



**County Employees Retirement System  
Investment Committee – Regular Meeting  
August 31, 2022 at 2:00 PM ET  
Live Video Conference/Facebook Live**

**AGENDA**

- |   |  |
|---|--|
| <b>1. Call to Order</b>                           | <b>Merl Hackbart</b>                                     |
| <b>2. Opening Statement</b>                       | <b>Legal Services</b>                                    |
| <b>3. Roll Call</b>                               | <b>Sherry Rankin</b>                                     |
| <b>4. Public Comment</b>                          | <b>Sherry Rankin</b>                                     |
| <b>5. Approval of Minutes* -- May 25, 2022</b>    | <b>Merl Hackbart</b>                                     |
| <b>6. Quarterly Performance Report - Wilshire</b> | <b>David Lindberg<br/>Craig Morton<br/>Chris Tessman</b> |
| <b>7. Investment Office Update</b>                | <b>Steve Willer</b>                                      |
| <b>8. Initial Trust Budget</b>                    | <b>Steve Willer</b>                                      |
| <b>9. Staffing Update</b>                         | <b>Dave Eager<br/>Steve Willer</b>                       |
| <b>10. Adjourn*</b>                               | <b>Merl Hackbart</b>                                     |

***\*Committee Action May Be Taken***

**MINUTES OF MEETING  
COUNTY EMPLOYEES RETIREMENT SYSTEM  
INVESTMENT COMMITTEE MEETING  
MAY 25, 2022, 2:00 P.M., E.T.  
VIA LIVE VIDEO TELECONFERENCE**

At the May 25, 2022 County Employees Retirement System' (CERS) Investment Committee Meeting, the following Committee members were present: Dr. Merl Hackbart (Chair), George Cheatham, II, Dr. Martin Milkman, William O'Mara, and Jerry Powell. Staff members present were David Eager, Steven Herbert, Victoria Hale, Rebecca Adkins, Joseph Gilbert, Jared Crawford, Sherry Rankin, and Shaun Case. Also in attendance were CERS CEO, Ed Owens, III, and David Lindberg and Craig Morton of Wilshire.

Dr. Hackbart called the meeting to order.

Ms. Hale read the legal opening statement.

Ms. Rankin took Roll Call.

There being no public comment, Dr. Hackbart introduced agenda item *Approval of Minutes – December 10, 2021 and April 22, 2022*. A motion was made by Mr. Powell and seconded by Mr. O'Mara to approve the December 10, 2021 minutes as presented. The motion passed unanimously. A motion was made by Mr. Milkman and seconded by Mr. Powell to approve the April 22, 2022 minutes as presented. The motion passed unanimously.

Dr. Hackbart introduced agenda item *Quarterly Performance Report*. Mr. Morton of Wilshire reviewed the informational Capital Market Update with the Committee. Mr. Lindberg of Wilshire presented a report on the CERS Pension Plan Asset Allocation Compliance as of March 31, 2022. In his presentation, Mr. Lindberg stated that the CERS Pension Plan is more conservative than most public pension plans. Mr. Milkman asked if this should be a long-term concern. Mr. Lindberg stated that asset allocation was recently revisited and an asset-only study was completed. He recommended that a full asset liability study be conducted in the near future to review the plan and asset allocation on a deeper level. This presentation was for informational purposes only.

Dr. Hackbart introduced agenda item *Investment Office Update*. Mr. Steven Herbert briefly presented on the KPPA Monthly Performance Update to the Investment Committee. Mr. Herbert informed the Committee that he is currently conducting a Real Estate Fund Search and a Commodity Search with the assistance of Wilshire. These findings are targeted to be presented to the Committee at the next Investment Committee meeting.

Dr. Hackbart introduced agenda item *Preliminary Strategic Plan Discussion*. The Committee is in the preliminary stages of creating a strategic plan for CERS. Dr. Hackbart stated that there will be several components to the strategic plan. Dr. Hackbart reviewed the five goals that have been identified; (1) develop a full-day in person training curriculum for committee members to interact with various industry professionals; (2) advice and consent with KPPA in the hiring of a complete Investment Office team thereby allowing more functionality to be brought in-house; (3) strengthen the collaboration between the investment committee and the investment consultant; (4) strengthen quarterly investment performance reporting to the CERS Investment Committee; and (5)

strengthen quarterly compliance reporting to the CERS Investment Committee. Mr. Ed Owens thanked Dr. Hackbart for his work on the Preliminary Strategic Plan and stated that he would like to have a conversation with each Committee member to discuss additional goals and modifications to the plan. Input of all Committee members will be included before final presentation to the CERS Board. Mr. Eager requested that Dr. Hackbart work cooperatively with the KRS Board to ensure alignment.

A motion was made by Mr. Powell and seconded by Mr. O'Mara to adjourn the meeting. The motion passed unanimously.

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## CERTIFICATION

I do certify that I was present at this meeting and I have recorded above the action of the Committee on the various items considered by it at this meeting. Further, I certify that all requirements of KRS 61.805-61.850 were met in connection with this meeting.

\_\_\_\_\_  
Recording Secretary

I, as Chair of the County Employees Retirement System Investment Committee of the Board of Trustees of the County Employees Retirement System, do certify that the Minutes of the meeting held on May 25, 2022 were approved by the County Employees Retirement System Investment Committee on August 31, 2022.

\_\_\_\_\_  
Committee Chair

I have reviewed the Minutes of the County Employees Retirement System Investment Committee Meeting on May 25, 2022 for form, content, and legality.

\_\_\_\_\_  
Office of Legal Services

# Wilshire

## Kentucky Public Pensions Authority County Employees Retirement System (CERS)

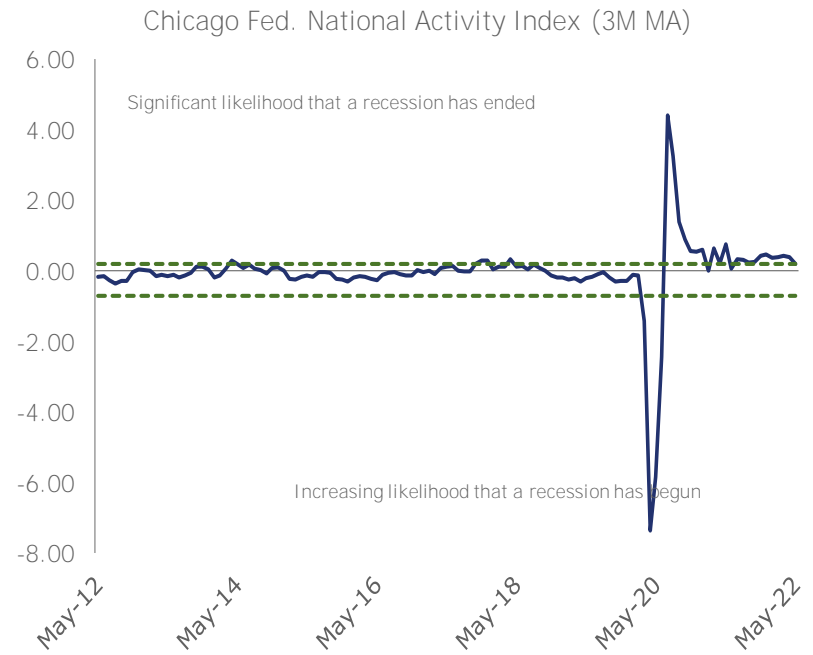
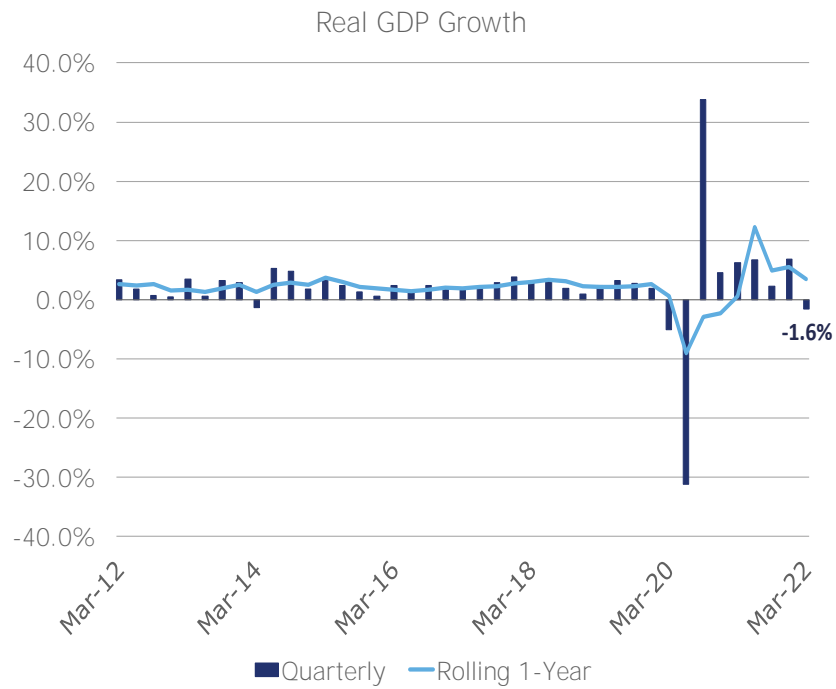
Quarterly Board Summary

*June 30, 2022*

# June 2022 Asset Class Assumptions

	Equity						Cash	Fixed Income				Dev ex-US Bond (Hdg)	Real Assets						
	US Stock	Dev ex-US Stock	Emg Stock	Global ex-US Stock	Global Stock	Private Equity		Core Bond	LT Core Bond	TIPS	High Yield		US RES	Global RES	Private RE	Cmdty	Real Assets	US CPI	
Compound Return (%)	6.00	7.00	7.00	7.25	6.60	10.05	3.15	4.05	4.30	3.15	6.25	2.20	5.20	5.35	6.50	5.50	6.75	2.35	
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 (%)	1.65	3.30	2.60	3.10	2.20	0.00	3.15	4.55	4.60	3.80	9.10	2.95	3.45	3.45	2.30	3.15	2.50	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	
<b>Correlations</b>																			
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	

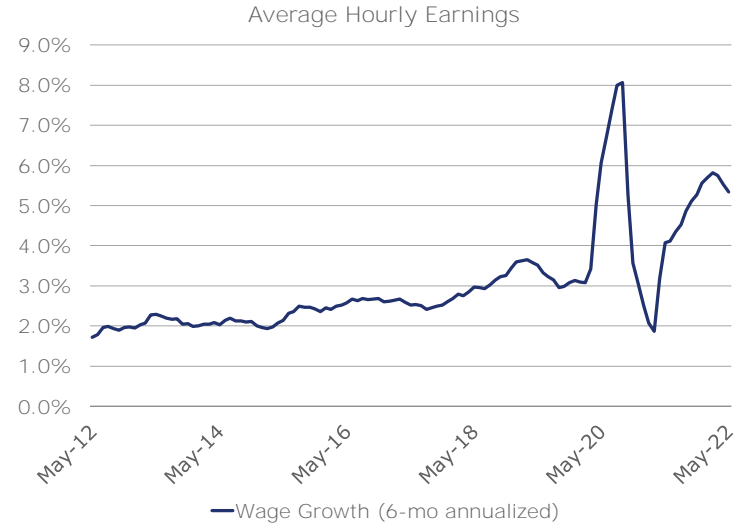
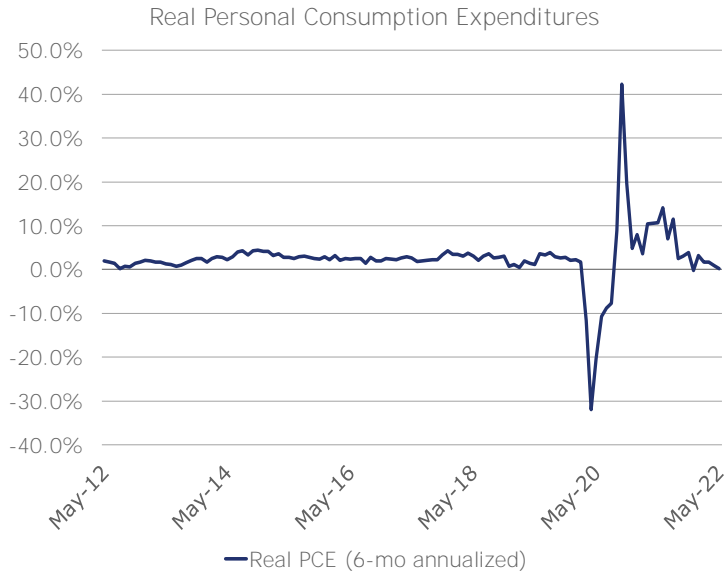
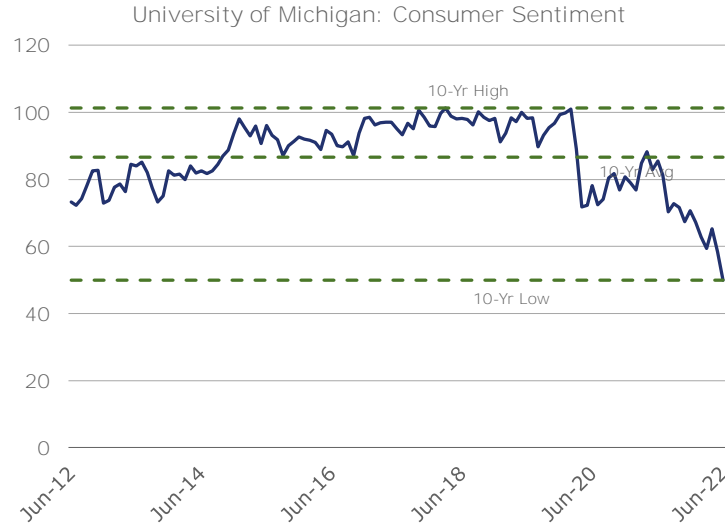
# Economic Growth



Data Sources: Bloomberg

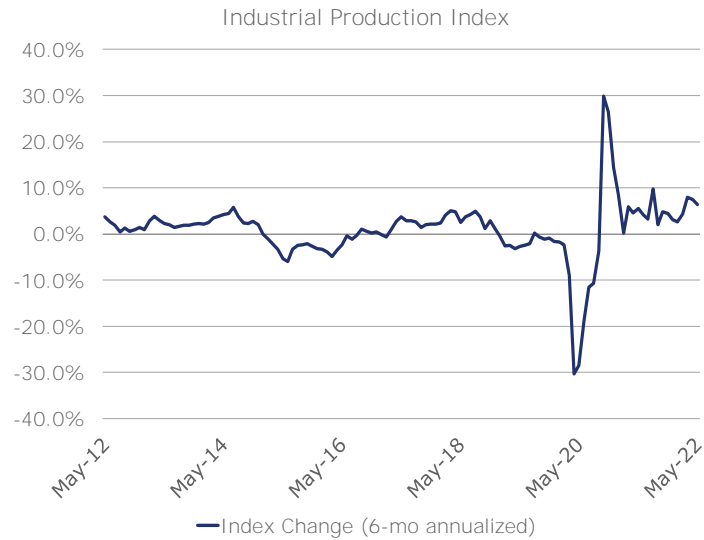
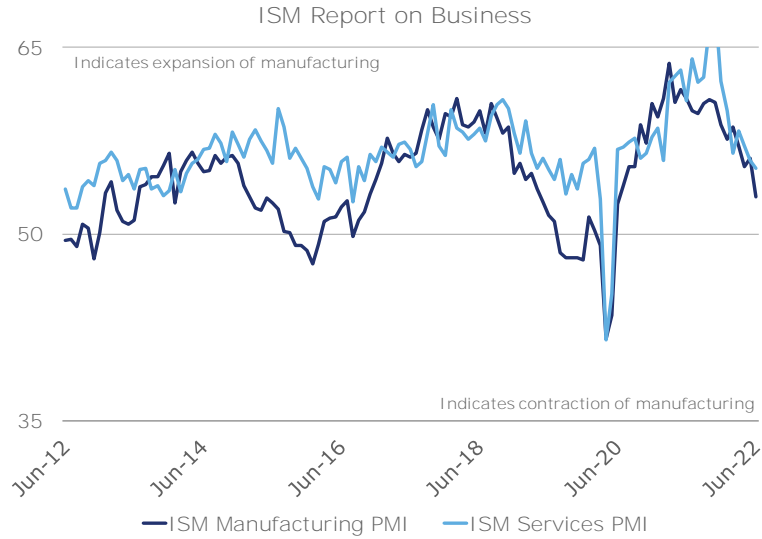


# Consumer Activity



Data Sources: Bloomberg

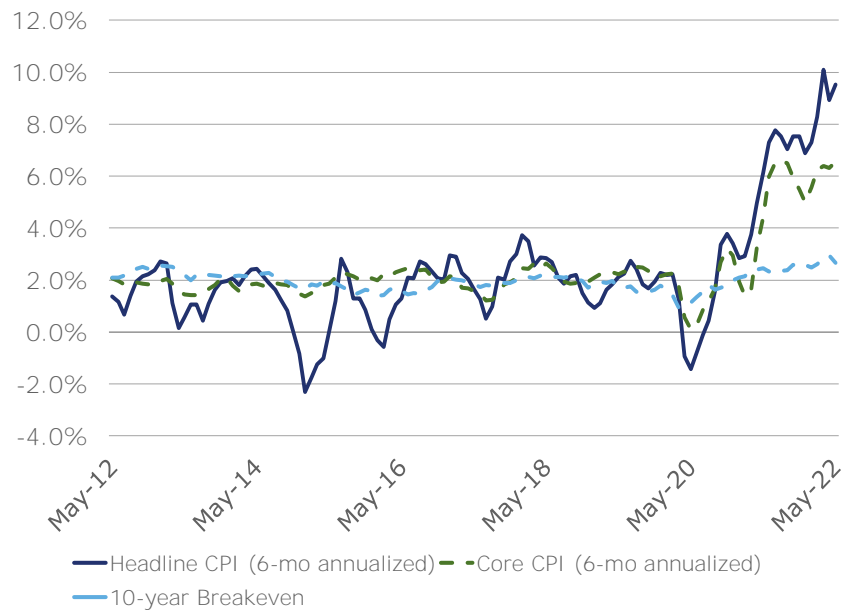
# Business Activity



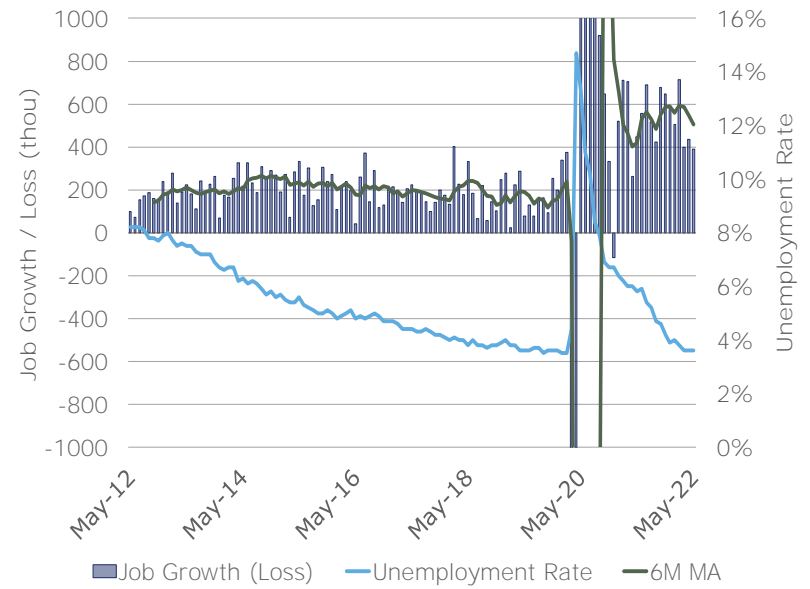
Data Sources: Bloomberg

# Inflation and Employment

Inflation: Actual & Expected

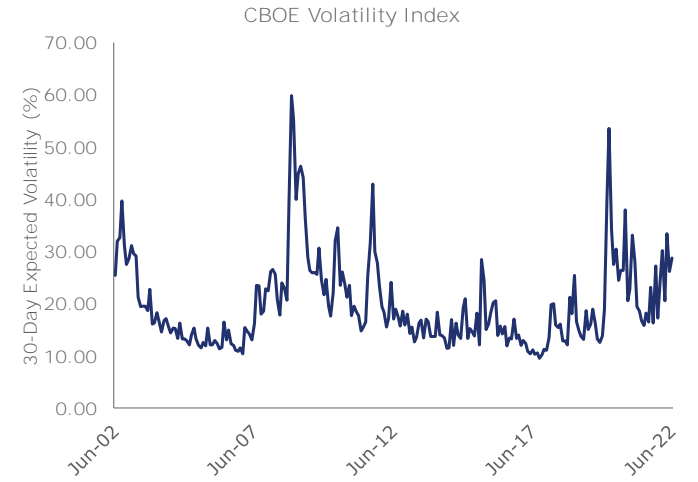
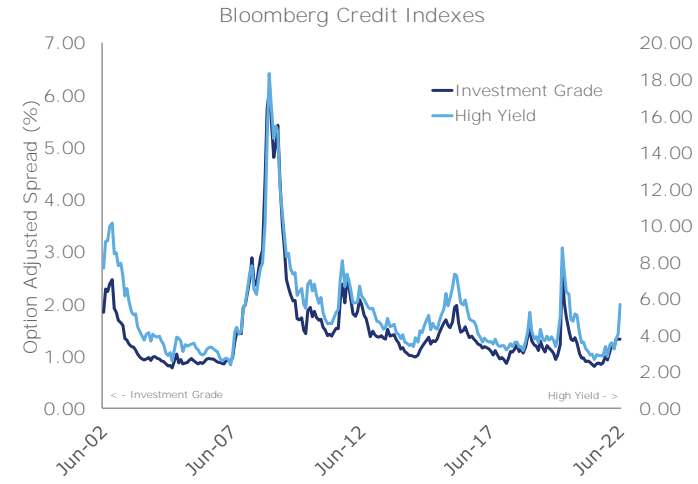
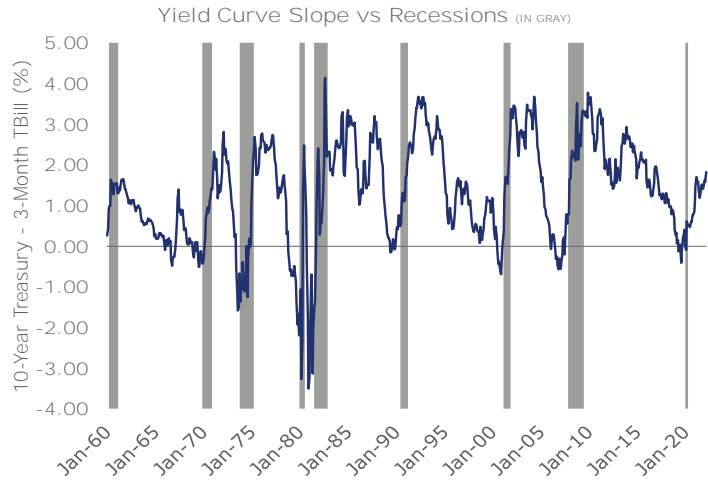


Employment Gains / Losses



Data Sources: Bloomberg

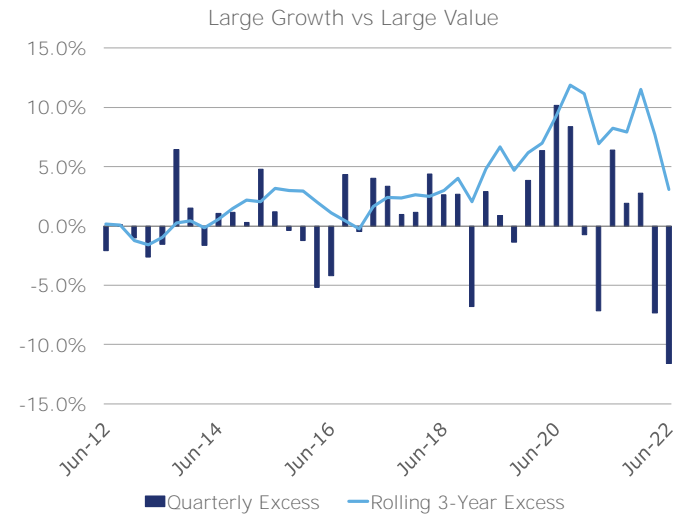
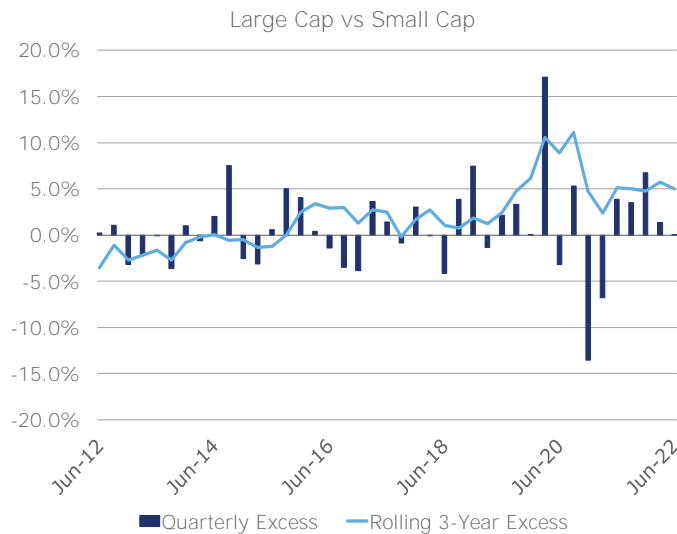
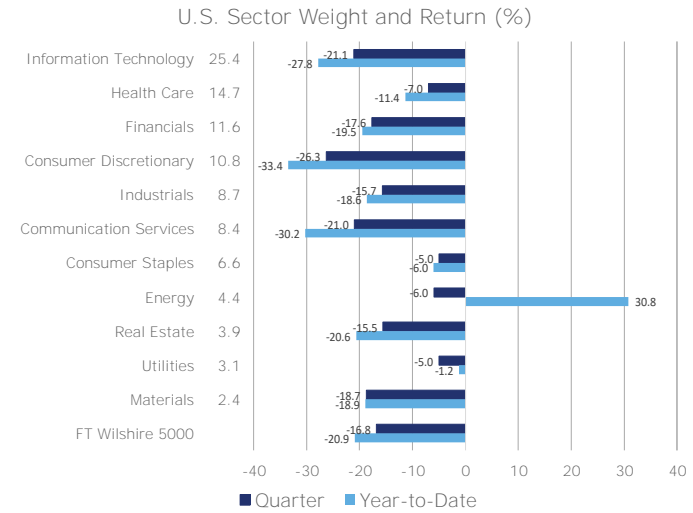
# Risk Monitor



Data Sources: Bloomberg

# U.S. Equity Market

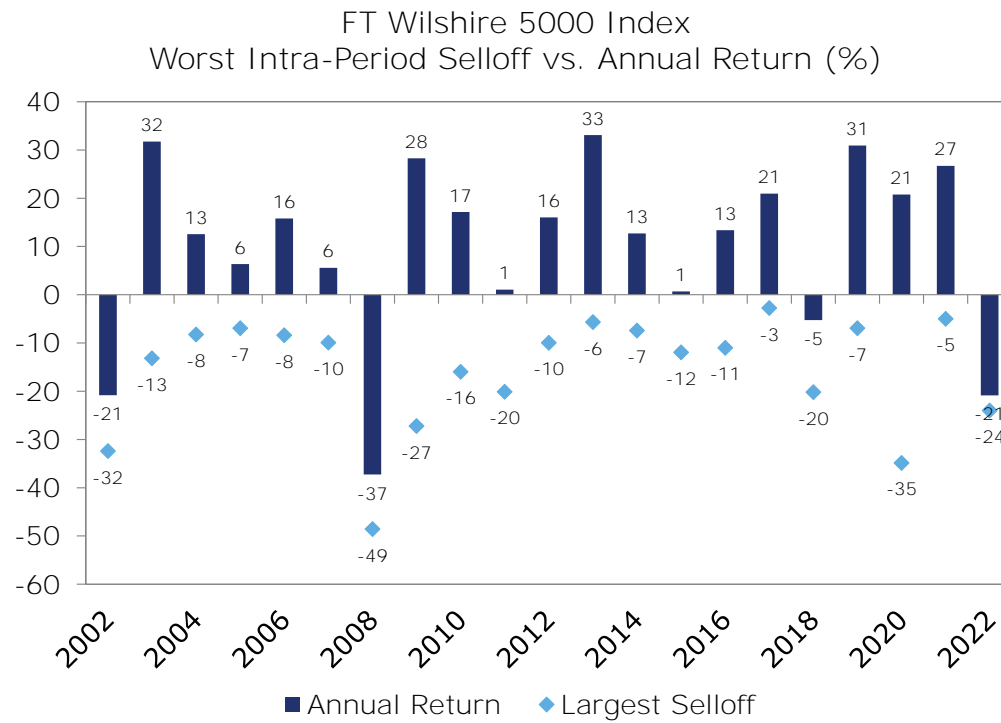
As of 6/30/2022	Quarter	YTD	1 Year	3 Year	5 Year	10 Year
FT Wilshire 5000	-16.8	-20.9	-13.2	10.2	10.8	12.7
Wilshire U.S. Large Cap	-16.8	-20.8	-12.3	10.7	11.3	13.0
Wilshire U.S. Small Cap	-16.8	-21.8	-21.7	5.4	6.1	10.1
Wilshire U.S. Large Growth	-21.4	-27.7	-18.3	12.2	13.2	14.5
Wilshire U.S. Large Value	-11.2	-11.8	-4.8	8.9	9.3	11.5
Wilshire U.S. Small Growth	-18.2	-26.7	-28.2	3.9	6.3	10.1
Wilshire U.S. Small Value	-15.5	-17.0	-14.6	6.8	5.7	10.0
Wilshire REIT Index	-18.5	-21.6	-6.7	4.0	5.3	7.3
MSCI USA Min. Vol. Index	-9.1	-12.6	-3.2	6.3	9.6	11.7
FTSE RAFI U.S. 1000 Index	-12.7	-12.7	-5.6	11.0	10.1	12.4



Data Sources: Bloomberg, Wilshire Atlas

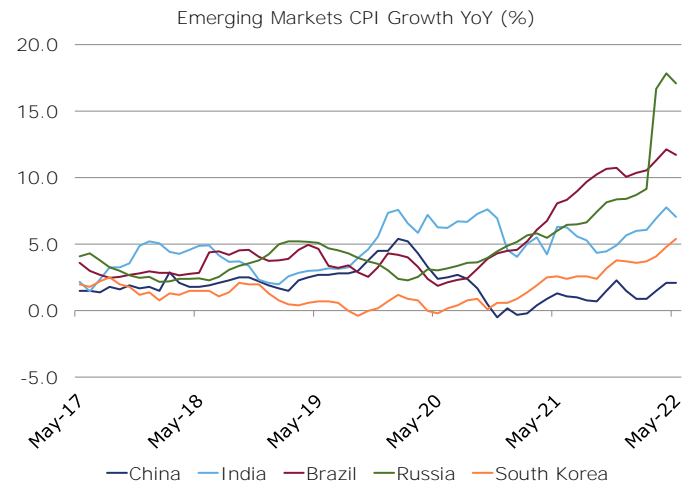
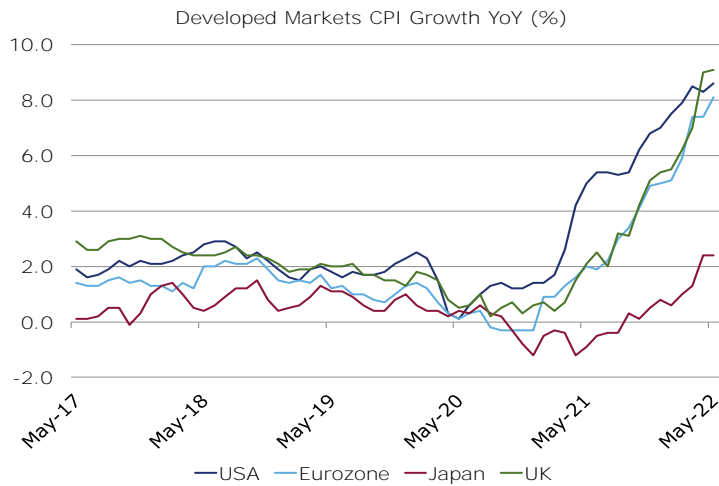
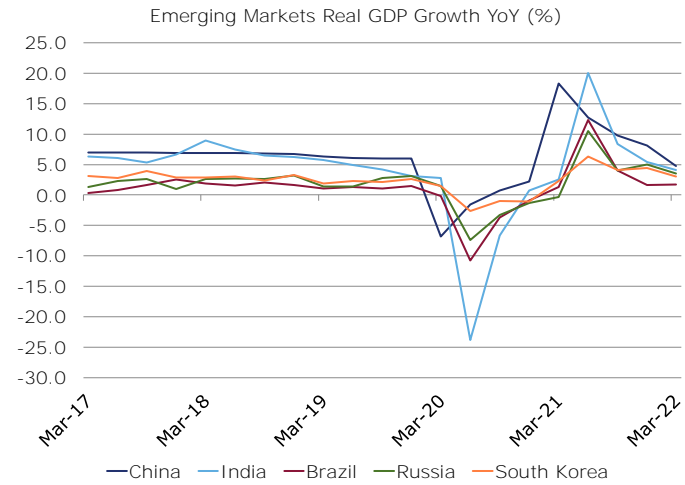
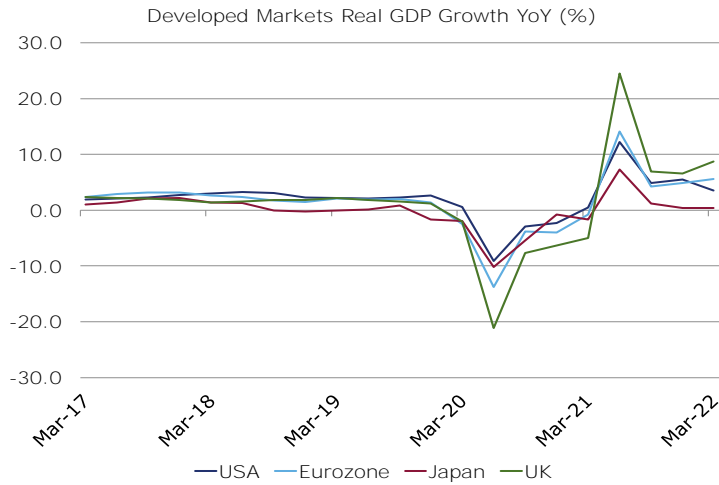
# Annual Equity Market Selloffs

U.S. equity has been selling-off all year, hitting its last market high on January 3<sup>rd</sup>



Data Sources: Wilshire Web, Bloomberg

# Non-U.S. Growth and Inflation

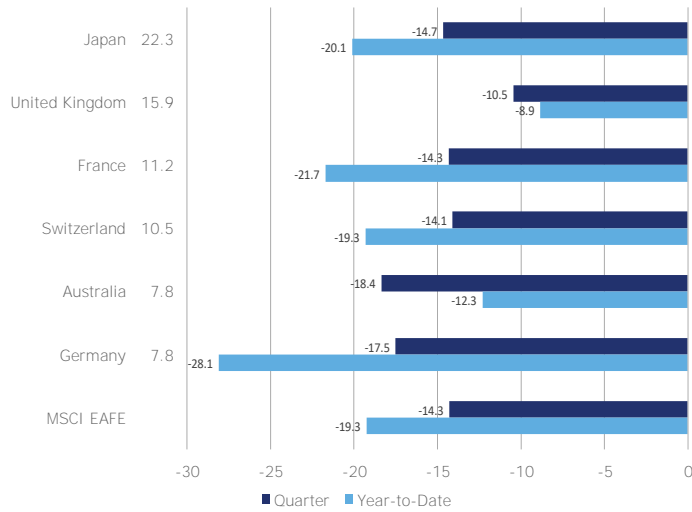


Data Sources: Bloomberg

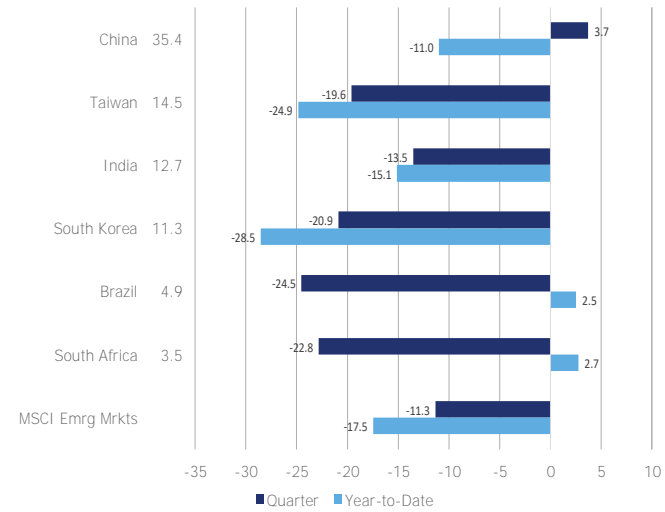
# Non-U.S. Equity Market

As of 6/30/2022	Quarter	YTD	1 Year	3 Year	5 Year	10 Year
MSCI ACWI ex-US (\$G)	-13.5	-18.2	-19.0	1.8	3.0	5.3
MSCI EAFE (\$G)	-14.3	-19.3	-17.3	1.5	2.7	5.9
MSCI Emerging Markets (\$G)	-11.3	-17.5	-25.0	0.9	2.5	3.4
MSCI Frontier Markets (\$G)	-18.2	-17.7	-14.7	-5.7	-1.7	1.3
MSCI ACWI ex-US Growth (\$G)	-15.6	-24.6	-25.6	1.9	3.8	6.1
MSCI ACWI ex-US Value (\$G)	-12.2	-12.3	-12.9	1.4	1.9	4.6
MSCI ACWI ex-US Small (\$G)	-17.4	-22.7	-22.1	3.4	3.0	6.6
MSCI ACWI Minimum Volatility	-9.1	-11.8	-5.9	3.5	6.3	8.6
MSCI EAFE Minimum Volatility	-11.6	-16.3	-14.0	-1.5	1.4	5.7
FTSE RAFI Developed ex-US	-13.4	-14.5	-13.2	2.8	2.6	5.8
MSCI EAFE LC (G)	-7.6	-10.9	-6.1	4.9	4.8	8.8
MSCI Emerging Markets LC (G)	-8.0	-13.5	-19.9	3.6	4.7	6.3

Developed Markets Weight and Return (%)



Emerging Markets Weight and Return (%)



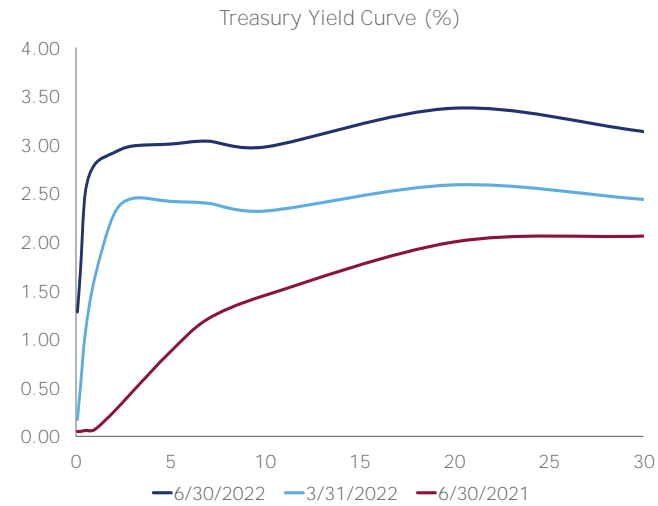
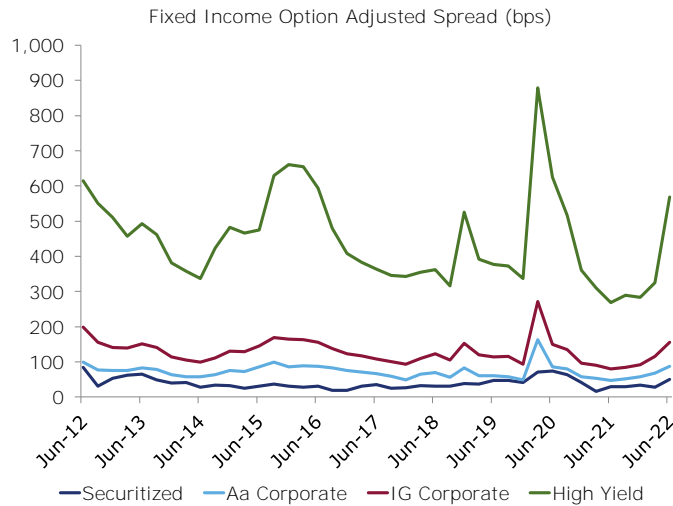
Data Sources: Bloomberg



# U.S. Fixed Income

As of 6/30/2022	YTW	DUR.	QTR	YTD	1 YR	3 YR	5 YR	10 YR
Bloomberg Aggregate	3.7	6.4	-4.7	-10.3	-10.3	-0.9	0.9	1.5
Bloomberg Treasury	3.1	6.4	-3.8	-9.1	-8.9	-0.9	0.7	1.0
Bloomberg Gov't-Rel.	3.7	5.4	-4.0	-9.2	-9.3	-0.8	1.0	1.6
Bloomberg Securitized	3.8	5.8	-3.9	-8.7	-9.0	-1.3	0.5	1.3
Bloomberg Corporate	4.7	7.6	-7.3	-14.4	-14.2	-1.0	1.3	2.6
Bloomberg LT Gov't/Credit	4.3	15.1	-12.3	-21.9	-20.1	-2.3	1.0	2.6
Bloomberg LT Treasury	3.3	17.2	-11.9	-21.3	-18.5	-2.9	0.5	1.6
Bloomberg LT Gov't-Rel.	4.8	12.2	-10.7	-19.4	-18.3	-2.8	1.0	2.6
Bloomberg LT Corporate	5.1	13.5	-12.8	-22.7	-21.7	-2.3	1.1	3.3
Bloomberg U.S. TIPS *	3.0	8.0	-6.1	-8.9	-5.1	3.0	3.2	1.7
Bloomberg High Yield	8.9	4.3	-9.8	-14.2	-12.8	0.2	2.1	4.5
S&P/LSTA Leveraged Loan	6.9	0.3	-4.5	-4.6	-2.8	2.1	2.9	3.7
Treasury Bills	1.8	0.3	0.1	0.0	0.0	0.6	1.1	0.6

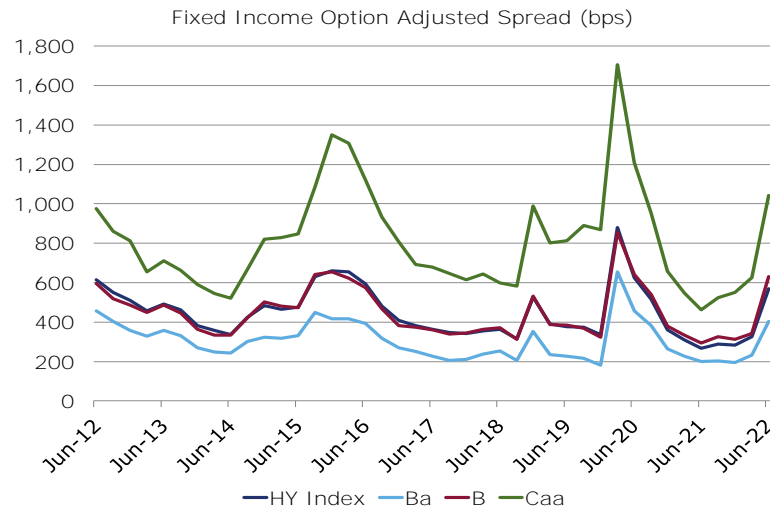
\* Yield and Duration statistics are for a proxy index based on similar maturity, the Bloomberg Barclays U.S. Treasury 7-10 Year Index



Data Sources: Bloomberg

# High Yield Bond Market

As of 6/30/2022		YTW	QTR	YTD	1 YR	3 YR	5 YR	10 YR
Bloomberg High Yield		8.9	-9.8	-14.2	-12.8	0.2	2.1	4.5
S&P LSTA Leveraged Loan		4.4	-5.3	-5.5	-4.2	1.4	2.4	3.3
<b>High Yield Quality Distribution</b>	<b>Weight</b>							
Ba U.S. High Yield	52.3%	7.2	-8.4	-13.9	-12.3	1.2	2.8	4.8
B U.S. High Yield	36.1%	9.5	-10.8	-13.9	-12.7	-0.5	1.8	4.0
Caa U.S. High Yield	11.4%	13.6	-13.0	-16.4	-15.3	-1.8	0.3	4.3
Ca to D U.S. High Yield	0.3%	42.3	-15.7	-18.9	-29.2	-6.8	-1.2	-4.5



Data Sources: Bloomberg

# Asset Class Performance

Asset Class Returns - Best to Worst

2017	2018	2019	2020	2021	2022 YTD	Annualized 5-Year as of 6/22
Emrg Mrkts 37.7%	T-Bills 1.9%	U.S. Equity 31.0%	U.S. Equity 20.8%	REITs 46.2%	Commodities 18.4%	U.S. Equity 10.8%
Developed 25.6%	Core Bond 0.0%	REITs 25.8%	Emrg Mrkts 18.7%	Commodities 27.1%	T-Bills 0.0%	Commodities 8.4%
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 -8.9%	REITs 5.3%
High Yield 7.5%	High Yield -2.1%	Emrg Mrkts 18.9%	Developed 8.3%	Developed 11.8%	Core Bond -10.3%	U.S. TIPS 3.2%
REITs 4.2%	REITs -4.8%	High Yield 14.3%	Core Bond 7.5%	U.S. TIPS 6.0%	High Yield -14.2%	Developed 2.7%
Core Bond 3.6%	U.S. Equity -5.3%	Core Bond 8.7%	High Yield 7.1%	High Yield 5.3%	Emrg Mrkts -17.5%	Emrg Mrkts 2.5%
U.S. TIPS 3.0%	Commodities -11.2%	U.S. TIPS 8.4%	T-Bills 0.7%	T-Bills 0.0%	Developed -19.3%	High Yield 2.1%
Commodities 1.7%	Developed -13.4%	Commodities 7.7%	Commodities -3.1%	Core Bond -1.5%	U.S. Equity -20.9%	T-Bills 1.1%
T-Bills 0.8%	Emrg Mrkts -14.2%	T-Bills 2.3%	REITs -7.9%	Emrg Mrkts -2.2%	REITs -21.6%	Core Bond 0.9%

Data Sources: Bloomberg

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

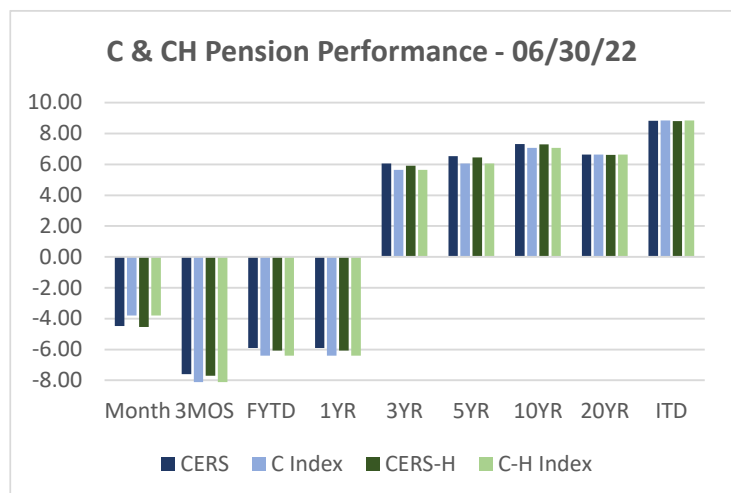
### What's going on in the marketplace?

Global equity markets experienced severe declines during the month, as markets began to doubt the FED's ability to engineer a soft landing and fear of a recession began to ripple through the minds of investors. High inflation, rising interest rates, signs of economic slowdown and tightening central bank policies combined to fuel this concern. Global fixed income markets also were lower during the period in response to rising interest rates and widening spreads. The first half of the fiscal year witnessed several pockets of strength, particularly in the real estate and U.S. equity markets, and to a lesser degree the specialty credit and real return spaces. However, inflation continued to rise in response to loose monetary policy, supply chain issues, rising energy costs, and commodity strength. To combat inflation, central banks across the globe began to tighten financial conditions by raising rates. These actions called global growth into question and prompted downward pressure on valuation multiples producing elevated volatility across markets. These conditions were exacerbated by the breakout of conflict in Ukraine. Today markets remain incredibly volatile in the face of elevated inflation, early signs of potential softening in the labor market, teetering earnings, and the risks of further geopolitical issues.

**The KPPA pension investment portfolio returned -4.3% during the month of June, underperforming its benchmark, which fell -3.5%. For the month the CERS Pension Composite returned -4.5%. More specifically, the CERS and CERS-H Pension portfolios returned -4.5% and -4.6%, respectively, while their benchmarks returned -3.8%. Both plans underperformed their respective benchmarks with similar drivers of attribution. Relative underperformance was a product of weaker performance in the Private Equity and Real Estate allocations of the portfolios versus the benchmark; this was partially offset by strong outperformance in the Specialty Credit allocation of the portfolios. Further, the underweight to Real Return hampered relative performance as this was one of the stronger performing asset classes during the month. This brought the KPPA pension fiscal year return to -5.7% versus benchmark return of -5.8%. For the fiscal year the CERS Pension Composite fell 5.9%. CERS and CERS-H Pension portfolios returned -5.9% and -6.1%, respectively, and outperformed their benchmarks' performance of -6.4%. For the fiscal year, the CERS and CERS-H plans' relative outperformance was primarily driven by strong security selection, most notably in the Specialty Credit, Private Equity, and Core Fixed Income portfolios. This relative outperformance was partially offset by allocation positioning that hampered performance. The average 6.8% underweight to Real Return cost the portfolio approximately 135bps of relative performance.**

**Global equity markets** were significantly weaker during the month, with the MSCI ACWI falling -8.4%. US markets were slightly more resilient than their International market counterparts, providing 58bps of downside protection. For the fiscal year, global equity market were off 17.0%. Domestic markets held up significantly better with the Russell 3000 index down -13.9% versus the MSCI ACWI Ex-US index down -19.9%.

**US equity markets** declined 837bps during the month (Russell 3000), the KPPA portfolio fared just slightly better, dropping 831bps. Midcaps underperformed both large and small caps by +135bps; growth held up better than value (R300G: -7.8% vs R3000V: -8.8%). The KPPA portfolio's relative outperformance was driven by a combination of stock selection and allocation. A number of the individual strategies outpaced their respective indices, and the overweight to small cap proved beneficial during the period.



For the fiscal year, the KPPA portfolio outperformed the R3000, -13.6% versus -13.9%. Stock selection was solid with the only relative weakness coming from the all cap portion of the portfolio. The small and microcap strategies held up significantly better than their respective indices. The portfolio's value tilt was additive, as the style provided over 12% of downside protection over growth.

**NonUS equity markets** fell -9.0% (MSCI ACWI Ex-US) during the month. Emerging markets held up better than their developed international counterparts (MSCI EM: -6.7% vs MSCI World Ex-US: -9.4%). Small caps were noticeably weaker, losing -11.0%. The KPPA portfolio fell -9.0% during the month, losing 8bps to the benchmark. Individual mandate relative performance was mixed during the period; however, it skewed negative. The slight overweight to emerging markets was additive.

For the fiscal year, the portfolio trailed its benchmark by 194bps. During a risk off environment, the portfolio's growth managers and slight emerging market overweight hampered relative performance. The value portion of the portfolio performed well, and partially offset some of the weakness in other parts of the portfolio.

**The specialty credit portfolio** outperformed its benchmark during the month, providing 286bps of downside protection (-1.6% vs -4.5%). While the High Yield market was notably weaker during the month with the Bloomberg US Corporate High Yield returning -6.7%, the Leverage Loan market held up significantly better, as evidenced by the -2.2% return of S&P LSTA Leveraged Loan Index.

For the fiscal year, the specialty credit portfolio significantly outperformed its benchmark, providing a positive return of 1.2% versus a benchmark return of -7.9% with all but one of the mandates outperforming their respective benchmarks. With the first half of 2022 witnessing the worst first-half return in the history of the High Yield index, performance for the fiscal year was dragged down resulting in a -12.8% return for the index. Given their lower interest rate sensitivity and higher seniority, leveraged loans performed better with the index falling just -2.8% for the fiscal year.

**The core fixed income portfolio** provided 36bps of downside protection when compared to the Bloomberg Aggregate Index (-1.2% vs -1.6%). The portfolio's shorter duration profile and tactical allocation to front end investment grade credit aided relative performance during the period as rates rose and credit spreads widened.

For the fiscal year, the core portfolio produced 481 bps of outperformance with a -5.5% return versus the benchmark return of -10.3%. The short-term corporate and intermediate aggregate portions of the portfolio held up better than the traditional, more interest rate sensitive core aggregate index.

**The private equity allocation** reported a fiscal year return of 22.7%. However, it should be noted that this asset class is reported on a lag, so a portion of this year's volatility has yet to be reflected in the marks of some of the investments within the portfolio.

**The real return portfolio** lost 3.0% during the month, bringing the fiscal year return to 2.4% versus the long-term benchmark return of 8.0%. Most of the month's decline came from the MLP portion of the portfolio, which fell 14% during June; however, it still ended the fiscal year up 10%. Most strategies in the portfolio provided positive absolute performance for the fiscal year, but the relative weakness of the asset class was a product of benchmark construction (US CPI +3%) and the difficulty of measuring short-term performance.

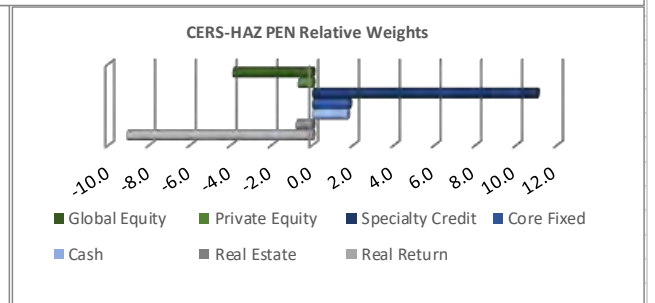
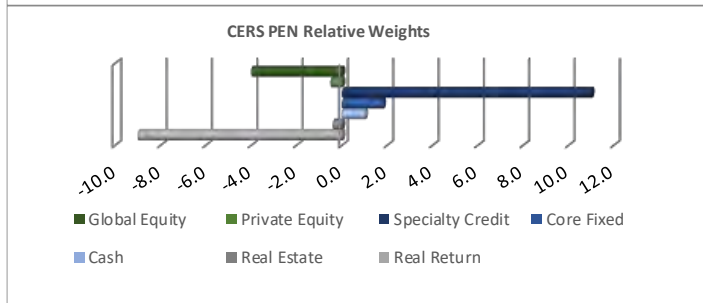
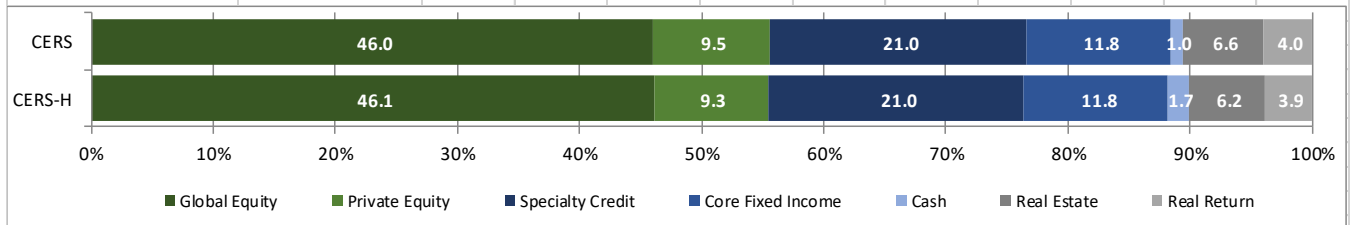
**Real estate** has performed well for several quarters, and has been one of the best performing asset classes for the portfolio. The allocation returned 1.7% during the month, bringing the fiscal year performance to 28.1% (versus the benchmark return of 27.3%), and has been driven by continued strength in industrial, multi-family, and storage properties.

The cash portfolio performed in line with the 3-month T-bill for the month (0.08%). This brought the fiscal year performance to 0.3% versus 0.2%. The cash overweight was of benefit during a volatile month and fiscal year.

CERS & CERS-HAZ - PENSION FUND PLAN NET RETURNS - 06/30/22											
Plan	Market Value	Month	3 Months	Fiscal YTD	1 Year	3 Years	5 Years	10 Years	20 Years	30 Years	ITD
<b>CERS</b>	<b>7,948,696,375.08</b>	<b>-4.49</b>	<b>-7.61</b>	<b>-5.90</b>	<b>-5.90</b>	<b>6.06</b>	<b>6.53</b>	<b>7.32</b>	<b>6.64</b>	<b>7.78</b>	<b>8.82</b>
KY Ret. CKERS Plan Index		-3.79	-8.59	-6.41	-6.41	5.64	6.06	7.08	6.63	7.69	8.85
<b>CERS- H</b>	<b>2,703,102,128.52</b>	<b>-4.55</b>	<b>-7.71</b>	<b>-6.07</b>	<b>-6.07</b>	<b>5.91</b>	<b>6.45</b>	<b>7.29</b>	<b>6.62</b>	<b>7.77</b>	<b>8.81</b>
KY Ret. CERS Haz Plan Index		-3.79	-8.59	-6.41	-6.41	5.64	6.06	7.08	6.63	7.69	8.85

KPPA PENSION FUND UNIT - NET RETURNS - 06/30/22 - PROXY PLAN ASSET PERFORMANCE											
Structure	Month	QTD	Fiscal YTD	1 Year	3 Years	5 Years	10 Years	20 Years	30 Years	ITD	
<b>PUBLIC EQUITY</b>	<b>-8.61</b>	<b>-15.80</b>	<b>-18.05</b>	<b>-18.05</b>	<b>5.50</b>	<b>6.56</b>	<b>8.60</b>	<b>6.90</b>	<b>8.55</b>	<b>10.02</b>	
Global Equity Blended Index	-8.43	-15.66	-16.99	-16.99	5.62	6.54	8.51	6.93	8.36	9.88	
<b>PRIVATE EQUITY</b>	<b>-1.29</b>	<b>1.69</b>	<b>22.70</b>	<b>22.70</b>	<b>20.44</b>	<b>17.41</b>	<b>14.77</b>	<b>12.53</b>		<b>12.53</b>	
Russell 3000 + 3%(Qtr Lag)	3.60	-4.13	14.92	14.92	21.32	18.45	17.61	12.78		12.78	
<b>SPECIALTY CREDIT</b>	<b>-1.59</b>	<b>-1.80</b>	<b>1.20</b>	<b>1.20</b>	<b>4.78</b>	<b>5.41</b>				<b>5.41</b>	
Custom Benchmark	-4.45	-7.13	-7.86	-7.86	1.17	2.53				2.53	
<b>CORE FIXED INCOME</b>	<b>-1.21</b>	<b>-2.10</b>	<b>-5.48</b>	<b>-5.48</b>	<b>0.97</b>	<b>2.05</b>				<b>2.52</b>	
Bloomberg Barclays US Aggregate	-1.57	-4.69	-10.29	-10.29	-0.93	0.88				1.79	
<b>CASH</b>	<b>0.08</b>	<b>0.18</b>	<b>0.25</b>	<b>0.25</b>	<b>0.75</b>	<b>1.30</b>	<b>0.90</b>	<b>1.61</b>	<b>2.71</b>	<b>3.31</b>	
Citigroup Treasury Bill-3 Month	0.07	0.14	0.19	0.19	0.61	1.09	0.62	1.19	2.31	2.89	
<b>REAL ESTATE</b>	<b>1.67</b>	<b>6.63</b>	<b>28.05</b>	<b>28.05</b>	<b>15.67</b>	<b>13.37</b>	<b>11.36</b>	<b>7.88</b>	<b>6.63</b>	<b>6.90</b>	
NCREIF NFI-ODCE Net 1 Qtr in Arrears Index^	7.14	7.14	27.26	27.26	10.30	8.90	9.91	7.66	7.55	6.76	
<b>REAL RETURN</b>	<b>-2.96</b>	<b>-1.66</b>	<b>2.44</b>	<b>2.44</b>	<b>4.85</b>	<b>4.30</b>	<b>3.38</b>			<b>4.14</b>	
Pension Real Return Custom Benchmark	1.32	3.70	8.03	8.03	6.72	5.26	3.79			3.87	

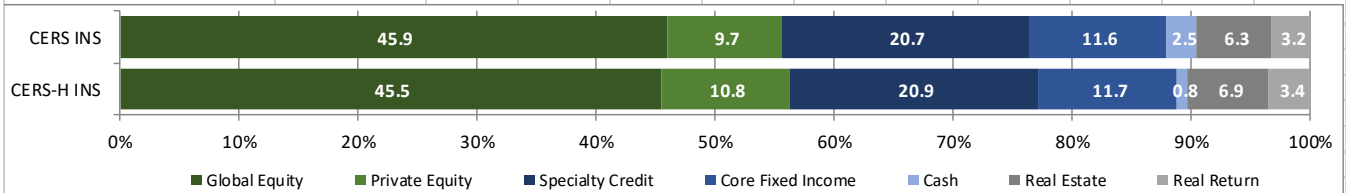


**CERS INS & CERS HAZ INS - INSURANCE FUND - PLAN NET RETURNS - 06/30/22**

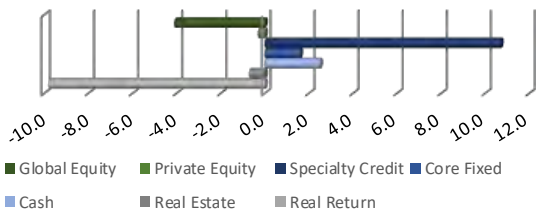
Plan	Market Value	Month	3 Months	Fiscal YTD	1 Year	3 Years	5 Years	10 Years	20 Years	30 Years	ITD
<b>CERS INS</b>	<b>3,004,344,252.93</b>	<b>-4.29</b>	<b>-7.49</b>	<b>-5.43</b>	<b>-5.43</b>	<b>5.80</b>	<b>6.46</b>	<b>7.21</b>	<b>6.27</b>	<b>6.87</b>	<b>7.29</b>
KY Ins. CERS Plan Index		-3.79	-8.59	-6.22	-6.22	5.23	5.86	7.04	6.49	7.13	7.50
<b>CERS - H INS</b>	<b>1,508,530,985.74</b>	<b>-4.22</b>	<b>-7.35</b>	<b>-4.99</b>	<b>-4.99</b>	<b>5.99</b>	<b>6.61</b>	<b>7.30</b>	<b>6.32</b>	<b>6.90</b>	<b>7.31</b>
KY Ins. CERS Haz Plan Index		-3.79	-8.59	-6.22	-6.22	5.23	5.86	7.05	6.49	7.13	7.50

**KPPA INSURANCE FUND UNIT - NET RETURNS - 06/30/22 - PROXY PLAN ASSET PERFORMANCE**

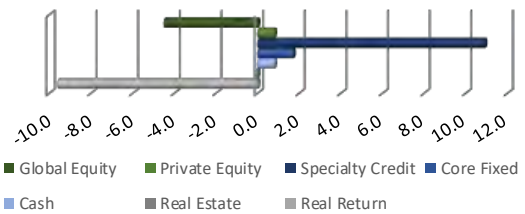
Structure	Month	QTD	Fiscal YTD	1 Year	3 Years	5 Years	10 Years	20 Years	30 Years	ITD
<b>PUBLIC EQUITY</b>	<b>-8.57</b>	<b>-15.76</b>	<b>-17.94</b>	<b>-17.94</b>	<b>5.53</b>	<b>6.54</b>	<b>8.62</b>	<b>6.87</b>		<b>8.28</b>
Global Equity Blended Index	-8.43	-15.66	-17.02	-17.02	5.58	6.51	8.46	6.59		8.11
<b>PRIVATE EQUITY</b>	<b>1.17</b>	<b>3.06</b>	<b>30.26</b>	<b>30.26</b>	<b>18.10</b>	<b>16.67</b>	<b>15.41</b>	<b>11.43</b>		<b>11.43</b>
Russell 3000 + 3%(Qtr Lag)	3.60	-4.13	14.92	14.92	21.32	18.45	17.61	12.31		12.31
<b>SPECIALTY CREDIT</b>	<b>-1.41</b>	<b>-1.63</b>	<b>1.39</b>	<b>1.39</b>	<b>4.68</b>	<b>5.21</b>				<b>5.21</b>
Custom Benchmark	-4.45	-7.13	-7.86	-7.86	1.17	2.53				2.53
<b>CORE FIXED INCOME</b>	<b>-1.33</b>	<b>-2.33</b>	<b>-5.67</b>	<b>-5.67</b>	<b>0.75</b>	<b>1.93</b>				<b>2.22</b>
Bloomberg Barclays US Aggregate	-1.57	-4.69	-10.29	-10.29	-0.93	0.88				1.79
<b>CASH</b>	<b>0.09</b>	<b>0.18</b>	<b>0.24</b>	<b>0.24</b>	<b>0.59</b>	<b>1.13</b>	<b>0.75</b>	<b>1.44</b>		<b>2.42</b>
Citigroup Treasury Bill-3 Month	0.07	0.14	0.19	0.19	0.61	1.09	0.62	1.19		2.31
<b>REAL ESTATE</b>	<b>1.72</b>	<b>6.67</b>	<b>27.50</b>	<b>27.50</b>	<b>15.61</b>	<b>13.35</b>	<b>11.20</b>			<b>10.63</b>
NCREIF NFI-ODCE Net 1 Qtr in Arrears Index^	7.14	7.14	27.26	27.26	10.30	8.90	9.91			6.99
<b>REAL RETURN</b>	<b>-1.96</b>	<b>-0.90</b>	<b>2.24</b>	<b>2.24</b>	<b>5.16</b>	<b>4.44</b>	<b>3.27</b>			<b>4.03</b>
Pension Real Return Custom Benchmark	1.32	3.70	6.98	6.98	6.76	5.28	3.85			3.93



CERS Insurance Relative Weights



CERS-HAZ Insurance Relative Weights



## Asset Allocation & Performance

Total Fund

Periods Ended June 30, 2022

	Market Value \$	Performance (%) net of fees										
		QTD	YTD	FYTD	1 Year	3 Years	5 Years	10 Years	20 Years	30 Years	Since Inception	Inception Date
<b>CERS Pension Plan</b>	<b>7,948,696,372</b>	<b>-7.61</b>	<b>-10.15</b>	<b>-5.90</b>	<b>-5.90</b>	<b>6.04</b>	<b>6.52</b>	<b>10.10</b>	<b>6.63</b>	<b>7.78</b>	<b>8.82</b>	<b>4/1/1984</b>
CERS IPS Index		-8.53	-10.75	-6.10	-6.10	5.64	6.16					
Value Added		0.92	0.60	0.20	0.20	0.40	0.36					
Assumed Rate 6.25%		1.53	3.08	6.25	6.25	6.25	6.25					
Value Added		-9.14	-13.23	-12.15	-12.15	-0.21	0.27					
<b>CERS Insurance Plan</b>	<b>3,004,344,247</b>	<b>-7.49</b>	<b>-9.79</b>	<b>-5.43</b>	<b>-5.43</b>	<b>5.80</b>	<b>6.46</b>	<b>8.08</b>	<b>6.27</b>	<b>6.87</b>	<b>7.29</b>	<b>4/1/1987</b>
CERS IPS Index		-8.49	-10.75	-5.85	-5.85	5.52	6.05					
Value Added		1.00	0.96	0.42	0.42	0.28	0.41					
Assumed Rate 6.25%		1.53	3.08	6.25	6.25	6.25	6.25					
Value Added		-9.02	-12.87	-11.68	-11.68	-0.45	0.21					
<b>CERS (H) Pension Plan</b>	<b>2,703,102,128</b>	<b>-7.71</b>	<b>-10.27</b>	<b>-6.06</b>	<b>-6.06</b>	<b>5.90</b>	<b>6.45</b>	<b>10.10</b>	<b>6.62</b>	<b>7.77</b>	<b>8.81</b>	<b>4/1/1984</b>
CERS (H) IPS Index		-8.57	-10.79	-6.14	-6.14	5.57	6.14					
Value Added		0.86	0.52	0.08	0.08	0.33	0.31					
Assumed Rate 6.25%		1.53	3.08	6.25	6.25	6.25	6.25					
Value Added		-9.24	-13.35	-12.31	-12.31	-0.35	0.20					
<b>CERS (H) Insurance Plan</b>	<b>1,508,530,983</b>	<b>-7.35</b>	<b>-9.59</b>	<b>-4.99</b>	<b>-4.99</b>	<b>5.97</b>	<b>6.60</b>	<b>8.08</b>	<b>6.31</b>	<b>6.90</b>	<b>7.31</b>	<b>4/1/1987</b>
CERS (H) IPS Index		-8.47	-10.72	-5.82	-5.82	5.49	6.04					
Value Added		1.12	1.13	0.83	0.83	0.48	0.56					
Assumed Rate 6.25%		1.53	3.08	6.25	6.25	6.25	6.25					
Value Added		-8.88	-12.67	-11.24	-11.24	-0.28	0.35					

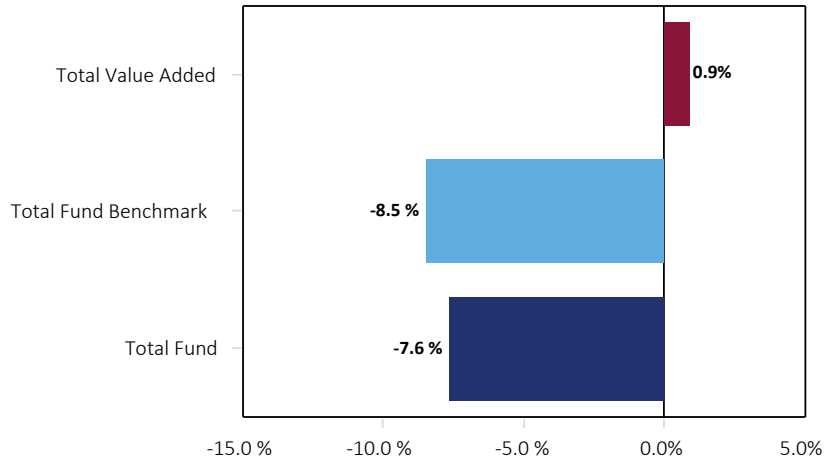


# Total Fund Attribution

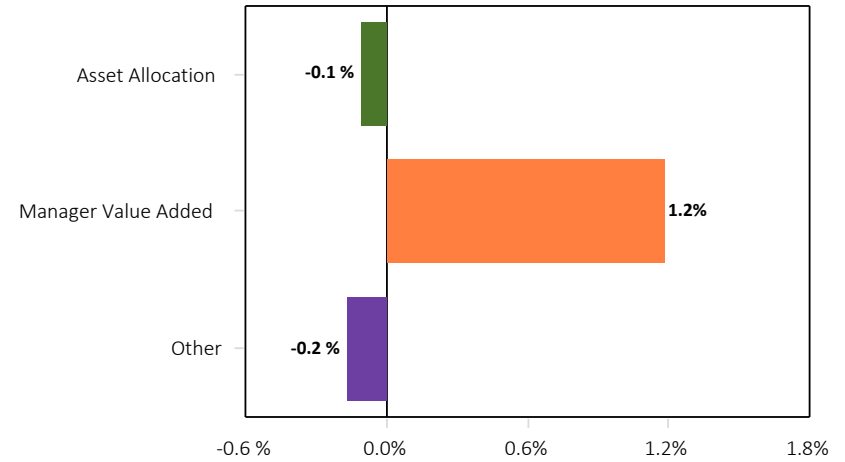
CERS Pension Plan

Periods Ended 1 Quarter Ending June 30, 2022

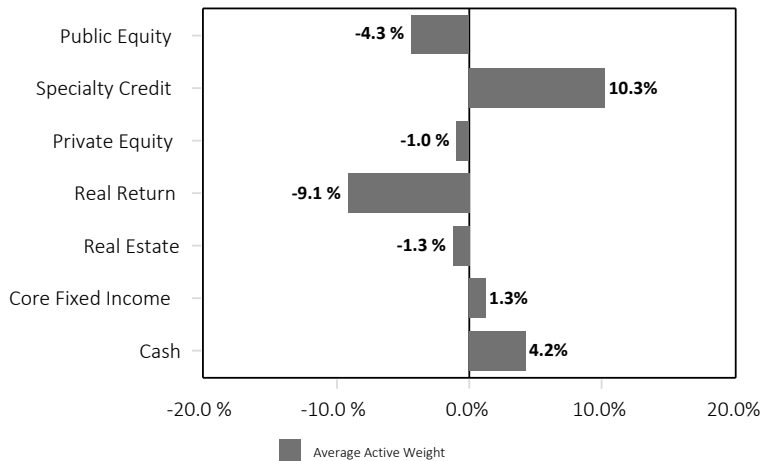
## Total Fund Performance



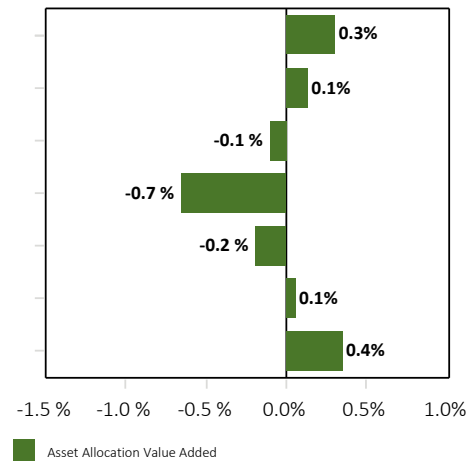
## Total Value Added:0.9%



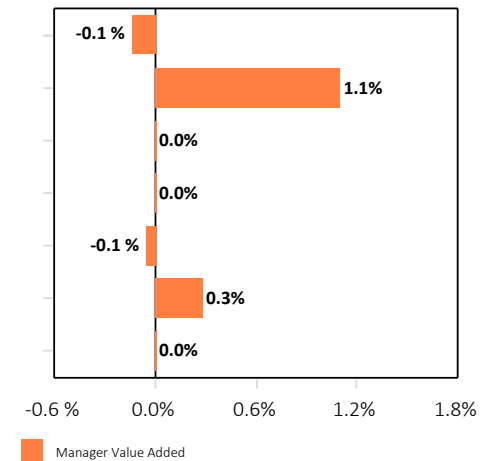
## Total Asset Allocation:-0.1%



## Asset Allocation Value Added:-0.1%



## Total Manager Value Added:1.2%

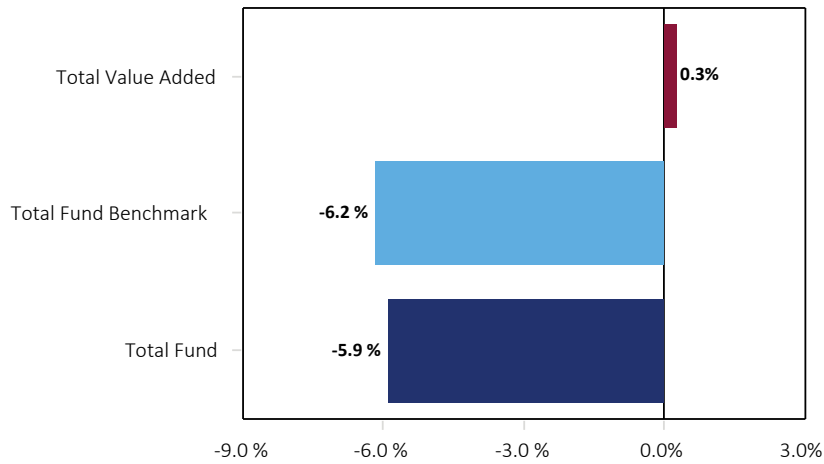


# Total Fund Attribution

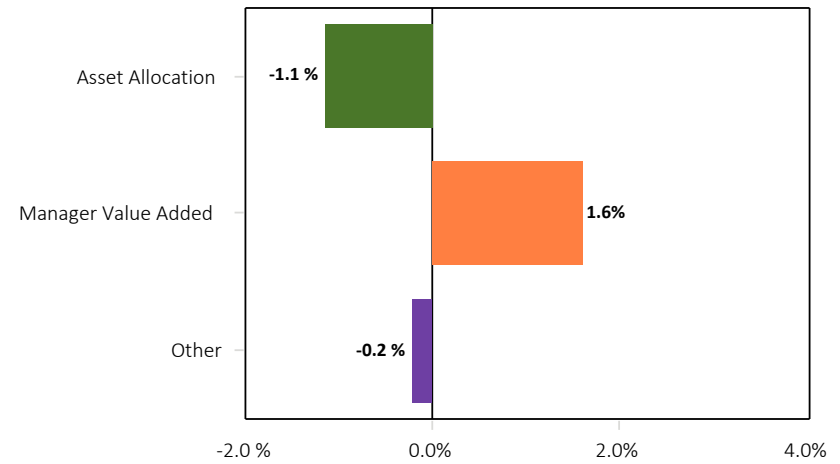
CERS Pension Plan

Periods Ended 1 Year Ending June 30, 2022

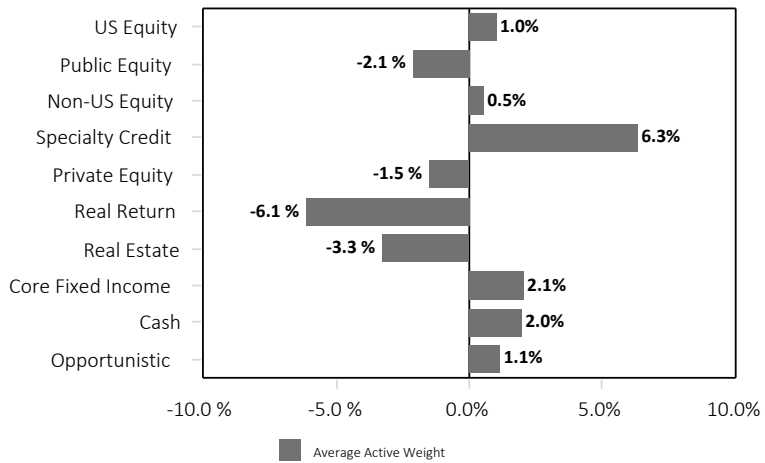
## Total Fund Performance



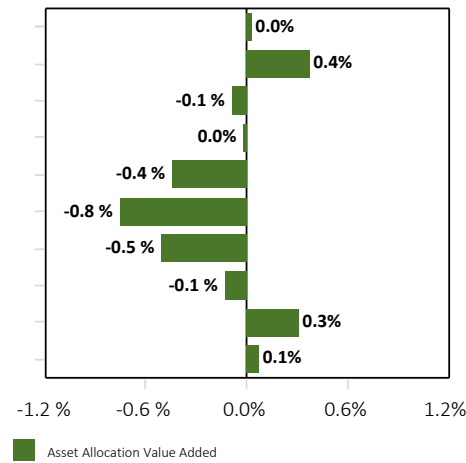
## Total Value Added:0.3%



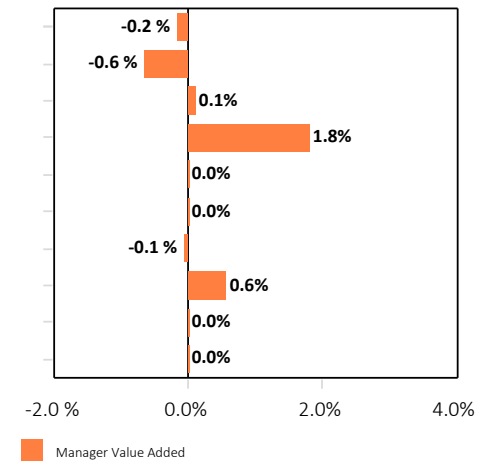
## Total Asset Allocation:-1.1 %



## Asset Allocation Value Added:-1.1 %



## Total Manager Value Added:1.6%

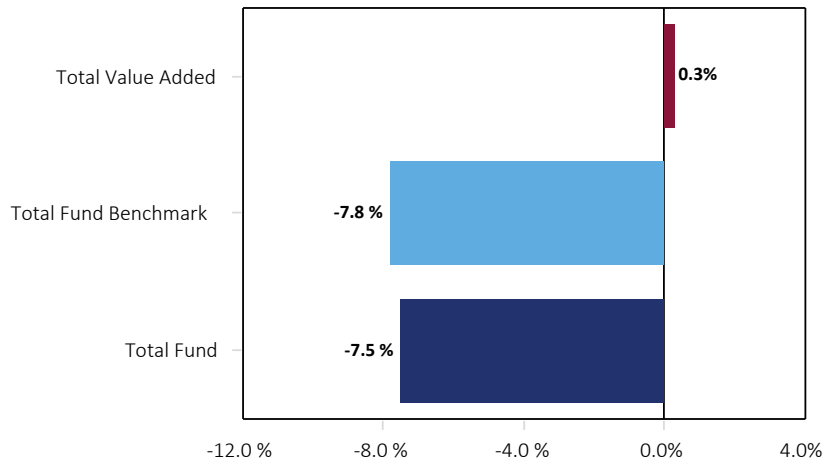


# Total Fund Attribution

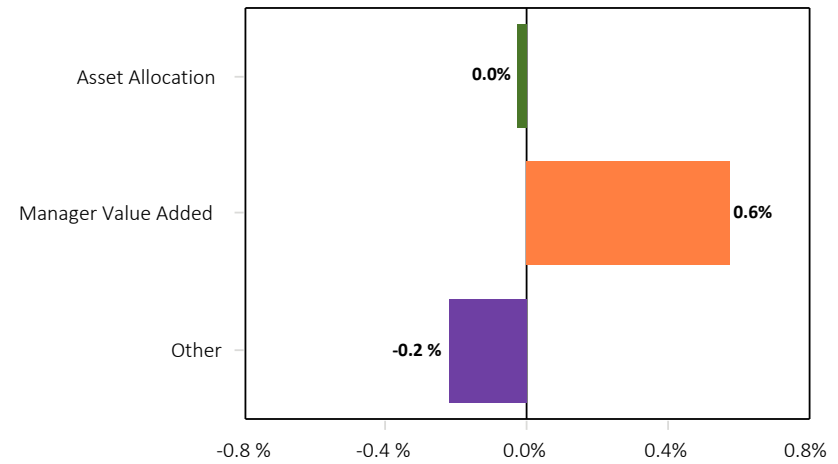
CERS Insurance Plan

Periods Ended 1 Quarter Ending June 30, 2022

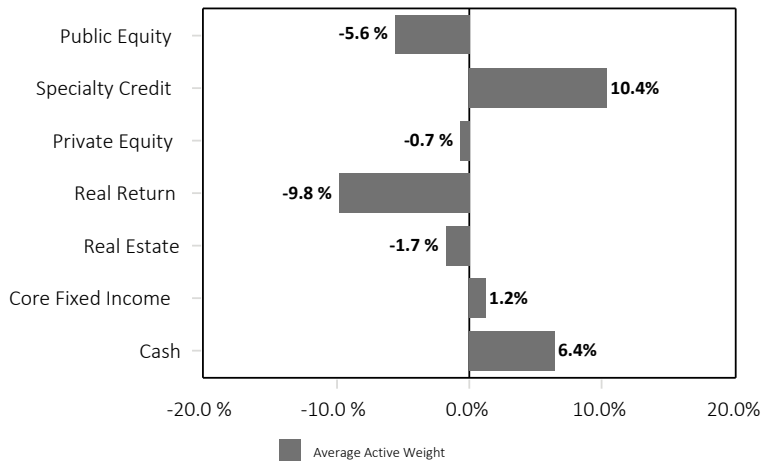
## Total Fund Performance



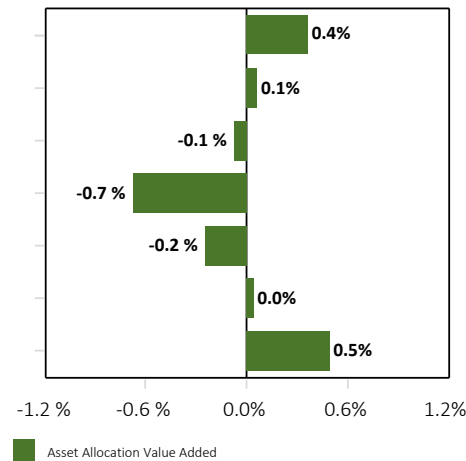
## Total Value Added:0.3%



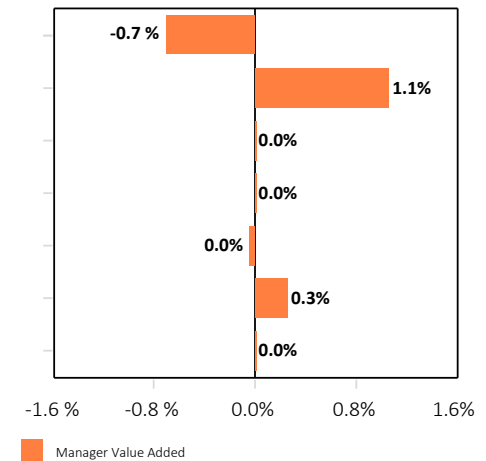
## Total Asset Allocation:0.0%



## Asset Allocation Value Added:0.0%



## Total Manager Value Added:0.6%

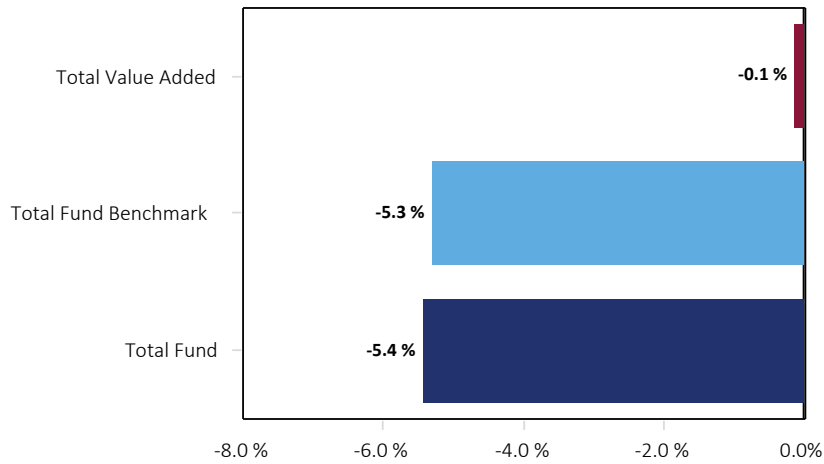


# Total Fund Attribution

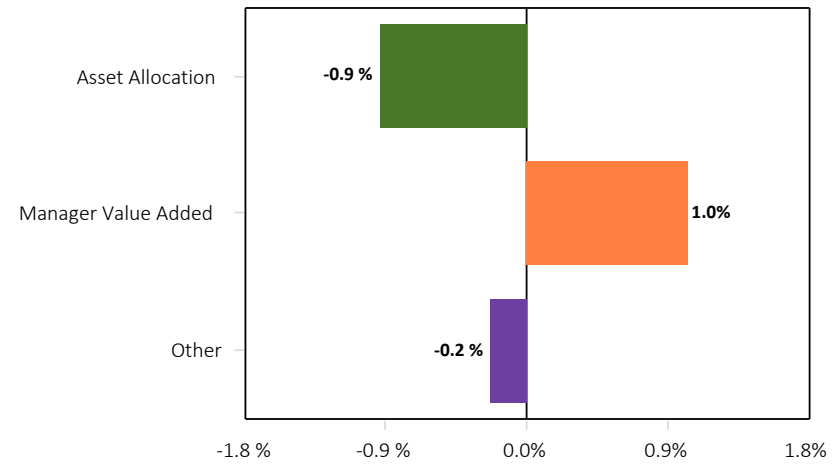
CERS Insurance Plan

Periods Ended 1 Year Ending June 30, 2022

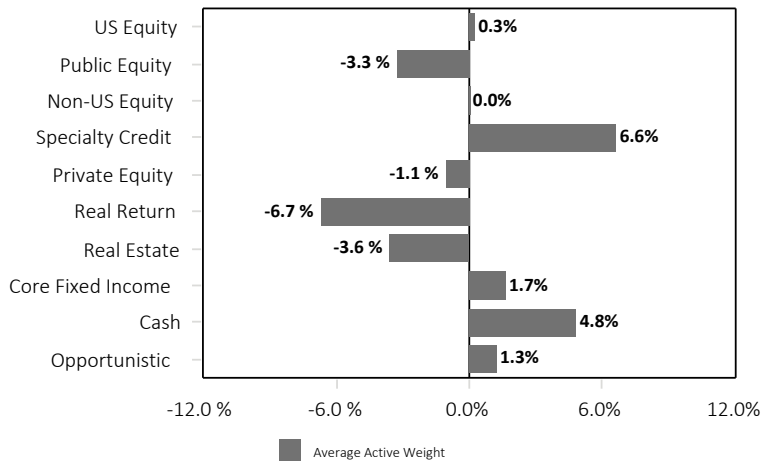
## Total Fund Performance



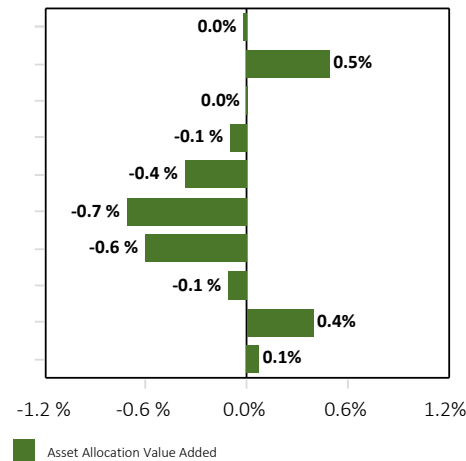
## Total Value Added:-0.1 %



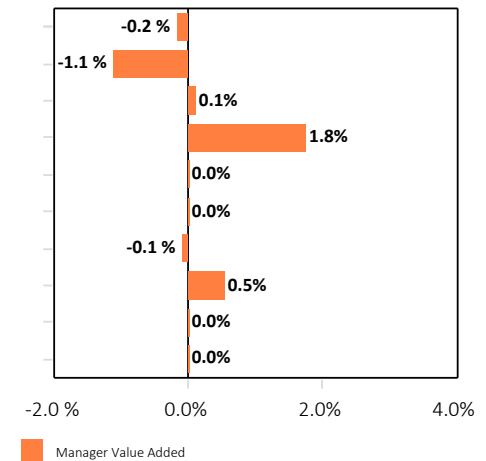
## Total Asset Allocation:-0.9 %



## Asset Allocation Value Added:-0.9 %



## Total Manager Value Added:1.0%

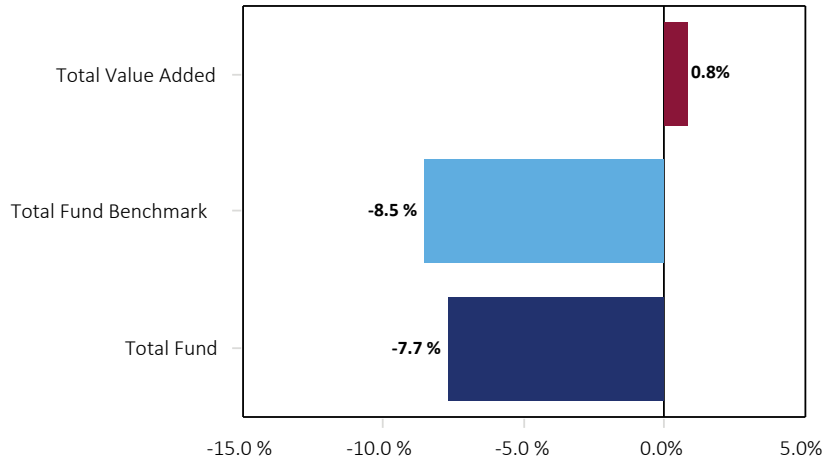


# Total Fund Attribution

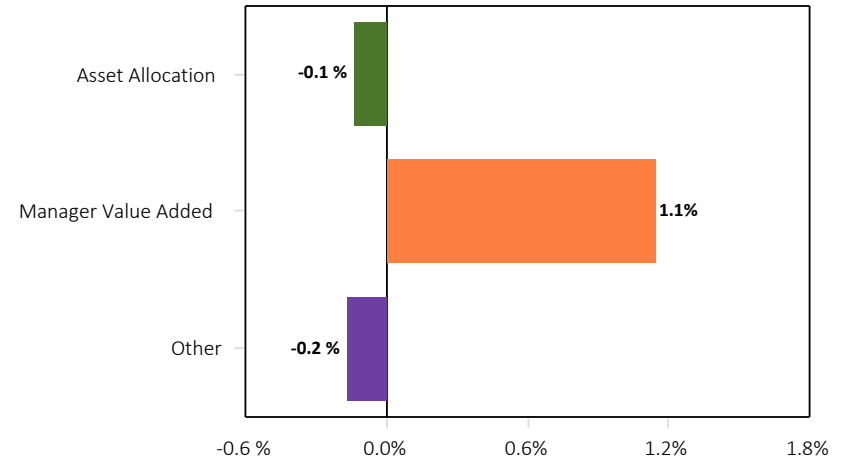
CERS (H) Pension Plan

Periods Ended 1 Quarter Ending June 30, 2022

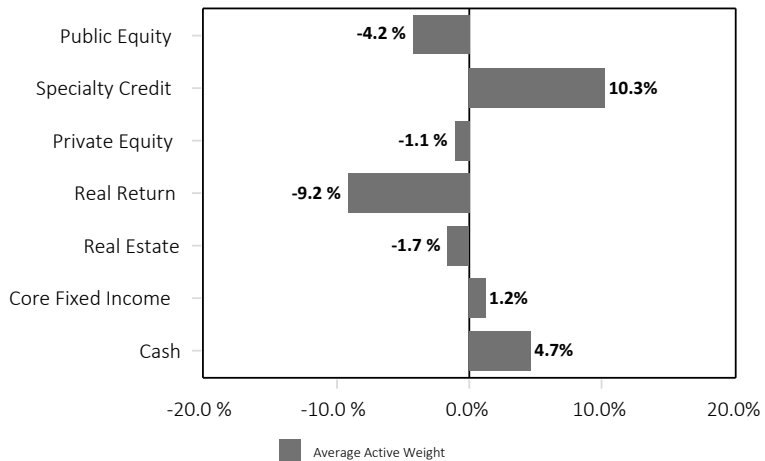
## Total Fund Performance



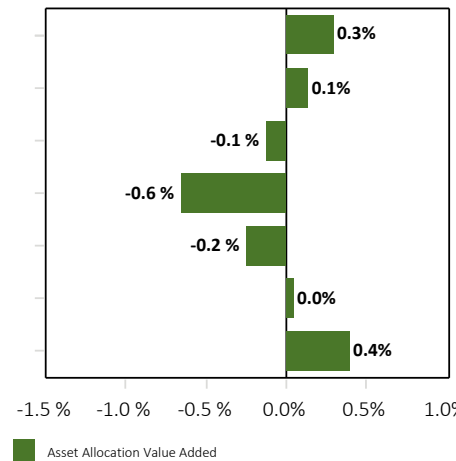
## Total Value Added:0.8%



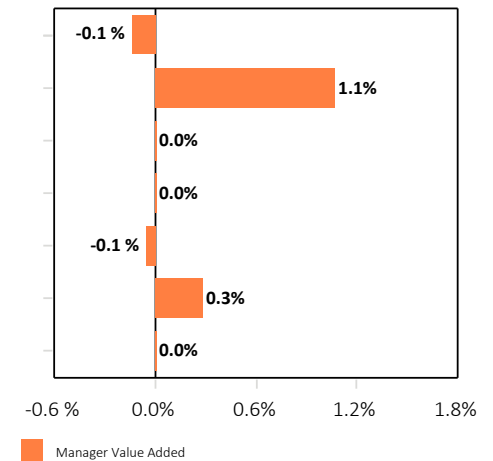
## Total Asset Allocation:-0.1%



## Asset Allocation Value Added:-0.1%



## Total Manager Value Added:1.1%

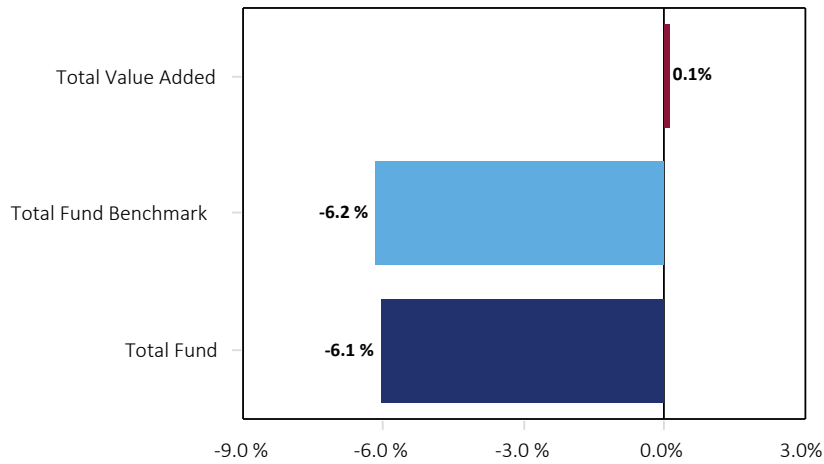


# Total Fund Attribution

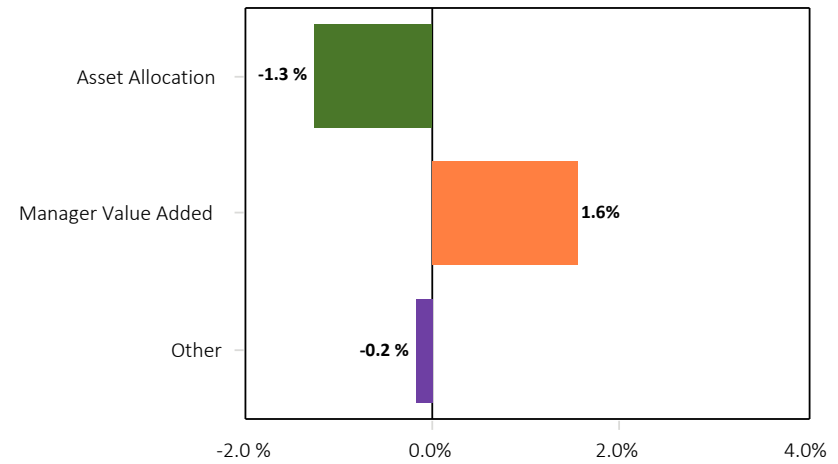
CERS (H) Pension Plan

Periods Ended 1 Year Ending June 30, 2022

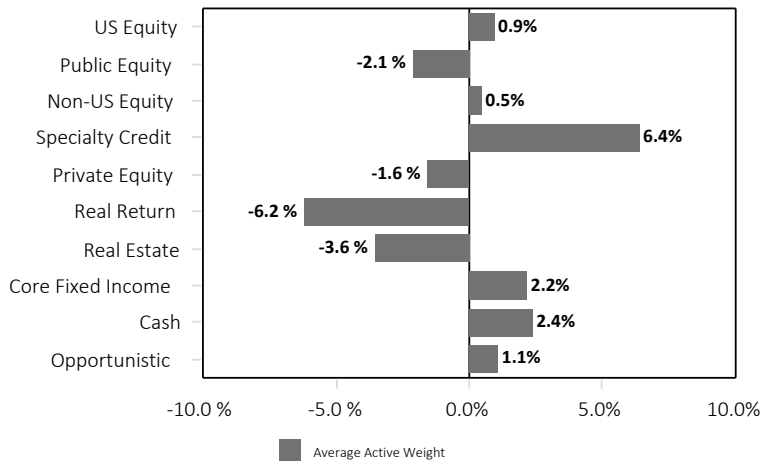
## Total Fund Performance



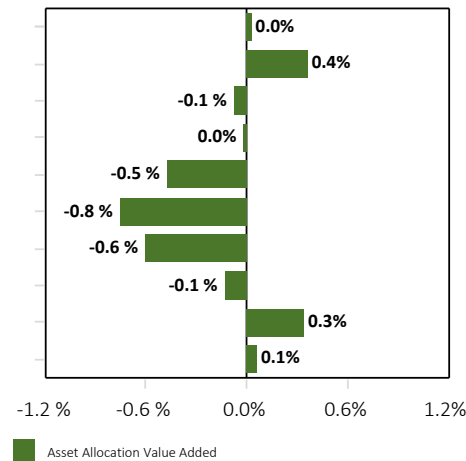
## Total Value Added:0.1%



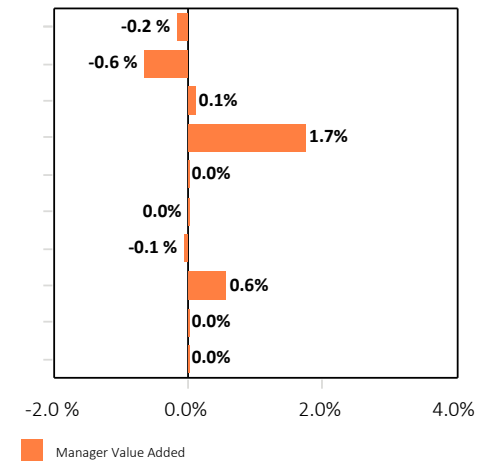
## Total Asset Allocation:-1.3%



## Asset Allocation Value Added:-1.3%



## Total Manager Value Added:1.6%

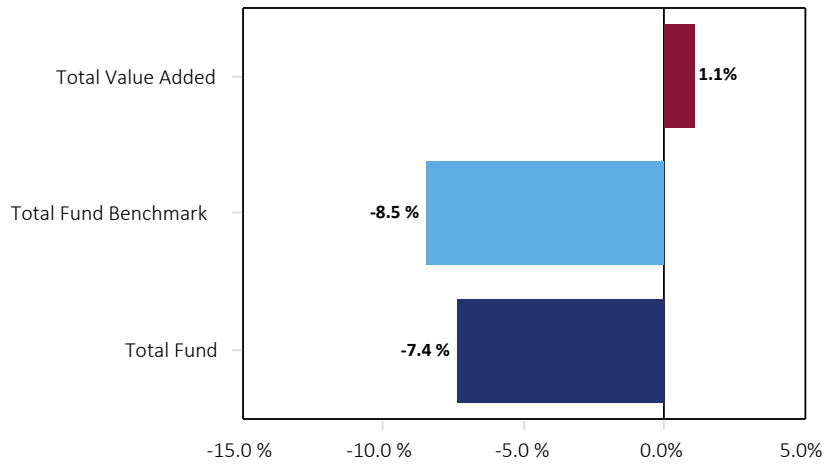


# Total Fund Attribution

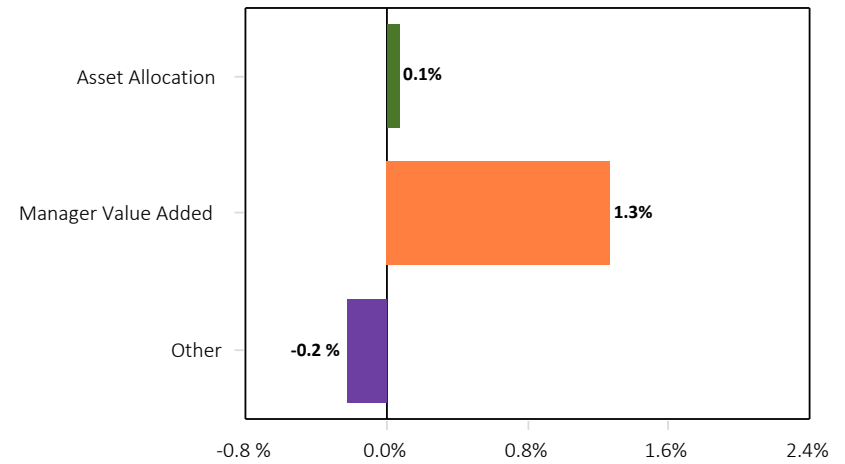
CERS (H) Insurance Plan

Periods Ended 1 Quarter Ending June 30, 2022

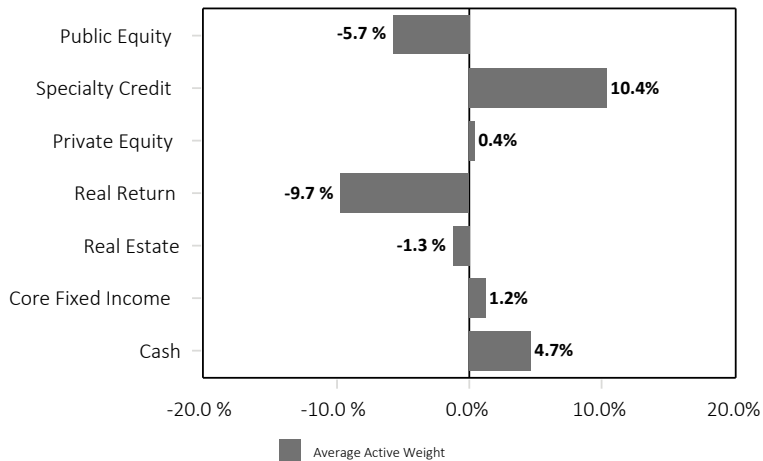
## Total Fund Performance



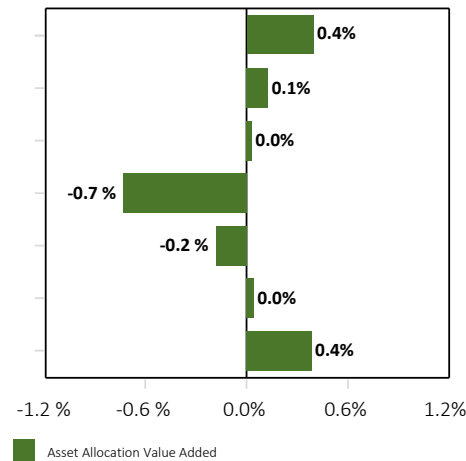
## Total Value Added:1.1%



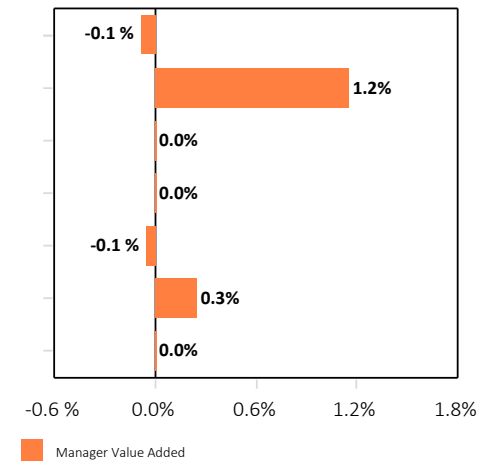
## Total Asset Allocation:0.1%



## Asset Allocation Value Added:0.1%



## Total Manager Value Added:1.3%

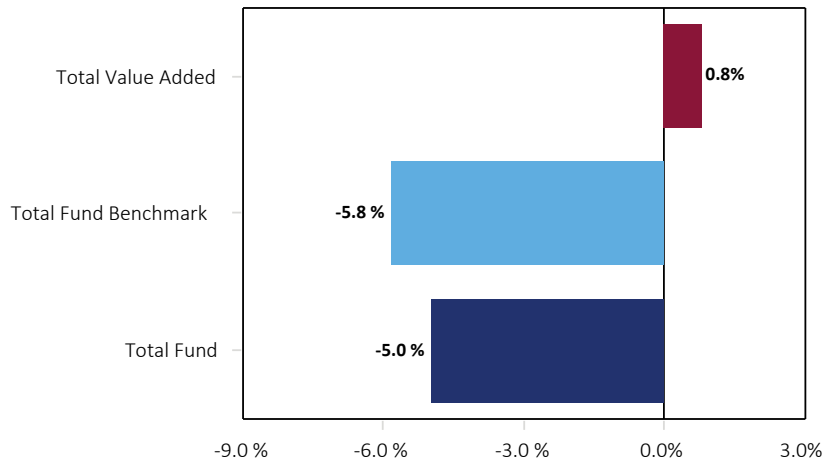


# Total Fund Attribution

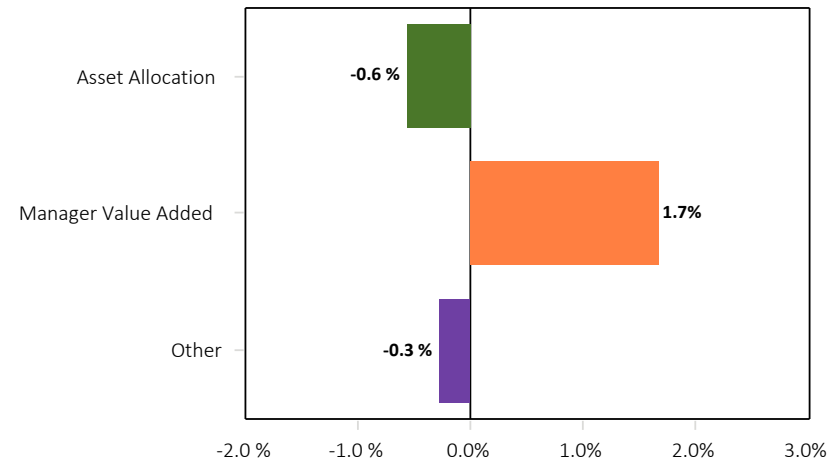
CERS (H) Insurance Plan

Periods Ended 1 Year Ending June 30, 2022

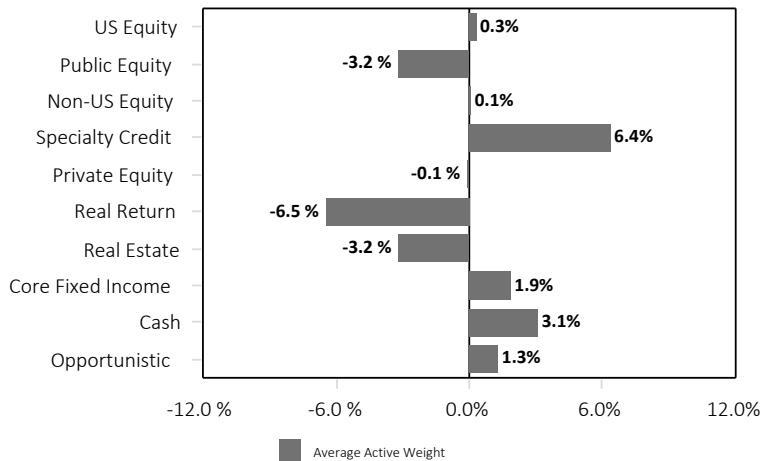
## Total Fund Performance



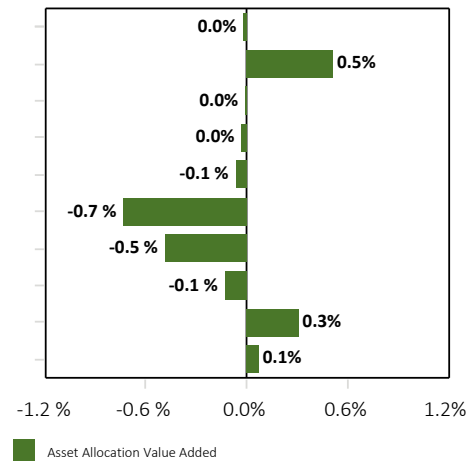
## Total Value Added:0.8%



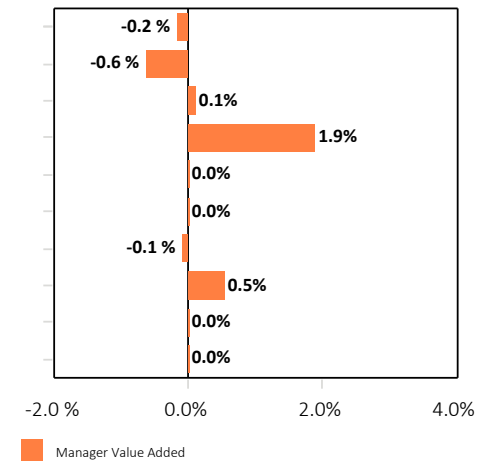
## Total Asset Allocation:-0.6 %



## Asset Allocation Value Added:-0.6 %



## Total Manager Value Added:1.7%

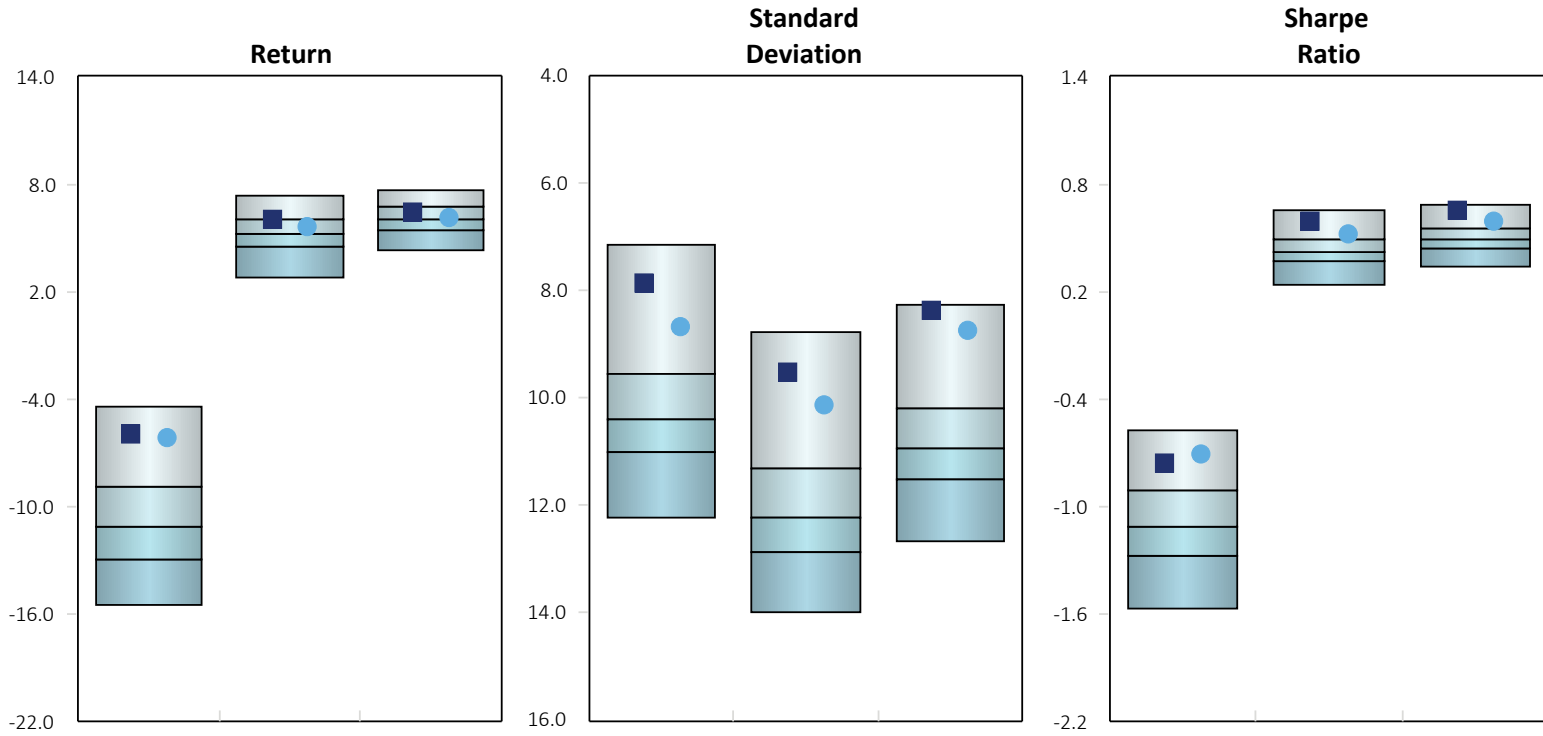




# Plan Sponsor Peer Group Analysis - Multi Statistics

CERS Pension Plan vs All Public Plans-Total Fund

Periods Ended June 30, 2022



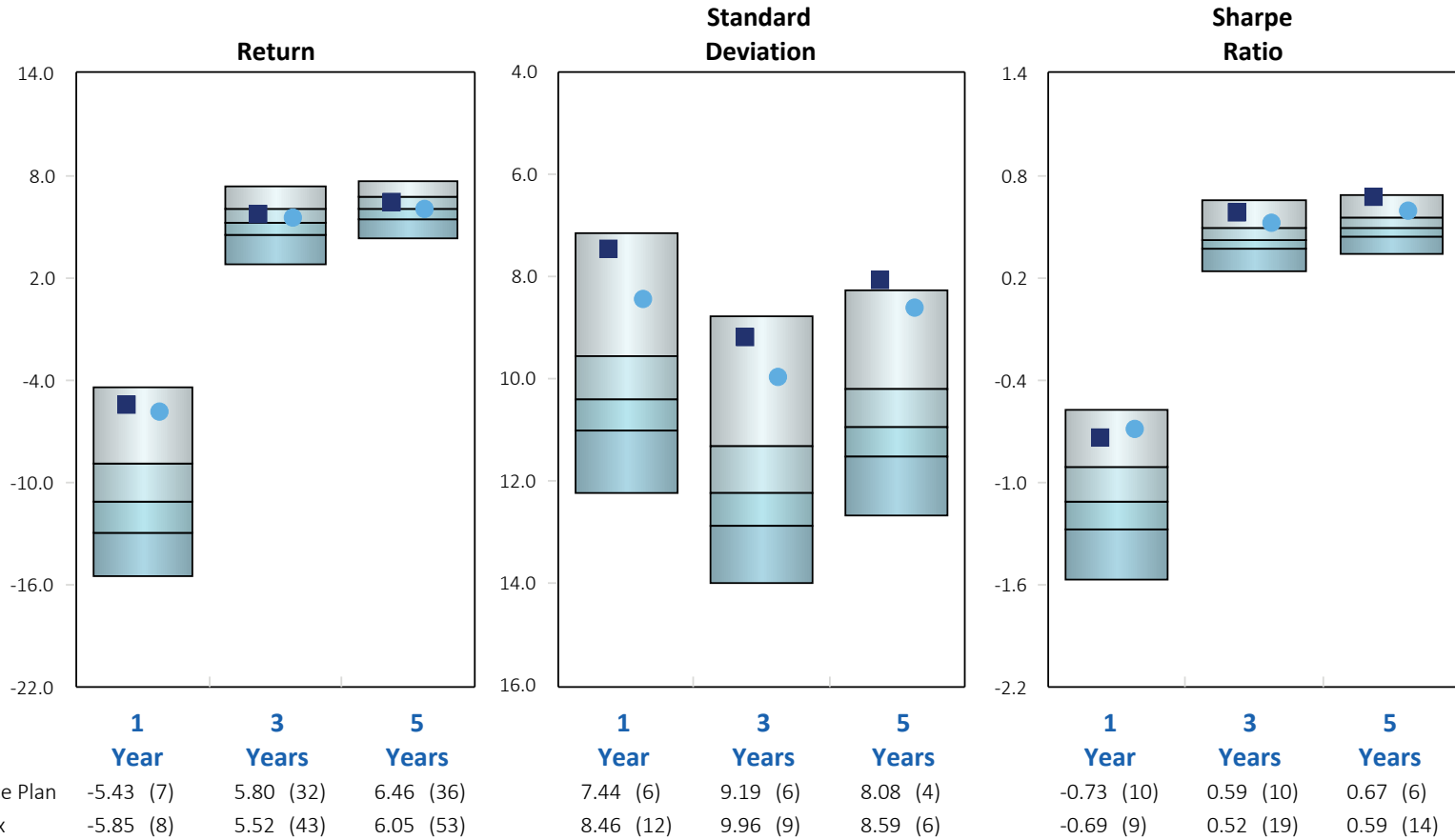
	1 Year	3 Years	5 Years	1 Year	3 Years	5 Years	1 Year	3 Years	5 Years
■ CERS Pension Plan	-5.90 (9)	6.04 (26)	6.52 (33)	7.85 (8)	9.54 (6)	8.37 (5)	-0.75 (11)	0.59 (9)	0.66 (7)
● CERS IPS Index	-6.10 (9)	5.64 (38)	6.16 (49)	8.67 (13)	10.15 (10)	8.74 (7)	-0.70 (9)	0.53 (19)	0.60 (14)
5th Percentile	-4.36	7.38	7.70	7.16	8.77	8.27	-0.58	0.66	0.69
1st Quartile	-8.88	6.07	6.75	9.55	11.33	10.21	-0.91	0.49	0.56
Median	-11.09	5.28	6.12	10.40	12.23	10.96	-1.11	0.43	0.49
3rd Quartile	-12.94	4.51	5.48	11.02	12.90	11.53	-1.27	0.37	0.45
95th Percentile	-15.47	2.83	4.30	12.23	13.99	12.68	-1.57	0.24	0.34

Parentheses contain percentile rankings.  
Calculation based on monthly periodicity.

# Plan Sponsor Peer Group Analysis - Multi Statistics

CERS Insurance Plan vs All Public Plans-Total Fund

Periods Ended June 30, 2022



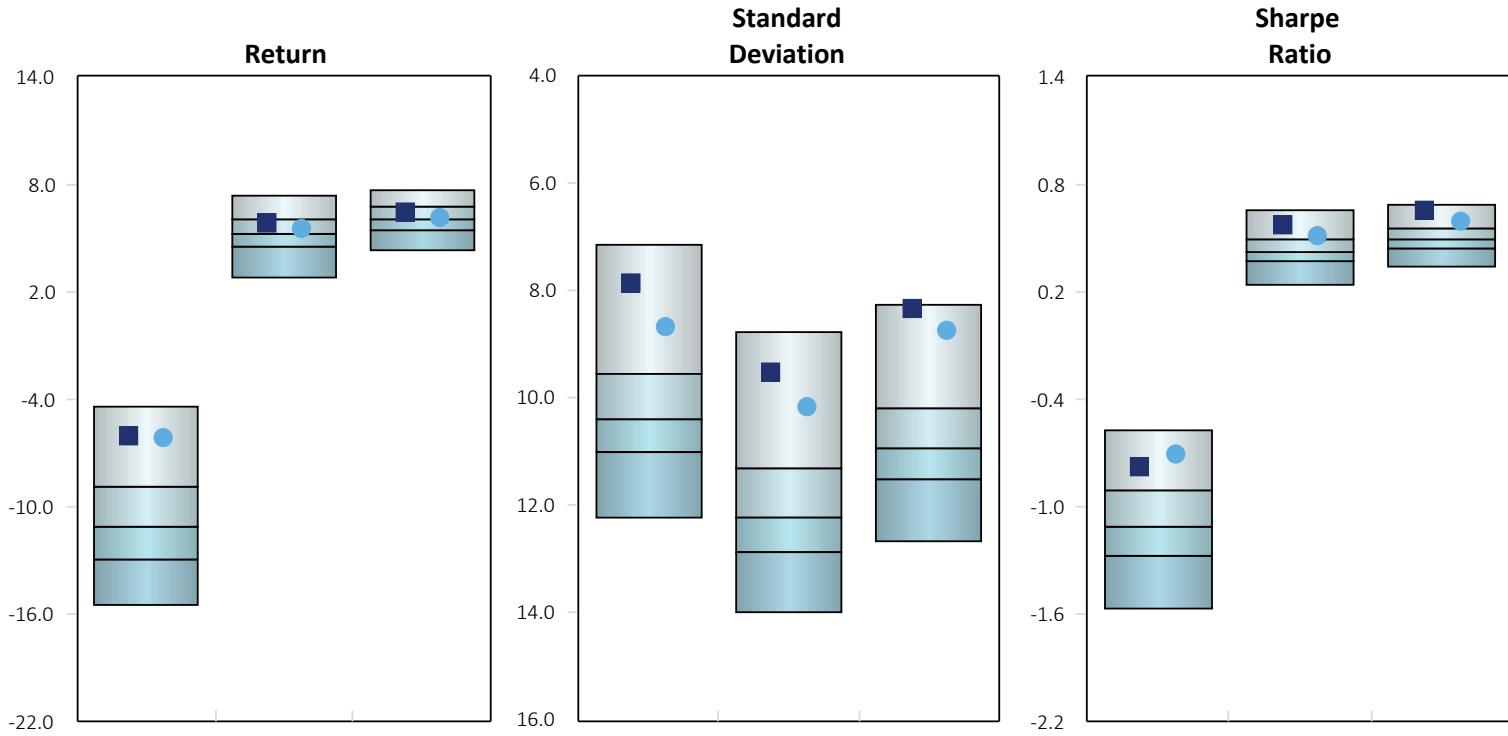
	1 Year	3 Years	5 Years	1 Year	3 Years	5 Years	1 Year	3 Years	5 Years
■ CERS Insurance Plan	-5.43 (7)	5.80 (32)	6.46 (36)	7.44 (6)	9.19 (6)	8.08 (4)	-0.73 (10)	0.59 (10)	0.67 (6)
● CERS IPS Index	-5.85 (8)	5.52 (43)	6.05 (53)	8.46 (12)	9.96 (9)	8.59 (6)	-0.69 (9)	0.52 (19)	0.59 (14)
5th Percentile	-4.36	7.38	7.70	7.16	8.77	8.27	-0.58	0.66	0.69
1st Quartile	-8.88	6.07	6.75	9.55	11.33	10.21	-0.91	0.49	0.56
Median	-11.09	5.28	6.12	10.40	12.23	10.96	-1.11	0.43	0.49
3rd Quartile	-12.94	4.51	5.48	11.02	12.90	11.53	-1.27	0.37	0.45
95th Percentile	-15.47	2.83	4.30	12.23	13.99	12.68	-1.57	0.24	0.34

Parentheses contain percentile rankings.  
Calculation based on monthly periodicity.

# Plan Sponsor Peer Group Analysis - Multi Statistics

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

Periods Ended June 30, 2022



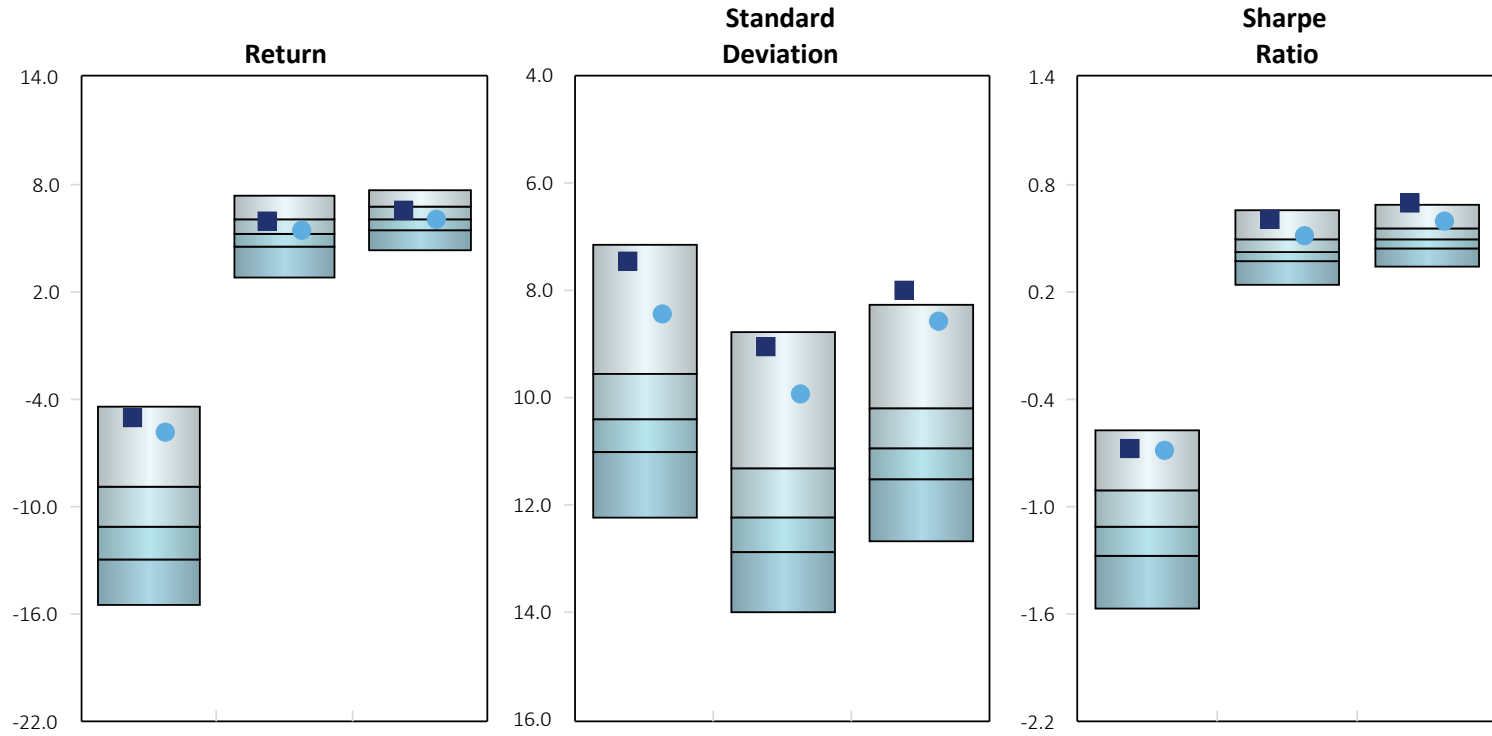
	1 Year	3 Years	5 Years	1 Year	3 Years	5 Years	1 Year	3 Years	5 Years
■ CERS (H) Pension Plan	-6.06 (9)	5.90 (29)	6.45 (36)	7.86 (8)	9.53 (6)	8.35 (5)	-0.78 (13)	0.58 (10)	0.65 (7)
● CERS (H) IPS Index	-6.14 (9)	5.57 (40)	6.14 (50)	8.67 (13)	10.17 (10)	8.75 (7)	-0.70 (9)	0.52 (20)	0.60 (14)
5th Percentile	-4.36	7.38	7.70	7.16	8.77	8.27	-0.58	0.66	0.69
1st Quartile	-8.88	6.07	6.75	9.55	11.33	10.21	-0.91	0.49	0.56
Median	-11.09	5.28	6.12	10.40	12.23	10.96	-1.11	0.43	0.49
3rd Quartile	-12.94	4.51	5.48	11.02	12.90	11.53	-1.27	0.37	0.45
95th Percentile	-15.47	2.83	4.30	12.23	13.99	12.68	-1.57	0.24	0.34

Parentheses contain percentile rankings.  
Calculation based on monthly periodicity.

# Plan Sponsor Peer Group Analysis - Multi Statistics

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

Periods Ended June 30, 2022



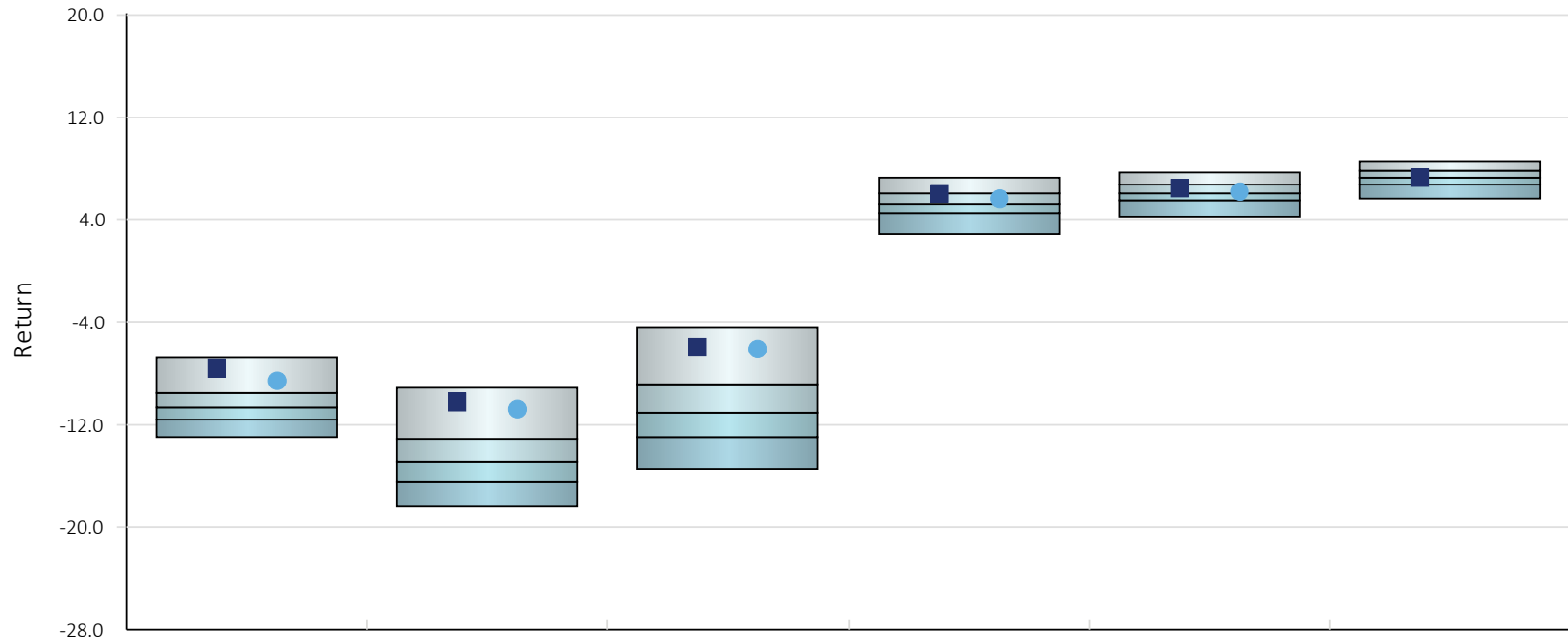
	1 Year	3 Years	5 Years	1 Year	3 Years	5 Years	1 Year	3 Years	5 Years
■ CERS (H) Insurance Plan	-4.99 (6)	5.97 (27)	6.60 (30)	7.45 (6)	9.06 (5)	8.00 (4)	-0.67 (8)	0.61 (7)	0.70 (5)
● CERS (H) IPS Index	-5.82 (8)	5.49 (44)	6.04 (54)	8.44 (12)	9.94 (8)	8.58 (6)	-0.69 (9)	0.52 (20)	0.59 (14)
5th Percentile	-4.36	7.38	7.70	7.16	8.77	8.27	-0.58	0.66	0.69
1st Quartile	-8.88	6.07	6.75	9.55	11.33	10.21	-0.91	0.49	0.56
Median	-11.09	5.28	6.12	10.40	12.23	10.96	-1.11	0.43	0.49
3rd Quartile	-12.94	4.51	5.48	11.02	12.90	11.53	-1.27	0.37	0.45
95th Percentile	-15.47	2.83	4.30	12.23	13.99	12.68	-1.57	0.24	0.34

Parentheses contain percentile rankings.  
Calculation based on monthly periodicity.

# Plan Sponsor Peer Group Analysis

CERS Pension Plan vs All Public Plans-Total Fund

Periods Ended June 30, 2022



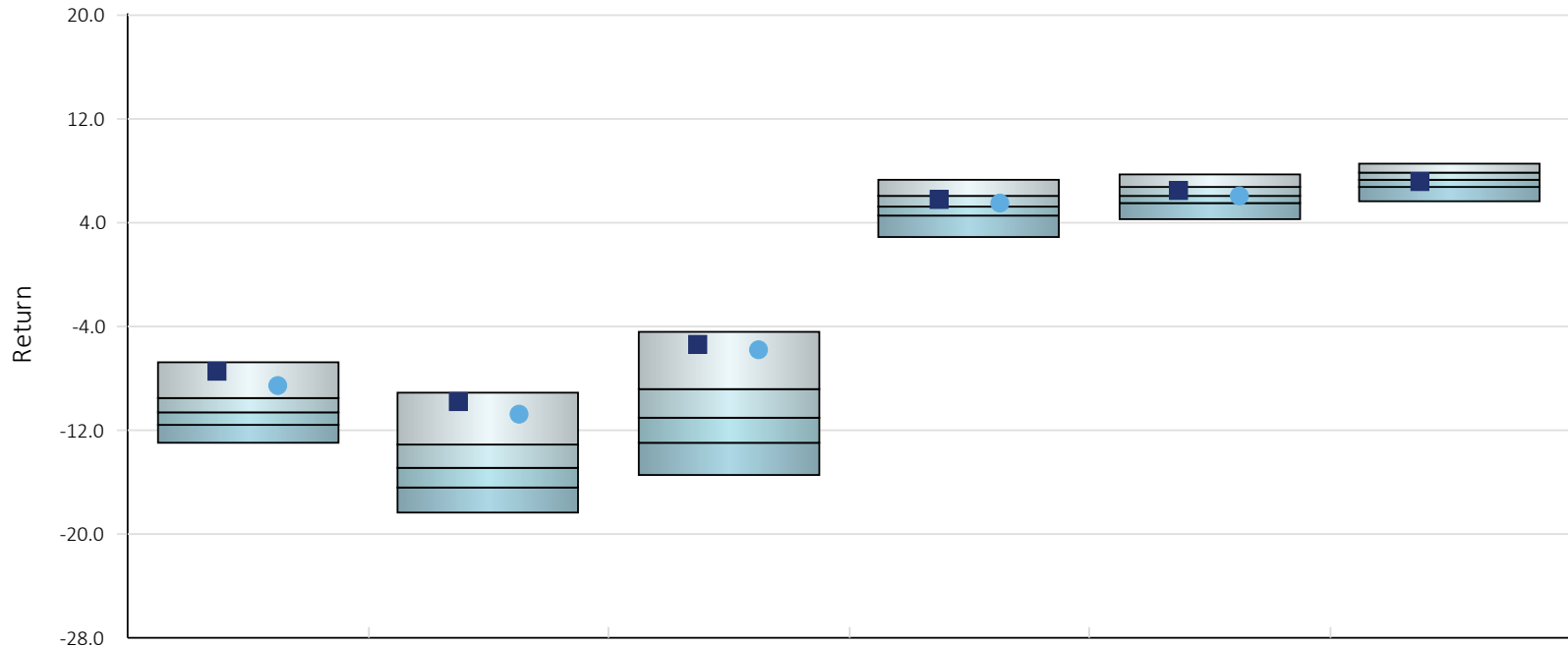
	<b>QTD</b>	<b>YTD</b>	<b>1 Year</b>	<b>3 Years</b>	<b>5 Years</b>	<b>10 Years</b>
■ CERS Pension Plan	-7.61 (9)	-10.15 (8)	-5.90 (9)	6.04 (26)	6.52 (33)	7.32 (52)
● CERS IPS Index	-8.53 (15)	-10.75 (10)	-6.10 (9)	5.64 (38)	6.16 (49)	
5th Percentile	-6.76	-9.16	-4.36	7.38	7.70	8.61
1st Quartile	-9.45	-13.08	-8.88	6.07	6.75	7.92
Median	-10.61	-14.91	-11.09	5.28	6.12	7.35
3rd Quartile	-11.52	-16.47	-12.94	4.51	5.48	6.81
95th Percentile	-12.97	-18.38	-15.47	2.83	4.30	5.70
Population	540	539	536	516	497	412

Parentheses contain percentile rankings.  
Calculation based on monthly periodicity.

# Plan Sponsor Peer Group Analysis

CERS Insurance Plan vs All Public Plans-Total Fund

Periods Ended June 30, 2022



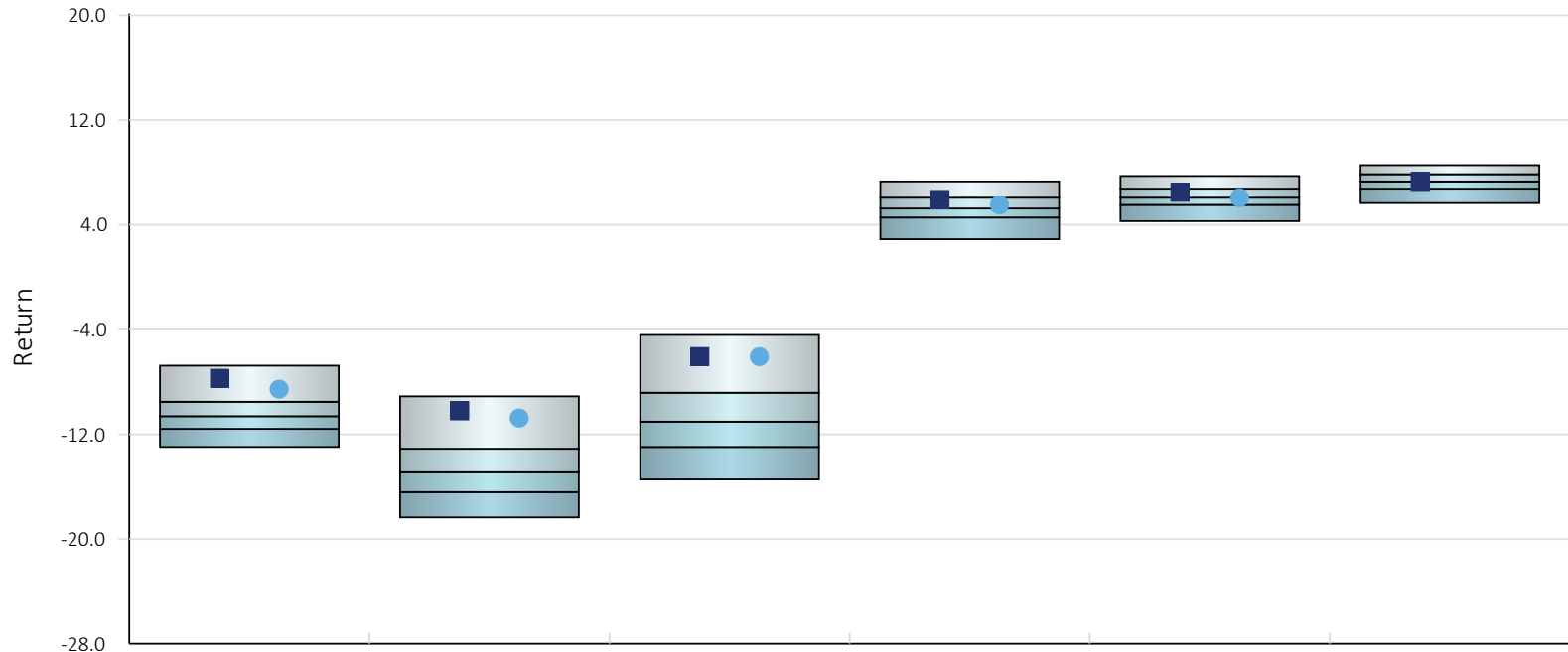
	<b>QTD</b>	<b>YTD</b>	<b>1 Year</b>	<b>3 Years</b>	<b>5 Years</b>	<b>10 Years</b>
■ CERS Insurance Plan	-7.49 (8)	-9.79 (7)	-5.43 (7)	5.80 (32)	6.46 (36)	7.21 (58)
● CERS IPS Index	-8.49 (15)	-10.75 (10)	-5.85 (8)	5.52 (43)	6.05 (53)	
5th Percentile	-6.76	-9.16	-4.36	7.38	7.70	8.61
1st Quartile	-9.45	-13.08	-8.88	6.07	6.75	7.92
Median	-10.61	-14.91	-11.09	5.28	6.12	7.35
3rd Quartile	-11.52	-16.47	-12.94	4.51	5.48	6.81
95th Percentile	-12.97	-18.38	-15.47	2.83	4.30	5.70
Population	540	539	536	516	497	412

Parentheses contain percentile rankings.  
Calculation based on monthly periodicity.

# Plan Sponsor Peer Group Analysis

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

Periods Ended June 30, 2022



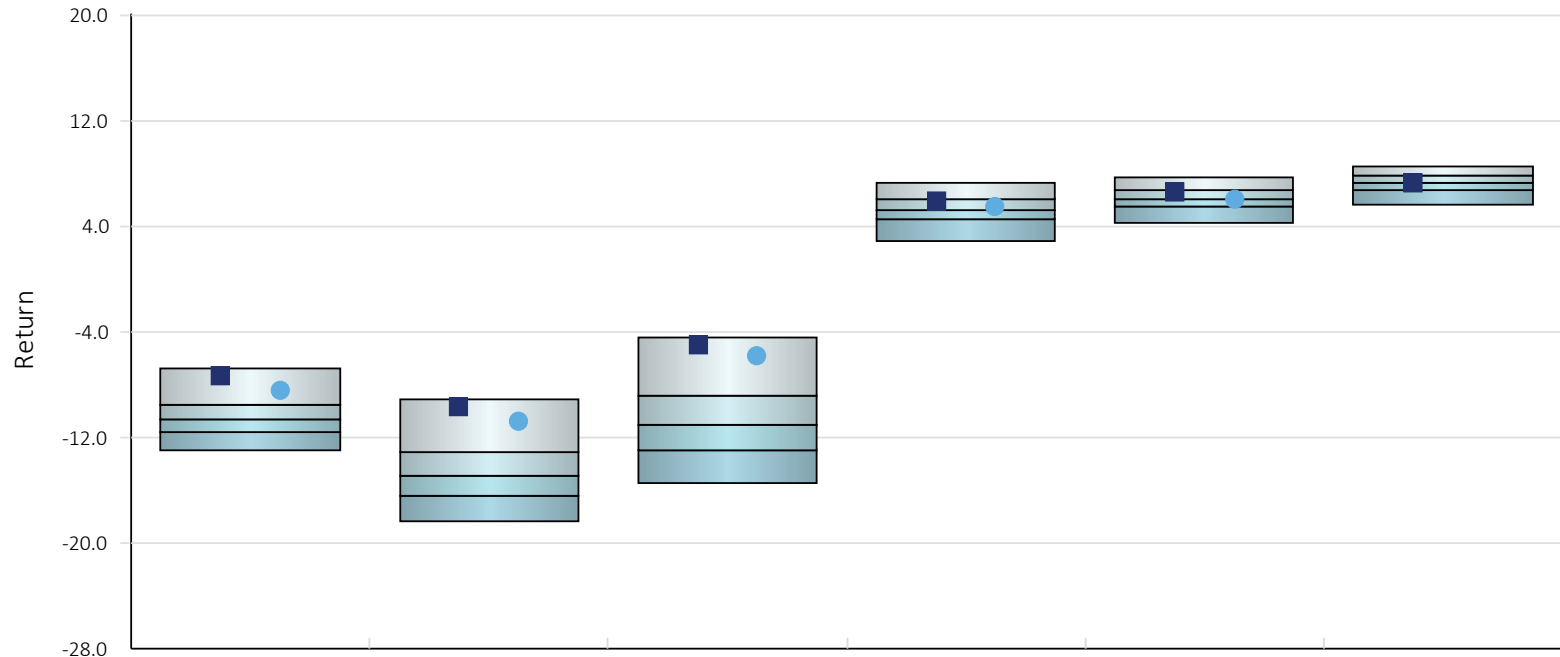
	<b>QTD</b>	<b>YTD</b>	<b>1 Year</b>	<b>3 Years</b>	<b>5 Years</b>	<b>10 Years</b>
■ CERS (H) Pension Plan	-7.71 (9)	-10.27 (9)	-6.06 (9)	5.90 (29)	6.45 (36)	7.29 (53)
● CERS (H) IPS Index	-8.57 (15)	-10.79 (10)	-6.14 (9)	5.57 (40)	6.14 (50)	
5th Percentile	-6.76	-9.16	-4.36	7.38	7.70	8.61
1st Quartile	-9.45	-13.08	-8.88	6.07	6.75	7.92
Median	-10.61	-14.91	-11.09	5.28	6.12	7.35
3rd Quartile	-11.52	-16.47	-12.94	4.51	5.48	6.81
95th Percentile	-12.97	-18.38	-15.47	2.83	4.30	5.70
Population	540	539	536	516	497	412

Parentheses contain percentile rankings.  
Calculation based on monthly periodicity.

# Plan Sponsor Peer Group Analysis

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

*Periods Ended June 30, 2022*



	<b>QTD</b>	<b>YTD</b>	<b>1 Year</b>	<b>3 Years</b>	<b>5 Years</b>	<b>10 Years</b>
■ CERS (H) Insurance Plan	-7.35 (8)	-9.59 (7)	-4.99 (6)	5.97 (27)	6.60 (30)	7.30 (53)
● CERS (H) IPS Index	-8.47 (15)	-10.72 (10)	-5.82 (8)	5.49 (44)	6.04 (54)	
5th Percentile	-6.76	-9.16	-4.36	7.38	7.70	8.61
1st Quartile	-9.45	-13.08	-8.88	6.07	6.75	7.92
Median	-10.61	-14.91	-11.09	5.28	6.12	7.35
3rd Quartile	-11.52	-16.47	-12.94	4.51	5.48	6.81
95th Percentile	-12.97	-18.38	-15.47	2.83	4.30	5.70
Population	540	539	536	516	497	412

Parentheses contain percentile rankings.  
Calculation based on monthly periodicity.

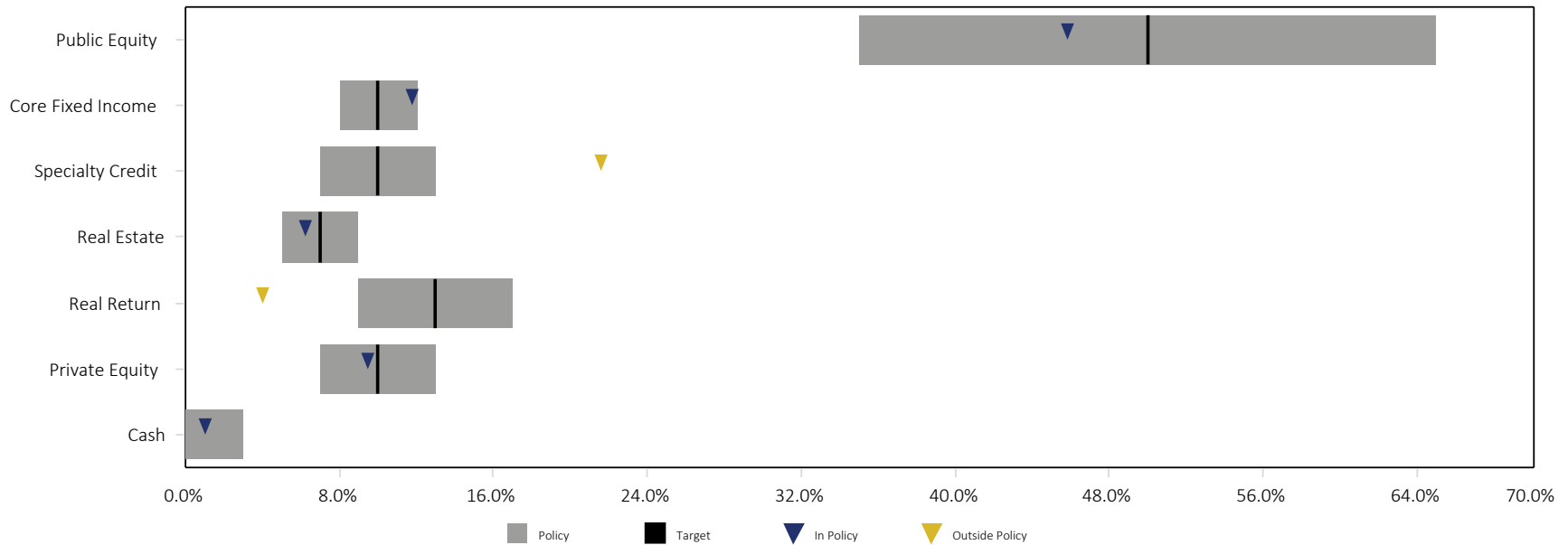


# Asset Allocation Compliance

CERS Pension Plan

Periods Ended As of June 30, 2022

## Executive Summary



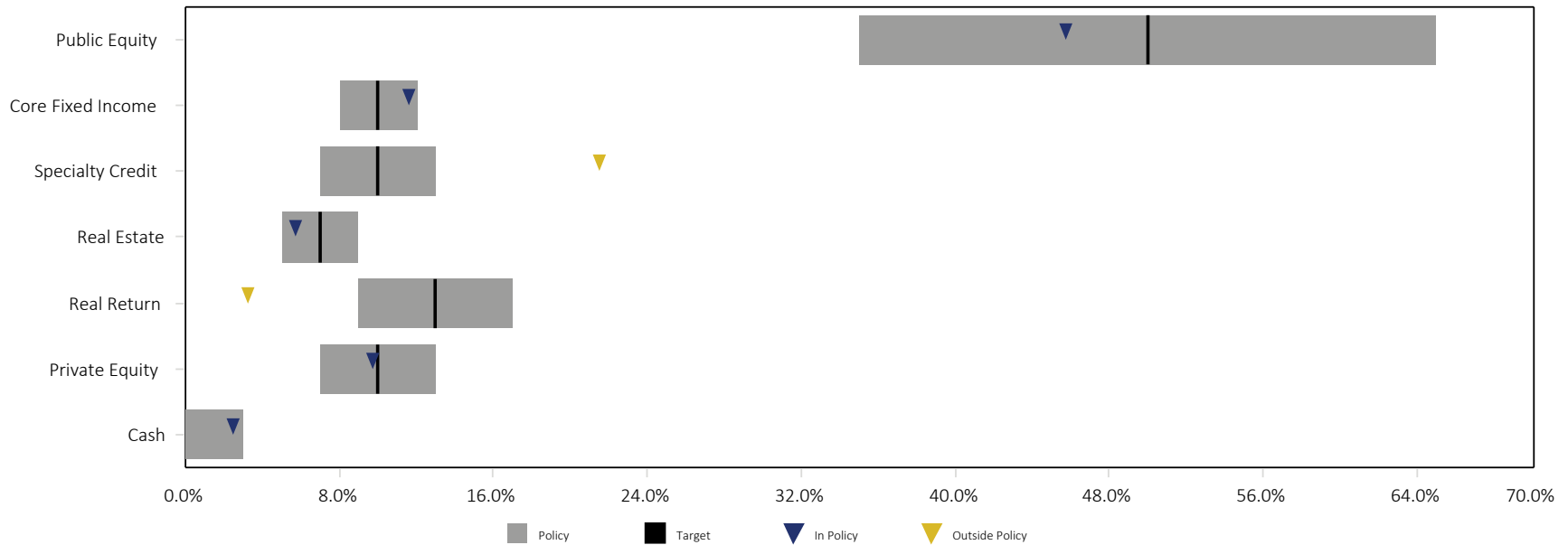
	Asset Allocation \$	Asset Allocation (%)	Minimum Allocation (%)	Maximum Allocation (%)	Target Allocation (%)	Target Rebalance \$
Public Equity	3,644,592,586	45.85	35.00	65.00	50.00	329,755,600
Core Fixed Income	937,469,270	11.79	8.00	12.00	10.00	-142,599,633
Specialty Credit	1,715,046,378	21.58	7.00	13.00	10.00	-920,176,741
Real Estate	494,606,975	6.22	5.00	9.00	7.00	61,801,771
Real Return	320,728,486	4.03	9.00	17.00	13.00	712,602,042
Private Equity	753,384,305	9.48	7.00	13.00	10.00	41,485,333
Cash	82,868,373	1.04	0.00	3.00	0.00	-82,868,373
<b>Total Fund</b>	<b>7,948,696,372</b>	<b>100.00</b>			<b>100.00</b>	

# Asset Allocation Compliance

CERS Insurance Plan

Periods Ended As of June 30, 2022

## Executive Summary



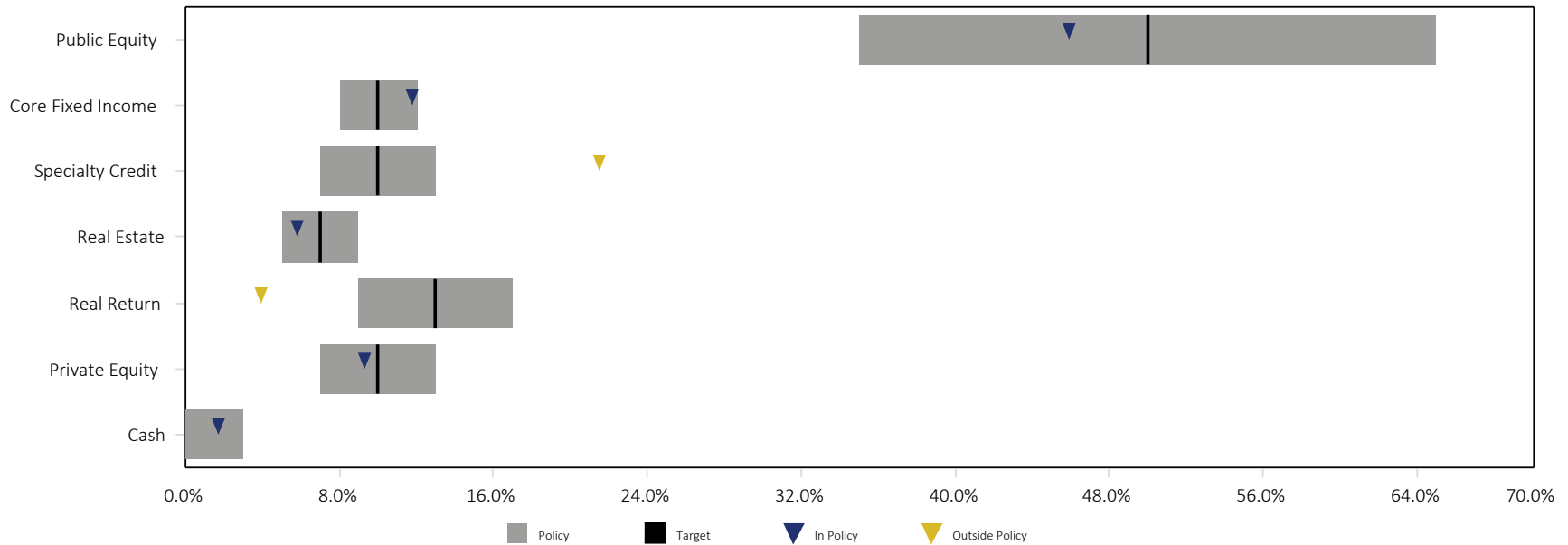
	Asset Allocation \$	Asset Allocation (%)	Minimum Allocation (%)	Maximum Allocation (%)	Target Allocation (%)	Target Rebalance \$
Public Equity	1,374,087,887	45.74	35.00	65.00	50.00	128,084,237
Core Fixed Income	347,800,786	11.58	8.00	12.00	10.00	-47,366,361
Specialty Credit	645,094,058	21.47	7.00	13.00	10.00	-344,659,633
Real Estate	171,044,446	5.69	5.00	9.00	7.00	39,259,651
Real Return	98,606,905	3.28	9.00	17.00	13.00	291,957,847
Private Equity	292,493,365	9.74	7.00	13.00	10.00	7,941,060
Cash	75,216,800	2.50	0.00	3.00	0.00	-75,216,800
<b>Total Fund</b>	<b>3,004,344,247</b>	<b>100.00</b>			<b>100.00</b>	

# Asset Allocation Compliance

CERS (H) Pension Plan

Periods Ended As of June 30, 2022

## Executive Summary



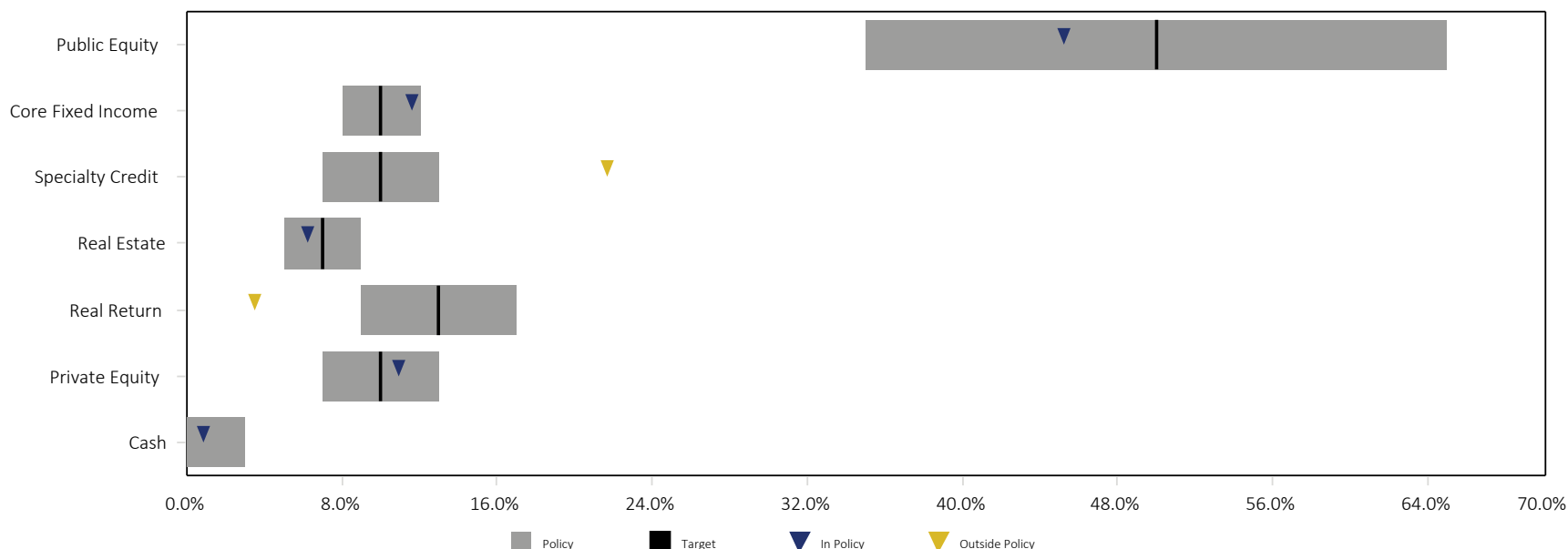
	Asset Allocation \$	Asset Allocation (%)	Minimum Allocation (%)	Maximum Allocation (%)	Target Allocation (%)	Target Rebalance \$
Public Equity	1,242,346,367	45.96	35.00	65.00	50.00	109,204,696
Core Fixed Income	317,542,965	11.75	8.00	12.00	10.00	-47,232,752
Specialty Credit	582,129,211	21.54	7.00	13.00	10.00	-311,818,998
Real Estate	157,477,647	5.83	5.00	9.00	7.00	31,739,502
Real Return	106,902,818	3.95	9.00	17.00	13.00	244,500,458
Private Equity	251,588,691	9.31	7.00	13.00	10.00	18,721,522
Cash	45,114,429	1.67	0.00	3.00	0.00	-45,114,429
<b>Total Fund</b>	<b>2,703,102,128</b>	<b>100.00</b>			<b>100.00</b>	

# Asset Allocation Compliance

CERS (H) Insurance Plan

Periods Ended As of June 30, 2022

## Executive Summary



	Asset Allocation \$	Asset Allocation (%)	Minimum Allocation (%)	Maximum Allocation (%)	Target Allocation (%)	Target Rebalance \$
Public Equity	682,688,757	45.26	35.00	65.00	50.00	71,576,735
Core Fixed Income	175,560,618	11.64	8.00	12.00	10.00	-24,707,520
Specialty Credit	327,061,717	21.68	7.00	13.00	10.00	-176,208,618
Real Estate	93,762,250	6.22	5.00	9.00	7.00	11,834,919
Real Return	52,461,558	3.48	9.00	17.00	13.00	143,647,470
Private Equity	164,729,188	10.92	7.00	13.00	10.00	-13,876,090
Cash	12,266,895	0.81	0.00	3.00	0.00	-12,266,895
<b>Total Fund</b>	<b>1,508,530,983</b>	<b>100.00</b>			<b>100.00</b>	

## Asset Allocation & Performance

### Insurance Plan Accounts

Periods Ended June 30, 2022

	Performance (%) net of fees								
	1 Month	QTD	YTD	FYTD	1 Year	3 Years	5 Years	Since Inception	Inception Date
<b>Public Equity</b>	<b>-8.54</b>	<b>-15.74</b>	<b>-21.31</b>					<b>-18.08</b>	<b>12/1/2021</b>
Public Equity Policy Index	-8.39	-15.53	-19.97					-16.74	
Value Added	-0.15	-0.21	-1.34					-1.34	
<b>US Equity Composite</b>	<b>-8.26</b>	<b>-16.25</b>	<b>-20.45</b>	<b>-13.35</b>	<b>-13.35</b>	<b>9.52</b>	<b>10.11</b>	<b>9.65</b>	<b>7/1/1992</b>
Russell 3000 Index	-8.37	-16.70	-21.10	-13.87	-13.87	9.77	10.60	9.85	
Value Added	0.11	0.45	0.65	0.52	0.52	-0.25	-0.49	-0.20	
<b>S&amp;P 500 Index</b>	<b>-8.12</b>	<b>-15.96</b>	<b>-19.82</b>	<b>-10.55</b>	<b>-10.55</b>	<b>10.91</b>	<b>11.57</b>	<b>8.04</b>	<b>7/1/2001</b>
S&P 500 Index	-8.25	-16.10	-19.96	-10.62	-10.62	10.60	11.31	7.61	
value added	0.13	0.14	0.14	0.07	0.07	0.31	0.26	0.43	
<b>Scientific Beta</b>	<b>-8.64</b>	<b>-13.28</b>	<b>-17.16</b>	<b>-9.82</b>	<b>-9.82</b>	<b>7.23</b>	<b>8.62</b>	<b>9.39</b>	<b>7/1/2016</b>
S&P 500 Index	-8.25	-16.10	-19.96	-10.62	-10.62	10.60	11.31	12.38	
Value Added	-0.39	2.82	2.80	0.80	0.80	-3.37	-2.69	-2.99	
<b>River Road FAV</b>	<b>-9.17</b>	<b>-15.07</b>	<b>-20.30</b>	<b>-19.31</b>	<b>-19.31</b>	<b>1.22</b>	<b>5.10</b>	<b>8.35</b>	<b>7/1/2016</b>
Russell 3000 Value Index	-8.81	-12.41	-13.15	-7.46	-7.46	6.82	7.01	8.49	
Value Added	-0.36	-2.66	-7.15	-11.85	-11.85	-5.60	-1.91	-0.14	
<b>Westfield Capital</b>	<b>-8.02</b>	<b>-20.75</b>	<b>-26.65</b>	<b>-20.35</b>	<b>-20.35</b>	<b>11.81</b>	<b>13.44</b>	<b>12.74</b>	<b>7/1/2011</b>
Russell 3000 Growth Index	-7.82	-20.83	-28.15	-19.78	-19.78	11.84	13.63	13.53	
Value Added	-0.20	0.08	1.50	-0.57	-0.57	-0.03	-0.19	-0.79	
<b>Internal US Mid Cap</b>	<b>-9.56</b>	<b>-15.31</b>	<b>-19.46</b>	<b>-14.53</b>	<b>-14.53</b>	<b>7.23</b>	<b>7.60</b>	<b>8.65</b>	<b>8/1/2014</b>
S&P MidCap 400 Index	-9.62	-15.42	-19.54	-14.64	-14.64	6.87	7.02	8.26	
Value Added	0.06	0.11	0.08	0.11	0.11	0.36	0.58	0.39	
<b>NTGI Structured</b>	<b>-7.79</b>	<b>-15.05</b>	<b>-20.13</b>	<b>-18.55</b>	<b>-18.55</b>	<b>6.37</b>	<b>6.95</b>	<b>9.62</b>	<b>7/1/2011</b>
Russell 2000 Index	-8.22	-17.20	-23.43	-25.20	-25.20	4.21	5.17	8.26	
Value Added	0.43	2.15	3.30	6.65	6.65	2.16	1.78	1.36	

## Asset Allocation & Performance

### Insurance Plan Accounts

Periods Ended June 30, 2022

	Performance (%) net of fees								
	1 Month	QTD	YTD	FYTD	1 Year	3 Years	5 Years	Since Inception	Inception Date
<b>Next Century Growth</b>	<b>-7.31</b>	<b>-23.99</b>	<b>-32.46</b>	<b>-30.24</b>	<b>-30.24</b>			<b>27.43</b>	<b>11/1/2019</b>
Russell Microcap Growth Index	-7.53	-22.40	-33.04	-43.98	-43.98			3.20	
Value Added	0.22	-1.59	0.58	13.74	13.74			24.23	
<b>Non-US Equity Composite</b>	<b>-8.91</b>	<b>-15.07</b>	<b>-22.03</b>	<b>-22.76</b>	<b>-22.76</b>	<b>1.39</b>	<b>3.09</b>	<b>2.22</b>	<b>4/1/2000</b>
MSCI ACWI ex US IMI (10/17)	-8.95	-14.28	-19.08	-19.86	-19.86	1.55	2.52	2.42	
Value Added	0.04	-0.79	-2.95	-2.90	-2.90	-0.16	0.57	-0.20	
<b>BlackRock World Ex US</b>	<b>-9.32</b>	<b>-14.52</b>	<b>-18.60</b>	<b>-16.59</b>	<b>-16.59</b>	<b>1.61</b>	<b>2.67</b>	<b>5.52</b>	<b>6/1/2012</b>
MSCI World ex US (11/19)	-9.41	-14.66	-18.76	-16.76	-16.76	1.48	2.58	5.43	
value added	0.09	0.14	0.16	0.17	0.17	0.13	0.09	0.09	
<b>American Century</b>	<b>-7.86</b>	<b>-18.52</b>	<b>-29.60</b>	<b>-28.81</b>	<b>-28.81</b>	<b>4.41</b>	<b>6.91</b>	<b>4.60</b>	<b>7/1/2014</b>
MSCI ACWI ex US IMI (10/17)	-8.95	-14.28	-19.08	-19.86	-19.86	1.55	2.50	2.03	
Value Added	1.09	-4.24	-10.52	-8.95	-8.95	2.86	4.41	2.57	
<b>Franklin Templeton</b>	<b>-10.07</b>	<b>-21.56</b>	<b>-33.31</b>	<b>-36.64</b>	<b>-36.64</b>	<b>-2.30</b>	<b>2.38</b>	<b>2.89</b>	<b>7/1/2014</b>
MSCI ACWI ex US IMI (10/17)	-8.95	-14.28	-19.08	-19.86	-19.86	1.55	2.50	2.03	
Value Added	-1.12	-7.28	-14.23	-16.78	-16.78	-3.85	-0.12	0.86	
<b>Lazard Asset Mgmt</b>	<b>-8.88</b>	<b>-12.49</b>	<b>-17.92</b>	<b>-19.68</b>	<b>-19.68</b>	<b>0.88</b>	<b>3.12</b>	<b>2.67</b>	<b>7/1/2014</b>
MSCI ACWI ex US IMI (10/17)	-8.95	-14.28	-19.08	-19.86	-19.86	1.55	2.50	2.03	
Value Added	0.07	1.79	1.16	0.18	0.18	-0.67	0.62	0.64	
<b>LSV Asset Mgmt</b>	<b>-9.52</b>	<b>-13.05</b>	<b>-15.68</b>	<b>-16.09</b>	<b>-16.09</b>	<b>0.72</b>	<b>1.40</b>	<b>1.51</b>	<b>7/1/2014</b>
MSCI ACWI ex US IMI (10/17)	-8.95	-14.28	-19.08	-19.86	-19.86	1.55	2.50	2.03	
Value Added	-0.57	1.23	3.40	3.77	3.77	-0.83	-1.10	-0.52	
<b>Axiom</b>	<b>-11.20</b>	<b>-20.07</b>	<b>-33.67</b>					<b>-30.63</b>	<b>12/1/2021</b>
MSCI AC World ex USA Small Cap (Net)	-11.04	-17.55	-22.92					-19.66	
Value Added	-0.16	-2.52	-10.75					-10.97	

## Asset Allocation & Performance

### Insurance Plan Accounts

Periods Ended June 30, 2022

	Performance (%) net of fees								
	1 Month	QTD	YTD	FYTD	1 Year	3 Years	5 Years	Since Inception	Inception Date
<b>JP Morgan Emerging Markets</b>	<b>-5.85</b>	<b>-12.33</b>	<b>-27.60</b>	<b>-35.02</b>	<b>-35.02</b>			<b>0.02</b>	<b>11/1/2019</b>
MSCI Emerging Markets IMI	-7.07	-11.98	-17.78	-24.45	-24.45			1.75	
Value Added	1.22	-0.35	-9.82	-10.57	-10.57			-1.73	
<b>Pzena Emerging Markets</b>	<b>-7.14</b>	<b>-10.29</b>	<b>-11.17</b>	<b>-15.08</b>	<b>-15.08</b>			<b>3.58</b>	<b>11/1/2019</b>
MSCI Emerging Markets (Net)	-6.65	-11.45	-17.63	-25.28	-25.28			0.72	
Value Added	-0.49	1.16	6.46	10.20	10.20			2.86	
<b>Private Equity Composite</b>	<b>1.17</b>	<b>3.09</b>	<b>9.33</b>	<b>30.31</b>	<b>30.31</b>	<b>18.14</b>	<b>16.73</b>	<b>11.45</b>	<b>7/1/2002</b>
KRS Short-Term PE Index	1.17	3.09	9.33	30.31	30.31	18.14	16.73	11.45	
Value Added	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Russell 3000 +3% 1 Quarter Lag	3.50	-4.58	5.05	15.28	15.28	21.79	18.86	12.65	
Value Added	-2.33	7.67	4.28	15.03	15.03	-3.65	-2.13	-1.20	
<b>Core Fixed Income Composite</b>	<b>-1.33</b>	<b>-2.33</b>	<b>-5.61</b>	<b>-5.67</b>	<b>-5.67</b>	<b>0.74</b>		<b>2.30</b>	<b>10/1/2018</b>
Blmbg. U.S. Aggregate	-1.57	-4.69	-10.35	-10.29	-10.29	-0.94		1.27	
Value Added	0.24	2.36	4.74	4.62	4.62	1.68		1.03	
<b>NISA</b>	<b>-1.34</b>	<b>-4.61</b>	<b>-10.19</b>	<b>-10.16</b>	<b>-10.16</b>	<b>-0.96</b>	<b>0.91</b>	<b>2.17</b>	<b>7/1/2011</b>
Blmbg. U.S. Aggregate	-1.57	-4.69	-10.35	-10.29	-10.29	-0.94	0.88	2.07	
Value Added	0.23	0.08	0.16	0.13	0.13	-0.02	0.03	0.10	
<b>Loomis Sayles Intrmd</b>	<b>-1.17</b>	<b>-2.90</b>	<b>-7.64</b>	<b>-8.14</b>	<b>-8.14</b>	<b>-0.05</b>		<b>1.12</b>	<b>2/1/2019</b>
Blmbg. U.S. Intermediate Aggregate	-1.27	-2.93	-7.48	-7.91	-7.91	-0.60		0.58	
Value Added	0.10	0.03	-0.16	-0.23	-0.23	0.55		0.54	
<b>Lord Abbett</b>	<b>-1.38</b>	<b>-1.79</b>	<b>-4.26</b>	<b>-4.21</b>	<b>-4.21</b>	<b>0.58</b>		<b>1.68</b>	<b>10/1/2018</b>
ICE BofAML 1-3 Year U.S. Corporate	-0.86	-1.02	-4.14	-4.50	-4.50	0.57		1.59	
Value Added	-0.52	-0.77	-0.12	0.29	0.29	0.01		0.09	

## Asset Allocation & Performance

### Insurance Plan Accounts

Periods Ended June 30, 2022

	Performance (%) net of fees								
	1 Month	QTD	YTD	FYTD	1 Year	3 Years	5 Years	Since Inception	Inception Date
<b>Specialty Credit Composite</b>	<b>-1.40</b>	<b>-1.61</b>	<b>-1.91</b>	<b>1.40</b>	<b>1.40</b>	<b>4.72</b>		<b>5.15</b>	<b>10/1/2018</b>
Specialty Credit Policy Index	-4.45	-7.13	-9.44	-7.86	-7.86	1.18		1.88	
Value Added	3.05	5.52	7.53	9.26	9.26	3.54		3.27	
<b>Adams St SPC II A</b>	<b>-2.86</b>	<b>14.16</b>	<b>14.16</b>	<b>21.24</b>	<b>21.24</b>			<b>17.27</b>	<b>6/1/2020</b>
<b>Adams St SPC II B</b>	<b>1.26</b>	<b>-2.99</b>	<b>-2.99</b>	<b>3.99</b>	<b>3.99</b>			<b>9.96</b>	<b>6/1/2020</b>
<b>Blue Torch</b>	<b>2.95</b>	<b>2.95</b>	<b>5.99</b>	<b>13.12</b>	<b>13.12</b>			<b>8.59</b>	<b>8/1/2020</b>
<b>BSP Coinvestment</b>	<b>1.59</b>	<b>1.59</b>	<b>3.26</b>	<b>6.06</b>	<b>6.06</b>			<b>6.44</b>	<b>10/1/2019</b>
S&P/LSTA Leverage Loan Index	-2.16	-4.45	-4.55	-2.77	-2.77			1.91	
Value Added	3.75	6.04	7.81	8.83	8.83			4.53	
<b>BSP Private Credit</b>	<b>1.46</b>	<b>1.46</b>	<b>3.52</b>	<b>10.00</b>	<b>10.00</b>	<b>7.68</b>		<b>6.12</b>	<b>2/1/2018</b>
S&P/LSTA Leverage Loan Index	-2.16	-4.45	-4.55	-2.77	-2.77	2.09		2.58	
Value Added	3.62	5.91	8.07	12.77	12.77	5.59		3.54	
<b>CapitalSpring</b>	<b>2.10</b>	<b>2.10</b>	<b>5.03</b>	<b>7.76</b>	<b>7.76</b>			<b>9.61</b>	<b>2/1/2020</b>
S&P/LSTA Leverage Loan Index	-2.16	-4.45	-4.55	-2.77	-2.77			1.22	
Value Added	4.26	6.55	9.58	10.53	10.53			8.39	
<b>Cerberus Capital Mgmt</b>	<b>0.97</b>	<b>2.81</b>	<b>5.83</b>	<b>15.84</b>	<b>15.84</b>	<b>11.89</b>	<b>10.45</b>	<b>9.75</b>	<b>9/1/2014</b>
S&P/LSTA Leverage Loan Index	-2.16	-4.45	-4.55	-2.77	-2.77	2.09	2.91	3.13	
Value Added	3.13	7.26	10.38	18.61	18.61	9.80	7.54	6.62	
<b>Columbia</b>	<b>-6.78</b>	<b>-9.72</b>	<b>-13.52</b>	<b>-12.08</b>	<b>-12.08</b>	<b>-0.19</b>	<b>1.99</b>	<b>4.96</b>	<b>11/1/2011</b>
Blmbg. U.S. Corp: High Yield	-6.73	-9.83	-14.19	-12.81	-12.81	0.21	2.10	4.92	
Value Added	-0.05	0.11	0.67	0.73	0.73	-0.40	-0.11	0.04	
<b>Manulife Asset Mgmt</b>	<b>-4.43</b>	<b>-7.23</b>	<b>-10.80</b>	<b>-10.75</b>	<b>-10.75</b>	<b>1.55</b>	<b>2.10</b>	<b>3.38</b>	<b>12/1/2011</b>
Policy Index	-2.00	-5.13	-10.93	-10.89	-10.89	-0.94	0.94	1.09	
Value Added	-2.43	-2.10	0.13	0.14	0.14	2.49	1.16	2.29	



## Asset Allocation & Performance

### Insurance Plan Accounts

Periods Ended June 30, 2022

	Performance (%) net of fees								
	1 Month	QTD	YTD	FYTD	1 Year	3 Years	5 Years	Since Inception	Inception Date
<b>Marathon Bluegrass</b>	<b>-0.77</b>	<b>0.16</b>	<b>-0.56</b>	<b>5.58</b>	<b>5.58</b>	<b>6.27</b>	<b>5.49</b>	<b>6.90</b>	<b>1/1/2016</b>
Blmbg. U.S. Corp: High Yield	-6.73	-9.83	-14.19	-12.81	-12.81	0.21	2.10	4.89	
Value Added	5.96	9.99	13.63	18.39	18.39	6.06	3.39	2.01	
<b>Shenkman Capital</b>	<b>-2.28</b>	<b>-4.39</b>	<b>-4.89</b>	<b>-3.37</b>	<b>-3.37</b>	<b>1.73</b>	<b>2.74</b>	<b>3.43</b>	<b>7/1/2011</b>
S&P/LSTA Leverage Loan Index	-2.16	-4.45	-4.55	-2.77	-2.77	2.09	2.91	3.72	
Value Added	-0.12	0.06	-0.34	-0.60	-0.60	-0.36	-0.17	-0.29	
<b>Waterfall</b>	<b>-2.59</b>	<b>-1.60</b>	<b>-1.83</b>	<b>2.58</b>	<b>2.58</b>	<b>2.37</b>	<b>4.97</b>	<b>7.93</b>	<b>7/1/2011</b>
Policy Index	-4.43	-6.34	-9.25	-8.44	-8.44	0.54	1.98	3.49	
Value Added	1.84	4.74	7.42	11.02	11.02	1.83	2.99	4.44	
<b>White Oak Yield Spectrum</b>	<b>1.58</b>	<b>1.58</b>	<b>3.23</b>	<b>5.86</b>	<b>5.86</b>	<b>6.06</b>		<b>5.41</b>	<b>3/1/2018</b>
S&P/LSTA Leverage Loan Index	-2.16	-4.45	-4.55	-2.77	-2.77	2.09		2.59	
Value Added	3.74	6.03	7.78	8.63	8.63	3.97		2.82	
<b>Arrowmark</b>	<b>0.72</b>	<b>1.36</b>	<b>3.12</b>	<b>9.44</b>	<b>9.44</b>	<b>8.67</b>		<b>8.96</b>	<b>6/1/2018</b>
S&P/LSTA Leverage Loan Index	-2.16	-4.45	-4.55	-2.77	-2.77	2.09		2.53	
Value Added	2.88	5.81	7.67	12.21	12.21	6.58		6.43	
<b>H/2 Credit Partner</b>	<b>0.00</b>	<b>0.00</b>	<b>5.07</b>	<b>1.32</b>	<b>1.32</b>	<b>2.40</b>	<b>1.83</b>	<b>4.36</b>	<b>7/1/2011</b>
<b>Mesa West Core Lend</b>	<b>1.17</b>	<b>1.17</b>	<b>2.75</b>	<b>4.37</b>	<b>4.37</b>	<b>6.12</b>	<b>6.39</b>	<b>6.36</b>	<b>5/1/2013</b>
<b>Mesa West IV</b>	<b>0.87</b>	<b>0.87</b>	<b>3.55</b>	<b>9.36</b>	<b>9.36</b>	<b>8.40</b>	<b>7.75</b>	<b>6.73</b>	<b>3/1/2017</b>
<b>Cash Composite</b>	<b>0.09</b>	<b>0.18</b>	<b>0.20</b>	<b>0.24</b>	<b>0.24</b>	<b>0.64</b>	<b>1.18</b>	<b>2.44</b>	<b>7/1/1992</b>
FTSE 3 Month T-Bill	0.07	0.14	0.17	0.19	0.19	0.61	1.09	2.31	
Value Added	0.02	0.04	0.03	0.05	0.05	0.03	0.09	0.13	
<b>Real Estate Composite</b>	<b>1.73</b>	<b>6.66</b>	<b>14.09</b>	<b>27.50</b>	<b>27.50</b>	<b>15.62</b>	<b>12.67</b>	<b>10.37</b>	<b>5/1/2009</b>
NCREIF ODCE NOF 1 Quarter Lag	7.14	7.14	15.34	27.26	27.26	10.30	8.90		
Value Added	-5.41	-0.48	-1.25	0.24	0.24	5.32	3.77		

## Asset Allocation & Performance

### Insurance Plan Accounts

Periods Ended June 30, 2022

	Performance (%) net of fees								
	1 Month	QTD	YTD	FYTD	1 Year	3 Years	5 Years	Since Inception	Inception Date
Baring	15.19	10.87	11.89	13.05	13.05	26.73		22.38	1/1/2019
Barings Euro RE II	-3.40	-6.99	0.65	22.95	22.95			-18.84	12/1/2020
Divcowest IV	1.10	1.10	20.28	39.10	39.10	18.04	16.00	19.83	3/1/2014
Fundamental Partners III	4.20	4.20	14.56	34.57	34.57	22.38	15.87	15.68	5/1/2017
Greenfield Acq VI	-1.43	-1.43	-12.08	-41.46	-41.46	-46.10	-35.75	-16.45	12/1/2012
Greenfield Acq VII	1.59	1.59	18.03	35.54	35.54	22.21	18.61	15.48	7/1/2014
Harrison Street	0.00	2.57	5.31	9.78	9.78	7.13	7.58	7.81	5/1/2012
Lubert Adler VII	4.91	4.91	9.94	13.32	13.32	-2.62	3.08	-0.60	7/1/2014
Lubert Adler VII B	5.87	5.87	14.27	58.20	58.20	25.00	15.97	15.97	7/1/2017
Patron Capital	0.87	-2.89	6.22	21.29	21.29	8.02	12.61	5.32	8/1/2016
Prologis Targeted US	0.00	11.93	27.17	58.83	58.83	27.10	23.25	19.79	10/1/2014
Rubenstein PF II	0.22	0.22	3.85	4.97	4.97	-1.03	4.55	8.35	7/1/2013
Stockbridge Sm/Mkts	2.60	13.34	20.34	29.23	29.23	14.26	11.89	11.06	5/1/2014
Walton St RE VI	2.42	2.42	10.99	16.55	16.55	2.71	3.93	-12.38	5/1/2009
Walton St RE VII	-1.52	-1.52	0.53	8.10	8.10	-3.31	-0.24	5.77	7/1/2013
<b>Real Return Composite</b>	<b>-1.96</b>	<b>-0.90</b>	<b>-1.27</b>	<b>2.26</b>	<b>2.26</b>	<b>5.15</b>	<b>4.44</b>	<b>4.03</b>	<b>7/1/2011</b>
Real Return (I)	-1.96	-0.90	-1.27	2.26	2.26	5.15	4.20	3.49	
Value Added	0.00	0.00	0.00	0.00	0.00	0.00	0.24	0.54	
<b>Putnam</b>	<b>0.11</b>	<b>0.09</b>	<b>-5.65</b>	<b>-1.46</b>	<b>-1.46</b>			<b>11.48</b>	<b>7/1/2020</b>
Policy Index	-5.99	-12.01	-16.81	-12.71	-12.71			4.34	
Value Added	6.10	12.10	11.16	11.25	11.25			7.14	

## Asset Allocation & Performance

### Insurance Plan Accounts

Periods Ended June 30, 2022

	Performance (%) net of fees								
	1 Month	QTD	YTD	FYTD	1 Year	3 Years	5 Years	Since Inception	Inception Date
<b>Tortoise Capital</b>	-13.71	-9.85	11.13	10.34	10.34	0.96	0.34	8.22	8/1/2009
Alerian MLP Index	-13.95	-7.38	10.04	4.33	4.33	0.07	-0.29	5.36	
Value Added	0.24	-2.47	1.09	6.01	6.01	0.89	0.63	2.86	
<b>Amerra AGRI Fund II</b>	4.40	4.40	11.51	16.51	16.51	11.17	5.88	5.93	12/1/2012
Amerra AGRI Holdings	2.85	2.85	1.09	1.68	1.68	-0.92	-1.95	-1.26	8/1/2015
BTG Pactual	14.63	14.63	10.55	29.96	29.96	4.09	1.81	-2.96	12/1/2014
IFM Infrastructure	0.96	0.96	2.13	6.95	6.95	4.21		4.21	7/1/2019
Magnetar MTP EOF II	122.95	122.95	181.65	227.21	227.21	68.80	40.12	27.73	8/1/2015
Oberland Capital	1.98	1.98	3.92	13.53	13.53	20.03		14.50	8/1/2018
Taurus Mine Finance	29.76	29.76	43.97	57.56	57.56	10.66	11.09	12.97	4/1/2015
TPF II	-0.08	-0.08	36.67	36.24	36.24	6.32	6.35	-0.34	10/1/2008
Blackstone Strat Opp	2.52	2.31	3.54	6.26	6.26	-4.07		-1.75	8/1/2017
Luxor Capital	-0.04	0.72	0.43	10.39	10.39	-9.01	1.42	-0.42	4/1/2014
Myriad Opportunities	-0.19	-0.39	-43.04	-58.09	-58.09	-20.37	-13.00	-9.14	5/1/2016
Pine River	-2.83	-13.30	-13.28	-12.81	-12.81	3.30	3.77	2.30	5/1/2014
PRISMA Capital	0.15	0.06	-0.22	-0.62	-0.62	-0.04	1.41	2.54	9/1/2011
SRS Partners US	0.00	0.00	0.00	-0.57	-0.57	8.03		9.21	8/1/2017
Tricadia Select	0.00	0.00	0.00	0.00	0.00	0.35		-5.15	9/1/2017



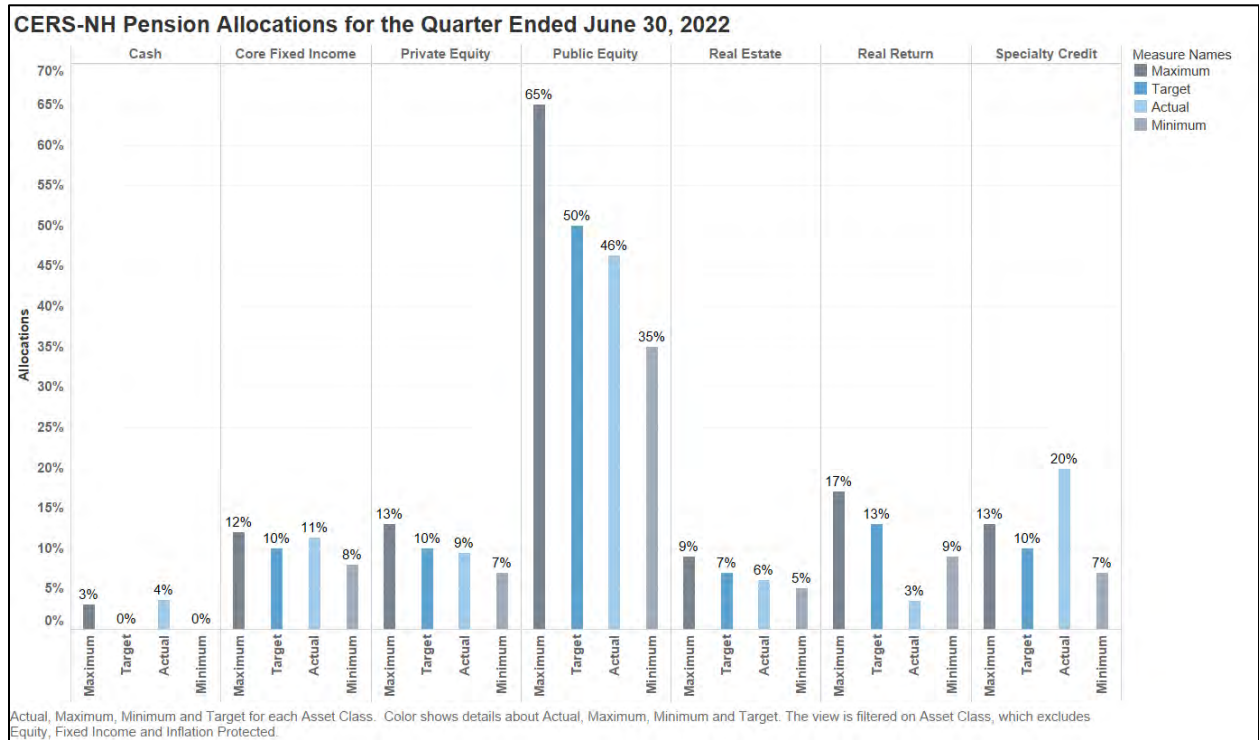
**County Employees Retirement System Pension and Insurance Trusts**  
 Investment Policy Statement Compliance Review  
 For the Quarter Ended June 30, 2022<sup>1</sup>

**Asset Allocations**

The County Employees Retirement System (CERS) Investment Committee recognizes asset allocation as an investment strategy where apportioning resources across asset classes may temper volatility and risk. Portfolio diversification is vital because risk tolerance is not the same for all plans. Therefore, each plan has been studied and asset allocation guidelines have been established for CERS-Nonhazardous (CERS-NH) Pension, CERS-Hazardous (CERS-H) Pension, CERS-NH Insurance, and CERS-H Insurance. All allocations and ranges are based on assumptions found in the Investment Policy Statement (IPS).<sup>2</sup>

The following exhibits display asset classes; minimum and maximum asset allocations; and, target and actual asset allocations, that are prescribed by the IPS. All plans were overweight in Cash and Specialty Credit and underweight in Real Return. The aforementioned asset classes fell outside of the compliance bands illustrated by the minimum and maximum bars in the graphic.

*Exhibit 1*



<sup>1</sup> Raw data are available in the Appendices.

<sup>2</sup> County Employees Retirement System, "Investment Policy Statement." Adopted June 14, 2022. Available at: <https://kyret.ky.gov/Investments/Investments-Library/Pages/Investments-Policies.aspx>

Exhibit 2

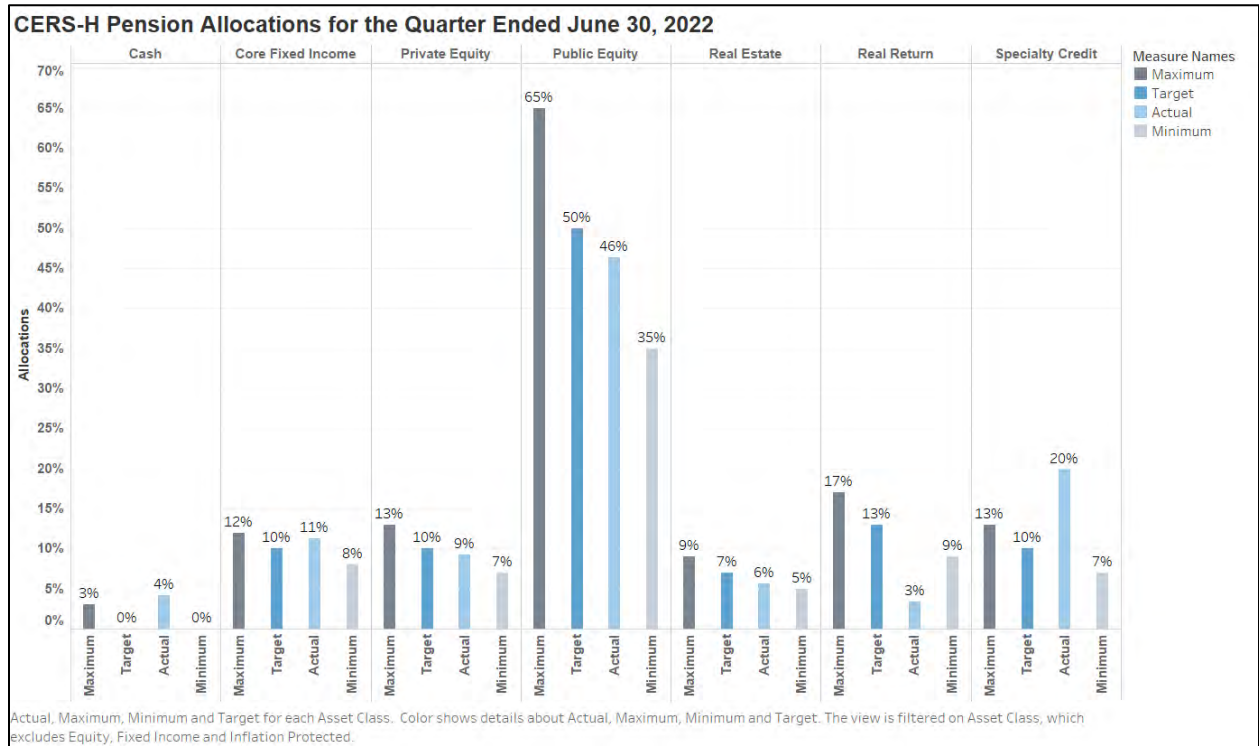


Exhibit 3

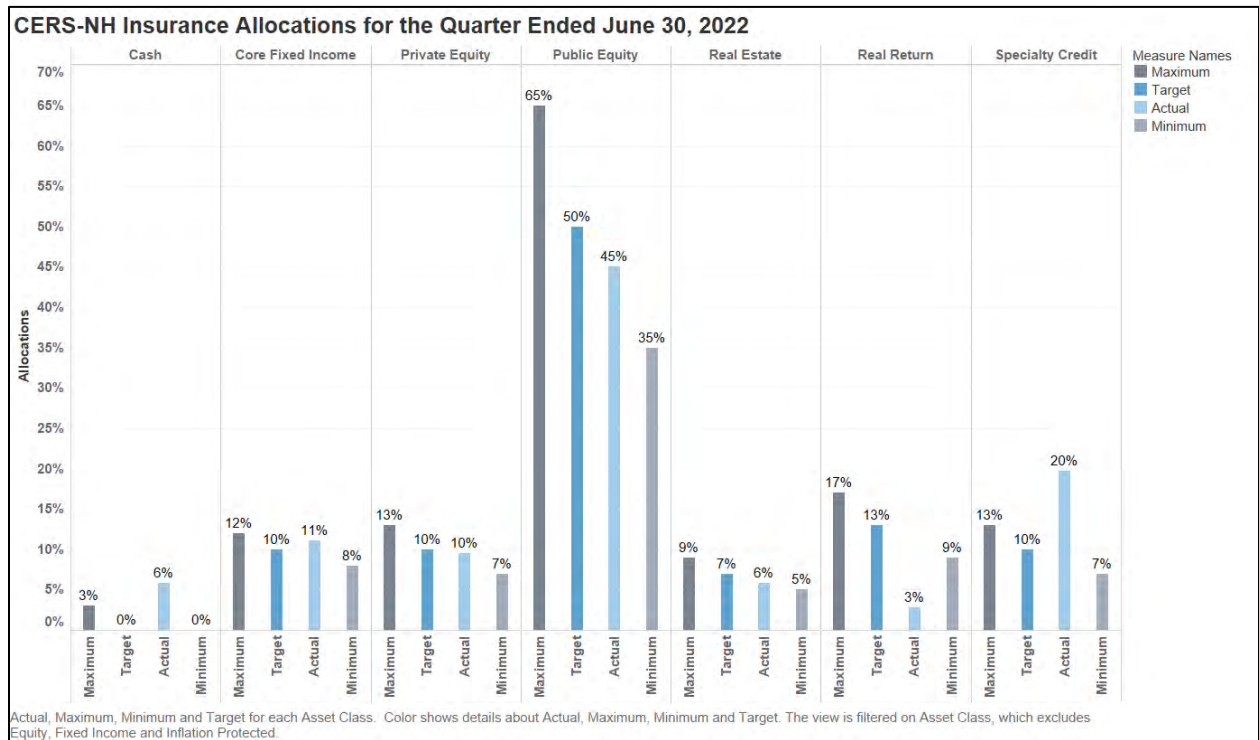
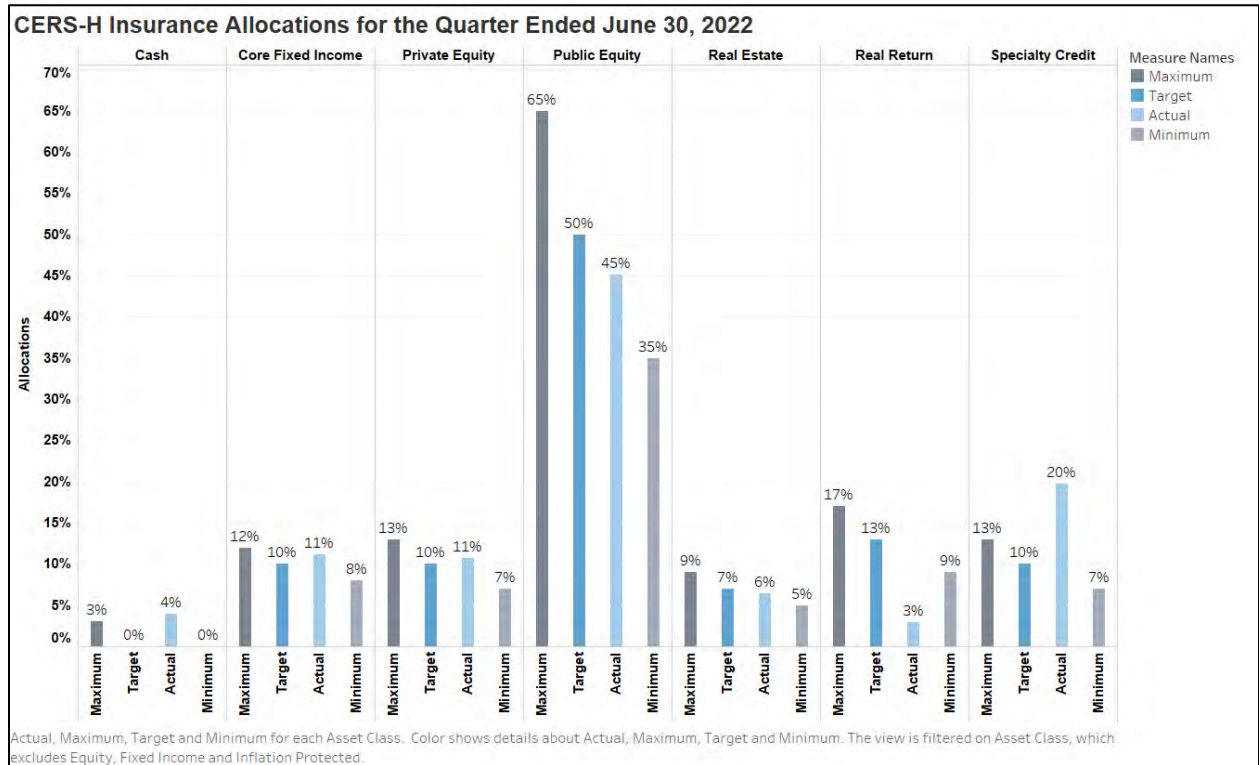


Exhibit 4



## Allocation Trends

The following exhibits represent CERS-NH and CERS-H for both Pension and Insurance Actual Asset allocation trends from Q1 2020 to Q4 2022. Note that the numbers in the exhibits are percentages, not dollar values. For CERS-NH Pension and Insurance Allocations FY2021 Q3, there was a noticeable increase in Public Equity and subsequent decrease in Core Fixed Income. Changes in any asset allocation will naturally affect the balances of each asset class.

**Exhibit 5**

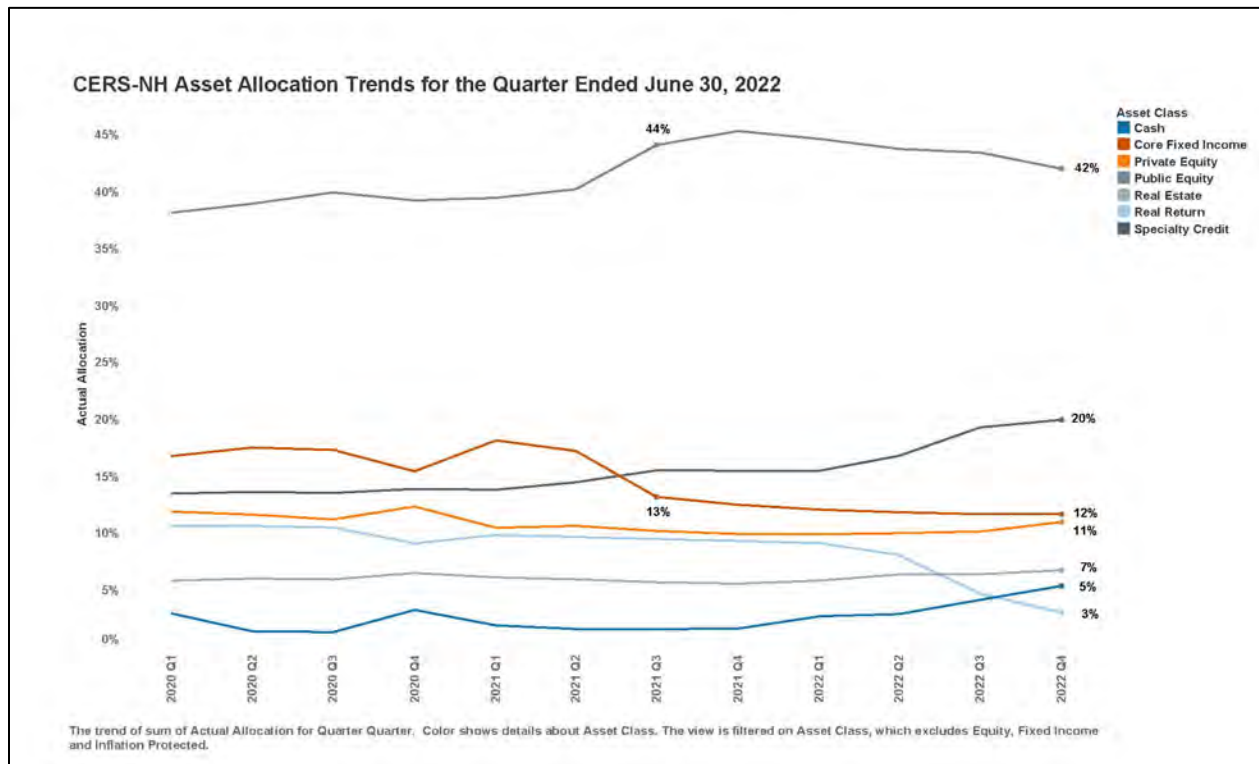


Exhibit 6

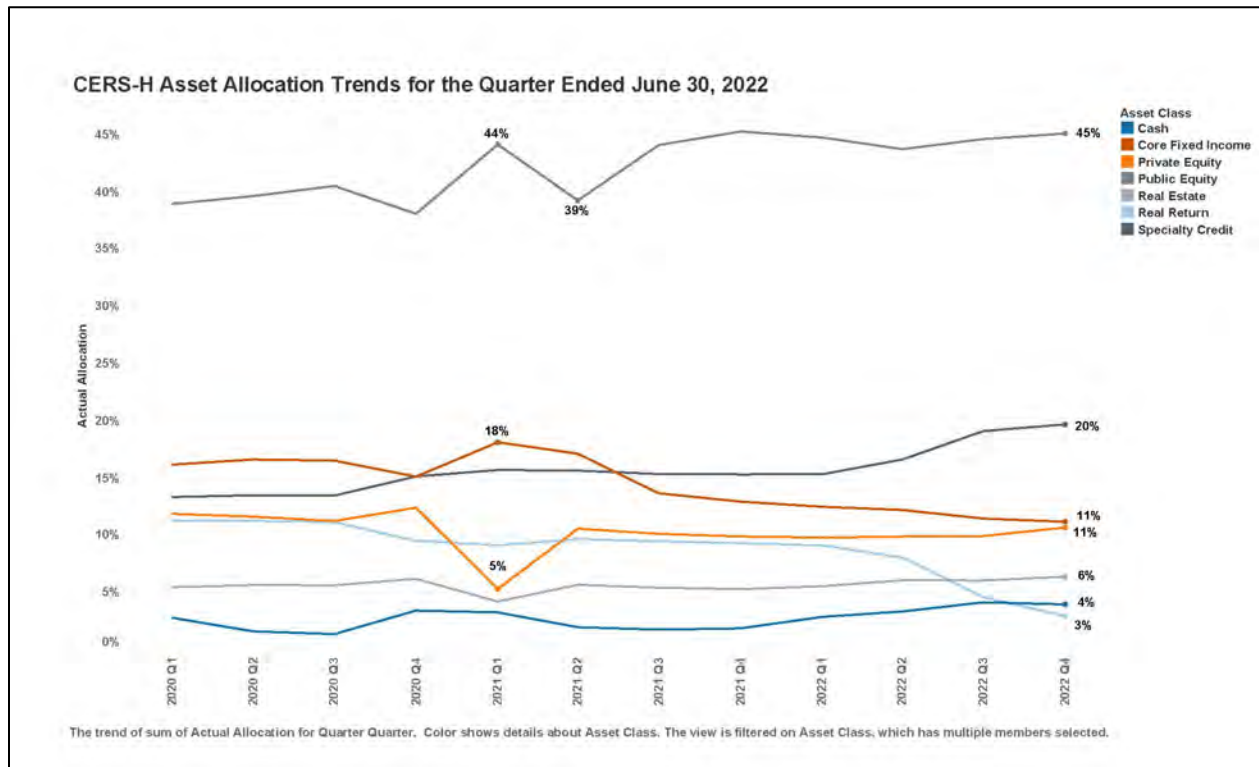


Exhibit 7

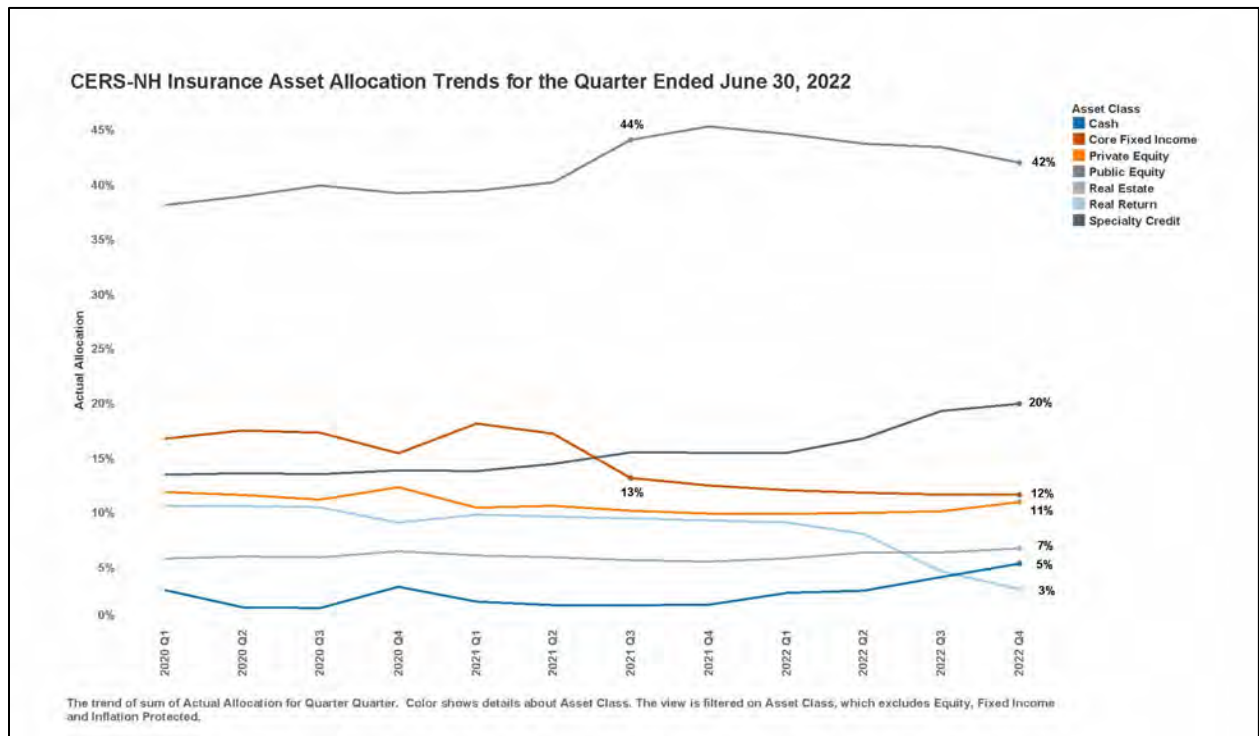
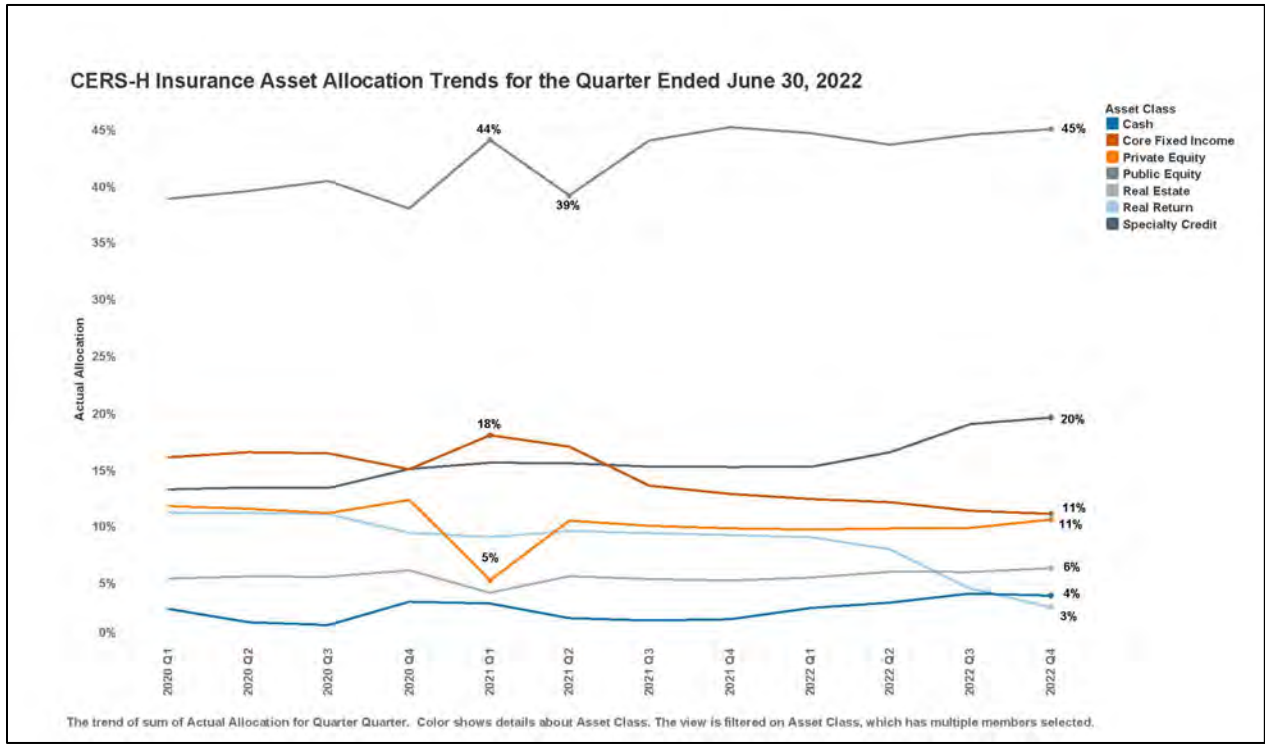




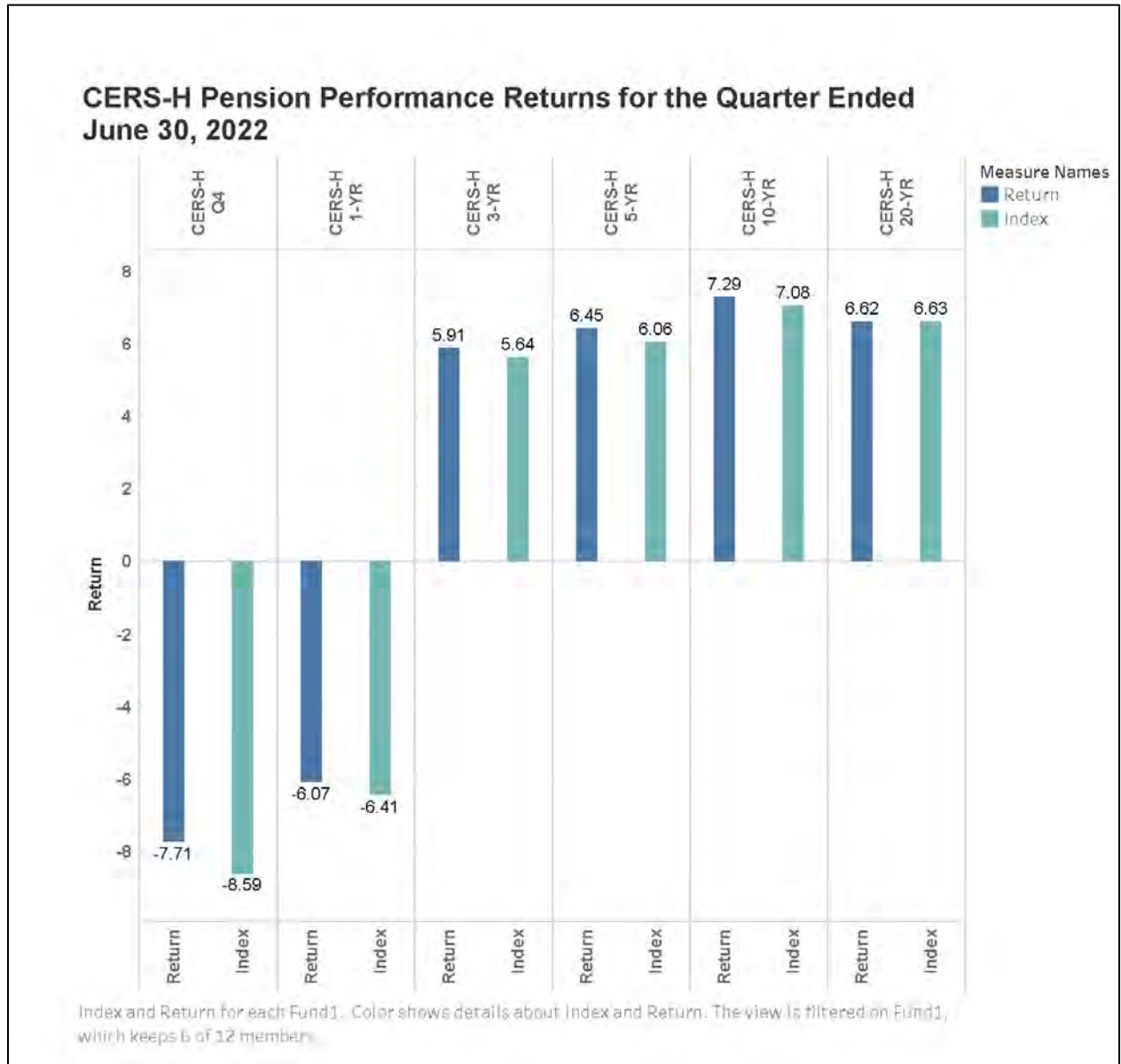
Exhibit 8



## Returns

CERS returns are measured on a rolling basis and should exceed the return rates of comparable passive market indices. The definitions for short-term and long-term rates of return can be found in the CERS IPS.<sup>3</sup> Further, plan benchmarks can be found in the CERS IPS and in the Appendix in this document. The exhibits below display returns for the quarter ended June 30, 2022 for each plan. All but the 20-Year returns for each plan exceeded their respective Index. Long-term performance (5-Year through 20-Year) for all plans outpaced the Actuarial Assumed Rate of Return of 6.25%.

Exhibit 9



<sup>3</sup> County Employees Retirement System, "Investment Policy Statement." Adopted June 14, 2022. Available at: <https://kyret.ky.gov/Investments/Investments-Library/Pages/Investments-Policies.aspx>

Exhibit 10

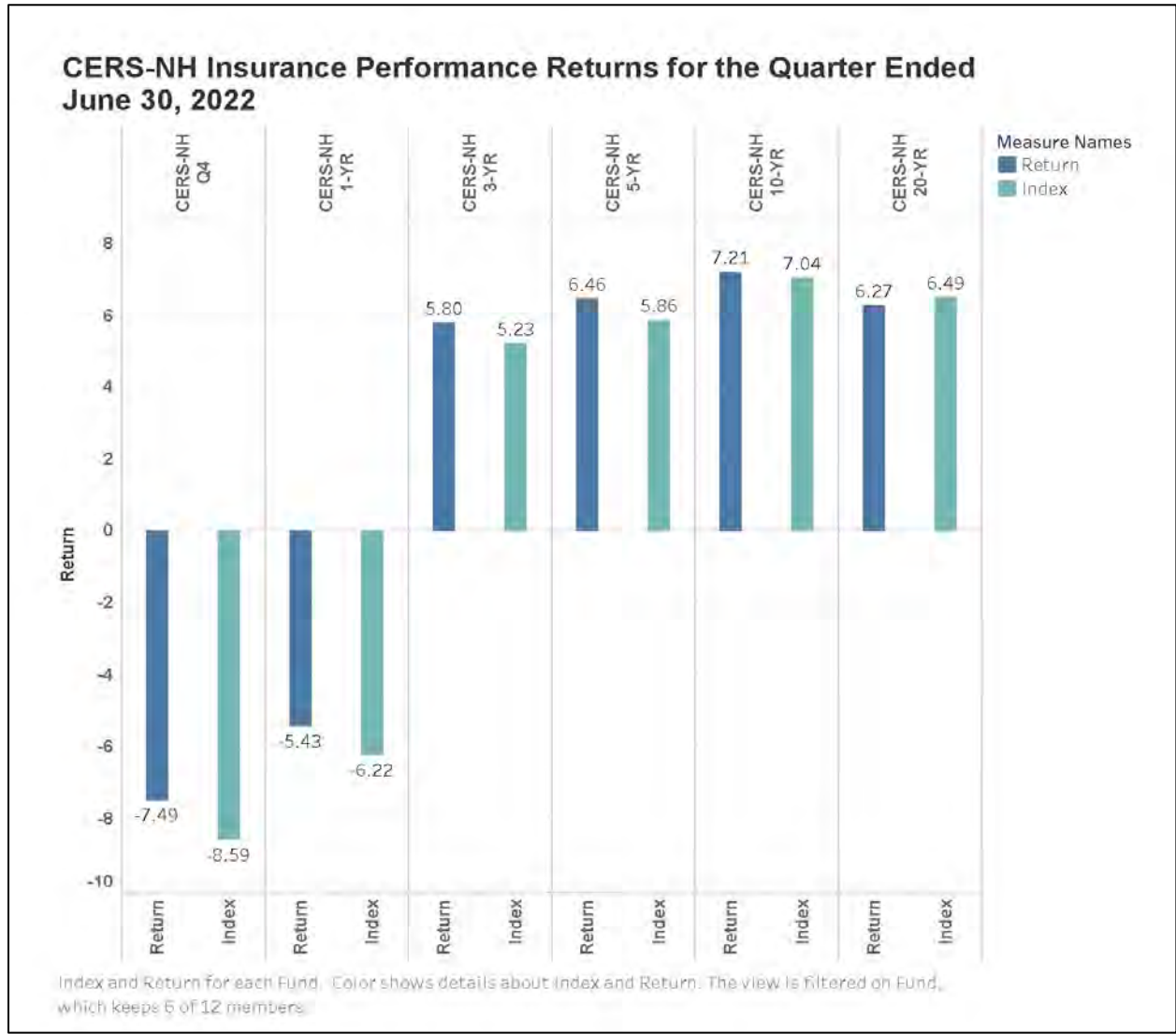
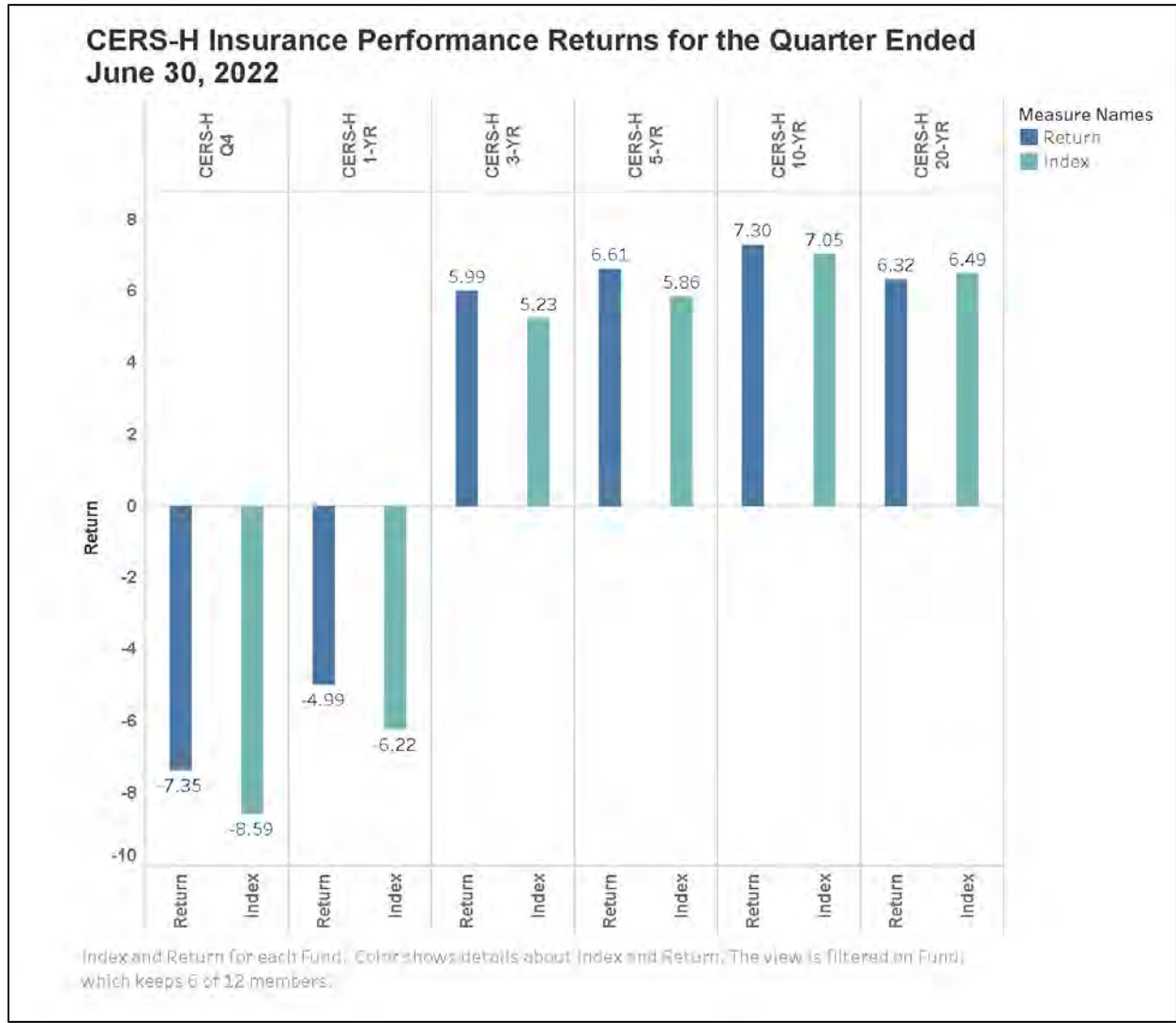


Exhibit 11



## Market Values

The following exhibits with dual axes represent market value; total market value; and percent of total market value for both CERS-NH and CERS-H Pension and Insurance. The trends have been calculated from Q1 2020 to Q4 2022. As indicated, CERS Pension had a starting value in Q1 2020 of ~\$9.7B with an ending value in Q4 2022 of ~\$10.7B. CERS Insurance had a starting value in Q1 2020 of ~\$4.5B with an ending value in Q4 2022 of ~\$2.8B. The market values reflect deltas in the market. For example, there was a significant dip in the S&P 500 on March 15, 2020 which is mirrored in the chart below for Q3 2020.

Exhibit 12

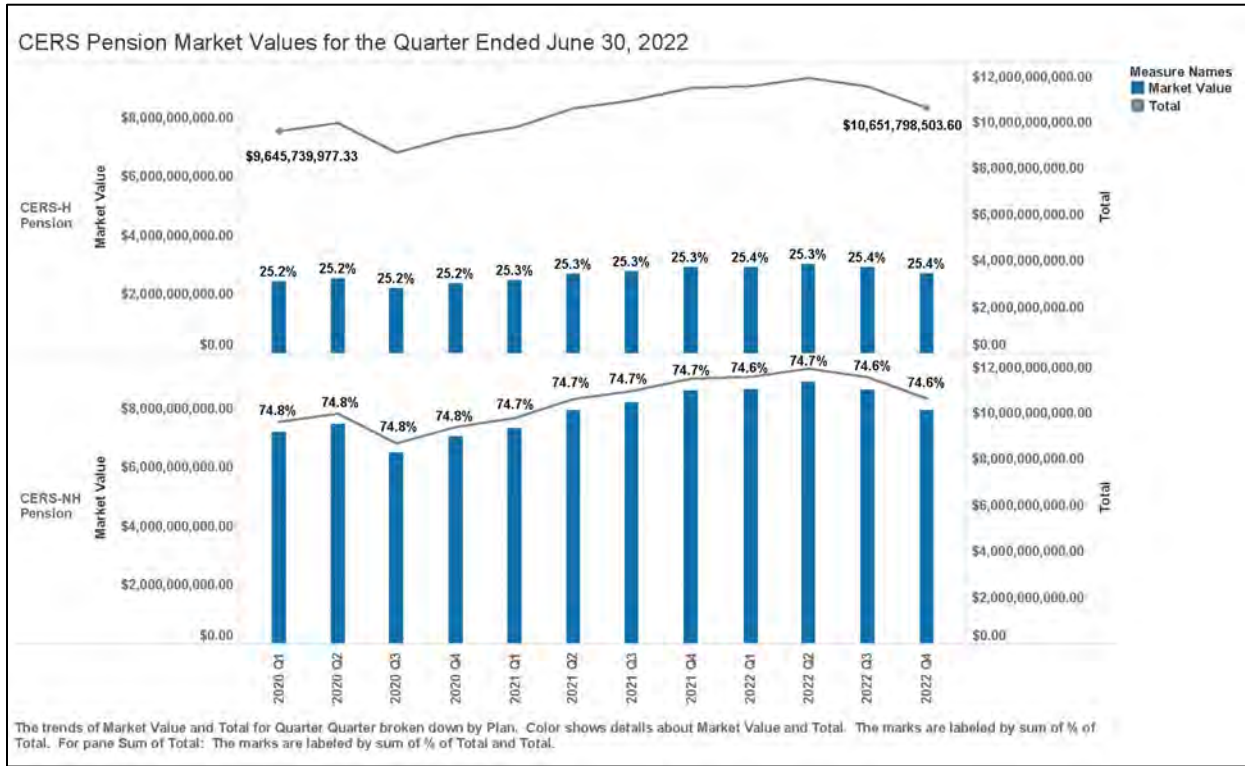
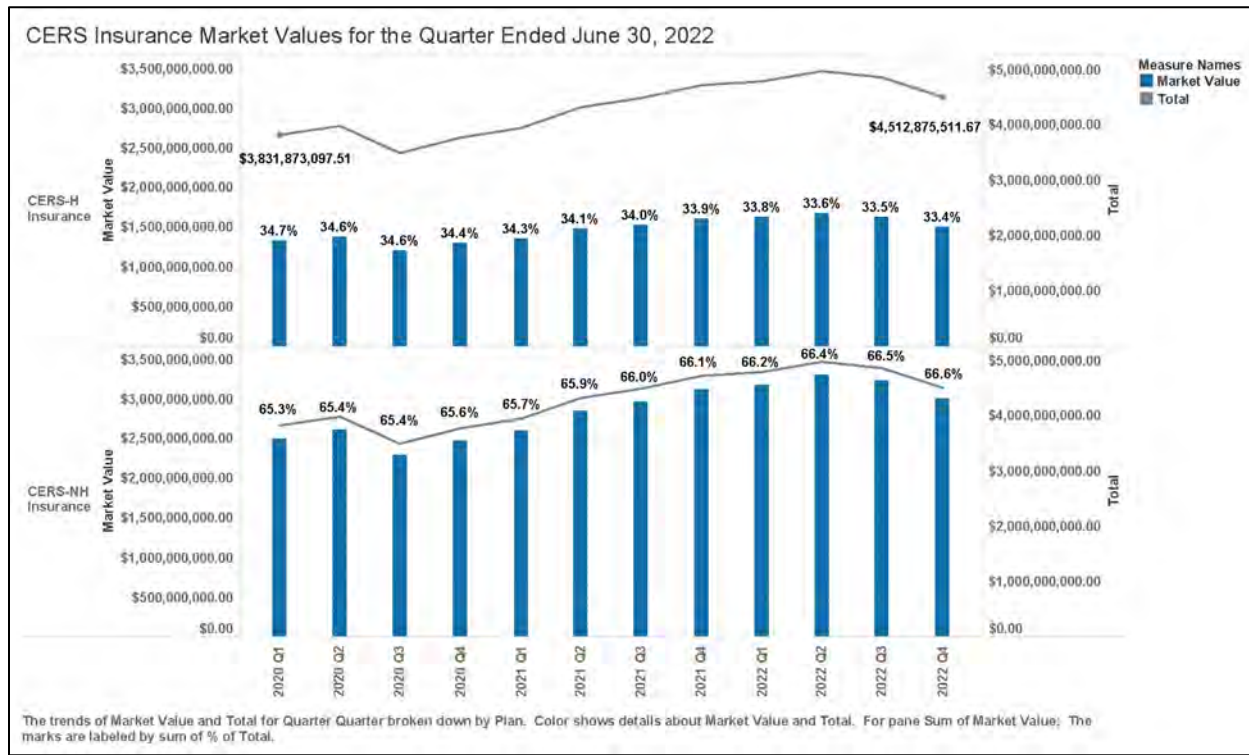


Exhibit 13



## Investment Strategy and Plan Guidelines Compliance

Securities issued by the state of Kentucky, its subsidiaries or affiliates are prohibited.	In Compliance
The amount of stock in the domestic or international equity allocation in any single corporation shall not exceed 5% of the aggregate market value of Plan Assets.	In Compliance
The amount of stock held in domestic or international equity allocation shall not exceed 3% of the shares outstanding of any corporation.	In Compliance
The amount of stock in any one industry in the domestic equity allocation shall not exceed 10% of the aggregate market value of Plan Assets.	In Compliance
Investment on "frontier" markets shall not exceed 10% of the Systems' international equity assets.	In Compliance
The duration of the total fixed income portfolio shall not deviate from the KRS Fixed Income Index by more than 25%.	In Compliance
The amount invested in the debt of a single corporation shall not exceed 5% of the total market value of Plans Assets.	In Compliance
No public fixed income manager shall invest more than 5% of the total market value of assets held in any single issue short-term instruments, with the exception of U.S. Government issued, guaranteed or agency obligations.	In Compliance
50% of the fixed income assets must have liquidity that is T+3 (trade date plus three days) settlement or better.	In Compliance
For the S&P 500 portfolio, securities must be in the S&P 500.	Not In Compliance

As indicated above, there were Public Equities exceptions. The IPS indicates that securities in the S&P portfolio must be in the S&P 500 Index. The exceptions were due to spin-offs, mergers, warrants, and/or loss of market capitalization. These are detailed in the following table:

Asset Description	Shares	MV%	Reason for Exception
Canadian Pacific Railway, LTD	0	0.00%	Supply chain issues, Acquired by Kansas City Southern
Covetrus, Inc.	0	0.00%	Warrant
Embecka Corp	0	0.00%	Completed spinoff of Becton, Dickinson and Company
Kyndryl Holdings, Inc.	1	0.00%	IBM spinoff - IBM remains in SP500
Sylvamo Corp	1	0.00%	International Paper spinoff - IP remains in SP500
Zimvie, Inc	1	0.00%	Zimmer Biomet Holdings spinoff - ZBH remains in SP500

This is presented for informational purposes only.

**No action is required of the Committee.**

Kentucky Public Pensions Authority

## CERS & CERS-Hazardous Unit Holdings

Quarter Ending: June 30, 2022



Kentucky Public Pensions Authority				
Pension: CERS & CERS-H Unit Holdings				
Quarter Ended June 30, 2022				
UNIT OF PARTICIPATION	CERS		CERS-H	
	Shares/Par	Base Market Value	Shares/Par	Base Market Value
Grand Total	45,540,155.675	7,949,387,948.24	15,570,414.587	2,703,833,961.58
KRS ABSOLUTE RETURN UNIT	467,595.113	56,993,008.03	148,117.308	18,053,334.37
KRS ADAMS STREET A1 UNIT	431,354.751	61,504,250.88	145,447.879	20,738,528.60
KRS ADAMS STREET B1 UNIT	473,476.118	56,586,334.44	159,650.722	19,080,263.62
KRS AMERRA AGRI UNIT	344,821.703	30,708,338.83	108,871.494	9,695,627.33
KRS AMERRA UNIT	85,211.859	14,574,643.44	26,904.170	4,601,691.47
KRS ARROWMARK UNIT	1,387,072.461	261,472,016.74	458,544.662	86,438,597.05
KRS BLACKROCK UNIT	3,038,447.035	452,173,009.94	1,044,936.558	155,504,474.22
KRS BLUE TORCH UNIT	482,295.226	67,077,071.66	162,844.338	22,648,205.38
KRS BNYM CUSTODY FEE UNIT	-148,095.456	-148,095.46	-50,400.644	-50,400.64
KRS BTG UNIT	229,449.493	16,275,302.49	73,532.058	5,215,773.07
KRS CASH UNIT	861,040.433	83,081,699.25	468,308.423	45,187,029.63
KRS DB PRIVATE EQ UNIT	20,274.379	6,970,421.11	5,836.850	2,006,734.83
KRS DIVCOWEST IV UNIT	1,775.028	962,741.58	553.116	299,999.65
KRS DOMESTIC EQUITY UNIT	2,721,493.470	621,278,425.57	912,179.501	208,237,664.53
KRS GLOBAL FIXED UNIT	1,516,523.832	191,333,500.11	505,525.703	63,780,073.95
KRS GREENFIELD UNIT	3,105.533	47,157.17	967.716	14,694.66
KRS GREENFIELD VII UNIT	14,397.227	4,114,348.74	4,486.322	1,282,072.81
KRS HARRISON UNIT	639,390.832	135,154,244.81	199,992.765	42,274,411.47
KRS IFM INFRAST DEBT UNIT	240,796.093	33,005,078.16	82,923.430	11,366,024.48
KRS INTERNAL EQUITY UNIT	5,605,485.833	1,527,949,746.64	1,924,929.586	524,699,510.60
KRS INTERNATIONAL EQUITY UNIT	7,034,854.733	1,054,457,808.94	2,386,913.472	357,775,625.13
KRS L-A VII UNIT	162,606.800	14,805,187.83	50,681.135	4,614,467.07
KRS LIQUID CORE FIXED UNIT	7,581,810.521	938,856,862.98	2,568,138.141	318,012,974.88
KRS LIQUID CREDIT FIXED UNIT	44,070.529	3.35	13,249.620	1.01
KRS LIQUID HY FI UNIT	1,362,544.295	196,531,392.98	540,558.908	77,969,424.97
KRS MAGNETAR MTP UNIT	319.749	70,440.88	101.107	22,273.93
KRS MESA WEST CORE UNIT	209,375.384	37,083,596.30	65,994.801	11,688,692.87
KRS MESA WEST IV UNIT	58,403.570	5,774,409.91	18,467.815	1,825,928.35
KRS MULTI SECTOR CREDIT FI	1,492,072.539	255,734,005.59	490,250.072	84,026,487.57
KRS OBERLAND UNIT	77,018.591	5,262,802.47	24,044.815	1,643,020.34
KRS PE 2010 UNIT	640,719.204	238,115,794.47	199,450.640	74,123,496.38
KRS PE 2011 UNIT	189,471.640	65,377,912.78	91,610.401	31,610,518.63
KRS PE 2012 A UNIT	10,384.628	7,064,348.43	2,891.166	1,966,772.81
KRS PE 2012 B UNIT	90,823.793	13,031,518.07	25,286.123	3,628,086.41
KRS PE 2013 UNIT	339,882.725	125,722,281.79	116,008.526	42,911,438.34
KRS PE 2014 UNIT	236,569.932	36,624,694.67	80,745.878	12,500,714.28
KRS PE 2015 UNIT	180,977.717	40,635,757.12	61,771.184	13,869,767.35
KRS PE 2016 UNIT	361,023.456	87,420,209.96	112,441.669	27,227,245.62
KRS PE 2017 UNIT	181,417.122	27,425,525.51	56,502.903	8,541,761.61
KRS PE 2018 UNIT	242,194.540	44,979,279.37	75,611.955	14,042,311.80
KRS PE 2019 UNIT	213,621.441	38,972,927.15	66,691.572	12,167,157.78
KRS PE 2021 UNIT	226,692.228	23,797,628.48	76,857.271	8,068,299.46
KRS PERIMETER PARK UNIT	18,378.971	1,682,459.91	20,009.261	1,831,701.00
KRS POST-2015 REAL ESTATE UNIT	673,340.167	95,583,847.86	212,917.151	30,224,604.99
KRS PRIVATE CREDIT FI UNIT	1,662,301.993	303,683,615.57	550,560.625	100,581,147.04
KRS PROLOGIS UNIT	589,178.846	144,360,497.74	186,304.513	45,648,299.17
KRS REAL RETURN UNIT	1,098,041.491	156,900,973.59	378,134.744	54,032,302.03
KRS RUBENSTEIN PF II UNIT	55,450.515	11,365,110.61	17,278.945	3,541,484.17
KRS SHENKMAN UNIT	827,374.704	122,791,173.76	278,874.807	41,387,976.60
KRS STOCKBRIDGE UNIT	280,090.753	63,957,436.99	89,313.398	20,394,304.22
KRS TAURUS UNIT	9,727.063	1,802,142.12	3,320.035	615,106.01
KRS TPF II UNIT	351.766	38,676.59	117.591	12,929.10
KRS WALTON VI UNIT	38,991.717	6,364,625.02	13,784.580	2,250,059.49
KRS WALTON VII UNIT	39,962.067	6,710,564.36	12,452.591	2,091,080.86
KRS WATERFALL UNIT	894,199.522	155,289,190.96	298,925.215	51,912,189.23

Kentucky Public Pensions Authority				
Insurance: CERS & CERS-H Unit Holdings				
Quarter Ended June 30, 2022				
UNIT OF PARTICIPATION	CERS INS		CERS-H INS	
	Shares/Par	Base Market Value	Shares/Par	Base Market Value
Grand Total	24,812,925.415	3,001,698,698.09	12,519,066.108	1,506,661,897.03
KR3 ARROWMARK UNIT	554,115.798	105,576,828.35	301,875.792	57,517,018.63
KRS INS PE 2014 UNIT	105,061.987	16,287,998.97	56,827.225	8,810,054.03
KRS INS ABSOLUTE RETURN UNIT	152,155.110	18,556,528.80	85,247.494	10,396,611.57
KRS INS ADAMS STREET A1 UNIT	151,033.641	21,534,968.59	79,790.505	11,376,842.98
KRS INS ADAMS STREET B1 UNIT	165,781.946	19,813,020.96	87,581.972	10,467,143.67
KRS INS AMERRA AGRI UNIT	124,728.731	11,108,831.96	68,856.212	6,132,605.40
KRS INS AMERRA UNIT	22,991.781	3,948,980.25	12,692.561	2,180,025.66
KRS INS BLACKROCK UNIT	3,237,957.534	192,556,817.60	1,610,309.295	95,762,847.39
KRS INS BLUE TORCH UNIT	168,732.244	23,467,088.82	88,690.812	12,335,017.38
KRS INS BNYM CUSTODY FEE UNIT	-75,544.247	-75,544.25	-38,065.260	-38,065.26
KRS INS BTG UNIT	67,509.329	4,788,569.02	37,092.810	2,631,065.72
KRS INS CASH UNIT	737,176.854	75,325,743.09	120,588.187	12,321,866.52
KRS INS DB PRIVATE EQ UNIT	36,465.299	12,526,660.52	19,703.276	6,768,523.95
KRS INS DIVCOWEST IV UNIT	514.258	280,514.45	279.422	152,417.48
KRS INS DOMESTIC EQUITY UNIT	1,003,196.103	229,039,459.50	503,047.499	114,850,652.76
KRS INS GLOBAL FIXED UNIT	477,865.514	59,252,689.74	260,493.952	32,299,814.21
KRS INS GREENFIELD UNIT	903.324	13,652.41	490.809	7,417.85
KRS INS GREENFIELD VII UNIT	4,161.506	1,189,303.51	2,261.100	646,192.55
KRS INS HARRISON UNIT	244,840.322	50,612,936.45	133,920.349	27,683,765.72
KRS INS IFM INFRAST DEBT UNIT	85,380.549	11,557,013.44	43,990.948	5,954,564.40
KRS INS INTERNAL EQUITY UNIT	2,106,568.318	575,487,466.70	1,030,045.245	281,395,159.87
KRS INS INTL EQ UNIT	2,575,482.036	381,429,893.97	1,302,360.764	192,880,137.07
KRS INS L-A-VII UNIT	46,998.247	4,280,163.16	25,536.322	2,325,610.67
KRS INS LIQUID CORE FIXED UNIT	2,837,692.780	348,637,584.21	1,432,392.105	175,983,012.20
KRS INS LIQUID CREDIT FIXED UN	5,562,779.296	5.56	2,995,343.950	3.00
KRS INS LIQUID HY FI UNIT	647,229.402	90,957,392.45	252,089.170	35,426,965.31
KRS INS MAGNETAR MTP	95.017	21,086.92	52.560	11,664.53
KRS INS MESA WEST CORE UNIT	117,798.214	20,451,567.67	65,081.046	11,299,062.79
KRS INS MESA WEST IV UNIT	19,169.754	1,831,566.36	10,519.985	1,005,127.70
KRS INS MULTI SECTOR CREDIT FI	531,206.774	89,652,068.44	290,366.710	49,005,354.28
KRS INS OBERLAND UNIT	14,583.474	1,029,152.86	7,929.142	559,557.97
KRS INS PE 2010 UNIT	73,389.576	26,446,287.60	39,284.939	14,156,517.20
KRS INS PE 2011 UNIT	128,246.364	45,897,623.24	76,760.666	27,471,594.66
KRS INS PE 2012 A UNIT	3,294.037	2,248,220.82	1,781.717	1,216,043.80
KRS INS PE 2012 B UNIT	37,429.393	5,395,549.78	19,866.805	2,863,854.49
KRS INS PE 2013 UNIT	185,283.665	68,455,796.86	100,218.531	37,027,222.02
KRS INS PE 2015 UNIT	104,019.145	23,206,962.92	56,263.186	12,552,474.56
KRS INS PE 2016 UNIT	208,756.157	50,547,435.94	126,060.497	30,523,817.78
KRS INS PE 2017 UNIT	105,470.447	15,857,790.00	63,689.742	9,575,938.87
KRS INS PE 2018 UNIT	51,347.592	9,811,475.85	27,918.098	5,334,578.19
KRS INS PE 2019 UNIT	22,329.779	4,073,826.12	11,909.211	2,172,706.45
KRS INS PE 2021 UNIT	85,665.050	8,983,259.64	44,077.796	4,622,215.08
KRS INS POST-2015 REAL ESTATE	233,671.920	33,051,433.57	128,234.553	18,137,976.57
KRS INS PRIVATE CREDIT FI UNIT	584,942.207	105,221,328.66	319,021.849	57,386,699.78
KRS INS PROLOGIS UNIT	116,933.241	45,606,312.36	64,170.682	25,027,854.72
KRS INS REAL RETURN UNIT	317,287.904	45,336,679.08	163,511.532	23,363,859.00
KRS INS RUBENSTEIN PF II UNIT	16,254.663	3,311,434.78	8,831.949	1,799,263.58
KRS INS SHENKMAN UNIT	327,784.505	48,215,180.85	121,449.891	17,864,567.63
KRS INS STOCKBRIDGE UNIT	117,767.220	26,775,534.18	64,874.850	14,749,934.35
KRS INS TAURUS UNIT	3,564.318	661,660.26	1,927.913	357,887.09
KRS INS TPF II UNIT	37.089	4,077.95	19.666	2,162.28
KRS INS WALTON VI UNIT	3,937.153	638,827.80	2,109.889	342,342.74
KRS INS WALTON VII UNIT	11,569.549	1,942,796.78	6,286.161	1,055,592.86
KRS INS WATERFALL UNIT	349,313.546	58,869,192.57	183,404.026	30,908,755.33

Kentucky Public Pensions Authority

# Internal Asset Holdings Report & Internal Asset Transaction Report

Quarter Ending: June 30, 2022

**Reports can be found:**

<https://kyret.ky.gov/Investments/Investments-Library/Pages/Internal-Reports.aspx>

Kentucky Public Pensions Authority

# Commissions Report

Quarter Ending: June 30, 2022

**Reports can be found:**

<https://kyret.ky.gov/Investments/Investments-Library/Pages/Commissions-Reports.aspx>

Kentucky Public Pensions Authority

# Security Litigation Report

Quarter Ending: June 30, 2022

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Claims Filed during the Quarter (pg 3):

**12**

Proceeds Received during the Quarter (pg 4):

**\$144,637.30**

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<b>Kentucky Retirement Systems</b>	
Quarterly Securities Litigation Report	
Quarter Ended 06/30/22	
<b>Total Claims Filed</b>	
No Claim on File	9
Fiscal Year 1997	1
Fiscal Year 1998	2
Fiscal Year 1999	5
Fiscal Year 2000	9
Fiscal Year 2001	8
Fiscal Year 2002	33
Fiscal Year 2003	45
Fiscal Year 2004	38
Fiscal Year 2005	89
Fiscal Year 2006	150
Fiscal Year 2007	70
Fiscal Year 2008	73
Fiscal Year 2009	85
Fiscal Year 2010	65
Fiscal Year 2011	69
Fiscal Year 2012	54
Fiscal Year 2013	48
Fiscal Year 2014	65
Fiscal Year 2015	80
Fiscal Year 2016	224
Fiscal Year 2017	140
Fiscal Year 2018	74
Fiscal Year 2019	55
Fiscal Year 2020	42
Fiscal Year 2021	43
Fiscal Year 2022	49
<b>Total Filed</b>	<b>1,625</b>
<b>Proceeds Received</b>	
Fiscal Year 1998	\$67,682
Fiscal Year 1999	\$233,370
Fiscal Year 2000	\$303,918
Fiscal Year 2001	\$415,502
Fiscal Year 2002	\$387,318
Fiscal Year 2003	\$519,059
Fiscal Year 2004	\$1,080,920
Fiscal Year 2005	\$1,645,440
Fiscal Year 2006	\$797,535
Fiscal Year 2007	\$5,398,363
Fiscal Year 2008	\$5,402,336
Fiscal Year 2009	\$3,504,682
Fiscal Year 2010	\$2,776,544
Fiscal Year 2011	\$1,292,484
Fiscal Year 2012	\$468,657
Fiscal Year 2013	\$1,070,427
Fiscal Year 2014	\$308,704
Fiscal Year 2015	\$23,639,565
Fiscal Year 2016	\$2,417,957
Fiscal Year 2017	\$1,886,532
Fiscal Year 2018	\$2,247,966
Fiscal Year 2019	\$1,702,272
Fiscal Year 2020	\$1,743,474
Fiscal Year 2021	\$286,420
Fiscal Year 2022	\$616,557
<b>Total Proceeds</b>	<b>\$60,213,686</b>

CERS Investment Committee Meeting - Investment Office Update

Class Action Name	TNT Status Code	Status as of Date	Class Period Start Date	Class Period End Date	Class Account Id	Claimed Account Name
NAVIENT CORPORATION (2016)	FILED	4/11/2022	4/17/2014	11/16/2021	KR3F3007002	COLUMBIA
NAVIENT CORPORATION (2016)	FILED	4/11/2022	4/17/2014	11/16/2021	956599	KRS S P 500 INDEX
NAVIENT CORPORATION (2016)	FILED	4/11/2022	4/17/2014	11/16/2021	956774	KRS INS S P 500 INDEX
NAVIENT CORPORATION (2016)	FILED	4/11/2022	4/17/2014	11/16/2021	KR2F3006002	LOOMIS
NAVIENT CORPORATION (2016)	FILED	4/11/2022	4/17/2014	11/16/2021	KR2F3007002	COLUMBIA
NAVIENT CORPORATION (2016)	FILED	4/11/2022	4/17/2014	11/16/2021	KR3F3006002	LOOMIS
Mylan N.V. Fair Fund (UPDATE)	FILED	4/19/2022	3/1/2015	11/30/2016	KR3F1011002	KRS INTERNAL EQUITY
Mylan N.V. Fair Fund (UPDATE)	FILED	4/19/2022	3/1/2015	11/30/2016	KR2F1902002	S&P 500 INDEX
OSI Systems, Inc. (2017)	FILED	4/27/2022	8/21/2013	5/2/2018	956588	KRS NTGI STRUCTURED
OSI Systems, Inc. (2017)	FILED	4/27/2022	8/21/2013	5/2/2018	956765	KRS INS NTGI STRUCTURED
Acuity Brands, Inc	FILED	5/11/2022	10/7/2015	7/2/2017	KR3F1902002	S&P 500 INDEX
Acuity Brands, Inc	FILED	5/11/2022	10/7/2015	7/2/2017	KR2F1902002	S&P 500 INDEX
Acuity Brands, Inc	FILED	5/11/2022	10/7/2015	7/2/2017	KR3F1011002	KRS INTERNAL EQUITY
Acuity Brands, Inc	FILED	5/11/2022	10/7/2015	7/2/2017	KR2F1011002	KRS INTERNAL EQUITY
TEVA PHARMACEUTICAL INDUSTRIES LIMITED	FILED	5/11/2022	2/6/2014	2/16/2022	385445	KRS LORD ABBETT
TEVA PHARMACEUTICAL INDUSTRIES LIMITED	FILED	5/11/2022	2/6/2014	2/16/2022	KR3F3008002	NISA
TEVA PHARMACEUTICAL INDUSTRIES LIMITED	FILED	5/11/2022	2/6/2014	2/16/2022	956589	KRS SYSTEMATIC
TEVA PHARMACEUTICAL INDUSTRIES LIMITED	FILED	5/11/2022	2/6/2014	2/16/2022	956766	KRS INS SYSTEMATIC
TEVA PHARMACEUTICAL INDUSTRIES LIMITED	FILED	5/11/2022	2/6/2014	2/16/2022	KR2F1006002	WESTFIELD CAPITAL
TEVA PHARMACEUTICAL INDUSTRIES LIMITED	FILED	5/11/2022	2/6/2014	2/16/2022	KR2F2007002	LSV ASSET MANAGEMENT
TEVA PHARMACEUTICAL INDUSTRIES LIMITED	FILED	5/11/2022	2/6/2014	2/16/2022	KR2F3008002	NISA
TEVA PHARMACEUTICAL INDUSTRIES LIMITED	FILED	5/11/2022	2/6/2014	2/16/2022	KR3F1006002	WESTFIELD CAPITAL
TEVA PHARMACEUTICAL INDUSTRIES LIMITED	FILED	5/11/2022	2/6/2014	2/16/2022	KR3F2007002	LSV ASSET MGMT
TEVA PHARMACEUTICAL INDUSTRIES LIMITED	FILED	5/11/2022	2/6/2014	2/16/2022	385447	KRS INS LORD ABBETT
PATTERSON COMPANIES, INC., Securities Litigation	FILED	5/25/2022	6/26/2013	5/29/2018	KR3F1011002	KRS INTERNAL EQUITY
PATTERSON COMPANIES, INC., Securities Litigation	FILED	5/25/2022	6/26/2013	5/29/2018	KR2F1901002	STATE STREET TRANSITION
WELLCARE HEALTH PLANS, INC. (SEC)	FILED	5/26/2022	8/10/2004	10/24/2007	2602408	ZZ*KRS PEN NTGI STRUCTURED SM-
SCANA CORPORATION (2019)	FILED	5/26/2022	1/9/1989	9/30/2018	956596	KRS KRS INTERNAL EQUITY
SCANA CORPORATION (2019)	FILED	5/26/2022	1/9/1989	9/30/2018	956599	KRS S P 500 INDEX
SCANA CORPORATION (2019)	FILED	5/26/2022	1/9/1989	9/30/2018	956772	KRS INS KRS INTERNAL EQUITY
SCANA CORPORATION (2019)	FILED	5/26/2022	1/9/1989	9/30/2018	956774	KRS INS S P 500 INDEX
FRED'S INC., Securities Litigation	FILED	5/31/2022	1/30/2017	9/25/2017	956588	KRS NTGI STRUCTURED
FRED'S INC., Securities Litigation	FILED	5/31/2022	1/30/2017	9/25/2017	956765	KRS INS NTGI STRUCTURED
WELLCARE HEALTH PLANS, INC. (SEC)	FILED	5/31/2022	8/11/2004	10/24/2007	KR2F1902002	S&P 500 INDEX
WELLCARE HEALTH PLANS, INC. (SEC)	FILED	5/31/2022	8/11/2004	10/24/2007	KR2F1002002	NTGI STRUCTURED
ADVANCE AUTO PARTS INC	FILED	6/8/2022	11/14/2016	11/10/2017	956596	KRS KRS INTERNAL EQUITY
ADVANCE AUTO PARTS INC	FILED	6/8/2022	11/14/2016	11/10/2017	956599	KRS S P 500 INDEX
ADVANCE AUTO PARTS INC	FILED	6/8/2022	11/14/2016	11/10/2017	956774	KRS INS S P 500 INDEX
ADVANCE AUTO PARTS INC	FILED	6/8/2022	11/14/2016	11/10/2017	956772	KRS INS KRS INTERNAL EQUITY
EDUCATION REALTY TRUST INC., Securities Litigation	FILED	6/14/2022	9/27/2004	11/20/2018	956588	KRS NTGI STRUCTURED
EDUCATION REALTY TRUST INC., Securities Litigation	FILED	6/14/2022	9/27/2004	11/20/2018	956642	KRS NUVEEN REAL ASSET
EDUCATION REALTY TRUST INC., Securities Litigation	FILED	6/14/2022	9/27/2004	11/20/2018	956765	KRS INS NTGI STRUCTURED
EDUCATION REALTY TRUST INC., Securities Litigation	FILED	6/14/2022	9/27/2004	11/20/2018	956816	KRS INS NUVEEN REAL ASSET
EDUCATION REALTY TRUST INC., Securities Litigation	FILED	6/14/2022	9/27/2004	11/20/2018	KR2F1002002	NTGI STRUCTURED
FRONTIER COMMUNICATIONS CORPORATION	FILED	6/14/2022	4/25/2016	1/29/2018	956588	KRS NTGI STRUCTURED
FRONTIER COMMUNICATIONS CORPORATION	FILED	6/14/2022	4/25/2016	1/29/2018	956765	KRS INS NTGI STRUCTURED
FRONTIER COMMUNICATIONS CORPORATION	FILED	6/14/2022	4/25/2016	1/29/2018	KR3F1902002	S&P 500 INDEX
FRONTIER COMMUNICATIONS CORPORATION	FILED	6/14/2022	4/25/2016	1/29/2018	KR2F1902002	S&P 500 INDEX



**Transaction Detail**  
**Reported By Transaction Category**

Report ID: IACS0008

Base Currency: USD

KR2G0000000 - TOTAL FUND

3/31/2022 - 6/30/2022

Status: PRELIMINARY

Trans Code	Shares/Par	Description	Trade Date	Price	Cost	Amount	Net Gain/Loss
Link Ref	Security Id	Broker	C. Settle Date	Local/Base	Local/Base	Local/Base	Local/Base
		Transaction No./Client Ref No.	Reported Date				
<b>CLASS ACTIONS</b>							
<b>CASH &amp; CASH EQUIVALENTS</b>							
<b>U.S. DOLLAR</b>							
CD	0.000	DHB INDUSTRIES SEC LIT PROCEED	4/1/2022	0.000000	83,455.10	83,455.10	83,455.10
	NA9123459	20220405S000010 / 8052BC8091A2		0.000000	83,455.10	83,455.10	83,455.10
		KR2F90010002 : CASH ACCOUNT KR2	4/1/2022				Gain/Loss Local Amounts: 83,455.10 Long Gain/Loss Base Amounts: 83,455.10 Long
CD	0.000	1-17-cv-03463-TWTEQUIFAX INC.	4/22/2022	0.000000	1,306.04	1,306.04	1,306.04
	NA9123459	(N.D. GA.) Distribution 2ND DI		0.000000	1,306.04	1,306.04	1,306.04
		20220422S000030 / 0000000000000	4/22/2022				Gain/Loss Local Amounts: 1,306.04 Long Gain/Loss Base Amounts: 1,306.04 Long
		KR2F10110002 : KRS INTERNAL EQUITY					
CD	0.000	1-17-cv-03463-TWTEQUIFAX INC.	4/22/2022	0.000000	19.59	19.59	19.59
	NA9123459	(N.D. GA.) Distribution 2ND DI		0.000000	19.59	19.59	19.59
		20220422S000040 / 0000000000000	4/22/2022				Gain/Loss Local Amounts: 19.59 Long Gain/Loss Base Amounts: 19.59 Long
		KR2F19020002 : S&P 500 INDEX					
CD	0.000	1-18-CV-01713AKORN, INC. (2018	4/25/2022	0.000000	68.62	68.62	68.62
	NA9123459	) Distribution 2ND DISTRIBUTIO		0.000000	68.62	68.62	68.62
		20220425S000100 / 0000000000000	4/25/2022				Gain/Loss Local Amounts: 68.62 Long Gain/Loss Base Amounts: 68.62 Long
		KR2F10020002 : NTGI STRUCTURED					
CD	0.000	4-17-cv-00806-AGFCentene Corpo	5/2/2022	0.000000	123.18	123.18	123.18
	NA9123459	ration (2016) Distribution 2ND		0.000000	123.18	123.18	123.18
		20220502S000110 / 0000000000074	5/2/2022				Gain/Loss Local Amounts: 123.18 Long Gain/Loss Base Amounts: 123.18 Long
		KR2F10110002 : KRS INTERNAL EQUITY					
CD	0.000	15262Iconix Brand Group, Inc.	5/13/2022	0.000000	70.58	70.58	70.58
	NA9123459	(Iconix Defendants) Distributi		0.000000	70.58	70.58	70.58
		20220513S0000800 / 0000000000000	5/13/2022				Gain/Loss Local Amounts: 70.58 Long Gain/Loss Base Amounts: 70.58 Long
		KR2F10020002 : NTGI STRUCTURED					





**Transaction Detail**  
**Reported By Transaction Category**

Report ID: IACS0008

Base Currency: USD

KR2G00000000 - TOTAL FUND

3/31/2022 - 6/30/2022

Status: PRELIMINARY

Trans Code Link Ref	Shares/Par Security Id	Description Broker	Trade Date C. Settle Date Reported Date	Price Local/Base	Cost Local/Base	Amount Local/Base	Net Gain/Loss Local/Base
CD	0.000 NA9123459	16943PRECISION CASTPARTS CORP. (2016) (ACQUISITION) Distribu 20220606S000050 / 000000000001 KR2F19020002 : S&P 500 INDEX	6/6/2022  6/6/2022	0.000000 0.000000	1,333.46 1,333.46	1,333.46 1,333.46	1,333.46 1,333.46 Gain/Loss Local Amounts: 1,333.46 Long Gain/Loss Base Amounts: 1,333.46 Long
CD	0.000 NA9123459	17473DAVITA INC. Distribution 1ST DISTRIBUTION PROCEEDS FOR 20220614S000090 / 000000000000 KR2F10120002 : RIVER ROAD FAV	6/14/2022  6/14/2022	0.000000 0.000000	10,304.48 10,304.48	10,304.48 10,304.48	10,304.48 10,304.48 Gain/Loss Local Amounts: 10,304.48 Long Gain/Loss Base Amounts: 10,304.48 Long
CD	0.000 NA9123459	17473DAVITA INC. Distribution 1ST DISTRIBUTION PROCEEDS FOR 20220614S000250 / 000000000000 KR2F10110002 : KRS INTERNAL EQUITY	6/14/2022  6/14/2022	0.000000 0.000000	26,699.99 26,699.99	26,699.99 26,699.99	26,699.99 26,699.99 Gain/Loss Local Amounts: 26,699.99 Long Gain/Loss Base Amounts: 26,699.99 Long
CD	0.000 NA9123459	17473DAVITA INC. Distribution 1ST DISTRIBUTION PROCEEDS FOR 20220614S000360 / 000000000000 KR2F19020002 : S&P 500 INDEX	6/14/2022  6/14/2022	0.000000 0.000000	3,284.59 3,284.59	3,284.59 3,284.59	3,284.59 3,284.59 Gain/Loss Local Amounts: 3,284.59 Long Gain/Loss Base Amounts: 3,284.59 Long
<b>TOTAL U.S. DOLLAR CASH &amp; CASH EQUIVALENTS:</b>					<u>126,665.63</u>	<u>126,665.63</u>	<u>126,665.63</u>
<b>TOTAL CASH &amp; CASH EQUIVALENTS CLASS ACTIONS:</b>					<u>126,665.63</u>	<u>126,665.63</u>	<u>126,665.63</u>
<b>TOTAL CLASS ACTIONS:</b>					<u>126,665.63</u>	<u>126,665.63</u>	<u>126,665.63</u>
<b>TOTAL TRANSACTIONS BASE:</b>					<u>126,665.63</u>	<u>126,665.63</u>	<u>126,665.63</u>



**Transaction Detail**  
**Reported By Transaction Category**

Report ID: IACS0008  
 Base Currency: USD  
 Status: PRELIMINARY

KR3G00000000 - TOTAL FUND

3/31/2022 - 6/30/2022

Trans Code	Shares/Par	Description	Trade Date	Price	Cost	Amount	Net Gain/Loss
Link Ref	Security Id	Broker	C. Settle Date	Local/Base	Local/Base	Local/Base	Local/Base
		Transaction No./Client Ref No.	Reported Date				
<b>CLASS ACTIONS</b>							
<b>CASH &amp; CASH EQUIVALENTS</b>							
<b>U.S. DOLLAR</b>							
CD	0.000	1-17-cv-03463-TWTEQUIFAX INC. NA9123459 (N.D. GA.) Distribution 2ND DI 20220422S000030 / 000000000000 KR3F10110002 : KRS INTERNAL EQUITY	4/22/2022  4/22/2022	0.000000 0.000000	1,011.17 1,011.17	1,011.17 1,011.17	1,011.17 1,011.17 Gain/Loss Local Amounts: 1,011.17 Long Gain/Loss Base Amounts: 1,011.17 Long
CD	0.000	4-17-cv-00806-AGFCentene Corpo NA9123459 ration (2016) Distribution 2ND 20220502S000110 / 0000000000074 KR3F10110002 : KRS INTERNAL EQUITY	5/2/2022  5/2/2022	0.000000 0.000000	27.78 27.78	27.78 27.78	27.78 27.78 Gain/Loss Local Amounts: 27.78 Long Gain/Loss Base Amounts: 27.78 Long
CD	0.000	16-CV-00212-JPO-JLCTHE BANK OF NA9123459 NEW YORK MELLON ADR FX Distri 20220510S000010 / 0000000000012 KR3F90010002 : CASH ACCOUNT KR3	5/10/2022  5/10/2022	0.000000 0.000000	11.95 11.95	11.95 11.95	11.95 11.95 Gain/Loss Local Amounts: 11.95 Long Gain/Loss Base Amounts: 11.95 Long
CD	0.000	15262Iconix Brand Group, Inc. NA9123459 (Iconix Defendants) Distributi 20220513S000690 / 0000000000000 KR3F10020002 : NTGI STRUCTURED	5/13/2022  5/13/2022	0.000000 0.000000	13.77 13.77	13.77 13.77	13.77 13.77 Gain/Loss Local Amounts: 13.77 Long Gain/Loss Base Amounts: 13.77 Long
CD	0.000	16943PRECISION CASTPARTS CORP. NA9123459 (2016) (ACQUISITION) Distribu 20220606S000060 / 0000000000001 KR3F19020002 : S&P 500 INDEX	6/6/2022  6/6/2022	0.000000 0.000000	649.28 649.28	649.28 649.28	649.28 649.28 Gain/Loss Local Amounts: 649.28 Long Gain/Loss Base Amounts: 649.28 Long
CD	0.000	17473DAVITA INC. Distribution NA9123459 1ST DISTRIBUTION PROCEEDS FOR 20220614S000090 / 0000000000000 KR3F10120002 : RIVER ROAD FAV	6/14/2022  6/14/2022	0.000000 0.000000	4,385.05 4,385.05	4,385.05 4,385.05	4,385.05 4,385.05 Gain/Loss Local Amounts: 4,385.05 Long Gain/Loss Base Amounts: 4,385.05 Long



**Transaction Detail**  
**Reported By Transaction Category**

Report ID: IACS0008

Base Currency: USD

KR3G00000000 - TOTAL FUND

3/31/2022 - 6/30/2022

Status: PRELIMINARY

Trans Code Link Ref	Shares/Par Security Id	Description Broker	Trade Date C. Settle Date Reported Date	Price Local/Base	Cost Local/Base	Amount Local/Base	Net Gain/Loss Local/Base
CD	0.000	17473DAVITA INC. Distribution	6/14/2022	0.000000	11,872.67	11,872.67	11,872.67
	NA9123459	1ST DISTRIBUTION PROCEEDS FOR		0.000000	11,872.67	11,872.67	11,872.67
		20220614S000250 / 000000000000	6/14/2022				
		KR3F10110002 : KRS INTERNAL EQUITY					
						Gain/Loss Local Amounts: 11,872.67 Long	
						Gain/Loss Base Amounts: 11,872.67 Long	
<b>TOTAL U.S. DOLLAR CASH &amp; CASH EQUIVALENTS:</b>					<u>17,971.67</u>	<u>17,971.67</u>	<u>17,971.67</u>
					17,971.67	17,971.67	17,971.67
<b>TOTAL CASH &amp; CASH EQUIVALENTS CLASS ACTIONS:</b>					<u>17,971.67</u>	<u>17,971.67</u>	<u>17,971.67</u>
					17,971.67	17,971.67	17,971.67
<b>TOTAL CLASS ACTIONS:</b>					<u>17,971.67</u>	<u>17,971.67</u>	<u>17,971.67</u>
					17,971.67	17,971.67	17,971.67
<b>TOTAL TRANSACTIONS BASE:</b>					<u>17,971.67</u>	<u>17,971.67</u>	<u>17,971.67</u>
					17,971.67	17,971.67	17,971.67

## TRUST BUDGET

Account Name	2019	2020	2021	2022	Proposed Trust Budget FY 2023
<b>CONSULTING SERVICES</b>					
Wilshire Associates	1,021,799	1,550,832	671,922	1,262,263	1,190,000
Albourne					270,000
MercerInsight					160,000
<b>SUBTOTAL</b>					<b>1,620,000</b>
<b>LEGAL &amp; AUDITING SERVICES</b>					
Faegre Drinker			96,039	202,502	375,000
Intelligent Management Solutions (IMS)	620,001	202,140	155,701	69,884	75,000
McClain/Goldberg			891	0	25,000
Reinhart	317,909	671,269	663,689	619,509	437,500
Stoll-Keenon-Ogden	10,314	135,353	254,211	463,560	250,000
Haystack				0	140,000
Umberg Zipser			289,101	498,058	360,000
Frost Brown Todd					50,000
Miscellaneous					200,000
<b>SUBTOTAL</b>					<b>1,912,500</b>
<b>CONTRACTURAL SERVICES</b>					
Bloomberg	68,722	71,810	98,164	102,243	150,000
BNYM Custodial Fees	2,056,390	1,512,215	2,310,123	3,211,144	4,000,000
eVestment (Solovis RMS)			30,000	33,800	35,000
Solovis (Reporting & Analytics)			245,000	257,250	265,000
FactSet	222,476	162,295	109,662	140,098	150,000
Russell Index Subscription	1,075	1,250	1,000	1,000	1,500
S&P Global		94,500	26,250	68,250	75,000
TradeWeb				6,000	7,500
State Street/Elkins McSherry	10,000	5,000	15,000	10,000	10,000
ISS	32,050	32,050	28,288	35,813	37,000
MSCI	1,000	1,000	1,000	1,000	1,000
KPMG Tax Guarantor Services		7,606	22,050	7,350	7,500
Jayant Ghevaria and CO		10,050		52,085	55,000
India Renewal Fee (SEBI)				3,000	3,000
Miscellaneous & New Services				0	250,000
<b>SUBTOTAL</b>					<b>5,047,500</b>

**TRUST BUDGET**

Account Name	2019	2020	2021	2022	Proposed Trust Budget FY 2023
<b>INACTIVE CONTRACTURAL SERVICES</b>					
Dean Dorton	9,719				0
Hirschler		4,794			0
INFORMA	12,904				0
Lighthouse Solutions	3,093				0
London Stock Exchange GBP (GREAT BRITISH POUNDS)	6,467	3,544			0
Deutsche Bank Trust	3,000		3,000		0
Morris James LLP	94,192	20,154			0
Calcaterra Pollack			1,200,000		0
Manatt		90,798	30,757		0
ORG	162,344				0
<b>TOTAL</b>	<b>4,653,455</b>	<b>4,576,660</b>	<b>6,251,845</b>	<b>7,044,808</b>	<b>8,580,000</b>



# KPPA

Kentucky Public Pensions Authority

KENTUCKY PUBLIC PENSIONS AUTHORITY						
Investment Fees and Expenses						
For the Period Ended June 30, 2022						
Pension						
	2022			2021		
	FYTD Fees	% of MV	Market Value	FYTD Fees	% of MV	Market Value
<b>Core Fixed Income</b>	<b>2,679,055</b>	<b>0.13%</b>	<b>2,126,730,865</b>	<b>2,648,483</b>	<b>0.11%</b>	<b>2,380,760,174</b>
Investment Advisory Fees	2,284,025			2,579,704		
Performance Fees	327,140					
Miscellaneous Fees and Expenses	67,891			68,779		
<b>Opportunistic</b>				<b>4,233,292</b>	<b>1.05%</b>	<b>404,068,655</b>
Investment Advisory Fees	Absolute Return was merged with Specialty Credit in December 2021					
Performance Fees				4,233,292		
Miscellaneous Fees and Expenses						
<b>Private Equity</b>	<b>59,843,619</b>	<b>4.64%</b>	<b>1,289,931,630</b>	<b>58,785,850</b>	<b>4.76%</b>	<b>1,236,163,938</b>
Investment Advisory Fees	7,269,395			8,081,476		
Performance Fees	47,992,035			48,458,818		
Miscellaneous Fees and Expenses	4,582,189			2,245,555		
<b>Public Equity</b>	<b>14,055,871</b>	<b>0.22%</b>	<b>6,283,684,703</b>	<b>12,690,120</b>	<b>0.18%</b>	<b>6,952,113,563</b>
Investment Advisory Fees	13,773,772			12,466,655		
Miscellaneous Fees and Expenses	282,099			223,465		
<b>Real Estate</b>	<b>34,875,097</b>	<b>3.95%</b>	<b>882,758,681</b>	<b>9,191,005</b>	<b>1.51%</b>	<b>610,213,834</b>
Investment Advisory Fees	5,759,527			4,772,617		
Performance Fees	25,779,317			2,414,707		
Miscellaneous Fees and Expenses	3,336,253			2,003,680		
<b>Real Return</b>	<b>4,923,027</b>	<b>0.88%</b>	<b>560,575,289</b>	<b>8,313,392</b>	<b>0.80%</b>	<b>1,033,884,979</b>
Investment Advisory Fees	3,237,685			4,663,221		
Performance Fees	1,326,636			3,021,470		
Miscellaneous Fees and Expenses	358,707			628,701		
<b>Specialty Credit Fixed Income</b>	<b>50,984,092</b>	<b>1.62%</b>	<b>3,140,978,211</b>	<b>39,879,279</b>	<b>1.51%</b>	<b>2,644,455,055</b>
Investment Advisory Fees	18,167,989			15,415,716		
Performance Fees	23,790,103			20,000,966		
Miscellaneous Fees and Expenses	9,025,999			4,462,596		
<b>Cash</b>	<b>4,556,958</b>	<b>0.63%</b>	<b>718,023,703</b>	<b>4,248,561</b>	<b>0.81%</b>	<b>526,326,268</b>
Consulting	875,347			170,082		
Trustee	1,642,189			102,417		
Miscellaneous Fees and Expenses	2,039,422			3,976,063		
*FY21 Real Estate Fees reflects adjustments for FY 2020*						
<b>Total Investment Mgmt Fees</b>	<b>171,917,719</b>	<b>1.15%</b>	<b>15,002,683,081</b>	<b>139,989,982</b>	<b>0.89%</b>	<b>15,787,986,466</b>

KENTUCKY PUBLIC PENSIONS AUTHORITY						
Investment Fees and Expenses						
For the Period Ended June 30, 2022						
Insurance						
	2022			2021		
	FYTD Fees	% of MV	Market Value	FYTD Fees	% of MV	Market Value
<b>Core Fixed Income</b>	<b>1,025,837</b>	<b>0.13%</b>	<b>783,771,227</b>	<b>1,050,510</b>	<b>0.12%</b>	<b>865,995,148</b>
Investment Advisory Fees	884,381			995,622		
Performance Fees	117,337			28,448		
Miscellaneous Fees and Expenses	24,118			26,440		
<b>Opportunistic</b>				<b>2,155,619</b>	<b>1.05%</b>	<b>205,754,247</b>
Investment Advisory Fees	Absolute Return was merged with Specialty Credit in December 2021					
Performance Fees				2,155,619		
Miscellaneous Fees and Expenses						
<b>Private Equity</b>	<b>35,364,269</b>	<b>5.65%</b>	<b>625,456,058</b>	<b>35,821,138</b>	<b>6.12%</b>	<b>585,420,005</b>
Investment Advisory Fees	4,821,382			5,232,127		
Performance Fees	28,808,835			29,557,732		
Miscellaneous Fees and Expenses	1,734,052			1,031,279		
<b>Public Equity</b>	<b>6,254,311</b>	<b>0.21%</b>	<b>2,913,823,466</b>	<b>5,708,928</b>	<b>0.18%</b>	<b>3,116,599,040</b>
Investment Advisory Fees	6,151,291			5,612,577		
Miscellaneous Fees and Expenses	103,019			96,351		
<b>Real Estate</b>	<b>14,379,286</b>	<b>3.86%</b>	<b>372,994,823</b>	<b>3,945,135</b>	<b>1.53%</b>	<b>258,214,840</b>
Investment Advisory Fees	2,491,508			2,048,449		
Performance Fees	10,457,273			1,043,274		
Miscellaneous Fees and Expenses	1,430,505			853,412		
<b>Real Return</b>	<b>2,154,305</b>	<b>0.98%</b>	<b>218,958,241</b>	<b>3,278,267</b>	<b>0.75%</b>	<b>435,909,260</b>
Investment Advisory Fees	1,456,997			2,005,961		
Performance Fees	526,052			91,499		
Miscellaneous Fees and Expenses	171,255			1,180,807		
<b>Specialty Credit Fixed Income</b>	<b>22,623,007</b>	<b>1.60%</b>	<b>1,417,059,844</b>	<b>17,018,820</b>	<b>1.44%</b>	<b>1,177,812,765</b>
Investment Advisory Fees	9,031,968			6,978,722		
Performance Fees	9,702,493			8,236,492		
Miscellaneous Fees and Expenses	3,888,546			1,803,605		
<b>Cash</b>	<b>2,290,670</b>	<b>0.82%</b>	<b>277,962,758</b>	<b>2,183,105</b>	<b>0.75%</b>	<b>291,596,737</b>
Consulting	386,915			75,063		
Trustee	984,023			71,638		
Miscellaneous Fees and Expenses	919,732			2,036,403		
*FY21 Real Estate Fees reflects adjustments for FY 2020*						
<b>Total Investment Mgmt Fees</b>	<b>\$ 84,091,683</b>	<b>1.27%</b>	<b>\$ 6,610,026,417</b>	<b>\$ 71,161,521</b>	<b>1.03%</b>	<b>\$ 6,937,302,043</b>



**KENTUCKY PUBLIC PENSIONS AUTHORITY**  
**Management Fees by Asset Class**  
**For the Period Ended June 30, 2022**  
**Pension**

	CERS	% of MV	Market Value	CERS Haz	% of MV	Market Value
<b>Core Fixed Income</b>	<b>1,229,948</b>	<b>0.13%</b>	<b>937,469,270</b>	<b>421,258</b>	<b>0.13%</b>	<b>317,542,965</b>
<i>Investment Advisory Fees</i>	1,046,992			358,354		
<i>Performance Fees &amp; Miscellaneous</i>	182,956			62,904		
<b>Private Equity</b>	<b>38,166,830</b>	<b>5.07%</b>	<b>753,384,304</b>	<b>12,493,004</b>	<b>4.97%</b>	<b>251,588,691</b>
<i>Investment Advisory Fees</i>	4,742,834			1,581,129		
<i>Performance Fees &amp; Miscellaneous</i>	33,423,996			10,911,875		
<b>Public Equity</b>	<b>8,168,852</b>	<b>0.22%</b>	<b>3,644,592,586</b>	<b>2,756,270</b>	<b>0.22%</b>	<b>1,242,346,367</b>
<i>Investment Advisory Fees</i>	8,004,276			2,700,545		
<i>Performance Fees &amp; Miscellaneous</i>	164,576			55,725		
<b>Real Estate</b>	<b>19,881,295</b>	<b>4.02%</b>	<b>494,606,975</b>	<b>6,279,161</b>	<b>3.99%</b>	<b>157,477,647</b>
<i>Investment Advisory Fees</i>	3,334,131			1,050,669		
<i>Performance Fees &amp; Miscellaneous</i>	16,547,165			5,228,492		
<b>Real Return</b>	<b>3,063,319</b>	<b>0.96%</b>	<b>320,728,486</b>	<b>995,924</b>	<b>0.93%</b>	<b>106,902,818</b>
<i>Investment Advisory Fees</i>	1,995,479			654,916		
<i>Performance Fees &amp; Miscellaneous</i>	1,067,839			341,008		
<b>Speciality Credit Fixed Income</b>	<b>28,493,153</b>	<b>1.66%</b>	<b>1,715,046,381</b>	<b>9,527,632</b>	<b>1.64%</b>	<b>582,129,212</b>
<i>Investment Advisory Fees</i>	10,013,936			3,367,737		
<i>Performance Fees &amp; Miscellaneous</i>	18,479,218			6,159,895		
<b>Cash/Administrative Expenses</b>	<b>2,313,487</b>		<b>83,081,777</b>	<b>786,163</b>		<b>45,187,072</b>
<b>Total Investment Mgmt Fees</b>	<b>101,316,883</b>	<b>1.27%</b>	<b>7,948,909,779</b>	<b>33,259,412</b>	<b>1.23%</b>	<b>2,703,174,771</b>

**KENTUCKY PUBLIC PENSIONS AUTHORITY**  
**Management Fees by Asset Class**  
**For the Period Ended June 30, 2022**  
**Insurance**

	CERS	% of MV	Market Value	CERS Haz	% of MV	Market Value
<b>Core Fixed Income</b>	<b>454,900</b>	<b>0.13%</b>	<b>347,800,786</b>	<b>236,086</b>	<b>0.13%</b>	<b>175,560,618</b>
<i>Investment Advisory Fees</i>	392,191			203,177		
<i>Performance Fees &amp; Miscellaneous</i>	62,709			32,909		
<b>Private Equity</b>	<b>15,708,880</b>	<b>5.37%</b>	<b>292,493,365</b>	<b>8,927,638</b>	<b>5.42%</b>	<b>164,729,188</b>
<i>Investment Advisory Fees</i>	2,277,822			1,272,561		
<i>Performance Fees &amp; Miscellaneous</i>	13,431,057			7,655,076		
<b>Public Equity</b>	<b>2,801,829</b>	<b>0.20%</b>	<b>1,374,087,887</b>	<b>1,431,534</b>	<b>0.21%</b>	<b>682,688,757</b>
<i>Investment Advisory Fees</i>	2,755,894			1,408,023		
<i>Performance Fees &amp; Miscellaneous</i>	45,935			23,511		
<b>Real Estate</b>	<b>6,603,172</b>	<b>3.86%</b>	<b>171,044,446</b>	<b>3,621,147</b>	<b>3.86%</b>	<b>93,762,250</b>
<i>Investment Advisory Fees</i>	3,976,019			2,180,754		
<i>Performance Fees &amp; Miscellaneous</i>	2,627,152			1,440,393		
<b>Real Return</b>	<b>964,729</b>	<b>0.98%</b>	<b>98,606,905</b>	<b>519,657</b>	<b>0.99%</b>	<b>52,461,558</b>
<i>Investment Advisory Fees</i>	671,333			360,372		
<i>Performance Fees &amp; Miscellaneous</i>	293,396			159,285		
<b>Speciality Credit Fixed Income</b>	<b>10,190,560</b>	<b>1.58%</b>	<b>645,094,063</b>	<b>5,402,290</b>	<b>1.65%</b>	<b>327,061,720</b>
<i>Investment Advisory Fees</i>	6,047,669			3,197,995		
<i>Performance Fees &amp; Miscellaneous</i>	4,142,891			2,204,295		
<b>Cash/Administrative Expenses</b>	<b>983,774</b>		<b>75,326,270</b>	<b>497,704</b>		<b>12,321,953</b>
<b>Total Investment Mgmt Fees</b>	<b>\$ 37,707,844</b>	<b>1.63%</b>	<b>\$ 2,308,852,152</b>	<b>\$ 20,636,056</b>	<b>1.78%</b>	<b>\$ 1,157,464,806</b>