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# Capital Markets Review



Capital Markets Review As of September 30, 2022

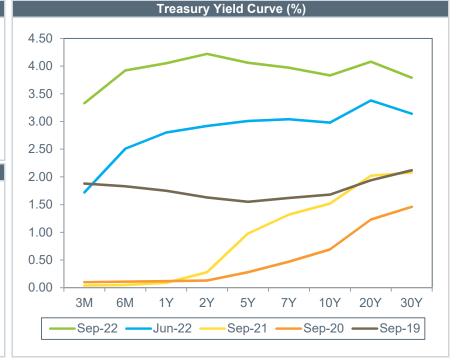
### **Third Quarter Economic Environment**

Investor sentiment and market movements continued to be driven by persistently high inflation levels and a corresponding tightening of monetary policy by most global central banks. Strong consumer demand, combined with supply chain disruptions and energy supply constraints caused by the war in Ukraine, exacerbated the difficulties for policymakers aiming to respond to inflation in an effective yet balanced manner. In its interim September 2022 economic outlook, OECD forecasted that headline inflation among G20 countries would finish 2022 above 8%—and only moderate to 6.6% in 2023. The OECD's inflation forecasts remain elevated compared to historical levels despite actions by global central banks, including the FOMC. In September, the FOMC increased the federal funds rate to a range of 3.00%-3.25%, which represented a third consecutive 0.75 percentage point hike. Global GDP growth forecasts continued to moderate during the quarter. The OECD forecasted real global GDP growth of 3.0% in 2022 and 2.2% in 2023, representing sharp declines from its December 2021 forecasts of 4.5% and 3.2%, respectively. Overall, economic and inflation forecasts are being impacted by multiple factors. In particular, the ongoing war in Ukraine could lead to sudden shifts in conditions, as global economic impacts could follow modifications to sanctions regimes, changes to external military support, pending NATO membership applications, or extreme energy supply shortages in Europe.

	Key I	Economic Indi	Key Economic Indicators											
16 ]	30 ]	120 7	70 ]	160 ]										
14 -	25 - 20 -	100 -	60	140 -										
12 -	15 -		50 -	120 -										
10 -	10 -	80 -	40 -	100 -										
8 - 6 -	0	60	30 -	80 -										
4 -	<b>-5</b> -	40	20 -	60 -										
2 -	-10 - -15 -	40 -	10 -	40 -										
0	-20	20	0	20										
Unemployment Rate (%)	CPI Year-over- Year (% change)	US Govt Debt (% of GDP)	VIX Index (Volatility)	Consumer Confidence										
Since 1948	Since 1914	Since 1940	Since 1990	Since 1967										

Economic Indicators	Sep-22		Jun-22	Sep-21	Sep-19	20 Yr
Federal Funds Rate (%)	3.08	<b>A</b>	1.58	0.06	1.90	1.30
Breakeven Infl 5 Yr (%)	2.16	▼	2.62	2.53	1.35	1.86
Breakeven Infl 10 Yr (%)	2.15	▼	2.34	2.38	1.52	2.04
CPI YoY (Headline) (%)	8.2	▼	9.1	5.4	1.7	2.2
Unemployment Rate (%)	3.5	▼	3.6	4.7	3.5	6.1
Real GDP YoY (%)	N/A		1.8	5.0	2.3	2.0
PMI - Manufacturing	50.9	▼	53.0	60.5	48.1	53.5
USD Total Wtd Idx	127.64	$\blacktriangle$	121.05	114.67	117.95	103.10
WTI Crude Oil per Barrel (\$)	79.5	▼	105.8	75.0	54.1	64.4
Gold Spot per Oz (\$)	1,661	▼	1,807	1,757	1,472	1,086

(+)	.,	.,	.,	.,	.,
Market Performance (%)	QTD	CYTD	1 Yr	5 Yr	10 Yr
S&P 500 (Cap Wtd)	-4.88	-23.87	-15.47	9.24	11.70
Russell 2000	-2.19	-25.10	-23.50	3.55	8.55
MSCI EAFE (Net)	-9.36	-27.09	-25.13	-0.84	3.67
MSCI EAFE SC (Net)	-9.83	-32.11	-32.06	-1.79	5.28
MSCI Emg Mkts (Net)	-11.57	-27.16	-28.11	-1.81	1.05
Bloomberg US Agg Bond	-4.75	-14.61	-14.60	-0.27	0.89
ICE BofAML 3 Mo US T-Bill	0.46	0.61	0.62	1.15	0.68
NCREIF ODCE (Gross)	0.52	13.08	22.09	10.24	10.92
FTSE NAREIT Eq REIT (TR)	-9.94	-28.13	-16.41	2.93	6.26
HFRI FOF Comp	-0.70	-7.24	-6.84	3.00	3.43
Bloomberg Cmdty (TR)	-4.11	13.57	11.80	6.96	-2.14





US Equity Review
As of September 30, 2022

### **Third Quarter Review**

### **Broad Market**

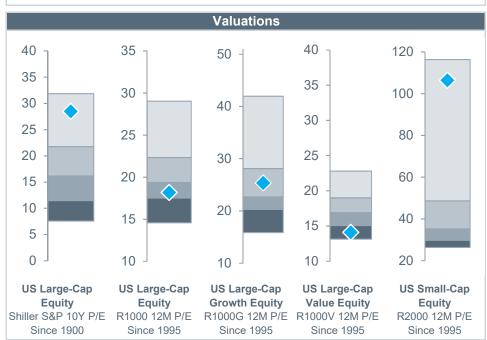
US equity markets continued elevated volatility in Q3. Following three consecutive calendar years with returns above 20.0%, the Russell 3000 Index has declined -24.6% year-to-date. Consumer discretionary and energy sectors provided investors with positive returns, while all other sectors were negative.

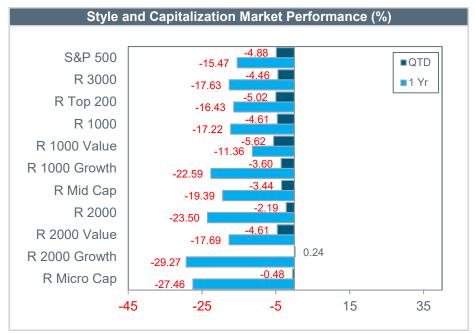
### **Market Cap**

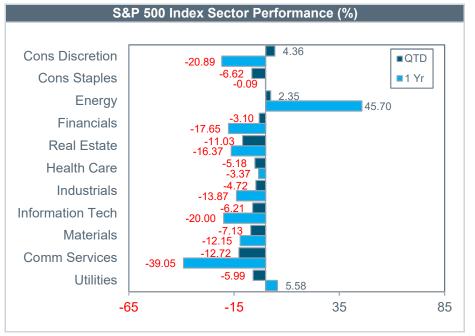
Large-cap stocks fell most sharply, followed by mid-cap stocks. The only exception was small-cap growth stocks, which had slightly positive returns. Overall, in a reversal of the style trend during the first half of the year, growth stocks outperformed value stocks during the quarter.

### **Style and Sector**

Value-oriented managers had a higher success rate than core or growth managers, on average. Mid - and small-cap manager success rates versus their respective benchmarks have been higher than large-cap managers, especially among value-oriented managers.







Valuation data courtesy of Bloomberg Professional Service and Robert J. Shiller, Irrational Exuberance, Second Edition. P/E metrics shown represent the 5th through 95th percentiles to minimize the effect of outliers.



Non-US Equity Review

As of September 30, 2022

### Third Quarter Review

### **Developed Markets**

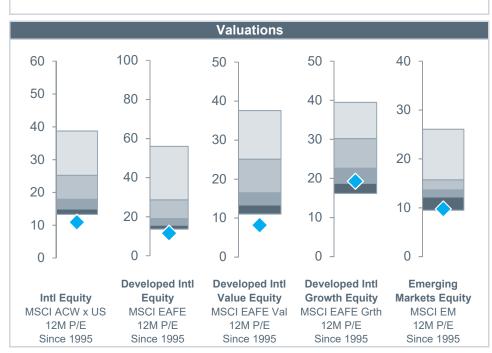
Developed international stocks significantly lagged domestic stocks during Q3. Developed international growth stocks outperformed value stocks, and small-cap stocks marginally trailed large-cap stocks. European stocks slightly trailed other developed regions, although the returns of individual European countries continued to vary widely. Countries with the closest energy ties to Russia, such as Germany, faced significant sentiment headwinds. Japan, which has been largely unaffected by energy supply disruptions, was a relative bright spot among the largest developed international countries.

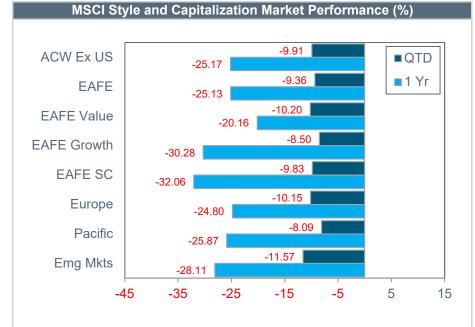
### **Emerging Markets**

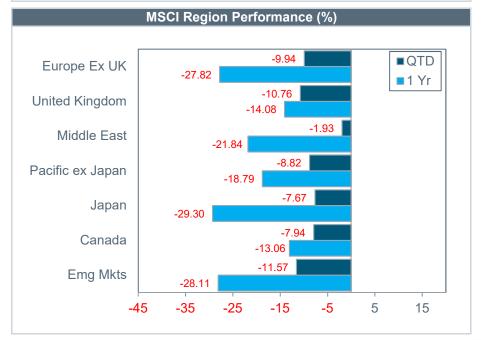
Emerging markets underperformed developed international markets in Q3 with the MSCI EM Index returning -11.57%. Nearly all emerging market countries experienced negative returns.

### Market Cap & Style

In international markets, growth stocks outperformed value, while large-cap stocks trailed small by a wide margin.









P/E metrics shown represent the 5th through 95th percentiles to minimize the effect of outliers. All returns are shown net of foreign taxes on dividends.



Alternatives Review As of September 30, 2022

### **Third Quarter Review - Absolute Return**

### **General Market - Hedge Funds**

Dispersion continued to be the theme across hedge fund strategies during Q3. Consistent with the first six months of the year, Macro and Trend Following strategies produced positive results, taking advantage of continued upward trends in global interest rates and the US dollar. The HFRI Macro Index returned 1.7% in Q3, while the SG Trend Index rose 5.1%. For the year, Trend Followers are now up 35.6%, massively outperforming the rest ofthe hedge fund industry.

### **General Market - Global Tactical Asset Allocation (GTAA)**

Global Tactical Asset Allocation (GTAA) strategies that RVK follows closely posted losses for the second consecutive quarter. Given US dollar strength and a relatively strong quarter for US equity compared to other risk asset classes, nearly all active managers providing broader diversification underperformed a US-centric blend of 60% equity and 40% fixed income. The top-performing long-biased GTAA strategies were those that have been including meaningful market neutral, idiosyncratic relative valuation exposures.

#### HFRI Hedge Fund Performance (%) -0.70 HFRI FOF ■ QTD -6.84 0.68 Conv Arbitrage ■1 Yr -2.83 **Equity Hedge** -13.58 0.92 Mkt Neutral Eq 1.23 -1.55 Distressed 1.68 Macro 9.96 -0.19 Relative Value -2.13 -0.69 **Event Driven** Merger Arb -1.00 Credit Arb -20 -10 0 10 20

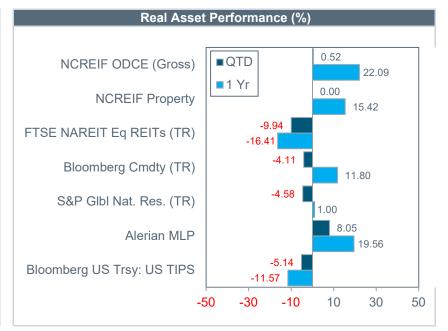
### **Third Quarter Review - Real Assets**

### **General Market - Diversified Inflation Strategies (DIS)**

Despite headwinds that have affected nearly all asset classes, Diversified Inflation Strategies (DIS) tracked closely by RVK have outperformed a US-centric blend of 60% equity and 40% fixed income for the quarter and year. After responding positively to record inflationary pressures in Q1, DIS again posted losses for the second consecutive quarter ranging from the negative mid-single digits to negative low double digits.

### **General Market - Real Estate**

Core private real estate generated a positive 0.5% return in Q3 (on a preliminary and gross of fee basis), as reported by the NFI-ODCE Index, with a return contribution of 0.8% from income and -0.3% from price appreciation. The income return continues to trend at the lower end of historical levels while price appreciation turned negative. Investors of publicly traded real estate significantly underperformed their private market counterparts. Publicly traded real estate delivered a return of -11.2% in Q3, as measured by FTSE/NAREIT All REITs Index.





Fixed Income Review

As of September 30, 2022

### Third Quarter Review

### **Broad Market**

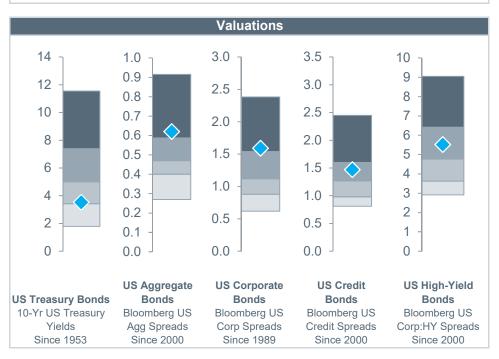
In Q3, the 10-year US Treasury yields rose 85 basis points from 2.98% to 3.83%. The Federal Reserve hiked the Federal Funds rate by 75 basis points twice during the quarter, as the FOMC continued to repond to inflationary pressures. The Bloomberg US Aggregate Bond Index ended Q3 with a return of -4.8%.

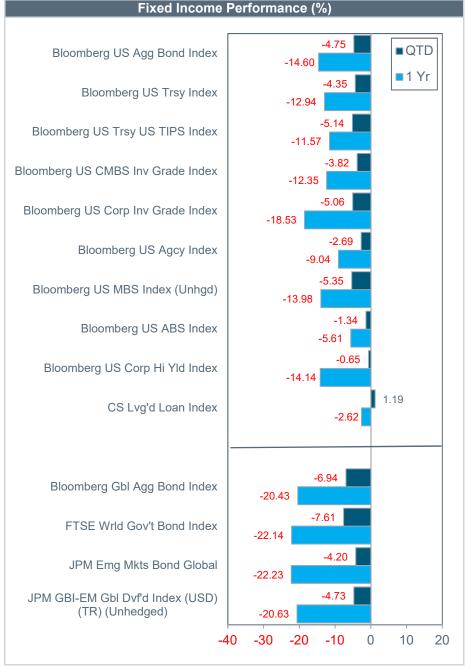
### **Credit Market**

Investment grade underperformed both high yield and bank loans, which have relatively less interest rate sensitivity.

### **Emerging Market Debt**

Emerging market debt continues to experience headwinds from the ongoing Russia-Ukraine war and US Dollar strength. Hard currency emerging market bonds declined -4.6%, while foreign developed market debt declined -10.0%, as measured by the JPM EMBI Global Diversified Index and the FTSE Non-US WGBI (Unhedged) Index, respectively.





Valuation data courtesy of Bloomberg Professional Service.

Valuations shown represent the 5th through 95th percentiles to minimize the effect of outliers.



Annual Asset Class Performance As of September 30, 2022

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	YTD
Best	8.44	78.51	27.94	22.49	20.00	38.82	30.14	15.02	21.31	37.28	8.35	31.49	19.96	43.24	13.57
1	5.24	58.21	26.85	15.99	18.23	32.39	19.31	9.59	17.13	33.01	1.87	26.00	18.40	28.71	13.08
	2.06	46.78	22.04	13.56	18.06	29.30	13.69	3.20	11.96	25.03	0.01	25.53	18.31	27.11	0.61
	-2.35	31.78	18.88	8.29	17.32	22.78	12.50	1.38	11.77	21.83	-1.26	24.96	16.12	22.17	-7.24
	-10.01	28.01	16.83	7.84	16.35	13.94	5.97	0.55	11.19	14.65	-2.08	22.01	12.34	14.82	-13.61
	-21.37	27.17	16.36	4.98	16.00	8.96	4.89	0.05	8.77	10.71	-4.02	19.59	10.99	11.26	-14.61
	-26.16	26.46	15.12	2.11	15.81	7.44	3.64	-0.27	8.52	7.77	-4.38	18.42	10.88	10.10	-14.74
	-33.79	18.91	15.06	0.10	10.94	2.47	3.37	-0.81	6.67	7.62	-4.62	14.32	7.82	6.17	-23.87
	-35.65	11.47	10.16	-4.18	8.78	0.07	2.45	-1.44	4.68	7.50	-4.68	8.72	7.51	5.96	-25.10
	-37.00	11.41	7.75	-5.72	6.98	-2.02	0.04	-3.30	2.65	5.23	-11.01	8.43	7.11	5.28	-27.09
	-37.74	5.93	6.54		4.79	-2.60	-2.19	-4.41	2.18	3.54	-11.25	8.39	1.19	0.05	-27.16
	-43.38	1.92	6.31	-13.32	4.21	-8.61	-4.90	-4.47	1.00	3.01	-13.79	7.69	0.67	-1.55	-28.13
<b>+</b>	-47.01	0.21	5.70	-15.94	0.11	-8.83	-4.95	-14.92	0.51	1.70	-14.57	5.34	-3.12	-2.52	-28.94
Worst	-53.33	-29.76	0.13	-18.42	-1.06	-9.52	-17.01	-24.66	0.33	0.86	-17.89	2.28	-8.00	-2.54	-32.11
									Plaami	org NCR	EIE ET	SE HF	RI FOF		ICE
S&P 500 US Larg Cap		mall (Net)		(Net) - (N	ISCI EM let) - Int'l mg Mkts	Bloombrg US Agg Bond - Fl	Bloombrg US Corp H Yield - Fl	Bloombry i US Trsy U TIPS - FI	IS Credit I	ov ODO	CE NARI	EIT Eq C	comp Ci		BofAML 3 Mo T-Bill - Cash Equiv

 $NCREIF\ ODCE\ (Gross)\ performance\ is\ reported\ quarterly;\ performance\ is\ shown\ N/A\ in\ interim-quarter\ months.$ 



# Police Plan



## Kansas City Police Employees' Retirement Systems (KCPERS) Investment Objective Review As of September 30, 2022

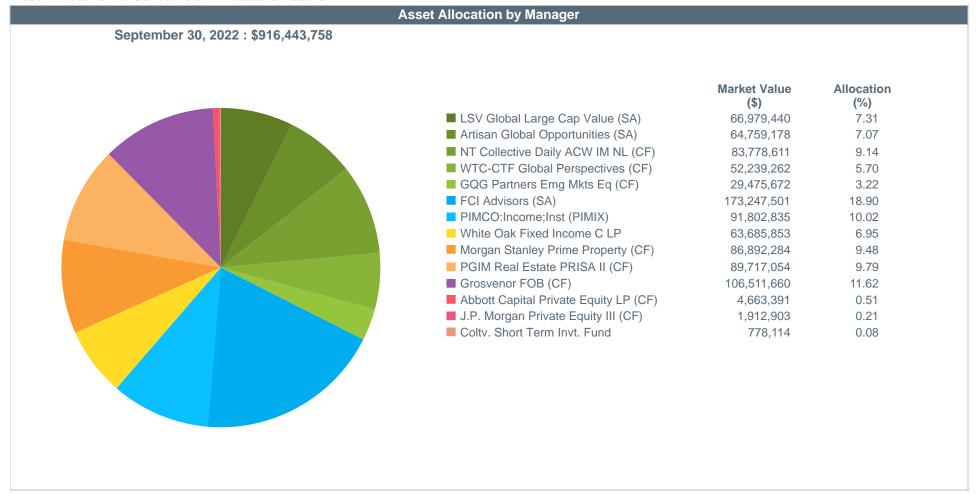
Asset Allocation										
	Yes	No	Current	Min.	Target	Max.				
Global Equity		✓	32.4%	33%	38%	43%				
Fixed Income	✓		28.9%	26%	31%	36%				
Direct Lending	✓		7.0%	4%	7%	10%				
Real Estate			19.3%	9%	13%	17%				
Absolute Return	✓		11.6%	7%	11%	15%				
Private Equity		✓	0.7%	0%	0%	0%				
Cash Equivalent	✓		0.1%	0%	0%	5%				
Total Fund	✓		100%	95%	100%	100%				

Investment Policy Guidelines				
	Performance (Net)/ Rank	Yes	No	Comments
Performance (over full market cycle of 5 years)	rain			
Total Fund				
Total fund composite rate of return exceeds the current Target Allocation Index (gross of fees) over 5 years.	4.72%	4		
The total fund return is equal to or exceeds 7.25% annualized return (gross of fees) over 5 years.	4.72%		1	
Global Equity				
The global equity composite rate of return exceeds the benchmark (net of fees).	4.04%		✓	
The global equity composite performed at the fortieth (40th) percentile or better.	60		✓	
LSV Global Large Cap Value (SA)				
The manager return exceeds the benchmark (net of fees).	2.52%		✓	
The manager performed at the fortieth (40th) percentile or better.	53		✓	
Artisan Global Opportunities (SA)				
The manager return exceeds the benchmark (net of fees).	6.85%	√		
The manager performed at the fortieth (40th) percentile or better.	21	1		
NT Collective Daily ACW IM NL (CF)				
The manager return exceeds the benchmark (net of fees).	4.51%	✓		
The manager performed at the fortieth (40th) percentile or better.	3	✓		
WTC-CTF Global Perspectives (CF)				
The manager return exceeds the benchmark (net of fees).	3.56%	✓		
The manager performed at the fortieth (40th) percentile or better.	18	1		
GQG Partners Emg Mkts Eq (CF)				
The manager return exceeds the benchmark (net of fees).	N/A			Insufficient history.
The manager performed at the fortieth (40th) percentile or better.	N/A			Insufficient history.
Fixed Income				
The fixed income composite rate of return exceeds the benchmark (net of fees).	0.65%	1		
The fixed income composite performed at the fortieth (40th) percentile or better.	10	1		
FCI Advisors (SA)				
The manager return exceeds the benchmark (net of fees).	0.14%	✓		
The manager performed at the fortieth (40th) percentile or better.	15	✓		
PIMCO:Income;Inst (PIMIX)				
The manager return exceeds the benchmark (net of fees).	1.23%	1		
The manager performed at the fortieth (40th) percentile or better.	19	✓		
Direct Lending				
The direct lending composite rate of return exceeds the benchmark (net of fees).	N/A			Insufficient history.
White Oak Fixed Income C LP				
The manager return exceeds the benchmark (net of fees).	N/A			Insufficient history.
Real Estate				
The real estate composite rate of return exceeds the benchmark (net of fees).	9.91%	✓		
Morgan Stanley Prime Property (CF)				
The manager return exceeds the benchmark (net of fees).	9.67%	✓		
PGIM Real Estate PRISA II (CF)				
The manager return exceeds the benchmark (net of fees).	10.12%	1		
Absolute Return				
The absolute return composite rate of return exceeds the benchmark (net of fees).	3.18%		1	
Grosvenor FOB (CF)				
The manager return exceeds the benchmark (net of fees).	3.51%	✓		
Private Equity				
The private equity composite rate of return exceeds the benchmark (net of fees).	10.86%		4	

The Investment Policy Review for the Police Retirement System of Kansas City, Missouri examines client specific net returns, except for the Total Fund which examines client specific gross return. Managers that do not have 5 years of client specific net performance populate are backfilled with composite/manager gross performance until sufficient historical client-specific net performance is available. White Oak Fixed Income C LP and GQG Partners Emg Mkts Eq (CF) do not have 5 years of composite level returns. The two private equity managers are in their final stages of distributing capital, performance for these managers is not relevant.



Asset Allocation & Schedule of Investable Assets



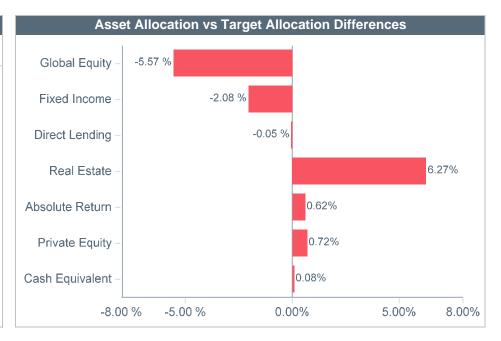
Schedule of Investable Assets											
Periods Ending	Beginning Market Value (\$)	Net Cash Flow (\$)	Gain/Loss (\$)	Ending Market Value (\$)	% Return						
QTD	949,173,808	-5,770,562	-26,959,488	916,443,758	-2.86						
CYTD	1,079,612,315	-23,626,780	-139,541,777	916,443,758	-13.06						
FYTD	986,540,335	-11,742,925	-58,353,653	916,443,758	-5.95						

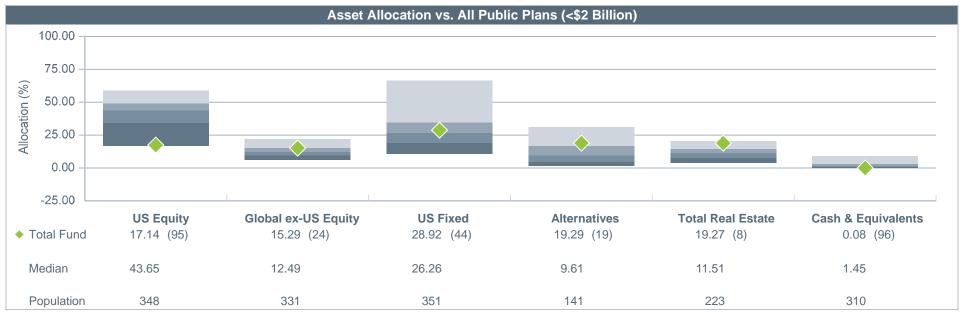
Allocations shown may not sum up to 100% exactly due to rounding. Performance shown is net of fees.



**Total Fund vs. All Public Plans (<\$2 Billion)** 

	Asset Alloca	ition vs. Tar	get Alloca	ation	
	Market Value (\$)	Allocation (%)	Target (%)	Minimum (%)	Maximum (%)
Total Fund	916,443,758	100.00	100.00	-	-
Global Equity	297,232,163	32.43	38.00	33.00	43.00
Fixed Income	265,050,336	28.92	31.00	26.00	36.00
Direct Lending	63,685,853	6.95	7.00	4.00	10.00
Real Estate	176,609,338	19.27	13.00	9.00	17.00
Absolute Return	106,511,660	11.62	11.00	7.00	15.00
Private Equity	6,576,294	0.72	0.00	0.00	0.00
Cash Equivalent	778,114	0.08	0.00	0.00	5.00



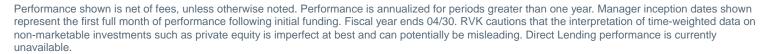


Parentheses contain percentile ranks. Allocations may not sume up to 100% exactly due to rounding. The Board has elected not to make additional Private Equity commitments and as a result, the Private Equity allocation is winding down. The Board-approved rebalancing plan is in the process of being implemented.



### Kansas City Police Employees' Retirement Systems KCPERS Police Asset Allocation & Performance

	Market Value (\$M)	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2021	2020	2019
Total Fund (Gross)	\$916.44	-2.74	-5.76	-12.73	-9.98	4.30	4.72	6.36	6.33	10.90	12.06	15.24
All Public Plans (<\$2 Billion)		-4.44	-9.18	-18.25	-14.66	3.66	4.65	6.45	6.69	13.56	12.82	18.89
Rank		7	6	8	14	31	47	55	63	83	61	91
Total Fund	\$916.44	-2.86	-5.95	-13.06	-10.44	3.77	4.19	5.83	N/A	10.29	11.54	14.64
Target Allocation Index		-3.67	-6.43	-12.89	-9.78	3.10	4.14	5.38	5.58	9.89	10.25	14.39
Difference		0.81	0.48	-0.17	-0.66	0.67	0.05	0.45	N/A	0.40	1.29	0.25
7.25% Annualized Return		1.77	2.96	5.39	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25
Difference		-4.63	-8.91	-18.45	-17.69	-3.48	-3.06	-1.42	N/A	3.04	4.29	7.39
Global Equity	\$297.23	-5.92	-13.54	-25.70	-22.22	3.75	4.04	7.63	N/A	16.64	17.54	27.58
MSCI ACW IM Index (USD) (Net)		-6.64	-14.64	-25.72	-21.18	3.64	4.16	7.27	7.25	18.22	16.25	26.35
Difference		0.72	1.10	0.02	-1.04	0.11	-0.12	0.36	N/A	-1.58	1.29	1.23
IM Global Large Cap Equity (MF) Median		-7.19	-14.62	-28.57	-24.29	2.97	4.74	7.38	7.68	16.85	20.30	29.63
Rank		23	20	21	35	37	60	43	N/A	54	62	74
Fixed Income	\$265.05	-3.68	-5.41	-13.94	-13.82	-1.95	0.65	1.92	N/A	-0.45	9.18	9.31
Bloomberg US Agg Bond Index		-4.75	-5.64	-14.61	-14.60	-3.26	-0.27	0.54	0.89	-1.55	7.51	8.72
Difference		1.07	0.23	0.67	0.78	1.31	0.92	1.38	N/A	1.10	1.67	0.59
IM Global Fixed Income (MF) Median		-4.13	-7.32	-17.36	-17.63	-4.56	-1.13	0.24	-0.26	-2.73	8.15	8.08
Rank		38	25	40	35	16	10	13	N/A	10	36	25





### Kansas City Police Employees' Retirement Systems KCPERS Police Asset Allocation & Performance

Difference

	Market Value (\$M)	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2021	2020	2019
Direct Lending	\$63.69	0.00	-2.52	-1.79	-2.53	2.29	N/A	N/A	N/A	4.60	2.66	7.41
ICE BofAML 3 Mo US T-Bill Index+5%		0.00	0.00	0.00	1.24	4.13	5.30	5.36	5.27	5.05	5.70	7.39
Difference		0.00	-2.52	-1.79	-3.77	-1.84	N/A	N/A	N/A	-0.45	-3.04	0.02
Real Estate	\$176.61	0.46	4.17	11.67	20.61	11.60	9.91	9.76	N/A	21.73	0.54	6.24
NCREIF ODCE Index (AWA) (Net)		0.35	4.90	12.40	21.00	11.39	9.27	8.87	9.92	21.02	0.34	4.39
Difference		0.11	-0.73	-0.73	-0.39	0.21	0.64	0.89	N/A	0.71	0.20	1.85
Absolute Return	\$106.51	1.06	-1.01	-7.01	-6.24	4.51	3.18	3.71	N/A	6.32	11.60	7.71
Long Term Absolute Return Custom Benchmark		1.69	2.62	4.36	5.65	5.56	6.17	6.10	N/A	5.05	5.62	7.40
Difference		-0.63	-3.63	-11.37	-11.89	-1.05	-2.99	-2.39	N/A	1.27	5.98	0.31
Absolute Return Custom Benchmark		-0.07	-2.68	-4.07	-3.30	4.87	3.80	4.11	N/A	6.77	9.32	9.82
Difference		1.13	1.67	-2.94	-2.94	-0.36	-0.62	-0.40	N/A	-0.45	2.28	-2.11
Private Equity	\$6.58	-0.10	-10.83	-13.64	-14.62	10.43	10.86	10.61	N/A	28.38	20.44	10.04
Cambridge US Prvt Eq Index (1 Qtr Lag)		-3.74	-3.18	2.64	8.60	20.19	17.95	15.64	15.72	48.25	12.66	7.73

-16.28

-23.22

-9.76

-7.09

-5.03

N/A

-19.87

7.78

2.31

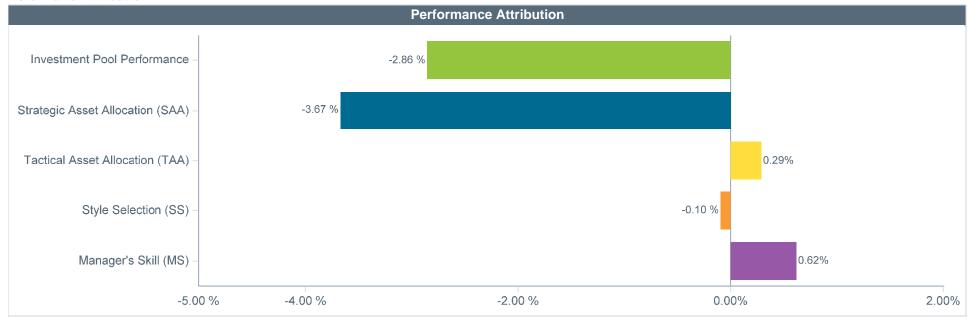
See addendum for custom index comments. 7.25% annualized return represents the System's long-term return goal based on the System's current actuarial assumed rate of return.

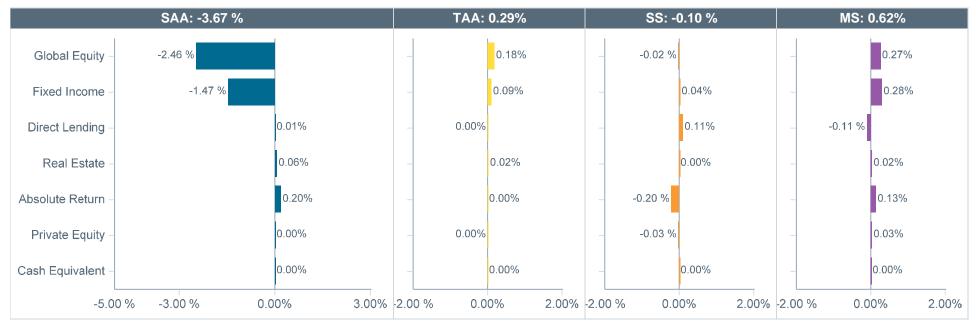
-7.65

3.64



**Total Fund Attribution - IDP** 

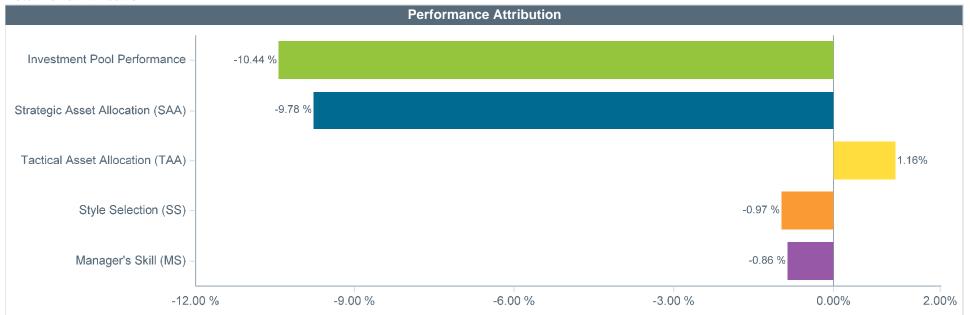


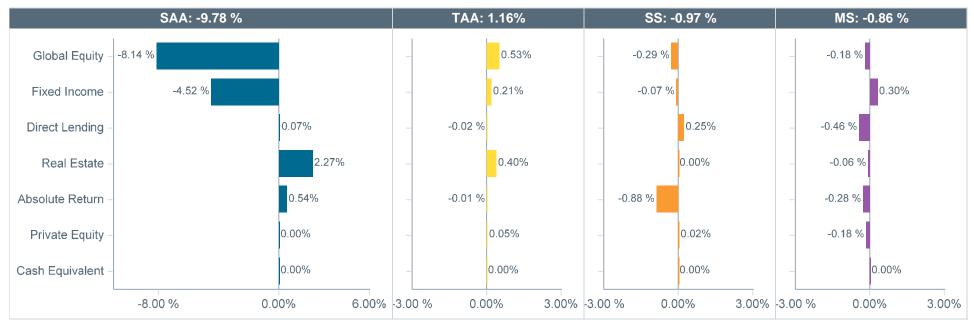


Performance shown is net of fees. Calculation is based on monthly periodicity. See Glossary for additional information regarding the Total Fund Attribution - IDP calculation.



**Total Fund Attribution - IDP** 

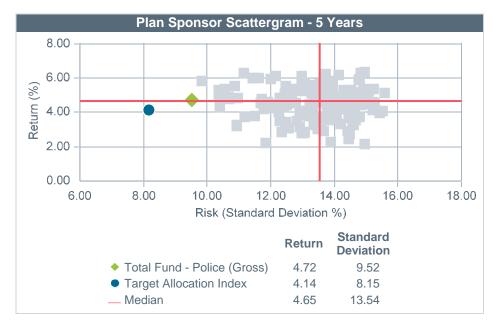


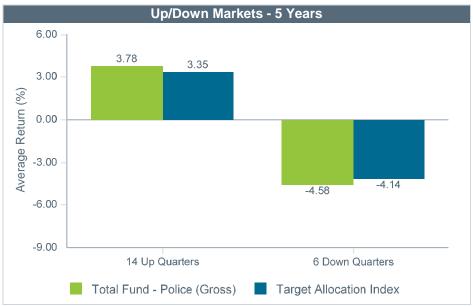


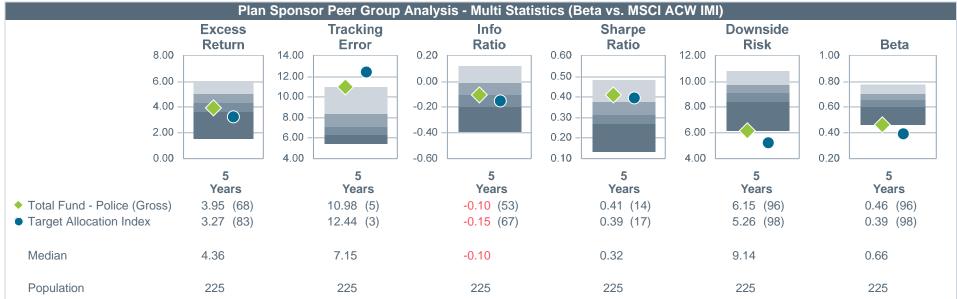
Performance shown is net of fees. Calculation is based on monthly periodicity. See Glossary for additional information regarding the Total Fund Attribution - IDP calculation.



Total Fund - Police (Gross) vs. All Public Plans (<\$2 Billion)



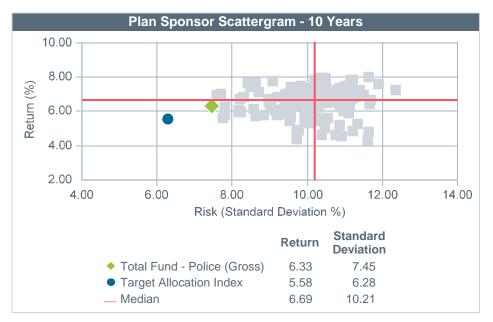


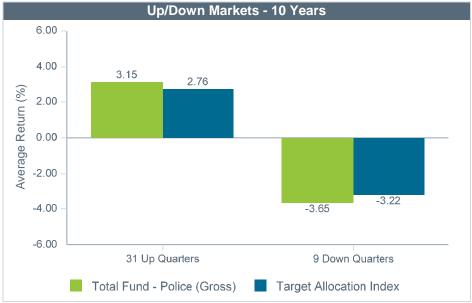


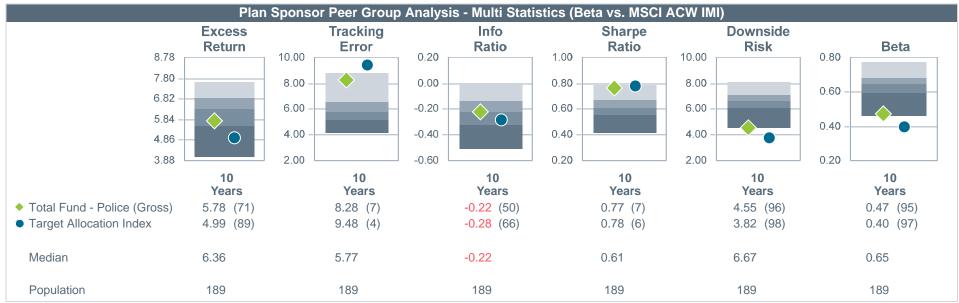
Performance shown is gross of fees. Calculation is based on quarterly periodicity. Parentheses contain percentile ranks.



Total Fund - Police (Gross) vs. All Public Plans (<\$2 Billion)



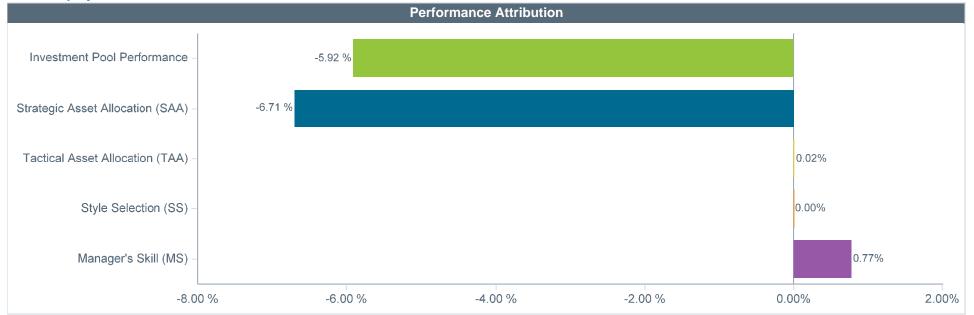


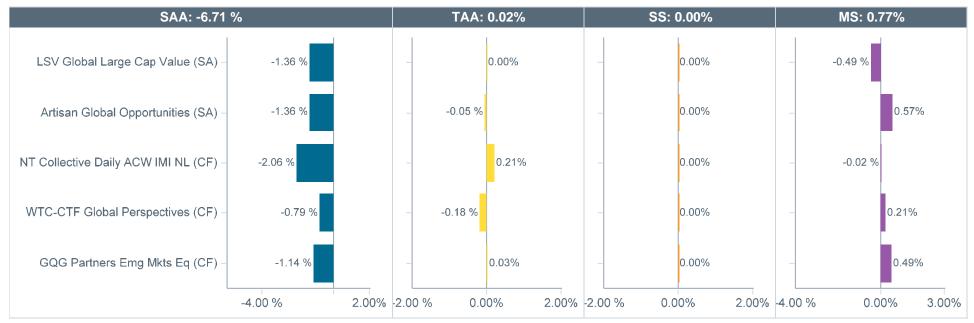


Performance shown is gross of fees. Calculation is based on quarterly periodicity. Parentheses contain percentile ranks.



**Global Equity Attribution - IDP** 

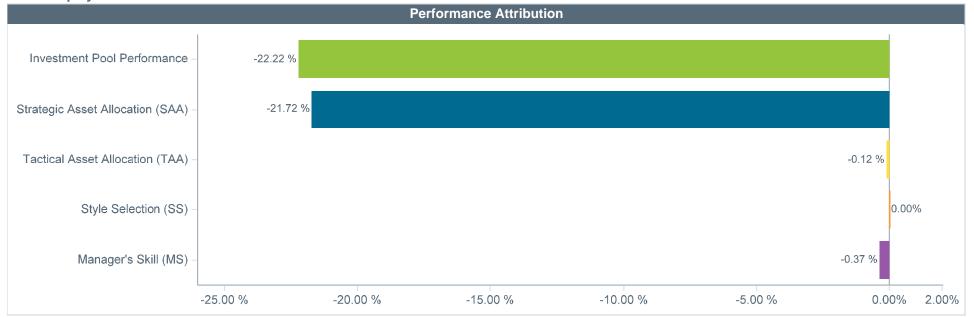


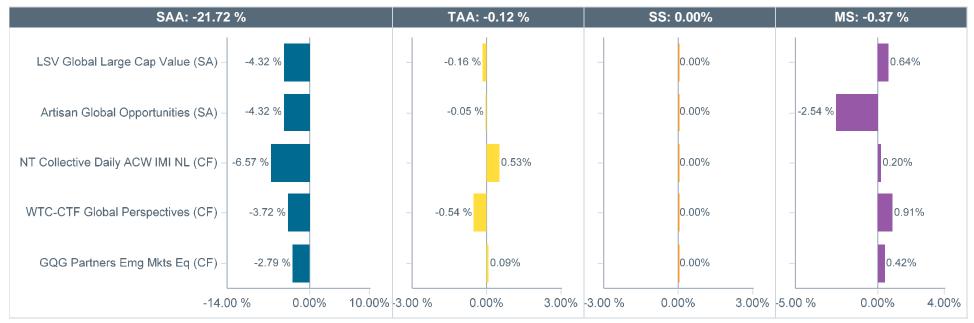


Performance shown is net of fees. Calculation is based on monthly periodicity. See Glossary for additional information regarding the Total Fund Attribution - IDP calculation.



**Global Equity Attribution - IDP** 

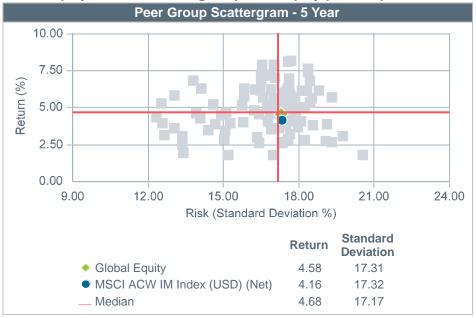


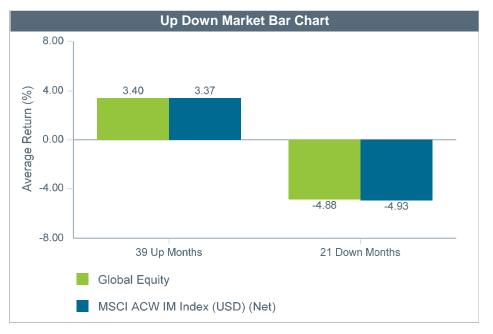


Performance shown is net of fees. Calculation is based on monthly periodicity. See Glossary for additional information regarding the Total Fund Attribution - IDP calculation.



Global Equity vs. IM Global Large Cap Core Equity (SA + CF)







Performance shown is gross of fees. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.



### Kansas City Police Employees' Retirement Systems Global Equity vs. MSCI ACW IM Index (USD) (Net) Portfolio Characteristics

To	Top Ten Equity Holdings											
	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)								
NextEra Energy Inc	1.33	0.26	1.07	1.72								
Veeva Systems Inc	1.15	0.04	1.11	-16.74								
Alphabet Inc	1.15	0.98	0.17	-12.22								
Microsoft Corp	1.11	2.83	-1.72	-9.12								
Advanced Micro Devices Inc	1.10	0.18	0.92	-17.14								
Apple Inc	1.10	3.82	-2.72	1.22								
Techtronic Industries Co Ltd	1.05	0.02	1.03	-6.43								
Boston Scientific Corp	0.93	0.09	0.84	3.92								
LONZA GROUP AG	0.90	0.06	0.84	-7.04								
Atlassian Corp	0.90	0.00	0.90	12.37								
% of Portfolio	10.72	8.28	2.44									

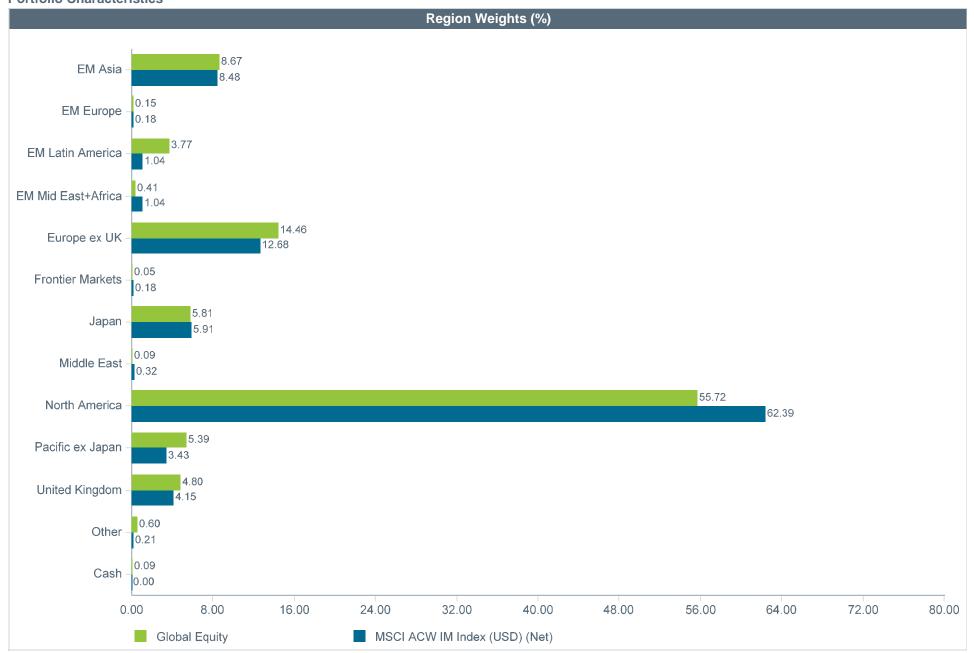
Portro	lio Characteristics	
	Portfolio	Benchmark
Vtd. Avg. Mkt. Cap (\$M)	126,214	265,850
Median Mkt. Cap (\$M)	1,593	1,577
Price/Earnings Ratio	11.74	14.00
Price/Book Ratio	2.64	3.02
5 Yr. EPS Growth Rate (%)	16.62	16.55
Current Yield (%)	3.00	2.51
Beta (5 Years, Monthly)	0.99	1.00
Number of Securities	9,464	9,248





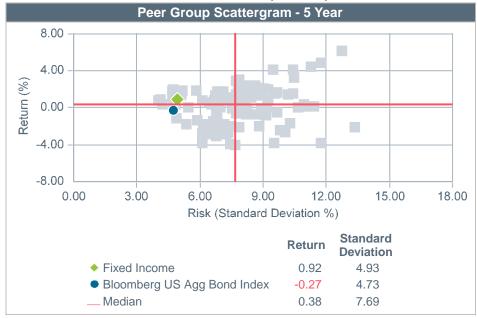


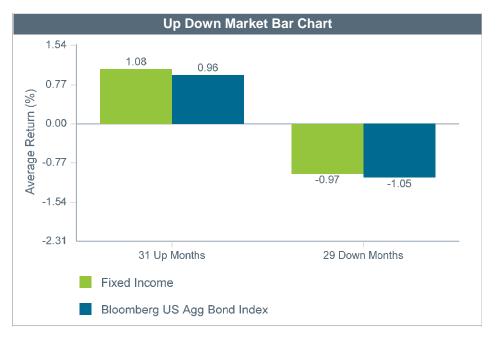
### Kansas City Police Employees' Retirement Systems Global Equity vs. MSCI ACW IM Index (USD) (Net) Portfolio Characteristics





Fixed Income vs. IM Global Fixed Income (SA + CF)





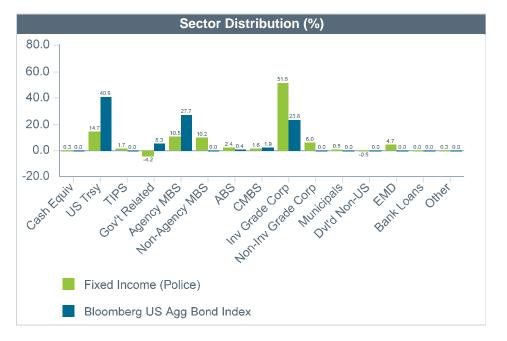


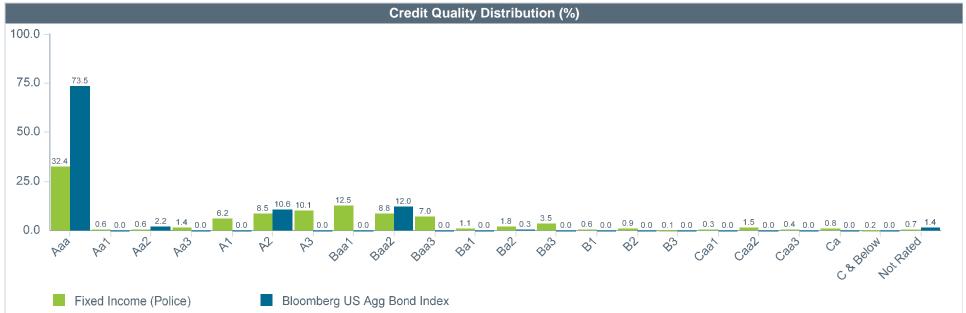
Performance shown is gross of fees. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.



### Kansas City Police Employees' Retirement Systems Fixed Income (Police) vs. Bloomberg US Agg Bond Index Portfolio Characteristics

Ро	rtfolio Characteristics	
	Portfolio	Benchmark
Effective Duration	5.54	6.20
Avg. Maturity	7.69	8.52
Avg. Quality	A3	Aa1/Aa2
Coupon Rate (%)	3.13	2.58
Yield To Maturity (%)	4.89	4.75
Holdings Count	7,839	12,641
Holdings Count	7,839	12,641





Allocation to "Other" consists of Convertible Bonds, Preferred Stock, and Euro/Yankee Bonds. PIMCO:Income;Inst (PIMIX) effective duration is used as modified duration.



### **Asset Allocation & Performance - Gross of Fees**

	Market Value (\$M)	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2021	2020	2019	Since Incep.	Inception Date
Global Equity														
LSV Global Large Cap Value (SA)	\$66.98	-8.14	-15.00	-20.41	-16.42	3.60	3.17	6.74	N/A	22.90	2.87	26.36	4.99	05/01/2014
MSCI Wrld Index (USD) (Net)		-6.19	-14.25	-25.42	-19.63	4.56	5.30	7.91	8.11	21.82	15.90	27.67	6.07	
Difference		-1.95	-0.75	5.01	3.21	-0.96	-2.13	-1.17	N/A	1.08	-13.03	-1.31	-1.08	
MSCI Wrld Val Index (USD) (Net)		-7.25	-13.70	-18.53	-12.67	1.76	2.21	5.64	6.14	21.94	-1.16	21.75	3.49	
Difference		-0.89	-1.30	-1.88	-3.75	1.84	0.96	1.10	N/A	0.96	4.03	4.61	1.50	
IM Global Large Cap Value Equity (SA+CF) Median		-8.52	-14.45	-22.05	-18.71	2.62	2.94	6.56	7.14	19.06	6.56	24.04	4.62	
Rank		43	60	37	35	31	48	43	N/A	15	69	32	45	
Artisan Global Opportunities (SA)	\$64.76	-3.34	-12.72	-33.17	-29.90	6.15	7.62	11.12	N/A	15.26	41.63	37.23	9.89	05/01/2014
MSCI Wrld Index (USD) (Net)		-6.19	-14.25	-25.42	-19.63	4.56	5.30	7.91	8.11	21.82	15.90	27.67	6.07	
Difference		2.85	1.53	-7.75	-10.27	1.59	2.32	3.21	N/A	-6.56	25.73	9.56	3.82	
MSCI Wrld Grth Index (USD) (Net)		-5.05	-15.06	-32.40	-26.89	6.36	7.78	9.70	9.74	21.18	33.83	33.68	8.27	
Difference		1.71	2.34	-0.77	-3.01	-0.21	-0.16	1.42	N/A	-5.92	7.80	3.55	1.62	
IM Global Large Cap Growth Equity (SA+CF) Median		-6.08	-14.53	-30.21	-26.19	5.45	6.64	9.39	9.24	17.81	29.35	31.55	7.51	
Rank		15	19	68	68	43	32	23	N/A	61	24	14	17	
NT Collective Daily ACW IM NL (CF)	\$83.78	-6.67	-13.99	-25.08	-20.41	4.06	4.61	7.75	N/A	18.12	16.73	26.89	5.86	03/01/2014
MSCI ACW IM Index (USD) (Net)		-6.64	-14.64	-25.72	-21.18	3.64	4.16	7.27	7.25	18.22	16.25	26.35	5.37	
Difference		-0.03	0.65	0.64	0.77	0.42	0.45	0.48	N/A	-0.10	0.48	0.54	0.49	
IM Global Large Cap Core Equity (SA+CF) Median		-6.82	-13.96	-24.70	-19.20	4.09	4.83	7.35	8.38	20.04	15.13	26.41	6.13	
Rank		48	52	56	56	51	56	44	N/A	64	44	46	56	
WTC-CTF Global Perspectives (CF)	\$52.24	-3.82	-12.10	-22.82	-19.01	N/A	N/A	N/A	N/A	22.80	N/A	N/A	9.62	11/01/2020
MSCI ACW Sm Cap Index (USD) (Net)		-5.27	-15.12	-26.36	-24.80	2.96	2.32	6.23	7.02	16.10	16.33	24.65	2.99	
Difference		1.45	3.02	3.54	5.79	N/A	N/A	N/A	N/A	6.70	N/A	N/A	6.63	
IM Global Small Cap Equity (SA+CF) Median		-7.04	-14.20	-29.43	-25.23	5.12	2.56	6.13	8.09	21.14	17.53	26.40	2.40	
Rank		17	20	33	14	N/A	N/A	N/A	N/A	40	N/A	N/A	29	
GQG Partners Emg Mkts Eq (CF)	\$29.48	-6.45	-11.56	-23.25	-23.30	N/A	N/A	N/A	N/A	-0.82	N/A	N/A	-7.77	11/01/2020
MSCI Emg Mkts Index (USD) (Net)		-11.57	-17.08	-27.16	-28.11	-2.07	-1.81	3.88	1.05	-2.54	18.31	18.42	-9.12	
Difference		5.12	5.52	3.91	4.81	N/A	N/A	N/A	N/A	1.72	N/A	N/A	1.35	
IM Emerging Markets Equity (SA+CF) Median		-10.21	-15.55	-26.99	-27.44	-0.57	-0.89	4.82	2.40	0.87	18.63	20.62	-7.77	
Rank		22	16	30	30	N/A	N/A	N/A	N/A	60	N/A	N/A	50	

Performance shown is gross of fees, unless otherwise noted. Performance is annualized for periods greater than one year. Manager inception dates shown represent the first full month of performance following initial funding. Fiscal year ends 04/30. RVK cautions that the interpretation of time-weighted data on non-marketable investments such as private equity is imperfect at best and can potentially be misleading. White Oak Income performance is currently unavailable.



**Asset Allocation & Performance - Gross of Fees** 

	Market Value (\$M)	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2021	2020	2019	Since Incep.	Inception Date
Fixed Income														
FCI Advisors (SA)	\$173.25	-4.62	-5.87	-15.53	-15.40	-2.88	0.29	1.03	1.23	-1.92	10.49	10.01	6.95	01/01/1975
Bloomberg US Gov't Crdt Bond Index		-4.56	-5.62	-15.10	-14.95	-3.15	-0.05	0.78	1.02	-1.75	8.93	9.71	6.76	
Difference		-0.06	-0.25	-0.43	-0.45	0.27	0.34	0.25	0.21	-0.17	1.56	0.30	0.19	
Bloomberg US Agg Bond Index		-4.75	-5.64	-14.61	-14.60	-3.26	-0.27	0.54	0.89	-1.55	7.51	8.72	N/A	
Difference		0.13	-0.23	-0.92	-0.80	0.38	0.56	0.49	0.34	-0.37	2.98	1.29	N/A	
IM U.S. Broad Market Core Fixed Income (SA+CF) Median		-4.54	-5.70	-14.43	-14.38	-2.71	0.18	1.08	1.37	-1.23	8.51	9.19	N/A	
Rank		60	75	95	85	65	38	56	70	93	6	10	N/A	
PIMCO:Income;Inst (PIMIX)	\$91.80	-1.73	-4.20	-10.51	-10.24	0.24	1.75	N/A	N/A	3.11	6.31	8.59	1.84	09/01/2017
Bloomberg US Agg Bond Index		-4.75	-5.64	-14.61	-14.60	-3.26	-0.27	0.54	0.89	-1.55	7.51	8.72	-0.36	
Difference		3.02	1.44	4.10	4.36	3.50	2.02	N/A	N/A	4.66	-1.20	-0.13	2.20	
IM Multi-Sector General Bond (MF) Median		-2.53	-6.07	-13.27	-12.99	-0.60	1.51	3.06	3.06	2.55	7.52	11.12	1.53	
Rank		25	19	26	25	24	33	N/A	N/A	45	66	82	35	
Direct Lending														
White Oak Fixed Income C LP	\$63.69	0.00	-2.52	-1.79	-1.72	3.61	N/A	N/A	N/A	6.85	3.68	9.58	6.24	04/01/2018
ICE BofAML 3 Mo US T-Bill Index+5%		0.00	0.00	0.00	1.24	4.13	5.30	5.36	5.27	5.05	5.70	7.39	5.19	
Difference		0.00	-2.52	-1.79	-2.96	-0.52	N/A	N/A	N/A	1.80	-2.02	2.19	1.05	
Real Estate														
Morgan Stanley Prime Property (CF)	\$86.89	0.21	3.65	11.26	22.17	12.50	10.88	10.84	N/A	22.89	2.31	7.38	11.61	10/01/2014
NCREIF ODCE Index (AWA) (Gross)		0.52	5.32	13.08	22.09	12.37	10.24	9.85	10.92	22.17	1.19	5.34	10.47	
Difference		-0.31	-1.67	-1.82	0.08	0.13	0.64	0.99	N/A	0.72	1.12	2.04	1.14	
PGIM Real Estate PRISA II (CF)	\$89.72	1.23	5.91	14.03	21.73	13.16	11.34	11.07	12.21	23.18	0.98	7.52	8.86	10/01/2004
NCREIF ODCE Index (AWA) (Gross)		0.52	5.32	13.08	22.09	12.37	10.24	9.85	10.92	22.17	1.19	5.34	8.61	
Difference		0.71	0.59	0.95	-0.36	0.79	1.10	1.22	1.29	1.01	-0.21	2.18	0.25	
Absolute Return														
Grosvenor FOB (CF) (Net)	\$106.51	1.06	-1.01	-7.01	-6.24	5.13	3.51	3.70	N/A	6.32	14.40	6.30	3.26	08/01/2014
HFN FOF Multi-Strat Index (Net)		-0.07	-2.68	-4.07	-3.30	4.70	3.32	3.19	3.41	6.77	9.79	6.75	2.71	
Difference		1.13	1.67	-2.94	-2.94	0.43	0.19	0.51	N/A	-0.45	4.61	-0.45	0.55	
ICE BofAML 3 Mo US T-Bill Index+5%		1.69	2.62	4.36	5.65	5.62	6.21	6.00	5.72	5.05	5.70	7.39	5.86	
Difference		-0.63	-3.63	-11.37	-11.89	-0.49	-2.70	-2.30	N/A	1.27	8.70	-1.09	-2.60	
Private Equity														
Abbott Capital Private Equity Fund LP (CF) (Net)	\$4.66	0.00	-10.15	-13.82	-16.19	9.30	10.41	10.49	10.82	20.61	22.76	10.87	6.13	10/01/2005
J.P. Morgan Private Equity III (CF) (Net)	\$1.91	-0.33	-12.42	-13.13	-10.28	13.48	12.00	10.95	12.78	56.05	11.80	7.53	7.47	04/01/2006

Performance shown is gross of fees, unless otherwise noted. Performance is annualized for periods greater than one year. Manager inception dates shown represent the first full month of performance following initial funding. Fiscal year ends 04/30. RVK cautions that the interpretation of time-weighted data on non-marketable investments such as private equity is imperfect at best and can potentially be misleading. White Oak Income performance is currently unavailable.



**Asset Allocation & Performance - Net of Fees** 

	Market Value (\$M)	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2021	2020	2019	Since Incep.	Inception Date
Global Equity														
LSV Global Large Cap Value (SA)	\$66.98	-8.28	-15.13	-20.78	-16.94	2.96	2.52	6.06	N/A	22.15	2.22	25.58	4.33	05/01/2014
MSCI Wrld Index (USD) (Net)		-6.19	-14.25	-25.42	-19.63	4.56	5.30	7.91	8.11	21.82	15.90	27.67	6.07	
Difference		-2.09	-0.88	4.64	2.69	-1.60	-2.78	-1.85	N/A	0.33	-13.68	-2.09	-1.74	
MSCI Wrld Val Index (USD) (Net)		-7.25	-13.70	-18.53	-12.67	1.76	2.21	5.64	6.14	21.94	-1.16	21.75	3.49	
Difference		-1.03	-1.43	-2.25	-4.27	1.20	0.31	0.42	N/A	0.21	3.38	3.83	0.84	
Artisan Global Opportunities (SA)	\$64.76	-3.51	-12.88	-33.54	-30.41	5.40	6.85	10.32	N/A	14.46	40.64	36.25	9.11	05/01/2014
MSCI Wrld Index (USD) (Net)		-6.19	-14.25	-25.42	-19.63	4.56	5.30	7.91	8.11	21.82	15.90	27.67	6.07	
Difference		2.68	1.37	-8.12	-10.78	0.84	1.55	2.41	N/A	-7.36	24.74	8.58	3.04	
MSCI Wrld Grth Index (USD) (Net)		-5.05	-15.06	-32.40	-26.89	6.36	7.78	9.70	9.74	21.18	33.83	33.68	8.27	
Difference		1.54	2.18	-1.14	-3.52	-0.96	-0.93	0.62	N/A	-6.72	6.81	2.57	0.84	
NT Collective Daily ACW IM NL (CF)	\$83.78	-6.69	-14.02	-25.13	-20.48	3.97	4.51	7.65	N/A	18.01	16.62	26.78	5.77	03/01/2014
MSCI ACW IM Index (USD) (Net)		-6.64	-14.64	-25.72	-21.18	3.64	4.16	7.27	7.25	18.22	16.25	26.35	5.37	
Difference		-0.05	0.62	0.59	0.70	0.33	0.35	0.38	N/A	-0.21	0.37	0.43	0.40	
WTC-CTF Global Perspectives (CF)	\$52.24	-4.02	-12.40	-23.31	-19.69	N/A	N/A	N/A	N/A	21.82	N/A	N/A	8.73	11/01/2020
MSCI ACW Sm Cap Index (USD) (Net)		-5.27	-15.12	-26.36	-24.80	2.96	2.32	6.23	7.02	16.10	16.33	24.65	2.99	
Difference		1.25	2.72	3.05	5.11	N/A	N/A	N/A	N/A	5.72	N/A	N/A	5.74	
GQG Partners Emg Mkts Eq (CF)	\$29.48	-6.65	-11.86	-23.73	-23.93	N/A	N/A	N/A	N/A	-1.61	N/A	N/A	-8.51	11/01/2020
MSCI Emg Mkts Index (USD) (Net)		-11.57	-17.08	-27.16	-28.11	-2.07	-1.81	3.88	1.05	-2.54	18.31	18.42	-9.12	
Difference		4.92	5.22	3.43	4.18	N/A	N/A	N/A	N/A	0.93	N/A	N/A	0.61	
Fixed Income														
FCI Advisors (SA)	\$173.25	-4.66	-5.93	-15.62	-15.53	-3.02	0.14	0.88	N/A	-2.06	10.33	9.85	1.49	07/01/2013
Bloomberg US Gov't Crdt Bond Index		-4.56	-5.62	-15.10	-14.95	-3.15	-0.05	0.78	1.02	-1.75	8.93	9.71	1.36	
Difference		-0.10	-0.31	-0.52	-0.58	0.13	0.19	0.10	N/A	-0.31	1.40	0.14	0.13	
Bloomberg US Agg Bond Index		-4.75	-5.64	-14.61	-14.60	-3.26	-0.27	0.54	0.89	-1.55	7.51	8.72	1.21	
Difference		0.09	-0.29	-1.01	-0.93	0.24	0.41	0.34	N/A	-0.51	2.82	1.13	0.28	
PIMCO:Income;Inst (PIMIX)	\$91.80	-1.86	-4.41	-10.85	-10.70	-0.26	1.23	N/A	N/A	2.61	5.79	8.04	1.32	09/01/2017
Bloomberg US Agg Bond Index		-4.75	-5.64	-14.61	-14.60	-3.26	-0.27	0.54	0.89	-1.55	7.51	8.72	-0.36	
Difference		2.89	1.23	3.76	3.90	3.00	1.50	N/A	N/A	4.16	-1.72	-0.68	1.68	

Performance shown is net of fees. Performance is annualized for periods greater than one year. Manager inception dates shown represent the first full month of performance following initial funding. Fiscal year ends 04/30. RVK cautions that the interpretation of time-weighted data on non-marketable investments such as private equity is imperfect at best and can potentially be misleading. White Oak Fixed Income performance is currently unavailable.



**Asset Allocation & Performance - Net of Fees** 

	Market Value (\$M)	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2021	2020	2019	Since Incep.	Inception Date
Direct Lending														
White Oak Fixed Income C LP	\$63.69	0.00	-2.52	-1.79	-2.53	2.29	N/A	N/A	N/A	4.60	2.66	7.41	4.67	04/01/2018
ICE BofAML 3 Mo US T-Bill Index+5%		0.00	0.00	0.00	1.24	4.13	5.30	5.36	5.27	5.05	5.70	7.39	5.19	
Difference		0.00	-2.52	-1.79	-3.77	-1.84	N/A	N/A	N/A	-0.45	-3.04	0.02	-0.52	
Real Estate														
Morgan Stanley Prime Property (CF)	\$86.89	-0.06	2.99	10.20	20.78	11.24	9.67	9.63	N/A	21.48	1.26	6.17	10.39	10/01/2014
NCREIF ODCE Index (AWA) (Net)		0.35	4.90	12.40	21.00	11.39	9.27	8.87	9.92	21.02	0.34	4.39	9.49	
Difference		-0.41	-1.91	-2.20	-0.22	-0.15	0.40	0.76	N/A	0.46	0.92	1.78	0.90	
PGIM Real Estate PRISA II (CF)	\$89.72	0.96	5.34	13.12	20.44	11.92	10.12	9.88	N/A	21.86	-0.16	6.32	11.12	07/01/2013
NCREIF ODCE Index (AWA) (Net)		0.35	4.90	12.40	21.00	11.39	9.27	8.87	9.92	21.02	0.34	4.39	9.81	
Difference		0.61	0.44	0.72	-0.56	0.53	0.85	1.01	N/A	0.84	-0.50	1.93	1.31	
Absolute Return														
Grosvenor FOB (CF)	\$106.51	1.06	-1.01	-7.01	-6.24	5.13	3.51	3.70	N/A	6.32	14.40	6.30	3.26	08/01/2014
HFN FOF Multi-Strat Index (Net)		-0.07	-2.68	-4.07	-3.30	4.70	3.32	3.19	3.41	6.77	9.79	6.75	2.71	
Difference		1.13	1.67	-2.94	-2.94	0.43	0.19	0.51	N/A	-0.45	4.61	-0.45	0.55	
ICE BofAML 3 Mo US T-Bill Index+5%		1.69	2.62	4.36	5.65	5.62	6.21	6.00	5.72	5.05	5.70	7.39	5.86	
Difference		-0.63	-3.63	-11.37	-11.89	-0.49	-2.70	-2.30	N/A	1.27	8.70	-1.09	-2.60	
Private Equity														
Abbott Capital Private Equity LP (CF)	\$4.66	0.00	-10.15	-13.82	-16.19	9.30	10.41	10.49	N/A	20.61	22.76	10.87	11.15	07/01/2013
J.P. Morgan Private Equity III (CF)	\$1.91	-0.33	-12.42	-13.13	-10.28	13.48	12.00	10.95	N/A	56.05	11.80	7.53	13.12	07/01/2013

Performance shown is net of fees. Performance is annualized for periods greater than one year. Manager inception dates shown represent the first full month of performance following initial funding. Fiscal year ends 04/30. RVK cautions that the interpretation of time-weighted data on non-marketable investments such as private equity is imperfect at best and can potentially be misleading. White Oak Fixed Income performance is currently unavailable.



## Kansas City Police Employees' Retirement Systems KCPERS Police Private Investment Lagged Performance Asset Allocation & Performance

	Market Value (M)	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2021	2020	2019	Since Incep.	Inception Date
Police - Private Equity	\$6.62	-10.84	-10.74	-13.56	-10.46	11.17	11.73	10.82	N/A	28.38	20.44	10.04	12.09	07/01/2013
Abbott Capital Private Equity LP (CF) (Net)	\$4.66	-10.15	-10.15	-13.82	-14.02	9.48	11.28	10.57	N/A	20.61	22.76	10.87	11.47	07/01/2013
Cambridge US Prvt Eq Index		-3.74	-3.74	-3.18	8.60	20.19	17.95	15.64	15.72	40.41	21.67	13.82	15.67	
Difference		-6.41	-6.41	-10.64	-22.62	-10.71	-6.67	-5.07	N/A	-19.80	1.09	-2.95	-4.20	
J.P. Morgan Private Equity III (CF) (Net)	\$1.96	-12.44	-12.13	-12.84	0.71	15.95	12.86	11.45	N/A	56.05	11.80	7.53	13.55	07/01/2013
Cambridge US Prvt Eq Index		-3.74	-3.74	-3.18	8.60	20.19	17.95	15.64	15.72	40.41	21.67	13.82	15.67	
Difference		-8.70	-8.39	-9.66	-7.89	-4.24	-5.09	-4.19	N/A	15.64	-9.87	-6.29	-2.12	
Police - Direct Lending	\$63.69	-2.52	-2.52	-1.79	-0.77	2.78	N/A	N/A	N/A	4.60	2.66	7.41	4.95	04/01/2018
White Oak Fixed Income C LP	\$63.69	-2.52	-2.52	-1.79	-0.77	2.78	N/A	N/A	N/A	4.60	2.66	7.41	4.95	04/01/2018
ICE BofAML 3 Mo US T-Bill Index+5%		1.33	0.91	2.62	5.18	5.66	6.17	5.93	5.67	5.05	5.70	7.39	6.15	
Difference		-3.85	-3.43	-4.41	-5.95	-2.88	N/A	N/A	N/A	-0.45	-3.04	0.02	-1.20	

Performance shown is net of fees, unless otherwise noted. Performance and market values are preliminary and subject to change. Performance is annualized for periods greater than one year. Manager inception dates shown represent the first full month of performance following initial funding. Fiscal year ends 04/30. RVK cautions that the interpretation of time-weighted data on non-marketable investments such as private equity is imperfect at best and can potentially be misleading.



### Kansas City Police Employees' Retirement Systems Alternative Investment Fund Performance Listing

Fund Name	Vintage	Asset Class	Commitment (\$)	Paid In Capital (\$)	Distributions (\$)	Valuation (\$)	Fund IRR (%)	Quartile	Index IRR (%)	Fund Multiple
Abbott Capital Private Equity V LP	2005	Private Equity - Fund of Funds	15,400,000	14,876,400	20,993,330	601,217	6.62	3rd	9.84	1.45
J.P. Morgan European Corporate Financi Investors III	ce 2006	Private Equity - Non-US Private Equity	1,500,000	1,444,670	2,158,650	107,240	7.72	3rd	10.20	1.57
J.P. Morgan U.S. Corporate Finance Investors III	2006	Private Equity - Buyout	6,000,000	6,038,126	11,743,150	664,945	13.42	1st	8.83	2.05
J.P. Morgan Venture Capital Investors II	l 2006	Private Equity - Venture	2,500,000	2,543,327	3,751,498	1,183,319	9.81	1st	11.51	1.94
Abbott Capital Private Equity VI LP	2008	Private Equity - Fund of Funds	10,000,000	9,950,088	15,170,011	4,062,174	13.19	2nd	13.35	1.93
			35,400,000	34,852,612	53,816,639	6,618,895	9.77		10.58	1.73

Certain valuations (marked with a \*\*) are preliminary estimates of valuation as of the date of reporting and reflect the estimated impact of subsequent net cash contributions/distributions. These figures may be used in calculations contained in this report. Index IRR represents the dollar-weighted returns calculated using the S&P 500 Index (Cap Wtd) assuming an index investment with the same cash flow timing. IRRs are shown only for investments with one year or more of cash flows and for which an accurate IRR could be calculated. Applicable IRRs are marked with 'N/M' for not material. Fund IRR is the annualized since-inception net internal rate for the indicated fund or composite. Fund Multiple is the since inception sum of distributions and valuation divided by paid in capital. Quartile data is based on information provided by Preqin.



Alternative Investment	6/30/2022	6/30/2021	6/30/2020	6/30/2019	6/30/2018	6/30/2017	6/30/2016	6/30/2015	6/30/2014
Abbott Capital Private Equity V LP	6.62	6.91	6.62	6.79	6.90	6.86	6.89	7.54	7.35
Index	9.84	10.46	9.58	9.65	9.63	9.38	8.90	9.36	9.55
Difference	-3.22	-3.55	-2.96	-2.86	-2.73	-2.52	-2.01	-1.82	-2.20
Abbott Capital Private Equity VI LP	13.19	13.93	12.06	12.61	12.30	11.14	9.86	9.16	7.28
Index	13.35	14.25	12.84	13.26	13.61	13.41	12.41	15.12	18.34
Difference	-0.16	-0.32	-0.78	-0.65	-1.31	-2.27	-2.55	-5.96	-11.06
JP Morgan European Corporate Finance Investors III	7.72	7.61	7.43	7.47	7.55	7.18	7.17	6.24	8.15
Index	10.20	10.91	9.99	10.11	10.08	9.81	9.20	9.86	10.15
Difference	-2.48	-3.30	-2.56	-2.64	-2.53	-2.63	-2.03	-3.62	-2.00
JP Morgan US Corporate Finance Investors III	13.42	13.41	13.09	13.21	13.32	13.43	13.23	13.70	12.30
Index	8.83	8.83	8.83	8.83	8.83	8.83	8.78	8.99	9.05
Difference	4.59	4.58	4.26	4.38	4.49	4.60	4.45	4.71	3.25
JP Morgan Venture Capital Investors III	9.81	10.22	9.07	9.69	9.85	9.92	10.54	12.08	10.98
Index	11.51	12.38	11.25	11.44	11.51	11.27	10.62	11.55	12.23
Difference	-1.70	-2.16	-2.18	-1.75	-1.66	-1.35	-0.08	0.53	-1.25
Total PE Composite Performance	9.77	10.04	9.29	9.52	9.50	9.26	9.05	9.49	8.86
Total Index Performance	10.58	11.05	10.26	10.35	10.37	10.10	9.51	10.15	10.50
Difference	-0.81	-1.01	-0.97	-0.83	-0.87	-0.84	-0.46	-0.66	-1.64

<sup>\*</sup>Index IRR represents the dollar-weighted returns calculated using the S&P 500 Index (Cap Wtd) assuming an index investment with the same cash flow timing. IRRs are shown only for investments with one year or more of cash flows and for which an accurate IRR could be calculated. Fund IRR is the annualized since-inception net internal rate for the indicated fund or composite. Applicable IRRs are marked with 'N/M' for not material.



	LSV Global Large Cap Value (SA)											
Periods Ending  Beginning Net Cash Flow (\$)  Gain/Loss (\$)  Market Value (\$)												
Quarter	72,917,182	115,381	-6,053,123	66,979,440	-8.28							

Artisan Global Opportunities (SA)											
Periods Ending	Beginning Market Value (\$)	Net Cash Flow (\$)	Gain/Loss (\$)	Ending Market Value (\$)	% Return						
Quarter	66,993,774	135,213	-2,369,809	64,759,178	-3.51						

NT Collective Daily ACW IM NL (CF)						
Periods Ending	Beginning Market Value (\$)	Net Cash Flow (\$)	Gain/Loss (\$)	Ending Market Value (\$)	% Return	
Quarter	89,764,360	20,221	-6,005,969	83,778,611	-6.69	

WTC-CTF Global Perspectives (CF)					
Periods Ending	Beginning Market Value (\$)	Net Cash Flow (\$)	Gain/Loss (\$)	Ending Market Value (\$)	% Return
Quarter	54,425,663	-	-2,186,401	52,239,262	-4.02

Ending 0/ Barren
Gain/Loss (\$)
<b>-2,098,204</b> 29,475,672 <b>-6.65</b>
(\$

FCI Advisors (SA)					
Periods Ending	Beginning Market Value (\$)	Net Cash Flow (\$)	Gain/Loss (\$)	Ending Market Value (\$)	% Return
Quarter	181,648,943	65,549	-8,466,991	173,247,501	-4.66

Performance shown is net of fees and will not match subsequent comparative performance gross of fees.



### **Kansas City Police Employees' Retirement Systems** KCPERS Police Schedule of Investable Assets by Manager

PIMCO:Income;Inst (PIMIX)						
Periods Ending	Beginning Market Value (\$)	Net Cash Flow (\$)	Gain/Loss (\$)	Ending Market Value (\$)	% Return	
Quarter	99,516,413	-6,012,896	-1,700,682	91,802,835	-1.86	

Morgan Stanley Prime Property (CF)						
Beginning Market Value (\$)	Net Cash Flow (\$)	Gain/Loss (\$)	Ending Market Value (\$)	% Return		
86,940,844	-	-48,560	86,892,284	-0.06		
	Market Value (\$)	Beginning Net Market Value (\$) Cash Flow (\$)	Beginning Net Gain/Loss (\$) Market Value (\$) Cash Flow (\$)	Beginning Net Gain/Loss (\$) Ending Market Value (\$) Cash Flow (\$) Market Value (\$)		

PGIM Real Estate PRISA II (CF)						
Periods Ending	Beginning Market Value (\$)	Net Cash Flow (\$)	Gain/Loss (\$)	Ending Market Value (\$)	% Return	
Quarter	88,868,153	-	848,901	89,717,054	0.96	

Grosvenor FOB (CF)						
Periods Ending	Beginning Market Value (\$)	Net Cash Flow (\$)	Gain/Loss (\$)	Ending Market Value (\$)	% Return	
Quarter	105,398,419	-	1,113,241	106,511,660	1.06	

Manager	Fee Schedule	Aggregate Assets (\$)	Estimated Annual Fee (%)	Market Value as of 9/30/2022	Estimated Annual Fee (\$)
LSV Global Large Cap Value (SA)	0.75 % of First \$25 M 0.65 % of Next \$25 M 0.55 % of Next \$50 M 0.45 % Thereafter	79,020,377	0.64	66,979,440	431,959
Artisan Global Opportunities (SA)	0.80 % of First \$50 M 0.60 % of Next \$50 M 0.50 % Thereafter	64,759,178	0.75	64,759,178	488,555
NT Collective Daily ACW IM NL (CF)	0.10 % of First \$50 M 0.08 % Thereafter	97,449,580	0.09	83,778,611	75,620
WTC-CTF Global Perspectives (CF)	1.00 % of Assets	60,839,994	1.00	52,239,262	522,393
GQG Partners Emg Mkts Eq (CF)	0.85 % of First \$25 M 0.80 % Thereafter	34,537,221	0.84	29,475,672	246,473
FCI Advisors (SA)	0.50 % of First \$5 M 0.40 % of Next \$5 M 0.30 % of Next \$10 M 0.20 % of Next \$10 M 0.12 % Thereafter	203,627,800	0.15	173,247,501	258,094
PIMCO:Income;Inst (PIMIX)	0.50 % of Assets	110,392,268	0.50	91,802,835	459,014
White Oak Fixed Income C LP	1.00% of Assets	74,414,692	1.00	63,685,853	636,859
Morgan Stanley Prime Property (CF)	0.84 % of Assets	101,565,077	0.84	86,892,284	729,895



#### Kansas City Police Employees' Retirement Systems KCPERS Police Fee Schedule

Manager	Manager Fee Schedule		Estimated Annual Fee (%)	Market Value as of 9/30/2022	Estimated Annual Fee (\$)
PGIM Real Estate PRISA II (CF)	1.20 % of First \$25 M 1.15 % of Next \$25 M 1.05 % of Next \$50 M 0.95 % of Next \$100 M 0.90 % of Next \$100 M 0.85 % Thereafter	104,791,987	1.11	89,717,054	991,435
Grosvenor FOB (CF)	1.15 % of First \$25 M 1.00 % of Next \$25 M 0.80 % of Next \$50 M 0.60 % Thereafter	122,878,086	0.87	106,511,660	931,618
Coltv. Short Term Invt. Fund	0.15 % of Assets	1,866,666	0.15	778,114	1,167

#### Fee Notes:

White Oak Fixed Income C LP - Fee structure is 1.25% when aggregate assets are below \$10M, and 1.00% when aggregate assets are above \$10M.

The incentive fee for Morgan Stanley Prime Property (CF) for each calendar year is capped at 35 basis points per annum.

The fee schedule shown for PGIM Real Estate PRISA II (CF) represents the maximum annual fee and may be lower depending on the fund's operating cash flow.

Grosvenor FOB (CF) fee has a 75 basis point minimum. The fee schedule shown for Grosvenor FOB (CF) excludes the underlying manager's fees.

Abbott Capital Private Equity LP (CF) consists of two separate funds: Abbott Capital Private Equity V LP and Abbott Capital Private Equity VI LP. The annual management fee for both funds is 1.00% with 0% carried interest for initial 8 years thereafter the fee is reduced by 10% per year.

JP Morgan Private Equity III (CF) consists of three separate funds: European Corporate Finance Investors III, U.S. Corporate Finance Investors III, and Venture Capital Investors III. The annual management fee pertains to the percentage of committed capital, is level for the first eight years, and is then reduced each successive year by 10% of the preceding year's fee. Each fund is also subject to an incentive/carried interest fee, which is 10% for secondary partnership investments and 20% for direct co-investments.

European and U.S. Corporate Finance Investors III

Venture Capital Investors III

Management fee for initial 8 years: 0.90%

Management fee for initial 8 years: 1.10%

Average fee over 15 years: 0.76%

Average fee over 15 years: 0.93%

Mutual fund fees are sourced from Morningstar and/or the investment manager.



# Civilian Plan



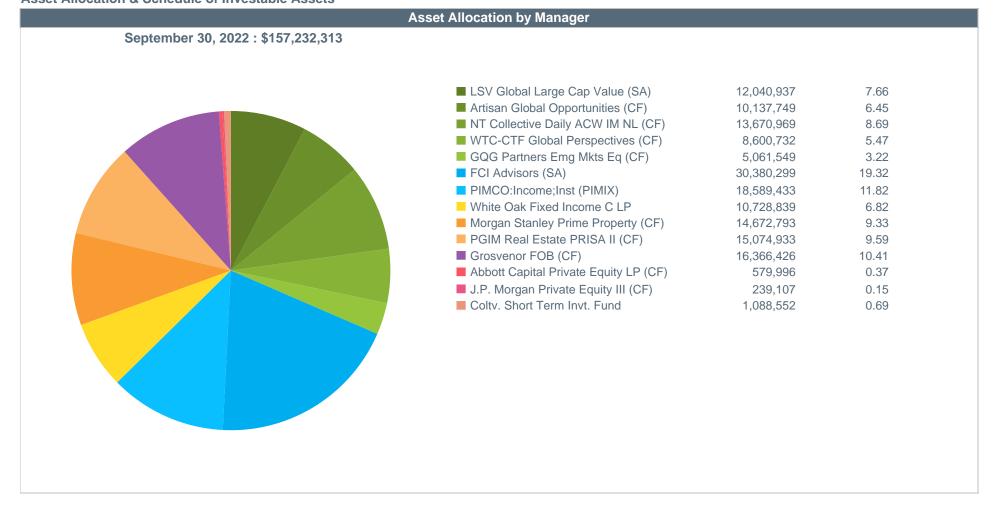
#### Kansas City Civilian Employees' Retirement Systems (KCPERS) Investment Objective Review As of September 30, 2022

Asset Allocation												
	Yes	No	Current	Min.	Target	Max.						
Global Equity		✓	31.5%	33%	38%	43%						
Fixed Income	✓		31.1%	26%	31%	36%						
Direct Lending	✓		6.8%	4%	7%	10%						
Real Estate			18.9%	9%	13%	17%						
Absolute Return	✓		10.4%	7%	11%	15%						
Private Equity		1	0.5%	0%	0%	0%						
Cash Equivalent	✓		0.7%	0%	0%	5%						
Total Fund	✓		100%	95%	100%	100%						

Performance (very full market cycle of 8 years)  Total Fund Comments  To					
Total fund composite rate of return exceeds the current Target Allocation Index (gross of fees) vers Sysars.  The total fund return is equal to or exceeds 7.1% annualized return (gross of fees) vers Sysars.  Sidebia Equity  The global equity composite rate of return exceeds the benchmark (net of fees).  The global equity composite rate of return exceeds the benchmark (net of fees).  The global equity composite rate of return exceeds the benchmark (net of fees).  The manager performed at the fortieth (40th) percentile or better.  LSV Global Large Cap Value (SA)  The manager performed at the fortieth (40th) percentile or better.  44  **Arisana Global Opportunities (SA)  The manager performed at the fortieth (40th) percentile or better.  44  **Arisana Global Opportunities (SA)  The manager performed at the fortieth (40th) percentile or better.  29  **NT Collective Daily ACW MI NL (CF)  The manager performed at the fortieth (40th) percentile or better.  3  **WTC-CTF Global Perspectives (CF)  WTC-CTF Global Perspectives (CF)  The manager performed at the fortieth (40th) percentile or better.  3  **WTC-CTF Global Perspectives (CF)  The manager performed at the fortieth (40th) percentile or better.  18  **WTC-CTF Global Perspectives (CF)  The manager performed at the fortieth (40th) percentile or better.  18  **WTC-CTF Global Perspectives (CF)  The manager performed at the fortieth (40th) percentile or better.  19  **The manager performed at the fortieth (40th) percentile or better.  10  **The manager performed at the fortieth (40th) percentile or better.  10  **The fixed income  The fixed income  The fixed income  The fixed income composite rate of return exceeds the benchmark (net of fees).  15  **The manager performed at the fortieth (40th) percentile or better.  16  **Collectives (SA)  **The manager performed at the fortieth (40th) percentile or better.  16  **The fixed income  The fixed income  The manager performed at the fortieth (40th) percentile or better.  16  **The manager performed at the fortieth (40th) p			Yes	No	Comments
Total fund composite rate of return exceeds the current Target Allocation Index (gross of fees) vers Sysars.  The total fund return is equal to or exceeds 7.1% annualized return (gross of fees) vers Sysars.  Sidebia Equity  The global equity composite rate of return exceeds the benchmark (net of fees).  The global equity composite rate of return exceeds the benchmark (net of fees).  The global equity composite rate of return exceeds the benchmark (net of fees).  The manager performed at the fortieth (40th) percentile or better.  LSV Global Large Cap Value (SA)  The manager performed at the fortieth (40th) percentile or better.  44  **Arisana Global Opportunities (SA)  The manager performed at the fortieth (40th) percentile or better.  44  **Arisana Global Opportunities (SA)  The manager performed at the fortieth (40th) percentile or better.  29  **NT Collective Daily ACW MI NL (CF)  The manager performed at the fortieth (40th) percentile or better.  3  **WTC-CTF Global Perspectives (CF)  WTC-CTF Global Perspectives (CF)  The manager performed at the fortieth (40th) percentile or better.  3  **WTC-CTF Global Perspectives (CF)  The manager performed at the fortieth (40th) percentile or better.  18  **WTC-CTF Global Perspectives (CF)  The manager performed at the fortieth (40th) percentile or better.  18  **WTC-CTF Global Perspectives (CF)  The manager performed at the fortieth (40th) percentile or better.  19  **The manager performed at the fortieth (40th) percentile or better.  10  **The manager performed at the fortieth (40th) percentile or better.  10  **The fixed income  The fixed income  The fixed income  The fixed income composite rate of return exceeds the benchmark (net of fees).  15  **The manager performed at the fortieth (40th) percentile or better.  16  **Collectives (SA)  **The manager performed at the fortieth (40th) percentile or better.  16  **The fixed income  The fixed income  The manager performed at the fortieth (40th) percentile or better.  16  **The manager performed at the fortieth (40th) p					
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PGIM Real Estate PRISA II (CF)  The manager return exceeds the benchmark (net of fees).  Absolute Return  The absolute return composite rate of return exceeds the benchmark (net of fees).  Grosvenor FOB (CF)  The manager return exceeds the benchmark (net of fees).  3.51%  ✓  Private Equity		0.67%	1		
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Grosvenor FOB (CF)  The manager return exceeds the benchmark (net of fees).  7.51%  ✓  Private Equity					
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The Investment Policy Review for the Police Retirement System of Kansas City, Missouri examines client specific net returns, except for the Total Fund which examines client specific gross return. Managers that do not have 5 years of client specific net performance populate are backfilled with composite/manager gross performance until sufficient historical client-specific net performance is available. White Oak Fixed Income C LP and GQG Partners Emg Mkts Eq (CF) do not have 5 years of composite level returns. The two private equity managers are in their final stages of distributing capital; performance for these managers is not relevant.





Schedule of Investable Assets											
Periods Ending	Beginning Market Value (\$)	Net Cash Flow (\$)	Gain/Loss (\$)	Ending Market Value (\$)	% Return						
QTD	162,407,416	-480,004	-4,695,099	157,232,313	-2.92						
CYTD	182,874,897	-1,979,189	-23,663,395	157,232,313	-13.06						
FYTD	168,095,609	-881,844	-9,981,452	157,232,313	-5.98						

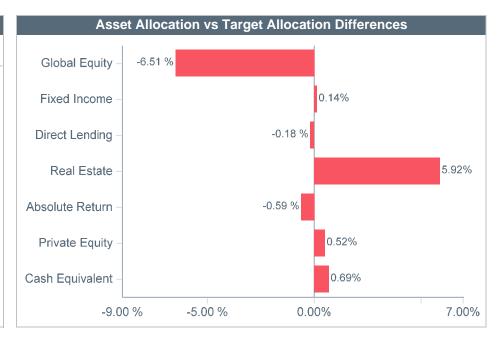
Allocations shown may not sum up to 100% exactly due to rounding. Performance shown is net of fees.

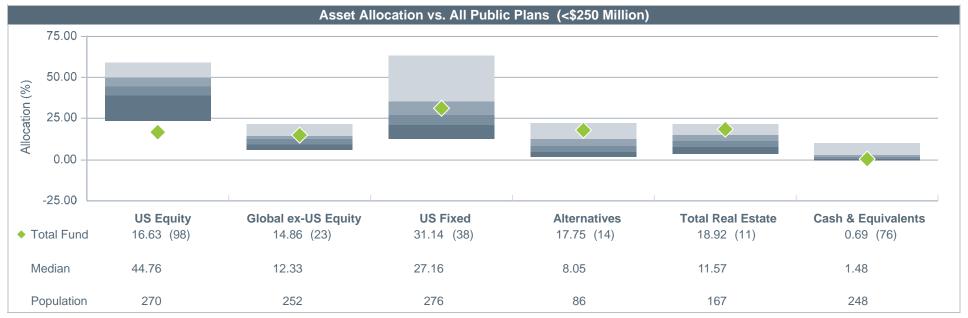


### Kansas City Police Employees' Retirement Systems KCPERS Civilian Employees

**Total Fund vs. All Public Plans (<\$250 Million)** 

	Asset Alloca	ition vs. Tar	get Alloca	ation	
	Market Value (\$)	Allocation (%)	Target (%)	Minimum (%)	Maximum (%)
Total Fund	157,232,313	100.00	100.00	-	-
Global Equity	49,511,935	31.49	38.00	33.00	43.00
Fixed Income	48,969,732	31.14	31.00	26.00	36.00
Direct Lending	10,728,839	6.82	7.00	4.00	10.00
Real Estate	29,747,726	18.92	13.00	9.00	17.00
Absolute Return	16,366,426	10.41	11.00	7.00	15.00
Private Equity	819,103	0.52	0.00	0.00	0.00
Cash Equivalent	1,088,552	0.69	0.00	0.00	5.00





Parentheses contain percentile ranks. Allocations may not sume up to 100% exactly due to rounding. The Board has elected not to make additional Private Equity commitments and as a result, the Private Equity allocation is winding down. The Board-approved rebalancing plan is in the process of being implemented.



## Kansas City Police Employees' Retirement Systems KCPERS Civilian Employees

Asset Al	location	& Perf	formance
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	Market Value (\$M)	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2021	2020	2019
Total Fund (Gross)	\$157.23	-2.80	-5.78	-12.73	-9.96	4.36	4.75	6.35	6.13	10.75	12.37	15.42
All Public Plans (<\$250 Million)		-4.60	-9.35	-18.45	-14.73	3.29	4.63	6.35	6.53	13.10	12.88	19.39
Rank		10	6	6	12	26	42	51	69	82	56	91
Total Fund	\$157.23	-2.92	-5.98	-13.06	-10.44	3.82	4.21	5.81	N/A	10.13	11.83	14.80
Target Allocation Index		-3.67	-6.43	-12.89	-9.78	3.10	4.14	5.38	5.59	9.89	10.25	14.39
Difference		0.75	0.45	-0.17	-0.66	0.72	0.07	0.43	N/A	0.24	1.58	0.41
7.1% Annualized Return		1.73	2.90	5.28	7.10	7.10	7.10	7.10	7.10	7.10	7.10	7.10
Difference		-4.65	-8.88	-18.34	-17.54	-3.28	-2.89	-1.29	N/A	3.03	4.73	7.70
Global Equity	\$49.51	-6.04	-13.67	-25.76	-22.21	3.95	4.17	7.67	N/A	16.82	18.10	27.74
MSCI ACW IM Index (USD) (Net)		-6.64	-14.64	-25.72	-21.18	3.64	4.16	7.27	7.25	18.22	16.25	26.35
Difference		0.60	0.97	-0.04	-1.03	0.31	0.01	0.40	N/A	-1.40	1.85	1.39
IM Global Large Cap Equity (MF) Median		-7.19	-14.62	-28.57	-24.29	2.97	4.74	7.38	7.68	16.85	20.30	29.63
Rank		24	22	21	35	35	58	43	N/A	52	61	72
Fixed Income	\$48.97	-3.60	-5.38	-13.84	-13.72	-1.94	0.65	1.87	N/A	-0.37	8.97	9.31
Bloomberg US Agg Bond Index		-4.75	-5.64	-14.61	-14.60	-3.26	-0.27	0.54	0.89	-1.55	7.51	8.72
Difference		1.15	0.26	0.77	0.88	1.32	0.92	1.33	N/A	1.18	1.46	0.59
IM Global Fixed Income (MF) Median		-4.13	-7.32	-17.36	-17.63	-4.56	-1.13	0.24	-0.26	-2.73	8.15	8.08
Rank		37	25	39	33	16	10	13	N/A	10	40	25

Performance shown is net of fees, unless otherwise noted. Performance is annualized for periods greater than one year. Manager inception dates shown represent the first full month of performance following initial funding. Fiscal year ends 04/30. RVK cautions that the interpretation of time-weighted data on non-marketable investments such as private equity is imperfect at best and can potentially be misleading. Direct Lending performance is currently unavailable.

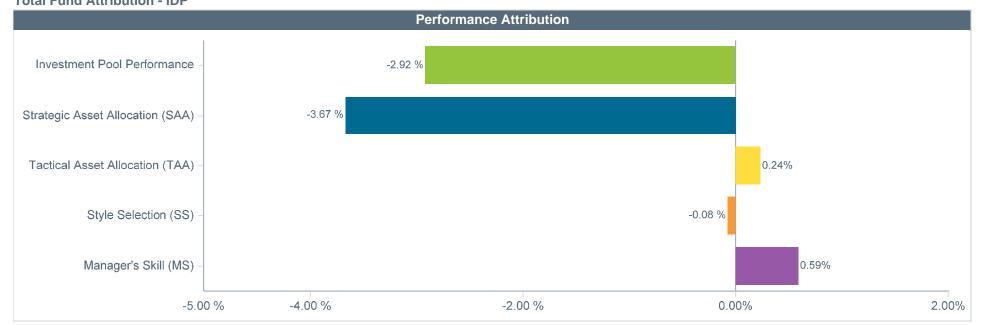


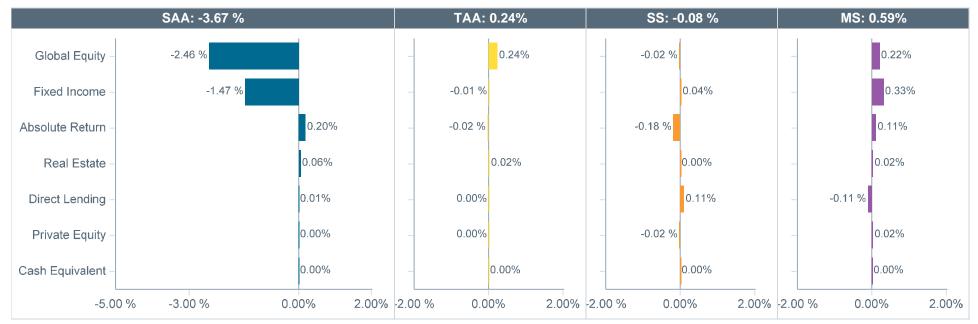
#### Kansas City Police Employees' Retirement Systems KCPERS Civilian Employees Asset Allocation & Performance

	Market Value (\$M)	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2021	2020	2019
Direct Lending	\$10.73	0.00	-2.52	-1.79	-2.53	2.29	N/A	N/A	N/A	4.60	2.66	7.41
ICE BofAML 3 Mo US T-Bill Index+5%		0.00	0.00	0.00	1.24	4.13	5.30	5.36	5.27	5.05	5.70	7.39
Difference		0.00	-2.52	-1.79	-3.77	-1.84	N/A	N/A	N/A	-0.45	-3.04	0.02
Real Estate	\$29.75	0.45	4.16	11.66	20.61	11.62	9.92	9.77	N/A	21.77	0.56	6.24
NCREIF ODCE Index (AWA) (Net)		0.35	4.90	12.40	21.00	11.39	9.27	8.87	9.92	21.02	0.34	4.39
Difference		0.10	-0.74	-0.74	-0.39	0.23	0.65	0.90	N/A	0.75	0.22	1.85
Absolute Return	\$16.37	1.06	-1.01	-7.01	-6.24	4.46	3.16	3.71	N/A	6.32	11.40	7.81
Long Term Absolute Return Custom Benchmark		1.69	2.62	4.36	5.65	5.56	6.17	6.10	N/A	5.05	5.62	7.40
Difference		-0.63	-3.63	-11.37	-11.89	-1.10	-3.01	-2.39	N/A	1.27	5.78	0.41
Absolute Return Custom Benchmark		-0.07	-2.68	-4.07	-3.30	4.88	3.83	4.16	N/A	6.77	9.28	10.04
Difference		1.13	1.67	-2.94	-2.94	-0.42	-0.67	-0.45	N/A	-0.45	2.12	-2.23
Private Equity	\$0.82	-0.10	-10.84	-13.65	-14.50	10.56	10.97	10.71	N/A	28.80	20.47	10.10
Cambridge US Prvt Eq Index (1 Qtr Lag)		-3.74	-3.18	2.64	8.60	20.19	17.95	15.64	15.72	48.25	12.66	7.73
Difference		3.64	-7.66	-16.29	-23.10	-9.63	-6.98	-4.93	N/A	-19.45	7.81	2.37

See addendum for custom index comments. 7.1% annualized return represents the System's long-term return goal based on the System's current actuarial assumed rate of return.



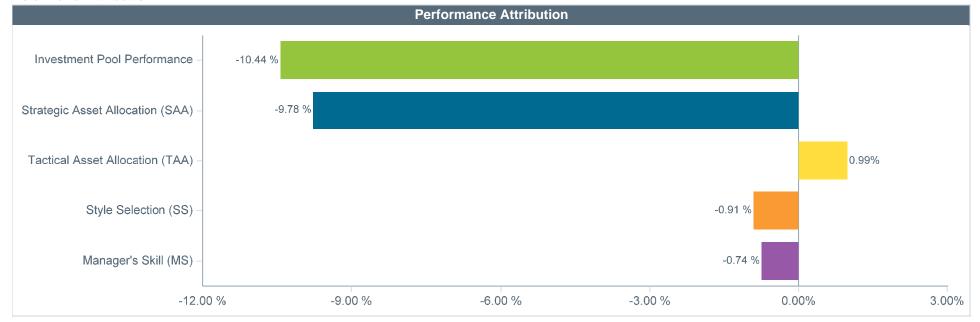


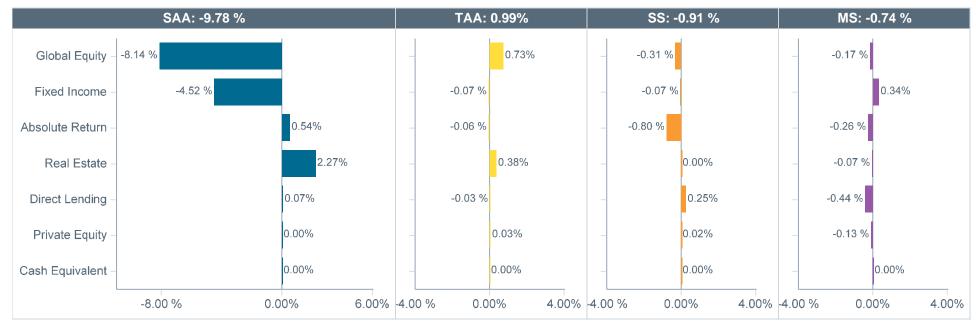


Performance shown is net of fees. Calculation is based on monthly periodicity. See Glossary for additional information regarding the Total Fund Attribution - IDP calculation.



**Total Fund Attribution - IDP** 

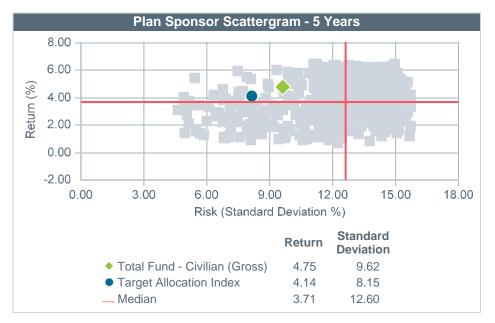


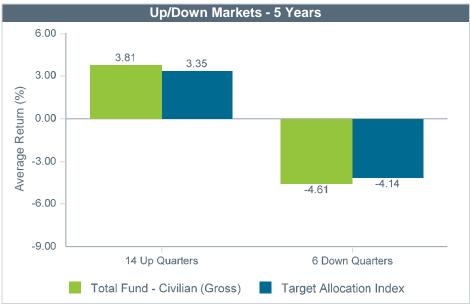


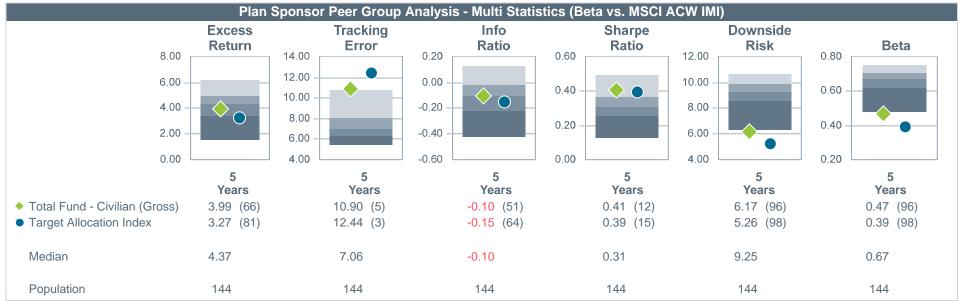
Performance shown is net of fees. Calculation is based on monthly periodicity. See Glossary for additional information regarding the Total Fund Attribution - IDP calculation.



Total Fund - Civilian (Gross) vs. All Public Plans (<\$250 Million)





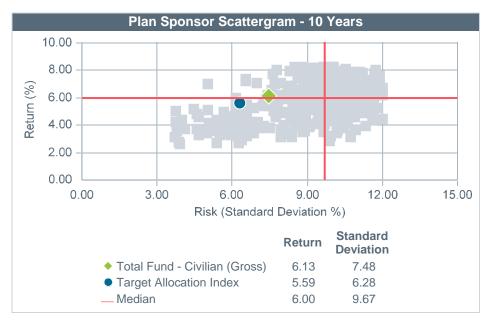


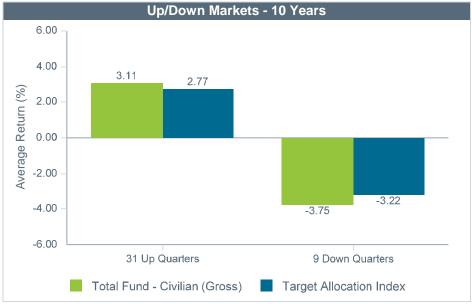
Performance shown is gross of fees. Calculation is based on quarterly periodicity. Parentheses contain percentile ranks.

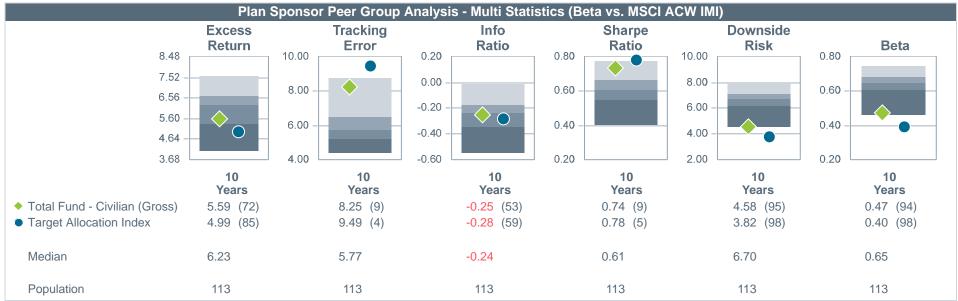


## Kansas City Police Employees' Retirement Systems KCPERS Civilian Employees

Total Fund - Civilian (Gross) vs. All Public Plans (<\$250 Million)

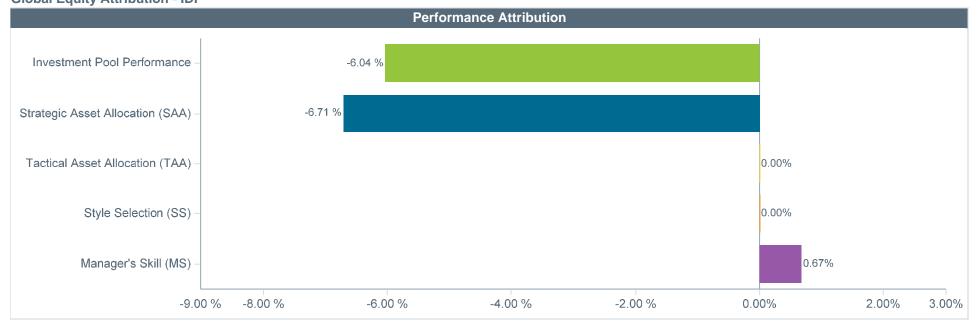


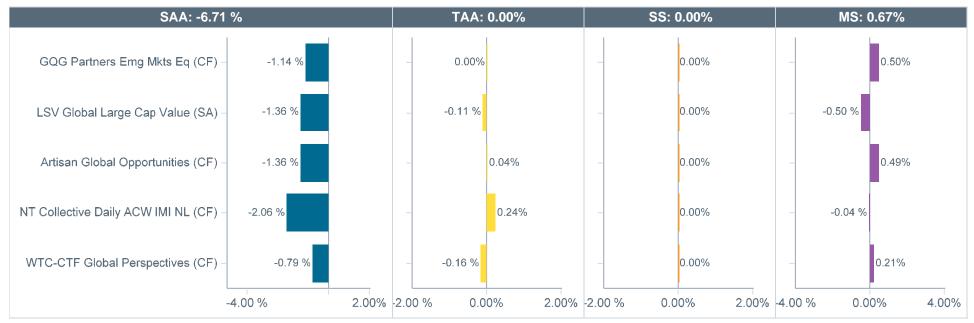




Performance shown is gross of fees. Calculation is based on quarterly periodicity. Parentheses contain percentile ranks.

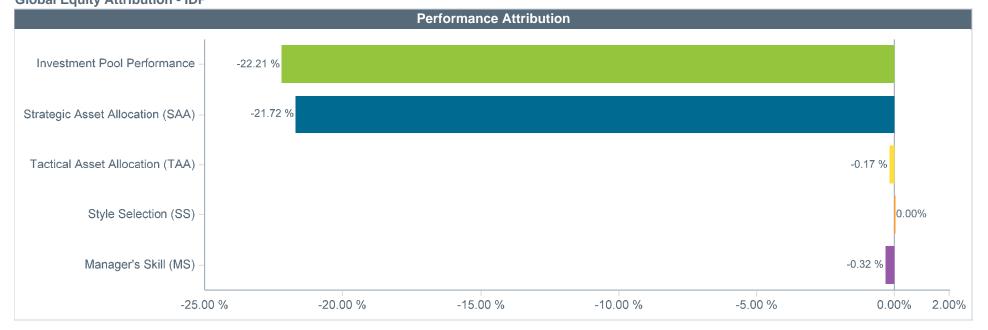


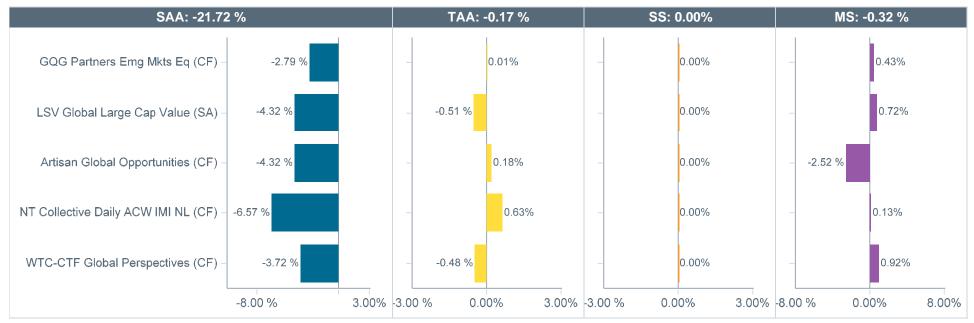




Performance shown is net of fees. Calculation is based on monthly periodicity. See Glossary for additional information regarding the Total Fund Attribution - IDP calculation.







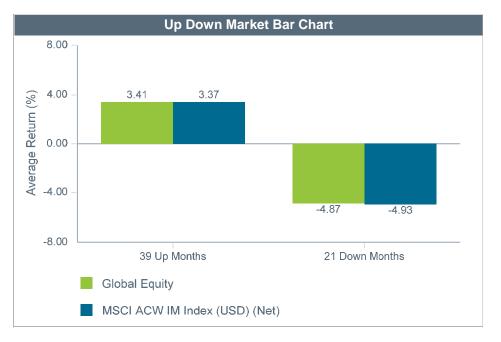
Performance shown is net of fees. Calculation is based on monthly periodicity. See Glossary for additional information regarding the Total Fund Attribution - IDP calculation.



### Kansas City Police Employees' Retirement Systems KCPERS Civilian Employees

Global Equity vs. IM Global Large Cap Equity (SA + CF)







Performance shown is gross of fees. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.



#### Kansas City Police Employees' Retirement Systems Global Equity vs. MSCI ACW IM Index (USD) (Net) Portfolio Characteristics

To	p Ten Equi	ty Holdings		
	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)
NextEra Energy Inc	1.31	0.26	1.05	1.72
Veeva Systems Inc	1.14	0.04	1.10	-16.74
Alphabet Inc	1.13	0.98	0.15	-12.22
Microsoft Corp	1.09	2.83	-1.74	-9.12
Advanced Micro Devices Inc	1.08	0.18	0.90	-17.14
Apple Inc	1.07	3.83	-2.76	1.22
Techtronic Industries Co Ltd	1.03	0.02	1.01	-6.43
Boston Scientific Corp	0.92	0.09	0.83	3.92
LONZA GROUP AG	0.89	0.06	0.83	-7.04
UBS Group AG	0.85	0.09	0.76	-8.49
% of Portfolio	10.51	8.38	2.13	

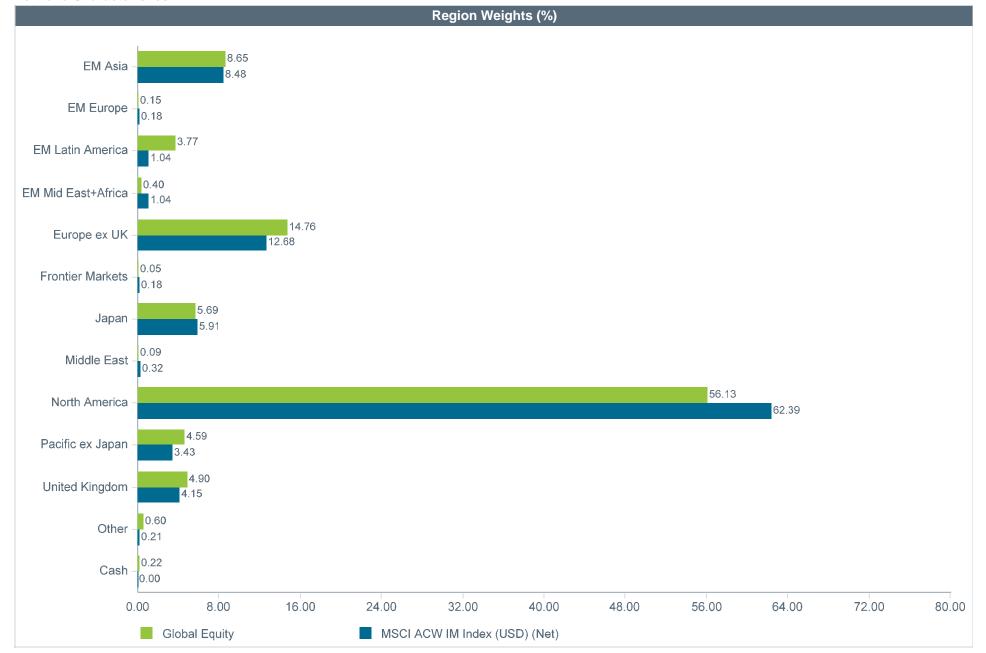
Portfo		Danahmark
	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	125,974	265,850
Median Mkt. Cap (\$M)	1,593	1,577
Price/Earnings Ratio	11.64	14.00
Price/Book Ratio	2.58	3.02
5 Yr. EPS Growth Rate (%)	16.72	16.55
Current Yield (%)	3.07	2.51
Beta (5 Years, Monthly)	0.99	1.00
Number of Securities	9,460	9,248







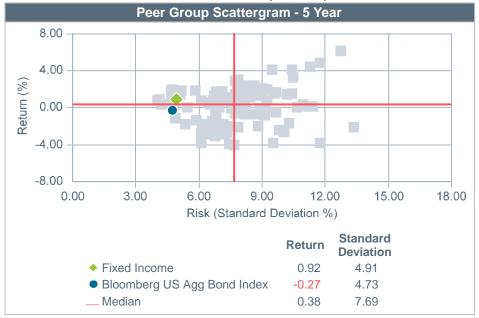


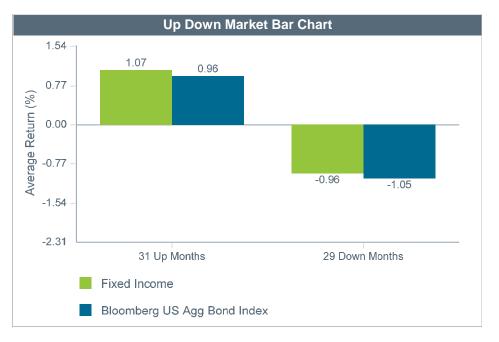




### Kansas City Police Employees' Retirement Systems KCPERS Civilian Employees

Fixed Income vs. IM Global Fixed Income (SA + CF)





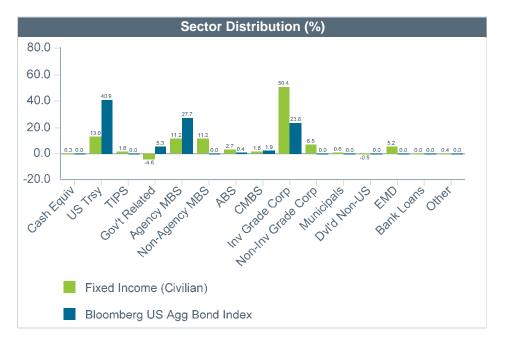


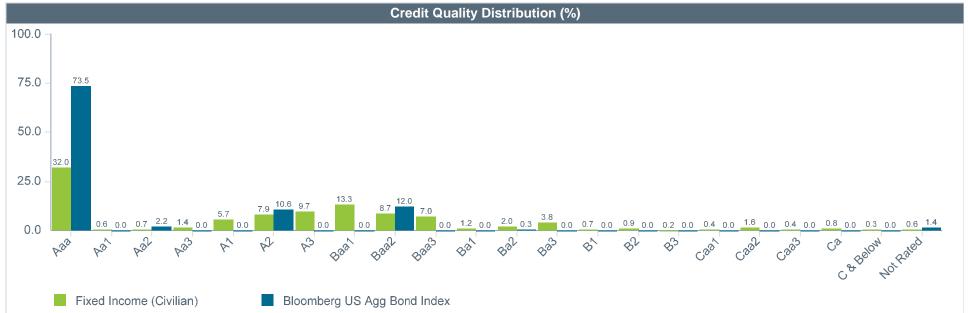
Performance shown is gross of fees. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.



#### Kansas City Police Employees' Retirement Systems Fixed Income (Civilian) vs. Bloomberg US Agg Bond Index Portfolio Characteristics

	Portfolio	Benchmark
Effective Duration	5.40	6.20
Avg. Maturity	7.48	8.52
Avg. Quality	A3	Aa1/Aa2
Coupon Rate (%)	3.13	2.58
Yield To Maturity (%)	4.87	4.75
Holdings Count	7,839	12,641









#### Kansas City Police Employees' Retirement Systems KCPERS Civilian Employees Asset Allocation & Performance - Gross of Fees

	Market Value (\$M)	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2021	2020	2019	Since Incep.	Inception Date
Global Equity														
LSV Global Large Cap Value (SA)	\$12.04	-8.03	-14.91	-20.60	-16.14	4.08	3.47	6.86	N/A	24.55	3.07	26.99	5.06	05/01/2014
MSCI Wrld Index (USD) (Net)		-6.19	-14.25	-25.42	-19.63	4.56	5.30	7.91	8.11	21.82	15.90	27.67	6.07	
Difference		-1.84	-0.66	4.82	3.49	-0.48	-1.83	-1.05	N/A	2.73	-12.83	-0.68	-1.01	
MSCI Wrld Val Index (USD) (Net)		-7.25	-13.70	-18.53	-12.67	1.76	2.21	5.64	6.14	21.94	-1.16	21.75	3.49	
Difference		-0.78	-1.21	-2.07	-3.47	2.32	1.26	1.22	N/A	2.61	4.23	5.24	1.57	
IM Global Large Cap Value Equity (SA+CF) Median		-8.52	-14.45	-22.05	-18.71	2.62	2.94	6.56	7.14	19.06	6.56	24.04	4.62	
Rank		41	59	41	34	25	44	41	N/A	8	68	28	44	
Artisan Global Opportunities (CF)	\$10.14	-3.54	-12.91	-33.38	-30.20	5.98	7.47	10.97	N/A	15.09	41.51	37.02	9.92	05/01/2014
MSCI Wrld Index (USD) (Net)		-6.19	-14.25	-25.42	-19.63	4.56	5.30	7.91	8.11	21.82	15.90	27.67	6.07	
Difference		2.65	1.34	-7.96	-10.57	1.42	2.17	3.06	N/A	-6.73	25.61	9.35	3.85	
MSCI Wrld Grth Index (USD) (Net)		-5.05	-15.06	-32.40	-26.89	6.36	7.78	9.70	9.74	21.18	33.83	33.68	8.27	
Difference		1.51	2.15	-0.98	-3.31	-0.38	-0.31	1.27	N/A	-6.09	7.68	3.34	1.65	
IM Global Large Cap Growth Equity (SA+CF) Median		-6.08	-14.53	-30.21	-26.19	5.45	6.64	9.39	9.24	17.81	29.35	31.55	7.51	
Rank		16	21	69	69	44	34	27	N/A	61	24	15	17	
NT Collective Daily ACW IM NL (CF)	\$13.67	-6.76	-14.17	-25.36	-20.65	3.95	4.54	7.70	N/A	18.14	16.75	26.88	5.82	03/01/2014
MSCI ACW IM Index (USD) (Net)		-6.64	-14.64	-25.72	-21.18	3.64	4.16	7.27	7.25	18.22	16.25	26.35	5.37	
Difference		-0.12	0.47	0.36	0.53	0.31	0.38	0.43	N/A	-0.08	0.50	0.53	0.45	
IM Global Large Cap Core Equity (SA+CF) Median		-6.82	-13.96	-24.70	-19.20	4.09	4.83	7.35	8.38	20.04	15.13	26.41	6.13	
Rank		50	59	58	59	52	58	44	N/A	64	43	46	57	
WTC-CTF Global Perspectives (CF)	\$8.60	-3.81	-12.08	-22.81	-18.98	N/A	N/A	N/A	N/A	22.86	N/A	N/A	9.66	11/01/2020
MSCI ACW Sm Cap Index (USD) (Net)		-5.27	-15.12	-26.36	-24.80	2.96	2.32	6.23	7.02	16.10	16.33	24.65	2.99	
Difference		1.46	3.04	3.55	5.82	N/A	N/A	N/A	N/A	6.76	N/A	N/A	6.67	
IM Global Small Cap Equity (SA+CF) Median		-7.04	-14.20	-29.43	-25.23	5.12	2.56	6.13	8.09	21.14	17.53	26.40	2.40	
Rank		17	20	32	14	N/A	N/A	N/A	N/A	40	N/A	N/A	29	
GQG Partners Emg Mkts Eq (CF)	\$5.06	-6.45	-11.56	-23.25	-23.30	N/A	N/A	N/A	N/A	-0.82	N/A	N/A	-7.77	11/01/2020
MSCI Emg Mkts Index (USD) (Net)		-11.57	-17.08	-27.16	-28.11	-2.07	-1.81	3.88	1.05	-2.54	18.31	18.42	-9.12	
Difference		5.12	5.52	3.91	4.81	N/A	N/A	N/A	N/A	1.72	N/A	N/A	1.35	
IM Emerging Markets Equity (SA+CF) Median		-10.21	-15.55	-26.99	-27.44	-0.57	-0.89	4.82	2.40	0.87	18.63	20.62	-7.77	
Rank		22	16	30	30	N/A	N/A	N/A	N/A	60	N/A	N/A	50	

Performance shown is gross of fees, unless otherwise noted. Performance is annualized for periods greater than one year. Manager inception dates shown represent the first full month of performance following initial funding. Fiscal year ends 04/30. RVK cautions that the interpretation of time-weighted data on non-marketable investments such as private equity is imperfect at best and can potentially be misleading. White Oak Income performance is currently unavailable.



### Kansas City Police Employees' Retirement Systems KCPERS Civilian Employees Asset Allocation & Performance - Gross of Fees

	Market Value (\$M)	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2021	2020	2019	Since Incep.	Inception Date
Fixed Income														
FCI Advisors (SA)	\$30.38	-4.60	-5.88	-15.53	-15.40	-2.94	0.27	0.99	1.21	-1.91	10.32	10.05	3.86	03/01/2001
Bloomberg US Gov't Crdt Bond Index		-4.56	-5.62	-15.10	-14.95	-3.15	-0.05	0.78	1.02	-1.75	8.93	9.71	3.62	
Difference		-0.04	-0.26	-0.43	-0.45	0.21	0.32	0.21	0.19	-0.16	1.39	0.34	0.24	
Bloomberg US Agg Bond Index		-4.75	-5.64	-14.61	-14.60	-3.26	-0.27	0.54	0.89	-1.55	7.51	8.72	3.52	
Difference		0.15	-0.24	-0.92	-0.80	0.32	0.54	0.45	0.32	-0.36	2.81	1.33	0.34	
IM U.S. Broad Market Core Fixed Income (SA+CF) Median		-4.54	-5.70	-14.43	-14.38	-2.71	0.18	1.08	1.37	-1.23	8.51	9.19	3.97	
Rank		57	76	95	85	66	39	61	71	93	9	9	63	
PIMCO:Income;Inst (PIMIX)	\$18.59	-1.73	-4.20	-10.51	-10.24	0.24	1.75	N/A	N/A	3.11	6.31	8.59	1.84	09/01/2017
Bloomberg US Agg Bond Index		-4.75	-5.64	-14.61	-14.60	-3.26	-0.27	0.54	0.89	-1.55	7.51	8.72	-0.36	
Difference		3.02	1.44	4.10	4.36	3.50	2.02	N/A	N/A	4.66	-1.20	-0.13	2.20	
IM Multi-Sector General Bond (MF) Median		-2.53	-6.07	-13.27	-12.99	-0.60	1.51	3.06	3.06	2.55	7.52	11.12	1.53	
Rank		25	19	26	25	24	33	N/A	N/A	45	66	82	35	
Direct Lending														
White Oak Fixed Income C LP	\$10.73	0.00	-2.52	-1.79	-1.72	3.63	N/A	N/A	N/A	6.86	3.68	9.69	6.27	04/01/2018
ICE BofAML 3 Mo US T-Bill Index+5%		0.00	0.00	0.00	1.24	4.13	5.30	5.36	5.27	5.05	5.70	7.39	5.19	
Difference		0.00	-2.52	-1.79	-2.96	-0.50	N/A	N/A	N/A	1.81	-2.02	2.30	1.08	
Real Estate														
Morgan Stanley Prime Property (CF)	\$14.67	0.21	3.65	11.26	22.17	12.50	10.88	10.84	N/A	22.89	2.32	7.38	11.61	10/01/2014
NCREIF ODCE Index (AWA) (Gross)		0.52	5.32	13.08	22.09	12.37	10.24	9.85	10.92	22.17	1.19	5.34	10.47	
Difference		-0.31	-1.67	-1.82	0.08	0.13	0.64	0.99	N/A	0.72	1.13	2.04	1.14	
PGIM Real Estate PRISA II (CF)	\$15.07	1.23	5.91	14.03	21.73	13.16	11.34	11.07	12.21	23.18	0.98	7.52	8.86	10/01/2004
NCREIF ODCE Index (AWA) (Gross)		0.52	5.32	13.08	22.09	12.37	10.24	9.85	10.92	22.17	1.19	5.34	8.61	
Difference		0.71	0.59	0.95	-0.36	0.79	1.10	1.22	1.29	1.01	-0.21	2.18	0.25	
Absolute Return														
Grosvenor FOB (CF) (Net)	\$16.37	1.06	-1.01	-7.01	-6.24	5.13	3.51	3.70	N/A	6.32	14.40	6.30	3.26	08/01/2014
HFN FOF Multi-Strat Index (Net)		-0.07	-2.68	-4.07	-3.30	4.70	3.32	3.19	3.41	6.77	9.79	6.75	2.71	
Difference		1.13	1.67	-2.94	-2.94	0.43	0.19	0.51	N/A	-0.45	4.61	-0.45	0.55	
ICE BofAML 3 Mo US T-Bill Index+5%		1.69	2.62	4.36	5.65	5.62	6.21	6.00	5.72	5.05	5.70	7.39	5.86	
Difference		-0.63	-3.63	-11.37	-11.89	-0.49	-2.70	-2.30	N/A	1.27	8.70	-1.09	-2.60	
Private Equity														
Abbott Capital Private Equity LP (CF) (Net)	\$0.58	0.00	-10.16	-13.83	-16.04	9.46	10.55	10.62	10.92	21.08	22.82	10.96	6.24	12/01/2005
J.P. Morgan Private Equity III (CF) (Net)	\$0.24	-0.33	-12.42	-13.13	-10.28	13.48	12.00	10.95	12.78	56.05	11.80	7.53	7.56	06/01/2006

Performance shown is gross of fees, unless otherwise noted. Performance is annualized for periods greater than one year. Manager inception dates shown represent the first full month of performance following initial funding. Fiscal year ends 04/30. RVK cautions that the interpretation of time-weighted data on nonmarketable investments such as private equity is imperfect at best and can potentially be misleading. White Oak Income performance is currently unavailable.



## Kansas City Police Employees' Retirement Systems KCPERS Civilian Employees Asset Allocation & Performance - Net of Fees

3 5 7 Market 1 10 Since Inception QTD 2021 2019 FYTD CYTD 2020 **Years** Year **Years Years Years** Value (\$M) Incep. **Date Global Equity** LSV Global Large Cap Value (SA) \$12.04 -8.17 -15.04 -20.97 -16.66 3.43 2.82 6.19 N/A 23.80 2.41 26.20 4.41 05/01/2014 MSCI Wrld Index (USD) (Net) -25.42 -19.63 27.67 -6.19 -14.254.56 5.30 7.91 8.11 21.82 15.90 6.07 -0.79 4.45 -2.48 N/A -13.49 Difference -1.98 2.97 -1.13 -1.721.98 -1.47 -1.66 -7.25 -13.70 -18.53 -12.67 1.76 2.21 5.64 6.14 21.94 -1.16 21.75 3.49 MSCI Wrld Val Index (USD) (Net) Difference -0.92-1.34 -2.44 -3.99 1.67 0.61 0.55 N/A 1.86 3.57 4.45 0.92 **Artisan Global Opportunities (CF)** \$10.14 -3.74-13.22 -33.83 -30.81 5.08 6.56 10.03 N/A 14.10 40.34 35.89 9.00 05/01/2014 -25.42 MSCI Wrld Index (USD) (Net) -6.19-14.25 -19.63 4.56 5.30 7.91 8.11 21.82 15.90 27.67 6.07 -8.41 N/A Difference 2.45 1.03 -11.18 0.52 1.26 2.12 -7.72 24.44 8.22 2.93 MSCI Wrld Grth Index (USD) (Net) -5.05 -15.06 -32.40 -26.89 6.36 7.78 9.70 9.74 21.18 33.83 33.68 8.27 Difference 1.31 1.84 -1.43 -3.92 -1.28 -1.22 0.33 N/A -7.08 6.51 2.21 0.73 NT Collective Daily ACW IM NL (CF) \$13.67 -6.78 -14.20 -25.40 -20.72 3.86 4.45 7.61 N/A 18.05 16.65 26.78 5.73 03/01/2014 MSCI ACW IM Index (USD) (Net) -6.64 -14.64 -25.72 -21.18 3.64 4.16 7.27 7.25 18.22 16.25 26.35 5.37 0.46 0.34 Difference -0.140.44 0.32 0.22 0.29 N/A -0.17 0.40 0.43 0.36 WTC-CTF Global Perspectives (CF) \$8.60 -4.02 -12.40 -23.31 -19.68 N/A N/A N/A N/A 21.83 N/A N/A 8.74 11/01/2020 MSCI ACW Sm Cap Index (USD) (Net) -15.12 -26.36 -24.80 2.96 2.32 6.23 7.02 16.10 16.33 24.65 2.99 -5.272.72 Difference 1.25 3.05 5.12 N/A N/A N/A N/A 5.73 N/A N/A 5.75 GQG Partners Emg Mkts Eg (CF) \$5.06 -6.65 -11.86 -23.73 -23.93 N/A N/A N/A N/A -1.61 N/A N/A -8.51 11/01/2020 MSCI Emg Mkts Index (USD) (Net) -11.57 -17.08 -27.16 -28.11 -2.07 -1.81 3.88 1.05 -2.54 18.31 18.42 -9.12 Difference 4.92 5.22 3.43 4.18 N/A N/A N/A N/A 0.93 N/A N/A 0.61 **Fixed Income** FCI Advisors (SA) \$30.38 -4.63 -5.94 -15.63 -15.53 -3.08 0.13 0.84 N/A -2.05 10.16 9.89 1.46 07/01/2013 Bloomberg US Gov't Crdt Bond Index -4.56-5.62-15.10 -14.95 -3.15-0.050.78 1.02 -1.758.93 9.71 1.36 -0.32 -0.53 0.07 0.06 N/A -0.30 1.23 0.18 Difference -0.07-0.58 0.18 0.10 Bloomberg US Agg Bond Index -14.61 0.54 -4.75-5.64-14.60-3.26-0.270.89 -1.557.51 8.72 1.21 -0.30 -1.02 -0.93 N/A 0.25 Difference 0.12 0.18 0.40 0.30 -0.50 2.65 1.17 \$18.59 -1.86 -4.41 -10.85 -10.70 -0.26 1.23 N/A N/A 2.61 5.79 8.05 1.32 PIMCO:Income;Inst (PIMIX) 09/01/2017 Bloomberg US Agg Bond Index -4.75 -5.64 -14.61 -14.60 -3.26 -0.27 0.54 0.89 -1.55 7.51 8.72 -0.36 Difference 2.89 1.23 3.76 3.90 3.00 1.50 N/A N/A 4.16 -1.72-0.671.68

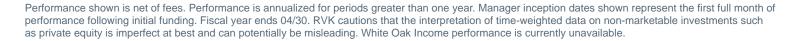
Performance shown is net of fees. Performance is annualized for periods greater than one year. Manager inception dates shown represent the first full month of performance following initial funding. Fiscal year ends 04/30. RVK cautions that the interpretation of time-weighted data on non-marketable investments such as private equity is imperfect at best and can potentially be misleading. White Oak Income performance is currently unavailable.



## Kansas City Police Employees' Retirement Systems KCPERS Civilian Employees

**Asset Allocation & Performance - Net of Fees** 

	Market Value (\$M)	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2021	2020	2019	Since Incep.	Inception Date
Direct Lending														
White Oak Fixed Income C LP	\$10.73	0.00	-2.52	-1.79	-2.53	2.29	N/A	N/A	N/A	4.60	2.66	7.41	4.67	04/01/2018
ICE BofAML 3 Mo US T-Bill Index+5%		0.00	0.00	0.00	1.24	4.13	5.30	5.36	5.27	5.05	5.70	7.39	5.19	
Difference		0.00	-2.52	-1.79	-3.77	-1.84	N/A	N/A	N/A	-0.45	-3.04	0.02	-0.52	
Real Estate														
Morgan Stanley Prime Property (CF)	\$14.67	-0.06	2.99	10.20	20.78	11.24	9.67	9.63	N/A	21.48	1.26	6.17	10.39	10/01/2014
NCREIF ODCE Index (AWA) (Net)		0.35	4.90	12.40	21.00	11.39	9.27	8.87	9.92	21.02	0.34	4.39	9.49	
Difference		-0.41	-1.91	-2.20	-0.22	-0.15	0.40	0.76	N/A	0.46	0.92	1.78	0.90	
PGIM Real Estate PRISA II (CF)	\$15.07	0.96	5.34	13.12	20.44	11.92	10.12	9.88	N/A	21.86	-0.16	6.32	11.12	07/01/2013
NCREIF ODCE Index (AWA) (Net)		0.35	4.90	12.40	21.00	11.39	9.27	8.87	9.92	21.02	0.34	4.39	9.81	
Difference		0.61	0.44	0.72	-0.56	0.53	0.85	1.01	N/A	0.84	-0.50	1.93	1.31	
Absolute Return														
Grosvenor FOB (CF)	\$16.37	1.06	-1.01	-7.01	-6.24	5.13	3.51	3.70	N/A	6.32	14.40	6.30	3.26	08/01/2014
HFN FOF Multi-Strat Index (Net)		-0.07	-2.68	-4.07	-3.30	4.70	3.32	3.19	3.41	6.77	9.79	6.75	2.71	
Difference		1.13	1.67	-2.94	-2.94	0.43	0.19	0.51	N/A	-0.45	4.61	-0.45	0.55	
ICE BofAML 3 Mo US T-Bill Index+5%		1.69	2.62	4.36	5.65	5.62	6.21	6.00	5.72	5.05	5.70	7.39	5.86	
Difference		-0.63	-3.63	-11.37	-11.89	-0.49	-2.70	-2.30	N/A	1.27	8.70	-1.09	-2.60	
Private Equity														
Abbott Capital Private Equity LP (CF)	\$0.58	0.00	-10.16	-13.83	-16.04	9.46	10.55	10.62	N/A	21.08	22.82	10.96	11.26	07/01/2013
J.P. Morgan Private Equity III (CF)	\$0.24	-0.33	-12.42	-13.13	-10.28	13.48	12.00	10.95	N/A	56.05	11.80	7.53	13.12	07/01/2013





#### Kansas City Police Employees' Retirement Systems KCPERS Civilian Private Investment Lagged Performance Asset Allocation & Performance

	Market Value (M)	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2021	2020	2019	Since Incep.	Inception Date
Civilian - Private Equity	\$0.82	-10.85	-10.75	-13.57	-10.31	11.30	11.84	10.92	N/A	28.80	20.47	10.10	12.18	07/01/2013
Abbott Capital Private Equity LP (CF) (Net)	\$0.58	-10.16	-10.16	-13.83	-13.84	9.64	11.42	10.71	N/A	21.08	22.82	10.96	11.59	07/01/2013
Cambridge US Prvt Eq Index		-3.74	-3.74	-3.18	8.60	20.19	17.95	15.64	15.72	40.41	21.67	13.82	15.67	
Difference		-6.42	-6.42	-10.65	-22.44	-10.55	-6.53	-4.93	N/A	-19.33	1.15	-2.86	-4.08	
J.P. Morgan Private Equity III (CF) (Net)	\$0.24	-12.44	-12.13	-12.84	0.71	15.96	12.87	11.46	N/A	56.05	11.80	7.53	13.55	07/01/2013
Cambridge US Prvt Eq Index		-3.74	-3.74	-3.18	8.60	20.19	17.95	15.64	15.72	40.41	21.67	13.82	15.67	
Difference		-8.70	-8.39	-9.66	-7.89	-4.23	-5.08	-4.18	N/A	15.64	-9.87	-6.29	-2.12	
Civilian - Direct Lending	\$10.73	-2.52	-2.52	-1.79	-0.77	2.78	N/A	N/A	N/A	4.60	2.66	7.41	4.95	04/01/2018
White Oak Fixed Income C LP	\$10.73	-2.52	-2.52	-1.79	-0.77	2.78	N/A	N/A	N/A	4.60	2.66	7.41	4.95	04/01/2018
ICE BofAML 3 Mo US T-Bill Index+5%		1.33	0.91	2.62	5.18	5.66	6.17	5.93	5.67	5.05	5.70	7.39	6.15	
Difference		-3.85	-3.43	-4.41	-5.95	-2.88	N/A	N/A	N/A	-0.45	-3.04	0.02	-1.20	

Performance shown is net of fees, unless otherwise noted. Performance and market values are preliminary and subject to change. Performance is annualized for periods greater than one year. Manager inception dates shown represent the first full month of performance following initial funding. Fiscal year ends 04/30. RVK cautions that the interpretation of time-weighted data on non-marketable investments such as private equity is imperfect at best and can potentially be misleading.



### **Civilian Employees' Retirement System of the Police Department of Kansas City Alternative Investment Fund Performance Listing**

Fund Name	Vintage	Asset Class	Commitment (\$)	Paid In Capital (\$)	Distributions (\$)	Valuation (\$)	Fund IRR (%)	Quartile	Index IRR (%)	Fund Multiple
Abbott Capital Private Equity V LP	2005	Private Equity - Fund of Funds	1,850,000	1,787,100	2,521,926	72,224	6.62	3rd	9.84	1.45
J.P. Morgan European Corporate Financi Investors III	ce 2006	Private Equity - Non-US Private Equity	187,500	180,583	269,831	13,404	7.72	3rd	10.20	1.57
J.P. Morgan U.S. Corporate Finance Investors III	2006	Private Equity - Buyout	750,000	754,763	1,467,898	83,112	13.43	1st	8.83	2.05
J.P. Morgan Venture Capital Investors II	I 2006	Private Equity - Venture	312,500	317,913	468,938	147,916	9.80	1st	11.51	1.94
Abbott Capital Private Equity VI LP	2008	Private Equity - Fund of Funds	1,250,000	1,243,761	1,896,251	507,772	13.19	2nd	13.35	1.93
			4,350,000	4,284,120	6,624,844	824,428	9.82		10.59	1.74

Certain valuations (marked with a '\*') are preliminary estimates of valuation as of the date of reporting and reflect the estimated impact of subsequent net cash contributions/distributions. These figures may be used in calculations contained in this report. Index IRR represents the dollar-weighted returns calculated using the S&P 500 Index (Cap Wtd) assuming an index investment with the same cash flow timing. IRRs are shown only for investments with one year or more of cash flows and for which an accurate IRR could be calculated. Applicable IRRs are marked with 'N/M' for not material. Fund IRR is the annualized since-inception net internal rate for the indicated fund or composite. Fund Multiple is the since inception sum of distributions and valuation divided by paid in capital. Quartile data is based on information provided by Preqin.



		LSV Global Large Cap Value (SA)								
Beginning Market Value (\$)	Net Cash Flow (\$)	Gain/Loss (\$)	Ending Market Value (\$)	% Return						
13,092,356	20,732	-1,072,151	12,040,937	-8.17						
	Market Value (\$)	Market Value (\$) Cash Flow (\$)	Market Value (\$) Cash Flow (\$) Gain/Loss (\$)	Market Value (\$) Cash Flow (\$) Gain/Loss (\$) Market Value (\$)						

Artisan Global Opportunities (CF)								
Beginning Market Value (\$)	Net Cash Flow (\$)	Gain/Loss (\$)	Ending Market Value (\$)	% Return				
10,532,157	-	-394,408	10,137,749	-3.74				
	Market Value (\$)	Beginning Net Market Value (\$) Cash Flow (\$)	Beginning Net Gain/Loss (\$) Market Value (\$) Cash Flow (\$)	Beginning Net Gain/Loss (\$) Ending Market Value (\$) Cash Flow (\$) Market Value (\$)				

NT Collective Daily ACW IM NL (CF)								
Beginning Market Value (\$)	Net Cash Flow (\$)	Gain/Loss (\$)	Ending Market Value (\$)	% Return				
14,662,678	2,967	-994,676	13,670,969	-6.78				
	Market Value (\$)	Beginning Net Market Value (\$) Cash Flow (\$)	Beginning Net Gain/Loss (\$) Market Value (\$) Cash Flow (\$)	Beginning Net Gain/Loss (\$) Ending Market Value (\$) Cash Flow (\$) Market Value (\$)				

WTC-CTF Global Perspectives (CF)								
Periods Ending	Beginning Market Value (\$)	Net Cash Flow (\$)	Gain/Loss (\$)	Ending Market Value (\$)	% Return			
Quarter	8,960,704	-	-359,972	8,600,732	-4.02			

GQG Partners Emg Mkts Eq (CF)								
Periods Ending	Beginning Market Value (\$)	Net Cash Flow (\$)	Gain/Loss (\$)	Ending Market Value (\$)	% Return			
Quarter	5,421,895	-	-360,346	5,061,549	-6.65			

FCI Advisors (SA)								
Periods Ending	Beginning Market Value (\$)	Net Cash Flow (\$)	Gain/Loss (\$)	Ending Market Value (\$)	% Return			
Quarter	31,844,944	11,490	-1,476,134	30,380,299	-4.63			

Performance shown is net of fees and will not match subsequent comparative performance gross of fees.



#### Kansas City Police Employees' Retirement Systems KCPERS Civilian Employees Schedule of Investable Assets by Manager

PIMCO:Income;Inst (PIMIX)								
Beginning Market Value (\$)	Net Cash Flow (\$)	Gain/Loss (\$)	Ending Market Value (\$)	% Return				
19,633,730	-700,000	-344,297	18,589,433	-1.86				
	Market Value (\$)	Beginning Net Market Value (\$) Cash Flow (\$)	Beginning Net Gain/Loss (\$) Market Value (\$) Cash Flow (\$)	Beginning Net Gain/Loss (\$) Ending Market Value (\$) Cash Flow (\$) Market Value (\$)				

Morgan Stanley Prime Property (CF)								
ing Net Gain/Loss (\$) Ending lue (\$) Cash Flow (\$) Market Value (\$)	% Return							
987 - <b>-8,194</b> 14,672,793	-0.06							
9878,194 14,672,793								

PGIM Real Estate PRISA II (CF)							
Periods Ending	Beginning Market Value (\$)	Gain/Loss (\$)	Ending Market Value (\$)	% Return			
Quarter	14,932,295	-	142,639	15,074,933	0.96		

Grosvenor FOB (CF)							
Periods Ending	Beginning Market Value (\$)	Net Cash Flow (\$)	Gain/Loss (\$)	Ending Market Value (\$)	% Return		
Quarter	16,195,367	-	171,059	16,366,426	1.06		

#### Kansas City Police Employees' Retirement Systems KCPERS Civilian Employees Fee Schedule

Manager	Fee Schedule	Aggregate Assets (\$)	Estimated Annual Fee (%)	Market Value as of 9/30/2022	Estimated Annual Fee (\$)
LSV Global Large Cap Value (SA)	0.75 % of First \$25 M 0.65 % of Next \$25 M 0.55 % of Next \$50 M 0.45 % Thereafter	79,020,377	0.64	12,040,937	77,653
Artisan Global Opportunities (CF)	0.85% of Assets	10,137,749	0.85	10,137,749	86,171
NT Collective Daily ACW IM NL (CF)	0.10 % of First \$50 M 0.08 % Thereafter	97,449,580	0.09	13,670,969	12,340
WTC-CTF Global Perspectives (CF)	1.00 % of Assets	60,839,994	1.00	8,600,732	86,007
GQG Partners Emg Mkts Eq (CF)	0.85 % of First \$25 M 0.80 % Thereafter	34,537,221	0.84	5,061,549	42,324
FCI Advisors (SA)	0.50 % of First \$5 M 0.40 % of Next \$5 M 0.30 % of Next \$10 M 0.20 % of Next \$10 M 0.12 % Thereafter	203,627,800	0.15	30,380,299	45,259
PIMCO:Income;Inst (PIMIX)	0.50 % of Assets	110,392,268	0.50	18,589,433	92,947
White Oak Fixed Income C LP	1.00% of Assets	74,414,692	1.00	10,728,839	107,288
Morgan Stanley Prime Property (CF)	0.84 % of Assets	101,565,077	0.84	14,672,793	123,251



#### Kansas City Police Employees' Retirement Systems KCPERS Civilian Employees Fee Schedule

Manager	Fee Schedule	Aggregate Assets (\$)	Estimated Annual Fee (%)	Market Value as of 9/30/2022	Estimated Annual Fee (\$)
PGIM Real Estate PRISA II (CF)	1.20 % of First \$25 M 1.15 % of Next \$25 M 1.05 % of Next \$50 M 0.95 % of Next \$100 M 0.90 % of Next \$100 M 0.85 % Thereafter	104,791,987	1.11	15,074,933	166,588
Grosvenor FOB (CF)	1.15 % of First \$25 M 1.00 % of Next \$25 M 0.80 % of Next \$50 M 0.60 % Thereafter	122,878,086	0.87	16,366,426	143,151
Coltv. Short Term Invt. Fund	0.15 % of Assets	1,866,666	0.15	1,088,552	1,633

#### Fee Notes:

White Oak Fixed Income C LP - Fee structure is 1.25% when aggregate assets are below \$10M, and 1.00% when aggregate assets are above \$10M.

The incentive fee for Morgan Stanley Prime Property (CF) for each calendar year is capped at 35 basis points per annum.

The fee schedule shown for PGIM Real Estate PRISA II (CF) represents the maximum annual fee and may be lower depending on the fund's operating cash flow.

Grosvenor FOB (CF) fee has a 75 basis point minimum. The fee schedule shown for Grosvenor FOB (CF) excludes the underlying manager's fees.

Abbott Capital Private Equity LP (CF) consists of two separate funds: Abbott Capital Private Equity V LP and Abbott Capital Private Equity VI LP. The annual management fee for both funds is 1.00% with 0% carried interest for initial 8 years thereafter the fee is reduced by 10% per year.

JP Morgan Private Equity III (CF) consists of three separate funds: European Corporate Finance Investors III, U.S. Corporate Finance Investors III, and Venture Capital Investors III. The annual management fee pertains to the percentage of committed capital, is level for the first eight years, and is then reduced each successive year by 10% of the preceding year's fee. Each fund is also subject to an incentive/carried interest fee, which is 10% for secondary partnership investments and 20% for direct co-investments.

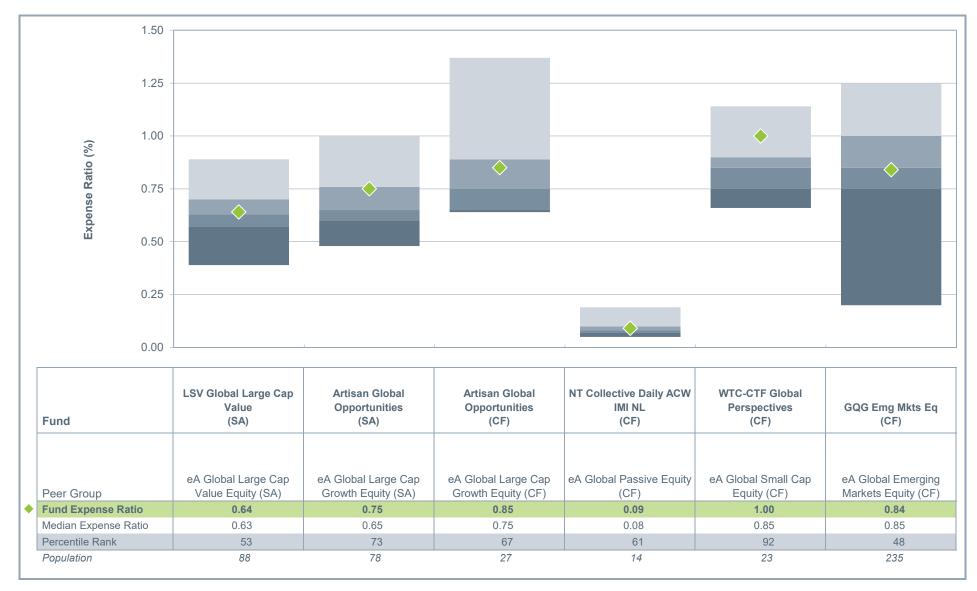
European and U.S. Corporate Finance Investors III

Venture Capital Investors III

Management fee for initial 8 years: 0.90% Average fee over 15 years: 0.76% Management fee for initial 8 years: 1.10% Average fee over 15 years: 0.93%

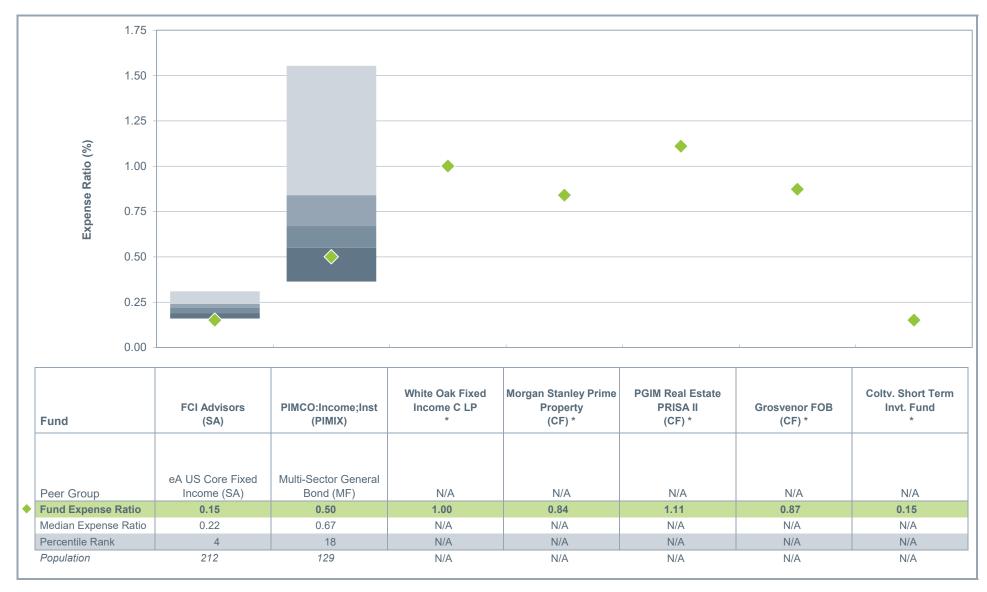
Mutual fund fees are sourced from Morningstar and/or the investment manager.





Fund Expense Ratios are intuitively ranked (i.e., a lower expense ratio yields a better percentile rank than a higher expense ratio). The fee peer groups consist of only institutional share classes.





Fund Expense Ratios are intuitively ranked (i.e., a lower expense ratio yields a better percentile rank than a higher expense ratio).

The fee peer groups consist of only institutional share classes. Funds with no applicable fee peer groups are denoted with an asterisk (\*).



# **Investment Manager Profiles**

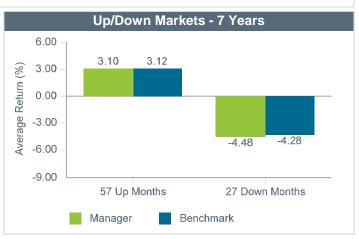


Manager: LSV Global Large Cap Value (SA)
Benchmark: MSCI Wrld Index (USD) (Net)

Peer Group: IM Global Large Cap Value Equity (SA+CF)

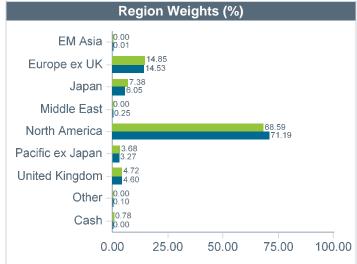
Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2021	2020	2019	2018	2017
Manager	-8.14	-16.42	3.60	3.17	6.74	N/A	22.90	2.87	26.36	-12.66	21.35
Benchmark	-6.19	-19.63	4.56	5.30	7.91	8.11	21.82	15.90	27.67	-8.71	22.40
Difference	-1.95	3.21	-0.96	-2.13	-1.17	N/A	1.08	-13.03	-1.31	-3.95	-1.05
Peer Group Median	-8.52	-18.71	2.62	2.94	6.56	7.14	19.06	6.56	24.04	-10.12	20.97
Rank	43	35	31	48	43	N/A	15	69	32	64	50
Population	111	108	103	98	89	75	120	129	135	138	139







Portfolio Characteristics	and Dist. of	Market Cap (%)
	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	48,737	329,379
Median Mkt. Cap (\$M)	10,331	14,823
Price/Earnings Ratio	8.54	15.37
Price/Book Ratio	1.97	3.24
5 Yr. EPS Growth Rate (%)	14.77	16.71
Current Yield (%)	3.83	2.37
Beta (5 Years, Monthly)	1.03	1.00
Number of Securities	235	1,513
Active Share	86.54	N/A
60.00 - 46.26 30.00 - 18.63 15.00 - 24.35 <sup>28.43</sup> 2.64 4.94	35.37 10.53 <sub>9.33</sub>	7.69 0.00 0.78 0.00
>\$100 Bil	\$15 Bil - \$2 Bil - \$25 Bil \$15 Bil	\$0 - Cash \$2 Bil



Performance shown is gross of fees and client specific. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.

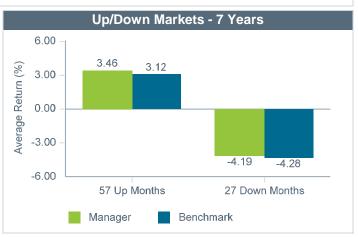


Manager: Artisan Global Opportunities (SA)
Benchmark: MSCI Wrld Index (USD) (Net)

Peer Group: IM Global Large Cap Growth Equity (SA+CF)

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2021	2020	2019	2018	2017
Manager	-3.34	-29.90	6.15	7.62	11.12	N/A	15.26	41.63	37.23	-7.87	32.72
Benchmark	-6.19	-19.63	4.56	5.30	7.91	8.11	21.82	15.90	27.67	-8.71	22.40
Difference	2.85	-10.27	1.59	2.32	3.21	N/A	-6.56	25.73	9.56	0.84	10.32
Peer Group Median	-6.08	-26.19	5.45	6.64	9.39	9.24	17.81	29.35	31.55	-7.23	30.72
Rank	15	68	43	32	23	N/A	61	24	14	54	40
Population	117	116	111	102	90	79	124	128	130	124	126







Portfolio Characteristics	and Dist. of	Market Cap (%)
	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	141,485	329,379
Median Mkt. Cap (\$M)	40,630	14,823
Price/Earnings Ratio	22.16	15.37
Price/Book Ratio	3.83	3.24
5 Yr. EPS Growth Rate (%)	18.03	16.71
Current Yield (%)	1.05	2.37
Beta (5 Years, Monthly)	0.99	1.00
Number of Securities	55	1,513
Active Share	91.90	N/A
60.00 - 46.26 40.00 - 30.59 20.00 - 4.15 4.94	25.56 9.33 11.04 0.69	0.00 0.00 0.00
-20.00	\$15 Bil - \$2 Bil - \$25 Bil \$15 Bil	\$0 - Cash \$2 Bil



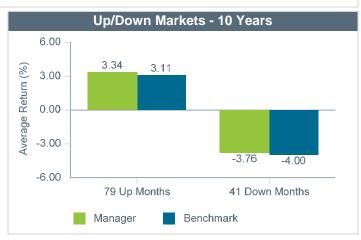
Performance shown is gross of fees and client specific. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.



Manager: WTC-CTF Global Perspectives (CF)
Benchmark: MSCI ACW Sm Cap Index (USD) (Net)
Peer Group: IM Global Small Cap Equity (SA+CF)

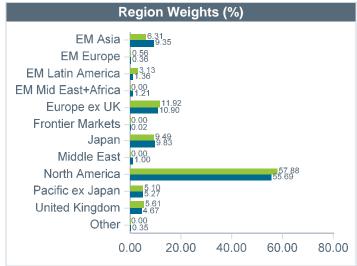
Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2021	2020	2019	2018	2017
Manager	-4.02	-19.71	4.99	3.55	7.68	9.88	21.78	14.66	22.35	-13.82	29.98
Benchmark	-5.27	-24.80	2.96	2.32	6.23	7.02	16.10	16.33	24.65	-14.39	23.81
Difference	1.25	5.09	2.03	1.23	1.45	2.86	5.68	-1.67	-2.30	0.57	6.17
Peer Group Median	-7.04	-25.23	5.12	2.56	6.13	8.09	21.14	17.53	26.40	-14.30	22.28
Rank	19	18	60	34	25	19	44	56	70	41	23
Population	23	22	18	15	12	10	26	28	29	32	31







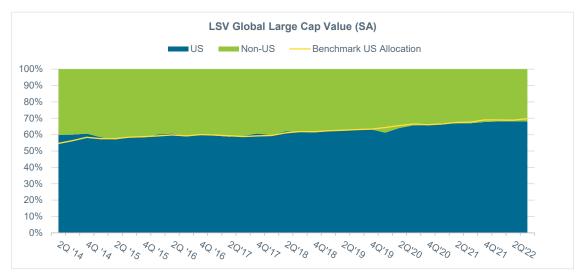
			Portfolio		Benchmark
Wtd. Avg. Mkt. Cap (\$M)			5,343		3,277
Median Mkt. Cap (\$M)			3,599		1,001
Price/Earnings Ratio			10.66		10.66
Price/Book Ratio			2.09		2.29
5 Yr. EPS Growth Rate (	%)		15.27		15.80
Current Yield (%)			2.88		2.54
Beta (5 Years, Monthly)			1.03		1.00
Number of Securities			109		6,348
Active Share			96.16		N/A
60.00 –					
45.00 —			35.68	40.41	
30.00 -		26.69	35.68	29.15	
00.00		17.73	22.47		16.64
15.00 —					10.04
0.00	4.98 2.65				0.92
>\$15 Bil	\$10 Bil -	\$5 Bil -	\$3 Bil -	\$1 Bil -	\$0 -
	\$15 Bil	\$10 Bil	\$5 Bil	\$3 Bil	\$1 Bil

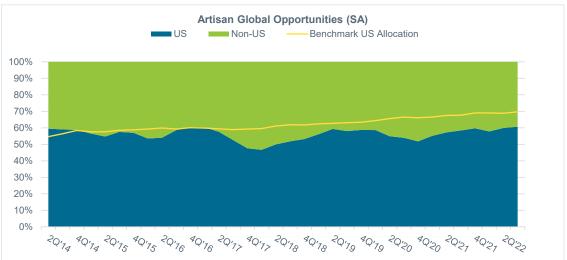


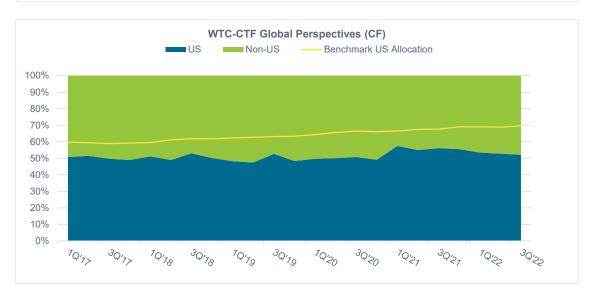
Performance shown is gross of fees and product specific. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.



Global Equity - KCPERS
Benchmark: MSCI Wrld Index (USD) (Net)
Historical US vs. Non-US Allocations







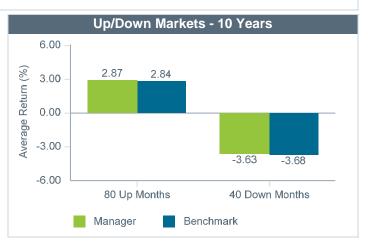
Global allocations shown for WTC-CTF Global Perspectives (CF) prior to KCPERS inception are provided by the manager.



Manager: NT Collective Daily ACW IM NL (CF)
Benchmark: MSCI ACW IM Index (USD) (Net)
Peer Group: IM International Equity (SA+CF)

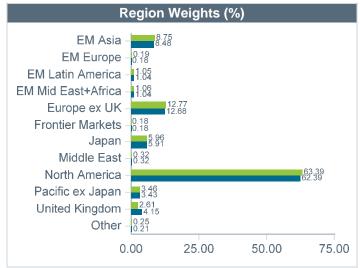
Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2021	2020	2019	2018	2017
Manager	-6.84	-20.87	3.94	4.52	7.67	7.73	18.50	16.78	26.83	-9.61	24.32
Benchmark	-6.64	-21.18	3.64	4.16	7.27	7.25	18.22	16.25	26.35	-10.08	23.95
Difference	-0.20	0.31	0.30	0.36	0.40	0.48	0.28	0.53	0.48	0.47	0.37
Peer Group Median	-9.52	-25.89	-0.46	0.02	3.98	4.90	11.58	11.62	23.41	-14.53	28.55
Rank	12	18	10	8	9	11	12	34	31	16	77
Population	639	631	608	575	540	471	726	797	842	877	899







		Portfolio	1	Benchmark
Wtd. Avg. Mkt. Cap (\$M)		267,691		265,834
Median Mkt. Cap (\$M)		1,586		1,577
Price/Earnings Ratio		14.07		14.00
Price/Book Ratio		3.03		3.02
5 Yr. EPS Growth Rate (%)		16.55		16.55
Current Yield (%)		2.48		2.51
Beta (5 Years, Monthly)		1.00		1.00
Number of Securities		9,414		9,248
Active Share		2.02		N/A
60.00 - 45.00 - 38.24.38.28 30.00 - 15.00 - 0.00 3.97 4.20	24.75 24.69	8.50 8.50	19.59 19.44	4.95 4.89
>\$100 Bil	\$25 Bil - \$75 Bil	\$15 Bil - \$25 Bil	\$2 Bil - \$15 Bil	\$0 - \$2 Bil



Performance shown is gross of fees and product specific. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.



Manager: GQG Partners Emg Mkts Eq (CF)
Benchmark: MSCI Emg Mkts Index (USD) (Net)
Peer Group: IM Emerging Markets Equity (SA+CF)

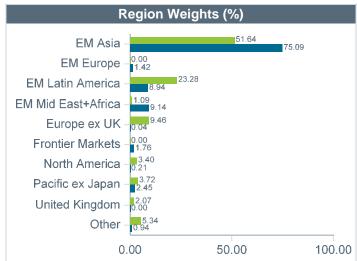
				P	erforma	псе					
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2021	2020	2019	2018	2017
Manager	-6.11	-23.34	3.16	3.16	N/A	N/A	-0.61	34.80	23.62	-13.41	32.90
Benchmark	-11.57	-28.11	-2.07	-1.81	3.88	1.05	-2.54	18.31	18.42	-14.57	37.28
Difference	5.46	4.77	5.23	4.97	N/A	N/A	1.93	16.49	5.20	1.16	-4.38
Peer Group Median	-10.21	-27.44	-0.57	-0.89	4.82	2.40	0.87	18.63	20.62	-15.23	36.81
Rank	19	31	22	13	N/A	N/A	58	15	35	27	69
Population	257	252	239	212	197	154	294	323	351	351	357







	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	80,612	78,560
Median Mkt. Cap (\$M)	44,790	5,335
Price/Earnings Ratio	8.11	9.84
Price/Book Ratio	2.48	2.49
Yr. EPS Growth Rate (%)	20.30	15.86
Current Yield (%)	7.24	3.60
Beta (5 Years, Monthly)	0.88	1.00
Number of Securities	61	1,387
Active Share	83.34	N/A
60.00 — 45.00 — 30.00 —	48.65	36.32
21.25 21.27 15.00 — 11.65	24.94	0.07 1.90
>\$100 Bil \$75 E \$100		\$2 Bil - \$0 - \$15 Bil \$2 Bil



Performance shown is gross of fees and product specific. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.



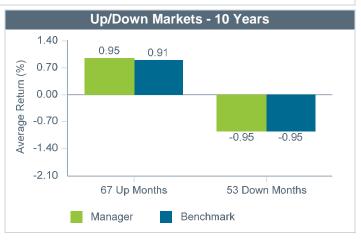
Manager: FCI Advisors (SA)

Benchmark: Bloomberg US Gov't Crdt Bond Index

Peer Group: IM U.S. Broad Market Core Fixed Income (SA+CF)

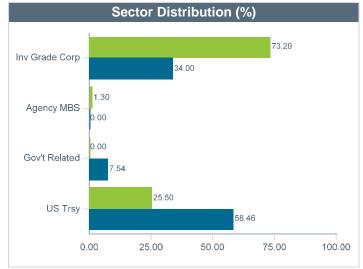
				P	erformar	nce					
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2021	2020	2019	2018	2017
Manager	-4.62	-15.40	-2.88	0.29	1.03	1.23	-1.92	10.49	10.01	0.22	4.07
Benchmark	-4.56	-14.95	-3.15	-0.05	0.78	1.02	-1.75	8.93	9.71	-0.42	4.00
Difference	-0.06	-0.45	0.27	0.34	0.25	0.21	-0.17	1.56	0.30	0.64	0.07
Peer Group Median	-4.54	-14.38	-2.71	0.18	1.08	1.37	-1.23	8.51	9.19	0.06	4.01
Rank	60	85	65	38	56	70	93	6	10	33	46
Population	110	110	110	106	105	100	145	154	156	162	167







Effective Duration 6.77  Spread Duration N/A  Avg. Maturity 9.02  Avg. Quality A2 Aa  Yield To Maturity (%) 5.10  Coupon Rate (%) 3.10	N/A 6.43 9.02 8.81 A2 Aa2/Aa3 5.10 4.71 3.10 2.53
Avg. Maturity 9.02 Avg. Quality A2 Aa Yield To Maturity (%) 5.10	9.02 8.81 A2 Aa2/Aa3 5.10 4.71 3.10 2.53
Avg. Quality A2 Aa Yield To Maturity (%) 5.10	A2 Aa2/Aa3 5.10 4.71 3.10 2.53
Yield To Maturity (%) 5.10	5.10     4.71       3.10     2.53
	3.10 2.53
Coupon Rate (%) 3.10	
	3.50 N/A
Current Yield (%) 3.50	0.00
Holdings Count 90	90 8,867



Performance shown is gross of fees and client specific. Calculation is based on monthly periodicity.



Manager: PIMCO:Income;Inst (PIMIX)
Benchmark: Bloomberg US Agg Bond Index
Peer Group: IM Multi-Sector General Bond (MF)

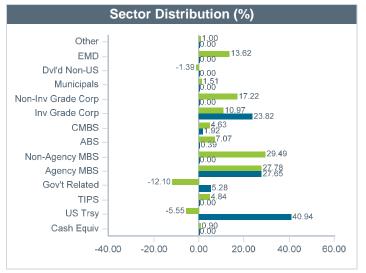
				Р	erformar	псе					
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2021	2020	2019	2018	2017
Manager	-1.86	-10.70	-0.26	1.24	3.22	4.05	2.61	5.80	8.07	0.58	8.61
Benchmark	-4.75	-14.60	-3.26	-0.27	0.54	0.89	-1.55	7.51	8.72	0.01	3.54
Difference	2.89	3.90	3.00	1.51	2.68	3.16	4.16	-1.71	-0.65	0.57	5.07
Peer Group Median	-2.77	-13.83	-1.55	0.52	2.09	2.05	1.51	6.47	9.98	-1.59	5.84
Rank	21	24	16	18	7	2	33	59	77	18	13
Population	475	459	364	313	261	173	446	402	387	384	358







	Portfolio	Benchmark
Effective Duration	3.22	6.20
Spread Duration	4.47	N/A
Avg. Maturity	5.17	8.52
Avg. Quality	A3	Aa1/Aa2
Yield To Maturity (%)	4.49	4.75
Coupon Rate (%)	3.19	2.58
Current Yield (%)	N/A	N/A
Holdings Count	7,749	12,641

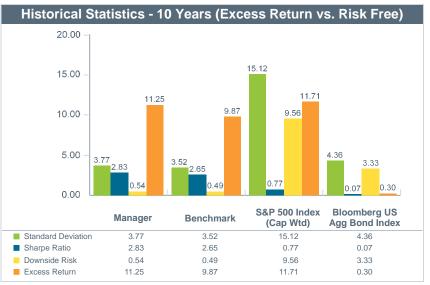


Performance shown is net of fees and product specific. Calculation is based on monthly periodicity. Parentheses contain percentile ranks. Allocation to "Other" consists of convertible bonds and preferred stock. Negative sector allocation reflects manager's use of derivatives, short selling, or interest rate swaps.

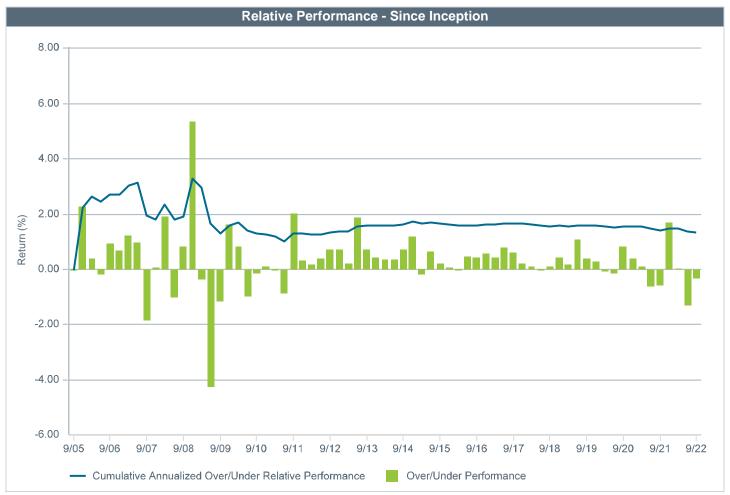


Manager: Morgan Stanley Prime Property (CF)
Benchmark: NCREIF ODCE Index (AWA) (Gross)

				Рє	erforman	ce					
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2021	2020	2019	2018	2017
Manager	0.20	22.18	12.46	10.84	10.80	12.40	22.87	2.18	7.40	8.99	9.84
Benchmark	0.52	22.09	12.37	10.24	9.85	10.92	22.17	1.19	5.34	8.35	7.62
Difference	-0.32	0.09	0.09	0.60	0.95	1.48	0.70	0.99	2.06	0.64	2.22



	Actual Correlation
NCREIF ODCE Index (AWA) (Gross)	0.95
S&P 500 Index (Cap Wtd)	-0.08
Russell 2000 Index	-0.20
MSCI EAFE Index (USD) (Net)	-0.12
MSCI Emg Mkts Index (USD) (Net)	-0.28
Bloomberg US Agg Bond Index	-0.32
Bloomberg US Trsy US TIPS Index	-0.24
Wilshire US REIT Index	0.12
HFRI FOF Comp Index	-0.22
Bloomberg Cmdty Index (TR)	0.08
ICE BofA 3 Mo US T-Bill Index	-0.44
Cons Price Index (Unadjusted)	0.27



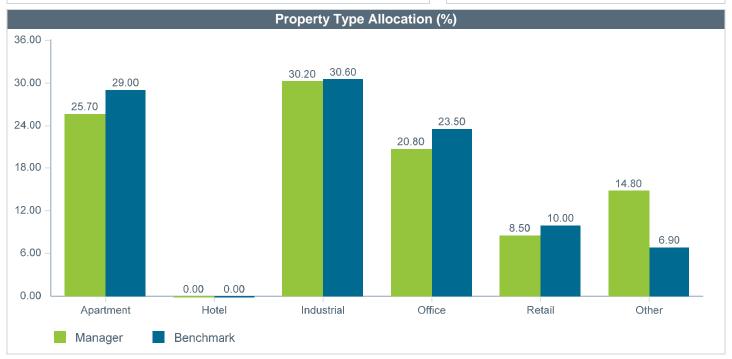


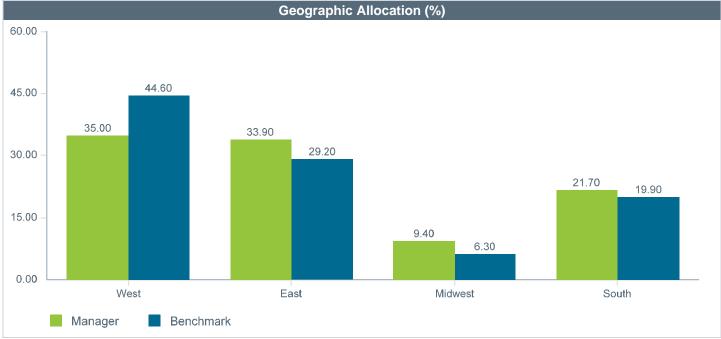
Manager: Morgan Stanley Prime Property (CF)
Benchmark: NCREIF ODCE Index (AWA) (Gross)

#### **Investment Strategy**

The Fund pursues a diversified core real estate strategy that invests in assets with stable, highly predictable cash flow returns. The Fund targets high quality office, Class A multifamily, warehouse distribution, and top-tier super regional malls in addition to storage facilities in targeted primary markets. The Fund favors investing in major metropolitan markets and secondary markets expected to achieve above-average economic performance and believes that those cities offer better liquidity, more diverse tenant bases, and stronger resilience to market cycles. It operates with leverage of 50% or less and may invest up to 15% of its gross assets in higher-risk, value-added real estate investment opportunities.

Investment Profile	
Fund Inception	1973
Legal Structure	LLC
Fund Structure	Open-End
Gross Real Estate Assets (\$M)	45,430
Fund Leverage %	18.00
Portfolio Occupancy %	95.00
Cash Reserve %	2.80
Number of Investments	536
Number of Limited Partners	432



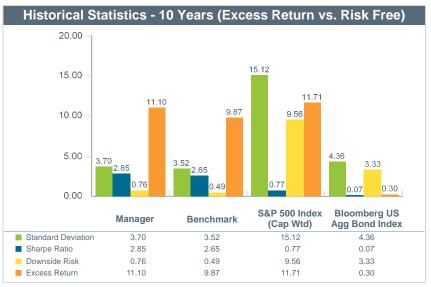


Performance shown is gross of fees and product specific. Calculation is based on quarterly periodicity. Investment profile data shown is provided by the investment manager and is as of the most recently available quarter end. Allocation data shown is based on NAV. Manager allocation to "Other" consists of self-storage, health care, student housing, land held for potential development, and hotel. Benchmark allocation to "Other" consists of entertainment (theaters, golf courses, bowling alleys), healthcare (hospitals, clinics), manufactured homes, parking lots, self-storage units, senior living, and undeveloped land.

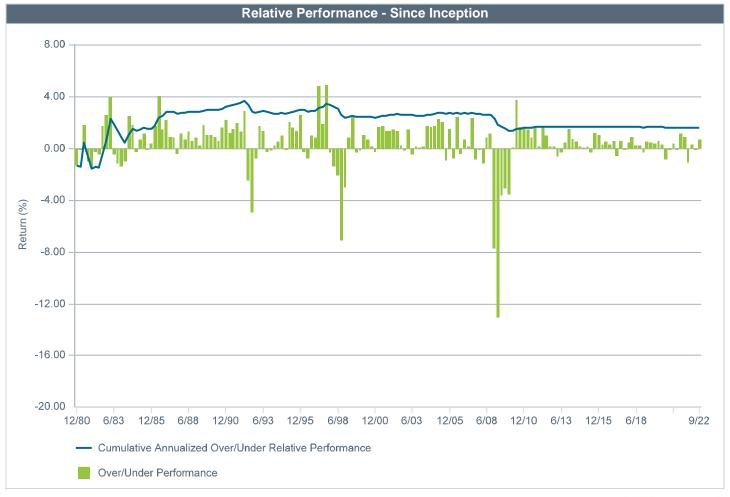


Manager: PGIM Real Estate PRISA II (CF)
Benchmark: NCREIF ODCE Index (AWA) (Gross)

				Pe	rforman	се					
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2021	2020	2019	2018	2017
Manager	1.25	21.87	13.25	11.41	11.11	12.24	23.30	1.03	7.52	9.48	8.06
Benchmark	0.52	22.09	12.37	10.24	9.85	10.92	22.17	1.19	5.34	8.35	7.62
Difference	0.73	-0.22	0.88	1.17	1.26	1.32	1.13	-0.16	2.18	1.13	0.44



	Actual Correlation
NCREIF ODCE Index (AWA) (Gross)	0.95
S&P 500 Index (Cap Wtd)	-0.21
Russell 2000 Index	-0.29
MSCI EAFE Index (USD) (Net)	-0.21
MSCI Emg Mkts Index (USD) (Net)	-0.37
Bloomberg US Agg Bond Index	-0.37
Bloomberg US Trsy US TIPS Index	-0.26
Wilshire US REIT Index	0.02
HFRI FOF Comp Index	-0.29
Bloomberg Cmdty Index (TR)	0.15
ICE BofAML 3 Mo US T-Bill Index	-0.40
Cons Price Index (Unadjusted)	0.36





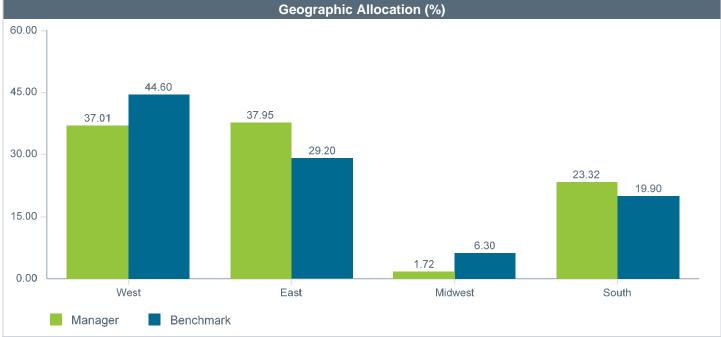
Manager: PGIM Real Estate PRISA II (CF)
Benchmark: NCREIF ODCE Index (AWA) (Gross)

#### **Investment Strategy**

The Fund pursues a diversified core-plus real estate strategy that seeks to outperform the NCREIF ODCE Index by 100 basis points over a complete market cycle by structuring investments to enhance risk-adjusted returns. Investments may be made through direct property ownership or indirectly through such vehicles as joint ventures, general or limited partnerships, limited liability companies, mortgage loans and other loan types, including mezzanine debt, and debt secured by an interest in the borrowing entity or interests in companies or entities that directly or indirectly hold real estate or real estate interests. It operates with a leverage limit of 40% and may invest up to 35% of its gross assets in higher-risk, non-core real estate investment opportunities.

Investment Profile	
Fund Inception	1980
Legal Structure	REIT
Fund Structure	Open-End
Gross Real Estate Assets (\$M)	17,890
Fund Leverage %	32.06
Portfolio Occupancy %	90.75
Cash Reserve %	4.35
Number of Investments	161
Number of Limited Partners	112



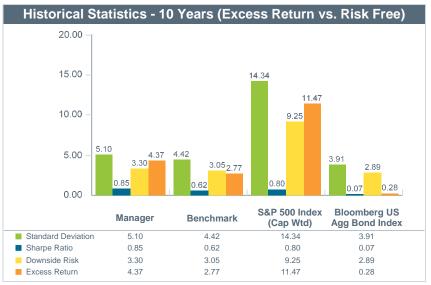


Performance shown is gross of fees and product specific. Calculation is based on quarterly periodicity. Investment profile data shown is provided by the investment manager and is as of the most recently available quarter end. Allocation data shown is based on NAV. Manager allocation to "Other" consists of land, student housing, self-storage, and life science/lab space. Benchmark allocation to "Other" consists of entertainment (theaters, golf courses, bowling alleys), healthcare (hospitals, clinics), manufactured homes, parking lots, self-storage units, senior living, and undeveloped land.

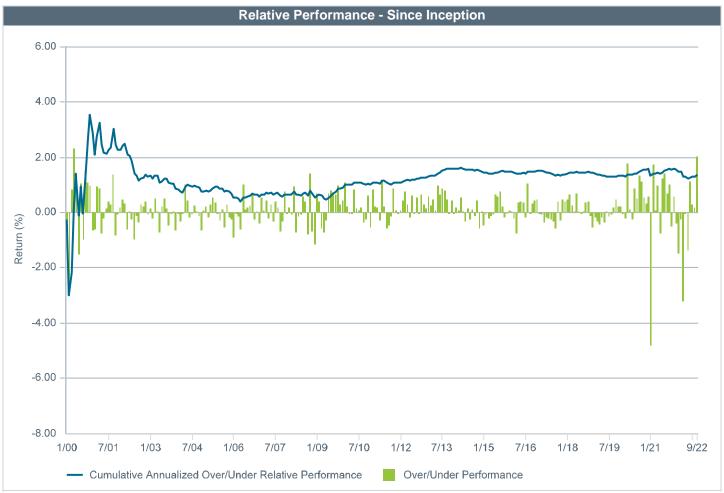


Manager: Grosvenor Institutional Partners (CF)
Benchmark: HFN FOF Multi-Strat Index (Net)

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2021	2020	2019	2018	2017
Manager	2.42	-6.38	6.69	4.78	4.31	5.03	7.87	17.24	6.14	-1.38	6.25
Benchmark	-0.07	-3.30	4.70	3.32	3.19	3.41	6.77	9.79	6.75	-3.58	7.27
Difference	2 49	-3.08	1 99	1 46	1 12	1.62	1 10	7 45	-0.61	2 20	-1 02



	Actual Correlation
HFN FOF Multi-Strat Index (Net)	0.85
S&P 500 Index (Cap Wtd)	0.64
Russell 2000 Index	0.65
MSCI EAFE Index (USD) (Net)	0.63
MSCI Emg Mkts Index (USD) (Net)	0.49
Bloomberg US Agg Bond Index	0.07
Bloomberg US Trsy US TIPS Index	0.15
Wilshire US REIT Index	0.39
HFRI FOF Comp Index	0.85
Bloomberg Cmdty Index (TR)	0.31
ICE BofAML 3 Mo US T-Bill Index	-0.23
Cons Price Index (Unadjusted)	-0.07



Performance shown is net of fees and product specific. Calculation is based on monthly periodicity.



### Kansas City Police Employees' Retirement Systems Grosvenor FOB

#### Investment Strategy

Grosvenor manages a customized hedge fund of fund portfolio for KCPERS, Grosvenor FOB Fund. The customized portfolio is structured to meet KCPERS specific needs of seeking a superior absolute and risk-adjusted rate of return, with low performance volatility, low correlations with global equity and fixed-income markets, over a full market cycle, and to preserve capital during challenging market environments. Specifically, the Fund seeks to generate a return of treasury bills + 600 basis points over a full market cycle, an annualized standard deviation of less than 10%, and a beta to equity markets of less than 0.4.

#### Fund Details as of 9/30/2022

Asset Allocation

Fund Assets (USD millions): 123 Inception Date: August 1, 2014

Currency: USD

Number of Investment Managers: 22 Number of Portfolio Funds: 22

Style Mandate: Broad Mandate Multi-Strategy Portfolios

Portfolio Type: Offshore Non-Plan Asset Top 10 Investment Managers % of NAV: 59.82 Top 20 Investment Managers % of NAV: 92.47

Strategy		Α	llocation as of 9/30/2022	
Equities			39.0%	
Macro			5.9%	
Credit			12.6%	
Relative Value			29.6%	
Multi-Strategy			8.8%	
Quantitative			0.0%	
Uninvested			3.3%	
Other			0.9%	
	Strategy P	erformance At	tribution	
	QTD Rate Of Return	QTD Contrib to Rate Of Return	YTD Contrib to Rate Of Return	Allocation as of 9/30/2022
Equities	-1.34%	-0.51%	-8.53%	39.0%
Macro	4.32%	0.25%	-0.09%	5.9%
Credit	0.30%	0.04%	-0.42%	12.6%
Relative Value	4.97%	1.41%	3.47%	29.6%
Multi-Strategy	1.55%	0.14%	-0.83%	8.8%
Quantitative				0.0%
Commodities				0.0%
Uninvested				3.3%
Other	-4.43%	-0.04%	-0.05%	0.9%
TOTAL	-1.06%	1.29%	-6.45%	100%

0.0%3.3%	■ Equities
8.8%	■Macro
	■ Credit
39.0%	■Relative Value
29.6%	■Multi-Strategy
	■Quantatative
	■Uninvested
12.6%	Other

	Derivatives I	Report - Expo	sure Table			
Exposure Category	Notional					
Exposure Category	Long	Short	Gross	Net		
U.S. / Canada	91.8	82.7	174.5	9.1		
Latin America	3.0	0.9	3.9	2.1		
Europe - Developed	44.8	44.4	89.2	0.4		
Europe - Emerging	0.3	0.3	0.6	0.0		
Asia - Japan	4.7	9.9	14.6	-5.2		
Asia - Developed ex Japan	11.1	5.7	16.8	5.4		
Asia - Emerging	3.0	1.8	4.8	1.2		
Middle East/Africa	0.3	0.2	0.5	0.1		
Global	53.3	29.2	82.5	24.1		
Portfolio Fund Cash	-	-	-	-		
Grosvenor Fund Cash	-	-	-	-		
Tail Risk Protection	-	-	-	-		
Total Grosvenor Fund	212.3	175.1	387.4	-		

Fund Liquidity Schedule as of 9/30/2022 - (with lockup)						
	Amount	%	Cumulative %			
Daily	4,024	3.27	3.27			
Monthly	4,941	4.02	7.29			
Quarterly	45,461	36.98	44.27			
Semi-annually	12,415	10.10	54.36			
Annually	28,252	22.98	77.34			
Every 18 Months	3,018	2.45	79.80			
Biannually	3,583	2.91	82.71			
Triannually	668	0.54	83.26			
Other	13,460	10.95	94.20			
Designated/Illiquid	7,127	5.80	100.00			

Data is as of 9/30/2022 unless otherwise noted. Notional exposures will differ slightly from Grosvenor due to rounding.



# Addendum & Glossary



## Kansas City Police Employees' Retirement Systems Addendum

#### Performance Related Comments

- Performance shown for composites is net of fees, unless otherwise noted. Performance shown for managers is gross of fees except for Grosvenor Institutional Partners (CF) and Private Equity, which are shown net of fees.
- RVK began monitoring the assets and performance of Kansas City Police Employees' Retirement System in 07/2013.
- Performance shown on manager pages reflect the Police Retirement System for all funds.
- Gross performance shown for White Oak Fixed Income C LP differs from the manager's due to a difference in performance calculation methods.
- Performance shown for Financial Counselors may differ from what is reported by the manager due to differences in bond pricing between the manager and the custodian.
- Performance for White Oak Fixed Income C LP, Morgan Stanley Prime Property (CF), PGIM Real Estate PRISA II (CF), Abbott
  Capital Private Equity LP (CF), and J.P. Morgan Private Equity III (CF) is reported on a quarterly basis. Performance for Direct
  Lending and Private Equity is not yet available

#### **Index Comments**

- The Target Allocation Indices are calculated monthly and currently consists of 38% MSCI ACW IM Index (USD) (Net), 31% Bloomberg US Agg Bond Index, 7% ICE BofAML 3 Mo US T-Bill Index+5%, 13% NCREIF ODCE Index (AWA) (Net), and 11% Long Term Absolute Return Custom Benchmark.
  - Prior to 07/2020, the Target Allocation Indices consisted of 37% MSCI ACW IM Index (USD) (Net), 30% Bloomberg US Agg Bond Index, 5% ICE BofAmL 3 Mo US T-Bill Index+5%, 11% NCREIF ODCE Index (AWA) (Net), 15% Long Term Absolute Return Custom Benchmark, and 2% Cambridge US Prvt Eq Index (1 Qtr Lag).
  - Prior to 04/2018, the Target Allocation Indices consisted of 37% MSCI ACW IM Index (USD) (Net), 30% Bloomberg US Agg Bond Index, 5% Real Return Custom Benchmark, 11%NCREIF ODCE Index (AWA) (Net), 15% Long Term Absolute Return Custom Benchmark, and 2% Cambridge US Prvt Eq Index (1 Qtr Lag).
  - Prior to 07/2017, the Target Allocation Indices consisted of 35% MSCI ACW IM Index (USD) (Net),
     30% Bloomberg US Agg Bond Index, 5% Real Return Custom Benchmark, 10% NCREIF ODCE Index (AWA) (Net),
     15% Long Term Absolute Return Custom Benchmark, and 5% Cambridge US Prvt Eq Index (1 Qtr Lag).
  - Prior to 11/2014, the Target Allocation Indices consisted of 35% MSCI ACW IM Index (USD) (Net),
     30% Bloomberg US Agg Bond Index, 5% Real Return Custom Benchmark, 10% NCREIF Property Index,
     15% Long Term Absolute Return Custom Benchmark, and 5% Cambridge US Prvt Eq Index (1 Qtr Lag).
  - Prior to 07/2014, the Target Allocation Indices consisted of 35% MSCI ACW IM Index (USD) (Net), 30% Bloomberg US Agg Bond Index, 5% Real Return Custom Benchmark, 10% NCREIF Property Index, 15% HFRI FOF Comp Index, and 5% Cambridge US Prvt Eq Index (1 Qtr Lag).
  - Prior to 03/2014, the Target Allocation Indices consisted of 15% S&P 500 Index (Cap Wtd), 11% Russell 2000 Index, 10% MSCI EAFE Index (USD) (Net), 10% MSCI Emg Mkts Index (USD) (Net), 24% Bloomberg A+ US Gov't/Crdt Index, 5% ICE BofAML US Hi Yld Master II Index, 5% Real Return Custom Benchmark, 5% NCREIF Property Index, 10% HFRI FOF Composite Index, 3% Venture Economics All Private Equity Index (1 Qtr Lag), and 2% FTSE 3 Mo T-Bill Index.
- The Long Term Absolute Return Custom Benchmark consists of 100% ICE BofAML 3 Mo US T-Bill Index+5.
  - Prior to 07/2020, the Long Term Absolute Return Custom Benchmark consisted of 70% ICE BofAML 3 Mo US T-Bill Index+5% and 30% Consumer Price Index+5%.
- The Absolute Return Custom Benchmark is calculated monthly using beginning of month manager weights applied to each corresponding benchmark return.
- ICE BofAML 3 Mo US T-Bill Index+5% benchmark for Direct Lending and White Oak Fixed Income Fund C L.P. assumes a 0.00% return during interim quarter months and when corresponding fund performance is not yet available.

#### Market Value Comments

- Market values shown for White Oak Fixed Income C LP is as of 06/30/2022.
- Market values shown for Abbott Capital Private Equity LP (CF) and J.P. Morgan Private Equity III (CF) are as of 06/30/2022, adjusted for subsequent cash flows.

#### Miscellaneous Comments

- Fidelity Strat RI Rtn (FSRRX) was liquidated on 03/30/2018 and White Oak Fixed Income C LP was funded with the proceeds.
- ICE BofAML 3 Mo US T-Bill Index+5% benchmark for Direct Lending and White Oak Fixed Income C LP assumes a 0.00% return during interim quarter months and when corresponding fund performance is not yet available.
- GMO:Bchmk-Fr All;III (GBMFX) was liquidated on 06/24/2020.
- GQG Partners Emg Mkts Eq (CF) was incepted on 10/21/2020.
- On 10/30/2020, assets invested in WTC-CIF II US Sm Cap 2000 Series 1 (CF) and WTC-CTF Intl Sm Cap Research Equity (CF) were liquidated and used to fund WTC-CTF Global Perspectives (CF). LSV Emg Mkts Equity (CF) and LSV Emg Mkts Sm Cap Equity (CF) were liquidated on 11/23/2020 and 11/20/2020, respectively.



Active Return - The difference between the investment manager/composite performance relative to the performance of an appropriate market benchmark.

Active Share - Measures the degree to which the holdings of a fund differ from the holdings of the benchmark. Active share is calculated by taking the sum of the absolute value of the differences of the weight of each holding in the fund versus the weight of each holding in the benchmark and dividing by two.

Alpha - A measure of the difference between a portfolio's actual returns and its expected performance, given its level of risk as measured by beta. It is a measure of the portfolio's historical performance not explained by movements of the market or a portfolio's non-systematic return.

**Alpha Ratio** - A measure of a portfolio's non-systematic return per unit of downside risk. It is measured by dividing the alpha of a portfolio by the downside risk. The non-systematic return is a measure of a portfolio's historical performance not explained by movements of the market.

Average Quality - Bond quality ratings are reported using the investment managers' and the index providers' preferred rating agency. Average Quality for managers unable to provide this statistic is instead provided by Morningstar; if unavailable on Morningstar, it has been estimated using a credit quality distribution provided by the manager. There are two primary rating agencies in the US. Moody's assigns ratings on a system that employs up to four symbols (consisting of letters and numbers), such as, Aaa, Aa2, etc., with Aaa being the highest or safest rating. Standard & Poor's (S&P) employs a system that uses + and - along with letters, such as AAA, AA+, etc. The two rating agencies' systems are summarized below:

S&P	Moody's	<u>Explanation</u>	S&P	Moody's	Explanation		
Higher Cr	edit Quality – I	nvestment Grade	Lower Credit Quality – Below Investment Grade				
AAA	Aaa	Prime/Highest credit quality	BB+	Ba1	Speculative/Low credit quality		
AA+	Aa1	High credit quality	BB	Ba2			
AA	Aa2		BB-	Ba3			
AA-	Aa3		B+	B1	Highly speculative		
A+	A1	Upper-medium credit quality	В	B2			
Α	A2		B-	B3			
A-	A3		CCC+	Caa1	Substantial credit/default risk		
BBB+	Baa1	Lower-medium credit quality	CCC	Caa2	Extremely speculative		
BBB	Baa2		CCC-	Caa3			
BBB-	Baa3		CC	Ca	Vulnerable to default		
			С	Ca			
			D	С	In default		

Benchmark Effect - The difference between the blended return of each respective managers' benchmark within a composite and the composite's benchmark return.

Beta - A measure of the sensitivity of a portfolio to the movements in the market. It is a measure of a portfolio's non-diversifiable or systematic risk.

**Box Plots** - A graphical representation of the distribution of observations. From top to bottom, the four boxes represent the spread between the maximum value and the minimum value in each quartile. A quartile represents the values that divide the observations into four quarters (i.e., 1<sup>st</sup> quartile, 2<sup>nd</sup> quartile, 3<sup>rd</sup> quartile, and 4<sup>th</sup> quartile). The median observation is where the 2<sup>nd</sup> quartile and 3<sup>rd</sup> quartile meet.

Buy and Hold Attribution - At the beginning of the time period under analysis, the manager and benchmark portfolios are broken down into segments (i.e., styles, sectors, countries, and regions) based on the desired type of attribution. The formula assumes zero turn-over to the manager and benchmark portfolios throughout the period and calculates the segment returns ("buy and hold returns") to arrive at performance attribution. Due to portfolio turnover, buy and hold attribution may not accurately represent quarterly performance relative to the benchmark. Country, region, sector, and style allocations are as of the date one quarter prior to the reporting date, and the returns shown are for those segments throughout the quarter reported. Due to disclosure guidelines set by each investment manager, equity characteristics shown are as of the most recent date available. The following is the methodology for segment classification:

Sector - Attribution is calculated using the Global Industry Classification Standard (GICS), which is a detailed and comprehensive structure for sector and industry analysis. Stocks are classified by their primary sector as defined by S&P Capital IQ data. Attribution to "other" is the result of securities based in industries that do not fit into any GICS classification.

**Country/Region** - Attribution is calculated using the Morgan Stanley Capital International (MSCI) region standards. Stocks are classified by their domicile country/region, as defined by S&P Capital IQ data, and thus may differ from the classification of the investment manager and/or index provider. Attribution to "other" is the result of securities based in countries/regions that do not fit into any MSCI classification.

Style - Stocks are classified into the following style boxes: large/mid/small vs. growth/neutral/value. Stocks are classified along large/mid/small categories at the time of the Russell index rebalancing, using the index market cap boundaries as cutoff points. Stocks are classified along growth/neutral/value categories at the time of the Russell index rebalancing, using the price/book ratio as supplied by S&P Capital IQ. Stocks in the Russell 3000 Index portfolio are sorted by price/book ratio; names with the highest price/book ratio that make up 1/3 of the total market capitalization are assigned to the growth category, and names that make up the subsequent 1/3 of the total market capitalization are assigned to the names are assigned to the value category. Stocks are unclassified when there is not enough data to determine a size and style metric.

Portfolio Characteristics and Buy and Hold Attribution reports utilize product-specific data for all mutual funds and commingled funds.

#### Capital Markets Review -

Breakeven Inflation - Measures the expected inflation rate at each stated maturity by taking the difference between the real yield of the inflation-linked maturity curve and the yield of the closest nominal Treasury maturity.

**Consumer Confidence** - Measures domestic consumer confidence as defined by the degree of optimism on the state of the economy that consumers express through saving and spending.

Consumer Price Index (CPI) - Measures the change in the price level of consumer goods and services.



Federal Funds Rate - The interest rate at which a depository institution lends funds maintained at the Federal Reserve to another depository institution overnight. It is one of the most influential interest rates in the US economy, since it affects monetary and financial conditions, which in turn have a bearing on key aspects of the broad economy including employment, growth and inflation.

Option-Adjusted Spread - Measures the flat spread of an index or bond to the Treasury yield curve after removing the effect of any embedded options.

Purchasing Managers Index (PMI) - Measures economic activity by surveying purchasing managers on a monthly basis as to whether business conditions have improved, worsened, or stayed the same.

Real Gross Domestic Product (Real GDP) - An inflation-adjusted measure that reflects the value of all goods and services produced by an economy in a given year.

Unemployment Rate - The percentage of the total labor force that is unemployed but actively seeking employment.

US Dollar Total Weighted Index - Measures the value of the US Dollar relative to a basket of other world currencies. It is calculated as the weighted geometric mean of the dollar's value versus the EUR, GBP, CAD, SEK, CHF, and JPY.

VIX - Measures the implied volatility of S&P 500 Index options by looking at the market's expectation of the S&P 500 Index volatility over the next 30 day period. Commonly referred to as the "fear index" or the "fear gauge."

Cash Flow Effect - The composite's active return minus the sum of each managers' active return minus the benchmark effect.

**Consistency** - The percentage of quarters that a product achieved a rate of return higher than that of its benchmark. The higher the consistency figure, the more value a manager has contributed to the product's performance.

Convexity - A measure of the shape of the curve that describes the relationship between bond prices and bond yields.

**Correlation** - A statistical measure of the relationship between asset class returns. A value of 1.00 is a perfect correlation; that is, the asset classes always move in the same direction. A value of -1.00 indicates a perfect negative correlation, in which the asset classes always move in opposite directions of each other. A value of 0 indicates there is no relationship between the direction of returns of the two asset classes. Correlation calculations only consider the direction of changes relative to two variables and not the magnitude of those changes.

Coupon Rate - The percentage rate of interest paid on a bond or fixed income security; it is typically paid twice per year.

Current Yield - The annual income of a security divided by the security's current price.

**Down Market Capture** - Down market by definition is negative benchmark return and down market capture represents the ratio in % terms of the average portfolios return over the benchmark during the down market period. The lower the value of the down market capture the better the product's performance.

**Downside Risk** - A measure similar to standard deviation that focuses only on the negative movements of the return series. It is calculated by taking the standard deviation of the negative returns for the selected periodicity. The higher the factor, the riskier the product.

Earnings Per Share - It is backward looking, calculated using the one year current EPS divided by the one year EPS five years ago.

Effective Duration - The approximate percentage change in a bond's price for a 100 basis point change in yield.

Excess Return vs. Market - Average of the monthly arithmetic difference between the manager's return and the benchmark return over a specified time period, shown on an annualized basis.

Excess Return vs. Risk Free - Average of the monthly arithmetic difference between the manager's return and the risk-free return (i.e., ICE BofAML 3 Mo US T-Bill Index unless specified otherwise) over a specified time period, shown on an annualized basis.

Excess Risk - A measure of the standard deviation of a portfolio's performance relative to the risk-free return.

Expense Ratios - Morningstar is the source for mutual fund expense ratios.

Gain/Loss - The net increase or decrease in the market value of a portfolio excluding its Net Cash Flow for a given period.

Indices - All indices and related information are considered intellectual property and are licensed by each index provider. The indices may not be copied, used, or distributed without the index provider's prior written approval. Index providers make no warranties and bear no liability with respect to the indices, any related data, their quality, accuracy, suitability, and/or completeness.

**Information Ratio** - Measured by dividing the active rate of return by the tracking error. The higher the information ratio, the more value-added contribution by the manager.

Liability Driven Investing (LDI) - A method to optimally structure asset investments relative to liabilities. The change in liabilities is estimated by the Ryan Labs Generic PPA Index of appropriate duration for that Plan. This benchmark is based on generic data and is therefore an approximation. RVK is not an actuarial firm, and does not have actuarial expertise.

**Estimated Funded Status** - The estimated ratio of a Plan's assets relative to its future liabilities. This is calculated by dividing the Plan's asset market value by the estimated present value of its liabilities. The higher the estimated funded status, the better the Plan's ability to cover its projected benefit obligations. An estimated funded status of 100% indicates a Plan that is fully funded.

Estimated PV of Liabilities - An estimate of a Plan's future liabilities in present value terms. The beginning of the period liability is provided by the Plan's actuary. The period-end present value liability estimate provided in this report is derived by applying the estimated percentage change generated using the Ryan Labs Generic PPA Index with duration similar to that reported on the most recent actuarial valuation report.

Duration of Liabilities - The sensitivity of the value of a Plan's liabilities to changes in interest rates, as calculated by the Plan's actuary.

Duration of Assets - The dollar-weighted average duration of all the individual Plan assets.

Estimated Plan Hedge Ratio - The estimate of how well a Plan's investment portfolio is hedged against changes in interest rates - a primary driver of funded status movements. This is calculated by dividing the dollar-weighted values of both the Plan asset duration by the liability duration and



multiplying by the estimated funded status. An estimated plan hedge ratio of zero indicates that the Plan's liabilities have not been hedged, whereas a value of one indicates fully hedged.

Modified Duration - The approximate percentage change in a bond's price for a 100 basis point change in yield, assuming the bonds' expected cash flows do not change.

**Mutual Fund Performance** - Whenever possible, manager performance is extended for any share class that does not have 10 years of history. Using Morningstar's methodology, a single ticker within the same fund family (often the oldest share class) is chosen to append historical performance.

Net Cash Flow - The sum, in dollars, of a portfolio's contributions and withdrawals. This includes all management fees and expenses only when performance shown is gross of fees.

#### Peer Groups -

Plan Sponsor Peer Groups - RVK utilizes the Mellon Analytical Solutions Trust Universe along with the Investment Metrics Plan Sponsor Universe. The combined Mellon Analytical Solutions Trust Universe and Investment Metrics Plan Sponsor Universe is used for comparison of total fund composite results and utilizes actual client performance compiled from consultant and custodian data. The Plan Sponsor Peer Group database includes performance and other quantitative data for over 2,100 plans which include corporate, endowment, foundation, public, and Taft Hartley plans.

Investment Manager Peer Groups - RVK utilizes Investment Metrics' Peer Groups for investment manager peer comparison and ranking. The Investment Metrics Peer Group database includes performance and other quantitative data for over 840 investment management firms and 29,000 investments products, across more than 160 standard peer groups. Mutual Fund Peer Groups are net of fees.

Percentile Rankings - Percentile rank compares an individual fund's performance with those of other funds within a defined peer group of managers possessing a similar investment style. Percentile rank identifies the percentage of a fund's peer group that has a higher return (or other comparative measurement) than the fund being ranked. Conversely, 100 minus the individual fund's ranking will identify the percentage of funds within the peer group that have a lower return than the fund being ranked.

1 - Highest Statistical Value 100 - Lowest Statistical Value

Example: American Funds AMCP;R-4 (RAFEX) is ranked in the 4<sup>th</sup> percentile within the IM US Equity Large-Cap Growth Funds (MF) Peer Group for the Sharpe Ratio. Within the IM US Equity Large-Cap Growth Funds peer group, 4% of the other funds performed better than American Funds AMCP;R-4 (RAFEX), while 96% of the funds performed worse.

Performance Methodology - RVK calculates performance for investment managers and composites using different methodologies.

Investment Managers - Performance is calculated for interim periods between all large external cash flows for a given month and geometrically linked to calculate period returns. An external cash flow is defined as cash, securities, or assets that enter or exit a portfolio. RVK defines a "large cash flow" as a net aggregate cash flow of ≥10% of the beginning-period portfolio market value or any cash flow that causes RVK calculated performance to deviate from manager/custodian reported performance in excess of 5 basis points for a given month.

Composites - The Modified Dietz methodology is utilized to calculate asset class, sub-asset class, and total fund composite performance. The Modified Dietz method calculates a time-weighted total rate of return that considers the timing of external cash flows; however, it does not utilize interim period performance to mitigate the impact of significant cash in- and outflows to the composite.

RVK calculates performance beginning with the first full month following inception. Since inception performance may vary from manager reported performance due to RVK using the first full month of returns as the inception date. Performance for both managers and composites is annualized for periods greater than one year.

Portfolio Characteristics - Due to disclosure guidelines set by each investment manager, portfolio characteristics shown are as of the most recent date available.

Price to Earnings Ratio - The ratio valuing a company's current share price relative to its trailing 12-month per-share earnings (EPS).

Private Equity Quartile Ranks - Private Equity quartile ranks are generated using vintage year peer group data provided by Thomson Reuters, and are based on each fund's annualized, since inception internal rate of return (IRR). Three Private Equity peer groups are available via Thomson Reuters: Buyout, Venture, and All Private Equity. Ranks are available quarterly, at a one-quarter lag.

**R-Squared** - The percentage of a portfolio's performance explained by the behavior of the appropriate benchmark. High R-Squared means a higher correlation of the portfolio's performance to the appropriate benchmark.

Return - Compounded rate of return for the period.

% Return - The time-weighted rate of return of a portfolio for a given period.

Risk Free Benchmark – ICE BofAML 3 Mo US T-Bill Index unless specified otherwise.



**RVK Liquidity Rating** - A qualitative method for determining the relative amount of liquidity in a portfolio. The characteristics considered when determining relative liquidity include trading volume, gates for redemption, leverage, nature of transactions, and pricing mechanisms. The RVK Liquidity Rating is calculated using beginning of month investment weights applied to each corresponding asset class liquidity rating.

Asset Class	<b>RVK Liquidity Rating</b>	Asset Class	<b>RVK Liquidity Rating</b>
<u>Liquid Investments</u>		Less Liquid Investments	
T-Bills and Treasurys	100	Fixed Income Plus Sector	50
Cash Equivalents	98	Stable Value (Plan Sponsor Directed)	50
TIPS	95	Hedge Funds of Funds	35
US Large Cap Equity	95	•	
Diversified Real Return	93		
Stable Value (Participant Directed)	91		
Global Equity	90	Not Liquid Investments	
Non-US Large Cap Equity	90	Core Real Estate	25
Global Tactical Asset Allocation	88	Core Plus Real Estate	15
MLPs	85	Non-Core Real Estate	5
US Mid Cap Equity	85	Private Equity Funds of Funds	5
US SMid Cap Equity	85	, ,	
US Small Cap Equity	85		
REITs	85		
Non-US Small Cap Equity	85		
Emerging Markets Equity	85		
Core Fixed Income	85		
Core Plus Fixed Income	80		

Sector Allocation - Negative fixed income sector allocation reflects manager's use of derivatives, short selling, or interest rate swaps.

Sharpe Ratio - Represents the excess rate of return over the risk-free return (i.e., ICE BofAML 3 Mo US T-Bill Index unless specified otherwise), divided by the standard deviation of the excess return to the risk free asset. The result is the absolute rate of return per unit of risk. The higher the value, the better the product's historical risk-adjusted performance.

Simple Alpha - The difference between the manager's return and the benchmark's return.

**Spread Duration** - The approximate percentage change in a bond's price for a 100 basis point change in its spread over a Treasury of the same maturity.

**Standard Deviation** - A statistical measure of the range of a portfolio's performance. The variability of a return around its average return over a specified time period.

Thematic Classification - Represents dedicated manager allocations; as such, thematic allocations are approximations. RVK categorizes the following asset classes as Alpha, Capital Appreciation, Capital Preservation, and Inflation:

Alpha Absolute Return Strategies Currency Overlay	Capital Appreciation Public Equity Private Equity Preferred Securities High Yield Convertible Fixed Income TALF Funds Distressed Debt Emerging Market Fixed Income	Capital Preservation Core Fixed Income CMBS Fixed Income Asset Backed Fixed Income Domestic Core Plus Fixed Income Mortgage Backed Fixed Income International Developed Fixed Income Cash Equivalents Stable Value	Inflation TIPS Bank Loans Core Real Estate Real Return Inflation Hedges REITs Commodities
	Emerging Market Fixed Income Value Added Real Estate Opportunistic Real Estate		

Time Period Abbreviations - QTD - Quarter-to-Date. CYTD - Calendar Year-to-Date. FYTD - Fiscal Year-to-Date. YOY - Year Over Year.

Total Fund Attribution – The Investment Decision Process (IDP) model provides an approach to evaluating investment performance that applies to all asset classes and investment styles. The IDP model is based on a top-down hierarchy framework of investment decisions, with each decision contributing to the overall profit or loss. The IDP approach starts from the strategic asset allocation and follows the flow of the investments down to the manager's skill.

Strategic Asset Allocation (SAA) – The percentage return gained or lost from the long-term strategic asset allocation decision, the most significant determinant of long-term performance. SAA is the product of the target asset allocation multiplied by the corresponding benchmark returns.

Tactical Asset Allocation (TAA) – The percentage return gained or lost from not having been precisely allocated at the target asset allocation mix, whether by deviations that are tactical in nature or a by-product of moving towards the target mix. TAA is the product of the actual asset allocation multiplied by the broad asset class benchmarks, less the SAA.

Style Selection (SS) – The percentage return gained or lost from intentional style biases within each asset class (e.g. value rather than core or overweight to emerging markets relative to benchmark). SS is the product of the actual manager allocation within each asset class multiplied by their specific benchmark, less TAA.

Manager's Skill (MS) – The percentage return gained or lost from manager value added relative to their specific benchmark. MS is the product of the actual manager allocation multiplied by their achieved excess return.

**Total Fund Beta** - Total Fund Beta is calculated using the S&P 500 as the benchmark. It represents a measure of the sensitivity of the total fund to movements in the S&P 500 and is a measure of the Total Fund's non-diversifiable or systematic risk.

Tracking Error - A measure of the standard deviation of a portfolio's performance relative to the performance of an appropriate market benchmark.

**Treynor Ratio** - Similar to Sharpe ratio, but focuses on beta rather than excess risk (standard deviation). Treynor ratio represents the excess rate of return over the risk-free rate (i.e., ICE BofAML 3 Mo US T-Bill Index unless specified otherwise) divided by the beta. The result is the absolute rate of return per unit of risk. The higher the value, the better historical risk-adjusted performance.

Unit Value - The dollar value of a portfolio, assuming an initial nominal investment of \$100, growing at the compounded rate of %Return for a given period.

**Up Market Capture** - Up market by definition is positive benchmark return and up market capture represents the ratio in % terms of the average portfolio's return over the benchmark during the up market period. The higher the value of the up market capture the better the product's performance.

Yield to Maturity - The rate of return achieved on a bond or other fixed income security assuming the security is bought and held to maturity and that the coupon interest paid over the life of the bond will be reinvested at the same rate of return. The 30-Day SEC Yield is similar to the Yield to Maturity and is reported for mutual funds.

Yield to Worst - The bond yield calculated by using the worst possible yield taking into consideration all call, put, and optional sink dates.



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