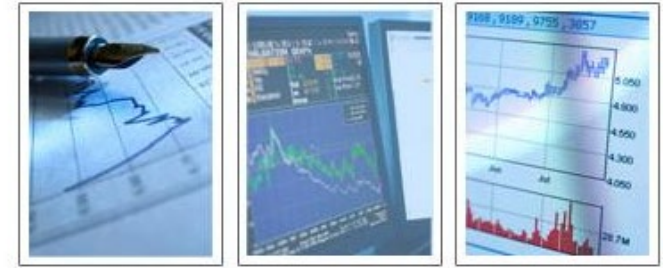


P O R T F O L I O  
E V A L U A T I O N  
L I M I T E D



Specialists in Investment Risk and Return Evaluation

Quarterly Risk and Return Analysis  
Total Fund

Worcestershire County Council Pension Fund

Period ending 30<sup>th</sup> June 2022



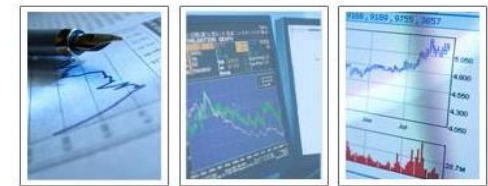
Specialists in Investment Risk and Return Evaluation



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### **Worcestershire County Council Pension Fund Total Fund**

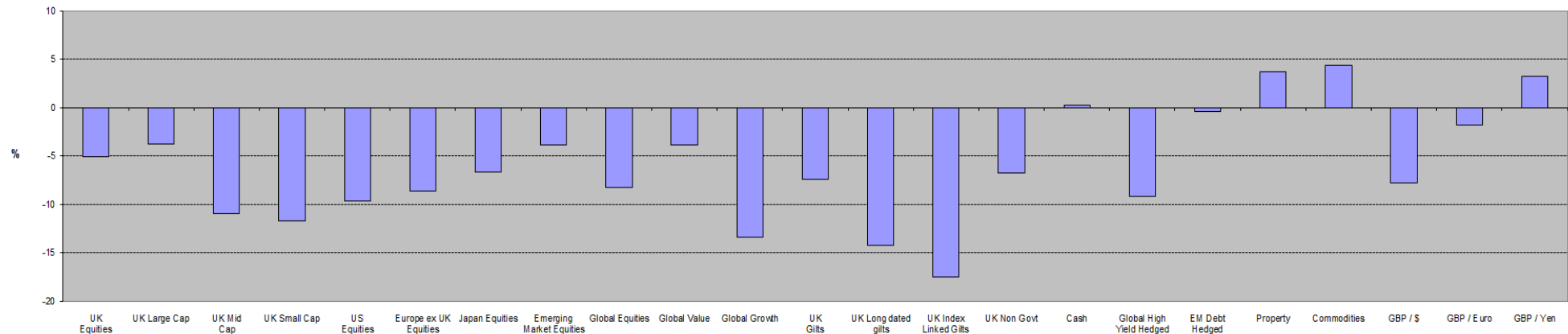
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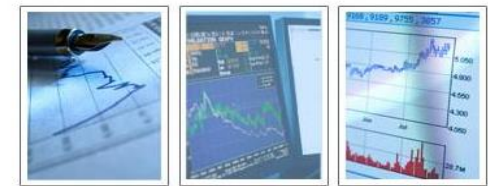
## Portfolio Evaluation Ltd Market Commentary Q2 2022 (Sterling)

Quarter one has witnessed markets performing negatively for the second consecutive quarter; in fact, excluding global property and commodities, all primary listed asset classes have had negative returns this quarter. This negative return run has now extended to all primary equity markets excluding the UK and global value indices for the year results. Within global sectors the majority have had positive returns with notable high returns from traditional value sectors and low returns from growth sectors and consumer discretionary stocks. Bonds have also had negative returns for the year. It should be noted that over the three-year period whilst equities have typically had positive numbers that only the US and global equity indices (driven by the US) have had returns over 5% per annum, whilst the primary bond indices have all generated negative returns over the three-year period. It should be noted that many of our institutional clients have benefitted from high returns in 'alternative' asset classes such as Private Equities, Infrastructure and Property.

Quarterly Investment Returns for the period ended  
30th June 2022



Although most of the world has moved beyond the COVID-19 pandemic, the impact of financial policies and economic problems have created high inflation, supply problems and other uncertainties going forwards. The uncertainty has been increased by the invasion of Ukraine by Russia. The developed world is facing high inflation (except for Japan), higher interest rates, and higher energy prices. All this coupled with high commodity prices and higher energy prices has led the west facing a possible recessionary environment (which when coupled with high inflation has proven to be a poor environment for equities historically). We also have additional problems in that further disruption of Russian energy supplies to Europe (either through an EU boycott or an embargo from Russia) may occur. The one thing that appears certain is that Central Bankers are willing to treat inflation as the number one problem and will increase interest rates accordingly.

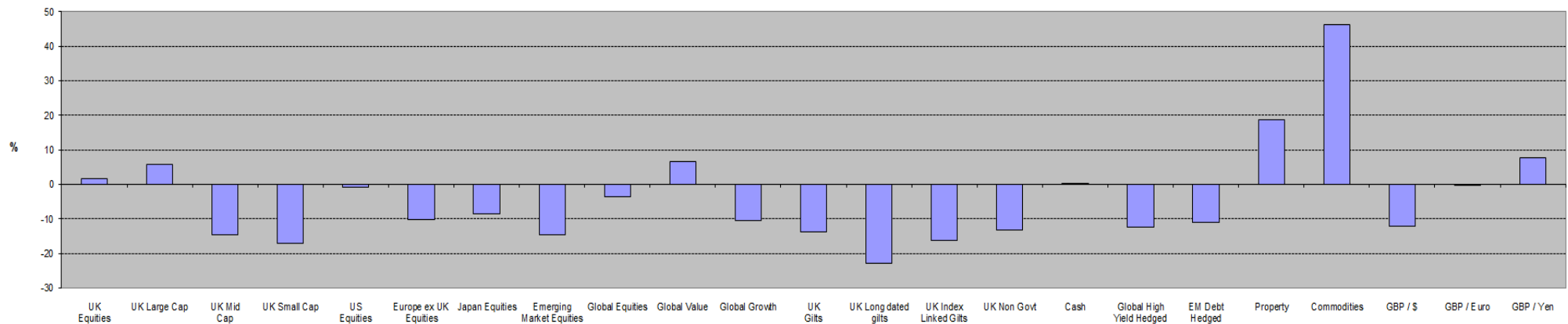


As always, the US appears the best positioned to have a limited downturn; however some market commentators are forecasting a US recession as they have been casting doubt on the Feds ability to deliver a soft economic landing (for example we have recently received data showing that a number of US companies are slowing hiring). This is likely to be followed by a European one especially as Europe is more closely linked to Russian energy and the war with Ukraine combined with a paucity of monetary options available to the ECB given the diverse range of economies in Europe. As regards the UK the BoE is also increasing interest rates (albeit slowly), but the country now has the problem of a government that is 'dead in the water' until the autumn after deciding to increase the taxation burden on both individuals and companies.

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).

We must also be aware of the impact and need to address moving to a carbon neutral world given recent events. Not surprisingly going carbon neutral has taken a back burner for now; however hopefully this is temporary as perhaps a move away from Russian energy will be replace by a greater delivery of renewables.

Investment Returns for the Year  
Ended 30th June 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](mailto:nick.kent@portfolioevaluation.net)) or visit our website at [www.portfolioevaluation.net](http://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 30<sup>th</sup> June 2022

**QUARTERLY SUMMARY:**      **Worcestershire County Council Pension Fund**    **Return: -4.7%**      **Benchmark Return: -3.5%**      **Excess Return: -1.2%**

- The Fund has had quite a significant equity transition this quarter; it has funded two new portfolios, namely the LGPSC Global Sustainable Equity Active Targeted Fund and the LGPSC Sustainable Equity Active Thematic Fund. These, plus some of the Alternative portfolio investments, were funded by significant sales of units from the L&G UK, North America, and Europe x UK equity index Funds. This also resulted in the benchmark being restructured. The Fund has had some of its new alternative having drawdowns recently, of particular note were the significant contributions to the Stonepeak IV Core Infrastructure Fund and the Bridgepoint Private Debt III 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 underperformed its benchmark by -1.2% excess. The EPO over this period has had a positive influence on the Total Fund (and therefore the capital value of the Fund) and benchmark return; this is as would be expected in negative markets; however the excess return was negatively impacted due to the varied performance of markets over different months. Positive excess has also been generated via the outperforming Infrastructure assets. The primary areas of underperformance have been generated by Active Equities (the Nomura Far East portfolio, the LGPSC EMM equity portfolio, the LGPSC Global Sustainable Equity Active Targeted Fund and the LGPSC Sustainable Equity Active Thematic Fund all underperformed). Property and Fixed Income assets have also underperformed. It should be noted that the Fund had a transition period for the two new LGPSC Funds and whilst the provided data was limited it appears that this was a drag on performance.
- Within the primary asset classes, infrastructure assets were the highest returning generators over the quarter at 4.5%. Property assets had a return of 2.6%. Equity assets (inc EPO) generated a return of -6.7% whilst equities ex EPO the return was a lower -7.2% (i.e. the EPO has added value this quarter). Within equities, the Active pool was the lowest return generator at -8.8% (underperforming its benchmark by -4.4%) whilst the Alternative Pool had a return of -8.7% (approximately in line with the benchmark) and the Passive Pool a return of -7.1% (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 March 2022.

**YEAR SUMMARY:**      **Worcestershire County Council Pension Fund**    **Return: -2.5%**      **Benchmark Return: 0.1%**      **Excess Return: -2.6%**

- The Fund and its benchmark have generated negative returns and the Fund has underperformed its benchmark by -2.6% 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 has been impacted negatively by being 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).
- Infrastructure assets generated the highest return of 18.5% followed by Property with a return of 6.2%. Equity assets were the next highest return generators over the year and excluding the overlay generated a return of -5.2%. Within equities the Passive Pool was the highest return generator followed by the Alternatives Pool and finally the Active Pool (generating returns of -1.2%, -5.2% and -16.2% respectively), all of them underperformed their benchmarks. Fixed Income assets had a return of -12.2% underperforming by -5.8%.

**THREE YEAR SUMMARY: Worcestershire County Council Pension Fund    Return: 4.8% p.a.    Benchmark Return: 5.0% p.a.    Excess Return: -0.2% p.a.**

- Over the three-year period, the Fund has generated a positive return of 4.8% p.a. and has underperformed the benchmark by -0.2% 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. Additionally the equities have been restructured.
- The equity protection overlay program has increased the Fund return over the three-year period (by 0.6% 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

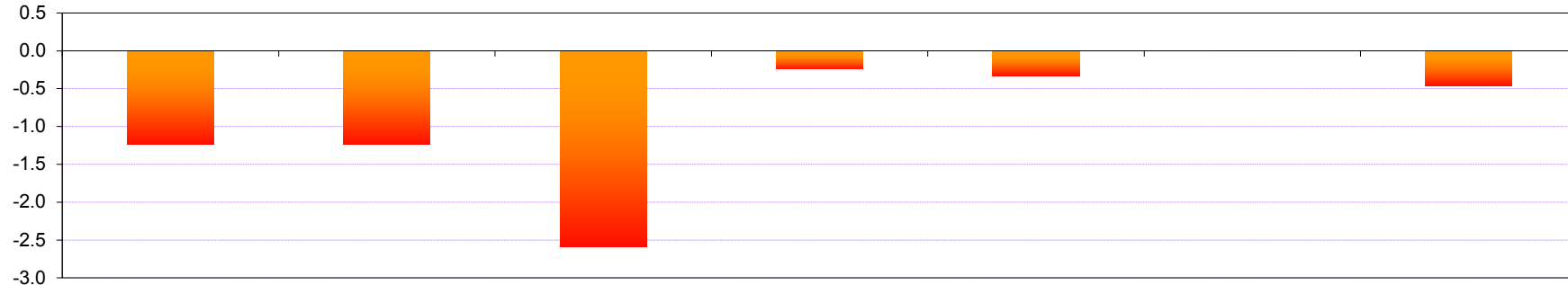
## Total Fund Overview

### Worcestershire CC Pension Fund

Report Period: Quarter Ending June 2022



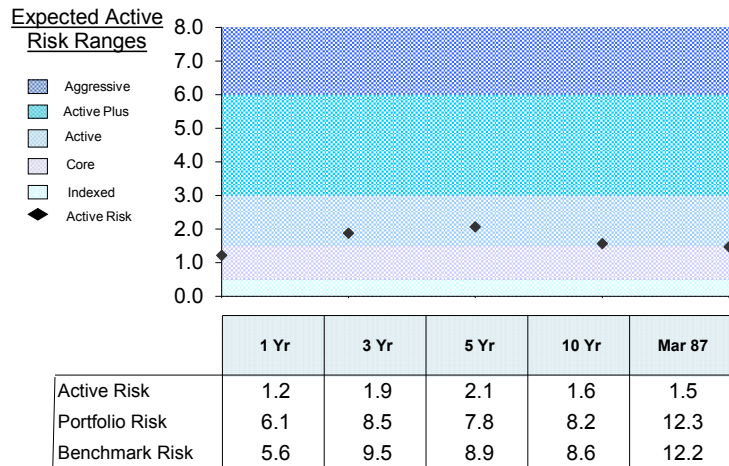
#### Excess Return Analysis (%)



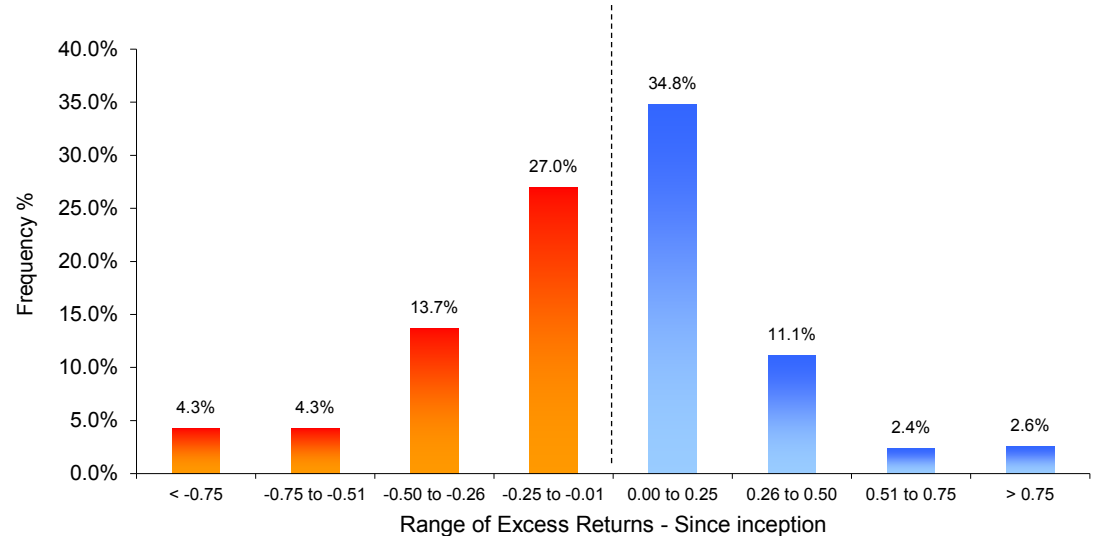
	QTR	Fin YTD	1 Yr	3 Yr	5 Yr	10Yr	Since Mar 87 (p.a.)
Excess Return	-1.2	-1.2	-2.6	-0.2	-0.3	0.0	-0.5
Portfolio Return	-4.7	-4.7	-2.5	4.8	5.4	8.8	7.8
Benchmark Return	-3.5	-3.5	0.1	5.0	5.7	8.8	8.3

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

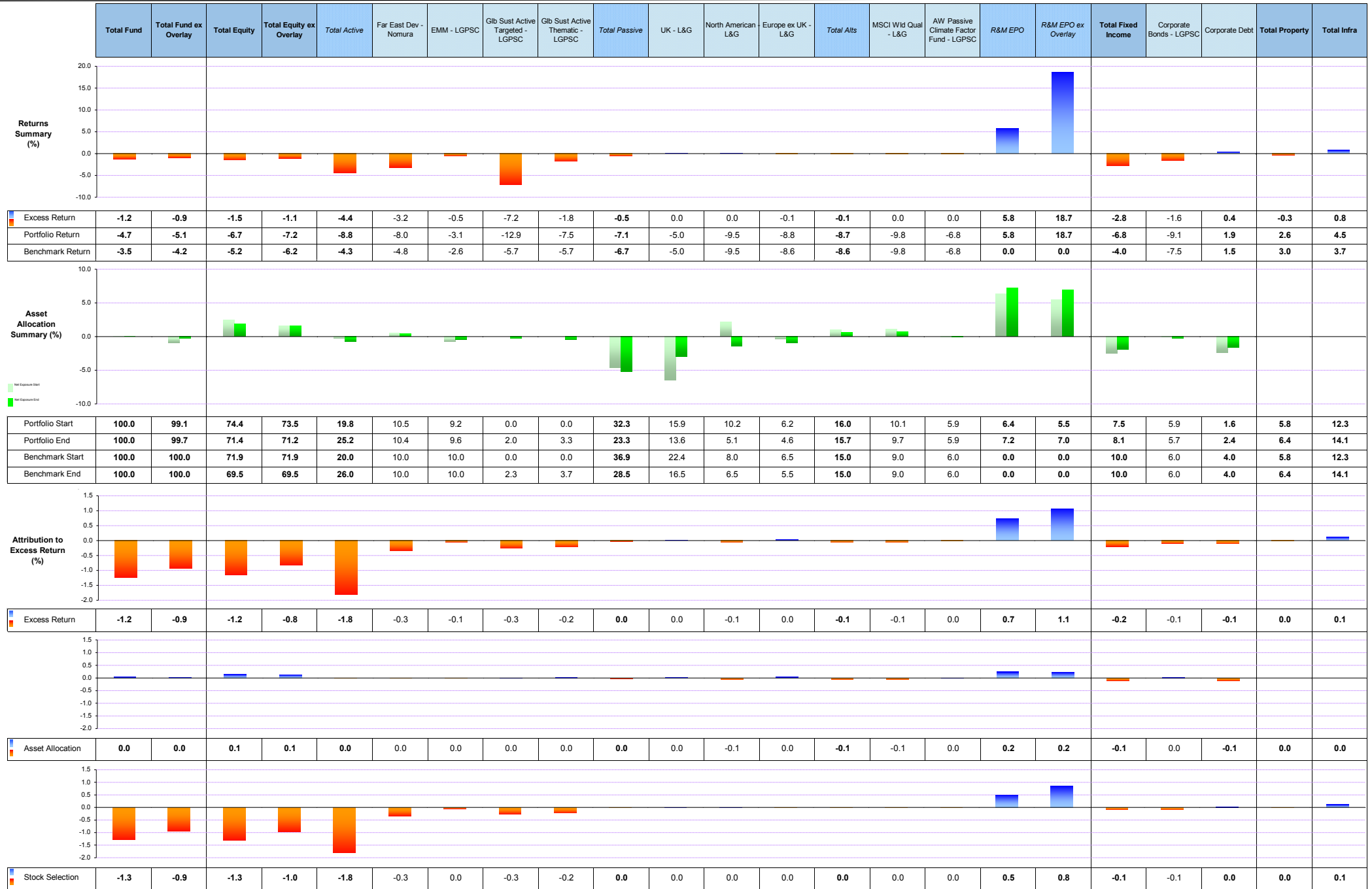


**Ex-Post Active Risk** measures the volatility of the actual excess returns achieved by the Portfolio/Fund.

**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 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 June 2022**

Market Value: £3.3bn



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

Market Value: £3.3bn





Stonepeak Infrastructure Core Fund IV - GBP	Absolute Return +12%	Jan-22	20.9	0.6	4.3	2.9	1.5	4.3	2.9	1.5										4.3	2.9	1.5			
Stonepeak Infrastructure Core Fund IV - USD	Absolute Return +12%	Jan-22	27.6	N/A	1.5	2.9	-1.4	1.5	2.9	-1.4										1.5	2.9	-1.4			
First Sentier EDIF II GBP	Absolute Return +9%	Jun-18	117.7	3.6	3.1	2.2	0.9	3.1	2.2	0.9	23.3	9.0	14.3	11.7	9.0	2.7				10.2	9.1	1.1			
First Sentier EDIF II EURO	Absolute Return +9%	Jun-18	136.8	N/A	1.2	2.2	-1.0	1.2	2.2	-1.0	22.6	9.0	13.6	12.9	9.0	3.9				10.3	9.1	1.2			
First Sentier EDIF III	Absolute Return +8%																								
First Sentier EDIF III EURO	Absolute Return +8%																								
<b>Worcestershire CC Total Fund ex Overlay</b>		<b>Mar-87</b>	<b>3,219.9</b>	<b>98.6</b>	<b>-5.1</b>	<b>-4.2</b>	<b>-0.9</b>	<b>-5.1</b>	<b>-4.2</b>	<b>-0.9</b>	<b>-3.5</b>	<b>-1.3</b>	<b>-2.3</b>	<b>4.2</b>	<b>5.6</b>	<b>-1.3</b>	<b>5.1</b>	<b>6.0</b>	<b>-0.9</b>	<b>8.6</b>	<b>8.9</b>	<b>-0.3</b>	<b>7.8</b>	<b>8.3</b>	<b>-0.6</b>
<b>Worcestershire CC Total Fund</b>		<b>Mar-87</b>	<b>3,265.3</b>	<b>100.0</b>	<b>-4.7</b>	<b>-3.5</b>	<b>-1.2</b>	<b>-4.7</b>	<b>-3.5</b>	<b>-1.2</b>	<b>-2.5</b>	<b>0.1</b>	<b>-2.6</b>	<b>4.8</b>	<b>5.0</b>	<b>-0.2</b>	<b>5.4</b>	<b>5.7</b>	<b>-0.3</b>	<b>8.8</b>	<b>8.8</b>	<b>0.0</b>	<b>7.8</b>	<b>8.3</b>	<b>-0.5</b>

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

<b>Total Fund Benchmark</b>	<b>CLIENT SPECIFIC BENCHMARK:</b>	<b>Notes:</b>
	<p>17% FTSE All Share - % Dependant upon actual drawdowns of Infra &amp; 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 &amp; 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 &amp; 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><b>Q2 2022:</b> 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><b>Q4 2021:</b> 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 &amp; Sustainability Fund from 10.12.2021 (data is produced annually in February). Full disinvestments were made from L&amp;G RAFI Fundamental Developed Reduced Carbon Pathway Index Fund on 22.10.2021 and from L&amp;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&amp;G.</p>

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

Market Value: £3.3bn

	31st March 2022		Net Investment (£000s)	Total Income (£000s)	Total Gain/Loss (£000s)	30th June 2022	
	Market Val (£000s)	Exposure (%)				Market Val (£000s)	Exposure (%)
<b>Total Equity Fund</b>	<b>2,602,620</b>	<b>74.4</b>	<b>-103,717</b>	<b>0</b>	<b>-166,874</b>	<b>2,332,030</b>	<b>71.4</b>
<b>Total Equity Fund ex Overlay</b>	<b>2,570,980</b>	<b>73.5</b>	<b>-103,717</b>	<b>0</b>	<b>-143,867</b>	<b>2,323,396</b>	<b>71.2</b>
<i>Total Active Equity Fund</i>	690,984	19.8	201,283	0	-68,868	823,399	25.2
Nomura Far East Developed Equity Fund	368,394	10.5	0	0	-28,951	339,443	10.4
LGPSC Emerging Markets Fund	322,590	9.2	0	0	-10,051	312,539	9.6
LGPSC Global Sustainable Equity Active Targeted Fund	0	0.0	155,264	0	-90,163	65,102	2.0
LGPSC Global Sustainable Equity Active Thematic Fund	0	0.0	235,737	0	-129,421	106,316	3.3
<i>Total Passive Equity Fund</i>	1,128,150	32.2	-305,000	0	-62,325	760,825	23.3
L&G UK Equity Fund	556,510	15.9	-88,618	0	-23,134	444,757	13.6
L&G North American Equity Fund	355,401	10.2	-164,640	0	-23,841	166,920	5.1
L&G Europe Ex UK Equity Fund	216,239	6.2	-51,742	0	-15,350	149,148	4.6
<i>Total Alternatives Fund</i>	559,817	16.0	0	0	-48,565	511,253	15.7
L&G MSCI World Quality Fund	352,753	10.1	0	0	-34,557	318,196	9.7
LGPSC All World Passive Climate Factor Fund	207,064	5.9	0	0	-14,008	193,057	5.9
<i>River &amp; Mercantile Equity Protection Fund</i>	223,669	6.4	0	0	12,884	236,553	7.2
<i>River &amp; Mercantile Equity Protection Fund ex Overlay</i>	192,029	5.5	0	0	35,891	227,920	7.0
<b>Total Fixed Income Fund</b>	<b>262,137</b>	<b>7.5</b>	<b>0</b>	<b>0</b>	<b>3,245</b>	<b>265,382</b>	<b>8.1</b>
<i>Total Corporate Bond Fund</i>	206,316	5.9	0	0	-18,750	187,566	5.7
LGPSC Corporate Bond Fund	206,316	5.9	0	0	-18,750	187,566	5.7
<i>Total Corporate Debt Fund</i>	55,821	1.6	0	0	21,995	77,816	2.4
Bridgepoint Direct Lending II	55,547	1.6	0	0	1,038	56,584	1.7
Bridgepoint Direct Lending III	274	0.0	20,409	0	549	21,232	0.7
<b>Total Property Fund</b>	<b>202,268</b>	<b>5.8</b>	<b>2,454</b>	<b>1,043</b>	<b>4,290</b>	<b>209,012</b>	<b>6.4</b>
<i>Total UK Property Fund</i>	54,746	1.6	-100	0	1,761	56,407	1.7
Invesco UK Property Fund	43,137	1.2	-100	0	1,628	44,665	1.4
Venn UK Property Fund	11,609	0.3	0	0	133	11,742	0.4
Walton US Property Fund	1,191	0.0	0	13	93	1,284	0.0
Walton US Property Fund II	7,137	0.2	2,100	760	-378	8,858	0.3
Invesco European Property Fund	66,861	1.9	0	0	2,171	69,032	2.1
Venn Property Debt Fund II	12,921	0.4	454	0	139	13,514	0.4
Gresham House Forestry Growth & Sustainability Fund	38,956	1.1	0	0	0	38,956	1.2
AEW Property Fund	20,455	0.6	0	270	505	20,960	0.6
<b>Total Infrastructure Fund</b>	<b>431,357</b>	<b>12.3</b>	<b>8,355</b>	<b>146</b>	<b>19,155</b>	<b>458,866</b>	<b>14.1</b>
Green UK Infrastructure Fund	47,618	1.4	-2,963	0	3,770	48,424	1.5
Gresham House BSIF Housing and Infrastructure	44,729	1.3	0	0	1,001	45,730	1.4
Gresham House BSIF II Infrastructure Fund	-526	0.0	0	0	-398	-924	0.0
Hermes UK Infrastructure Core Fund	56,301	1.6	0	0	120	56,421	1.7
Hermes UK Infrastructure Fund II	48,644	1.4	0	0	110	48,754	1.5
Stonepeak Infrastructure Core Fund III	119,069	3.4	-8,116	0	10,847	121,800	3.7
Stonepeak Infrastructure Core Fund IV	655	0.0	19,966	0	321	20,942	0.6
First Sentier EDIF II	114,866	3.3	-531	146	3,384	117,719	3.6
First Sentier EDIF III	0	0.0	0	0	0	0	0.0
<b>Cash Fund</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>
<b>Worcestershire CC Total Fund ex Overlay</b>	<b>3,466,741</b>	<b>99.1</b>	<b>-92,908</b>	<b>1,189</b>	<b>-117,177</b>	<b>3,256,656</b>	<b>99.1</b>
<b>Worcestershire CC Total Fund</b>	<b>3,498,381</b>	<b>100.0</b>	<b>-92,908</b>	<b>1,189</b>	<b>-140,184</b>	<b>3,265,289</b>	<b>99.3</b>

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