

Northern LGPS
Investment Benchmarking Results
For the 6-year period ending the 31st March 2020



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This report will help you to satisfy your oversight responsibilities.

The CEM benchmarking report provides an independent assessment of value-for-money by comparing your costs and performance with other pension funds. It also helps to validate your strategy or support arguments for change. It does this by:

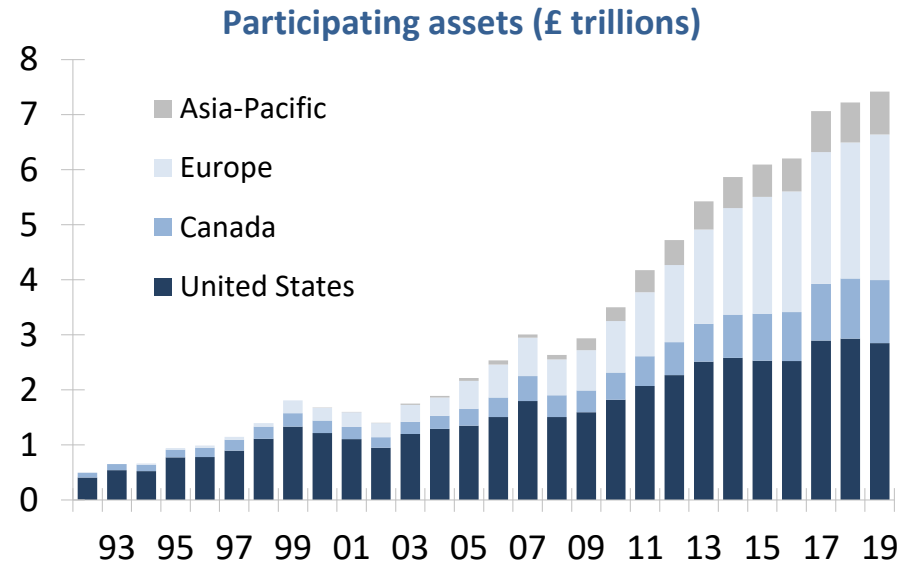
- Comparing your investment performance with others, highlighting returns that come from:
 - The local Pension Committee's strategic asset allocation decisions, and
 - The implementation of the Committee's strategy.
- Comparing the level of risk inherent in your portfolio and relative to peers.
- Comparing your investment costs with others on a like-for-like basis.
- Explaining why your costs compare as they do.
- Highlighting how and why your costs have changed over time.
- Providing value-for-money analysis – 'did paying more get you more'?

This report reflects a 6-year time period. This is to align with MHCLG's requirement to 'baseline' and report cost savings. The report is based on standard data submitted to CEM by your funds, by other LGPS funds and a wider universe of funds from around the world. Care is taken to validate the data contained in the report. This includes automated validations on outlying or unusual data as it is submitted, and an additional manual data 'clean' where our analysts interact with fund personnel to ensure the data is fit for purpose. The information in this report is confidential and should not be disclosed to third parties without the express written consent of CEM. CEM will not disclose any of the information in the report without your express written consent. Note that there may be small discrepancies in the report - these are due to rounding.

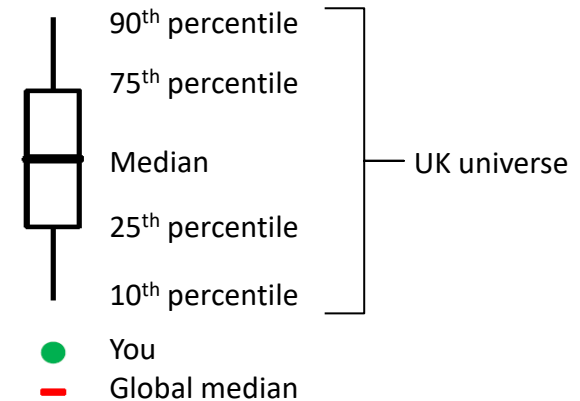
Costs need to be seen in the context of performance.

The CEM database contains data from 294 global funds with combined assets of £8 trillion. We are comparing your performance with the 43 UK funds within that universe with combined assets of £381 billion. These comparisons need to be interpreted cautiously because:

- Performance relative to liabilities is more important than performance relative to peers.
- Different funds have different liabilities, objectives, funding levels, employer covenants etc.
- Corporate funds that are de-risking have a very different risk appetite to open funds with a long time horizon (and so very different returns).
- Performance comparisons in this report are primarily with a domestic UK universe which contains both corporate and LGPS funds.



Key: Performance comparisons are presented in the form of 'bar and whisker' charts, as follows:



Your 6-year net asset-weighted total return of 5.9% was slightly below the UK median of 6.3%.

Comparisons of total returns are provided for interest but, as indicated previously, need to be interpreted cautiously.

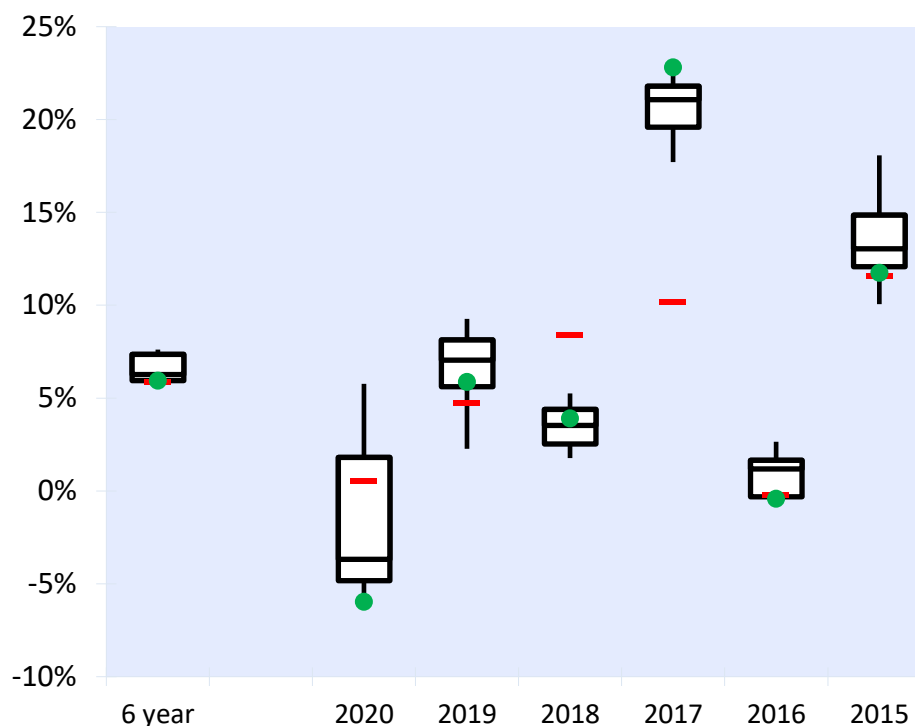
In the pages that follow we separate total return into its more meaningful components:

Benchmark return: The return from strategic asset allocation decisions. These decisions are typically made by the Board.

Value added: A function of active management decisions taken in implementing the strategy. These decisions are typically made by management.

Global return comparisons have been particularly influenced by the relative strength of the \$US over the period covered by this report and by the depreciation of the £ in 2017, i.e. there is currency 'noise' in the global comparison.

UK net total returns - quartile rankings



	6 year	2020	2019	2018	2017	2016	2015
UK peers							
90th	7.6	5.8	9.3	5.2	22.4	2.6	18.1
Q3	7.4	1.8	8.1	4.4	21.8	1.7	14.8
Median	6.3	-3.7	7.0	3.5	21.1	1.2	13.0
Q1	5.9	-4.8	5.6	2.5	19.6	-0.3	12.1
10th	5.9	-5.9	2.3	1.8	17.7	-0.7	10.1
Average	6.6	-1.6	6.4	3.6	20.3	1.0	13.6
Global Median	5.9	0.6	4.7	8.4	10.2	-0.2	11.6
Your fund	5.9	-6.0	5.9	3.9	22.8	-0.4	11.7
Your %ile	27%	8%	32%	62%	92%	21%	20%

Your 6-year asset-weighted benchmark return of 5.7% was below the UK median of 6.5%.

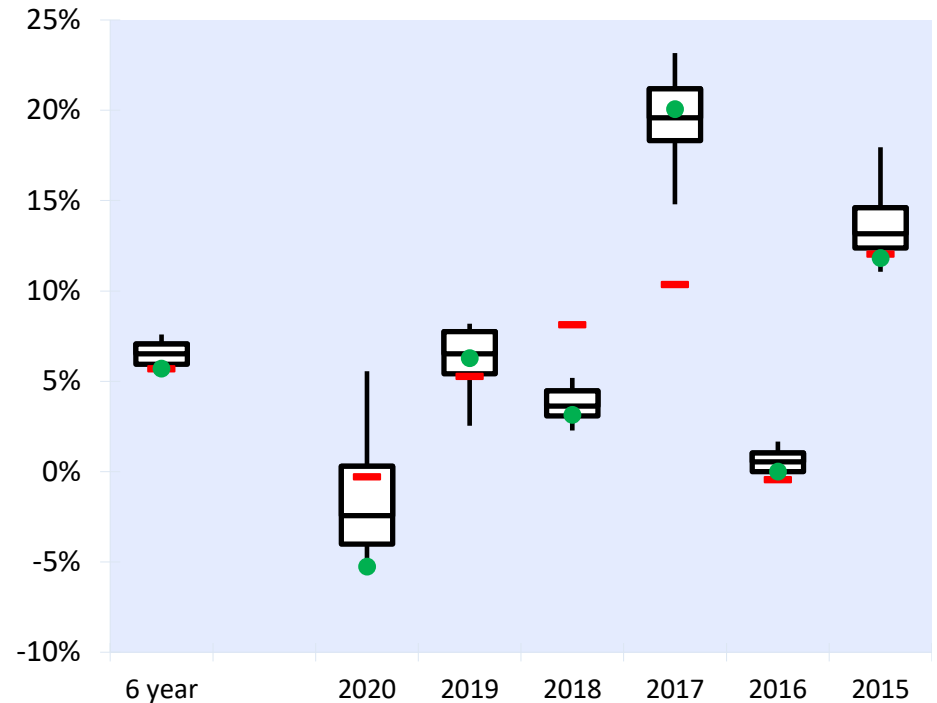
Your return is the return you could have earned passively by indexing your investments according to your strategic asset mix.

Typically strategic asset mix decisions are made by the board and take account of your funding position, employer covenant and objectives.

A corporate fund with a de-risking strategy is likely to produce very different returns when compared with funds with different circumstances.

Returns are impacted by choice of benchmarks. Poorly correlated benchmarks create 'noise' which makes it difficult to understand whether active management decisions are being rewarded. This is a particular issue with benchmarks for alternative asset classes. To enable fairer comparisons, the returns of all participants except your fund were adjusted to reflect private equity benchmarks based on lagged, investable, public-market indices. If CEM used this same adjustment for your fund, your 6-year policy return would be 6.1%, 0.4% higher than your actual 6-year policy return of 5.7%. Mirroring this, your 6-year total fund net value added would be 0.4% lower.

UK benchmark return - quartile rankings



	6 year	2020	2019	2018	2017	2016	2015
UK peers							
90th	7.6	5.6	8.2	5.2	23.2	1.7	18.0
Q3	7.1	0.3	7.7	4.5	21.2	1.0	14.6
Median	6.5	-2.4	6.5	3.6	19.6	0.5	13.2
Q1	5.9	-4.0	5.4	3.1	18.3	0.0	12.4
10th	5.8	-5.3	2.5	2.3	14.8	-0.2	11.1
Average	6.5	-1.3	6.2	3.7	19.6	0.6	13.8
Global Median	5.7	-0.3	5.3	8.1	10.4	-0.5	12.0
Your fund	5.7	-5.3	6.3	3.1	20.1	0.0	11.8
Your %ile	7%	13%	36%	28%	56%	25%	15%

Benchmark returns are driven by asset mix and choice of benchmarks.

Your relative 6-year benchmark return was influenced by:

- The negative impact of having a higher policy allocation to UK equities.
- The negative impact of lower benchmark returns for all alternative asset classes (apart from Hedge funds) compared to the UK average.
- These factors are partly offset by the positive impact of a higher allocation to U.S. equity.

	6-year average strategic asset mix ¹			6-year bmk. return	
	Your Fund	UK Avg.	More/Less	Your Fund	UK Avg.
Equities - Asia-Pacific	8%	2%	6%	7.1%	6.7%
Equities - UK	24%	14%	10%	1.6%	1.7%
Equities - Europe ex-UK	9%	3%	6%	4.4%	4.3%
Equities - U.S.	9%	5%	4%	12.7%	11.0%
Equities - Emerging	5%	3%	2%	6.5%	4.9%
Equities - Global	2%	27%	-25%	5.8%	8.0%
Equities Other ²	1%	2%	-1%	0.0%	n/a ³
Total Equities	59%	56%	3%	5.3%	6.5%
Bonds - UK	2%	4%	-3%	5.6%	5.2%
Bonds - UK Gov't	4%	1%	2%	6.0%	7.5%
Bonds - UK Credit	4%	1%	2%	4.4%	4.6%
Bonds - Inflation Indexed	5%	6%	-2%	7.8%	8.6%
Bonds - Global	3%	7%	-4%	7.0%	3.7%
Bonds Other ²	5%	3%	2%	n/a ³	n/a ³
Total Bonds	21%	22%	-1%	5.5%	5.5%
Hedge Funds	1%	2%	0%	2.5%	2.2%
Simple Multi-Asset Strategies	0%	1%	-2%	n/a ³	4.0%
Infrastructure	4%	4%	0%	3.4%	5.3%
Global Property	2%	4%	-2%	7.6%	8.2%
Domestic Property	6%	6%	0%	6.3%	8.2%
Other Real Assets	1%	0%	1%	n/a ³	n/a ³
Private Equity	5%	4%	1%	3.2%	9.6% ⁴
Private Debt	0%	1%	-1%	n/a ³	3.6%
Total	100%	100%	0%		

1. 6-year weights are based only on plans with 6 years of continuous data.

2. Other equities includes EAFE and ACWI x U.S.. Other Bonds includes Canada, UK, U.S., long bonds and EAFE bonds.

3. A value of 'n/a' is shown if asset class return are not available for the full 6-year period or if they are broad and incomparable.

4. Self-reported private equity benchmark returns have been overridden with returns based on lagged, investable, public-market indices.

Your strategic asset allocation is largely a function of your appetite for risk.

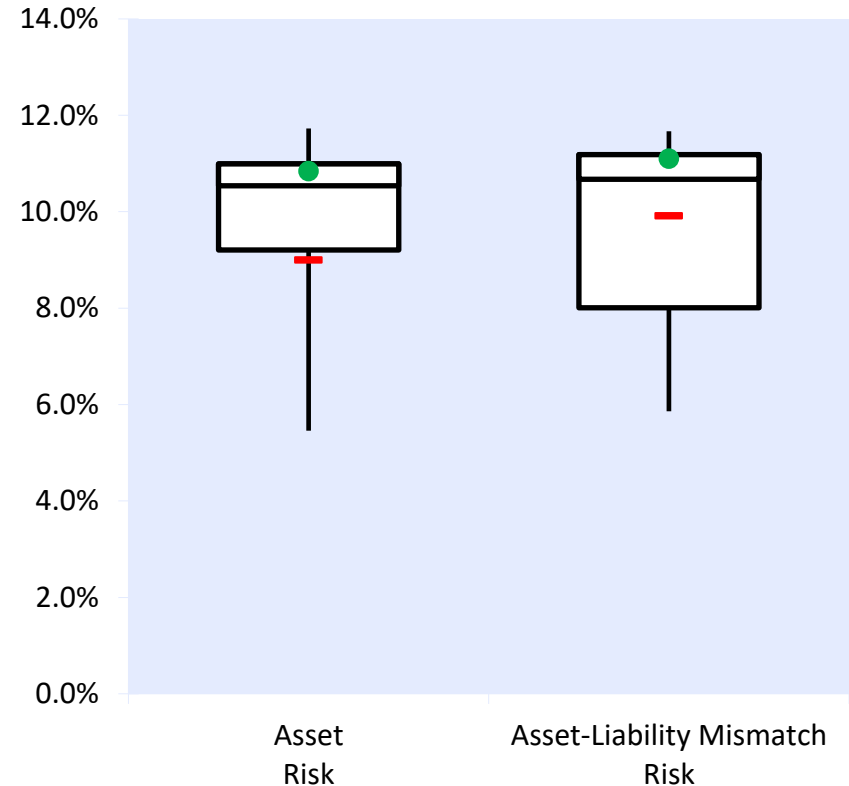
Two risk measures that reflect material differences in investment strategy are:

- Asset Risk - A higher asset risk is indicative of a higher weighting to more volatile assets and/or more concentration in the portfolio (and vice-versa). Your asset risk of 10.8% was above the UK median of 10.5%.
- Asset-liability mismatch risk - A higher asset-liability mismatch risk is indicative a willingness to take more risk to improve the funding level. Lower asset risk is indicative of either better funding, concerns about employer covenants or a desire for stability in contributions. A lower asset-liability mismatch risk means you are closer to a 'fully-matched' position. Your asset-liability risk of 11.1% was above the UK median of 10.7%.

Trend:

	Asset Risk	Asset-Liability Mismatch Risk
2014/15	11.0%	11.6%
Change	-0.2%	-0.5%
2019/20	10.8%	11.1%

UK risk levels at 31st March 2020



Net value added is the component of total return from active management. Your 6-year net value added was 0.3%.

Net value added equals total net return minus policy return. It is a function of active management decisions made in the implementation of your strategy which includes tactical asset allocation, manager selection, stock selection, choice of benchmarks, hedging, overlays, etc.

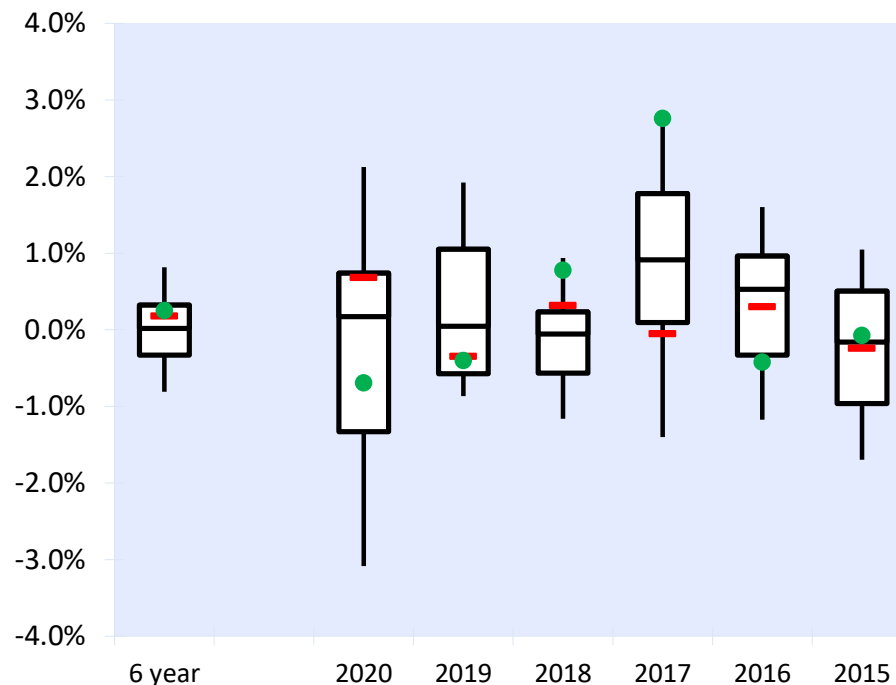
Value added for Northern LGPS

Year	Net Return	Policy Return	Net Value Added
2020	-6.0%	-5.3%	-0.7%
2019	5.9%	6.3%	-0.4%
2018	3.9%	3.1%	0.8%
2017	22.8%	20.1%	2.8%
2016	-0.4%	0.0%	-0.4%
2015	11.7%	11.8%	-0.1%
6-Year	5.9%	5.7%	0.3%

Your 6-year net value added of 0.3% compares to a UK median of 0.0% and a global median of 0.2%.

Net value added can be impacted by choice of benchmarks. Poorly correlated benchmarks create 'noise' which makes it difficult to understand whether active management decisions are being rewarded. This is a particular issue with benchmarks for alternative asset classes. To enable fairer comparisons, the value added for each participant, except your fund, was adjusted to reflect private equity benchmarks based on lagged, investable, public-market indices. If CEM used this same adjustment for your fund, your 6-year total fund value added would have been 0.4% lower.

UK value added - quartile rankings

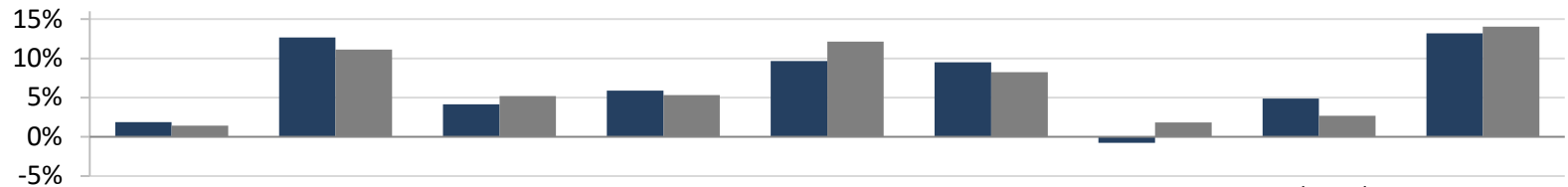


UK peers

90th	0.8	2.1	1.9	0.9	2.8	1.6	1.0
Q3	0.3	0.7	1.0	0.2	1.8	1.0	0.5
Median	0.0	0.2	0.0	-0.1	0.9	0.5	-0.2
Q1	-0.3	-1.3	-0.6	-0.6	0.1	-0.3	-1.0
10th	-0.8	-3.1	-0.9	-1.2	-1.4	-1.2	-1.7
Average	0.0	-0.3	0.3	-0.1	0.8	0.4	-0.3
Global Median	0.2	0.7	-0.3	0.3	0.0	0.3	-0.2
Your fund	0.3	-0.7	-0.4	0.8	2.8	-0.4	-0.1
Your %ile	67%	33%	36%	86%	88%	21%	53%

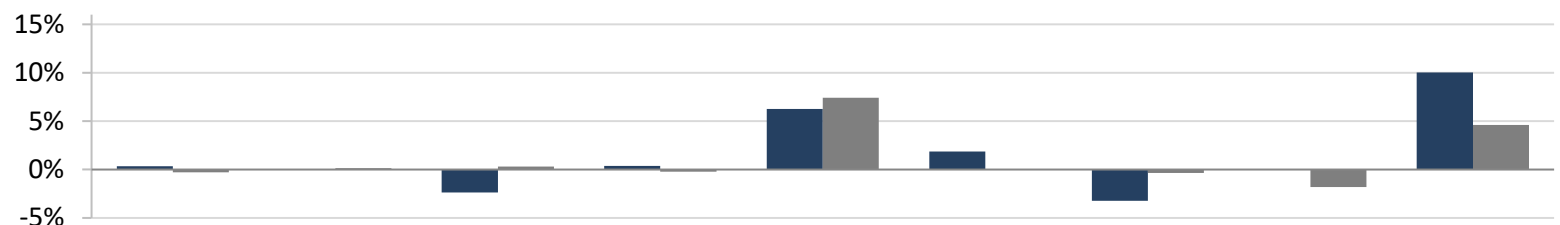
Here is how your net returns and net value added compare by major asset class.

6-year average net return by major asset class



	Equities - UK	Equities - U.S.	Equities - Emerging	Bonds	Infrastructure	Global Property	Hedge Funds	Simple Multi-Asset Strategies ²	Private Equity ³
■ Your fund	1.9%	12.7%	4.1%	5.9%	9.6%	9.5%	-0.8%	4.9%	13.2%
■ UK average	1.4%	11.1%	5.2%	5.3%	12.1%	8.2%	1.8%	2.7%	14.0%
Your actual asset mix ¹	14.3%	4.6%	3.1%	10.4%	3.3%	2.3%	1.1%	36.2%	6.1%
Your strategic asset mix ¹	24.5%	9.0%	5.2%	21.1%	3.6%	2.0%	1.5%		5.5%
UK actual average asset mix ¹	13.3%	3.7%	2.5%	21.4%	2.8%	3.3%	1.8%	4.9%	4.3%

6-year average net value added by major asset class



	Equities - UK	Equities - U.S.	Equities - Emerging	Bonds	Infrastructure	Global Property	Hedge Funds	Simple Multi-Asset Strategies ²	Private Equity ³
■ Your fund	0.3%	0.0%	-2.4%	0.4%	6.3%	1.9%	-3.2%		10.0%
■ UK average	-0.3%	0.1%	0.3%	-0.2%	7.4%	0.0%	-0.4%	-1.8%	4.6%

1. 6-year average.

2. Simple Multi-Asset Strategies includes balanced funds.

3. To enable fairer comparisons, the private equity benchmarks of all participants, except your fund, were adjusted to reflect lagged, investable, public-market indices. If CEM used this same adjustment for your fund, your fund's 6-year private equity net value added would have been 3.1%.

We compare your costs with 21 global funds ranging from £12.7 bn to £90.7 bn.

The peer group is selected to answer a key question:

Are your costs reasonable for a fund of your size and with your assets?

Peers are therefore selected:

- Based on size - because size impacts costs.
- To include LGPS pools and funds and non-LGPS funds globally.
- Because they hold similar asset to you¹.
- For stability and validity:
 - Regular participants mean consistent year-on-year results.
 - To deliver a stable statistical sample.

The median size in the peer group is £51.7 billion (versus your £42.7 billion).

¹ Differences in asset allocation are addressed in the methodology – explained in the following pages.

² The names of peers are confidential and should not be disclosed to third parties.

³ We do not have complete data from all the funds in some of the other pools.

We are benchmarking investment costs of £170.2m or 38.5 bps in 19/20.

Costs by asset class and style (£000s)	Internal Mgmt			External Mgmt			Total	
	Passive	Active	Oversight of external	Passive fees	Active base fees	Perf. fees	£000s	bps
Equities, Bonds, Cash and Multi-asset strategies	70	5,137	792	2,231	31,073	1,825	41,127	12.1
Hedge Funds - External Active			87		2,550		2,637	89.8
Hedge Funds - FoFs								
Top Layer Fees			45		606	994	1,645	119.6
Underlying Fees			45		1,122	729	1,896	137.9
Global Property		7	289		3,950	40	4,245	33.1
Global Property - LP			173		11,221	14,209	11,393	181.1
Global Property - FoFs								
Top Layer Fees			3		230	82	233	157.1
Underlying Fees					193	117	193	130.0
Domestic Property - Evergreen			94		4,883	214	4,977	33.6
Infrastructure		1,605					1,605	7.1
Infrastructure - LP			389		23,763	13,786	24,152	165.9
Other Real Assets			40		5,881	4,969	5,921	123.4
Diversified Private Equity - LP			520		32,268	51,382	32,788	187.9
Diversified Private Equity - FoFs								
Top Layer Fees			186		6,912	9,721	7,099	88.4
Underlying Fees					11,179	16,616	11,179	139.3
Other Private Equity - LP			229		6,014	598	6,242	119.5
Private Credit - LP			188		6,440	3,255	6,628	106.2
Private Credit - External					771		771	60.0
Derivatives/Overlays					50		50	
	70	6,748	3,078	2,231	149,106	3,548	165,416	37.4
Total oversight, custody and other costs							4,791	1.1
Total benchmarked costs							170,207	38.5

Defaults:

Default costs have been added at an individual level where the fund was unable to supply costs, or where costs provided were outside our acceptable range and where the fund was unable to substantiate those costs. The individual defaults are too numerous to list here but are most prevalent in fund-of-funds structures. Where on or more funds has provided accurate data then that is used to calculate the total cost, i.e., the data here directly mirrors each individual fund's report.

The benchmark analysis on the following pages excludes performance fees for private market assets (shaded in the table and totalling £115m). These costs are material, vary substantially from year to year and therefore cause volatility in benchmarking results.

The analysis also currently excludes transaction costs. Transaction costs which include 'explicit' costs like brokerage or 'implicit' costs embedded in the cost of buying and selling securities. Transaction costs are hard to capture systematically for all asset classes and the data is not yet robust enough to compare.

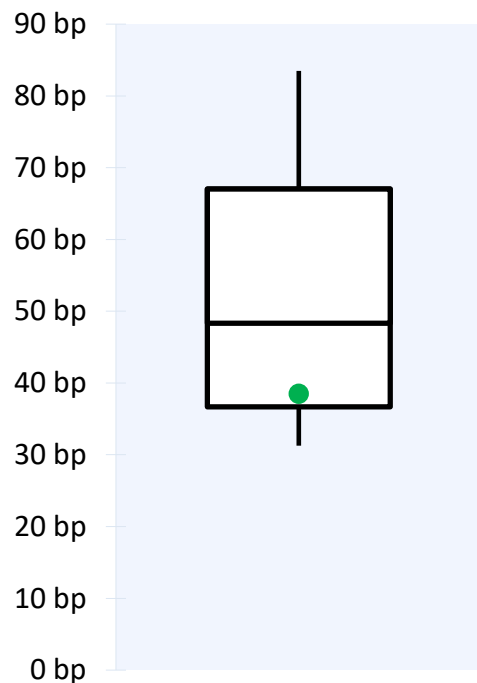
Your cost of 38.5 bps was below your benchmark cost of 41.7 bps.

Comparison of costs before adjusting for asset mix:

Before adjusting for differences in asset mix, your costs of 38.5 bps were 9.8 bps below the peer median of 48.3 bps.

Your cost versus peers

(before adjusting for asset mix differences)



Comparison of costs after adjusting for asset mix:

To calculate a benchmark cost we apply peer median costs at an asset class level to your asset mix (i.e., we adjust for differences in asset mix).

Your cost versus benchmark

(after adjusting for asset mix differences)

	£000s	bps
Your total investment cost	170,207	38.5
Your benchmark cost	184,321	41.7
Your excess cost	(14,114)	(3.2)

Your fund was slightly low cost because you paid less than peers for similar services. These savings were partly offset by your higher cost implementation style.

Reasons for your low cost status	Excess Cost/ (Savings)	
	£000s	bps
1. Higher cost implementation style		
• More active management (vs. lower cost passive)	7,400	1.7
• More external management (vs. lower cost internal)	9,033	2.0
• More partnerships for private assets (vs. funds)	4,979	1.1
• Use of fund of funds	1,396	0.3
• Less co-investment as a percentage of LP/Co	2,076	0.5
• Less overlays	(3,215)	(0.7)
	<u>21,669</u>	<u>4.9</u>
2. Paying less than peers for similar services		
• External investment management costs	(25,254)	(5.7)
• Internal investment management costs	(4,727)	(1.1)
• Oversight, custody and other costs	(5,802)	(1.3)
	<u>(35,783)</u>	<u>(8.1)</u>
Total savings	(14,114)	(3.2)

Your benchmarked cost increased from 34.7 bps in 2014/15 to 38.5 bps in 2019/20.

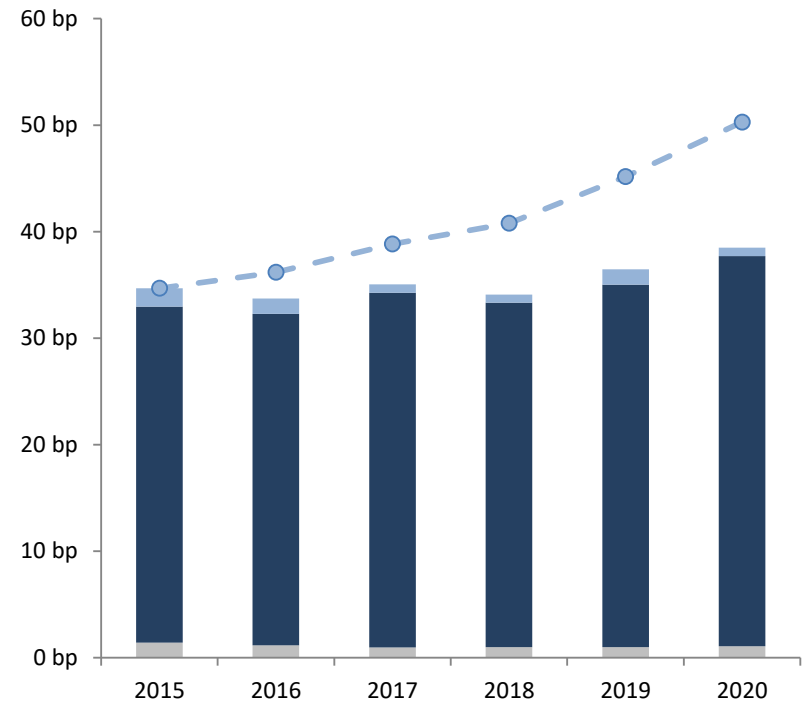
Your costs change from year to year because:

1. Your asset mix changes.
2. Your implementation approach changes, i.e. moving from active to passive or external to internal (or vice versa).
3. What you pay for mandates or assets changes over time because:

- Performance fees (if applicable) are variable.
- Your line-up of managers and mandates changes.

Investment cost changes (bps)

(Performance fees are included for public assets but excluded for private assets)



Performance	1.7	1.4	0.8	0.8	1.4	0.8
Base and internal	31.5	31.1	33.3	32.3	34.0	36.6
Oversight and custody	1.4	1.1	1.0	1.0	1.0	1.1
Total	34.7	33.7	35.0	34.1	36.5 ²	38.5
Asset mix impact ¹	34.7	36.2	38.8	40.8	45.1	50.3

¹ The asset mix impact is the predicted change in your cost based on asset mix changes alone, i.e., if what you paid for each mandate and how you implemented your strategy were unchanged from the baseline year. The asset mix impact is sensitive to your costs in the baseline year.

² Restated after amendments to 2018/19 by one of the underlying funds.

Your costs increased because of a higher cost asset mix. Your underlying costs fell materially.

Reasons why your costs changed

	6-Years Increase/(Savings) Bps	
Starting costs (year ending 31 March 2015)	34.7	
1. Higher cost asset mix ¹	15.6	1. The funds have increased their allocation to higher cost asset classes over the period: In 2014/15, 5.5% of assets were invested in Private Equity. In 2019/20 that had increased to 7.9%.
2. Lower cost implementation style		
• Use of active management vs. lower cost passive	(0.1)	
• Use of external management vs. lower cost internal	(1.0)	
• Less LPs as a percentage of external	(1.1)	
• Less fund of funds	(1.1)	
• Less co-investment as a percentage of LP/CO	(0.1)	
	(3.4)	In 2014/15, 7.9% of assets were invested in Real Assets (including Infrastructure). In 2019/20 that had increased to 14.2%.
3. Paying less, for similar services		
• Lower external investment management fees	(8.8)	
• Higher internal investment management costs	0.8	
• Lower oversight, custodial & other costs	(0.3)	
	(8.3)	Two of the funds have started investing in Private Credit since 2018.
Ending costs (year ending 31 March 2020)	38.5	

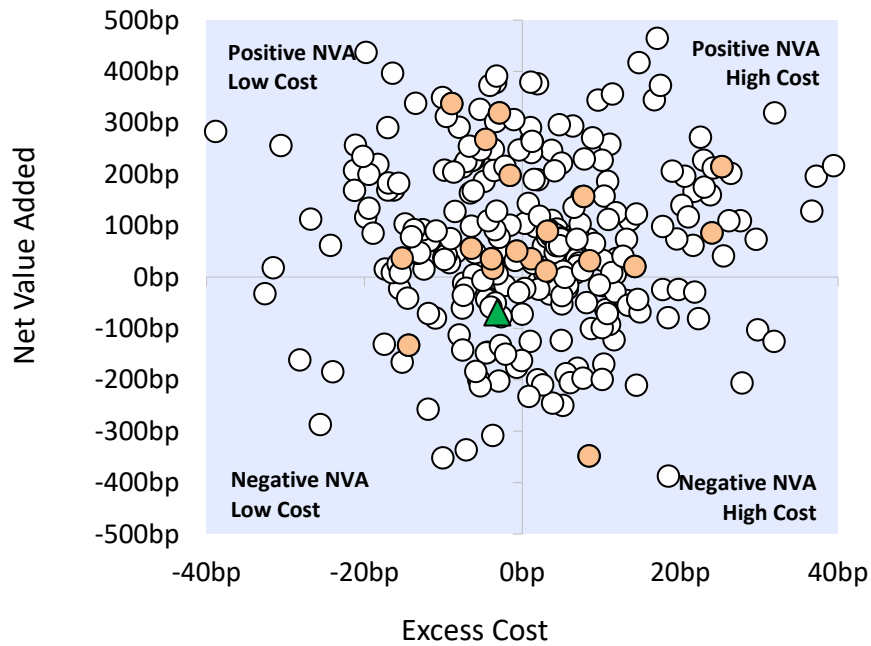
Cost Effectiveness

Your 2019/20 performance placed in the negative value added, low cost quadrant of the cost effectiveness chart.

Your 6-year performance placed in the positive value added, low cost quadrant of the cost effectiveness chart.

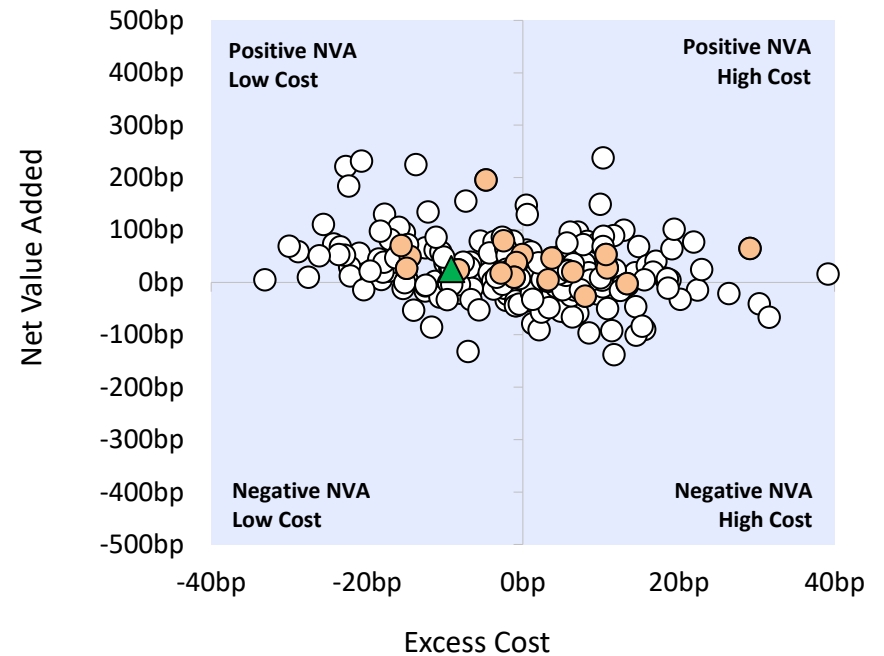
2019/20 net value added versus excess cost

(Your 2019/20: net value added -69 bps, cost savings 3 bps)



6-Year net value added versus excess cost

(Your 6-year: net value added 25 bps, cost savings 9 bps)



	2020	2019	2018	2017	2016	2015	6-year
Net value added (bps)	(69.0)	(40.0)	78.0	276.0	(42.0)	(7.0)	25.3
Your Excess Cost (bps)	(3.2)	(4.0)	(5.0)	(4.0)	(14.8) ¹	(0.5) ¹	(6.2)

1. Pre-dates your commercial relationship with CEM. The benchmark cost and your position relative to that benchmark cost, is calculated on a simplified basis.

Key takeaways

Returns

- Your 6-year net total return was 5.9%. This was below the UK median of 6.3%.
- Your 6-year-year benchmark return was 5.7%. This was below the UK median of 6.5%.

Risk

- Your asset risk of 10.8% was above the UK median of 10.5%. Your asset-liability risk of 11.1% was above the UK median of 10.7%.

Value added

- Your 6-year net value added was 0.3%. This was compared with the UK median of 0.0%.

Cost

- Your investment cost of 38.5 bps was below your benchmark cost of 41.7 bps.
- Your fund was slightly low cost because you paid less than peers for similar services. These savings were partly offset by your higher cost implementation style.

Cost trend

- Your cost increased from 34.7 bps in 2014/15.
- Your costs increased because of a higher cost asset mix. Your underlying costs fell materially.

Cost effectiveness / value-for-money

- Your 6-year performance placed in the positive value added, low cost quadrant of the cost effectiveness chart.