

**Investment**  
**Cost Effectiveness Analysis**  
2015

**Government Pension Fund Norway**



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# Key takeaways

## Value added

- Your 10-year net value added was 1.0%. This was above the Global median of 0.1% and above the peer median of 0.1%.

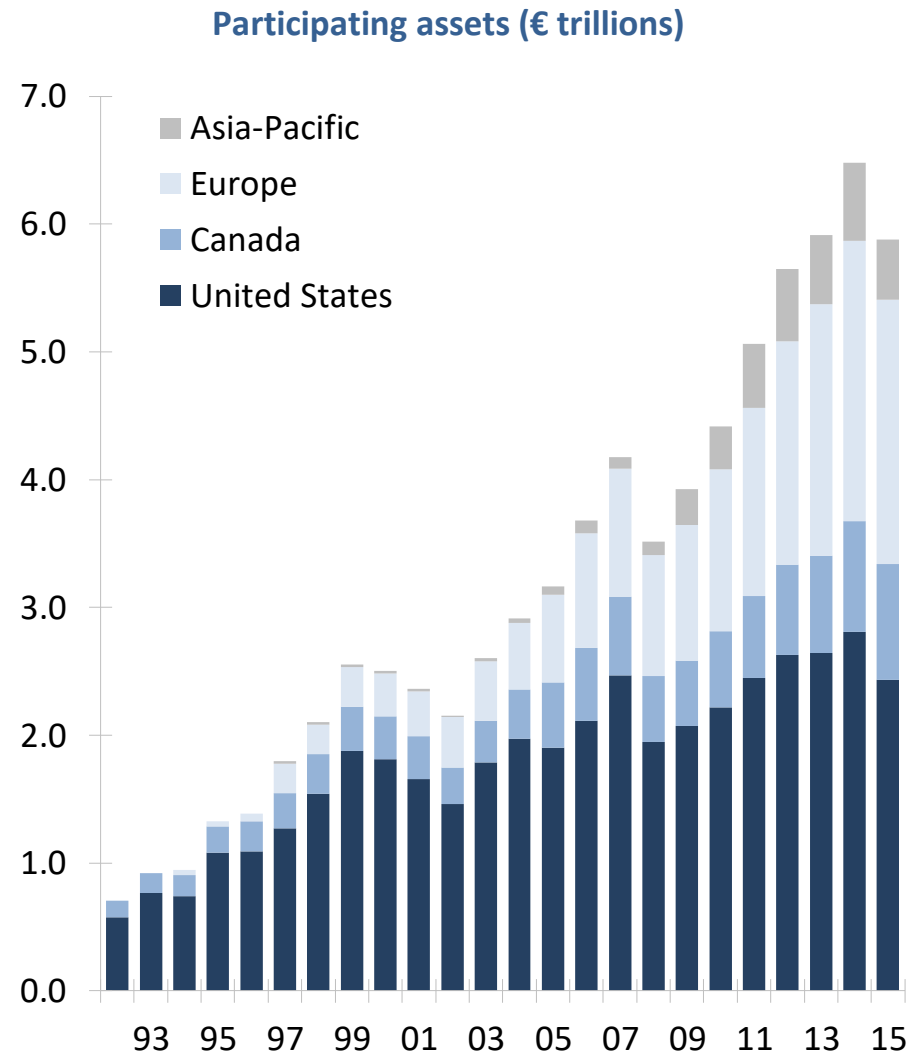
## Cost

- Your investment cost of 8.5 bps was below your benchmark cost of 16.0 bps. This suggests that your fund was low cost compared to your peers.
- Your fund was low cost primarily because you had a lower cost implementation style.
- Your 10-year performance placed in the positive value added, low cost quadrant of the cost effectiveness chart.

## This benchmarking report compares your cost and return performance to the 293 funds in CEM's extensive pension database.

- 162 U.S. funds participate with assets totaling €2.4 trillion.
- 72 Canadian funds participate with assets totaling €909 billion.
- 52 European funds participate with aggregate assets of €2.1 trillion. Included are funds from the Netherlands, Norway, Sweden, Finland, Ireland, Denmark and the U.K.
- 7 Asia-Pacific funds participate with aggregate assets of €472 billion. Included are funds from Australia, New Zealand, China and South Korea.

The most meaningful comparisons for your returns and value added are to the Global universe.



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

### **Peer group for Government Pension Fund Norway**

- 16 global sponsors from €12 billion to €68 billion
  - Median size of €42 billion versus your €21 billion
  - Median size of internal equity program €11 billion versus your €12 billion
- 3 Canadian funds, 6 European funds and 7 U.S. funds make up the Global peer group.
  - In the report there are also comparisons to CEM's Global database of participants.

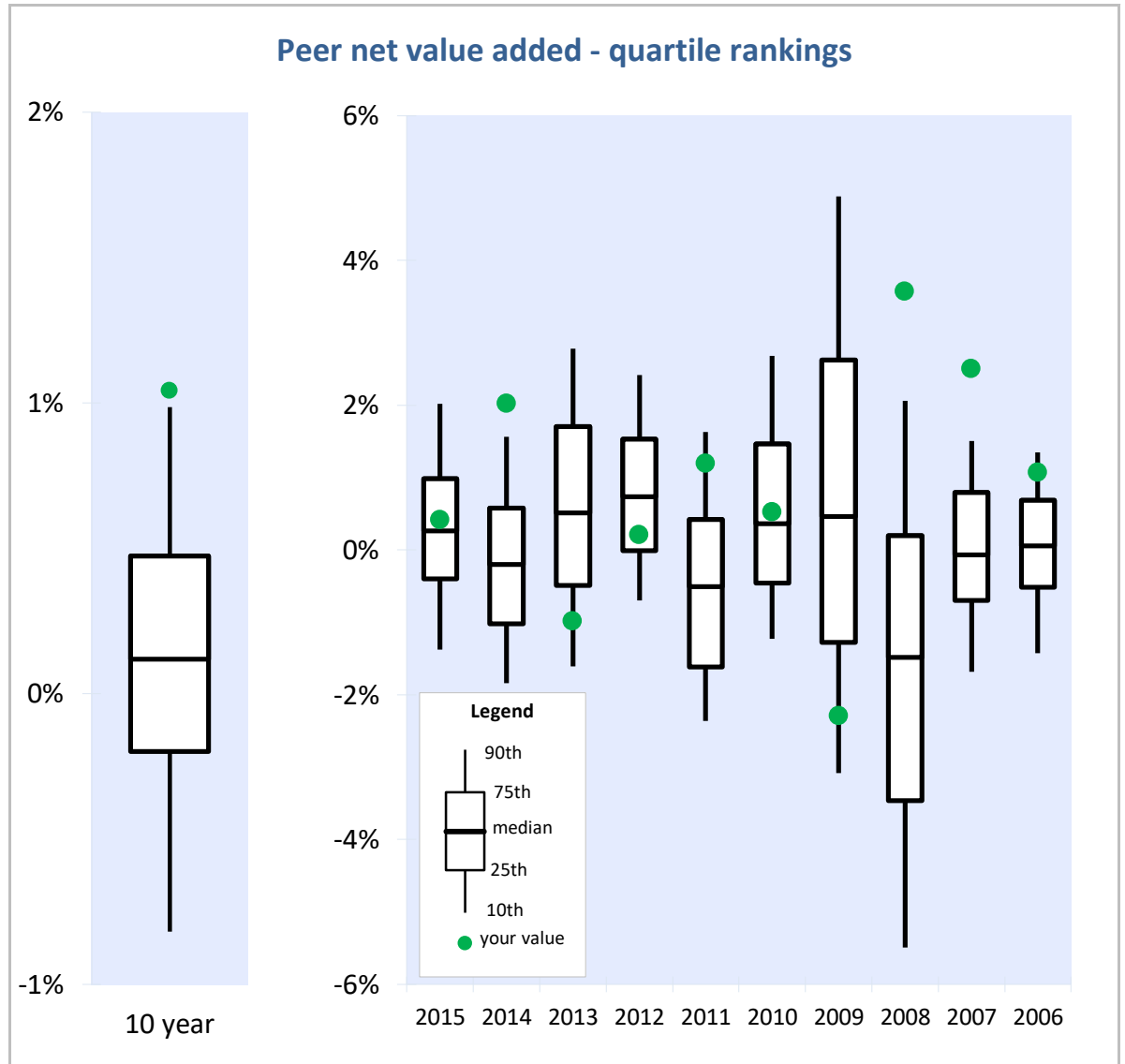
# Net value added is the component of total return from active management. Your 10-year net value added was 1.0%.

Net value added equals total net return minus policy return.

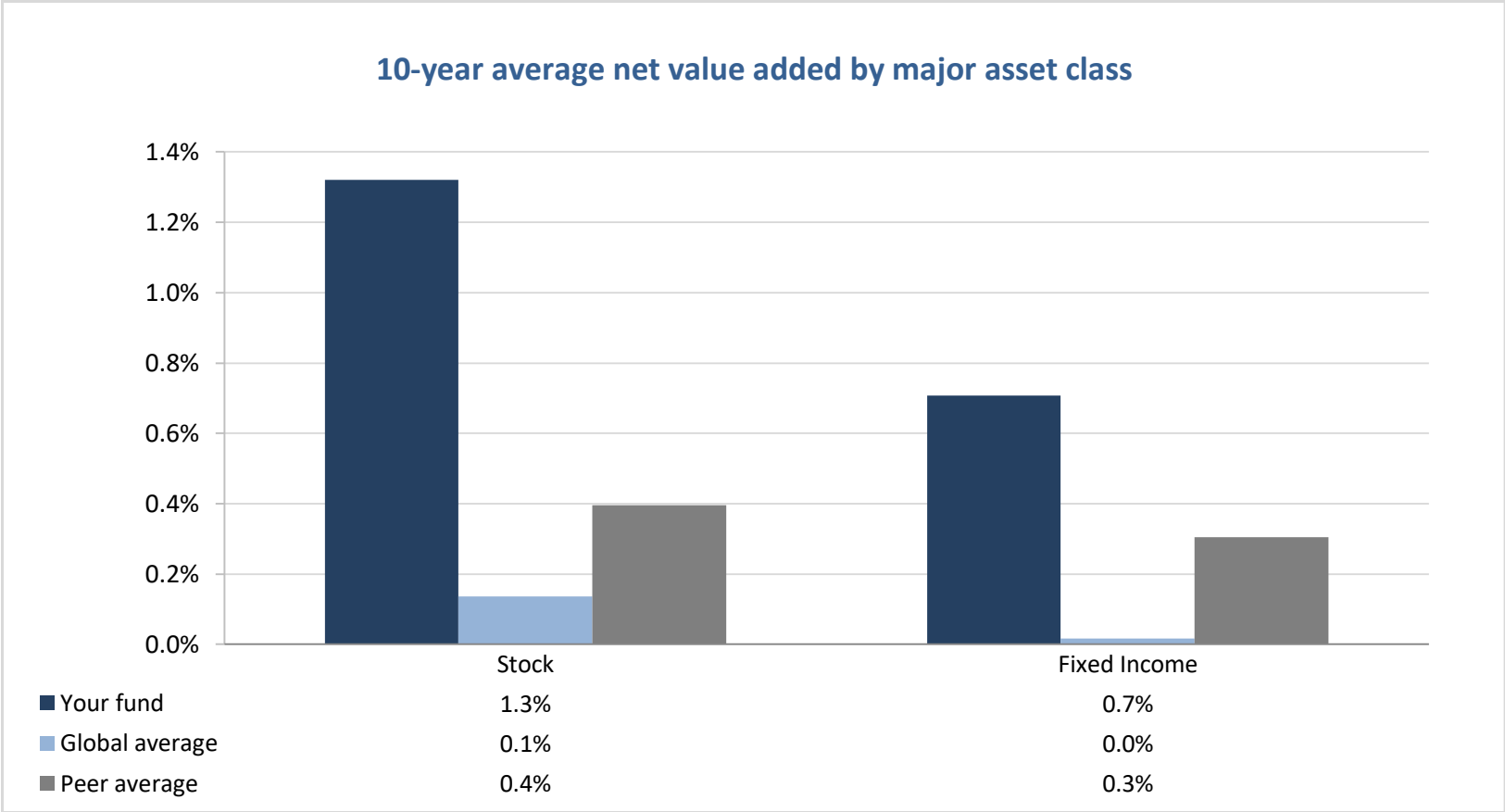
## Value added for Government Pension Fund Norway

Year	Net Return	Policy Return	Net value Added
2015	6.9%	6.5%	0.4%
2014	10.6%	8.6%	2.0%
2013	15.6%	16.6%	(1.0%)
2012	12.1%	11.9%	0.2%
2011	(4.0%)	(5.2%)	1.2%
2010	15.2%	14.7%	0.5%
2009	33.4%	35.7%	(2.3%)
2008	(25.2%)	(28.8%)	3.6%
2007	9.8%	7.3%	2.5%
2006	11.1%	10.0%	1.1%
10-year	7.5%	6.5%	1.0%

Your 10-year net value added of 1.0% compares to a median of 0.1% for your peers and 0.1% for the Global universe.



# You had positive 10-year net value added in Euro Stock, EAFE Stock, Stock and Fixed Income.



## Your investment costs were €17.5 million or 8.5 basis points in 2015.

Asset management costs by asset class and style (€000s)	Internal		External			Total
	Active	Overseeing of external	Passive fees	Active base fees	Perform. fees	
Stock	7,910					7,910
Fixed Income	6,353					6,353
Total excluding private asset performance fees						14,263 6.9bp
<b>Oversight, custodial and other costs <sup>1</sup></b>						
Oversight of the fund						1,721
Trustee & custodial						763
Consulting and performance measurement						71
Audit						267
Other						400
Total oversight, custodial & other costs						3,222 1.6bp
Total investment costs (excl. transaction costs & private asset performance fees)						17,485 8.5bp

### Footnotes

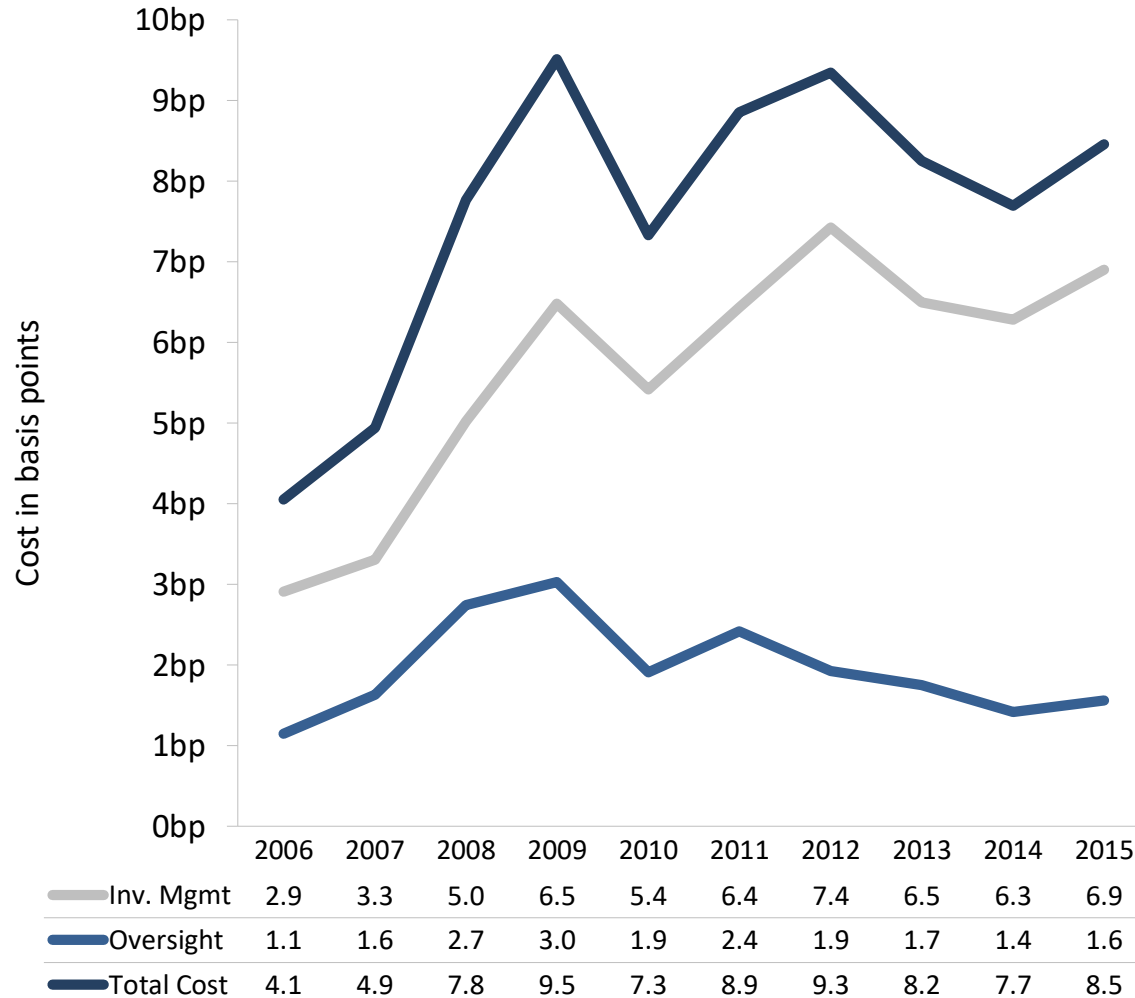
Total cost excludes carry/performance fees for real estate, infrastructure, natural resources and private equity. Performance fees are included for the public market asset classes and hedge funds.

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



# Your costs increased between 2006 and 2015.

Trend in your investment costs

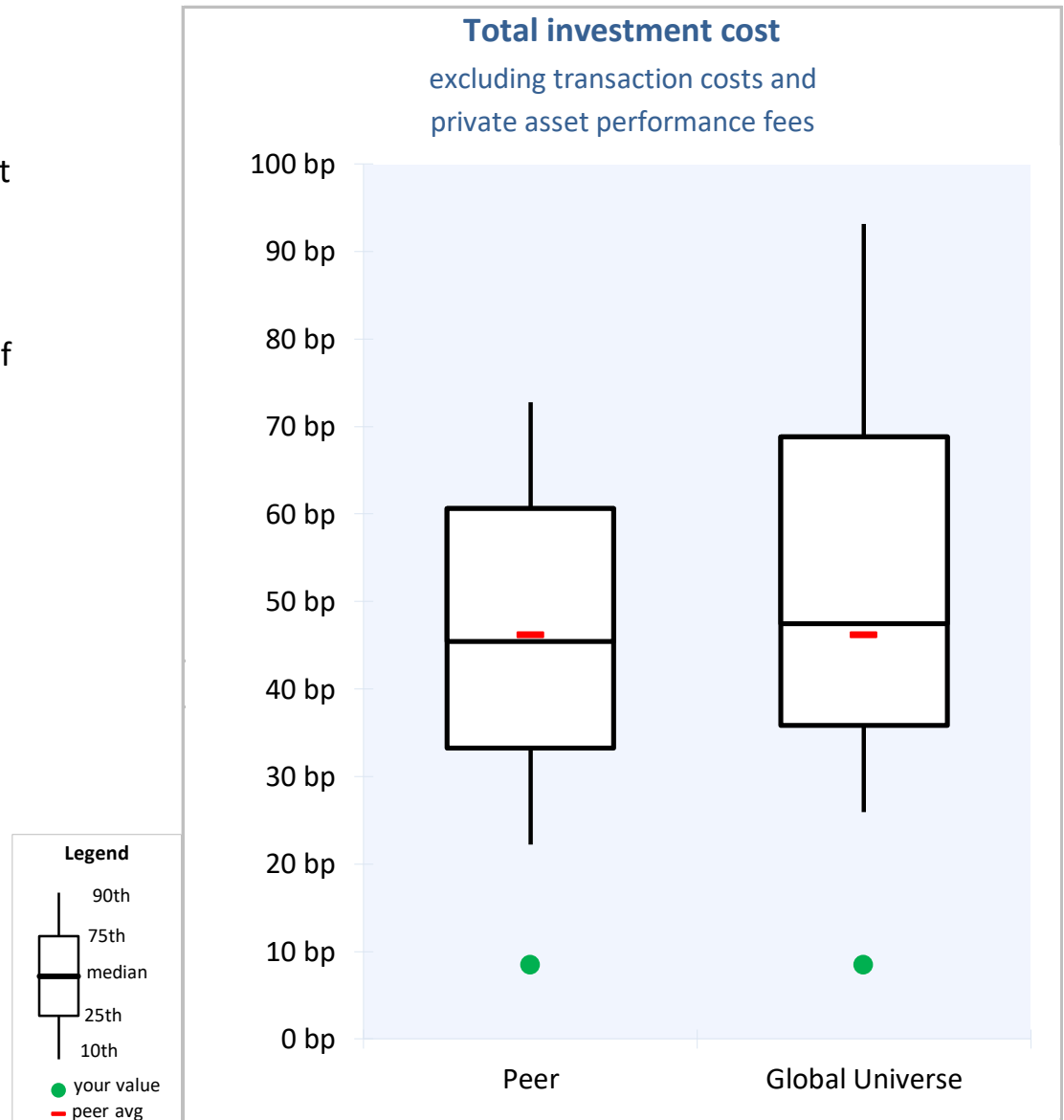


## Your 2015 total investment cost of 8.5 bps was the lowest of the peers and was substantially below the peer median of 45.5 bps.

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 and private equity. These high cost assets equaled 0% of your fund's assets at the end of 2015 versus a peer average of 21%.
- Fund size. Bigger funds have advantages of scale.

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



## Benchmark cost analysis suggests that, after adjusting for fund size and asset mix, your fund was low cost by 7.6 basis points in 2015.

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 8.5 bp was below your benchmark cost of 16.0 bp. Thus, your cost savings was 7.6 bp.

### Your cost versus benchmark

	€000s	basis points
Your total investment cost	17,485	8.5 bp
Your benchmark cost	33,143	16.0 bp
Your excess cost	(15,658)	(7.6) bp

## Your fund was low cost in 2015 primarily because you had a lower cost implementation style.

### Reasons for your low cost status

	Excess Cost/ (Savings)	
	€000s	bps
1. Lower cost implementation style		
• Less external active management (more lower cost passive and internal)	(14,914)	(7.2)
• Less overlays	(1,177)	(0.6)
• Other style differences	1,961	0.9
	<u>(14,131)</u>	<u>(6.8)</u>
2. Paying less than peers for similar services		
• Internal investment management costs	(483)	(0.2)
• Oversight, custodial & other costs	(1,045)	(0.5)
	<u>(1,527)</u>	<u>(0.7)</u>
<b>Total savings</b>	<b>(15,658)</b>	<b>(7.6)</b>

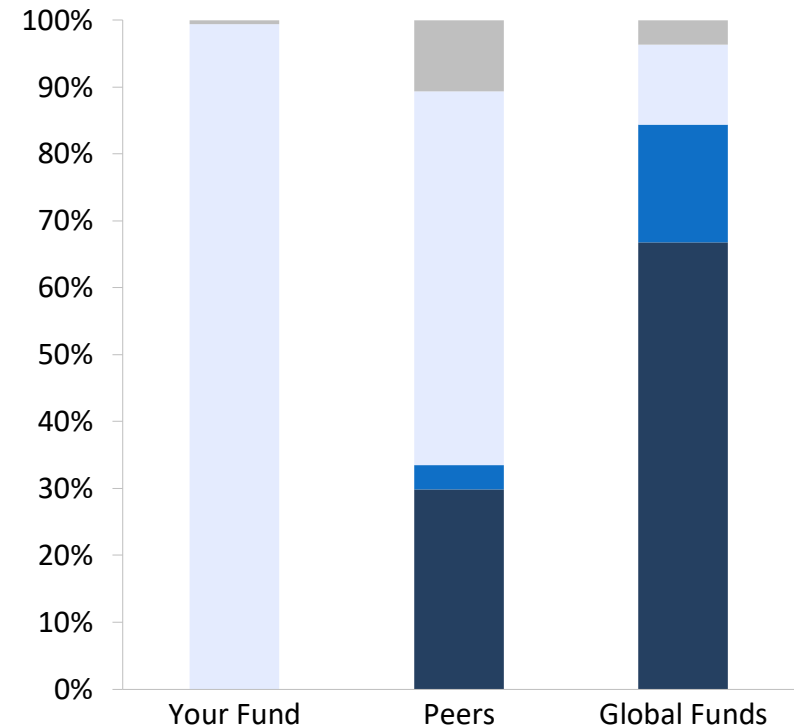
## Differences in cost performance are often caused by differences in implementation style.

Implementation style is defined as the way in which your fund implements asset allocation. It includes internal, external, active, passive and fund of funds styles.

The greatest cost impact is usually caused by differences in the use of:

- External active management because it tends to be much more expensive than internal or passive management. You used less external active management than your peers (your 0% versus 30% for your peers).
- Within external active holdings, fund of funds usage because it is more expensive than direct fund investment.

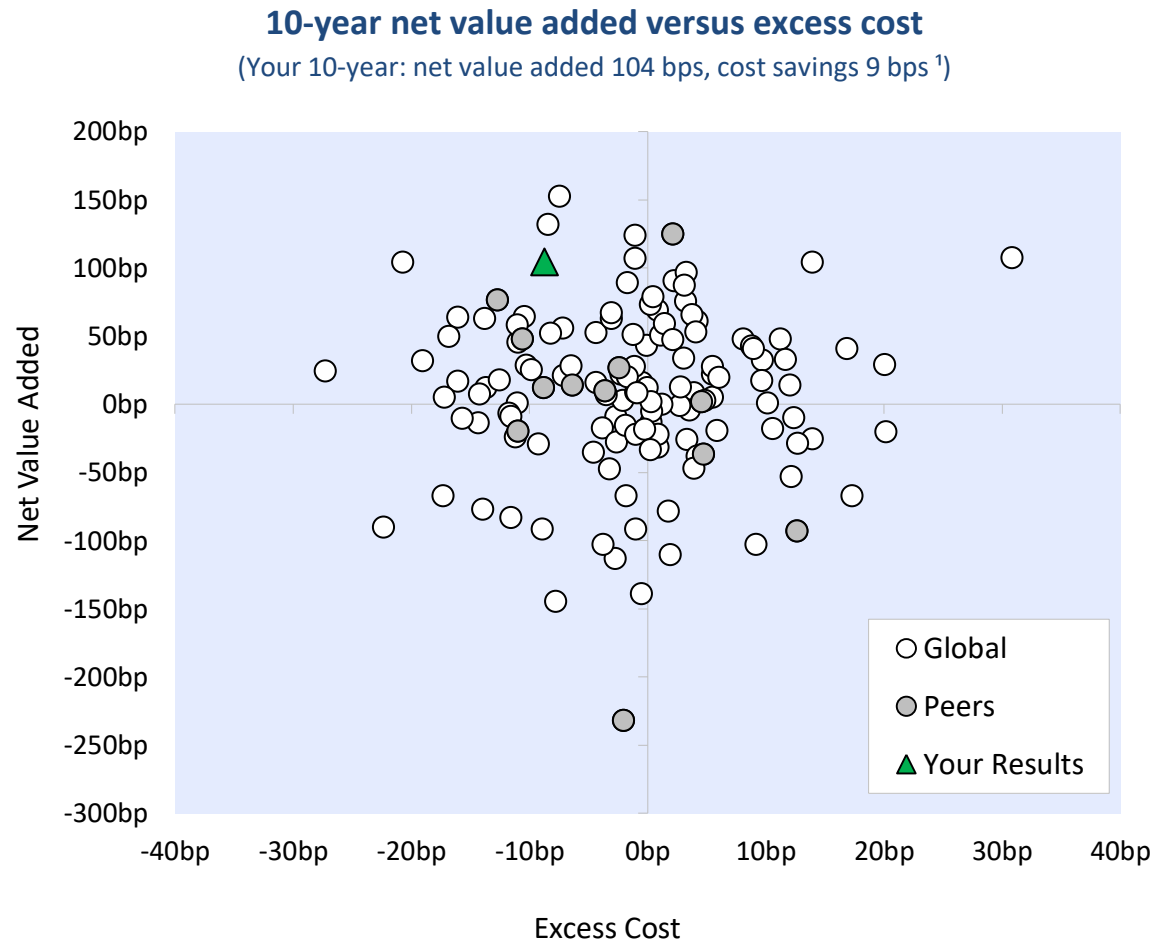
Implementation style<sup>1</sup>



■ Internal passive	1%	11%	4%
■ Internal active	99%	56%	12%
■ External passive	0%	4%	18%
■ External active	0%	30%	67%

1. The graph above does not take into consideration the impact of derivatives.

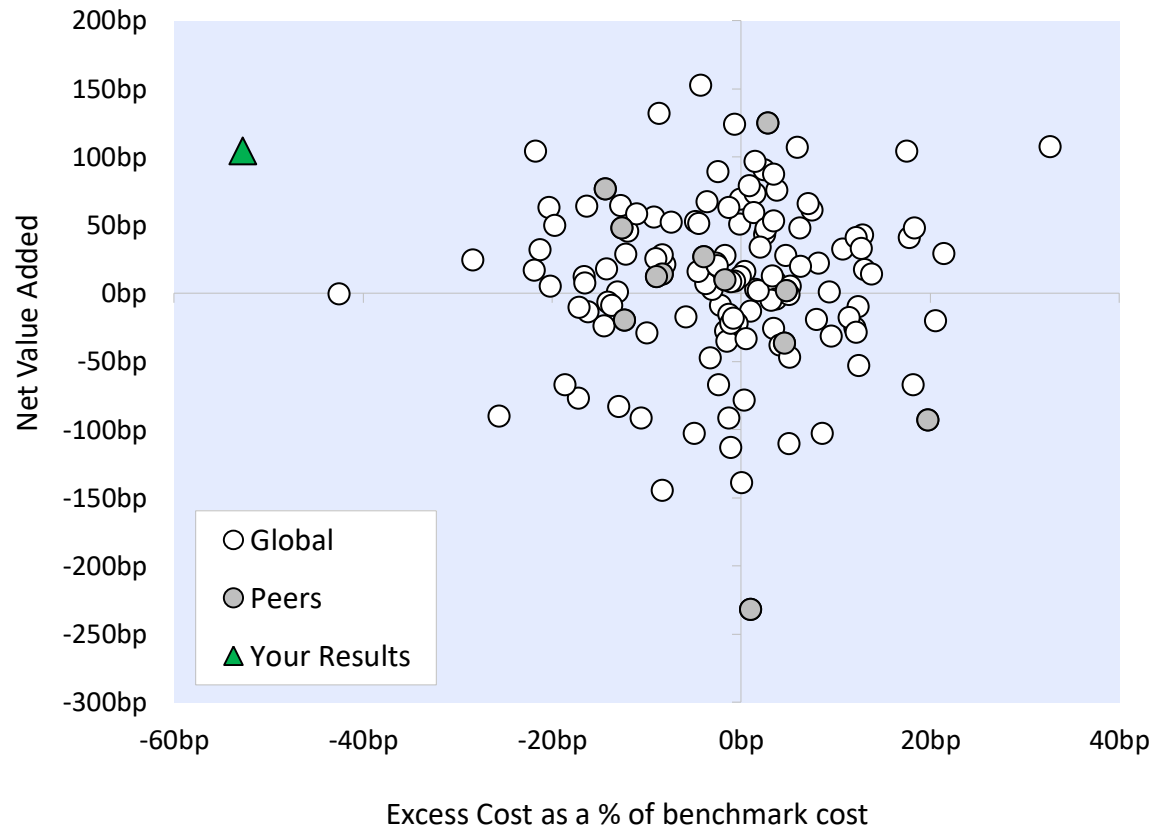
# Your 10-year performance placed in the positive value added, low cost quadrant of the cost effectiveness chart.



1. Your 10-year cost savings of 9 basis points is the average of your cost savings for the past 10 years.

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

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



# 2

## Research and Trends

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## The region with the highest net value added was Europe.

### Value added by region<sup>1</sup> (period ending December 31, 2015)

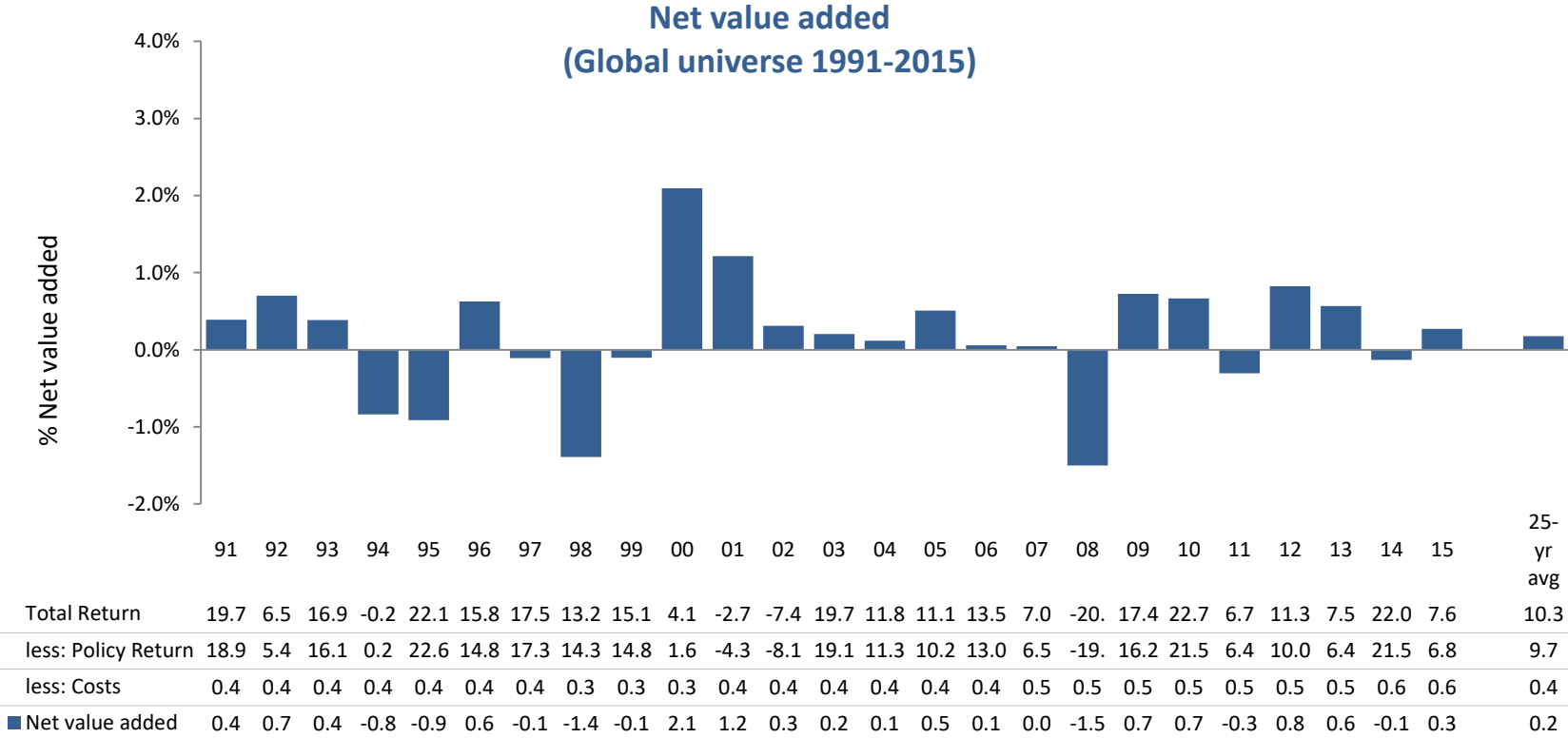
	All funds	U.S. funds	Canadian funds	European funds	Asia-Pacific funds
	25-year average <sup>3</sup>	25-year average <sup>3</sup>	25-year average <sup>3</sup>	22-year <sup>2</sup> average <sup>3</sup>	16-year <sup>2</sup> average <sup>3</sup>
Total return	10.34%	11.01%	9.29%	8.56%	7.94%
- Policy return	9.74%	10.34%	8.76%	7.81%	7.61%
<u>- Costs</u>	<u>0.43%</u>	<u>0.47%</u>	<u>0.37%</u>	<u>0.31%</u>	<u>0.48%</u>
= Net value added	0.18%	0.19%	0.16%	0.45%	-0.15%
# of annual observations	7,677	4,255	2,360	927	118
Median fund size (€ billion)	6.7	8.0	2.9	16.6	29.2

1. Only regions with more than four participating funds are separately disclosed. Funds from regions with fewer than four participating funds are included in Global/ All Funds.

2. The shorter time periods for European and Asia-Pacific funds reflect the dates that CEM started collecting data in those regions.

3. Averages are the arithmetic average of annual averages.

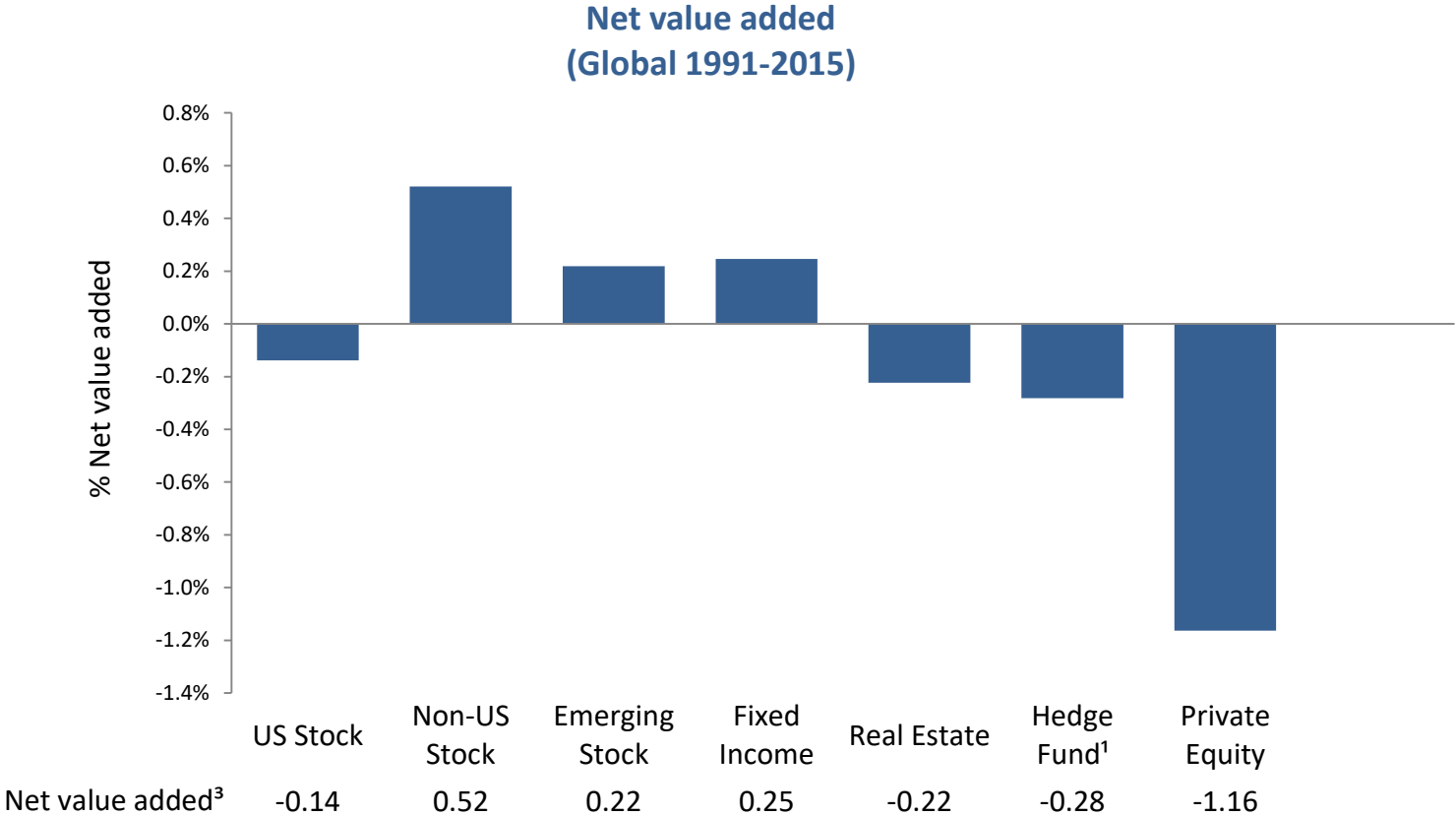
# In the Global universe, net value added averaged 0.2% over the past 25 years ending 2015.



	91	92	93	94	95	96	97	98	99	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	25-yr avg
Total Return	19.7	6.5	16.9	-0.2	22.1	15.8	17.5	13.2	15.1	4.1	-2.7	-7.4	19.7	11.8	11.1	13.5	7.0	-20.	17.4	22.7	6.7	11.3	7.5	22.0	7.6	10.3
less: Policy Return	18.9	5.4	16.1	0.2	22.6	14.8	17.3	14.3	14.8	1.6	-4.3	-8.1	19.1	11.3	10.2	13.0	6.5	-19.	16.2	21.5	6.4	10.0	6.4	21.5	6.8	9.7
less: Costs	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.4
■ Net value added	0.4	0.7	0.4	-0.8	-0.9	0.6	-0.1	-1.4	-0.1	2.1	1.2	0.3	0.2	0.1	0.5	0.1	0.0	-1.5	0.7	0.7	-0.3	0.8	0.6	-0.1	0.3	0.2

Value added analysis is based on 7,677 annual fund total performance observations from the CEM Global universe for the 25-year period ending 2015. The 25-year average is an arithmetic average of the annual averages.

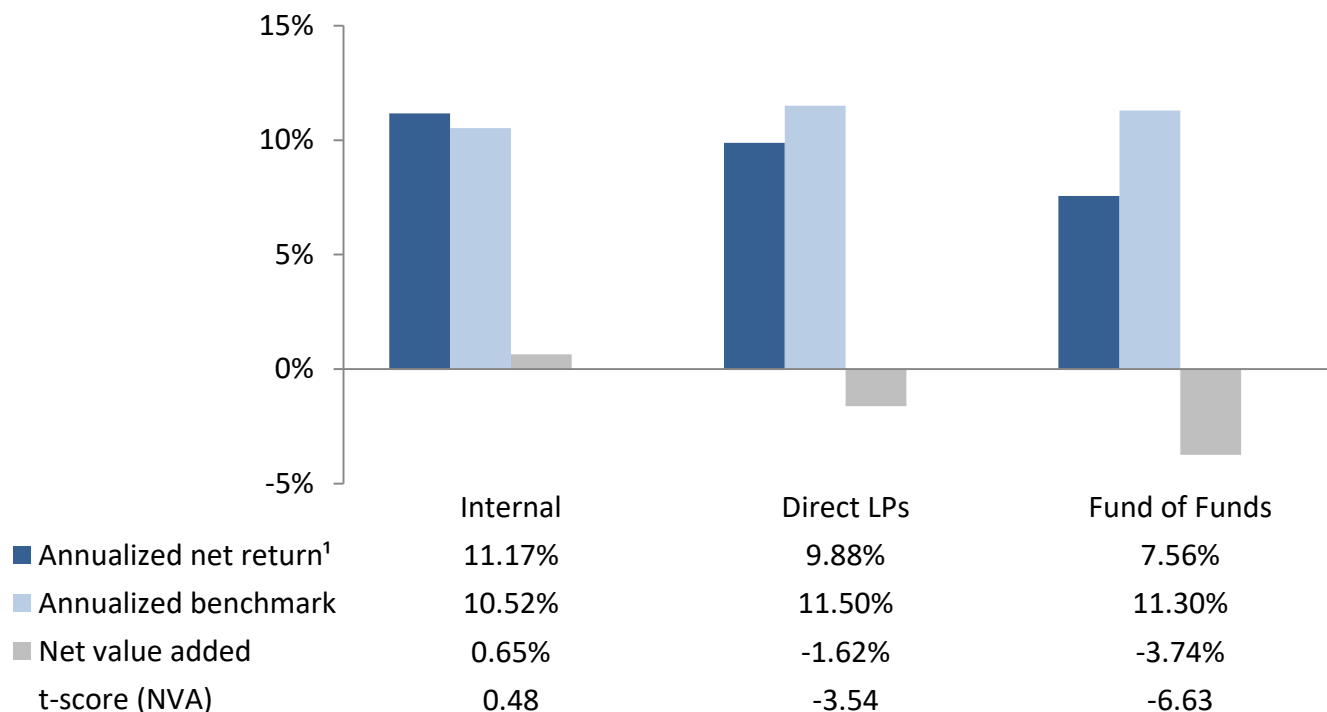
The asset class that had the highest net value added in the Global universe over the past 25 years was Non-US Stock.



1. Hedge Fund gross value added performance reflect data for the 16 year period from 2000 to 2015.  
 2. The net value added calculation for private equity uses the average benchmark of all Global participants.  
 3. Value added analysis is from 7,677 annual fund performance observations from the CEM Global universe for the 25-year period ending 2015. Value added reflects the asset weighted value added of all mandates in each asset category including indexed holdings. Averages shown above are the arithmetic average of the annual averages of all observations of funds with holdings in the asset category for each year.

## Costs matter - Lower cost internal investment in private equity outperformed direct LPs. Direct LPs outperformed fund of funds.

Private equity net returns and value added<sup>1</sup> (1996-2015)

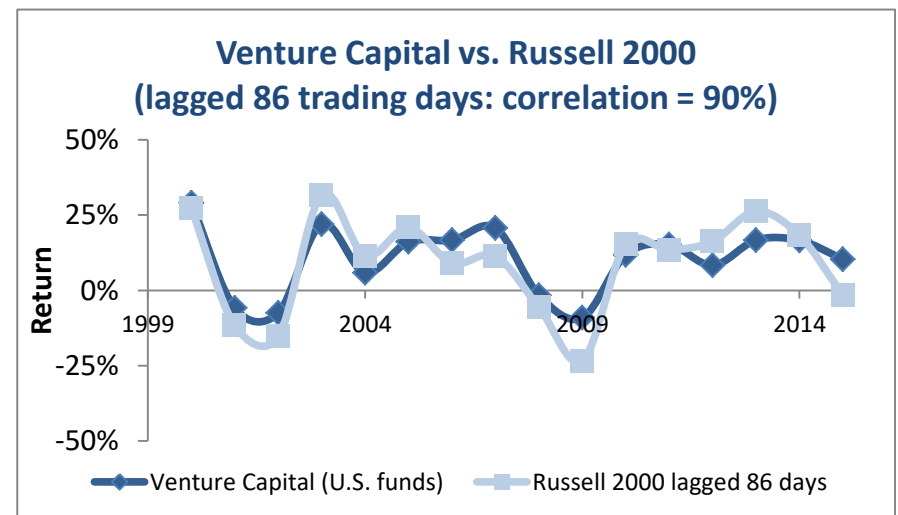
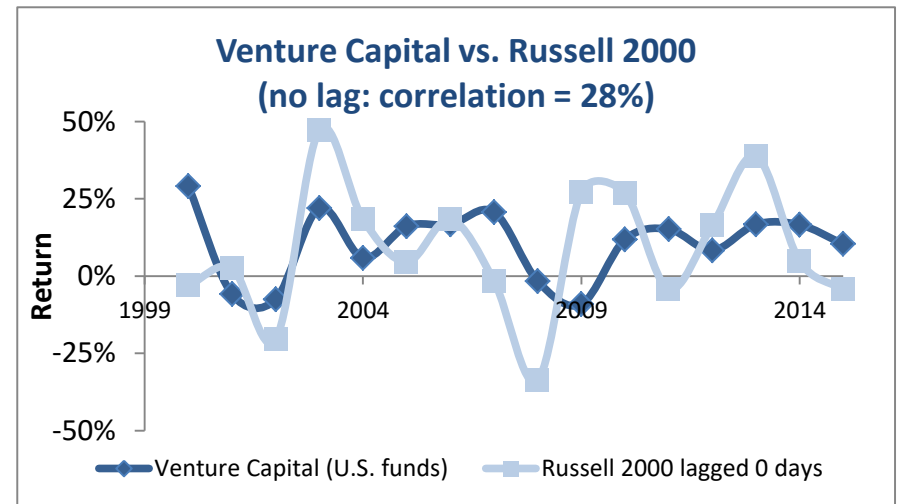


1. Private equity performance by investment style research was updated on July 1 2016. Net value added has dropped by a significant margin since the original research which covered 1996-2012 due to the 2013 bull market in small cap equities which is the basis of the benchmark.
2. To compare the performance of private equity implementation styles over long periods, Monte Carlo simulations were used to capture differences in risk between styles. For details, see "How Implementation Style and Costs Affect Private Equity Performance", Alex Beath, Chris Flynn, and Jody MacIntosh, International Journal of Pension Management pp. 50, vol. 7, issue 1, Spring 2014.

## 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 2009 the Russell 2000 index return was 27.2% versus -23.4% if lagged 86 trading days. Thus if a fund earned the average reported venture capital return for 2008 of -1.6%, they would have mistakenly believed that their value added from venture capital was -28.8% using the un-lagged benchmarks versus 21.8% using the same benchmark lagged to match the average 86 day reporting lag of venture capital funds.
- Un-investable peer-based benchmarks. Peer based benchmarks reflect the reporting lags in peer portfolios so they have much better correlations than un-lagged investable benchmarks. But their relationship statistics are not as good as for lagged investable benchmarks.
- Aspirational premiums (i.e., benchmark + 2%). Premiums cannot be achieved passively, and evidence suggests that a fund has to be substantially better than average to attain them. More importantly, when comparing performance to other funds, they need to be excluded to ensure a level playing field.



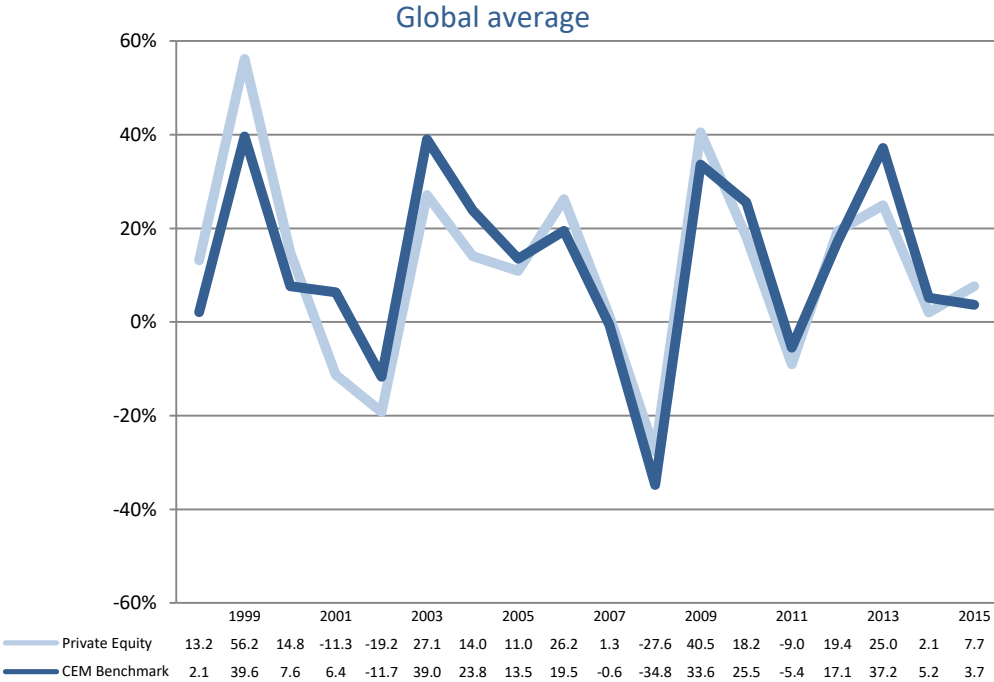
# To enable fairer comparisons, CEM uses default private equity benchmarks.

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

- Investable. They are comprised of lagged small cap benchmarks.
- Custom lagged for each participant. Different portfolios had different lags. CEM estimated the lag on private equity portfolios by comparing annual private equity returns to public market proxies with 1 day of lag, 2 days of lag, 3 days of lag, etc. At some number of days lag, correlation between the two series is maximized. The median lag was 101 trading days (i.e., approximately 142 calendar days or 4.7 calendar months)
- Regional mix adjusted based on the average estimated mix of regions in private equity portfolios for a given country.

The result is the default benchmarks are superior to most self-reported benchmarks. Correlations improve to a median of 84% for the default benchmarks versus 48% for self-reported benchmarks. Other statistics such as volatility were also much better.

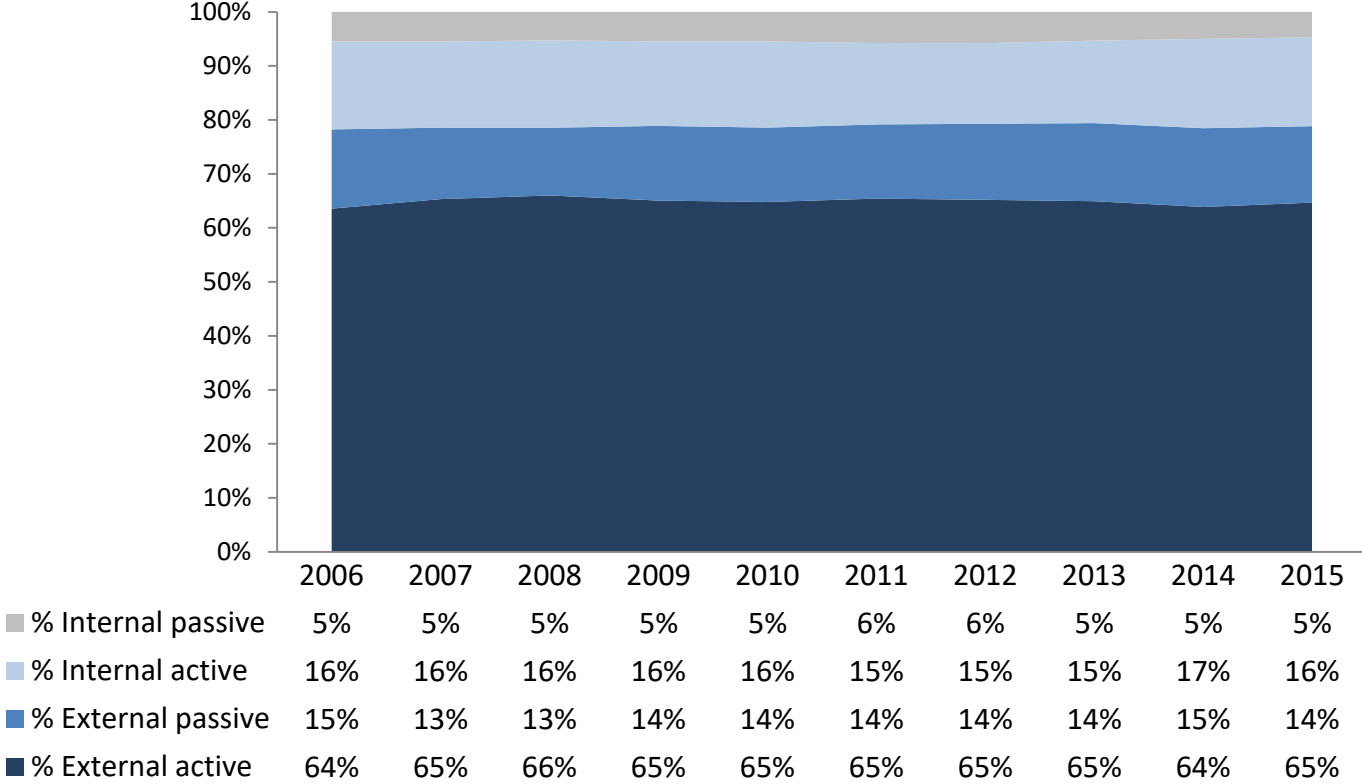
Private equity returns versus default benchmark returns<sup>1</sup>



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

For global plans, external active management increased from 64% to 65% over the past 10 years.

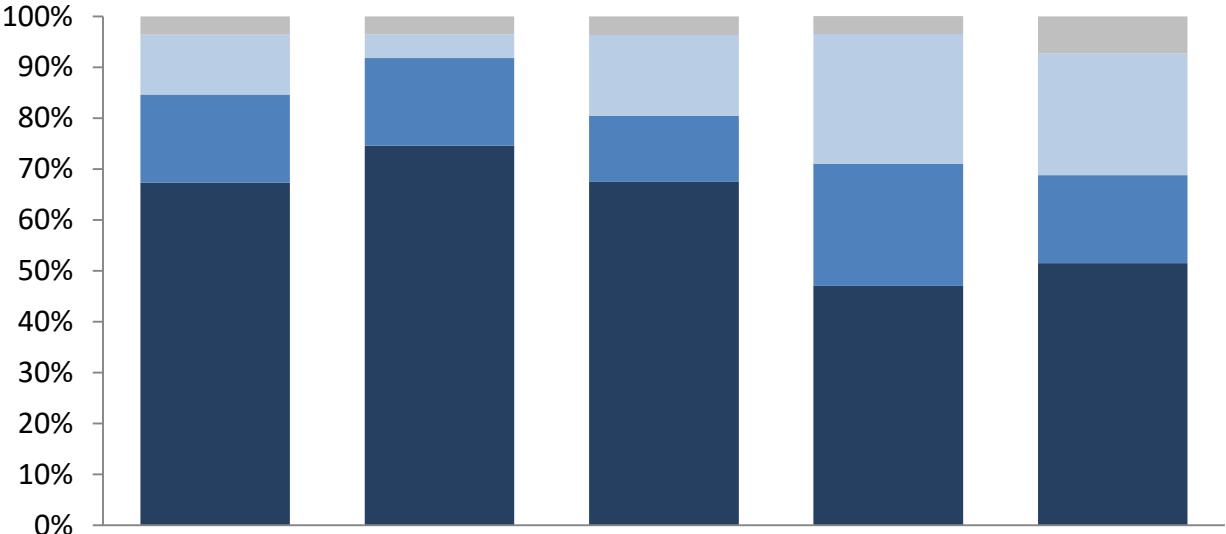
Implementation style by year - Global funds



• This analysis is based on 124 global funds with 10 consecutive years of data.

# European funds have less externally managed active assets than funds in most other regions.

Implementation style by region - 2015 average

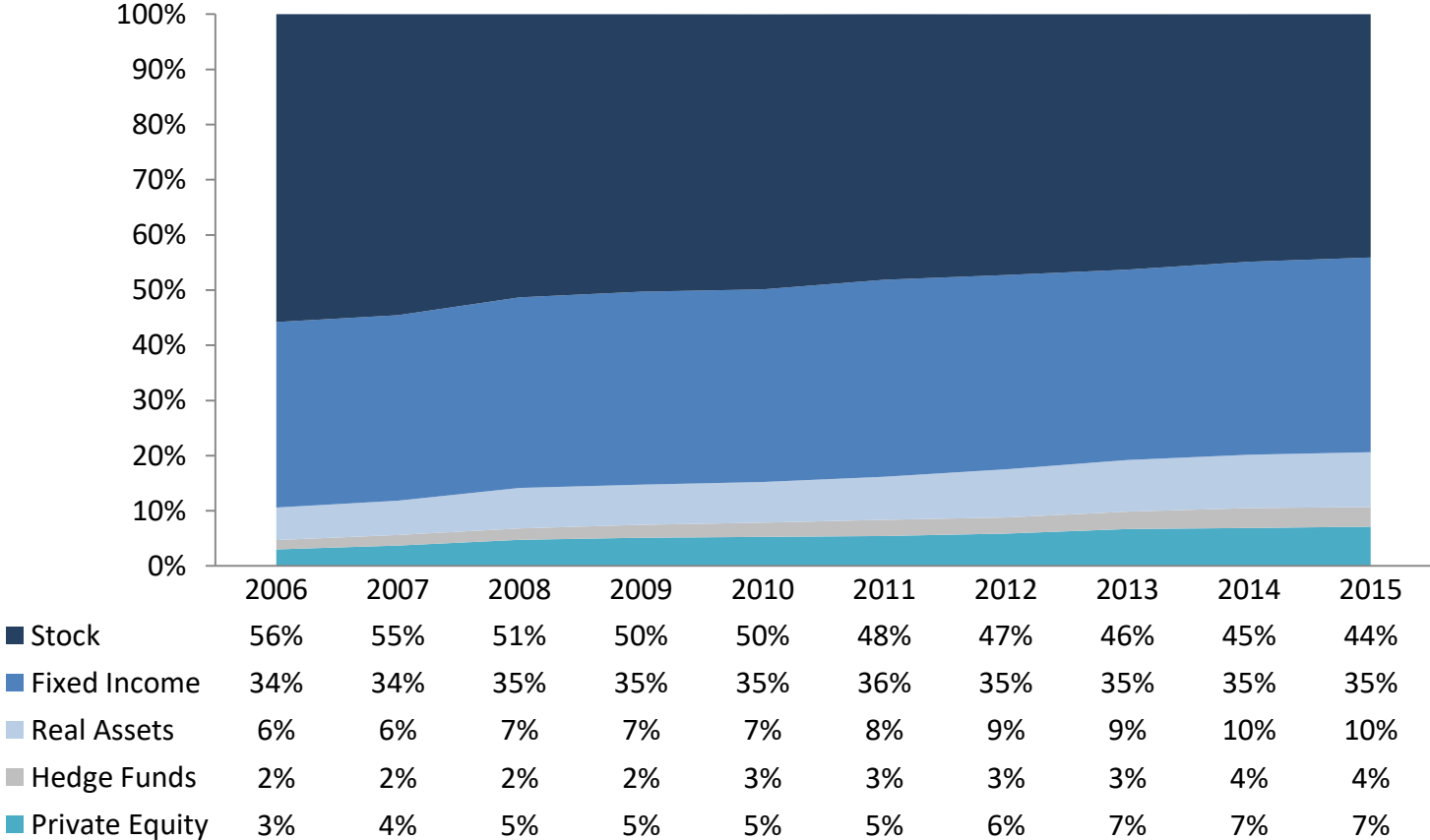


■ % Internal passive	4%	4%	4%	4%	7%
■ % Internal active	12%	5%	16%	25%	24%
■ % External passive	17%	17%	13%	24%	17%
■ % External active	67%	75%	67%	47%	51%
Number of funds	293	162	72	52	6
Median fund in € billions	6.7	8.0	2.9	16.6	29.2



For Global plans, combined policy weights for real assets, private equity and hedge funds increased from 10.6% in 2006 to 20.6% in 2015.

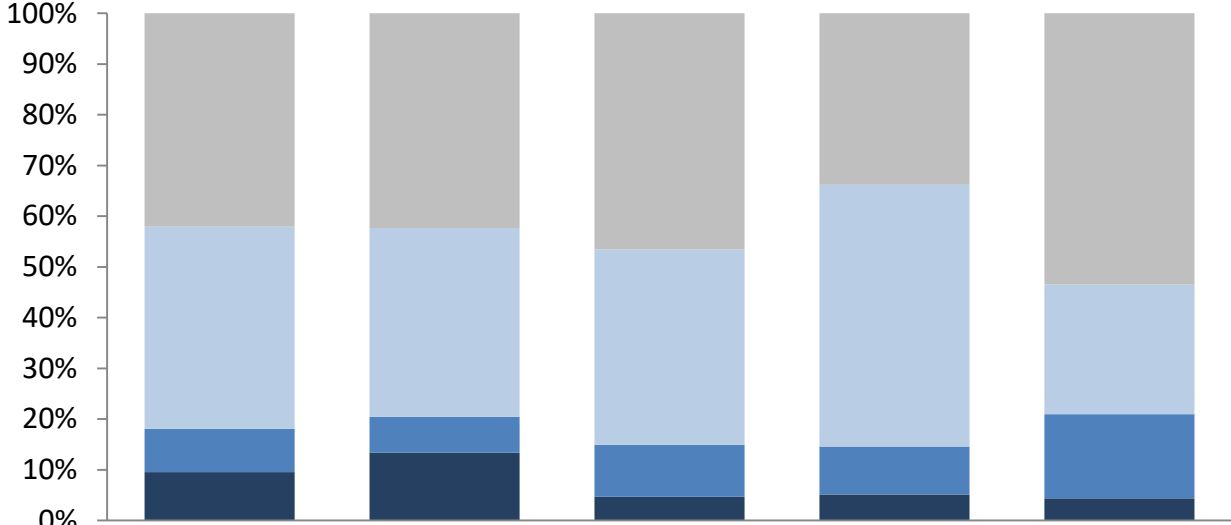
Policy mix by year - Global



• This analysis is based on 124 global funds with 10 consecutive years of data.

# European funds have more fixed income.

Policy asset mix by region - 2015 average

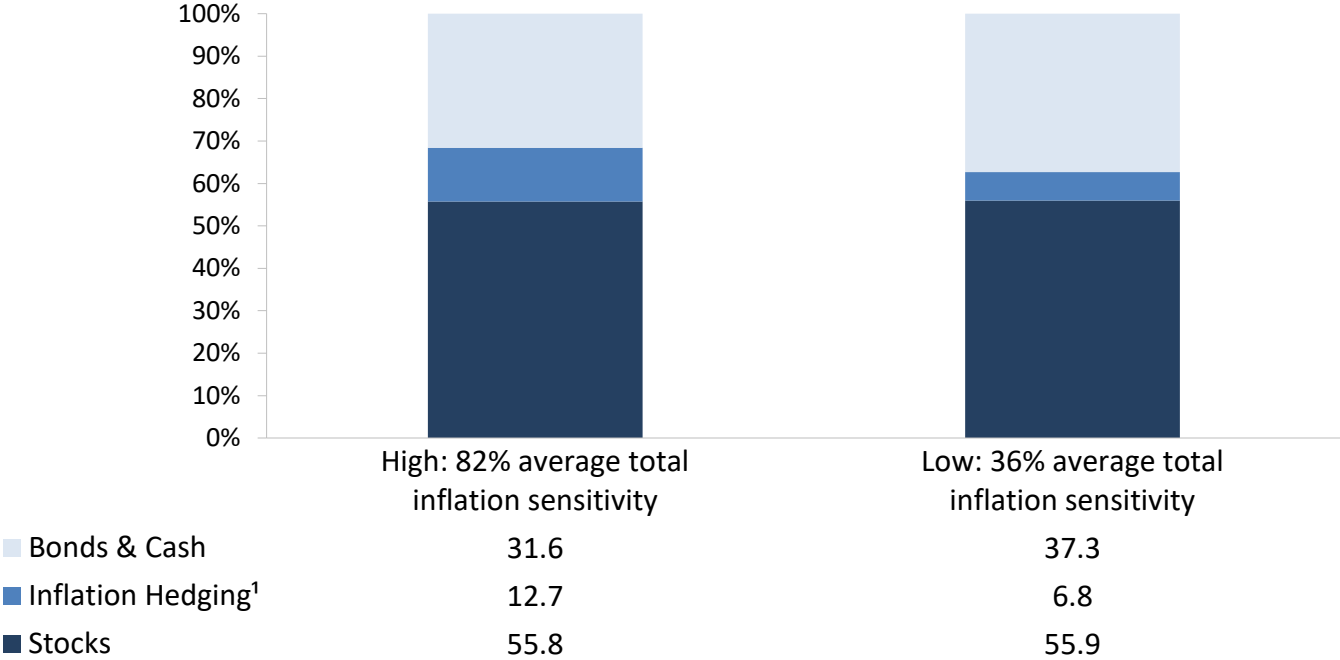


Stock	42%	42%	47%	34%	53%
Fixed Income	40%	37%	39%	52%	26%
Real Assets	8%	7%	10%	9%	17%
Priv. Equity & Hedge Funds	10%	13%	5%	5%	4%
Number of funds	293	162	72	52	6
Median fund in € billions	6.7	8.0	2.9	16.6	29.2

# Impact of inflation sensitivity on policy asset mix decisions

One would expect plans with more inflation sensitivity to have more inflation hedging assets and fewer nominal bonds than plans with less inflation sensitivity. Although this is true, the difference is small: inflation hedging assets represent 12.7% of assets at plans with high inflation sensitivity versus 6.8% at plans with lower inflation sensitivity.

**Average policy asset mix:  
Plans with above vs. below average inflation sensitivity**

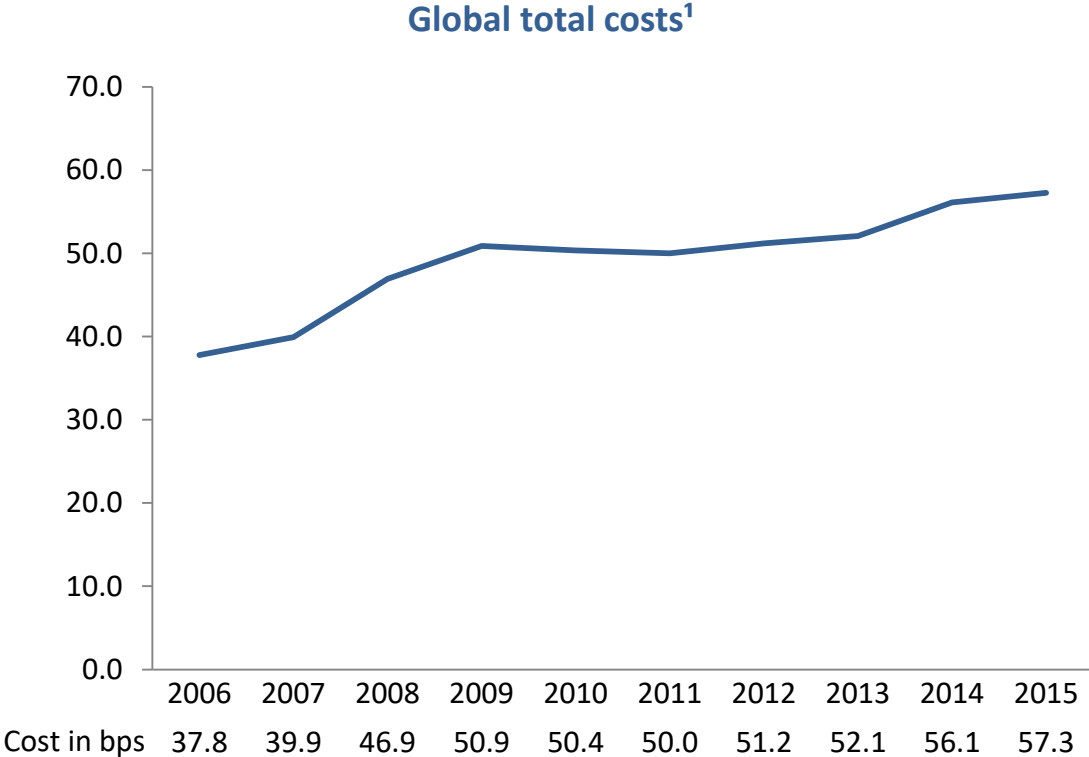


1. Inflation hedge assets include inflation-indexed bonds, commodities, real estate & REITs, infrastructure and natural resources.

# Global fund costs have grown by 19 basis points on average over the last 10 years.

Reasons for the increase in costs include:

- Allocation to the more expensive asset classes - hedge funds, real assets and private equity- increased from 5% to 9% on average.
- Use of the most expensive implementation style, external active management, increased from 64% to 65% on average.



1. This analysis is based on 124 global funds with 10 consecutive years of data.

# 3

## Description of peer group and universe

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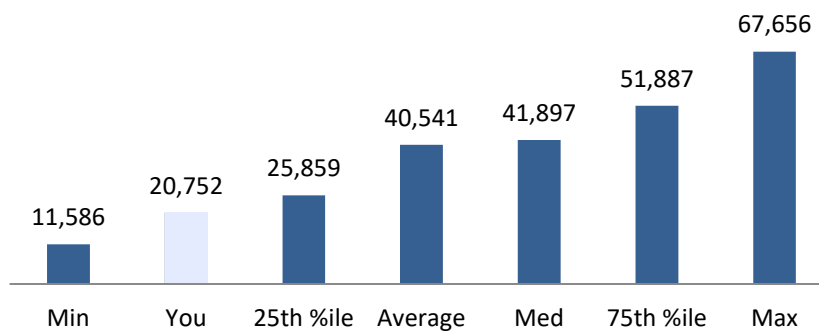
## Peer group

Your peer group is comprised of 16 global funds, with assets ranging from €11.6 billion to €67.7 billion versus your €20.8 billion. The median size is €41.9 billion.

Size is the primary criteria for choosing your peer group, because size greatly impacts how much you pay for services. Generally, the larger your fund, the smaller your unit operating costs (i.e., the economies of scale impact).

### Peer group for Government Pension Fund Norway

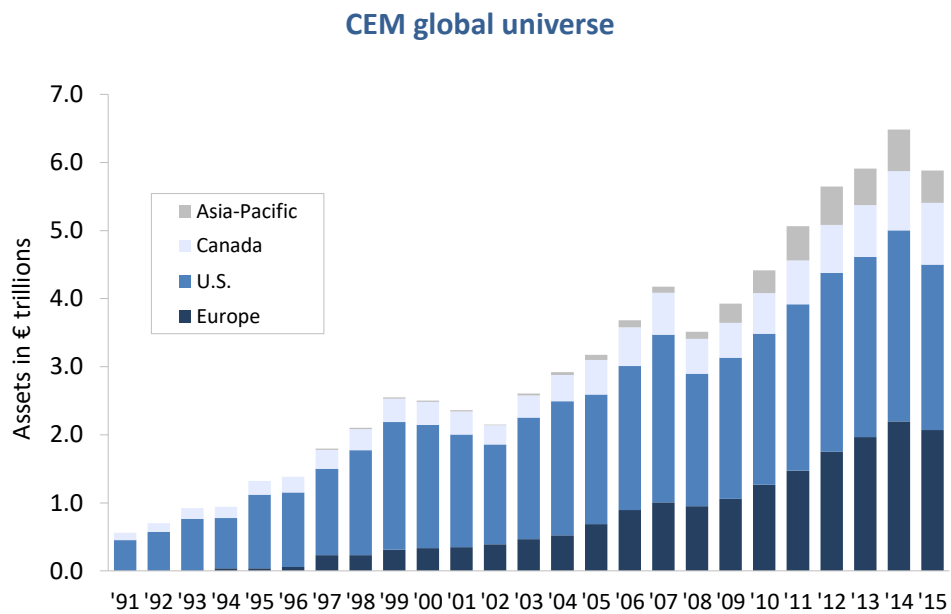
#### Total fund assets (€ millions) - you versus peers



## CEM global universe

CEM has been providing investment benchmarking solutions since 1991. The 2015 survey universe is comprised of 293 funds representing €5.9 trillion in assets. The breakdown by region is as follows:

- 162 U.S. pension funds with aggregate assets of €2.4 trillion.
- 72 Canadian pension funds with aggregate assets of €909 billion.
- 52 European pension funds with aggregate assets of €2.1 trillion. Included are funds from The Netherlands, Norway, Sweden, Finland, Denmark, Switzerland and the UK.
- 7 Asia-Pacific pension funds with aggregate assets of €472 billion.



## Universe subsets

CEM's global survey universe is comprised of 293 funds with total assets of €5.9 trillion. Your fund's returns and costs are compared to the following two subsets of the global universe:

- Peers - Your peer group is comprised of 16 Global funds ranging in size from €11.6 - €67.7 billion. The peer median of €41.9 billion compares to your €20.8 billion.
- Global - The global universe is comprised of 293 funds ranging in size from €0.1 - €783.2 billion. The median fund is €4.7 billion.

### Universe subsets by number of funds and assets

	Peer group <sup>1</sup>	Global by type				Global by Country				
		Corp.	Public	Other	Total	U.S.	Canada	Europe	Asia-Pacific	Total
<u># of funds</u>										
2015	16	143	97	50	293	162	72	52	7	293
2014	16	163	198	52	414	174	88	143	9	414
2013	16	183	193	60	438	190	89	152	7	438
2012	16	188	199	57	445	201	88	144	12	445
2011	16	197	113	71	382	205	88	77	12	382
<u># of funds with uninterrupted data for:</u>										
1 yr	16	143	97	50	290	162	72	52	7	293
2 yrs	16	130	91	40	261	148	67	42	5	262
3 yrs	16	121	86	38	245	136	63	41	5	245
4 yrs	16	109	85	32	226	131	59	31	5	226
5 yrs	16	102	79	30	211	127	53	26	5	211
6 yrs	15	94	75	29	198	119	52	23	4	198
<u>Total assets (€ billions)</u>										
2015	649	936	4,107	823	5,881	2,431	909	2,070	472	5,881
2014	643	1,124	4,590	768	6,482	2,809	867	2,195	612	6,482
2013	592	1,052	4,590	670	5,912	2,646	761	1,966	539	5,912
2012	563	1,058	3,977	562	5,647	2,629	704	1,749	565	5,647
2011	515	1,054	3,447	517	5,062	2,446	644	1,472	501	5,062
<u>2015 asset distribution (€ billions)</u>										
Avg	40.5	6.5	42.3	16.5	20.1	15.0	12.6	39.8	67.4	20.1
Max	67.7				783.2					783.2
75th %ile	51.9				14.1					14.1
Median	41.9				4.7					4.7
25th %ile	25.9				1.6					1.6
Min	11.6				0.1					0.1

1. Peer group statistics are for your 2015 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 - 2015 (as a % of year-end assets)

	Your fund	Peer group	Global by type				Global by Country				
			Corp.	Public	Other	Total	U.S.	Canada	Europe	Asia-Pacific	Total
<u>Implementation style</u>											
External active	0.0	28.9	72.4	55.7	57.0	64.4	70.8	66.2	44.0	47.8	64.4
Fund of funds	0.0	0.9	3.3	2.6	2.8	3.0	3.8	1.3	3.0	1.6	3.0
External passive	0.0	3.6	16.8	16.3	22.0	17.3	17.2	12.9	24.0	14.8	17.3
Internal active	99.5	56.1	5.2	19.5	15.2	11.7	4.7	15.9	25.5	28.9	11.7
Internal passive	<u>0.5</u>	<u>10.5</u>	<u>2.3</u>	<u>6.0</u>	<u>3.1</u>	<u>3.6</u>	<u>3.5</u>	<u>3.7</u>	<u>3.5</u>	<u>6.9</u>	<u>3.6</u>
Total	100.0	100.1	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
<u>Actual asset mix</u>											
Stock	59.2	39.1	38.6	47.4	37.6	41.5	41.6	46.9	33.7	42.9	41.5
Fixed income	40.8	34.3	45.5	29.7	44.3	40.0	37.6	37.4	52.3	32.3	40.0
Global TAA	0.0	3.9	2.1	1.6	0.9	1.7	2.5	1.0	0.3	1.3	1.7
Real assets	0.0	11.5	5.6	11.2	11.2	8.4	7.1	10.1	8.7	17.8	8.4
Hedge funds	0.0	4.2	4.6	3.9	2.6	4.0	5.6	1.8	2.1	1.7	4.0
Private equity	<u>0.0</u>	<u>7.1</u>	<u>3.5</u>	<u>6.2</u>	<u>3.4</u>	<u>4.4</u>	<u>5.5</u>	<u>2.9</u>	<u>2.8</u>	<u>4.0</u>	<u>4.4</u>
Total	100.0	100.1	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
<u>Policy asset mix</u>											
Stock	59.5	41.1	39.0	48.0	38.4	42.0	42.3	46.5	33.8	50.4	42.0
Fixed income	40.5	34.6	45.7	29.6	43.4	39.9	37.2	38.5	51.6	30.0	39.9
Global TAA	0.0	4.6	2.0	1.5	1.0	1.6	2.4	1.1	0.3	0.9	1.6
Real assets	0.0	10.4	5.5	11.4	11.8	8.5	7.1	10.2	9.5	15.1	8.5
Hedge funds	0.0	2.3	4.2	2.8	2.0	3.3	4.9	1.0	1.9	0.2	3.3
Private equity	<u>0.0</u>	<u>7.0</u>	<u>3.7</u>	<u>6.6</u>	<u>3.4</u>	<u>4.6</u>	<u>6.1</u>	<u>2.6</u>	<u>2.9</u>	<u>3.5</u>	<u>4.6</u>
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

## Implementation style, actual mix and policy mix trends

### Implementation style, actual mix and policy mix - 2011 to 2015 (as a % of year-end assets)

	Your fund					Peer average <sup>1</sup>					Global average <sup>1</sup>				
	2015	2014	2013	2012	2011	2015	2014	2013	2012	2011	2015	2014	2013	2012	2011
<b>Implementation style</b>															
External active	0.0	0.0	0.0	0.0	0.0	29.8	30.4	29.2	30.2	30.3	66.1	65.0	65.9	65.9	65.9
External passive	0.0	0.0	0.0	0.0	0.0	3.6	3.9	3.7	5.9	6.0	16.8	17.2	17.2	17.4	17.2
Internal active	99.5	99.3	99.5	98.8	100.0	56.1	55.3	56.2	54.7	54.4	12.9	13.3	12.1	11.9	12.0
Internal passive	<u>0.5</u>	<u>0.7</u>	<u>0.5</u>	<u>1.2</u>	<u>0.0</u>	<u>10.5</u>	<u>10.4</u>	<u>10.9</u>	<u>9.2</u>	<u>9.3</u>	<u>4.2</u>	<u>4.4</u>	<u>4.9</u>	<u>4.8</u>	<u>4.8</u>
Total	100.0	100.0	100.0	100.0	100.0	100.1	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
<b>Actual asset mix</b>															
Stock	59.2	57.7	62.6	62.5	60.7	39.1	40.4	41.4	42.3	44.1	40.8	41.9	44.5	43.4	43.9
Fixed income	40.8	42.3	37.4	37.5	39.3	34.3	34.5	34.8	37.5	36.8	38.6	38.9	36.6	38.2	38.2
Global TAA	0.0	0.0	0.0	0.0	0.0	3.9	3.6	2.7	0.8	0.5	2.2	2.2	2.0	1.8	1.6
Real assets	0.0	0.0	0.0	0.0	0.0	11.5	10.2	10.9	9.5	9.1	8.7	8.0	7.9	7.9	7.3
Hedge funds	0.0	0.0	0.0	0.0	0.0	4.2	4.3	3.4	2.7	2.3	4.7	4.4	4.2	3.8	3.9
Private equity	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>7.1</u>	<u>6.9</u>	<u>6.9</u>	<u>7.2</u>	<u>7.4</u>	<u>5.0</u>	<u>4.7</u>	<u>4.7</u>	<u>4.9</u>	<u>5.0</u>
Total	100.0	100.0	100.0	100.0	100.0	100.1	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
<b>Policy asset mix</b>															
Stock	59.5	58.1	62.8	62.4	60.7	41.1	41.6	42.6	45.1	45.2	41.3	41.8	43.6	44.9	45.8
Fixed income	40.5	41.9	37.2	37.6	39.3	34.6	34.7	35.4	37.1	37.5	38.8	38.7	37.6	37.6	37.5
Global TAA	0.0	0.0	0.0	0.0	0.0	4.6	4.3	4.0	0.2	0.4	2.1	2.0	2.0	1.6	1.5
Real assets	0.0	0.0	0.0	0.0	0.0	10.4	9.7	9.5	9.4	9.4	8.7	8.5	8.2	7.8	7.1
Hedge funds	0.0	0.0	0.0	0.0	0.0	2.3	2.7	1.8	1.5	1.2	4.0	4.0	3.6	3.3	3.4
Private equity	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>7.0</u>	<u>7.0</u>	<u>6.8</u>	<u>6.6</u>	<u>6.5</u>	<u>5.2</u>	<u>5.0</u>	<u>5.0</u>	<u>4.8</u>	<u>4.6</u>
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.2	100.0	100.0	100.0	100.0	100.0

1. Trends are based on the 211 Global and 16 peer funds with 5 consecutive years of data ending 2015.

## 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 - 2015 (as a % of average assets)

	Your fund %				Peer average %				Global average %				
	External		Internal		External		Internal		External		Internal		
	Active	FOFs	Index	Active	Index	Active	FOFs	Index	Active	FOFs	Index	Active	Index
Stock - U.S.					14.9	9.8	47.8	27.5	46.5	40.7	5.5	7.3	
Stock - EAFE	0.0		0.0	100.0	0.0				58.8	24.7	13.2	3.4	
Stock - ACWIxU.S.					67.4	0.0	32.5	0.1	63.1	36.4	0.5	0.0	
Stock - Emerging					49.6	7.3	15.8	27.3	80.7	11.1	3.1	5.2	
Stock - Global					31.4	0.0	67.7	1.0	68.7	16.4	12.9	2.0	
Stock - Other					7.3	0.0	58.8	33.9	72.6	8.1	12.5	6.8	
Total Stock	0.0		0.0	100.0	0.0				60.1	26.6	8.6	4.7	
Fixed Income - US					10.2	4.6	84.5	0.7	67.6	15.4	13.3	3.6	
Fixed Income - EAFE	0.0		0.0	100.0	0.0				27.1	40.1	30.4	2.4	
Fixed Income - Emerging					54.3	0.0	40.2	5.5	88.7	0.2	10.3	0.8	
Fixed Income - Global					16.3	0.0	49.0	34.7	59.7	5.9	30.1	4.4	
Fixed Income - Inflation Indexed					0.0	0.0	71.8	28.2	21.0	32.6	18.5	27.9	
Fixed Income - High Yield					82.7	0.0	17.3	0.0	93.2	1.4	5.5	0.0	
Fixed Income - Mortgages					45.9	0.0	54.1	0.0	76.9	4.3	18.3	0.6	
Fixed Income - Private Debt					11.3	0.0	88.7	0.0	74.4	0.0	25.6	0.0	
Fixed Income - Other					10.5	4.8	83.0	1.6	75.7	12.0	9.3	3.0	
Cash					6.3	0.0	93.7	0.0	54.7	0.0	45.3	0.0	
Total Fixed Income	0.0		0.0	100.0	0.0				65.8	14.8	15.6	3.8	
Commodities					0.0	36.5	0.0	63.5	65.2	12.6	18.0	4.3	
Infrastructure			n/a	n/a	18.0	1.4	n/a	80.6	n/a	64.5	5.0	n/a	30.5
Natural Resources			n/a	n/a	56.0	0.0	n/a	44.0	n/a	82.6	2.2	n/a	15.1
REITs					18.5	0.0	0.0	17.7	63.8	66.9	0.0	21.2	9.6
Real Estate ex-REITs			n/a	n/a	47.5	0.0	n/a	52.5	0.0	79.5	4.6	n/a	15.8
Other Real Assets			n/a	n/a	63.2	0.0	n/a	36.8	n/a	92.5	0.0	n/a	7.5
Total Real Assets					44.1	0.0	0.3	53.6	1.9	79.9	0.0	2.3	17.5
Hedge Funds			n/a	n/a	89.1	10.9	n/a	0.0	n/a	60.5	39.5	n/a	0.0
Global TAA			n/a	n/a	8.7	0.0	n/a	91.3	n/a	88.4	0.0	n/a	11.6
Diversified Private Equity			n/a	n/a	77.5	4.8	n/a	17.7	n/a	66.1	29.0	n/a	4.9
Venture Capital			n/a	n/a	64.1	24.1	n/a	11.8	n/a	60.7	38.2	n/a	1.1
LBO			n/a	n/a	94.7	5.3	n/a	0.0	n/a	89.7	7.4	n/a	2.9
Other Private Equity			n/a	n/a	87.2	0.0	n/a	12.8	n/a	87.4	0.0	n/a	12.6
Total Private Equity			n/a	n/a	82.1	5.4	n/a	12.5	n/a	76.2	20.0	n/a	3.8
Total Fund - Avg. Holdings	0.0	0.0	0.0	99.4	0.6	29.1	0.7	3.6	55.8	10.7	63.9	2.9	17.6
Total Fund - Yr.-End Holdings	0.0	0.0	0.0	99.5	0.5	28.9	0.9	3.6	56.1	10.5	64.4	3.0	17.3

## Actual mix

### Actual asset mix - 2011 to 2015 (as a % of year-end assets)

	Your fund %					Peer average %					Global average %				
	2015	2014	2013	2012	2011	2015	2014	2013	2012	2011	2015	2014	2013	2012	2011
Stock - U.S.						13.5	13.9	13.8	14.4	15.4	14.7	12.9	14.4	15.0	17.6
Stock - EAFE	59.2	57.7	10.0	9.4	9.1	14.2	14.4	11.7	11.8	12.7	6.5	10.0	10.9	11.0	8.0
Stock - ACWIxU.S.						0.9	1.0	1.0	0.9	1.0	3.2	2.4	2.6	2.4	2.4
Stock - Emerging						3.9	4.2	4.4	4.4	3.9	2.9	3.0	2.9	2.9	2.6
Stock - Global						4.9	5.1	5.2	5.1	5.2	9.7	13.3	12.2	11.3	6.9
Stock - Other			52.7	53.1	51.6	1.8	1.9	5.2	5.6	5.7	4.6	4.3	4.5	4.7	5.4
<b>Total Stock</b>	<b>59.2</b>	<b>57.7</b>	<b>62.6</b>	<b>62.5</b>	<b>60.7</b>	<b>39.1</b>	<b>40.4</b>	<b>41.4</b>	<b>42.3</b>	<b>44.1</b>	<b>41.5</b>	<b>45.9</b>	<b>47.6</b>	<b>47.3</b>	<b>42.9</b>
Fixed Income - US						8.5	8.8	8.4	8.8	8.7	7.5	5.5	5.9	6.7	8.1
Fixed Income - EAFE	40.2	41.6	6.0	5.6	6.1	9.1	9.3	7.1	7.0	7.4	4.4	4.8	5.1	4.0	5.5
Fixed Income - Emerging						2.6	2.9	2.6	2.5	2.0	1.3	1.0	1.1	0.8	0.9
Fixed Income - Global						2.2	1.9	1.7	1.9	1.4	2.4	3.3	3.3	3.6	3.2
Fixed Income - Inflation Indexed						1.9	1.9	2.0	2.1	2.3	1.6	2.0	2.0	2.3	2.5
Fixed Income - High Yield						1.7	1.7	1.6	1.7	1.8	1.4	1.1	1.3	1.2	1.4
Fixed Income - Mortgages						0.5	0.5	0.6	0.7	0.9	0.5	0.3	0.3	0.3	0.4
Fixed Income - Private Debt						0.3	0.3	0.2	0.1		0.6	0.4	0.2	0.1	0.0
Fixed Income - Other			30.8	30.8	33.2	5.1	5.1	7.0	8.7	9.2	18.0	14.8	13.2	13.8	16.6
Cash	0.5	0.7	0.5	1.2		2.4	2.2	3.7	4.0	2.9	2.3	2.4	2.4	2.6	2.5
<b>Total Fixed Income</b>	<b>40.8</b>	<b>42.3</b>	<b>37.4</b>	<b>37.5</b>	<b>39.3</b>	<b>34.3</b>	<b>34.5</b>	<b>34.8</b>	<b>37.5</b>	<b>36.8</b>	<b>40.0</b>	<b>35.7</b>	<b>34.8</b>	<b>35.6</b>	<b>41.1</b>
Commodities						0.1	0.1	0.3	0.2	0.4	0.4	0.4	0.5	0.5	0.6
Infrastructure						1.6	1.4	1.4	1.4	1.3	1.4	1.0	0.8	0.8	0.8
Natural Resources						0.5	0.4	0.4	0.3	0.2	0.3	0.3	0.2	0.2	0.3
REITs						0.2	0.2	0.2	0.3	0.3	0.7	0.6	0.5	0.5	0.6
Real Estate ex-REITs						8.1	7.6	7.6	7.3	6.9	5.4	5.3	5.0	4.9	4.5
Other Real Assets						0.9	0.4	1.0	0.1	0.2	0.3	0.3	0.3	0.3	0.3
<b>Total Real Assets</b>						<b>11.5</b>	<b>10.2</b>	<b>10.9</b>	<b>9.5</b>	<b>9.1</b>	<b>8.4</b>	<b>7.7</b>	<b>7.3</b>	<b>7.2</b>	<b>7.1</b>
Hedge Funds						4.2	4.3	3.4	2.7	2.3	4.0	3.6	3.6	3.3	3.4
Global TAA						3.9	3.6	2.7	0.8	0.5	1.7	3.2	2.9	2.6	1.3
Div. Private Equity						4.9	5.2	5.2	5.4	5.9	3.3	3.0	3.1	3.2	3.4
Venture Capital						0.4	0.3	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2
LBO						1.5	1.1	1.1	1.3	1.1	0.5	0.4	0.4	0.4	0.4
Other Private Equity						0.3	0.3	0.3	0.3	0.1	0.2	0.2	0.2	0.2	0.2
<b>Total Private Equity</b>						<b>7.1</b>	<b>6.9</b>	<b>6.9</b>	<b>7.2</b>	<b>7.4</b>	<b>4.4</b>	<b>3.9</b>	<b>3.8</b>	<b>3.9</b>	<b>4.2</b>
<b>Total Fund</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
Count	1	1	1	1	1	16	16	16	16	16	293	414	438	445	382
Median Assets (€ billions)	20.8	20.6	20.1	19.8	16.7	65.6	63.2	58.2	52.8	49.5	6.4	3.8	3.3	3.1	4.1

## Policy mix

### Policy asset mix - 2011 to 2015 (as a % of average assets)

	Your fund %					Peer average %					Global average %				
	2015	2014	2013	2012	2011	2015	2014	2013	2012	2011	2015	2014	2013	2012	2011
Stock - U.S.						12.9	12.9	14.2	15.8	16.6	13.6	11.6	12.9	14.6	17.0
Stock - EAFE	59.5	58.1	10.0	9.4	9.1	12.9	13.8	11.7	11.4	11.2	5.6	9.3	10.0	10.6	7.8
Stock - ACWIxU.S.						1.2	0.6	0.7	1.5	1.6	3.6	2.7	2.5	2.6	3.1
Stock - Emerging						3.0	3.6	4.2	3.3	3.1	2.6	2.6	2.7	2.5	2.4
Stock - Global						8.5	8.1	5.8	6.3	6.2	11.8	14.8	13.6	12.6	8.8
Stock - Other			52.8	53.0	51.6	2.6	2.6	5.9	6.8	6.6	4.8	4.2	4.5	4.8	5.6
<b>Total Stock</b>	<b>59.5</b>	<b>58.1</b>	<b>62.8</b>	<b>62.4</b>	<b>60.7</b>	<b>41.1</b>	<b>41.6</b>	<b>42.6</b>	<b>45.1</b>	<b>45.2</b>	<b>42.0</b>	<b>45.2</b>	<b>46.1</b>	<b>47.7</b>	<b>44.6</b>
Fixed Income - US						8.2	8.5	8.9	8.9	9.5	7.9	5.9	6.7	7.2	8.7
Fixed Income - EAFE	40.5	41.9	6.0	5.6	6.1	9.7	9.0	6.7	6.8	6.4	4.6	4.7	5.2	4.0	5.3
Fixed Income - Emerging						2.6	2.6	2.4	2.3	2.0	1.2	1.0	1.1	0.8	0.8
Fixed Income - Global						3.8	3.8	3.8	3.8	4.2	2.5	3.6	3.5	3.9	3.3
Fixed Income - Inflation Indexed						2.3	2.3	2.5	2.6	2.6	1.8	2.1	2.1	2.2	2.5
Fixed Income - High Yield						2.0	1.8	2.0	1.7	1.9	1.5	1.2	1.3	1.1	1.2
Fixed Income - Mortgages						0.4	0.5	0.5	0.5	0.6	0.5	0.2	0.2	0.3	0.3
Fixed Income - Private Debt						0.4	0.4	0.1	0.0		0.6	0.4	0.2	0.1	0.0
Fixed Income - Other			31.2	32.0	33.2	5.1	5.1	7.0	8.6	8.9	18.8	15.8	14.5	14.4	16.8
Cash						0.1	0.8	1.5	1.9	1.5	0.6	0.7	0.7	0.8	1.2
<b>Total Fixed Income</b>	<b>40.5</b>	<b>41.9</b>	<b>37.2</b>	<b>37.6</b>	<b>39.3</b>	<b>34.6</b>	<b>34.7</b>	<b>35.4</b>	<b>37.1</b>	<b>37.5</b>	<b>39.9</b>	<b>35.5</b>	<b>35.6</b>	<b>34.9</b>	<b>40.1</b>
Commodities						0.2	0.2	0.3	0.2	0.5	0.5	0.5	0.6	0.6	0.7
Infrastructure						1.3	1.3	1.3	1.5	1.3	1.5	1.3	1.0	0.9	0.8
Natural Resources						0.3	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2
REITs						0.2	0.2	0.2	0.3	0.2	0.6	0.5	0.5	0.4	0.4
Real Estate ex-REITs						7.5	7.6	7.3	7.1	7.2	5.3	5.8	5.5	5.4	4.8
Other Real Assets						0.8	0.1	0.1	0.1	0.1	0.4	0.3	0.3	0.3	0.2
<b>Total Real Assets</b>						<b>10.4</b>	<b>9.7</b>	<b>9.5</b>	<b>9.4</b>	<b>9.4</b>	<b>8.5</b>	<b>8.7</b>	<b>8.2</b>	<b>7.9</b>	<b>7.1</b>
Hedge Funds						2.3	2.7	1.8	1.5	1.2	3.3	3.4	3.3	3.1	3.1
Global TAA						4.6	4.3	4.0	0.2	0.4	1.6	2.9	2.5	2.3	1.1
Div. Private Equity						5.2	6.0	5.9	5.7	5.5	4.0	3.6	3.5	3.4	3.5
Venture Capital						0.0	0.1	0.1	0.0	0.0	0.2	0.2	0.2	0.2	0.1
LBO						1.8	0.8	0.8	0.9	1.0	0.3	0.2	0.2	0.2	0.2
Other Private Equity											0.1	0.2	0.1	0.1	0.1
<b>Total Private Equity</b>						<b>7.0</b>	<b>7.0</b>	<b>6.8</b>	<b>6.6</b>	<b>6.5</b>	<b>4.6</b>	<b>4.2</b>	<b>4.0</b>	<b>3.9</b>	<b>4.0</b>
<b>Total Fund</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
<b>Count</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>16</b>	<b>16</b>	<b>16</b>	<b>16</b>	<b>16</b>	<b>293</b>	<b>414</b>	<b>438</b>	<b>445</b>	<b>382</b>

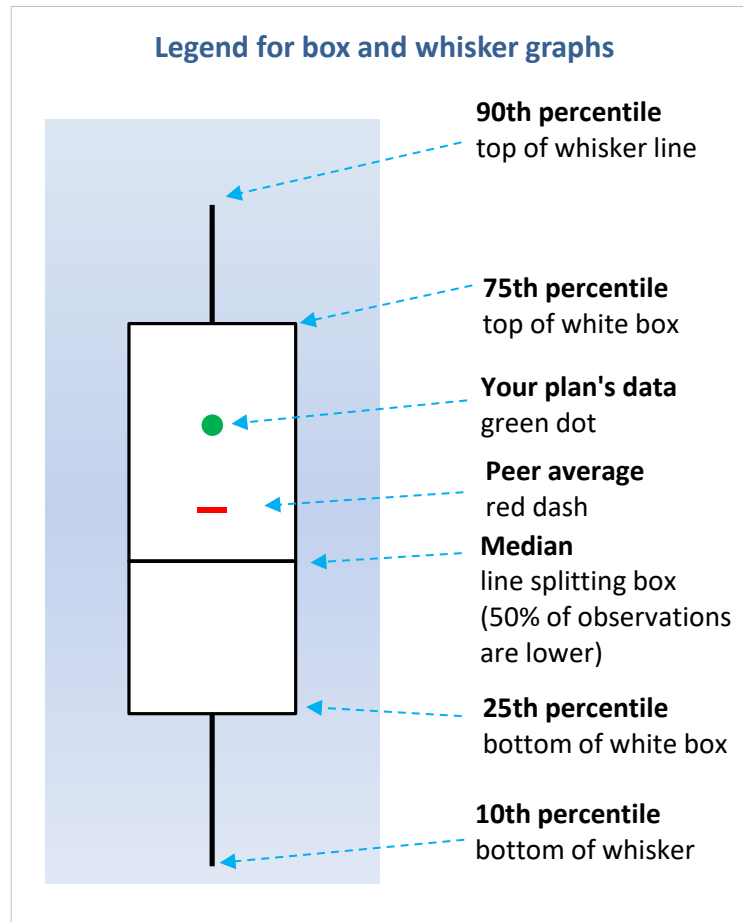
# 4

## Returns, Benchmarks and Value Added

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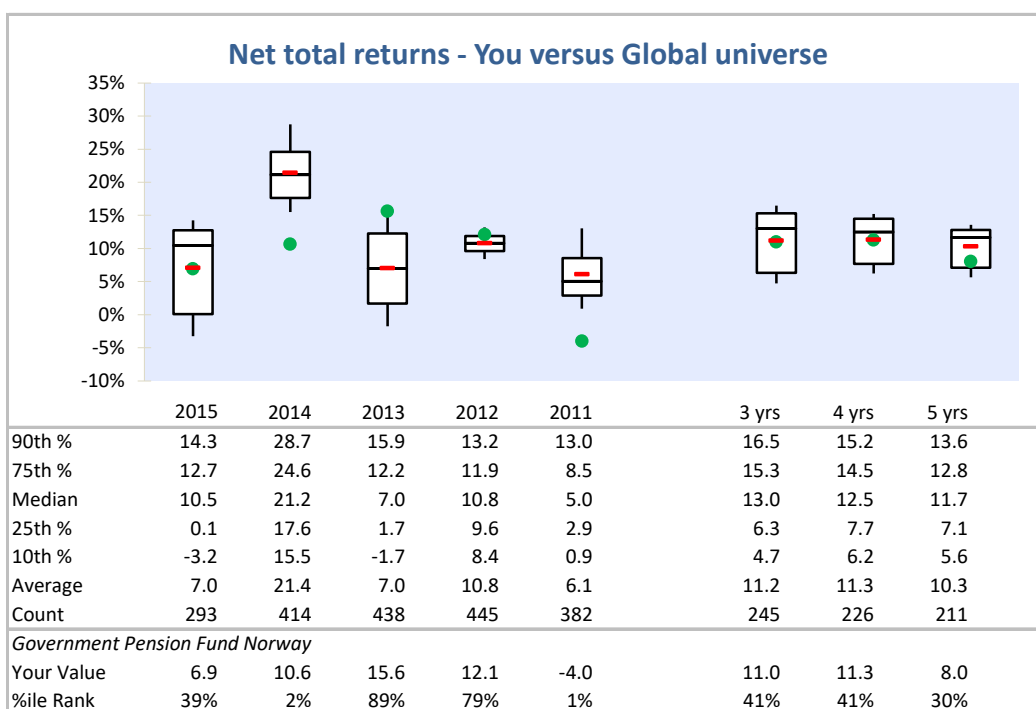
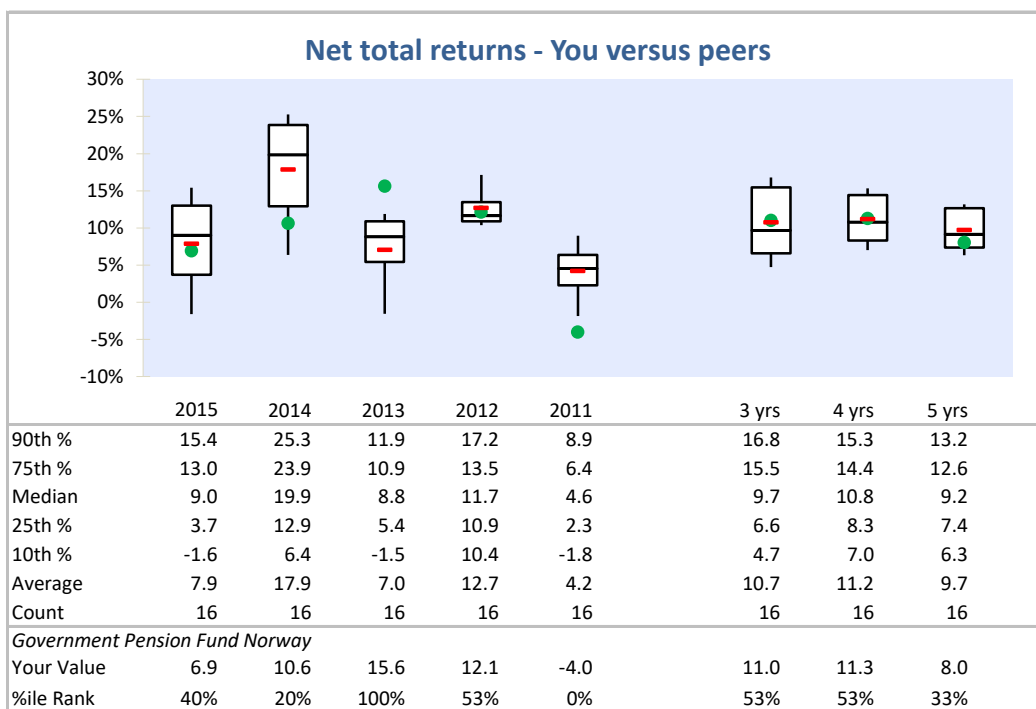
## Interpreting box and whisker graphs

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



## Net total returns

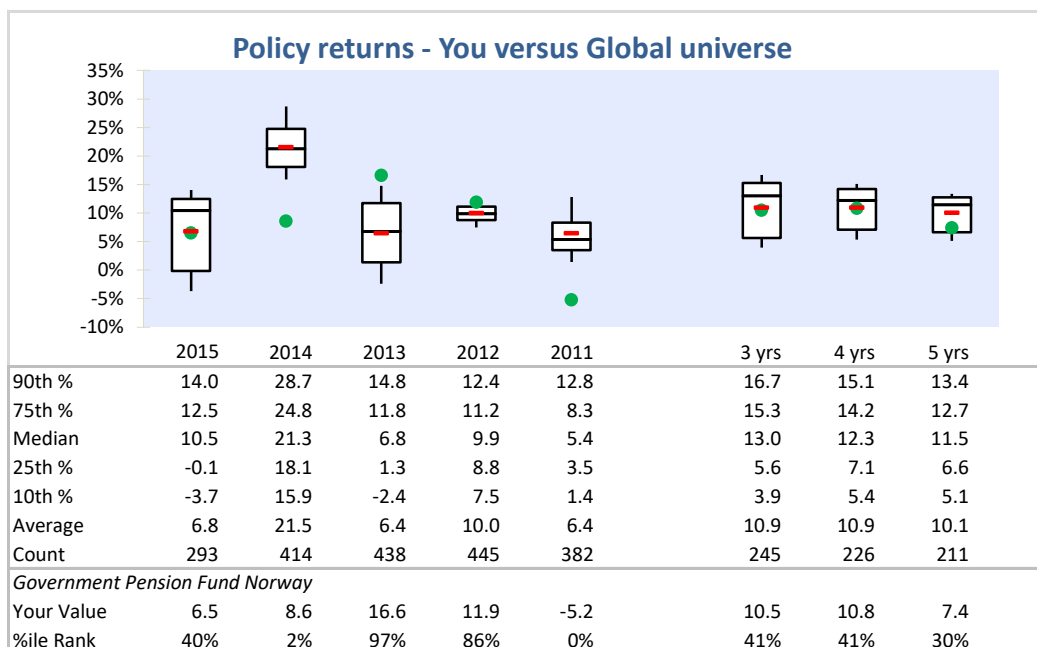
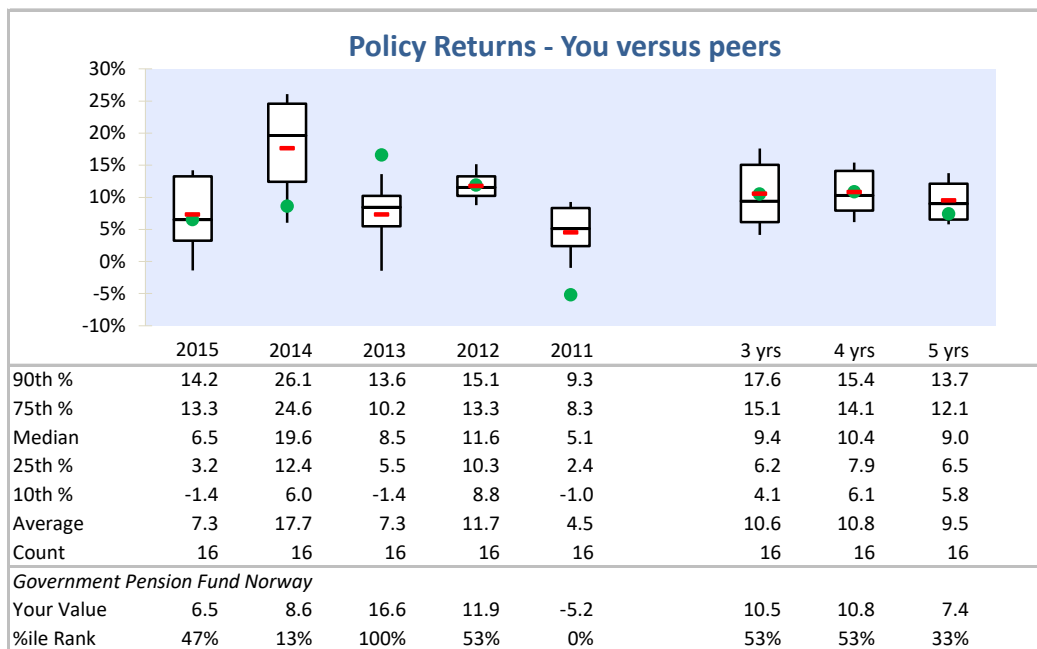
Your 5-year net total return of 8.0% was below the peer median and below the median of the Global universe. Comparisons of total return do not help you understand the reasons behind relative performance. To understand the relative contributions from policy asset mix decisions and implementation decisions we separate total return into its more meaningful components - policy return and implementation value added.





## Policy returns

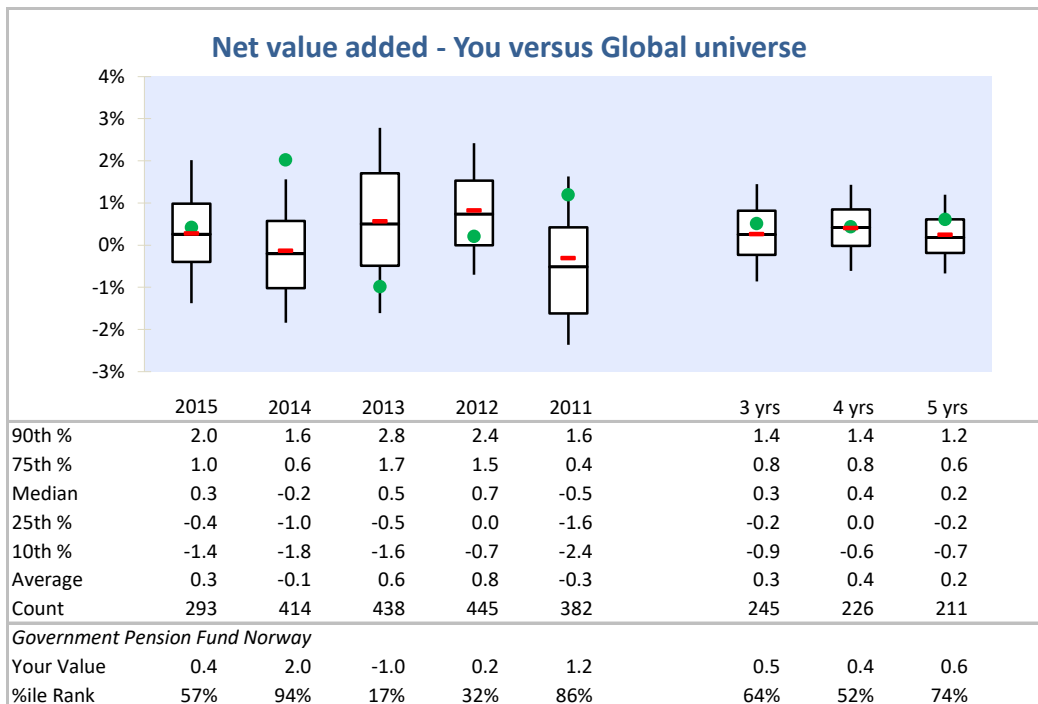
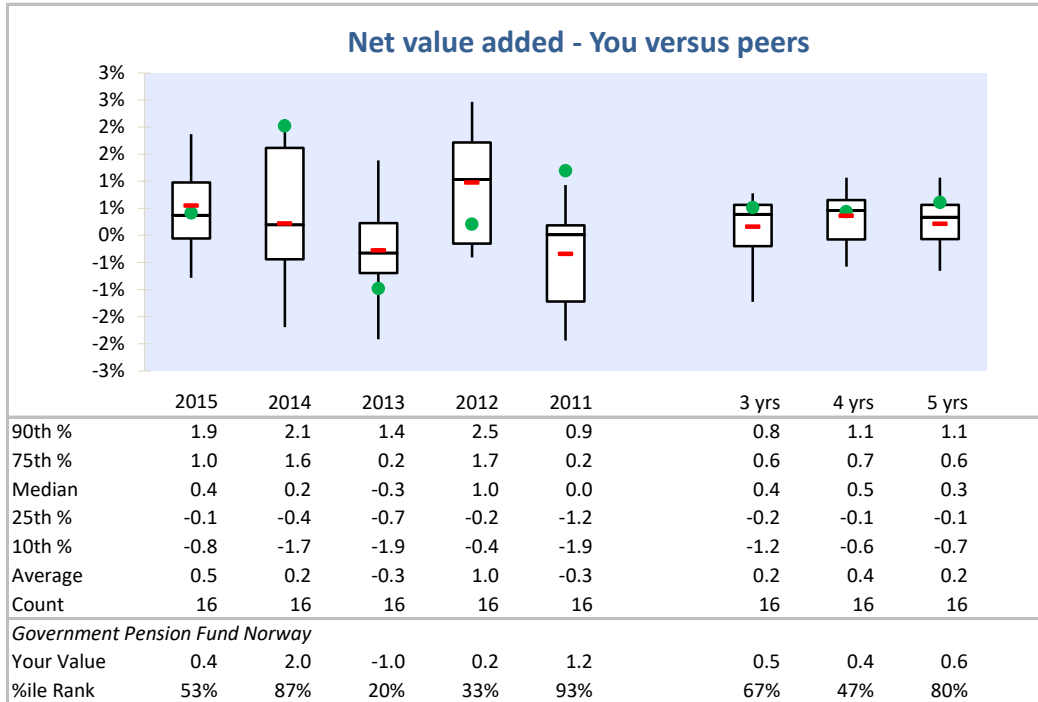
Your 5-year policy return of 7.4% was below the peer median and below the median of the Global universe. Policy return is the return you would have earned had you passively implemented your policy asset mix decision through your benchmark portfolios.



To enable fairer comparisons, the policy returns of all participants with policy weight in private equity were adjusted to reflect private equity benchmarks based on lagged, investable, public-market indices. Refer to the Research section pages 6-7 for details.

## Net value added

Your 5-year net value added of 0.6% was among the highest in your peer group and above the median of the Global universe. Net value added is the difference between your net total return and your policy return.



## Net returns by asset class

Asset class	Your fund %						Peer average %						Global average %					
	2015	2014	2013	2012	2011	5-yr	2015	2014	2013	2012	2011	5-yr	2015	2014	2013	2012	2011	5-yr
Stock - U.S.							9.3	25.4	26.7	13.9	4.5	15.6	11.2	27.5	27.9	14.0	3.3	16.4
Stock - EAFE	9.8	10.6	39.6	15.6	-17.6	10.1	13.0	10.9	20.9	17.2	-10.9	9.6	11.1	10.3	19.1	15.8	-9.7	8.8
Stock - Emerging							-2.9	12.2	-6.0	17.5	-15.8	0.3	-4.1	13.1	-5.5	15.8	-16.3	-0.1
Stock - ACWixU.S.							11.0	14.7	13.5	15.0	-10.9	8.2	10.3	11.8	13.2	15.3	-10.1	7.7
Stock - Global							9.6	19.0	22.2	15.4	-3.3	12.2	10.0	19.7	19.8	13.5	-4.1	11.4
Stock - Other			21.5	14.6	-10.9		-10.2	17.3	8.3	10.6	-8.9	2.8	-6.3	16.3	8.7	9.8	-7.0	3.9
Stock - Total	9.8	10.6	24.3	14.8	-11.9	8.8	7.6	17.6	17.8	15.3	-5.0	10.3	7.7	18.9	19.1	14.3	-4.1	10.8
Fixed Income - US							12.7	19.9	-3.2	6.4	10.6	9.0	12.1	22.9	-5.8	5.3	11.7	8.8
Fixed Income - EAFE	2.8	9.7	12.2	2.1	7.8	6.9	2.1	7.1	0.6	6.8	7.0	4.7	1.4	22.9	-1.4	8.2	9.2	7.7
Fixed Income - Emerging							4.9	13.1	-9.6	16.2	3.8	5.3	3.3	12.8	-10.2	14.4	4.9	4.6
Fixed Income - Global							3.7	10.9	-1.4	4.8	2.5	4.0	5.0	17.1	-2.3	7.7	8.2	7.0
Fixed Income - Inflation Indexed							4.9	17.9	-13.2	6.3	13.6	5.3	3.8	22.3	-8.9	5.4	12.4	6.5
Fixed Income - High Yield							7.3	9.2	4.3	13.5	5.6	7.9	6.4	14.9	3.2	12.9	6.0	8.6
Fixed Income - Mortgages							5.2	14.8	0.7	7.0	8.8	7.2	4.6	15.0	-2.6	7.3	7.5	6.2
Fixed Income - Private Debt							9.9	19.5	-1.5	6.8			7.8	14.1	1.8	7.8	4.0	7.0
Fixed Income - Other			1.4	9.0	7.7		6.1	14.1	-2.9	5.5	5.6	5.6	3.4	25.8	-8.9	7.3	15.9	8.1
Cash							7.6	8.3	-3.8	-0.2	2.6	2.8	5.3	9.4	-4.0	-0.2	3.2	2.7
Fixed Income - Total	2.8	9.7	3.1	8.0	7.7	6.2	6.4	16.2	-5.1	6.8	9.2	6.5	5.4	21.8	-6.4	6.6	13.7	7.8
Commodities							-27.1	-16.0	-6.3	-0.2	0.2	-10.5	-15.4	-5.1	-8.8	-1.2	-3.3	-6.9
Infrastructure							12.8	21.4	2.1	7.7	8.7	10.4	12.1	20.3	2.9	5.9	7.9	9.7
REITs							16.1	47.3	-3.6	20.4	5.2	15.9	11.5	34.3	0.0	17.7	4.1	12.9
Natural Resources							5.4	10.9	-0.2	-4.5	-13.2	-0.7	6.0	24.2	1.5	2.6	5.8	7.7
Real Estate ex-REITs							17.1	19.9	6.2	10.7	15.9	13.9	17.4	23.1	5.3	6.3	13.5	12.9
Other Real Assets							-2.5	6.0	-3.3	-3.0	-18.0	-4.5	0.6	18.5	-1.9	-0.1	1.4	3.4
Real Assets - Total							15.1	19.5	5.1	10.2	14.1	12.7	14.5	22.2	3.7	6.5	10.6	11.3
Hedge Funds							4.0	12.5	5.7	5.9	1.8	5.9	9.7	18.3	4.1	4.3	3.0	7.7
Global TAA							9.2	17.2	3.0	7.1	5.3	8.3	7.7	17.7	2.4	6.2	4.9	7.7
Diversified Private Equity							17.5	26.3	11.2	12.3	11.3	15.6	19.7	28.6	10.7	8.9	14.2	16.2
LBO							17.9	20.2	16.4	12.1	10.5	15.3	16.3	30.0	11.1	10.5	15.0	16.4
Venture Capital							13.0	31.1	10.1	10.4	13.4	15.4	22.2	29.8	9.9	5.2	18.5	16.8
Other Private Equity							19.2	23.3	17.4	13.7	8.4	16.3	15.5	24.6	10.5	5.5	8.8	12.8
Private Equity - Total							17.3	26.3	11.4	12.3	11.6	15.6	19.3	28.6	10.5	8.6	14.4	16.1
Total Fund Return	6.9	10.6	15.6	12.1	-4.0	8.0	7.9	17.9	7.0	12.7	4.2	9.8	7.0	21.4	7.0	10.8	6.1	10.3

## Benchmark returns by asset class

Asset class	Your fund %						Peer average %						Global average %					
	2015	2014	2013	2012	2011	5-yr	2015	2014	2013	2012	2011	5-yr	2015	2014	2013	2012	2011	5-yr
Stock - U.S.							9.3	25.5	26.5	14.4	3.9	15.6	11.4	28.4	27.1	14.0	4.1	16.6
Stock - EAFE	9.2	7.4	42.3	15.2	-16.7	9.9	10.2	10.8	20.8	16.4	-10.4	9.0	10.5	10.5	18.4	14.9	-9.6	8.5
Stock - Emerging							-4.7	12.5	-6.8	15.8	-15.5	-0.4	-4.3	13.2	-5.8	15.3	-15.5	-0.1
Stock - ACWIxU.S.							10.7	13.9	10.5	15.0	-11.3	7.3	8.2	11.5	11.4	14.9	-10.9	6.6
Stock - Global							9.9	17.7	20.7	15.6	-4.0	11.6	9.3	19.9	19.0	13.3	-3.7	11.2
Stock - Other			23.6	15.4	-12.5		-9.7	19.5	17.0	10.5	-8.4	5.0	-7.3	17.7	8.4	9.7	-5.9	4.1
Stock - Total	9.2	7.4	26.6	15.4	-13.1	8.3	6.1	15.9	18.7	15.2	-4.8	9.9	7.1	19.2	17.9	13.7	-3.7	10.5
Fixed Income - US							9.9	19.3	-4.9	4.5	12.9	8.0	11.8	22.3	-6.6	3.3	13.3	8.4
Fixed Income - EAFE	2.7	9.2	11.7	1.1	7.8	6.4	1.8	8.0	-0.5	6.4	8.2	4.7	1.5	23.9	-1.8	7.3	9.1	7.6
Fixed Income - Emerging							4.3	15.2	-10.0	15.7	5.5	5.7	4.3	14.5	-9.6	14.2	6.4	5.6
Fixed Income - Global							5.8	10.0	-4.9	6.0	4.3	4.1	5.8	17.3	-2.7	5.1	8.4	6.6
Fixed Income - Inflation Indexed							4.2	16.6	-10.6	7.4	14.4	5.9	4.3	23.8	-9.0	4.7	11.9	6.6
Fixed Income - High Yield							4.7	10.0	4.2	13.6	4.8	7.4	5.4	15.0	3.0	13.3	6.7	8.6
Fixed Income - Mortgages							2.6	10.1	-4.7	5.7	6.9	4.0	3.3	13.6	-4.9	4.6	8.2	4.8
Fixed Income - Private Debt							7.3	16.9	-3.6	8.8			5.9	14.7	0.2	5.6	5.3	6.2
Fixed Income - Other			0.7	7.7	6.3		6.6	15.5	-1.9	5.8	5.5	6.2	3.4	27.1	-9.2	6.2	16.9	8.2
Cash							4.9	8.8	-2.7	0.3	3.0	2.8	5.6	11.0	-4.0	-0.3	3.0	2.9
Fixed Income - Total	2.7	9.2	2.5	6.7	6.5	5.5	5.5	15.0	-5.7	6.3	10.1	6.0	5.4	23.3	-7.0	5.7	14.7	8.0
Commodities							-23.4	-8.8	-6.8	-1.1	-2.4	-8.9	-16.4	-5.8	-7.9	-1.4	-3.7	-7.2
Infrastructure							12.1	17.9	3.8	7.1	9.4	10.0	5.9	17.4	2.1	6.5	8.4	7.9
REITs							15.9	45.8	-3.4	20.5	5.5	15.7	11.8	33.9	0.5	18.1	6.3	13.6
Natural Resources							12.3	14.5	2.2	7.8	7.8	8.8	11.2	20.5	3.7	5.1	7.5	9.4
Real Estate ex-REITs							17.9	17.6	4.9	9.6	14.0	12.7	17.3	22.8	5.0	6.9	14.0	13.0
Other Real Assets							3.8	8.2	8.9	12.6	1.7	7.0	3.3	17.5	3.2	6.1	6.0	7.1
Real Assets - Total							14.9	16.5	4.6	9.6	12.5	11.5	13.2	20.9	3.3	6.7	10.9	10.8
Hedge Funds							4.2	11.6	6.2	7.3	2.6	6.3	10.0	16.4	2.2	3.5	2.9	6.9
Global TAA							10.9	14.8	6.4	9.9	3.3	9.0	10.8	16.6	3.9	6.0	2.9	7.9
Diversified Private Equity <sup>1</sup>							14.9	31.0	19.6	9.0	17.3	18.2	16.1	31.3	21.7	6.9	16.5	18.2
LBO <sup>1</sup>							17.7	19.0	26.0	5.7	12.2	15.9	14.6	28.6	22.5	9.8	15.2	17.9
Venture Capital <sup>1</sup>							16.5	26.7	25.6	10.7	13.4	18.4	15.8	29.6	21.9	9.5	14.4	18.0
Other Private Equity <sup>1</sup>							13.1	27.4	24.7	12.8	7.0	16.8	15.6	28.1	22.6	9.3	15.3	18.0
Private Equity <sup>1</sup> - Total							15.2	30.5	20.1	8.3	17.2	18.0	16.2	31.1	21.6	7.0	16.6	18.2
Total Policy Return	6.5	8.6	16.6	11.9	-5.2	7.4	7.3	17.7	7.3	11.7	4.5	9.6	6.8	21.5	6.4	10.0	6.4	10.1

1. 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. Refer to the Research section pages 6-7 for details.

## Net value added by asset class

Asset class	Your fund %						Peer average %						Global average %					
	2015	2014	2013	2012	2011	5-yr	2015	2014	2013	2012	2011	5-yr	2015	2014	2013	2012	2011	5-yr
Stock - U.S.							0.0	-0.1	0.2	-0.5	0.6	0.0	-0.2	-0.7	0.9	0.0	-0.8	-0.2
Stock - EAFE	0.6	3.2	-2.7	0.4	-0.9	0.2	2.9	0.2	0.1	0.8	-0.4	0.7	0.6	-0.1	0.8	0.9	-0.1	0.4
Stock - Emerging							1.8	-0.4	0.8	1.7	-0.3	0.7	0.2	-0.1	0.4	0.4	-0.8	0.0
Stock - ACWIxU.S.							0.3	0.8	3.0	0.1	0.4	0.9	2.1	0.3	2.0	0.5	0.8	1.1
Stock - Global							-0.3	-0.8	1.8	0.6	0.9	0.6	0.7	-0.2	0.9	0.3	-0.4	0.2
Stock - Other			-2.1	-0.8	1.6		-0.6	-2.2	-8.7	0.2	-0.5	-2.2	1.0	-1.2	0.6	0.1	-1.0	-0.2
Stock - Total	0.6	3.2	-2.2	-0.6	1.2	0.6	1.5	1.7	-0.9	0.1	-0.2	0.4	0.6	-0.2	1.2	0.5	-0.4	0.3
Fixed Income - US							2.8	0.6	1.7	2.3	-1.5	1.0	0.3	0.3	0.8	2.1	-0.8	0.5
Fixed Income - EAFE	0.1	0.5	0.5	1.0	0.0	0.4	0.2	-0.9	1.1	0.4	-1.2	-0.1	0.0	-0.8	0.4	0.9	0.3	0.1
Fixed Income - Emerging							0.7	-2.1	0.3	0.5	-1.7	-0.4	-1.0	-1.8	-0.6	0.2	-1.6	-0.9
Fixed Income - Global							-2.2	-2.7	3.9	-0.7	-1.4	-0.1	-0.8	-0.2	0.4	2.6	-0.2	0.4
Fixed Income - Inflation Indexed							0.8	1.3	-2.6	-1.1	-0.8	-0.6	-0.4	-1.4	-0.1	0.7	0.7	-0.1
Fixed Income - High Yield							2.6	-0.8	0.1	-0.1	0.8	0.5	1.2	-0.1	0.2	-0.4	-0.7	0.0
Fixed Income - Mortgages							2.6	4.7	5.4	1.3	2.0	3.2	1.3	2.1	2.3	2.9	-0.9	1.4
Fixed Income - Private Debt							2.6	2.6	2.1	-2.0			2.2	-0.2	1.9	2.4	-0.5	0.8
Fixed Income - Other			0.7	1.3	1.4		-0.4	-1.4	0.2	0.3	0.4	-0.6	0.0	-0.2	0.4	1.1	-1.0	-0.1
Cash							2.7	0.1	-0.1	0.1	-0.2	0.0	-0.1	-1.5	0.0	0.2	0.2	-0.3
Fixed Income - Total	0.1	0.5	0.7	1.2	1.2	0.7	0.5	0.2	0.6	0.5	-0.9	0.4	-0.1	-1.5	0.5	0.9	-0.9	-0.1
Commodities							0.2	-4.5	0.5	1.4	2.5	-1.6	1.5	2.2	-1.1	0.2	0.3	0.3
Infrastructure							0.7	3.4	-1.7	0.6	-0.7	0.4	6.2	3.0	0.9	-0.4	-0.5	1.7
REITs							0.2	1.5	-0.2	0.0	-0.3	0.2	-0.3	0.8	-0.5	-0.2	-2.2	-0.7
Natural Resources							-6.9	-3.7	-2.4	-12.3	-20.9	-9.5	-4.8	4.1	-2.2	-2.5	-1.7	-1.7
Real Estate ex-REITs							-0.7	2.2	1.3	1.1	1.9	1.2	0.3	0.5	0.3	-0.5	-0.4	-0.1
Other Real Assets							-6.3	-2.2	-12.2	-15.6	-19.7	-11.4	-3.0	0.0	-5.5	-6.5	-3.9	-3.7
Real Assets - Total							0.3	2.9	0.4	0.6	1.7	1.2	1.4	1.4	0.4	-0.2	-0.3	0.5
Hedge Funds							-0.2	1.0	-0.5	-1.4	-0.8	-0.4	-0.3	1.9	1.9	0.8	0.2	0.9
Global TAA							-1.7	2.4	-3.5	-2.8	2.1	-0.7	-3.0	1.3	-1.4	0.2	1.5	-0.2
Diversified Private Equity <sup>1</sup>							2.5	-4.7	-8.5	3.3	-6.0	-2.6	3.6	-2.7	-10.9	2.1	-2.5	-2.0
LBO <sup>1</sup>							0.1	1.2	-9.6	6.4	-1.7	-0.6	1.7	1.4	-11.1	0.8	-0.2	-1.6
Venture Capital <sup>1</sup>							-3.5	4.4	-15.5	-0.3	0.0	-3.1	6.4	0.6	-11.8	-4.2	4.1	-1.3
Other Private Equity <sup>1</sup>							6.0	-4.0	-7.3	0.9	1.4	-0.4	-0.2	-2.9	-11.9	-3.4	-6.3	-5.2
Private Equity <sup>1</sup> - Total							2.1	-4.2	-8.7	4.0	-5.6	-2.4	3.1	-2.5	-11.0	1.7	-2.2	-2.1
Total fund	0.4	2.0	-1.0	0.2	1.2	0.6	0.5	0.2	-0.3	1.0	-0.3	0.2	0.3	-0.1	0.6	0.8	-0.3	0.2

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. 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. Refer to the Research section pages 6-7 for details.

## Your policy return and value added calculation - 2015

### 2015 Policy Return and Value Added

Asset class	Policy weight	Benchmark Description	Return	Net return	Value added
Stock - EAFE	59.5%	CMVINXBXINN - Custom Index - OSEBX	9.2%	9.8%	0.6%
Fixed Income - EAFE	40.5%	Barclays Capital Global Aggregate Nordic ex Norway	2.7%	2.8%	0.1%
Total	100.0%				
Net Actual Return (reported by you)					6.9%
Calculated Policy Return = sum of (policy weights X benchmark returns)				6.6%	
Adjustment to reflect rebalancing and overlay impacts				<u>-0.1%</u>	
Policy Return					<u>6.5%</u>
Net Value Added (Net Return - Policy Return)					0.4%

## Your policy return and value added calculations - 2011 to 2014

### 2014 Policy Return and Value Added

Asset class	Policy weight	Benchmark		Net return	Value added
		Description	Return		
Stock - EAFE	58.1%	CMVINXBXINN - C	7.4%	10.6%	3.2%
Fixed Income - EAFE	41.9%	Barclays Capital C	9.2%	9.7%	0.5%
<b>Total</b>	<b>100.0%</b>				
Net Return (reported by you)					10.6%
Calculated policy return (sum: Policy weights x benchmarks)				8.2%	
Adjustment to reflect rebalancing and overlay impacts				<u>0.4%</u>	
Policy Return					<u>8.6%</u>
Net Value Added (Net Return - Policy Return)					2.0%

### 2012 Policy Return and Value Added

Asset class	Policy weight	Benchmark		Net return	Value added
		Description	Return		
Stock - EAFE	9.4%	CMVINXBXINN - C	15.2%	15.6%	0.4%
Stock - Other	53.0%	OSEBX	15.4%	14.6%	-0.8%
Fixed Income - EAFE	5.6%	Barclays Capital C	1.1%	2.1%	1.0%
Fixed Income - Other	32.0%	70% Barclays Cap	7.7%	9.0%	1.3%
<b>Total</b>	<b>100.0%</b>				
Net Return (reported by you)					12.1%
Calculated policy return (sum: Policy weights x benchmarks)				12.1%	
Adjustment to reflect rebalancing and overlay impacts				<u>-0.2%</u>	
Policy Return					<u>11.9%</u>
Net Value Added (Net Return - Policy Return)					0.2%

### 2013 Policy Return and Value Added

Asset class	Policy weight	Benchmark		Net return	Value added
		Description	Return		
Stock - EAFE	10.0%	CMVINXBXINN - C	42.3%	39.6%	-2.7%
Fixed Income - EAFE	6.0%	Barclays Capital C	11.7%	12.2%	0.5%
<b>Total</b>	<b>100.0%</b>				
Net Return (reported by you)					15.6%
Calculated policy return (sum: Policy weights x benchmarks)				4.9%	
Adjustment to reflect rebalancing and overlay impacts				<u>11.7%</u>	
Policy Return					<u>16.6%</u>
Net Value Added (Net Return - Policy Return)					-1.0%

### 2011 Policy Return and Value Added

Asset class	Policy weight	Benchmark		Net return	Value added
		Description	Return		
Stock - EAFE	9.1%	CMVINXBXINN - C	-16.7%	-17.6%	-0.9%
Stock - Other	51.6%	OSEBX	-12.5%	-10.9%	1.6%
Fixed Income - EAFE	6.1%	Barclays Capital C	7.8%	7.8%	0.0%
Fixed Income - Other	33.2%	70% Barclays Cap	6.3%	7.7%	1.4%
<b>Total</b>	<b>100.0%</b>				
Net Return (reported by you)					-4.0%
Calculated policy return (sum: Policy weights x benchmarks)				-5.4%	
Adjustment to reflect rebalancing and overlay impacts				<u>0.2%</u>	
Policy Return					<u>-5.2%</u>
Net Value Added (Net Return - Policy Return)					1.2%

## Profit/Loss on overlay programs

Overlay type	Your fund		Peer median				Global median			
	2015	2014	2015		2014		2015		2014	
	bps	bps	bps	#	bps	#	bps	#	bps	#
Int. Discretionary Currency			1	4	3	4	2	10	3	12
Ext. Discretionary Currency							1	7	4	9
Internal Global TAA			45	2	111	2	13	6	8	7
External Global TAA							13	2	30	2
Internal PolicyTilt TAA			-5	3	-1	3	-2	6	0	5
External PolicyTilt TAA							-5	3	-3	2
Internal Commodities							-6	1	-1	1
External Commodities							-455	1	0	2
Internal Long/Short			-4	3	2	4	-4	9	3	8
External Long/Short							-5	1	0	1
Internal Other			1	2	0	1	1	10	0	11
External Other			-9	1			0	7	4	8
Total Profit/Loss			4	6	7	6	1	38	4	44

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.



# 5

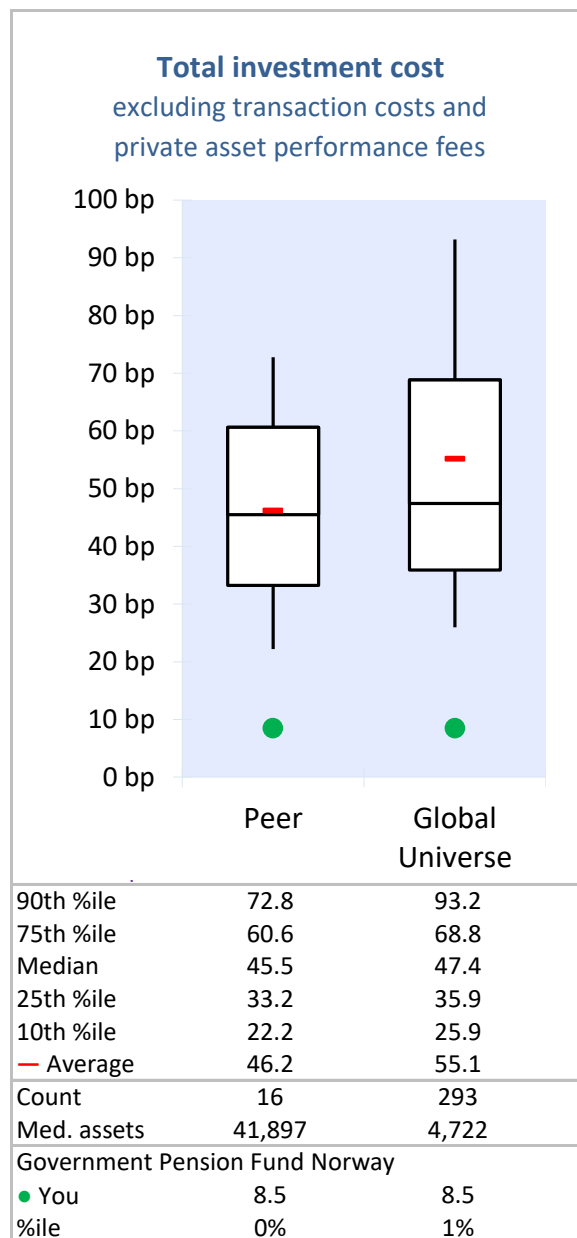
## Total cost and benchmark cost

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## Comparisons of total investment cost

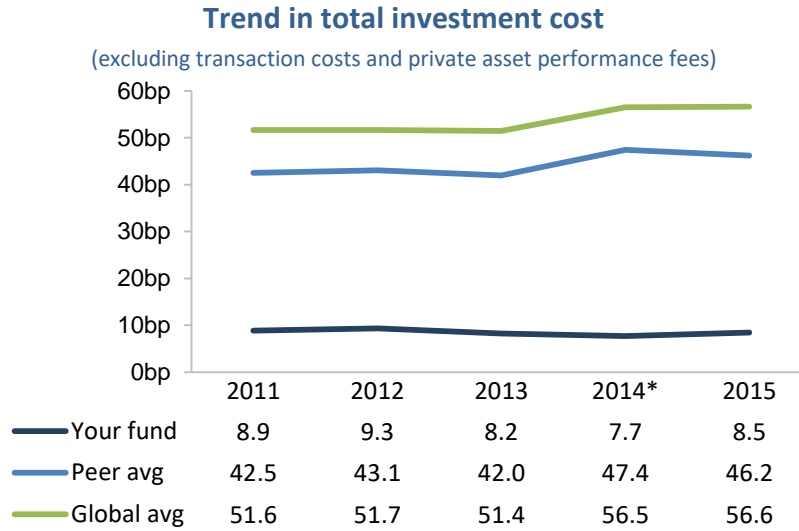
Your total investment cost, excluding transaction costs and private asset performance fees, of 8.5 bps was below the peer median of 45.5 bps.

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

Your total investment cost, excluding transaction costs and private asset performance fees, decreased from 8.9 bps in 2011 to 8.5 bps in 2015.



Trend analysis is based on the 211 Global funds and the 16 peer funds with 5 or more consecutive years of data.

\* Starting in 2014 hedge fund performance fees are being included for all participants. This is one reason for the uptick in costs relative to 2013.

## 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 equity</u> (Diversified private equity, venture capital, LBO, other private equity)	✓	✗	✓*	✓	✗	✗
<u>Private real assets</u> (Infrastructure, natural resources, real estate ex-REITs, other real assets)	✓	✗	✓*	✓	✗	✗

\*For limited partnerships, external manager base fees represent gross contractual management fees.

- ✓ indicates cost is included.
- ✗ indicates cost is excluded.
- Green shading indicates that the cost type has been newly added for the 2014 data year.
- CEM currently excludes external private asset performance fees 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 2015 total investment cost, excluding transaction costs and private asset performance fees, was 8.5 bp or €17.5 million.

### Your investment costs

	Internal		External Passive		External Active			Total		
	Passive	Active	Fees	Monitoring & Other	Base Fees	Perform. Fees <sup>1</sup>	Monitoring & Other	€000s	bps	% of Total
<b>Asset management</b>										
Stock - Aggregate		7,910						7,910		45%
Fixed Income - Aggregate		6,353						6,353		36%
Total asset management costs excluding private asset performance fees								14,263	6.9bp	82%
<b>Oversight, custodial &amp; other asset related costs</b>										
Oversight of the Fund								1,721		10%
Trustee & Custodial								763		4%
Consulting and Performance Measurement								71		0%
Audit								267		2%
Other								400		2%
Total oversight, custodial & other costs								3,222	1.6bp	18%
Total investment costs excluding transaction costs and private asset performance fees								17,485	8.5bp	100%

<sup>1</sup> Starting in 2014, CEM changed its methodology to include performance fees on hedge funds in total cost used for comparison and benchmarking. Performance fees for real estate, infrastructure, natural resources and private equity are excluded.

## 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 (2015 - 2011)

	Investment costs (€000s)					Change (€000s)				Change (%)			
	2015	2014	2013	2012	2011	2015	2014	2013	2012	2015	2014	2013	2012
<b>Asset management</b>													
Stock - Aggregate	7,910	7,120	7,001	7,402	5,876	790	119	-401	1,526	11%	2%	-5%	26%
Fixed Income - Aggregate	6,353	5,657	5,948	6,153	5,066	696	-291	-205	1,087	12%	-5%	-3%	21%
Total excl. private asset perf. fees	14,263	12,777	12,949	13,555	10,942	1,486	-172	-606	2,613	12%	-1%	-4%	24%
<b>Oversight, custodial &amp; other asset related costs</b>													
Oversight of the Fund	1,721	1,480	1,868	1,948	1,705	241	-388	-80	243	16%	-21%	-4%	14%
Trustee & Custodial	763	721	731	704	614	42	-10	27	90	6%	-1%	4%	15%
Consulting and Performance Meas	71	59	86	86	92	12	-27		-6	20%	-31%	0%	-7%
Audit	267	283	311	286	217	-16	-28	25	69	-6%	-9%	9%	32%
Other	400	336	489	486	1,481	64	-153	3	-995	19%	-31%	1%	-67%
Total oversight, custodial & other	3,222	2,880	3,487	3,512	4,111	342	-606	-25	-599	12%	-17%	-1%	-15%
Total investment costs <sup>1</sup>	17,485	15,664	16,442	17,074	15,060	1,821	-779	-632	2,014	12%	-5%	-4%	13%
Total in basis points	8.5bp	7.7bp	8.2bp	9.3bp	8.9bp								

<sup>1</sup> Starting in 2014, CEM changed its methodology to include performance fees on hedge funds in total cost used for comparison and benchmarking. Performance fees for real estate, infrastructure, natural resources and private equity are excluded.

## Total cost versus benchmark cost

Your fund's total investment cost, excluding transaction costs and private asset performance fees, was 7.6 bps below your benchmark cost of 16.0 bps. This implies that your fund was low cost by 7.6 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 cost excluding transaction costs and illiquid asset performance fees	17,485	8.5 bp
- Your fund's benchmark	33,143	16.0 bp
= Your fund's cost savings	-15,658	-7.6 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 12.

### Reasons why your fund was low cost

	Cost/-Savings impact	
	€000s	bps
<u>Differences in implementation style:</u>		
External active vs. low cost styles	-14,914	-7.2 bp
Fund of funds vs. external direct	0	0.0 bp
Mix of internal and passive styles	1,961	0.9 bp
Style impact of overlays	-1,177	-0.6 bp
Total style impact	-14,131	-6.8 bp
<u>Paying more/-less for similar services:</u>		
External investment management		0.0 bp
Private asset performance fees	0	0.0 bp
Internal investment management	-483	-0.2 bp
Oversight, custodial and other	-1,045	-0.5 bp
Total impact of paying more /-less	-1,527	-0.7 bp
Total savings	-15,658	-7.6 bp

## Benchmark cost calculation

Your 2015 benchmark cost was 16.0 basis points or €33.1 million. It equals your holdings for each asset class multiplied by the peer median cost for the asset class. The peer median cost is the style weighted average for all implementation styles (i.e., internal passive, internal active, external passive, external active).

### Calculation of your 2015 benchmark cost

Asset class	Your average assets (A)	Weighted peer median cost <sup>1</sup> (B)	Benchmark €000s (A X B)
<b>Asset management costs</b>			
Stock - Aggregate	12,088	14.7 bp	17,826
Fixed Income - Aggregate	8,464	10.5 bp	8,928
Overlay Programs <sup>2</sup>	20,678	1.0 bp	2,123
Benchmark for asset management	20,678	14.0 bp	28,877
<b>Oversight, custody and other costs</b>			
Oversight of the Fund	20,678	1.1 bp	2,173
Trustee & Custodial	20,678	0.6 bp	1,155
Consulting	20,678	0.3 bp	554
Audit	20,678	0.0 bp	58
Other	20,678	0.2 bp	327
Benchmark for oversight, custody & other		2.1 bp	4,267
<b>Total benchmark cost</b>		<b>16.0 bp</b>	<b>33,143</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 17 of this section.

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



## Cost impact of differences in implementation style

Differences in implementation style (i.e., external active management versus lower cost indexed and internal management, fund of funds versus lower cost direct LPs, and overlay usage) relative to your peers saved you 6.8 bps.

### Calculation of the cost impact of differences in implementation style

	Your avg holdings (mils)	% External active Peer More/ You average -Less			Premium vs. internal and passive <sup>1 2</sup>	Cost/ -Savings <sup>3</sup> €000s bps
	(A)	(B)			(C)	(A X B X C)
Stock - Aggregate	12,088	0%	24%	-24%	37 bp	-10,520
Fixed Income - Aggregate	8,464	0%	15%	-15%	34 bp	-4,395
Total impact of differences in external active management usage						-14,914 -7.2 bp
<i>Overlay usage</i>						
Impact of lower use of portfolio level overlays (see page 10)						-1,177 -0.6 bp
<i>Mix of low cost styles</i>						
Impact of mix of internal indexed, internal active, external indexed (see page 11)						1,961 0.9 bp
Total						-14,131 -6.8 bp

1. The external active cost 'premium vs internal and passive' is the additional cost of external active management and fund of funds relative to the average of the other lower cost implementation styles: internal passive, internal active and external passive. These calculations are specific to your peer group.

2. 'Insufficient' indicates there is insufficient peer data to determine the cost premium.

## Cost impact of overlays

As summarized on the previous page, the style impact of overlays saved you 0.6 bps. If you use more overlays than your peers, or more expensive types of overlays, then it increases your relative cost.

### Calculation of the cost impact of differences in the use of portfolio level overlays

	Your avg total holdings (mils)	Overlay notional amounts as a % of avg total holdings			Median cost as a % of notional (C)	Your cost as a % of total holdings <sup>1</sup>	Average cost as a % of total holdings	Cost/-Savings Impact (000s) (A X B X C)
		You	Peer Average	More/-Less				
<b>Internal Overlays</b>	(A)			(B)				
Currency - Hedge	20,678	0.0%	n/a			N/A	0.0 bp	-34
Currency - Discretionary	20,678	0.0%	n/a			N/A	0.1 bp	-162
Passive Beta - Hedge	20,678	0.0%	n/a			N/A	0.0 bp	-51
Duration - Hedge	20,678	41.3%	3.9%	37.4%	1.1 bp			855
Global TAA - Discretionary	20,678	0.0%	n/a			N/A	0.3 bp	-576
Policy Tilt TAA - Discretionary	20,678	0.0%	n/a			N/A	0.1 bp	-288
Long/Short - Discretionary	20,678	0.0%	n/a			N/A	0.3 bp	-718
Other - Discretionary	20,678	0.0%	0.0%	0.0%	6.6 bp			-2
<b>External Overlays</b>								
Currency - Hedge	20,678	0.0%	0.5%	-0.5%	1.9 bp			-20
Currency - Discretionary	20,678	0.0%	0.0%	0.0%	12.8 bp			0
Passive Beta - Hedge	20,678	0.0%	0.5%	-0.5%	8.2 bp			-78
Duration - Hedge	20,678	0.0%	0.0%	0.0%	3.9 bp			0
Dur. Mgmt Swaption - Hedge	20,678	0.0%	0.0%	0.0%	3.7 bp			0
Global TAA - Discretionary	20,678	0.0%	0.0%	0.0%	76.1 bp			0
Policy Tilt TAA - Discretionary	20,678	0.0%	0.0%	0.0%	0.6 bp			0
Commodity Futures - Discretionary	20,678	0.0%	0.0%	0.0%	5.7 bp			0
Long/Short - Discretionary	20,678	0.0%	0.0%	0.0%	2.3 bp			0
Other - Discretionary	20,678	0.0%	n/a			N/A	0.1 bp	-104
Total impact in 000s								-1,177
Total impact in basis points								-0.6 bp

1. For overlay programs (primarily certain internal, profit seeking programs) where no clear notional value is defined or provided, these types of overlays are compared in terms of cost relative to total holdings.

## Cost impact of lower cost styles

As summarized on page 9, your mix of 'lower-cost' internal and passive styles cost you 0.9 bps. Details are shown below.

### Cost impact of differences in your mix of 'lower-cost' implementation styles

	Your non-external active holdings (mils)	Percent holdings (of non-external-active)						Cost/-Savings <sup>1</sup> (000s)
		Internal passive		Internal active		External passive		
		You	Peers	You	Peers	You	Peers	
Stock - Aggregate	12,088	0%	23%	100%	68%	0%	9%	2,003
Fixed Income - Aggregate	8,464	0%	11%	100%	87%	0%	2%	-43
Total impact in 000s								1,961
Total impact in basis points								0.9 bp

1. Cost/-savings for each asset class equals non-external active holdings within each asset class X cumulative impact from the three lower cost styles. By formula: [ (peer median cost for the style - peer weighted average cost of lower cost styles) X (your weight for the style - peer weight for the style) ]. Peer median costs for each style are shown on page 18.

## 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 0.7 bps.

### Calculation of the cost impact of paying more/-less

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>						
Total for external management						
<b>Internal asset management</b>						
Stock - Aggregate	active	12,088	6.5	7.7	-1.2	-1,400
Fixed Income - Aggregate	active	8,464	7.5	5.3	2.2	1,863
		<i>Notional</i>				
Derivatives/Overlays - Currency	Hedge	1,287	0.0			
Derivatives/Overlays - Duration	Hedge	8,547	0.0	1.1*	-1.1	-945
Total for internal asset management						-483 -0.2 bp
<b>Oversight, custodial, other</b>						
Oversight of the Fund		20,678	0.8	1.1	-0.2	-452
Consulting and Performance Measurement		20,678	0.0	0.3	-0.2	-483
Trustee & Custodial		20,678	0.4	0.6	-0.2	-392
Audit		20,678	0.1	0.0	0.1	209
Other		20,678	0.2	0.2	0.0	73
Total for oversight, custodial, other						-1,045 -0.5 bp
Total						-1,527 -0.7 bp

\*Universe median used as peer data was insufficient.

## 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).

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

	Your cost <sup>1</sup>	Benchmark = peer weighted median cost <sup>1</sup>	More/-less	Your average assets	More/-less (€000s)	Due to Impl. style (€000s)	Due to paying more/less (€000s)
	(A)	(B)	(C = A - B)	(D)	(C X D)		
<b>Asset management costs</b>							
Stock - Aggregate	6.5 bp	14.7 bp	-8.2 bp	12,088	-9,916	-8,516	-1,400
Fixed Income - Aggregate	7.5 bp	10.5 bp	-3.0 bp	8,464	-2,575	-4,437	1,863
Overlay Programs <sup>2</sup>	0.0 bp	1.0 bp	-1.0 bp	20,678	-2,123	-1,177	-945
Total asset management	6.9 bp	14.0 bp	-7.1 bp	20,678	-14,614	-14,131	-483
<b>Oversight, custody and other costs</b>							
Oversight of the Fund	0.8 bp	1.1 bp	-0.2 bp	20,678	-452	n/a	-452
Trustee & Custodial	0.4 bp	0.6 bp	-0.2 bp	20,678	-392	n/a	-392
Consulting	0.0 bp	0.3 bp	-0.2 bp	20,678	-483	n/a	-483
Audit	0.1 bp	0.0 bp	0.1 bp	20,678	209	n/a	209
Other	0.2 bp	0.2 bp	0.0 bp	20,678	73	n/a	73
Total oversight, custody & other	1.6 bp	2.1 bp	-0.5 bp	20,678	-1,045	n/a	-1,045
<b>Total</b>	<b>8.5 bp</b>	<b>16.0 bp</b>	<b>-7.6 bp</b>	<b>20,678</b>	<b>-15,658</b>	<b>-14,131</b>	<b>-1,527</b>

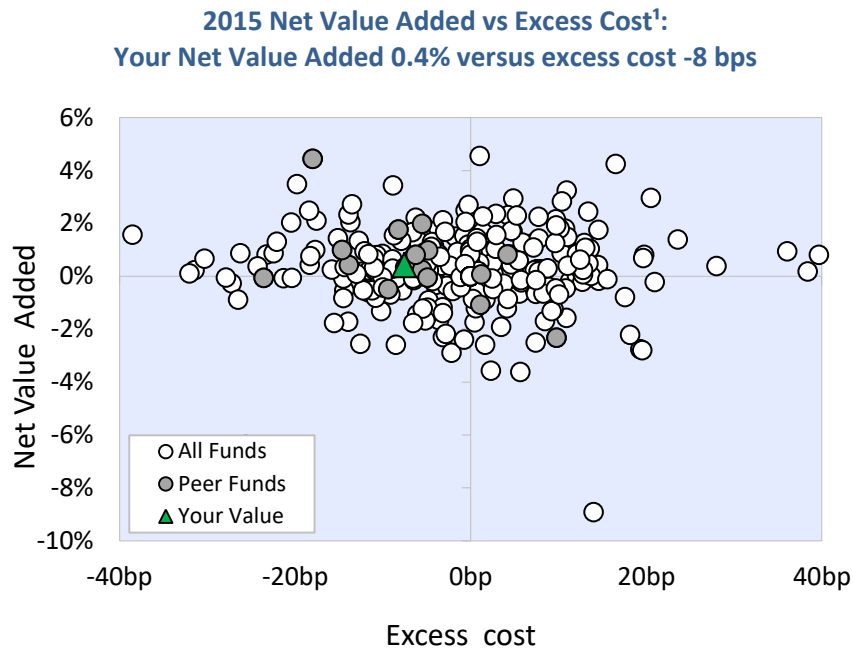
1. The weighted peer median cost for asset management is the style-weighted average of the peer median costs for all implementation styles (i.e., internal passive, internal active, external passive, external active, fund of fund). It excludes performance fees on private assets. The style weights by asset class for your fund and the peers are shown on page 17 of this section.

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

## Your cost effectiveness ranking

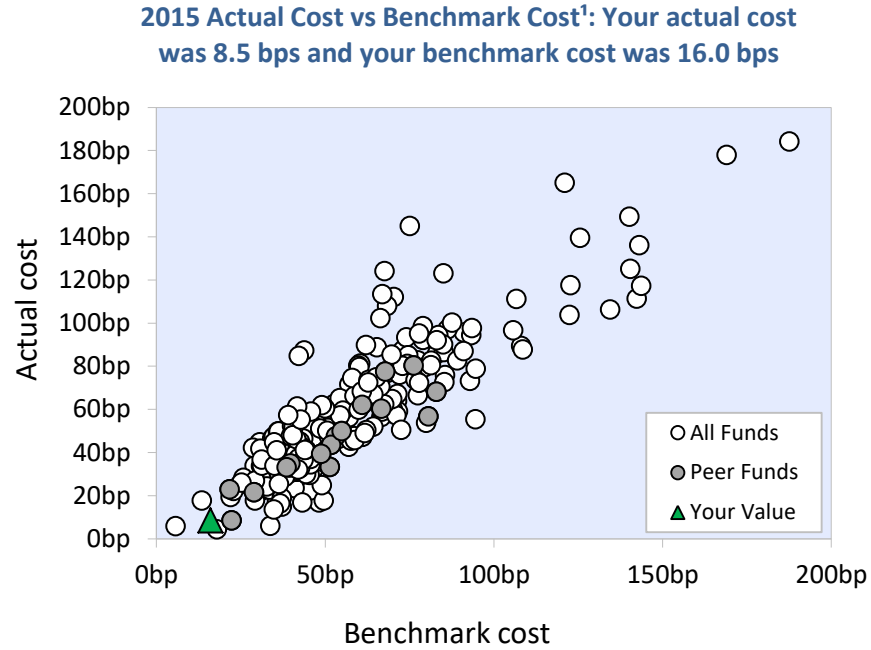
Being high or low cost is neither good nor bad. The more important question is, are you receiving sufficient value for your excess cost? At the total fund level, we provide insight into this question by combining your value added and your excess cost to create a snapshot your cost effectiveness performance relative to that of the survey universe.

For the 2015 year, your fund ranked in the positive value added, low cost quadrant.



<sup>1</sup> Benchmark cost and excess cost calculations are based on regression analysis (see Appendix B in this section) for all funds except your fund. Your fund's benchmark cost is based on peer-median costs (per page 7 of this section).

## Actual cost versus benchmark cost



<sup>1</sup> Benchmark cost calculations are based on regression analysis (see Appendix B in this section) for all funds except your fund. Your fund's benchmark cost is based on peer-median costs (per page 7 of this section).

## Appendix A: Benchmarking methodology formulas and data

### a) Formulas

Example calculations are for Stock - Aggregate unless otherwise indicated.

Asset class peer cost

$$\begin{aligned} &= \text{Weighted average by peer average style of peer median costs for asset class} \\ &= [(0.18 \times 1.2\text{bp}) + (0.52 \times 7.7\text{bp}) + (0.07 \times 6.0\text{bp}) + (0.24 \times 42.7\text{bp})] / (0.18 + 0.52 + 0.07 + 0.24) = 14.7\text{bp} \end{aligned}$$

Peer average low cost (by asset class)

$$\begin{aligned} &= \text{Weighted average by peer average style of peer median costs for internal passive, internal active and external passive management for asset class} \\ &= [(0.18 \times 1.2\text{bp}) + (0.52 \times 7.7\text{bp}) + (0.07 \times 6.0\text{bp})] / (0.18 + 0.52 + 0.07) = 6.0\text{bp} \end{aligned}$$

External active cost premium (by asset class)

$$\begin{aligned} &= \text{Peer median external active cost - peer average low cost} \\ &= 42.7\text{bp} - 6.0\text{bp} = 36.6\text{bp} \end{aligned}$$

Fund of funds premium (by asset class)

$$\begin{aligned} &= \text{Peer median fund-of-funds cost - peer median external active cost} \\ &= (\text{For private equity}) 233.1\text{bp} - 168.7\text{bp} = 64.4\text{bp} \end{aligned}$$

Impact from other differences in implementation style (by Asset Class)=

$$\begin{aligned} &= [ (\text{Your int. pass. \% - average peer int. pass. \%}) \times (\text{peer median int. pass. cost - peer average low cost}) \\ &\quad + (\text{your int. act. \% - peer average int. act. \%}) \times (\text{peer median int. act. cost - peer average low cost}) \\ &\quad + (\text{your ext. pass. \% - average peer ext. pass. \%}) \times (\text{median peer ext. pass. cost - peer average low cost}) ] \\ &\quad \times \text{your average holdings} \end{aligned}$$

### b) Insufficient peer data

All peer data is adjusted to ensure comparisons are made only when sufficient data is available. When too few peers have the asset class or style in question, peer costs are replaced with your fund's cost, neutralizing the effect of your cost. Major implementation styles (external active, fund of funds and combined "low cost") that you do not hold are ignored if they have insufficient data to draw major style impact conclusions. Throughout this section, 'peer median' and 'average peer style' always refer to these adjusted values. The following page shows the adjusted data used in this section.



## Appendix A: Benchmarking methodology formulas and data (page 2 of 2)

### c) 2015 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	Limited Partner.	Fund of Funds	Internal Passive	Internal Active	External Passive	External Active	Limited Partner.	Fund of Funds	Weighted Median
Stock - Aggregate		6.5					1.2	7.7	6.0	42.7			14.7
Fixed Income - Aggregate		7.5					5.3	5.3	7.5	38.9			10.5

### d) 2015 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	Limited Partner.	Fund of Funds	Internal Passive	Internal Active	External Passive	External Active	Limited Partner.	Fund of Funds
Stock - Aggregate	0.0%	100.0%	0.0%	0.0%			17.5%	51.5%	7.2%	23.8%		
Fixed Income - Aggregate	0.0%	100.0%	0.0%	0.0%			9.1%	73.6%	1.9%	15.5%		

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

## Appendix B: Regression based benchmarks

### Regression Benchmark Cost Equations

	2015		2014		2013		2012		2011	
	Coeff.	"t"	Coeff.	"t"	Coeff.	"t"	Coeff.	"t"	Coeff.	"t"
Constant	76.5	17.4	84.4	19.2	76.8	18.2	73.2	18.9	72.5	18.8
Size in millions (Log 10)	-13.7	-12.8	-15.7	-14.6	-14.2	-13.3	-13.7	-13.8	-13.3	-13.8
<u>Percentage of assets in:</u>										
Stocks	11.1	2.8	14.3	3.3	19.6	4.5	19.0	4.6	14.8	3.6
Real estate	47.1	3.5	56.7	3.7	56.9	3.8	55.1	4.2	50.8	3.9
Private equity & hedge funds	208.1	28.2	205.2	27.4	203.3	26.9	208.1	30.5	210.4	31.5
Country variable (1 if Cdn)	-2.9	-1.7	-6.9	-4.0	-8.1	-4.7	-6.4	-4.1	-4.9	-3.3
	All		All		All		All		All	
Standard error	14.5		14.5		14.6		13.1		0.7	
R-squared	65%		67%		65%		71%		0%	
F statistic	184.1		185.9		175.1		219.0		0.0	
Sample size	486		449		466		454		487	

In order to compare your fund's cost effectiveness to the survey universe, a benchmark cost for all participants is required.

The benchmark operating cost for all other funds is determined using regression analysis. The regression equation coefficients and "t statistics" are shown in the table above. An absolute "t" of greater than 2 indicates that the coefficient is statistically significant in predicting the dependent variable, in this case, the benchmark cost.

The benchmark equations have been remarkably robust. Although the coefficients change every year, primarily because of changes in the composition of the survey universe, they remain similar in relative magnitude and direction.

Most importantly, the R-squareds have been high. In 2015, the R-squared was 65% which means that fund size, asset mix and nationality explain more than 65% of the differences in costs between funds. This is good explanatory power.

Below is a description of the coefficients:

- Size = Log10 (fund size in millions)
- % Stocks = proportion in stocks (coefficient changed in 2011)
- % Domestic stocks = proportion in domestic stocks
- % Foreign stocks = proportion in foreign stocks.
- % Real estate = proportion directly invested in real estate and infrastructure.
- % Private equity = proportion in direct and fund-of-funds venture capital, other private equity and hedge funds.
- Country variable = 1 if your country of origin is Canada, otherwise 0.

# 6

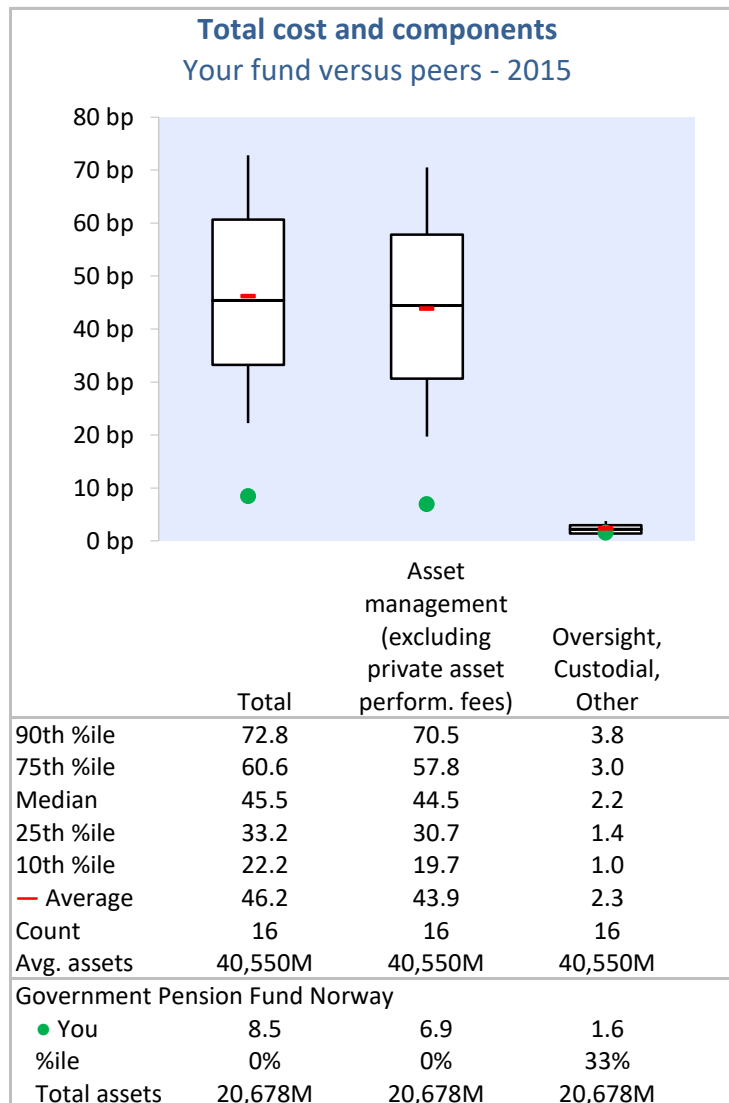
## Cost comparisons

Total fund cost	2
Governance, operations & support	3
Public asset classes	
- Stock	4
- Fixed Income	10
- Commodities	19
- REITs	20
Real asset classes	
- Real estate ex-REITs	21
- Infrastructure	22
- Natural resources	23
- Other real assets	24
Private equity	
- Diversified private equity	25
- LBO	26
- Venture capital	27
- Other private equity	28
Global TAA	29
Hedge Funds	30
Overlays	31

## Total fund cost

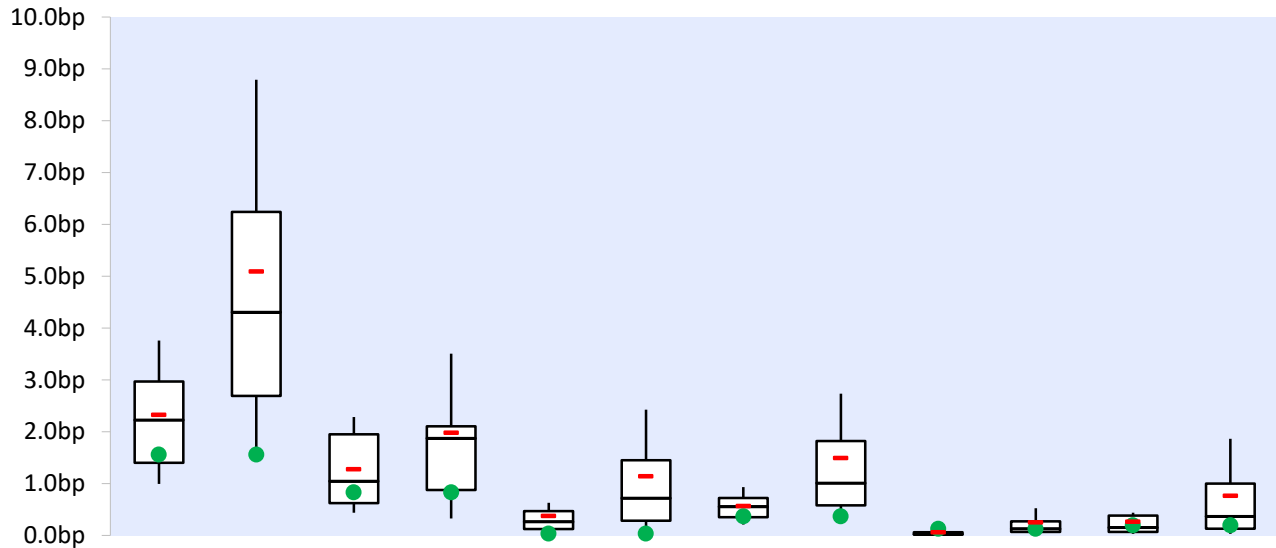
Total costs are benchmarked in the previous section. In this section, your fund's costs are compared on a line-item basis to your peers. This enables you to understand better why you may be a high or low cost fund and it also identifies and quantifies major cost differences that may warrant further investigation.

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



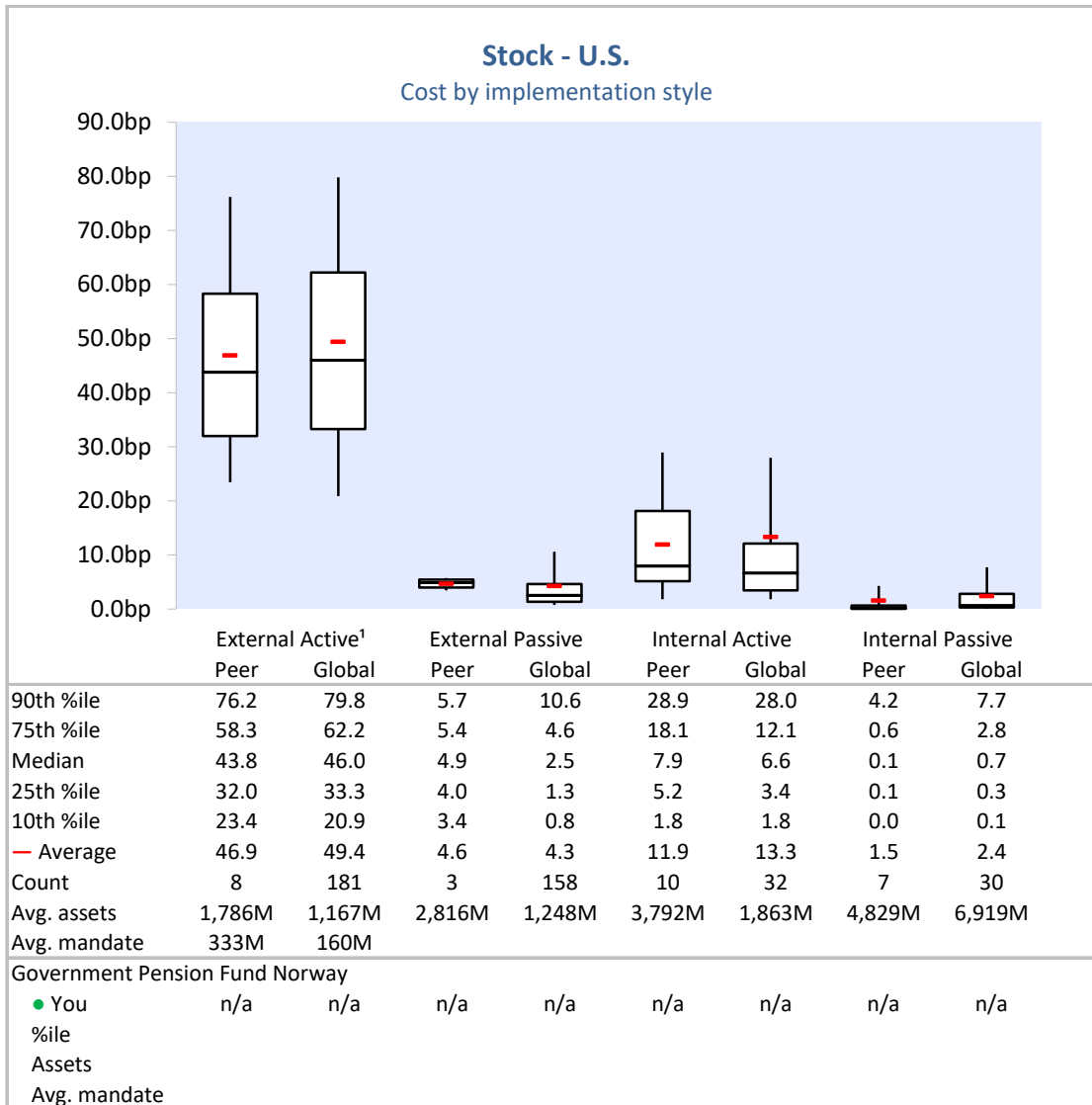
## Governance, operations & support

Cost as a % of total plan assets



	<u>Total</u>		<u>Oversight<sup>1</sup></u>		<u>Consulting &amp; Perf. Meas.</u>		<u>Custody</u>		<u>Audit</u>		<u>Other</u>	
	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global
90th %ile	3.8	8.8	2.3	3.5	0.6	2.4	0.9	2.7	0.1	0.5	0.4	1.9
75th %ile	3.0	6.2	1.9	2.1	0.5	1.4	0.7	1.8	0.1	0.3	0.4	1.0
Median	2.2	4.3	1.1	1.9	0.3	0.7	0.6	1.0	0.0	0.1	0.2	0.4
25th %ile	1.4	2.7	0.6	0.9	0.1	0.3	0.4	0.6	0.0	0.1	0.1	0.1
10th %ile	1.0	1.7	0.4	0.3	0.0	0.1	0.2	0.3	0.0	0.0	0.0	0.0
— Average	2.3	5.1	1.3	2.0	0.4	1.1	0.6	1.5	0.1	0.2	0.3	0.8
Count	16	293	16	293	10	238	16	284	14	260	12	200
Avg. assets	40,550M	20,100M	40,550M	20,100M	40,550M	20,100M	40,550M	20,100M	40,550M	20,100M	40,550M	20,100M
Government Pension Fund Norway												
● You	1.6	1.6	0.8	0.8	0.0	0.0	0.4	0.4	0.1	0.1	0.2	0.2
%ile	33%	9%	33%	22%	11%	2%	27%	13%	92%	50%	55%	33%
Plan assets	20,678M	20,678M	20,678M	20,678M	20,678M	20,678M	20,678M	20,678M	20,678M	20,678M	20,678M	20,678M

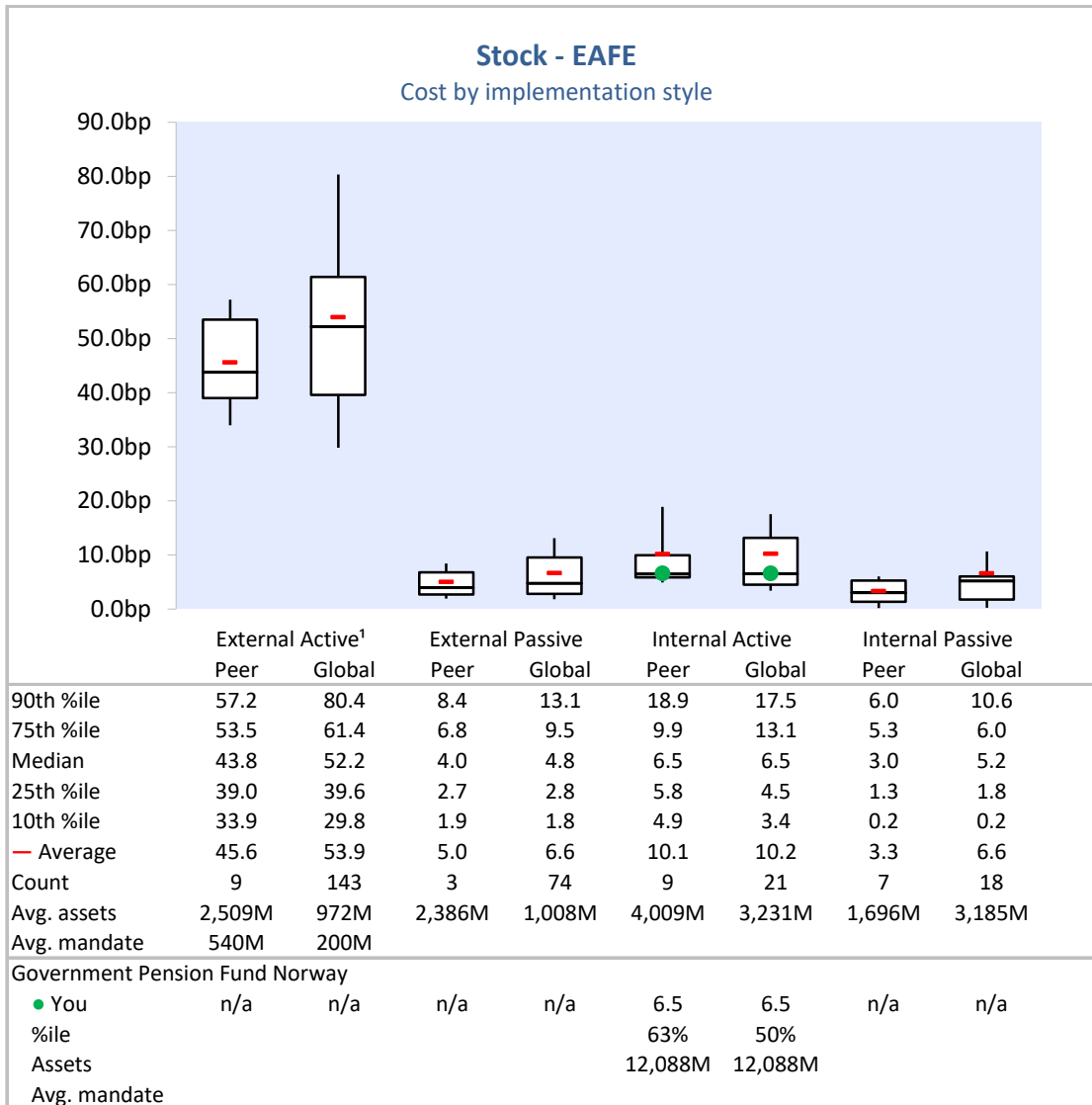
1. Oversight costs include the salaries and benefits of executives and their staff responsible for overseeing the entire fund or multiple asset classes and the fees/salaries of the Board or Investment Committee. All costs associated with the above including fees/salaries, travel, director's insurance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



1. Breakdown of external active fees

	You	Peer Average	Global Average
Base fees	n/a	44.1	44.8
Performance fees*	n/a	1.6	4.2
Internal and other	<u>n/a</u>	<u>1.2</u>	<u>0.4</u>
Total	n/a	46.9	49.4

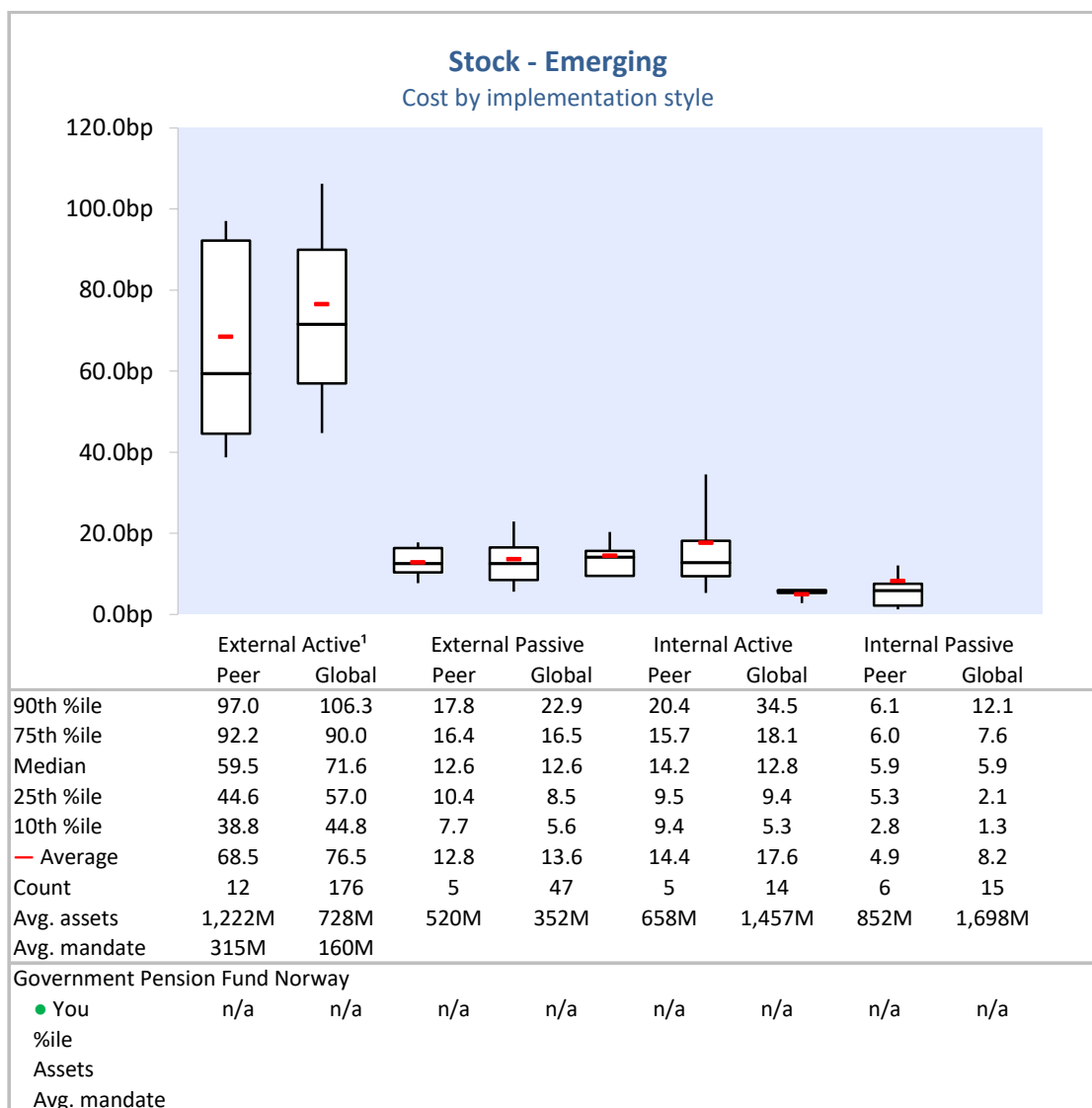
\* For funds that did not report a performance fee, a value of 'zero' was used. The average performance fee for only those funds that reported a performance fee is 6.2 bps for peers (2 funds) and 15.9 bps for Global participants (48 funds).



#### 1. Breakdown of external active fees

	You	Peer Average	Global Average
Base fees	n/a	41.4	49.4
Performance fees*	n/a	3.0	4.0
Internal and other	<u>n/a</u>	<u>1.2</u>	<u>0.6</u>
Total	n/a	45.6	53.9

\* For funds that did not report a performance fee, a value of 'zero' was used. The average performance fee for only those funds that reported a performance fee is 13.7 bps for peers (2 funds) and 16.3 bps for Global participants (35 funds).

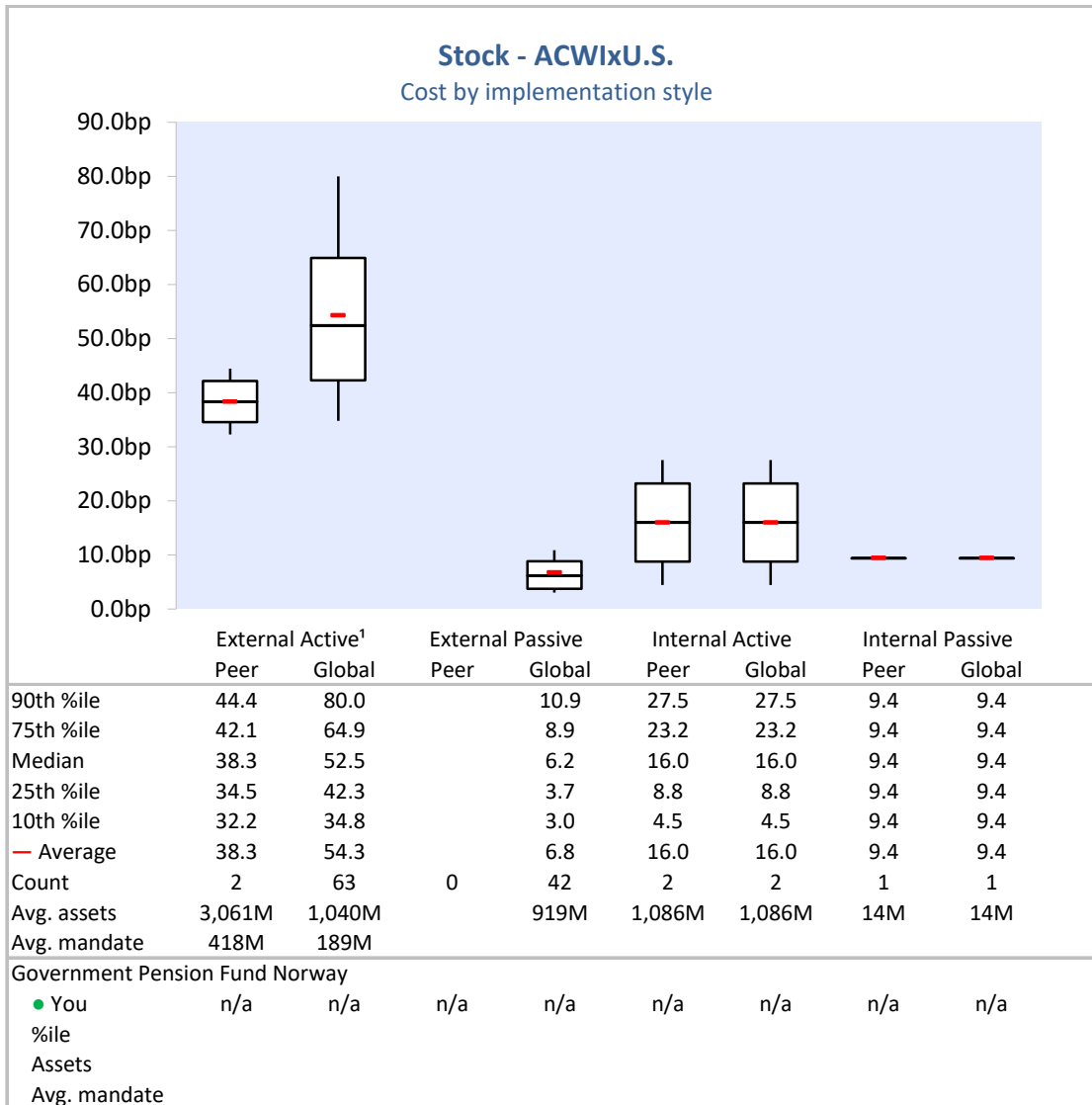


#### 1. Breakdown of external active fees

	You	Peer Average	Global Average
Base fees	n/a	59.2	70.9
Performance fees*	n/a	5.5	4.0
Internal and other	<u>n/a</u>	<u>3.8</u>	<u>1.7</u>
Total	n/a	68.5	76.5

\* For funds that did not report a performance fee, a value of 'zero' was used. The average performance fee for only those funds that reported a performance fee is 22.0 bps for peers (3 funds) and 20.5 bps for Global participants (34 funds).

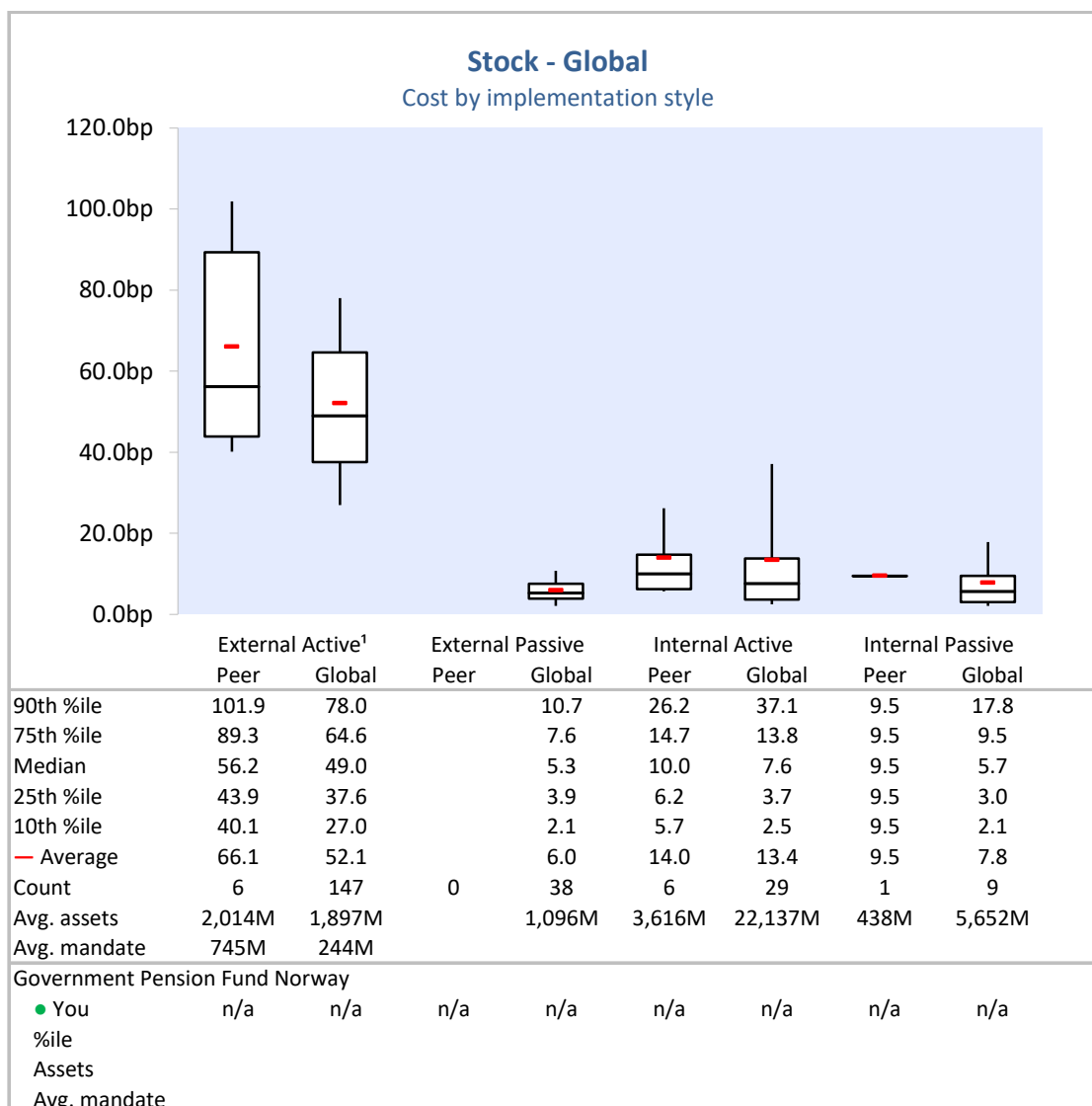




#### 1. Breakdown of external active fees

	You	Peer Average	Global Average
Base fees	n/a	37.9	51.5
Performance fees*	n/a	0.0	2.3
Internal and other	<u>n/a</u>	<u>0.5</u>	<u>0.5</u>
Total	n/a	38.3	54.3

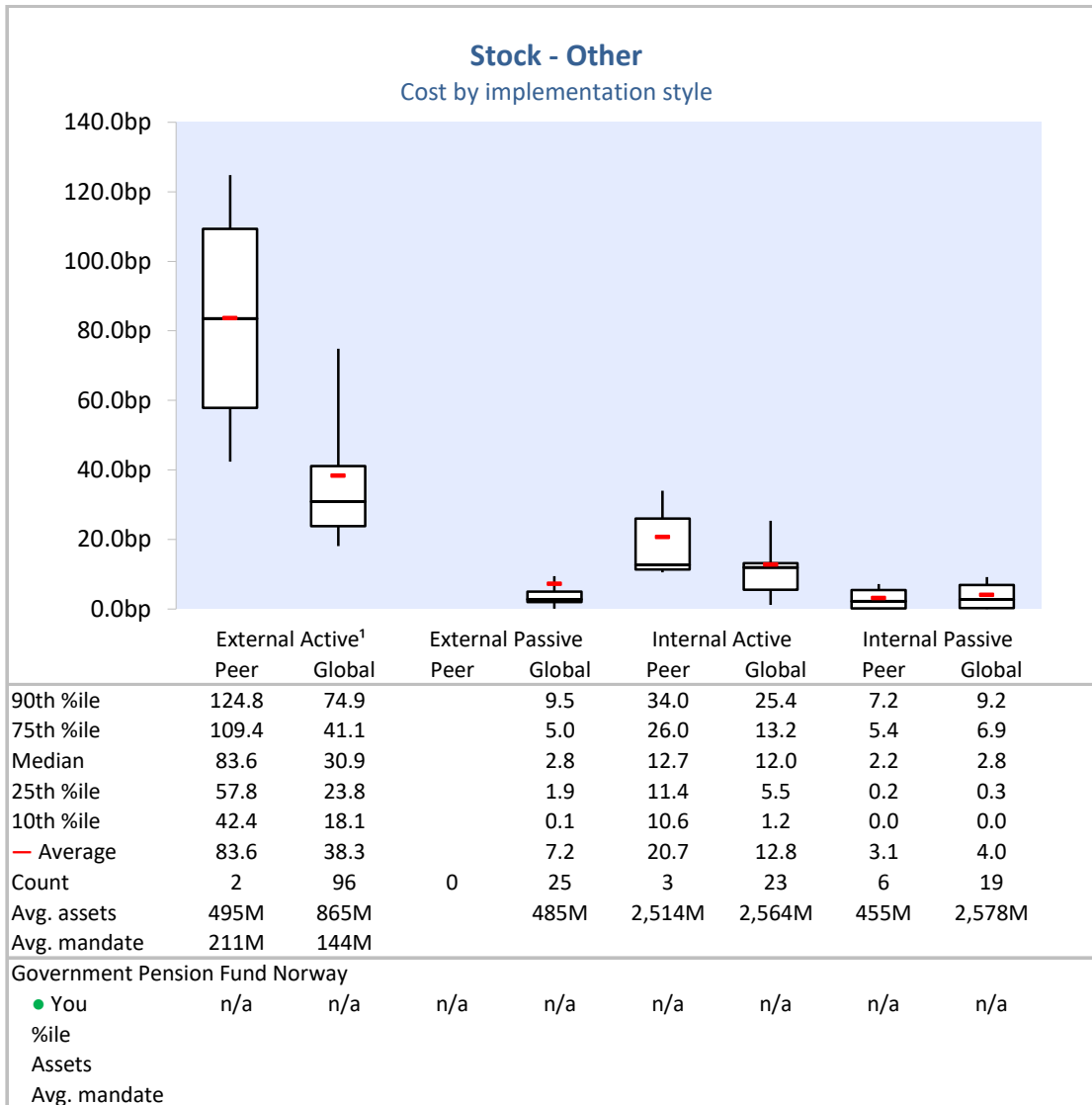
\* For funds that did not report a performance fee, a value of 'zero' was used. The average performance fee for only those funds that reported a performance fee is 10.3 bps for Global participants (14 funds).



#### 1. Breakdown of external active fees

	You	Peer Average	Global Average
Base fees	n/a	48.9	46.8
Performance fees*	n/a	12.2	4.2
Internal and other	<u>n/a</u>	<u>5.1</u>	<u>1.1</u>
Total	n/a	66.1	52.1

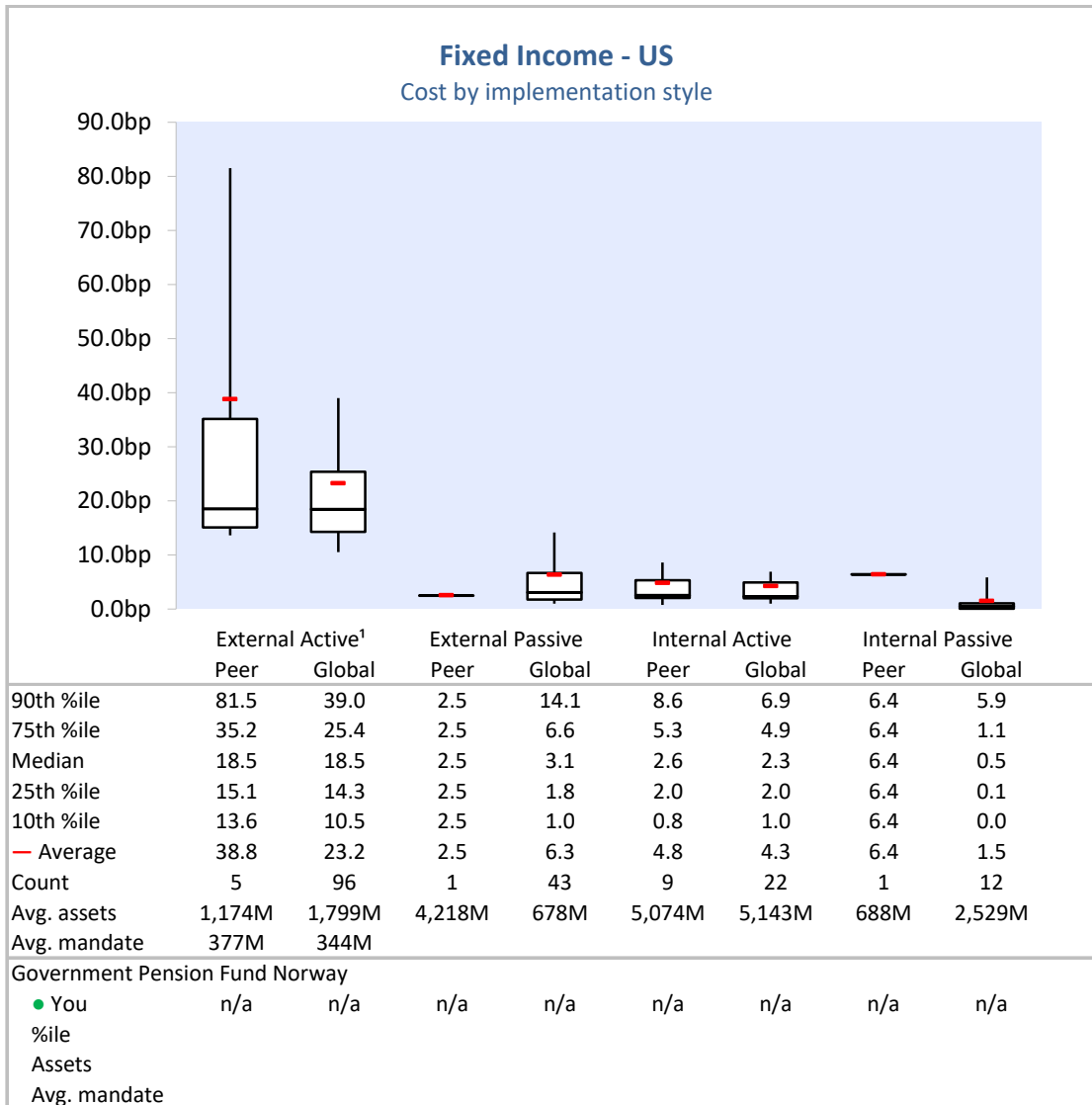
\* For funds that did not report a performance fee, a value of 'zero' was used. The average performance fee for only those funds that reported a performance fee is 24.3 bps for peers (3 funds) and 12.5 bps for Global participants (49 funds).



#### 1. Breakdown of external active fees

	You	Peer Average	Global Average
Base fees	n/a	78.7	35.2
Performance fees*	n/a	0.0	2.6
Internal and other	<u>n/a</u>	<u>4.9</u>	<u>0.5</u>
Total	n/a	83.6	38.3

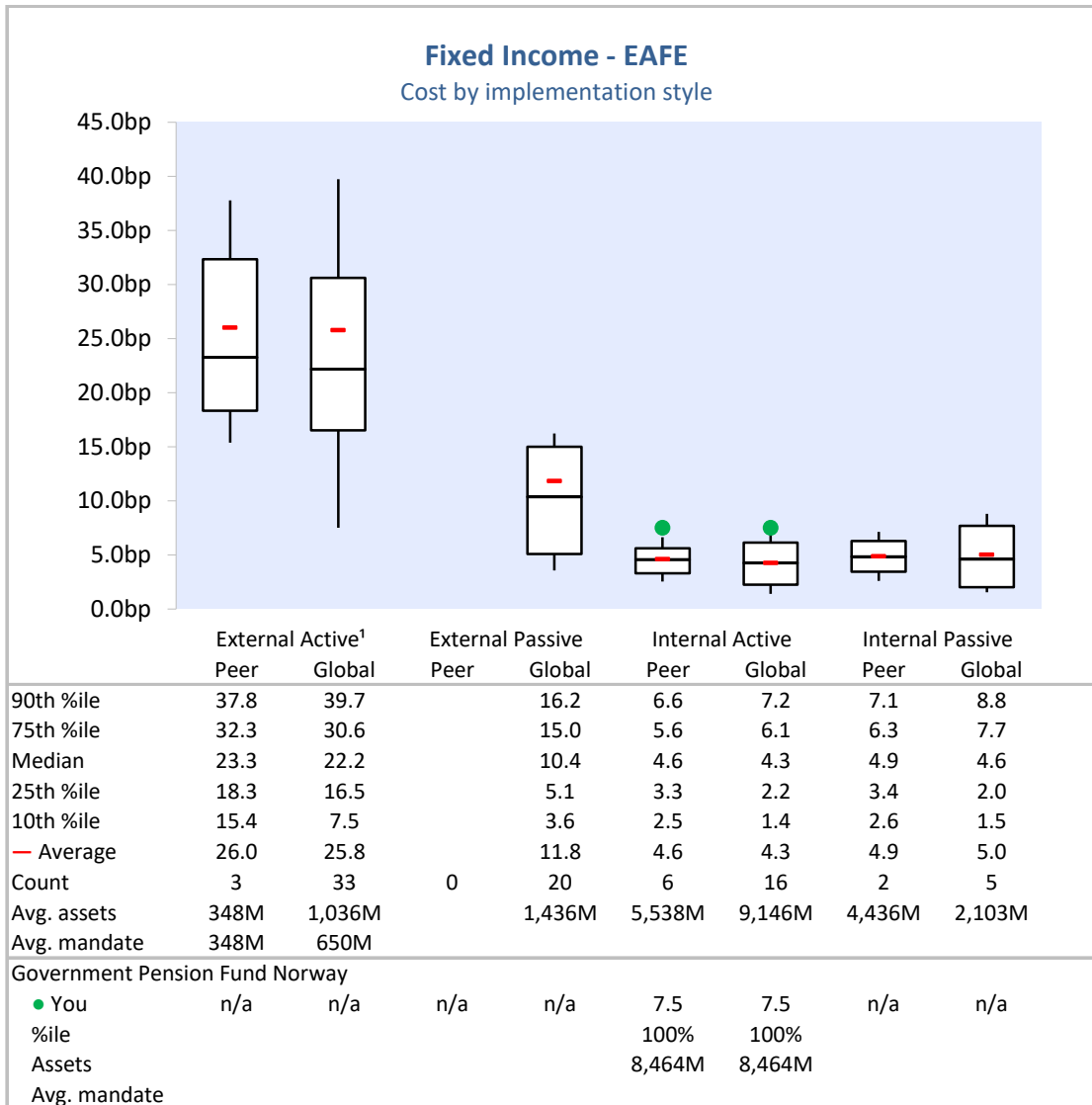
\* For funds that did not report a performance fee, a value of 'zero' was used. The average performance fee for only those funds that reported a performance fee is 11.4 bps for Global participants (22 funds).



#### 1. Breakdown of external active fees

	You	Peer Average	Global Average
Base fees	n/a		
Performance fees*	n/a		
Internal and other	<u>n/a</u>	<u>2.7</u>	<u>0.5</u>
Total	n/a	38.8	23.2

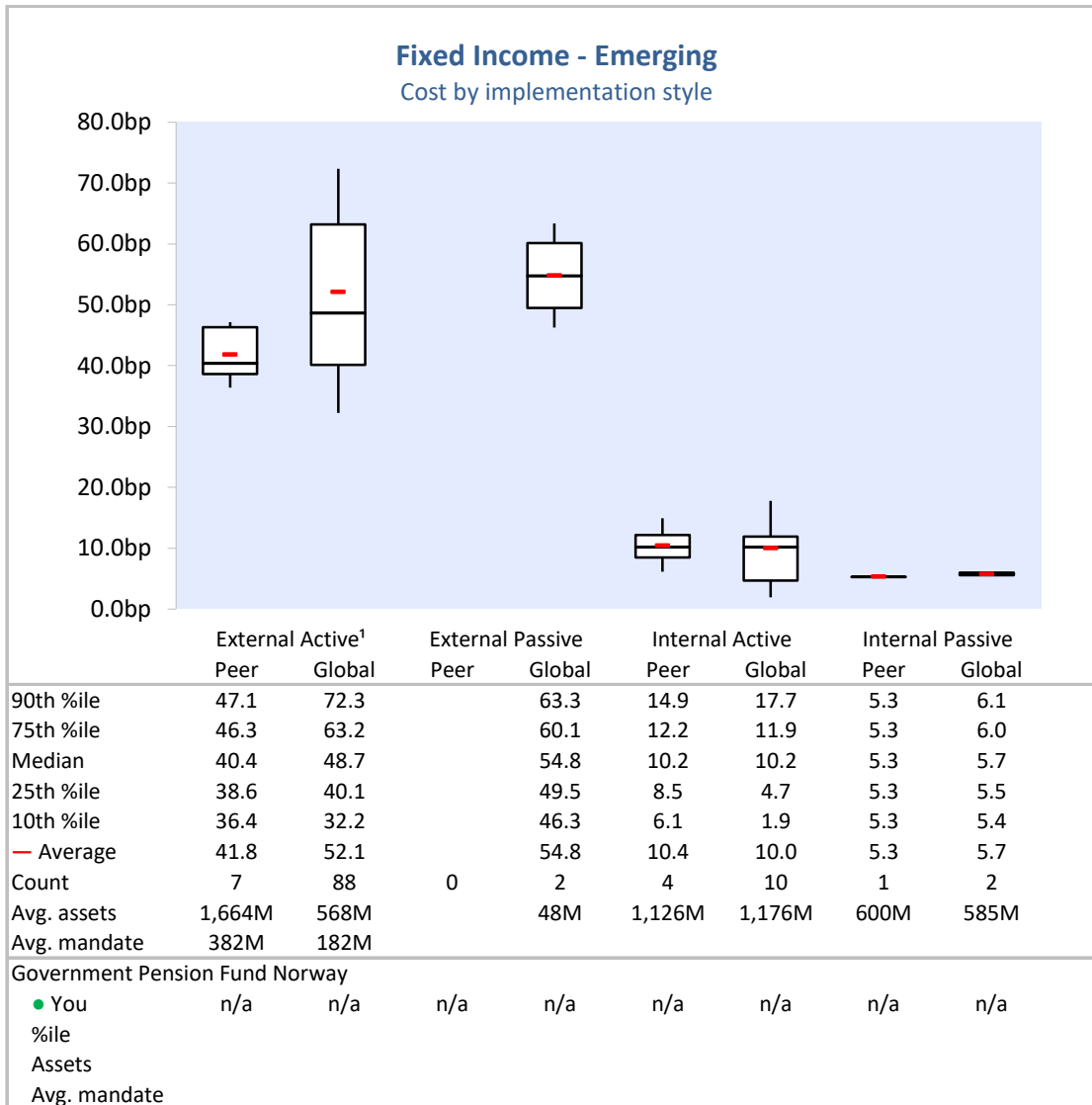
\* For funds that did not report a performance fee, a value of 'zero' was used.



#### 1. Breakdown of external active fees

	You	Peer Average	Global Average
Base fees	n/a	18.2	21.4
Performance fees*	n/a	0.0	0.6
Internal and other	<u>n/a</u>	<u>7.8</u>	<u>3.8</u>
Total	n/a	26.0	25.8

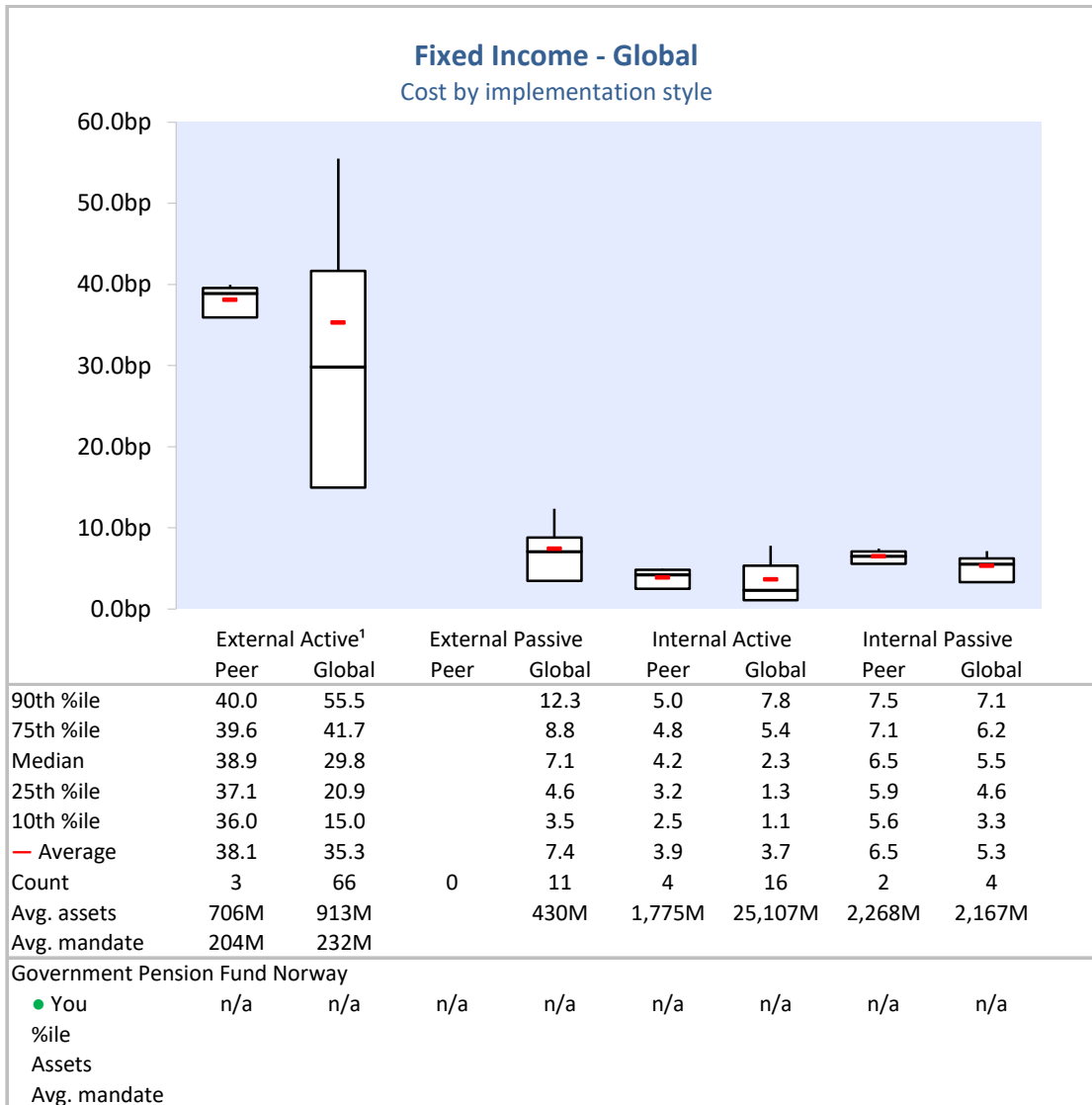
\* For funds that did not report a performance fee, a value of 'zero' was used. The average performance fee for only those funds that reported a performance fee is 2.4 bps for Global participants (8 funds).



#### 1. Breakdown of external active fees

	You	Peer Average	Global Average
Base fees	n/a	39.7	49.6
Performance fees*	n/a	0.0	0.7
Internal and other	<u>n/a</u>	<u>2.1</u>	<u>1.8</u>
Total	n/a	41.8	52.1

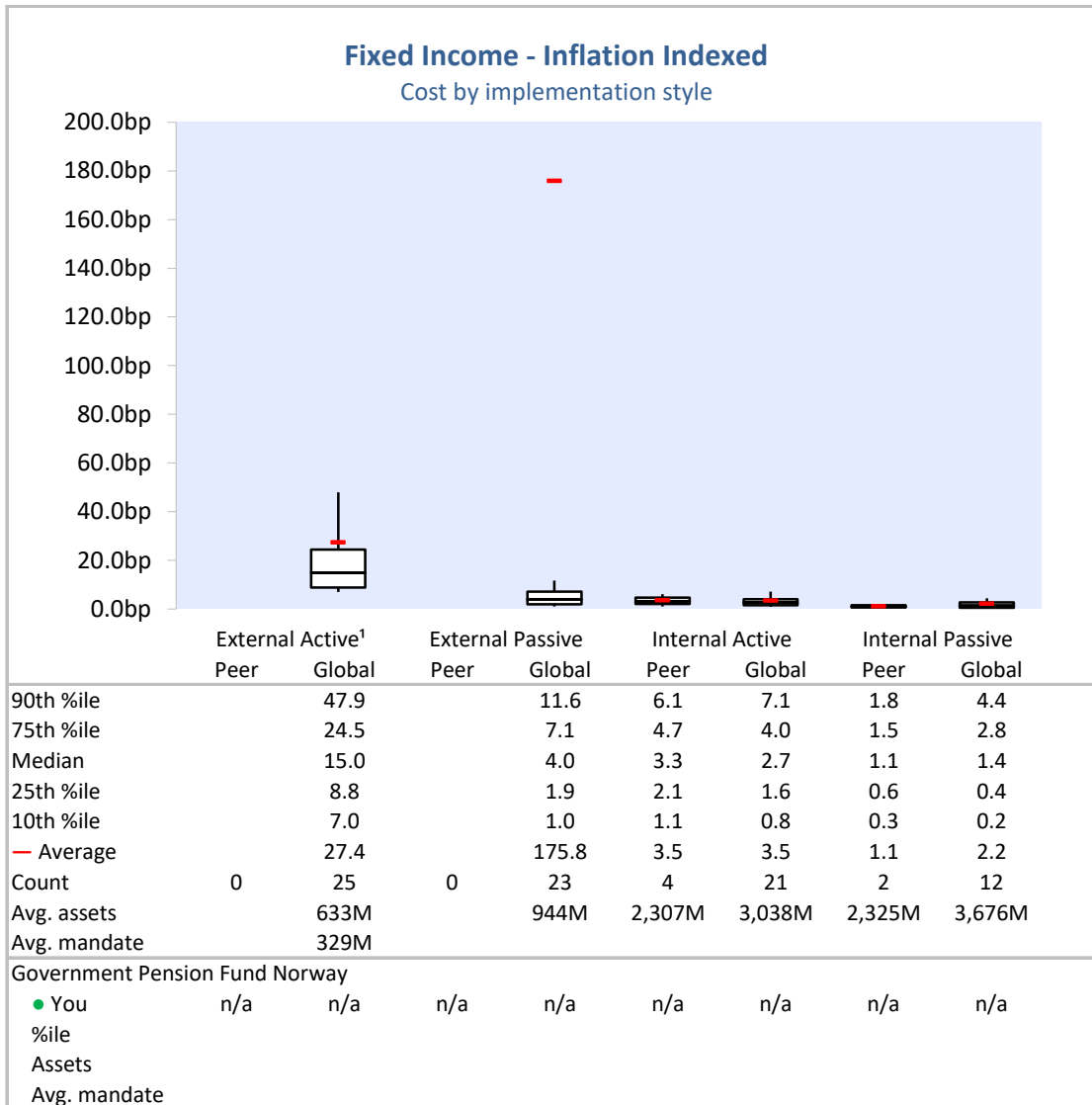
\* For funds that did not report a performance fee, a value of 'zero' was used. The average performance fee for only those funds that reported a performance fee is 3.8 bps for Global participants (17 funds).



#### 1. Breakdown of external active fees

	You	Peer Average	Global Average
Base fees	n/a	36.9	32.0
Performance fees*	n/a	0.0	2.4
Internal and other	<u>n/a</u>	<u>1.2</u>	<u>0.9</u>
Total	n/a	38.1	35.3

\* For funds that did not report a performance fee, a value of 'zero' was used. The average performance fee for only those funds that reported a performance fee is 0.0 bps for peers (1 fund) and 9.4 bps for Global participants (17 funds).

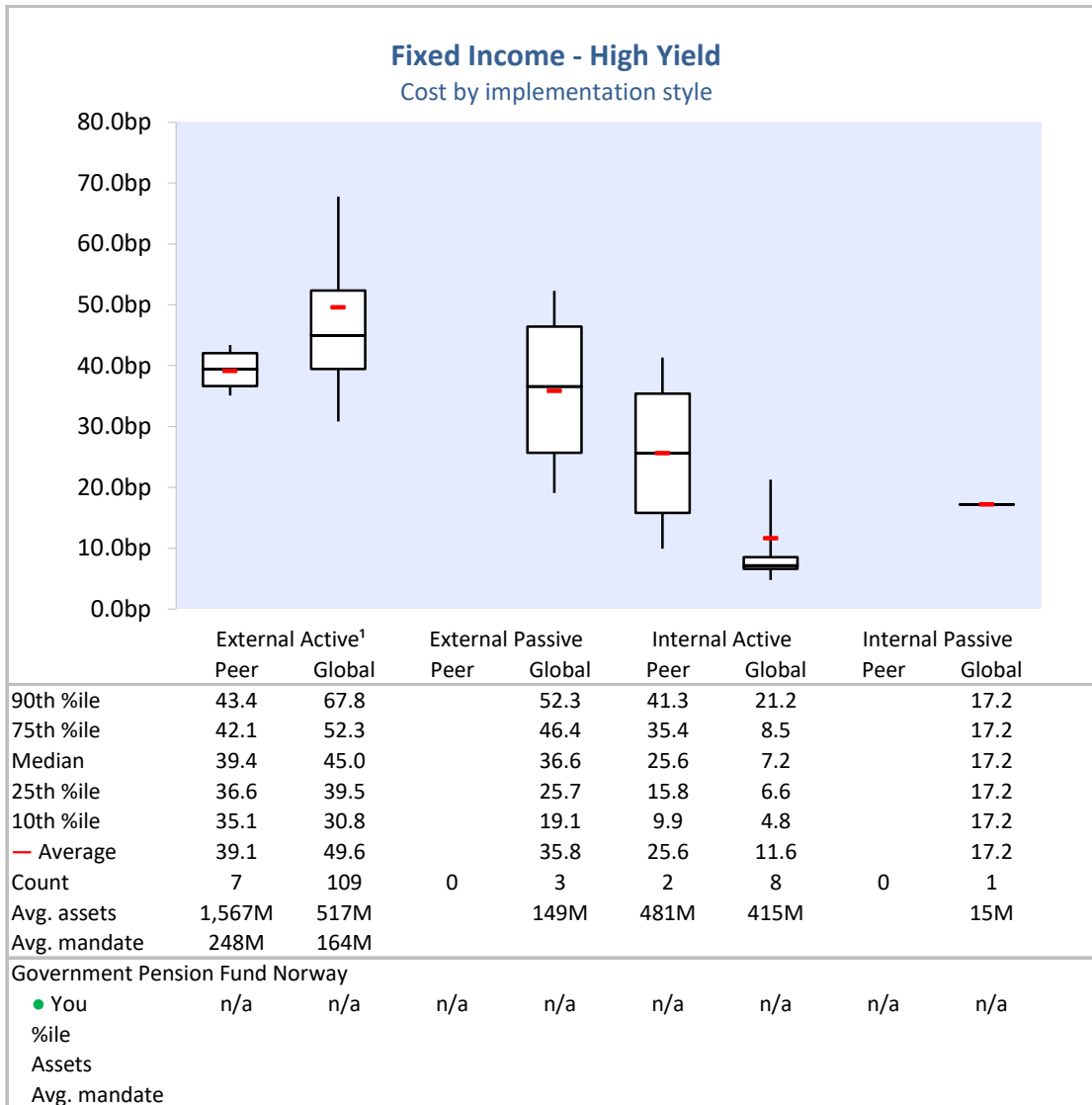


#### 1. Breakdown of external active fees

	You	Peer Average	Global Average
Base fees	n/a	n/a	21.4
Performance fees*	n/a	n/a	5.7
Internal and other	<u>n/a</u>	<u>n/a</u>	<u>0.3</u>
Total	n/a	n/a	27.4

\* For funds that did not report a performance fee, a value of 'zero' was used. The average performance fee for only those funds that reported a performance fee is 71.1 bps for Global participants (2 funds).





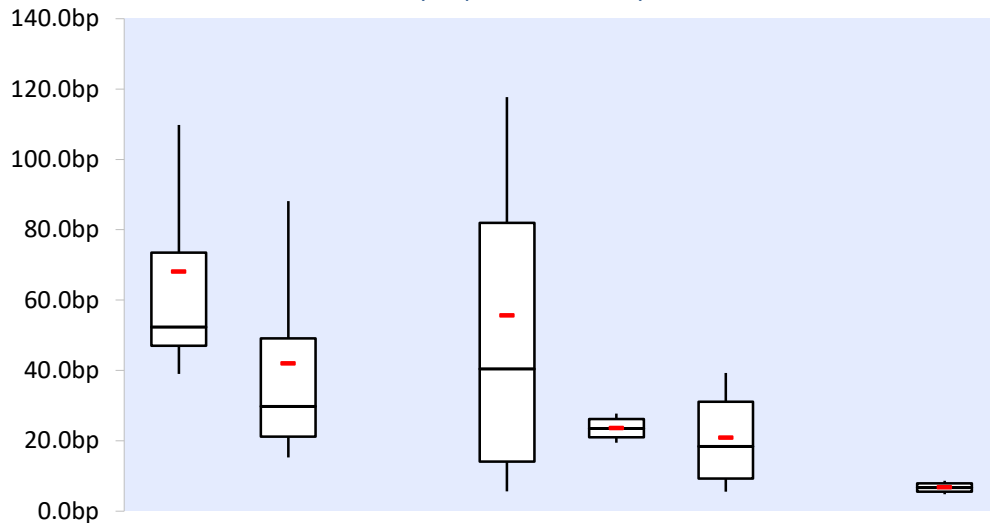
#### 1. Breakdown of external active fees

	You	Peer Average	Global Average
Base fees	n/a	36.6	45.7
Performance fees*	n/a	0.0	2.2
Internal and other	<u>n/a</u>	<u>2.5</u>	<u>1.7</u>
Total	n/a	39.1	49.6

\* For funds that did not report a performance fee, a value of 'zero' was used. The average performance fee for only those funds that reported a performance fee is 0.0 bps for peers (1 fund) and 14.4 bps for Global participants (17 funds).

## Fixed Income - Mortgages

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	109.8	88.1		117.7	27.7	39.3		8.6
75th %ile	73.5	49.2		82.0	26.2	31.1		7.9
Median	52.4	29.8		40.4	23.6	18.5		6.7
25th %ile	47.0	21.2		14.1	21.0	9.3		5.5
10th %ile	39.0	15.3		5.6	19.5	5.5		4.8
— Average	68.1	42.0		55.6	23.6	20.9		6.7
Count	4	39	0	4	2	11	0	2
Avg. assets	357M	320M		93M	1,274M	2,105M		350M
Avg. mandate	202M	164M						
Government Pension Fund Norway								
● You	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%ile								
Assets								
Avg. mandate								

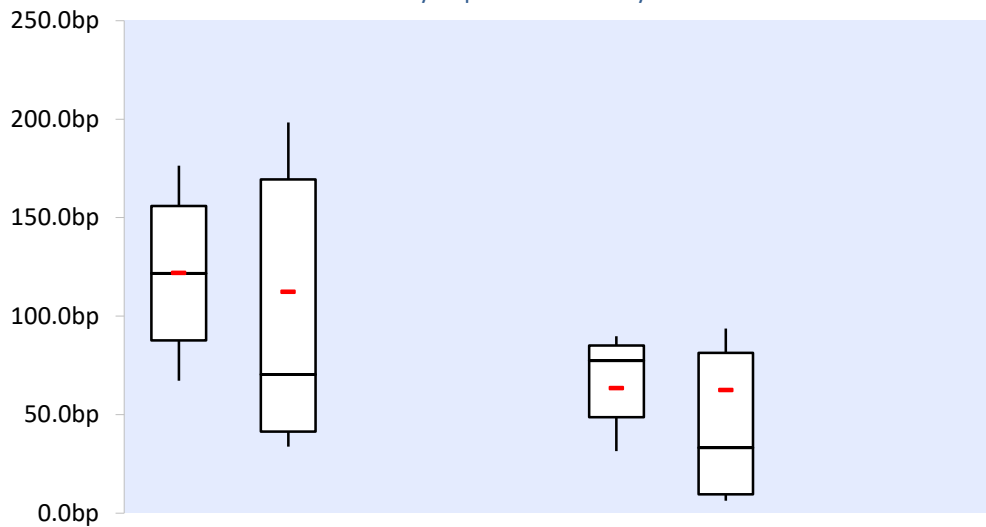
### 1. Breakdown of external active fees

	You	Peer Average	Global Average
Base fees	n/a	61.1	38.7
Performance fees*	n/a	0.0	0.3
Internal and other	<u>n/a</u>	<u>7.0</u>	<u>3.1</u>
Total	n/a	68.1	42.0

\* For funds that did not report a performance fee, a value of 'zero' was used. The average performance fee for only those funds that reported a performance fee is 5.4 bps for Global participants (2 funds).

## Fixed Income - Private Debt

Cost by implementation style

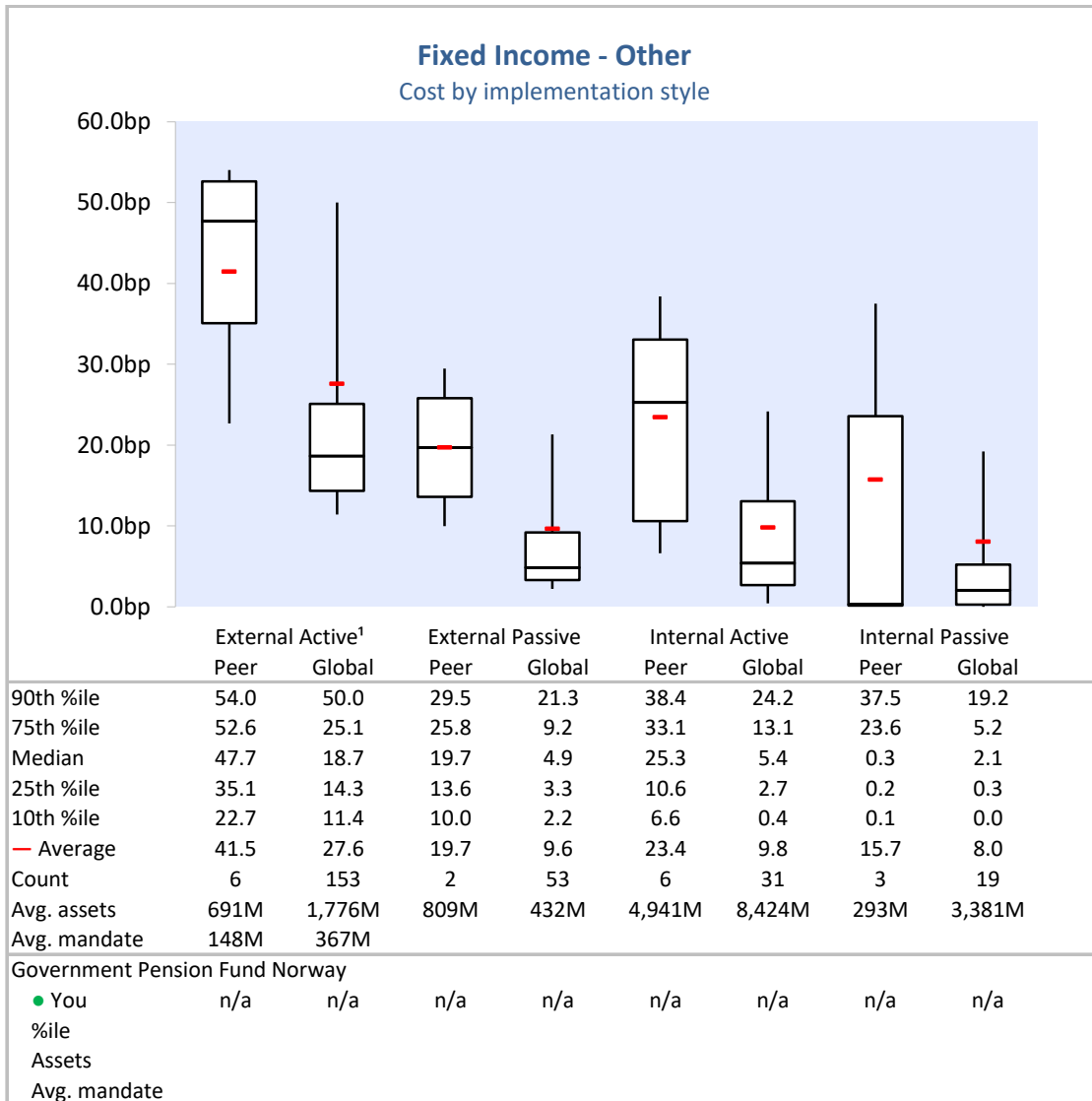


	External Peer	Active <sup>1</sup> Global	External Peer	Passive Global	Internal Peer	Active Global	Internal Peer	Passive Global
90th %ile	176.4	198.4			89.8	93.8		
75th %ile	156.0	169.4			85.2	81.3		
Median	121.8	70.4			77.4	33.3		
25th %ile	87.7	41.5			48.8	9.6		
10th %ile	67.3	33.7			31.6	6.2		
— Average	121.8	112.3			63.5	62.4		
Count	2	46	0	0	3	12	0	0
Avg. assets	171M	350M			565M	1,119M		
Avg. mandate	13M	102M						
Government Pension Fund Norway								
● 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	87.6	102.2
Performance fees*	n/a	0.0	5.5
Internal and other	<u>n/a</u>	<u>34.3</u>	<u>4.7</u>
Total	n/a	121.8	112.3

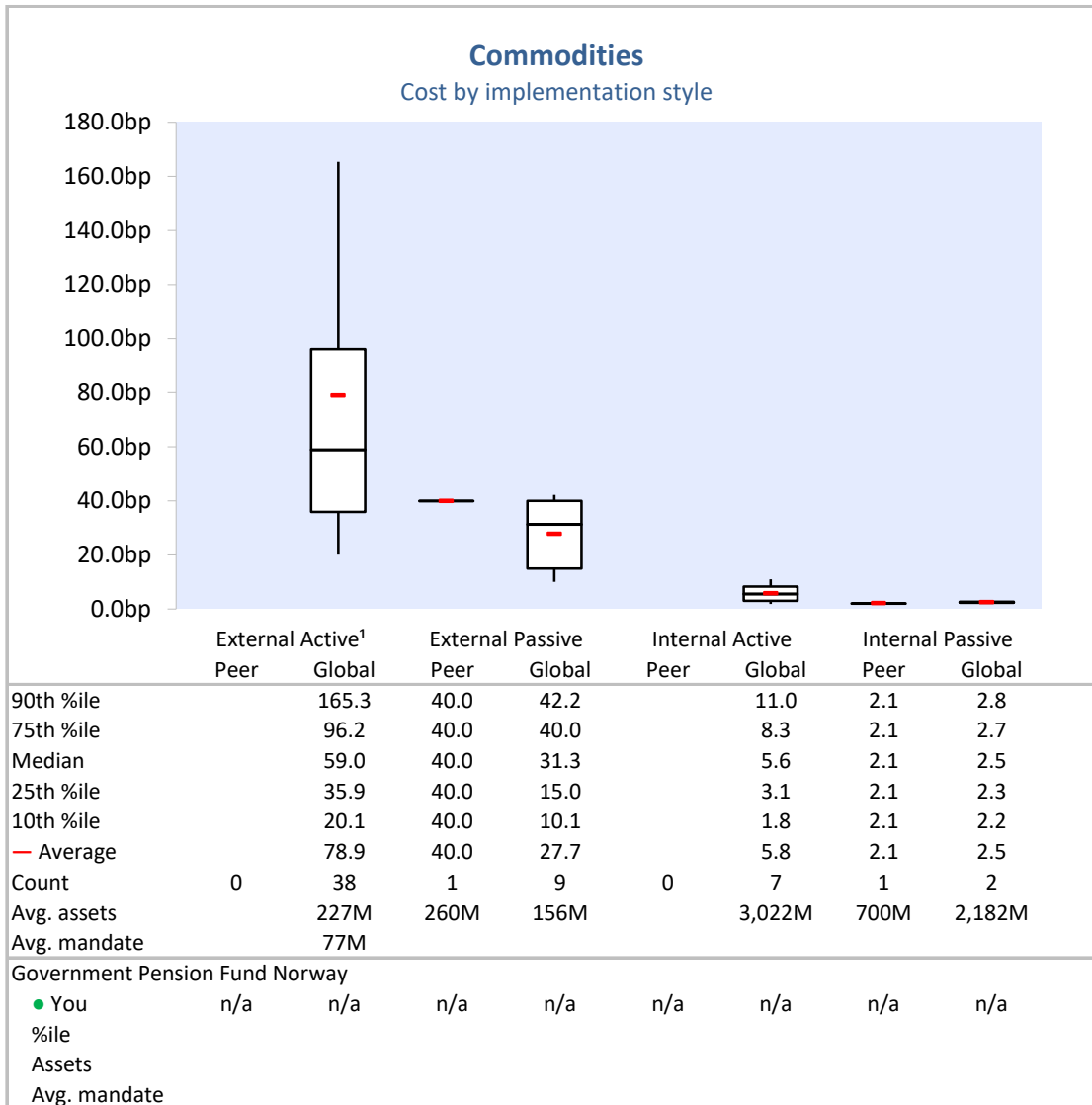
\* For funds that did not report a performance fee, a value of 'zero' was used. The average performance fee for only those funds that reported a performance fee is 25.2 bps for Global participants (10 funds).



#### 1. Breakdown of external active fees

	You	Peer Average	Global Average
Base fees	n/a	40.3	23.2
Performance fees*	n/a	0.0	3.9
Internal and other	<u>n/a</u>	<u>1.2</u>	<u>0.5</u>
Total	n/a	41.5	27.6

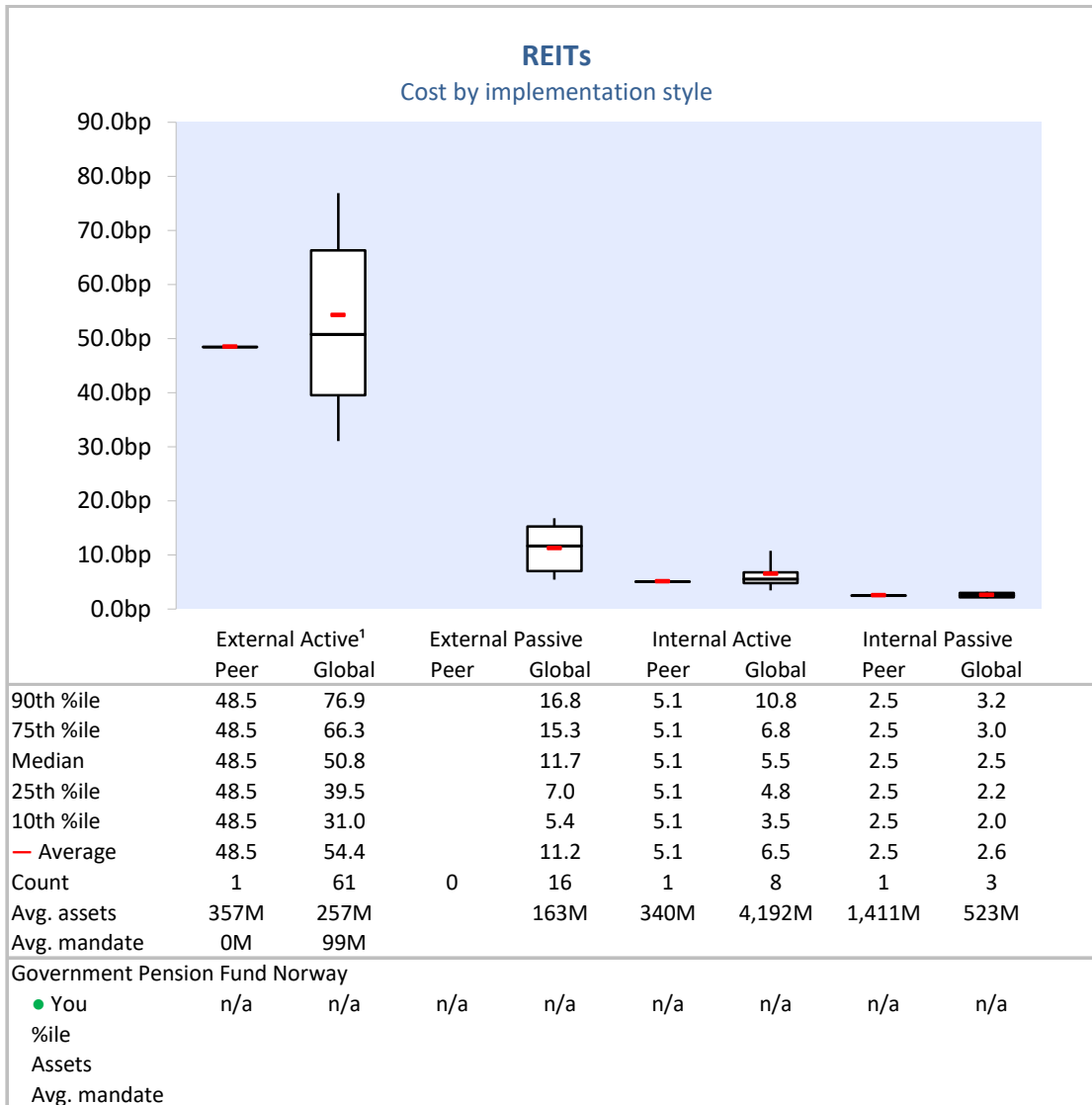
\* For funds that did not report a performance fee, a value of 'zero' was used. The average performance fee for only those funds that reported a performance fee is 23.9 bps for Global participants (25 funds).



#### 1. Breakdown of external active fees

	You	Peer Average	Global Average
Base fees	n/a	n/a	70.5
Performance fees*	n/a	n/a	4.3
Internal and other	<u>n/a</u>	<u>n/a</u>	<u>4.1</u>
Total	n/a	n/a	78.9

\* For funds that did not report a performance fee, a value of 'zero' was used. The average performance fee for only those funds that reported a performance fee is 12.6 bps for Global participants (13 funds).



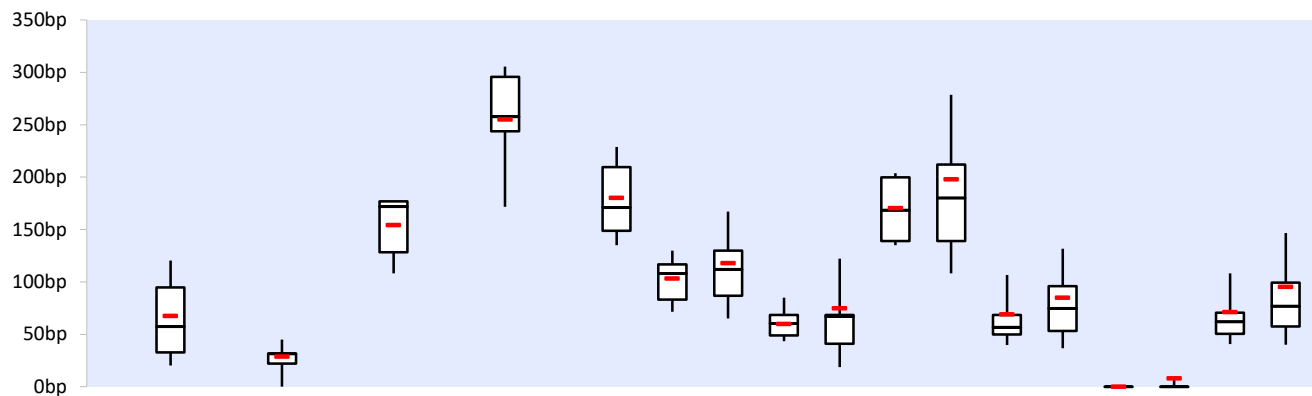
#### 1. Breakdown of external active fees

	You	Peer Average	Global Average
Base fees	n/a	48.2	52.5
Performance fees*	n/a	0.0	1.4
Internal and other	<u>n/a</u>	<u>0.3</u>	<u>0.5</u>
Total	n/a	48.5	54.4

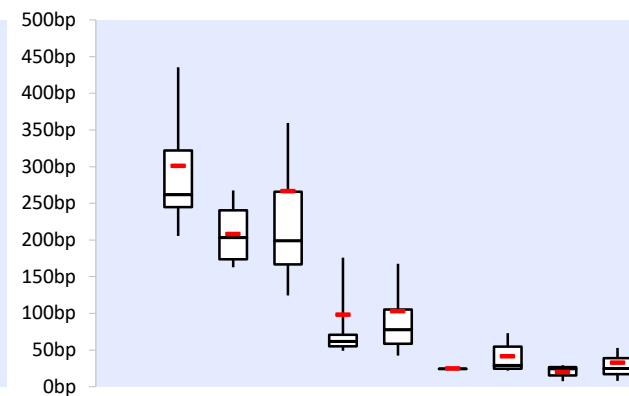
\* For funds that did not report a performance fee, a value of 'zero' was used. The average performance fee for only those funds that reported a performance fee is 7.7 bps for Global participants (11 funds).

## Real Estate ex-REITs

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



Cost as a % of NAV



	Fund of Funds						Direct LP						External (not LP)									
	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.	
	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		120.3		45.0		176.8		305.3		228.9	130.0	167.2	85.0	122.3	203.9	278.5	106.6	131.8	0.0	6.1	108.3	146.7
75th %ile		94.9		31.6		176.8		295.7		209.6	116.7	130.0	68.6	68.6	200.0	212.0	68.4	95.9	0.0	0.0	70.7	99.4
Median		57.5		31.5		172.1		257.9		171.0	108.1	112.0	60.7	67.3	168.8	180.2	56.8	75.0	0.0	0.0	62.1	77.2
25th %ile		32.7		22.1		128.3		243.8		148.7	83.2	86.9	49.1	40.9	138.9	139.1	49.8	53.2	0.0	0.0	50.4	57.5
10th %ile		20.3		0.0		108.1		171.8		135.1	71.7	65.3	43.6	18.7	135.0	108.3	39.7	36.8	0.0	0.0	40.6	40.2
— Average		67.5		28.6		154.3		254.9		180.2	103.1	117.8	59.9	74.9	170.2	197.9	69.0	84.8	0.0	8.0	71.1	95.3
Count	0	30	0	30	0	30	0	30	0	30	10	112	10	112	10	112	7	147	7	147	7	147
Avg. assets		175M		175M		175M		175M		175M	1,751M	1,238M	1,751M	1,238M	1,751M	1,238M	1,730M	903M	1,730M	903M	1,730M	903M
Government Pension Fund Norway																						
● You	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%ile																						
Assets																						

	Fund of Funds		Direct LP		External (not LP)		Oper. Sub.		Internal	
	Total <sup>3</sup> incl. perf.		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
90th %ile	435.3	267.4	359.6	176.0	167.6	24.7	72.8	29.2	52.9	
75th %ile	322.2	240.4	265.7	71.0	105.4	24.7	54.8	26.8	39.2	
Median	262.0	203.5	199.0	62.1	78.0	24.7	29.2	24.7	25.0	
25th %ile	245.1	173.7	166.9	54.9	58.7	24.7	24.7	15.5	17.1	
10th %ile	205.4	162.9	124.3	48.8	42.6	24.7	21.9	7.7	7.9	
— Average	300.7	207.9	266.3	97.9	103.0	24.7	41.3	20.1	32.8	
Count	0	30	10	112	7	148	2	6	5	39
Avg. assets	163M	1,503M	1,113M	1,769M	859M	4,104M	9,745M	3,842M	1,829M	
Government Pension Fund Norway										
● You	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%ile										
Assets										

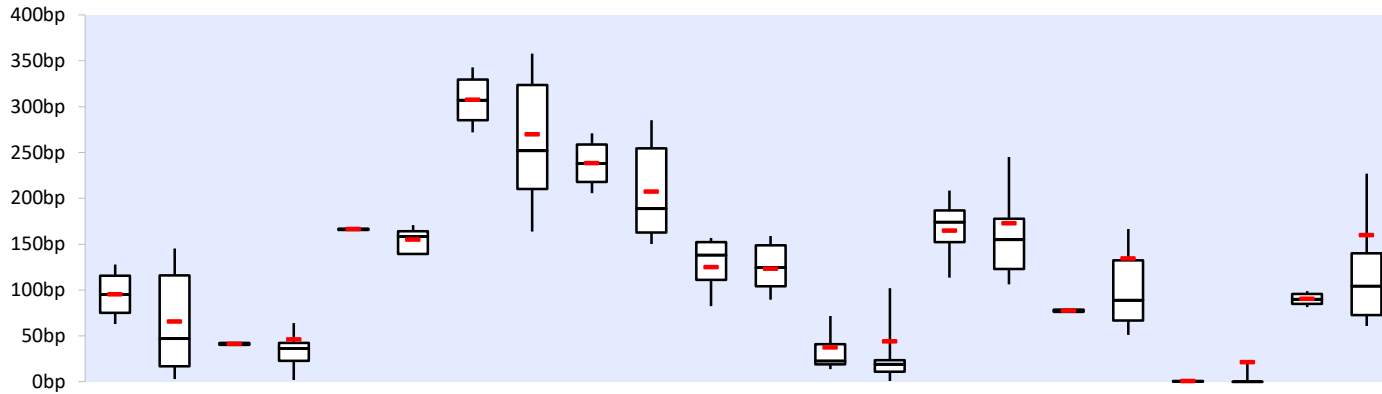
1. The base for fees is usually the committed amount during the commitment period, and unreturned invested capital afterwards.

2. The fees of fund of funds include both the top layer fees paid to the fund of funds manager and the underlying fees paid to the 'underlying partnerships' held by the fund of funds. Most funds were unable to provide the underlying fees so defaults of 108 bps (on amount fees are based on) for underlying management fees and 69 bps (on NAV) for underlying performance fees were used.

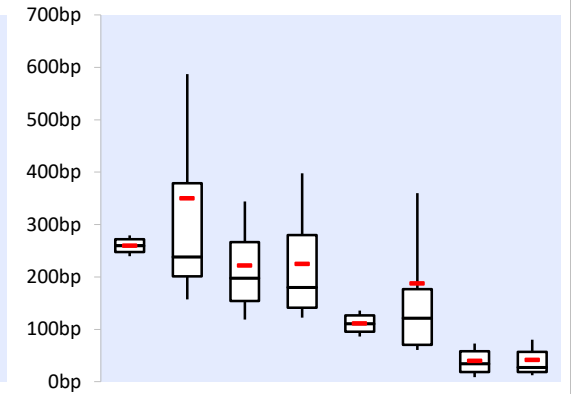
3. The total cost also includes the internal cost of monitoring and selecting real estate investments. The peer average cost of monitoring and selecting was 7.2 bps for LPs and 2.1 bps for external (not LPs).

## Infrastructure

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



Cost as a % of NAV



	Fund of Funds										Direct LP						External (not LP)					
	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.	
	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	127.9	145.4	42.9	63.9	167.4	170.8	342.9	358.0	271.0	285.2	156.8	159.0	71.8	102.2	208.5	245.0	79.4	166.5	0.9	22.0	98.8	227.0
75th %ile	115.7	116.0	42.3	42.3	167.0	164.2	329.6	323.5	258.7	254.4	152.4	148.6	40.9	23.6	186.8	177.8	78.7	132.5	0.7	0.0	95.6	140.0
Median	95.4	47.4	41.3	36.6	166.3	158.6	307.4	252.1	238.3	189.0	138.4	124.5	22.8	19.1	174.2	154.9	77.5	89.3	0.5	0.0	90.2	104.5
25th %ile	75.0	17.0	40.2	22.7	165.6	139.4	285.2	210.2	217.8	162.7	111.0	104.0	19.1	11.1	152.2	123.0	76.3	66.8	0.2	0.0	84.8	72.9
10th %ile	62.8	3.0	39.6	1.8	165.2	138.4	271.9	163.8	205.6	150.1	82.5	89.5	13.9	0.7	113.6	106.2	75.6	51.1	0.1	0.0	81.6	60.8
— Average	95.4	65.5	41.3	46.1	166.3	155.1	307.4	269.8	238.3	207.1	125.0	123.3	37.1	44.0	164.8	172.8	77.5	134.3	0.5	21.2	90.2	159.8
Count	2	14	2	14	2	14	2	14	2	14	4	54	4	54	4	54	2	46	2	46	2	46
Avg. assets	77M	79M	77M	79M	77M	79M	77M	79M	77M	79M	362M	428M	362M	428M	362M	428M	468M	446M	468M	446M	468M	446M
Government Pension Fund Norway																						
● You	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%ile																						
Assets																						

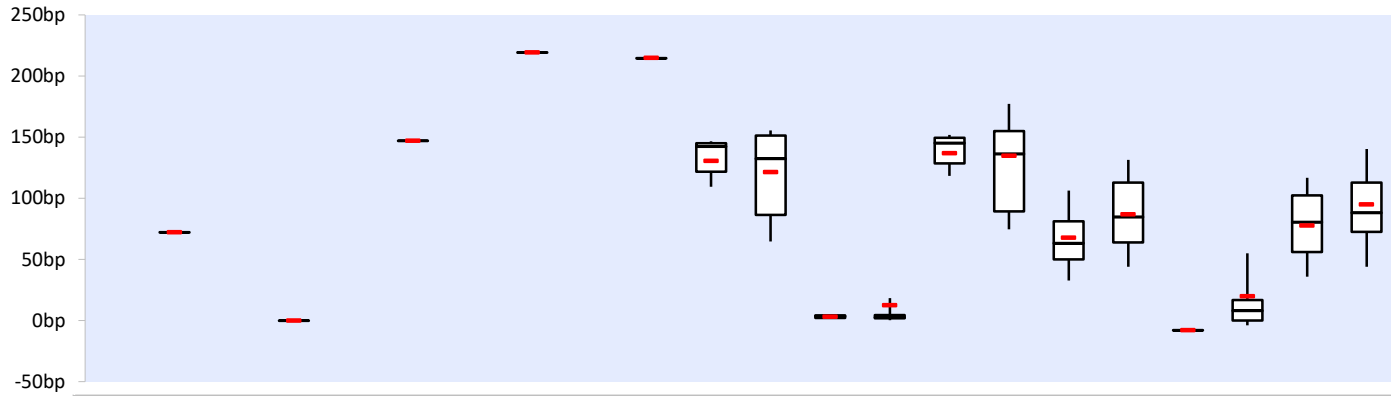
	Fund of Funds		Direct LP		External (not LP)		Internal	
	Total <sup>3</sup> incl. perf.		Total <sup>3</sup> incl. perf.		Total <sup>3</sup> incl. perf.		Total	
	Peer	Global	Peer	Global	Peer	Global	Peer	Global
	Peer	Global	Peer	Global	Peer	Global	Peer	Global
	279.2	586.9	344.2	397.8	135.6	359.9	73.0	80.2
	271.8	378.7	266.3	279.7	126.4	176.8	58.5	57.2
	259.6	238.1	198.3	180.2	111.0	121.8	34.4	27.4
	247.3	201.0	153.9	141.3	95.7	70.4	18.3	18.2
	239.9	157.3	118.4	122.5	86.4	60.8	8.7	12.4
	259.6	349.9	221.9	224.4	111.0	187.1	39.8	41.3
	2	14	4	54	2	46	3	27
	91M	74M	300M	354M	384M	445M	2,975M	2,565M
	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

1. The base for fees is usually the committed amount during the commitment period, and unreturned invested capital afterwards.
2. The fees of fund of funds include both the top layer fees paid to the fund of funds manager and the underlying fees paid to the 'underlying partnerships' held by the fund of funds. Most funds were unable to provide the underlying fees so defaults of 138 bps (on amount fees are based on) for underlying management fees and 24 bps (on NAV) for underlying performance fees were used.
3. The total cost also includes the internal cost of monitoring and selecting infrastructure investments. The peer average cost of monitoring and selecting was 4.5 bps for fund of funds, 2.7 bps for LPs and 12.2 bps for external (not LPs).

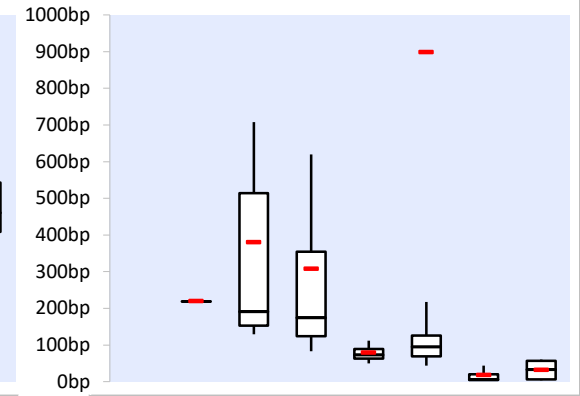


## Natural Resources

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



Cost as a % of NAV

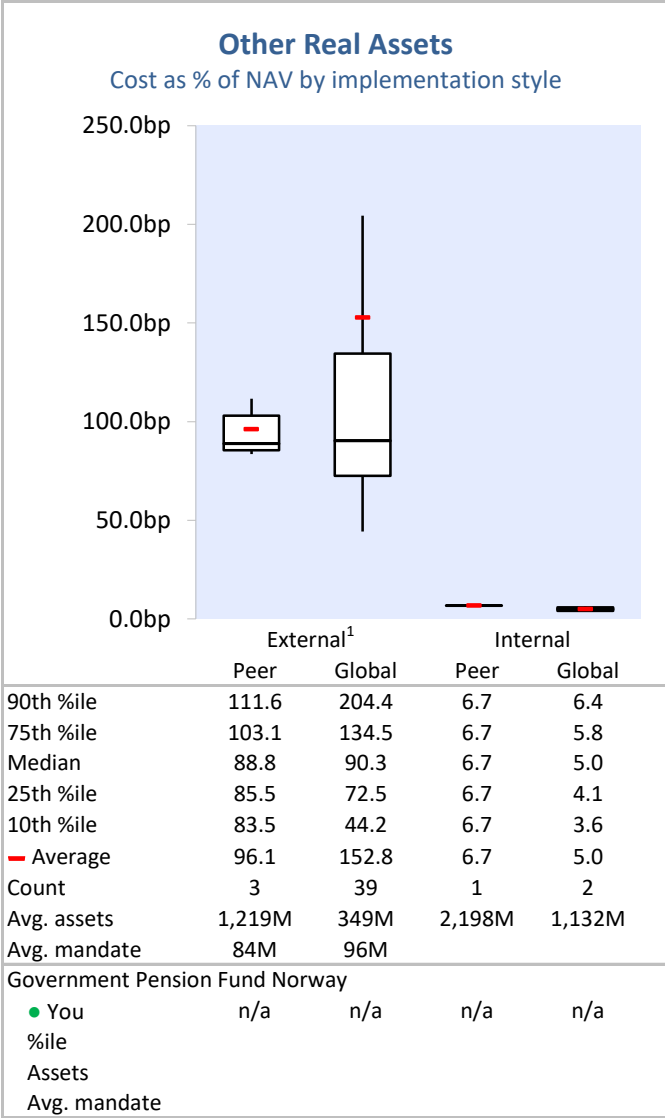


	Fund of Funds						Direct LP						External (not LP)									
	Mgmt fees (Top layer)		Perf. fees (Top layer)		Underlying mgmt. & perf. <sup>2</sup>		Total <sup>3</sup> incl. perf.		Total <sup>3</sup> excl. perf.		Mgmt fees		Perf. fees		Total <sup>3</sup> incl. perf.		Mgmt fees		Perf. fees		Total <sup>3</sup> incl. perf.	
	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global
90th %ile		72.2		0.0		147.2		219.4		214.7		146.7		155.6		4.4		18.5		151.9		177.3
75th %ile		72.2		0.0		147.2		219.4		214.7		145.1		151.2		4.2		4.7		149.4		155.0
Median		72.2		0.0		147.2		219.4		214.7		142.5		132.6		3.7		2.7		145.4		136.3
25th %ile		72.2		0.0		147.2		219.4		214.7		121.8		86.5		2.3		1.9		128.6		89.4
10th %ile		72.2		0.0		147.2		219.4		214.7		109.4		64.7		1.4		0.3		118.5		74.7
— Average		72.2		0.0		147.2		219.4		214.7		130.5		121.3		3.0		12.4		136.9		134.8
Count	0	1	0	1	0	1	0	1	0	1	3	20	3	20	3	20	4	36	1	6	4	36
Avg. assets		290M		290M		290M		290M		290M		382M		502M		382M		502M		382M		502M
268M		288M		268M		288M		268M		288M		268M		288M		268M		288M		268M		288M
Government Pension Fund Norway																						
● You	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%ile																						
Assets																						

	Fund of Funds		Direct LP		External (not LP)		Internal				
	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			
		219.4		707.5		620.0		111.7		217.7	
		219.4		514.1		354.4		89.3		126.1	
		219.4		191.7		174.9		73.5		95.8	
		219.4		152.7		123.9		63.1		68.9	
		219.4		129.3		82.9		50.2		44.1	
		219.4		380.6		308.1		78.8		898.8	
0	1	3	20	4	36	4	36	4	36	4	8
	290M	239M	334M	249M	216M	305M	826M				
	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

1. The base for fees is usually the committed amount during the commitment period, and unreturned invested capital afterwards.
2. The fees of fund of funds include both the top layer fees paid to the fund of funds manager and the underlying fees paid to the 'underlying partnerships' held by the fund of funds. Most funds were unable to provide the underlying fees so defaults of 143 bps (on amount fees are based on) for underlying management fees and 5 bps (on NAV) for underlying performance fees were used.
3. The total cost also includes the internal cost of monitoring and selecting natural resources investments. The peer average cost of monitoring and selecting was 3.4 bps for LPs and 11.9 bps for external (not LPs).



1. Breakdown of external fees

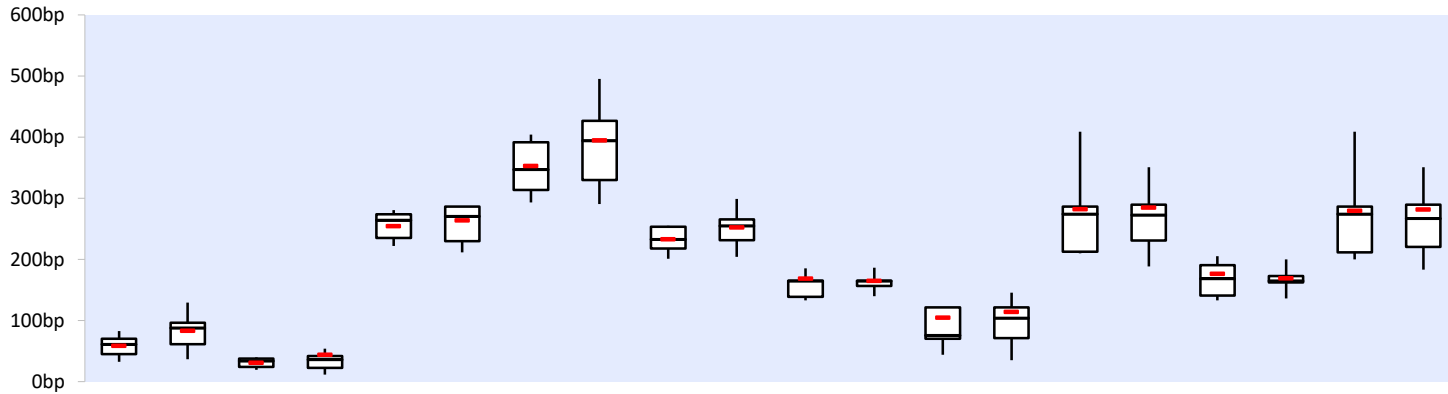
	Your Plan	Peer Average	Global Average
Base fees	n/a	94.1	143.7
Internal and other	<u>n/a</u>	<u>2.0</u>	<u>9.1</u>
Total†	n/a	96.1	152.8
Performance fees*	n/a	0.0	-4.2

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

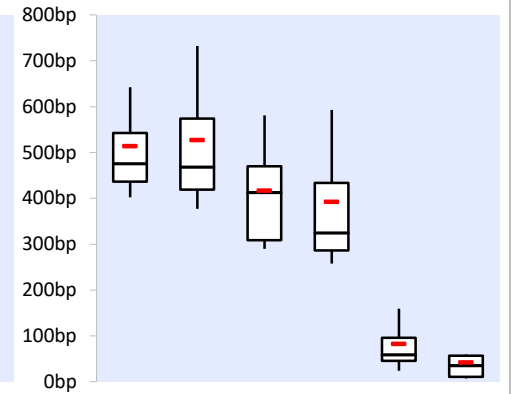
\* For funds that did not report a performance fee, a value of 'zero' was used. The average performance fee for only those funds that reported a performance fee is 0.0 bps for peers (3 funds) and -4.2 bps for Global participants (39 funds).

## Diversified Private Equity

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



Cost as a % of NAV



	Fund of Funds										Direct LP						Direct LP & Co-Inv. <sup>4</sup>				Fund of Funds		Direct LP & Co-Inv. <sup>4</sup>		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.		Total <sup>3</sup> excl. perf.		Total <sup>3</sup> incl. perf.		Total <sup>3</sup> excl. perf.		Total <sup>3</sup> incl. perf.		Total <sup>3</sup> excl. 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	83.1	129.6	40.1	54.0	280.8	286.7	404.4	495.2	255.1	298.9	185.3	186.4	121.7	145.5	409.0	351.1	205.3	200.0	409.0	351.1	642.2	732.5	580.8	592.5	159.5	59.2		
75th %ile	70.5	96.5	37.6	42.1	273.9	286.7	391.9	426.7	253.7	265.7	165.0	165.0	121.7	121.7	286.7	289.8	190.8	172.7	286.7	289.8	542.5	574.1	470.1	433.9	95.6	56.5		
Median	61.4	88.1	34.4	36.5	264.4	270.6	347.5	394.2	233.1	255.0	165.0	165.0	75.8	104.2	274.5	272.8	168.7	165.0	274.5	267.1	475.8	468.6	412.8	324.6	59.0	35.1		
25th %ile	44.9	61.3	24.2	22.4	235.1	229.9	313.8	330.1	218.0	231.7	139.1	156.7	70.3	71.4	212.9	231.0	141.1	162.6	211.4	220.5	436.3	418.7	308.9	286.7	45.8	10.3		
10th %ile	32.6	37.0	19.8	11.5	222.1	211.7	293.3	290.9	201.3	204.2	132.9	139.7	44.1	35.1	210.3	188.5	133.0	136.2	200.2	183.5	402.3	377.4	290.0	257.5	24.2	7.2		
— Average	58.5	83.2	30.9	43.6	254.2	263.7	352.7	394.5	232.6	252.2	168.3	164.8	104.5	113.9	282.3	284.9	176.4	169.0	279.7	281.6	513.7	526.8	416.7	392.4	82.4	42.0		
Count	7	110	7	110	7	110	7	110	7	110	13	137	13	137	13	137	13	138	13	137	7	110	13	137	4	15		
Avg. assets	320M	588M	320M	588M	320M	588M	320M	588M	320M	588M	2,791M	1,595M	2,791M	1,595M	2,791M	1,595M	2,834M	1,613M	2,834M	1,613M	218M	540M	1,952M	1,263M	1,509M	2,451M		
Government Pension Fund Norway																												
● You	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
%ile																												
Assets																												

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

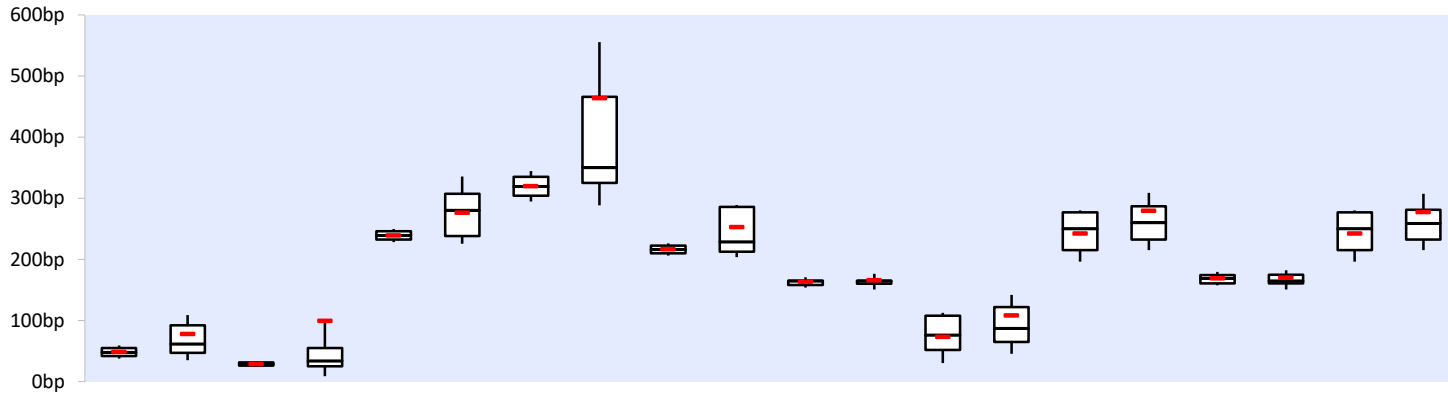
2. The fees of fund of funds include both the top layer fees paid to the fund of funds manager and the underlying fees paid to the 'underlying partnerships' held by the fund of funds. Most funds were unable to provide the underlying fees so defaults of 165 bps (on amount fees are based on) for underlying management fees and 122 bps (on NAV) for underlying performance fees were used.

3. The total cost also includes the internal cost of monitoring and selecting private equity investments. The peer average cost of monitoring and selecting was 9.1 bps for fund of funds and 9.4 bps for LPs.

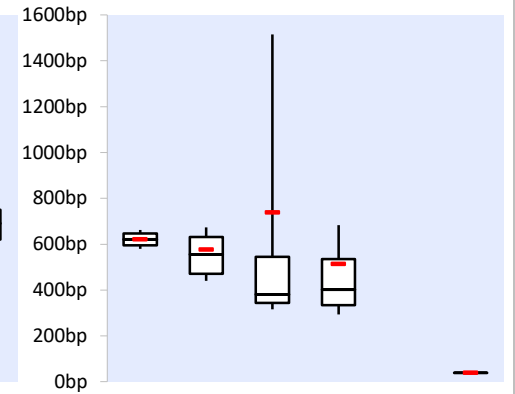
4. Co-investment is included with direct LPs because it can only be done alongside direct LPs. CEM uses this combined style in its benchmark cost analysis to ensure funds that reduce their costs by using co-investment receive benchmark credit. Co-investment is done by 1 of your peers and 11 of the Global funds.

## LBO

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



Cost as a % of NAV



	Fund of Funds										Direct LP						Direct LP & Co-Inv. <sup>4</sup>				Fund of Funds		Direct LP & Co-Inv. <sup>4</sup>		Internal	
	Mgmt fees		Perf. fees		Underlying		Total <sup>3</sup>		Total <sup>3</sup>		Mgmt fees		Perf. fees		Total <sup>3</sup>		Total		Total <sup>3</sup>		Total		Total			
	(Top layer)		(Top layer)		mgmt. & perf. <sup>2</sup>		incl. perf.		excl. perf.						incl. perf.		excl. perf		incl. perf.		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		
90th %ile	59.1	108.9	33.0	97.9	249.9	335.7	344.4	555.6	226.5	289.1	170.7	176.5	112.8	142.3	280.3	308.8	179.8	182.1	280.3	307.3	662.7	673.1	1514.5	682.7	38.9	
75th %ile	55.2	92.2	31.4	55.2	246.0	307.3	335.1	465.9	222.8	285.8	165.0	165.0	108.0	122.1	276.9	287.0	174.7	175.2	276.9	281.0	647.2	631.3	545.4	535.4	38.9	
Median	48.5	61.9	28.8	34.0	239.3	280.8	319.6	350.6	216.5	229.0	165.0	165.0	76.8	87.7	250.3	260.6	169.1	165.3	250.3	259.2	621.3	555.6	381.5	402.1	38.9	
25th %ile	41.9	47.5	26.2	25.5	232.7	238.4	304.1	325.4	210.2	212.5	158.4	160.5	52.2	64.9	215.5	232.3	160.9	160.6	215.5	232.3	595.4	470.2	343.7	334.6	38.9	
10th %ile	37.9	35.2	24.7	9.3	228.7	226.0	294.8	288.6	206.4	203.9	154.3	150.9	30.7	45.7	196.4	215.2	157.9	150.9	196.4	215.2	579.9	440.6	316.5	293.4	38.9	
— Average	48.5	78.0	28.8	99.6	239.3	276.4	319.6	463.5	216.5	252.5	163.4	166.0	73.4	108.1	242.3	279.2	168.9	170.2	242.3	277.6	621.3	576.3	737.5	513.2	38.9	
Count	2	11	2	11	2	11	2	11	2	11	6	37	6	37	6	37	6	37	6	37	2	11	6	37	0	1
Avg. assets	486M	306M	486M	306M	486M	306M	486M	306M	486M	306M	2,210M	2,315M	2,210M	2,315M	2,210M	2,315M	2,210M	2,354M	2,210M	2,354M	277M	224M	1,574M	1,529M	8,122M	
Government Pension Fund Norway																										
● You	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%ile																										
Assets																										

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

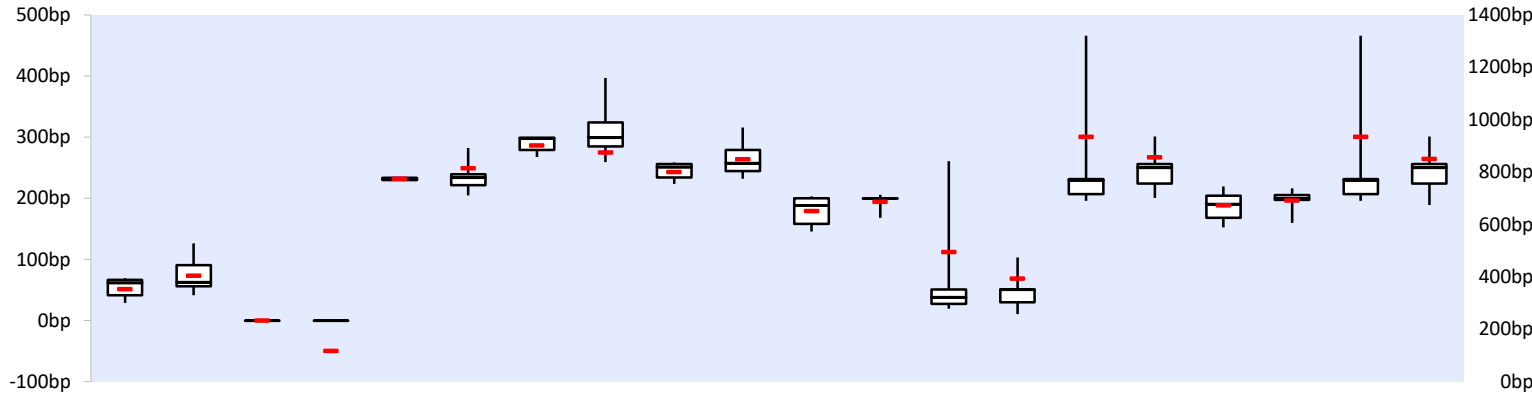
2. The fees of fund of funds include both the top layer fees paid to the fund of funds manager and the underlying fees paid to the 'underlying partnerships' held by the fund of funds. Most funds were unable to provide the underlying fees so defaults of 165 bps (on amount fees are based on) for underlying management fees and 142 bps (on NAV) for underlying performance fees were used.

3. The total cost also includes the internal cost of monitoring and selecting private equity investments. The peer average cost of monitoring and selecting was 3.0 bps for fund of funds and 5.6 bps for LPs.

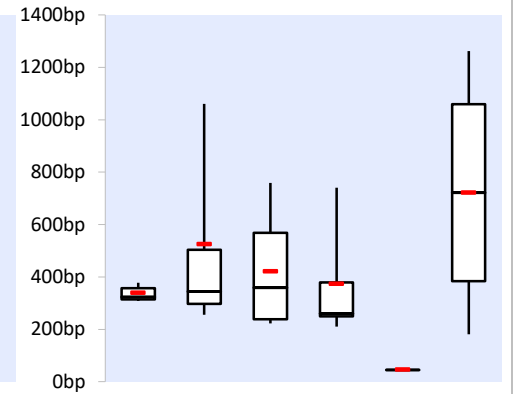
4. Co-investment is included with direct LPs because it can only be done alongside direct LPs. CEM uses this combined style in its benchmark cost analysis to ensure funds that reduce their costs by using co-investment receive benchmark credit. Co-investment is done by none of your peers and 1 of the Global funds.

## 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				Direct LP & Co-Inv. <sup>4</sup>				Fund of Funds		Direct LP & Co-Inv. <sup>4</sup>		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.		Total <sup>3</sup> excl. perf.		Total <sup>3</sup> incl. perf.		Total <sup>3</sup> excl. 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	69.2	126.2	0.0	0.0	234.8	282.1	299.3	396.8	258.6	315.9	203.1	206.1	261.0	103.2	465.8	300.9	219.4	216.5	465.8	300.9	377.3	1061.1	758.4	741.1	46.0	1262.4
75th %ile	66.5	90.8	0.0	0.0	233.8	239.6	299.0	324.4	255.9	279.3	200.0	200.0	50.8	51.1	231.7	256.0	204.5	205.6	231.7	256.0	357.4	503.8	568.9	378.7	46.0	1059.6
Median	61.9	63.1	0.0	0.0	232.1	233.9	298.4	299.6	251.4	257.9	188.5	200.0	38.1	50.8	229.9	250.5	190.8	200.0	229.9	250.5	324.3	345.3	359.1	260.0	46.0	721.8
25th %ile	41.3	56.3	0.0	0.0	229.9	221.3	279.2	285.0	233.9	244.8	158.1	199.5	27.2	29.8	206.7	224.3	168.4	197.4	206.7	224.3	314.5	296.7	238.5	249.7	46.0	383.9
10th %ile	28.9	41.3	0.0	0.0	228.6	204.8	267.7	259.1	223.4	232.1	145.9	168.3	19.6	10.8	196.0	200.5	152.5	159.6	196.0	188.9	308.7	256.0	222.6	211.0	46.0	181.2
— Average	51.2	73.2	0.0	-49.6	231.8	249.1	286.0	274.6	242.8	263.6	179.2	194.2	112.0	68.2	300.6	266.7	188.6	196.4	300.6	264.5	339.9	525.6	421.3	374.0	46.0	721.8
Count	3	19	3	19	3	19	3	19	3	19	7	42	7	42	7	42	7	42	7	42	3	19	7	42	1	2
Avg. assets	265M	403M	265M	403M	265M	403M	265M	403M	265M	403M	394M	252M	394M	252M	394M	252M	394M	253M	394M	253M	232M	313M	281M	197M	392M	229M
Government Pension Fund Norway																										
● You	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%ile																										
Assets																										

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

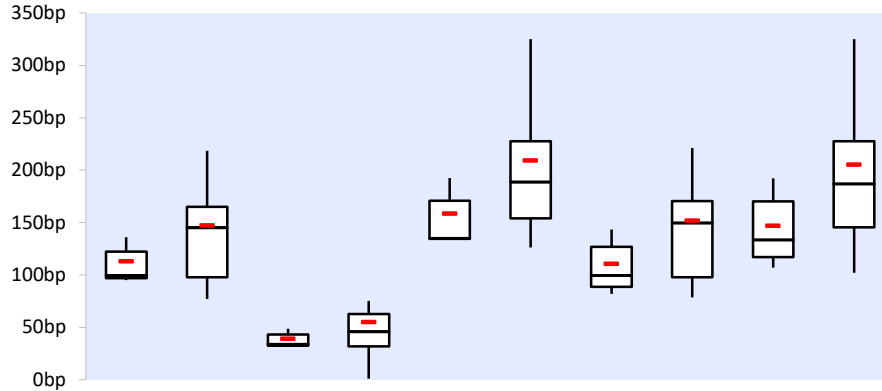
2. The fees of fund of funds include both the top layer fees paid to the fund of funds manager and the underlying fees paid to the 'underlying partnerships' held by the fund of funds. Most funds were unable to provide the underlying fees so defaults of 189 bps (on amount fees are based on) for underlying management fees and 51 bps (on NAV) for underlying performance fees were used.

3. The total cost also includes the internal cost of monitoring and selecting private equity investments. The peer average cost of monitoring and selecting was 3.0 bps for fund of funds and 9.4 bps for LPs.

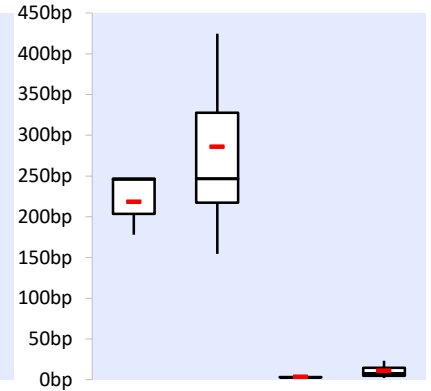
4. Co-investment is included with direct LPs because it can only be done alongside direct LPs. CEM uses this combined style in its benchmark cost analysis to ensure funds that reduce their costs by using co-investment receive benchmark credit. Co-investment is done by none of your peers and none of the Global funds.

## Other Private Equity

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

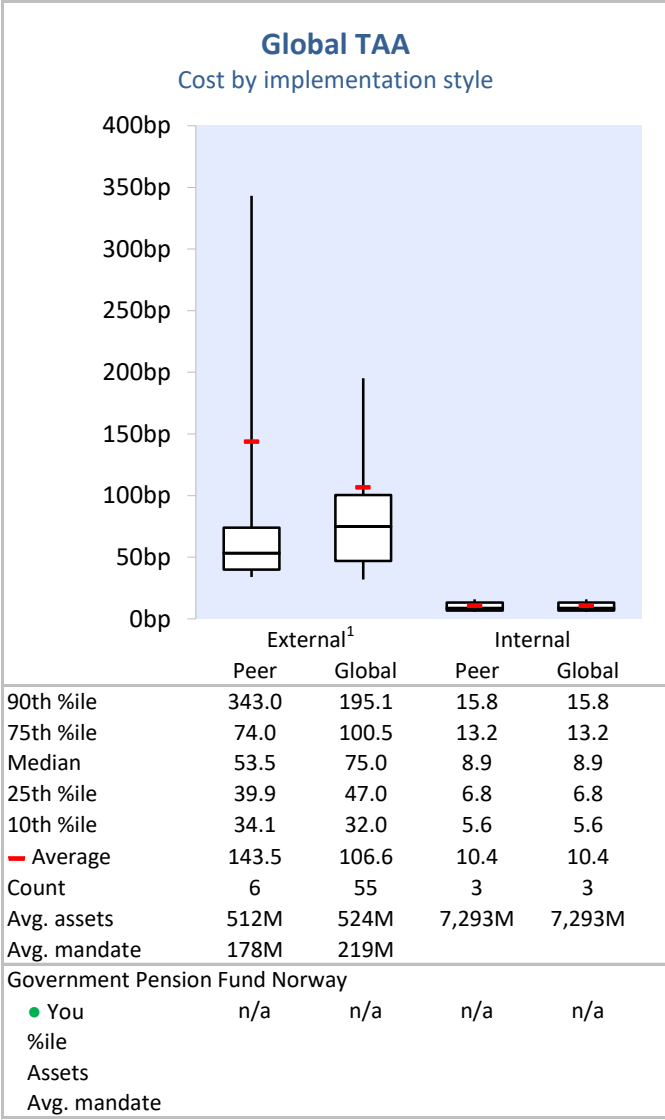


Cost as a % of NAV



	Direct LP						Direct LP & Co-Inv. <sup>3</sup>				Direct LP & Co-Inv. <sup>3</sup>		Internal		
	Mgmt fees		Perf. fees		Total <sup>2</sup> incl. perf.		Total excl. perf.		Total <sup>2</sup> incl. perf.		Total <sup>2</sup> incl. perf.		Total		
	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	
90th %ile	136.0	218.6	48.8	75.3	192.4	325.0	143.3	221.1	192.1	325.0	246.7	424.5	3.3	23.1	
75th %ile	122.3	165.0	43.2	62.6	170.9	227.6	126.9	170.5	170.1	227.6	246.6	327.5	3.3	14.5	
Median	99.6	145.1	34.0	45.9	135.2	188.8	99.7	149.6	133.6	187.0	246.4	246.8	3.3	7.4	
25th %ile	96.8	97.8	32.4	31.9	134.4	154.1	88.6	97.8	117.0	145.4	203.7	217.1	3.3	5.0	
10th %ile	95.2	77.1	31.5	1.1	133.9	126.1	81.9	78.6	107.1	102.0	178.1	154.5	3.3	2.0	
— Average	112.9	147.1	39.1	54.8	158.5	209.2	110.4	151.6	146.9	205.0	218.0	285.9	3.3	11.0	
Count	3	39	3	39	3	39	3	39	3	39	3	39	1	7	
Avg. assets	861M	527M	861M	527M	861M	527M							271M	266M	
Government Pension Fund Norway															
● You	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
%ile															
Assets															

1. The base for fees is usually the committed amount during the commitment period, and unreturned invested capital afterwards.
2. The total cost also includes the internal cost of monitoring and selecting private equity investments. The peer average cost of monitoring and selecting was 6.5 bps for
3. Co-investment is included with direct LPs in CEM's benchmark cost analysis because it reduces the cost of investing in direct LPs. Co-investment is done by 1 of your peers and 1 of the Global funds.



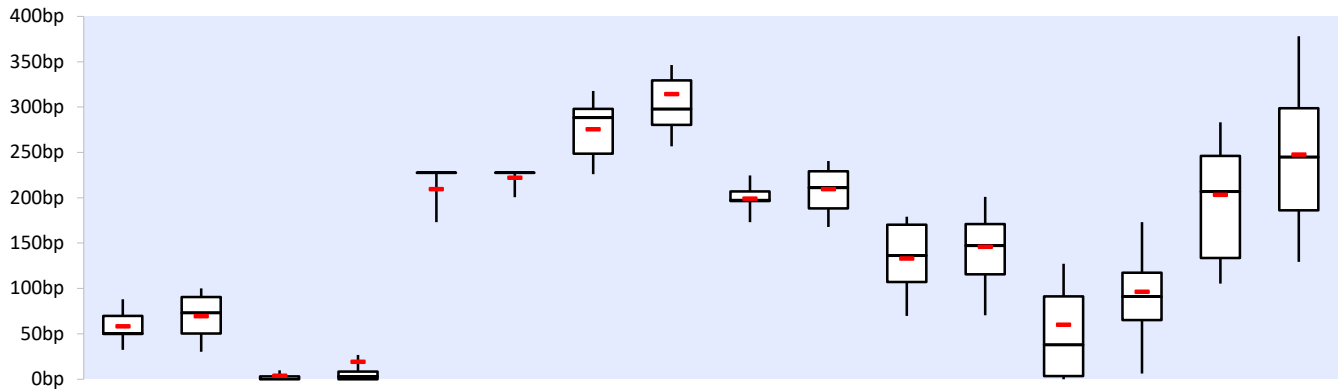
1. Breakdown of External fees

	Your Plan	Peer Average	Global Average
Base fees	n/a	69.1	77.3
Performance fees*	n/a	71.9	27.8
Internal and other	<u>n/a</u>	<u>2.6</u>	<u>1.6</u>
Total	n/a	143.5	106.6

\* For funds that did not report a performance fee, a value of 'zero' was used. The average performance fee for only those funds that reported a performance fee is 86.3 bps for peers (5 funds) and 43.6 bps for Global participants (35 funds).

## Hedge Funds

Cost by implementation style

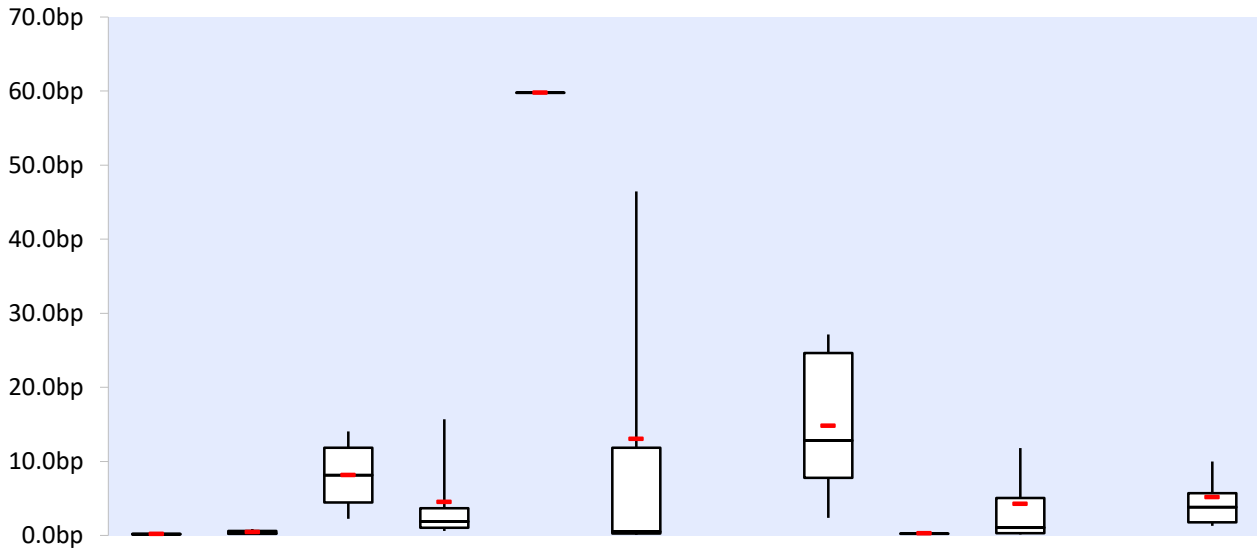


	Fund of Funds										External direct					
	Mgmt fees (Top layer)		Perf. fees (Top layer)		Underlying mgmt. & perf. <sup>1</sup>		Total <sup>2</sup> incl. perf.		Total <sup>2</sup> excl. perf.		Mgmt fees		Perf. fees		Total <sup>2</sup> incl. perf.	
	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global
90th %ile	87.9	100.0	9.8	26.6	227.7	227.7	317.7	346.3	224.7	240.4	179.0	201.0	127.3	173.1	283.4	378.1
75th %ile	69.7	90.4	3.1	8.4	227.7	227.7	298.2	329.3	207.0	229.3	170.4	171.0	91.2	117.4	246.2	298.7
Median	50.3	73.3	0.0	3.1	227.7	227.7	288.6	298.2	197.4	211.3	136.5	147.2	38.0	91.2	207.0	244.9
25th %ile	49.8	50.3	0.0	0.0	227.7	227.7	248.6	280.3	196.5	188.2	107.2	115.7	3.2	65.1	133.7	186.1
10th %ile	32.4	30.1	0.0	0.0	173.0	200.5	225.9	256.8	173.0	168.0	69.8	70.6	0.0	6.0	105.4	129.4
— Average	58.1	69.5	3.5	19.1	209.4	222.0	275.4	314.1	198.9	209.6	133.1	145.9	60.0	96.1	203.2	247.5
Count	5	83	5	83	5	83	5	83	5	83	13	104	13	104	13	104
Avg. assets	683M	617M	683M	617M	683M	617M	683M	617M	683M	617M	2,192M	1,343M	2,192M	1,343M	2,192M	1,343M
Government Pension Fund Norway																
● You	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%ile																
Assets																

- The fees of fund of funds include both the top layer fees paid to the fund of funds manager and the underlying fees paid to the 'underlying partnerships' held by the fund of funds. Most funds were unable to provide the underlying fees so defaults of 136 bps (on NAV) for underlying management fees and 91 bps (on NAV) for underlying performance fees were used.
- The total cost also includes the internal cost of monitoring and selecting hedge fund investments. The peer average cost of monitoring and selecting was 4.3 bps for fund of funds and 10.1 bps for external direct.



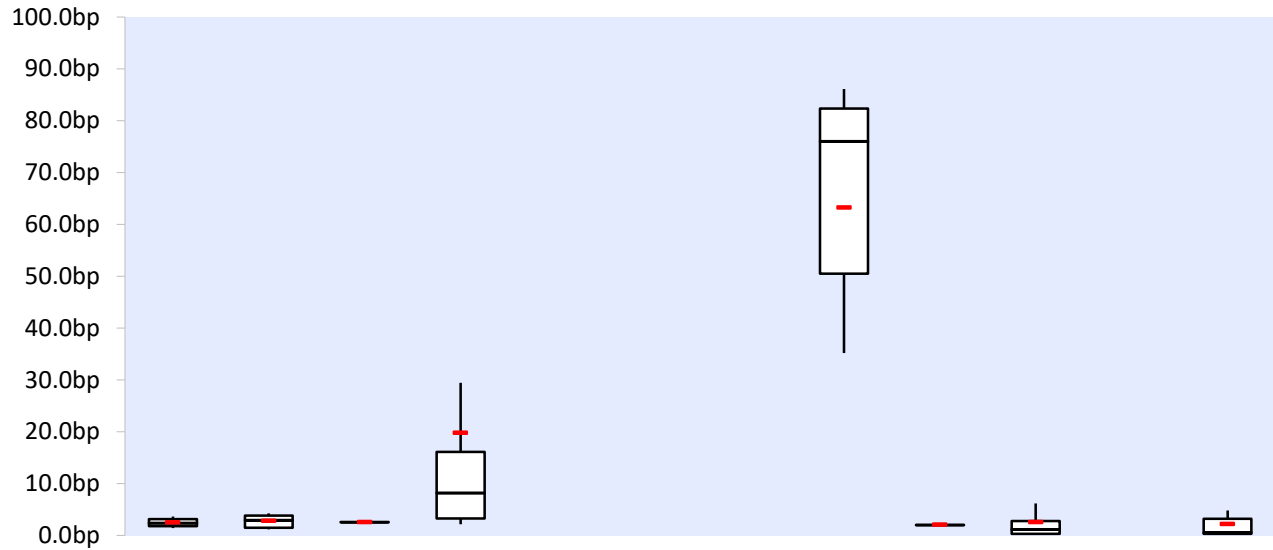
### Overlays: currency, duration Cost by implementation style



	Currency Hedge				Discretionary Currency				Duration Management			
	Internal		External		Internal		External		Internal		External	
	% of notional		% of notional		% of notional		% of notional		% of notional		% of notional	
	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global
90th %ile	0.2	0.9	14.0	15.7	59.8	46.5		27.2	0.3	11.8		10.0
75th %ile	0.2	0.6	11.8	3.7	59.8	11.8		24.6	0.3	5.1		5.7
Median	0.2	0.3	8.2	1.9	59.8	0.5		12.8	0.3	1.1		3.9
25th %ile	0.2	0.2	4.5	1.1	59.8	0.3		7.8	0.3	0.3		1.8
10th %ile	0.1	0.1	2.3	0.6	59.8	0.1		2.4	0.3	0.1		1.3
— Average	0.2	0.4	8.2	4.5	59.8	13.0		14.8	0.3	4.2		5.2
Count	2	13	2	36	1	8	0	14	1	11	0	20
Avg. notional	13,165M	9,427M	2,190M	5,523M	429M	9,755M		1,260M	17,013M	5,680M		4,047M
Government Pension Fund Norway												
● You	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%ile												
Notional												

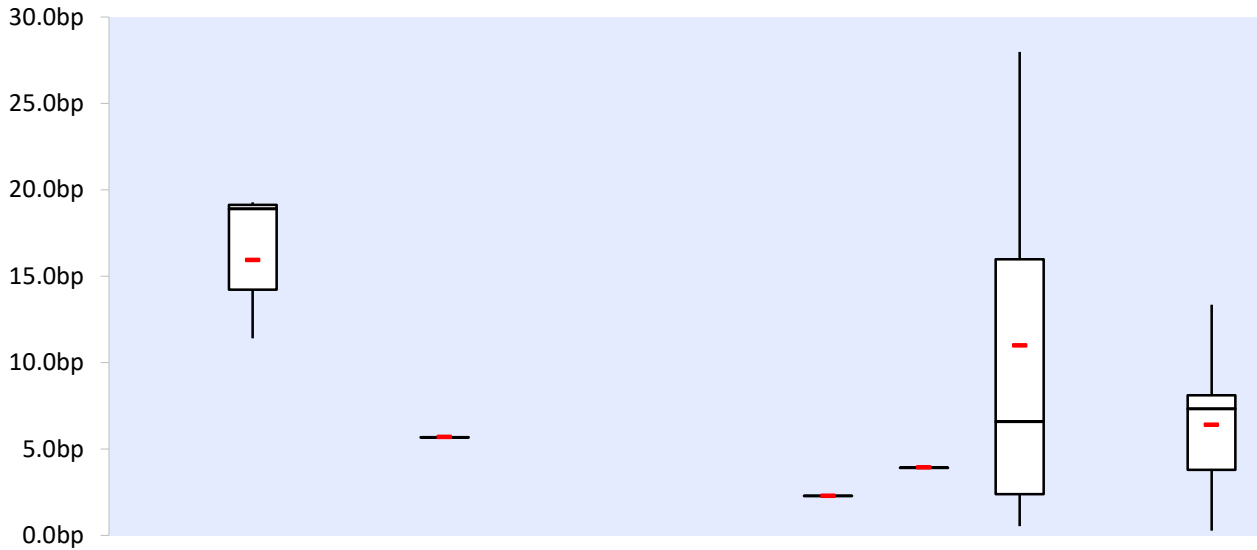
### Overlays: passive beta/rebalancing, global TAA, policy tilt TAA

Cost by implementation style



	Passive Beta/Rebalancing				Global TAA				Policy Tilt TAA			
	Internal		External		Internal		External		Internal		External	
	% of notional		% of notional		% of notional		% of notional		% of notional		% of notional	
	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global	Peer	Global
90th %ile	3.6	4.3	2.6	29.5				86.1	2.1	6.2		4.8
75th %ile	3.2	3.8	2.6	16.1				82.3	2.1	2.8		3.2
Median	2.4	3.0	2.6	8.2				76.1	2.1	1.2		0.6
25th %ile	1.8	1.5	2.6	3.3				50.5	2.1	0.3		0.3
10th %ile	1.4	1.2	2.6	2.2				35.2	2.1	0.2		0.2
— Average	2.5	2.8	2.6	19.8				63.2	2.1	2.5		2.2
Count	3	6	1	24	0	0	0	3	1	6	0	3
Avg. notional	893M	2,263M	4,944M	1,062M				1,919M	39,751M	41,639M		6,929M
Government Pension Fund Norway												
● You	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%ile												
Notional												

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



	<u>Commodity</u>				<u>Long/ Short</u>				<u>Other</u>			
	<u>Internal</u>		<u>External</u>		<u>Internal</u>		<u>External</u>		<u>Internal</u>		<u>External</u>	
	<u>% of notional</u> Peer	<u>% of notional</u> Global	<u>% of notional</u> Peer	<u>% of notional</u> Global	<u>% of notional</u> Peer	<u>% of notional</u> Global	<u>% of notional</u> Peer	<u>% of notional</u> Global	<u>% of notional</u> Peer	<u>% of notional</u> Global	<u>% of notional</u> Peer	<u>% of notional</u> Global
90th %ile		19.3		5.7				2.3	3.9	28.0		13.4
75th %ile		19.1		5.7				2.3	3.9	16.0		8.1
Median		18.9		5.7				2.3	3.9	6.6		7.3
25th %ile		14.2		5.7				2.3	3.9	2.4		3.8
10th %ile		11.4		5.7				2.3	3.9	0.5		0.3
— Average		15.9		5.7				2.3	3.9	11.0		6.4
Count	0	3	0	1	0	0	0	1	1	8	0	13
Avg. notional		779M		819M				1,714M	139M	1,106M		418M
Government Pension Fund Norway												
● You	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%ile												
Notional												

# 8

## Appendices

Appendix A - Data Summary

Appendix B - Currency conversion

Appendix C - Data quality

Appendix D - Glossary of terms

## Appendix A - Data Summary

### Government Pension Fund Norway

Plan Info	2015	2014	2013
Contact	Jørn Nilsen	Jørn Nilsen	Jørn Nilsen
Type of fund (corporate, public, other)	Public	Public	Public
Total fund size (mils) as at December 31	20,638.0	20,465.0	20,068.0
Asset-class level holdings provided on survey are: year end or average?	Year End	Year End	Year End
Total return for year ended	7.00%	10.70%	15.70%
Is the return net or gross?	Gross	Gross	Gross
Total fund policy or benchmark return	6.50%	8.60%	16.60%

Ancillary Data	2015	2014	2013
What is your hedging policy for: Foreign non-U.S. Holdings?			
What were your actuarial fees in 000s?	88	13	12
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 % Ad hoc % 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	2.7 2.5	2.3 2.8	4.0 3.8
What was your actuarial assumption for expected rate of return?	2.7	2.3	4.0

## Appendix A - Data Summary: Policy Weights and Benchmarks

### Government Pension Fund Norway

Asset Class		Policy Weight	Benchmark	
			Description	Return
Stock - Europe	2015	59.5	CMVINXBXINN - Custom Index - OSEBX	9.2
	2014	58.1	CMVINXBXINN - Custom Index - OSEBX	7.4
	2013	10.0	CMVINXBXINN - Custom Index	42.3
Stock - Other	2015			
	2014			
	2013	52.8	OSEBX	23.6
Fixed Income - Euro	2015	40.5	Barclays Capital Global Aggregate Nordic ex Norway Custom Index 30% 70% Barclays Capital Clobal Aggregated Norway ex. treasuries Barclays Capital Treasuries Norway	2.7
	2014	41.9	Barclays Capital Global Aggregate Nordic ex Norway Custom Index - 70% Barclays Capital Global Aggregated Norway ex. treasuries - 30% Barclays Capital Treasuries Norway	9.2
	2013	6.0	Barclays Capital Global Aggregate Nordic ex Norway Custom Index	11.7
Fixed Income - Other	2015			
	2014			
	2013	31.2	70% Barclays Capital Clobal Aggregated Norway ex. treasuries 30% Barclays Capital Treasuries Norway	0.7

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

### Government Pension Fund Norway

Asset Class		Assets (millions)				Fees/Costs in 000s			
		Internally				Internally			
		Indexed		Active		Indexed		Active	
		Assets	Return	Assets	Return	000s	bps <sup>1</sup>	000s	bps <sup>1</sup>
Stock - Europe	2015		12,288.0	9.9			7,910.0	6.5	
	2014		11,887.0	10.7			7,120.0	5.8	
	2013		1,998.0	39.7			1,589.0	8.2	
Stock - Other	2015								
	2014								
	2013		10,566.0	21.6			5,412.0	5.1	
Fixed Income - Euro	2015		8,350.0	2.9			6,353.0	7.5	
	2014		8,578.0	9.8			5,657.0	7.1	
	2013		1,214.0	12.3			1,617.0	14.0	
Fixed Income - Other	2015								
	2014								
	2013		6,190.0	1.5			4,331.0	7.1	

1. Cost in basis points = total cost / average of beginning and end of year holdings

## Appendix A: Assets, Returns and Costs (cont.)

### Government Pension Fund Norway

Asset Class	Assets (millions) and Annual Returns		# Ext Mgrs	Investment Fees / Costs in 000s <sup>1</sup>				
	External			External				
	Amt fees based on	Assets Return		Base Fees	Perform Fees	Internal & Other	Total <sup>1</sup> 000s	bps (% of fee basis)

Your fund does not have private equity assets.



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

Government Pension Fund Norway

Oversight, Custodial and Other Costs			
		000s	bps
Oversight of the fund assets <sup>1</sup>	2015	1,721.0	0.8bp
	2014	1,480.0	0.7bp
	2013	1,868.0	0.9bp
Custodial total	2015	763.0	0.4bp
	2014	721.0	0.4bp
	2013	731.0	0.4bp
Custodial foreign (if available)	2015		
	2014		
	2013		
Custodial domestic (if available)	2015		
	2014		
	2013		
Consulting / performance measurement	2015	71.0	0.0bp
	2014	59.0	0.0bp
	2013	86.0	0.0bp
Audit	2015	267.0	0.1bp
	2014	283.0	0.1bp
	2013	311.0	0.2bp
Other (legal etc)	2015	400.0	0.2bp
	2014	336.0	0.2bp
	2013	489.0	0.2bp
Total	2015	3,222.0	1.6bp
	2014	2,879.0	1.4bp
	2013	3,485.0	1.7bp

Summary of All Asset Management Costs			
		000s	bps
Investment Management Costs	2015	14,263.0	6.9bp
	2014	12,777.0	6.3bp
	2013	12,949.0	6.5bp
Overlay Costs	2015		
	2014		
	2013		
Oversight, Custodial & Other Costs	2015	3,222.0	1.6bp
	2014	2,879.0	1.4bp
	2013	3,485.0	1.7bp
Total	2015	17,485.0	8.5bp
	2014	15,656.0	7.7bp
	2013	16,434.0	8.2bp

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

## Appendix A - Data Summary: Overlays

Government Pension Fund Norway

Overlays		Internal					External									
		Notional amount (mils)	Market value (mils)	Profit/Loss (000s)	Cost (000s)	% of Notion. (bps)	Duration (years)	Notional amount (mils)	Market value (mils)	Profit/Loss (000s)	Base fees (000s)	Perf. fees (000s)	Over-sight (000s)	Total (000s)	% of Notion. (bps)	Duration (years)
Currency Hedge	2015	1,287.0	-26.0													
	2014	724.0	-6.0													
	2013	946.0	9.0													
Duration Management	2015	8,547.0	140.0													
	2014	8,265.0	144.0													
	2013	6,986.0	91.0													

## Appendix B - Currency conversion

### Government Pension Fund Norway

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

Currency conversion table					
	2015	2014	2013	2012	2011
United States Dollars - USD*	0.761	0.777	0.773	0.806	0.801
Canada Dollars - CAD	0.624	0.619	0.626	0.660	0.650
Euro - EUR*	1.000	1.000	1.000	1.000	1.000
Sweden Kronor - SEK	0.084	0.088	0.090	0.091	0.090
Swiss Franc - CHF	0.589		0.556		
United Kingdom Pounds - GBP	1.086	1.109	1.114	1.185	1.181
Australia Dollars - AUD	0.527	0.518	0.525	0.552	0.513
New Zealand Dollars - NZD	0.536	0.528	0.528	0.545	0.523
South African Rand - ZAR					

1. Source OECD website.

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

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

## Appendix C - Data quality

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

### **Improved survey clarity**

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

### **Computer and desktop verification**

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

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

### **Learning curve -**

This is CEM's 25th year of gathering this data and experience is teaching the firm and the participants how to do a better job.

### **Growing universe -**

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

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

### **Currency Conversions**

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

## Appendix D - Glossary of terms

### Average cost

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

### Benchmark return

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

### F statistics

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

### Global TAA

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

### Impact coefficient

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

### Level of significance

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

### N-year peers

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

### Oversight of the fund

- Resources devoted to the oversight of the fund.

### Overlay

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

### Passive proportion

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

### Policy mix

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

### Policy return

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

### R squared (coefficient of determination)

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

### Value added

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