



**County Employees Retirement System  
Investment Committee – Special Called Meeting  
June 9, 2023 at 10:00 AM ET  
Live Video Conference/Facebook Live**

**AGENDA**

- |   |  |
|---|--|
| <b>1. Call to Order</b>   | <b>Dr. 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* -- February 22, 2023 and March 2, 2023</b> | <b>Dr. Merl Hackbart</b>                                 |
| <b>6. Wilshire Market Overview</b>                                    | <b>David Lindberg<br/>Craig Morton<br/>Chris Tessman</b> |
| <b>7. Investment Office Quarterly Update</b>                          | <b>Steve Willer</b>                                      |
| <b>8. Adjourn</b>   | <b>Dr. Merl Hackbart</b>                                 |

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

**MINUTES OF MEETING  
COUNTY EMPLOYEES RETIREMENT SYSTEM  
INVESTMENT COMMITTEE MEETING  
FEBRUARY 22, 2023, 2:00 P.M., E.T.  
VIA LIVE VIDEO TELECONFERENCE**

At the February 22, 2023 County Employees Retirement System' (CERS) Investment Committee Meeting, the following Committee members were present: George Cheatham, Dr. Martin Milkman, and Jerry Powell. Staff members present were Rebecca Adkins, Erin Surratt, Victoria Hale, Michael Lamb, Steve Willer, Anthony Chiu, Joseph Gilbert, Jared Crawford, Brian Caldwell, Ashley Gabbard, Katie Park, Sherry Rankin, and Phillip Cook. Also in attendance were CERS CEO Ed Owens, III, KRS CEO John Chilton, KRS Trustees David Adkins and Prewitt Lane, CERS Trustee Dr. Patricia Carver, David Lindberg, Craig Morton, and Marc Friedberg with Wilshire, and Gary Fencik and Bill Sacher with Adams Street Partners.

Mr. Cheatham called the meeting to order.

Ms. Hale read the Legal Opening Statement.

Ms. Rankin called roll.

There being no ***Public Comment***, Dr. Hackbart introduced agenda item ***Approval of Minutes – November 22, 2022, December 15, 2022, and February 1, 2023 (Video 00:07:55 to 00:09:27)***. A motion was made by Dr. Milkman and seconded by Mr. Powell to approve the November 22, 2022 minutes as presented. The motion passed unanimously. A motion was made by Mr. Powell and

seconded by Dr. Milkman to approve the December 15, 2022 minutes as presented. The motion passed unanimously. A motion was made by Dr. Milkman and seconded by Mr. Powell to approve the February 1, 2023 minutes as presented. The motion passed unanimously.

Dr. Hackbart introduced agenda item ***Adams Street Partners Specialty Credit Presentation*** (Video 00:09:28 to 00:58:42). KPPA Chief Investment Officer, Mr. Steve Willer, briefly introduced Gary Fencik and Bill Sacher with Adams Street Partners. Mr. Fencik and Mr. Sacher presented information on Senior Private Credit Fund III and the anchor terms of a proposed commitment to the fund.

Dr. Hackbart introduced agenda item ***CERS' Investment into Adam Street Partners Private Credit Fund II*** (Video 00:58:43 to 01:01:40). Due to the absence of Dr. Hackbart and Mr. O'Mara, Mr. Powell made a motion to table the item to the next meeting of the CERS Investment Committee. The motion was seconded by Dr. Milkman and the motion passed unanimously.

Dr. Hackbart introduced agenda item ***Wilshire Market Overview*** (Video 01:01:41 to 01:27:40). David Lindberg and Craig Morton with Wilshire presented the CERS Quarterly Board Summary as of December 31, 2022.

Dr. Hackbart introduced agenda item ***Investment Quarterly Update*** (Video 01:27:41 to 01:58:29). Mr. Willer presented the CERS Investment Office Update, Investment Budget Update, CERS & CERS Hazardous Unit Holdings, Security Litigation Report, Capital Calls and Distributions,

Internal Asset Holdings Report & Internal Asset Transaction Report, and Commissions Report for the quarter ending December 31, 2022.

Dr. Hackbart introduced agenda item **Staffing Update** (*Video 01:58:30 to 01:58:35*). There was no Staffing Update to report.

A motion was made by Mr. Powell and seconded by Dr. Milkman 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 February 22, 2023 were approved by the County Employees Retirement System Investment Committee on May 24, 2023.

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

I have reviewed the Minutes of the County Employees Retirement System Investment Committee Meeting on February 22, 2023, for form, content, and legality.

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

**MINUTES OF MEETING  
COUNTY EMPLOYEES RETIREMENT SYSTEM  
SPECIAL CALLED INVESTMENT COMMITTEE MEETING  
MARCH 2, 2023, AT 2:00 P.M., E.T.  
VIA LIVE VIDEO TELECONFERENCE**

At the special called meeting of the County Employees Retirement System Investment Committee held on March 2, 2023, the following Committee members were present: Dr. Merl Hackbart (Chair), George Cheatham, Dr. Martin Milkman, William O'Mara, and Jerry Powell. Staff members present were Erin Surratt, Victoria Hale, Michael Lamb, Steve Willer, Anthony Chiu, Joseph Gilbert, Jared Crawford, Brian Caldwell, Ashley Gabbard, Shaun Case, Katie Park, and Sherry Rankin. Also in attendance was CERS CEO Ed Owens, III.

Dr. Hackbart called the meeting to order.

Ms. Hale read the Opening Statement.

Ms. Rankin took Roll Call.

There being no ***Public Comment*** submitted, Dr. Hackbart introduced agenda items ***Adams Street Partners Re-Up ASP Private Credit Fund III*** (Video 00:05:54 to 00:17:19). Mr. Steve Willer provided background information on Adams Street Partners and presented the proposed investment into Adams Street Partners Private Credit Fund III. He stated that the investment recommendation is a "re-up" including the opportunity for a fee-free co-investment sidecar vehicle should it be approved and would be part of the Specialty Credit allocation. The KPPA Office of Investments recommended a "re-up" investment of up to \$175 million into the Adams Street Partners Senior Private Credit Fund III, and up to an additional \$175 million investment into a co-

investment side car vehicle to be allocated proportionally among all CERS Plans. Further, KPPA will occupy an “anchor investor” position with preferred pricing and the co-investment vehicle will have a 0% management fee, and 0% carried interest. This "re-up" investment will maintain the Plans' current exposure to the Adams Street Private Credit Platform and will reside in the Specialty Credit allocation, said Mr. Willer. Mr. O’Mara made a motion to approve, subject to successful contract negotiations, CERS’ investment into Adams Street Partners Private Credit Fund III as presented. The motion was seconded by Mr. Powell and passed unanimously.

\*\*\*Dr. Milkman entered the meeting\*\*\*

Dr. Hackbart requested a motion to *adjourn*. A motion was made by Mr. Cheatham 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 March 2, 2023, were approved by the County Employees Retirement System Investment Committee on May 24, 2023.

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

I have reviewed the Minutes of the County Employees Retirement System Investment Committee Meeting on March 2, 2023, for form, content, and legality.

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



# Wilshire

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

Quarterly Board Summary

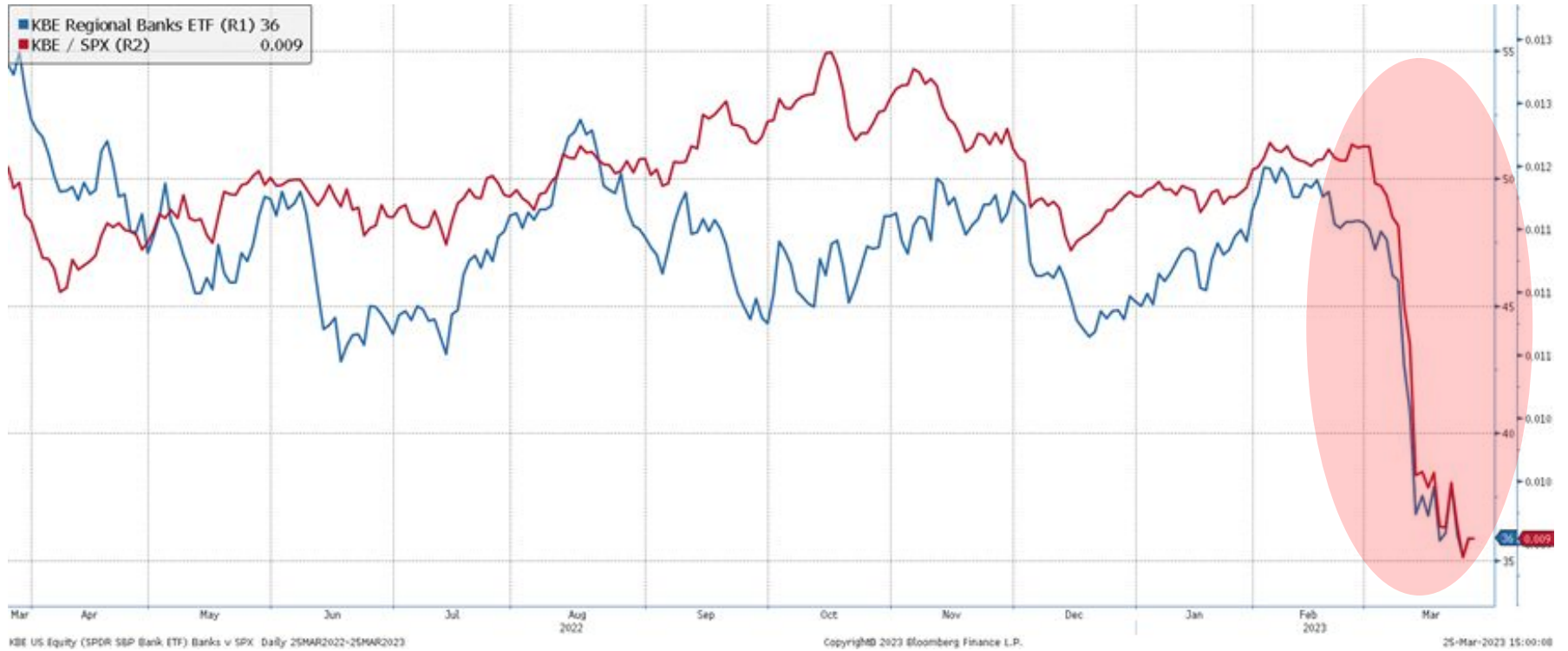
*March 31, 2023*

# Quarterly Market Review

# March 2023 Asset Class Assumptions

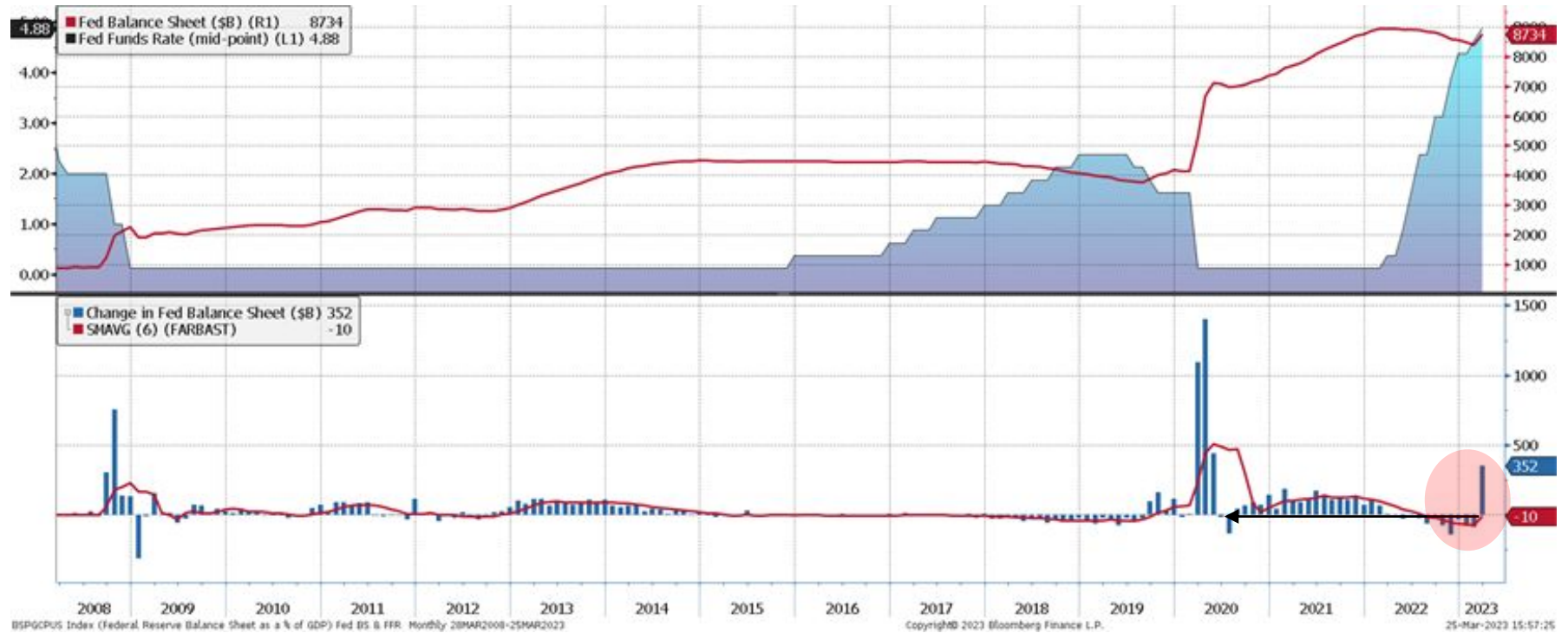
	Equity						Fixed Income						Real Assets						
	US Stock	Dev ex-US Stock	Emg Stock	Global ex-US Stock	Global Stock	Private Equity	Cash	Core Bond	LT Core Bond	TIPS	High Yield	Private Credit	Dev ex-US Bond (Hdg)	US RES	Global RES	Private RE	Cmdty	Real Assets	US CPI
Compound Return (%)	6.15	6.90	7.15	7.25	6.70	9.60	3.65	4.60	4.60	3.65	6.25	8.55	2.85	5.75	5.90	6.25	5.90	6.65	2.25
Expected Risk (%)	17.00	18.00	26.00	19.10	17.10	29.65	0.75	4.70	9.85	6.00	10.00	12.75	4.00	17.50	16.45	13.90	16.00	12.35	1.75
Cash Yield (%)	1.65	3.15	2.75	3.05	2.20	0.00	3.65	4.90	4.95	4.25	9.35	4.90	3.45	4.05	4.05	2.25	3.65	3.15	0.00
Growth Exposure	8.00	8.00	8.00	8.00	8.00	14.00	0.00	-0.95	-2.40	-3.00	4.00	5.10	-1.00	6.00	6.00	3.50	0.00	2.70	0.00
Inflation Exposure	-3.00	0.00	5.00	1.45	-1.30	-3.75	0.00	-2.50	-6.80	2.50	-1.00	-1.50	-3.00	1.00	1.80	1.00	12.00	5.25	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	0.84	0.95	0.89	1.00															
Global Stock	0.95	0.91	0.84	0.94	1.00														
Private Equity	0.72	0.63	0.61	0.67	0.73	1.00													
Cash Equivalents	-0.05	-0.09	-0.05	-0.08	-0.06	0.00	1.00												
Core Bond	0.28	0.13	0.00	0.08	0.20	0.30	0.18	1.00											
LT Core Bond	0.31	0.15	0.01	0.11	0.24	0.31	0.11	0.94	1.00										
TIPS	-0.05	0.00	0.15	0.06	-0.01	-0.03	0.20	0.60	0.48	1.00									
High Yield Bond	0.54	0.39	0.49	0.46	0.53	0.31	-0.10	0.24	0.32	0.05	1.00								
Private Credit	0.68	0.55	0.58	0.60	0.68	0.44	0.00	0.24	0.30	0.00	0.76	1.00							
Dev ex-US Bond (Hdg)	0.16	0.25	-0.01	0.16	0.17	0.26	0.10	0.68	0.66	0.39	0.26	0.22	1.00						
US RE Securities	0.58	0.47	0.44	0.49	0.57	0.49	-0.05	0.17	0.22	0.10	0.56	0.62	0.05	1.00					
Global RE Securities	0.64	0.57	0.54	0.60	0.65	0.55	-0.05	0.17	0.21	0.11	0.61	0.68	0.04	0.96	1.00				
Private Real Estate	0.55	0.45	0.45	0.49	0.54	0.50	-0.05	0.19	0.25	0.09	0.58	0.63	0.05	0.79	0.78	1.00			
Commodities	0.25	0.34	0.39	0.38	0.32	0.28	0.00	-0.03	-0.03	0.25	0.29	0.29	-0.10	0.25	0.28	0.25	1.00		
Real Assets	0.62	0.63	0.65	0.69	0.67	0.57	-0.03	0.22	0.24	0.30	0.64	0.69	0.04	0.78	0.84	0.76	0.64	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	0.00	-0.08	0.05	0.04	0.05	0.44	0.22	1.00

# Regional Banks Under Stress



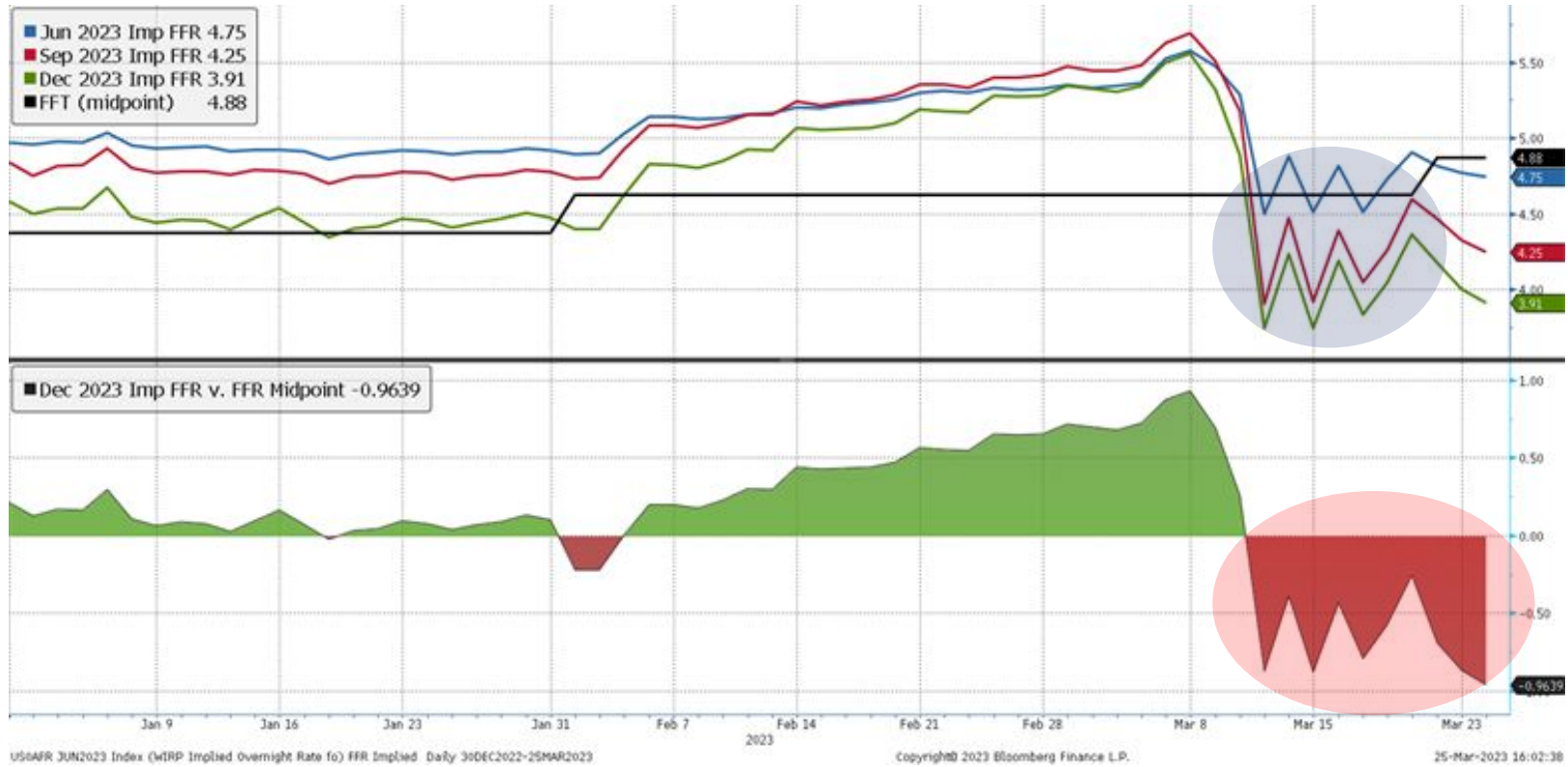
Data Source: Bloomberg

# Fed Response: “Dovish Hike” - End of QT?



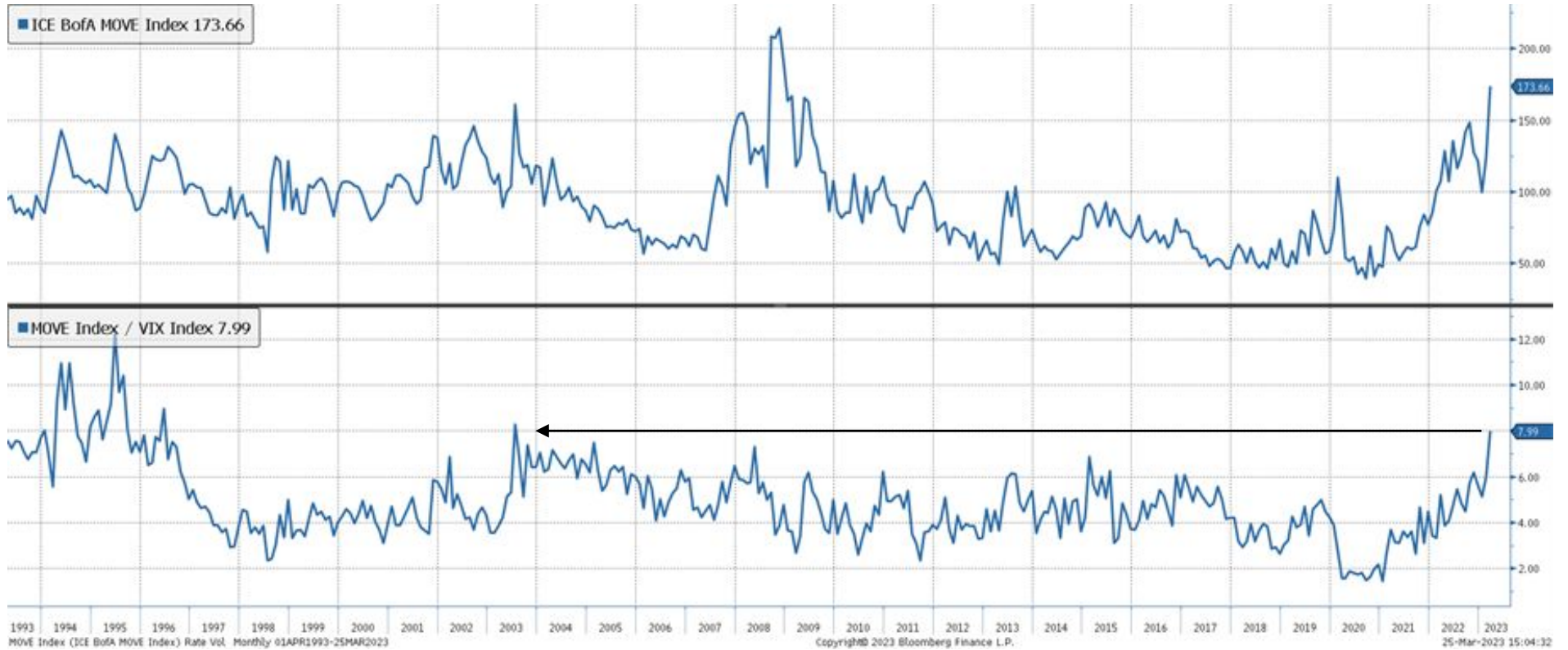
Data Source: Bloomberg

# Fed Funds Discounting Goes into “Charlie Brown” Mode



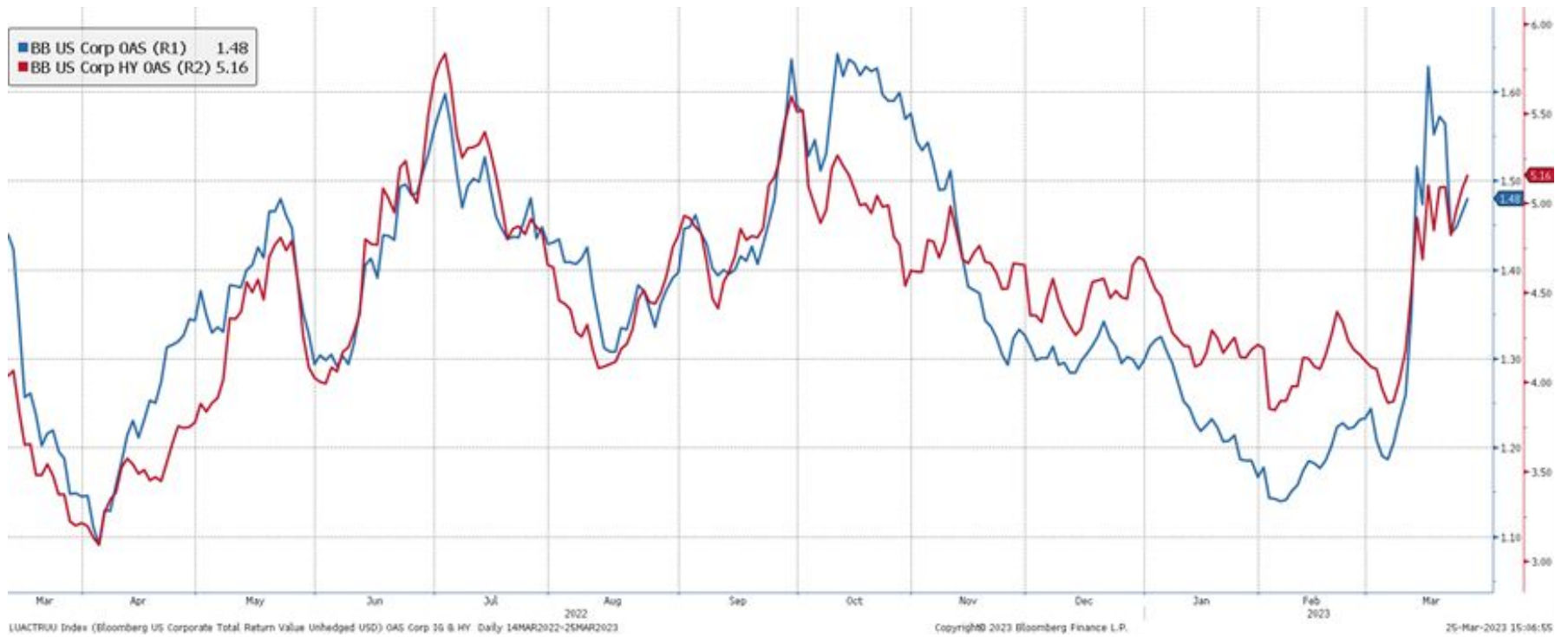
Data Source: Bloomberg

# Extreme Interest Rate Volatility



Data Source: Bloomberg

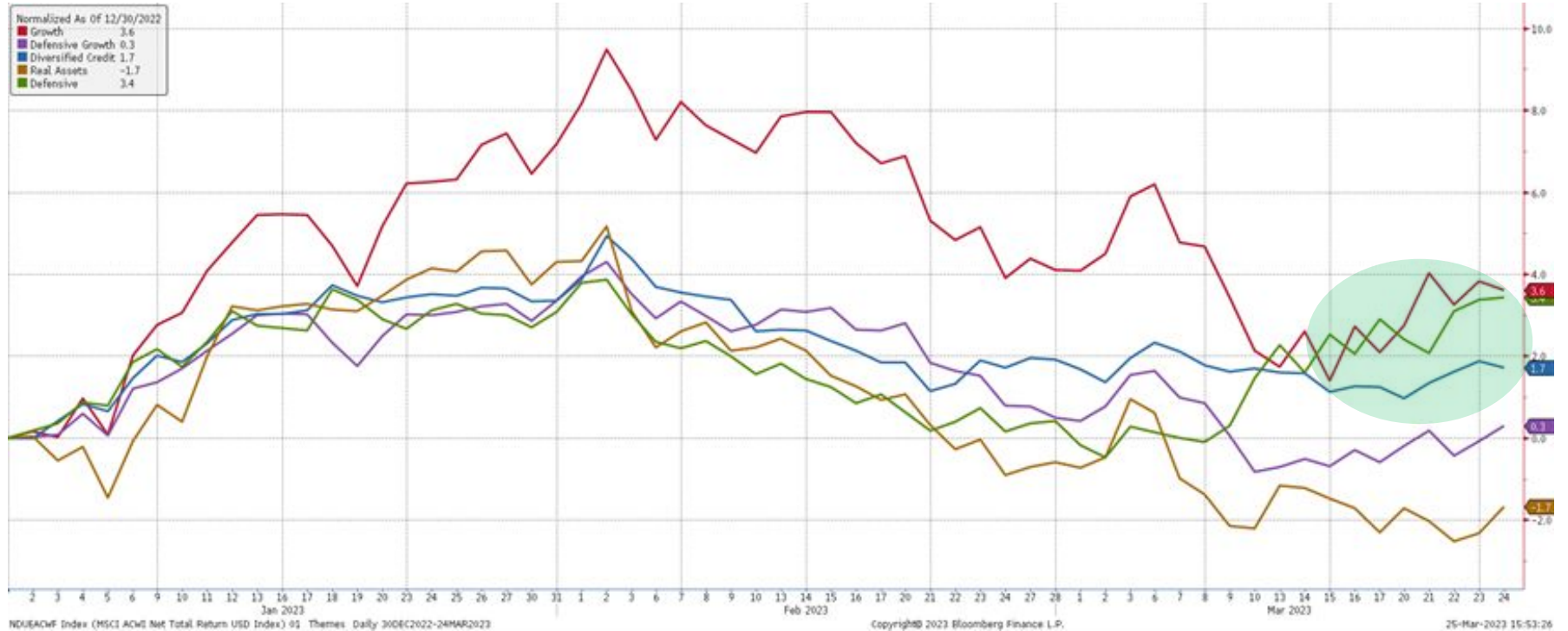
# Credit Spreads Widen (but remain below Sept '22 levels)



Data Source: Bloomberg



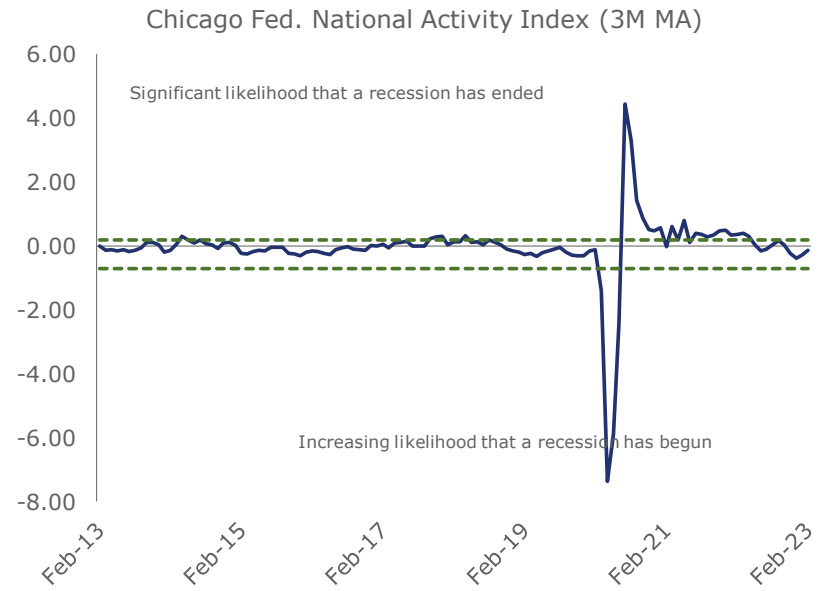
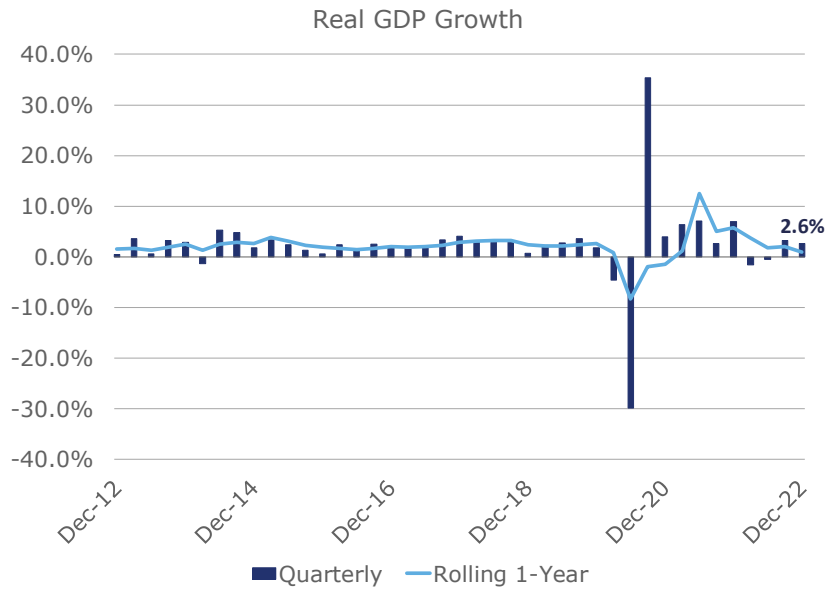
# Many Risk-Assets Showing Resilience



Data Source: Bloomberg

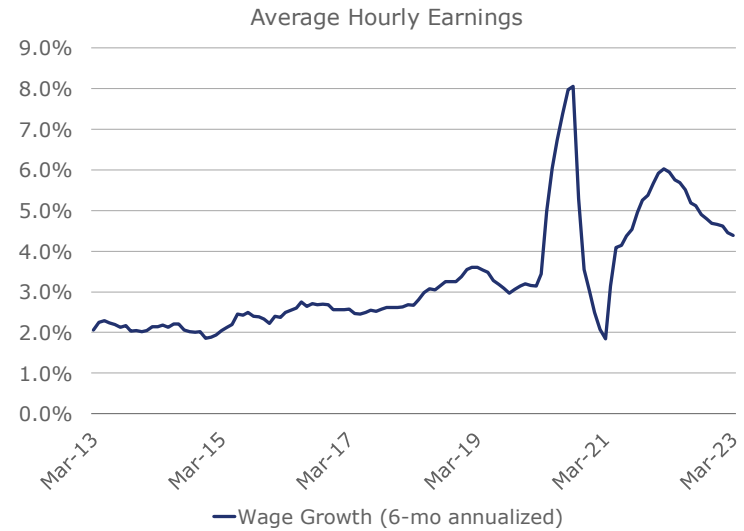
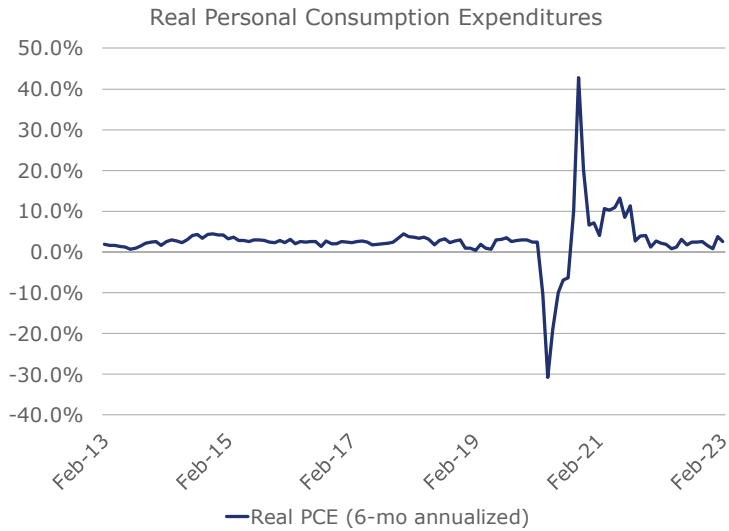
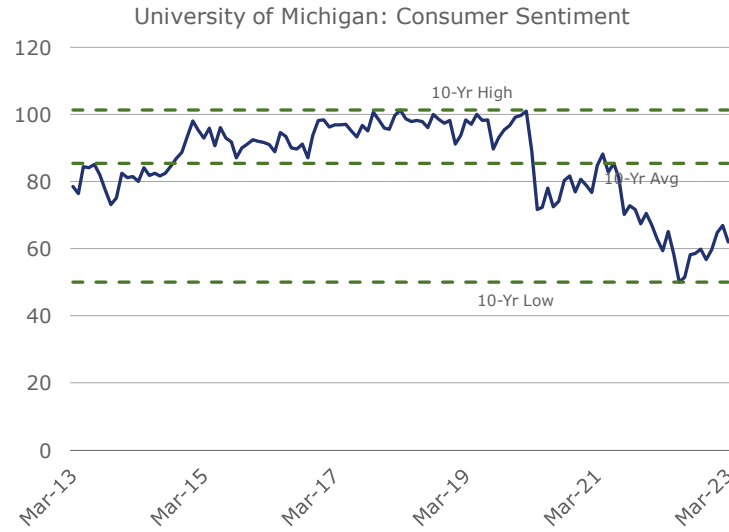
# Economic/Market Activity

# Economic Growth



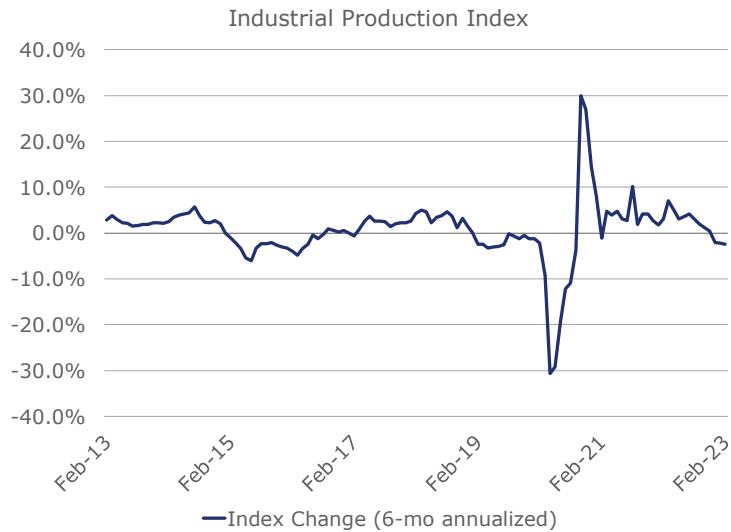
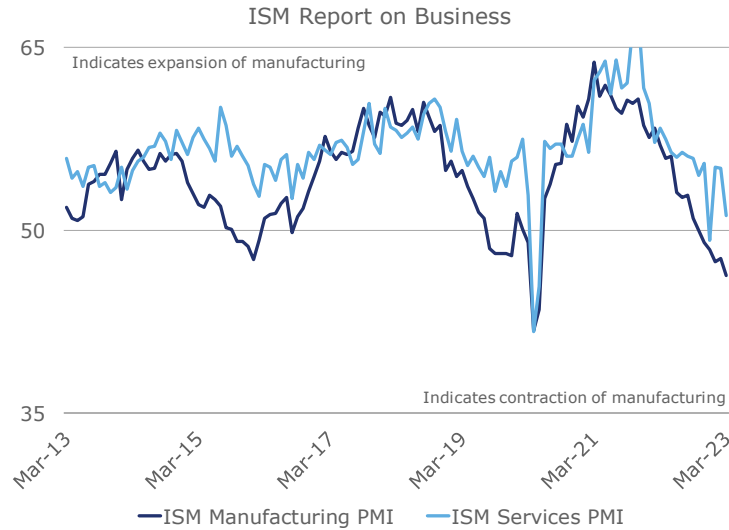
Data Sources: Bloomberg

# Consumer Activity



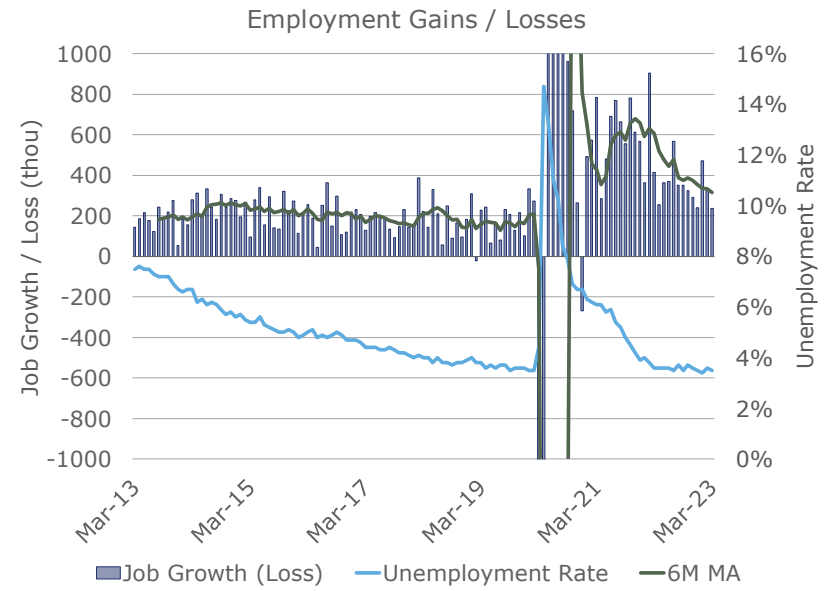
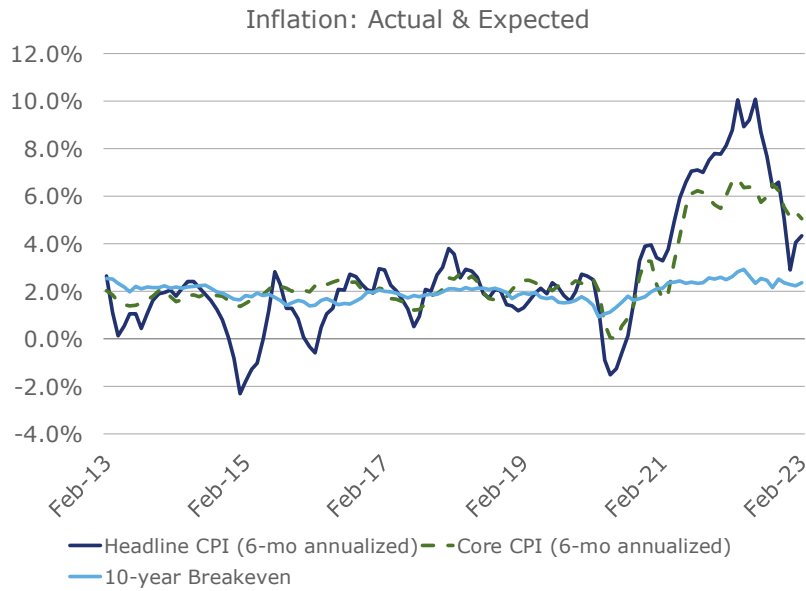
Data Sources: Bloomberg

# Business Activity



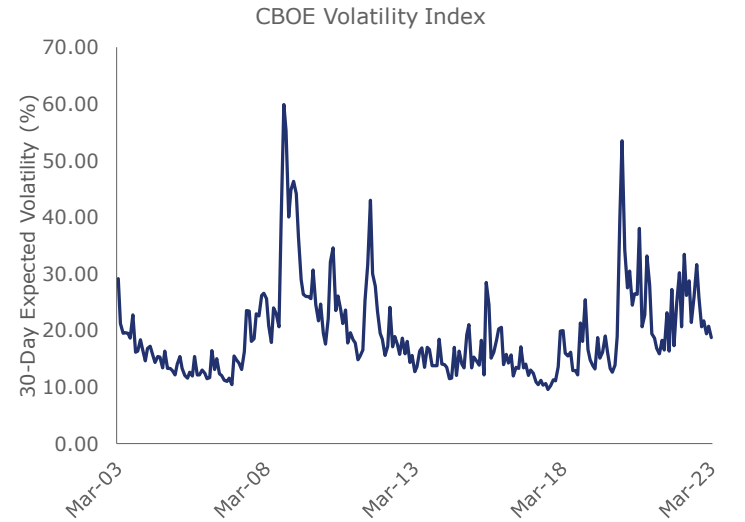
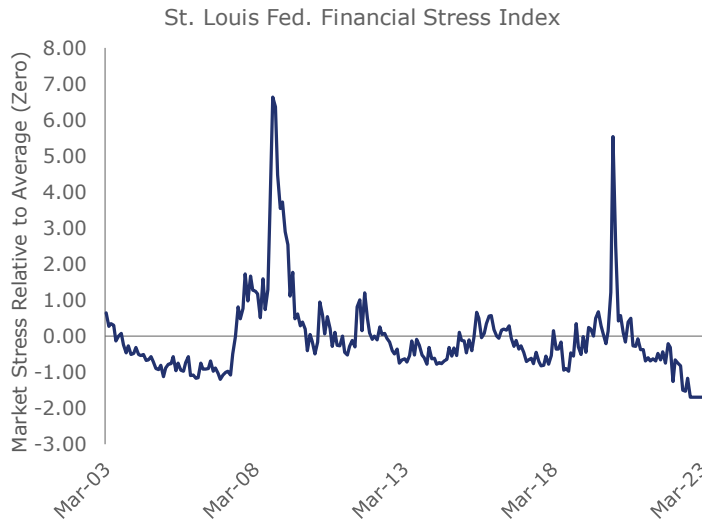
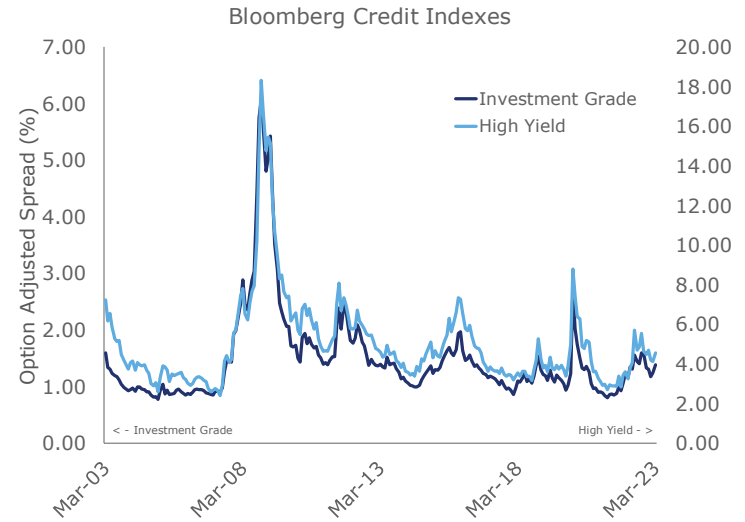
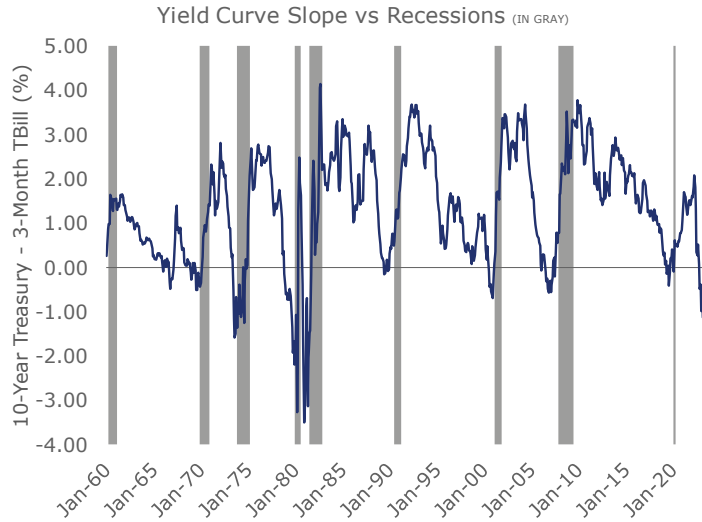
Data Sources: Bloomberg

# Inflation and Employment



Data Sources: Bloomberg

# Risk Monitor

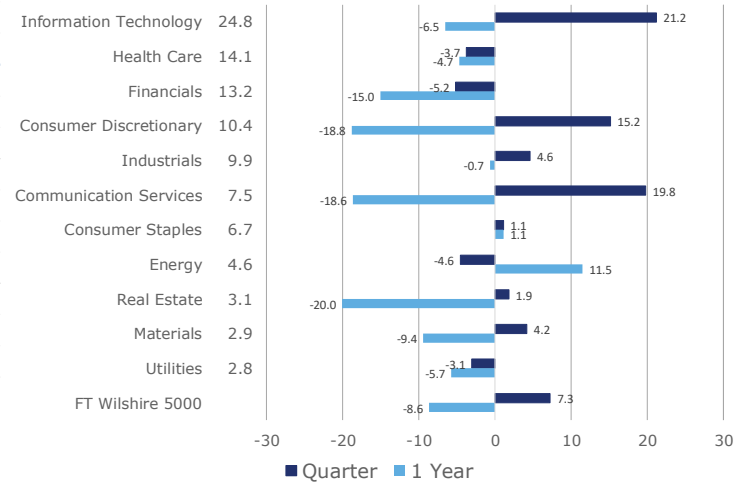


Data Sources: Bloomberg

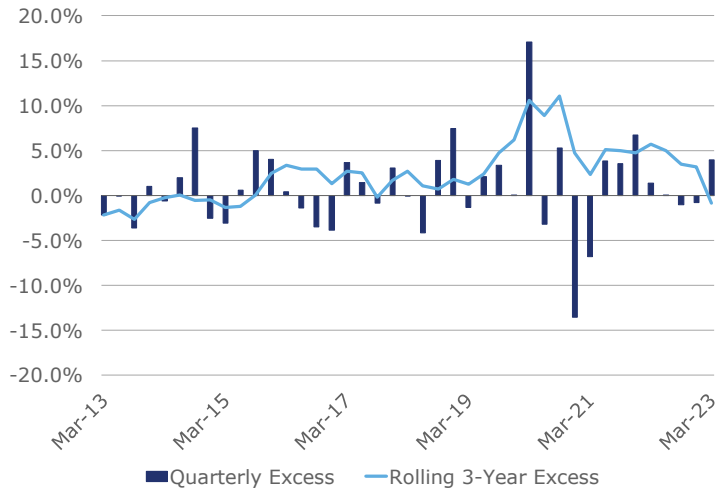
# U.S. Equity Market

As of 3/31/2023	Quarter	YTD	1 Year	3 Year	5 Year	10 Year
FT Wilshire 5000	7.3	7.3	-8.6	18.8	10.7	11.9
Wilshire U.S. Large Cap	7.6	7.6	-8.4	18.8	11.2	12.3
Wilshire U.S. Small Cap	3.6	3.6	-10.3	19.8	6.0	8.7
Wilshire U.S. Large Growth	15.7	15.7	-11.4	19.7	12.9	14.2
Wilshire U.S. Large Value	0.1	0.1	-4.8	17.5	9.4	10.3
Wilshire U.S. Small Growth	6.3	6.3	-8.7	17.6	6.1	9.2
Wilshire U.S. Small Value	1.0	1.0	-11.7	22.0	5.8	8.1
Wilshire REIT Index	3.2	3.2	-21.3	11.0	5.7	5.9
MSCI USA Min. Vol. Index	1.3	1.3	-4.4	12.4	9.1	10.6
FTSE RAFI U.S. 1000 Index	1.7	1.7	-5.9	22.1	10.0	11.0

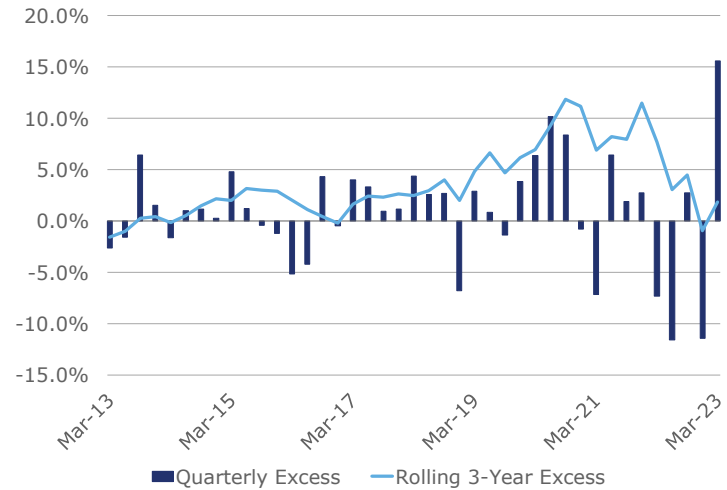
U.S. Sector Weight and Return (%)



Large Cap vs Small Cap



Large Growth vs Large Value

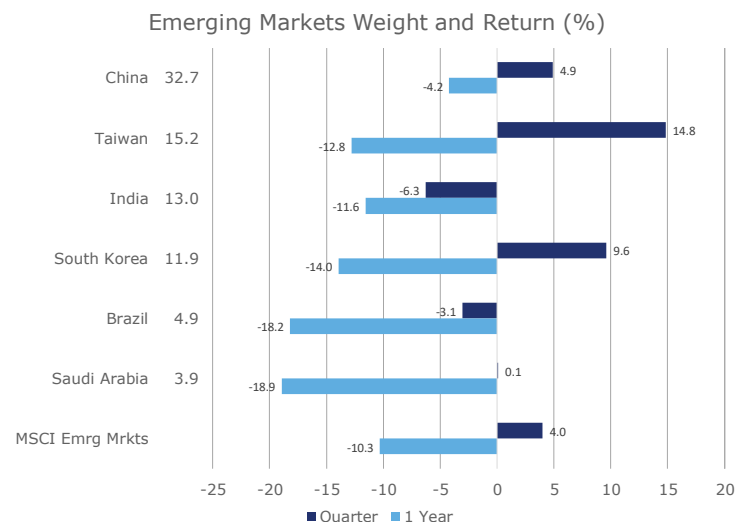
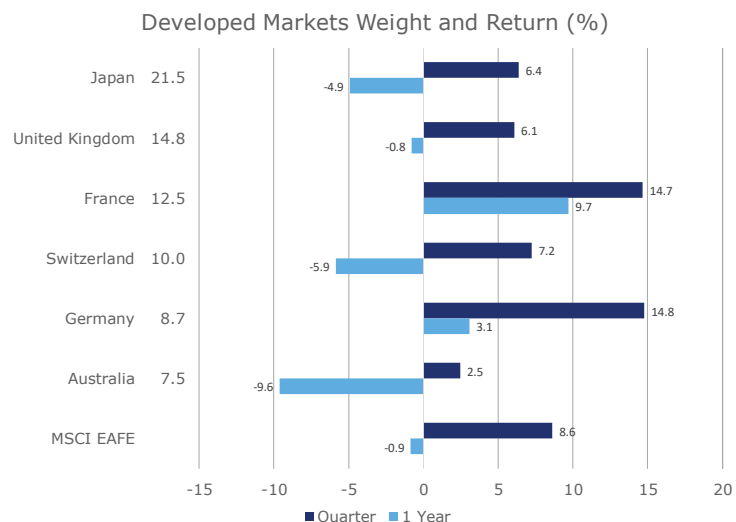


Data Sources: Bloomberg, Wilshire Atlas



# Non-U.S. Equity Market

As of 3/31/2023	Quarter	YTD	1 Year	3 Year	5 Year	10 Year
MSCI ACWI ex-US (\$G)	7.0	7.0	-4.6	12.3	3.0	4.7
MSCI EAFE (\$G)	8.6	8.6	-0.9	13.5	4.0	5.5
MSCI Emerging Markets (\$G)	4.0	4.0	-10.3	8.2	-0.5	2.4
MSCI Frontier Markets (\$G)	2.5	2.5	-16.3	7.9	-3.7	0.0
MSCI ACWI ex-US Growth (\$G)	8.7	8.7	-6.0	9.8	3.7	5.4
MSCI ACWI ex-US Value (\$G)	5.1	5.1	-3.9	14.9	1.9	3.9
MSCI ACWI ex-US Small (\$G)	4.8	4.8	-9.9	15.5	2.1	5.5
MSCI ACWI Minimum Volatility	1.7	1.7	-5.5	8.9	5.7	7.4
MSCI EAFE Minimum Volatility	5.8	5.8	-4.6	5.3	1.6	4.7
FTSE RAFI Developed ex-US	6.7	6.7	-1.6	16.8	3.4	5.3
MSCI EAFE LC (G)	7.7	7.7	4.4	15.2	6.8	7.9
MSCI Emerging Markets LC (G)	3.8	3.8	-6.2	9.2	2.3	5.4

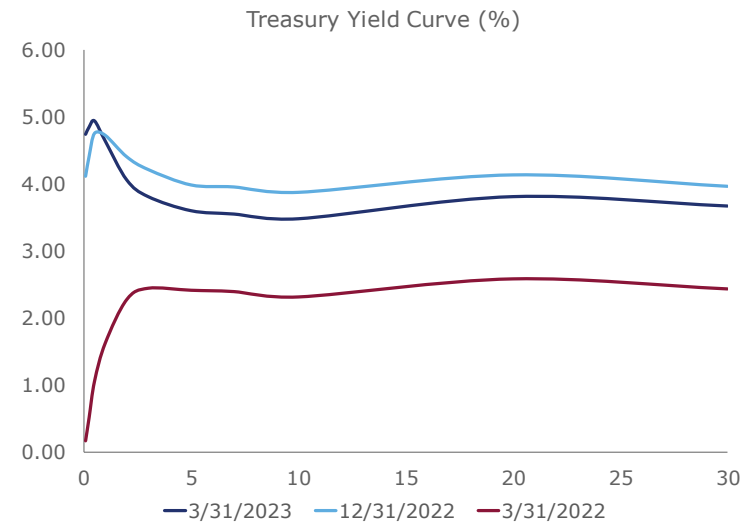
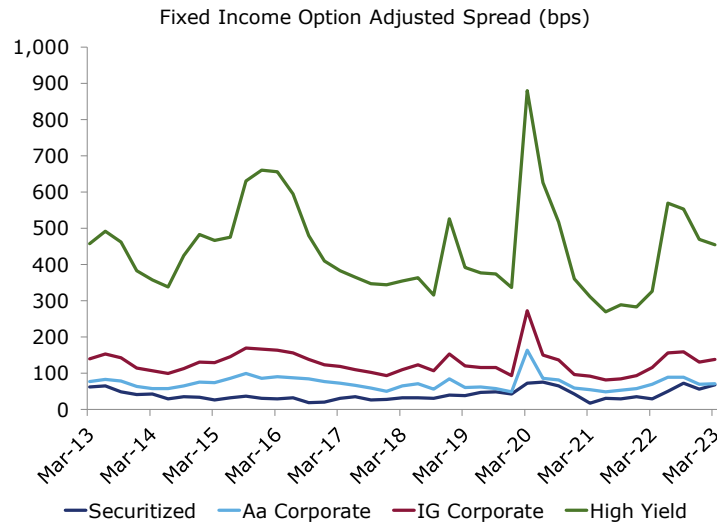


Data Sources: Bloomberg

# U.S. Fixed Income

As of 3/31/2023	YTW	DUR.	QTR	YTD	1 YR	3 YR	5 YR	10 YR
Bloomberg Aggregate	4.4	6.3	3.0	3.0	-4.8	-2.8	0.9	1.4
Bloomberg Treasury	3.8	6.3	3.0	3.0	-4.5	-4.2	0.7	0.9
Bloomberg Gov't-Rel.	4.4	5.4	2.9	2.9	-3.3	-1.6	1.1	1.4
Bloomberg Securitized	4.6	5.8	2.5	2.5	-4.7	-3.1	0.3	1.0
Bloomberg Corporate	5.2	7.2	3.5	3.5	-5.6	-0.5	1.6	2.3
Bloomberg LT Gov't/Credit	4.6	14.6	5.8	5.8	-13.4	-6.3	0.6	2.3
Bloomberg LT Treasury	3.8	16.4	6.2	6.2	-16.0	-11.3	-0.4	1.5
Bloomberg LT Gov't-Rel.	5.1	11.7	5.2	5.2	-9.9	-3.1	0.6	2.3
Bloomberg LT Corporate	5.3	13.2	5.4	5.4	-11.5	-2.6	1.1	3.0
Bloomberg U.S. TIPS *	3.5	7.6	3.3	3.3	-6.1	1.8	2.9	1.5
Bloomberg High Yield	8.5	3.7	3.6	3.6	-3.3	5.9	3.2	4.1
S&P/LSTA Leveraged Loan	9.4	0.3	3.2	3.2	2.5	8.5	3.6	3.8
Treasury Bills	4.7	0.3	1.1	1.1	2.5	0.8	1.4	0.9

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

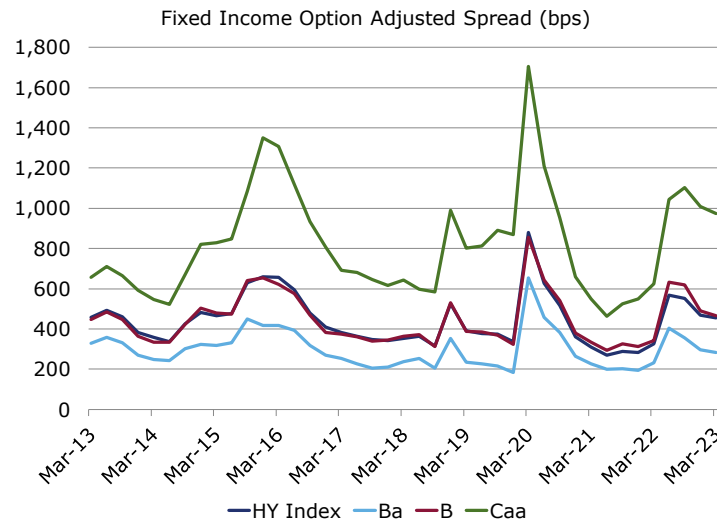


Data Sources: Bloomberg

# High Yield Bond Market

As of 3/31/2023

	YTW	QTR	YTD	1 YR	3 YR	5 YR	10 YR
Bloomberg High Yield	8.5	3.6	3.6	-3.3	5.9	3.2	4.1
S&P LSTA Leveraged Loan	9.1	2.9	2.9	2.4	6.5	3.4	3.3
<b>High Yield Quality Distribution</b>	<b>Weight</b>						
Ba U.S. High Yield	48.8%	6.8	3.4	3.4	-1.9	5.8	4.5
B U.S. High Yield	39.6%	8.7	3.5	3.5	-3.7	5.4	3.7
Caa U.S. High Yield	10.7%	13.4	5.0	5.0	-8.6	7.1	3.4
Ca to D U.S. High Yield	0.9%	35.1	-3.6	-3.6	-10.3	12.4	-5.3

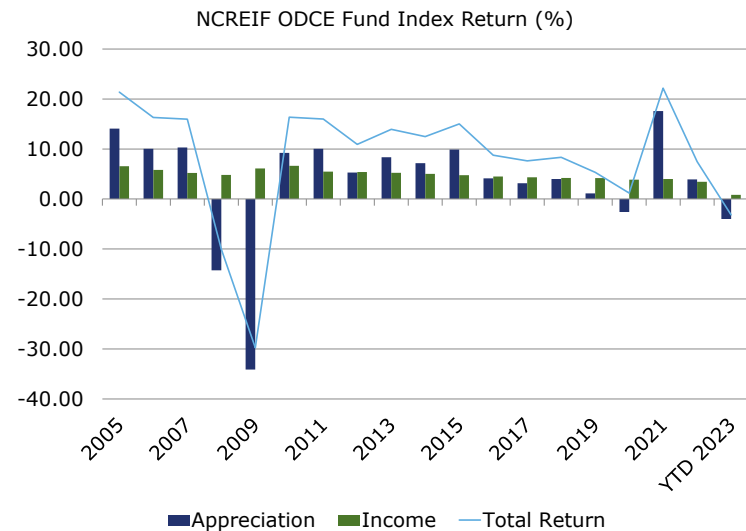
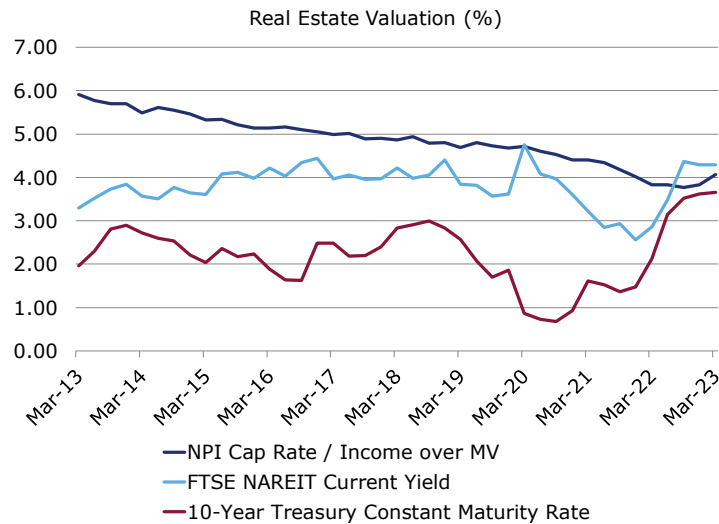


Data Sources: Bloomberg

# Real Assets

As of 3/31/2023

	Quarter	YTD	1 Year	3 Year	5 Year	10 Year
Bloomberg U.S. TIPS	3.3	3.3	-6.1	1.8	2.9	1.5
Bloomberg Commodity Index	-5.4	-5.4	-12.5	20.8	5.4	-1.7
Bloomberg Gold Index	8.1	8.1	0.7	5.9	7.1	1.3
Wilshire Global RESI Index	2.3	2.3	-20.8	9.0	3.2	4.3
NCREIF ODCE Fund Index	-3.2	-3.2	-3.1	8.4	7.5	9.5
NCREIF Timberland Index	1.8	1.8	11.3	8.1	5.5	5.8
FTSE Global Core Infrastructure 50/50	0.7	0.7	-7.1	11.1	6.6	7.1
Alerian Midstream Energy	0.8	0.8	-1.2	34.8	9.7	n.a.
Bitcoin	71.7	71.7	-38.0	63.6	32.9	77.7



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

## Asset Class Performance

Asset Class Returns - Best to Worst

Annualized  
5-Year  
as of 3/23

2018	2019	2020	2021	2022	2023 YTD	Annualized 5-Year as of 3/23
T-Bills 1.9%	U.S. Equity 31.0%	U.S. Equity 20.8%	REITs 46.2%	Commodities 16.1%	Developed 8.6%	U.S. Equity 10.7%
Core Bond 0.0%	REITs 25.8%	Emrg Mrkts 18.7%	Commodities 27.1%	T-Bills 1.3%	U.S. Equity 7.3%	REITs 5.7%
U.S. TIPS -1.3%	Developed 22.7%	U.S. TIPS 11.0%	U.S. Equity 26.7%	High Yield -11.2%	Emrg Mrkts 4.0%	Commodities 5.4%
High Yield -2.1%	Emrg Mrkts 18.9%	Developed 8.3%	Developed 11.8%	U.S. TIPS -11.8%	High Yield 3.6%	Developed 4.0%
REITs -4.8%	High Yield 14.3%	Core Bond 7.5%	U.S. TIPS 6.0%	Core Bond -13.0%	U.S. TIPS 3.3%	High Yield 3.2%
U.S. Equity -5.3%	Core Bond 8.7%	High Yield 7.1%	High Yield 5.3%	Developed -14.0%	REITs 3.2%	U.S. TIPS 2.9%
Commodities -11.2%	U.S. TIPS 8.4%	T-Bills 0.7%	T-Bills 0.0%	U.S. Equity -19.0%	Core Bond 3.0%	T-Bills 1.4%
Developed -13.4%	Commodities 7.7%	Commodities -3.1%	Core Bond -1.5%	Emrg Mrkts -19.7%	T-Bills 1.1%	Core Bond 0.9%
Emrg Mrkts -14.2%	T-Bills 2.3%	REITs -7.9%	Emrg Mrkts -2.2%	REITs -26.8%	Commodities -5.4%	Emrg Mrkts -0.5%

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

County Employees Retirement Systems

# Investment Office Quarterly Update

Quarter Ending: March 31, 2023

County Employees Retirement Systems

# Performance and Asset Allocations

Quarter Ending: March 31, 2023

**What’s going on in the marketplace?**

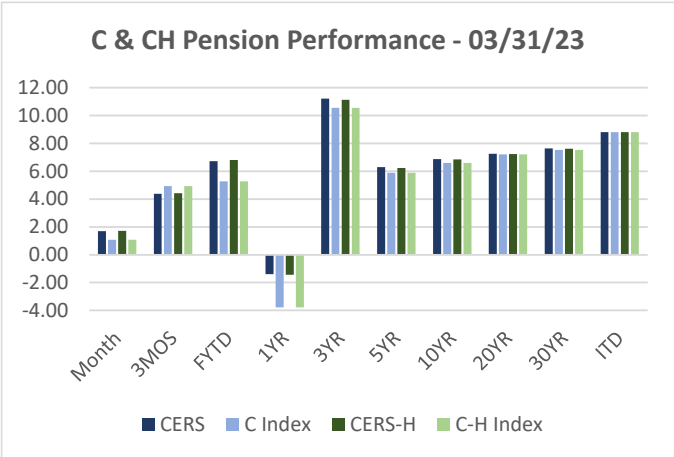
During the first quarter of 2023, global risks markets were able to shrug off a multitude of headwinds and produce positive performance. Markets were buoyed early in the quarter as optimism grew that the economy could avoid a recession and central banks would shortly shift to easing mode. This market optimism faded as concerns grew regarding the health of the banking sector following the sudden failure of two regional banks. Markets were able to rebound late in the quarter to finish on a positive note as fears of immediate contagion subsided, and optimism again took root. Despite this, most remain cautious on the market as earnings are likely to come under pressure as underlying growth seems to be slowing at a more meaningful pace. The market seems to be experiencing a broad underlying slowdown as company trends are beginning to decelerate. That said, it is a difficult starting point for comparison as we are coming off elevated numbers post pandemic, and high inflation and rates. Despite the long-predicted recession to come, as mentioned above, equity markets continue to be resilient as businesses have been performing against low expectations. Supply chains seem to be functioning and inflationary pressures are starting to abate. The financial industry experienced a couple of significant bank failures, as bond investments came under significant pressures during the quarter; however, they appear to be idiosyncratic, and contagion seems minimal. This is still likely to renew banks focus on capital/liquidity and may result in tightening credit availability. Mixed data has created some confusion in the marketplace. Equity markets seem to be doing well, while bond markets say we are headed for recession. Mixed growth trends are evidence of the contradiction as machine and semi-conductor sales are down, while retail and travel activity are up. There is a dichotomy in soft and hard data as well; PMI and business surveys say we are in recession, while auto and construction data say different. Slowing demand in North America is being offset by increasing demand in China (re-opening post covid).

**The KPPA Pension Trust portfolio returned 1.61% during the month of March, outperforming its blended benchmark return of 0.99%.** The CERS Pension Composite produced a 1.69% return during the month. The CERS and CERS-H Pension portfolios returned 1.69% and 1.71% respectively, while their benchmark gained 1.07%. Both funds outperformed their respective benchmark with similar drivers of attribution. Performance was stronger within the private equity portfolio in terms of selection. Also, the portfolios benefitted from strong selection in the high yield and real estate portfolios. Allocation positioning was modestly positive during the month. Partially offsetting relative performance was the weakness experienced in the public equity and core fixed income asset classes.

For the fiscal year, the KPPA Pension Trust portfolio gained 6.26%, outperforming the benchmark return of 5.00%, while the CERS Pension Composite returned 6.74%. The CERS and CERS-H Pension portfolios returned 6.72% and 6.80%, against a benchmark return of 5.27%.

**Global equity markets** were stronger during the month, as evidenced by the MSCI ACWI Index rising 3.08%. US markets outpaced their international market counterparts (R3000: 2.67% versus MSCI ACWI Ex-US: 2.13%). This brought the fiscal year return for global equity markets to 9.75% (KPPA global equity portfolio: 11.53%).

**US equity markets** gained 2.67% during the month (Russell 3000), while the KPPA portfolio underperformed, returning 2.31%. The market was driven by strength in the large cap segment (3.67%),





while midcaps and small caps were significantly weaker (-3.21% and -4.78%, respectively). Growth significantly outperformed value during the month, returning 6.25% versus -0.86%, as evidenced by the Russell 3000 style indices. For the fiscal year, the KPPA US Equity portfolio has gained 9.98% compared with its benchmark return of 9.75%. Relative outperformance has been driven by the portfolio's slight overweight down market cap to midcaps which have returned 12.17% for the fiscal year.

**NonUS equity markets** returned 2.13% (MSCI ACWI Ex-US) during the month. Developed markets returned 2.34% (MSCI World Ex-US) and emerging markets gained 3.03% (MSCI EM) during the period while period. The KPPA portfolio returned 2.56% during the month, outperforming its benchmark by 43bps. Relative outperformance was driven by stock selection, as the majority of individual active mandates bested their respective benchmarks. The fiscal year return now stands at 13.63% versus 9.85%.

**The specialty credit portfolio** outperformed its benchmark during the month, returning 1.61% versus 0.52%. The high yield market returned 1.07% during the period, as the leverage loan market remained relatively flat (-0.03%). For the fiscal year to date, the portfolio has underperformed its benchmark, gaining 5.16% versus 7.31%. The reported relative underperformance is largely driven by the issues associated with timing differences between the private market mandates and the public market benchmarks which tend to be exacerbated during periods of larger moves in the public markets. Individual strategy relative performance has been mixed fiscal year to date.

**The core fixed income portfolio** gained 1.15% compared to the Bloomberg Aggregate Index gaining 2.54% as Government bond yields overall decreased significantly in March as investors sought refuge of safer assets and forward rate hike expectations decreased in light of the banking sector turmoil. Relative underperformance was attributable to positioning within the allocation; the portfolios continue to remain underweight overall duration given the potential for higher rates and continued volatility. The fiscal year-to-date return now stands at 1.39% compared to the benchmark return of -0.09%.

**The private equity allocation** gained 160bps during the month, bringing the fiscal year to date return to -4.53%. Trailing public marks have significantly affected the overall performance of the portfolio, and the portfolio's 1-year return crossed into negative territory recently coming in at -2.92% at the end of March.

**The real return portfolio** gained 31bps during the month, compared to its benchmark return of 0.79%. As with several of the previous months, performance, both absolute and relative, was heavily influenced by the MLP portion of the portfolio (approximately 40% of the allocation); which lost -0.98%. For the fiscal year, the portfolio has returned 9.97% versus the benchmark return of 5.15%.

**The real estate** portfolio fell -1.57% during the month. The 1-year return now stands at 6.09% versus the 6.55% return of its benchmark, closing the relative gap that existed due to the benchmark finally adjusting to the impact of higher interest rates. The three open-end real estate funds in the portfolio (approximately 75% of the allocation) continue to outperform the benchmark.

**The cash portfolio** returned 0.31% during the month compared with the 3-month T-bill's 0.40%. This brought the fiscal year return to 2.31%, trailing the benchmark return of 2.46%. The relative underperformance of the cash portfolio is most attributable to lower rates offered by overnight repurchase agreements relative to the yields of the 3-month T-bill.

CERS & CERS-HAZ - PENSION FUND PLAN NET RETURNS - 03/31/23											
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>8,435,338,447.03</b>	<b>1.69</b>	<b>4.38</b>	<b>6.72</b>	<b>-1.40</b>	<b>11.22</b>	<b>6.30</b>	<b>6.88</b>	<b>7.26</b>	<b>7.63</b>	<b>8.82</b>
KY Ret. CKERS Plan IPS Index		1.07	4.94	5.27	-3.77	10.55	5.90	6.60	7.22	7.54	8.81
<b>CERS- H</b>	<b>2,910,096,168.23</b>	<b>1.71</b>	<b>4.42</b>	<b>6.80</b>	<b>-1.43</b>	<b>11.13</b>	<b>6.24</b>	<b>6.86</b>	<b>7.24</b>	<b>7.62</b>	<b>8.81</b>
KY Ret. CERS Haz Plan IPS Index		1.07	4.94	5.27	-3.77	10.55	5.90	6.60	7.22	7.54	8.81

KPPA PENSION FUND UNIT - NET RETURNS - 03/31/23 - 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>2.41</b>	<b>7.55</b>	<b>11.53</b>	<b>-6.09</b>	<b>15.89</b>	<b>6.58</b>	<b>7.98</b>	<b>8.43</b>	<b>8.43</b>	<b>10.12</b>	
MSCI ACWI	3.08	7.31	9.75	-7.44	15.29	6.37	7.75	8.38	8.22	9.95	
<b>PRIVATE EQUITY</b>	<b>1.60</b>	<b>1.55</b>	<b>-4.53</b>	<b>-2.92</b>	<b>16.07</b>	<b>13.79</b>	<b>13.38</b>	<b>12.69</b>		<b>11.80</b>	
Russell 3000 + 3%(Qtr Lag)	-5.23	7.23	-12.59	-16.21	10.13	11.84	15.35	12.25		11.56	
<b>SPECIALTY CREDIT</b>	<b>1.61</b>	<b>2.80</b>	<b>5.16</b>	<b>3.27</b>	<b>7.48</b>	<b>5.29</b>				<b>5.61</b>	
50% BB US HY / 50% SP LSTA Leveraged Loan	0.52	3.41	7.31	-0.34	7.26	3.46				3.46	
<b>CORE FIXED INCOME</b>	<b>1.15</b>	<b>1.94</b>	<b>1.39</b>	<b>-0.74</b>	<b>1.43</b>	<b>2.26</b>				<b>2.47</b>	
Bloomberg Barclays US Aggregate	2.54	2.96	-0.09	-4.78	-2.77	0.91				1.64	
<b>CASH</b>	<b>0.31</b>	<b>0.88</b>	<b>2.31</b>	<b>2.49</b>	<b>0.92</b>	<b>1.47</b>	<b>1.11</b>	<b>1.66</b>	<b>2.70</b>	<b>3.30</b>	
Citigroup Treasury Bill-3 Month	0.40	1.12	2.46	2.61	0.95	1.40	0.85	1.26	2.31	2.90	
<b>REAL ESTATE</b>	<b>-1.57</b>	<b>-4.24</b>	<b>-0.51</b>	<b>6.09</b>	<b>11.87</b>	<b>11.38</b>	<b>10.31</b>	<b>8.38</b>	<b>6.69</b>	<b>6.75</b>	
NCREIF NFI-ODCE Net 1 Qtr in Arrears Index^	-5.17	-5.17	-0.55	6.55	8.97	7.72	9.11	7.40	7.72	6.61	
<b>REAL RETURN</b>	<b>0.31</b>	<b>2.10</b>	<b>9.97</b>	<b>8.14</b>	<b>14.45</b>	<b>5.93</b>	<b>3.85</b>			<b>4.71</b>	
US CPI +3%	0.79	1.77	5.15	9.04	14.76	6.11	3.98			4.07	

Plan	Global Equity	Private Equity	Specialty Credit	Core Fixed Income	Cash	Real Estate	Real Return
CERS	50.4	8.1	20.3	9.8	1.5	6.7	3.2
CERS-H	50.0	7.8	20.2	10.6	2.0	6.2	3.0

**CERS PEN Relative Weights**

**CERS-HAZ PEN Relative Weights**

CERS INS & CERS HAZ INS - INSURANCE FUND - PLAN NET RETURNS - 03/31/23											
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>3,165,430,934.58</b>	<b>1.75</b>	<b>4.44</b>	<b>6.87</b>	<b>-1.14</b>	<b>10.97</b>	<b>6.21</b>	<b>6.81</b>	<b>7.18</b>	<b>6.78</b>	<b>7.33</b>
KY Ins. CERS Plan IPS Index		1.07	4.94	5.27	-3.77	10.11	5.67	6.57	7.42	6.97	7.49
<b>CERS - H INS</b>	<b>1,566,734,922.31</b>	<b>1.73</b>	<b>4.35</b>	<b>6.64</b>	<b>-1.20</b>	<b>10.98</b>	<b>6.30</b>	<b>6.87</b>	<b>7.21</b>	<b>6.80</b>	<b>7.35</b>
KY Ins. CERS Haz Plan IPS Index		1.07	4.94	5.27	-3.77	10.11	5.67	6.57	7.42	6.97	7.49

KPPA INSURANCE FUND UNIT - NET RETURNS - 03/31/23 - 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>2.36</b>	<b>7.50</b>	<b>11.45</b>	<b>-6.11</b>	<b>15.91</b>	<b>6.56</b>	<b>8.02</b>	<b>8.32</b>		<b>8.45</b>	
MSCI ACWI	3.08	7.31	9.75	-7.44	15.26	6.34	7.73	8.05		8.23	
<b>PRIVATE EQUITY</b>	<b>2.11</b>	<b>2.07</b>	<b>-0.53</b>	<b>2.51</b>	<b>16.30</b>	<b>13.70</b>	<b>14.47</b>	<b>12.38</b>		<b>10.97</b>	
Russell 3000 + 3%(Qtr Lag)	-5.23	7.23	-12.59	-16.21	10.13	11.84	15.35	12.07		11.12	
<b>SPECIALTY CREDIT</b>	<b>1.51</b>	<b>2.74</b>	<b>5.26</b>	<b>3.54</b>	<b>7.39</b>	<b>5.19</b>				<b>5.45</b>	
50% BB US HY / 50% SP LSTA Leveraged Loan	0.52	3.41	7.31	-0.34	7.26	3.46				3.46	
<b>CORE FIXED INCOME</b>	<b>1.19</b>	<b>1.93</b>	<b>1.30</b>	<b>-1.06</b>	<b>1.27</b>	<b>2.09</b>				<b>2.18</b>	
Bloomberg Barclays US Aggregate	2.54	2.96	-0.09	-4.78	-2.77	0.91				1.64	
<b>CASH</b>	<b>0.32</b>	<b>0.89</b>	<b>2.29</b>	<b>2.48</b>	<b>0.91</b>	<b>1.36</b>	<b>0.93</b>	<b>1.49</b>		<b>2.44</b>	
Citigroup Treasury Bill-3 Month	0.40	1.12	2.46	2.61	0.95	1.40	0.85	1.26		2.33	
<b>REAL ESTATE</b>	<b>-1.71</b>	<b>-4.35</b>	<b>-0.70</b>	<b>5.92</b>	<b>11.69</b>	<b>11.33</b>	<b>10.31</b>			<b>9.97</b>	
NCREIF NFI-ODCE Net 1 Qtr in Arrears Index^	-5.17	-5.17	-0.55	6.55	8.97	7.72	9.11			6.56	
<b>REAL RETURN</b>	<b>0.56</b>	<b>1.52</b>	<b>8.03</b>	<b>7.06</b>	<b>13.04</b>	<b>5.69</b>	<b>3.61</b>			<b>4.45</b>	
US CPI +3%	0.79	1.77	5.15	9.04	13.73	6.08	4.04			4.11	

Plan	Global Equity	Private Equity	Specialty Credit	Core Fixed Income	Cash	Real Estate	Real Return
CERS INS	50.6	8.4	20.2	10.3	1.4	6.5	2.5
CERS-H INS	50.0	9.6	20.2	9.4	0.9	7.2	2.7

**CERS Insurance Relative Weights**

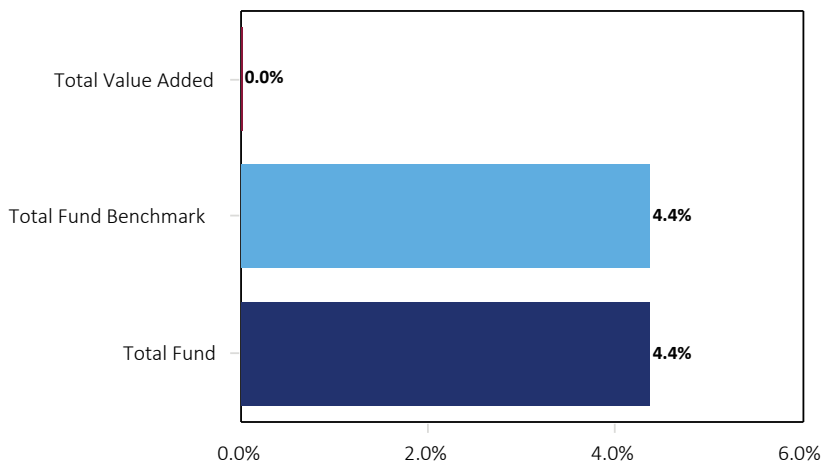
**CERS-HAZ Insurance Relative Weights**

# Total Fund Attribution

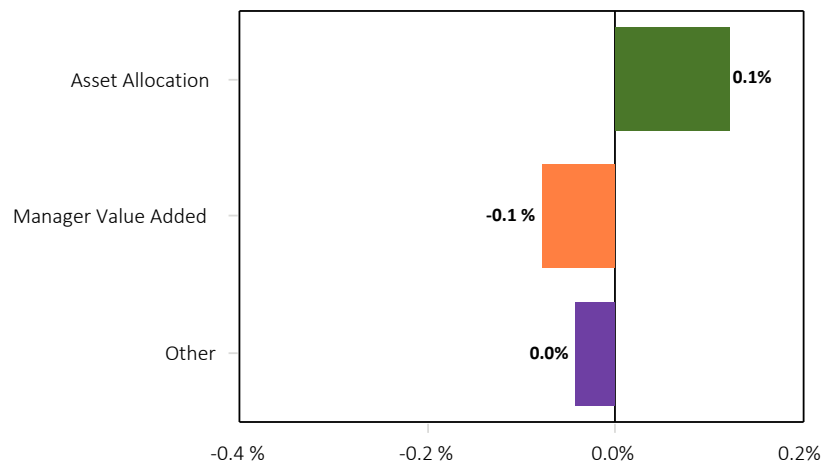
CERS Pension Plan

Periods Ended 1 Quarter Ending March 31, 2023

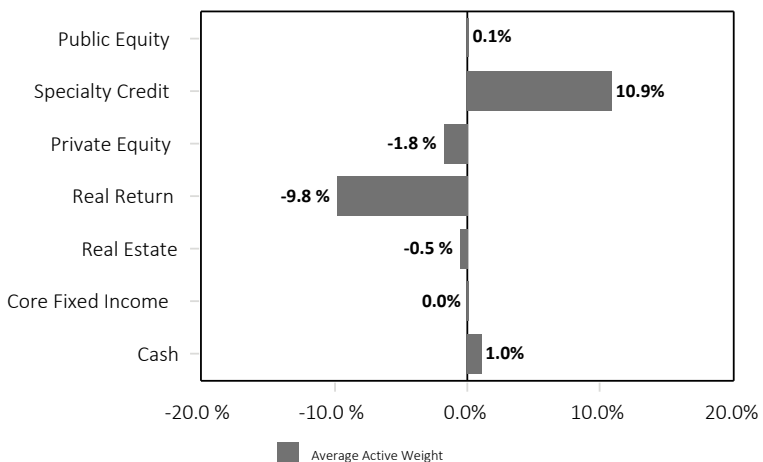
## Total Fund Performance



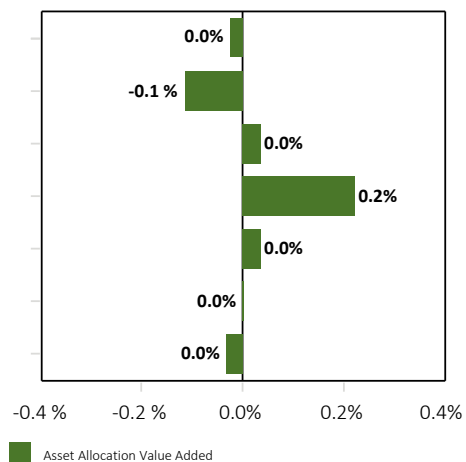
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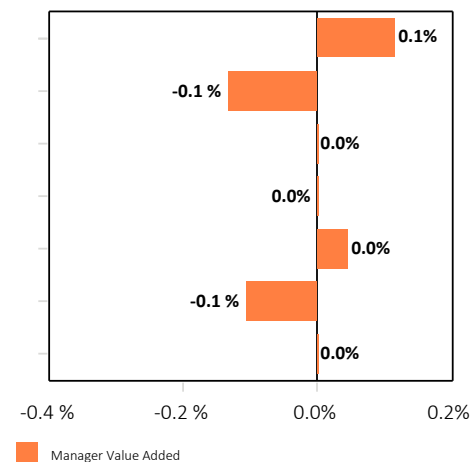
## Total Asset Allocation:0.1%



## Asset Allocation Value Added:0.1%



## Total Manager Value Added:-0.1%

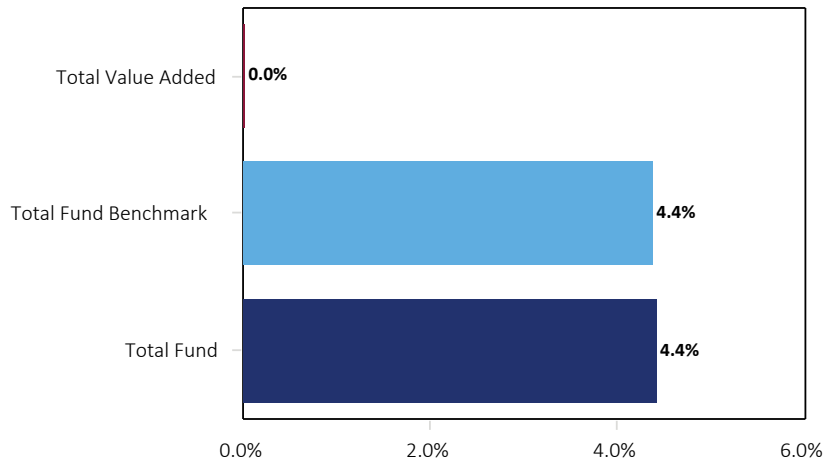


# Total Fund Attribution

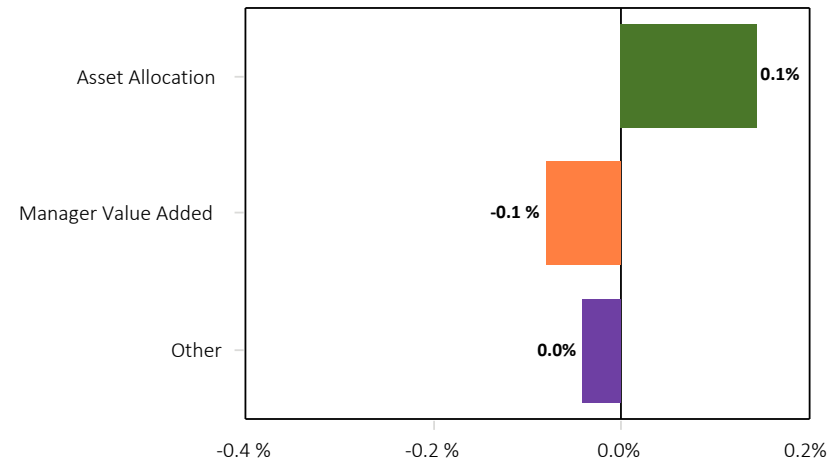
CERS (H) Pension Plan

Periods Ended 1 Quarter Ending March 31, 2023

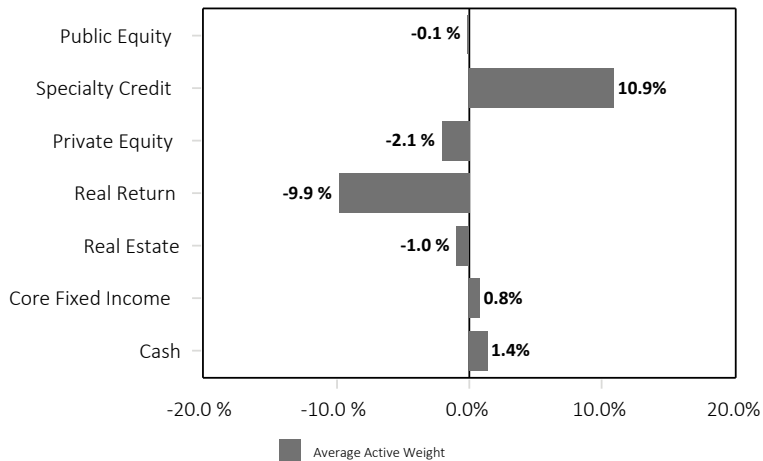
## Total Fund Performance



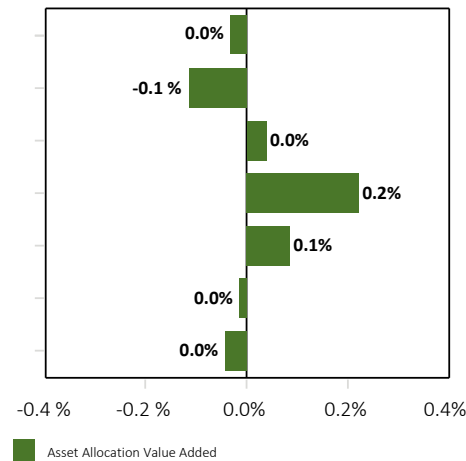
## Total Value Added:0.0%



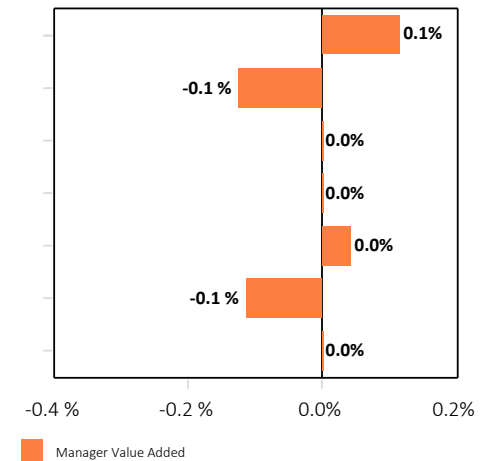
## Total Asset Allocation:0.1%



## Asset Allocation Value Added:0.1%



## Total Manager Value Added:-0.1%

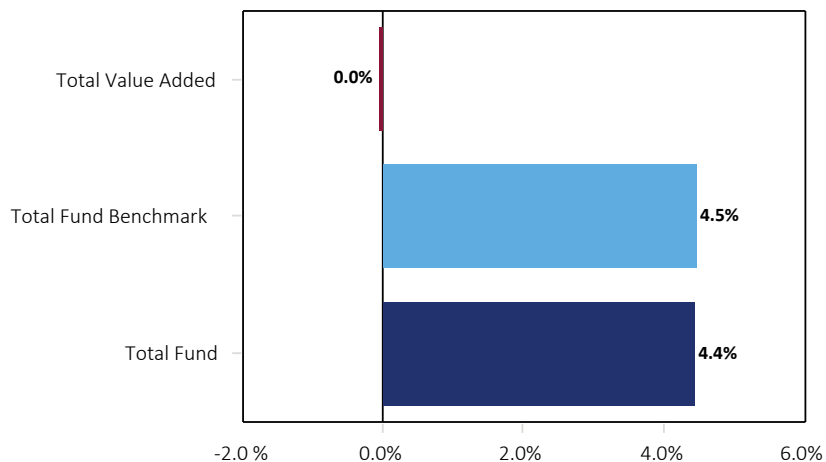


# Total Fund Attribution

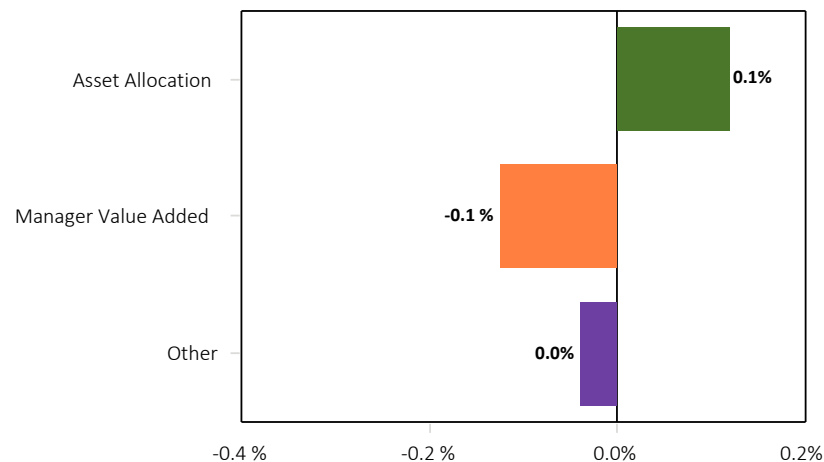
CERS Insurance Plan

Periods Ended 1 Quarter Ending March 31, 2023

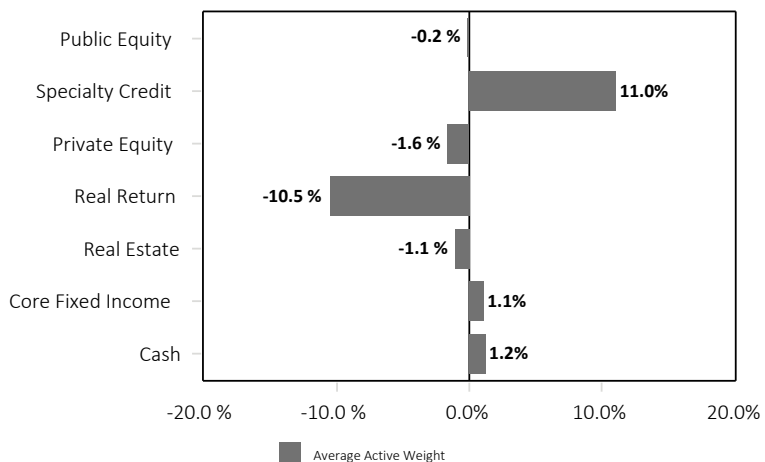
## Total Fund Performance



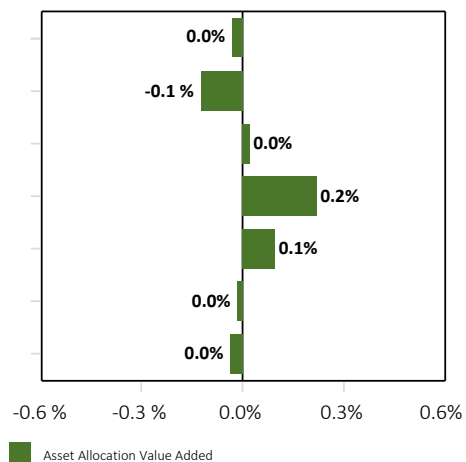
## Total Value Added:0.0%



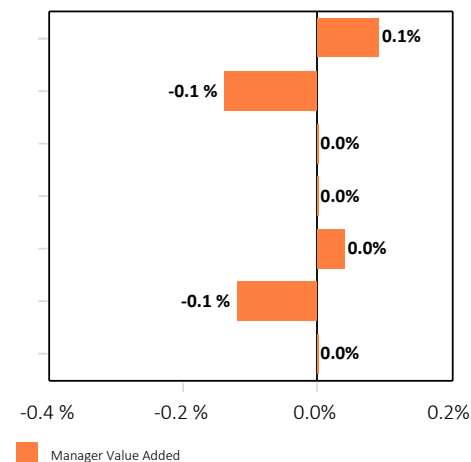
## Total Asset Allocation:0.1%



## Asset Allocation Value Added:0.1%



## Total Manager Value Added:-0.1%

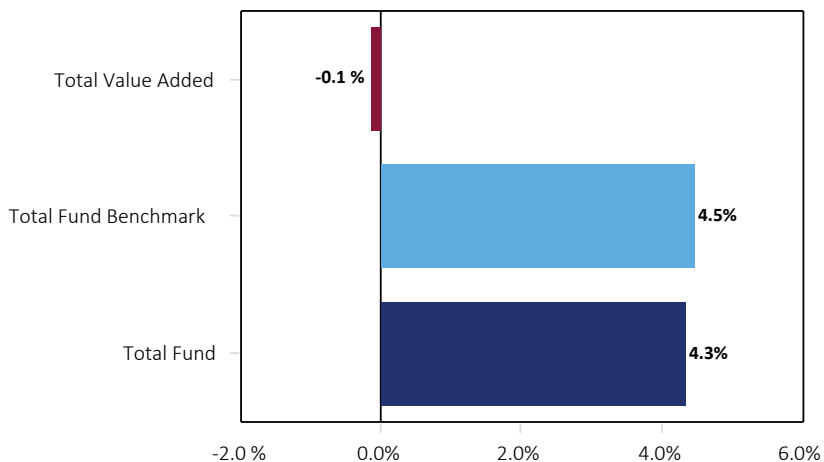


# Total Fund Attribution

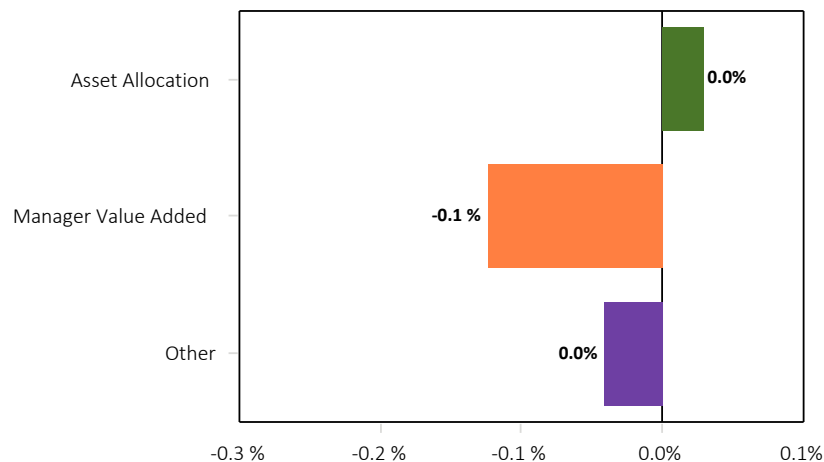
CERS (H) Insurance Plan

Periods Ended 1 Quarter Ending March 31, 2023

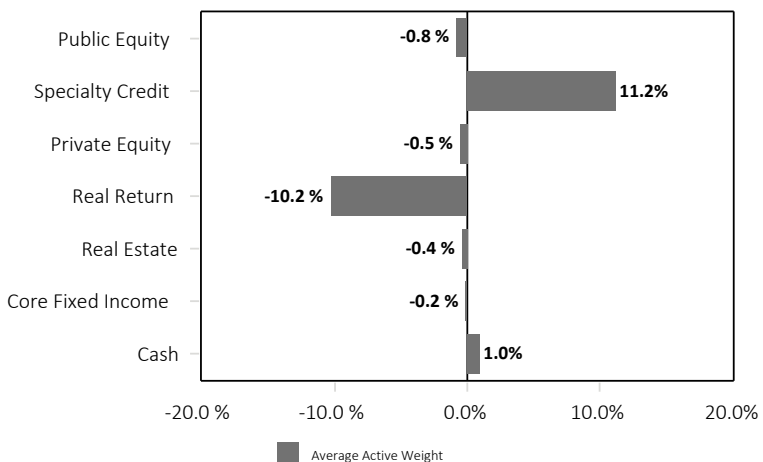
## Total Fund Performance



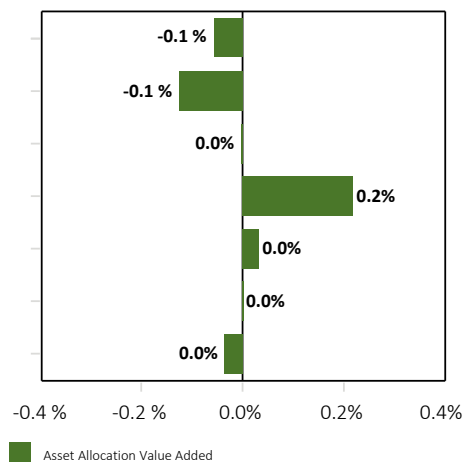
## Total Value Added:-0.1 %



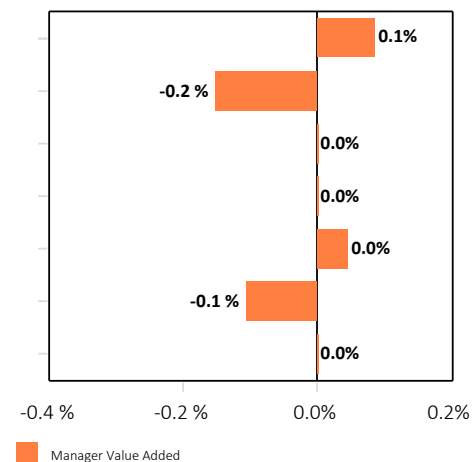
## Total Asset Allocation:0.0%



## Asset Allocation Value Added:0.0%



## Total Manager Value Added:-0.1 %

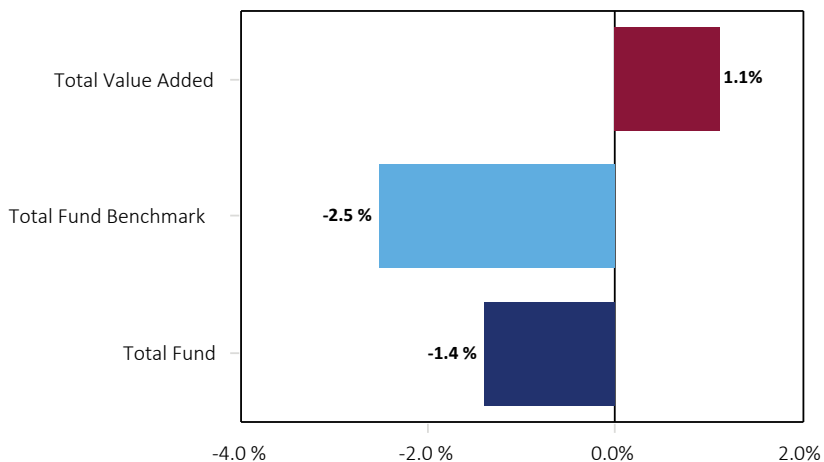


# Total Fund Attribution

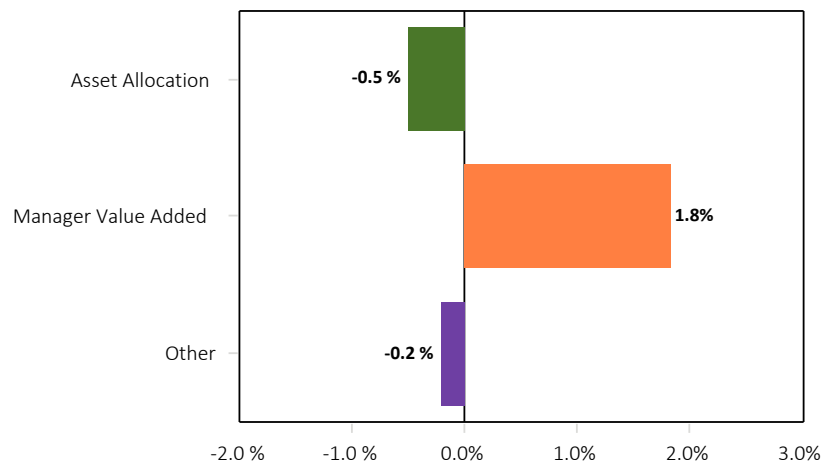
CERS Pension Plan

Periods Ended 1 Year Ending March 31, 2023

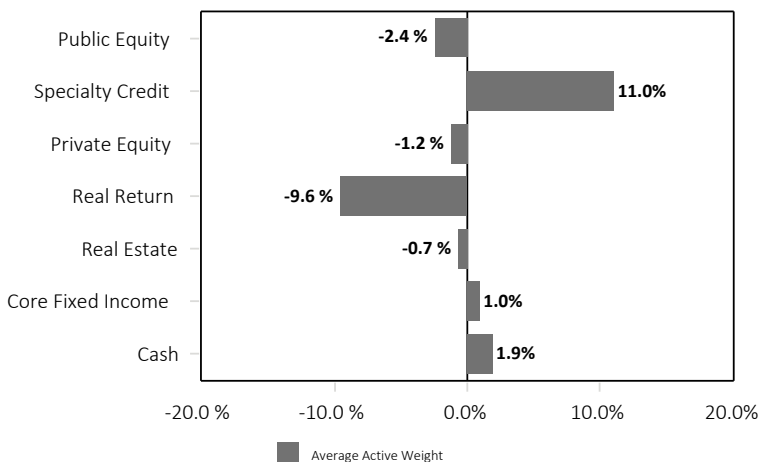
## Total Fund Performance



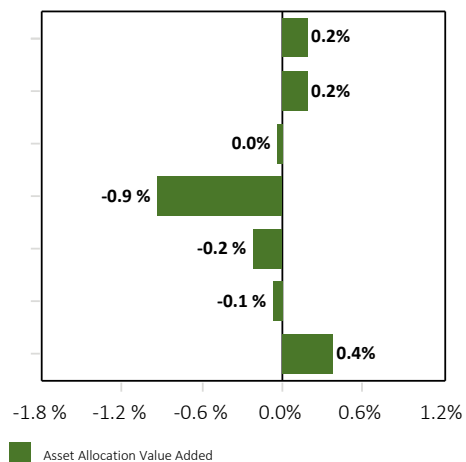
## Total Value Added: 1.1%



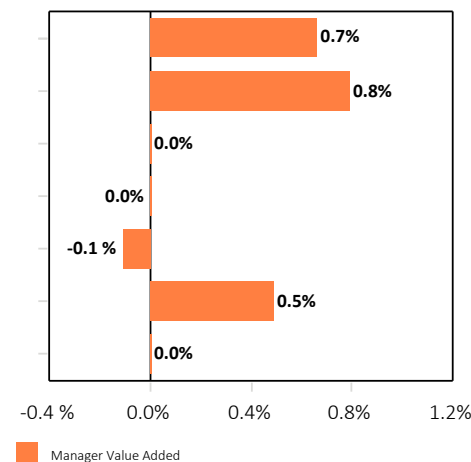
## Total Asset Allocation: -0.5%



## Asset Allocation Value Added: -0.5%



## Total Manager Value Added: 1.8%



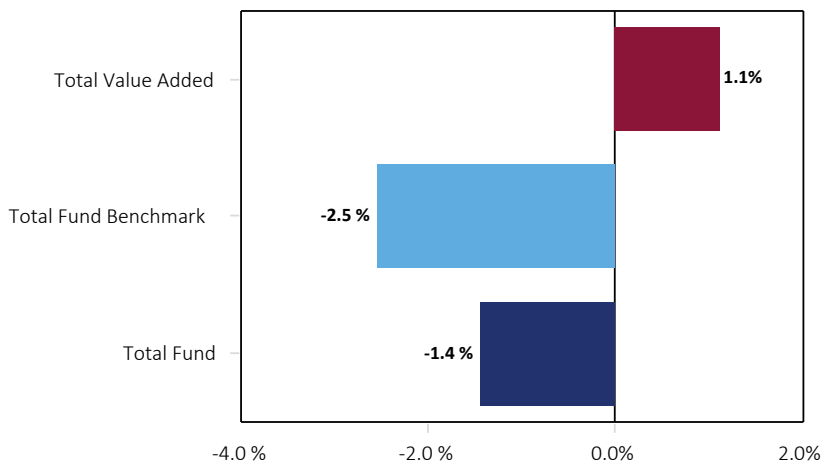


# Total Fund Attribution

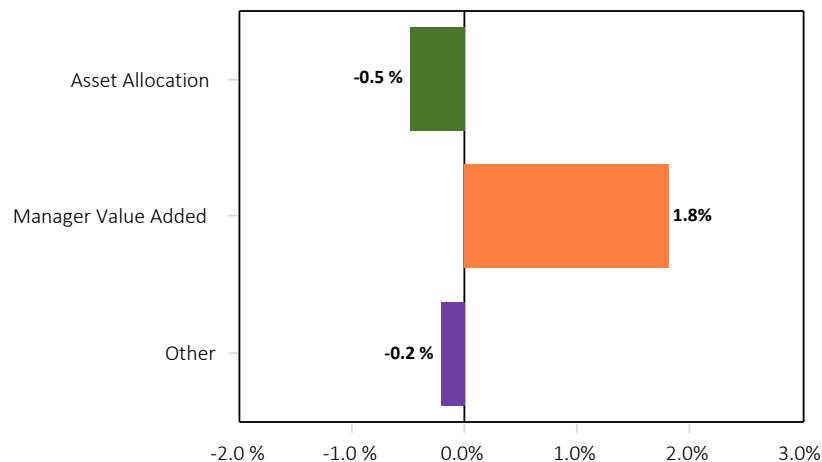
CERS (H) Pension Plan

Periods Ended 1 Year Ending March 31, 2023

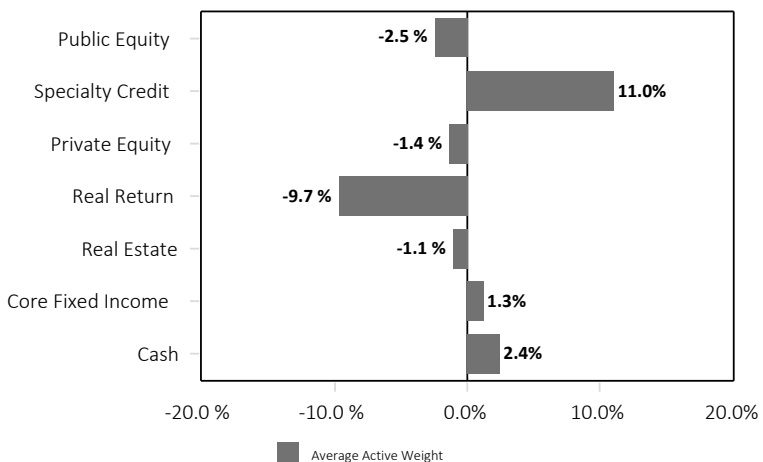
## Total Fund Performance



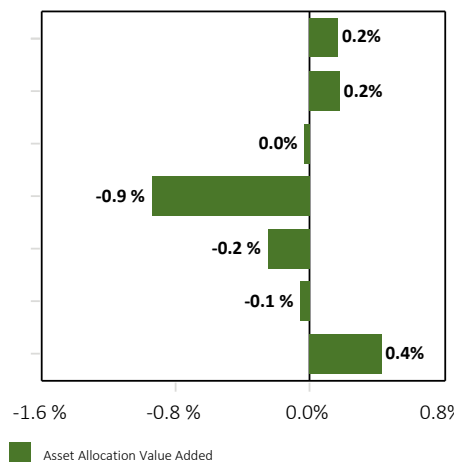
## Total Value Added: 1.1%



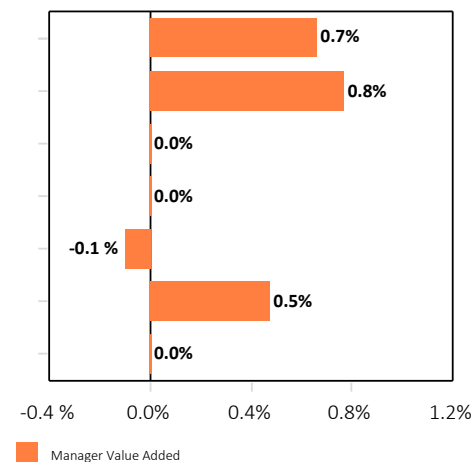
## Total Asset Allocation: -0.5%



## Asset Allocation Value Added: -0.5%



## Total Manager Value Added: 1.8%

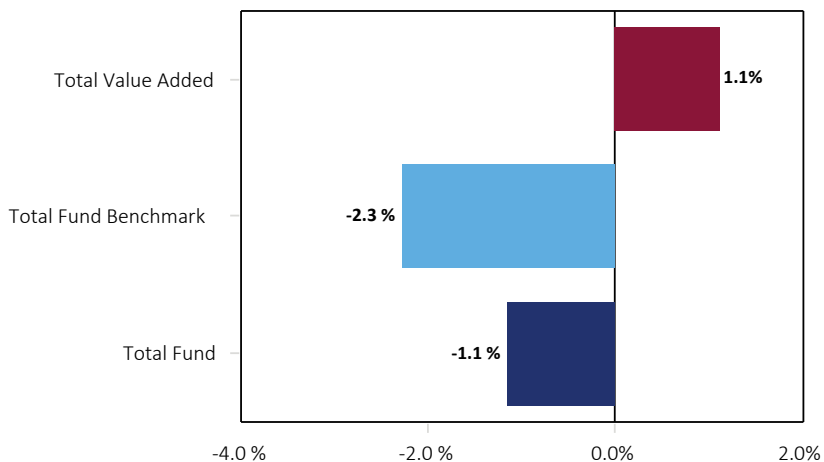


# Total Fund Attribution

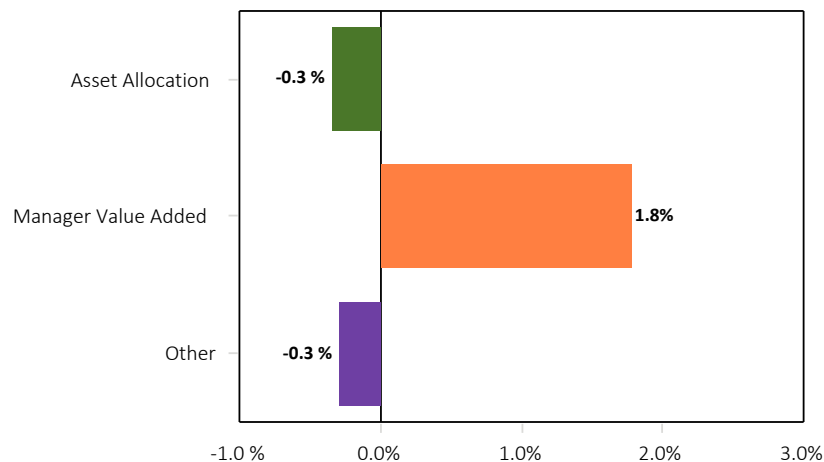
CERS Insurance Plan

Periods Ended 1 Year Ending March 31, 2023

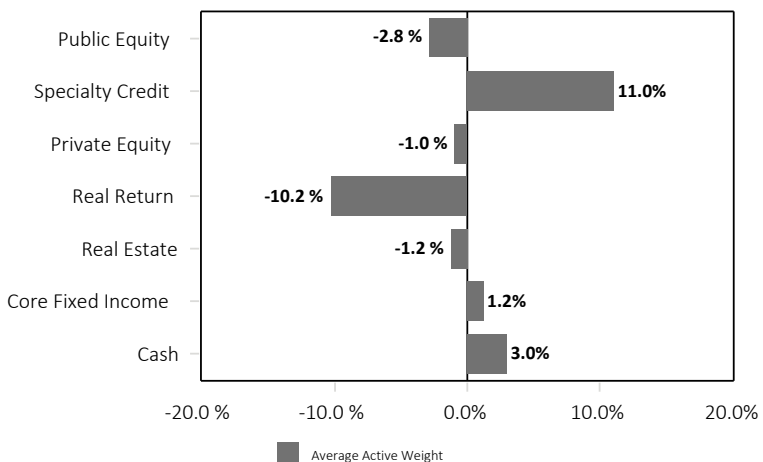
## Total Fund Performance



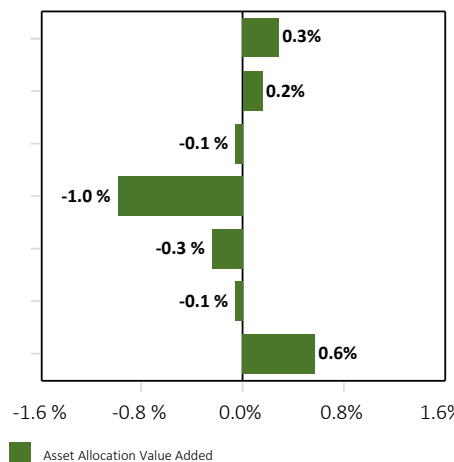
## Total Value Added: 1.1%



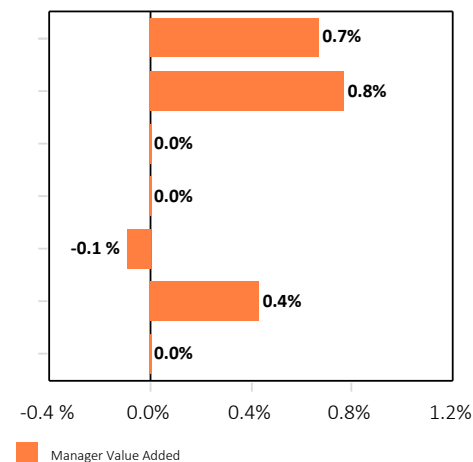
## Total Asset Allocation: -0.3%



## Asset Allocation Value Added: -0.3%



## Total Manager Value Added: 1.8%

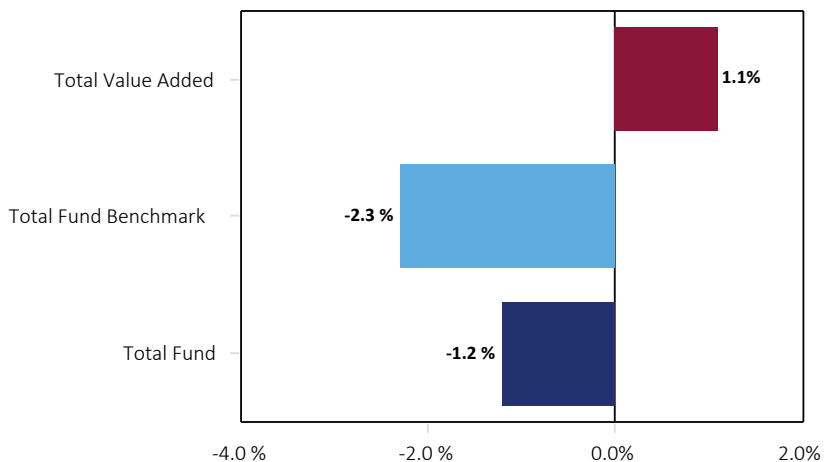


# Total Fund Attribution

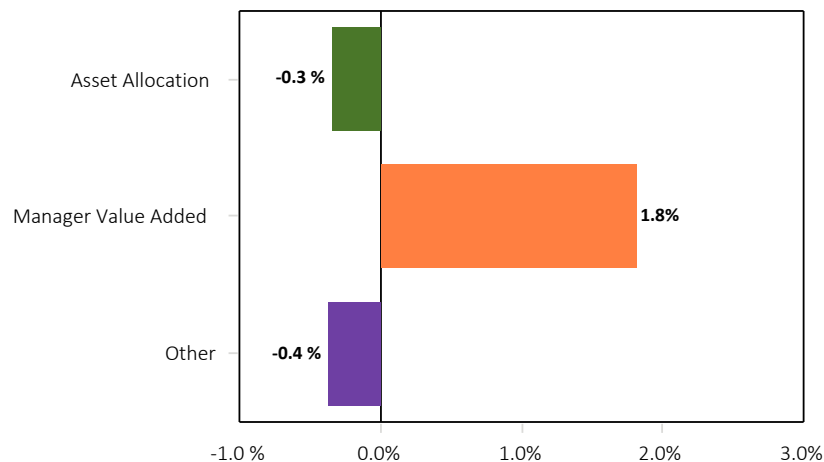
CERS (H) Insurance Plan

Periods Ended 1 Year Ending March 31, 2023

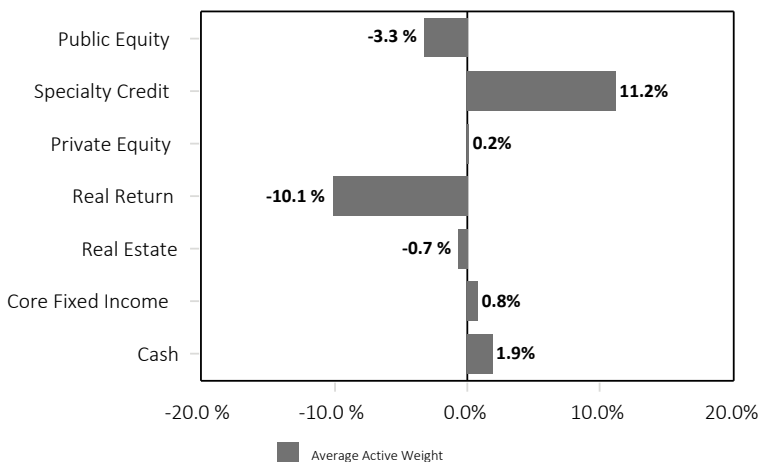
## Total Fund Performance



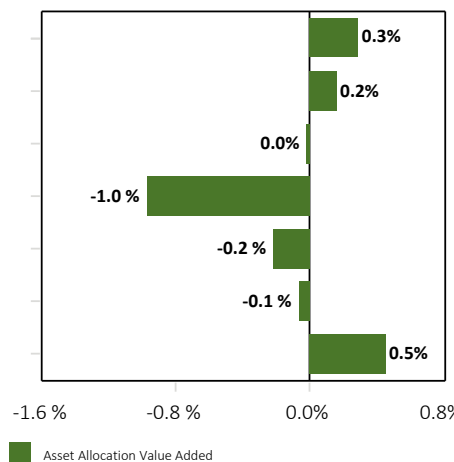
## Total Value Added: 1.1%



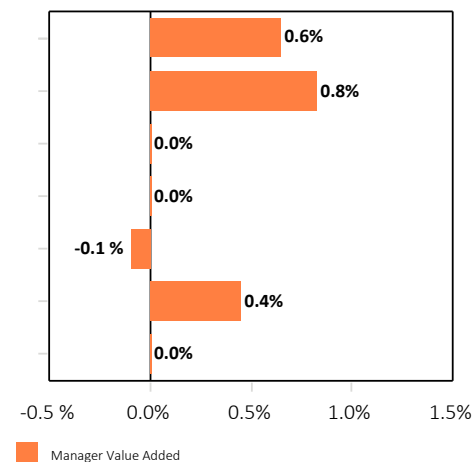
## Total Asset Allocation: -0.3%



## Asset Allocation Value Added: -0.3%



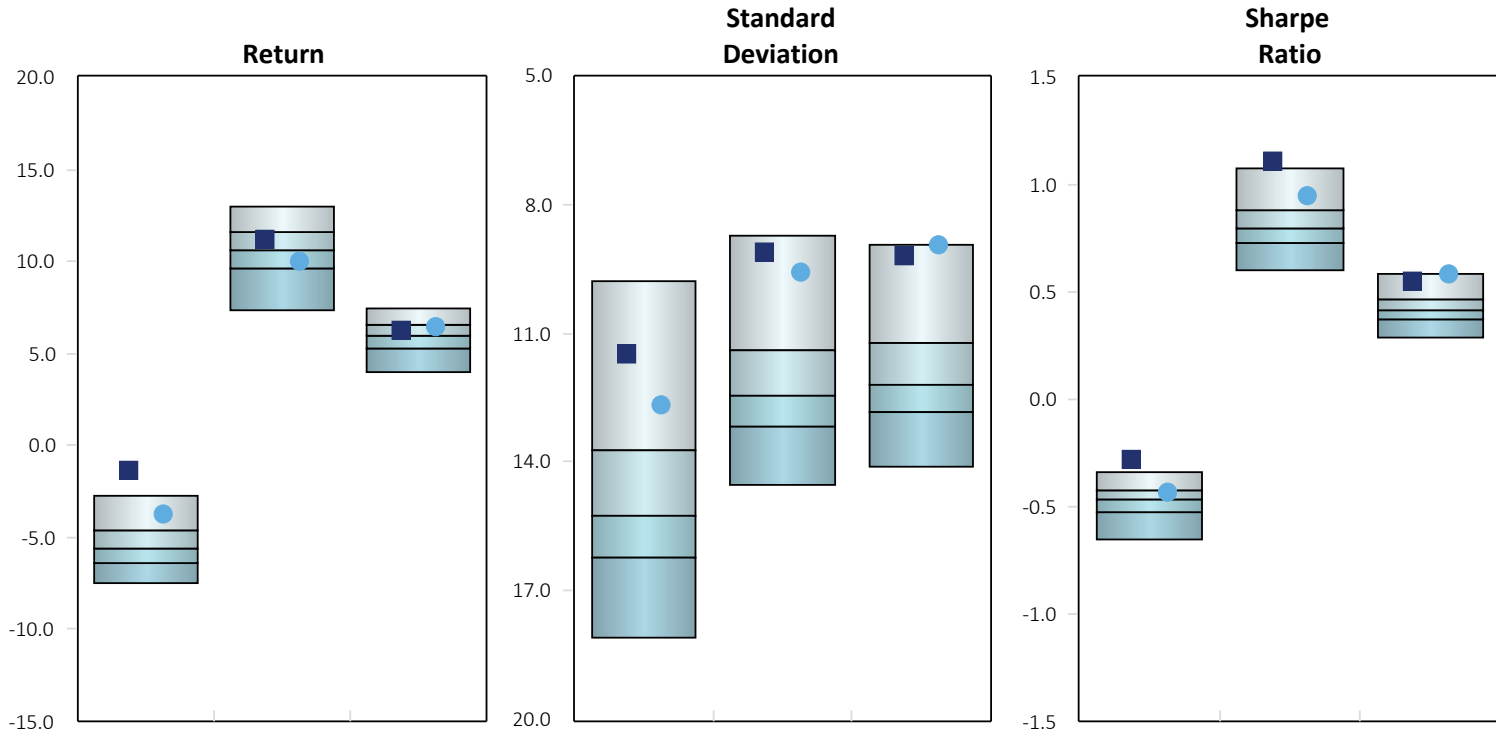
## Total Manager Value Added: 1.8%



# Plan Sponsor Peer Group Analysis - Multi Statistics

CERS Pension Plan vs All Public Plans-Total Fund

Periods Ended March 31, 2023



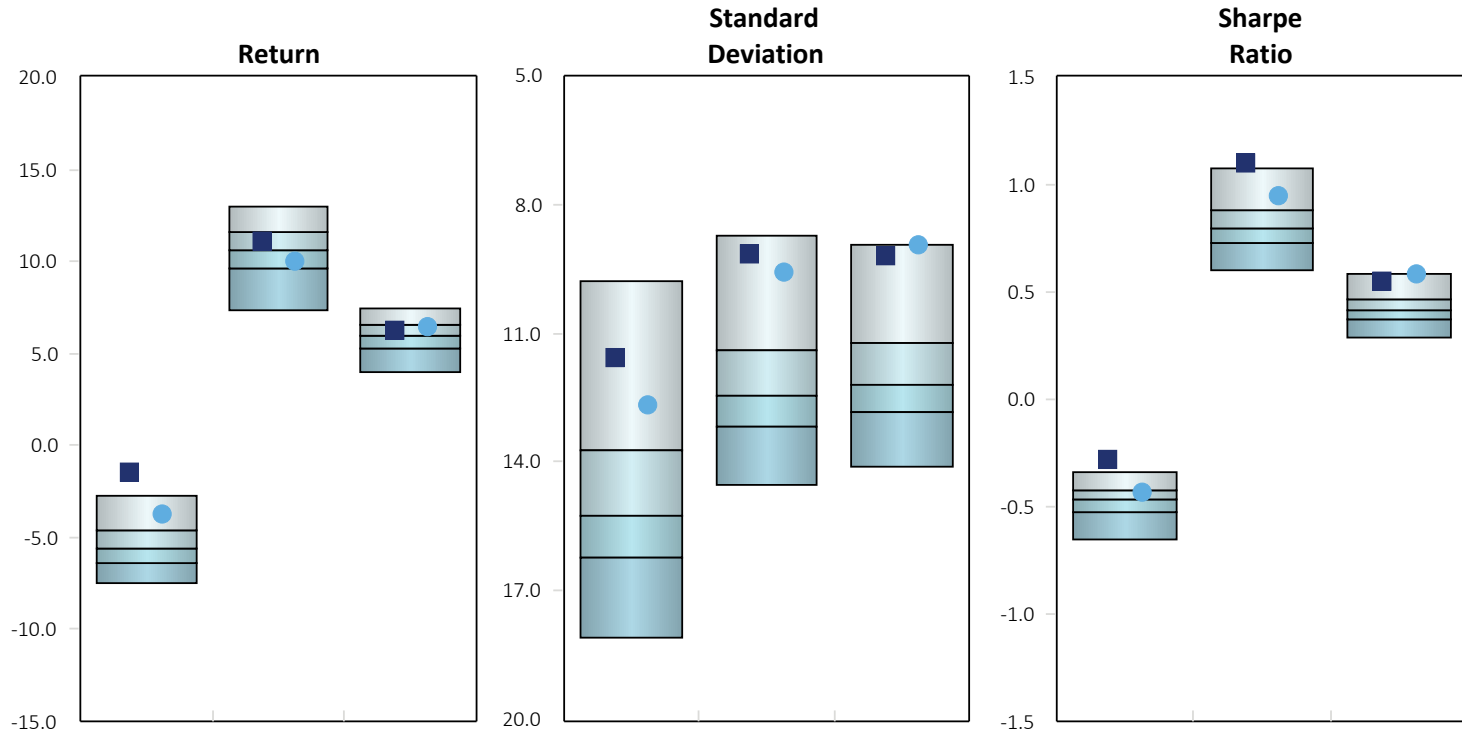
	1 Year	3 Years	5 Years	1 Year	3 Years	5 Years	1 Year	3 Years	5 Years
■ CERS Pension Plan	-1.40 (3)	11.21 (35)	6.29 (34)	11.50 (9)	9.12 (6)	9.19 (6)	-0.28 (2)	1.11 (5)	0.55 (7)
● CERS Pension IPS Index	-3.68 (13)	9.99 (68)	6.47 (28)	12.65 (15)	9.57 (8)	8.93 (4)	-0.43 (29)	0.95 (16)	0.59 (5)
5th Percentile	-2.76	12.93	7.43	9.79	8.71	8.96	-0.34	1.07	0.58
1st Quartile	-4.60	11.64	6.55	13.73	11.38	11.23	-0.42	0.88	0.47
Median	-5.59	10.63	5.96	15.27	12.45	12.20	-0.47	0.80	0.42
3rd Quartile	-6.42	9.66	5.31	16.24	13.18	12.85	-0.52	0.73	0.37
95th Percentile	-7.47	7.34	3.98	18.11	14.53	14.11	-0.65	0.60	0.29

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 March 31, 2023



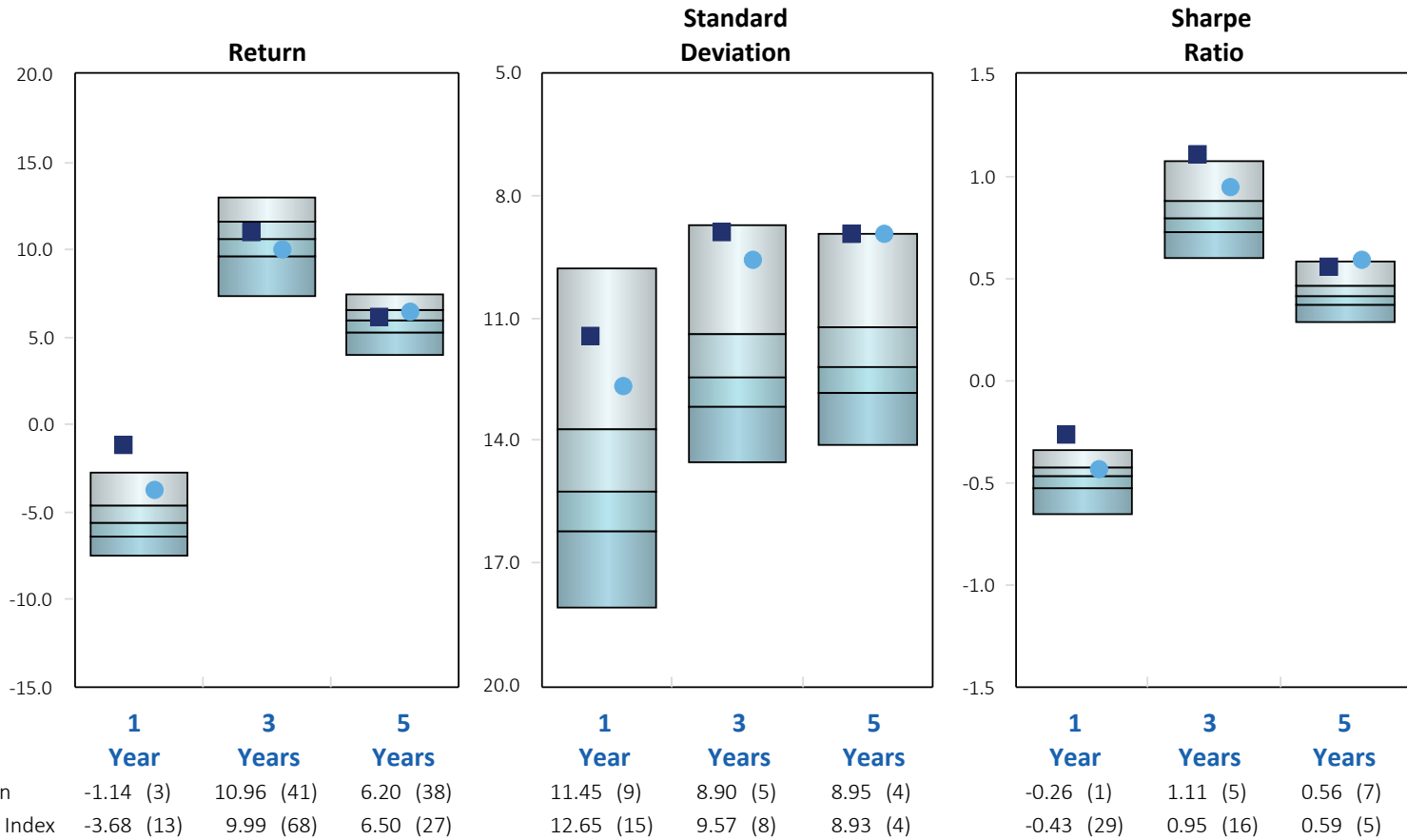
	1 Year	3 Years	5 Years	1 Year	3 Years	5 Years	1 Year	3 Years	5 Years
■ CERS (H) Pension Plan	-1.43 (3)	11.12 (38)	6.24 (37)	11.57 (10)	9.14 (6)	9.19 (6)	-0.28 (2)	1.10 (5)	0.55 (8)
● CERS (H) Pension IPS Index	-3.68 (13)	9.99 (68)	6.47 (28)	12.65 (15)	9.57 (8)	8.93 (4)	-0.43 (29)	0.95 (16)	0.59 (5)
5th Percentile	-2.76	12.93	7.43	9.79	8.71	8.96	-0.34	1.07	0.58
1st Quartile	-4.60	11.64	6.55	13.73	11.38	11.23	-0.42	0.88	0.47
Median	-5.59	10.63	5.96	15.27	12.45	12.20	-0.47	0.80	0.42
3rd Quartile	-6.42	9.66	5.31	16.24	13.18	12.85	-0.52	0.73	0.37
95th Percentile	-7.47	7.34	3.98	18.11	14.53	14.11	-0.65	0.60	0.29

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 March 31, 2023



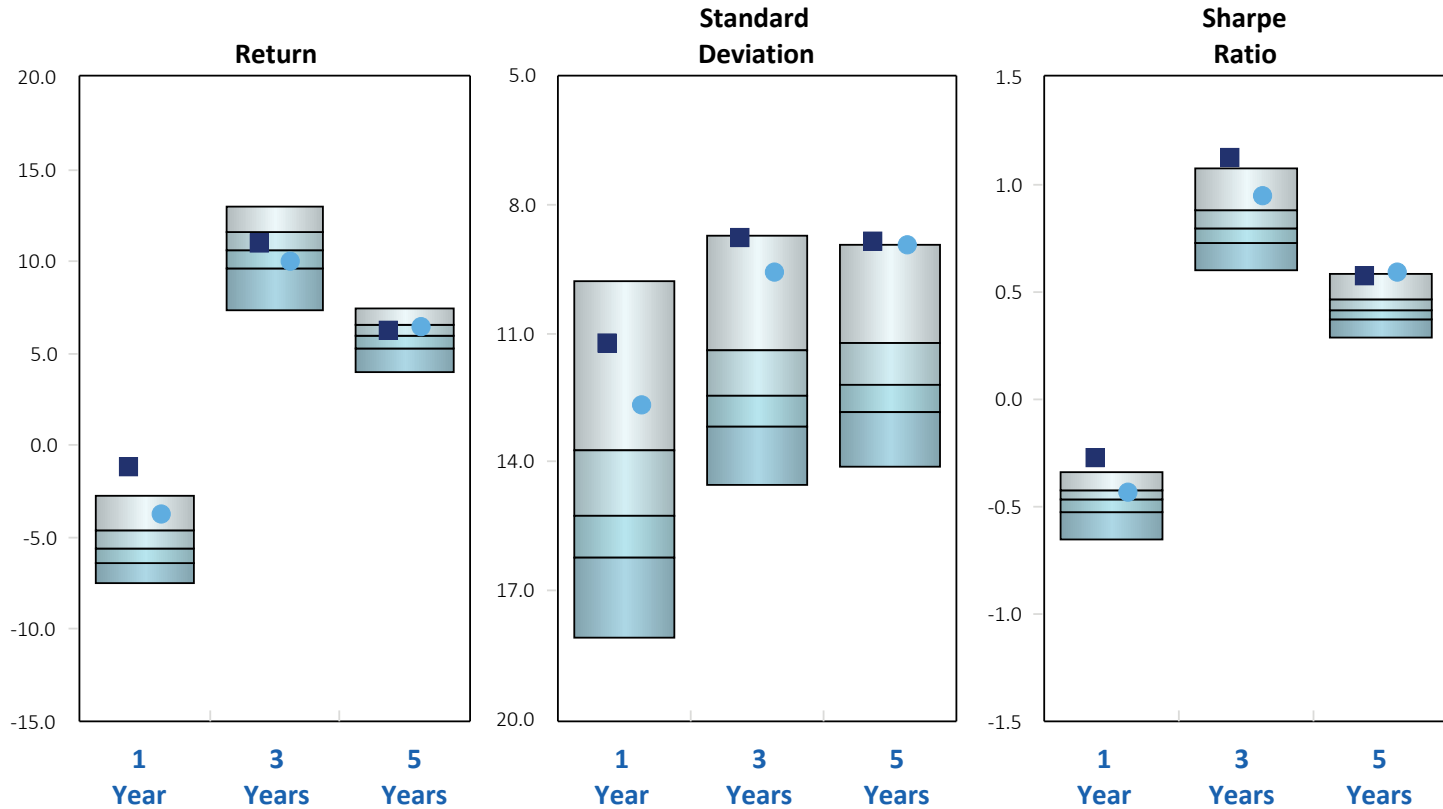
	1 Year	3 Years	5 Years	1 Year	3 Years	5 Years	1 Year	3 Years	5 Years
■ CERS Insurance Plan	-1.14 (3)	10.96 (41)	6.20 (38)	11.45 (9)	8.90 (5)	8.95 (4)	-0.26 (1)	1.11 (5)	0.56 (7)
● CERS Insurance IPS Index	-3.68 (13)	9.99 (68)	6.50 (27)	12.65 (15)	9.57 (8)	8.93 (4)	-0.43 (29)	0.95 (16)	0.59 (5)
5th Percentile	-2.76	12.93	7.43	9.79	8.71	8.96	-0.34	1.07	0.58
1st Quartile	-4.60	11.64	6.55	13.73	11.38	11.23	-0.42	0.88	0.47
Median	-5.59	10.63	5.96	15.27	12.45	12.20	-0.47	0.80	0.42
3rd Quartile	-6.42	9.66	5.31	16.24	13.18	12.85	-0.52	0.73	0.37
95th Percentile	-7.47	7.34	3.98	18.11	14.53	14.11	-0.65	0.60	0.29

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 March 31, 2023



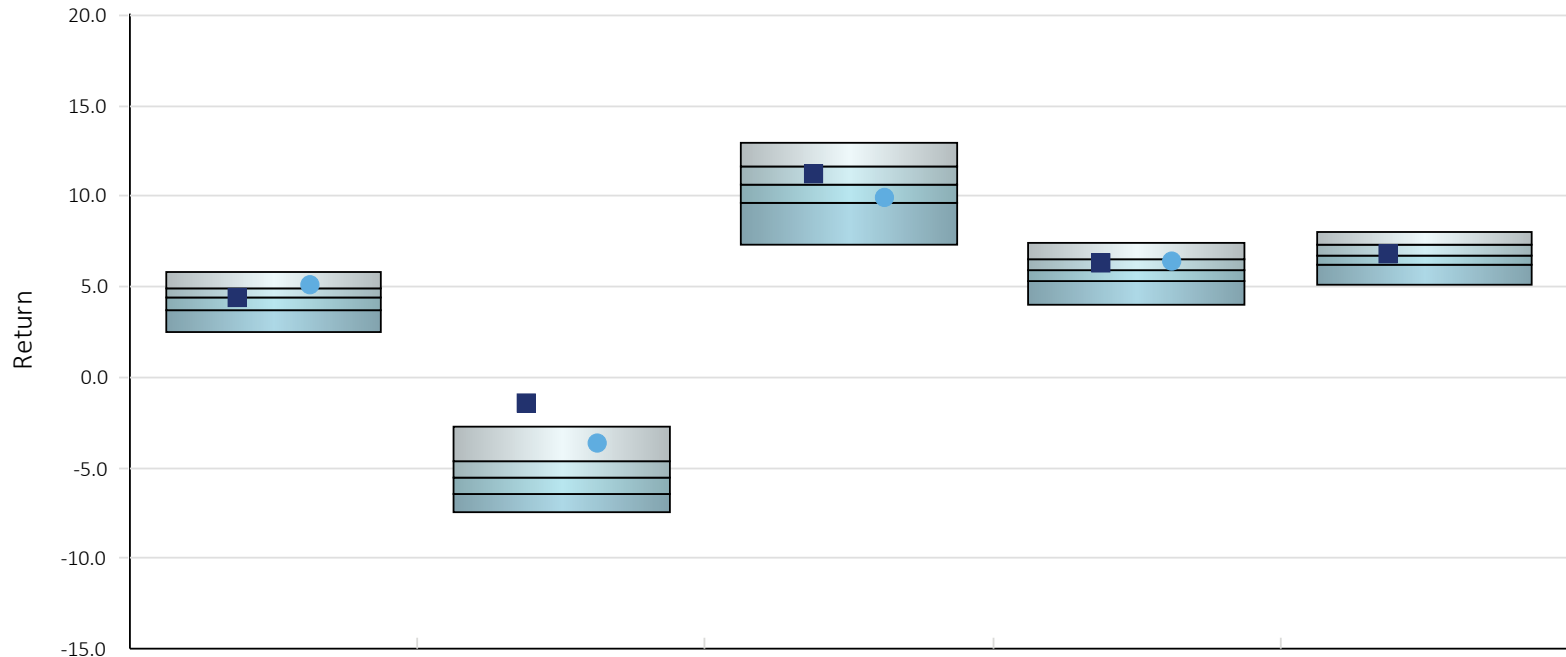
	1 Year	3 Years	5 Years	1 Year	3 Years	5 Years	1 Year	3 Years	5 Years
■ CERS (H) Insurance Plan	-1.20 (3)	10.98 (41)	6.29 (34)	11.25 (8)	8.78 (5)	8.84 (4)	-0.27 (2)	1.13 (4)	0.57 (6)
● CERS (H) Insurance IPS Index	-3.68 (13)	9.99 (68)	6.50 (27)	12.65 (15)	9.57 (8)	8.93 (4)	-0.43 (29)	0.95 (16)	0.59 (5)
5th Percentile	-2.76	12.93	7.43	9.79	8.71	8.96	-0.34	1.07	0.58
1st Quartile	-4.60	11.64	6.55	13.73	11.38	11.23	-0.42	0.88	0.47
Median	-5.59	10.63	5.96	15.27	12.45	12.20	-0.47	0.80	0.42
3rd Quartile	-6.42	9.66	5.31	16.24	13.18	12.85	-0.52	0.73	0.37
95th Percentile	-7.47	7.34	3.98	18.11	14.53	14.11	-0.65	0.60	0.29

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 March 31, 2023



	<b>QTD</b>	<b>1 Year</b>	<b>3 Years</b>	<b>5 Years</b>	<b>10 Years</b>
■ CERS Pension Plan	4.38 (49)	-1.40 (3)	11.21 (35)	6.29 (34)	6.87 (43)
● CERS Pension IPS Index	5.07 (20)	-3.68 (13)	9.99 (68)	6.47 (28)	
5th Percentile	5.86	-2.76	12.93	7.43	8.05
1st Quartile	4.90	-4.60	11.64	6.55	7.30
Median	4.36	-5.59	10.63	5.96	6.74
3rd Quartile	3.74	-6.42	9.66	5.31	6.22
95th Percentile	2.50	-7.47	7.34	3.98	5.10
Population	614	596	583	564	462

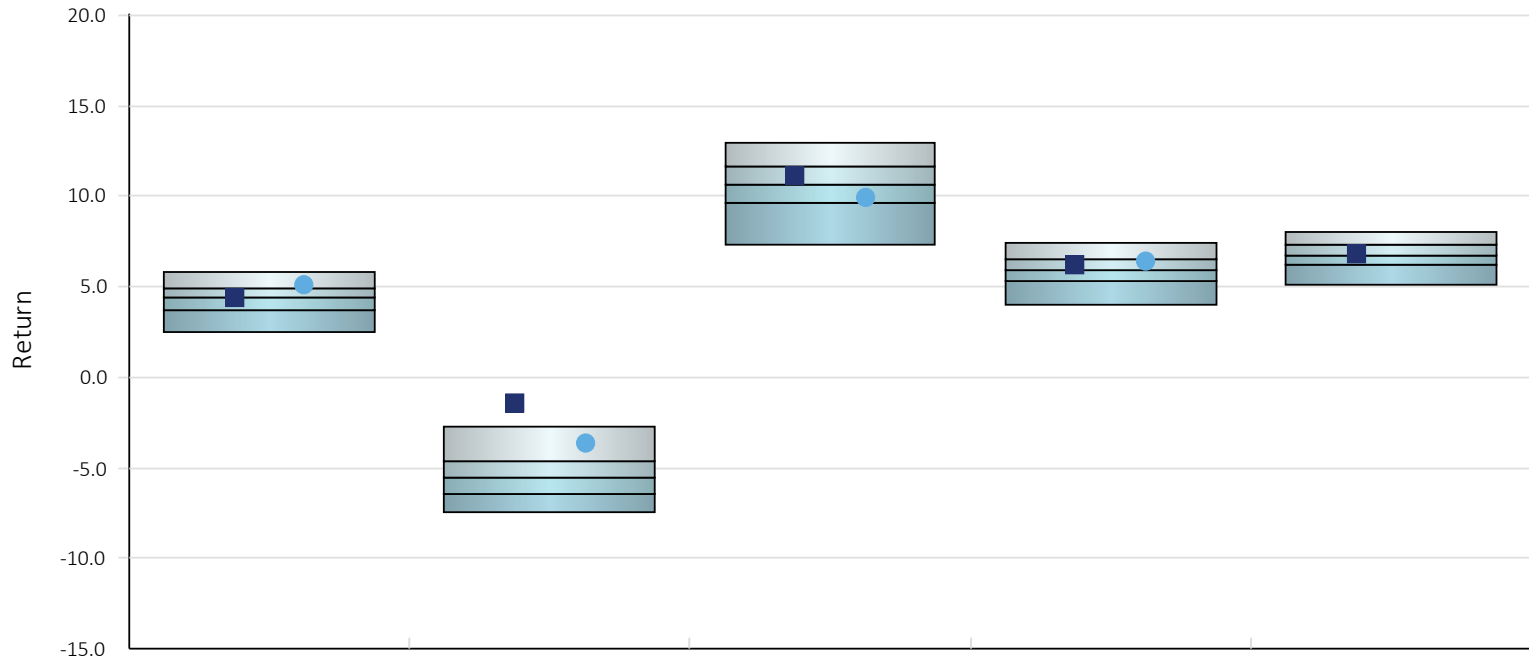
Parentheses contain percentile rankings.  
Calculation based on monthly periodicity.



# Plan Sponsor Peer Group Analysis

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

Periods Ended March 31, 2023



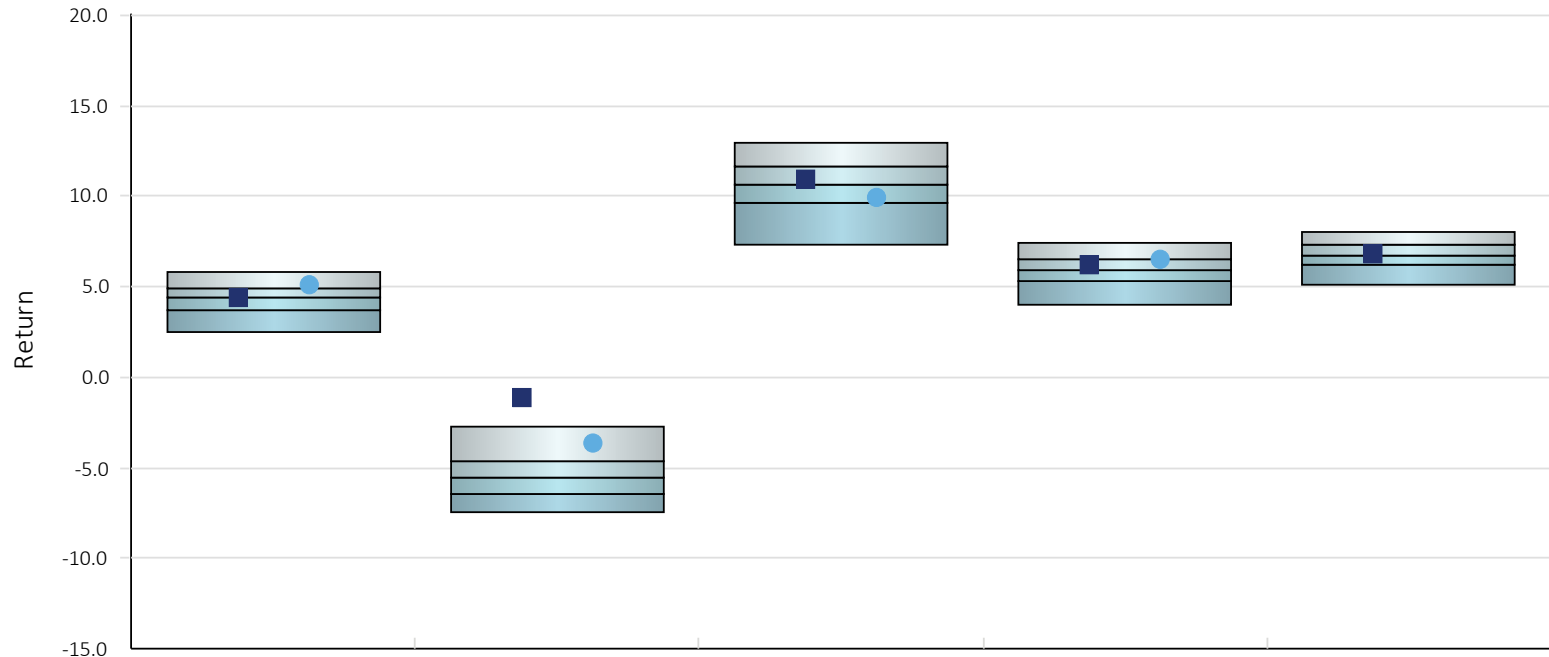
	<b>QTD</b>	<b>1 Year</b>	<b>3 Years</b>	<b>5 Years</b>	<b>10 Years</b>
■ CERS (H) Pension Plan	4.42 (47)	-1.43 (3)	11.12 (38)	6.24 (37)	6.85 (44)
● CERS (H) Pension IPS Index	5.07 (20)	-3.68 (13)	9.99 (68)	6.47 (28)	
5th Percentile	5.86	-2.76	12.93	7.43	8.05
1st Quartile	4.90	-4.60	11.64	6.55	7.30
Median	4.36	-5.59	10.63	5.96	6.74
3rd Quartile	3.74	-6.42	9.66	5.31	6.22
95th Percentile	2.50	-7.47	7.34	3.98	5.10
Population	614	596	583	564	462

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 March 31, 2023



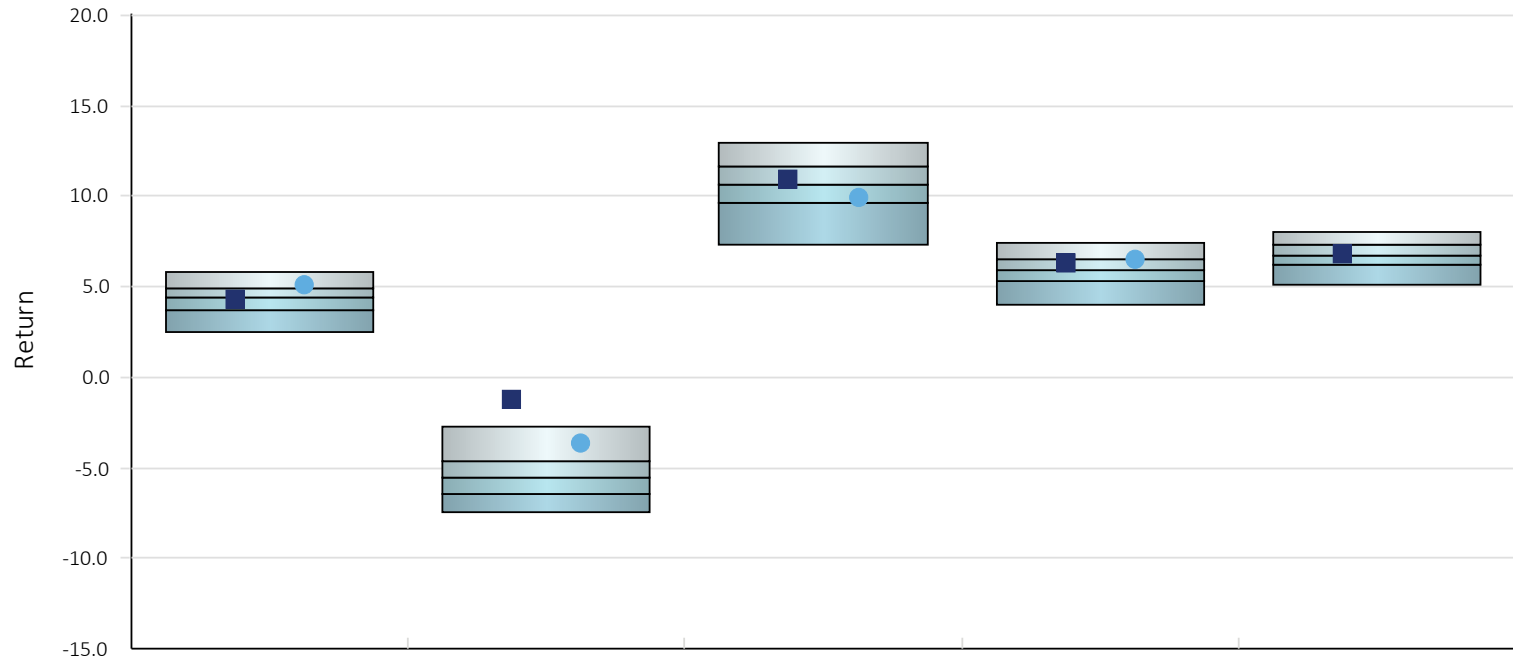
	<b>QTD</b>	<b>1 Year</b>	<b>3 Years</b>	<b>5 Years</b>	<b>10 Years</b>
■ CERS Insurance Plan	4.44 (46)	-1.14 (3)	10.96 (41)	6.20 (38)	6.80 (46)
● CERS Insurance IPS Index	5.07 (20)	-3.68 (13)	9.99 (68)	6.50 (27)	
5th Percentile	5.86	-2.76	12.93	7.43	8.05
1st Quartile	4.90	-4.60	11.64	6.55	7.30
Median	4.36	-5.59	10.63	5.96	6.74
3rd Quartile	3.74	-6.42	9.66	5.31	6.22
95th Percentile	2.50	-7.47	7.34	3.98	5.10
Population	614	596	583	564	462

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 March 31, 2023*



	<b>QTD</b>	<b>1 Year</b>	<b>3 Years</b>	<b>5 Years</b>	<b>10 Years</b>
■ CERS (H) Insurance Plan	4.35 (51)	-1.20 (3)	10.98 (41)	6.29 (34)	6.87 (43)
● CERS (H) Insurance IPS Index	5.07 (20)	-3.68 (13)	9.99 (68)	6.50 (27)	
5th Percentile	5.86	-2.76	12.93	7.43	8.05
1st Quartile	4.90	-4.60	11.64	6.55	7.30
Median	4.36	-5.59	10.63	5.96	6.74
3rd Quartile	3.74	-6.42	9.66	5.31	6.22
95th Percentile	2.50	-7.47	7.34	3.98	5.10
Population	614	596	583	564	462

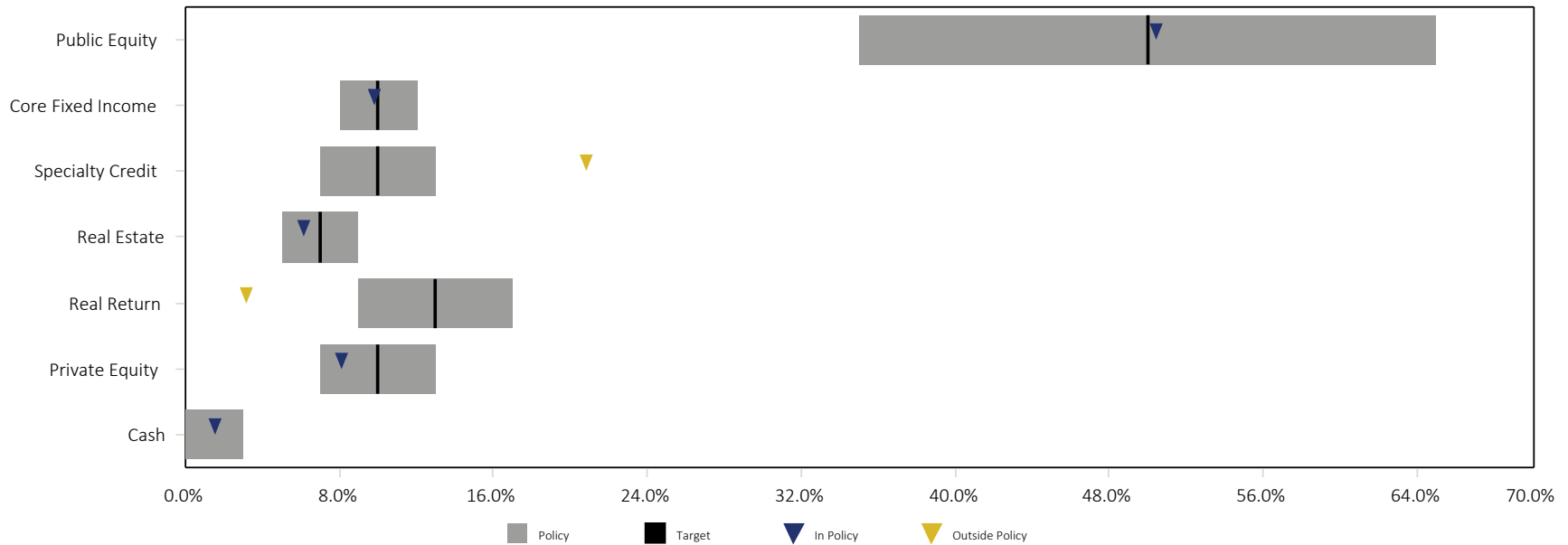
Parentheses contain percentile rankings.  
Calculation based on monthly periodicity.

# Asset Allocation Compliance

CERS Pension Plan

Periods Ended As of March 31, 2023

## Executive Summary



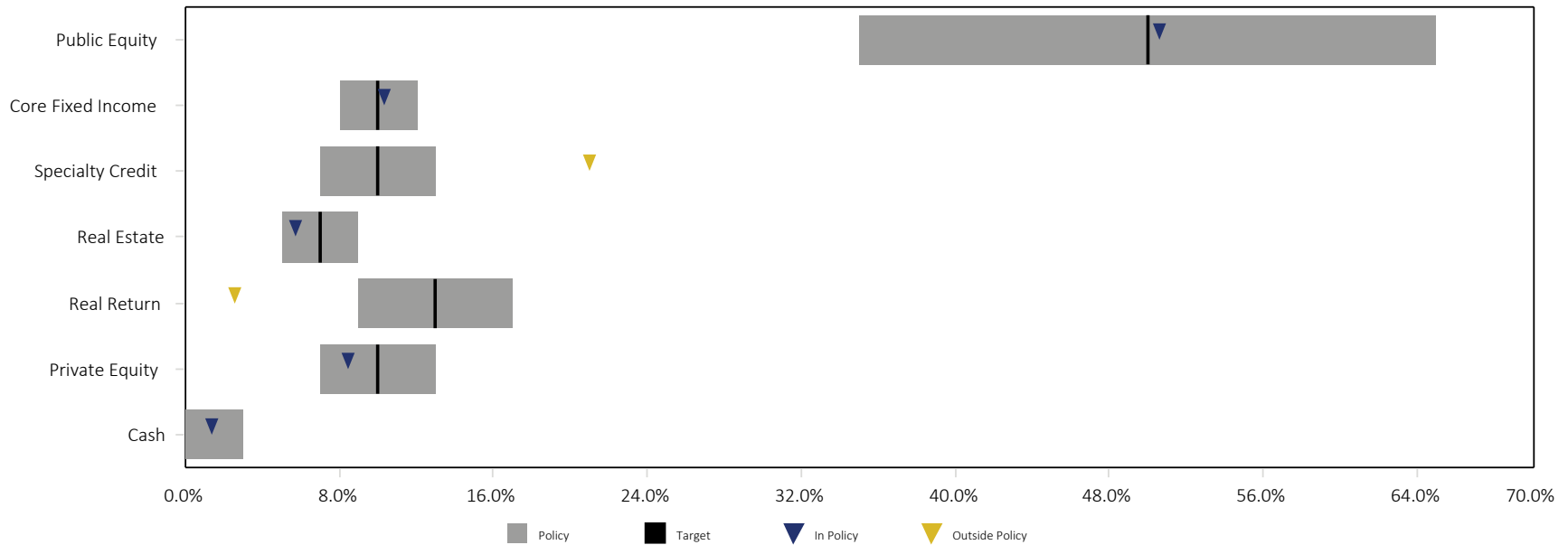
	Asset Allocation \$	Asset Allocation (%)	Minimum Allocation (%)	Maximum Allocation (%)	Target Allocation (%)	Target Rebalance \$
Public Equity	4,255,625,008	50.45	35.00	65.00	50.00	-37,955,786
Core Fixed Income	829,436,836	9.83	8.00	12.00	10.00	14,097,008
Specialty Credit	1,756,452,438	20.82	7.00	13.00	10.00	-912,918,594
Real Estate	519,206,007	6.16	5.00	9.00	7.00	71,267,684
Real Return	266,709,054	3.16	9.00	17.00	13.00	829,884,944
Private Equity	681,444,112	8.08	7.00	13.00	10.00	162,089,732
Cash	126,464,989	1.50	0.00	3.00	0.00	-126,464,989
<b>Total Fund</b>	<b>8,435,338,444</b>	<b>100.00</b>			<b>100.00</b>	

# Asset Allocation Compliance

CERS Insurance Plan

Periods Ended As of March 31, 2023

## Executive Summary



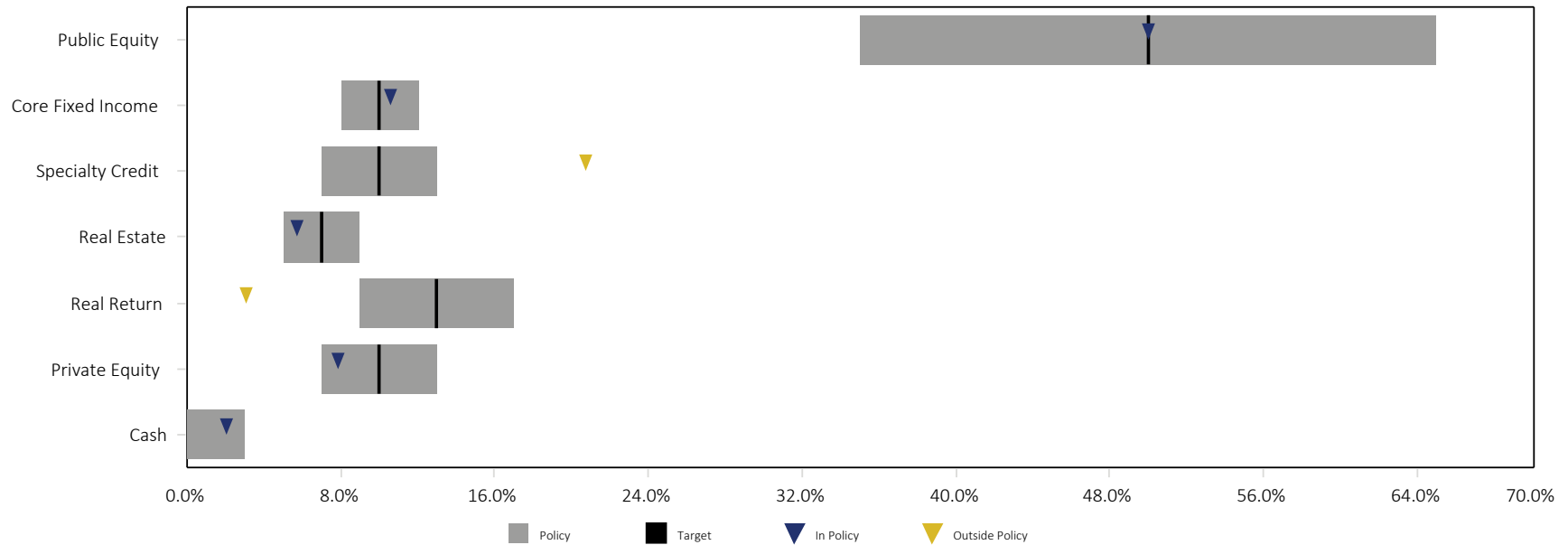
	Asset Allocation \$	Asset Allocation (%)	Minimum Allocation (%)	Maximum Allocation (%)	Target Allocation (%)	Target Rebalance \$
Public Equity	1,602,881,085	50.64	35.00	65.00	50.00	-20,165,621
Core Fixed Income	326,927,769	10.33	8.00	12.00	10.00	-10,384,676
Specialty Credit	664,135,066	20.98	7.00	13.00	10.00	-347,591,973
Real Estate	179,983,196	5.69	5.00	9.00	7.00	41,596,969
Real Return	80,435,848	2.54	9.00	17.00	13.00	331,070,173
Private Equity	267,459,623	8.45	7.00	13.00	10.00	49,083,470
Cash	43,608,341	1.38	0.00	3.00	0.00	-43,608,341
<b>Total Fund</b>	<b>3,165,430,929</b>	<b>100.00</b>			<b>100.00</b>	

# Asset Allocation Compliance

CERS (H) Pension Plan

Periods Ended As of March 31, 2023

## Executive Summary



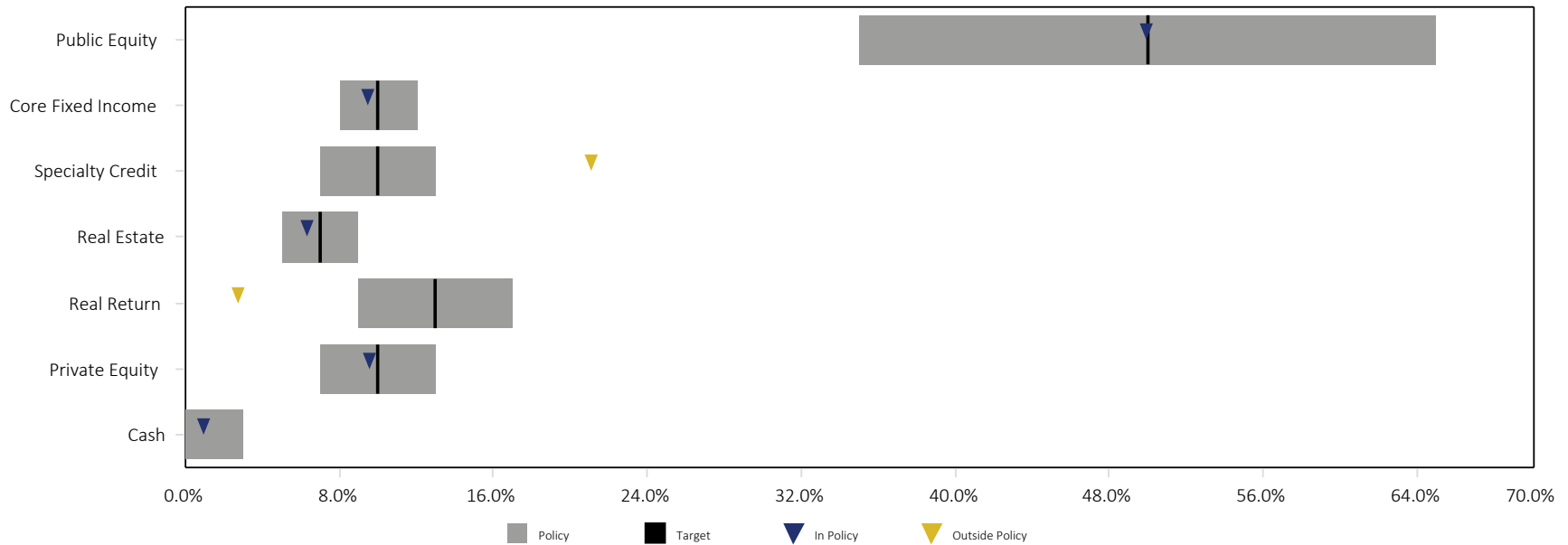
	Asset Allocation \$	Asset Allocation (%)	Minimum Allocation (%)	Maximum Allocation (%)	Target Allocation (%)	Target Rebalance \$
Public Equity	1,456,358,882	50.05	35.00	65.00	50.00	-1,310,798
Core Fixed Income	308,498,766	10.60	8.00	12.00	10.00	-17,489,150
Specialty Credit	604,239,498	20.76	7.00	13.00	10.00	-313,229,881
Real Estate	165,277,568	5.68	5.00	9.00	7.00	38,429,164
Real Return	88,443,554	3.04	9.00	17.00	13.00	289,868,948
Private Equity	227,674,605	7.82	7.00	13.00	10.00	63,335,011
Cash	59,603,294	2.05	0.00	3.00	0.00	-59,603,294
<b>Total Fund</b>	<b>2,910,096,167</b>	<b>100.00</b>			<b>100.00</b>	

# Asset Allocation Compliance

CERS (H) Insurance Plan

Periods Ended As of March 31, 2023

## Executive Summary



	Asset Allocation \$	Asset Allocation (%)	Minimum Allocation (%)	Maximum Allocation (%)	Target Allocation (%)	Target Rebalance \$
Public Equity	782,652,028	49.95	35.00	65.00	50.00	715,432
Core Fixed Income	148,029,698	9.45	8.00	12.00	10.00	8,643,794
Specialty Credit	329,700,998	21.04	7.00	13.00	10.00	-173,027,506
Real Estate	98,669,442	6.30	5.00	9.00	7.00	11,002,002
Real Return	43,041,663	2.75	9.00	17.00	13.00	160,633,876
Private Equity	150,445,413	9.60	7.00	13.00	10.00	6,228,079
Cash	14,195,677	0.91	0.00	3.00	0.00	-14,195,677
<b>Total Fund</b>	<b>1,566,734,919</b>	<b>100.00</b>			<b>100.00</b>	

# Asset Allocation & Performance

Total Fund

Periods Ended March 31, 2023

	Market Value \$	Performance (%) net of fees									
		QTD	FYTD	1 Year	3 Years	5 Years	10 Years	20 Years	30 Years	Since Inception	Inception Date
<b>CERS Pension Plan</b>	<b>8,435,338,444</b>	<b>4.38</b>	<b>6.72</b>	<b>-1.40</b>	<b>11.21</b>	<b>6.29</b>	<b>8.39</b>	<b>7.25</b>	<b>7.63</b>	<b>8.82</b>	<b>4/1/1984</b>
CERS Pension IPS Index		5.07	5.39	-3.68	9.99	6.47					
Value Added		-0.69	1.33	2.28	1.22	-0.18					
CERS Pension Attribution Index		4.38	6.64	-2.53	11.04						
Value Added		0.00	0.08	1.13	0.17						
Assumed Rate 6.25%		1.53	4.65	6.25	6.25	6.25					
Value Added		2.85	2.07	-7.65	4.96	0.04					
<b>CERS Insurance Plan</b>	<b>3,165,430,929</b>	<b>4.44</b>	<b>6.87</b>	<b>-1.14</b>	<b>10.96</b>	<b>6.20</b>	<b>6.00</b>	<b>7.17</b>	<b>6.78</b>	<b>7.33</b>	<b>4/1/1987</b>
CERS Insurance IPS Index		5.07	5.39	-3.68	9.99	6.50					
Value Added		-0.63	1.48	2.54	0.97	-0.30					
CERS Insurance Attribution Index		4.49	6.87	-2.27	10.92						
Value Added		-0.05	0.00	1.13	0.04						
Assumed Rate 6.25%		1.53	4.65	6.25	6.25	6.25					
Value Added		2.91	2.22	-7.39	4.71	-0.05					
<b>CERS (H) Pension Plan</b>	<b>2,910,096,167</b>	<b>4.42</b>	<b>6.80</b>	<b>-1.43</b>	<b>11.12</b>	<b>6.24</b>	<b>8.39</b>	<b>7.24</b>	<b>7.62</b>	<b>8.81</b>	<b>4/1/1984</b>
CERS (H) Pension IPS Index		5.07	5.39	-3.68	9.99	6.47					
Value Added		-0.65	1.41	2.25	1.13	-0.23					
CERS (H) Pension Attribution Index		4.39	6.66	-2.55	11.03						
Value Added		0.03	0.14	1.12	0.09						
Assumed Rate 6.25%		1.53	4.65	6.25	6.25	6.25					
Value Added		2.89	2.15	-7.68	4.87	-0.01					



# Asset Allocation & Performance

Total Fund

Periods Ended March 31, 2023

	Market Value \$	Performance (%) net of fees									
		QTD	FYTD	1 Year	3 Years	5 Years	10 Years	20 Years	30 Years	Since Inception	Inception Date
<b>CERS (H) Insurance Plan</b>	<b>1,566,734,919</b>	<b>4.35</b>	<b>6.64</b>	<b>-1.20</b>	<b>10.98</b>	<b>6.29</b>	<b>6.00</b>	<b>7.21</b>	<b>6.80</b>	<b>7.34</b>	<b>4/1/1987</b>
CERS (H) Insurance IPS Index		5.07	5.39	-3.68	9.99	6.50					
Value Added		-0.72	1.25	2.48	0.99	-0.21					
CERS (H) Insurance Attribution Index		4.48	6.82	-2.30	10.89						
Value Added		-0.13	-0.18	1.10	0.09						
Assumed Rate 6.25%		1.53	4.65	6.25	6.25	6.25					
Value Added		2.82	1.99	-7.45	4.73	0.04					

# Asset Allocation & Performance

## Insurance Plan Accounts

Periods Ended March 31, 2023

	Performance (%) net of fees							Inception Date
	1 Month	QTD	FYTD	1 Year	3 Years	5 Years	Since Inception	
<b>Public Equity</b>	<b>2.36</b>	<b>7.51</b>	<b>11.44</b>	<b>-6.10</b>			<b>-6.61</b>	<b>12/1/2021</b>
Public Equity Policy Index	3.08	7.31	9.75	-7.44			-6.75	
Value Added	-0.72	0.20	1.69	1.34			0.14	
<b>US Equity Composite</b>	<b>2.28</b>	<b>6.77</b>	<b>9.94</b>	<b>-7.93</b>	<b>18.89</b>	<b>10.13</b>	<b>9.74</b>	<b>7/1/1992</b>
Russell 3000 Index	2.67	7.18	9.75	-8.58	18.48	10.45	9.93	
Value Added	-0.39	-0.41	0.19	0.65	0.41	-0.32	-0.19	
<b>S&amp;P 500 Index</b>	<b>3.62</b>	<b>7.44</b>	<b>10.00</b>	<b>-7.55</b>	<b>18.68</b>	<b>11.45</b>	<b>8.23</b>	<b>7/1/2001</b>
S&P 500 Index	3.67	7.50	9.98	-7.73	18.60	11.19	7.81	
value added	-0.05	-0.06	0.02	0.18	0.08	0.26	0.42	
<b>Scientific Beta</b>	<b>1.05</b>	<b>2.96</b>	<b>8.13</b>	<b>-6.22</b>	<b>17.42</b>	<b>8.32</b>	<b>9.56</b>	<b>7/1/2016</b>
S&P 500 Index	3.67	7.50	9.98	-7.73	18.60	11.19	12.51	
Value Added	-2.62	-4.54	-1.85	1.51	-1.18	-2.87	-2.95	
<b>River Road FAV</b>	<b>-0.18</b>	<b>0.66</b>	<b>5.39</b>	<b>-10.49</b>	<b>11.39</b>	<b>5.20</b>	<b>8.22</b>	<b>7/1/2016</b>
Russell 3000 Value Index	-0.86	0.91	6.92	-6.35	18.12	7.30	8.58	
Value Added	0.68	-0.25	-1.53	-4.14	-6.73	-2.10	-0.36	
<b>Westfield Capital</b>	<b>5.59</b>	<b>15.00</b>	<b>12.86</b>	<b>-10.56</b>	<b>17.67</b>	<b>13.21</b>	<b>13.04</b>	<b>7/1/2011</b>
Russell 3000 Growth Index	6.25	13.85	12.56	-10.88	18.23	13.02	13.75	
Value Added	-0.66	1.15	0.30	0.32	-0.56	0.19	-0.71	
<b>Internal US Mid Cap</b>	<b>-2.99</b>	<b>4.15</b>	<b>12.85</b>	<b>-4.43</b>	<b>22.57</b>	<b>8.32</b>	<b>9.39</b>	<b>8/1/2014</b>
S&P MidCap 400 Index	-3.21	3.81	12.17	-5.12	22.10	7.67	8.96	
Value Added	0.22	0.34	0.68	0.69	0.47	0.65	0.43	
<b>NTGI Structured</b>	<b>-4.54</b>	<b>2.81</b>	<b>8.49</b>	<b>-7.83</b>	<b>20.25</b>	<b>6.85</b>	<b>9.74</b>	<b>7/1/2011</b>
Russell 2000 Index	-4.78	2.74	6.75	-11.61	17.51	4.71	8.31	
Value Added	0.24	0.07	1.74	3.78	2.74	2.14	1.43	

# Asset Allocation & Performance

## Insurance Plan Accounts

Periods Ended March 31, 2023

	Performance (%) net of fees							Inception Date
	1 Month	QTD	FYTD	1 Year	3 Years	5 Years	Since Inception	
<b>Next Century Growth</b>	<b>0.64</b>	<b>11.70</b>	<b>16.66</b>	<b>-11.33</b>	<b>37.69</b>		<b>26.40</b>	<b>11/1/2019</b>
Russell Microcap Growth Index	-5.85	0.76	5.70	-17.98	10.87		4.16	
Value Added	6.49	10.94	10.96	6.65	26.82		22.24	
<b>Non-US Equity Composite</b>	<b>2.48</b>	<b>8.53</b>	<b>13.51</b>	<b>-3.59</b>	<b>12.84</b>	<b>3.22</b>	<b>2.71</b>	<b>4/1/2000</b>
MSCI ACWI ex US IMI (10/17)	2.13	6.56	9.85	-5.84	12.20	2.35	2.76	
Value Added	0.35	1.97	3.66	2.25	0.64	0.87	-0.05	
<b>BlackRock World Ex US</b>	<b>2.24</b>	<b>8.04</b>	<b>14.14</b>	<b>-2.43</b>	<b>13.70</b>	<b>3.43</b>	<b>6.42</b>	<b>6/1/2012</b>
MSCI World ex US (11/19)	2.22	8.02	13.96	-2.74	13.49	3.28	6.32	
value added	0.02	0.02	0.18	0.31	0.21	0.15	0.10	
<b>American Century</b>	<b>3.10</b>	<b>9.48</b>	<b>14.83</b>	<b>-6.43</b>	<b>12.62</b>	<b>5.90</b>	<b>5.86</b>	<b>7/1/2014</b>
MSCI ACWI ex US IMI (10/17)	2.13	6.56	9.85	-5.84	12.20	2.35	2.96	
Value Added	0.97	2.92	4.98	-0.59	0.42	3.55	2.90	
<b>Franklin Templeton</b>	<b>3.46</b>	<b>12.24</b>	<b>16.62</b>	<b>-8.52</b>	<b>7.84</b>	<b>1.86</b>	<b>4.46</b>	<b>7/1/2014</b>
MSCI ACWI ex US IMI (10/17)	2.13	6.56	9.85	-5.84	12.20	2.35	2.96	
Value Added	1.33	5.68	6.77	-2.68	-4.36	-0.49	1.50	
<b>Lazard Asset Mgmt</b>	<b>3.09</b>	<b>8.97</b>	<b>12.08</b>	<b>-1.92</b>	<b>12.55</b>	<b>2.72</b>	<b>3.78</b>	<b>7/1/2014</b>
MSCI ACWI ex US IMI (10/17)	2.13	6.56	9.85	-5.84	12.20	2.35	2.96	
Value Added	0.96	2.41	2.23	3.92	0.35	0.37	0.82	
<b>LSV Asset Mgmt</b>	<b>1.33</b>	<b>7.06</b>	<b>13.90</b>	<b>-0.96</b>	<b>13.56</b>	<b>2.34</b>	<b>2.90</b>	<b>7/1/2014</b>
MSCI ACWI ex US IMI (10/17)	2.13	6.56	9.85	-5.84	12.20	2.35	2.96	
Value Added	-0.80	0.50	4.05	4.88	1.36	-0.01	-0.06	
<b>Axiom</b>	<b>1.39</b>	<b>7.62</b>	<b>8.59</b>	<b>-13.20</b>			<b>-19.14</b>	<b>12/1/2021</b>
MSCI AC World ex USA Small Cap (Net)	0.23	4.70	8.70	-10.37			-9.66	
Value Added	1.16	2.92	-0.11	-2.83			-9.48	

# Asset Allocation & Performance

## Insurance Plan Accounts

Periods Ended March 31, 2023

	Performance (%) net of fees							Inception Date
	1 Month	QTD	FYTD	1 Year	3 Years	5 Years	Since Inception	
<b>JP Morgan Emerging Markets</b>	<b>1.58</b>	<b>5.56</b>	<b>5.79</b>	<b>-7.25</b>	<b>9.85</b>		<b>1.68</b>	11/1/2019
MSCI Emerging Markets IMI Index	2.79	4.01	1.88	-10.32	9.60		1.92	
Value Added	-1.21	1.55	3.91	3.07	0.25		-0.24	
<b>Pzena Emerging Markets</b>	<b>3.12</b>	<b>7.13</b>	<b>12.29</b>	<b>0.74</b>	<b>18.98</b>		<b>6.33</b>	11/1/2019
MSCI Emerging Markets (Net)	3.03	3.96	0.84	-10.70	7.83		0.81	
Value Added	0.09	3.17	11.45	11.44	11.15		5.52	
<b>Private Equity Composite</b>	<b>2.11</b>	<b>2.07</b>	<b>-0.54</b>	<b>2.53</b>	<b>16.35</b>	<b>13.73</b>	<b>10.98</b>	7/1/2002
Russell 3000 +3% 1 Quarter Lag	-5.62	7.98	-12.79	-16.78	10.28	12.05	11.43	
Value Added	7.73	-5.91	12.25	19.31	6.07	1.68	-0.45	
<b>Core Fixed Income Composite</b>	<b>1.18</b>	<b>1.92</b>	<b>1.28</b>	<b>-1.08</b>	<b>1.26</b>		<b>2.20</b>	10/1/2018
Blmbg. U.S. Aggregate Index	2.54	2.96	-0.09	-4.78	-2.77		1.04	
Value Added	-1.36	-1.04	1.37	3.70	4.03		1.16	
<b>NISA</b>	<b>2.43</b>	<b>3.02</b>	<b>0.14</b>	<b>-4.48</b>	<b>-2.66</b>	<b>0.94</b>	<b>2.04</b>	7/1/2011
Blmbg. U.S. Aggregate Index	2.54	2.96	-0.09	-4.78	-2.77	0.90	1.93	
Value Added	-0.11	0.06	0.23	0.30	0.11	0.04	0.11	
<b>Loomis Sayles Intmd</b>	<b>2.03</b>	<b>2.45</b>	<b>0.27</b>	<b>-2.64</b>	<b>-1.21</b>		<b>0.98</b>	2/1/2019
Blmbg. U.S. Intermediate Aggregate Index	2.15	2.39	0.15	-2.79	-1.96		0.51	
Value Added	-0.12	0.06	0.12	0.15	0.75		0.47	
<b>Lord Abbett</b>	<b>0.74</b>	<b>1.59</b>	<b>1.71</b>	<b>-0.10</b>	<b>2.69</b>		<b>1.78</b>	10/1/2018
ICE BofA 1-3 Year U.S. Corporate Index	0.88	1.29	1.36	0.33	0.96		1.63	
Value Added	-0.14	0.30	0.35	-0.43	1.73		0.15	
<b>Specialty Credit Composite</b>	<b>1.51</b>	<b>2.74</b>	<b>5.27</b>	<b>3.57</b>	<b>7.40</b>		<b>5.47</b>	10/1/2018
Specialty Credit Policy Index	0.52	3.41	7.31	-0.34	7.26		3.17	
Value Added	0.99	-0.67	-2.04	3.91	0.14		2.30	

# Asset Allocation & Performance

## Insurance Plan Accounts

Periods Ended March 31, 2023

	Performance (%) net of fees							Inception Date
	1 Month	QTD	FYTD	1 Year	3 Years	5 Years	Since Inception	
<b>Adams St SPC II A</b>	2.97	2.97	6.31	21.37			14.88	6/1/2020
<b>Adams St SPC II B</b>	2.04	2.04	6.26	3.09			9.55	6/1/2020
<b>Blue Torch</b>	3.92	3.92	10.52	13.78			10.15	8/1/2020
<b>BSP Coinvestment</b>	2.29	2.29	4.55	6.22	6.84		6.37	10/1/2019
Morningstar LSTA US Leveraged Loan	-0.03	3.23	7.33	2.54	8.52		3.57	
Value Added	2.32	-0.94	-2.78	3.68	-1.68		2.80	
<b>BSP Private Credit</b>	1.22	1.22	2.00	3.49	6.76	5.81	5.61	2/1/2018
Morningstar LSTA US Leveraged Loan	-0.03	3.23	7.33	2.54	8.52	3.63	3.61	
Value Added	1.25	-2.01	-5.33	0.95	-1.76	2.18	2.00	
<b>CapitalSpring</b>	8.17	8.17	9.10	11.40	10.84		10.24	2/1/2020
Morningstar LSTA US Leveraged Loan	-0.03	3.23	7.33	2.54	8.52		3.21	
Value Added	8.20	4.94	1.77	8.86	2.32		7.03	
<b>Cerberus Capital Mgmt</b>	0.88	2.09	6.52	9.52	11.97	10.82	9.67	9/1/2014
Morningstar LSTA US Leveraged Loan	-0.03	3.23	7.33	2.54	8.52	3.63	3.70	
Value Added	0.91	-1.14	-0.81	6.98	3.45	7.19	5.97	
<b>Columbia</b>	1.53	3.96	8.18	-2.33	5.13	3.44	5.35	11/1/2011
Blmbg. U.S. Corp: High Yield Index	1.07	3.57	7.19	-3.34	5.91	3.21	5.22	
Value Added	0.46	0.39	0.99	1.01	-0.78	0.23	0.13	
<b>Manulife Asset Mgmt</b>	2.03	3.34	5.71	-1.93	4.13	3.07	3.66	12/1/2011
Policy Index	2.35	2.93	0.55	-4.61	-2.02	1.05	1.06	
Value Added	-0.32	0.41	5.16	2.68	6.15	2.02	2.60	
<b>Marathon Bluegrass</b>	1.52	1.26	-3.99	-3.83	4.04	4.38	5.57	1/1/2016
Blmbg. U.S. Corp: High Yield Index	1.07	3.57	7.19	-3.34	5.91	3.21	5.38	
Value Added	0.45	-2.31	-11.18	-0.49	-1.87	1.17	0.19	

## Asset Allocation & Performance

### Insurance Plan Accounts

Periods Ended March 31, 2023

	Performance (%) net of fees							Inception Date
	1 Month	QTD	FYTD	1 Year	3 Years	5 Years	Since Inception	
<b>Shenkman Capital</b>	<b>-0.02</b>	<b>2.81</b>	<b>6.90</b>	<b>2.21</b>	<b>7.93</b>	<b>3.40</b>	<b>3.79</b>	7/1/2011
Morningstar LSTA US Leveraged Loan	-0.03	3.23	7.33	2.54	8.52	3.63	4.10	
Value Added	0.01	-0.42	-0.43	-0.33	-0.59	-0.23	-0.31	
<b>Waterfall</b>	<b>1.42</b>	<b>2.66</b>	<b>5.68</b>	<b>3.99</b>	<b>9.10</b>	<b>4.60</b>	<b>7.91</b>	7/1/2011
Policy Index	0.61	3.11	6.06	-0.67	4.94	2.79	3.78	
Value Added	0.81	-0.45	-0.38	4.66	4.16	1.81	4.13	
<b>White Oak Yield Spectrum</b>	<b>0.96</b>	<b>0.96</b>	<b>3.45</b>	<b>5.08</b>	<b>5.37</b>	<b>5.38</b>	<b>5.29</b>	3/1/2018
Morningstar LSTA US Leveraged Loan	-0.03	3.23	7.33	2.54	8.52	3.63	3.63	
Value Added	0.99	-2.27	-3.88	2.54	-3.15	1.75	1.66	
<b>Arrowmark</b>	<b>1.22</b>	<b>3.76</b>	<b>9.41</b>	<b>10.90</b>	<b>15.44</b>		<b>9.54</b>	6/1/2018
Morningstar LSTA US Leveraged Loan	-0.03	3.23	7.33	2.54	8.52		3.64	
Value Added	1.25	0.53	2.08	8.36	6.92		5.90	
<b>H/2 Credit Partner</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>3.02</b>	<b>1.27</b>	<b>4.07</b>	7/1/2011
<b>Mesa West Core Lend</b>	<b>-1.04</b>	<b>-1.04</b>	<b>1.79</b>	<b>2.99</b>	<b>4.55</b>	<b>5.77</b>	<b>6.05</b>	5/1/2013
<b>Mesa West IV</b>	<b>-1.02</b>	<b>-1.02</b>	<b>-2.66</b>	<b>-1.82</b>	<b>5.23</b>	<b>6.05</b>	<b>5.40</b>	3/1/2017
<b>Cash Composite</b>	<b>0.32</b>	<b>0.89</b>	<b>2.29</b>	<b>2.48</b>	<b>0.92</b>	<b>1.39</b>	<b>2.46</b>	7/1/1992
FTSE 3 Month T-Bill	0.40	1.12	2.46	2.61	0.95	1.40	2.33	
Value Added	-0.08	-0.23	-0.17	-0.13	-0.03	-0.01	0.13	

# Asset Allocation & Performance

## Insurance Plan Accounts

Periods Ended March 31, 2023

	Performance (%) net of fees							Inception Date
	1 Month	QTD	FYTD	1 Year	3 Years	5 Years	Since Inception	
<b>Real Estate Composite</b>	-1.71	-4.34	-0.69	5.95	11.71	10.96	9.74	5/1/2009
NCREIF ODCE NOF 1 Quarter Lag	-5.17	-5.17	-0.55	6.55	8.97	7.72		
Value Added	3.46	0.83	-0.14	-0.60	2.74	3.24		
<b>Baring</b>	-9.15	-9.71	-11.09	-1.43	8.74		14.87	1/1/2019
<b>Barings Euro RE II</b>	-16.44	-16.97	-17.91	-23.65			-20.25	12/1/2020
<b>Divcowest IV</b>	-4.29	-4.29	-4.48	-3.43	10.86	12.62	17.46	3/1/2014
<b>Fundamental Partners III</b>	3.79	3.79	3.60	7.95	18.62	15.91	14.24	5/1/2017
<b>Greenfield Acq VI</b>	-20.30	-20.30	-32.21	-33.17	-38.60	-39.62	-18.48	12/1/2012
<b>Greenfield Acq VII</b>	-13.99	-13.99	-2.67	-1.12	14.17	14.69	13.71	7/1/2014
<b>Harrison Street</b>	-0.44	-1.03	7.34	10.10	7.67	7.50	7.95	5/1/2012
<b>Lubert Adler VII</b>	-8.73	-8.73	-8.56	-4.07	-5.77	-0.23	-1.56	7/1/2014
<b>Lubert Adler VII B</b>	7.57	7.57	13.15	19.79	26.24	20.00	16.22	7/1/2017
<b>Patron Capital</b>	-0.79	-1.45	-5.79	-8.51	4.17	5.76	3.77	8/1/2016
<b>Prologis Targeted US</b>	0.00	-5.58	-0.05	11.88	22.25	20.04	17.89	10/1/2014
<b>Rubenstein PF II</b>	-17.50	-17.50	-26.59	-26.43	-10.91	-3.87	4.32	7/1/2013
<b>Stockbridge Sm/Mkts</b>	-2.05	-6.24	-5.64	6.95	10.64	9.37	9.37	5/1/2014
<b>Walton St RE VI</b>	5.25	5.25	11.62	14.32	6.66	4.80	-11.06	5/1/2009
<b>Walton St RE VII</b>	-0.40	-0.40	3.53	1.96	-1.40	-1.23	5.69	7/1/2013

# Asset Allocation & Performance

## Insurance Plan Accounts

Periods Ended March 31, 2023

	Performance (%) net of fees							Inception Date
	1 Month	QTD	FYTD	1 Year	3 Years	5 Years	Since Inception	
<b>Real Return Composite</b>	<b>0.56</b>	<b>1.53</b>	<b>8.06</b>	<b>7.08</b>	<b>13.05</b>	<b>5.70</b>	<b>4.45</b>	<b>7/1/2011</b>
US CPI +3%	0.30	1.69	4.70	8.14	8.51	6.99	5.61	
Value Added	0.26	-0.16	3.36	-1.06	4.54	-1.29	-1.16	
<b>Tortoise Capital</b>	<b>-0.98</b>	<b>3.21</b>	<b>23.38</b>	<b>11.23</b>	<b>39.34</b>	<b>7.39</b>	<b>9.42</b>	<b>8/1/2009</b>
Alerian MLP Index	-1.18	4.09	23.84	14.70	47.08	7.42	6.71	
Value Added	0.20	-0.88	-0.46	-3.47	-7.74	-0.03	2.71	
<b>Amerra AGRI Fund II</b>	<b>-1.45</b>	<b>-1.45</b>	<b>7.36</b>	<b>12.08</b>	<b>8.52</b>	<b>7.92</b>	<b>6.22</b>	<b>12/1/2012</b>
<b>Amerra AGRI Holdings</b>	<b>3.55</b>	<b>3.55</b>	<b>-0.26</b>	<b>2.59</b>	<b>-1.33</b>	<b>-1.23</b>	<b>-1.17</b>	<b>8/1/2015</b>
<b>BTG Pactual</b>	<b>0.85</b>	<b>0.85</b>	<b>7.56</b>	<b>23.30</b>	<b>6.22</b>	<b>4.12</b>	<b>-1.84</b>	<b>12/1/2014</b>
<b>IFM Infrastructure</b>	<b>2.02</b>	<b>3.82</b>	<b>6.20</b>	<b>7.21</b>	<b>5.48</b>		<b>5.02</b>	<b>7/1/2019</b>
<b>Magnetar MTP EOF II</b>	<b>-2.12</b>	<b>-2.12</b>	<b>5.68</b>	<b>135.62</b>	<b>68.73</b>	<b>40.48</b>	<b>25.61</b>	<b>8/1/2015</b>
<b>Oberland Capital</b>	<b>3.34</b>	<b>3.34</b>	<b>7.79</b>	<b>9.92</b>	<b>15.32</b>		<b>13.85</b>	<b>8/1/2018</b>
<b>Taurus Mine Finance</b>	<b>3.21</b>	<b>3.21</b>	<b>31.17</b>	<b>70.20</b>	<b>19.38</b>	<b>16.31</b>	<b>15.54</b>	<b>4/1/2015</b>
<b>TPF II</b>	<b>-4.22</b>	<b>-4.22</b>	<b>-6.85</b>	<b>-6.92</b>	<b>3.89</b>	<b>4.87</b>	<b>-0.81</b>	<b>10/1/2008</b>
<b>Blackstone Strat Opp</b>	<b>0.35</b>	<b>0.11</b>	<b>-2.50</b>	<b>-0.25</b>	<b>-4.25</b>	<b>-3.08</b>	<b>-1.96</b>	<b>8/1/2017</b>
<b>Luxor Capital</b>	<b>-0.04</b>	<b>-0.08</b>	<b>3.25</b>	<b>3.99</b>	<b>1.64</b>	<b>-1.21</b>	<b>-0.03</b>	<b>4/1/2014</b>
<b>Myriad Opportunities</b>	<b>0.00</b>	<b>-0.30</b>	<b>-7.59</b>	<b>-7.95</b>	<b>-22.89</b>	<b>-16.00</b>	<b>-9.23</b>	<b>5/1/2016</b>
<b>Pine River</b>	<b>1.31</b>	<b>-7.43</b>	<b>-3.84</b>	<b>-16.63</b>	<b>-4.81</b>	<b>2.76</b>	<b>1.65</b>	<b>5/1/2014</b>
<b>PRISMA Capital</b>	<b>0.34</b>	<b>0.98</b>	<b>0.39</b>	<b>0.45</b>	<b>0.02</b>	<b>0.43</b>	<b>2.41</b>	<b>9/1/2011</b>
<b>SRS Partners US</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>4.37</b>	<b>6.19</b>	<b>7.94</b>	<b>8/1/2017</b>
<b>Tricadia Select</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>-4.33</b>	<b>-4.48</b>	<b>9/1/2017</b>



County Employees Retirement Systems

# Investment Budget Update

Quarter Ending: March 31, 2023

<b>KENTUCKY PUBLIC PENSIONS AUTHORITY</b>									
<b>Investment Budget</b>									
<b>For the nine month period ending March 31, 2023</b>									
Account Name	FY 2019	FY 2020	FY 2021	FY 2022	Trust Budget FY 2023	Q3 2023	FYTD 2023	Remaining	Percentage Spent
<b>CONSULTING SERVICES</b>									
Wilshire Associates	\$ 1,021,799	\$ 1,238,170	\$ 1,225,671	\$ 1,021,175	\$ 1,190,000	\$ 274,600	\$ 563,572	\$ 626,428	47%
Albourne	-	-	-	-	270,000	67,500	239,250	30,750	89%
MercerInsight	-	-	-	-	160,000			160,000	0%
<b>SUBTOTAL</b>	<b>1,021,799</b>	<b>1,238,170</b>	<b>1,225,671</b>	<b>1,021,175</b>	<b>1,620,000</b>	<b>342,100</b>	<b>802,822</b>	<b>817,178</b>	<b>50%</b>
<b>LEGAL &amp; AUDITING SERVICES</b>									
Faegre Drinker			96,039	202,502	375,000	6,897	15,618	359,382	4%
Intelligent Management Solutions (IMS)	620,001	202,140	155,700	69,884	75,000	8,022	81,880	(6,880)	109%
McClain/Goldberg			891	-	25,000			25,000	0%
Reinhart	317,909	671,269	663,689	619,509	437,500	8,614	65,682	371,818	15%
Stoll-Keenon-Ogden	10,314	135,353	254,211	463,560	250,000	6,045	356,453	(106,453)	143%
Haystack			-	-	140,000	55,892	55,892	84,108	40%
Umberg Zipser			289,100	498,058	360,000	94,880	242,564	117,436	67%
Frost Brown Todd			-	-	50,000			50,000	0%
Swansburg & Smith	-	-	-	-	-	1,013	5,288	(5,288)	
Eddins Domine	-	-	-	-	-	26,482	40,305	(40,305)	
Taft	-	-	-	-	-	-	66,916	(66,916)	
Miscellaneous					200,000			200,000	0%
<b>SUBTOTAL</b>	<b>948,225</b>	<b>1,008,762</b>	<b>1,459,630</b>	<b>1,853,513</b>	<b>1,912,500</b>	<b>207,843</b>	<b>930,597</b>	<b>981,903</b>	<b>49%</b>
<b>CONTRACTURAL SERVICES</b>									
Bloomberg	68,722	71,810	98,163	102,243	150,000	26,105	77,530	72,470	52%
BNYM Custodial Fees	2,056,390	2,088,475	2,379,838	2,565,169	4,000,000	554,497	1,684,683	2,315,317	42%
eVestment (Solovis RMS)			-	30,000	35,000		33,800	1,200	97%
Solovis (Reporting & Analytics)			-	245,000	265,000		257,250	7,750	97%
FactSet	222,476	162,295	109,662	140,098	150,000	31,657	93,754	56,246	63%
Russell Index Subscription	1,075	1,250	1,000	1,000	1,500	250	500	1,000	33%
S&P Global		94,500	26,250	68,250	75,000			75,000	0%
TradeWeb			-	6,000	7,500	2,000	5,600	1,900	75%
State Street/Elkins McSherry	10,000	5,000	15,000	10,000	10,000	5,000	10,000	-	100%
ISS	32,050	32,050	28,288	35,813	37,000	15,838	31,863	5,138	86%
MSCI	1,000	1,000	1,000	1,000	1,000		1,000	-	100%
KPMG Tax Guarantor Services		7,606	22,050	7,350	7,500			7,500	0%
Jayant Ghevaria and CO		10,050	-	52,085	55,000			55,000	0%
India Renewal Fee (SEBI)			-	3,000	3,000			3,000	0%
With Intelligence	-	-	-	-	-		9,520	(9,520)	0%
Miscellaneous & New Services	-	-	-	-	250,000			250,000	0%
<b>SUBTOTAL</b>	<b>2,391,713</b>	<b>2,474,036</b>	<b>2,681,251</b>	<b>3,267,008</b>	<b>5,047,500</b>	<b>635,346</b>	<b>2,205,499</b>	<b>2,842,001</b>	<b>44%</b>

KENTUCKY PUBLIC PENSIONS AUTHORITY									
Investment Budget									
For the nine month period ending March 31, 2023									
Account Name	FY 2019	FY 2020	FY 2021	FY 2022	Trust Budget FY 2023	Q3 2023	FYTD 2023	Remaining	Percentage Spent
<b>INACTIVE CONTRACTURAL SERVICES</b>									
Dean Dorton	9,719		-	-	-		250	(250)	
Hirschler		4,794	-	-	-				
INFORMA	12,904		-	-	-				
Lighthouse Solutions	3,093		-	-	-				
London Stock Exchange GBP (GREAT BRITISH POUNDS)	6,467	3,544	-	-	-				
Deutsche Bank Trust	3,000		3,000	-	-				
Morris James LLP	94,192	20,154	-	-	-				
Calcaterra Pollack			1,200,000	-	-				
Manatt		90,798	30,757	-	-				
ORG	162,344		-	-	-				
<b>SUBTOTAL</b>	<b>291,718</b>	<b>119,290</b>	<b>1,233,757</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>250</b>	<b>(250)</b>	
<b>TOTAL</b>	<b>\$ 4,653,455</b>	<b>\$ 4,840,258</b>	<b>\$ 6,600,309</b>	<b>\$ 6,141,696</b>	<b>\$ 8,580,000</b>	<b>\$ 1,185,289</b>	<b>\$ 3,939,169</b>	<b>\$ 4,640,831</b>	<b>46%</b>

**INVESTMENT BUDGET**

<b>CONSULTING SERVICES</b>	
Wilshire Associates	General Investment Consulting Services, Manager Research and Due Dilligence, Reporting, Asset Allocation
Albourne	Investment Consultant Research database - Private Markets Manager Research, Private Markets Research, Pension Markets Research
MercerInsight	Investment Consultant Research database - Public Markets Manager Research, Public Markets Research, Pension Markets Research
<b>LEGAL &amp; AUDITING SERVICES</b>	
Faegre Drinker	Delaware litigation counsel
Intelligent Management Solutions (IMS)	IMS is an expert witness in the Bay Hills case.
McClain/Goldberg	Blackstone litigation counsel for the Trustees and Officers
Reinhart	Bay Hills counsel and investment counsel for contract negotiations
Stoll-Keenon-Ogden	Mayberry counsel
Haystack	Conduct Mayberry eDiscovery
Umberg Zipser	PAAMCO-Prisma (California litigation)
Frost Brown Todd	Currently has no investment-related cases
Swansburg & Smith	Reimbursement of Fiduciary Legal Expenses (KKR)
Eddins Domine	Reimbursement of Fiduciary Legal Expenses (KKR)
Taft	Reimbursement of Fiduciary Legal Expenses (Calcaterra Pollack)
<b>CONTRACTURAL SERVICES</b>	
Bloomberg	Bloomberg Professional Services, Data Analytics and Tools, Market Information and News, Research Portal
BNYM Custodial Fees	Full Service Custodial Services, Investment Accounting, Investment Operations, Transaction Services, Performance and Attribution, Reporting
eVestment (Solovis RMS)	Research Management Program organizing internal and external research
Solovis (Reporting & Analytics)	Portfolio and Risk Analytics, Perfomance Measurement and Attribution, Reporting
FactSet	Workstation and Quant/Risk Applications for managing Public Equity Portfolios
Russell Index Subscription	Access to Russell Indexes for Portfolio Management, Reporting and Performance
S&P Global	Data on the S & P US Index / License to 10,000 Identifiers for Portfolio Management, Reporting and Performance
TradeWeb	Electronic Trading Platform for Internal Management
State Street/Elkins McSherry	Public Equity Trade Cost Analysis
ISS	Portfolio Monitoring and Proxy Voting Services
MSCI	International Public Equity Data Package
KPMG Tax Guarantor Services	Tax Accounting Services - Taiwan
Jayant Ghevaria and CO	Tax Accounting Services - India
India Renewal Fee (SEBI)	Registration of India Local Market Accounts

<b>KENTUCKY PUBLIC PENSIONS AUTHORITY</b>						
<b>Investment Fees and Expenses</b>						
<b>For the nine month period ending March 31, 2023</b>						
<b>Pension</b>						
	<b>2023</b>		<b>2022</b>		<b>2021</b>	
	<b>FYTD Fees</b>	<b>Market Value</b>	<b>FYTD Fees</b>	<b>Market Value</b>	<b>FYTD Fees</b>	<b>Market Value</b>
<b>Core Fixed Income</b>	<b>1,961,961</b>	<b>2,021,010,684</b>	<b>2,153,340</b>	<b>2,131,886,569</b>	<b>2,031,618</b>	<b>2,263,311,450</b>
<i>Investment Advisory Fees</i>	1,081,599		1,773,298		1,902,240	
<i>Carried Interest</i>	313,985		327,140		81,121	
<i>Miscellaneous Fees and Expenses</i>	566,378		52,902		48,257	
<b>Opportunistic</b>	<b>Opportunistic was absorbed by Specialty Credit in December 2021</b>				<b>2,727,633</b>	<b>375,449,617</b>
<i>Investment Advisory Fees</i>					-	
<i>Carried Interest</i>					2,727,633	
<i>Miscellaneous Fees and Expenses</i>					-	
<b>Public Equity</b>	<b>9,871,250</b>	<b>7,364,652,759</b>	<b>10,884,478</b>	<b>6,939,548,432</b>	<b>9,171,752</b>	<b>6,619,150,686</b>
<i>Investment Advisory Fees</i>	9,712,159		10,658,036		8,995,110	
<i>Miscellaneous Fees and Expenses</i>	159,091		226,442		176,642	
<b>Specialty Credit Fixed Income</b>	<b>41,248,671</b>	<b>3,253,455,667</b>	<b>37,495,009</b>	<b>3,117,337,032</b>	<b>26,547,242</b>	<b>2,546,489,496</b>
<i>Investment Advisory Fees</i>	18,151,509		12,988,501		11,228,203	
<i>Carried Interest</i>	5,190,755		18,829,074		12,519,342	
<i>Miscellaneous Fees and Expenses</i>	17,906,407		5,677,434		2,799,697	
<b>Real Estate</b>	<b>4,469,109</b>	<b>929,393,252</b>	<b>25,637,587</b>	<b>844,241,655</b>	<b>5,303,814</b>	<b>589,400,002</b>
<i>Investment Advisory Fees</i>	3,627,098		3,454,869		3,254,551	
<i>Carried Interest</i>	42,187		20,336,478		(907,044)	
<i>Miscellaneous Fees and Expenses</i>	799,825		1,846,240		2,956,307	
<b>Real Return</b>	<b>3,159,066</b>	<b>460,465,548</b>	<b>3,848,329</b>	<b>568,603,601</b>	<b>6,282,116</b>	<b>1,011,388,853</b>
<i>Investment Advisory Fees</i>	1,799,568		2,738,748		3,527,345	
<i>Carried Interest</i>	473,651		1,049,935		2,329,614	
<i>Miscellaneous Fees and Expenses</i>	885,848		59,646		425,157	
<b>Private Equity</b>	<b>1,735,503</b>	<b>1,143,005,497</b>	<b>52,650,593</b>	<b>1,303,761,398</b>	<b>34,414,531</b>	<b>1,155,001,941</b>
<i>Investment Advisory Fees</i>	5,111,920		5,375,037		6,202,846	
<i>Carried Interest</i>	(5,910,958)		44,069,198		26,932,151	
<i>Miscellaneous Fees and Expenses</i>	2,534,541		3,206,358		1,279,534	
<b>Administrative Expense/Cash</b>	<b>2,349,103</b>	<b>980,437,717</b>	<b>3,087,180</b>	<b>1,088,261,843</b>	<b>1,932,601</b>	<b>285,262,649</b>
<b>Total Investment Mgmt Fees</b>	<b>64,794,664</b>	<b>16,152,421,124</b>	<b>135,756,516</b>	<b>15,993,640,530</b>	<b>88,411,307</b>	<b>14,845,454,694</b>

<b>KENTUCKY PUBLIC PENSIONS AUTHORITY</b> <b>Investment Fees and Expenses</b> <b>For the nine month period ending March 31, 2023</b> <b>Insurance</b>						
	2023		2022		2021	
	FYTD Fees	Market Value	FYTD Fees	Market Value	FYTD Fees	Market Value
<b>Core Fixed Income</b>	<b>737,251</b>	<b>738,513,799</b>	<b>810,054</b>	<b>802,476,521</b>	<b>813,678</b>	<b>864,872,800</b>
<i>Investment Advisory Fees</i>	612,135		673,659		766,735	
<i>Performance</i>	112,040		117,337		28,448	
<i>Miscellaneous Fees and Expenses</i>	13,075		19,058		18,495	
<b>Opportunistic</b>	<i>Opportunistic was absorbed by Specialty Credit in December 2021</i>				<b>1,388,928</b>	<b>191,181,257</b>
<i>Investment Advisory Fees</i>						
<i>Carried Interest</i>					1,388,928	
<i>Miscellaneous Fees and Expenses</i>						
<b>Public Equity</b>	<b>4,563,134</b>	<b>3,377,277,074</b>	<b>4,821,293</b>	<b>3,215,837,276</b>	<b>4,102,906</b>	<b>2,988,294,144</b>
<i>Investment Advisory Fees</i>	4,490,997		4,743,902		4,026,883	
<i>Miscellaneous Fees and Expenses</i>	72,137		77,391		76,023	
<b>Specialty Credit Fixed Income</b>	<b>18,849,336</b>	<b>1,464,234,371</b>	<b>16,639,635</b>	<b>1,409,325,113</b>	<b>11,135,696</b>	<b>1,134,227,766</b>
<i>Investment Advisory Fees</i>	8,360,965		5,791,524		5,087,579	
<i>Carried Interest</i>	2,645,586		8,397,118		4,960,086	
<i>Miscellaneous Fees and Expenses</i>	7,842,785		2,450,993		1,088,031	
<b>Real Estate</b>	<b>2,029,870</b>	<b>392,477,821</b>	<b>10,607,357</b>	<b>356,747,650</b>	<b>2,331,407</b>	<b>249,384,483</b>
<i>Investment Advisory Fees</i>	1,515,332		1,501,018		1,408,641	
<i>Carried Interest</i>	171,381		8,302,981		(290,973)	
<i>Miscellaneous Fees and Expenses</i>	343,157		803,358		1,213,739	
<b>Real Return</b>	<b>1,402,993</b>	<b>177,947,842</b>	<b>1,672,090</b>	<b>219,995,987</b>	<b>2,465,100</b>	<b>427,472,422</b>
<i>Investment Advisory Fees</i>	801,226		1,221,294		1,508,890	
<i>Carried Interest</i>	196,724		415,727		(139,583)	
<i>Miscellaneous Fees and Expenses</i>	405,042		35,069		1,095,793	
<b>Private Equity</b>	<b>2,034,850</b>	<b>584,914,353</b>	<b>32,266,953</b>	<b>621,666,942</b>	<b>22,861,402</b>	<b>561,073,081</b>
<i>Investment Advisory Fees</i>	3,350,796		3,739,853		4,149,597	
<i>Carried Interest</i>	(2,539,096)		27,332,502		18,202,847	
<i>Miscellaneous Fees and Expenses</i>	1,223,150		1,194,598		508,958	
<b>Administrative Expense/Cash</b>	<b>1,225,286</b>	<b>236,662,657</b>	<b>1,564,044</b>	<b>505,485,795</b>	<b>1,219,907</b>	<b>140,405,157</b>
<b>Total Investment Mgmt Fees</b>	<b>\$ 30,842,720</b>	<b>\$ 6,972,027,917</b>	<b>\$ 68,381,426</b>	<b>\$ 7,131,535,284</b>	<b>\$ 46,319,024</b>	<b>\$ 6,556,911,110</b>

<b>COUNTY EMPLOYEES RETIREMENT SYSTEMS</b>				
<b>Investment Management Fees and Expenses</b>				
<b>For the nine month period ending March 31, 2023</b>				
<b>Pension</b>				
	<b>CERS</b>		<b>CERS Hazardous</b>	
	<b>FYTD Fees</b>	<b>Market Value</b>	<b>FYTD Fees</b>	<b>Market Value</b>
<b>Core Fixed Income</b>	<b>837,296</b>	<b>829,436,836</b>	<b>297,165</b>	<b>308,498,766</b>
<i>Investment Advisory Fees</i>	682,761		244,484	
<i>Carried Interest</i>	133,163		47,683	
<i>Miscellaneous Fees and Expenses</i>	21,371		4,997	
<b>Public Equity</b>	<b>5,688,187</b>	<b>4,255,625,007</b>	<b>1,938,476</b>	<b>1,456,358,882</b>
<i>Investment Advisory Fees</i>	5,597,041		1,907,299	
<i>Miscellaneous Fees and Expenses</i>	91,146		31,177	
<b>Specialty Credit Fixed Income</b>	<b>23,143,111</b>	<b>1,756,452,442</b>	<b>7,775,019</b>	<b>604,239,498</b>
<i>Investment Advisory Fees</i>	10,123,388		3,402,513	
<i>Carried Interest</i>	2,988,946		998,896	
<i>Miscellaneous Fees and Expenses</i>	10,030,777		3,373,610	
<b>Real Estate</b>	<b>2,571,595</b>	<b>519,206,007</b>	<b>808,746</b>	<b>165,277,568</b>
<i>Investment Advisory Fees</i>	2,089,802		656,584	
<i>Carried Interest</i>	23,816		7,529	
<i>Miscellaneous Fees and Expenses</i>	457,976		144,633	
<b>Real Return</b>	<b>2,075,706</b>	<b>266,709,054</b>	<b>668,012</b>	<b>88,443,554</b>
<i>Investment Advisory Fees</i>	1,155,107		374,716	
<i>Carried Interest</i>	329,411		103,676	
<i>Miscellaneous Fees and Expenses</i>	591,188		189,620	
<b>Private Equity</b>	<b>1,901,916</b>	<b>681,444,112</b>	<b>392,540</b>	<b>227,674,605</b>
<i>Investment Advisory Fees</i>	3,336,408		1,109,929	
<i>Carried Interest</i>	(3,016,857)		(1,241,944)	
<i>Miscellaneous Fees and Expenses</i>	1,582,365		524,554	
<b>Administrative Expenses/Cash</b>	<b>1,229,799</b>	<b>126,464,989</b>	<b>421,999</b>	<b>59,603,294</b>
<b>Total Investment Mgmt Fees</b>	<b>37,447,610</b>	<b>8,435,338,447</b>	<b>12,301,957</b>	<b>2,910,096,167</b>

<b>COUNTY EMPLOYEES RETIREMENT SYSTEMS</b>				
<b>Investment Management Fees and Expenses</b>				
<b>For the nine month period ending March 31, 2023</b>				
<b>Insurance</b>				
	<b>CERS</b>		<b>CERS Hazardous</b>	
	<b>FYTD Fees</b>	<b>Market Value</b>	<b>FYTD Fees</b>	<b>Market Value</b>
<b>Core Fixed Income</b>	<b>331,270</b>	<b>326,927,769</b>	<b>156,909</b>	<b>148,029,697</b>
<i>Investment Advisory Fees</i>	275,651		129,067	
<i>Carried Interest</i>	49,806		24,933	
<i>Miscellaneous Fees and Expenses</i>	5,813		2,910	
<b>Public Equity</b>	<b>2,100,984</b>	<b>1,602,881,085</b>	<b>1,041,448</b>	<b>782,652,028</b>
<i>Investment Advisory Fees</i>	2,067,154		1,024,952	
<i>Miscellaneous Fees and Expenses</i>	33,829		16,496	
<b>Specialty Credit Fixed Income</b>	<b>8,509,439</b>	<b>664,135,072</b>	<b>4,491,804</b>	<b>329,701,001</b>
<i>Investment Advisory Fees</i>	3,773,401		1,972,641	
<i>Carried Interest</i>	1,189,525		637,231	
<i>Miscellaneous Fees and Expenses</i>	3,546,513		1,881,932	
<b>Real Estate</b>	<b>931,173</b>	<b>179,983,196</b>	<b>509,804</b>	<b>98,669,442</b>
<i>Investment Advisory Fees</i>	695,905		380,751	
<i>Carried Interest</i>	77,634		42,610	
<i>Miscellaneous Fees and Expenses</i>	157,634		86,443	
<b>Real Return</b>	<b>629,460</b>	<b>80,435,848</b>	<b>342,416</b>	<b>43,041,663</b>
<i>Investment Advisory Fees</i>	361,963		196,226	
<i>Carried Interest</i>	82,251		45,255	
<i>Miscellaneous Fees and Expenses</i>	185,246		100,935	
<b>Private Equity</b>	<b>413,549</b>	<b>267,459,623</b>	<b>164,992</b>	<b>150,445,413</b>
<i>Investment Advisory Fees</i>	1,622,618		907,730	
<i>Carried Interest</i>	(1,720,853)		(1,022,814)	
<i>Miscellaneous Fees and Expenses</i>	511,784		280,076	
<b>Administrative Expenses/Cash</b>	<b>549,761</b>	<b>43,608,341</b>	<b>272,262</b>	<b>14,195,677</b>
<b>Total Investment Mgmt Fees</b>	<b>\$ 13,465,636</b>	<b>\$ 3,165,430,934</b>	<b>\$ 6,979,634</b>	<b>\$ 1,566,734,921</b>



County Employees Retirement Systems




# Compliance Report

Quarter Ending: March 31, 2023



**Compliance Guideline Review  
for the Period Ended March 31, 2023**

**Compliance  
Status**

Legend	
	In Compliance
	To be determined
	Not In Compliance

Total assets assigned to the selected manager shall not exceed 25% of that firm's total assets under management and shall not exceed 25% of a firm's total assets under management in a commingled product.



The assets managed by any one active or passive investment manager shall not exceed 15% of the overall assets in the pension and insurance funds.



No more than 20% of the total net assets of the Real Return portfolio may be invested in any single closed-end or open-end limited partnership or other unregistered investment vehicle.



Securities issued by the state of Kentucky, its subsidiaries, or affiliates are prohibited.



An investment in any single domestic or international equity allocation in any single corporation cannot exceed 5% of the market value of CERS' total assets.



The systems in aggregate shall not hold in excess of 3% of the outstanding shares of any single corporation.



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The amount of stock in any one industry in the domestic equity allocation shall not exceed 10% of the aggregate market value of the System's assets.




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Investment in "frontier" markets shall not exceed 5% of the System's international equity assets.




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The duration of the total fixed income portfolio shall not deviate from the Fixed Income Index by more than 25%.




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The duration of the TIPS portfolio shall not deviate from the Barclay's TIPS Index by more than 10%.




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The amount invested in the debt of a single corporation shall not exceed 5% of the total market value of the System's Assets.




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50% of the fixed income assets must have liquidity that is T+3 (trade date plus three days) or better.




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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.




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No more than 50% of the total net assets of the Real Return portfolio may be invested in any one registered investment vehicle, mutual fund, or separately managed account.




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The maximum investment in any co-investment vehicle shall not exceed 50 percent of the total capital committed by all partners at the time of the final closing. The maximum investment in any single direct co-investment shall not exceed 20 percent of the original partnership commitment. Total investment in direct co-investments shall not exceed 20 percent of the asset class portfolio on a cost basis at the time of investment.

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For those open-end funds where assets can be added or subtracted, the CIO will have discretion to reduce or increase an investment manager's allocation between 50% and 150% of the approved target. The target will not be raised prior to the one-year anniversary of the amount approved by the CERS Investment Committee, and must be reported to the CERS Investment Committee at the next scheduled meeting.

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The CERS Board is aware that from time to time the investment manager will require a portion of the allocated funds to be held in cash provided the cash holdings do not exceed five percent (5%) of the manager's allocation for any given quarter. unless such cash holdings are an integral part of a fixed income manager's investment strategy.

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The KPPA Investment Staff may passively manage up to twenty (20%) percent of the overall portfolio dedicated to these efficient markets. Beyond this level the CIO shall seek the approval of the Investment Committee by explaining how further passive management would help achieve the overall portfolio objectives.

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Kentucky Public Pensions Authority

## CERS & CERS-Hazardous Unit Holdings

Quarter Ending: March 31, 2023

Kentucky Public Pensions Authority				
Pension: CERS & CERS-H Unit Holdings				
Quarter Ended March 31, 2023				
UNIT OF PARTICIPATION	CERS		CERS-H	
	Shares/Par	Base Market Value	Shares/Par	Base Market Value
Grand Total	44,997,491.576	8,410,658,913.83	15,690,028.799	2,901,707,333.45
KRS ABSOLUTE RETURN UNIT	465,636.034	56,887,794.04	147,496.741	18,020,006.21
KRS ADAMS STREET A1 UNIT	527,051.575	77,739,914.94	177,715.752	26,213,008.55
KRS ADAMS STREET B1 UNIT	597,810.536	76,896,655.00	201,574.864	25,928,671.11
KRS AMERRA AGRI UNIT	308,823.485	28,238,240.73	97,505.679	8,915,736.56
KRS AMERRA UNIT	83,187.980	15,957,225.64	26,265.165	5,038,217.83
KRS ARROWMARK UNIT	1,387,072.461	284,673,755.34	458,544.662	94,108,732.31
KRS BLACKROCK UNIT	3,173,089.335	518,163,492.53	1,098,793.478	179,432,283.82
KRS BLUE TORCH UNIT	482,295.226	73,440,689.50	162,844.338	24,796,846.04
KRS BNYM CUSTODY FEE UNIT	-300,822.296	-300,822.30	-103,486.954	-103,486.95
KRS BTG UNIT	199,420.716	17,480,831.89	63,908.686	5,602,111.05
KRS CASH UNIT	1,285,920.027	126,828,697.72	605,594.657	59,729,050.08
KRS DB PRIVATE EQ UNIT	15,210.721	4,940,319.52	4,379.059	1,422,283.05
KRS DIVCOWEST IV UNIT	1,567.757	821,181.13	488.528	255,887.86
KRS DOMESTIC EQUITY UNIT	2,851,992.818	717,515,872.35	977,146.542	245,834,473.73
KRS GLOBAL FIXED UNIT	1,294,425.036	172,426,641.46	505,331.284	67,313,729.03
KRS GREENFIELD UNIT	3,105.533	39,540.80	967.716	12,321.32
KRS GREENFIELD VII UNIT	6,027.951	2,004,940.54	1,878.371	624,759.92
KRS HARRISON UNIT	639,390.832	145,718,923.82	199,992.765	45,578,899.52
KRS IFM INFRAST DEBT UNIT	267,825.438	39,331,462.92	92,231.578	13,544,654.00
KRS INTERNAL EQUITY UNIT	5,811,688.662	1,739,323,624.06	1,984,188.228	593,828,344.95
KRS INTERNATIONAL EQUITY UNIT	7,499,542.445	1,271,894,545.37	2,560,431.731	434,239,712.13
KRS L-A VII UNIT	152,636.219	13,331,147.70	47,573.514	4,155,039.65
KRS LIQUID CORE FIXED UNIT	6,621,148.248	829,977,929.37	2,462,654.151	308,700,019.46
KRS LIQUID CREDIT FIXED UNIT	44,070.529	3.35	13,249.620	1.01
KRS LIQUID HY FI UNIT	1,172,349.190	182,732,823.21	460,040.256	71,705,986.14
KRS MAGNETAR MTP UNIT	319.749	165,972.80	101.107	52,481.83
KRS MESA WEST CORE UNIT	205,495.934	37,532,720.82	64,772.004	11,830,256.18
KRS MESA WEST IV UNIT	105,087.787	10,187,188.00	33,229.849	3,221,294.58
KRS MULTI SECTOR CREDIT FI	1,492,072.539	240,411,700.81	490,250.072	78,992,039.96
KRS OBERLAND UNIT	54,294.957	3,946,364.01	16,950.611	1,232,034.89
KRS PE 2010 UNIT	548,109.444	164,189,506.04	170,621.980	51,110,848.25
KRS PE 2011 UNIT	175,778.072	53,908,110.60	84,989.501	26,064,817.80
KRS PE 2012 A UNIT	6,977.987	4,263,240.57	1,942.729	1,186,921.26
KRS PE 2012 B UNIT	65,526.534	10,572,182.77	18,243.149	2,943,386.35
KRS PE 2013 UNIT	260,988.057	92,795,232.52	89,080.255	31,672,801.70
KRS PE 2014 UNIT	216,827.092	35,469,697.79	74,007.266	12,106,491.56
KRS PE 2015 UNIT	167,514.812	43,695,228.60	57,176.034	14,914,023.70
KRS PE 2016 UNIT	350,085.918	88,182,874.42	109,035.145	27,464,779.37
KRS PE 2017 UNIT	183,142.200	28,729,687.60	57,040.183	8,947,946.67
KRS PE 2018 UNIT	222,012.396	37,782,583.07	69,311.188	11,795,538.29
KRS PE 2019 UNIT	257,483.676	58,014,271.44	80,385.148	18,111,772.63
KRS PE 2021 UNIT	436,440.435	50,917,713.09	147,969.875	17,263,037.60
KRS PERIMETER PARK UNIT	17,188.363	1,682,470.76	18,713.042	1,831,712.89
KRS POST-2015 REAL ESTATE UNIT	633,336.085	91,090,164.09	200,267.448	28,803,655.96
KRS PRIVATE CREDIT FI UNIT	1,540,165.113	299,605,802.80	510,108.436	99,230,560.54
KRS PROLOGIS UNIT	741,098.600	181,505,019.36	234,343.128	57,393,785.37
KRS REAL RETURN UNIT	582,392.386	101,941,860.74	200,559.630	35,105,922.34
KRS RUBENSTEIN PF II UNIT	55,450.515	10,134,562.15	17,278.945	3,158,032.74
KRS SHENKMAN UNIT	827,271.175	131,194,865.81	278,839.911	44,220,523.83
KRS STOCKBRIDGE UNIT	280,090.753	63,212,457.49	89,313.398	20,156,750.32
KRS TAURUS UNIT	7,574.437	2,396,312.42	2,585.302	817,907.83
KRS TPF II UNIT	351.766	37,325.09	117.591	12,477.31
KRS WALTON VI UNIT	38,991.717	7,276,175.72	13,784.580	2,572,316.23
KRS WALTON VII UNIT	37,435.893	6,409,518.89	11,665.409	1,997,271.96
KRS WATERFALL UNIT	897,520.726	157,342,672.93	300,035.472	52,598,655.13

Kentucky Public Pensions Authority				
Insurance: CERS & CERS-H Unit Holdings				
Quarter Ended March 31, 2023				
UNIT OF PARTICIPATION	CERS INS		CERS-H INS	
	Shares/Par	Base Market Value	Shares/Par	Base Market Value
Grand Total	24,281,143.896	3,154,090,825.89	12,164,795.723	1,560,695,617.02
KR3 ARROWMARK UNIT	554,115.798	114,945,195.99	301,875.792	62,620,795.51
KRS INS PE 2014 UNIT	96,303.623	15,771,426.98	52,089.893	8,530,644.21
KRS INS ABSOLUTE RETURN UNIT	151,549.664	18,524,778.81	84,908.283	10,378,823.15
KRS INS ADAMS STREET A1 UNIT	184,540.735	27,219,691.42	97,492.177	14,380,060.72
KRS INS ADAMS STREET B1 UNIT	209,287.160	26,924,433.37	110,565.612	14,224,075.92
KRS INS AMERRA AGRI UNIT	111,707.475	10,215,266.66	61,667.856	5,639,314.59
KRS INS AMERRA UNIT	22,445.700	4,323,588.89	12,391.098	2,386,827.48
KRS INS BLACKROCK UNIT	3,237,957.534	210,976,071.78	1,610,309.295	104,923,157.84
KRS INS BLUE TORCH UNIT	168,732.244	25,693,416.96	88,690.812	13,505,243.33
KRS INS BNYM CUSTODY FEE UNIT	-164,388.917	-164,388.92	-81,194.760	-81,194.76
KRS INS BTG UNIT	58,674.170	5,143,263.56	32,238.357	2,825,951.64
KRS INS CASH UNIT	419,500.121	43,797,030.86	136,860.124	14,288,594.39
KRS INS DB PRIVATE EQ UNIT	27,357.854	8,878,331.43	14,782.255	4,797,224.19
KRS INS DIVCOWEST IV UNIT	454.208	239,268.69	246.794	130,006.69
KRS INS DOMESTIC EQUITY UNIT	1,079,744.155	271,569,663.58	549,104.925	138,107,012.72
KRS INS GLOBAL FIXED UNIT	415,168.016	54,269,329.89	180,293.611	23,567,358.46
KRS INS GREENFIELD UNIT	903.324	11,447.13	490.809	6,219.65
KRS INS GREENFIELD VII UNIT	1,742.377	579,554.21	946.698	314,893.28
KRS INS HARRISON UNIT	244,840.322	54,569,226.01	133,920.349	29,847,738.04
KRS INS IFM INFRAST DEBT UNIT	94,964.510	13,772,251.90	48,928.929	7,095,930.21
KRS INS INTERNAL EQUITY UNIT	2,160,972.310	648,231,866.48	1,035,988.972	310,768,010.25
KRS INS INTL EQ UNIT	2,795,392.309	468,678,792.66	1,354,813.081	227,149,569.32
KRS INS L-A-VII UNIT	44,116.449	3,854,019.56	23,970.508	2,094,067.15
KRS INS LIQUID CORE FIXED UNIT	2,635,317.386	327,109,988.05	1,193,245.947	148,112,204.45
KRS INS LIQUID CREDIT FIXED UN	5,562,779.296	5.56	2,995,343.950	3.00
KRS INS LIQUID HY FI UNIT	578,267.180	87,725,355.22	216,600.095	32,859,067.46
KRS INS MAGNETAR MTP	95.017	49,685.27	52.560	27,484.11
KRS INS MESA WEST CORE UNIT	117,798.214	21,062,674.76	65,081.046	11,636,686.66
KRS INS MESA WEST IV UNIT	34,504.073	3,232,249.12	18,935.158	1,773,794.87
KRS INS MULTI SECTOR CREDIT FI	531,206.774	84,133,689.02	290,366.710	45,988,913.69
KRS INS OBERLAND UNIT	10,280.748	771,720.08	5,589.719	419,589.94
KRS INS PE 2010 UNIT	62,794.529	18,517,349.30	33,613.484	9,912,211.05
KRS INS PE 2011 UNIT	119,763.502	37,484,979.93	71,683.331	22,436,286.34
KRS INS PE 2012 A UNIT	2,213.500	1,356,771.43	1,197.264	733,866.54
KRS INS PE 2012 B UNIT	27,004.062	4,377,276.30	14,333.239	2,323,374.44
KRS INS PE 2013 UNIT	141,579.856	49,741,085.87	76,579.472	26,904,576.68
KRS INS PE 2015 UNIT	96,281.183	24,954,217.09	52,077.781	13,497,551.78
KRS INS PE 2016 UNIT	202,110.990	50,907,638.55	122,047.715	30,741,331.59
KRS INS PE 2017 UNIT	106,473.354	16,611,873.24	64,295.361	10,031,302.17
KRS INS PE 2018 UNIT	47,068.777	8,241,631.49	25,591.672	4,481,041.22
KRS INS PE 2019 UNIT	26,914.683	6,064,210.61	14,354.492	3,234,244.40
KRS INS PE 2021 UNIT	168,303.164	19,725,364.26	86,598.125	10,149,420.36
KRS INS POST-2015 REAL ESTATE	219,845.072	31,520,232.46	120,646.650	17,297,683.40
KRS INS PRIVATE CREDIT FI UNIT	539,203.529	103,156,129.80	294,076.416	56,260,360.53
KRS INS PROLOGIS UNIT	150,318.422	58,595,928.93	82,491.818	32,156,302.87
KRS INS REAL RETURN UNIT	154,975.484	26,664,488.69	79,865.254	13,741,309.96
KRS INS RUBENSTEIN PF II UNIT	16,254.663	2,952,891.76	8,831.949	1,604,449.72
KRS INS SHENKMAN UNIT	327,737.984	51,485,424.07	121,432.653	19,076,249.75
KRS INS STOCKBRIDGE UNIT	117,767.220	26,463,651.48	64,874.850	14,578,126.41
KRS INS TAURUS UNIT	2,775.521	879,810.77	1,501.258	475,882.89
KRS INS TPF II UNIT	37.089	3,935.15	19.666	2,086.57
KRS INS WALTON VI UNIT	3,937.153	730,321.51	2,109.889	391,373.49
KRS INS WALTON VII UNIT	10,838.188	1,855,640.46	5,888.786	1,008,237.68
KRS INS WATERFALL UNIT	350,616.142	59,691,077.76	184,087.943	31,340,279.02

Kentucky Public Pensions Authority

# Security Litigation Report

Quarter Ending: March 31, 2023

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Claims Filed during the Quarter (pg 3):

**10**

Proceeds Received during the Quarter (pg 4):

**\$45,908.81**

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<b>Kentucky Retirement Systems</b>	
Quarterly Securities Litigation Report	
Quarter Ended 03/31/23	
<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
Fiscal Year 2023	42
<b>Total Filed</b>	<b>1,667</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
Fiscal Year 2023	\$232,095
<b>Total Proceeds</b>	<b>\$60,445,781</b>

CERS Special Called Investment Committee Meeting - Investment Office Quarterly 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
TEXTRON INC., Securities Litigation	FILED	1/18/2023	1/31/2018	12/6/2018	956596	KRS KRS INTERNAL EQUITY
TEXTRON INC., Securities Litigation	FILED	1/18/2023	1/31/2018	12/6/2018	956599	KRS S P 500 INDEX
TEXTRON INC., Securities Litigation	FILED	1/18/2023	1/31/2018	12/6/2018	956772	KRS INS KRS INTERNAL EQUITY
TEXTRON INC., Securities Litigation	FILED	1/18/2023	1/31/2018	12/6/2018	956774	KRS INS S P 500 INDEX
ORACLE CORPORATION, Securities Litigation (18CV04844BLF)	FILED	1/31/2023	5/10/2017	6/20/2018	956774	KRS INS S P 500 INDEX
ORACLE CORPORATION, Securities Litigation (18CV04844BLF)	FILED	1/31/2023	5/10/2017	6/20/2018	956772	KRS INS KRS INTERNAL EQUITY
ORACLE CORPORATION, Securities Litigation (18CV04844BLF)	FILED	1/31/2023	5/10/2017	6/20/2018	956596	KRS KRS INTERNAL EQUITY
ORACLE CORPORATION, Securities Litigation (18CV04844BLF)	FILED	1/31/2023	5/10/2017	6/20/2018	956599	KRS S P 500 INDEX
PEABODY ENERGY CORP. SECURITIES LITIGATION	FILED	1/31/2023	4/3/2017	10/28/2019	956588	KRS NTGI STRUCTURED
PEABODY ENERGY CORP. SECURITIES LITIGATION	FILED	1/31/2023	4/3/2017	10/28/2019	956765	KRS INS NTGI STRUCTURED
PORTOLA PHARMACEUTICALS INC. Securities Litigation	FILED	2/9/2023	1/8/2019	2/28/2020	956588	KRS NTGI STRUCTURED
PORTOLA PHARMACEUTICALS INC. Securities Litigation	FILED	2/9/2023	1/8/2019	2/28/2020	956765	KRS INS NTGI STRUCTURED
SUPER MICRO COMPUTER, INC., Securities Litigation (18CV00838)	FILED	2/23/2023	8/5/2016	1/30/2018	956765	KRS INS NTGI STRUCTURED
SUPER MICRO COMPUTER, INC., Securities Litigation (18CV00838)	FILED	2/23/2023	8/5/2016	1/30/2018	956588	KRS NTGI STRUCTURED
U.S STEEL, Securities Litigation	FILED	2/25/2023	1/27/2016	4/25/2017	956766	KRS INS SYSTEMATIC
U.S STEEL, Securities Litigation	FILED	2/25/2023	1/27/2016	4/25/2017	956589	KRS SYSTEMATIC
U.S STEEL, Securities Litigation	FILED	2/25/2023	1/27/2016	4/25/2017	956765	KRS INS NTGI STRUCTURED
U.S STEEL, Securities Litigation	FILED	2/25/2023	1/27/2016	4/25/2017	956588	KRS NTGI STRUCTURED
NEWELL BRANDS INC. Securities Litigation	FILED	3/2/2023	12/14/2015	4/18/2016	956768	KRS INS WESTFIELD CAPITAL
NEWELL BRANDS INC. Securities Litigation	FILED	3/2/2023	12/14/2015	4/18/2016	KR2F1901002	STATE STREET TRANSITION
NEWELL BRANDS INC. Securities Litigation	FILED	3/2/2023	12/14/2015	4/18/2016	956766	KRS INS SYSTEMATIC
NEWELL BRANDS INC. Securities Litigation	FILED	3/2/2023	12/14/2015	4/18/2016	956774	KRS INS S P 500 INDEX
NEWELL BRANDS INC. Securities Litigation	FILED	3/2/2023	12/14/2015	4/18/2016	956589	KRS SYSTEMATIC
NEWELL BRANDS INC. Securities Litigation	FILED	3/2/2023	12/14/2015	4/18/2016	956591	KRS WESTFIELD CAPITAL
PROPETRO HOLDING CORP., Securities Litigation	FILED	3/15/2023	2/8/2017	3/13/2020	956765	KRS INS NTGI STRUCTURED
OMEGA HEALTHCARE INVESTORS, INC., Securities Litigation (17CV08983NRB)	FILED	3/22/2023	2/8/2017	10/31/2017	956816	KRS INS NUVEEN REAL ASSET
OMEGA HEALTHCARE INVESTORS, INC., Securities Litigation (17CV08983NRB)	FILED	3/22/2023	2/8/2017	10/31/2017	956642	KRS NUVEEN REAL ASSET
DEUTSCHE BANK AKTIENGESELLSCHAFT, Securities Litigation	FILED	3/28/2023	3/14/2017	9/18/2020	956801	KRS INS LSV ASSET MGMT



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

Report ID: IACS0008

Base Currency: USD

KR2G0000000 - TOTAL FUND

12/31/2022 - 3/31/2023

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	16-1224 (KM)(MAH)PTC THERAPEUT	1/19/2023	0.000000	329.21	329.21	329.21
	NA9123459	ICS, INC. Distribution 2ND DIS		0.000000	329.21	329.21	329.21
		20230119S000020 / 000000000008	1/19/2023				
		KR2F10060002 : WESTFIELD CAPITAL					Gain/Loss Local Amounts: 329.21 Long Gain/Loss Base Amounts: 329.21 Long
CD	0.000	24358LADENBURG THALMANN FINANC	1/19/2023	0.000000	33.95	33.95	33.95
	NA9123459	IAL SERVICES INC. (2020) Distr		0.000000	33.95	33.95	33.95
		20230119S000190 / 000000001530	1/19/2023				
		KR2F10020002 : NTGI STRUCTURED					Gain/Loss Local Amounts: 33.95 Long Gain/Loss Base Amounts: 33.95 Long
CD	0.000	23548Wells Fargo & Company (SE	2/2/2023	0.000000	22,884.64	22,884.64	22,884.64
	NA9123459	C) Distribution 1ST DISTRIBUTI		0.000000	22,884.64	22,884.64	22,884.64
		20230203S000050 / 000000000008	2/2/2023				
		KR2F10120002 : RIVER ROAD FAV					Gain/Loss Local Amounts: 22,884.64 Long Gain/Loss Base Amounts: 22,884.64 Long
CD	0.000	APPLIED MICRO CIRCUITS CORPS S	2/8/2023	0.000000	223.90	223.90	223.90
	NA9123459	EC LIT PROCEEDS		0.000000	223.90	223.90	223.90
		20230210S000010 / DFEACAFDBE6F	2/8/2023				
		KR2F90010002 : CASH ACCOUNT KR2					Gain/Loss Local Amounts: 223.90 Long Gain/Loss Base Amounts: 223.90 Long
CD	0.000	24000GTT Communications, Inc.	3/10/2023	0.000000	880.47	880.47	880.47
	NA9123459	(2021) Distribution 1ST DISTRI		0.000000	880.47	880.47	880.47
		20230310S000260 / 000000000000	3/10/2023				
		KR2F10020002 : NTGI STRUCTURED					Gain/Loss Local Amounts: 880.47 Long Gain/Loss Base Amounts: 880.47 Long
CD	0.000	3-17-CV-2616-MBSSCAN A Corporat	3/14/2023	0.000000	8,020.25	8,020.25	8,020.25
	NA9123459	ion (2017)(D.S.C) Distribution		0.000000	8,020.25	8,020.25	8,020.25
		20230314S000320 / 000000000002	3/14/2023				
		KR2F10110002 : KRS INTERNAL EQUITY					Gain/Loss Local Amounts: 8,020.25 Long Gain/Loss Base Amounts: 8,020.25 Long



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

Report ID: IACS0008

Base Currency: USD

Status: PRELIMINARY

KR2G00000000 - TOTAL FUND

12/31/2022 - 3/31/2023

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				
CD	0.000	COMPUTER SCIENCES CORP (SEC NA9123459 FAIR FUND)	3/10/2023	0.000000	127.56	127.56	127.56
		20230317A000150	3/10/2023	0.000000	127.56	127.56	127.56
		KR2F19020002 : S&P 500 INDEX				Gain/Loss Local Amounts: 127.56 Long Gain/Loss Base Amounts: 127.56 Long	
CD	0.000	COMPUTER SCIENCES CORP (SEC NA9123459 FAIR FUND)	3/10/2023	0.000000	41.97	41.97	41.97
		20230317A000160	3/10/2023	0.000000	41.97	41.97	41.97
		KR2F19020002 : S&P 500 INDEX				Gain/Loss Local Amounts: 41.97 Long Gain/Loss Base Amounts: 41.97 Long	
CD	0.000	20721HONEYWELL INTERNATIONAL, NA9123459 INC. (2018) Distribution 1ST D	3/31/2023	0.000000	141.80	141.80	141.80
		20230331S000270 / 000000000087	3/31/2023	0.000000	141.80	141.80	141.80
		KR2F10110002 : KRS INTERNAL EQUITY				Gain/Loss Local Amounts: 141.80 Long Gain/Loss Base Amounts: 141.80 Long	
CD	0.000	22119NETAPP, INC., Securities NA9123459 Litigation Distribution 1ST DI	3/31/2023	0.000000	67.44	67.44	67.44
		20230331S000420 / 000000000000	3/31/2023	0.000000	67.44	67.44	67.44
		KR2F19020002 : S&P 500 INDEX				Gain/Loss Local Amounts: 67.44 Long Gain/Loss Base Amounts: 67.44 Long	
<b>TOTAL U.S. DOLLAR CASH &amp; CASH EQUIVALENTS:</b>					<u>32,751.19</u>	<u>32,751.19</u>	<u>32,751.19</u>
					<b>32,751.19</b>	<b>32,751.19</b>	<b>32,751.19</b>
<b>TOTAL CASH &amp; CASH EQUIVALENTS CLASS ACTIONS:</b>					<u>32,751.19</u>	<u>32,751.19</u>	<u>32,751.19</u>
<b>TOTAL CLASS ACTIONS:</b>					<b>32,751.19</b>	<b>32,751.19</b>	<b>32,751.19</b>
<b>TOTAL TRANSACTIONS BASE:</b>					<u>32,751.19</u>	<u>32,751.19</u>	<u>32,751.19</u>



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

Report ID: IACS0008

Base Currency: USD

KR3G0000000 - TOTAL FUND

12/31/2022 - 3/31/2023

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	16-1224 (KM)(MAH)PTC THERAPEUT	1/19/2023	0.000000	132.32	132.32	132.32
	NA9123459	ICS, INC. Distribution 2ND DIS		0.000000	132.32	132.32	132.32
		20230119S000020 / 000000000008	1/19/2023				Gain/Loss Local Amounts: 132.32 Long
		KR3F10060002 : WESTFIELD CAPITAL					Gain/Loss Base Amounts: 132.32 Long
CD	0.000	24358LADENBURG THALMANN FINANC	1/19/2023	0.000000	11.32	11.32	11.32
	NA9123459	IAL SERVICES INC. (2020) Distr		0.000000	11.32	11.32	11.32
		20230119S000190 / 000000001530	1/19/2023				Gain/Loss Local Amounts: 11.32 Long
		KR3F10020002 : NTGI STRUCTURED					Gain/Loss Base Amounts: 11.32 Long
CD	0.000	8-14-cv-02004-DOC-KESxALLERGAN	1/31/2023	0.000000	172.94	172.94	172.94
	NA9123459	, INC. (2014) (C.D. CAL.) (SEC		0.000000	172.94	172.94	172.94
		20230131S000150 / 000000000985	1/31/2023				Gain/Loss Local Amounts: 172.94 Long
		KR3F19020002 : S&P 500 INDEX					Gain/Loss Base Amounts: 172.94 Long
CD	0.000	23548Wells Fargo & Company (SE	2/2/2023	0.000000	8,125.24	8,125.24	8,125.24
	NA9123459	C) Distribution 1ST DISTRIBUTI		0.000000	8,125.24	8,125.24	8,125.24
		20230203S000040 / 000000000008	2/2/2023				Gain/Loss Local Amounts: 8,125.24 Long
		KR3F10120002 : RIVER ROAD FAV					Gain/Loss Base Amounts: 8,125.24 Long
CD	0.000	412-CV-01332 (HARMON, J.)HOUST	2/7/2023	0.000000	18.62	18.62	18.62
	NA9123459	ON AMERICAN ENERGY CORP Distri		0.000000	18.62	18.62	18.62
		20230207S000250 / 000000000010	2/7/2023				Gain/Loss Local Amounts: 18.62 Long
		KR3F10020002 : NTGI STRUCTURED					Gain/Loss Base Amounts: 18.62 Long
CD	0.000	24000GTT Communications, Inc.	3/10/2023	0.000000	388.34	388.34	388.34
	NA9123459	(2021) Distribution 1ST DISTRI		0.000000	388.34	388.34	388.34
		20230310S000250 / 000000000000	3/10/2023				Gain/Loss Local Amounts: 388.34 Long
		KR3F10020002 : NTGI STRUCTURED					Gain/Loss Base Amounts: 388.34 Long



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

Report ID: IACS0008

Base Currency: USD

KR3G00000000 - TOTAL FUND

12/31/2022 - 3/31/2023

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				
CD	0.000	3-17-CV-2616-MBSSCANA Corporat	3/14/2023	0.000000	4,220.86	4,220.86	4,220.86
	NA9123459	ion (2017)(D.S.C) Distribution		0.000000	4,220.86	4,220.86	4,220.86
		20230314S000320 / 000000000002	3/14/2023				Gain/Loss Local Amounts: 4,220.86 Long
		KR3F10110002 : KRS INTERNAL EQUITY					Gain/Loss Base Amounts: 4,220.86 Long
CD	0.000	20721HONEYWELL INTERNATIONAL,	3/31/2023	0.000000	58.93	58.93	58.93
	NA9123459	INC. (2018) Distribution 1ST D		0.000000	58.93	58.93	58.93
		20230331S000260 / 0000000000087	3/31/2023				Gain/Loss Local Amounts: 58.93 Long
		KR3F10110002 : KRS INTERNAL EQUITY					Gain/Loss Base Amounts: 58.93 Long
CD	0.000	22119NETAPP, INC., Securities	3/31/2023	0.000000	29.05	29.05	29.05
	NA9123459	Litigation Distribution 1ST DI		0.000000	29.05	29.05	29.05
		20230331S000400 / 0000000000000	3/31/2023				Gain/Loss Local Amounts: 29.05 Long
		KR3F19020002 : S&P 500 INDEX					Gain/Loss Base Amounts: 29.05 Long
<b>TOTAL U.S. DOLLAR CASH &amp; CASH EQUIVALENTS:</b>					<b>13,157.62</b>	<b>13,157.62</b>	<b>13,157.62</b>
					<b>13,157.62</b>	<b>13,157.62</b>	<b>13,157.62</b>
<b>TOTAL CASH &amp; CASH EQUIVALENTS CLASS ACTIONS:</b>					<b>13,157.62</b>	<b>13,157.62</b>	<b>13,157.62</b>
<b>TOTAL CLASS ACTIONS:</b>					<b>13,157.62</b>	<b>13,157.62</b>	<b>13,157.62</b>
<b>TOTAL TRANSACTIONS BASE:</b>					<b>13,157.62</b>	<b>13,157.62</b>	<b>13,157.62</b>

County Employees Retirement Systems

# Capital Calls and Distributions

Quarter Ending: December 31, 2022

**Kentucky Public Pensions Authority  
Capital Calls and Distributions  
For the period January 1, 2023 thru March 31, 2023**

<b>Pension Funds Managers</b>	<b>Total Pension Fund Commitment</b>	<b>County Employees Retirement System</b>					<b>County Employees Hazardous Retirement System</b>				
		<b>Commitment</b>	<b>Beginning Valuation</b>	<b>Period Contributions</b>	<b>Period Distributions</b>	<b>Ending Valuation</b>	<b>Commitment</b>	<b>Beginning Valuation</b>	<b>Period Contributions</b>	<b>Period Distributions</b>	<b>Ending Valuation</b>
Adams Street SPC II A1	175,000,000	97,124,912	78,626,395	0	886,480	77,739,915	32,749,407	26,511,919	0	298,911	26,213,008
Adams Street SPC II B1	175,000,000	97,124,911	70,240,673	7,542,462	886,480	76,896,656	32,749,407	23,684,350	2,543,232	298,911	25,928,671
AMERRA Agri Fund II, LP	40,100,000	27,641,371	15,957,226	0	0	15,957,226	8,727,285	5,038,218	0	0	5,038,218
AMERRA-KRS Agri Holding Company, LP	65,000,000	44,805,214	28,573,982	0	335,743	28,238,239	14,146,472	9,021,741	0	106,005	8,915,736
Arcano KRS Fund I, L.P.	36,000,000	15,587,717	6,776,586	0	0	6,776,586	4,852,329	2,109,496	0	0	2,109,496
Arcos Sports Partners Fund II	85,000,000										
Ares Special Situations Fund IV, L.P.	26,192,000	17,935,797	13,572,811	0	709,737	12,863,074	6,121,833	4,632,662	0	242,247	4,390,415
Barings Euro Real Estate II	161,609,438	90,921,471	17,314,028	0	0	17,625,510	28,750,313	5,474,875	0	0	5,573,369
Barings Real Estate European Value Add I SCSp	114,077,250	64,179,862	24,274,176	0	2,840,355	21,861,732	20,294,339	7,675,747	0	898,150	6,912,907
Bay Hills Capital I, L.P.	67,500,000	29,226,970	2,184,037	0	50,660	2,133,377	9,098,116	679,873	0	15,770	664,103
Bay Hills Capital III, L.P.	51,250,000	35,095,051	33,312,933	0	0	33,312,933	11,978,618	11,370,346	0	0	11,370,346
Bay Hills Emerging Partners II LP	45,000,000	19,484,647	39,050,955	0	257,197	38,793,758	6,065,411	12,156,242	0	80,063	12,076,179
Bay Hills Emerging Partners II-B LP	45,000,000	19,484,647	26,716,266	0	837,840	25,878,426	6,065,411	8,316,555	0	260,813	8,055,742
BDCM Opportunity Fund IV, L.P.	35,580,000	24,364,524	38,993,384	0	231,530	38,761,854	8,316,082	13,309,194	0	79,026	13,230,168
Blackstone Capital Partners V, L.P.	47,174,735	20,426,290	67,885	0	0	67,885	6,358,537	21,132	0	0	21,132
Blackstone Capital Partners VI, L.P.	60,000,000	38,220,311	15,447,178	76,330	150,465	15,373,044	18,479,695	7,468,781	36,906	72,751	7,432,937
Blue Torch Credit Opportunities Fund II LP	140,000,000	77,659,705	76,318,324	0	0	76,318,324	26,221,374	25,768,464	0	0	25,768,464
BSP Co-Invest Vehicle K LP	0	0	22,560,039	0	407,980	22,152,059	0	7,471,969	0	135,125	7,336,845
BSP Private Credit Fund	100,000,000	58,940,485	54,475,143	0	1,412,139	53,063,003	19,521,309	18,042,371	0	467,706	17,574,665
BTG Pactual Brazil Timberland Fund I	34,500,000	23,847,150	17,480,832	0	0	17,480,832	7,642,335	5,602,111	0	0	5,602,111
Camelot Opportunities Fund, L.P.	23,400,000	10,132,016	2,803,888	0	0	2,803,888	3,154,014	872,827	0	0	872,827
Cerberus KRS Levered Loan Opportunities Fund, L.P.	140,000,000	82,516,679	105,329,769	0	0	107,165,833	27,329,832	34,885,613	0	0	35,493,724
Ceres Farms	100,000,000										
Columbia Captal Equity Partners IV, L.P.	27,000,000	11,690,788	1,379,084	0	0	1,379,084	3,639,247	429,298	0	0	429,298
Crestview Partners II, L.P.	67,500,000	29,226,970	13,977,042	0	1,285,690	12,691,352	9,098,116	4,350,939	0	400,225	3,950,714
Crestview Partners III, L.P.	39,000,000	26,706,479	23,876,503	835,092	2,104,973	22,606,622	9,115,436	8,149,511	285,033	718,468	7,716,076
CS Adjacent Investment Partners Parallel LP	140,000,000	82,516,679	42,743,526	0	1,557,127	41,186,398	27,329,832	14,156,815	0	515,726	13,641,089
CVC European Equity Partners VI, L.P.	23,815,820	16,308,633	18,566,009	48,522	896,071	18,056,806	5,566,451	6,336,937	16,562	305,846	6,163,136
DAG Ventures II, L.P.	27,000,000	11,690,788	833,864	0	0	833,864	3,639,247	259,575	0	0	259,575
DAG Ventures III, L.P.	27,000,000	11,690,788	158,328	0	0	158,328	3,639,247	49,286	0	0	49,286
DAG Ventures IV, L.P.	90,000,000	38,969,294	16,853,289	0	7,708,766	9,144,523	12,130,822	5,246,291	0	2,399,676	2,846,615
DAG Ventures V, L.P.	8,000,000	5,096,042	28,785	0	0	28,785	2,463,959	13,918	0	0	13,918
DCM VI, L.P.	13,500,000	5,845,394	2,063,069	0	303,438	1,759,632	1,819,623	642,217	0	94,458	547,759
DivcoWest Fund IV	20,800,000	14,568,740	934,614	0	113,433	821,181	4,539,761	291,235	0	35,347	255,888
Essex Woodlands Fund VIII, L.P.	22,500,000	9,742,323	-748,415	0	0	-748,415	3,032,705	-232,975	0	0	-232,975
Fundamental Partners III LP	70,000,000	39,382,001	36,528,805	0	1,189,788	35,339,017	12,452,997	11,550,787	0	376,223	11,174,564
Green Equity Investors V, L.P.	90,000,000	38,969,294	674,823	0	0	674,823	12,130,822	210,067	0	0	210,067
Green Equity Investors VI, L.P.	32,000,000	20,384,166	21,470,604	30,934	0	21,501,537	9,855,837	10,381,135	14,957	0	10,396,091
Green Equity Investors VII LP	25,000,000	17,900,000	22,395,348	0	572,402	21,822,946	5,575,000	6,975,088	0	178,276	6,796,812
Greenfield Acquisition Partners VI, L.P.	38,100,000	26,685,999	31,513	0	0	31,513	8,315,632	9,820	0	0	9,820
Greenfield Acquisition Partners VII, L.P.	27,800,000	19,471,678	2,356,825	0	651,692	1,705,133	6,067,572	734,411	0	203,074	531,337
H.I.G. BioVentures II, L.P.	13,500,000	8,599,570	6,043,738	0	1,019,696	5,024,042	4,157,931	2,922,175	0	493,028	2,429,147
H.I.G. Capital Partner V, L.P.	13,100,000	8,970,638	8,131,602	0	1,495,792	6,635,810	3,061,852	2,775,473	0	510,543	2,264,930



**Kentucky Public Pensions Authority  
Capital Calls and Distributions  
For the period January 1, 2023 thru March 31, 2023**

Pension Funds Managers	Total Pension Fund Commitment	County Employees Retirement System					County Employees Hazardous Retirement System				
		Commitment	Beginning Valuation	Period Contributions	Period Distributions	Ending Valuation	Commitment	Beginning Valuation	Period Contributions	Period Distributions	Ending Valuation
H.I.G. Ventures II, L.P.	18,000,000	7,793,859	1,425,280	0	0	1,425,280	2,426,164	443,678	0	0	443,678
H&F Spock I LP	3,250,153	1,407,291	4,490,661	0	0	4,490,661	438,078	1,397,906	0	0	1,397,906
Harvest Partners V, L.P.	36,000,000	15,587,717	-75,818	0	0	-75,818	4,852,329	-23,601	0	0	-23,601
Harvest Partners VI, L.P.	28,400,000	20,768,921	6,344,374	5,471	2,086,604	4,263,240	5,782,239	1,766,326	1,523	580,928	1,186,921
Harvest Partners VII LP	20,000,000	14,320,000	21,639,812	0	0	21,639,812	4,460,000	6,739,774	0	0	6,739,774
Hellman and Friedman Capital Partners VI, L.P.	20,000,000	8,659,843	132	0	0	132	2,695,738	41	0	0	41
Horsley Bridge International Fund V, L.P.	45,000,000	19,484,647	43,836,389	0	750,388	43,086,001	6,065,411	13,645,909	0	233,589	13,412,319
IFM US Infrastructure Debt Fund	70,000,000	39,669,146	37,393,931	1,937,532	670,576	39,331,463	13,660,943	12,877,422	667,232	230,928	13,544,654
Institutional Venture Partners XII, L.P.	27,000,000	11,690,788	149,869	0	0	149,869	3,639,247	46,653	0	0	46,653
Kayne Anderson Energy Fund VII LP	50,000,000	35,800,000	20,458,731	0	0	20,458,731	11,150,000	6,371,924	0	0	6,371,924
KCP IV Co-Invest	12,885,297	8,823,612	2,266,298	303,113	40,924	2,574,200	3,011,669	773,531	103,458	13,968	878,624
Keyhaven Capital Partners Fund III, L.P.	27,413,514	11,869,836	4,600,185	0	107,140	4,574,782	3,694,983	1,432,000	0	33,352	1,424,092
Keyhaven Capital Partners IV LP	12,885,297	8,823,612	7,297,642	501,465	0	7,929,219	3,011,669	2,490,826	171,160	0	2,706,395
Levine Leichtman Capital Partners V, L.P.	46,000,000	31,499,949	15,041,662	87,379	127,931	15,001,110	10,751,540	5,134,009	29,824	43,665	5,120,168
Levine Leichtman Capital Partners VI LP	37,500,000	26,849,987	30,794,867	228,508	59,015	30,964,360	8,362,509	9,591,153	71,169	18,380	9,643,942
Lubert Adler VII	34,750,000	24,338,900	13,331,148	0	0	13,331,148	7,585,925	4,155,040	0	0	4,155,040
Lubert-Adler Real Estate Fund VII-B LP	36,750,000	20,675,550	5,656,254	0	0	5,656,254	6,537,824	1,788,566	0	0	1,788,566
Magentar MTP Energy Opportunities Fund II LLC	37,500,000	26,265,000	226,381	0	0	226,381	8,186,251	70,558	0	0	70,558
Maritime Partners LP	175,000,000										
MatlinPatterson Global Opportunities Partners II	45,000,000	19,484,647	375,716	0	0	375,716	6,065,411	116,957	0	0	116,957
MatlinPatterson Global Opportunities Partners III	45,000,000	19,484,647	45,446	0	0	45,446	6,065,411	14,147	0	0	14,147
Merit Mezzanine Fund IV, L.P.	27,000,000	11,690,788	173,373	0	0	173,373	3,639,247	53,970	0	0	53,970
Mesa West Core Lending Fund, LP	57,500,000	36,357,250	37,532,721	804,501	804,501	37,532,721	11,459,750	11,830,256	253,578	253,578	11,830,256
Mesa West Real Estate Income Fund IV LP	36,000,000	15,587,717	7,840,335	0	0	7,840,335	4,852,329	2,440,632	0	0	2,440,632
MiddleGround Partners I LP	50,000,000	35,875,000	49,644,978	8,384,902	15,608	58,014,272	11,200,000	15,498,920	2,617,726	4,873	18,111,773
MiddleGround Partners II LP	50,000,000	27,301,556	19,885,057	0	0	19,885,057	9,256,264	6,741,789	0	0	6,741,789
MiddleGround Partners II-X LP	25,000,000	13,650,778	9,332,757	0	0	9,332,757	4,628,132	3,164,159	0	0	3,164,159
Mill Road Capital I, L.P.	27,000,000	11,690,788	1,234,325	0	0	1,234,325	3,639,247	384,235	0	0	384,235
New Mountain Partners II, L.P.	25,000,000	10,824,804	-176	0	0	-176	3,369,673	-55	0	0	-55
New Mountain Partners III, L.P.	32,337,197	14,001,752	617,179	0	0	617,179	4,358,631	192,123	0	0	192,123
New Mountain Partners IV, L.P.	32,800,000	22,460,833	7,616,593	288,442	364,398	7,550,713	7,666,315	2,599,690	98,451	124,376	2,577,204
New State Capital Partners Fund III LP	17,500,000	9,555,545	2,019,070	56,661	0	2,075,731	3,239,692	684,541	19,210	0	703,752
Oak Hill Capital Partners II, L.P.	67,500,000	29,226,970	73,997	0	0	73,997	9,098,116	23,035	0	0	23,035
Oak Hill Capital Partners III, L.P.	33,750,000	14,613,485	6,758	0	0	6,758	4,549,058	2,104	0	0	2,104
Oberland Capital Healthcare LP	3,450,000	2,475,375	5,011,255	0	909,055	4,102,200	772,800	1,564,488	0	283,802	1,280,686
Patron Capital V LP	39,112,200	22,004,524	11,049,876	95,800	728,799	10,607,650	6,958,059	3,494,086	30,293	230,454	3,354,249
Riverside Capital Appreciation Fund VI, L.P.	35,500,000	25,961,146	7,396,199	0	0	7,396,199	7,227,806	2,059,165	0	0	2,059,165
Rubenstein Properties Fund II	20,800,000	14,568,738	8,361,493	0	0	8,361,493	4,539,767	2,605,526	0	0	2,605,526
Secondary Opportunities Fund III, L.P.	25,000,000	19,411,552	4,940,320	0	0	4,940,320	5,588,448	1,422,283	0	0	1,422,283
Strategic Value Special Situations Fund IV LP	43,300,000	31,067,750	36,855,180	0	26,627	36,828,553	9,699,200	11,506,008	0	8,313	11,497,695
Strategic Value Special Situations Fund V LP	70,000,000	38,222,178	16,446,831	3,807,885	4,921	20,254,715	12,958,769	5,576,100	1,291,017	1,668	6,867,117
Taurus Mining Finance Fund LLC	45,100,000	30,883,643	2,663,163	0	266,851	2,396,312	10,541,186	908,989	0	91,081	817,908
Tenaska Power Fund II, L.P.	27,000,000	12,131,225	35,746	0	0	35,746	4,055,317	11,950	0	0	11,950

**Kentucky Public Pensions Authority  
Capital Calls and Distributions  
For the period January 1, 2023 thru March 31, 2023**

Pension Funds Managers	Total Pension Fund Commitment	County Employees Retirement System					County Employees Hazardous Retirement System				
		Commitment	Beginning Valuation	Period Contributions	Period Distributions	Ending Valuation	Commitment	Beginning Valuation	Period Contributions	Period Distributions	Ending Valuation
Triton Fund IV, L.P.	27,333,911	18,717,756	12,808,403	0	0	13,038,828	6,388,731	4,371,755	0	0	4,450,403
VantagePoint Venture Partners 2006, L.P.	27,000,000	11,690,788	2,517,842	0	0	2,517,842	3,639,247	783,784	0	0	783,784
VantagePoint Venture Partners IV, L.P.	36,000,000	15,587,717	25,380	0	0	25,380	4,852,329	7,901	0	0	7,901
Vista Equity Partners III, L.P.	45,000,000	19,484,647	1,477,527	2,230	0	1,479,757	6,065,411	459,942	694	0	460,636
Vista Equity Partners IV, L.P.	27,000,000	17,199,140	11,885,812	55,485	0	11,941,297	8,315,863	5,746,844	26,827	0	5,773,672
Vista Equity Partners VI LP	25,000,000	17,900,000	23,909,528	74,627	0	23,984,155	5,575,000	7,446,683	23,243	0	7,469,926
Walton Street Real Estate Fund VI, LP	36,000,000	17,056,796	7,276,176	0	0	7,276,176	6,030,018	2,572,316	0	0	2,572,316
Walton Street Real Estate Fund VII, LP	38,120,000	26,700,008	6,409,519	0	0	6,409,519	8,319,997	1,997,272	0	0	1,997,272
Warburg, Pincus Private Equity IX, L.P.	50,000,000	21,649,608	8,569	0	0	8,569	6,739,345	2,667	0	0	2,667
Warburg, Pincus Private Equity X, L.P.	38,750,000	16,778,446	374,035	0	67,449	306,585	5,222,993	116,434	0	20,996	95,437
Wayzata Opportunities Fund II, L.P.	67,500,000	29,226,970	632	0	0	632	9,098,116	197	0	0	197
Wayzata Opportunities Fund III, L.P.	35,500,000	25,961,146	3,683,791	0	0	3,683,791	7,227,806	1,025,599	0	0	1,025,599
White Oak Yield Spectrum Parallel Fund LP	100,000,000	58,940,485	81,469,068	0	5,430,559	76,038,509	19,521,309	26,982,859	0	1,798,621	25,184,238

**Kentucky Public Pensions Authority  
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Insurance Funds Managers	Total Pension Fund Commitment	County Employees Retirement System					County Employees Hazardous Retirement System				
		Commitment	Beginning Valuation	Period Contributions	Period Distributions	Ending Valuation	Commitment	Beginning Valuation	Period Contributions	Period Distributions	Ending Valuation
Adams Street SPC II A1	75,000,000	34,007,112	27,530,081	0	310,390	27,219,691	17,965,829	14,544,038	0	163,978	14,380,061
Adams Street SPC II B1	75,000,000	34,007,113	24,593,922	2,640,902	310,390	26,924,433	17,965,828	12,992,875	1,395,178	163,978	14,224,076
AMERRA Agri Fund II, LP	16,200,000	7,502,182	4,323,588	0	0	4,323,588	4,141,562	2,386,827	0	0	2,386,827
AMERRA-KRS Agri Holding Company, LP	35,000,000	16,208,417	10,336,722	0	121,456	10,215,266	8,947,820	5,706,364	0	67,050	5,639,315
Arcano KRS Fund I, L.P.	4,000,000	1,611,501	700,583	0	0	700,583	862,625	375,017	0	0	375,017
Arcos Sports Partners Fund II	40,000,000	0	0	0	0	0	0	0	0	0	0
Ares Special Situations Fund IV, L.P.	13,808,000	7,867,793	5,953,907	0	311,336	5,642,571	4,255,629	3,220,423	0	168,399	3,052,023
Barings Euro Real Estate II	69,261,188	31,804,740	6,056,525	0	0	6,165,483	17,453,816	3,323,702	0	0	3,383,496
Barings Real Estate European Value Add I SCSp	48,890,250	22,450,404	8,491,216	0	993,569	7,647,332	12,320,340	4,659,812	0	545,251	4,196,706
Bay Hills Capital I, L.P.	7,500,000	3,021,564	225,792	0	5,237	220,555	1,617,422	120,865	0	2,804	118,061
Bay Hills Capital III, L.P.	48,750,000	27,777,730	23,717,701	0	0	23,717,701	15,024,764	12,828,725	0	0	12,828,725
Bay Hills Emerging Partners II LP	5,000,000	2,014,376	4,037,194	0	26,590	4,010,605	1,078,282	2,161,083	0	14,233	2,146,849
Bay Hills Emerging Partners II-B LP	5,000,000	2,070,000	2,838,269	0	89,010	2,749,259	1,250,000	1,713,931	0	53,750	1,660,181
BDCM Opportunity Fund IV, L.P.	24,420,000	13,914,506	22,269,010	0	132,226	22,136,784	7,526,253	12,045,143	0	71,520	11,973,623
Blackstone Capital Partners V, L.P.	12,414,403	5,001,455	16,510	0	0	16,510	2,677,245	8,838	0	0	8,838
Blackstone Capital Partners VI, L.P.	40,000,000	21,919,994	8,859,205	43,777	86,294	8,816,688	13,120,008	5,302,595	26,202	51,651	5,277,146
Blue Torch Credit Opportunities Fund II LP	60,000,000	27,169,450	26,700,165	0	0	26,700,165	14,281,092	14,034,421	0	0	14,034,421
BSP Co-Invest Vehicle K LP	0	0	7,838,460	0	137,312	7,701,148	0	4,275,021	0	74,889	4,200,132
BSP Private Credit Fund	50,000,000	22,344,255	20,651,450	0	535,340	20,116,110	12,186,342	11,263,102	0	291,969	10,971,133
BTG Pactual Brazil Timberland Fund I	15,500,000	7,016,381	5,143,263	0	0	5,143,263	3,855,131	2,825,952	0	0	2,825,952
Camelot Opportunities Fund, L.P.	2,600,000	1,047,475	289,872	0	0	289,872	560,706	155,167	0	0	155,167
Cerberus KRS Levered Loan Opportunities Fund, L.P.	60,000,000	26,813,106	34,226,029	0	0	34,822,643	14,623,610	18,666,547	0	0	18,991,934
Ceres Farms	50,000,000	0	0	0	0	0	0	0	0	0	0
Columbia Captal Equity Partners IV, L.P.	3,000,000	1,208,626	142,574	0	0	142,574	646,969	76,319	0	0	76,319
Crestview Partners II, L.P.	7,500,000	3,021,564	1,444,976	0	132,914	1,312,063	1,617,422	773,486	0	71,148	702,338
Crestview Partners III, L.P.	21,000,000	11,965,793	10,697,822	374,162	943,129	10,128,856	6,472,206	5,786,370	202,382	510,131	5,478,621
CS Adjacent Investment Partners Parallel LP	60,000,000	26,813,106	13,889,152	0	505,975	13,383,177	14,623,610	7,575,010	0	275,954	7,299,056
CVC European Equity Partners VI, L.P.	13,146,262	7,490,735	8,162,996	21,334	393,979	7,939,112	4,051,682	4,415,303	11,539	213,100	4,294,206
DAG Ventures II, L.P.	3,000,000	1,208,626	86,203	0	0	86,203	646,969	46,144	0	0	46,144
DAG Ventures III, L.P.	3,000,000	1,208,626	16,363	0	0	16,363	646,969	8,759	0	0	8,759
DAG Ventures IV, L.P.	10,000,000	4,028,752	1,742,339	0	796,953	945,386	2,156,563	932,662	0	426,604	506,058
DAG Ventures V, L.P.	7,000,000	3,835,999	21,662	0	0	21,662	2,296,001	12,966	0	0	12,966
DCM VI, L.P.	1,500,000	604,313	213,286	0	31,370	181,916	323,484	114,171	0	16,792	97,378
DivcoWest Fund IV	9,200,000	4,244,869	272,319	0	33,051	239,268	2,306,449	147,965	0	17,958	130,006
Essex Woodlands Fund VIII, L.P.	5,000,000	2,014,376	-154,746	0	0	-154,746	1,078,282	-82,835	0	0	-82,835
Fundamental Partners III LP	30,000,000	13,776,001	12,777,944	0	416,193	12,361,751	7,559,998	7,012,284	0	228,399	6,783,886
Green Equity Investors V, L.P.	10,000,000	4,028,752	69,765	0	0	69,765	2,156,563	37,345	0	0	37,345
Green Equity Investors VI, L.P.	28,000,000	15,343,995	16,161,809	23,285	0	16,185,094	9,184,005	9,673,500	13,937	0	9,687,437
Green Equity Investors VII LP	25,000,000	10,349,999	12,949,264	0	330,970	12,618,295	6,250,000	7,819,605	0	199,861	7,619,744
Greenfield Acquisition Partners VI, L.P.	16,700,000	7,704,620	9,123	0	0	9,123	4,186,204	4,957	0	0	4,957
Greenfield Acquisition Partners VII, L.P.	12,200,000	5,628,527	681,270	0	188,379	492,891	3,058,186	370,159	0	102,353	267,806
H.I.G. BioVentures II, L.P.	11,500,000	6,301,998	4,429,016	0	747,261	3,681,756	3,772,002	2,650,946	0	447,266	2,203,680
H.I.G. Capital Partner V, L.P.	6,900,000	3,931,617	3,563,887	0	655,570	2,908,317	2,126,582	1,927,680	0	354,593	1,573,087

**Kentucky Public Pensions Authority  
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Insurance Funds Managers	Total Pension Fund Commitment	County Employees Retirement System					County Employees Hazardous Retirement System				
		Commitment	Beginning Valuation	Period Contributions	Period Distributions	Ending Valuation	Commitment	Beginning Valuation	Period Contributions	Period Distributions	Ending Valuation
H.I.G. Ventures II, L.P.	2,000,000	805,750	147,349	0	0	147,349	431,313	78,875	0	0	78,875
H&F Spock I LP	1,794,672	723,029	1,566,866	0	0	1,566,866	387,032	838,733	0	0	838,733
Harvest Partners V, L.P.	4,000,000	1,611,501	-7,839	0	0	-7,839	862,625	-4,196	0	0	-4,196
Harvest Partners VI, L.P.	11,600,000	6,609,681	2,019,090	1,741	664,060	1,356,771	3,575,121	1,092,109	942	359,184	733,866
Harvest Partners VII LP	20,000,000	8,279,999	12,512,404	0	0	12,512,404	5,000,000	7,555,801	0	0	7,555,801
Hellman and Friedman Capital Partners VI, L.P.	7,500,000	3,021,564	46	0	0	46	1,617,422	25	0	0	25
Horsley Bridge International Fund V, L.P.	5,000,000	2,014,376	4,531,926	0	77,577	4,454,349	1,078,282	2,425,909	0	41,527	2,384,382
IFM US Infrastructure Debt Fund	30,000,000	13,890,494	13,093,808	678,444	234,808	13,772,252	7,156,853	6,746,373	349,557	120,981	7,095,930
Institutional Venture Partners XII, L.P.	3,000,000	1,208,626	15,440	0	0	15,440	646,969	8,265	0	0	8,265
Kayne Anderson Energy Fund VII LP	50,000,000	20,699,998	11,829,489	0	0	11,829,489	12,500,001	7,143,412	0	0	7,143,412
KCP IV Co-Invest	8,843,703	5,039,138	1,294,275	173,107	23,371	1,470,117	2,725,633	700,064	93,632	12,641	795,175
Keyhaven Capital Partners Fund III, L.P.	3,042,060	1,225,570	475,580	0	11,077	472,954	656,039	254,575	0	5,929	253,169
Keyhaven Capital Partners IV LP	8,843,703	5,039,138	4,167,661	286,385	0	4,528,352	2,725,633	2,254,257	154,904	0	2,449,352
Levine Leichtman Capital Partners V, L.P.	24,000,000	13,675,190	6,530,094	37,934	55,540	6,512,488	7,396,807	3,532,078	20,518	30,041	3,522,555
Levine Leichtman Capital Partners VI LP	37,500,000	15,525,007	17,805,986	132,126	34,123	17,903,989	9,374,983	10,752,383	79,786	20,606	10,811,564
Lubert Adler VII	15,250,000	7,036,350	3,854,020	0	0	3,854,020	3,823,174	2,094,067	0	0	2,094,067
Lubert-Adler Real Estate Fund VII-B LP	15,750,000	7,232,401	1,978,583	0	0	1,978,583	3,968,999	1,085,808	0	0	1,085,808
Magentar MTP Energy Opportunities Fund II LLC	12,500,000	5,764,587	49,686	0	0	49,686	3,188,762	27,484	0	0	27,484
Maritime Partners LP	75,000,000	0	0	0	0	0	0	0	0	0	0
MatlinPatterson Global Opportunities Partners II	5,000,000	2,014,376	38,842	0	0	38,842	1,078,282	20,792	0	0	20,792
MatlinPatterson Global Opportunities Partners III	5,000,000	2,014,376	4,704	0	0	4,704	1,078,282	2,518	0	0	2,518
Merit Mezzanine Fund IV, L.P.	3,000,000	1,208,626	17,924	0	0	17,924	646,969	9,595	0	0	9,595
Mesa West Core Lending Fund, LP	29,600,000	13,790,640	21,062,675	451,490	451,490	21,062,675	7,619,040	11,636,687	249,439	249,439	11,636,687
Mesa West Real Estate Income Fund IV LP	14,000,000	6,428,800	3,232,249	0	0	3,232,249	3,527,999	1,773,795	0	0	1,773,795
MiddleGround Partners I LP	25,000,000	3,750,000	5,189,371	876,471	1,631	6,064,211	1,999,999	2,767,664	467,451	870	3,234,244
MiddleGround Partners II LP	25,000,000	11,262,207	8,202,815	0	0	8,202,815	5,794,817	4,220,648	0	0	4,220,648
MiddleGround Partners II-X LP	12,500,000	5,631,103	3,849,869	0	0	3,849,869	2,897,408	1,980,898	0	0	1,980,898
Mill Road Capital I, L.P.	3,000,000	1,208,626	127,607	0	0	127,607	646,969	68,307	0	0	68,307
New Mountain Partners II, L.P.	5,000,000	2,014,376	16	0	0	16	1,078,282	9	0	0	9
New Mountain Partners III, L.P.	7,186,045	2,895,079	127,611	0	0	127,611	1,549,716	68,309	0	0	68,309
New Mountain Partners IV, L.P.	17,200,000	9,800,553	3,323,415	125,858	158,723	3,294,668	5,301,045	1,797,610	68,076	85,852	1,782,061
New State Capital Partners Fund III LP	7,500,000	3,378,662	713,906	20,035	0	733,940	1,738,445	367,331	10,309	0	377,639
Oak Hill Capital Partners II, L.P.	7,500,000	3,021,564	7,650	0	0	7,650	1,617,422	4,095	0	0	4,095
Oak Hill Capital Partners III, L.P.	12,500,000	5,035,940	2,329	0	0	2,329	2,695,704	1,247	0	0	1,247
Oberland Capital Healthcare LP	15,500,000	4,840,652	979,962	0	177,768	802,194	2,631,898	532,813	0	96,654	436,159
Patron Capital V LP	15,210,300	6,984,570	3,507,451	30,409	231,332	3,367,083	3,832,995	1,924,820	16,688	126,950	1,847,789
Riverside Capital Appreciation Fund VI, L.P.	18,712,500	10,748,972	3,062,292	0	0	3,062,292	5,705,349	1,625,406	0	0	1,625,406
Rubenstein Properties Fund II	9,200,000	4,244,871	2,436,275	0	0	2,436,275	2,306,445	1,323,747	0	0	1,323,747
Secondary Opportunities Fund III, L.P.	75,000,000	34,884,827	8,878,332	0	0	8,878,332	18,849,301	4,797,224	0	0	4,797,224
Strategic Value Special Situations Fund IV LP	21,700,000	6,776,910	8,039,332	0	5,808	8,033,524	3,684,660	4,371,050	0	3,158	4,367,891
Strategic Value Special Situations Fund V LP	30,000,000	13,514,648	5,815,292	1,346,397	1,740	7,161,689	6,953,780	2,992,180	692,770	895	3,684,951
Taurus Mining Finance Fund LLC	19,900,000	11,339,013	977,788	0	97,975	879,812	6,133,188	528,878	0	52,994	475,884
Tenaska Power Fund II, L.P.	3,000,000	1,278,755	3,769	0	0	3,769	678,044	1,998	0	0	1,998

**Kentucky Public Pensions Authority  
Capital Calls and Distributions  
For the period January 1, 2023 thru March 31, 2023**

Insurance Funds Managers	Total Pension Fund Commitment	County Employees Retirement System					County Employees Hazardous Retirement System				
		Commitment	Beginning Valuation	Period Contributions	Period Distributions	Ending Valuation	Commitment	Beginning Valuation	Period Contributions	Period Distributions	Ending Valuation
Triton Fund IV, L.P.	14,063,009	8,013,097	5,617,926	0	0	5,718,994	4,334,223	3,038,694	0	0	3,093,360
VantagePoint Venture Partners 2006, L.P.	3,000,000	1,208,626	260,302	0	0	260,302	646,969	139,338	0	0	139,338
VantagePoint Venture Partners IV, L.P.	4,000,000	1,611,501	2,624	0	0	2,624	862,625	1,405	0	0	1,405
Vista Equity Partners III, L.P.	5,000,000	2,014,376	152,754	230	0	152,984	1,078,282	81,768	123	0	81,891
Vista Equity Partners IV, L.P.	23,000,000	12,603,996	8,710,245	40,660	0	8,750,906	7,544,005	5,213,436	24,337	0	5,237,773
Vista Equity Partners VI LP	25,000,000	10,349,999	13,824,782	43,150	80,779	13,787,153	6,250,000	8,348,299	26,057	48,780	8,325,577
Walton Street Real Estate Fund VI, LP	4,000,000	1,712,019	730,322	0	0	730,322	917,457	391,373	0	0	391,373
Walton Street Real Estate Fund VII, LP	16,755,000	7,730,005	1,855,640	0	0	1,855,640	4,199,996	1,008,238	0	0	1,008,238
Warburg, Pincus Private Equity IX, L.P.	10,000,000	4,028,752	1,595	0	0	1,595	2,156,563	854	0	0	854
Warburg, Pincus Private Equity X, L.P.	7,500,000	3,021,564	67,335	0	12,147	55,188	1,617,422	36,044	0	6,502	29,542
Wayzata Opportunities Fund II, L.P.	7,500,000	3,021,564	65	0	0	65	1,617,422	35	0	0	35
Wayzata Opportunities Fund III, L.P.	18,712,500	10,748,972	1,525,240	0	0	1,525,240	5,705,349	809,568	0	0	809,568
White Oak Yield Spectrum Parallel Fund LP	50,000,000	22,344,255	29,070,668	0	1,937,617	27,133,051	12,186,342	15,854,862	0	1,056,757	14,798,105

Kentucky Public Pensions Authority

# Commissions Report

Quarter Ending: March 31, 2023

**Reports can be found:**

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

Kentucky Public Pensions Authority

# Internal Asset Holdings Report & Internal Asset Transaction Report

Quarter Ending: March 31, 2023

**Reports can be found:**

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