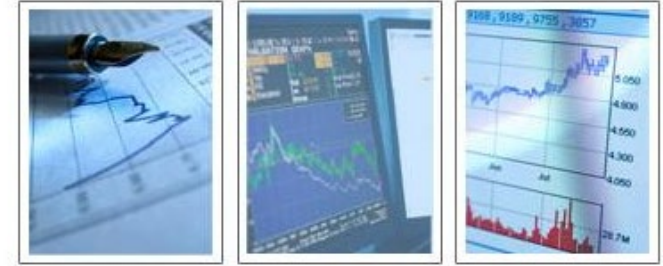


P O R T F O L I O
E V A L U A T I O N
L I M I T E D



Specialists in Investment Risk and Return Evaluation

Quarterly Risk and Return Analysis
Total Fund

Worcestershire County Council Pension Fund

Period ending 30th June 2021



Specialists in Investment Risk and Return Evaluation



Contents

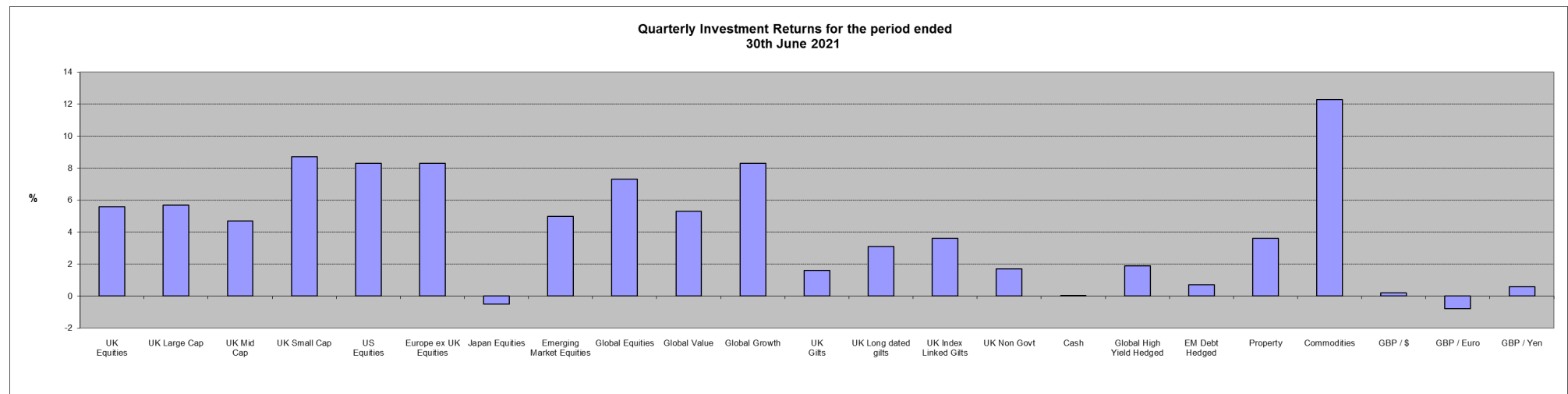
Worcestershire County Council Pension Fund Total Fund

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Portfolio Evaluation Ltd Market Commentary Q2 2021 (Sterling)

Quarter 2 has witnessed markets continuing to perform strongly; in fact excluding Japanese equities all asset classes have had positive returns. Looking at the year results we can also see strong market returns with the exception of UK government bonds.



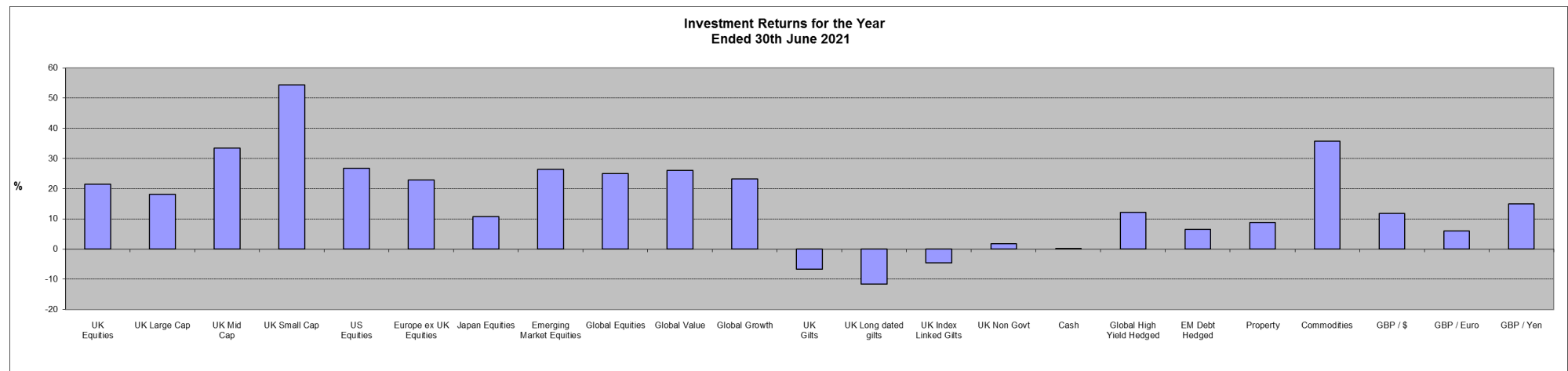
Much of the rise in markets can be attributed towards relief that the problems caused by COVID-19 have receded. This has been largely due to the rollout of vaccines, large scale fiscal and central bank responses that have led many companies and individuals to have had limited impact on finances, and that the role of government and politicians has altered as they have become more led by interventionist demand management. The global economy is now witnessing a broad based economic recovery with many commentators now expecting a stronger recovery than initially forecast. Both people and companies have adapted to new circumstances; in fact many economic sectors have already rebounded strongly. Among the largest economies China, the US, Canada have been the quickest to recover, this is a reflection of the amount and speed of economic support. Global growth is now occurring in Europe as monetary support policies are confirmed and extended. Going forwards markets remain optimistic as vaccine rollouts ease worries, economies are reopening coupled with significant demand from people and companies, saving buffers are high and people want to spend money, we are also continuing to see supportive monetary and fiscal policy. High levels of global growth are expected to continue into 2022 after which growth should normalise. This has led market commentators to expect that many will remain over weight equities in 2021.

As always there are risks to the upside. These include a number of themes. In respect of COVID-19, the impact of variants, and vaccine efficacy, the lack of vaccine rollout in many emerging markets and the resistance of some demographic groups to vaccine uptake. Also at some time we must all start paying for government largesse in



respect of COVID-19, this will probably be achieved by higher levels of taxation. Higher Inflation which although viewed as under control and the increase viewed as temporary, does remain a potential problem as monetary policy is expected to remain loose for the foreseeable future. Additionally geo political risk is larger now than in recent previous years. The 'imperfections' in the Brexit deal still need to be addressed.

Finally last but not least we are approaching a tipping point in respect of global warming, the increase in natural problems be they drought, high temperatures, flooding or fires etc. is causing problems on a global scale. The lack of solutions is worrying and apart from the big polluters not having a clear path to clean energy the lack of agreement between world leaders is concerning. After the fiasco of not keeping to the UNFCC agreements made at the 2015 Paris (COP 21) conference we can only hope that the UNCCC (COP 26) to be held in Glasgow in 2021 will be more successful. Given the publicly stated policies and planning status of many states perhaps we should not expect too much. As always it may well come down to tax, for example both Europe and the US are contemplating carbon taxes on imports.



Risk within asset classes and multi asset class portfolios has increased significantly over the year. Correlations between asset classes increased up to June 2020 resulting in additional increases in risk for multi asset class funds but reduced a little in the autumn but increased again towards the end of the year and have remained stable in 2021 so far. This is not unusual in these types of circumstances. However we would expect a decrease in volatility and correlations later in 2021 as the markets and the world stabilise but they will remain higher than the levels seen in 2019.

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 Tel: +44 (0)1937 841434 (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 June 2021

QUARTERLY SUMMARY: **Worcestershire County Council Pension Fund Return: 4.4%** **Benchmark Return: 5.1%** **Excess Return: -0.6%**

- The Fund and its benchmark have both generated positive returns, but the Fund has underperformed its benchmark by -0.6% excess. The underperformance has been generated by asset allocation, namely from the Fund being significantly underweight the high returning L&G UK equity assets (part of the assets allocated to this pool are used for the collateral of the EPO strategy and are currently held in bonds). The options overlay programme has lowered the Fund return over the quarter slightly; the EPO exposure to equities is high at the moment resulting in the non-hedged returns and hedged returns being similar (it has performed as expected). In terms of Total Fund performance the underperforming Active equity pool was also a drag on excess performance.
- Equity assets were the highest return generators over the quarter and excluding the overlay generated a return of 5.0%. Within equities the active equities were the lowest return generators; the Nomura Fund was the lowest at -0.1% whilst the LGPSC EMM Fund had a return of 3.3%, both underperformed their benchmarks. Relative to their respective benchmarks the passive portfolios generated 7.4% return and relative to their respective benchmarks all performed as expected. The Alternative equity pool was the strongest performer due to the return of 10.7% from The MSCI Quality portfolio.
- Within bonds, the LGPS Central Corporate Bond Fund generated a positive return of 2.2 % performing broadly in line with its benchmark. However, the Mid-Market Credit Fund generated a negative return of -0.2% and has underperformed its positive returning benchmark by -1.8% excess. Property generated a positive return of 2.4% over the quarter but has underperformed by -0.7% excess. Infrastructure had a return of 2.7% and outperformed by 0.1%.
- The latest valuation data supplied by VENN, EQT, Walton Street I, Walton Street II, Green- UK Infrastructure Fund, Invesco- UK Property Fund, Stonepeak-Infrastructure Core Fund, and BSIF Housing and Infrastructure was for period ending March 2021.

YEAR SUMMARY: **Worcestershire County Council Pension Fund Return: 15.0%** **Benchmark Return: 17.2%** **Excess Return: -2.3%**

- The Fund and its benchmark have both generated high positive returns, but the Fund has underperformed its benchmark by -2.3% excess. The underperformance has been partly generated by equity assets and partly by the performance of the property and infrastructure assets that significantly underperformed their benchmarks (please note that these assets together with the EQT Mid-Market credit Fund, which also underperformed, have benchmarks that are structured towards long term returns but that will generate significant out / underperformance results over the short term). It should also be noted that the Fund has started funding a number of alternative asset funds in recent years and as such would not expect to be generating significant return gains yet.

- The underperformance has been partly generated by the EPO strategy, this is partly due to the Fund being significantly underweight the high returning L&G UK equity assets; part of the assets allocated to this pool are used for the collateral of the EPO strategy and are currently held in bonds (and assist the EPO as they allow for the leverage provided by the derivatives and therefore should be considered as part of the EPO strategy). The options overlay programme has lowered the Fund return over the year but has performed as expected (i.e. when equity markets rise as they have done over the current quarter, it reduces return whilst in negative markets it preserves return – this reduces the volatility of the Fund). 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. There has been discussion about altering the equity asset allocation and place the bond collateral fund outside of the equity weighting with the relevant change in UK equities; if this had happened this year the benchmark return would have been lower.
- Equity assets were the highest return generators over the year and excluding the overlay generated a return of nearly 20%. Within equities the active equity pool had a return of 20.8% underperforming their benchmark by -1.2%; Nomura Fund had a return of 24.1% and the LGPSC EMM Fund had a return of 23.3%, both underperformed their benchmarks. Relative to their respective benchmarks the passive portfolios generated 24.1% return and relative to their respective benchmarks all performed as expected. The Alternative Equity pool was also a strong performer achieving a return of 18.5%
- Within bonds, the LGPS Central Corporate Bond Fund generated a positive return of 3.5% outperforming its benchmark by 0.6%. However, the Mid-Market Credit Fund generated a return of 5.9% and has underperformed its positive returning benchmark by -0.6% excess (there is an element of short term benchmark mismatch). Property generated a negative return of -0.2% and has underperformed by -8.6% excess. Infrastructure had a return of 5% and underperformed by -3.6%.

THREE YEAR SUMMARY: Worcestershire County Council Pension Fund Return: 7.6% p.a. Benchmark Return: 7.2% p.a. Excess Return: 0.5% p.a.

- Over the three-year period, the Fund has generated a positive return of 7.6% and has outperformed the benchmark by 0.5%p.a. 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 and the EMM equity portfolio has been restructured.
- The equity protection overlay program has reduced the Fund return over the three year period by 0.3% per annum; however given the increase in equity markets this is not surprising over this time period. It should also be noted that the EPO strategy has lowered the volatility of the Fund.
- Equities (excl the EPO) have underperformed their benchmark over the three years partly because of the Active Equity Pool and the Alternative Equity Pool.
- 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: £3.4bn

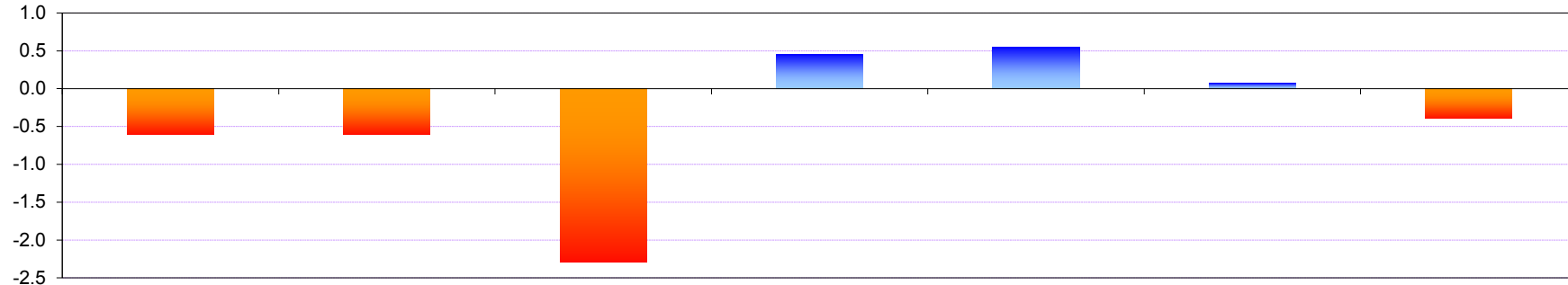
Total Fund Overview

Worcestershire CC Pension Fund

Report Period: Quarter Ending June 2021



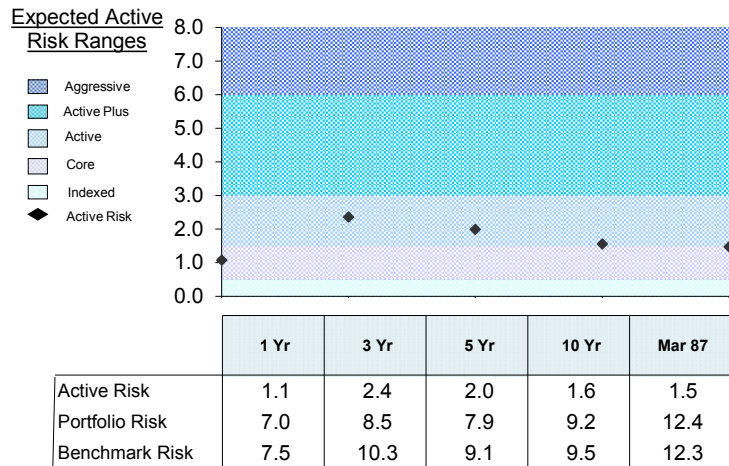
Excess Return Analysis (%)



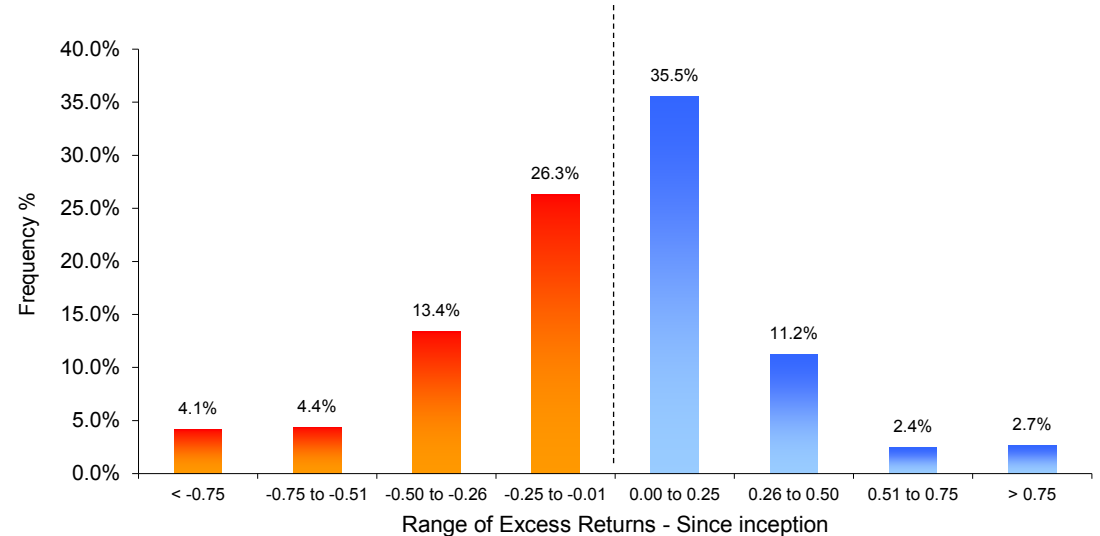
	QTR	Fin YTD	1 Yr	3 Yr	5 Yr	10Yr	Since Mar 87 (p.a.)
Excess Return	-0.6	-0.6	-2.3	0.5	0.5	0.1	-0.4
Portfolio Return	4.4	4.4	15.0	7.6	9.9	8.4	8.1
Benchmark Return	5.1	5.1	17.2	7.2	9.4	8.3	8.5

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

Ex-Post Active Risk Analysis (%)



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 Fund Excess Return Analysis
Worcestershire County Council Pension Fund
for Quarter Ended 30th June 2021**

Market Value: £3.4bn



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 June 2021



Market Value: £3.4bn

	Total Fund	Total Fund ex Overlay	Total Equity	Total Equity ex Overlay	Total Active	Far East Dev - Nomura	EMM - LGPSC	Total Passive	UK - L&G	North American - L&G	Europe ex UK - L&G	Total Alts	FTSE RAFI DEV - L&G	MSCI Wid Min Vol - L&G	MSCI Wid Qual - L&G	R&M EPO	R&M EPO ex Overlay	LGPSC Corp Bond	Bridgepoint Direct Lending II	Bridgepoint Direct Lending III	Total Property	Total Infra
Returns Summary (%)																						
Excess Return	-2.3	-2.4	-2.9	-2.8	-1.2	-0.5	-1.2	0.6	0.1	0.0	-0.3	-1.1	-0.1	0.1	-0.1	-13.2	-0.2	0.6	5.4	0.0	-8.6	-3.6
Portfolio Return	15.0	15.9	18.3	19.8	20.8	18.7	23.3	24.1	21.5	27.3	22.7	18.5	31.1	8.0	23.3	-13.2	-0.2	3.5	11.8	0.0	-0.2	5.0
Benchmark Return	17.2	18.4	21.2	22.6	22.0	19.2	24.5	23.5	21.5	27.3	23.0	19.6	31.1	8.0	23.4	0.0	0.0	2.9	6.5	0.0	8.5	8.6
Asset Allocation Summary (%)																						
Portfolio Start	100.0	100.0	77.4	77.3	24.6	13.1	11.5	30.0	11.7	11.9	6.3	15.4	5.3	4.5	5.6	7.4	7.4	5.4	1.2	0.0	5.5	10.5
Portfolio End	100.0	99.8	79.0	78.8	25.5	13.4	12.1	31.9	12.2	13.0	6.6	15.6	3.5	5.8	6.3	6.0	5.8	4.8	1.3	0.0	4.7	10.3
Benchmark Start	100.0	100.0	74.0	74.0	24.0	12.0	12.0	40.0	19.5	11.0	9.5	10.0	3.3	3.3	3.3	0.0	0.0	8.1	1.9	0.0	5.5	10.5
Benchmark End	100.0	100.0	75.0	75.0	24.0	12.0	12.0	41.0	20.5	11.0	9.5	10.0	2.0	4.0	4.0	0.0	0.0	7.9	2.1	0.0	4.7	10.3
Attribution to Excess Return (%)																						
Excess Return	-2.3	-2.4	-1.9	-2.0	-0.3	-0.1	-0.2	-0.5	-0.4	0.1	-0.2	-0.1	0.0	-0.2	0.1	-1.0	-1.2	0.4	0.0	0.0	-0.5	-0.4
Asset Allocation																						
Asset Allocation	-1.2	-1.3	-1.6	-1.7	-0.1	0.0	0.0	-0.5	-0.4	0.1	-0.2	-0.1	0.0	-0.2	0.1	-1.0	-1.1	0.4	0.1	0.0	0.0	0.0
Stock Selection																						
Stock Selection	-1.1	-1.1	-0.2	-0.2	-0.2	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.5	-0.4

Attribution to Total Fund Excess Return Analysis - Annualised Worcestershire County Council Pension Fund for 3 Year Period Ended 30th June 2021

Market Value: £3.4bn

	Total Fund	Total Fund ex Overlay	Total Equity	Total Equity ex Overlay	Total Active	Far East Dev - Nomura	EMM - LGPSC	EMM - JPM	EMM - Schroder	Total Passive	UK - L&G	North American - L&G	Europe ex UK - L&G	Total Alts	FTSE RAFI DEV - L&G	MSCI Wid Min Vol - L&G	MSCI Wid Qual - L&G	R&M EPO	R&M EPO ex Overlay	LGPSC Corp Bond	Corp Bond - JPM	Bridgepoint Direct Lending II	Bridgepoint Direct Lending III	Total Property	Total Infra	
Returns Summary (%)																										
Excess Return	0.5	-0.6	1.1	-0.2	-0.5	0.8	-0.7	-2.4	-0.3	1.5	0.1	0.1	-0.2	-0.6	0.0	0.1	-0.1	-1.4	-0.6	1.6	0.5	4.4	0.0	-5.4	-3.1	
Portfolio Return	7.6	7.5	8.5	8.5	8.5	8.1	9.4	5.9	8.0	9.3	2.1	17.3	10.0	10.9	9.1	7.6	18.7	-1.4	-0.6	14.2	7.2	10.9	0.0	2.2	5.7	
Benchmark Return	7.2	8.2	7.4	8.7	8.9	7.3	10.1	8.3	8.3	7.8	2.0	17.2	10.2	11.5	9.1	7.5	18.8	0.0	0.0	12.6	6.7	6.5	0.0	7.7	8.8	
Asset Allocation Summary (%)																										
Portfolio Start	100.0	100.0	85.7	85.7	28.3	15.7	0.0	5.9	6.7	34.1	15.4	11.5	7.1	14.8	5.9	4.3	4.6	8.4	8.4	0.0	5.1	0.2	0.0	4.8	4.3	
Portfolio End	100.0	99.8	79.0	78.8	25.5	13.4	12.1	0.0	0.0	31.9	12.2	13.0	6.6	15.6	3.5	5.8	6.3	6.0	5.8	4.8	0.0	1.3	0.0	4.7	10.3	
Benchmark Start	100.0	100.0	80.9	80.9	24.0	12.0	0.0	6.0	6.0	46.9	26.4	11.0	9.5	10.0	3.3	3.3	3.3	0.0	0.0	0.0	9.7	0.3	0.0	4.8	4.3	
Benchmark End	100.0	100.0	75.0	75.0	24.0	12.0	12.0	0.0	0.0	41.0	20.5	11.0	9.5	10.0	2.0	4.0	4.0	0.0	0.0	7.9	0.0	2.1	0.0	4.7	10.3	
Attribution to Excess Return (%)																										
Excess Return	0.5	-0.6	0.9	-0.2	-0.2	0.1	-0.2	-0.1	0.0	0.4	0.5	0.1	-0.2	0.2	0.0	0.0	0.2	0.5	-0.6	0.2	-0.1	0.0	0.0	-0.4	-0.2	
Asset Allocation																										
Asset Allocation	-0.2	-0.1	-0.2	-0.2	-0.1	-0.1	-0.1	0.0	0.0	0.4	0.5	0.1	-0.1	0.1	-0.1	0.0	0.2	-0.6	-0.5	0.2	-0.1	0.0	0.0	0.0	0.0	
Stock Selection																										
Stock Selection	0.6	-0.6	1.1	0.0	0.0	0.1	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	1.1	-0.1	0.0	0.0	0.0	0.0	-0.4	-0.2	

Total Fund Reconciliation Analysis
Worcestershire County Council Pension Fund
for Quarter Ended 30th June 2021



Market Value: £3.4bn

	31st March 2021		Net Investment (£000s)	Total Income (£000s)	Total Gain/Loss (£000s)	30th June 2021	
	Market Val (£000s)	Exposure (%)				Market Val (£000s)	Exposure (%)
Total Equity Fund	2,577,841	78.5	0	0	129,078	2,706,920	79.0
Total Equity Fund ex Overlay	2,573,596	78.3	0	0	126,208	2,699,804	78.8
<i>Total Active Equity Fund</i>	861,202	26.2	0	0	12,285	873,487	25.5
Far East Developed Fund - Nomura	458,821	14.0	0	0	-1,033	457,788	13.4
Emerging Markets Fund - LGPSC	402,381	12.2	0	0	13,318	415,699	12.1
<i>Total Passive Equity Fund</i>	1,018,051	31.0	0	0	75,068	1,093,119	31.9
UK Equity Fund - L&G	397,217	12.1	0	0	22,285	419,502	12.2
North American Equity Fund- L&G	410,931	12.5	0	0	35,711	446,642	13.0
Europe ex UK Equity Fund- L&G	209,904	6.4	0	0	17,072	226,975	6.6
<i>Total Alternatives Fund</i>	497,407	15.1	0	0	37,855	535,261	15.6
FTSE RAFI DEV Fund - L&G	113,135	3.4	0	0	6,219	119,355	3.5
MSCI World Min Vol TR Fund - L&G	188,998	5.8	0	0	10,830	199,829	5.8
MSCI World Quality TR Fund - L&G	195,273	5.9	0	0	20,805	216,078	6.3
<i>Equity Protection - River & Mercantile</i>	201,181	6.1	0	0	3,870	205,052	6.0
<i>Equity Protection - River & Mercantile ex Overlay</i>	196,936	6.0	0	0	1,000	197,936	5.8
LGPS Central Corporate Bond Fund	159,653	4.9	0	0	3,583	163,236	4.8
Bridgepoint Direct Lending II	44,878	1.4	0	0	-186	44,692	1.3
Bridgepoint Direct Lending III	0	0.0	0	0	0	0	0.0
Total Property Fund	154,840	4.7	3,195	669	2,210	160,245	4.7
<i>Total UK Property Fund</i>	55,412	1.7	-1,149	0	202	54,466	1.6
UK Property Fund - Invesco	41,523	1.3	0	0	77	41,600	1.2
UK Property Fund - VENN	13,889	0.4	-1,149	0	126	12,866	0.4
US Property Fund- Walton Street	4,485	0.1	0	0	27	4,511	0.1
US Property Fund- Walton Street II	5,416	0.2	-346	0	33	5,103	0.1
Euro Property Fund- Invesco	62,690	1.9	0	452	2,761	65,451	1.9
Euro Property Fund-Venn Propert Debt Fund II	7,735	0.2	4,690	0	-1,031	11,395	0.3
Property Fund- AEW	19,102	0.6	0	218	216	19,318	0.6
Total Infrastructure Fund	348,150	10.6	-3,460	1,080	8,192	352,882	10.3
UK Infrastructure Fund - Green	42,044	1.3	-1,857	0	1,932	42,119	1.2
BSIF Housing and Infrastrucure	13,872	0.4	0	0	22	13,894	0.4
UK Infrastructure Core Fund - Hermes	58,380	1.8	0	0	-1,235	57,144	1.7
UK Infrastructure Fund - Hermes II	46,800	1.4	0	0	0	46,800	1.4
Infrastructure Core Fund - Stonepeak	83,454	2.5	-1,602	0	6,481	88,333	2.6
First Sentier Fund	103,600	3.2	0	1,080	992	104,593	3.1
Cash Fund	0	0.0	0	0	0	0	0.0
Worcestershire CC Total Fund ex Overlay	3,281,117	99.9	-264	1,749	140,007	3,420,860	99.8
Worcestershire CC Total Fund	3,285,362	100.0	-264	1,749	142,877	3,427,975	100.0

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