Wilshire

Kentucky Public Pensions Authority

Kentucky Employees Retirement System (KERS)
State Police Retirement System (SPRS)

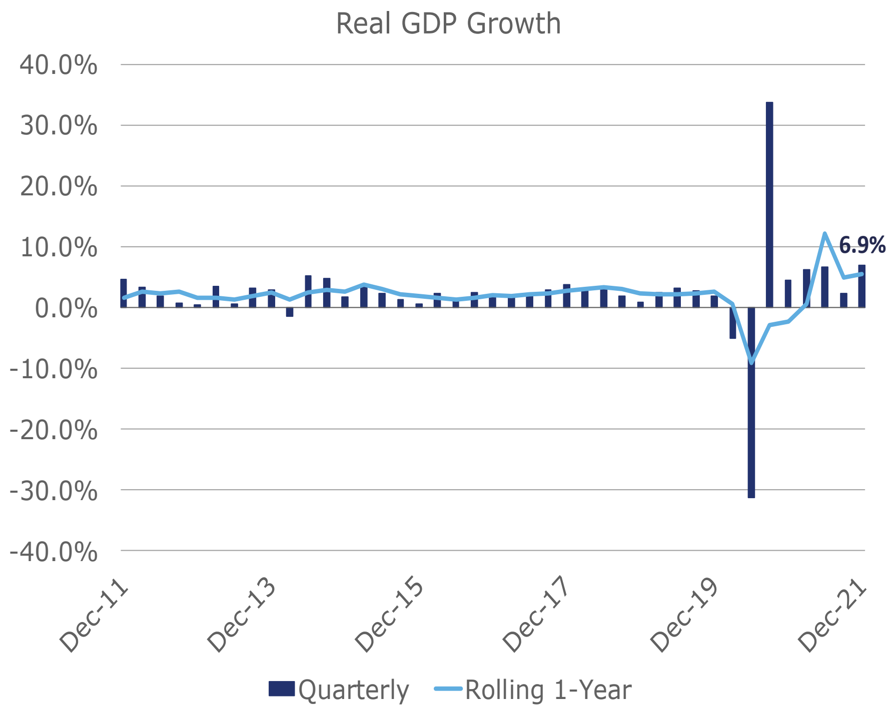
Quarterly Board Summary

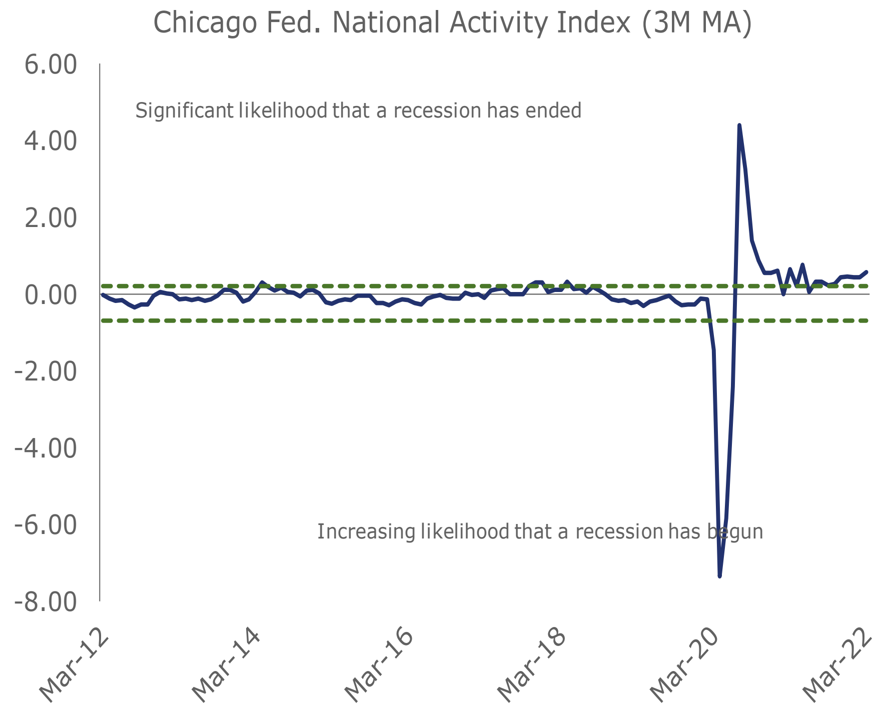
March 31, 2022

March 2022 Asset Class Assumptions

	Equity						Fixed Income						Real Assets					
													Real Estate					
	US Stock	Dev ex-US Stock	Emg Stock	Global ex-US Stock	Global Stock	Private Equity	Cash	Core Bond	LT Core Bond	TIPS	High Yield	Dev ex-US Bond (Hdg)	US RES	Global RES	Private RE	Cmdty	Real Assets	US CPI
Compound Return (%)	5.25	6.25	6.25	6.50	5.85	9.10	1.95	3.05	3.30	2.45	4.65	1.50	5.00	5.15	6.55	4.80	6.40	2.85
Expected Risk (%)	17.00	18.00	26.00	19.10	17.10	28.00	0.75	4.25	8.90	6.00	10.00	4.25	17.50	16.45	14.00	16.00	10.35	1.75
Cash Yield (%)	1.35	2.90	2.35	2.75	1.90	0.00	1.95	3.40	3.80	3.00	8.05	2.10	2.85	2.85	2.30	1.95	2.15	0.00
Growth Exposure	8.00	8.00	8.00	8.00	8.00	13.50	0.00	-0.85	-2.25	-3.00	4.00	-1.00	6.00	6.00	3.50	0.00	1.80	0.00
Inflation Exposure	-3.00	0.00	5.00	1.50	-1.25	-3.80	0.00	-2.50	-6.70	2.50	-1.00	-3.00	1.00	1.80	1.00	12.00	4.85	1.00
Correlations																		
US Stock	1.00																	
Dev ex-US Stock (USD)	0.81	1.00																
Emerging Mkt Stock	0.74	0.74	1.00															
Global ex-US Stock	0.83	0.96	0.87	1.00														
Global Stock	0.95	0.92	0.83	0.94	1.00													
Private Equity	0.74	0.64	0.62	0.67	0.74	1.00												
Cash Equivalents	-0.05	-0.09	-0.05	-0.08	-0.07	0.00	1.00											
Core Bond	0.28	0.13	0.00	0.09	0.20	0.31	0.19	1.00										
LT Core Bond	0.31	0.16	0.01	0.12	0.23	0.32	0.11	0.92	1.00									
TIPS	-0.05	0.00	0.15	0.05	0.00	-0.03	0.20	0.59	0.47	1.00								
High Yield Bond	0.54	0.39	0.49	0.45	0.51	0.34	-0.10	0.25	0.32	0.05	1.00							
Dev ex-US Bond (Hdg)	0.16	0.25	-0.01	0.17	0.18	0.26	0.10	0.66	0.65	0.39	0.26	1.00						
US RE Securities	0.58	0.47	0.44	0.49	0.56	0.50	-0.05	0.17	0.23	0.10	0.56	0.05	1.00					
Global RE Securities	0.64	0.58	0.56	0.61	0.65	0.58	-0.05	0.17	0.22	0.11	0.61	0.03	0.96	1.00				
Private Real Estate	0.54	0.44	0.44	0.47	0.52	0.51	-0.05	0.19	0.25	0.09	0.57	0.05	0.77	0.75	1.00			
Commodities	0.25	0.34	0.39	0.38	0.32	0.27	0.00	-0.02	-0.02	0.25	0.29	-0.10	0.25	0.28	0.25	1.00		
Real Assets	0.48	0.51	0.58	0.57	0.54	0.47	-0.02	0.23	0.25	0.39	0.56	0.05	0.70	0.75	0.70	0.65	1.00	
Inflation (CPI)	-0.10	-0.15	-0.13	-0.15	-0.13	-0.10	0.10	-0.12	-0.12	0.15	-0.08	-0.08	0.05	0.03	0.05	0.44	0.26	1.00

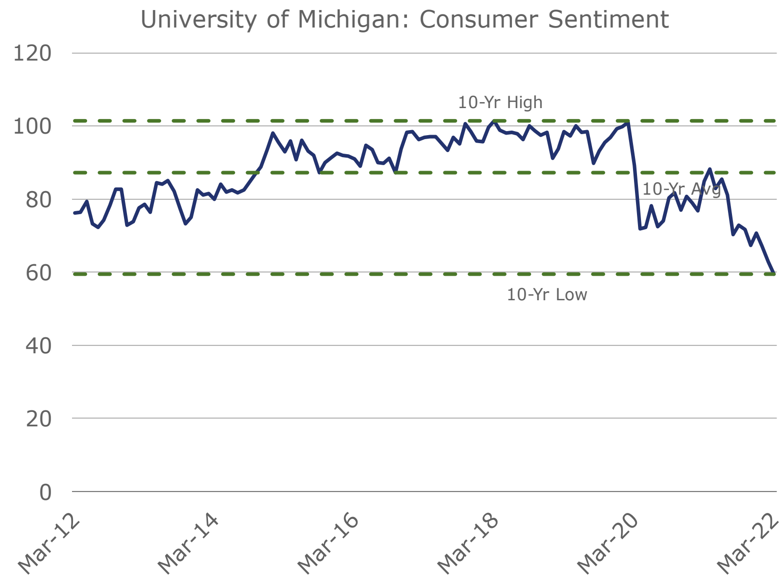
Economic Growth

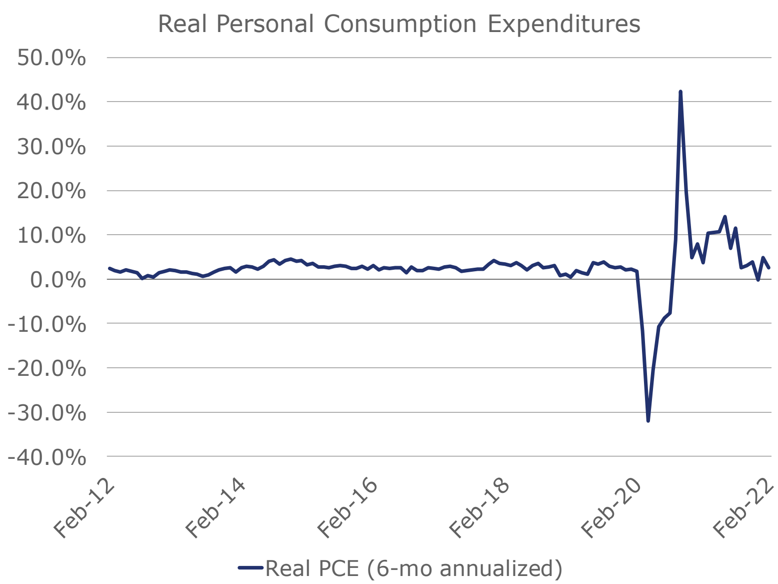


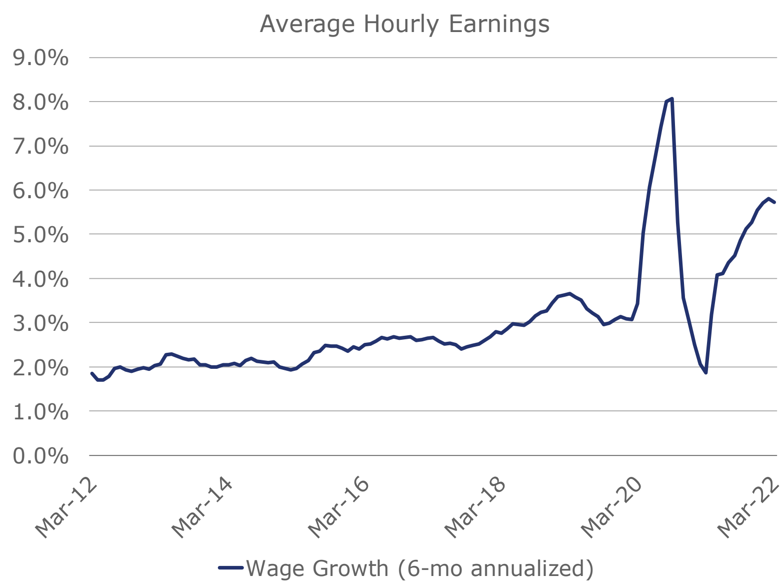


Data Sources: Bloomberg

Consumer Activity

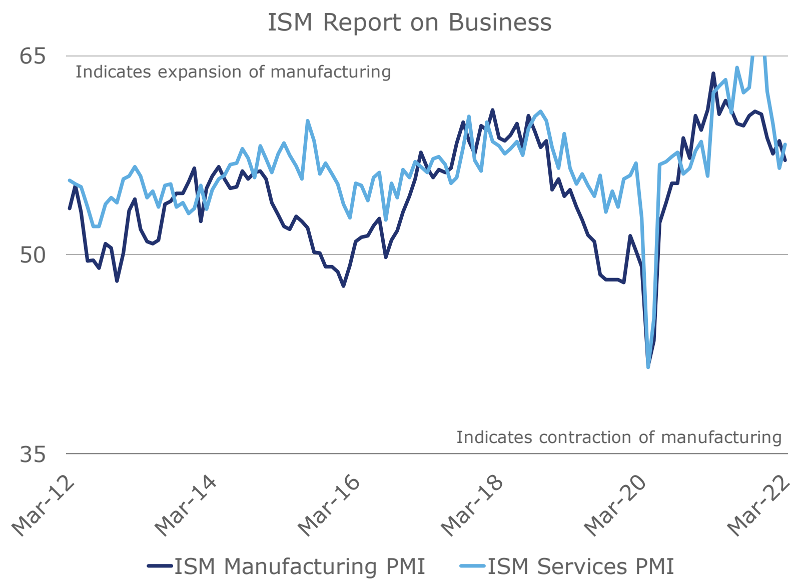


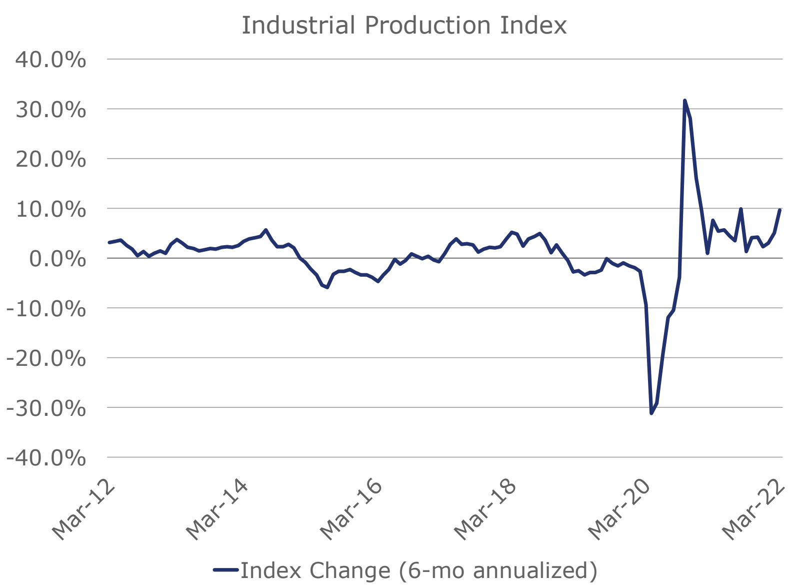




Data Sources: Bloomberg

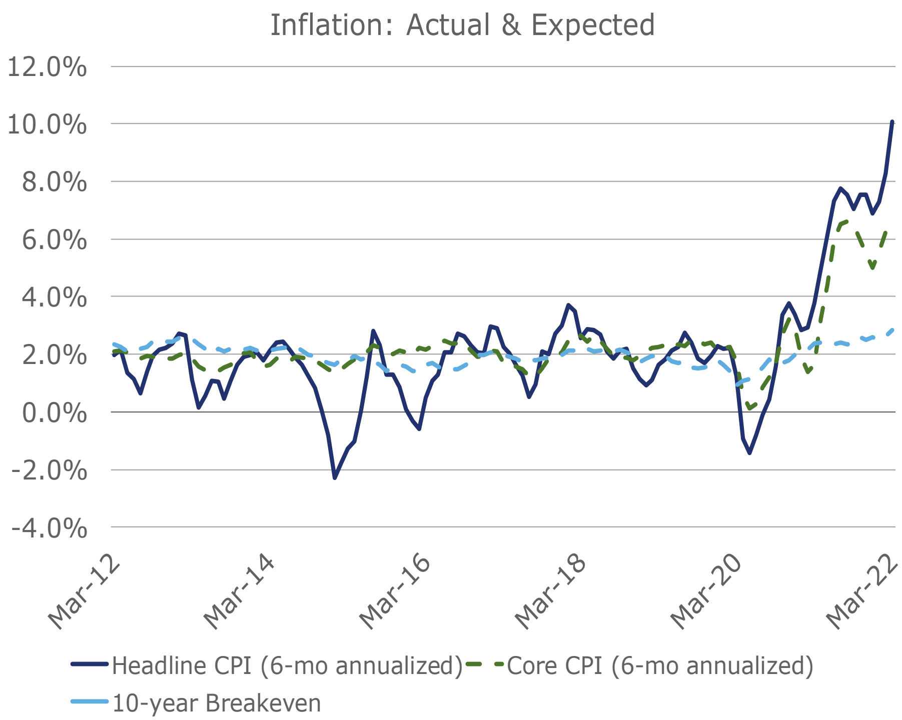
Business Activity

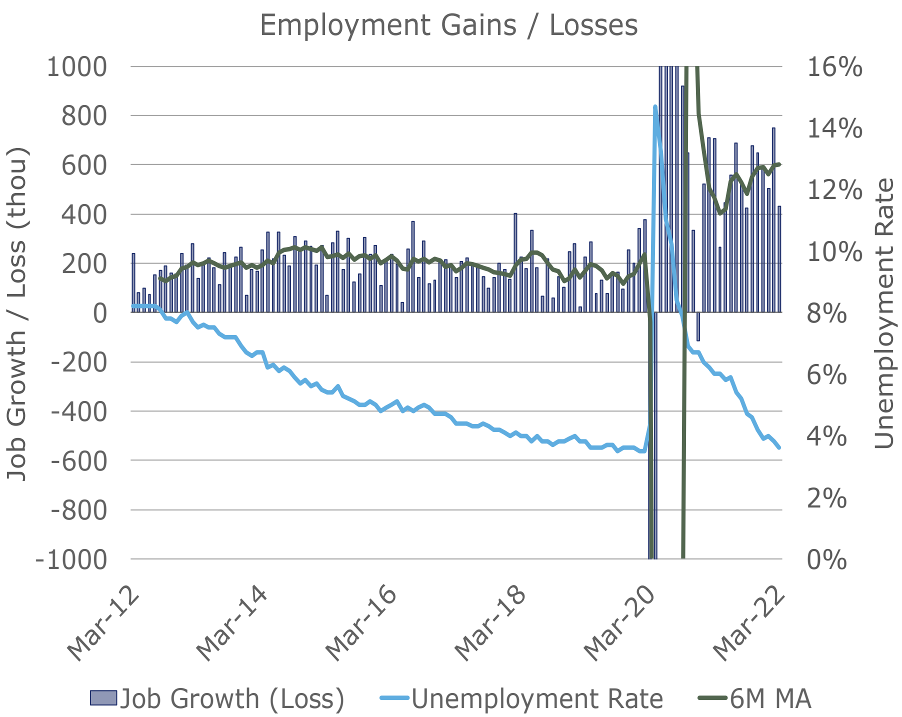




Data Sources: Bloomberg

Inflation and Employment

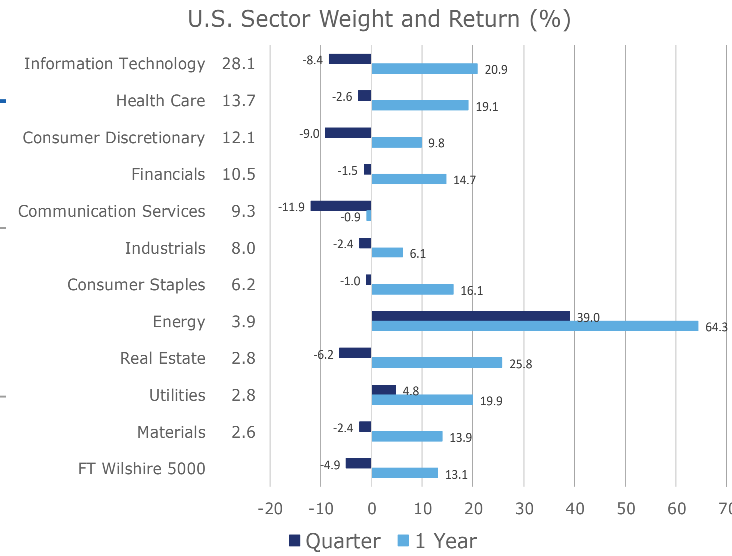


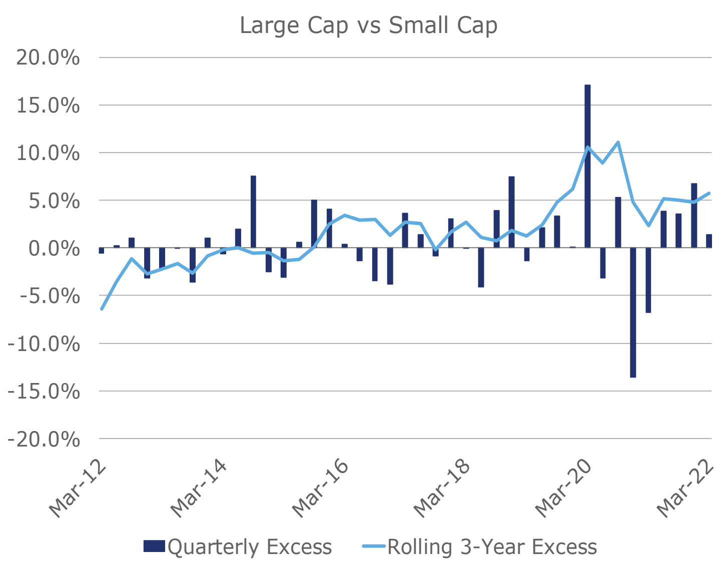


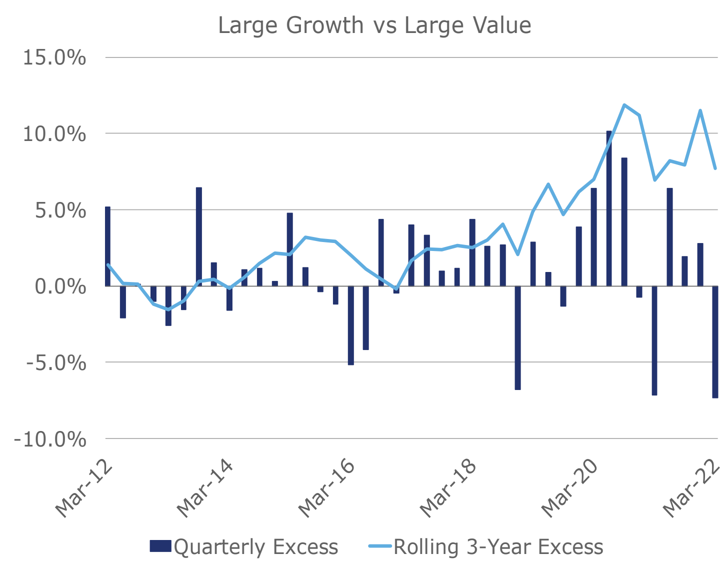
Data Sources: Bloomberg

U.S. Equity Market

As of 3/31/2022	Quarter	YTD	1 Year	3 Year	5 Year	10 Year
FT Wilshire 5000	-4.9	-4.9	13.1	18.7	15.7	14.4
Wilshire U.S. Large Cap	-4.8	-4.8	14.6	19.3	16.2	14.7
Wilshire U.S. Small Cap	-6.1	-6.1	-1.4	12.8	10.4	11.8
Wilshire U.S. Large Growth	-8.0	-8.0	16.3	23.5	19.9	16.8
Wilshire U.S. Large Value	-0.7	-0.7	12.6	14.7	12.3	12.5
Wilshire U.S. Small Growth	-10.3	-10.3	-9.4	12.5	11.5	11.9
Wilshire U.S. Small Value	-1.8	-1.8	7.3	13.1	9.2	11.5
Wilshire REIT Index	-3.9	-3.9	29.1	11.9	10.0	9.9
MSCI USA Min. Vol. Index	-3.8	-3.8	13.8	11.8	12.5	13.0
FTSE RAFI U.S. 1000 Index	0.1	0.1	15.1	17.5	13.5	13.6

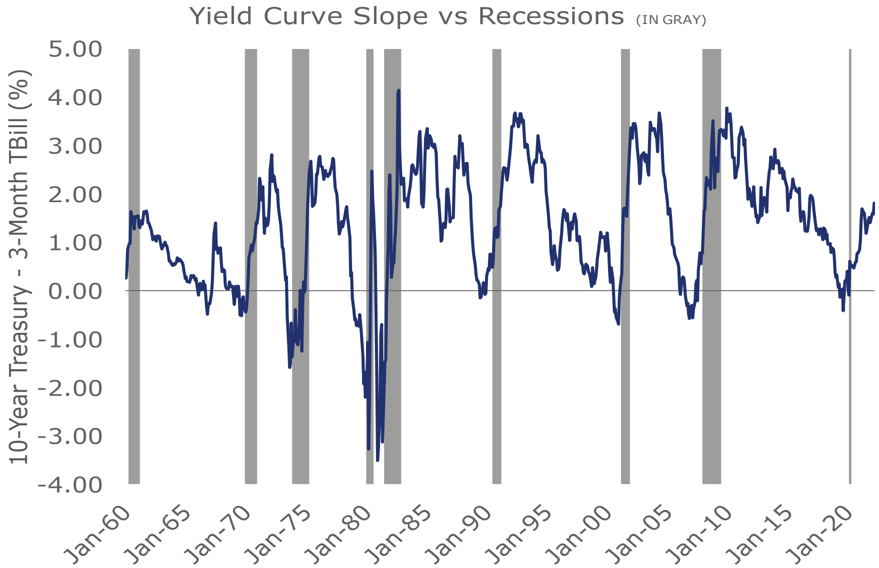


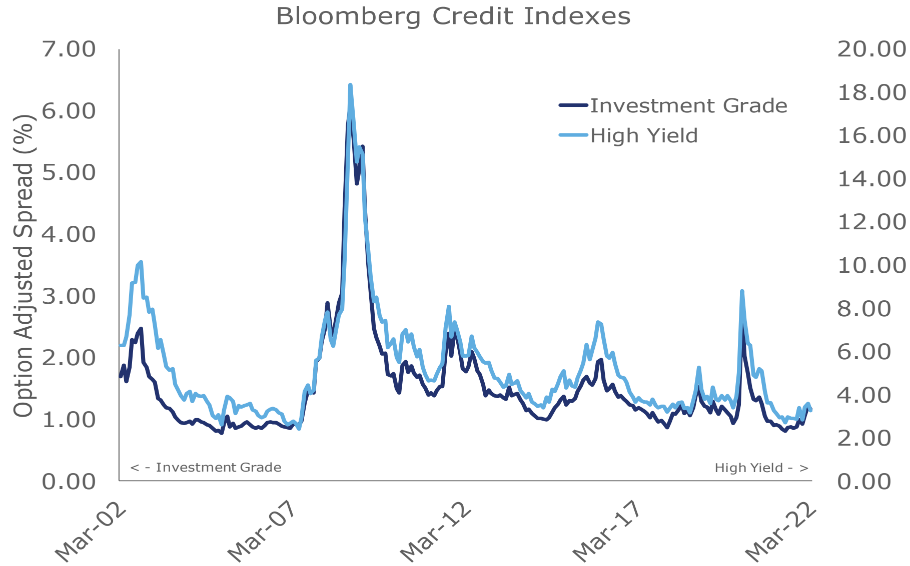


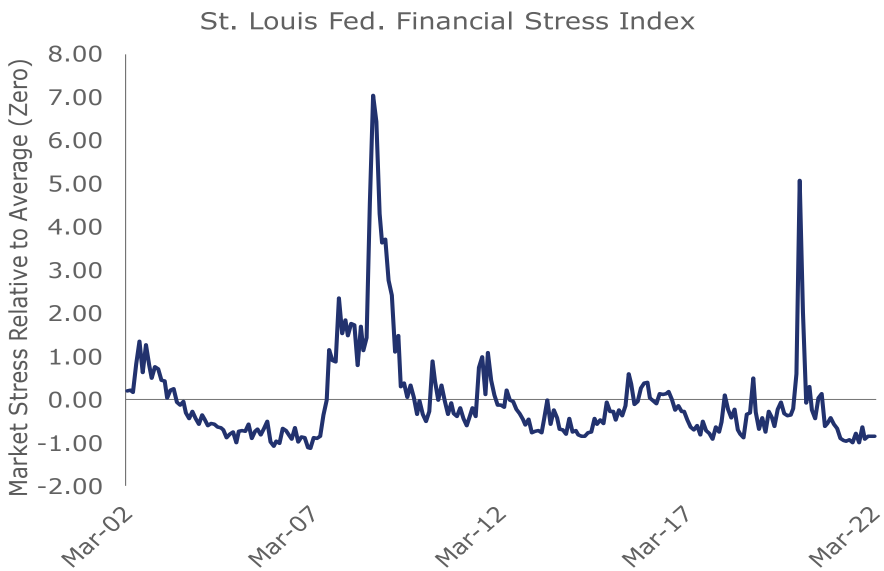


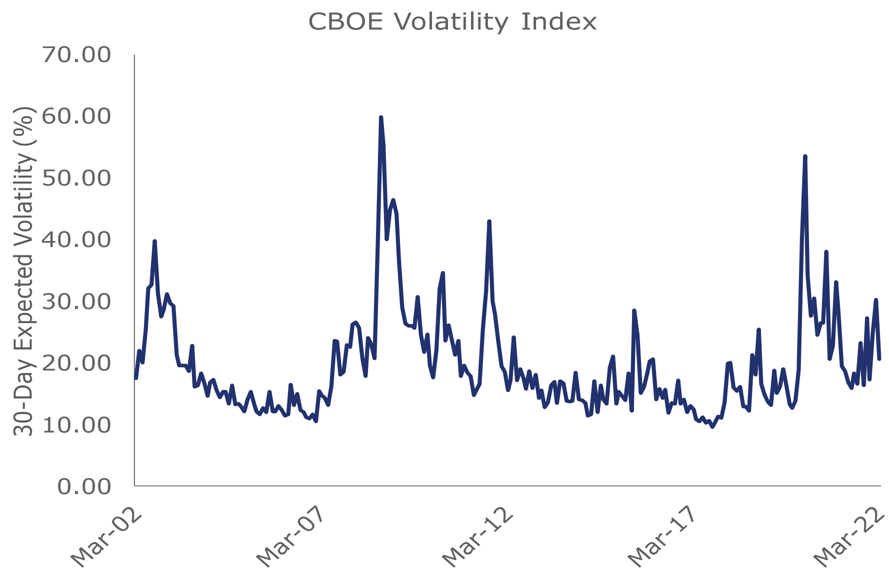
Data Sources: Bloomberg, Wilshire Atlas

Risk Monitor



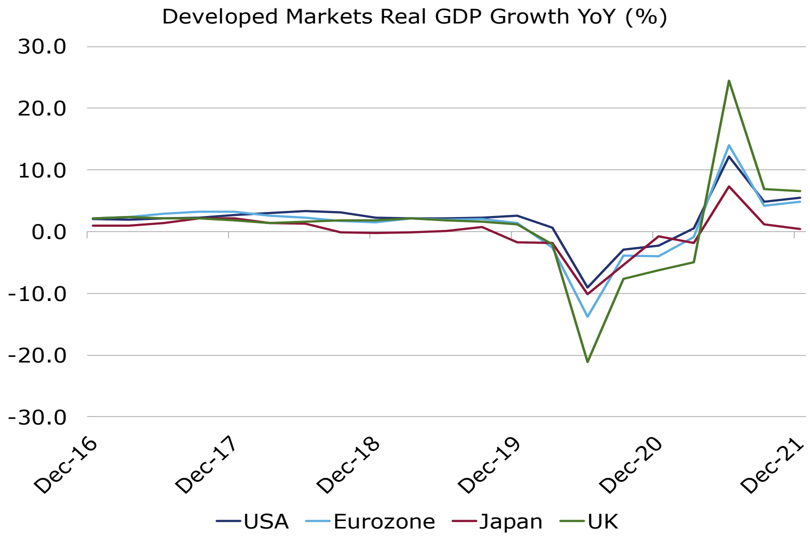


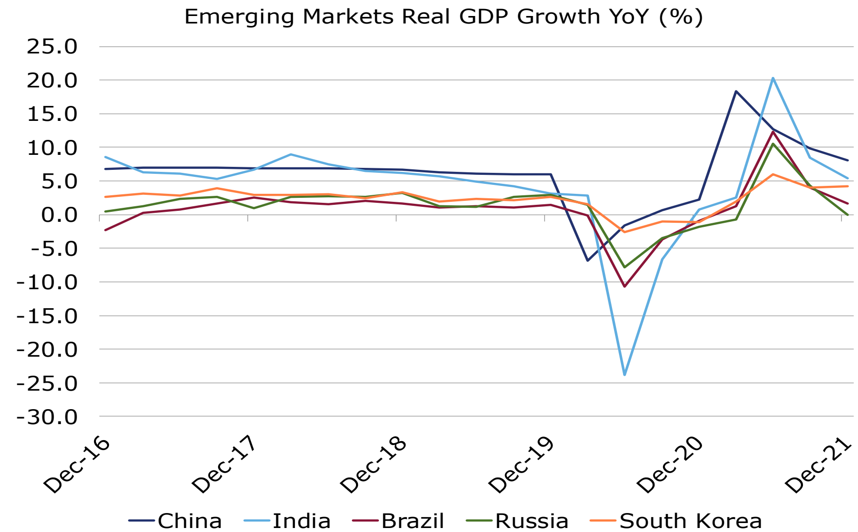


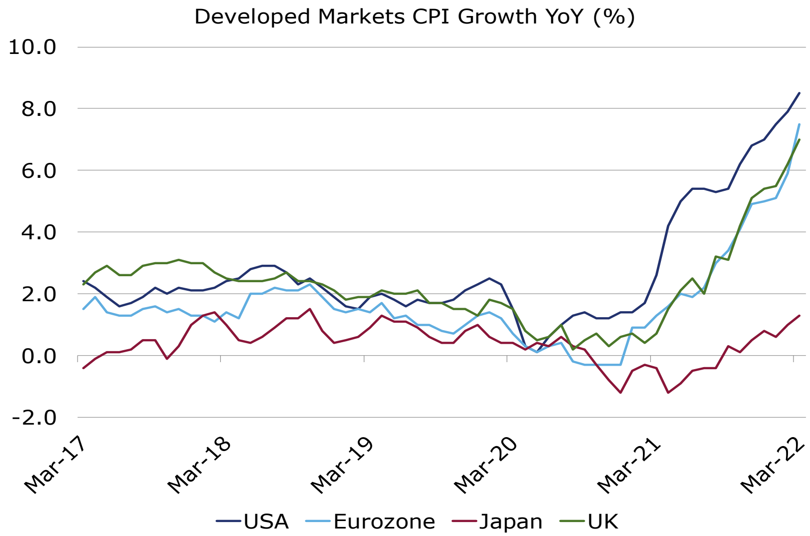


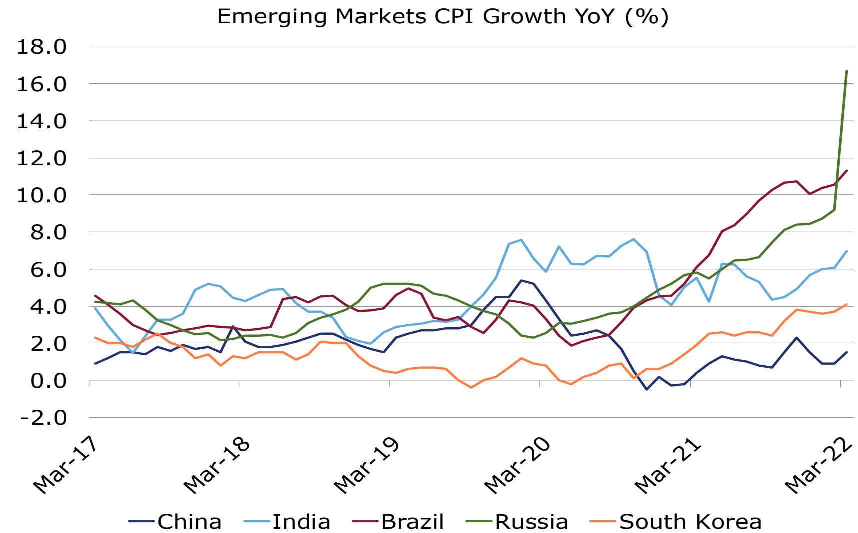
Data Sources: Bloomberg

Non-U.S. Growth and Inflation







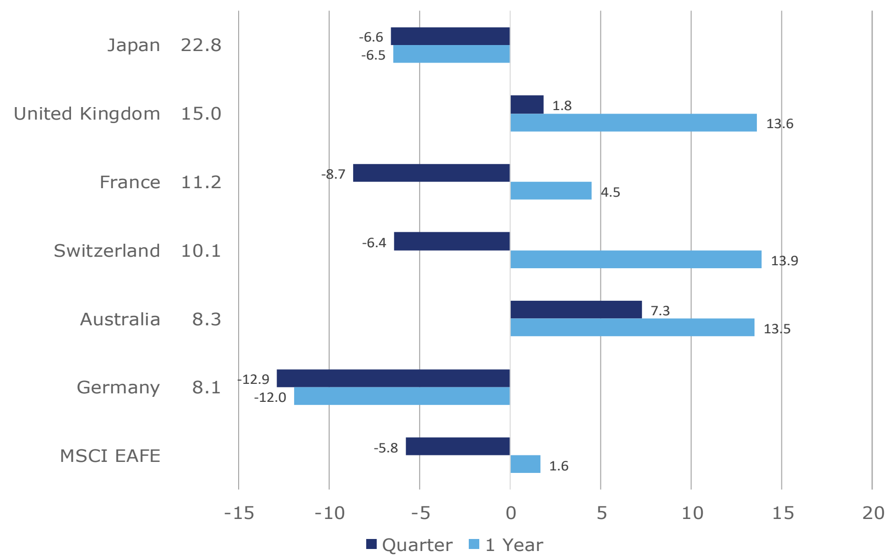


Data Sources: Bloomberg

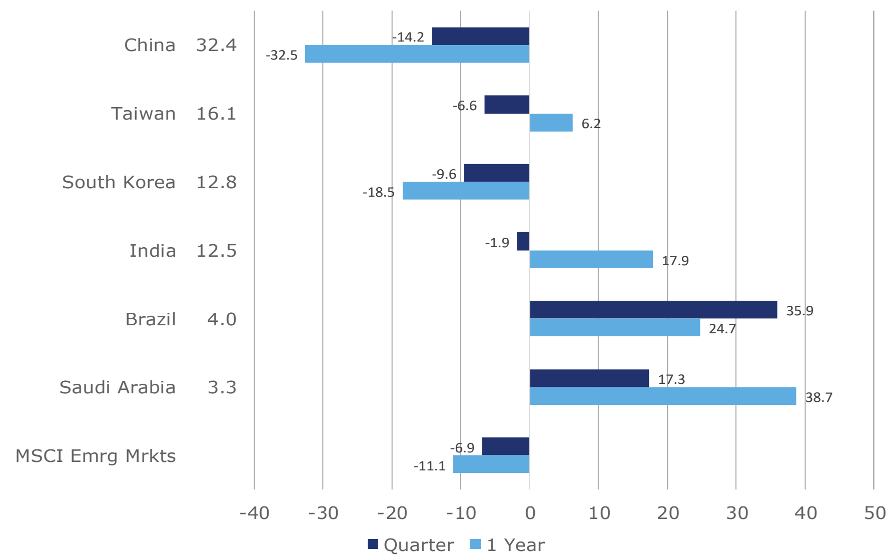
Non-U.S. Equity Market

As of 3/31/2022	Quarter	YTD	1 Year	3 Year	5 Year	10 Year
MSCI ACWI ex-US ($G)	-5.3	-5.3	-1.0	8.0	7.3	6.0
MSCI EAFE ($G)	-5.8	-5.8	1.6	8.3	7.2	6.8
MSCI Emerging Markets ($G)	-6.9	-6.9	-11.1	5.3	6.4	3.7
MSCI Frontier Markets ($G)	0.6	0.6	11.9	2.4	3.6	3.0
MSCI ACWI ex-US Growth ($G)	-10.7	-10.7	-5.9	9.5	9.0	7.1
MSCI ACWI ex-US Value ($G)	-0.1	-0.1	3.9	6.5	5.5	5.2
MSCI ACWI ex-US Small ($G)	-6.4	-6.4	0.4	10.7	8.3	7.7
MSCI ACWI Minimum Volatility	-2.9	-2.9	9.2	8.3	9.2	9.7
MSCI EAFE Minimum Volatility	-5.3	-5.3	2.4	3.6	5.4	6.8
FTSE RAFI Developed ex-US	-1.3	-1.3	5.0	8.5	6.7	6.3
MSCI EAFE LC (G)	-3.6	-3.6	6.7	8.7	7.1	9.1
MSCI Emerging Markets LC (G)	-6.1	-6.1	-9.6	6.6	7.9	6.7

Developed Markets Weight and Return (%)



Emerging Markets Weight and Return (%)

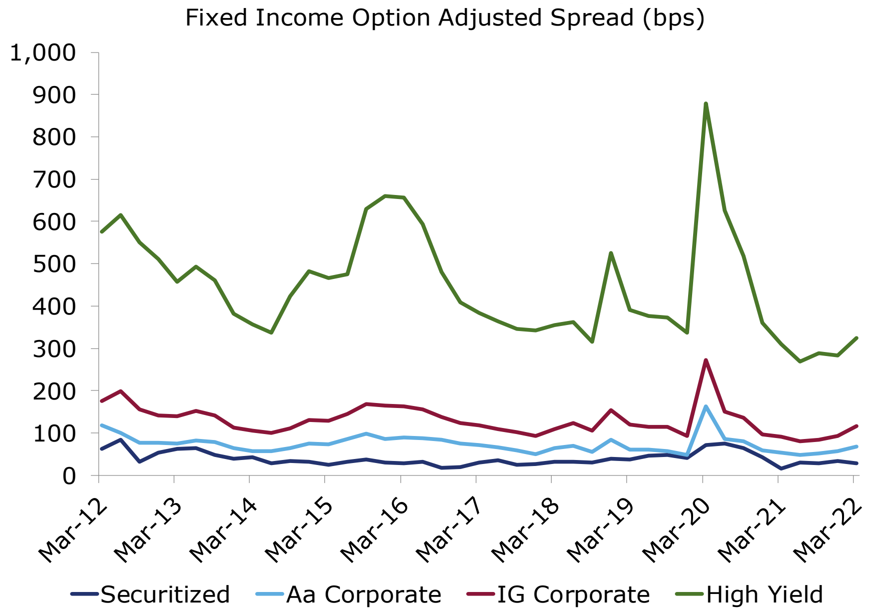


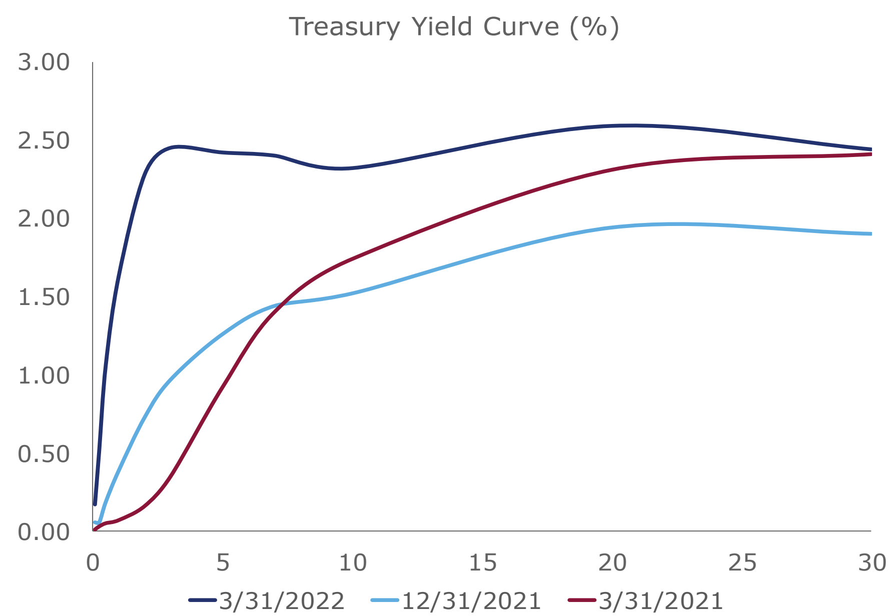
Data Sources: Bloomberg

U.S. Fixed Income

As of 3/31/2022	YTW	DUR.	QTR	YTD	1 YR	3 YR	5 YR	10 YR
Bloomberg Aggregate	2.9	6.6	-5.9	-5.9	-4.2	1.7	2.1	2.2
Bloomberg Treasury	2.4	6.8	-5.6	-5.6	-3.7	1.4	1.8	1.7
Bloomberg Gov't-Rel.	2.9	5.9	-5.4	-5.4	-3.9	1.5	2.1	2.2
Bloomberg Securitized	3.0	5.1	-5.0	-5.0	-4.9	0.7	1.4	1.8
Bloomberg Corporate	3.6	8.1	-7.7	-7.7	-4.2	3.0	3.3	3.6
Bloomberg LT Gov't/Credit	3.4	15.7	-11.0	-11.0	-3.1	4.2	4.6	4.7
Bloomberg LT Treasury	2.6	17.8	-10.6	-10.6	-1.4	3.3	3.9	4.0
Bloomberg LT Gov't-Rel.	3.9	12.9	-9.7	-9.7	-4.0	2.7	4.0	4.3
Bloomberg LT Corporate	4.0	14.4	-11.4	-11.4	-4.3	4.6	4.9	5.2
Bloomberg U.S. TIPS *	2.4	8.1	-3.0	-3.0	4.3	6.2	4.4	2.7
Bloomberg High Yield	6.0	3.9	-4.8	-4.8	-0.7	4.6	4.7	5.7
S&P/LSTA Leveraged Loan	4.4	0.3	-0.1	-0.1	3.3	4.2	4.0	4.3
Treasury Bills	0.6	0.3	0.0	0.0	0.0	0.8	1.1	0.6

* Yield and Duration statistics are for a proxy index based on similar maturity, the Bloomberg Barclays U.S. Treasury 7-10 Year Index



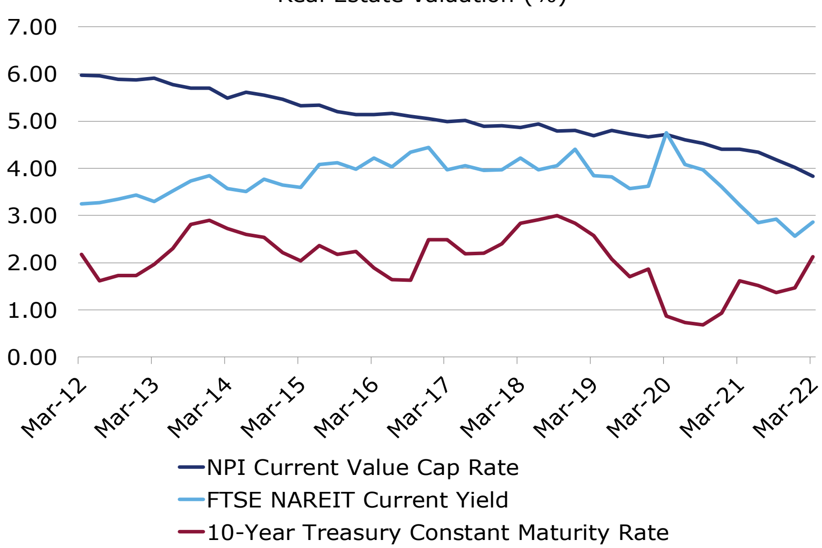


Data Sources: Bloomberg

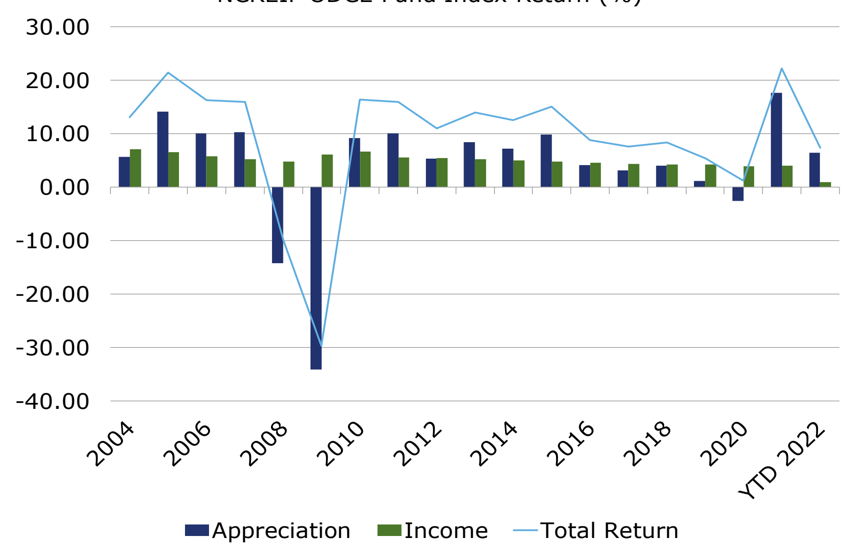
Real Assets

As of 3/31/2022	Quarter	YTD	1 Year	3 Year	5 Year	10 Year
Bloomberg U.S. TIPS	-3.0	-3.0	4.3	6.2	4.4	2.7
Bloomberg Commodity Index	25.5	25.5	49.3	16.1	9.0	-0.7
Bloomberg Gold Index	6.6	6.6	13.1	13.0	8.1	0.7
Wilshire Global RESI Index	-3.0	-3.0	22.0	8.7	8.5	8.8
NCREIF ODCE Fund Index	7.4	7.4	28.5	11.3	9.9	10.9
NCREIF Timberland Index	3.2	3.2	11.8	4.7	4.1	5.6
FTSE Global Core Infrastructure 50/50	3.9	3.9	15.3	9.0	9.4	9.7
Alerian Midstream Energy	24.0	24.0	41.9	10.1	6.1	n.a.
Bitcoin	-1.2	-1.2	-22.4	123.6	111.8	149.7

Real Estate Valuation (%)



NCREIF ODCE Fund Index Return (%)



Data Sources: Bloomberg, National Council of Real Estate Investment Fiduciaries

Asset Class Performance

Asset Class Returns - Best to Worst

2017	2018	2019	2020	2021	2022 YTD	Annualized 5-Year as of 3/22
Emrg Mrkts 37.7%	T-Bills 1.9%	U.S. Equity 31.0%	U.S. Equity 20.8%	REITs 46.2%	Commodities 25.5%	U.S. Equity 15.7%
Developed 25.6%	Core Bond 0.0%	REITs 25.8%	Emrg Mrkts 18.7%	Commodities 27.1%	T-Bills 0.0%	REITs 10.0%
U.S. Equity 21.0%	U.S. TIPS -1.3%	Developed 22.7%	U.S. TIPS 11.0%	U.S. Equity 26.7%	U.S. TIPS -3.0%	Commodities 9.0%
High Yield 7.5%	High Yield -2.1%	Emrg Mrkts 18.9%	Developed 8.3%	Developed 11.8%	REITs -3.9%	Developed 7.2%
REITs 4.2%	REITs -4.8%	High Yield 14.3%	Core Bond 7.5%	U.S. TIPS 6.0%	High Yield -4.8%	Emrg Mrkts 6.4%
Core Bond 3.6%	U.S. Equity -5.3%	Core Bond 8.7%	High Yield 7.1%	High Yield 5.3%	U.S. Equity -4.9%	High Yield 4.7%
U.S. TIPS 3.0%	Commodities -11.2%	U.S. TIPS 8.4%	T-Bills 0.7%	T-Bills 0.0%	Developed -5.8%	U.S. TIPS 4.4%
Commodities 1.7%	Developed -13.4%	Commodities 7.7%	Commodities -3.1%	Core Bond -1.5%	Core Bond -5.9%	Core Bond 2.1%
T-Bills 0.8%	Emrg Mrkts -14.2%	T-Bills 2.3%	REITs -7.9%	Emrg Mrkts -2.2%	Emrg Mrkts -6.9%	T-Bills 1.1%

Data Sources: Bloomberg

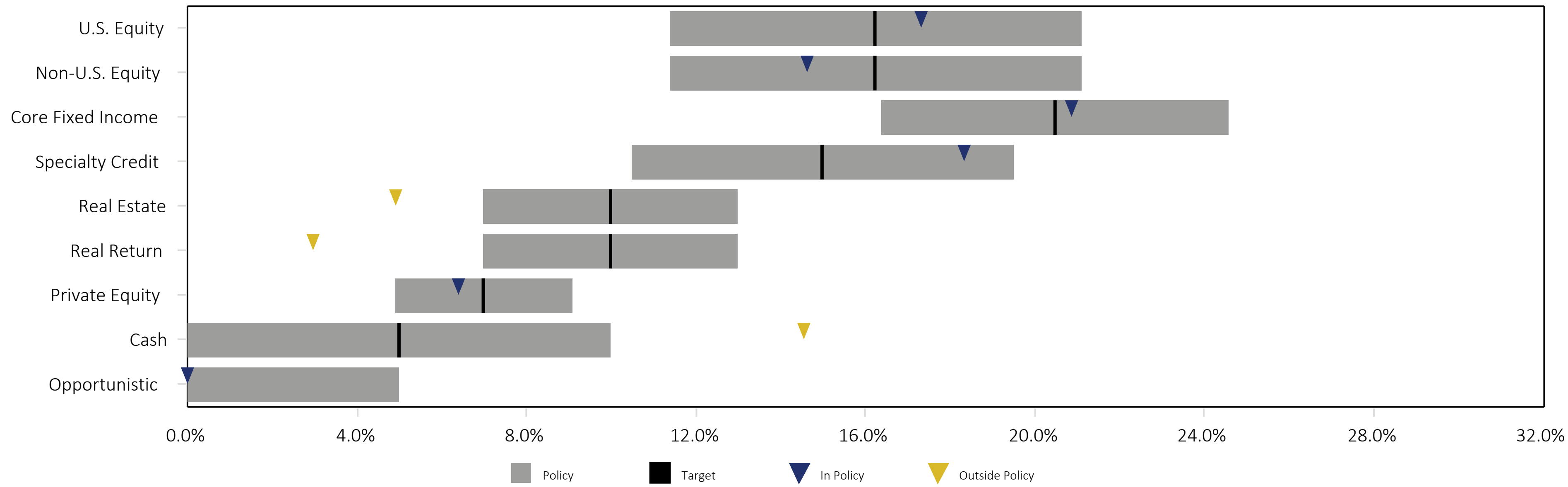
Note: Developed asset class is developed equity markets ex-U.S., ex-Canada

Asset Allocation Compliance

KERS Pension Plan

Periods Ended As of March 31, 2022

Executive Summary



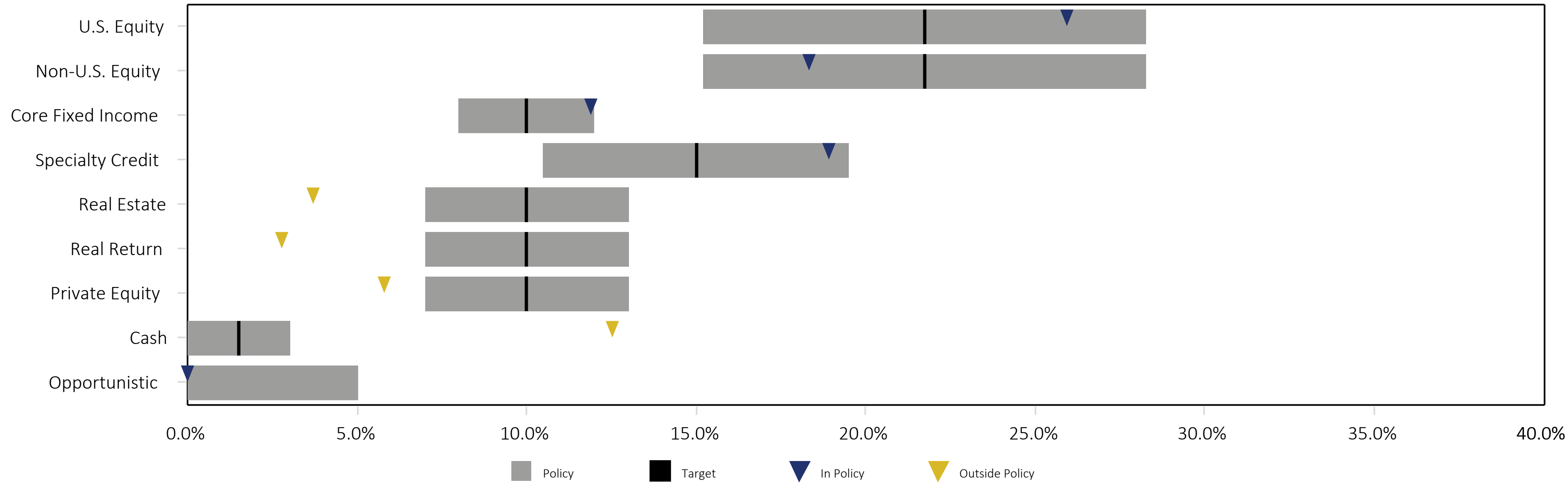
	Asset Allocation $	Asset Allocation (%)	Minimum Allocation (%)	Maximum Allocation (%)	Target Allocation (%)	Target Rebalance $
U.S. Equity	550,498,876	17.33	11.38	21.13	16.25	-34,369,109
Non-U.S. Equity	465,175,964	14.65	11.38	21.13	16.25	50,953,802
Core Fixed Income	663,167,570	20.88	16.40	24.60	20.50	-12,050,019
Specialty Credit	581,956,755	18.32	10.50	19.50	15.00	-105,529,279
Real Estate	156,462,830	4.93	7.00	13.00	10.00	161,155,488
Real Return	93,754,581	2.95	7.00	13.00	10.00	223,863,736
Private Equity	203,408,590	6.40	4.90	9.10	7.00	18,924,232
Cash	461,758,009	14.54	0.00	10.00	5.00	-302,948,850
Opportunistic		0.00	0.00	5.00	0.00	
Total Fund	3,176,183,176	100.00			100.00	

Asset Allocation Compliance

KERS Insurance Plan

Periods Ended As of March 31, 2022

Executive Summary



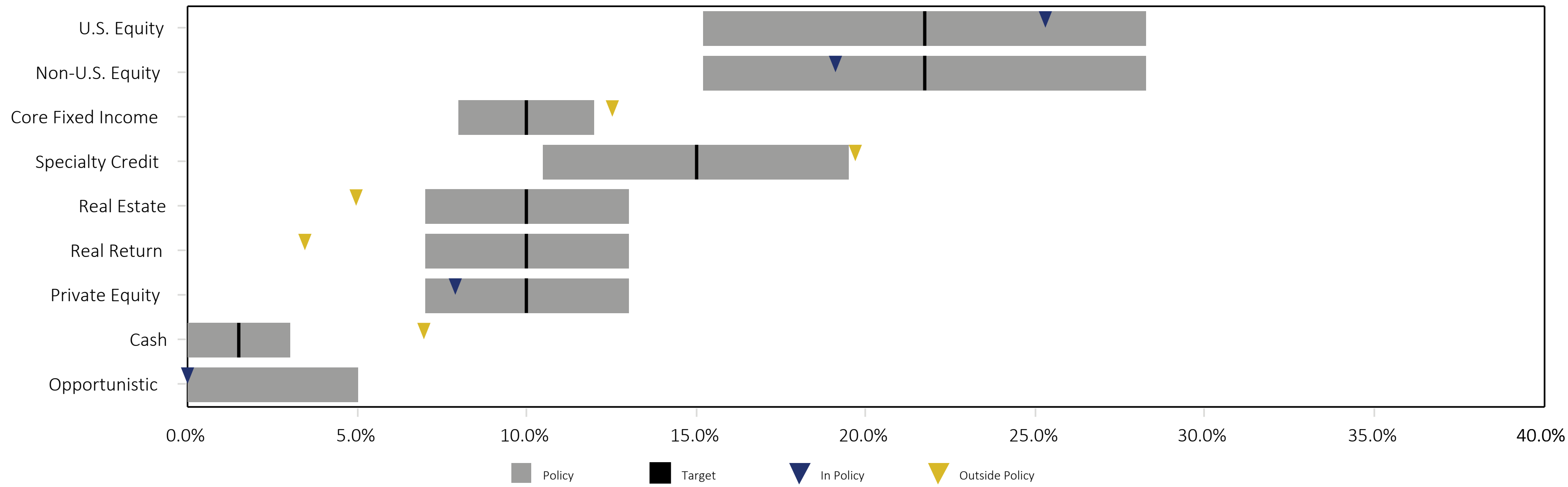
	Asset Allocation $	Asset Allocation (%)	Minimum Allocation (%)	Maximum Allocation (%)	Target Allocation (%)	Target Rebalance $
U.S. Equity	360,560,388	25.96	15.23	28.28	21.75	-58,446,656
Non-U.S. Equity	254,881,071	18.35	15.23	28.28	21.75	47,232,661
Core Fixed Income	165,606,705	11.92	8.00	12.00	10.00	-26,703,840
Specialty Credit	262,780,411	18.92	10.50	19.50	15.00	-54,426,113
Real Estate	51,374,603	3.70	7.00	13.00	10.00	87,528,262
Real Return	38,925,748	2.80	7.00	13.00	10.00	99,977,117
Private Equity	80,859,937	5.82	7.00	13.00	10.00	58,042,929
Cash	174,039,790	12.53	0.00	3.00	1.50	-153,204,360
Opportunistic		0.00	0.00	5.00	0.00	
Total Fund	1,389,028,653	100.00			100.00	

Asset Allocation Compliance

KERS (H) Pension Plan

Periods Ended As of March 31, 2022

Executive Summary



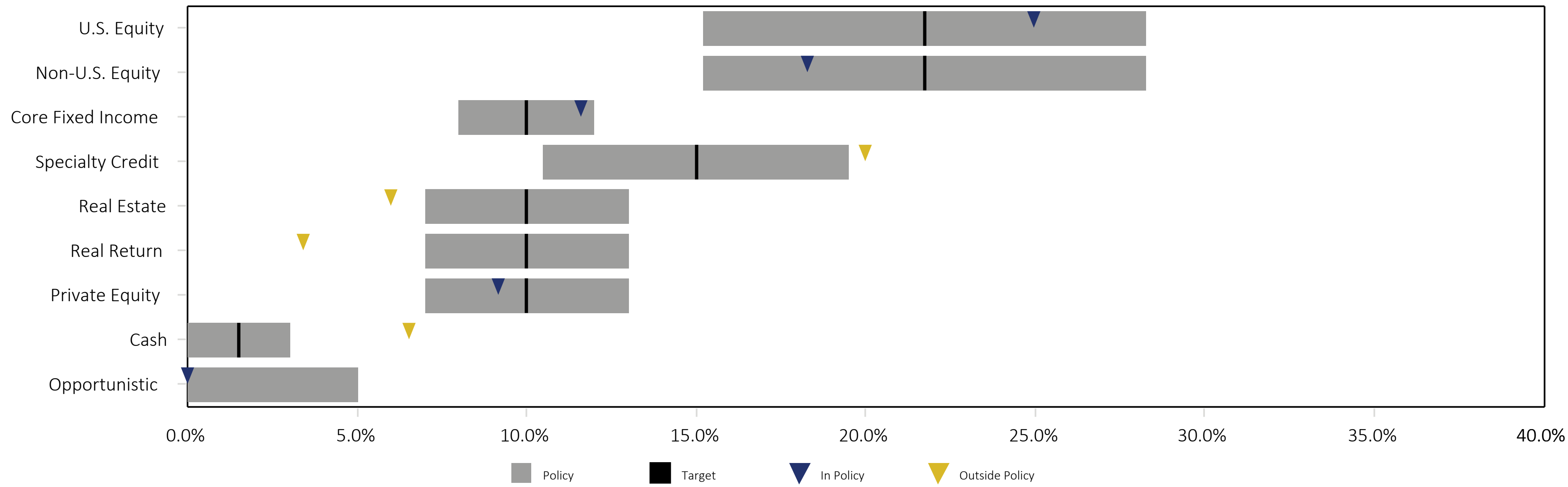
	Asset Allocation $	Asset Allocation (%)	Minimum Allocation (%)	Maximum Allocation (%)	Target Allocation (%)	Target Rebalance $
U.S. Equity	223,086,238	25.33	15.23	28.28	21.75	-31,517,276
Non-U.S. Equity	168,505,470	19.13	15.23	28.28	21.75	23,063,492
Core Fixed Income	110,252,290	12.52	8.00	12.00	10.00	-22,174,606
Specialty Credit	173,396,842	19.69	10.50	19.50	15.00	-41,280,316
Real Estate	43,994,909	5.00	7.00	13.00	10.00	44,082,775
Real Return	30,308,827	3.44	7.00	13.00	10.00	57,768,857
Private Equity	69,816,476	7.93	7.00	13.00	10.00	18,261,207
Cash	61,415,784	6.97	0.00	3.00	1.50	-48,204,132
Opportunistic		0.00	0.00	5.00	0.00	
Total Fund	880,776,837	100.00			100.00	

Asset Allocation Compliance

KERS (H) Insurance Plan

Periods Ended As of March 31, 2022

Executive Summary



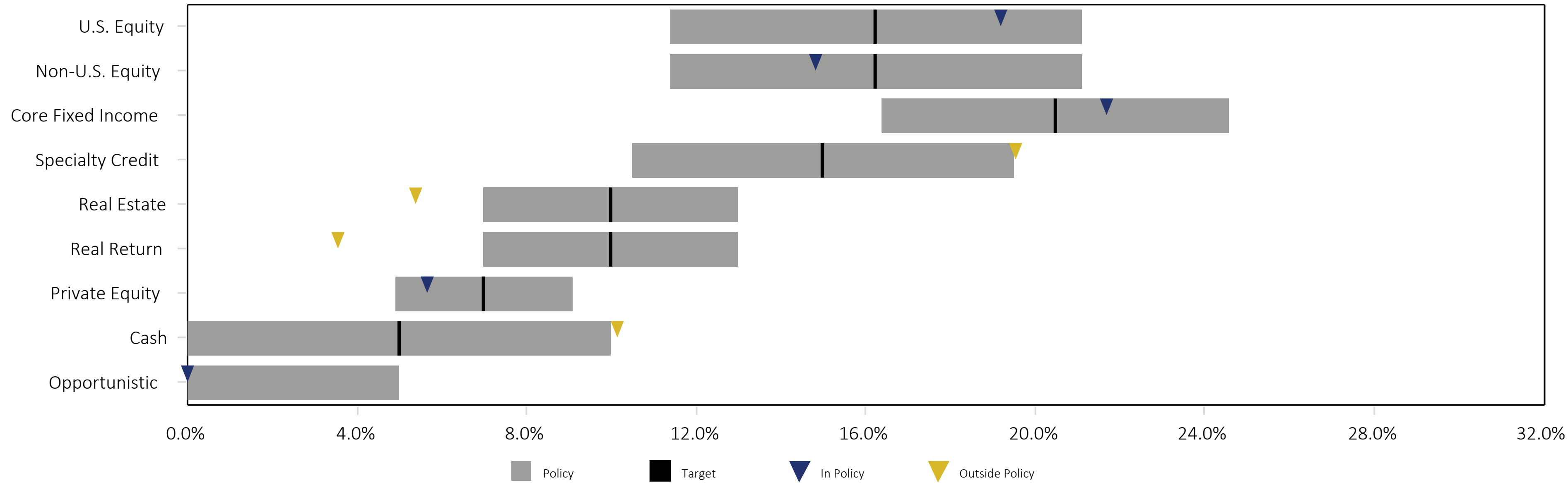
	Asset Allocation $	Asset Allocation (%)	Minimum Allocation (%)	Maximum Allocation (%)	Target Allocation (%)	Target Rebalance $
U.S. Equity	156,434,364	24.99	15.23	28.28	21.75	-20,292,989
Non-U.S. Equity	114,413,312	18.28	15.23	28.28	21.75	21,728,063
Core Fixed Income	72,548,546	11.59	8.00	12.00	10.00	-9,954,810
Specialty Credit	125,299,643	20.02	10.50	19.50	15.00	-31,409,039
Real Estate	37,676,465	6.02	7.00	13.00	10.00	24,917,271
Real Return	21,370,320	3.41	7.00	13.00	10.00	41,223,416
Private Equity	57,327,063	9.16	7.00	13.00	10.00	5,266,673
Cash	40,867,644	6.53	0.00	3.00	1.50	-31,478,584
Opportunistic		0.00	0.00	5.00	0.00	
Total Fund	625,937,357	100.00			100.00	

Asset Allocation Compliance

SPRS Pension Plan

Periods Ended As of March 31, 2022

Executive Summary



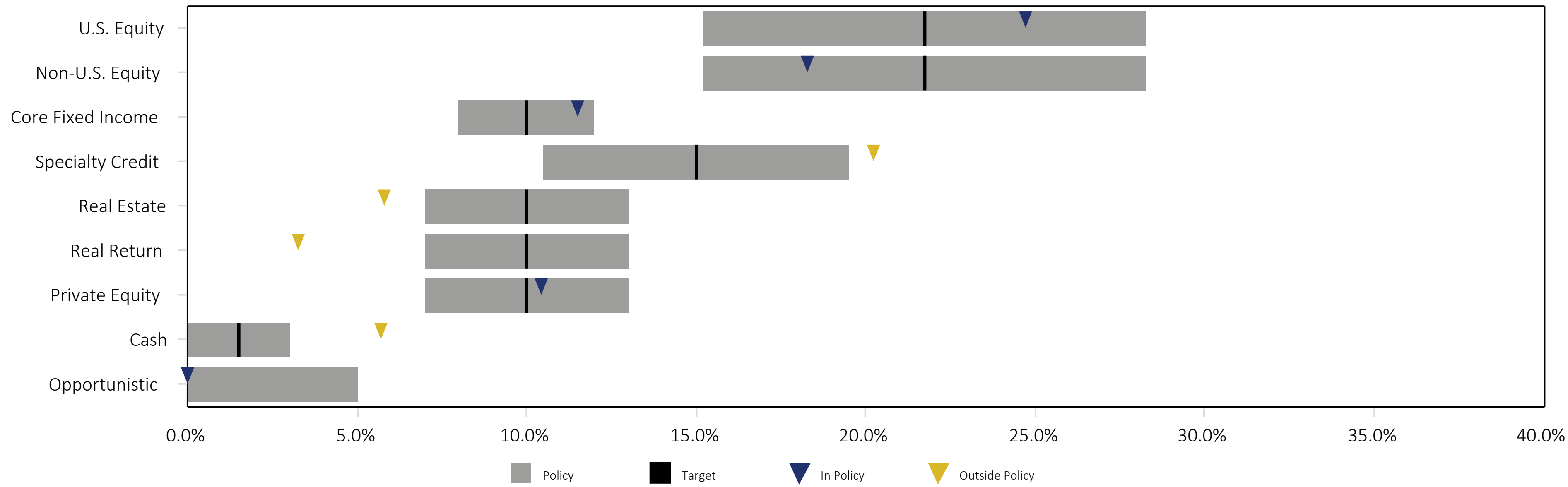
	Asset Allocation $	Asset Allocation (%)	Minimum Allocation (%)	Maximum Allocation (%)	Target Allocation (%)	Target Rebalance $
U.S. Equity	67,633,197	19.20	11.38	21.13	16.25	-10,393,221
Non-U.S. Equity	52,193,531	14.82	11.38	21.13	16.25	5,046,446
Core Fixed Income	76,374,226	21.68	16.40	24.60	20.50	-4,163,794
Specialty Credit	68,838,930	19.54	10.50	19.50	15.00	-16,002,028
Real Estate	18,966,501	5.38	7.00	13.00	10.00	16,258,100
Real Return	12,492,674	3.55	7.00	13.00	10.00	22,731,927
Private Equity	19,985,942	5.67	4.90	9.10	7.00	4,671,279
Cash	35,761,009	10.15	0.00	10.00	5.00	-18,148,709
Opportunistic		0.00	0.00	5.00	0.00	
Total Fund	352,246,009	100.00			100.00	

Asset Allocation Compliance

SPRS Insurance Plan

Periods Ended As of March 31, 2022

Executive Summary



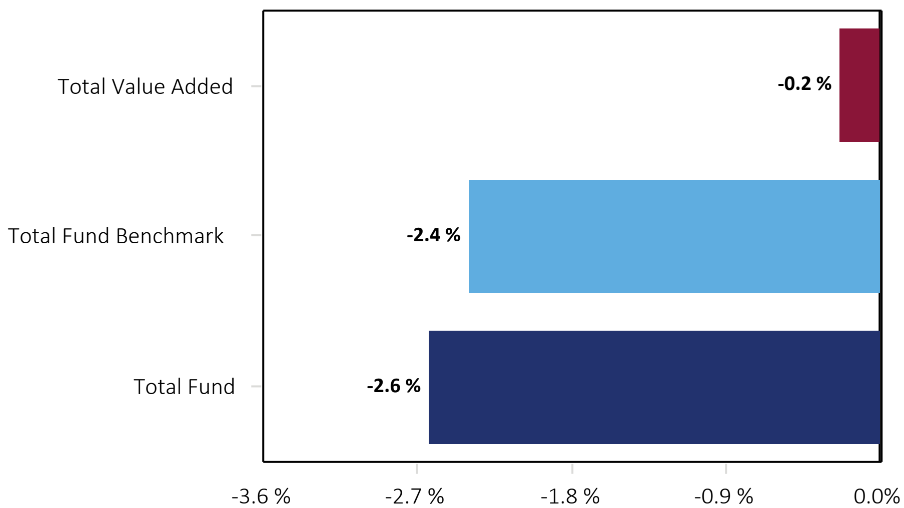
	Asset Allocation $	Asset Allocation (%)	Minimum Allocation (%)	Maximum Allocation (%)	Target Allocation (%)	Target Rebalance $
U.S. Equity	61,237,202	24.75	15.23	28.28	21.75	-7,419,941
Non-U.S. Equity	45,243,124	18.28	15.23	28.28	21.75	8,574,138
Core Fixed Income	28,469,442	11.51	8.00	12.00	10.00	-3,725,874
Specialty Credit	50,115,458	20.25	10.50	19.50	15.00	-13,000,106
Real Estate	14,407,810	5.82	7.00	13.00	10.00	10,335,758
Real Return	8,061,621	3.26	7.00	13.00	10.00	16,681,947
Private Equity	25,830,684	10.44	7.00	13.00	10.00	-1,087,116
Cash	14,070,342	5.69	0.00	3.00	1.50	-10,358,807
Opportunistic		0.00	0.00	5.00	0.00	
Total Fund	247,435,683	100.00			100.00	

Total Fund Attribution

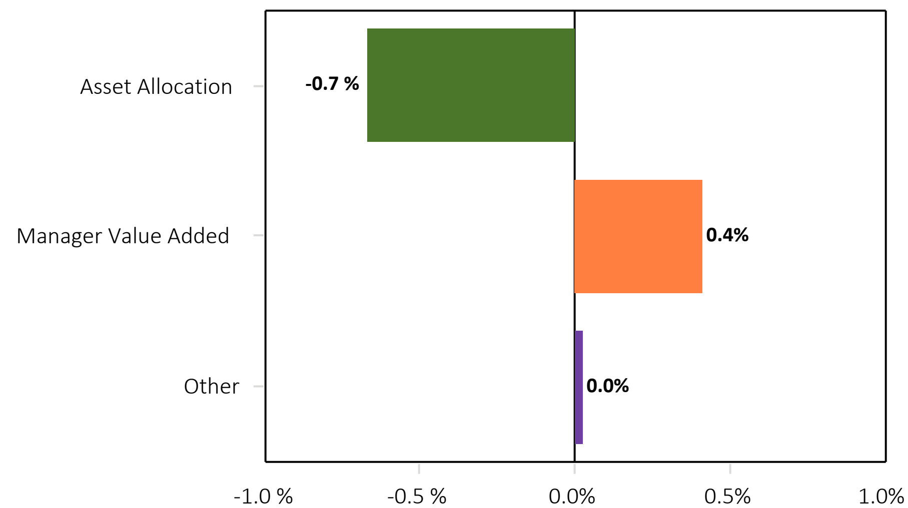
KERS Pension Plan

Periods Ended 1 Quarter Ending March 31, 2022

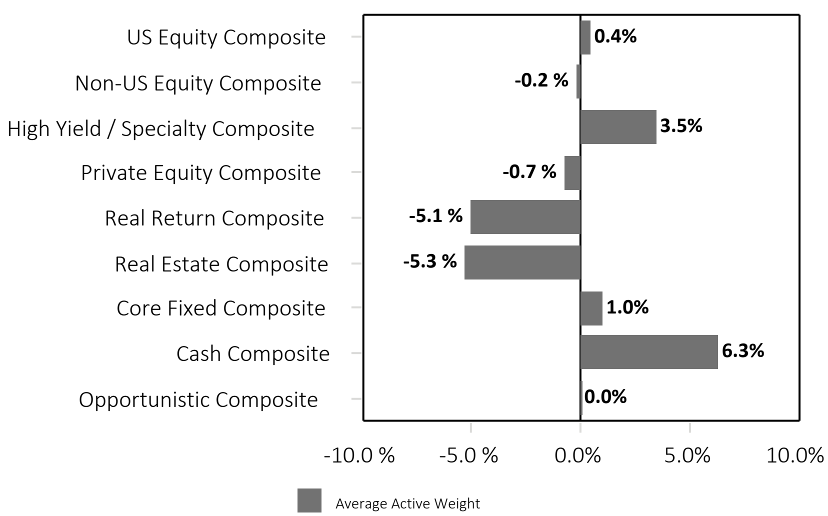
Total Fund Performance



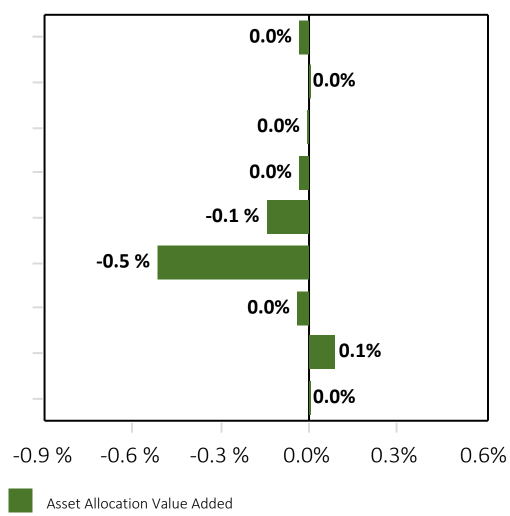
Total Value Added:-0.2 %



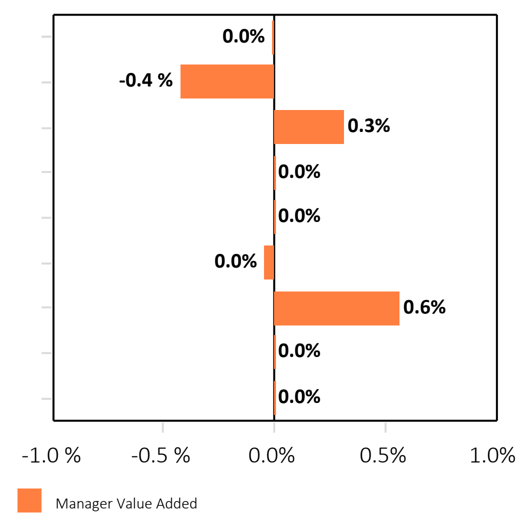
Total Asset Allocation:-0.7 %



Asset Allocation Value Added:-0.7 %



Total Manager Value Added:0.4%

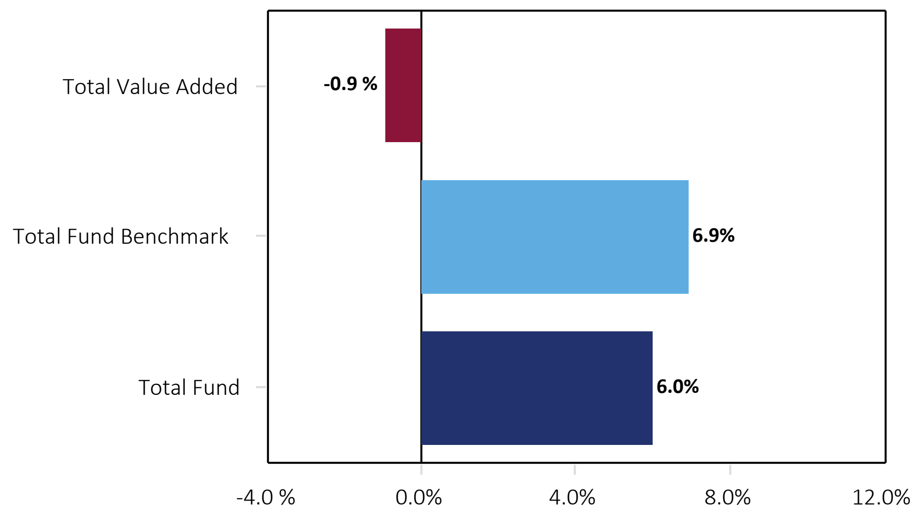


Total Fund Attribution

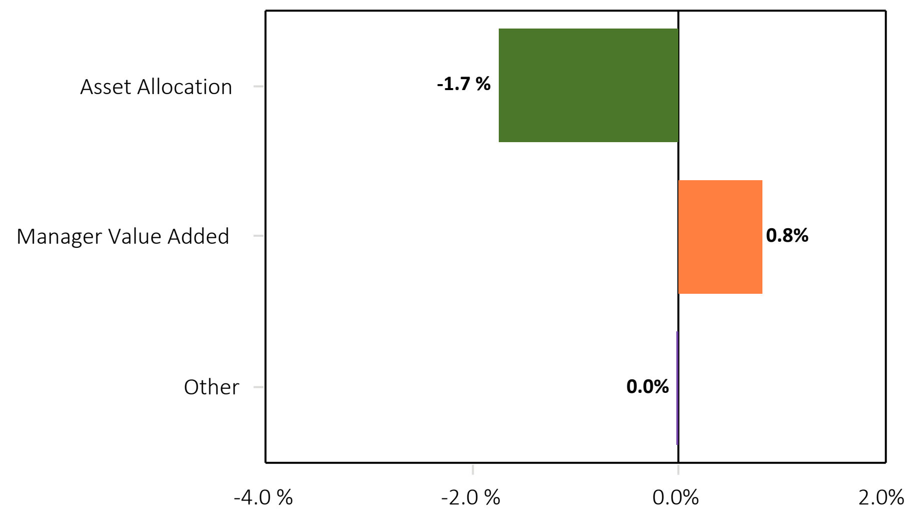
KERS Pension Plan

Periods Ended 1 Year Ending March 31, 2022

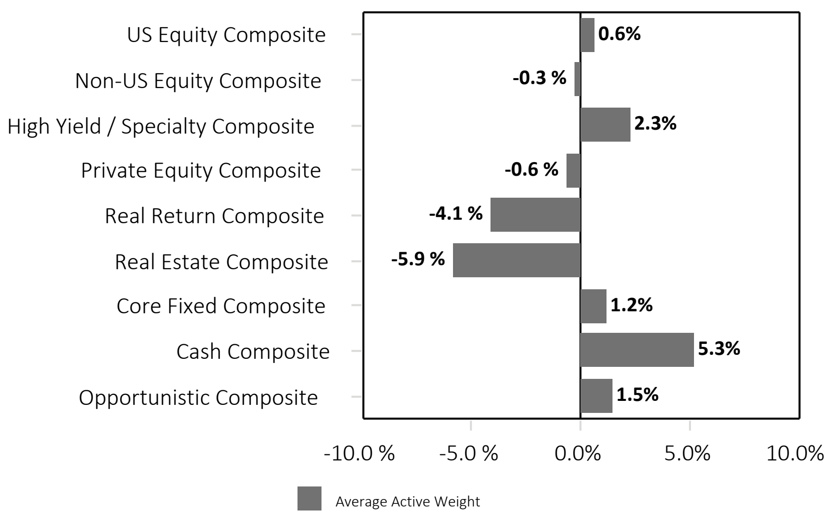
Total Fund Performance



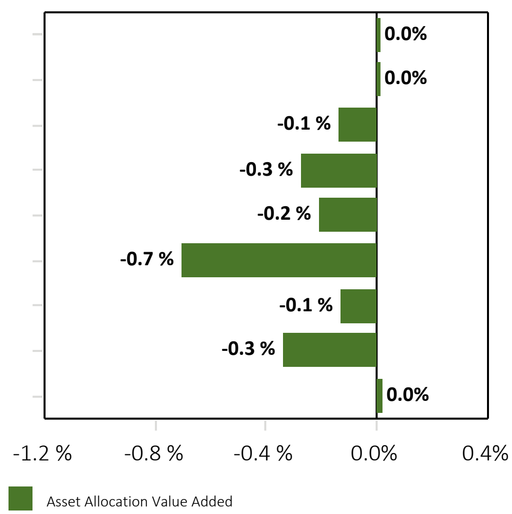
Total Value Added:-0.9 %



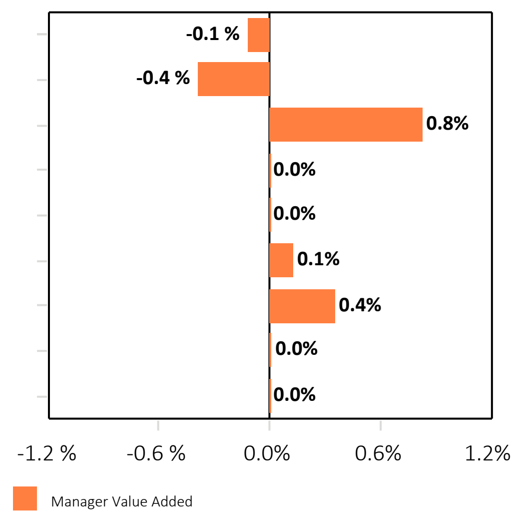
Total Asset Allocation:-1.7 %



Asset Allocation Value Added:-1.7 %



Total Manager Value Added:0.8%

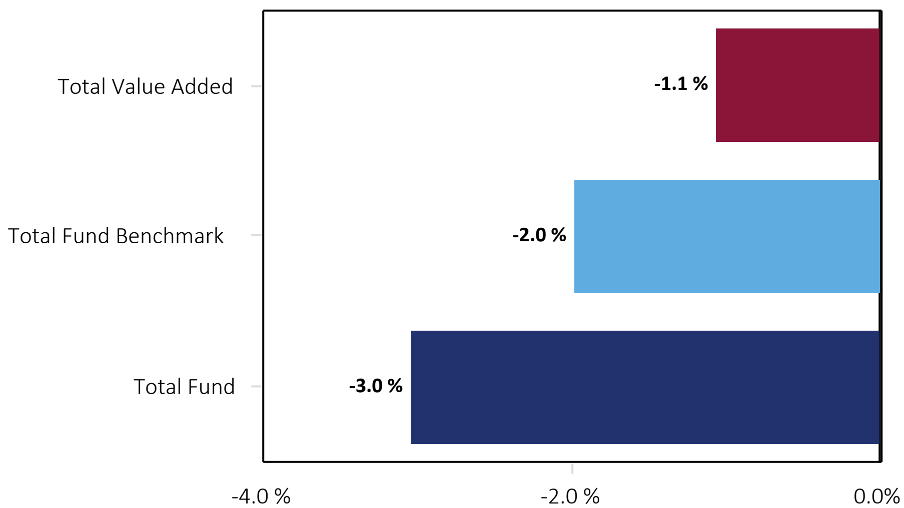


Total Fund Attribution

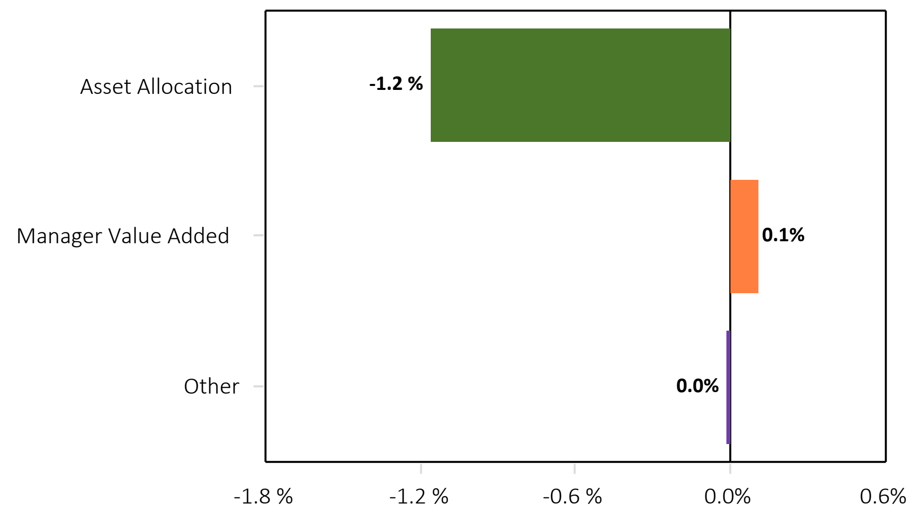
KERS Insurance Plan

Periods Ended 1 Quarter Ending March 31, 2022

Total Fund Performance



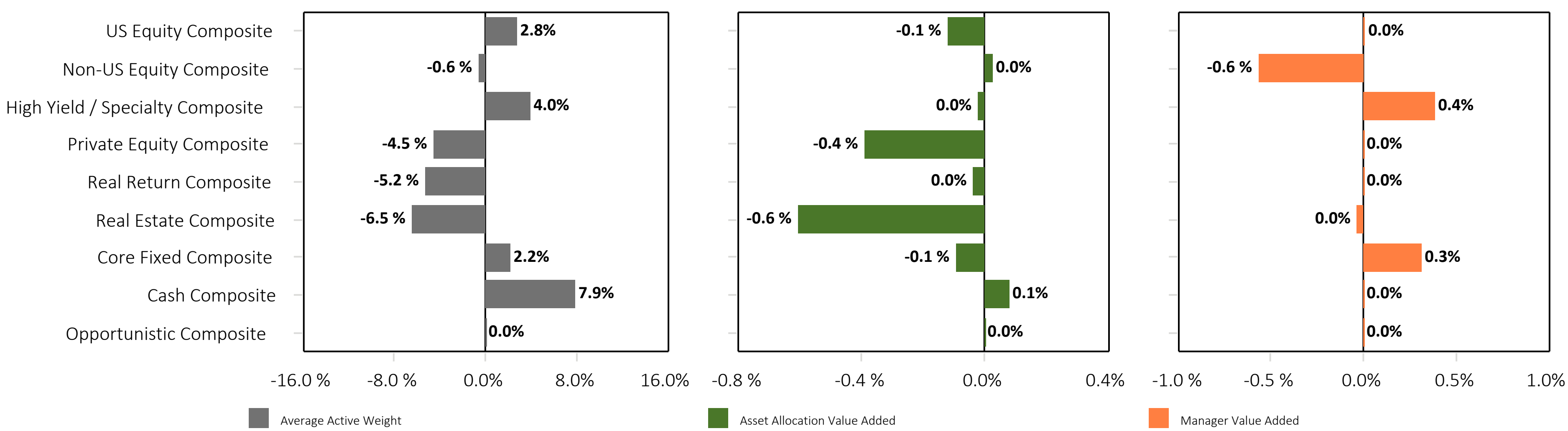
Total Value Added:-1.1 %



Total Asset Allocation:-1.2 %

Asset Allocation Value Added:-1.2 %

Total Manager Value Added:0.1%

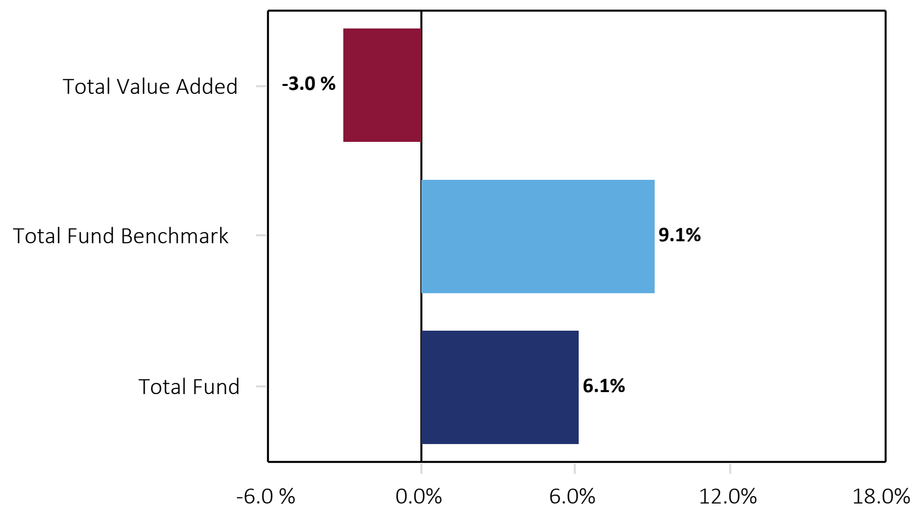


Total Fund Attribution

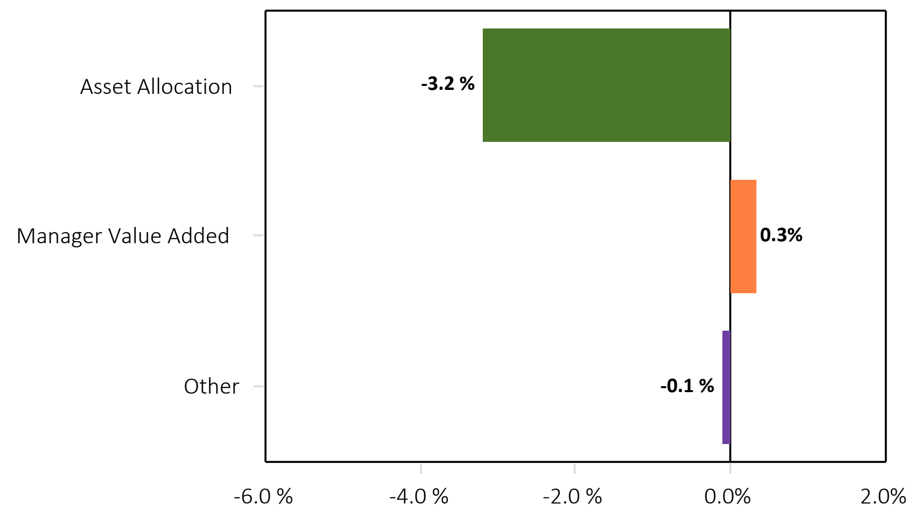
KERS Insurance Plan

Periods Ended 1 Year Ending March 31, 2022

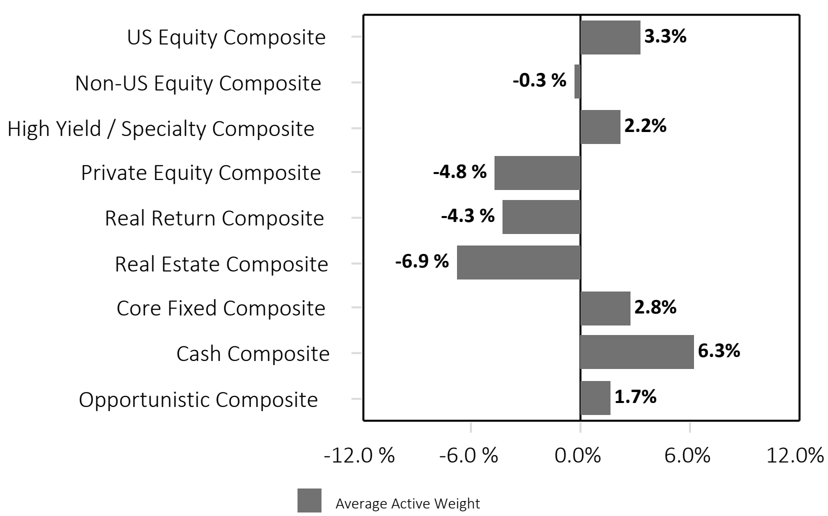
Total Fund Performance



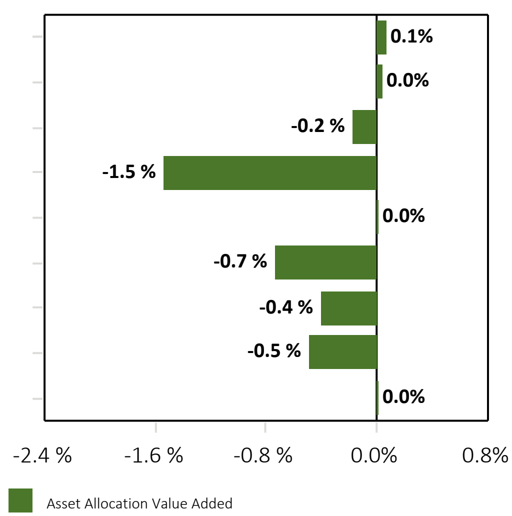
Total Value Added:-3.0 %



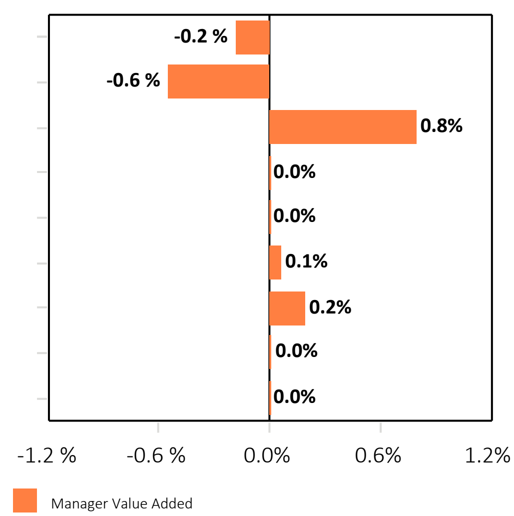
Total Asset Allocation:-3.2 %



Asset Allocation Value Added:-3.2 %



Total Manager Value Added:0.3%

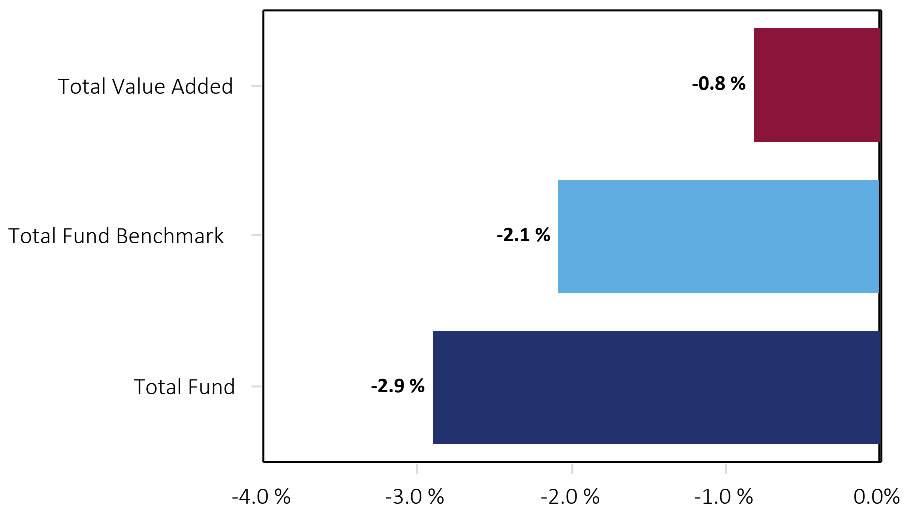


Total Fund Attribution

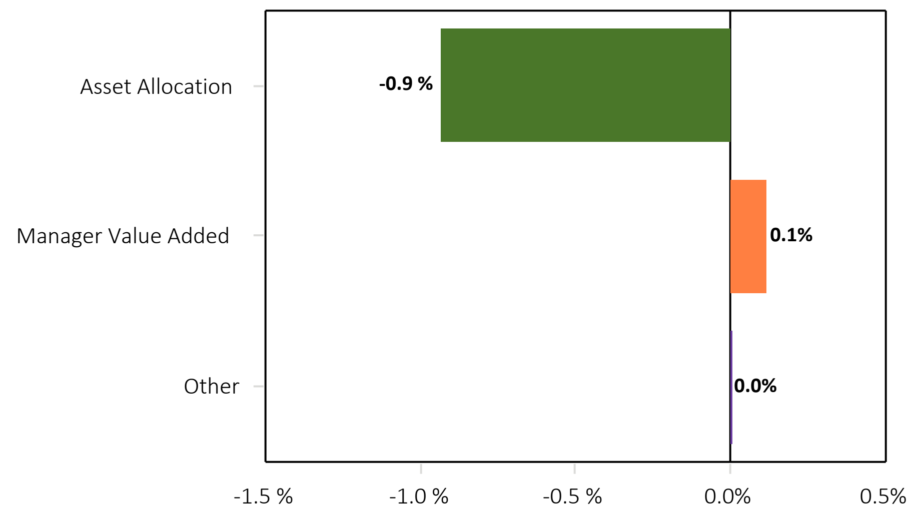
KERS (H) Pension Plan

Periods Ended 1 Quarter Ending March 31, 2022

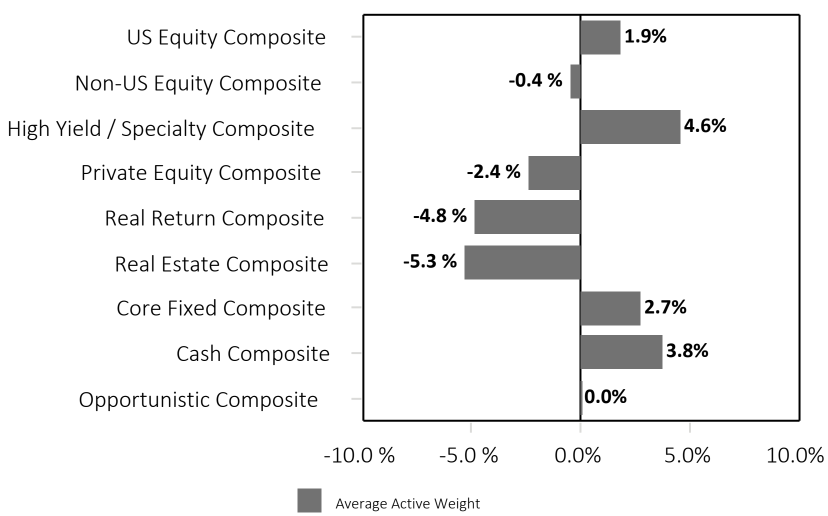
Total Fund Performance



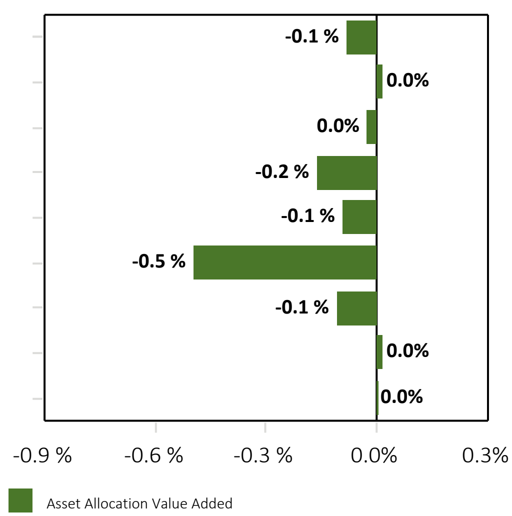
Total Value Added:-0.8 %



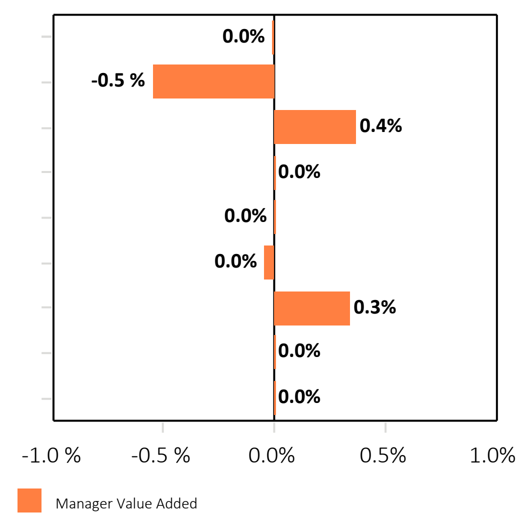
Total Asset Allocation:-0.9 %



Asset Allocation Value Added:-0.9 %



Total Manager Value Added:0.1%

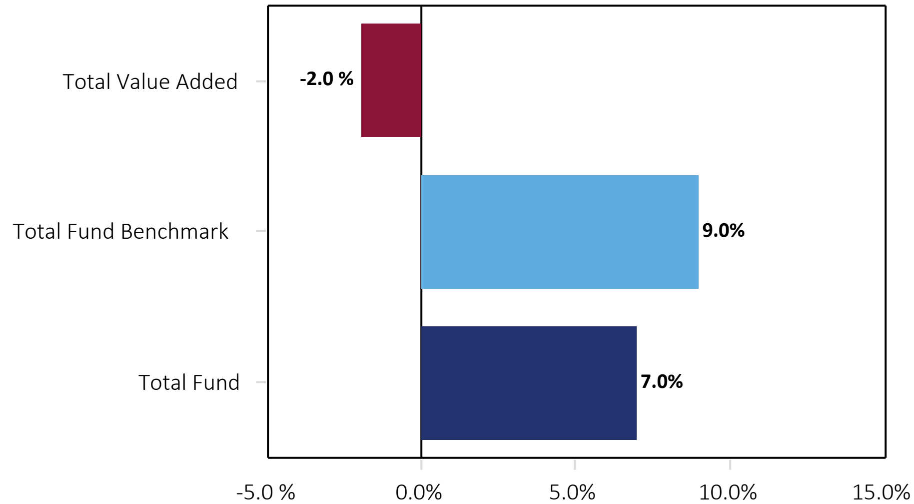


Total Fund Attribution

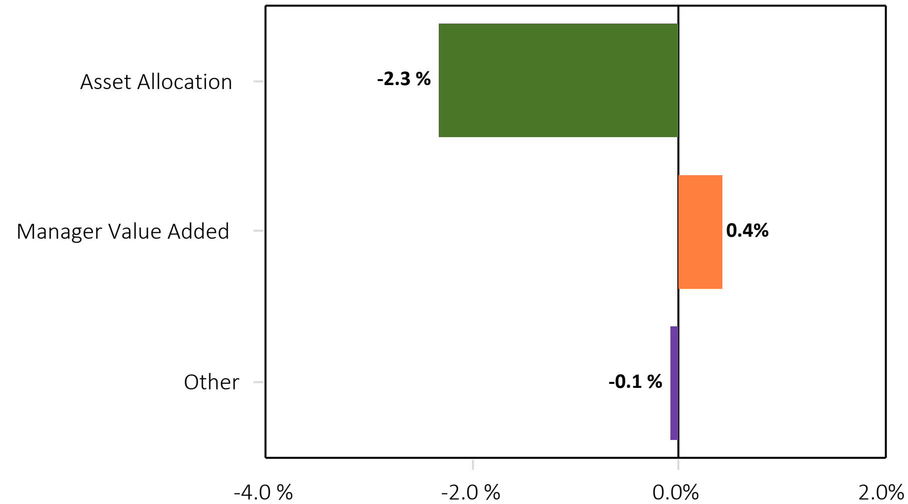
KERS (H) Pension Plan

Periods Ended 1 Year Ending March 31, 2022

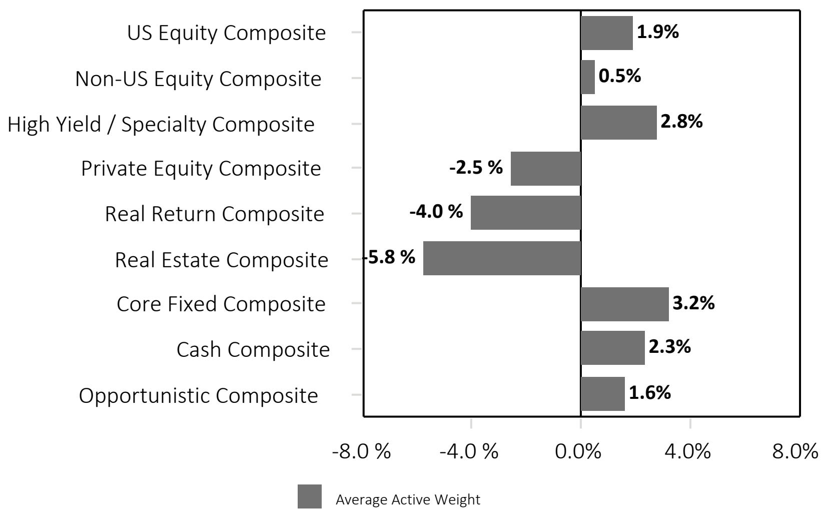
Total Fund Performance



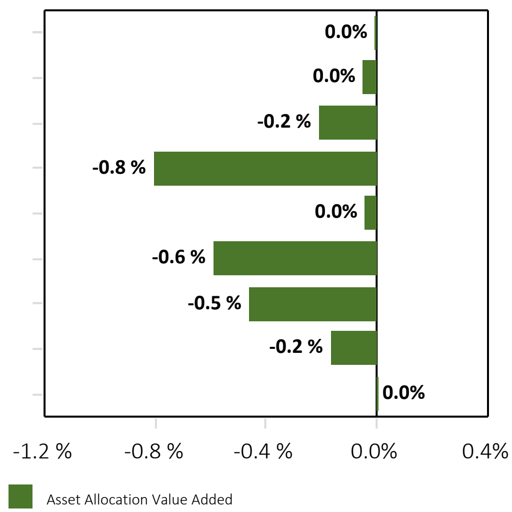
Total Value Added:-2.0 %



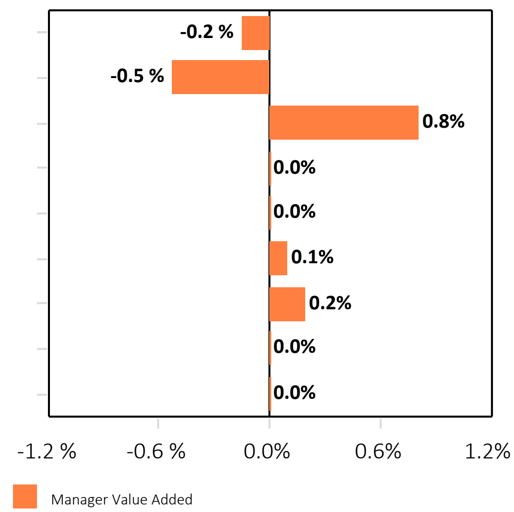
Total Asset Allocation:-2.3 %



Asset Allocation Value Added:-2.3 %



Total Manager Value Added:0.4%

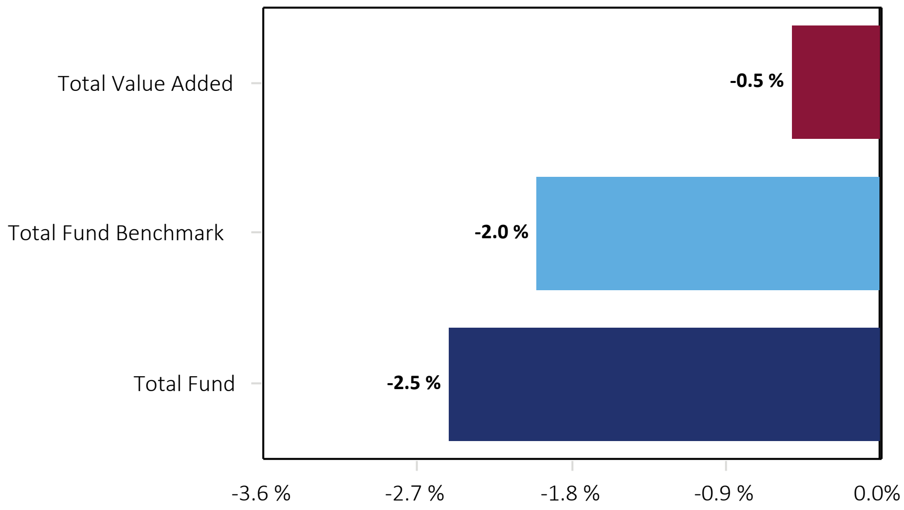


Total Fund Attribution

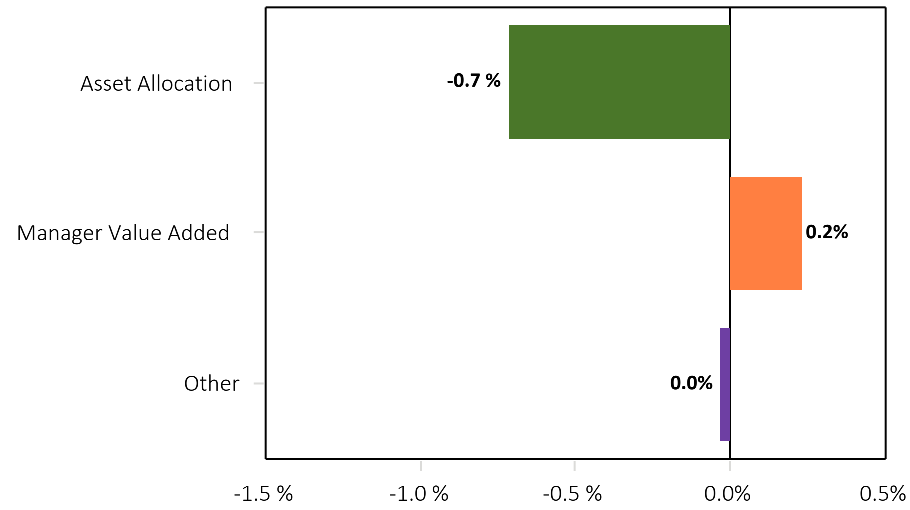
KERS (H) Insurance Plan

Periods Ended 1 Quarter Ending March 31, 2022

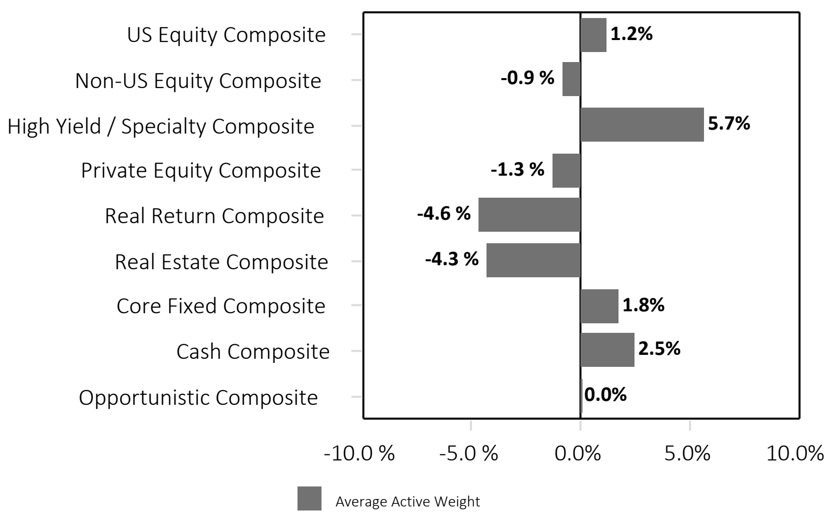
Total Fund Performance



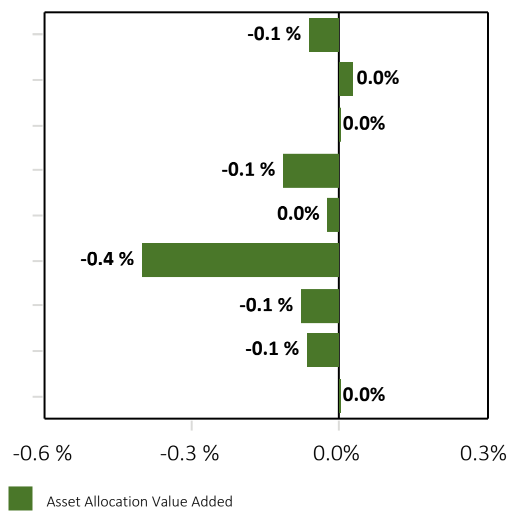
Total Value Added:-0.5 %



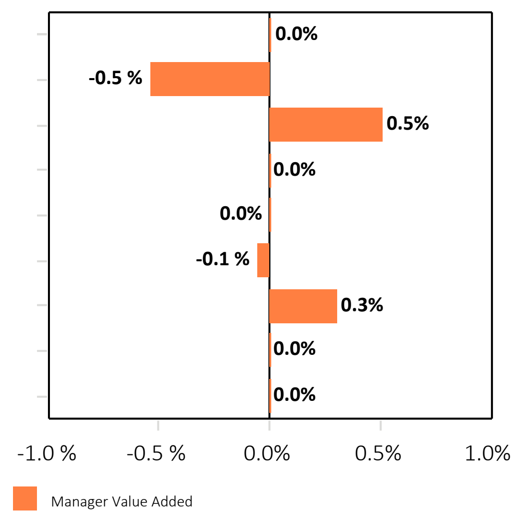
Total Asset Allocation:-0.7 %



Asset Allocation Value Added:-0.7 %



Total Manager Value Added:0.2%

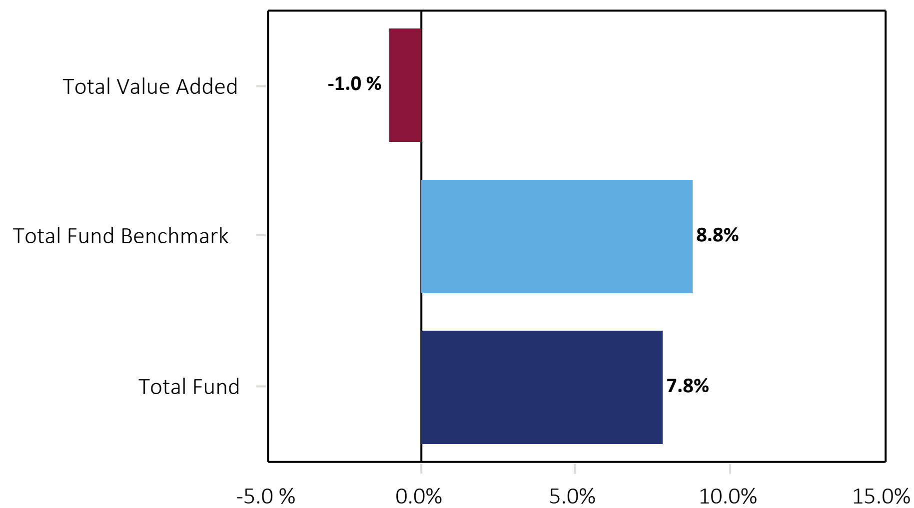


Total Fund Attribution

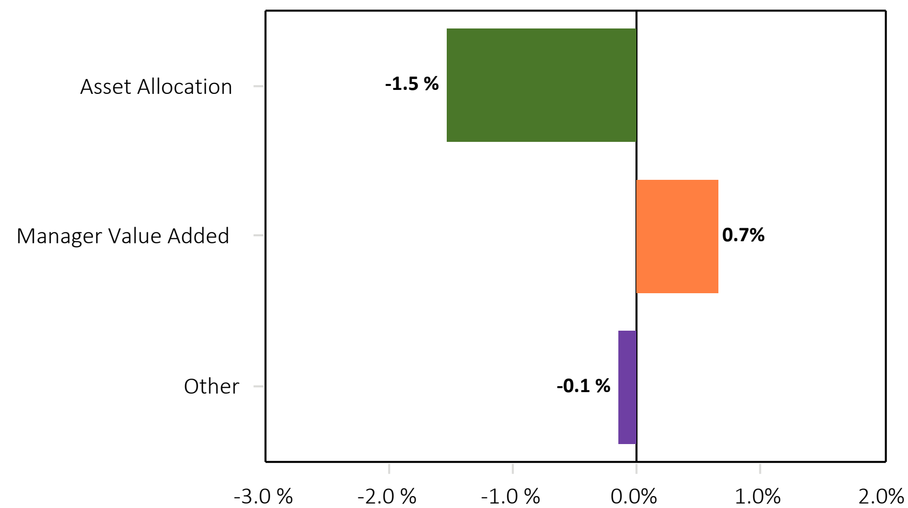
KERS (H) Insurance Plan

Periods Ended 1 Year Ending March 31, 2022

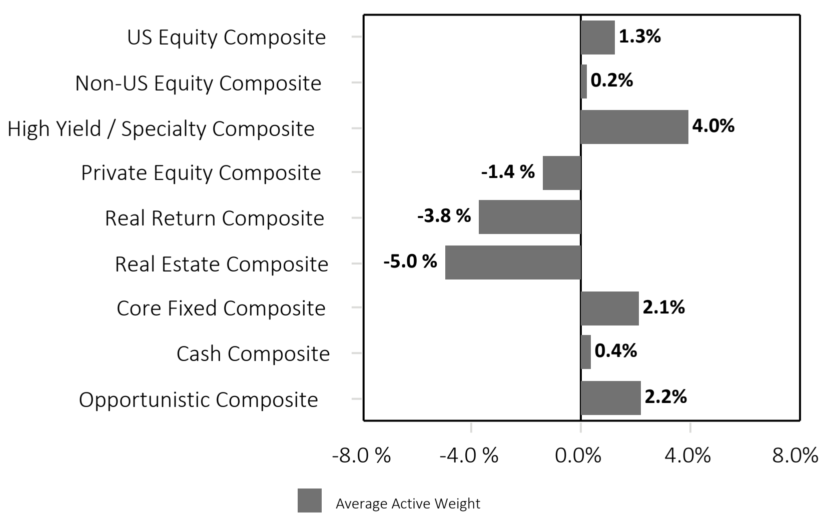
Total Fund Performance



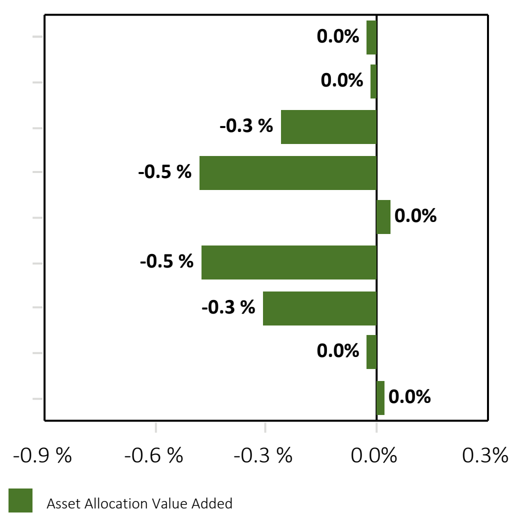
Total Value Added:-1.0 %



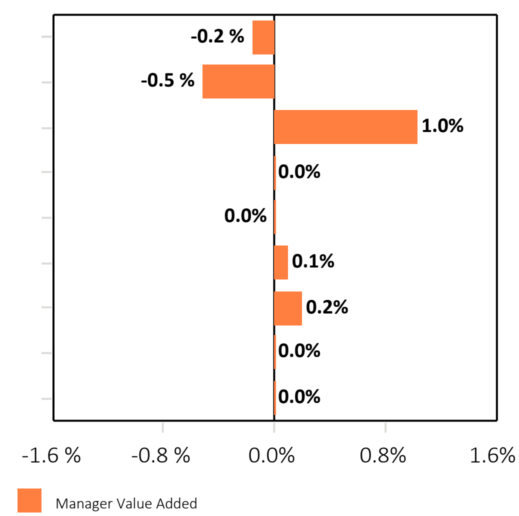
Total Asset Allocation:-1.5 %



Asset Allocation Value Added:-1.5 %



Total Manager Value Added:0.7%

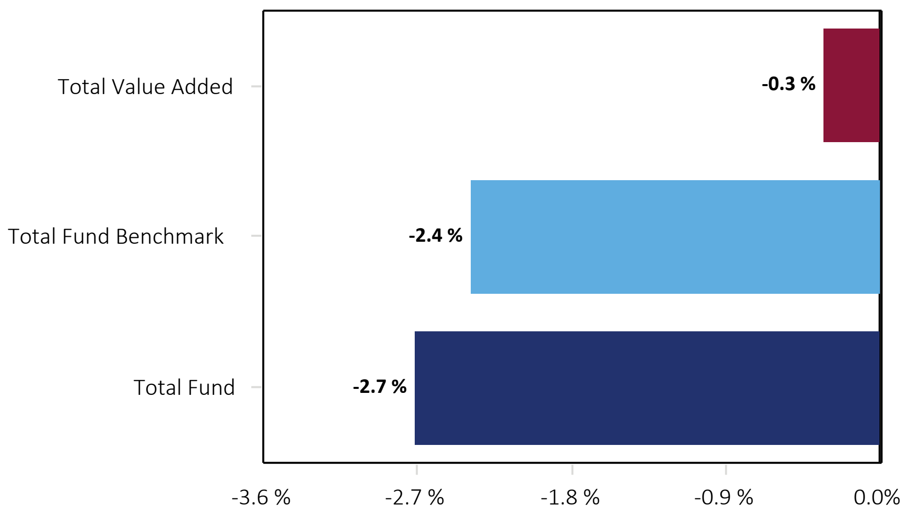


Total Fund Attribution

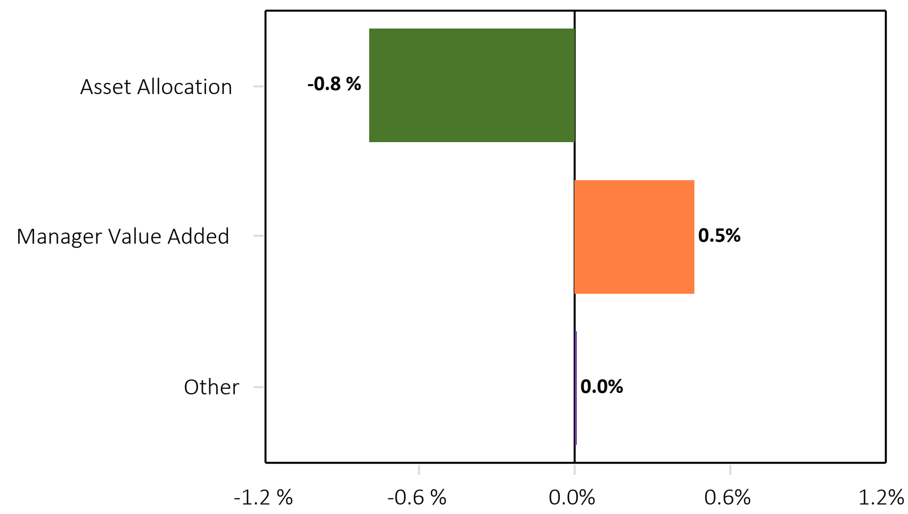
SPRS Pension Plan

Periods Ended 1 Quarter Ending March 31, 2022

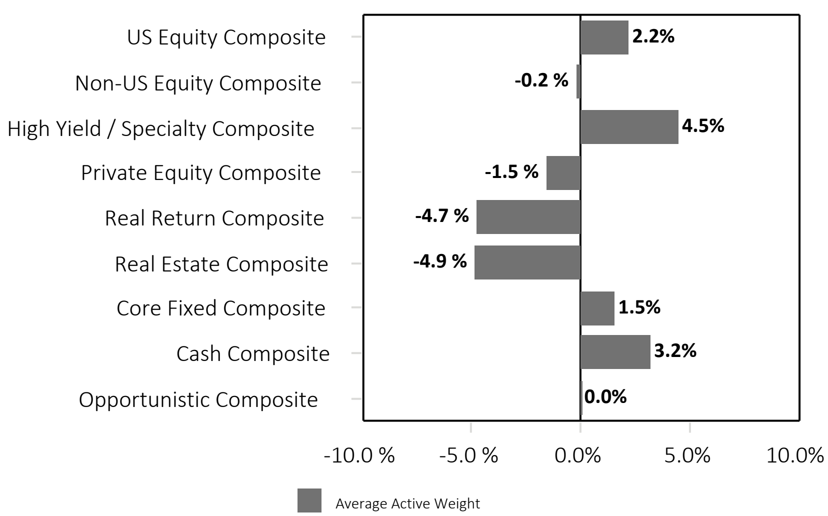
Total Fund Performance



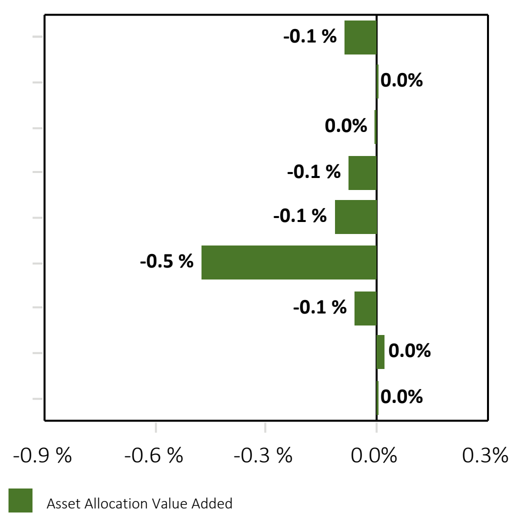
Total Value Added:-0.3 %



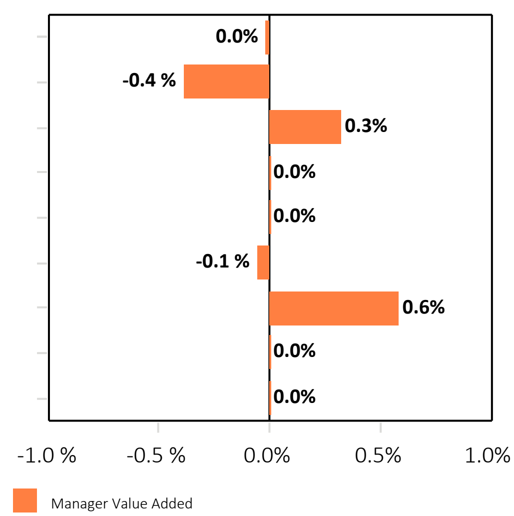
Total Asset Allocation:-0.8 %



Asset Allocation Value Added:-0.8 %



Total Manager Value Added:0.5%

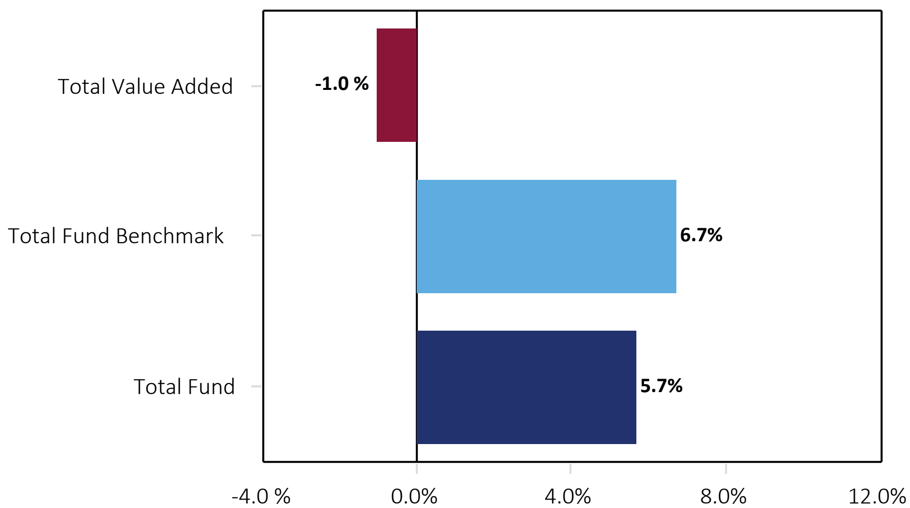


Total Fund Attribution

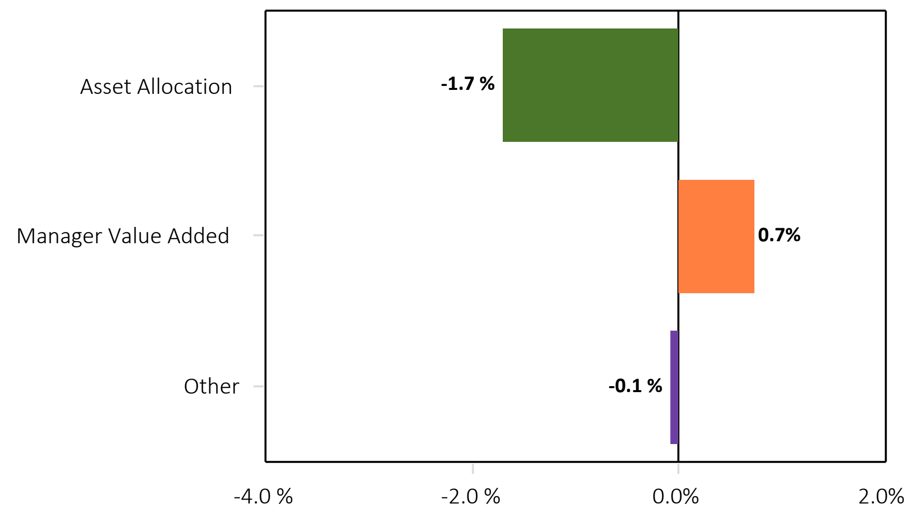
SPRS Pension Plan

Periods Ended 1 Year Ending March 31, 2022

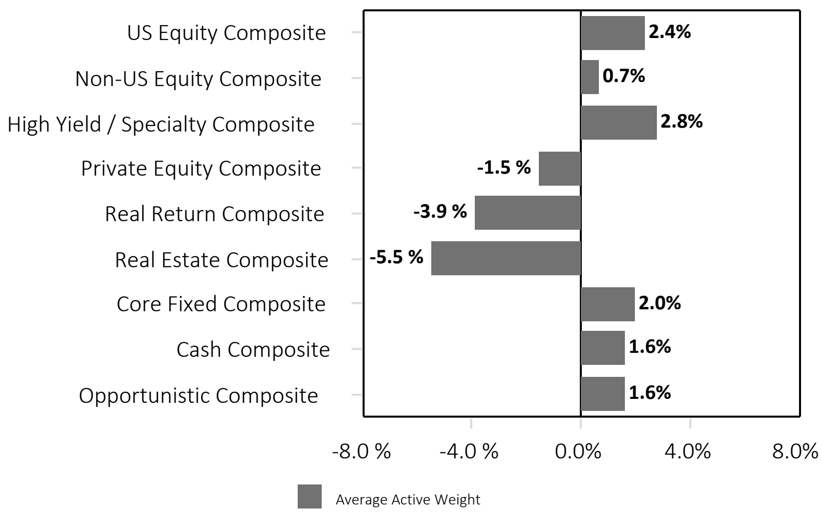
Total Fund Performance



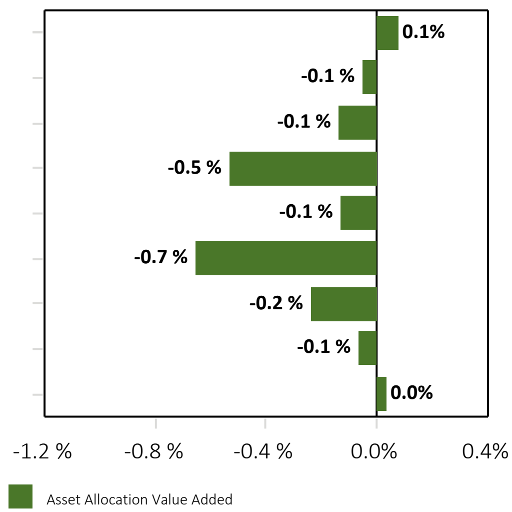
Total Value Added:-1.0 %



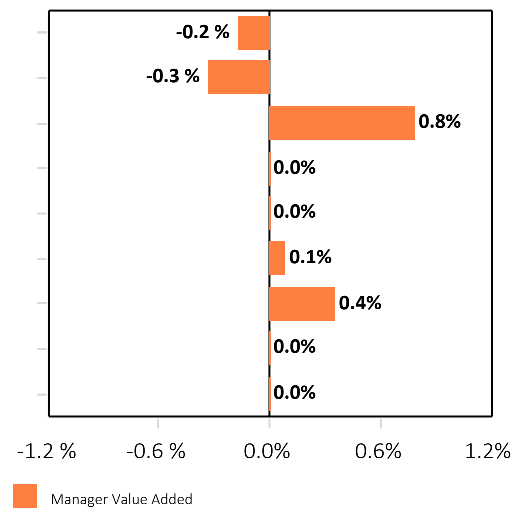
Total Asset Allocation:-1.7 %



Asset Allocation Value Added:-1.7 %



Total Manager Value Added:0.7%

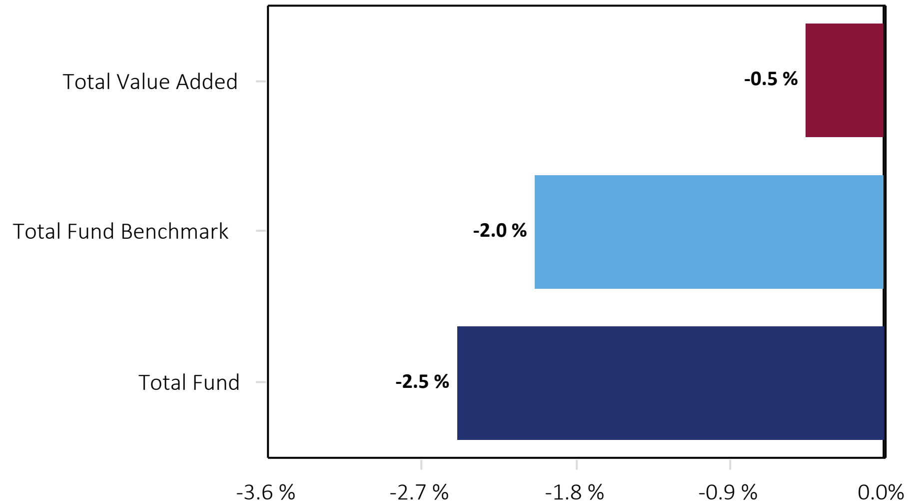


Total Fund Attribution

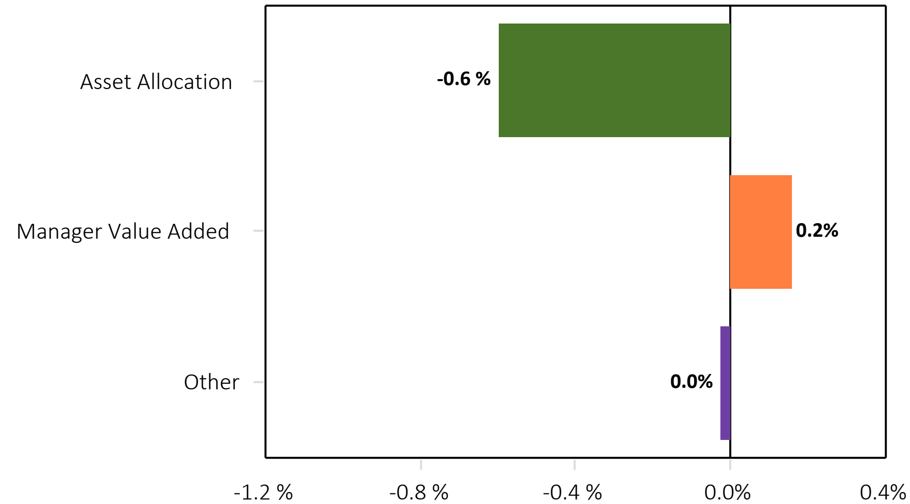
SPRS Insurance Plan

Periods Ended 1 Quarter Ending March 31, 2022

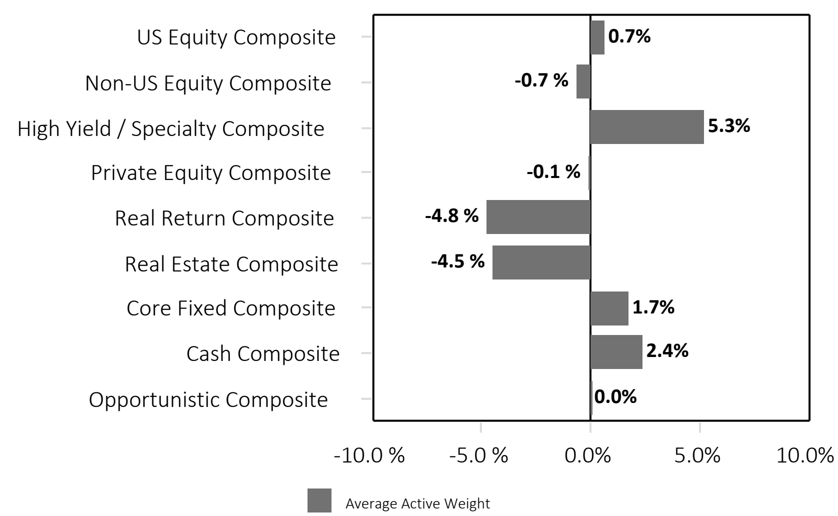
Total Fund Performance



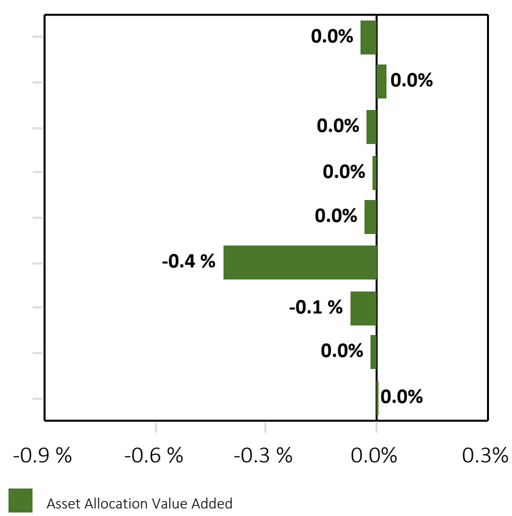
Total Value Added:-0.5 %



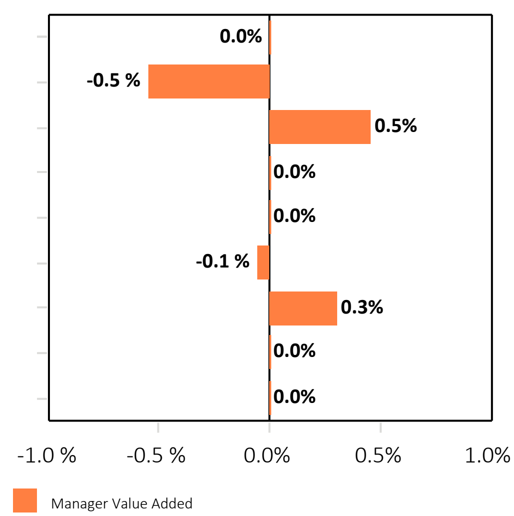
Total Asset Allocation:-0.6 %



Asset Allocation Value Added:-0.6 %



Total Manager Value Added:0.2%

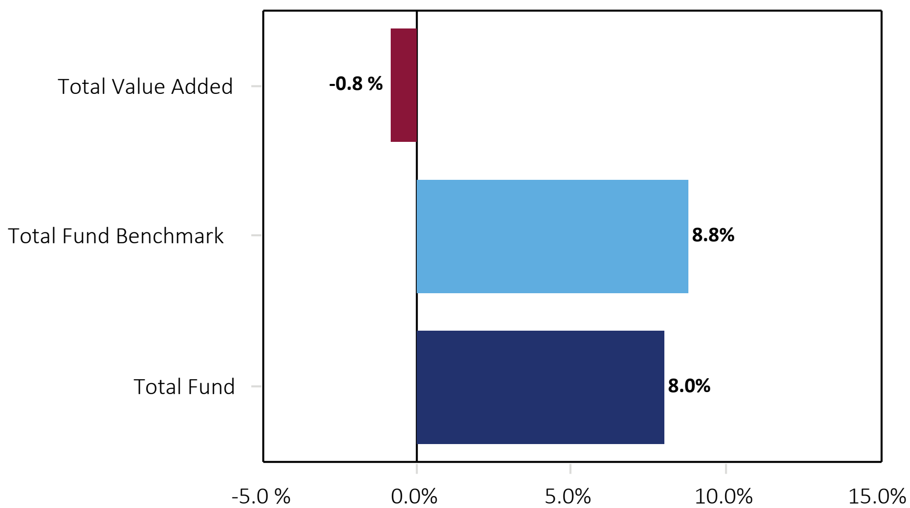


Total Fund Attribution

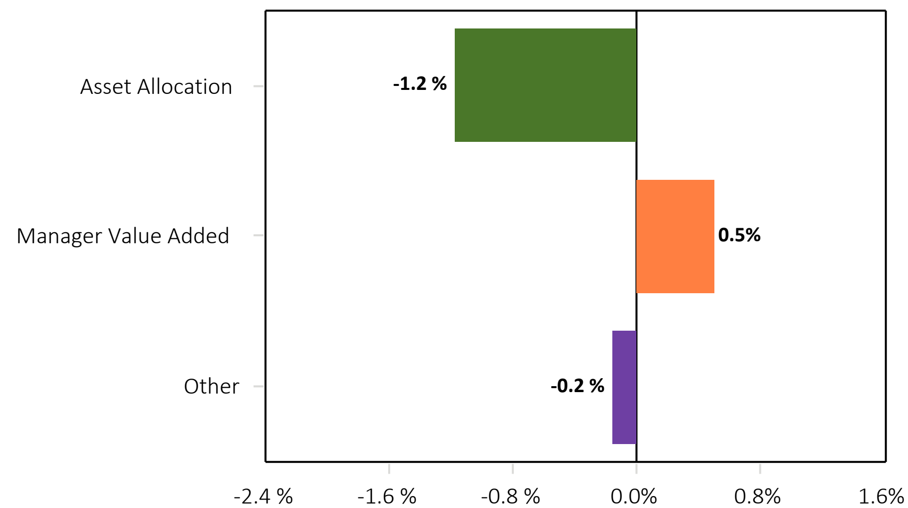
SPRS Insurance Plan

Periods Ended 1 Year Ending March 31, 2022

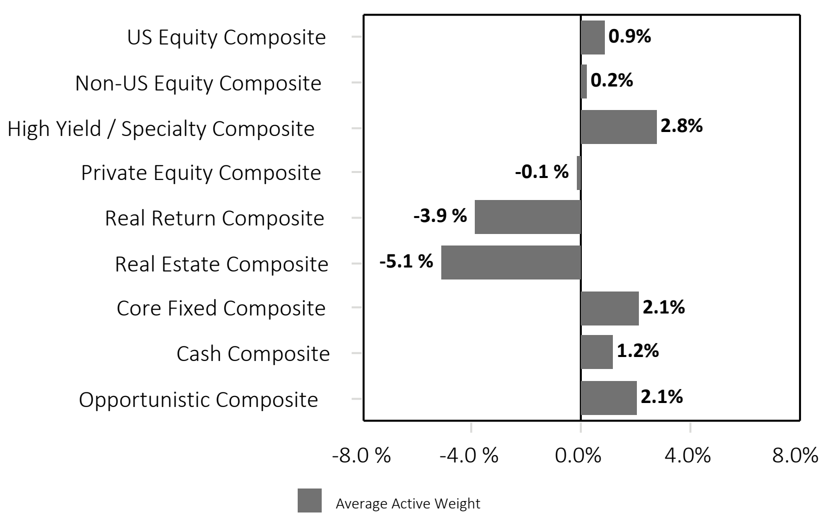
Total Fund Performance



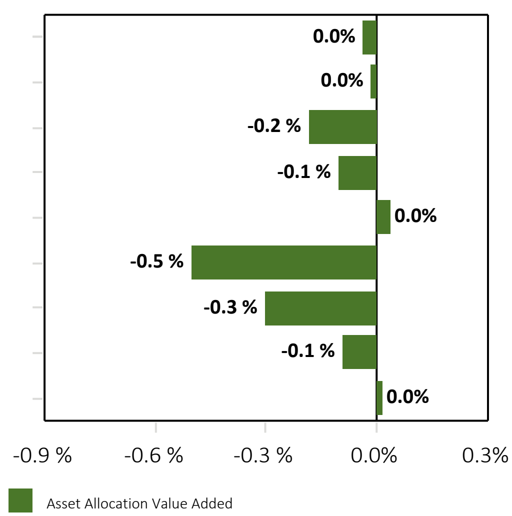
Total Value Added:-0.8 %



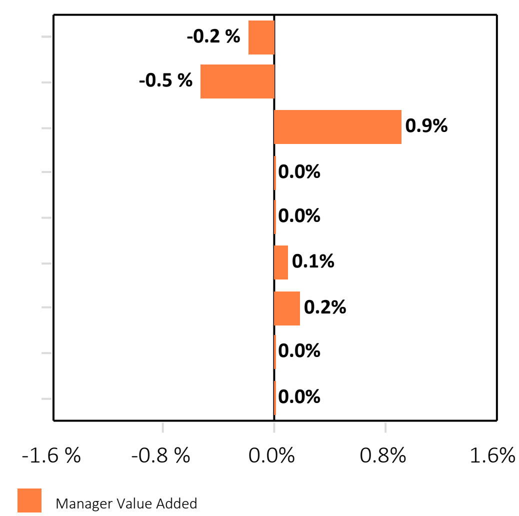
Total Asset Allocation:-1.2 %



Asset Allocation Value Added:-1.2 %



Total Manager Value Added:0.5%



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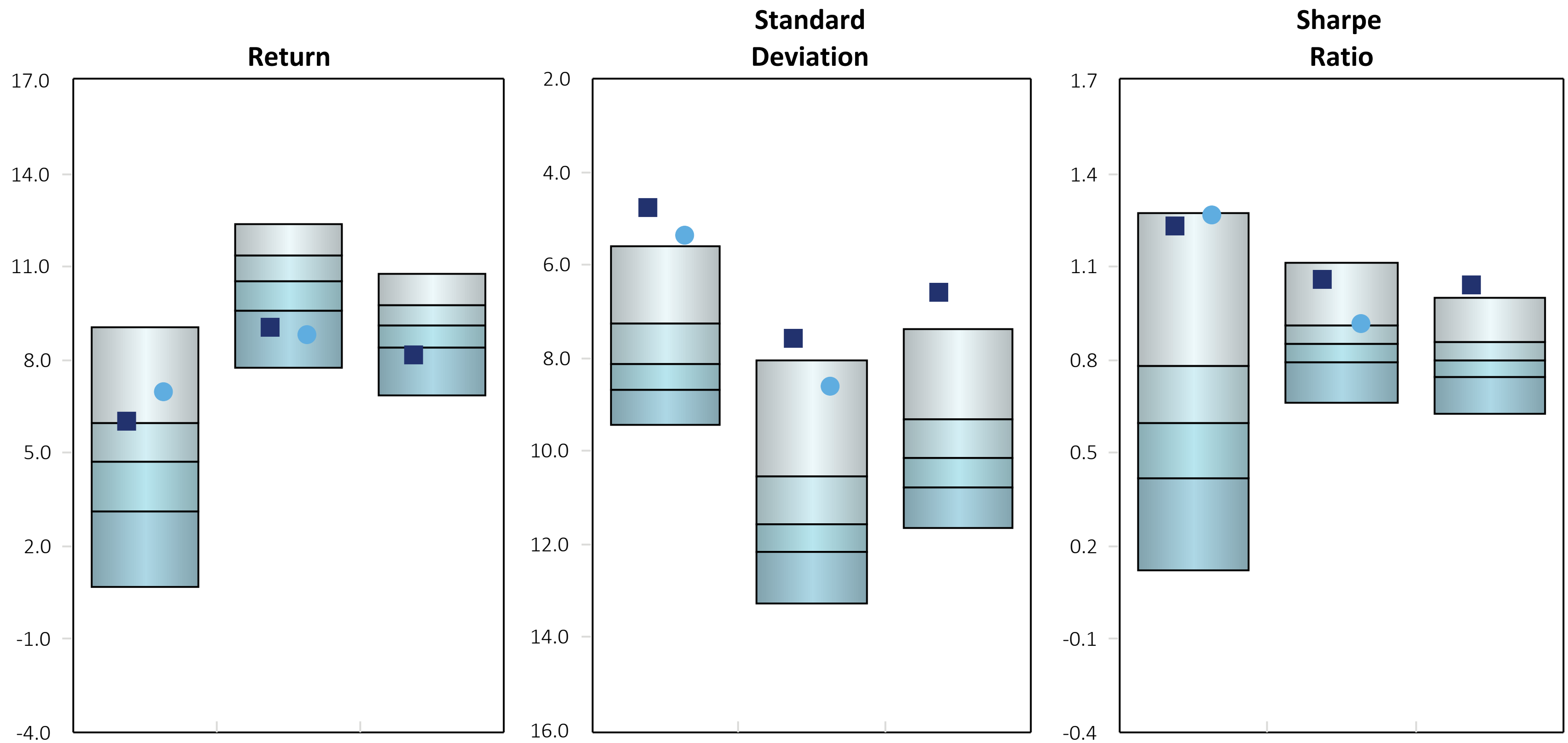
Plan Sponsor Peer Group Analysis - Multi Statistics

KERS Pension Plan vs All Public Plans-Total Fund

Periods Ended March 31, 2022



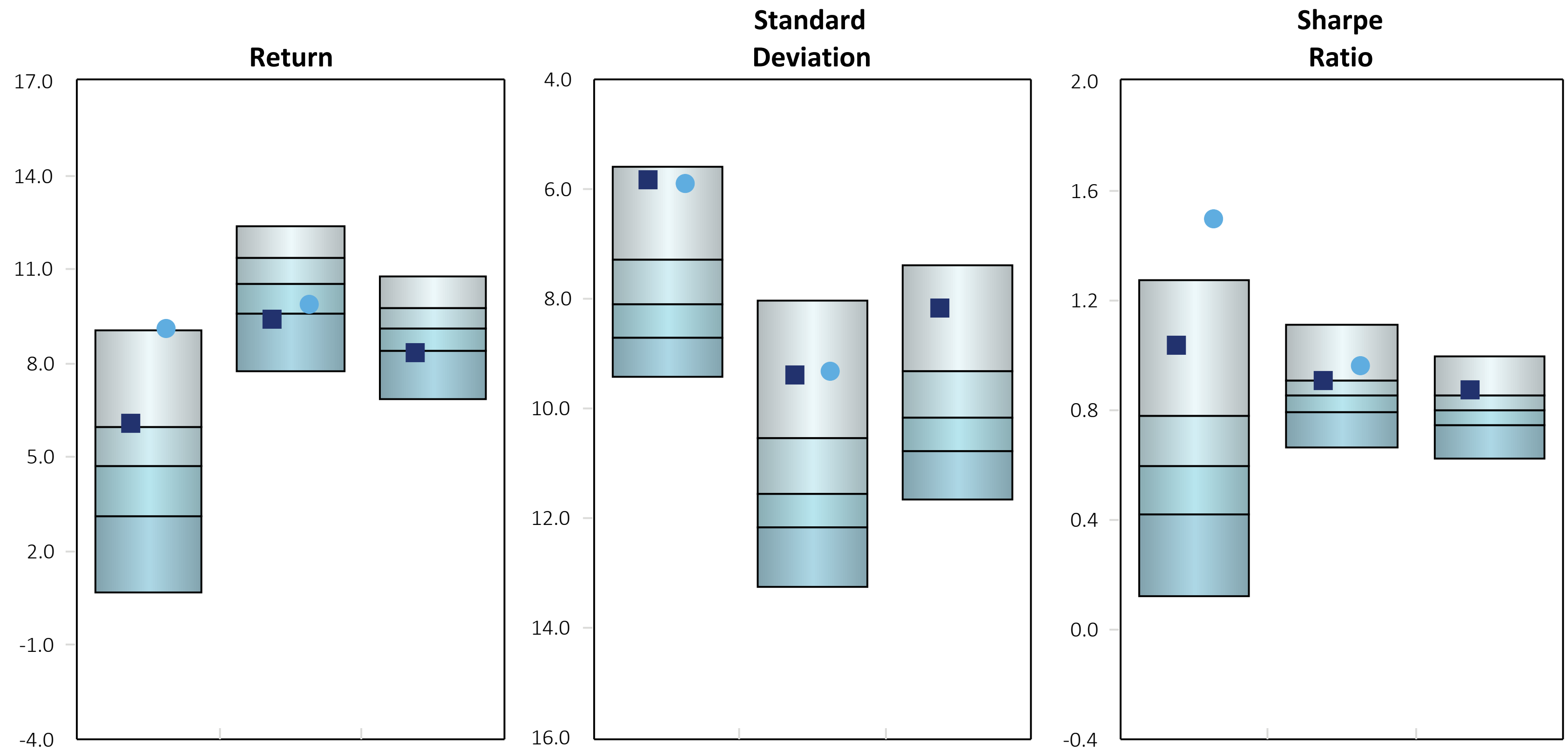
	Return 1 Year	Return 3 Years	Return 5 Years	Standard Deviation 1 Year	Standard Deviation 3 Years	Standard Deviation 5 Years	Sharpe Ratio 1 Year	Sharpe Ratio 3 Years	Sharpe Ratio 5 Years
■ KERS Pension Plan	6.01 (25)	9.04 (84)	8.16 (80)	4.79 (2)	7.59 (3)	6.57 (2)	1.23 (6)	1.06 (6)	1.04 (5)
● KERS IPS Index	6.95 (16)	8.78 (87)		5.37 (3)	8.62 (7)		1.27 (6)	0.92 (23)	
5th Percentile	9.02	12.38	10.77	5.58	8.05	7.39	1.27	1.11	1.00
1st Quartile	5.99	11.37	9.79	7.28	10.55	9.32	0.78	0.91	0.85
Median	4.71	10.51	9.10	8.12	11.56	10.17	0.59	0.85	0.80
3rd Quartile	3.11	9.59	8.39	8.70	12.18	10.78	0.42	0.79	0.74
95th Percentile	0.69	7.73	6.85	9.42	13.26	11.67	0.12	0.66	0.62

Parentheses contain percentile rankings.
Calculation based on monthly periodicity.

Plan Sponsor Peer Group Analysis - Multi Statistics

KERS Insurance Plan vs All Public Plans-Total Fund

Periods Ended March 31, 2022



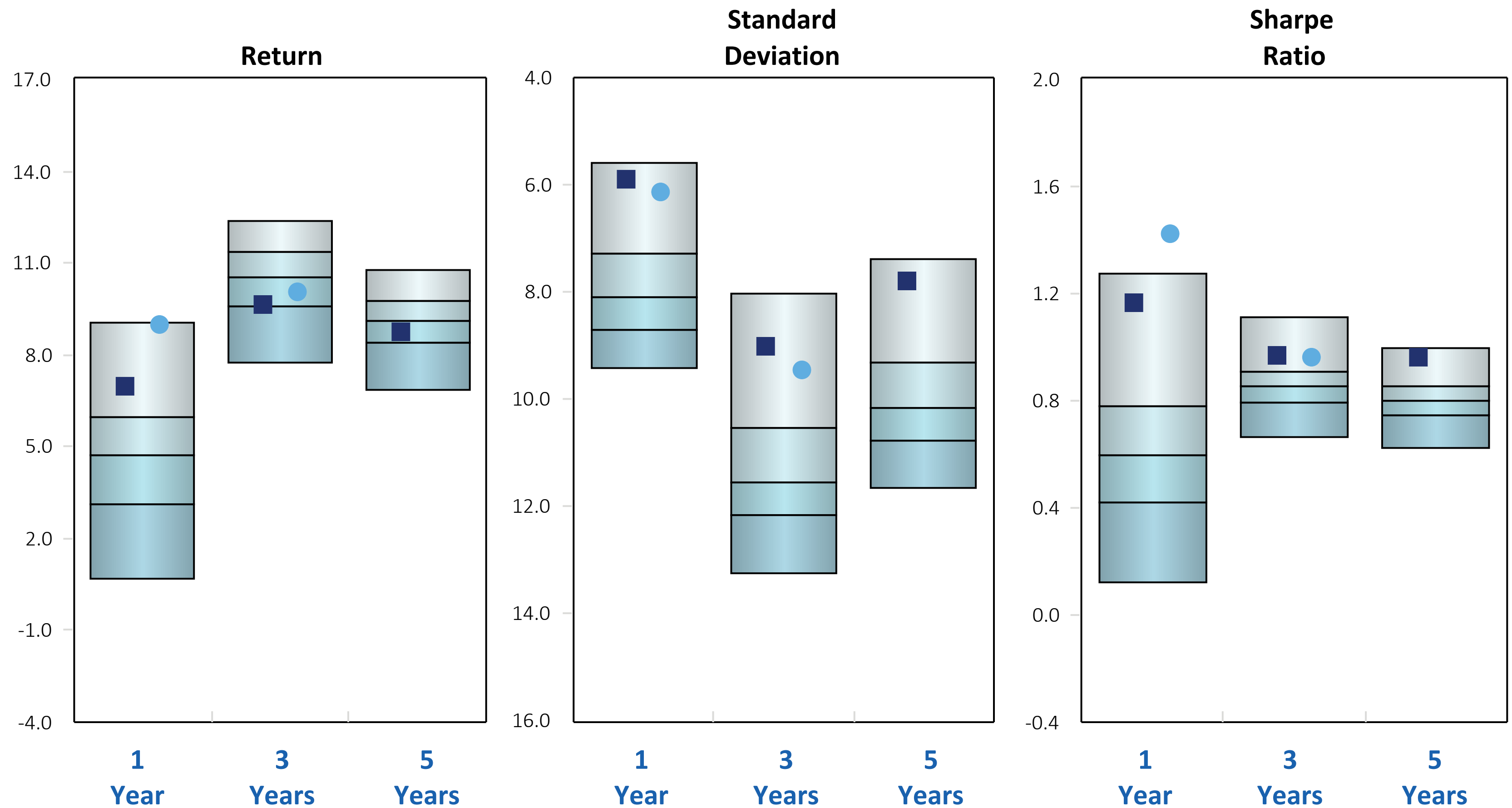
	1 Year	3 Years	5 Years	1 Year	3 Years	5 Years	1 Year	3 Years	5 Years
■ KERS Insurance Plan	6.10 (24)	9.40 (80)	8.31 (77)	5.83 (7)	9.38 (10)	8.15 (9)	1.04 (10)	0.91 (25)	0.87 (20)
● KERS IPS Index	9.10 (5)	9.90 (69)		5.90 (7)	9.34 (10)		1.50 (4)	0.96 (14)	
5th Percentile	9.02	12.38	10.77	5.58	8.05	7.39	1.27	1.11	1.00
1st Quartile	5.99	11.37	9.79	7.28	10.55	9.32	0.78	0.91	0.85
Median	4.71	10.51	9.10	8.12	11.56	10.17	0.59	0.85	0.80
3rd Quartile	3.11	9.59	8.39	8.70	12.18	10.78	0.42	0.79	0.74
95th Percentile	0.69	7.73	6.85	9.42	13.26	11.67	0.12	0.66	0.62

Parentheses contain percentile rankings.
Calculation based on monthly periodicity.

Plan Sponsor Peer Group Analysis - Multi Statistics

KERS (H) Pension Plan vs All Public Plans-Total Fund

Periods Ended March 31, 2022



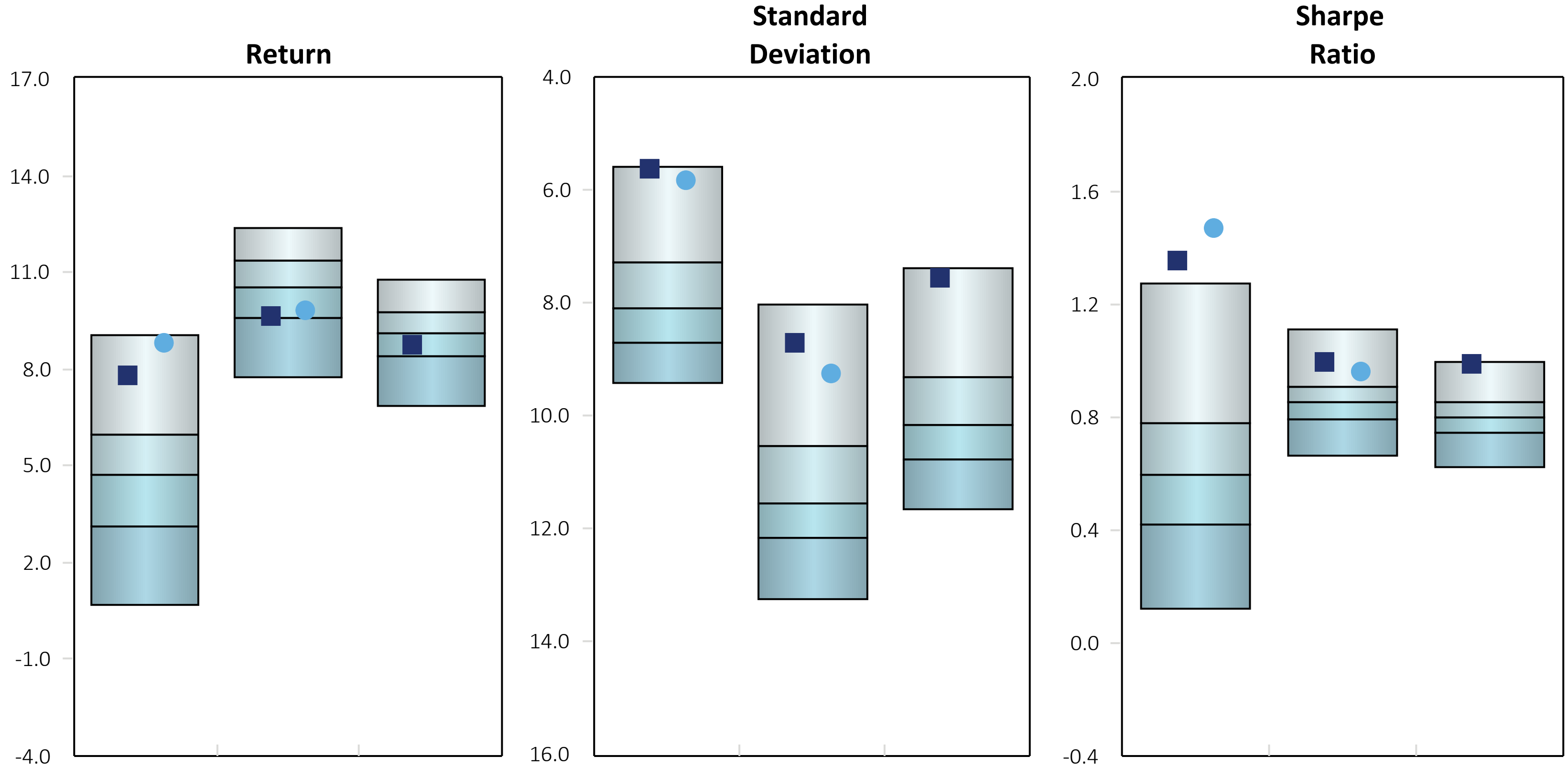
	Return 1 Year	Return 3 Years	Return 5 Years	Standard Deviation 1 Year	Standard Deviation 3 Years	Standard Deviation 5 Years	Sharpe Ratio 1 Year	Sharpe Ratio 3 Years	Sharpe Ratio 5 Years
■ KERS (H) Pension Plan	6.99 (15)	9.64 (75)	8.73 (63)	5.91 (7)	9.02 (8)	7.80 (7)	1.17 (7)	0.97 (13)	0.96 (8)
● KERS (H) IPS Index	8.97 (6)	10.04 (63)		6.15 (9)	9.44 (10)		1.42 (5)	0.97 (13)	
5th Percentile	9.02	12.38	10.77	5.58	8.05	7.39	1.27	1.11	1.00
1st Quartile	5.99	11.37	9.79	7.28	10.55	9.32	0.78	0.91	0.85
Median	4.71	10.51	9.10	8.12	11.56	10.17	0.59	0.85	0.80
3rd Quartile	3.11	9.59	8.39	8.70	12.18	10.78	0.42	0.79	0.74
95th Percentile	0.69	7.73	6.85	9.42	13.26	11.67	0.12	0.66	0.62

Parentheses contain percentile rankings.
Calculation based on monthly periodicity.

Plan Sponsor Peer Group Analysis - Multi Statistics

KERS (H) Insurance Plan vs All Public Plans-Total Fund

Periods Ended March 31, 2022



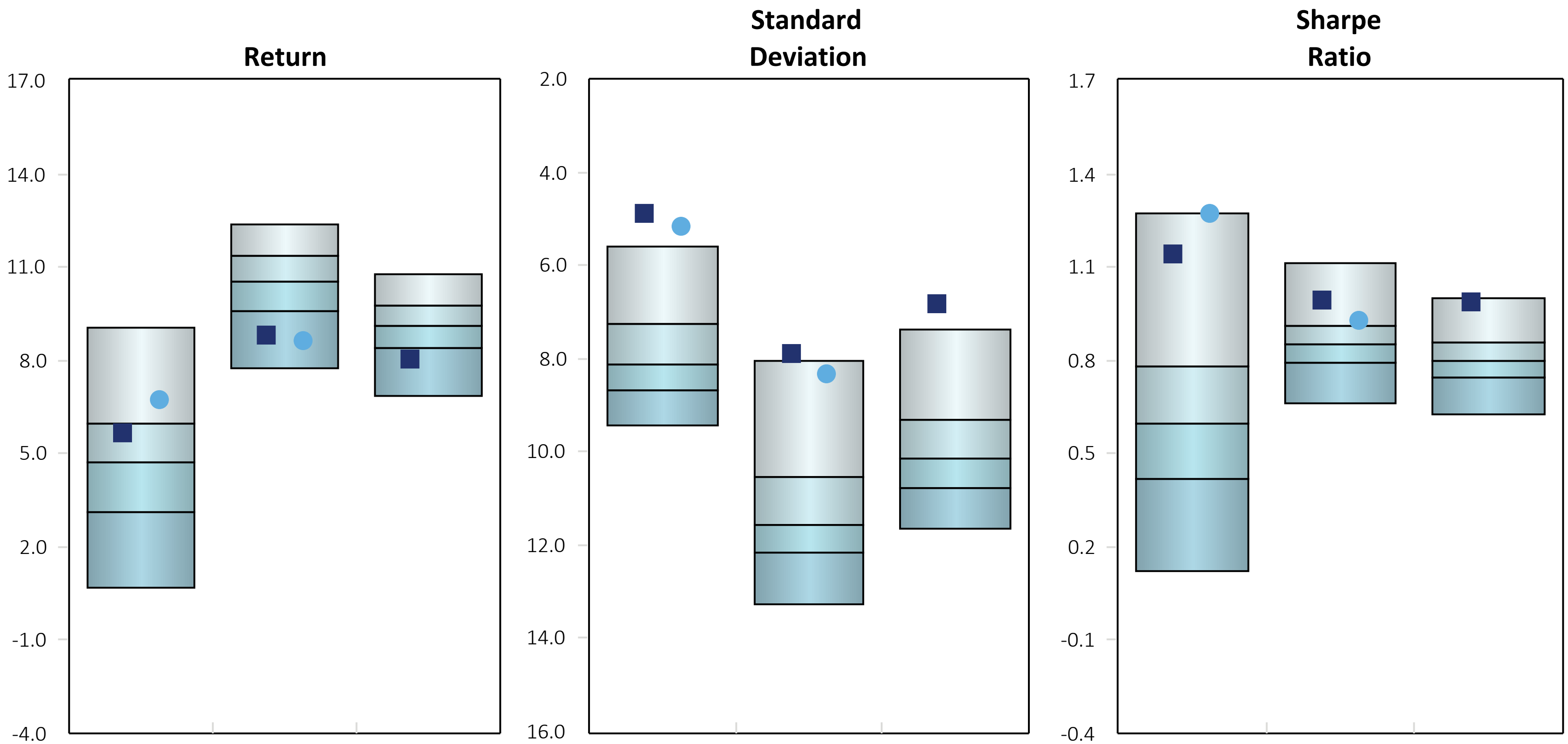
	Return 1 Year	Return 3 Years	Return 5 Years	Standard Deviation 1 Year	Standard Deviation 3 Years	Standard Deviation 5 Years	Sharpe Ratio 1 Year	Sharpe Ratio 3 Years	Sharpe Ratio 5 Years
■ KERS (H) Insurance Plan	7.80 (10)	9.63 (75)	8.75 (62)	5.63 (5)	8.70 (7)	7.57 (6)	1.36 (5)	1.00 (10)	0.99 (6)
● KERS (H) IPS Index	8.82 (6)	9.81 (71)		5.83 (7)	9.25 (10)		1.47 (4)	0.96 (14)	
5th Percentile	9.02	12.38	10.77	5.58	8.05	7.39	1.27	1.11	1.00
1st Quartile	5.99	11.37	9.79	7.28	10.55	9.32	0.78	0.91	0.85
Median	4.71	10.51	9.10	8.12	11.56	10.17	0.59	0.85	0.80
3rd Quartile	3.11	9.59	8.39	8.70	12.18	10.78	0.42	0.79	0.74
95th Percentile	0.69	7.73	6.85	9.42	13.26	11.67	0.12	0.66	0.62

Parentheses contain percentile rankings.
Calculation based on monthly periodicity.

Plan Sponsor Peer Group Analysis - Multi Statistics

SPRS Pension Plan vs All Public Plans-Total Fund

Periods Ended March 31, 2022



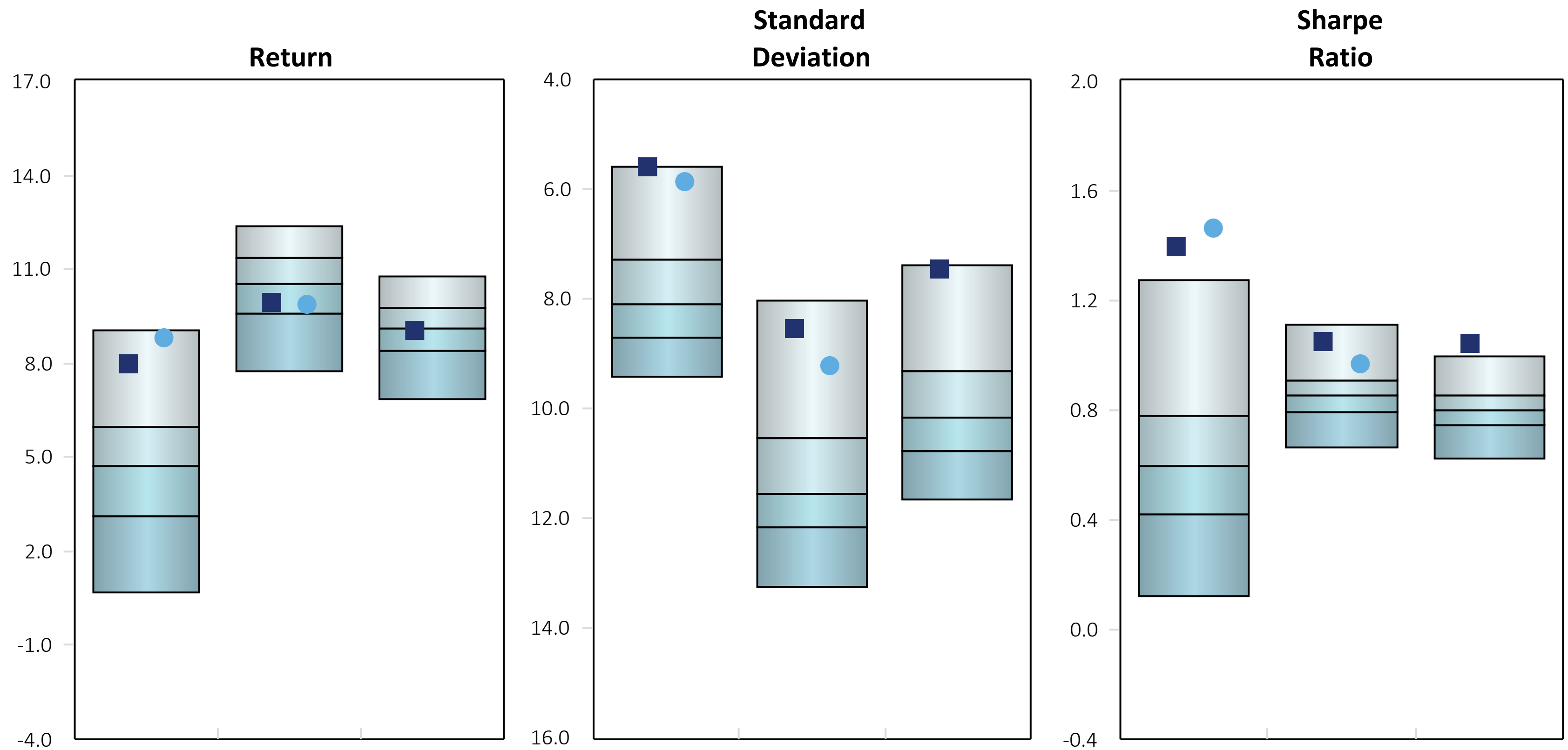
	Return 1 Year	Return 3 Years	Return 5 Years	Std Dev 1 Year	Std Dev 3 Years	Std Dev 5 Years	Sharpe 1 Year	Sharpe 3 Years	Sharpe 5 Years
SPRS Pension Plan	5.67 (30)	8.80 (86)	8.02 (82)	4.88 (2)	7.90 (4)	6.84 (2)	1.14 (8)	0.99 (10)	0.99 (6)
SPRS IPS Index	6.72 (17)	8.62 (89)		5.18 (2)	8.34 (5)		1.27 (6)	0.93 (20)	
5th Percentile	9.02	12.38	10.77	5.58	8.05	7.39	1.27	1.11	1.00
1st Quartile	5.99	11.37	9.79	7.28	10.55	9.32	0.78	0.91	0.85
Median	4.71	10.51	9.10	8.12	11.56	10.17	0.59	0.85	0.80
3rd Quartile	3.11	9.59	8.39	8.70	12.18	10.78	0.42	0.79	0.74
95th Percentile	0.69	7.73	6.85	9.42	13.26	11.67	0.12	0.66	0.62

Parentheses contain percentile rankings.
Calculation based on monthly periodicity.

Plan Sponsor Peer Group Analysis - Multi Statistics

SPRS Insurance Plan vs All Public Plans-Total Fund

Periods Ended March 31, 2022



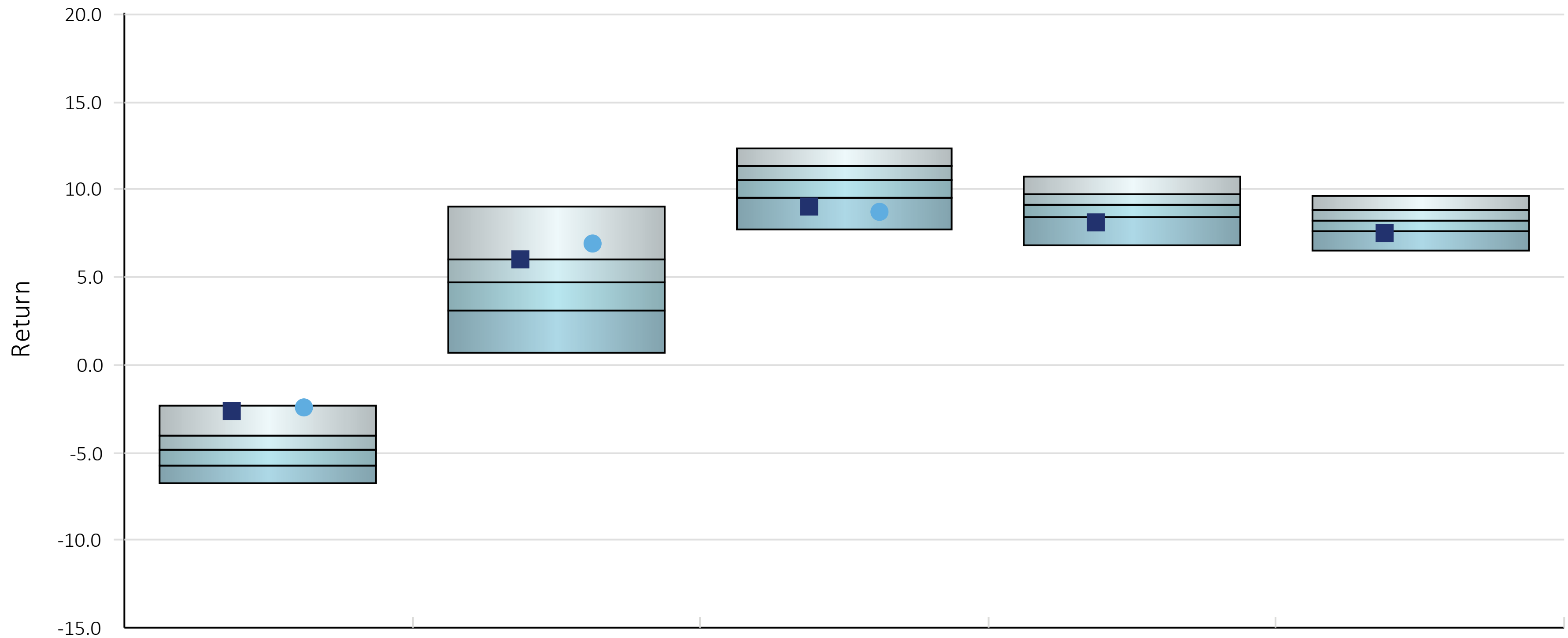
	Return 1 Year	Return 3 Years	Return 5 Years	Std Dev 1 Year	Std Dev 3 Years	Std Dev 5 Years	Sharpe 1 Year	Sharpe 3 Years	Sharpe 5 Years
■ SPRS Insurance Plan	8.00 (8)	9.95 (67)	9.08 (51)	5.59 (5)	8.54 (6)	7.45 (5)	1.40 (5)	1.05 (7)	1.04 (5)
● SPRS IPS Index	8.82 (6)	9.88 (69)		5.86 (7)	9.22 (9)		1.47 (4)	0.97 (12)	
5th Percentile	9.02	12.38	10.77	5.58	8.05	7.39	1.27	1.11	1.00
1st Quartile	5.99	11.37	9.79	7.28	10.55	9.32	0.78	0.91	0.85
Median	4.71	10.51	9.10	8.12	11.56	10.17	0.59	0.85	0.80
3rd Quartile	3.11	9.59	8.39	8.70	12.18	10.78	0.42	0.79	0.74
95th Percentile	0.69	7.73	6.85	9.42	13.26	11.67	0.12	0.66	0.62

Parentheses contain percentile rankings.
Calculation based on monthly periodicity.

Plan Sponsor Peer Group Analysis

KERS Pension Plan vs All Public Plans-Total Fund

Periods Ended March 31, 2022



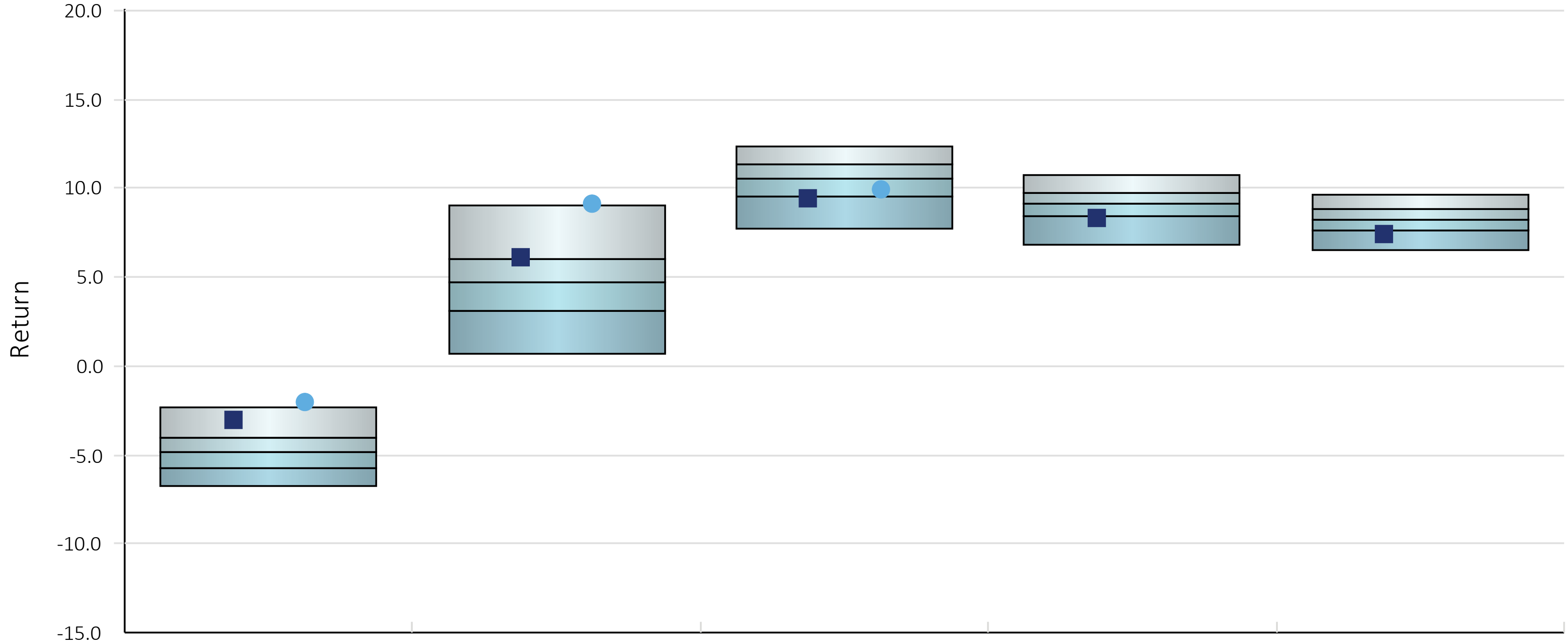
	QTD	1 Year	3 Years	5 Years	10 Years
■ KERS Pension Plan	-2.64 (7)	6.01 (25)	9.04 (84)	8.16 (80)	7.54 (79)
● KERS IPS Index	-2.40 (6)	6.95 (16)	8.78 (87)		
5th Percentile	-2.38	9.02	12.38	10.77	9.63
1st Quartile	-4.08	5.99	11.37	9.79	8.79
Median	-4.86	4.71	10.51	9.10	8.26
3rd Quartile	-5.71	3.11	9.59	8.39	7.65
95th Percentile	-6.78	0.69	7.73	6.85	6.56
Population	560	555	544	516	417

Parentheses contain percentile rankings.
Calculation based on monthly periodicity.

Plan Sponsor Peer Group Analysis

KERS Insurance Plan vs All Public Plans-Total Fund

Periods Ended March 31, 2022



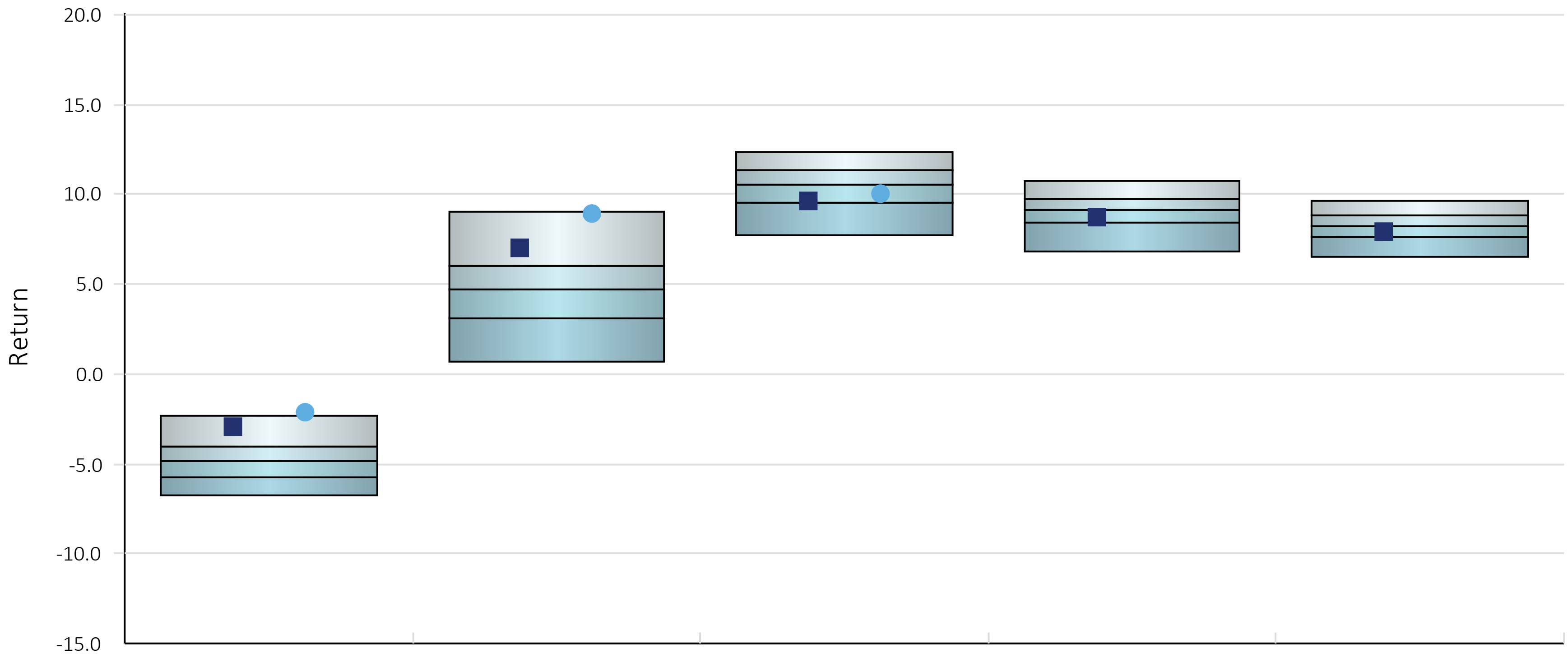
	QTD	1 Year	3 Years	5 Years	10 Years
KERS Insurance Plan	-3.05 (9)	6.10 (24)	9.40 (80)	8.31 (77)	7.48 (81)
KERS IPS Index	-1.98 (3)	9.10 (5)	9.90 (69)		
5th Percentile	-2.38	9.02	12.38	10.77	9.63
1st Quartile	-4.08	5.99	11.37	9.79	8.79
Median	-4.86	4.71	10.51	9.10	8.26
3rd Quartile	-5.71	3.11	9.59	8.39	7.65
95th Percentile	-6.78	0.69	7.73	6.85	6.56
Population	560	555	544	516	417

Parentheses contain percentile rankings.
Calculation based on monthly periodicity.

Plan Sponsor Peer Group Analysis

KERS (H) Pension Plan vs All Public Plans-Total Fund

Periods Ended March 31, 2022



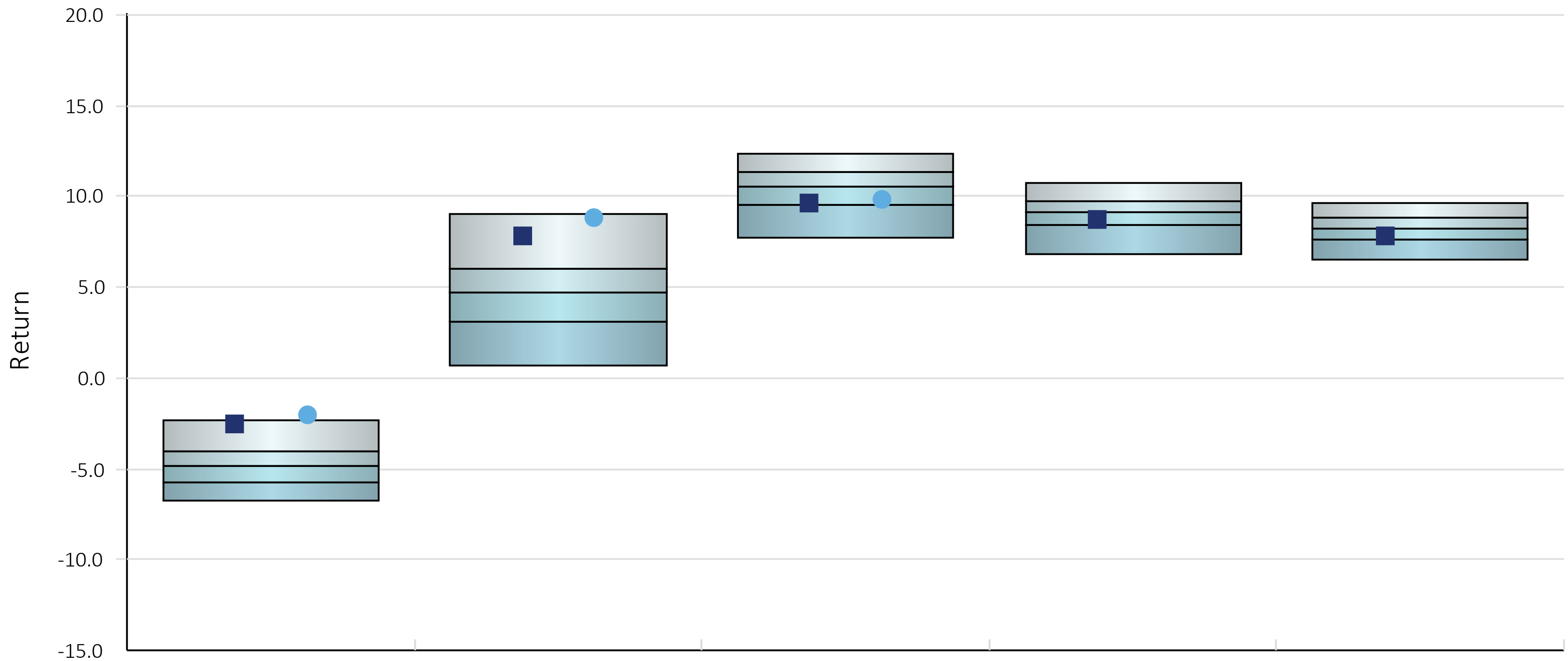
	QTD	1 Year	3 Years	5 Years	10 Years
■ KERS (H) Pension Plan	-2.90 (9)	6.99 (15)	9.64 (75)	8.73 (63)	7.94 (64)
● KERS (H) IPS Index	-2.08 (3)	8.97 (6)	10.04 (63)		
5th Percentile	-2.38	9.02	12.38	10.77	9.63
1st Quartile	-4.08	5.99	11.37	9.79	8.79
Median	-4.86	4.71	10.51	9.10	8.26
3rd Quartile	-5.71	3.11	9.59	8.39	7.65
95th Percentile	-6.78	0.69	7.73	6.85	6.56
Population	560	555	544	516	417

Parentheses contain percentile rankings.
Calculation based on monthly periodicity.

Plan Sponsor Peer Group Analysis

KERS (H) Insurance Plan vs All Public Plans-Total Fund

Periods Ended March 31, 2022



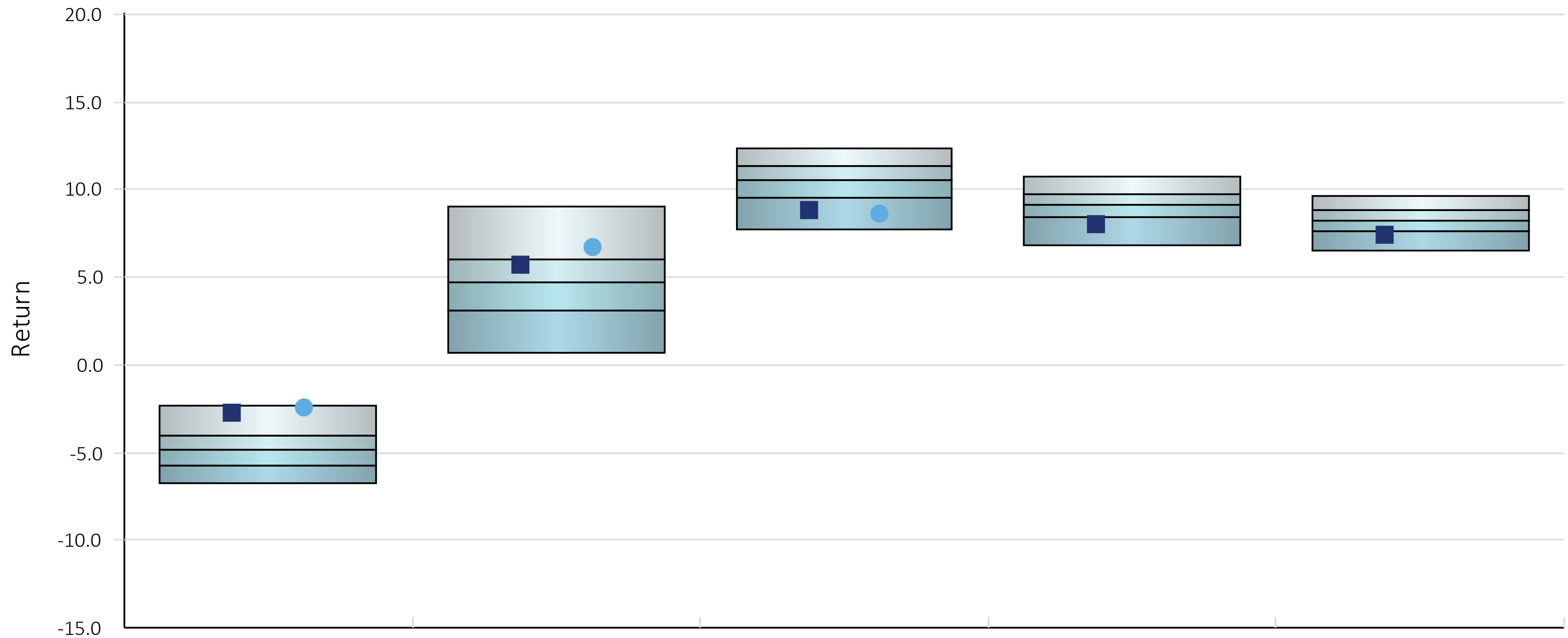
	QTD	1 Year	3 Years	5 Years	10 Years
KERS (H) Insurance Plan	-2.51 (6)	7.80 (10)	9.63 (75)	8.75 (62)	7.83 (69)
KERS (H) IPS Index	-2.00 (3)	8.82 (6)	9.81 (71)		
5th Percentile	-2.38	9.02	12.38	10.77	9.63
1st Quartile	-4.08	5.99	11.37	9.79	8.79
Median	-4.86	4.71	10.51	9.10	8.26
3rd Quartile	-5.71	3.11	9.59	8.39	7.65
95th Percentile	-6.78	0.69	7.73	6.85	6.56
Population	560	555	544	516	417

Parentheses contain percentile rankings.
Calculation based on monthly periodicity.

Plan Sponsor Peer Group Analysis

SPRS Pension Plan vs All Public Plans-Total Fund

Periods Ended March 31, 2022



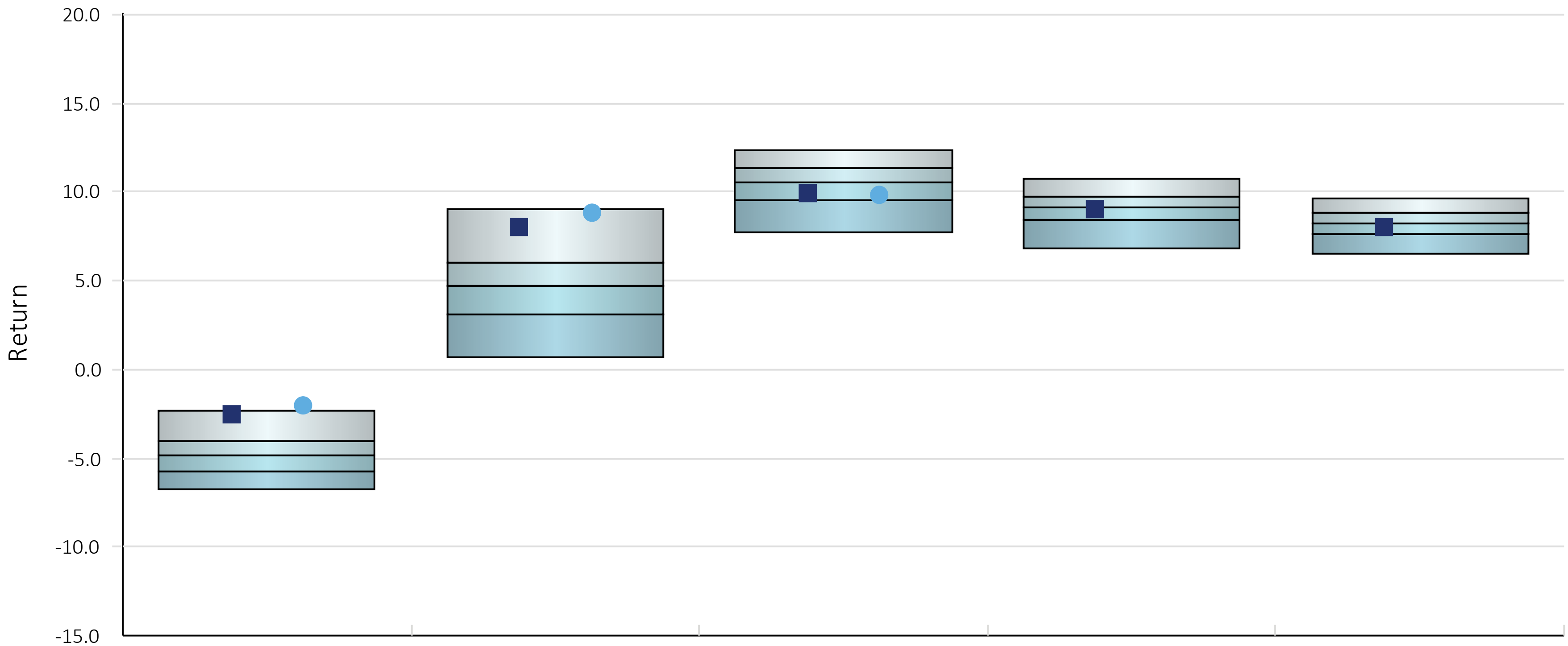
	QTD	1 Year	3 Years	5 Years	10 Years
SPRS Pension Plan	-2.71 (7)	5.67 (30)	8.80 (86)	8.02 (82)	7.39 (83)
SPRS IPS Index	-2.39 (6)	6.72 (17)	8.62 (89)		
5th Percentile	-2.38	9.02	12.38	10.77	9.63
1st Quartile	-4.08	5.99	11.37	9.79	8.79
Median	-4.86	4.71	10.51	9.10	8.26
3rd Quartile	-5.71	3.11	9.59	8.39	7.65
95th Percentile	-6.78	0.69	7.73	6.85	6.56
Population	560	555	544	516	417

Parentheses contain percentile rankings.
Calculation based on monthly periodicity.

Plan Sponsor Peer Group Analysis

SPRS Insurance Plan vs All Public Plans-Total Fund

Periods Ended March 31, 2022



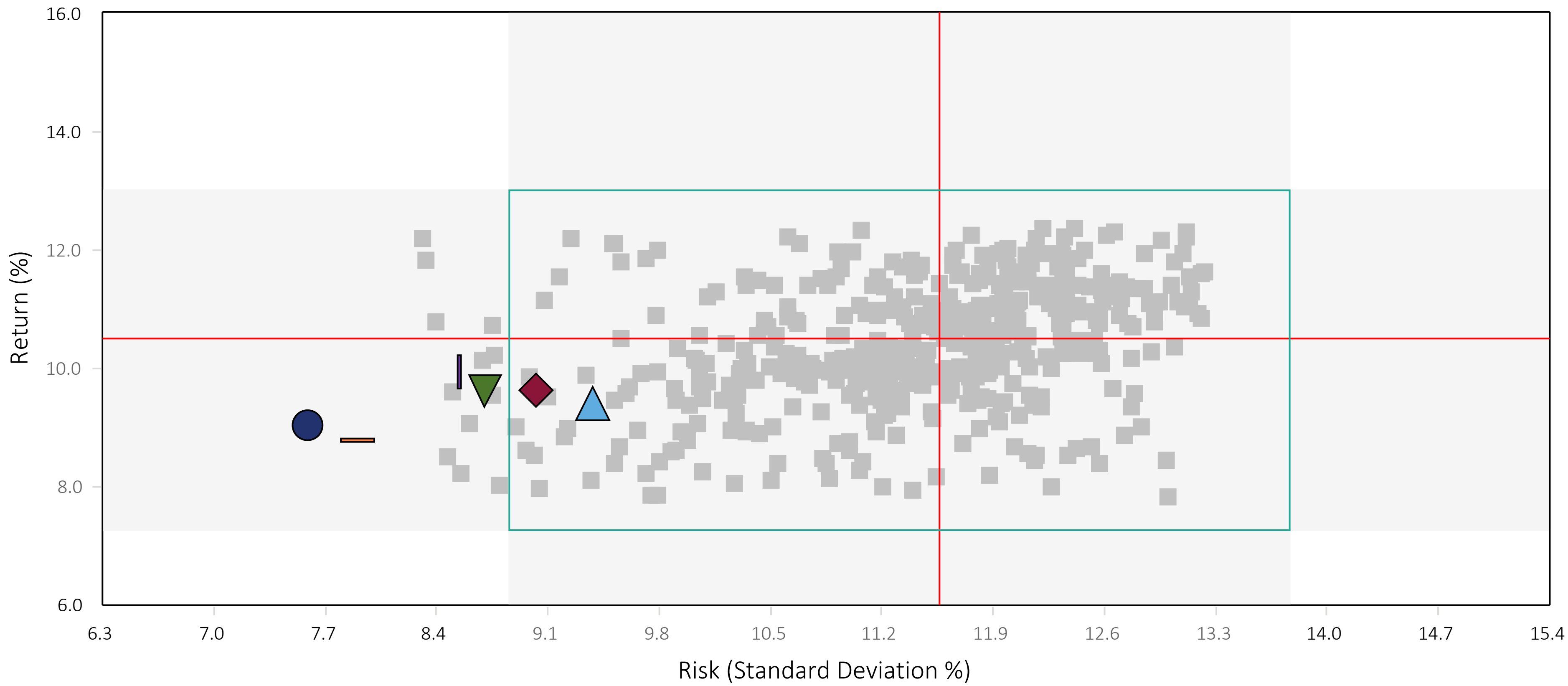
	QTD	1 Year	3 Years	5 Years	10 Years
SPRS Insurance Plan	-2.50 (6)	8.00 (8)	9.95 (67)	9.08 (51)	8.00 (61)
SPRS IPS Index	-2.04 (3)	8.82 (6)	9.88 (69)		
5th Percentile	-2.38	9.02	12.38	10.77	9.63
1st Quartile	-4.08	5.99	11.37	9.79	8.79
Median	-4.86	4.71	10.51	9.10	8.26
3rd Quartile	-5.71	3.11	9.59	8.39	7.65
95th Percentile	-6.78	0.69	7.73	6.85	6.56
Population	560	555	544	516	417

Parentheses contain percentile rankings.
Calculation based on monthly periodicity.

Plan Sponsor Scattergram

KERS Pension Plan vs All Public Plans-Total Fund

Periods Ended 3 Years Ending March 31, 2022



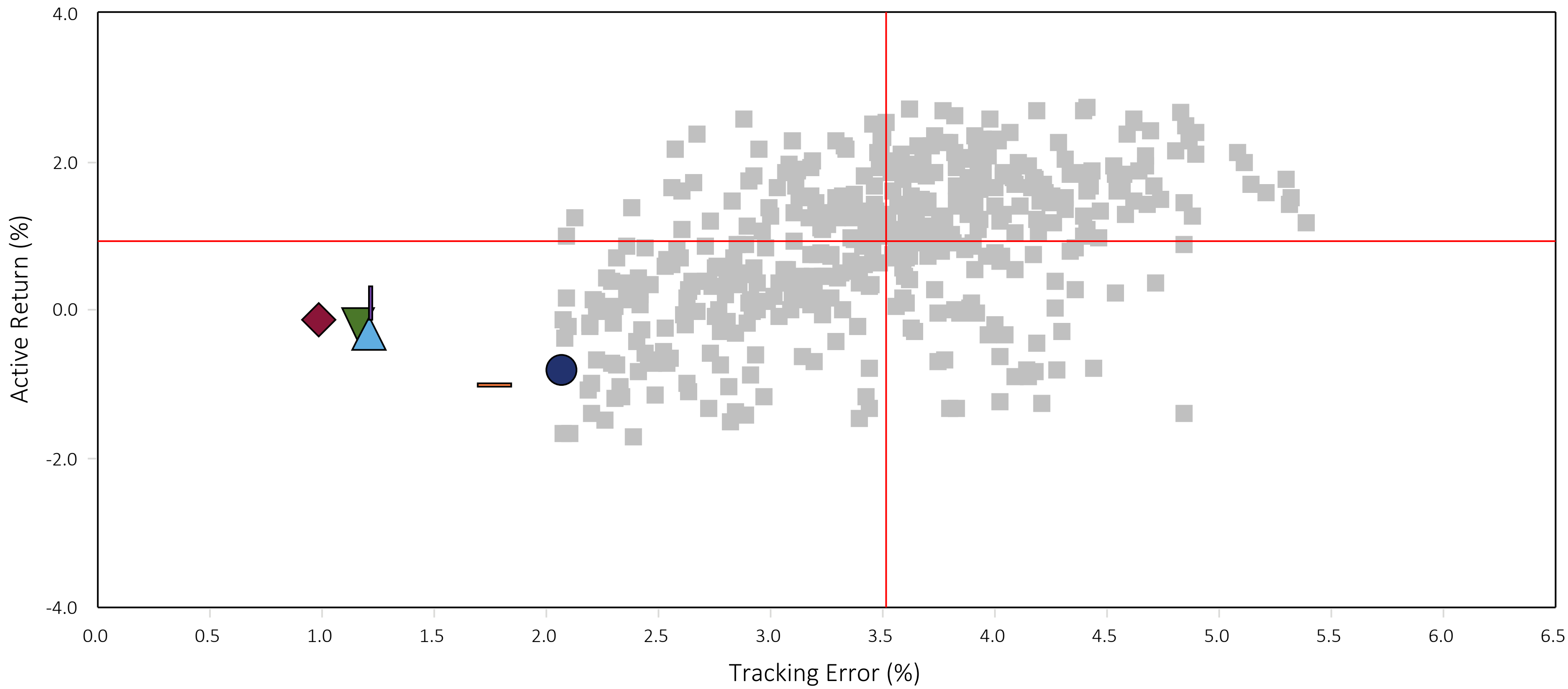
	Return	Standard Deviation
KERS Pension Plan	9.04	7.59
KERS Insurance Plan	9.40	9.38
KERS (H) Pension Plan	9.64	9.02
KERS (H) Insurance Plan	9.63	8.70
SPRS Pension Plan	8.80	7.90
SPRS Insurance Plan	9.95	8.54
Median	10.51	11.56

Calculation based on monthly periodicity.

Plan Sponsor Scattergram

KERS Pension Plan vs All Public Plans-Total Fund

Periods Ended 3 Years Ending March 31, 2022



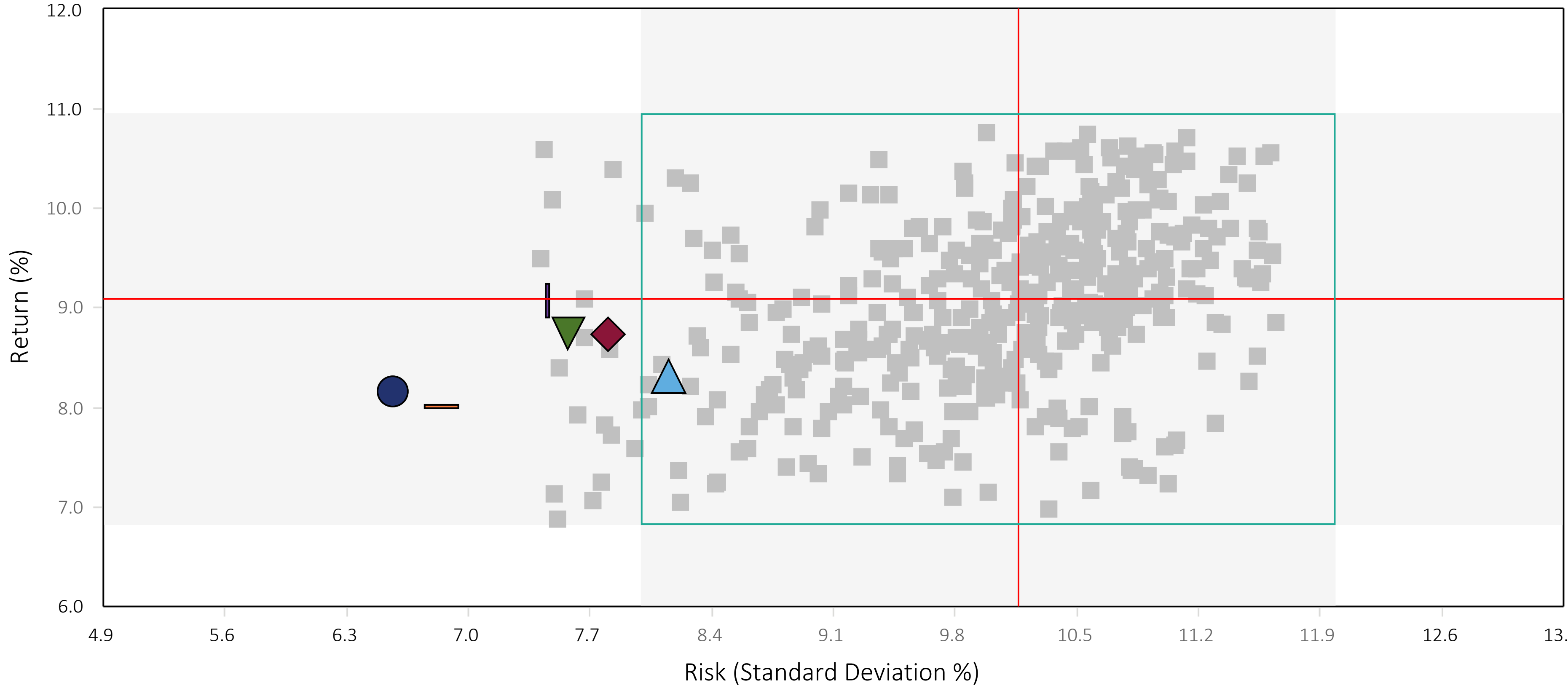
	Active Return	Tracking Error
KERS Pension Plan	-0.80	2.07
KERS Insurance Plan	-0.31	1.21
KERS (H) Pension Plan	-0.13	0.98
KERS (H) Insurance Plan	-0.17	1.15
SPRS Pension Plan	-1.00	1.77
SPRS Insurance Plan	0.11	1.22
Median	0.93	3.51

Calculation based on monthly periodicity.

Plan Sponsor Scattergram

KERS Pension Plan vs All Public Plans-Total Fund

Periods Ended 5 Years Ending March 31, 2022



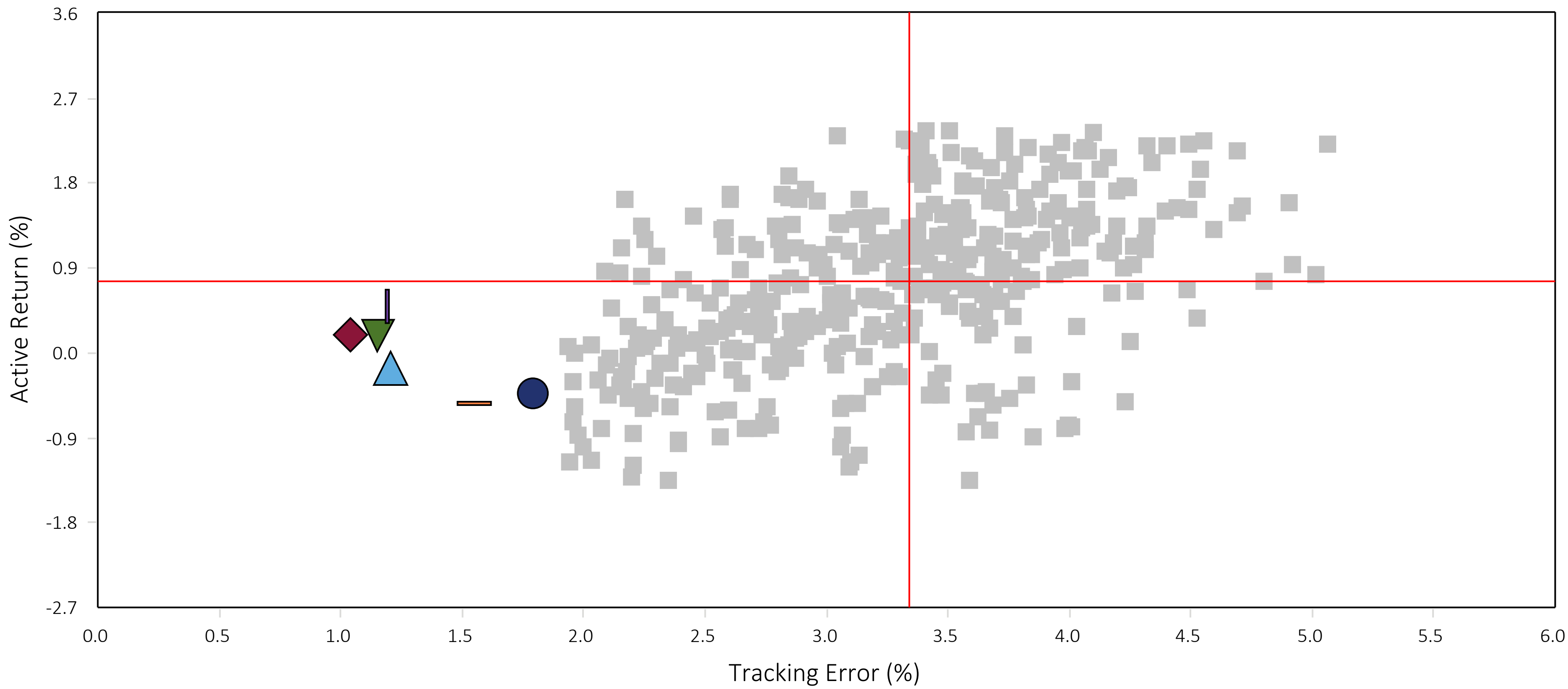
	Return	Standard Deviation
KERS Pension Plan	8.16	6.57
KERS Insurance Plan	8.31	8.15
KERS (H) Pension Plan	8.73	7.80
KERS (H) Insurance Plan	8.75	7.57
SPRS Pension Plan	8.02	6.84
SPRS Insurance Plan	9.08	7.45
Median	9.10	10.17

Calculation based on monthly periodicity.

Plan Sponsor Scattergram

KERS Pension Plan vs All Public Plans-Total Fund

Periods Ended 5 Years Ending March 31, 2022



	Active Return	Tracking Error
KERS Pension Plan	-0.42	1.79
KERS Insurance Plan	-0.17	1.20
KERS (H) Pension Plan	0.20	1.04
KERS (H) Insurance Plan	0.20	1.15
SPRS Pension Plan	-0.54	1.55
SPRS Insurance Plan	0.49	1.20
Median	0.76	3.34

Calculation based on monthly periodicity.

Asset Allocation & Performance

Total Fund

Periods Ended March 31, 2022

	Market Value $	Performance (%) net of fees							
		1 Month	QTD	FYTD	1 Year	3 Years	5 Years	Since Inception	Inception Date
KERS Pension Plan	**3,176,183,176**	**0.35**	**-2.64**	**0.67**	**6.01**	**9.04**	**8.16**	**8.97**	**4/1/1984**
KERS IPS Index		0.99	-2.40	1.20	6.95	8.78			
Value Added		-0.64	-0.24	-0.53	-0.94	0.26			
Assumed Rate 5.25%		0.43	1.29	3.91	5.25	5.25			
Value Added		-0.08	-3.93	-3.24	0.76	3.79			
KERS Insurance Plan	**1,389,028,653**	**0.90**	**-3.05**	**0.90**	**6.10**	**9.40**	**8.31**	**7.46**	**4/1/1987**
KERS IPS Index		1.81	-1.98	3.11	9.10	9.90			
Value Added		-0.91	-1.07	-2.21	-3.00	-0.50			
Assumed Rate 6.25%		0.51	1.53	4.65	6.25	6.25			
Value Added		0.39	-4.58	-3.75	-0.15	3.15			
KERS (H) Pension Plan	**880,776,837**	**0.95**	**-2.90**	**1.43**	**6.99**	**9.64**	**8.73**	**9.08**	**4/1/1984**
KERS (H) IPS Index		1.73	-2.08	2.92	8.97	10.04			
Value Added		-0.78	-0.82	-1.49	-1.98	-0.40			
Assumed Rate 6.25%		0.51	1.53	4.65	6.25	6.25			
Value Added		0.44	-4.43	-3.22	0.74	3.39			
KERS (H) Insurance Plan	**625,937,357**	**1.13**	**-2.51**	**2.35**	**7.80**	**9.63**	**8.75**	**7.56**	**4/1/1987**
KERS (H) IPS Index		1.80	-2.00	3.28	8.82	9.81			
Value Added		-0.67	-0.51	-0.93	-1.02	-0.18			
Assumed Rate 6.25%		0.51	1.53	4.65	6.25	6.25			
Value Added		0.62	-4.04	-2.30	1.55	3.38			

Asset Allocation & Performance

Total Fund

Periods Ended March 31, 2022

	Market Value $	Performance (%) net of fees							
		1 Month	QTD	FYTD	1 Year	3 Years	5 Years	Since Inception	Inception Date
SPRS Pension Plan	352,246,009	0.42	-2.71	0.83	5.67	8.80	8.02	8.93	4/1/1984
SPRS IPS Index		1.00	-2.39	1.50	6.72	8.62			
Value Added		-0.58	-0.32	-0.67	-1.05	0.18			
Assumed Rate 5.25%		0.43	1.29	3.91	5.25	5.25			
Value Added		-0.01	-4.00	-3.08	0.42	3.55			
SPRS Insurance Plan	247,435,683	1.14	-2.50	2.49	8.00	9.95	9.08	7.61	4/1/1987
SPRS IPS Index		1.79	-2.04	3.30	8.82	9.88			
Value Added		-0.65	-0.46	-0.81	-0.82	0.07			
Assumed Rate 6.25%		0.51	1.53	4.65	6.25	6.25			
Value Added		0.63	-4.03	-2.16	1.75	3.70			

Asset Allocation & Performance

Pension Plan Accounts

Periods Ended March 31, 2022

	Performance (%) net of fees							
	1 Month	QTD	FYTD	1 Year	3 Years	5 Years	Since Inception	Inception Date
GROWTH								
US Equity Composite	**2.79**	**-5.18**	**3.30**	**11.35**	**17.82**	**14.72**	**11.72**	**4/1/1984**
Russell 3000 Index	3.24	-5.28	3.40	11.92	18.24	15.40	11.63	
Value Added	-0.45	0.10	-0.10	-0.57	-0.42	-0.68	0.09	
S&P 500 Index	**3.75**	**-4.57**	**6.44**	**15.47**	**19.24**	**16.23**	**9.01**	**7/1/2001**
S&P 500 Index	3.71	-4.60	6.54	15.65	18.92	15.99	8.62	
Value Added	0.04	0.03	-0.10	-0.18	0.32	0.24	0.39	
Scientific Beta	**2.69**	**-4.49**	**3.97**	**11.35**	**14.07**	**12.44**	**12.79**	**7/1/2016**
S&P 500 Index	3.71	-4.60	6.54	15.65	18.92	15.99	16.45	
Value Added	-1.02	0.11	-2.57	-4.30	-4.85	-3.55	-3.66	
River Road FAV	**0.24**	**-6.26**	**-5.07**	**-0.22**	**8.61**	**9.38**	**11.85**	**7/1/2016**
Russell 3000 Value Index	2.77	-0.85	5.64	11.10	12.99	10.16	11.41	
Value Added	-2.53	-5.41	-10.71	-11.32	-4.38	-0.78	0.44	
Westfield Capital	**2.33**	**-7.35**	**0.61**	**11.47**	**23.01**	**20.14**	**15.46**	**7/1/2011**
Russell 3000 Growth Index	3.71	-9.25	1.33	12.86	22.68	20.16	16.36	
Value Added	-1.38	1.90	-0.72	-1.39	0.33	-0.02	-0.90	
Internal US Mid Cap	**1.30**	**-4.90**	**0.91**	**4.47**	**14.60**	**11.71**	**11.28**	**8/1/2014**
S&P MidCap 400 Index	1.38	-4.88	0.92	4.59	14.14	11.10	10.94	
Value Added	-0.08	-0.02	-0.01	-0.12	0.46	0.61	0.34	
NTGI Structured	**0.72**	**-6.38**	**-4.50**	**-0.30**	**13.44**	**11.24**	**10.41**	**10/1/1999**
Russell 2000 Index	1.24	-7.53	-9.66	-5.79	11.74	9.74	8.69	
Value Added	-0.52	1.15	5.16	5.49	1.70	1.50	1.72	
Next Century Growth	**-0.54**	**-11.14**	**-8.21**	**2.16**			**46.41**	**11/1/2019**
Russell Microcap Growth Index	0.84	-13.71	-27.80	-25.51			14.99	
Value Added	-1.38	2.57	19.59	27.67			31.42	

Pension Plan composite used for representative manager returns. Individual plan results may vary slightly due to cash flows.

Asset Allocation & Performance

Pension Plan Accounts

Periods Ended March 31, 2022

	Performance (%) net of fees							
	1 Month	QTD	FYTD	1 Year	3 Years	5 Years	Since Inception	Inception Date
Non-US Equity Composite	**0.24**	**-8.22**	**-9.04**	**-3.71**	**8.23**	**7.90**	**3.85**	7/1/2000
MSCI ACWI ex US IMI (10/17)	0.28	-5.60	-6.50	-1.27	7.87	6.98	3.88	
Value Added	-0.04	-2.62	-2.54	-2.44	0.36	0.92	-0.03	
BlackRock World Ex US	**1.26**	**-4.69**	**-2.22**	**3.43**	**8.40**	**7.39**	**7.03**	7/1/2009
MSCI World ex US (11/19)	1.16	-4.81	-2.46	3.04	8.04	7.08	6.78	
Value Added	0.10	0.12	0.24	0.39	0.36	0.31	0.25	
American Century	**1.11**	**-13.59**	**-12.62**	**-6.19**	**13.77**	**13.15**	**7.59**	7/1/2014
MSCI ACWI ex US IMI (10/17)	0.28	-5.60	-6.50	-1.27	7.87	6.94	4.15	
Value Added	0.83	-7.99	-6.12	-4.92	5.90	6.21	3.44	
Franklin Templeton	**0.34**	**-15.00**	**-19.17**	**-12.84**	**7.32**	**8.70**	**6.34**	7/1/2014
MSCI ACWI ex US IMI (10/17)	0.28	-5.60	-6.50	-1.27	7.87	6.94	4.15	
Value Added	0.06	-9.40	-12.67	-11.57	-0.55	1.76	2.19	
Lazard Asset Mgmt	**-1.48**	**-6.26**	**-8.31**	**-4.38**	**6.63**	**7.43**	**4.60**	7/1/2014
MSCI ACWI ex US IMI (10/17)	0.28	-5.60	-6.50	-1.27	7.87	6.94	4.15	
Value Added	-1.76	-0.66	-1.81	-3.11	-1.24	0.49	0.45	
LSV Asset Mgmt	**0.07**	**-2.80**	**-3.05**	**2.03**	**6.26**	**5.60**	**3.64**	7/1/2014
MSCI ACWI ex US IMI (10/17)	0.28	-5.60	-6.50	-1.27	7.87	6.94	4.15	
Value Added	-0.21	2.80	3.45	3.30	-1.61	-1.34	-0.51	
Axiom	**1.07**	**-16.99**					**-13.23**	12/1/2021
MSCI AC World ex USA Small Cap (Net)	1.02	-6.52					-2.56	
Value Added	0.05	-10.47					-10.67	
JP Morgan Emerging Markets	**-3.49**	**-17.48**	**-25.96**	**-18.98**			**5.36**	11/1/2019
MSCI Emerging Markets IMI	-1.62	-6.59	-14.16	-9.18			7.46	
Value Added	-1.87	-10.89	-11.80	-9.80			-2.10	

Pension Plan composite used for representative manager returns. Individual plan results may vary slightly due to cash flows.

Asset Allocation & Performance

Pension Plan Accounts

Periods Ended March 31, 2022

	Performance (%) net of fees							
	1 Month	QTD	FYTD	1 Year	3 Years	5 Years	Since Inception	Inception Date
Pzena Emerging Markets	1.40	-0.53	-4.76	-4.03			8.73	11/1/2019
MSCI Emerging Markets (Net)	-2.26	-6.97	-15.62	-11.37			5.99	
Value Added	3.66	6.44	10.86	7.34			2.74	
High Yield / Specialty Credit Composite	-0.03	-0.47	3.04	6.00	6.29		6.16	10/1/2018
Policy Index	-0.55	-2.48	-0.79	1.30	4.42		4.19	
Value Added	0.52	2.01	3.83	4.70	1.87		1.97	
Adams St SPC II A	0.00	0.00	6.20	12.77			11.49	6/1/2020
Adams St SPC II B	0.00	0.00	7.19	14.70			13.25	6/1/2020
Blue Torch	2.95	2.95	9.87	11.53			8.04	8/1/2020
BSP Coinvestment	1.65	1.65	4.38	7.20			6.39	10/1/2019
S&P/LSTA Leverage Loan Index	0.05	-0.10	1.76	3.26			3.98	
Value Added	1.60	1.75	2.62	3.94			2.41	
BSP Private Credit	2.04	2.04	8.42	12.28	8.29		6.13	2/1/2018
S&P/LSTA Leverage Loan Index	0.05	-0.10	1.76	3.26	4.23		3.87	
Value Added	1.99	2.14	6.66	9.02	4.06		2.26	
Capital Springs	2.86	2.86	5.45	7.32			9.77	2/1/2020
S&P/LSTA Leverage Loan Index	0.05	-0.10	1.76	3.26			3.52	
Value Added	2.81	2.96	3.69	4.06			6.25	
Cerberus Capital Mgmt	0.82	2.93	12.67	16.96	11.69	10.39	9.69	9/1/2014
S&P/LSTA Leverage Loan Index	0.05	-0.10	1.76	3.26	4.23	4.01	3.86	
Value Added	0.77	3.03	10.91	13.70	7.46	6.38	5.83	
Columbia	-0.74	-4.21	-2.62	0.06	4.92	4.91	6.25	11/1/2011
Blmbg. U.S. Corp: High Yield	-1.15	-4.84	-3.31	-0.66	4.58	4.69	6.09	
Value Added	0.41	0.63	0.69	0.72	0.34	0.22	0.16	

Pension Plan composite used for representative manager returns. Individual plan results may vary slightly due to cash flows.

Asset Allocation & Performance

Pension Plan Accounts

Periods Ended March 31, 2022

	Performance (%) net of fees							
	1 Month	QTD	FYTD	1 Year	3 Years	5 Years	Since Inception	Inception Date
Manulife Asset Mgmt	**-0.58**	**-3.81**	**-3.72**	**-2.23**	**5.12**	**3.96**	**4.22**	12/1/2011
Policy Index	-2.68	-6.11	-6.07	-4.23	1.85	2.31	1.63	
Value Added	2.10	2.30	2.35	2.00	3.27	1.65	2.59	
Marathon Bluegrass	**-0.99**	**-0.65**	**5.57**	**10.05**	**6.80**	**5.66**	**7.18**	1/1/2016
Blmbg. U.S. Corp: High Yield	-1.15	-4.84	-3.31	-0.66	4.58	4.69	6.85	
Value Added	0.16	4.19	8.88	10.71	2.22	0.97	0.33	
Shenkman Capital	**0.05**	**-0.48**	**1.07**	**2.51**	**3.87**	**3.79**	**4.43**	10/1/2010
S&P/LSTA Leverage Loan Index	0.05	-0.10	1.76	3.26	4.23	4.01	4.48	
Value Added	0.00	-0.38	-0.69	-0.75	-0.36	-0.22	-0.05	
Waterfall	**-2.75**	**-0.14**	**4.27**	**8.02**	**4.58**	**6.55**	**9.80**	2/1/2010
Policy Index	-0.81	-3.10	-2.24	-0.49	3.36	3.66	4.73	
Value Added	-1.94	2.96	6.51	8.51	1.22	2.89	5.07	
White Oak Yield Spectrum	**1.63**	**1.63**	**4.22**	**5.85**	**6.11**		**5.31**	3/1/2018
S&P/LSTA Leverage Loan Index	0.05	-0.10	1.76	3.26	4.23		3.90	
Value Added	1.58	1.73	2.46	2.59	1.88		1.41	
H/2 Credit Partner	**0.01**	**5.07**	**1.75**	**1.55**	**1.89**	**2.32**	**4.52**	7/1/2011
Mesa West Core Lend	**1.61**	**1.61**	**3.26**	**7.55**	**6.53**	**6.76**	**6.63**	5/1/2013
Mesa West IV	**2.66**	**2.66**	**8.42**	**11.35**	**8.09**	**7.01**	**6.89**	3/1/2017
Private Equity Composite	**3.92**	**4.38**	**20.84**	**41.09**	**21.20**	**18.36**	**12.62**	7/1/2002
KRS Short-Term PE Index	3.92	4.38	20.84	41.09	21.20	18.36	12.62	
Value Added	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Russell 3000 +3% 1 Quarter Lag	4.19	10.09	20.81	29.43	29.56	21.51	13.09	
Value Added	-0.27	-5.71	0.03	11.66	-8.36	-3.15	-0.47	

Pension Plan composite used for representative manager returns. Individual plan results may vary slightly due to cash flows.

Asset Allocation & Performance

Pension Plan Accounts

Periods Ended March 31, 2022

	Performance (%) net of fees							
	1 Month	QTD	FYTD	1 Year	3 Years	5 Years	Since Inception	Inception Date
DIVERSIFYING STRATEGIES								
Real Return Composite	1.33	0.78	4.14	10.47	6.15	4.79	4.40	7/1/2011
Real Return (P)	1.33	0.78	4.14	10.47	6.15	4.37	3.62	
Value Added	0.00	0.00	0.00	0.00	0.00	0.42	0.78	
Putnam	-0.38	-5.74	-1.65	4.75			13.15	7/1/2020
Policy Index	0.68	-5.46	-0.80	4.57			12.93	
Value Added	-1.06	-0.28	-0.85	0.18			0.22	
Tortoise Capital	4.17	23.27	22.41	47.56	4.41	1.37	9.21	8/1/2009
Alerian MLP Index	2.05	18.81	12.64	36.56	2.70	-0.07	6.10	
Value Added	2.12	4.46	9.77	11.00	1.71	1.44	3.11	
Amerra AGRI Fund II	6.80	6.80	11.60	10.30	9.94	5.20	5.72	12/1/2012
Amerra AGRI Holdings	-1.72	-1.72	-1.14	-5.57	-1.61	-2.85	-1.72	8/1/2015
BTG Pactual	-3.56	-3.56	13.37	7.87	-0.54	-0.11	-4.84	12/1/2014
IFM Infrastructure	1.17	1.17	5.93	7.16			4.40	7/1/2019
Magnetar MTP EOF II	26.33	26.33	46.76	72.32	30.31	20.25	14.30	8/1/2015
Oberland Capital	1.91	1.91	11.33	11.65	18.54		14.38	8/1/2018
Taurus Mine Finance	10.95	10.95	21.43	17.92	2.85	5.93	9.33	4/1/2015
TPF II	36.78	36.78	36.35	20.90	11.21	7.02	-0.34	10/1/2008
Blackstone Strat Opp	1.22	1.20	3.86	6.13	-5.73		-2.78	8/1/2017
Luxor Capital	-0.04	-0.29	9.60	16.73	-6.48	1.84	-0.52	4/1/2014
Myriad Opportunities	-0.12	-42.82	-59.50	-58.52	-22.24	-12.80	-10.03	5/1/2016
Pine River	-0.69	0.02	0.57	2.67	11.94	6.62	4.23	5/1/2014

Pension Plan composite used for representative manager returns. Individual plan results may vary slightly due to cash flows.

Asset Allocation & Performance

Pension Plan Accounts

Periods Ended March 31, 2022

	Performance (%) net of fees							
	1 Month	QTD	FYTD	1 Year	3 Years	5 Years	Since Inception	Inception Date
PRISMA Capital	-0.24	-0.28	-0.74	-1.53	-0.08	1.42	2.58	9/1/2011
SRS Partners US	0.00	0.00	-0.57	8.77	10.04		9.73	8/1/2017
Tricadia Select	0.00	0.00	0.00	0.00	0.60		-5.43	9/1/2017
Real Estate Composite	2.08	7.18	20.12	26.01	13.69	11.78	6.69	7/1/1984
NCREIF ODCE NOF 1 Quarter Lag	7.66	7.66	18.78	21.02	8.23	7.74		
Value Added	-5.58	-0.48	1.34	4.99	5.46	4.04		
Baring	2.07	0.92	1.97	12.03	23.02		20.41	1/1/2019
Barings Euro RE II	10.04	8.21	32.19	9.23			-17.59	12/1/2020
Divcowest IV	18.97	18.97	37.58	45.43	17.61	17.98	20.34	3/1/2014
Fundamental Partners III	9.94	9.94	29.15	36.51	21.50		15.57	5/1/2017
Greenfield Acq VI	-10.81	-10.81	-40.61	-40.91	-45.91	-35.58	-16.73	12/1/2012
Greenfield Acq VII	16.18	16.18	33.42	33.79	21.68	18.36	15.78	7/1/2014
Harrison Street	0.00	2.67	6.47	8.02	6.40	7.39	7.97	5/1/2012
Lubert Adler VII	4.79	4.79	8.02	8.82	-3.81	2.34	-1.23	7/1/2014
Lubert Adler VII B	7.93	7.93	49.42	54.60	23.61		15.47	7/1/2017
Patron Capital	10.76	9.38	24.89	34.43	9.76	14.33	6.19	8/1/2016
Prologis Targeted US	0.00	13.63	41.94	48.54	23.58	21.45	18.75	10/1/2014
Rubenstein PF II	3.63	3.63	4.74	5.04	-1.10	5.27	8.57	7/1/2013
Stockbridge Sm/Mkts	0.00	6.17	14.02	22.39	10.33	9.52	9.70	5/1/2014
Walton St RE VI	8.36	8.36	13.78	19.20	2.35	3.73	-12.77	5/1/2009

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Asset Allocation & Performance

Pension Plan Accounts

Periods Ended March 31, 2022

	Performance (%) net of fees							
	1 Month	QTD	FYTD	1 Year	3 Years	5 Years	Since Inception	Inception Date
Walton St RE VII	2.08	2.08	9.77	12.91	-2.82	0.53	6.13	7/1/2013
LIQUIDITY								
Core Fixed Composite	-1.71	-3.31	-3.45	-2.66	2.58		3.28	10/1/2018
Blmbg. U.S. Aggregate	-2.78	-5.93	-5.87	-4.15	1.69		2.76	
Value Added	1.07	2.62	2.42	1.49	0.89		0.52	
Loomis Sayles Intmd	-2.58	-4.89	-5.40	-4.54	1.73		2.13	2/1/2019
Blmbg. U.S. Intermediate Aggregate	-2.51	-4.69	-5.12	-4.38	1.19		1.58	
Value Added	-0.07	-0.20	-0.28	-0.16	0.54		0.55	
Lord Abbett	-1.36	-2.61	-2.68	-2.01	1.68		2.20	10/1/2018
ICE BofAML 1-3 Year U.S. Corporate	-1.67	-3.16	-3.52	-3.19	1.45		2.00	
Value Added	0.31	0.55	0.84	1.18	0.23		0.20	
NISA	-2.83	-5.90	-5.88	-4.05	2.13	2.45	3.57	2/1/2009
Blmbg. U.S. Aggregate	-2.78	-5.93	-5.87	-4.15	1.69	2.14	3.32	
Value Added	-0.05	0.03	-0.01	0.10	0.44	0.31	0.25	
Cash Composite	0.01	0.02	0.07	0.08	0.91	1.31	3.33	1/1/1988
FTSE 3 Month T-Bill	0.02	0.03	0.05	0.06	0.76	1.09	2.91	
Value Added	-0.01	-0.01	0.02	0.02	0.15	0.22	0.42	
OPPORTUNISTIC								
Arrowmark	0.91	1.73	7.97	11.30	8.97		9.19	6/1/2018
S&P/LSTA Leverage Loan Index	0.05	-0.10	1.76	3.26	4.23		3.92	
Value Added	0.86	1.83	6.21	8.04	4.74		5.27	

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