

Northern LGPS
Investment Benchmarking Results
For the 7-year period ending the 31st March 2021



Oxford House, 15 – 17 Mount Ephraim Road
Tunbridge Wells, Kent, TN1 1EN
+44 203 887 9290
www.cembenchmarking.com

This benchmarking report provides an independent assessment of value-for-money.

We compare your costs with other pension funds and other asset owners, inside and outside LGPS. To provide context, we also compare your investment performance, asset mix, risk, funding etc. What emerges is a narrative about your fund, how it compares with others and why your investment outcomes compare as they do.

Cost

- How do our costs compare and why?
- Where are we paying more / less than others?
- What is the trend in our costs?

Performance

- Costs need to be seen in the context of performance.
- How do our returns compare with others and why?
- Are our active management decisions being rewarded?
- How does our 'net value add' compare with others?

Risk

- How does the risk in our portfolio compare with others?

Value-for-Money

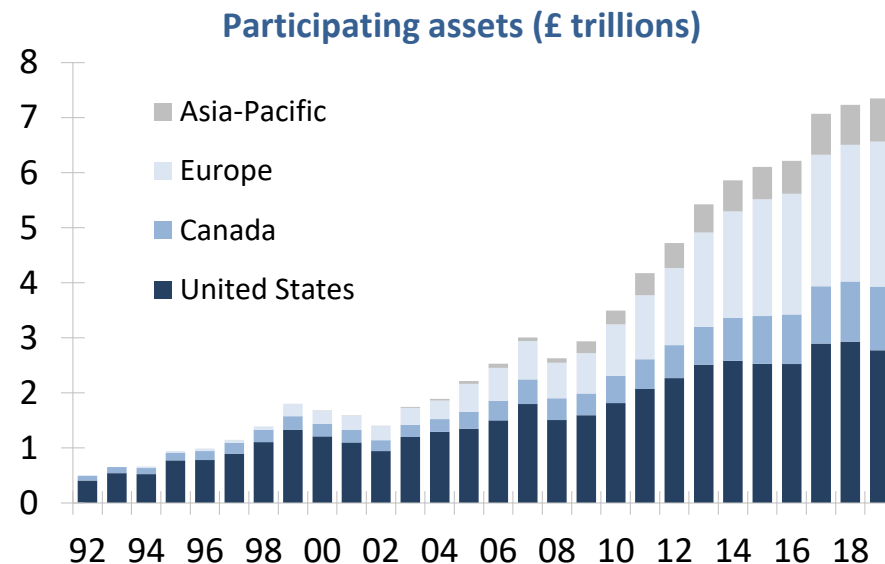
- If we are paying more then are we getting more?

This report reflects a 7-year time period. This is to align with DLUHC's requirement to 'baseline' and report cost savings. The report is based on standard data submitted to CEM by your fund, 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.

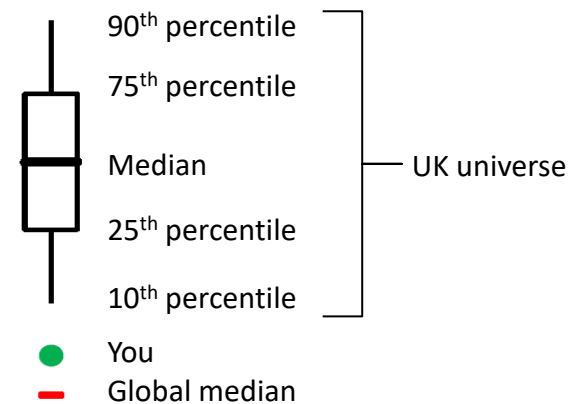
Costs need to be seen in the context of performance.

The CEM database contains data from 296 global funds with combined assets of £8 trillion. We are comparing your performance with the 26 UK funds within that universe with combined assets of £438 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:

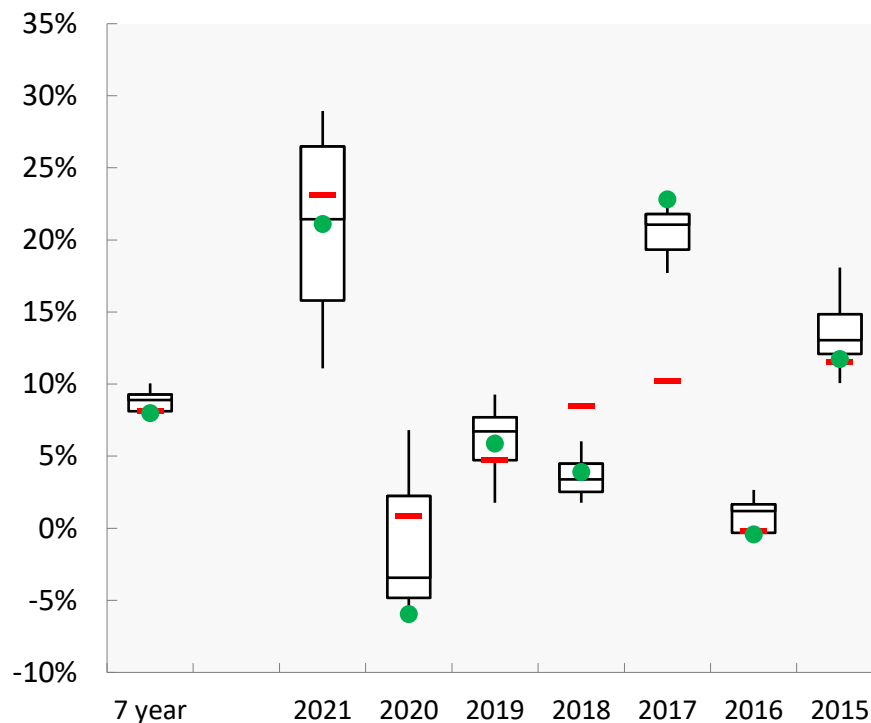


Your 7-year net total return of 8.0% was below the UK median of 8.9%.

In the pages that follow, we help you to understand why your returns compare as they do by separating total return into its more meaningful components:

- *Benchmark return* : The return from strategic asset allocation decisions. These decisions are typically made by the local Pensions Committee.
- *Value added* : A function of active management decisions, including tactical asset allocation, manager selection, stock selection, etc. These 'implementation' decisions tend to be made by management.

U.K. net total returns - quartile rankings



	UK	2021	2020	2019	2018	2017	2016	2015
Q3	9.3	26.5	2.2	7.7	4.5	21.8	1.7	14.8
Median	8.9	21.4	-3.4	6.7	3.4	21.1	1.2	13.0
Q1	8.1	15.8	-4.8	4.7	2.5	19.3	-0.3	12.1
Your fund	8.0	21.1	-6.0	5.9	3.9	22.8	-0.4	11.7
Your %ile	13%	48%	8%	36%	64%	92%	21%	20%
Global Med.	8.1	23.1	0.8	4.7	8.5	10.2	-0.2	11.6

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 2016/17, i.e. there is currency 'noise' in the global comparison.

Your 7-year benchmark return of 7.5% was below the UK median of 8.5%.

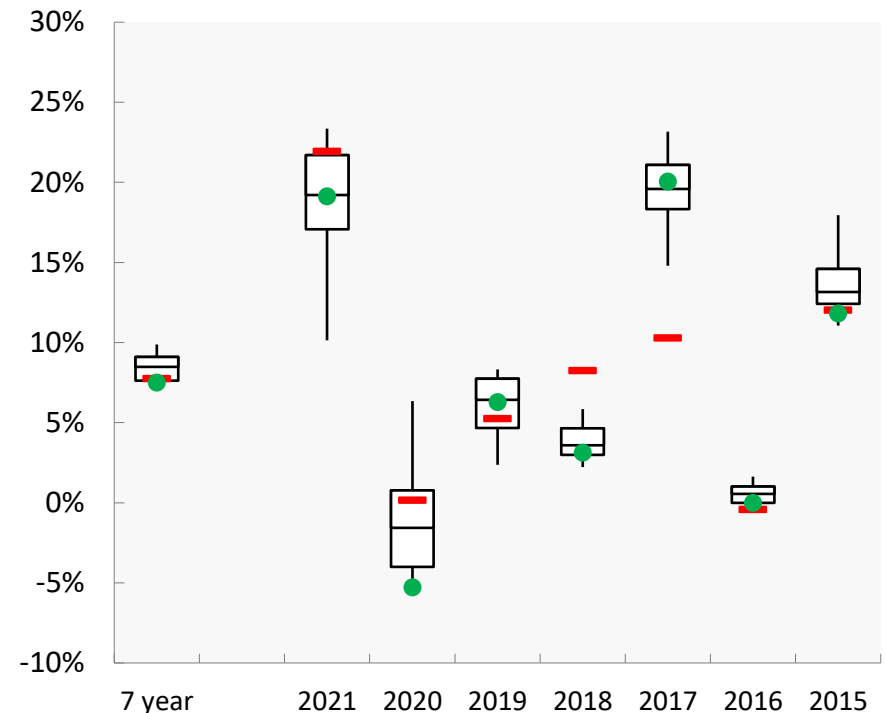
The benchmark return is the return you could have earned by implementing your strategy passively, i.e., by indexing your portfolio in line with your strategic asset allocation.

You have selected a strategic asset allocation based on your funding position, long-term market expectations, liabilities, employer covenant and appetite for risk.

These factors are different in each fund and it is unsurprising that benchmark returns (and total returns) often vary widely.

The following page looks at how your strategic asset allocation and choice of benchmarks compare with others.

U.K. benchmark returns - quartile rankings



	7 year	2021	2020	2019	2018	2017	2016	2015
UK								
Q3	9.1	21.7	0.8	7.7	4.6	21.1	1.0	14.6
Median	8.5	19.2	-1.6	6.4	3.6	19.6	0.5	13.2
Q1	7.6	17.1	-4.0	4.7	3.0	18.3	0.0	12.4
Your fund	7.5	19.1	-5.3	6.3	3.1	20.1	0.0	11.8
Your %ile	20%	48%	13%	41%	32%	56%	25%	15%
Global Med.	7.8	21.9	0.2	5.3	8.3	10.3	-0.4	12.0

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

Your relative 7-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 alternative asset classes compared to the UK average.
- These factors are partly offset by the positive impact of a higher allocation to Emerging and U.S. equity.

Strategic Asset Allocation

7-year benchmark return

	You 2015	You 2021	UK Avg. 2021	You	UK Avg.
Equities - Asia-Pacific ex-Japan	4%	3%	0%	9.0%	10.2%
Equities - Japan	5%	4%	0%	11.5%	11.8%
Equities - UK	28%	21%	6%	5.0%	4.9%
Equities - Europe ex-UK	10%	8%	1%	8.5%	8.6%
Equities - U.S.	10%	5%	2%	16.6%	15.5%
Equities - Emerging	5%	5%	1%	10.9%	9.8%
Equities - Global	0%	3%	28%	10.1%	12.2%
Equities - Other	0%	5%	3%	n/a ²	n/a ²
Total Equities	61%	54%	43%	9.1%	10.5%
Bonds - UK	1%	2%	3%	4.9%	5.1%
Bonds - UK Gov't	4%	2%	1%	4.3%	5.4%
Bonds - UK Credit	4%	3%	1%	5.9%	5.5%
Bonds - Inflation Indexed	5%	4%	3%	6.9%	7.6%
Bonds - Global	3%	4%	8%	5.9%	3.5%
Bonds - Bundled LDI	0%	0%	10%	n/a ²	n/a ²
Bonds - Other ¹	5%	6%	6%	n/a ²	n/a ²
Total Bonds	22%	20%	33%	5.0%	5.5%
Hedge Funds	3%	1%	2%	2.3%	3.6%
Infrastructure	2%	6%	6%	3.2%	4.7%
Domestic Property	6%	6%	5%	5.7%	7.3%
Global Property	2%	2%	4%	6.6%	6.9%
Other Real Assets ¹	0%	1%	0%	n/a ²	n/a ²
Private Equity	5%	7%	4%	3.9%	7.7% ³
Private Debt	0%	2%	4%	n/a ²	3.3%
Total Alternatives	17%	26%	25%		

1. Equity other includes: Equities - EAFE. Bonds other includes: Bonds - U.S., Bonds - U.S. and Bonds - EAFE. Other real assets include: Commodities, Natural Resources and Listed Property.

2. A value of 'n/a' is shown if asset class returns are not available for the full 7 years or if they are broad and incomparable.

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 7-year private equity net value added would have been 4.2%. The 7-year average, self-reported benchmark from private equity was 7.14%

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

It is interesting and helpful to compare the overall expected level of volatility in your portfolio. Each fund has its own risk model but we calculate risk on a standard basis in order to compare funds. It is your position relative to others that is important.

- 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 11.0% was above the U.K. median of 10.1%.
- Asset-liability mismatch risk - A lower asset-liability mismatch risk means you are closer to a 'fully-matched' position. A higher asset-liability mismatch risk is indicative of a willingness to take more risk relative to liabilities. Your asset-liability risk of 11.3% was above the UK median of 10.4%.

Trend	Asset risk	Asset-liability mismatch risk
2014/15	11.0%	11.6%
2020/21	11.0%	11.3%

UK risk levels at 31st March 2021



1. Asset risk is the standard deviation of your benchmark return. It is based on the historical variance of, and covariance between, the asset classes in your strategic asset allocation.
2. Asset-liability mismatch risk is the standard deviation of funded status caused by market factors. It is a function of the standard deviations of your asset risk, your marked-to-market liabilities and the correlation between the two.

Net value added is out-performance from active implementation decisions. Your 7-year net value added was 0.5%.

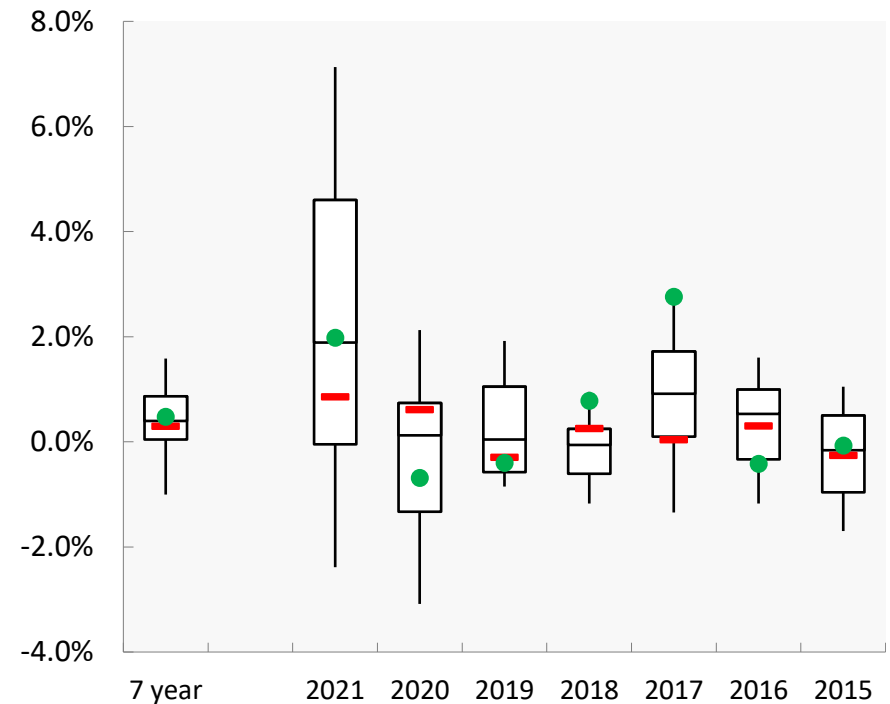
Net value added equals total net return minus benchmark return. It is a function of active management decisions made in the implementation of your strategy including tactical asset allocation, manager selection, stock selection, choice of benchmarks, hedging, overlays, etc.

Your average 7-year net value added of 0.5% compares to a median of 0.4% for the UK universe and 0.3% globally.

Year	Assets (£M)	Net value add	Approx. net value add (£M)
2015	32,183	-0.1%	-22.5
2016	36,630	-0.4%	-153.8
2017	40,395	2.8%	1,114.9
2018	43,483	0.8%	339.2
2019	45,042	-0.4%	-180.2
2020	44,206	-0.7%	-305.0
2021	48,491	2.0%	960.1
Total		0.5%	1,752.6

Poorly correlated benchmarks create 'noise' which makes it difficult to understand whether active management decisions are being rewarded. 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 7-year total fund value added would have been 0.2% lower.

U.K. value added - quartile rankings



	UK	2021	2020	2019	2018	2017	2016	2015
Q3	0.9	4.6	0.7	1.0	0.2	1.7	1.0	0.5
Median	0.4	1.9	0.1	0.0	-0.1	0.9	0.5	-0.2
Q1	0.0	0.0	-1.3	-0.6	-0.6	0.1	-0.3	-1.0
Your fund	0.5	2.0	-0.7	-0.4	0.8	2.8	-0.4	-0.1
Your %ile	53%	52%	33%	36%	86%	88%	21%	53%
Global Med.	0.3	0.9	0.6	-0.3	0.3	0.0	0.3	-0.3

We compare your costs with 21 global peer funds ranging from £16.4 bn to £101.1 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 assets 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 £56.9 bn (versus your £48.5 bn).

We specifically exclude other LGPS funds from your pool because costs will increasingly be homogenous within the pool.

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

We are benchmarking investment costs of £172.8m or 35.6 bps in 2021.

Asset class	Internal Management External Management Costs £000						Total		Trans. costs ³	Other costs ⁴
	Passive	Active	Oversight of external	Passive fees	Active base fees	Active perf. fees	£000s	bps		
Equities, Bonds, Cash and Multi-Asset Strategies	15	4,283	229	2,869	33,650	3,377	44,423	11.7	19,821	1,299
Global Property					3,775	276	3,775	33.1		6,754
Global Property - LP			125		11,147	10,474	11,272	185.6		6,543
Global Property - FoFs										
Top Layer Fees			1		286	-210	287	147.2		212
Underlying Fees					117	104	117	60.0		
Infrastructure		1,981					1,981	7.8		
Infrastructure - LP			207		23,160	11,241	23,366	138.0		4,151
Infrastructure - Co-Invest.			10		220		230	52.3		
Domestic Property - Evergreen		118	157		7,069	439	7,344	51.0		85
Other Real Assets		42	41		6,399		6,483	135.2		
Hedge Funds - External Active			27		2,985	562	3,574	182.6	216	-293
Hedge Funds - FoFs										
Top Layer Fees					670	1,237	1,906	181.0		
Underlying Fees					1,253	1,011	2,265	215.0		
Diversified Private Equity - LP			231		36,036	84,221	36,266	157.8		1,267
Diversified Private Equity - Co-Invest.			5		647	2,307	653	72.0		2
Diversified Private Equity - FoFs										
Top Layer Fees			38		3,723	6,997	3,761	42.9		445
Underlying Fees					8,399	34,001	8,399	95.8		
Other Private Equity - LP			246		4,676		4,922	83.8		
Private Credit - LP			148		7,565	5,026	7,713	88.4		3,051
Derivatives/Overlays					174		174	-2.4		
	15	6,424	1,465	2,869	151,950	6,187	168,910	34.8	20,036	23,517
Oversight, custody and other costs ¹							3,883	0.8		
Total benchmarked costs ²							172,793	35.6		

1. Benchmarked investment costs exclude pension administration costs and non-investment related governance and oversight costs.

2. Your 2020/21 financial statements collectively report investment costs of £239.7 million including transaction costs of £16.6 million. The costs benchmarked here are different. This is likely because of differences in standard definitions, and/or estimations of costs in financial statements.

3. Transaction costs should not be regarded as complete. They are shown only where provided. We specifically exclude transaction costs from the benchmarking analysis because of concerns over the consistency and validity of data. We hope to include transaction costs in future years.

4. Other costs include fund administration, governance, compliance, distribution and communication costs captured from CTI templates.

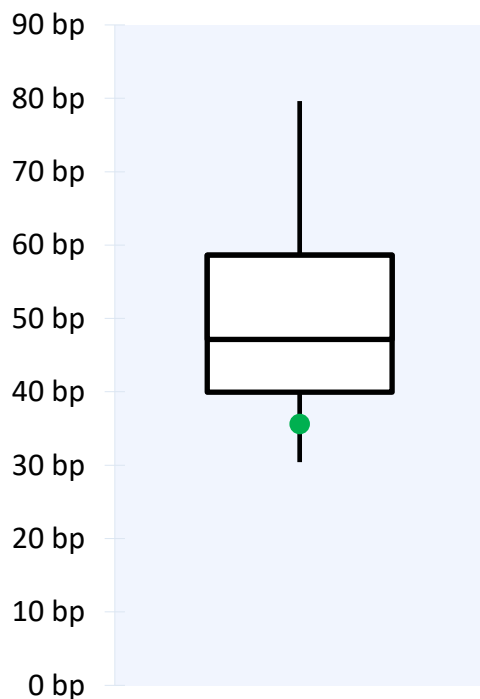
Numbers in blue font indicate where data is missing and default costs have been applied to 1 or more of the underlying mandates. Defaults are either peer or universe medians, intended to show indicative costs.

Your cost of 35.6 bps was below your benchmark cost of 39.0 bps.

Comparison of costs *before adjusting for asset mix* :

Before adjusting for differences in asset mix, your costs of 35.6 bps were 11.5 bps below the peer median of 47.1 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 investment cost	172,793	35.6
Your benchmark cost	189,232	39.0
Difference	(16,439)	(3.4)

The difference is explained by two factors:

	£000s	bps
Implementation style	38,622	8.0
Paying less for similar assets	(55,061)	(11.4)
Total	(16,439)	(3.4)

These factors are quantified in the pages overleaf.

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

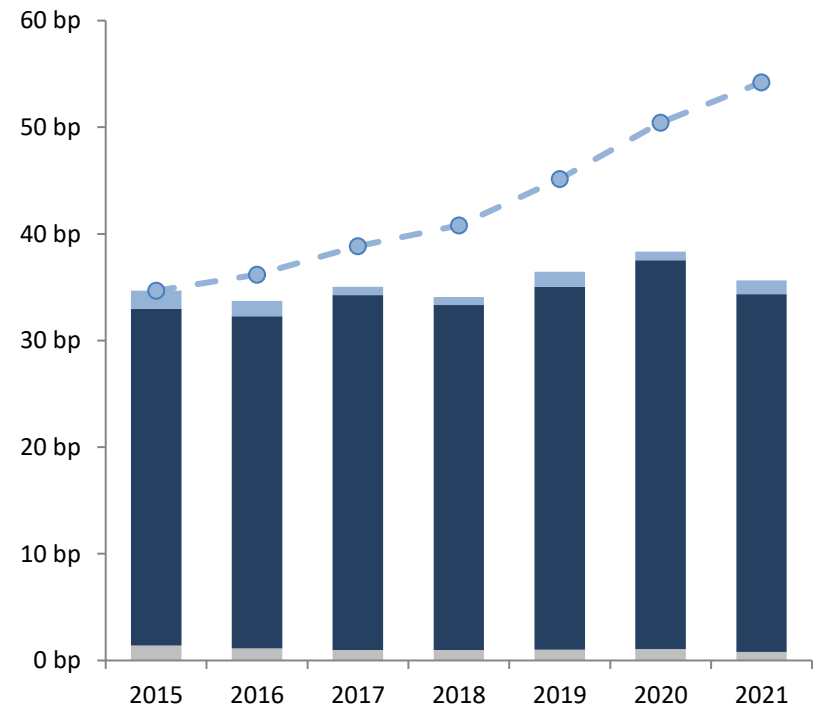
Reasons for your low cost status	Excess Cost/ (Savings)	
	£000s	bps
1. Higher cost implementation style		
• More external active management (vs. lower cost passive and internal)	28,804	5.9
• More partnerships for private assets (vs. funds)	8,733	1.8
• Use of fund of funds	1,246	0.3
• Less co-investment as a percentage of LP/Co	2,313	0.5
• Less overlays	(2,473)	(0.5)
	<u>38,622</u>	<u>8.0</u>
2. Paying less than peers for similar services		
• External investment management costs	(41,202)	(8.5)
• Internal investment management costs	(4,502)	(0.9)
• Oversight, custody and other costs	(9,358)	(1.9)
	<u>(55,061)</u>	<u>(11.4)</u>
Total savings	(16,439)	(3.4)

Your benchmarked costs increased from 34.7 bps in 2015 to 35.6 bps in 2021.

Your costs change over time because:

1. Your asset mix changes.
2. Your implementation approach changes, e.g., moving from active to passive or external to internal (or vice versa).
3. What you pay for mandates changes over time because:
 - Performance fees (if applicable) are variable.
 - Your line-up of managers and mandates changes.
 - Some mandates have cost bands that vary with assets.

Investment cost changes (bps)



Performance	1.7	1.4	0.8	0.8	1.4	0.8	1.3
Base and internal	31.5	31.1	33.3	32.3	34.0	36.5	33.6
Oversight and custody	1.4	1.1	1.0	1.0	1.0	1.1	0.8
Total	34.7	33.7	35.0	34.1	36.5	38.3	35.6
Asset mix impact ¹	34.7	36.2	38.8	40.8	45.2	50.4	54.2

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.

Your costs increased by 1.0 bps because you moved to a higher cost asset mix.

			7-Year change Bps
Starting costs (year ending 2015)			34.7
1. Higher cost asset mix			19.5
2. Lower cost implementation style			
• Use of active management vs. lower cost passive			(0.3)
• Use of external management vs. lower cost internal			3.0
• Less LPs as a percentage of external			(3.0)
• Less fund of funds			(1.3)
• More co-investment as a percentage of LP/CO			(0.3)
			(1.9)
3. Paying less, for similar services			
• Lower external investment management fees			
Equities - UK - Active - Total fees	<u>2015</u>	<u>2021</u>	(1.6)
Equities - Europe ex-UK - Active - Total fees	38.0 bp	24.0 bp	(1.6)
Infrastructure - LP - Base fees	56.6 bp	24.1 bp	(3.4)
Diversified Private Equity - LP - Base fees	163.4 bp	96.2 bp	(4.1)
All other external management cost differences	205.1 bp	132.2 bp	(5.8)
• Higher internal investment management costs			0.4
• Lower oversight, custodial & other costs			(0.6)
			(16.7)
Ending costs (year ending 2021)			35.6

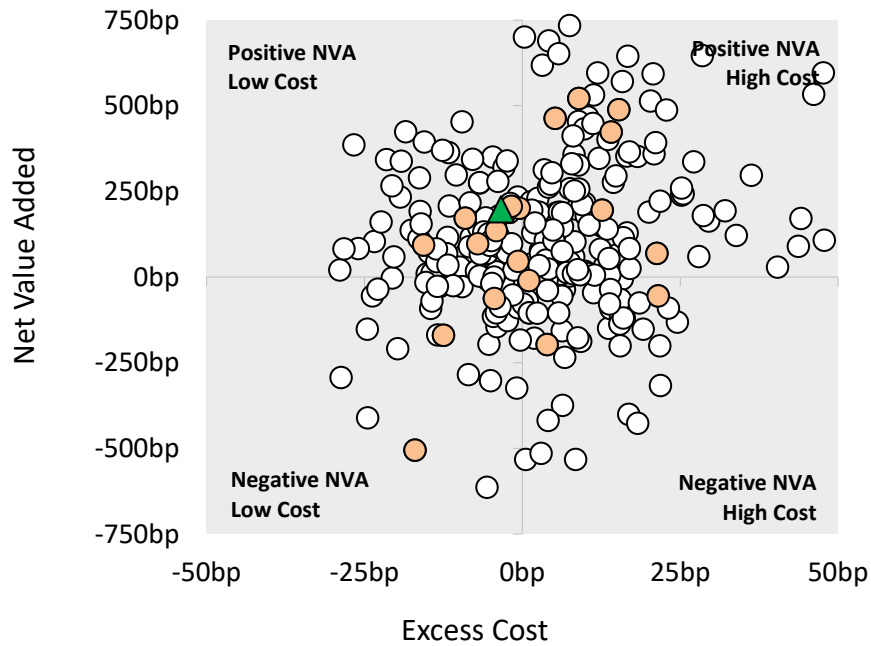
Value-for-Money (VfM)

Your 2021 performance placed in the positive value added, low cost quadrant of the VfM chart.

Your 7-year performance placed in the positive value added, low cost quadrant of the VfM chart.

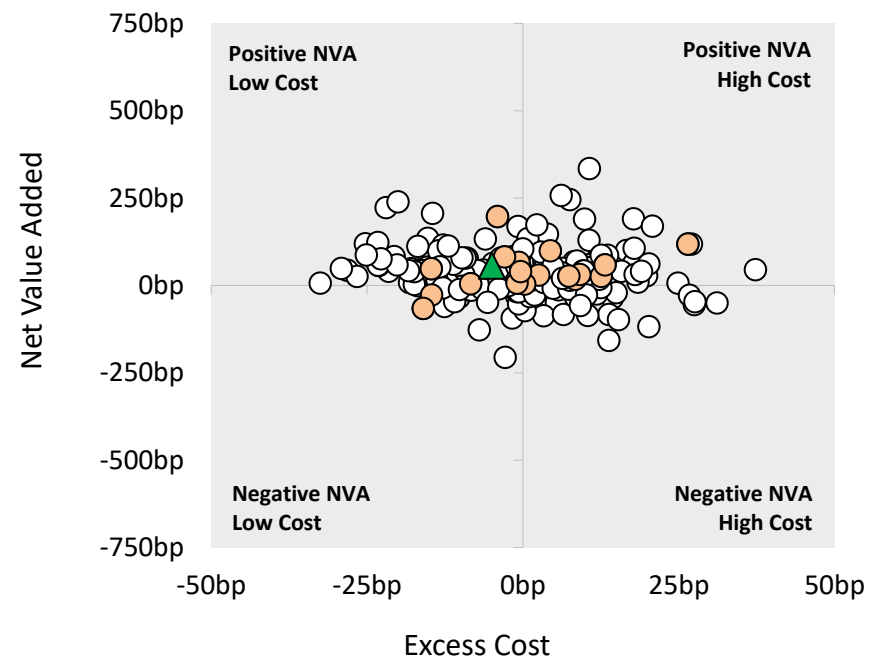
2020/21 net value added versus excess cost

(Your 2021: net value added 198 bps, cost savings 3 bps)



7-Year net value added versus excess cost

(Your 7-year: net value added 56 bps, cost savings 5 bps)



	Peer	Global	You
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	2021	2020	2019	2018	2017	2016	2015	7-year
Net value added (bps)	198.0	(69.0)	(40.0)	78.0	276.0	(42.0)	(7.0)	56.3
Your Excess Cost (bps)	(3.4)	(3.2)	(4.0)	(5.0)	(4.0)	(14.8) ¹	(0.5) ¹	(5.0)

1. Calculated using a simplified benchmark model.

Key takeaways

Cost

- Your investment cost of 35.6 bps was below your benchmark cost of 39.0 bps.
- In aggregate, you had a higher cost implementation style.
- In aggregate, you paid less than peers for similar assets.

Cost trend

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

Returns

- Your 7-year net total return was 8.0%. This was below the U.K. median of 8.9%.
- Your 7-year benchmark return was 7.5%. This was below the U.K. median of 8.5%.

Funding and Risk

- Your strategic asset allocation suggests that you take more risk relative to your liabilities than UK peers.

Value added

- Your 7-year net value added was 0.5%. The UK median was 0.4% and the global median was 0.3%.
- Your cumulative 7-year net value added has added approximately £1,752.6 million to the funding of your plans.

Cost effectiveness / value-for-money

- Your 7-year performance placed in the positive value added, low cost quadrant of the VfM chart.