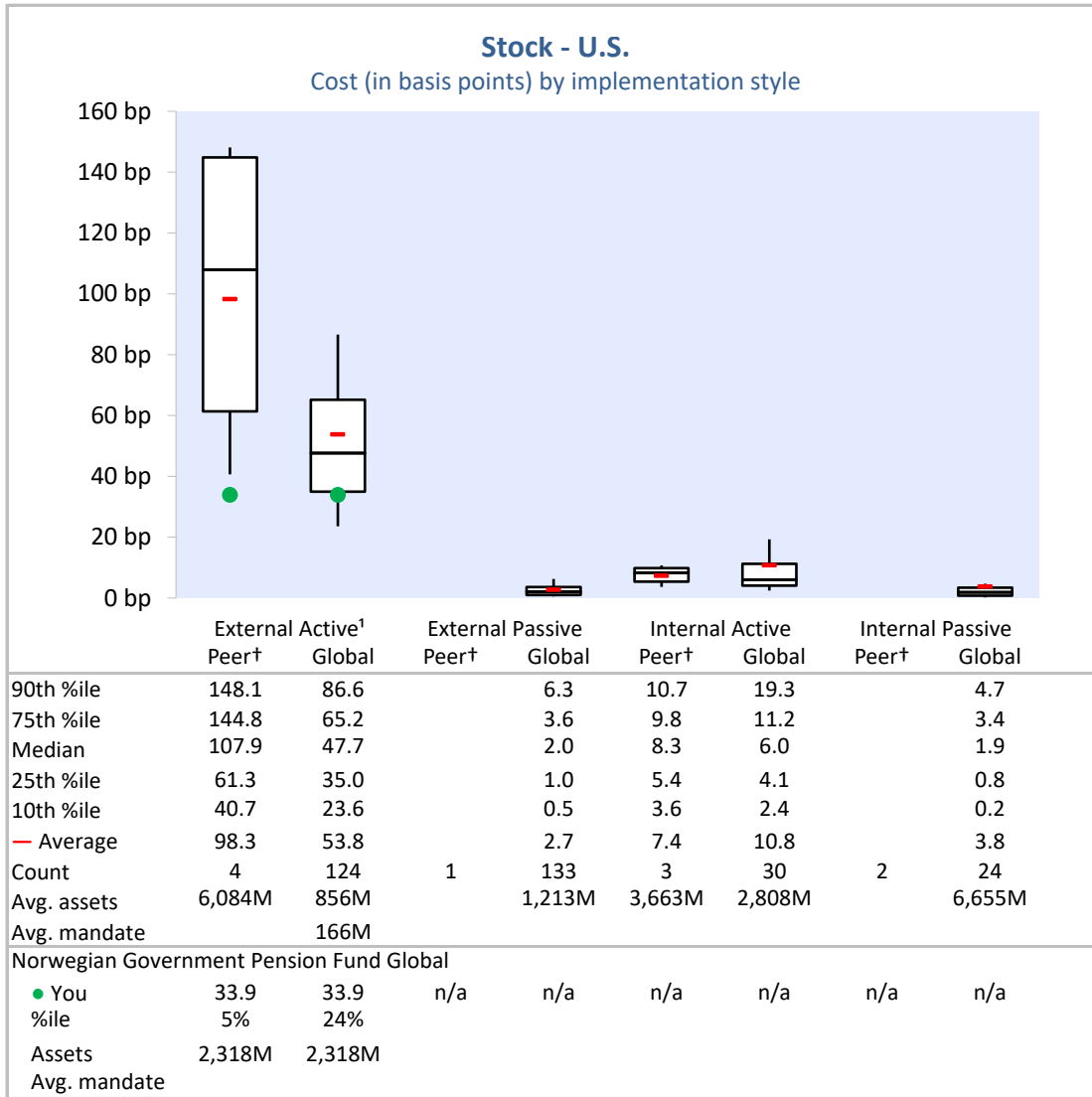
## Governance, operations & support

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	2.6	8.7	1.5	3.9	0.1	2.8	0.9	1.8	0.2	0.5	0.6	3.2
75th %ile	2.5	6.0	1.4	2.5	0.1	1.2	0.8	1.1	0.1	0.3	0.3	1.1
Median	1.7	3.8	0.8	1.4	0.1	0.6	0.5	0.6	0.1	0.1	0.2	0.4
25th %ile	1.1	2.3	0.6	1.0	0.0	0.2	0.2	0.3	0.0	0.1	0.1	0.2
10th %ile	0.5	1.1	0.1	0.4	0.0	0.1	0.2	0.1	0.0	0.0	0.1	0.1
— Average	1.7	4.8	0.9	2.1	0.1	1.0	0.6	0.9	0.1	0.3	0.3	1.2
Count	10	295	10	295	3	231	9	281	8	251	6	202
Avg. assets	268,342M	28,781M	268,342M	28,781M	268,342M	28,781M	268,342M	28,781M	268,342M	28,781M	268,342M	28,781M
Norwegian Government Pension Fund Global												
● You	0.8	0.8	0.5	0.5	0.0	0.0	0.3	0.3	0.0	0.0	n/a	n/a
%ile	18%	6%	20%	10%	18%	3%	30%	27%	22%	9%		
Plan assets	1,283,467M	1,283,467M	1,283,467M	1,283,467M	1,283,467M	1,283,467M	1,283,467M	1,283,467M	1,283,467M	1,283,467M	1,283,467M	1,283,467M

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.

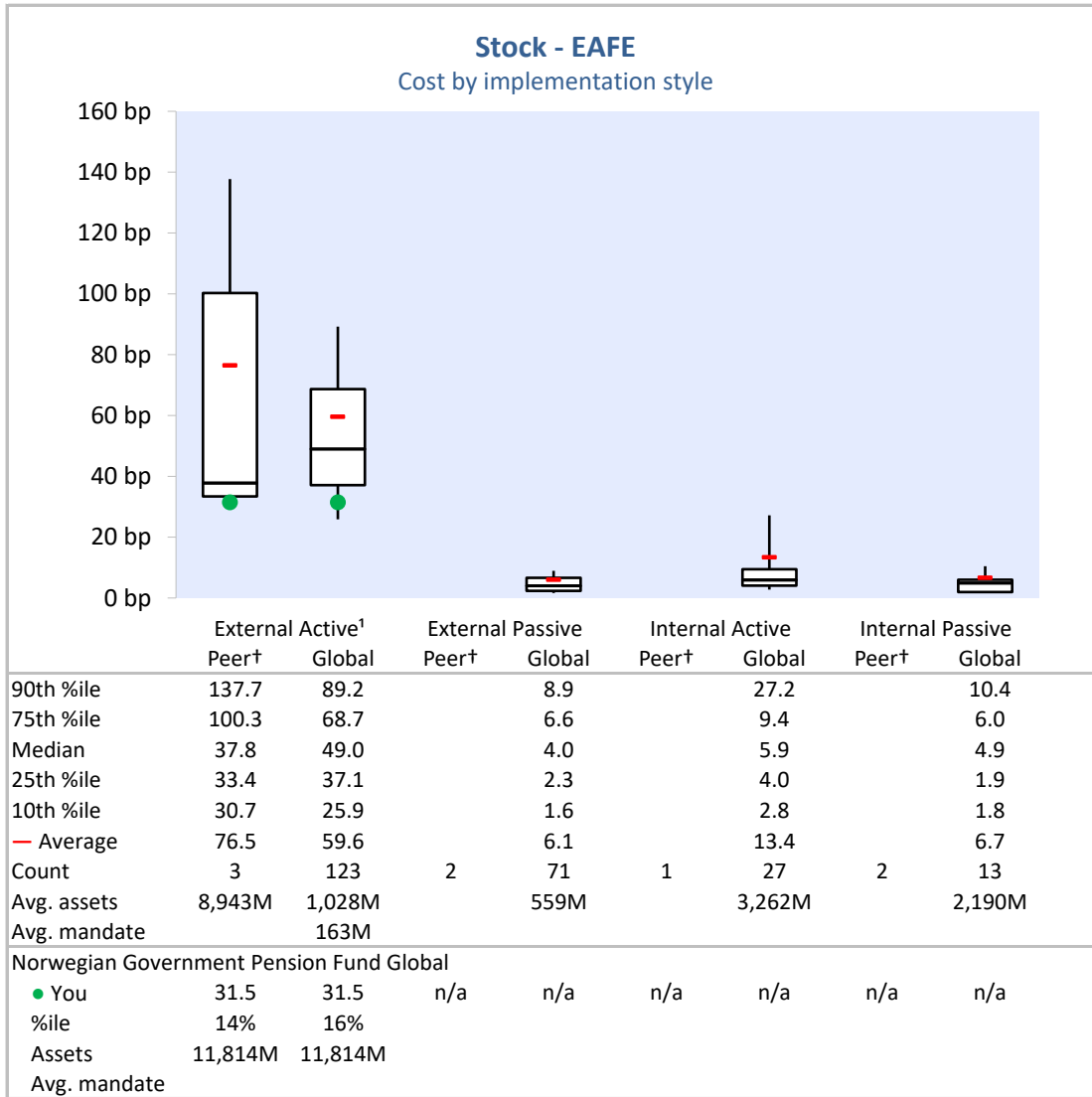


1. Breakdown of external active fees

	You	Peer Average	Global Average
Base fees	17.6	41.1	45.2
Performance fees*	14.6	45.1	7.6
Internal and other	<u>1.7</u>	<u>12.0</u>	<u>1.1</u>
Total	33.9	98.3	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 60.2 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.

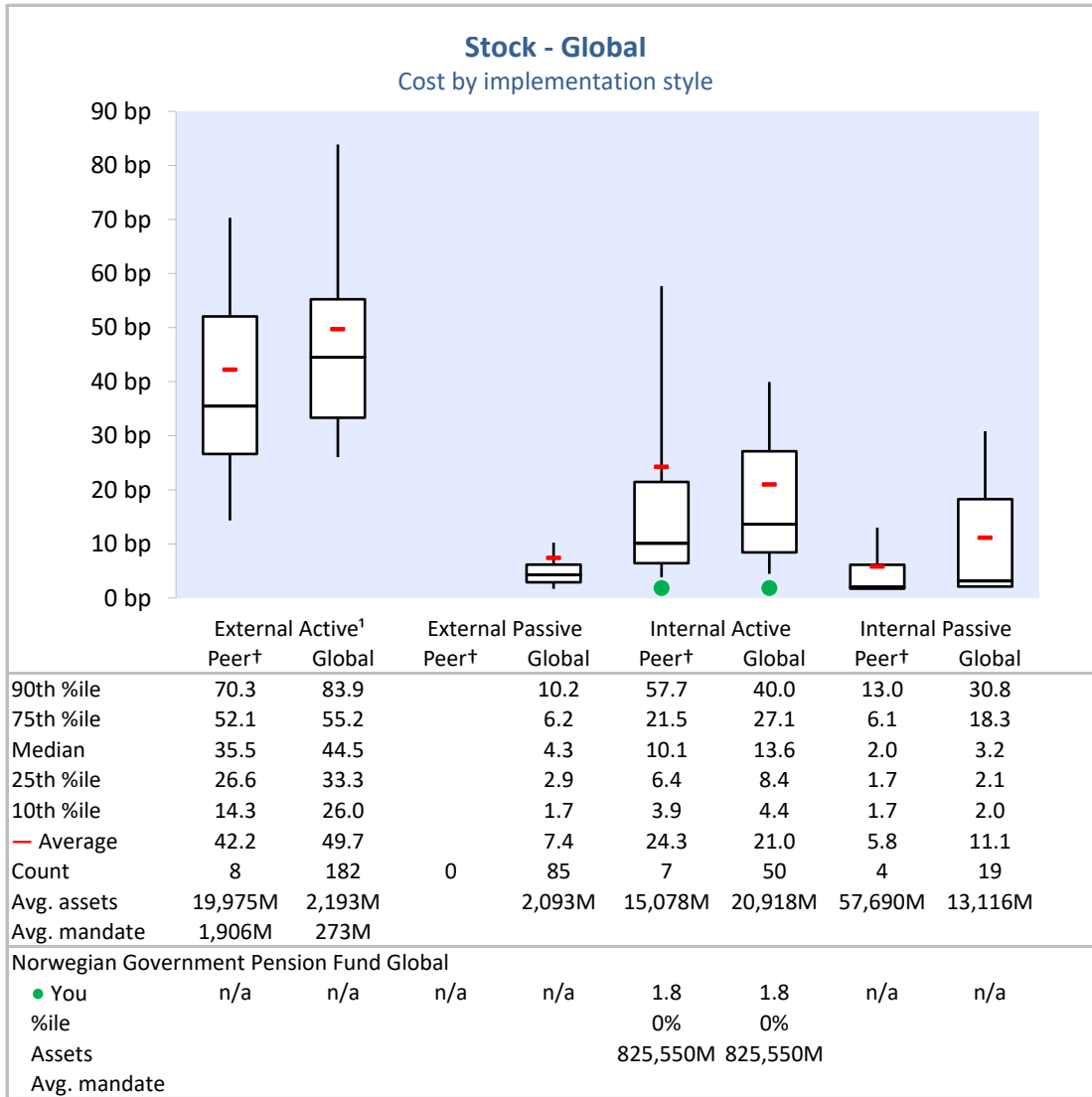


1. Breakdown of external active fees

	You	Peer Average	Global Average
Base fees	17.7	35.9	51.6
Performance fees*	12.0	39.5	7.0
Internal and other	<u>1.7</u>	<u>1.1</u>	<u>0.9</u>
Total	31.5	76.5	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 59.3 bps for peers (2 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.

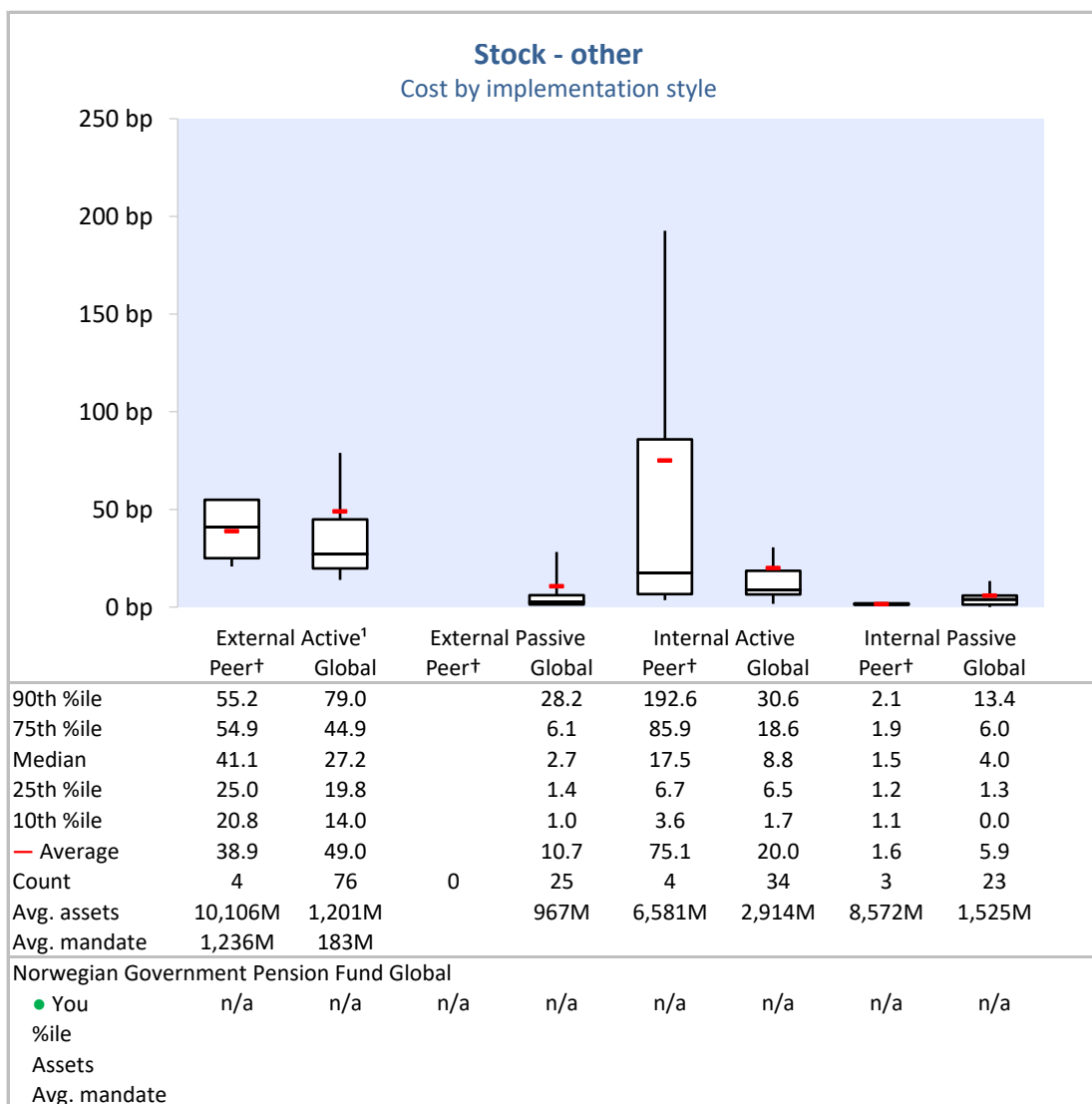


1. Breakdown of external active fees

	You	Peer Average	Global Average
Base fees	n/a	32.3	40.5
Performance fees*	n/a	6.7	7.3
Internal and other	<u>n/a</u>	<u>3.3</u>	<u>1.9</u>
Total	n/a	42.2	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 7.6 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.



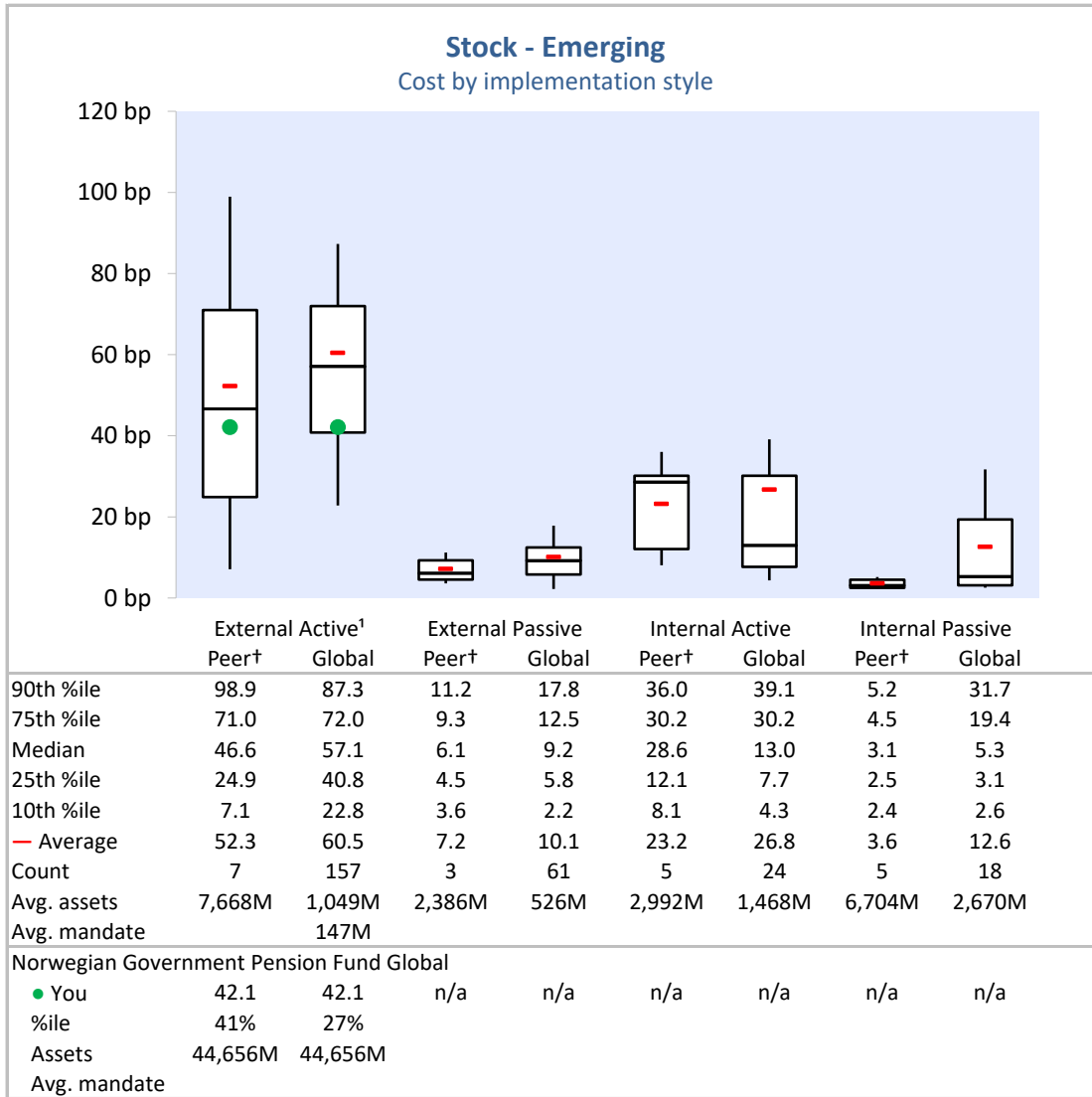
### 1. Breakdown of external active fees

	You	Peer Average	Global Average
Base fees	n/a	35.0	44.9
Performance fees*	n/a	2.7	2.6
Internal and other	<u>n/a</u>	<u>1.2</u>	<u>1.5</u>
Total	n/a	38.9	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 5.4 bps for peers (2 funds) and 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.



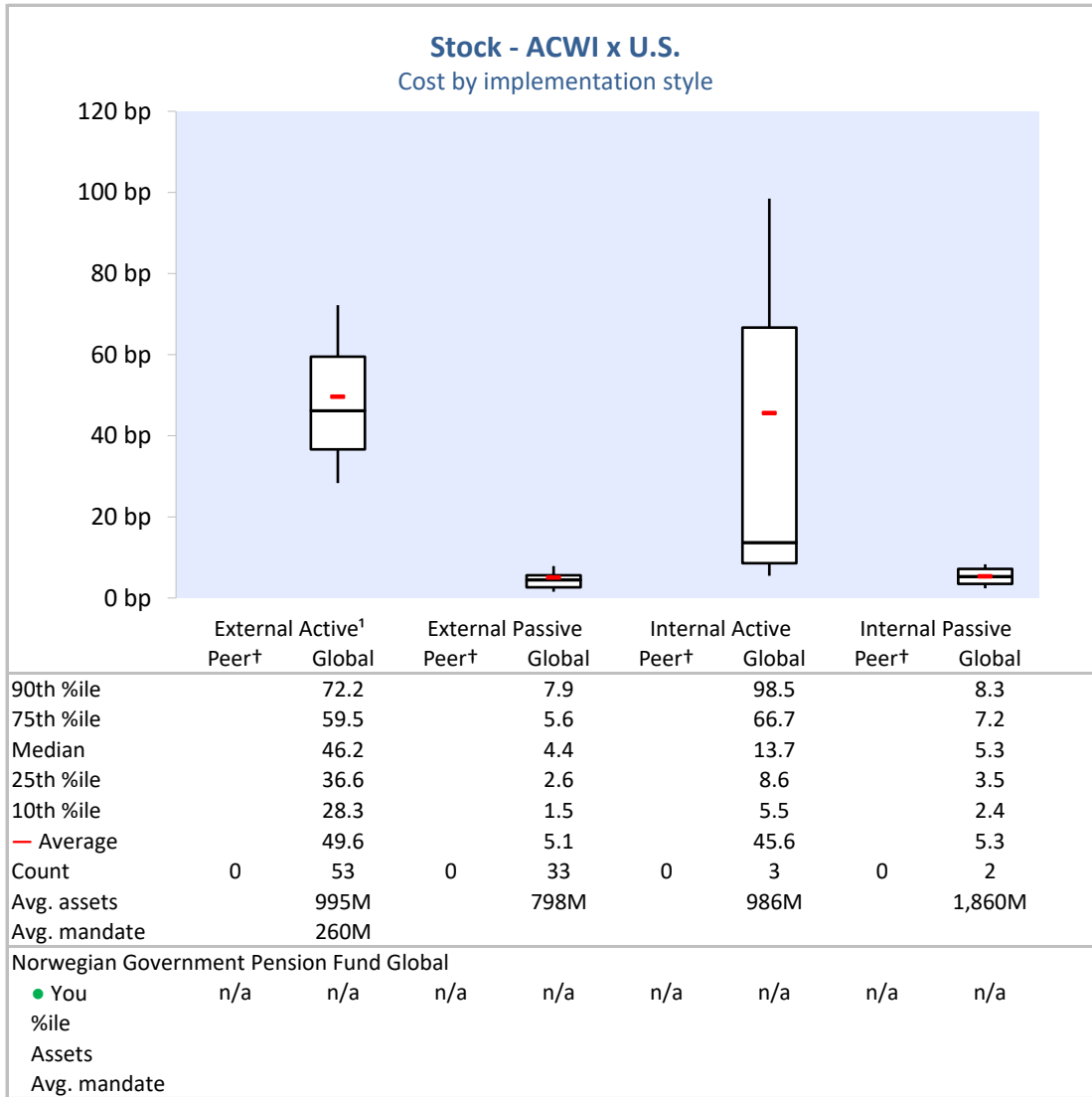


#### 1. Breakdown of external active fees

	You	Peer Average	Global Average
Base fees	18.0	29.4	52.0
Performance fees*	22.4	18.7	6.7
Internal and other	<u>1.7</u>	<u>4.1</u>	<u>1.7</u>
Total	42.1	52.3	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 26.2 bps for peers (5 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.

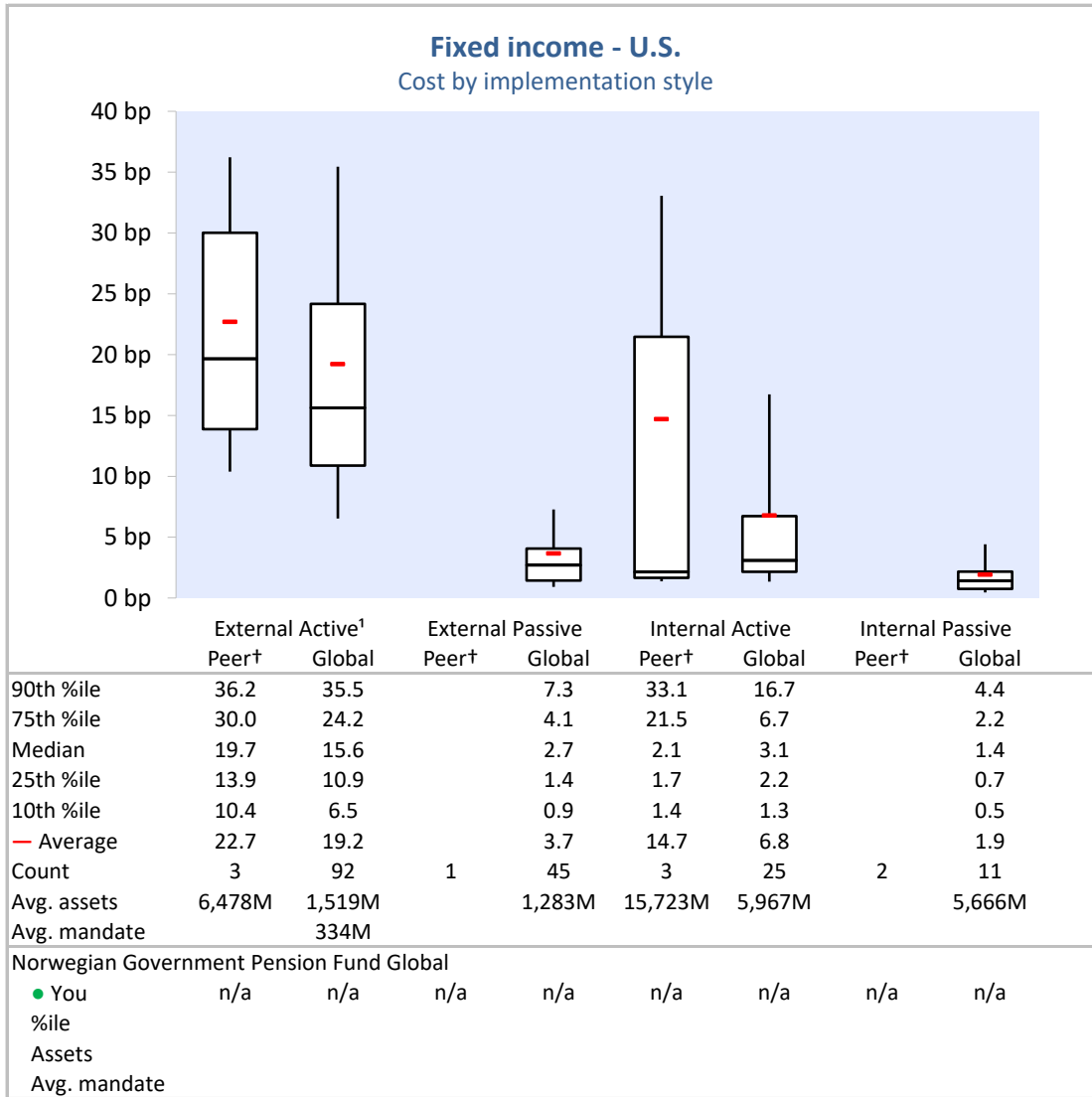


1. Breakdown of external active fees

	You	Peer Average	Global Average
Base fees	n/a	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.

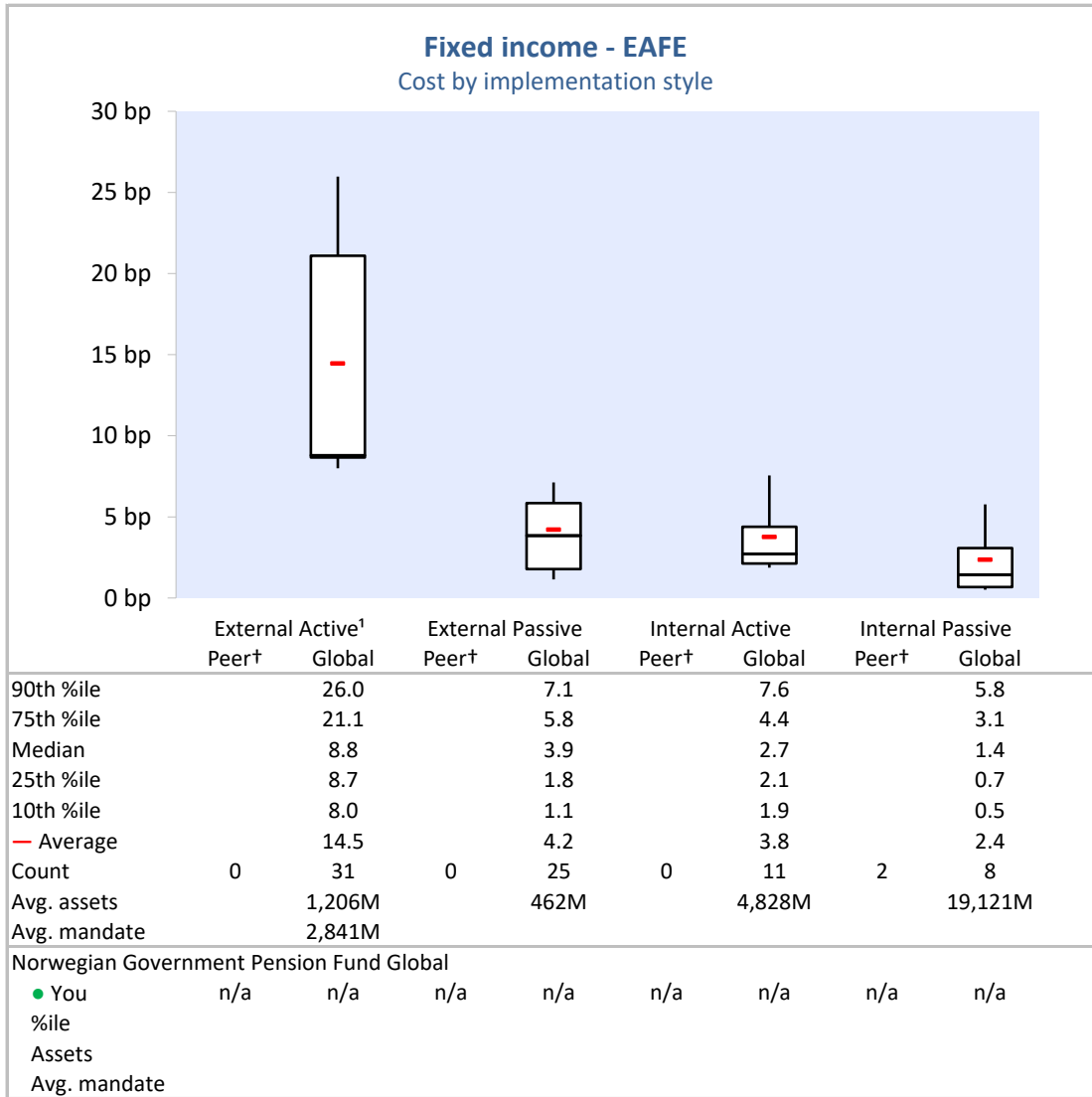


1. Breakdown of external active fees

	You	Peer Average	Global Average
Base fees	n/a	20.2	18.3
Performance fees*	n/a	0.1	0.4
Internal and other	<u>n/a</u>	<u>2.3</u>	<u>0.5</u>
Total	n/a	22.7	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 0.2 bps for peers (2 funds) 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.

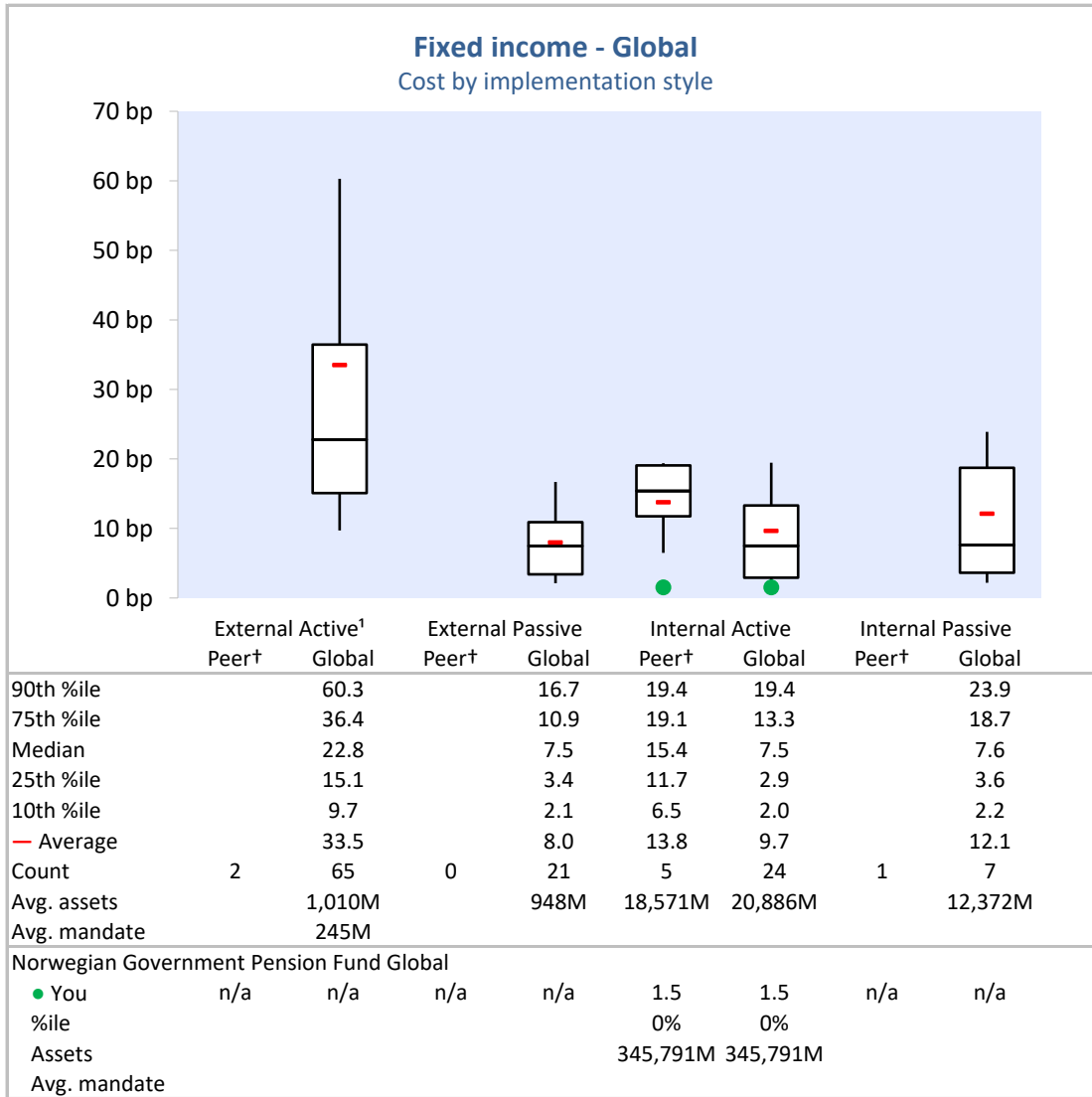


1. Breakdown of external active fees

	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 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.

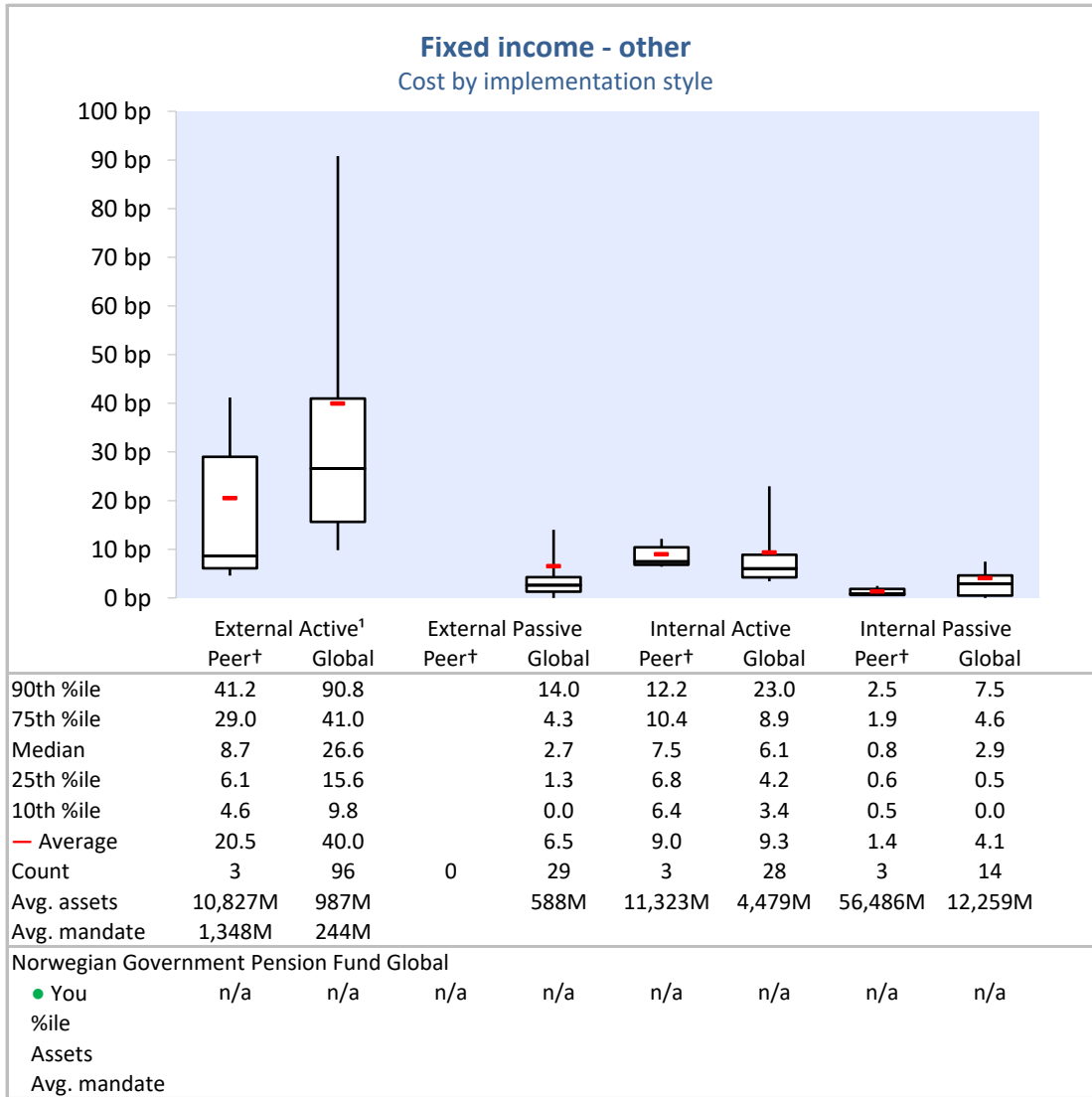


#### 1. Breakdown of external active fees

	You	Peer Average	Global Average
Base fees	n/a	n/a	26.3
Performance fees*	n/a	n/a	4.0
Internal and other	<u>n/a</u>	<u>n/a</u>	<u>3.2</u>
Total	n/a	n/a	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 -1.1 bps for peers (2 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.

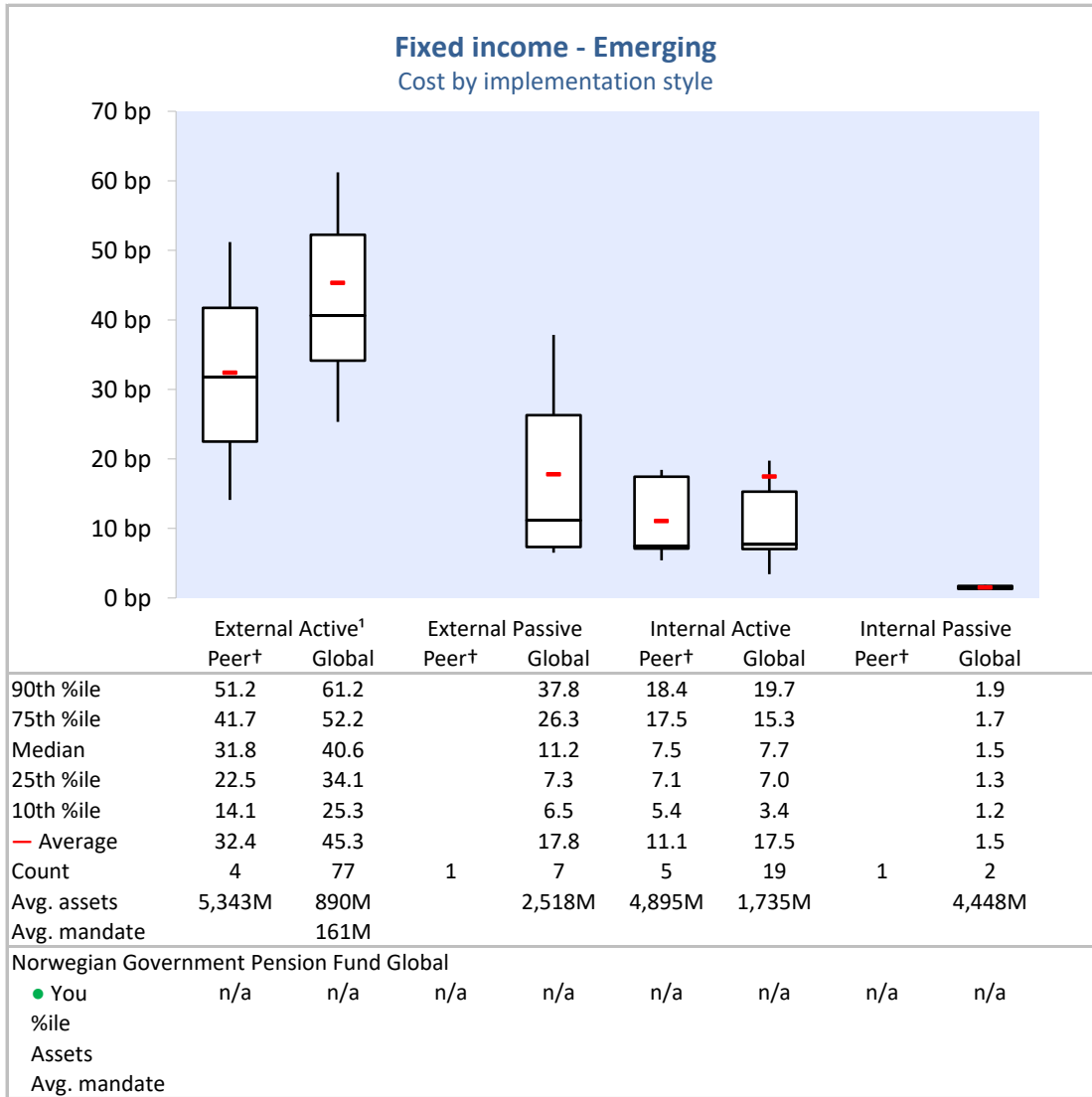


1. Breakdown of external active fees

	You	Peer Average	Global Average
Base fees	n/a	19.0	34.6
Performance fees*	n/a	0.1	4.5
Internal and other	<u>n/a</u>	<u>1.4</u>	<u>0.9</u>
Total	n/a	20.5	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 0.2 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.

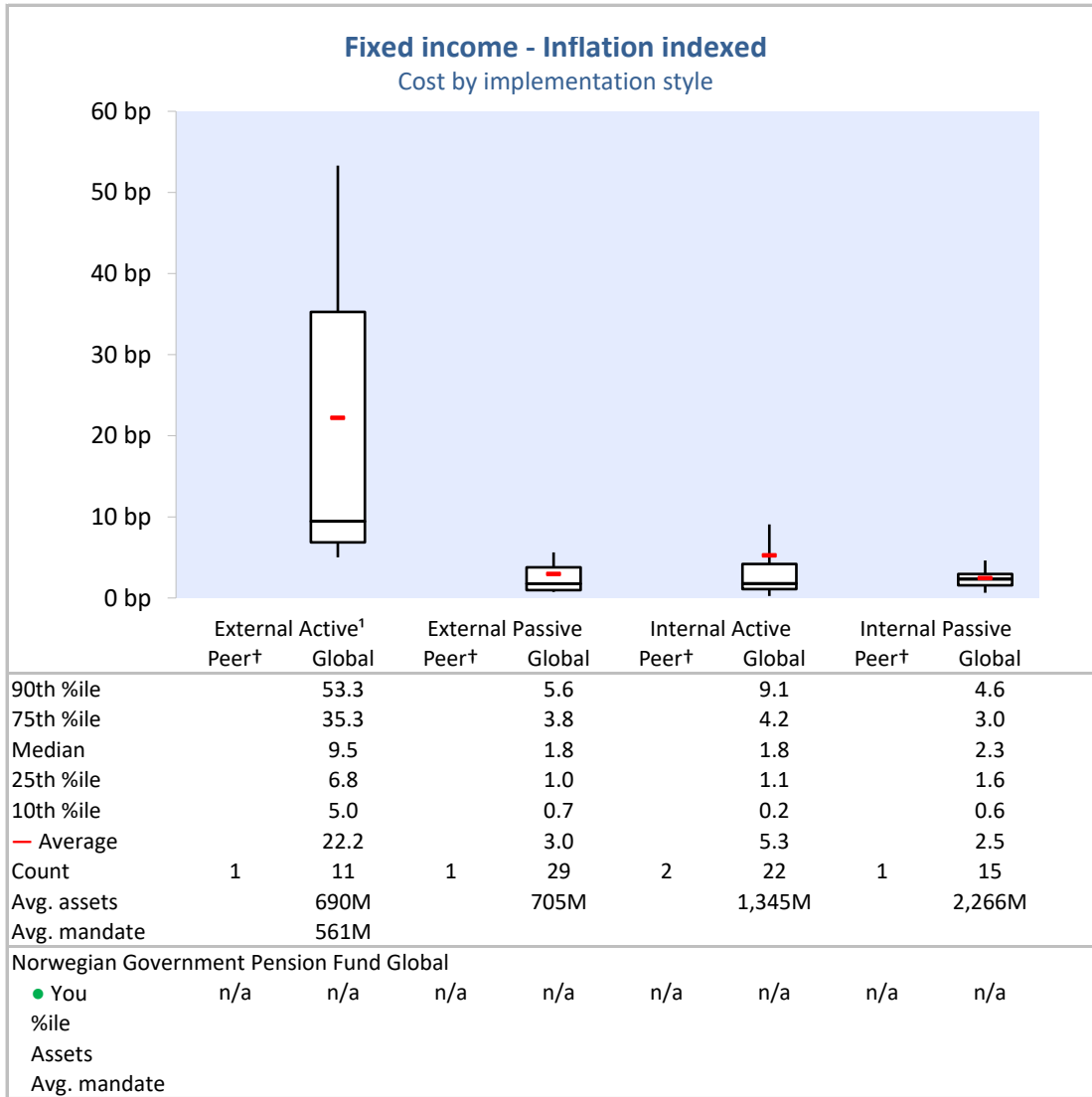


1. Breakdown of external active fees

	You	Peer Average	Global Average
Base fees	n/a	26.4	39.8
Performance fees*	n/a	0.0	2.3
Internal and other	<u>n/a</u>	<u>6.0</u>	<u>3.3</u>
Total	n/a	32.4	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 0.0 bps for peers (2 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.



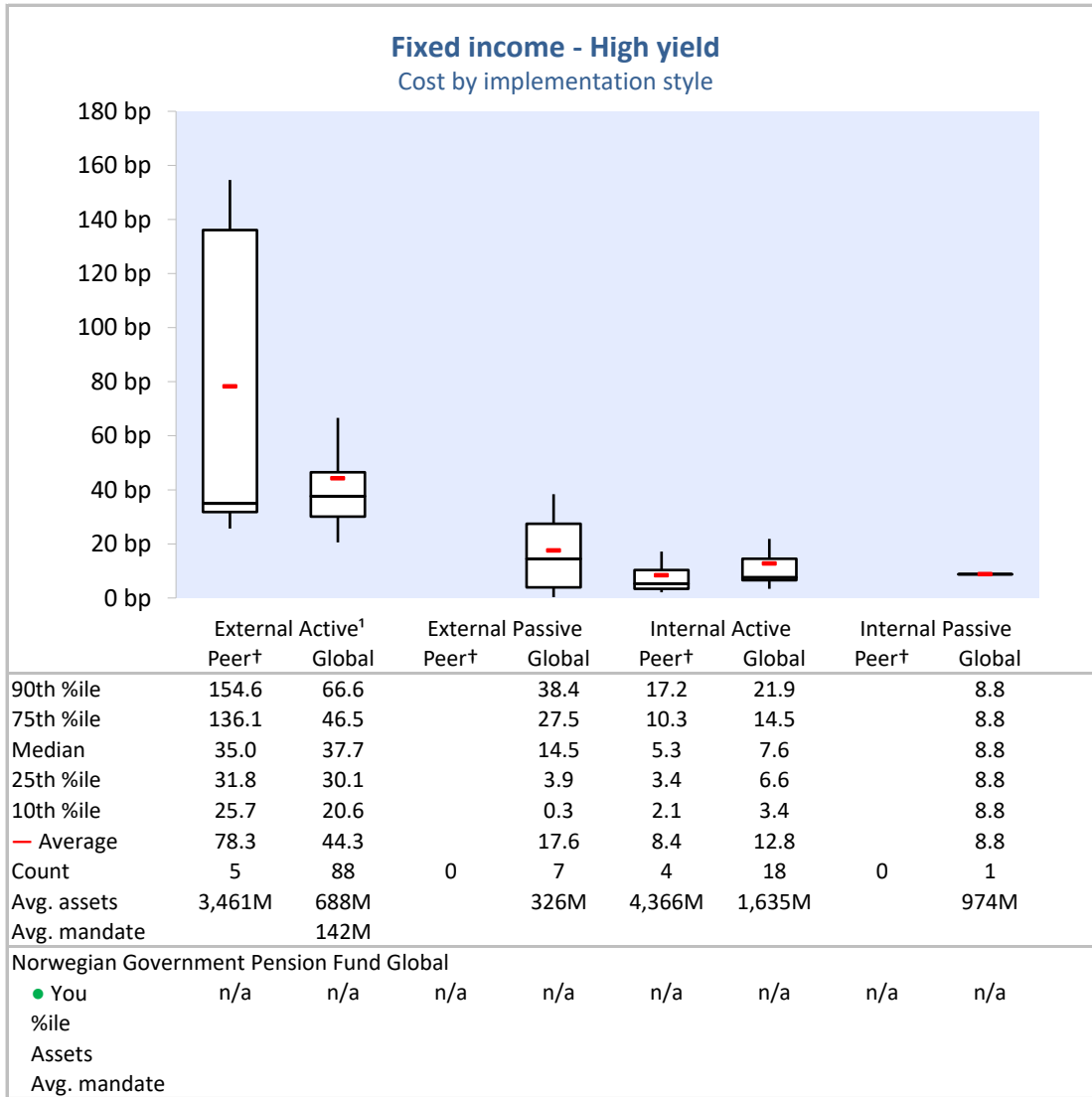
1. Breakdown of external active fees

	You	Peer Average	Global Average
Base fees	n/a	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.





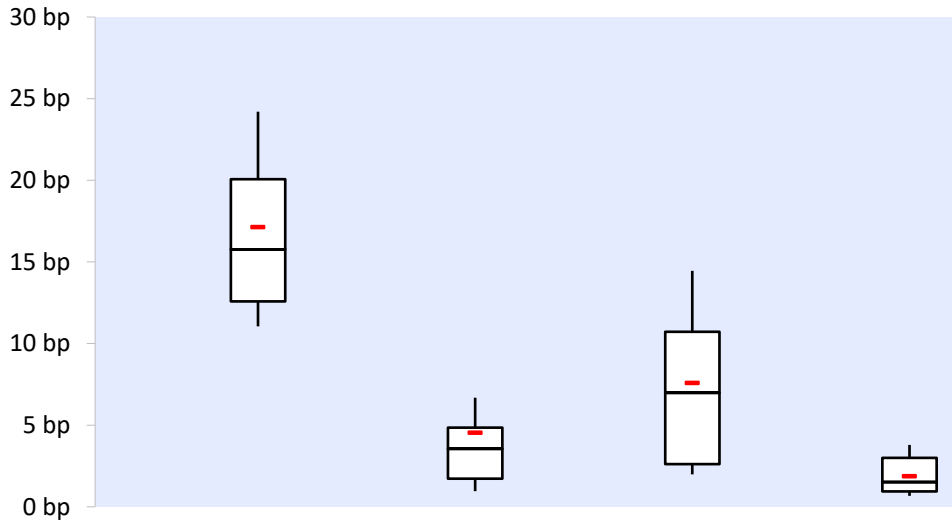
#### 1. Breakdown of external active fees

	You	Peer Average	Global Average
Base fees	n/a	37.9	38.1
Performance fees*	n/a	35.7	4.0
Internal and other	<u>n/a</u>	<u>4.7</u>	<u>2.2</u>
Total	n/a	78.3	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 59.5 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



	External Active <sup>1</sup>		External Passive		Internal Active		Internal Passive	
	Peer†	Global	Peer†	Global	Peer†	Global	Peer†	Global
90th %ile		24.2		6.7		14.4		3.8
75th %ile		20.1		4.8		10.7		3.0
Median		15.8		3.6		7.0		1.5
25th %ile		12.6		1.7		2.6		0.9
10th %ile		11.1		1.0		2.0		0.7
— Average		17.1		4.5		7.6		1.9
Count	1	85	0	32	1	11	2	10
Avg. assets		2,375M		254M		2,934M		4,764M
Avg. mandate		352M						
Norwegian Government Pension Fund Global								
● You	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%ile								
Assets								
Avg. mandate								

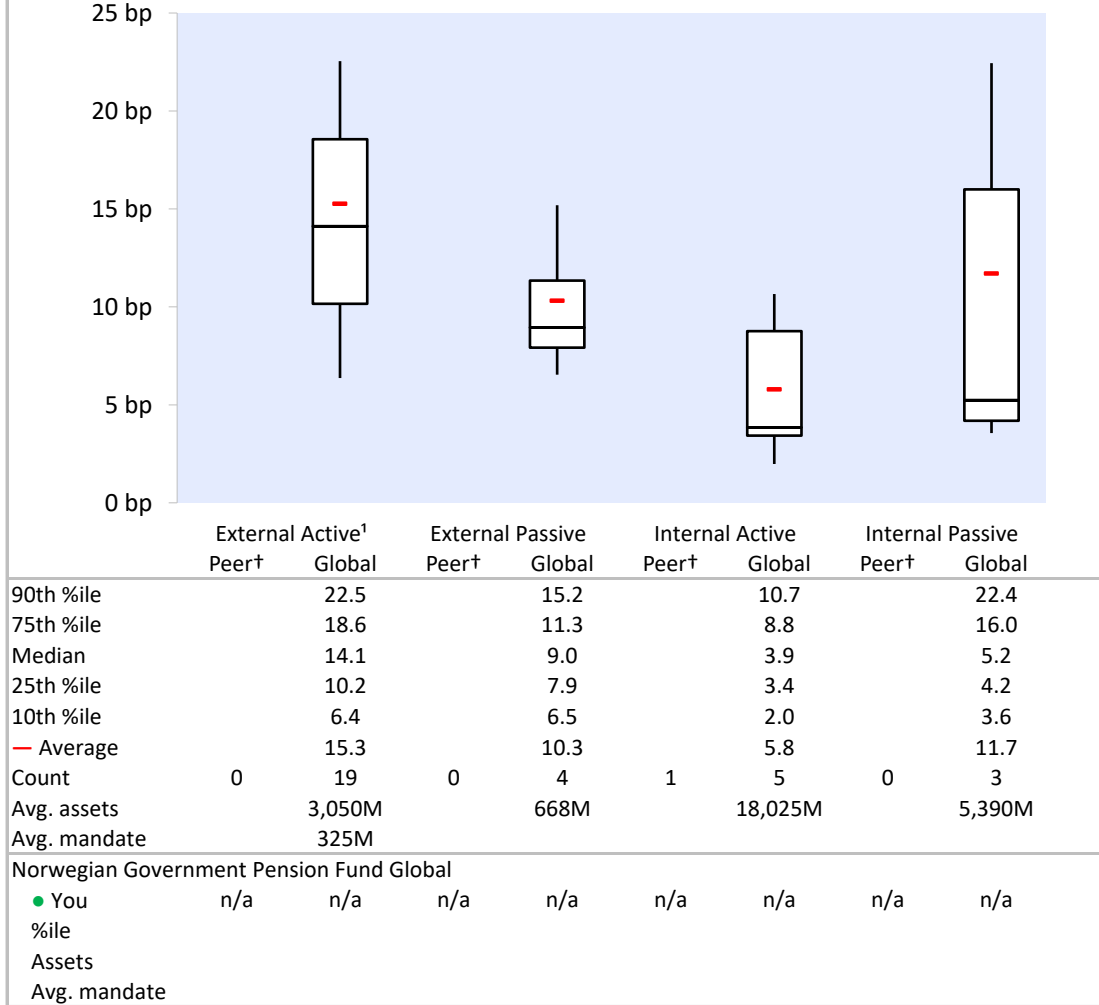
#### 1. Breakdown of external active fees

	You	Peer Average	Global Average
Base fees	n/a	n/a	16.4
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 11.6 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.

### Fixed income - Bundled LDI Cost by implementation style

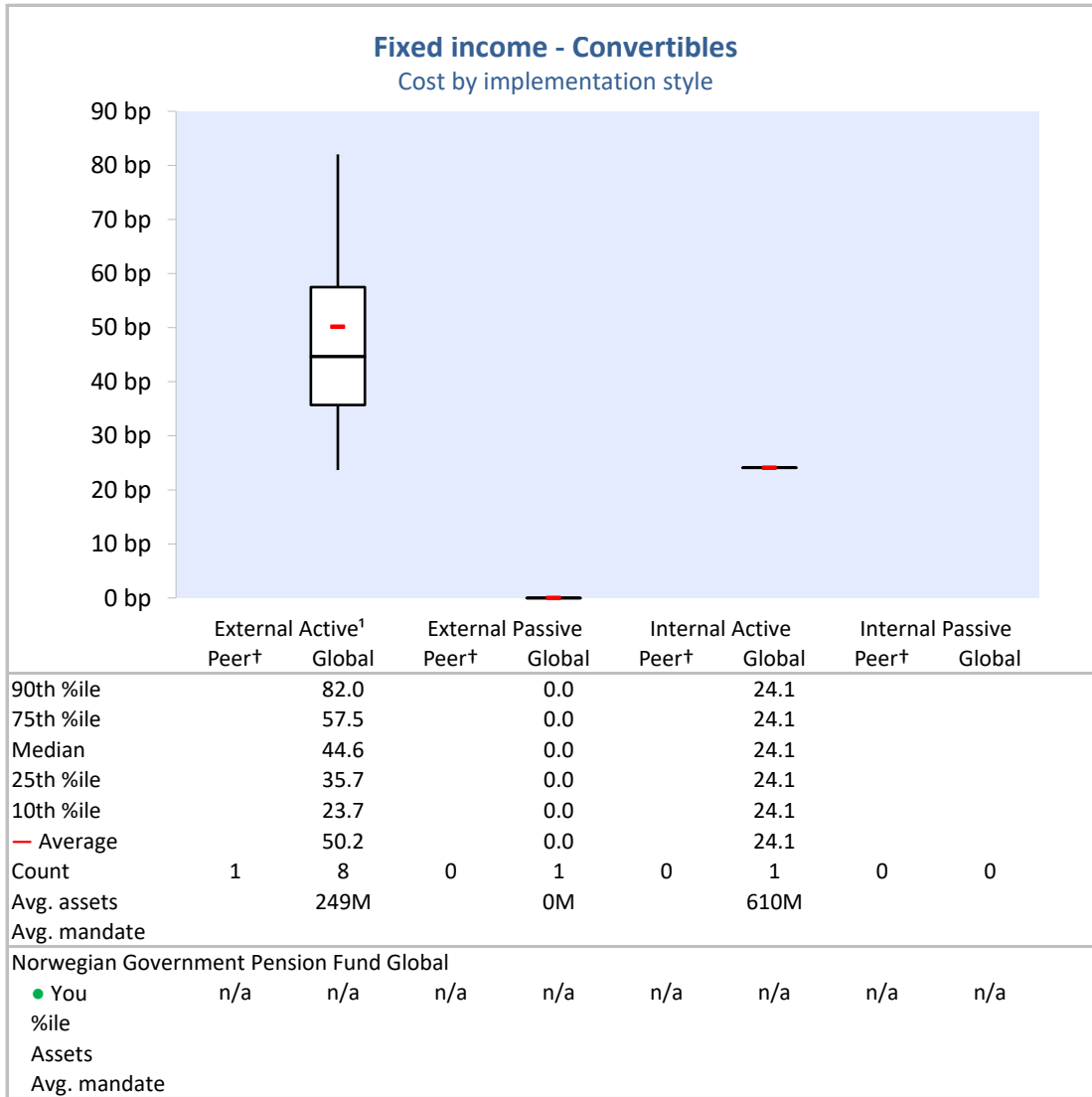


#### 1. Breakdown of external active fees

	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 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.

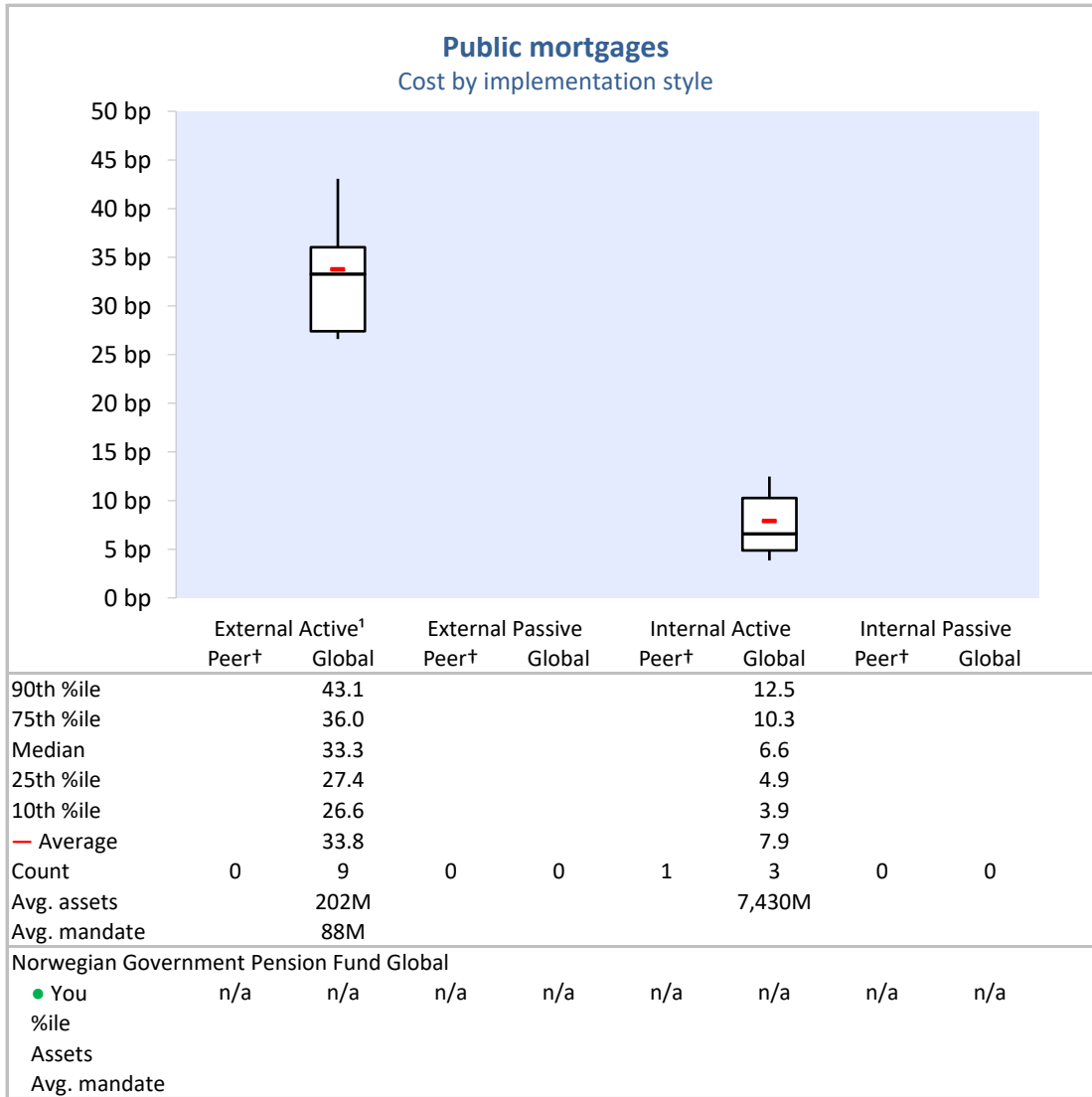


#### 1. Breakdown of external active fees

	You	Peer Average	Global Average
Base fees	n/a	n/a	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.

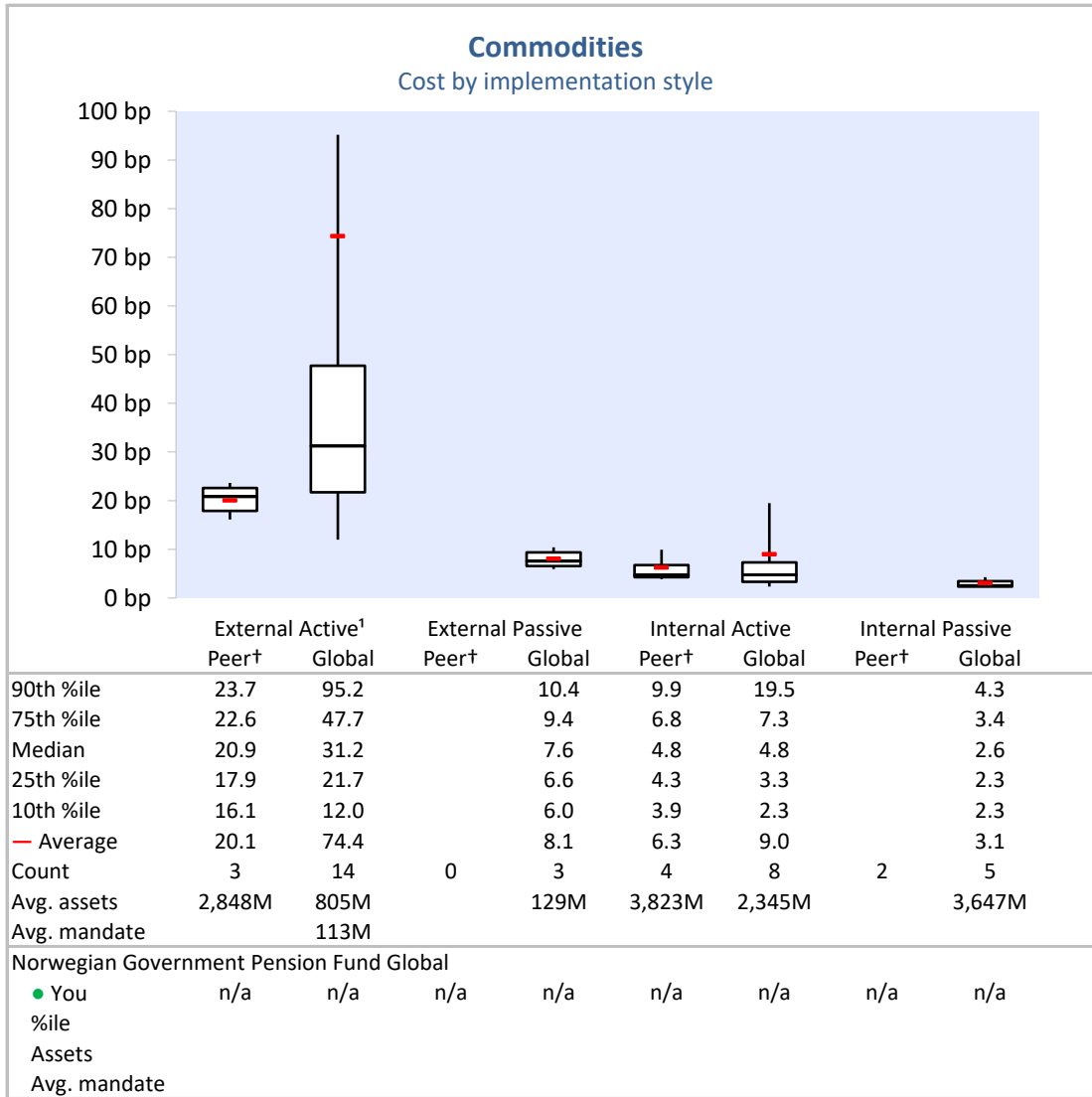


#### 1. Breakdown of external active fees

	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.

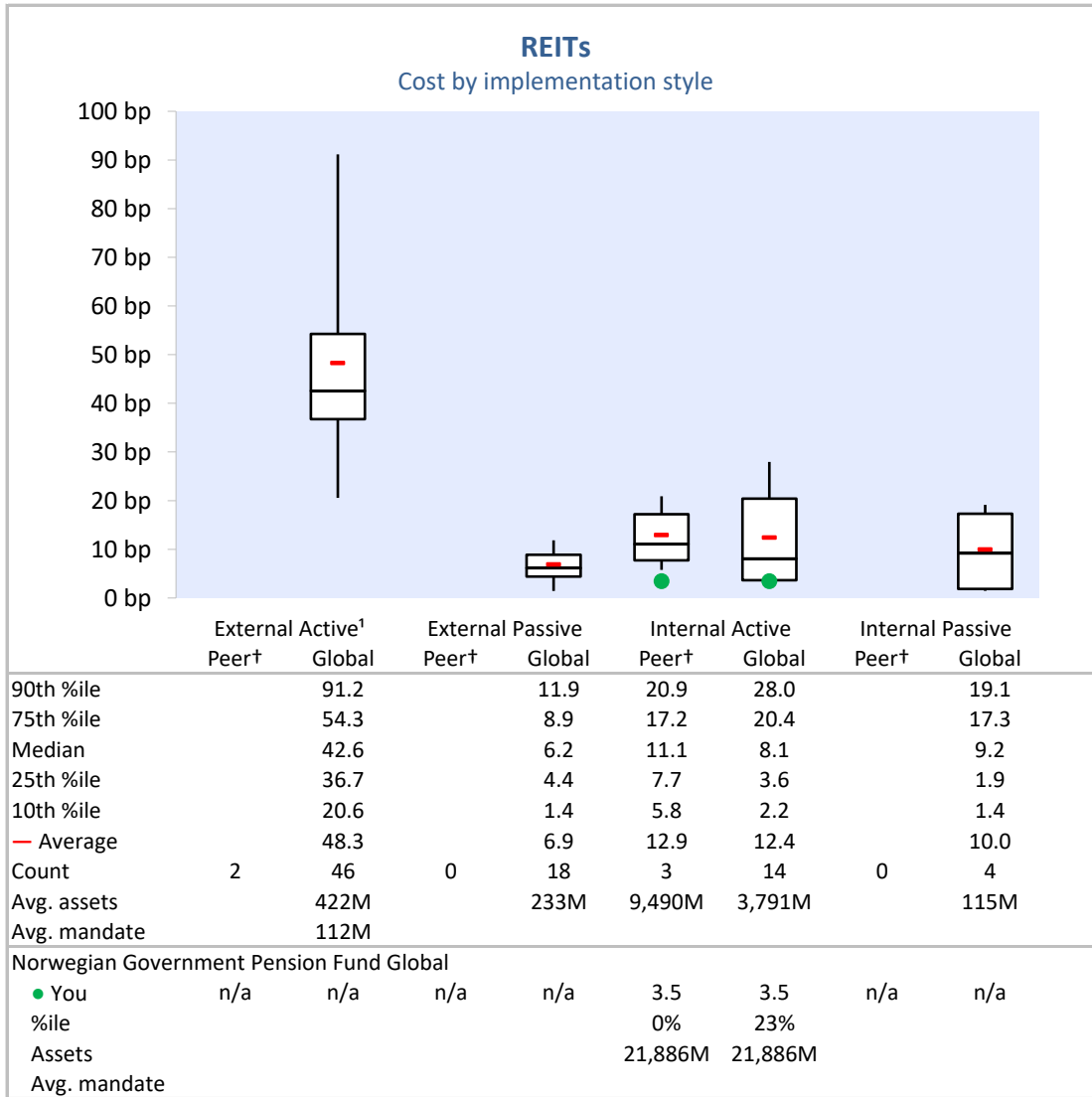


#### 1. Breakdown of external active fees

	You	Peer Average	Global Average
Base fees	n/a	15.2	48.0
Performance fees*	n/a	1.3	24.9
Internal and other	<u>n/a</u>	<u>3.6</u>	<u>1.5</u>
Total	n/a	20.1	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 1.9 bps for peers (2 funds) 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.

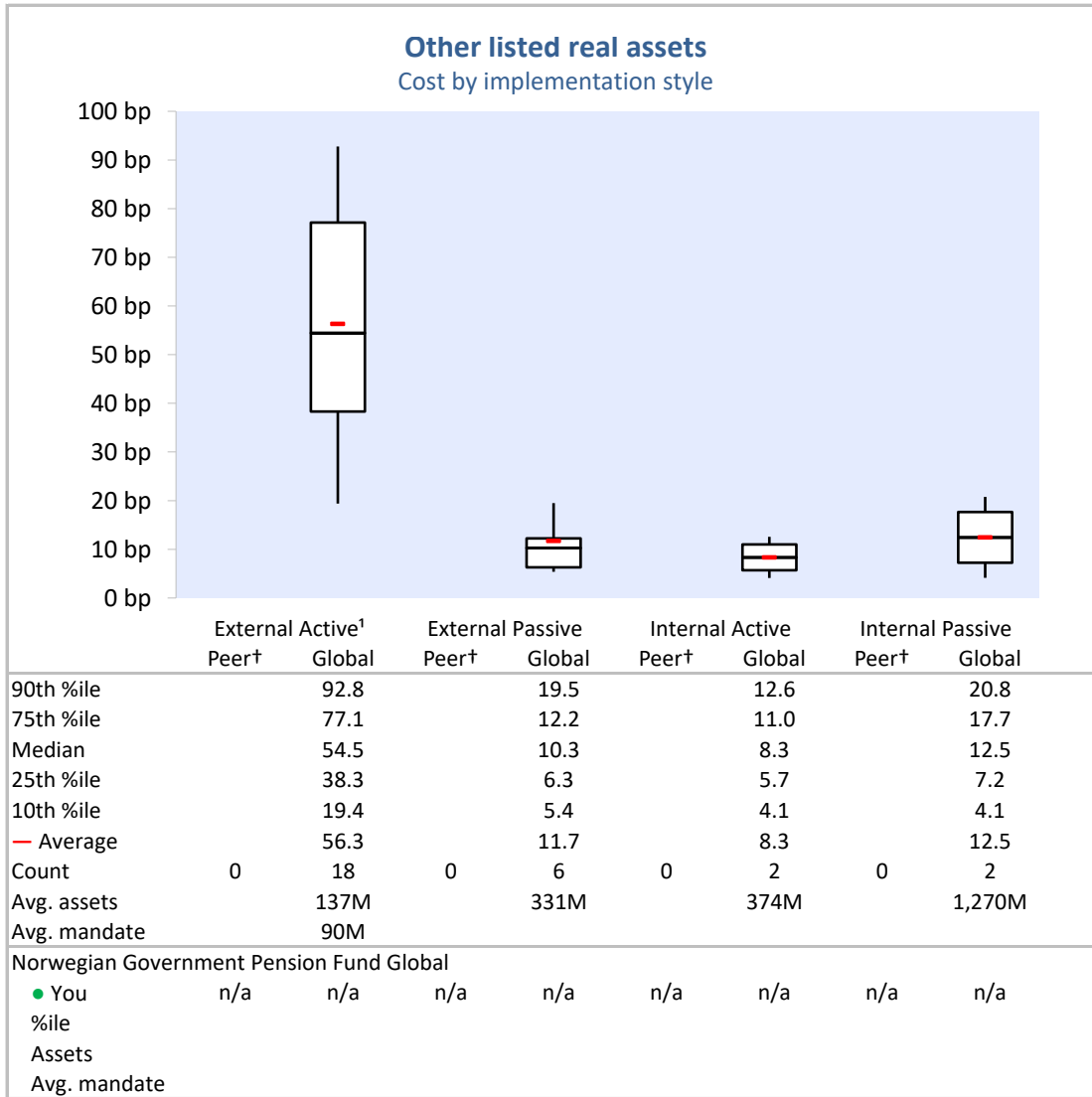


1. Breakdown of external active fees

	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 0.0 bps for peers (2 funds) and 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

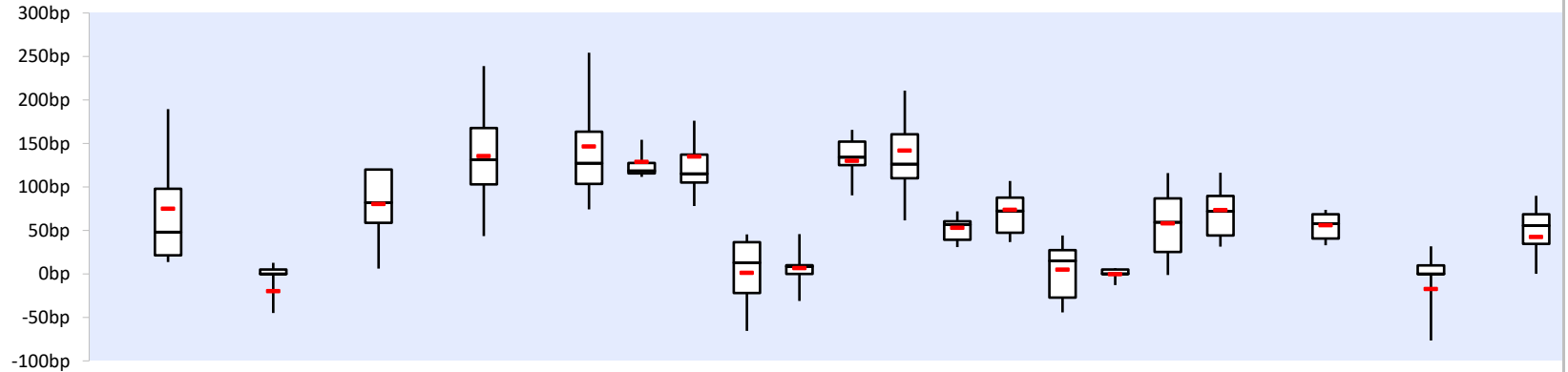
\* For funds that did not report a performance fee, a value of 'zero' was used. The average performance fee for those funds that reported a performance fee is 0.0 bps for Global participants (6 funds).

†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>



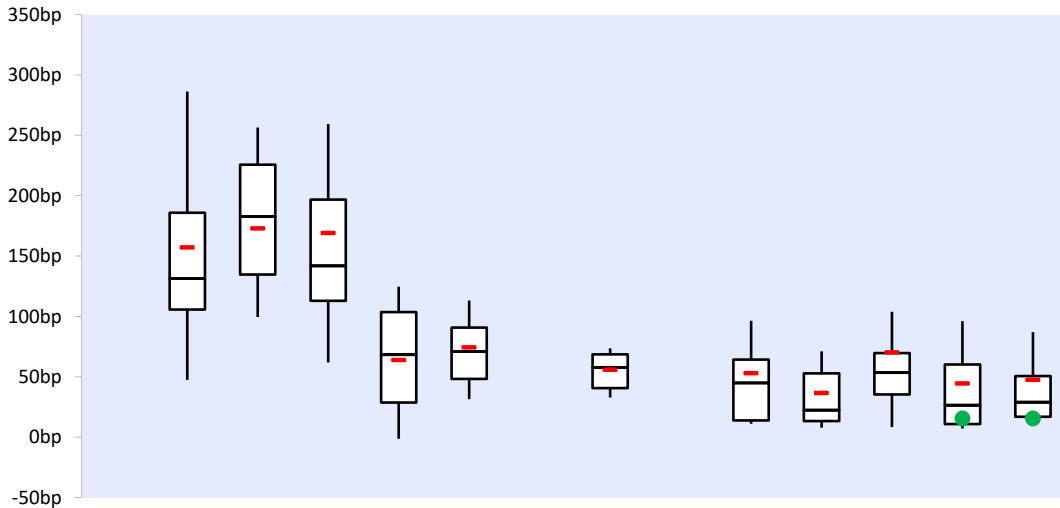
	Fund of Funds						Fund (Direct LP)						Fund (Evergreen)						Joint venture									
	Mgmt fees <sup>3</sup> (Top layer)		Perf. fees (Top layer)		Underlying mgmt. & perf. <sup>2</sup>		Total <sup>3</sup> incl. perf.		Total <sup>3</sup> excl. perf.		Mgmt fees <sup>3</sup>		Perf. fees		Total <sup>3</sup> 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	189.4	12.8	120.0	239.0	254.3	154.2	176.2	45.4	45.7	165.6	210.6	71.9	106.8	44.1	6.7	116.0	116.3	73.6	31.8	89.8	73.6	31.8	89.8	68.6	9.8	68.6		
75th %ile	97.8	5.0	120.0	167.7	163.5	127.6	137.1	36.5	10.0	152.0	160.5	60.5	87.7	27.3	5.0	86.9	89.6	68.6	9.8	68.6	68.6	9.8	68.6	68.6	9.8	68.6		
Median	48.2	0.0	82.2	131.4	127.4	118.5	115.3	13.0	8.8	134.2	126.4	56.6	72.4	15.1	0.2	59.5	71.8	57.9	0.0	55.6	57.9	0.0	55.6	57.9	0.0	55.6		
25th %ile	21.3	0.0	58.8	103.0	103.5	115.5	105.0	-21.9	0.0	125.1	110.0	39.3	47.3	-27.2	0.0	25.2	44.2	40.7	0.0	34.5	40.7	0.0	34.5	40.7	0.0	34.5		
10th %ile	13.6	-45.0	6.1	43.4	74.2	111.5	78.0	-65.5	-31.1	90.4	61.5	30.8	36.6	-44.3	-12.8	-1.3	31.3	32.9	-76.6	0.2	32.9	-76.6	0.2	32.9	-76.6	0.2		
— Average	75.0	-19.9	80.4	135.5	146.6	128.8	135.1	1.3	6.7	130.1	141.7	53.1	73.7	5.0	-0.4	58.1	73.4	56.0	-17.4	42.4	56.0	-17.4	42.4	56.0	-17.4	42.4		
Count	1	47	1	47	1	47	1	47	1	47	7	141	7	141	7	141	6	173	6	173	2	9	2	7	2	9		
Avg. assets	419M	419M	419M	419M	419M	5,807M	991M	5,807M	991M	5,807M	991M	22,321M	1,690M	22,321M	1,690M	22,321M	1,690M	5,511M	7,085M	5,511M	5,511M	7,085M	5,511M	7,085M	5,511M			
Norwegian Government Pension Fund Global																												
● You	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
%ile																												
Assets																												

1. The base for fees is usually the committed amount during the commitment period, and unreturned invested capital afterwards.
2. The fees of fund of funds include both the top layer fees paid to the fund of funds manager and the underlying fees paid to the 'underlying partnerships' held by the fund of funds. Most funds were unable to provide the underlying fees so imputed costs of 0 bps (on amount fees are based on) for underlying management fees and 0 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 1.5 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.

## 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		286.3	256.4	259.3	124.6	113.1		73.6		96.4	71.1	103.9	96.2	87.0
75th %ile		185.9	225.7	196.8	103.7	90.7		68.6		64.2	52.9	69.6	60.2	50.6
Median		131.4	182.8	141.9	68.4	71.1		57.9		45.0	22.5	53.5	26.6	29.1
25th %ile		105.8	134.8	113.0	28.7	48.2		40.7		13.8	13.3	35.4	10.9	16.9
10th %ile		47.5	99.6	61.9	-1.3	31.4		32.9		11.1	7.8	8.4	7.2	11.9
— Average		157.2	173.0	169.1	63.9	74.4		56.0		53.1	36.6	70.2	44.5	47.5
Count	1	47	7	141	6	173	2	9	2	13	3	37	4	43
Avg. assets		391M	4,574M	829M	19,200M	1,585M		5,511M		9,075M	4,214M	615M	3,270M	2,521M
Norwegian Government Pension Fund Global														
● You	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	15.5	15.5
%ile													37%	24%
Assets													30,089M	30,089M

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

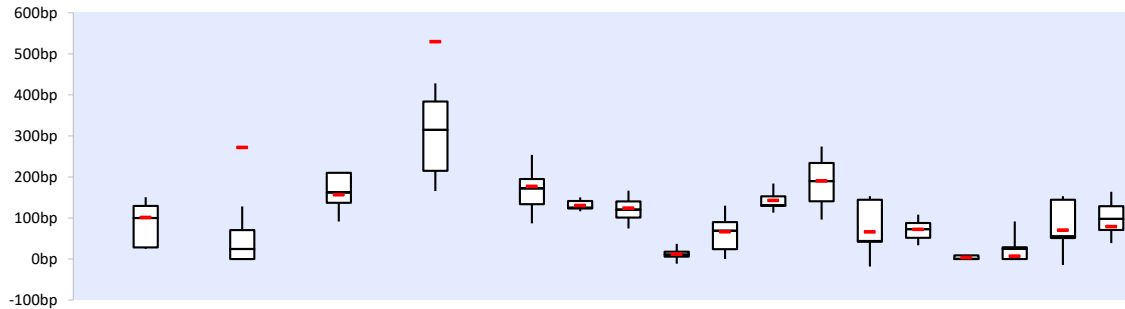
2. Co-investment is included with direct LPs because it can only be done alongside direct LPs. Co-investment is done by 3 of your peers and 31 of the Global funds.

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

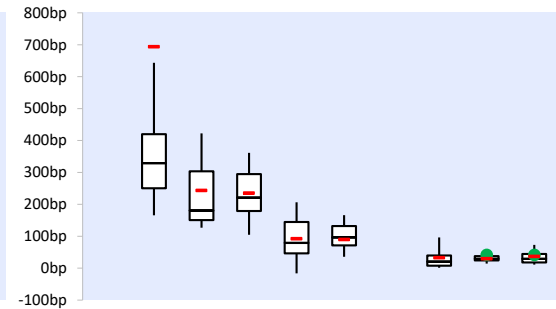
†Peer cost distributions, and in certain cases the Universe cost distributions, are not shown where count is less than 3 to protect anonymity.

## 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	150.3	166.5	36.9	130.1	184.0	274.2	153.2	108.1	10.1	91.4	153.2	164.0	643.4	422.2	361.1	206.5	166.2	96.5	46.2	73.2			
75th %ile	129.5	70.7	210.0	383.9	195.1	141.4	140.4	17.8	90.0	152.7	234.0	144.5	87.8	8.9	28.6	144.5	128.8	419.8	303.4	294.9	144.5	131.9	39.7	37.6	44.7			
Median	100.0	24.7	162.8	314.9	172.5	125.0	120.3	10.8	69.2	131.1	190.0	44.2	73.0	0.6	25.0	55.0	98.0	329.2	180.6	221.2	79.3	96.9	20.6	29.4	29.4			
25th %ile	28.6	0.0	137.2	215.1	133.8	123.4	101.0	6.0	24.2	129.8	140.9	42.4	51.7	0.0	0.2	51.3	70.8	250.3	150.7	179.1	46.6	71.4	7.8	24.3	18.1			
10th %ile	25.1	0.0	91.4	165.6	86.9	116.5	74.7	-11.4	0.0	113.1	96.1	-18.3	33.8	0.0	0.0	-14.3	38.8	165.6	127.0	104.6	-16.2	36.0	1.5	14.5	11.1			
— Average	101.1	271.7	156.8	529.6	177.0	130.6	124.0	12.1	66.3	142.7	190.3	66.3	72.2	4.1	7.0	70.3	79.2	693.5	243.3	235.3	92.0	89.9	32.7	29.6	36.9			
Count	0	26	0	26	0	6	130	6	130	6	130	5	86	5	86	5	86	0	26	6	130	5	86	2	48	7	38	
Avg. assets	140M	140M	140M	140M	140M	6,232M	878M	6,232M	878M	6,232M	878M	2,205M	589M	2,205M	589M	2,205M	589M	122M	4,847M	691M	2,052M	579M	424M	17,552M	5,532M			
Norwegian Government Pension Fund Global	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	41.2	41.2	
● 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	0M	0M	0M	0M	0M	0M	0M	0M	81%	70%
	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M	1,363M	1,363M	1,363M	1,363M	1,363M	1,363M	1,363M	1,363M	1,363M	

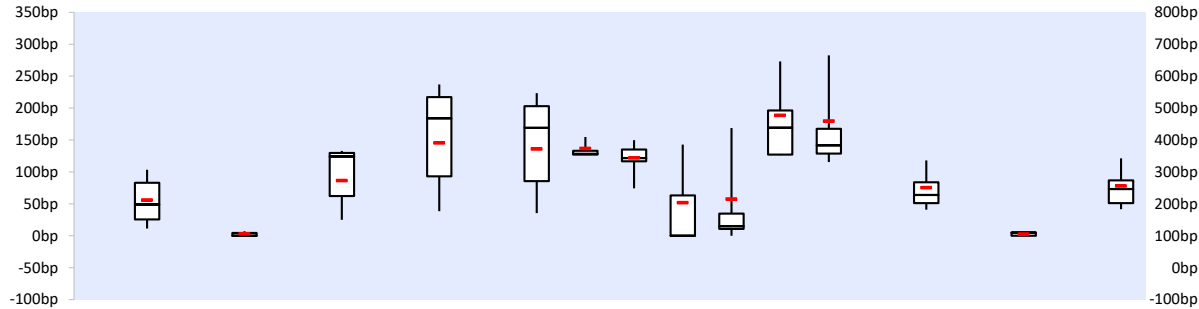
- The base for fees is usually the committed amount during the commitment period, and unreturned invested capital afterwards.
- The fees of fund of funds include both the top layer fees paid to the fund of funds manager and the underlying fees paid to the 'underlying partnerships' held by the fund of funds. Most funds were unable to provide the underlying fees so imputed costs of 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.
- 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 12.8 bps for LPs and 2.4 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.

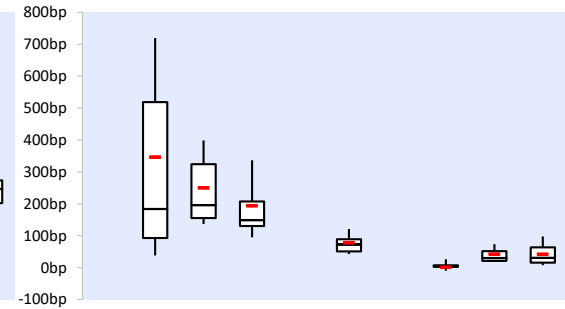
\*Peer cost distributions, and in certain cases the Universe cost distributions, are not shown where count is less than 3 to protect anonymity.

## Natural resources

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

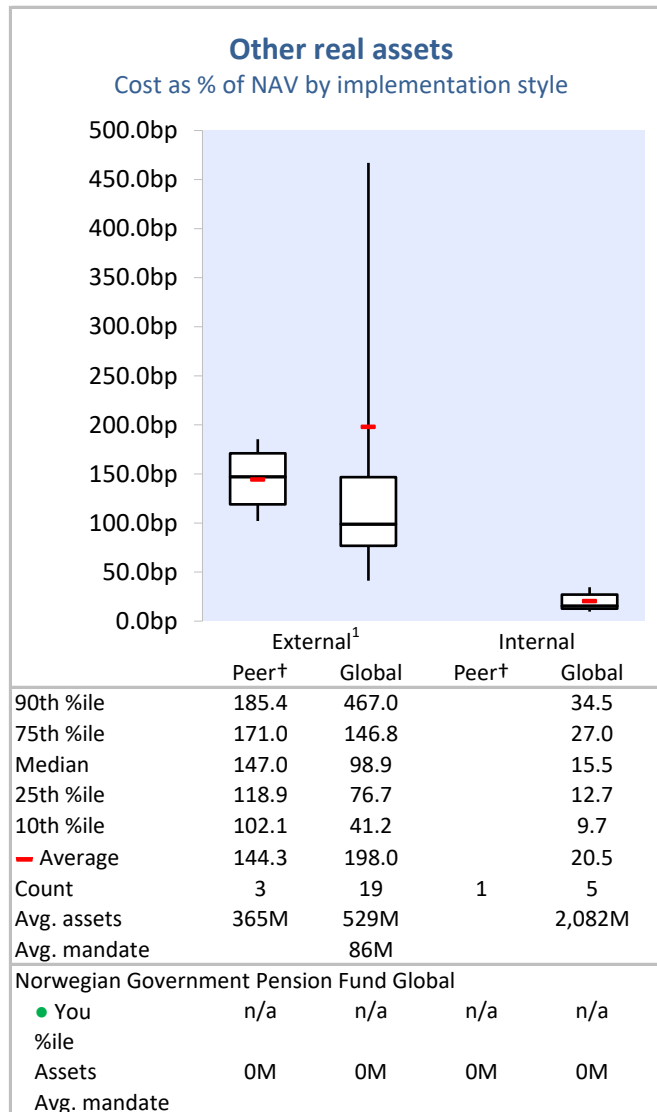


Cost as a % of NAV



	Fund of Funds								Fund (Direct LP)						Fund (Evergreen)						Fund of Funds		Fund (Direct LP)		Fund (Evergreen)		Co-Inv.		Internal			
	Mgmt fees (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		Perf. fees		Total <sup>3</sup> incl. perf.		Mgmt fees		Perf. fees		Total <sup>3</sup> incl. perf.		Total <sup>3</sup> incl. perf.		Total <sup>3</sup> incl. perf.		Total <sup>3</sup> incl. perf.		Total <sup>3</sup> incl. perf.		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	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	103.4	7.0	132.9	237.0	223.4	154.7	149.7	142.8	168.7	273.0	282.5	118.1	5.0	121.1	719.4	398.5	336.4	121.1	26.5	73.4	97.7											
75th %ile	83.0	4.4	129.7	217.1	203.0	133.0	135.1	63.2	34.7	196.1	167.4	83.8	5.0	86.7	518.6	324.3	207.5	88.8	7.4	51.6	63.7											
Median	49.1	0.0	124.4	184.1	169.1	128.4	121.8	0.0	15.0	169.2	141.8	64.0	5.0	73.2	184.1	196.1	149.2	73.2	4.9	30.5	30.6											
25th %ile	25.5	0.0	62.2	93.0	85.5	127.1	116.6	0.0	10.8	127.1	128.8	51.1	0.0	51.1	93.0	155.4	130.6	51.1	2.7	21.2	15.5											
10th %ile	11.4	0.0	24.9	38.4	35.4	126.3	74.3	0.0	0.0	126.3	115.5	40.8	0.0	41.7	38.4	137.1	95.3	42.5	-9.5	20.5	8.0											
Average	56.0	2.9	86.5	145.4	136.0	136.7	122.2	51.8	57.6	188.5	179.8	75.3	2.6	77.9	346.4	249.7	193.8	78.3	1.3	42.3	42.0											
Count	1	3	1	3	1	3	1	3	1	3	5	47	5	47	5	47	2	27	2	27	2	27	1	10	4	11	4	11				
Avg. assets	133M	133M	133M	133M	133M	1,840M	516M	1,840M	516M	1,840M	516M	201M	201M	201M	129M	1,715M	479M	200M	473M	3,701M	2,752M											
Norwegian Government Pension Fund Global	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											

- 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 0 bps (on amount fees are based on) for underlying management fees and 0 bps (on NAV) for underlying performance fees were used.
  - The management fees and total cost also include the internal cost of monitoring and selecting natural resource investments. The peer average cost of monitoring and selecting was 2.0 bps for fund of funds and 6.8 bps for LPs and 3.3 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	101.4	140.0
Internal and other	<u>n/a</u>	<u>42.9</u>	<u>58.0</u>
Total*	n/a	144.3	198.0
Performance fees**	n/a	-53.6	-0.4

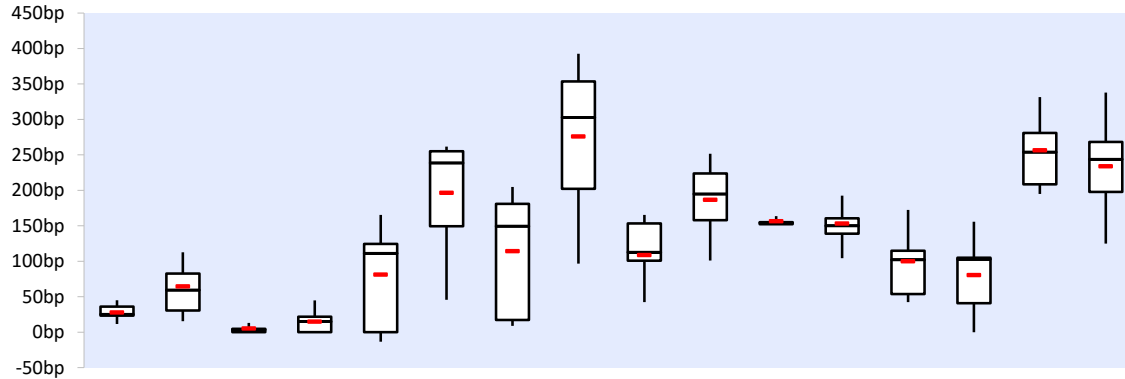
\* Total cost excludes performance fees because most participants did not provide performance fees for other real assets.

†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 -53.6 bps for peers (3 funds) and -3.6 bps for Global participants (12 funds).

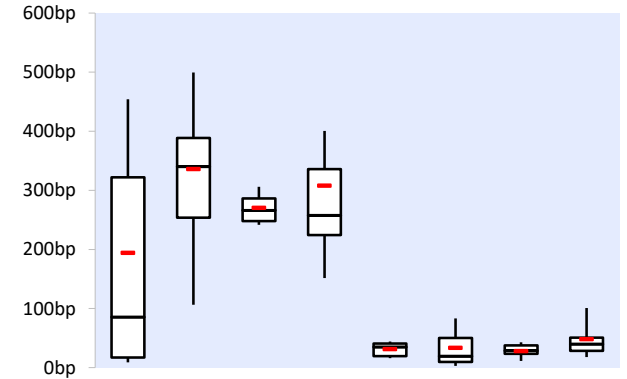
## Private equity - Diversified

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



	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
	Peer†	Global	Peer†	Global	Peer†	Global	Peer†	Global	Peer†	Global	Peer†	Global	Peer†	Global	Peer†	Global
90th %ile	45.0	112.6	12.9	44.7	165.4	261.7	204.7	392.6	165.3	251.6	163.6	192.6	172.4	155.8	331.6	337.8
75th %ile	35.9	82.6	4.6	21.7	124.4	255.0	180.9	353.6	153.3	223.9	155.1	160.6	114.8	105.0	280.9	268.2
Median	25.2	59.5	3.6	15.0	111.3	238.6	149.6	302.9	112.7	194.9	154.1	150.0	102.1	103.0	254.0	244.0
25th %ile	23.2	30.6	0.0	0.0	0.0	149.4	17.1	202.2	100.8	158.0	152.3	138.9	53.8	40.8	208.5	197.8
10th %ile	11.4	15.4	0.0	-0.5	-13.5	45.7	9.0	96.5	42.4	101.1	151.7	104.2	42.5	0.0	194.8	124.9
— Average	27.8	64.5	5.3	15.0	81.2	196.6	114.3	276.1	108.7	186.7	156.5	153.2	100.0	80.7	256.5	233.9
Count	5	107	5	107	5	107	5	107	5	107	9	176	9	176	9	176
Avg. assets	2,900M	602M	2,900M	602M	2,900M	602M	2,900M	602M	2,900M	602M	16,795M	2,463M	16,795M	2,463M	16,795M	2,463M
Norwegian Government Pension Fund Global																
● You	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%ile																
Assets	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M

Cost as a % of NAV



	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
	Peer†	Global	Peer†	Global	Peer†	Global	Peer†	Global
90th %ile	454.2	499.4	306.1	400.5	44.1	83.3	42.9	100.9
75th %ile	322.0	388.6	286.2	335.8	40.8	50.2	37.6	50.6
Median	85.5	340.0	266.2	257.8	34.9	19.5	28.6	40.0
25th %ile	17.1	253.8	248.0	224.4	19.4	9.6	23.5	28.4
10th %ile	9.0	106.3	241.6	151.5	15.9	2.9	11.4	17.8
— Average	194.1	336.1	270.5	308.0	31.3	33.5	27.9	48.1
Count	5	107	9	176	8	57	5	24
Avg. assets	3,719M	593M	15,539M	2,255M	4,590M	1,384M	15,184M	4,836M
Norwegian Government Pension Fund Global								
● You	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%ile								
Assets	0M	0M	0M	0M	0M	0M	0M	0M

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

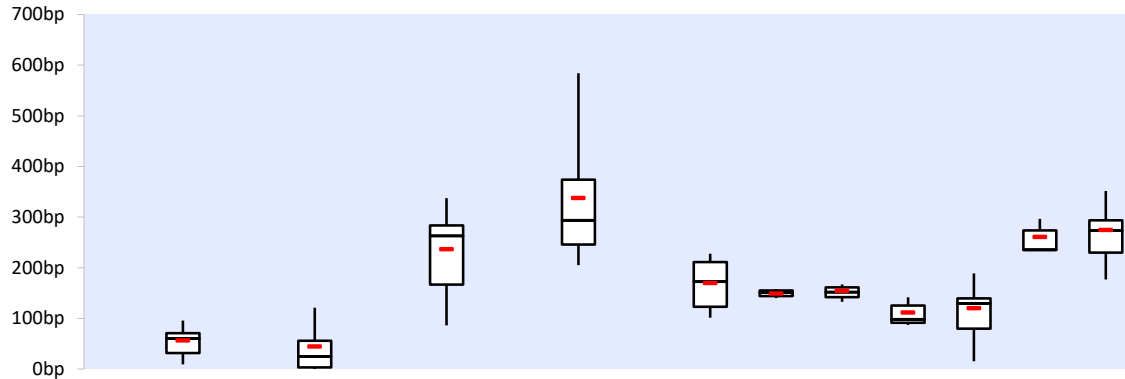
2. The fees of fund of funds include both the top layer fees paid to the fund of funds manager and the underlying fees paid to the 'underlying partnerships' held by the fund of funds. Most funds were unable to provide the underlying fees so imputed costs of 77 bps (on amount fees are based on) for underlying management fees and 4 bps (on NAV) for underlying performance fees were used.

3. 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 4.6 bps for fund of funds, 6.5 bps for LPs and

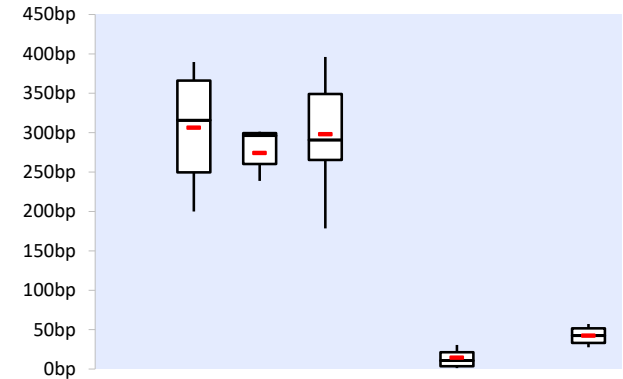
†Peer cost distributions, and in certain cases the Universe cost distributions, are not shown where count is less than 3 to protect anonymity.

## LBO

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



### Cost as a % of NAV

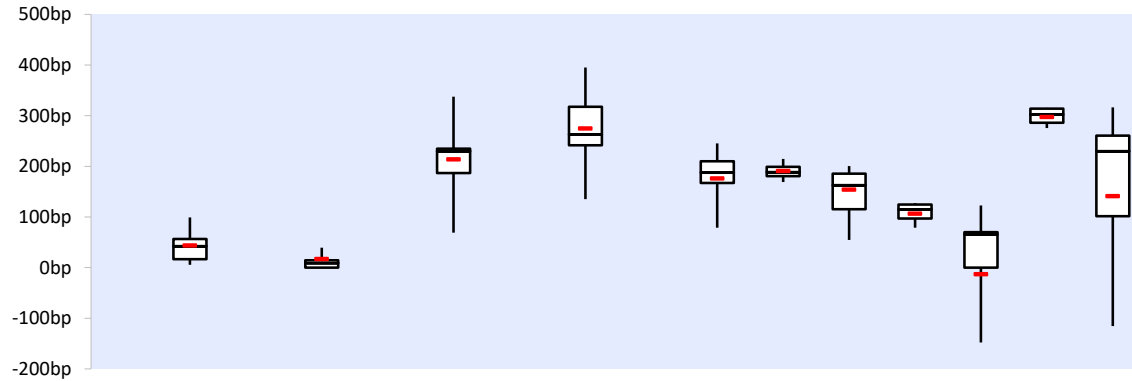


	Fund of Funds										Direct LP						Fund of Funds		Direct LP		Co-Investment		Internal	
	Mgmt fees <sup>3</sup> (Top layer)		Perf. fees (Top layer)		Underlying mgmt. & perf. <sup>2</sup>		Total <sup>3</sup> incl. perf.		Total <sup>3</sup> excl. perf.		Mgmt fees <sup>3</sup>		Perf. fees		Total <sup>3</sup> incl. perf.		Total <sup>3</sup> incl. perf.		Total incl. perf.		Total 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		95.8		121.2		337.3		584.0		227.6	157.7	166.9	141.6	188.9	296.5	351.5	389.7	301.3	396.1		30.6		57.3	
75th %ile		70.8		55.9		283.5		373.9		211.2	155.3	161.1	125.4	139.4	273.6	293.5	366.1	299.4	349.2		21.3		51.7	
Median		60.0		25.0		262.9		293.9		172.6	151.1	152.2	98.3	129.3	235.5	273.6	316.0	296.3	290.8		10.8		42.4	
25th %ile		31.6		3.2		166.7		245.7		123.1	144.2	142.1	91.3	79.9	235.4	229.8	249.6	260.3	265.3		3.6		33.1	
10th %ile		9.3		0.0		86.3		205.0		101.6	140.0	132.6	87.0	15.4	235.4	176.9	200.1	238.7	178.5		1.2		27.6	
— Average		56.6		44.6		236.7		337.9		170.1	149.2	154.6	111.6	120.3	260.9	274.8	306.4	274.4	298.3		14.5		42.4	
Count		2		16		2		16		2	3	43	3	43	3	43	2	16	43	2	16	0	2	
Avg. assets		360M		360M		360M		360M		360M	19,053M	3,005M	19,053M	3,005M	19,053M	3,005M	352M	18,584M	2,812M		1,115M		403M	
Norwegian Government Pension Fund Global																								
● You %ile		n/a		n/a		n/a		n/a		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		n/a		n/a	
Assets		0M		0M		0M		0M		0M	0M	0M	0M	0M	0M	0M	0M	0M	0M		0M		0M	

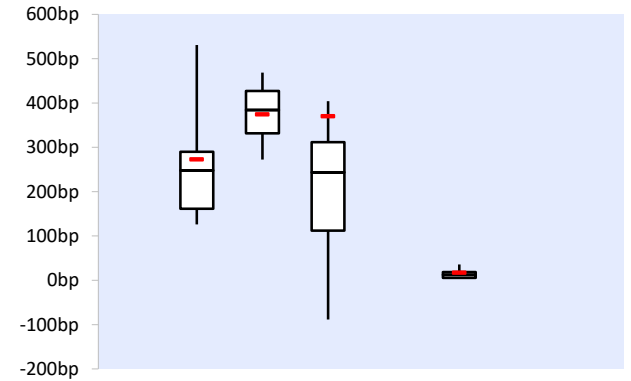
1. The base for fees is usually the committed amount during the commitment period, and unreturned invested capital afterwards.
2. The fees of fund of funds include both the top layer fees paid to the fund of funds manager and the underlying fees paid to the 'underlying partnerships' held by the fund of funds. Most funds were unable to provide the underlying fees so imputed costs of 94 bps (on amount fees are based on) for underlying management fees and 95 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 5.6 bps for fund of funds, 5.8 bps for LPs and 5.6 bps for Co-Investment, 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		99.0		39.5		337.6		395.1		245.4		214.6		200.4		127.4		122.8		315.4		316.3
75th %ile		56.5		14.7		234.8		317.6		210.2		199.0		185.6		124.4		70.0		313.9		260.5
Median		42.4		9.0		230.0		262.9		187.7		188.6		162.8		115.0		66.0		302.5		230.0
25th %ile		16.8		0.0		186.7		241.5		167.0		180.6		115.3		97.1		0.0		286.1		101.6
10th %ile		5.8		-0.8		69.1		135.3		78.9		169.1		54.7		79.0		-147.8		275.6		-115.4
— Average		43.9		17.1		213.7		274.7		176.3		190.9		154.1		106.6		-12.9		297.5		141.2
Count	2	27	2	27	2	27	2	27	2	27	4	41	4	41	4	41	4	41	4	41		41
Avg. assets		221M		221M		221M		221M		221M	2,648M	686M	2,648M	686M	2,648M	686M	2,648M	686M				686M
Norwegian Government Pension Fund Global																						
● You %ile	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	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

	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
		530.9		468.6		404.2		35.7
		290.0		427.2		311.7		18.5
		247.9		384.4		243.6		12.3
		161.3		331.7		111.9		5.4
		126.0		272.5		-88.5		3.3
		272.9		374.5		370.2		17.4
Count	2	27	4	41	1	11	1	2
Avg. assets		309M		2,408M		655M		92M
								1,444M
	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	0M	0M	0M	0M	0M	0M	0M	0M

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

2. The fees of fund of funds include both the top layer fees paid to the fund of funds manager and the underlying fees paid to the 'underlying partnerships' held by the fund of funds. Most funds were unable to provide the underlying fees so imputed costs of 86 bps (on amount fees are based on) for underlying management fees and 35 bps (on NAV) for underlying performance fees were used.

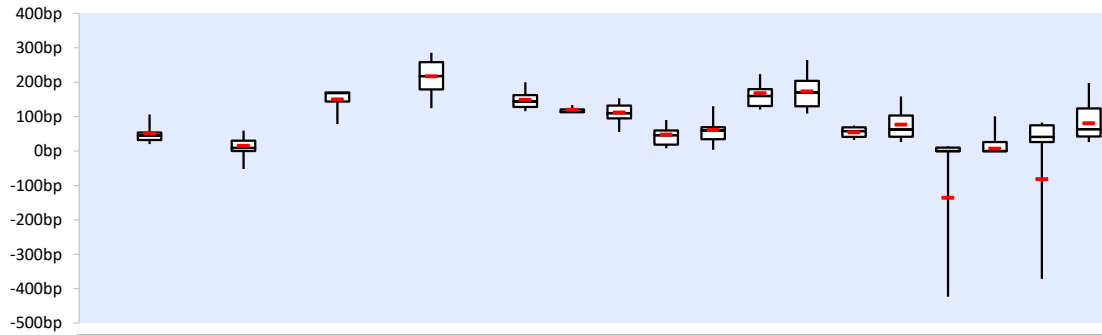
3. The management fees and total cost also include the internal cost of monitoring and selecting private equity investments. The peer average cost of monitoring and selecting was 3.0 bps for fund of funds, 26.3 bps for LPs and

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

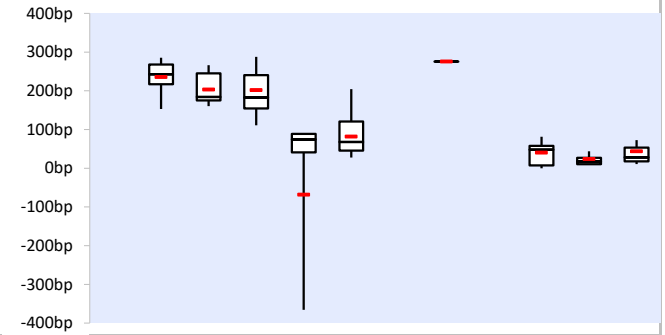


## Private credit

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

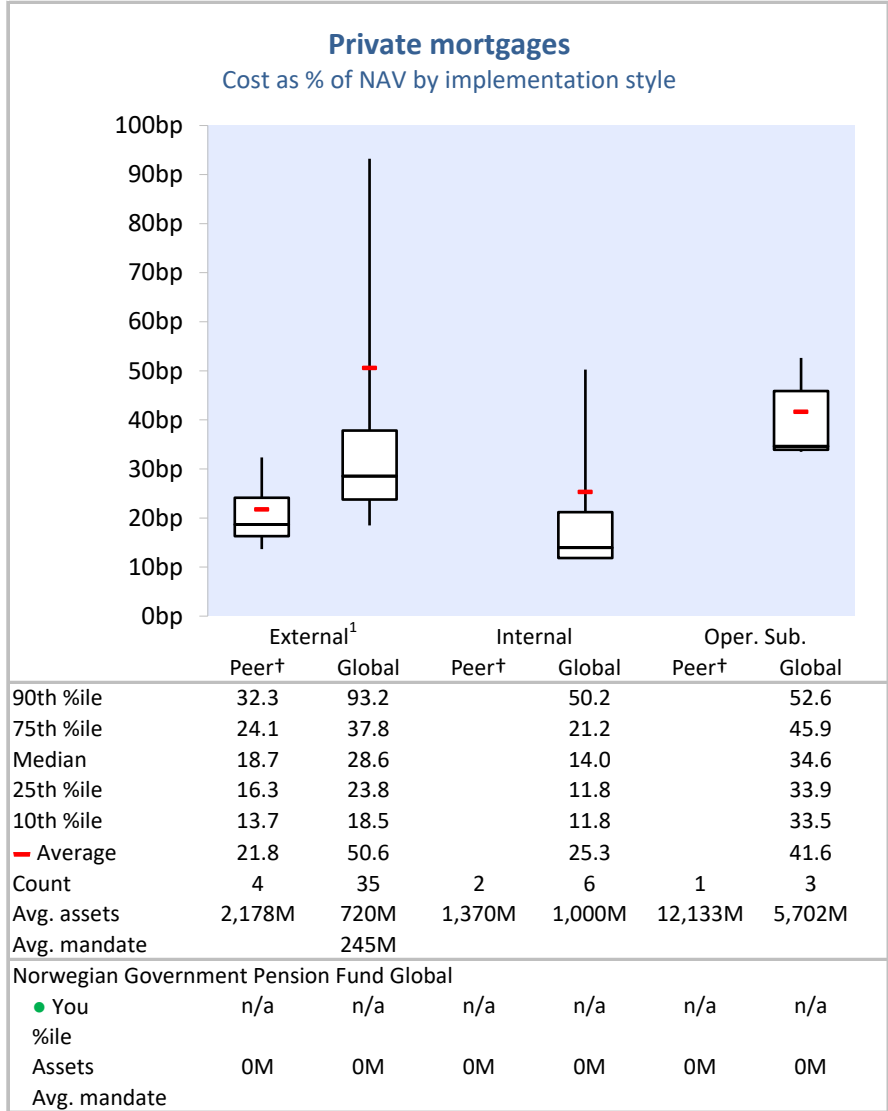


Cost as a % of NAV



	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	133.6	153.5	90.0	129.9	223.2	264.3	74.4	158.4	13.9	100.6	82.6	197.5	285.3	266.1	287.7	90.7	204.2	275.7	81.3	43.9	72.6	267.7	244.9	240.5	88.6	120.8	275.7	57.9	27.0	53.1											
75th %ile	53.8	30.0	170.0	258.2	162.6	120.8	132.1	59.6	69.0	179.7	203.9	68.9	103.2	9.9	26.1	74.6	123.9	242.8	184.3	182.7	74.6	67.8	275.7	47.9	17.7	28.2	216.9	175.2	154.4	41.0	45.4	275.7	7.3	10.5	17.9											
Median	45.0	9.1	168.6	218.0	144.1	113.9	110.1	46.4	60.0	160.1	170.0	58.1	63.0	0.0	0.0	41.0	63.6	216.9	175.2	154.4	41.0	45.4	275.7	7.3	10.5	17.9	153.0	160.4	110.7	#####	27.7	275.7	0.0	10.2	10.8											
25th %ile	31.8	0.0	143.9	179.1	128.0	112.9	95.0	18.5	34.2	130.9	130.2	41.0	41.6	0.0	0.0	26.2	42.4	235.8	203.6	202.0	-68.1	81.9	275.7	40.3	24.1	43.8	193M	164M	3,909M	684M	2,005M	717M	380M	991M	285M	7,137M	3,064M									
10th %ile	20.1	-52.3	78.1	124.4	115.8	112.3	55.2	7.9	3.6	120.6	109.2	32.1	26.2	#####	0.0	#####	26.2	193M	164M	3,909M	684M	2,005M	717M	380M	991M	285M	7,137M	3,064M	193M	164M	3,909M	684M	2,005M	717M	380M	991M	285M	7,137M	3,064M							
Average	51.8	15.2	150.1	217.1	148.7	119.9	112.1	48.1	61.2	168.0	173.4	54.5	76.8	#####	6.9	-81.4	80.7	193M	164M	3,909M	684M	2,005M	717M	380M	991M	285M	7,137M	3,064M	193M	164M	3,909M	684M	2,005M	717M	380M	991M	285M	7,137M	3,064M							
Count	1	14	1	14	1	14	1	14	1	14	1	14	6	142	6	142	6	142	5	75	5	43	5	75	0	1	1	21	5	26	193M	164M	3,909M	684M	2,005M	717M	380M	991M	285M	7,137M	3,064M					
Avg. assets	393M	182M	393M	182M	393M	182M	393M	182M	393M	182M	393M	182M	4,372M	765M	4,372M	765M	4,372M	765M	2,197M	726M	2,197M	1,267M	2,197M	726M	0	1	1	21	5	26	193M	164M	3,909M	684M	2,005M	717M	380M	991M	285M	7,137M	3,064M					
Norwegian Government Pension Fund Global																																														
• You	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a			
%ile																																														
Assets																																														

1. The base for fees is usually the committed amount during the commitment period, and unreturned invested capital afterwards.  
 2. The fees of fund of funds include both the top layer fees paid to the fund of funds manager and the underlying fees paid to the 'underlying partnerships' held by the fund of funds. Most funds were unable to provide the underlying fees so imputed values of 110 bps (on amount fees are based on) for underlying management fees and 29 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 0.7 bps for fund of funds, 9.9 bps for LPs and 8.5 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.



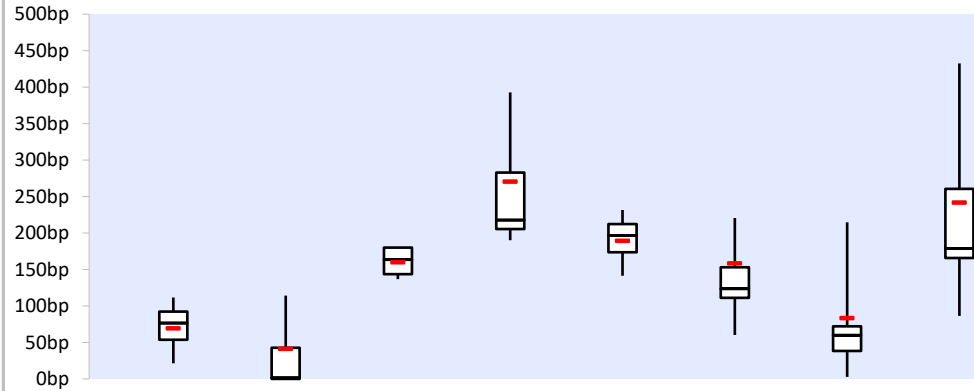
1. Breakdown of external fees

	Your Plan	Peer Average	Global Average
Base fees	n/a	16.7	48.0
Internal and other	<u>n/a</u>	<u>5.1</u>	<u>2.6</u>
Total	n/a	21.8	50.6
Performance fees	n/a	0.0	15.0

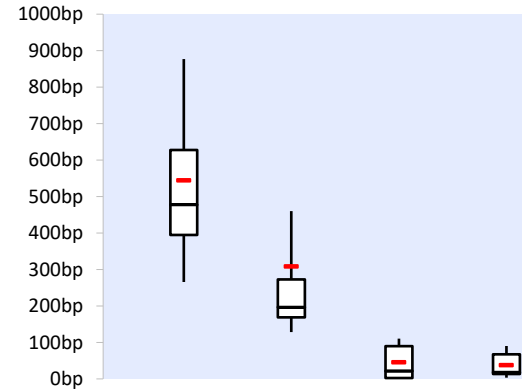
†Peer cost distributions, and in certain cases the Universe cost distributions, are not shown where count is less than 3 to protect anonymity.

## Private equity - Other

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



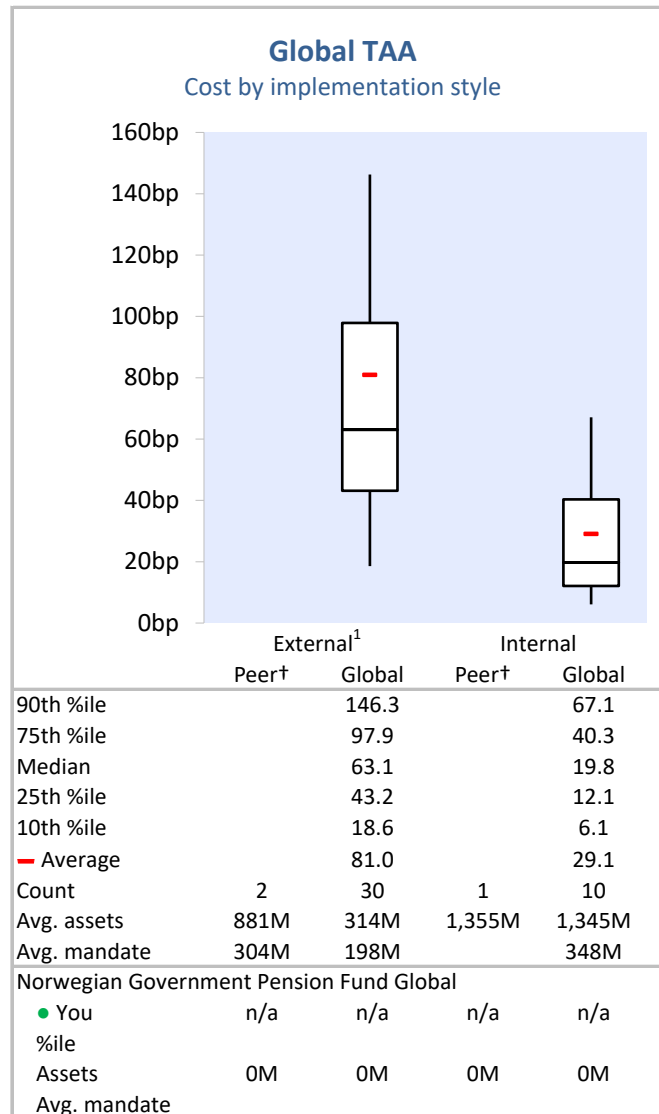
Cost as a % of NAV



	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	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	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	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	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	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	270.5	189.4	158.4	83.4	241.8	544.6	308.3	45.6	38.0												
Count	0	4	0	4	0	4	0	4	2	28	2	28	2	28	0	4	2	28	2	10	2	10		
Avg. assets	309M		309M		309M		309M		8,167M	1,072M	8,167M	1,072M	8,167M	1,072M	309M	6,412M	899M	2,186M	678M	1,815M	587M			
Norwegian Government Pension Fund Global																								
● You %ile Assets	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		
	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 n/a bps (on amount fees are based on) for underlying management fees and n/a bps (on NAV) for underlying

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

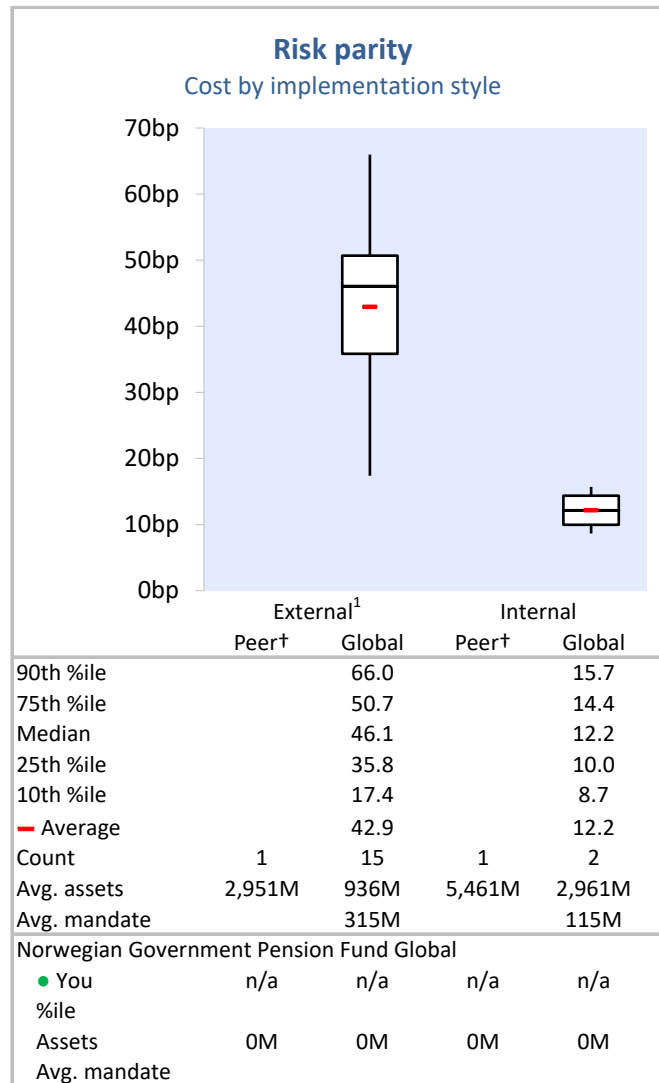


#### 1. Breakdown of external fees

	Your Plan	Peer Average	Global Average
Base fees	n/a	60.1	64.3
Internal and other	n/a	16.5	7.3
Performance fees	<u>n/a</u>	<u>0.0</u>	<u>20.0</u>
Total*	n/a	n/a	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 0.0 bps for peers (1 fund) and 20.0 bps for Global participants (20 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

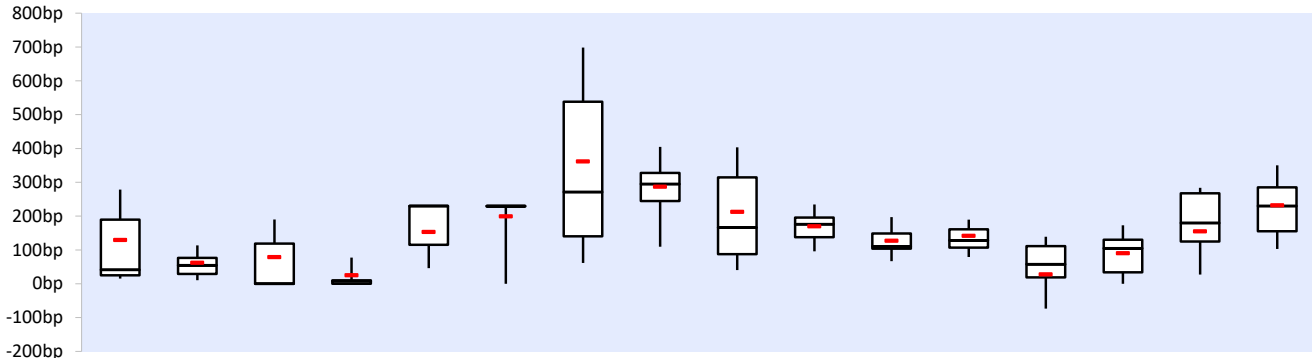
	Your Plan	Peer Average	Global Average
Base fees	n/a	46.5	42.6
Internal and other	n/a	2.3	0.9
Performance fees	<u>n/a</u>	<u>0.0</u>	<u>0.0</u>
Total*	n/a	n/a	42.9

\* 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 peers (1 fund) and 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

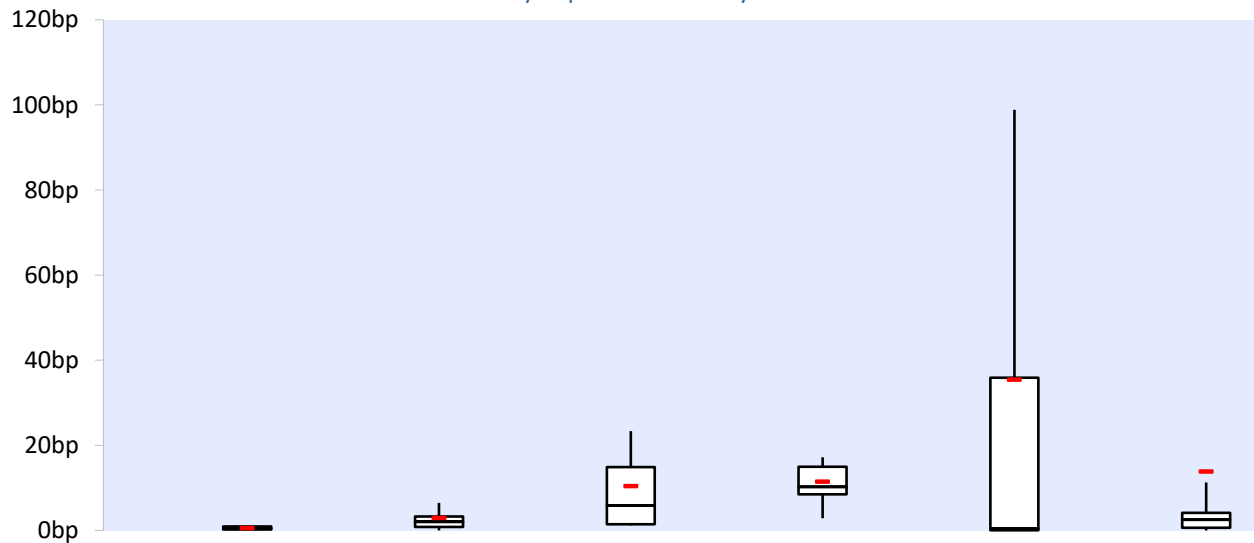


	Fund of Funds										External Direct					
	Mgmt fees (Top layer)		Perf. fees (Top layer)		Underlying mgmt. and perf. <sup>1</sup>		Total <sup>2</sup> incl. perf.		Total <sup>2</sup> excl. perf.		Mgmt fees		Perf. fees		Total <sup>2</sup> incl. perf.	
	Peer†	Global	Peer†	Global	Peer†	Global	Peer†	Global	Peer†	Global	Peer†	Global	Peer†	Global	Peer†	Global
90th %ile	278.5	113.5	189.8	77.4	230.0	230.0	698.3	404.7	403.5	234.3	197.1	189.4	138.8	172.6	283.5	350.1
75th %ile	189.5	76.7	118.6	10.0	230.0	230.0	538.2	327.7	314.5	195.9	148.5	160.8	111.4	130.0	267.2	285.2
Median	41.3	55.0	0.0	8.0	230.0	230.0	271.3	295.0	166.3	176.2	110.9	128.6	57.9	105.0	179.7	230.0
25th %ile	25.2	28.9	0.0	0.0	115.0	228.4	140.2	244.6	87.7	137.5	103.6	107.0	19.1	33.7	125.0	155.4
10th %ile	15.5	10.5	0.0	0.0	46.0	0.0	61.5	109.5	40.5	95.8	66.6	79.1	-73.4	0.0	27.4	103.1
— Average	129.4	62.4	79.1	25.1	153.3	199.6	361.8	287.1	212.7	170.1	127.3	141.9	27.7	90.2	155.0	232.0
Count	3	56	3	56	3	56	3	56	3	56	9	106	9	106	9	106
Avg. assets	310M	358M	310M	358M	310M	358M	310M	358M	310M	358M	8,086M	1,880M	8,086M	1,880M	8,086M	1,880M
Norwegian Government Pension Fund Global																
● You	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%ile																
Assets	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M	0M

1. The fees of fund of funds include both the top layer fees paid to the fund of funds manager and the underlying fees paid to the 'underlying partnerships' held by the fund of funds. Most funds were unable to provide the underlying fees so 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 3.4 bps for fund of †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

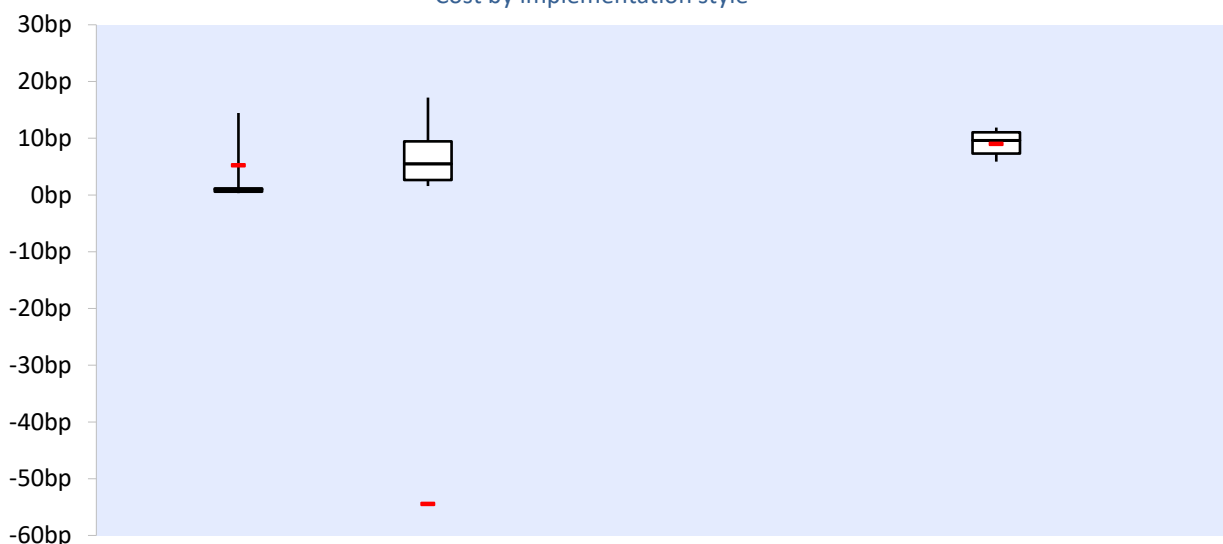


	Currency Hedge				Discretionary Currency				Duration Management			
	Internal		External		Internal		External		Internal		External	
	% of notional Peer†	% of notional Global	% of notional Peer†	% of notional Global	% of notional Peer†	% of notional Global	% of notional Peer†	% of notional Global	% of notional Peer†	% of notional Global	% of notional Peer†	% of notional Global
90th %ile		1.0		6.5		23.3		17.2		98.8		11.3
75th %ile		0.9		3.3		14.9		15.0		35.9		4.1
Median		0.5		2.1		5.9		10.3		0.5		2.5
25th %ile		0.2		0.8		1.5		8.5		0.0		0.6
10th %ile		0.2		0.0		1.2		2.9		0.0		0.0
— Average		0.6		3.0		10.4		11.5		35.4		13.9
Count	1	11	0	27	1	4	1	17	0	4	1	29
Avg. notional	67,816M	19,456M		4,725M	28,014M	12,242M	2,644M	797M		10,853M	137,518M	7,003M
Norwegian Government Pension Fund Global												
● You	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%ile												
Avg. notional												

†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	0	22	0	0	0	0	0	3	0	0
Avg. notional	13,726M	7,379M		4,708M						1,054M		
Norwegian Government Pension Fund Global												
● You	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%ile												
Avg. notional												

†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	0	2	0	5	0	0	0	2	0	8	0	9
Avg. notional		1,620M		885M				328M		4,254M		7,689M
Norwegian Government Pension Fund Global												
● You	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%ile												
Avg. notional												

†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

### Norwegian Government Pension Fund Global

Plan Info	2023	2022	2021	2020	2019
Survey Preparer	Henriette Pedersen	Julie Elizabeth Pedersen	Peter Christian Pedersen	Peter Christian Pedersen	Peter Christian Pedersen
Additional Contact	Trond Hansen	Trond Hansen	Julie Belck-Olsen	Julie Belck-Olsen	Julie Belck-Olsen
Type of fund (corporate, public, other)	Public	Public	Public	Public	Public
Total fund size (€mils) as at December 31	1,405,251.0	1,182,202.3	1,230,488.6	1,041,789.7	1,022,743.8
Asset-class level holdings provided on survey are: year end or average?	Average	Average	Average	Average	Average
Total return for year ended	16.14%	-14.11%	14.51%	10.86%	19.95%
Is the return net or gross?	Gross except for private asset costs	Gross	Gross	Gross	Gross
Total fund policy or benchmark return	16.32%	-14.98%	13.76%	10.60%	19.72%

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?					0
How many plan members/beneficiaries do you have: Active? Active (no-accrual)? Retired? Other?					
What type of plan(s) do you have?					
To what extent are your retired members' benefits indexed to inflation? Contractual % If the indexation is subject to a cap, describe the cap					
What % of the plan's liabilities pertain to retired members?					
Actuarial valuation assumptions for funding purposes: Liability discount rate Salary progression rate					
What was your actuarial assumption for expected rate of return?					

**Appendix A - Data Summary: Policy Weights and Benchmarks**  
Norwegian Government Pension Fund Global

Asset Class	Year	Policy Weight	Benchmark	
			Description	Return
Stock - U.S. broad/all	2023		Custom	27.3
	2022		Custom	-24.2
	2021		Custom	13.3
	2020		Custom	47.1
	2018		Custom	3.6
	2017		Custom	18.9
	2016		Your Stock: U.S. broad/all benchmark	16.1
Stock - Europe	2023		Custom	16.1
	2022		Custom	-15.9
	2021		Custom	18.0
	2020		Custom	5.4
	2019		Custom	22.7
	2018		Custom	-13.7
	2016		Your Stock: Europe benchmark	3.8
Stock - Emerging	2023		Custom	8.2
	2022		Custom	-11.3
	2021		Custom	8.9
	2020		Custom	3.4
	2019		Custom	15.0
	2018		Custom	-14.7
	2016		Your Stock: Emerging benchmark	10.7
Stock - Global	2023	71.8	Your Stock: Global benchmark	21.8
	2022	70.9	Your Stock: Global benchmark	-15.6
	2021	73.2	Your Stock: Global benchmark	20.4
	2020	73.0	Your Stock: Global benchmark	12.2
	2019	71.1	Your Stock: Global benchmark	26.1
	2018	67.3	Your Stock: Global benchmark	-8.4
	2017	67.1	Your Stock: Global benchmark	18.5
	2016	62.2	Your Stock: Global benchmark	8.6
	2015	61.6	Your Stock: Global benchmark	3.0
	2014	61.1	Your Stock: Global benchmark	8.7
Fixed income - Global	2023	28.2	Barclays Global Aggregate + Barclays Global Inflation Linked	5.6
	2022	29.1	Barclays Global Aggregate + Barclays Global Inflation Linked	-13.8
	2021	26.8	Barclays Global Aggregate + Barclays Global Inflation Linked	-1.9
	2020	27.0	Barclays Global Aggregate + Barclays Global Inflation Linked	6.7
	2019	28.9	Barclays Global Aggregate + Barclays Global Inflation Linked	7.4
	2018	32.7	Barclays Global Aggregate + Barclays Global Inflation Linked	0.6
	2017	33.0	Barclays Global Aggregate + Barclays Global Inflation Linked	2.9
	2016	35.3	Barclays Global Aggregate + Barclays Global Inflation Linked	4.2
	2015	35.3	Barclays Global Aggregate + Barclays Global Inflation Linked	0.6
2014	36.7	Barclays Global Aggregate + Barclays Global Inflation Linked	7.6	
REITs	2023		Custom	11.2
	2022		Custom	-13.7
	2021		Custom	17.1
	2020		Custom	10.1
	2019		Custom	17.1
	2018		Custom	-4.6
Real estate ex-REITs	2023		Custom	9.7
	2022		Custom	-14.5
	2021		Custom	7.3
	2020		Custom	8.7
	2019		Custom	13.0
	2018		Custom	-2.1
	2017		Custom	8.3
	2016	2.5	Custom (Actual)	0.8
2015	3.1	Custom (Actual)	10.0	
2014	2.2	Custom (Actual)	10.4	
Infrastructure	2023		Custom	9.4
	2022		Custom	-20.0
	2021		Custom	-3.9

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

Norwegian Government Pension Fund Global

	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 - U.S. broad/all External active	2023	2,318.0	37.00	398.2	4,074.0	3,387.2	7,859.4	1.7	17.6	14.6	33.9
	2022	1,453.7	-33.20	255.2	2,579.7	(969.7)	1,865.2	1.8	17.7	(6.7)	12.8
	2021	1,571.0	3.19	212.1	3,376.6	(1,162.9)	2,425.8	1.4	21.5	(7.4)	15.4
	2020	580.0	51.00	99.8	801.9	5,818.6	6,720.3	1.7	13.8	100.3	115.9
Stock - Europe External active	2023	11,814.0	14.30	2,029.6	20,932.0	14,215.2	37,176.8	1.7	17.7	12.0	31.5
	2022	10,061.8	-18.90	1,766.5	17,047.4	3,073.4	21,887.3	1.8	16.9	3.1	21.8
	2021	9,288.0	17.00	1,254.4	16,281.5	6,177.5	23,713.3	1.4	17.5	6.7	25.5
	2020	7,357.2	9.80	1,265.8	12,744.1	15,818.0	29,827.9	1.7	17.3	21.5	40.5
	2019	6,303.0	21.40	1,025.0	10,989.0	(2,372.0)	9,642.0	1.6	17.4	(3.8)	15.3
Stock - Emerging External active	2023	44,656.0	10.90	7,671.8	80,489.0	99,994.3	188,155.1	1.7	18.0	22.4	42.1
	2022	40,553.6	-9.40	7,119.9	75,693.2	68,913.8	151,726.9	1.8	18.7	17.0	37.4
	2021	38,571.0	11.50	5,209.2	68,469.4	77,560.3	151,238.9	1.4	17.8	20.1	39.2
	2020	30,725.5	8.62	5,286.2	54,323.7	97,933.3	157,543.3	1.7	17.7	31.9	51.3
	2019	27,759.0	16.30	4,515.0	50,999.0	31,936.0	87,450.0	1.6	18.4	11.5	31.5
Stock - Global Internal active	2023	825,550.0	22.00	151,413.7			151,413.7	1.8			1.8
	2022	756,551.3	-15.10	124,816.1			124,816.1	1.6			1.6
	2021	742,890.3	21.17	87,800.0			87,800.0	1.2			1.2
	2020	622,049.2	12.90	104,565.8			104,565.8	1.7			1.7
	2019	602,785.0	26.64	115,092.0			115,092.0	1.9			1.9
Fixed income - Global Internal active	2023	345,791.0	6.10	52,457.4			52,457.4	1.5			1.5
	2022	323,105.4	-12.10	41,040.2			41,040.2	1.3			1.3
	2021	282,627.1	-1.94	31,769.0			31,769.0	1.1			1.1
	2020	265,813.1	7.46	40,877.4			40,877.4	1.5			1.5
	2019	264,597.4	7.56	44,434.0			44,434.0	1.7			1.7
REITs Internal active	2023	21,886.0	16.60	7,563.2			7,563.2	3.5			3.5
	2022	23,937.6	-30.80	4,490.0			4,490.0	1.9			1.9
	2021	19,606.5	26.84	2,951.0			2,951.0	1.5			1.5
	2020	12,872.2	-14.92	2,681.3			2,681.3	2.1			2.1
	2019	10,402.4	20.88	1,620.0			1,620.0	1.6			1.6

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

Norwegian Government Pension Fund Global

	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)	Fee basis (€millions)	Net Return %	Cost (€000)						
					Internal & Other	Base Fees	Perf Fees	Underlying fees		Total	
							Base	Perf	excl. perf	incl. perf	
Real estate ex-REITs	Internal active	2023	30,089.0		-12.40	46,721.1				46,721.1	46,721.1
		2022	33,360.8		0.10	41,801.3				41,801.3	41,801.3
		2021	27,376.7		13.67	37,862.9				37,862.9	37,862.9
		2020	27,253.9		-0.08	35,059.8				35,059.8	35,059.8
		2019	25,723.7		6.84	44,007.4				44,007.4	44,007.4
Infrastructure	Internal active	2023	1,363.0		3.70	5,609.7				5,609.7	5,609.7
		2022	1,302.6		5.10	3,376.0				3,376.0	3,376.0
		2021	800.9		4.15	2,272.0				2,272.0	2,272.0

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

Norwegian Government Pension Fund Global

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	Cost on NAV (bps)						Cost on fee basis (bps)							
		Internal & Other	Base Fees	Perf Fees	Underlying fees Base	Perf	Total excl. perf incl. perf	Internal & Other	Base Fees	Perf Fees	Underlying fees Base	Perf	Total excl. perf incl. perf		
Real estate ex-REITs Internal active	2023	15.5					15.5	15.5	15.5					15.5	15.5
	2022	12.5					12.5	12.5	12.5					12.5	12.5
	2021	13.8					13.8	13.8	13.8					13.8	13.8
	2020	12.9					12.9	12.9	12.9					12.9	12.9
	2019	17.1					17.1	17.1	17.1					17.1	17.1
Infrastructure Internal active	2023	41.2					41.2	41.2	41.2					41.2	41.2
	2022	25.9					25.9	25.9	25.9					25.9	25.9
	2021	28.4					28.4	28.4	28.4					28.4	28.4

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

Norwegian Government Pension Fund Global

Oversight, Custodial and Other Costs			
		000s	bps
Oversight of the fund assets <sup>1</sup>	2023	57,822.0	0.5bp
	2022	88,565.1	0.7bp
	2021	78,246.1	0.7bp
	2020	71,920.7	0.7bp
	2019	89,676.9	1.0bp
Custodial total	2023	40,641.8	0.3bp
	2022	46,810.7	0.4bp
	2021	45,995.4	0.4bp
	2020	44,144.1	0.5bp
	2019	42,621.5	0.5bp
Consulting / performance measurement	2023	4,856.0	0.0bp
	2022	7,692.3	0.1bp
	2021	7,681.4	0.1bp
	2020	7,035.2	0.1bp
	2019	10,715.4	0.1bp
Audit	2023	4,020.0	0.0bp
	2022	4,133.5	0.0bp
	2021	3,799.5	0.0bp
	2020	3,892.2	0.0bp
	2019	3,792.3	0.0bp
Total	2023	107,339.8	0.8bp
	2022	147,201.6	1.2bp
	2021	135,722.4	1.2bp
	2020	126,992.2	1.3bp
	2019	146,806.1	1.6bp

Summary of All Asset Management Costs			
		000s	bps
Investment Management Costs	2023	496,956.5	3.9bp
	2022	391,003.0	3.3bp
	2021	340,032.9	3.0bp
	2020	377,275.7	3.9bp
	2019	302,245.4	3.2bp
Oversight, Custodial & Other Costs	2023	107,339.8	0.8bp
	2022	147,201.6	1.2bp
	2021	135,722.4	1.2bp
	2020	126,992.2	1.3bp
	2019	146,806.1	1.6bp
Total	2023	604,296.3	4.7bp
	2022	538,204.6	4.5bp
	2021	475,755.3	4.2bp
	2020	504,267.9	5.2bp
	2019	449,051.5	4.8bp

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

### Norwegian Government Pension Fund Global

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 your currency basket. 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

1. Source OECD website.

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

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

## Appendix C - Data 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.