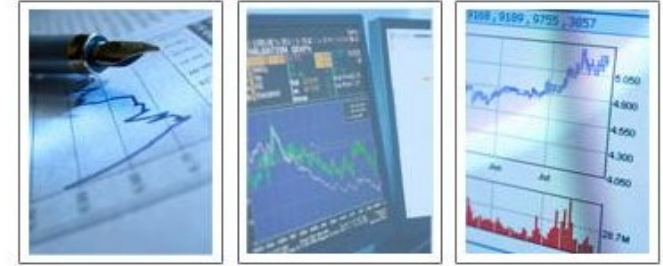


P O R T F O L I O
E V A L U A T I O N
L I M I T E D



Specialists in Investment Risk and Return Evaluation

Quarterly Risk and Return Analysis
Total Fund

Worcestershire County Council Pension Fund

Period ending 30th September 2022



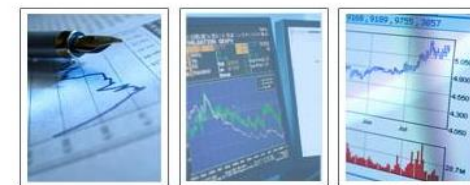
Specialists in Investment Risk and Return Evaluation



Contents

Worcestershire County Council Pension Fund Total Fund

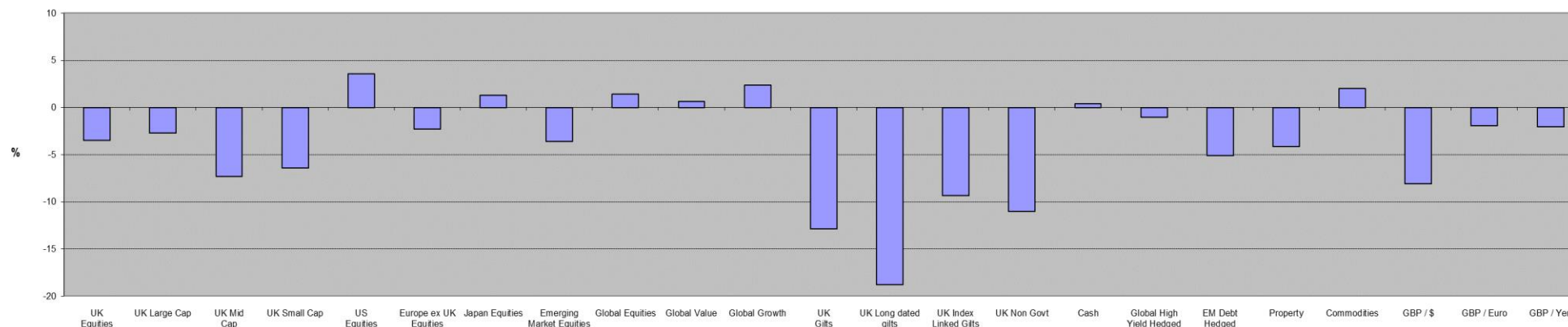
- Portfolio Evaluation Market Commentary 01
- Worcestershire County Council Pension Fund Commentary 03
- Total Fund Overview 05
 - Attribution To Total Fund Excess Return Analysis - Quarter End 06
 - Attribution to Total Fund Excess Return Analysis - Year End 07
 - Attribution to Total Fund Excess Return Analysis - 3 Year End 08
 - Manger Performance Summary 09
 - Reconciliation Analysis 11



Portfolio Evaluation Ltd Market Commentary Q3 2022 (Sterling)

Quarter three has witnessed primary market indices performing negatively for the third consecutive quarter; in fact, except for commodities all primary listed asset classes (in local currencies) have had negative returns this quarter. Please note that the charts below are in GBP terms and therefore the positive returns in US and global equities reflect the strong dollar / weak sterling and the weight of USD assets in the global indices. It should also be noted that bond yields rose across the world resulting in negative returns for bond markets, negative returns were particularly notable for longer maturity bonds. This negative return run has now extended to all primary indices (in local terms) excluding the UK large cap and global value (due to dollar strength) indices for the year results. Within global sectors the majority have had negative returns except for commodities. One of the primary trends has been the strength of the dollar (although this may have peaked now) over the year especially versus sterling which has been weak; however, against a wider basket of currencies sterling has not depreciated as much. It should be noted that in the early part of October that markets have worsened especially in the UK which has been exacerbated by a weak government pushing unfunded tax cuts (much of which has been reversed by mid-October) and the BoE that has been cautious about raising interest rates i.e. we have had a government trying to introduce a looser fiscal policy whilst the BoE has been tightening monetary policy.

Quarterly Investment Returns for the period ended
30th September 2022



It should be noted that many of our institutional clients have benefitted from high returns in 'alternative' asset classes such as Private Equities, Infrastructure, Private Debt and Property but it should be noted that much of the data is lagged and returns may soften as valuations are updated (we have seen some data from the US that would indicate this). It should also be noted that many of our clients are continuing to fund 'alternative' asset portfolios.

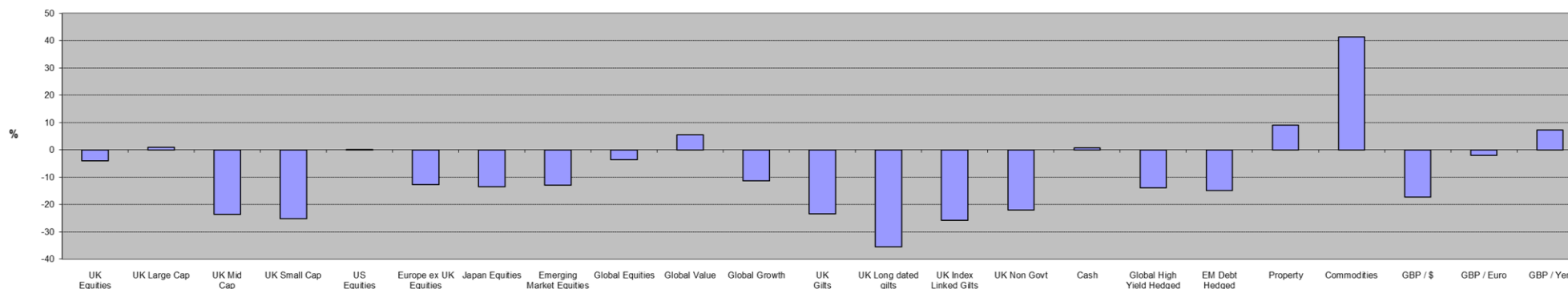


Some clients are being impacted by increasing yields requiring LDI portfolio margin accounts to require significant funding; this in some instances is requiring selling other portfolio assets and it should be noted that the BoE had to assist this part of the market in early October.

Although we continue to face problems from the war in Russia and Ukraine and the linked fuel and gas problems and have continued to see high commodity prices and supply problems, we are also seeing some old problems impact on the global economy such as aging demographics and high levels of debt. One of the problems is also declining real disposable income, this will worsen as interest rates increase as central banks raise rates to lower inflation. It is looking increasingly likely that there will be a global recession and a soft landing in 2023 may be hard to achieve.

From an investor perspective it all depends on how much of this uncertainty is already priced into the market. Market commentators do not seem to have any consensus view apart from many of them retaining a neutral exposure to equities (albeit this is lower than the collective position on equities as at the beginning of the year). The only common theme is that many investors expect the situation to worsen in Q4.

Investment Returns for the Year
Ended 30th September 2022



Risk within asset classes and correlations has increased over the year. The outlook for market risk is uncertain.

For further information If you would like further information about the topics contained in this newsletter or would like to discuss your investment performance requirements please contact Nick Kent or Deborah Barlow (e-mail: nick.kent@portfolioevaluation.net) or visit our website at www.portfolioevaluation.net. Please note that all numbers, comments and ideas contained in this document are for information purposes only and as such are not investment advice in any form. Please remember that past performance is not a guide to future performance.

Worcestershire County Council Pension Fund - Commentary

Period ending 30th September 2022

QUARTERLY SUMMARY: **Worcestershire County Council Pension Fund Return: -0.4%** **Benchmark Return: -1.0%** **Excess Return: 0.6%**

- This quarter saw the R&M EPO strategy overlay fund largely liquidated in September pending review; whilst the derivatives have been unwound the cash and collateral bonds remain in place during the review process. This quarter there was a significant drawdown from the L&G North American Equity Index Fund. This and other cash were used to Fund investments in the Bridgepoint III Private Debt Fund, BSIF Infrastructure II Fund, Stonepeak IV Infrastructure Core Fund, Venn II Euro Property and the BSIF Forestry Growth Sustainability Fund. Given the transition activity and the funding of a number of new alternative asset funds it would not be unreasonable to expect there to be a negative drag on the return of the Fund.
- The Fund and its benchmark have both generated negative returns, and the Fund has outperformed its benchmark by 0.6% excess. The EPO over this period has had a negative influence on the Total Fund (and therefore the capital value of the Fund) and benchmark return; this is as would be expected in volatile markets and because of the removal of the strategy in September (September was a negative performing market).
- Equity returns have been broadly in line with the benchmark as the Nomura Far East portfolio and the new LGPSC Global Sustainable Equity Active Targeted Fund and the LGPSC Sustainable Equity Active Thematic Fund, unfortunately the LGPSC EMM underperformed. The primary areas of outperformance have been generated by Property, Corporate Debt Fund and Infrastructure (nearly all Funds). It should be noted that the negative depreciation of sterling has been a positive contributor to the Fund, especially as many of the Alternative Asset Fund are non-GBP.
- Within the primary asset classes, infrastructure assets were the highest returning generators over the quarter at 5.1, %. Property assets had a return of 1.7%. Equity assets (inc EPO) generated a return of -1.0% whilst equities ex EPO the return was a higher -0.7%. Within equities, the Alts pool was the highest return generator at 1.0% (underperforming its benchmark by -0.2%) whilst the Active Pool had a return of -1.1% (approximately in line with the benchmark) and the Passive Pool a return of -1.8% (approximately in line with the benchmark).
- The recently established Total Fixed Income asset class has underperformed and is underweight its strategic asset allocation (note that equities remain overweight their strategic asset allocation).
- The latest valuation data supplied by Bridgepoint, Green Investment Bank, Gresham House, Hermes, Invesco – UK Property Fund, Stonepeak Partners, VENN and Walton Street is lagged by three months and was for periods ending June 2022 whilst the Gresham House Forestry Fund has a lag of 6 months.

YEAR SUMMARY: **Worcestershire County Council Pension Fund Return: -3.8%** **Benchmark Return: -2.3%** **Excess Return: -1.5%**

- The Fund and its benchmark have generated negative returns and the Fund has underperformed its benchmark by -1.5% excess. The underperformance has been primarily generated by equity assets, and partly by the performance of the Property assets and Fixed Income assets which significantly underperformed their benchmarks. With the exception of the Infrastructure pool all other primary asset classes have underperformed. It should be noted that many of the Alternative asset pools are investing in new portfolios; these types of portfolios often underperform initially due to the expenses of these funds 'investing' and that it takes time for many of these vehicles to generate positive significant returns from their investments.

- The Fund remains underweight UK equities as this has provided the collateral for the EPO strategy (this is held in short dated bonds) therefore reducing the exposure to this asset group. In effect, the Fund may appear to have a negative excess return contribution due to benchmark mismatch as the benchmark has not been adjusted to reflect the collateral programme. However please note that the structure and objective of the EPO (including the collateral) is expected to counterbalance this underweight UK position and return expectations; it has generally achieved this. The options overlay programme has increased the Fund return over the year and has performed as expected (it should be noted that the bond collateral part of the strategy did perform in line with a short, dated bond index; however, within the structure of the Fund no benchmark is assigned to these assets). Much of the EPO derivative programme was unwound in September.
- The most significant drag on excess return was generated by the LGPSC EMM Fund and the transition portfolio in the quarter ended June 2022. The highest positive contributor to excess return was Infrastructure assets.
- Infrastructure assets generated the highest return of 20.3% followed by Property with a return of 7.1%. Equity assets were the next highest return generators over the year and excluding the overlay generated a return of -7.9%. Within equities the Passive Pool was the highest return generator followed by the Alternatives Pool and finally the Active Pool (generating returns of -5.1%, -6.2% and -16.4% respectively), all of them underperformed their benchmarks. Fixed Income assets had a return of -17.6% underperforming by -6.6%.

THREE YEAR SUMMARY: Worcestershire County Council Pension Fund Return: 3.8% p.a. Benchmark Return: 3.9% p.a. Excess Return: -0.0% p.a.

- Over the three-year period, the Fund has generated a positive return of 3.8% p.a. and has performed in line with the benchmark. It should be noted that there has been a significant number of new mandates established in that timeline especially in the property, infrastructure and bond asset classes. Additionally, the equities have been restructured.
- The equity protection overlay program has increased the Fund return over the three-year period (by 0.4% p.a.) but given the volatility and variation of returns in markets this is liable to fluctuate (relative to benchmark). It should also be noted that the EPO strategy has lowered the volatility of the Fund as expected.
- The Total Risk and Active risk are consistent with a typical multi asset class fund that uses both passive and active strategies.

Client: Worcestershire County Council Pension Fund
 Manager: Multi-manager
 Mandate: Total Fund
 Asset Class: Combined Assets
 Benchmark: Worcestershire Total Fund Index
 Inception: 31-Mar-1987
 Mkt Val: £3.3bn

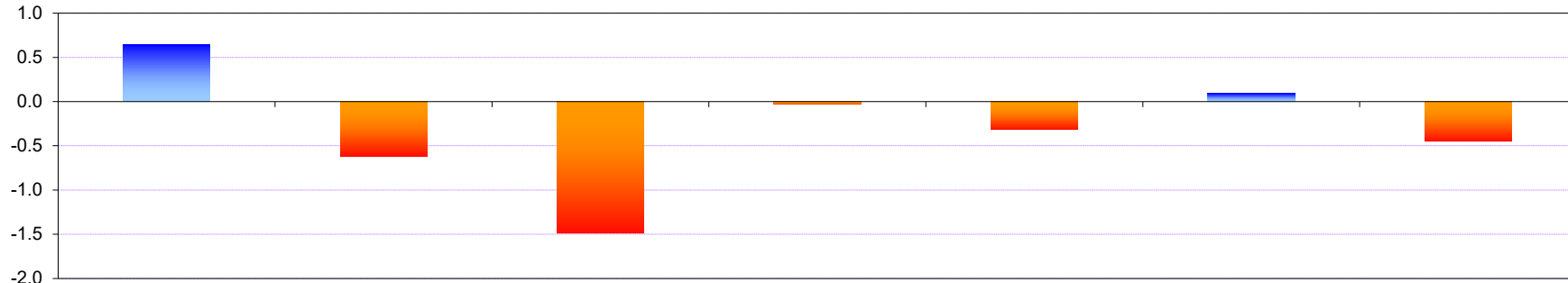
Total Fund Overview

Worcestershire CC Pension Fund

Report Period: Quarter Ending September 2022



Excess Return Analysis (%)



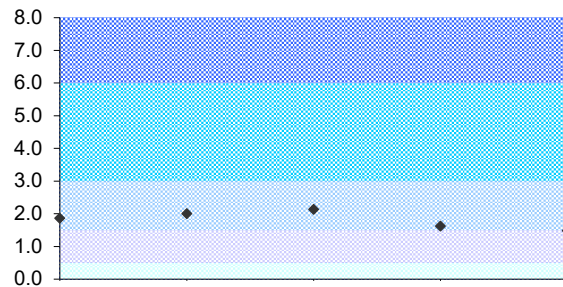
	QTR	Fin YTD	1 Yr	3 Yr	5 Yr	10Yr	Since Mar 87 (p.a.)
Excess Return	0.6	-0.6	-1.5	0.0	-0.3	0.1	-0.4
Portfolio Return	-0.4	-5.1	-3.8	3.8	4.7	8.3	7.7
Benchmark Return	-1.0	-4.4	-2.3	3.9	5.1	8.2	8.2

All returns for periods in excess of 1 year are annualised. The portfolio return is net.

Ex-Post Active Risk Analysis (%)

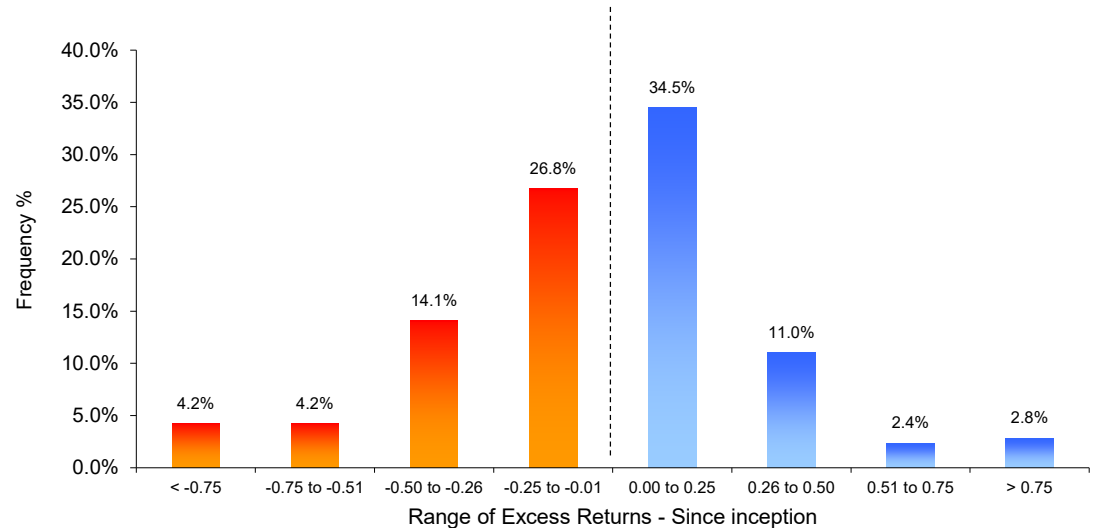
Expected Active Risk Ranges

- Aggressive
- Active Plus
- Active
- Core
- Indexed
- ◆ Active Risk



	1 Yr	3 Yr	5 Yr	10 Yr	Mar 87
Active Risk	1.9	2.0	2.1	1.6	1.5
Portfolio Risk	7.0	8.7	7.9	8.3	12.3
Benchmark Risk	7.4	9.9	9.2	8.8	12.2

Excess Return Consistency Analysis

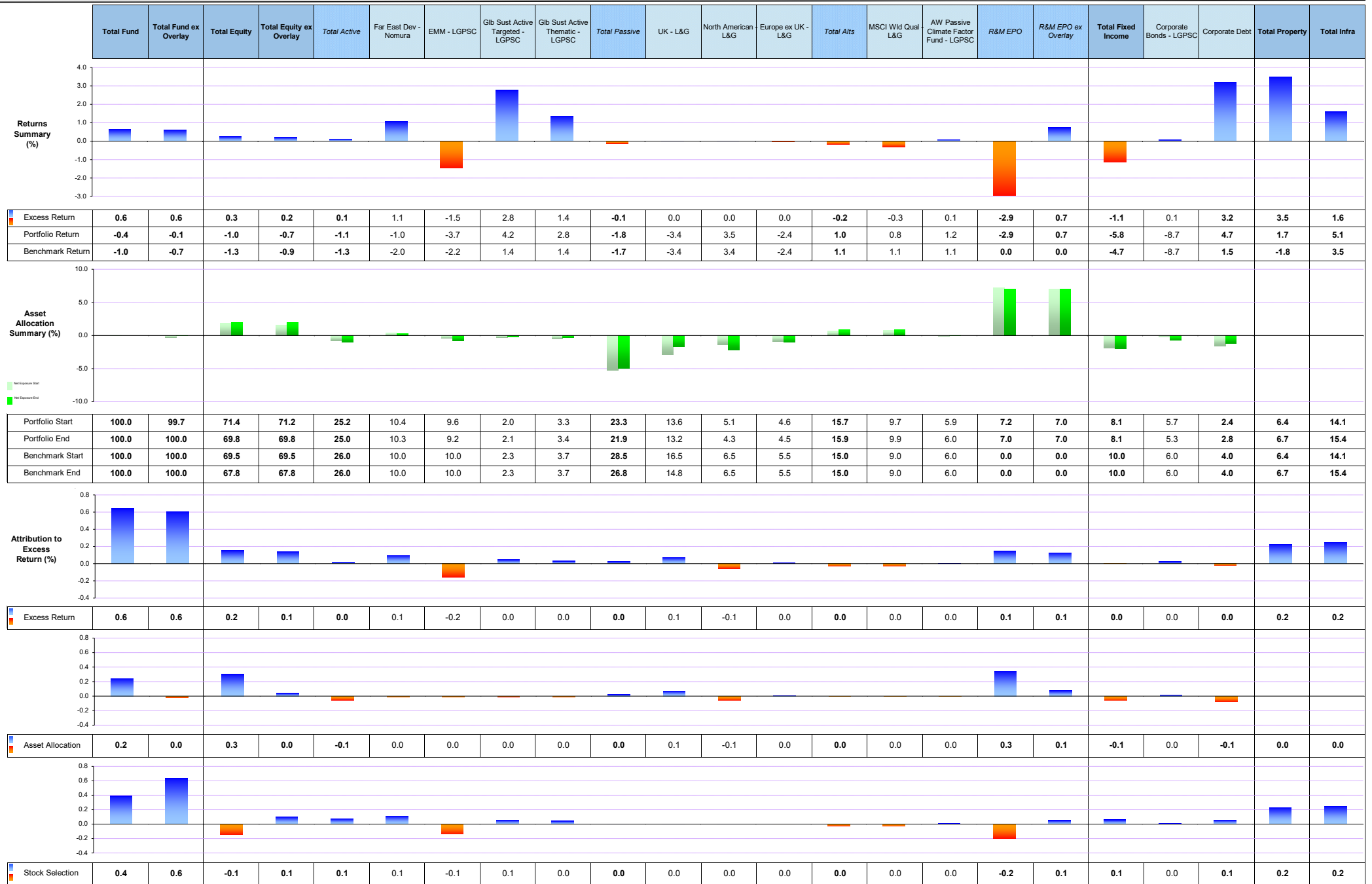


Ex-Post Active Risk measures the volatility of the actual excess returns achieved by the Portfolio/Fund.

Excess Return Consistency Analysis measures the frequency of the Portfolio/Fund's outperformance (Blue) and underperformance (Red) versus its benchmark, calculated using monthly (or quarterly if indicated) returns since inception.

**Attribution to Total Excess Return Analysis
Worcestershire County Council Pension Fund
for Quarter Ended 30th September 2022**

Market Value: £3.3bn



The Returns Summary details the Portfolio, Benchmark and Excess Returns. The Excess Returns are plotted, the Asset Allocation Summary details the weights held by the portfolio and benchmark in each asset class/manager. The green plots are the over/underweight exposures of the Fund (v Fund benchmark) at the beginning and end of the period. The Attribution to Excess Return, identifies how each asset class/manager has contributed to the overall excess return of the Total Fund. It is broken down into Asset Allocation (how successful the decision to over/underweight each asset class was) and then into Stock Selection (how well each manager's decisions have performed). The Asset Allocation plus the Stock Selection excess returns are all additive and equal the Total Excess Return of the Fund.

**Attribution to Total Fund Excess Return Analysis
Worcestershire County Council Pension Fund
for Year Ended 30th September 2022**

Market Value: £3.3bn

	Total Fund	Total Fund ex Overlay	Total Equity	Total Equity ex Overlay	Total Active	Far East Dev - Nomura	EMM - LGPSC	Glb Sust Active Targeted - LGPSC	Glb Sust Active Thematic - LGPSC	Total Passive	UK - L&G	North American - L&G	Europe ex UK - L&G	Total Alts	RAFI Fdmntl Dev (inc Korea) Red Carbon Pathway Index - L&G	MSCI Wid Min Vol - L&G	MSCI Wid Qual - L&G	AW Passive Climate Factor Fund - LGPSC	R&M EPO	R&M EPO ex Overlay	Total Fixed Income	Corporate Bonds - LGPSC	Corporate Debt	Total Property	Total Infra
Returns Summary (%)																									
Excess Return	-1.5	-1.2	-2.3	-1.9	-6.6	-1.7	-7.5	-4.9	-0.6	-0.9	0.1	0.0	-0.2	-0.9	0.0	0.0	-0.2	0.2	14.2	19.9	-6.6	-1.6	-3.1	-3.8	7.3
Portfolio Return	-3.8	-4.6	-6.9	-7.9	-16.4	-13.3	-16.0	-9.3	-5.0	-5.1	-3.9	0.4	-13.1	-6.2	1.2	2.0	-5.9	-8.2	14.2	19.9	-17.6	-22.7	2.9	7.1	20.3
Benchmark Return	-2.3	-3.4	-4.6	-6.0	-9.8	-11.7	-8.5	-4.4	-4.4	-4.2	-4.0	0.4	-12.9	-5.3	1.2	2.0	-5.6	-8.3	0.0	0.0	-11.0	-21.0	6.0	10.8	13.0
Asset Allocation Summary (%)																									
Portfolio Start	100.0	99.7	76.7	76.4	22.7	11.2	11.5	0.0	0.0	32.3	15.8	9.9	6.6	15.8	3.5	5.9	6.4	0.0	5.8	5.5	7.9	6.4	1.5	4.7	10.7
Portfolio End	100.0	100.0	69.8	69.8	25.0	10.3	9.2	2.1	3.4	21.9	13.2	4.3	4.5	15.9	0.0	0.0	9.9	6.0	7.0	7.0	8.1	5.3	2.8	6.7	15.4
Benchmark Start	100.0	100.0	74.7	74.7	20.0	10.0	10.0	0.0	0.0	39.7	25.2	8.0	6.5	15.0	3.0	6.0	6.0	0.0	0.0	0.0	10.0	6.0	4.0	4.7	10.7
Benchmark End	100.0	100.0	67.8	67.8	26.0	10.0	10.0	2.3	3.7	26.8	14.8	6.5	5.5	15.0	0.0	0.0	9.0	6.0	0.0	0.0	10.0	6.0	4.0	6.7	15.4
Attribution to Excess Return (%)																									
Excess Return	-1.5	-1.2	-1.8	-1.5	-2.4	-0.2	-0.8	-0.2	-0.2	-0.3	-0.1	-0.1	0.0	0.2	0.0	0.1	-0.1	0.1	0.7	1.0	-0.4	-0.1	-0.3	-0.1	0.8
Asset Allocation	0.0	-0.2	0.3	0.0	-0.1	0.0	0.0	0.0	0.0	-0.3	-0.1	-0.2	0.0	0.2	0.0	0.1	0.0	0.1	0.5	0.2	-0.2	0.0	-0.2	0.0	0.0
Stock Selection	-1.5	-1.0	-2.1	-1.5	-2.3	-0.2	-0.8	-0.2	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.8	-0.2	-0.1	0.0	-0.1	0.8

**Attribution to Total Fund Excess Return Analysis - Annualised
Worcestershire County Council Pension Fund
for 3 Year Period Ended 30th September 2022**

Market Value: £3.3bn

	Total Fund	Total Fund ex Overlay	Total Equity	Total Equity ex Overlay	Total Active	Far East Dev - Nomura	EMM - LGPSC	Glb Sust Active Targeted - LGPSC	Glb Sust Active Thematic - LGPSC	Total Passive	UK - L&G	North American - L&G	Europe ex UK - L&G	Total Alts	RAFI Fdmntl Dev (inc Korea) Red Carbon Pathway Index - L&G	MSCI Wid Min Vol - L&G	MSCI Wid Qual - L&G	AW Passive Climate Factor Fund - LGPSC	R&M EPO	R&M EPO ex Overlay	Total Fixed Income	Corporate Bonds - LGPSC	Corporate Debt	JP Morgan Corp Bond	Total Property	Total Infra
Returns Summary (%)																										
Excess Return	0.0	-1.1	0.2	-1.1	-2.4	0.0	-3.1	-4.9	-0.6	0.7	0.1	0.1	-0.2	-0.7	0.0	0.1	-0.1	0.2	-9.3	3.9	-4.8	-0.1	0.0	0.2	-6.6	0.1
Portfolio Return	3.8	3.4	3.5	3.0	0.3	2.0	-0.1	-9.3	-5.0	5.0	0.9	11.6	2.1	3.6	9.4	3.2	10.0	-8.2	-9.3	3.9	-10.9	-3.6	6.5	1.4	2.9	10.7
Benchmark Return	3.9	4.5	3.3	4.1	2.7	2.0	3.0	-4.4	-4.4	4.3	0.8	11.5	2.3	4.3	9.3	3.1	10.1	-8.3	0.0	0.0	-6.1	-3.5	6.5	1.2	9.5	10.6
Asset Allocation Summary (%)																										
Portfolio Start	100.0	99.5	80.0	79.5	25.9	14.4	11.5	0.0	0.0	30.7	12.7	11.5	6.5	15.5	5.8	4.7	5.0	0.0	7.8	7.4	0.5	0.0	0.5	5.3	6.0	8.3
Portfolio End	100.0	100.0	69.8	69.8	25.0	10.3	9.2	2.1	3.4	21.9	13.2	4.3	4.5	15.9	0.0	0.0	9.9	6.0	7.0	7.0	8.1	5.3	2.8	0.0	6.7	15.4
Benchmark Start	100.0	100.0	75.7	75.7	24.0	12.0	12.0	0.0	0.0	41.7	21.2	11.0	9.5	10.0	3.3	3.3	3.3	0.0	0.0	0.0	0.8	0.0	0.8	9.2	6.0	8.3
Benchmark End	100.0	100.0	67.8	67.8	26.0	10.0	10.0	2.3	3.7	26.8	14.8	6.5	5.5	15.0	0.0	0.0	9.0	6.0	0.0	0.0	10.0	6.0	4.0	0.0	6.7	15.4
Attribution to Excess Return (%)																										
Excess Return	0.0	-1.1	0.2	-0.9	-1.0	0.0	-0.4	-0.1	-0.1	0.1	0.1	0.1	-0.1	0.1	0.0	0.0	0.1	0.0	1.0	-0.1	0.0	0.1	-0.1	-0.1	-0.3	0.1
Asset Allocation	-0.1	-0.3	-0.1	-0.3	-0.2	-0.1	-0.1	0.0	0.0	0.1	0.1	0.1	-0.1	0.0	-0.1	0.0	0.1	0.0	0.0	-0.2	0.0	0.1	-0.1	-0.1	0.0	0.0
Stock Selection	0.1	-0.9	0.3	-0.6	-0.8	0.0	-0.3	-0.1	-0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	1.1	0.2	-0.1	0.0	0.0	0.0	-0.3	0.1

Manager Return Analysis
Worcestershire County Council Pension Fund
for Period Ended 30th September 2022

Market Value: £3.3bn

	Benchmark	Incep Date	Market Value (£m)	Weight	QTR			Year To Date			1 Year			3 Year			5 Year			10 Year			Since Inception		
					PF	BM	ER	PF	BM	ER	PF	BM	ER	PF	BM	ER	PF	BM	ER	PF	BM	ER	PF	BM	ER
Total Equity Fund	Client Specific Weighted Index	Mar-16	2,274.8	69.8	-1.0	-1.3	0.3	-7.6	-6.4	-1.2	-6.9	-4.6	-2.3	3.5	3.3	0.2	4.6	4.8	-0.2				8.5	8.4	0.0
Total Equity Fund ex Overlay	Client Specific Weighted Index	Mar-16	2,274.8	69.8	-0.7	-0.9	0.2	-7.9	-7.0	-0.9	-7.9	-6.0	-1.9	3.0	4.1	-1.1	4.3	5.3	-1.0				8.3	8.8	-0.5
<i>Total Active Equity Fund</i>	Client Specific Weighted Index	Mar-16	814.0	25.0	-1.1	-1.3	0.1	-9.8	-5.5	-4.3	-16.4	-9.8	-6.6	0.3	2.7	-2.4	1.9	3.8	-1.9				7.5	8.3	-0.8
Nomura Far East Developed Fund	Worcs Nomura FT AW A P & FT AW J	Feb-03	335.9	10.3	-1.0	-2.0	1.1	-8.8	-6.7	-2.1	-13.3	-11.7	-1.7	2.0	2.0	0.0	3.4	3.6	-0.2	8.2	7.7	0.5	9.2	9.1	0.1
Nomura Far East Developed Fund - 01.08.21	Worcs Nomura FT AW A P & FT AW J	Aug-21	335.9	N/A	-1.0	-2.0	1.1	-8.8	-6.7	-2.1	-13.3	-11.7	-1.7										-8.6	-6.3	-2.3
LGPS Emerging Markets Fund	FTSE All World Emerging Market Index	Jul-19	301.0	9.2	-3.7	-2.2	-1.5	-6.7	-4.8	-1.9	-16.0	-8.5	-7.5	-0.1	3.0	-3.1							-1.3	1.7	-3.0
LGPS Global Sustainable Equity Active Targeted Fund	FTSE All World Index	May-22	67.8	2.1	4.2	1.4	2.8																-9.3	-4.4	-4.9
LGPS Global Sustainable Equity Active Thematic Fund	FTSE All World Index	May-22	109.3	3.4	2.8	1.4	1.4																-5.0	-4.4	-0.6
<i>Total Passive Equity Fund</i>	Client Specific Weighted Index	Mar-16	714.0	21.9	-1.8	-1.7	-0.1	-8.8	-8.2	-0.6	-5.1	-4.2	-0.9	5.0	4.3	0.7	6.1	5.3	0.8				9.2	8.5	0.6
L&G UK Equity Fund	FTSE All Share Index	Dec-15	429.4	13.2	-3.4	-3.4	0.0	-8.3	-8.3	0.0	-3.9	-4.0	0.1	0.9	0.8	0.1	2.3	2.2	0.1				5.8	5.6	0.2
L&G North American Equity Fund	FTSE All World North American Index	Dec-15	139.0	4.3	3.5	3.4	0.0	-6.4	-6.4	0.0	0.4	0.4	0.0	11.6	11.5	0.1	13.0	13.0	0.1				15.5	15.5	0.0
L&G Europe Ex UK Equity Fund	FTSE Developed Europe Ex. UK Index	Dec-15	145.6	4.5	-2.4	-2.4	0.0	-11.0	-10.8	-0.2	-13.1	-12.9	-0.2	2.1	2.3	-0.2	2.9	3.1	-0.2				7.7	7.9	-0.2
<i>Total Alternatives Fund</i>	20% RAFI/40% MSCI WL Min/40% MSCI WL Qual	Mar-16	517.2	15.9	1.0	1.1	-0.2	-7.8	-7.6	-0.2	-6.2	-5.3	-0.9	3.6	4.3	-0.7	6.9	7.6	-0.6				9.7	10.3	-0.6
L&G MSCI World Quality Fund	MSCI World Quality Total Return Net Index	Dec-15	321.8	9.9	0.8	1.1	-0.3	-9.1	-8.8	-0.3	-5.9	-5.6	-0.2	10.0	10.1	-0.1	12.5	12.7	-0.1				14.5	14.7	-0.1
LGPS All World Passive Climate Factor Fund	FTSE AW Climate Bal Com Factor Net	Nov-21	195.4	6.0	1.2	1.1	0.1	-5.6	-5.7	0.1													-8.2	-8.3	0.2
River & Mercantile Equity Protection Fund		Jan-18	229.6	7.0	-2.9	0.0	-2.9	2.7	0.0	2.7	14.2	0.0	14.2	2.4	0.0	2.4							1.4	0.0	1.4
River & Mercantile Equity Protection Fund ex Overlay		Jan-18	229.6	7.0	0.7	0.0	0.7	19.6	0.0	19.6	19.9	0.0	19.9	3.9	0.0	3.9							1.0	0.0	1.0
Total Fixed Income Fund	60% LGPSC Corp Index & 40% Absolute Return +6%	Apr-21	262.5	8.1	-5.8	-4.7	-1.1	-12.2	-8.4	-3.7	-17.6	-11.0	-6.6										-10.9	-6.1	-4.8
<i>Total Corporate Bond Fund</i>	LGPS Corporate Bond Index	Mar-20	171.3	5.3	-8.7	-8.7	0.1	-17.0	-15.6	-1.4	-22.7	-21.0	-1.6										-3.6	-3.5	-0.1
LGPS Corporate Bond Fund	LGPS Corporate Bond Index	Mar-20	171.3	5.3	-8.7	-8.7	0.1	-17.0	-15.6	-1.4	-22.6	-21.0	-1.6										-3.6	-3.5	-0.1
<i>Total Corporate Debt Fund</i>	Absolute Return +6%	May-18	91.2	2.8	4.7	1.5	3.2	6.6	3.0	3.7	2.9	6.0	-3.1	6.5	6.0	0.5							9.3	6.1	3.3
Bridgepoint Direct Lending II GBP	Absolute Return + 6.5%	May-18	56.5	1.7	4.7	1.6	3.1	6.6	3.2	3.4	2.9	6.5	-3.6	6.5	6.5	0.0							9.3	6.6	2.8
Bridgepoint Direct Lending II EURO	Absolute Return + 6.5%	May-18	64.4	N/A	0.8	1.6	-0.8	2.0	3.2	-1.2	0.6	6.5	-5.9	7.0	6.5	0.5							9.0	6.6	2.4
Bridgepoint Direct Lending III GBP	Absolute Return +6%	Jan-22	34.7	1.1	5.4	1.5	3.9	8.9	3.0	5.9													8.9	3.0	5.9
Bridgepoint Direct Lending III EURO	Absolute Return +6%	Jan-22	39.5	N/A	1.6	1.5	0.1	4.3	3.0	1.3													4.3	3.0	1.3
Total Property Fund	60% MSCI UK & 40% Abs Ret +7.5%	Mar-16	219.4	6.7	1.7	-1.8	3.5	4.4	1.1	3.3	7.1	10.8	-3.8	2.9	9.5	-6.6	4.0	8.5	-4.5				5.7	8.2	-2.5
<i>Total UK Property Fund</i>	Absolute Return +9%	Jul-18	59.5	1.8	6.4	2.2	4.2	9.8	4.4	5.4	12.6	9.0	3.6	6.9	9.0	-2.1							7.0	9.0	-2.0
Invesco UK Property Fund	Absolute Return +9%	Oct-18	47.7	1.5	7.9	2.2	5.8	12.0	4.4	7.6	15.6	9.0	6.6	5.7	9.0	-3.3							3.5	9.0	-5.5
Venn UK Property Fund	Absolute Return +9%	Jul-15	11.8	0.4	0.3	2.2	-1.9	1.5	4.4	-2.9	2.0	9.0	-7.0	6.0	9.0	-3.0	7.3	9.0	-1.7				9.8	9.1	0.7
Walton Street US Property Fund - GBP	Absolute Return +6.5%	Feb-16	1.4	0.0	10.0	1.6	8.5	20.1	3.2	16.9	24.7	6.5	18.2	4.7	6.5	-1.8	6.3	6.5	-0.2				11.2	6.3	4.9
Walton Street US Property Fund - USD	Absolute Return +6.5%	Feb-16	1.7	N/A	1.6	1.6	0.1	8.0	3.2	4.8	10.1	6.5	3.6	3.1	6.5	-3.4	5.0	6.5	-1.5				7.7	6.3	1.4
Walton Street US Property Fund II - GBP	Absolute Return +7%	Jun-19	9.1	0.3	10.5	1.7	8.8	16.5	3.4	13.1	21.9	7.0	14.9	9.0	7.0	2.0							9.0	7.0	2.0
Walton Street US Property Fund II - USD	Absolute Return +7%	Jun-19	11.0	N/A	2.4	1.7	0.7	5.0	3.4	1.6	7.9	7.0	0.9	7.4	7.0	0.4							6.8	7.0	-0.2
Invesco European Property Fund - GBP	Absolute Return +6.5%	Feb-16	67.6	2.1	-1.2	1.6	-2.8	2.0	3.2	-1.2	6.9	6.5	0.4	1.3	6.5	-5.2	2.5	6.5	-4.0				4.9	6.4	-1.5
Invesco European Property Fund - EURO	Absolute Return +6.5%	Feb-16	79.1	N/A	-3.2	1.6	-4.8	1.2	3.2	-2.0	7.9	6.5	1.4	2.8	6.5	-3.6	3.4	6.5	-3.1				3.8	6.4	-2.6
Venn Property Debt Fund II - GBP	Absolute Return +6%	Aug-20	17.8	0.5	3.1	1.5	1.6	4.2	3.0	1.2	5.8	6.0	-0.2												
Venn Property Debt Fund II - EURO	Absolute Return +6%	Aug-20	16.0	N/A	1.9	1.5	0.4	2.3	3.0	-0.7	4.9	6.0	-1.1												
Gresham House Forestry Growth & Sustainability Fund	Absolute Return +6%	Dec-21	43.0	0.5	-0.6	1.5	-2.0	-0.6	3.0	-3.5													-5.8	3.5	-9.3
Gresham House Forestry Fund VI	Absolute Return +5.5%																								
AEW Property Fund	UK RPI +4%	Oct-17	21.1	0.6	0.7	3.2	-2.5	4.5	9.3	-4.8	11.8	16.6	-4.8	5.0	10.1	-5.1	5.3	8.8	-3.5				5.3	8.8	-3.5
Total Infrastructure Fund	70% UK CPI +5.5% & 30% Abs Return +10%	Mar-16	502.7	15.4	5.1	3.5	1.6	9.8	7.3	2.5	20.3	13.0	7.3	10.7	10.6	0.1	9.3	9.7	-0.4				8.8	9.3	-0.5
Green UK Infrastructure Fund	Absolute Return +7.6%	Apr-15	48.0	1.5	2.2	1.8	0.4	10.3	3.7	6.6	30.3	7.6	22.7	10.2	7.6	2.6							7.7	7.6	0.1
Gresham House BSIF Housing and Infrastructure	Absolute Return +8%	May-20	46.9	1.4	5.1	1.9	3.2	7.5	3.9	3.6	26.9	8.0	18.9										10.6	8.0	2.6
Gresham House BSIF II Infrastructure Fund	Absolute Return +9%	Jan-22	21.8	0.7	-10.7	2.2	-12.9	-10.7	2.2	-12.9													-10.7	2.2	-12.9
Hermes UK Infrastructure Core Fund	Absolute Return +8.4%	May-15	49.6	1.5	-2.7	2.0	-4.8	-2.5	4.1	-6.6	3.6	8.4	-4.8	1.8	8.4	-6.6	3.1	8.4	-5.2				4.8	8.4	-3.6
Hermes UK Infrastructure Fund II	Absolute Return +8.5%	Jun-18	51.5	1.6	5.6	2.1	3.5	5.8	4.2	1.7	10.3	8.5	1.8	1.6	8.5	-6.9							0.2	8.6	-8.4

Stonepeak Infrastructure Core Fund III - GBP	Absolute Return +12%	Jan-18	133.1	4.1	9.0	2.9	6.1	18.9	5.8	13.1	21.8	12.0	9.8	19.8	12.0	7.9				16.4	12.0	4.4			
Stonepeak Infrastructure Core Fund III - USD	Absolute Return +12%	Jan-18	160.4	N/A	0.5	2.9	-2.3	6.6	5.8	0.8	7.2	12.0	-4.7	18.2	12.0	6.2				14.2	12.0	2.3			
Stonepeak Infrastructure Core Fund IV - GBP	Absolute Return +12%	Jan-22	28.4	0.9	7.3	2.9	4.4	12.0	5.8	6.1										12.0	5.8	6.1			
Stonepeak Infrastructure Core Fund IV - USD	Absolute Return +12%	Jan-22	27.6	N/A	-1.1	2.9	-4.0	0.3	5.8	-5.5										0.3	5.8	-5.5			
First Sentier EDIF II GBP	Absolute Return +9%	Jun-18	123.5	3.8	4.9	2.2	2.7	8.1	4.4	3.7	25.0	9.0	16.0	12.9	9.0	3.9				10.8	9.1	1.7			
First Sentier EDIF II EURO	Absolute Return +9%	Jun-18	136.8	N/A	2.9	2.2	0.7	4.1	4.4	-0.3	22.1	9.0	13.1	13.0	9.0	4.0				10.4	9.1	1.4			
First Sentier EDIF III	Absolute Return +8%																								
First Sentier EDIF III EURO	Absolute Return +8%																								
Worcestershire CC Total Fund ex Overlay		Mar-87	3,259.5	100.0	-0.1	-0.7	0.6	-5.2	-4.9	-0.4	-4.6	-3.4	-1.2	3.4	4.5	-1.1	4.5	5.4	-0.9	8.2	8.4	-0.2	7.7	8.2	-0.5
Worcestershire CC Total Fund		Mar-87	3,259.5	100.0	-0.4	-1.0	0.6	-5.1	-4.4	-0.6	-3.8	-2.3	-1.5	3.8	3.9	0.0	4.7	5.1	-0.3	8.3	8.2	0.1	7.7	8.2	-0.4

PF = Portfolio Return BM = Benchmark Return ER = Excess Return

Total Fund Benchmark	CLIENT SPECIFIC BENCHMARK:	Notes:
	<p>17% FTSE All Share - % Dependant upon actual drawdowns of Infra & Prop</p> <p>5.5% FTSE Developed Europe Ex UK</p> <p>10% FTSE All World Emerging Markets</p> <p>15% 60% MSCI World Quality Total Return NET & 40% LGPSC All World Climate Index</p> <p>6.5% FTSE All World North America</p> <p>6% FTSE All World</p> <p>10% 5.5% FTSE All World Asia Pacific ex Japan & 4.5% FTSE All World Japan</p> <p>6% Corp Bonds: LGPS Central Specific Index</p> <p>4% Corporate Private Debt @ Absolute Return +10%</p> <p>Infrastructure: 70% UK CPI +5.5%, 30% Absolute Return 10%</p> <p>Property: 60% MSCI UK Monthly Property Index, 40% Absolute Return +7.5%</p>	<p>Q2 2022: Investment into LGPSC Global Sustainable Equity Active Targeted Fund and LGPSC Global Sustainable Equity Active Thematic Fund from 04.05.2022. Total Fund Benchmark updated. The attribution for Total Active/Total Equity/Total Fund will not add up due to the transition.</p> <p>Q4 2021: Total Fund Benchmark updated and backdated from 01.04.2021. Total Fixed Income Fund created from 01.04.21. New investments were made on 24.11.2021 into LGPSC All World Passive Climate Factor Fund, and Stonepeak Fund IV Infrastructure Core Fund (data is 'lagged'). A new investment was also made with Gresham House Forestry Growth & Sustainability Fund from 10.12.2021 (data is produced annually in February). Full disinvestments were made from L&G RAFI Fundamental Developed Reduced Carbon Pathway Index Fund on 22.10.2021 and from L&G MSCI World Minimum Volatility Fund on 24.11.2021.</p> <p>Historic data up to and including 31.03.2016 has been provided by the WM Co and L&G.</p>

Total Fund Reconciliation Analysis
Worcestershire County Council Pension Fund
for Quarter Ended 30th September 2022

Market Value: £3.3bn

	30th June 2022		Net Investment (£000s)	Total Income (£000s)	Total Gain/Loss (£000s)	30th September 2022	
	Market Val (£000s)	Exposure (%)				Market Val (£000s)	Exposure (%)
Total Equity Fund	2,332,030	71.4	-35,000	0	-22,208	2,274,821	69.8
Total Equity Fund ex Overlay	2,323,396	71.2	-35,000	0	-13,601	2,274,795	69.8
<i>Total Active Equity Fund</i>	823,399	25.2	0	0	-9,366	814,033	25.0
Nomura Far East Developed Equity Fund	339,443	10.4	0	0	-3,533	335,910	10.3
LGPSC Emerging Markets Fund	312,539	9.6	0	0	-244,716	67,823	2.1
LGPSC Global Sustainable Equity Active Targeted Fund	65,102	2.0	0	0	44,173	109,274	3.4
LGPSC Global Sustainable Equity Active Thematic Fund	106,316	3.3	0	0	194,710	301,026	9.2
<i>Total Passive Equity Fund</i>	760,825	23.3	-35,000	0	-11,832	713,993	21.9
L&G UK Equity Fund	444,757	13.6	0	0	-15,308	429,450	13.2
L&G North American Equity Fund	166,920	5.1	-35,000	0	7,033	138,953	4.3
L&G Europe Ex UK Equity Fund	149,148	4.6	0	0	-3,558	145,590	4.5
<i>Total Alternatives Fund</i>	511,253	15.7	0	0	5,942	517,195	15.9
L&G MSCI World Quality Fund	318,196	9.7	0	0	3,559	321,755	9.9
LGPSC All World Passive Climate Factor Fund	193,057	5.9	0	0	2,384	195,440	6.0
<i>River & Mercantile Equity Protection Fund</i>	236,553	7.2	0	0	-6,953	229,600	7.0
<i>River & Mercantile Equity Protection Fund ex Overlay</i>	227,920	7.0	0	0	1,654	229,574	7.0
Total Fixed Income Fund	265,382	8.1	-2,707	0	-157	262,518	8.1
<i>Total Corporate Bond Fund</i>	187,566	5.7	0	0	-16,266	171,300	5.3
LGPSC Corporate Bond Fund	187,566	5.7	0	0	-16,266	171,300	5.3
<i>Total Corporate Debt Fund</i>	77,816	2.4	-2,707	0	16,109	91,218	2.8
Bridgepoint Direct Lending II	56,584	1.7	-2,707	0	2,646	56,524	1.7
Bridgepoint Direct Lending III	21,232	0.7	12,111	0	1,352	34,694	1.1
Total Property Fund	209,012	6.4	0	0	10,401	219,412	6.7
<i>Total UK Property Fund</i>	56,407	1.7	0	0	3,055	59,462	1.8
Invesco UK Property Fund	44,665	1.4	0	528	3,017	47,682	1.5
Venn UK Property Fund	11,742	0.4	0	0	37	11,779	0.4
Walton US Property Fund	1,284	0.0	0	0	124	1,409	0.0
Walton US Property Fund II	8,858	0.3	0	694	236	9,094	0.3
Invesco European Property Fund	69,032	2.1	0	0	-1,419	67,613	2.1
Venn Property Debt Fund II	13,514	0.4	3,838	0	412	17,765	0.5
Gresham House Forestry Growth & Sustainability Fund	38,956	1.2	4,229	0	-216	42,969	1.3
Gresham House Forestry Fund VI	0	0.0	0	0	0	0	0.0
AEW Property Fund	20,960	0.6	0	0	140	21,100	0.6
Total Infrastructure Fund	458,866	14.1	21,822	871	22,039	502,727	15.4
Green UK Infrastructure Fund	48,424	1.5	-1,470	0	1,072	48,027	1.5
Gresham House BSIF Housing and Infrastructure	45,730	1.4	-1,175	0	2,350	46,906	1.4
Gresham House BSIF II Infrastructure Fund	-924	0.0	22,580	0	99	21,754	0.7
Hermes UK Infrastructure Core Fund	56,421	1.7	-5,189	0	-1,589	49,644	1.5
Hermes UK Infrastructure Fund II	48,754	1.5	0	0	2,724	51,479	1.6
Stonepeak Infrastructure Core Fund III	121,800	3.7	1,178	871	10,100	133,077	4.1
Stonepeak Infrastructure Core Fund IV	20,942	0.6	5,899	0	1,512	28,353	0.9
First Sentier EDIF II	117,719	3.6	0	0	5,770	123,488	3.8
First Sentier EDIF III	0	0.0	0	0	0	0	0.0
Cash Fund	0	0.0	0	0	0	0	0.0
Worcestershire CC Total Fund ex Overlay	3,256,656	99.7	-15,884	871	18,681	3,259,452	98.9
Worcestershire CC Total Fund	3,265,289	100.0	-15,884	871	10,074	3,259,479	98.9

Note: Cashflow into cash reflects sum of portfolio contributions minus net investments. It is assumed that cash for the Fund is held outside of the invested assets and is therefore withdrawn from the Total Fund