

**Wilshire**



# Wilshire Advisors

City of Grand Rapids Police & Fire Retirement System  
*Executive Summary of Investment Performance*

*As of September 30, 2023*

# Quarterly Market Review

September 30, 2023

Grand Rapids Police & Fire Retirement System

# Market Commentary

## U.S. Equity

The U.S. stock market was down -3.3% for the third quarter and is up 20.5% for the past 12 months. The best performing sectors were energy (+12.9%) and communication services (+2.3%). The worst performing sectors were utilities (-9.3%) and real estate (-8.4%). From a size perspective, large-cap outperformed small-cap by 104 basis points. Growth stocks underperformed value during the third quarter but lead meaningfully for the one-year return.

The bellwether 10-year U.S. Treasury yield has been on a steep upward trend since its COVID-induced historical lows – the minimum being 0.5% in August 2020. The current 10-year yield stands at 4.63%. The 3-month yield is nearly a percent higher at 5.58%, resulting in a level of inversion not seen in decades. The duration of that negative spread is also meaningful as these conditions initially appeared nearly a year ago – arguably the longest curve inversion in more than 40 years. While the current yield level may seem high given the period since the Global Financial Crisis, a longer view reveals what history suggests is possible.

## Non-U.S. Equity

The eurozone fell into a mild recession around the start of the new year as real GDP fell during the fourth and first quarters. Recent data suggests that conditions are not improving – and that contraction is spreading. Germany continues to suffer due to a sustained decline in demand for goods and services while weakness is also showing in France. The Bank of England paused interest rate increases as Britain's economy has slowed. The outlook in China is complicated but with signs of improvement.

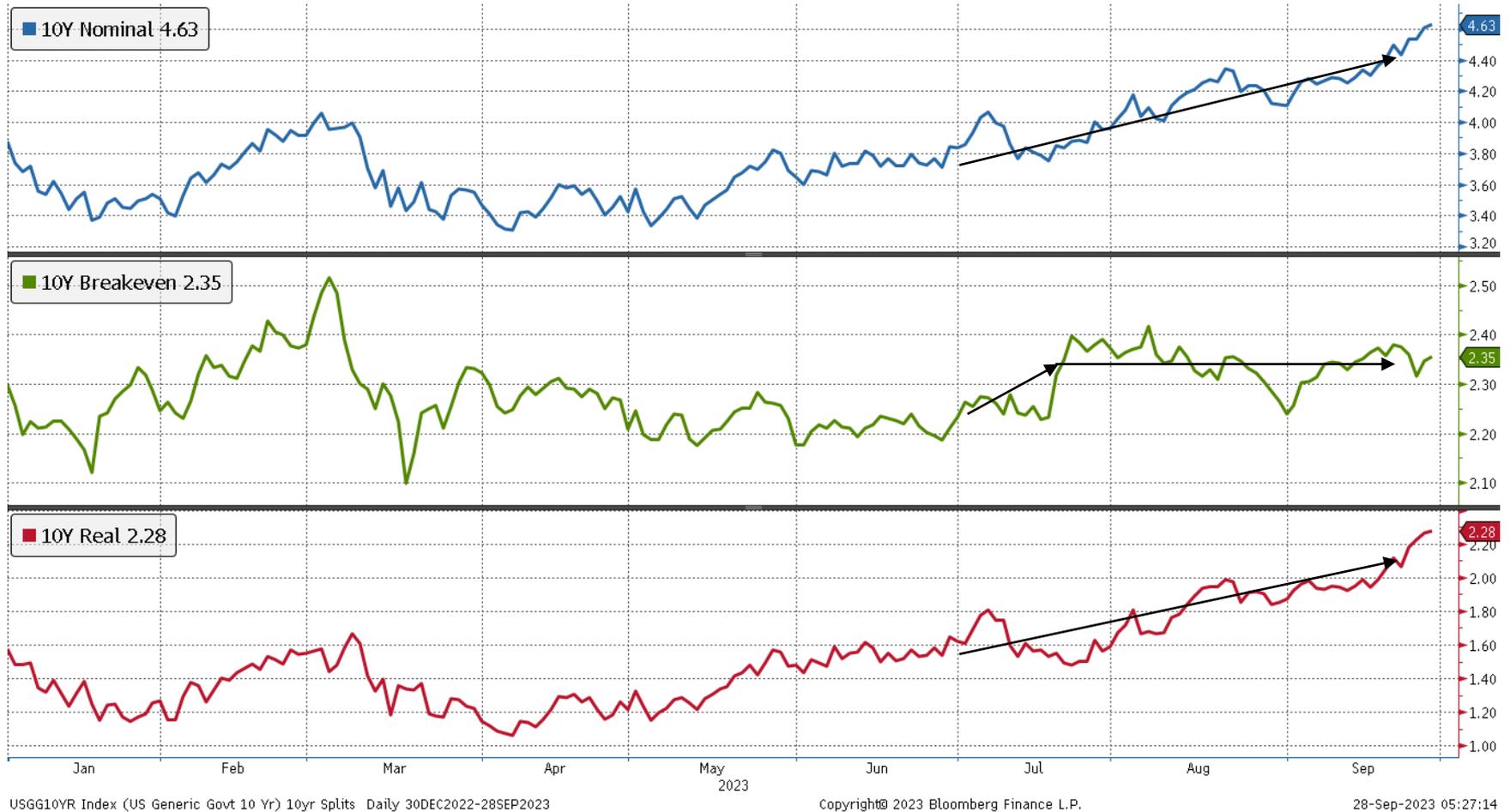
## Fixed Income

The U.S. Treasury yield curve was up across the maturity spectrum during the quarter, and to a greater degree in the long end of the curve. Credit spreads were little changed. The FOMC increased the overnight rate by 0.25% in July, targeting a range of 5.25% to 5.50%, before again pausing increases in September. In late September, Fed Chair Jerome Powell said that inflation is currently the central bank's top priority, "the worst thing we can do is to fail to restore price stability, because the record is clear on that."

# September 2023 Asset Class Assumptions

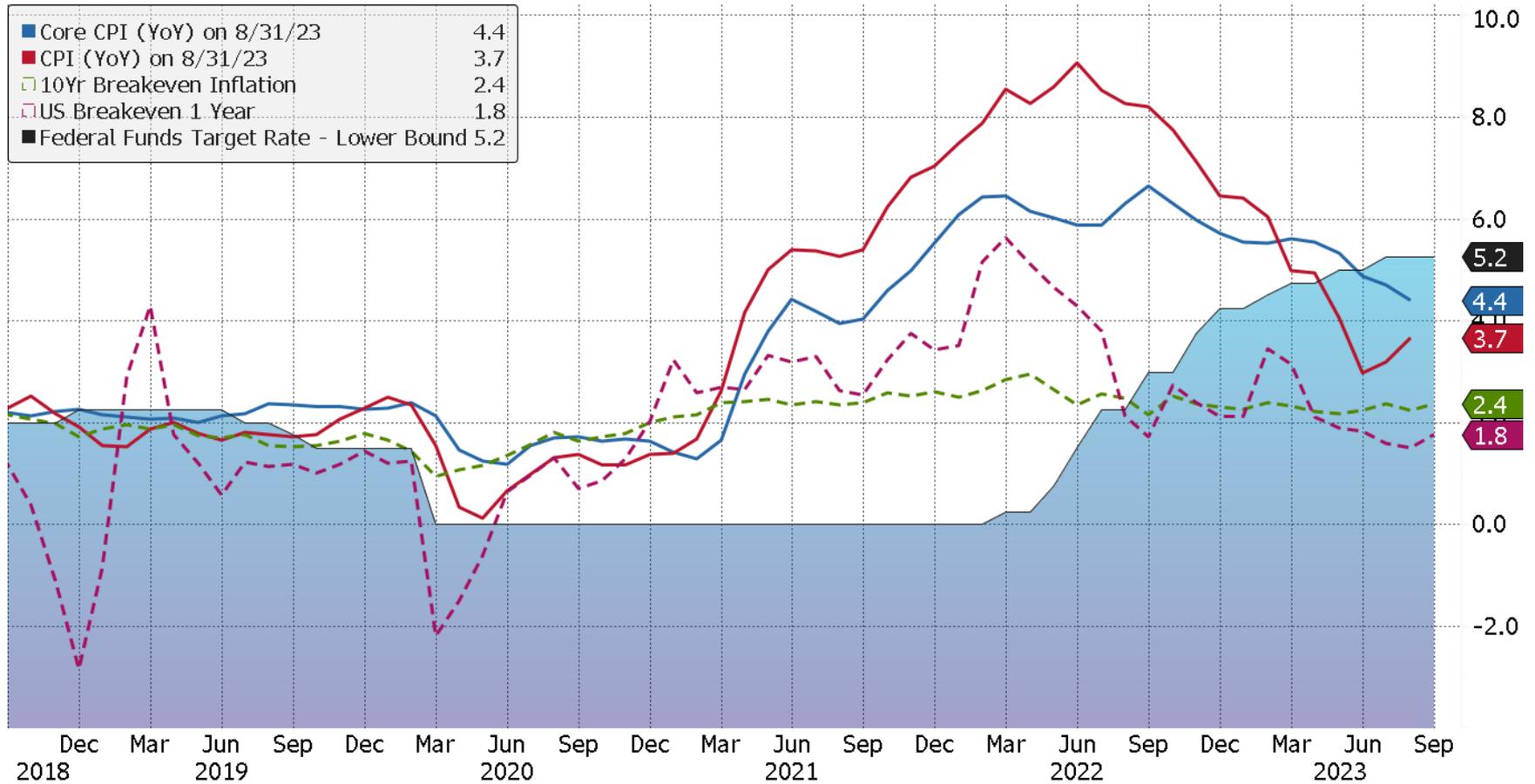
	EQUITY						FIXED INCOME / CREDIT						REAL ASSETS						
	US Stock	Dev ex-US Stock	Emg Stock	Global ex-US Stock	Global Stock	Private Equity	Cash	Core Bond	LT Core Bond	TIPS	High Yield	Private Credit	Dev ex-US Bond (Hdg)	Real Estate US RES	Global RES	Private RE	Cmdty	Real Assets	US CPI
<b>Compound Retrun (%)</b>	6.00	7.00	7.25	7.35	6.65	9.65	4.25	5.60	5.55	4.85	6.85	8.95	3.50	6.20	6.35	6.20	6.60	7.05	2.35
<b>Arithmetic Return (%)</b>	7.30	8.45	10.20	9.00	8.00	13.35	4.25	5.70	6.00	5.00	7.30	9.70	3.60	7.60	7.60	7.10	7.75	7.75	2.35
<b>Risk (%)</b>	17.00	18.00	26.00	19.05	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
<b>Cash Yield (%)</b>	1.60	3.15	2.60	3.00	2.15	0.00	4.25	5.90	5.95	5.15	10.15	5.20	4.45	4.45	4.45	2.30	4.25	3.50	0.00
<b>Growth Factor Exposure</b>	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
<b>Inflation Factor Exposure</b>	-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>																			
<b>US Stock</b>	1.00																		
<b>Dev ex-US Stock (USD)</b>	0.81	1.00																	
<b>Emerging Mkt Stock</b>	0.74	0.74	1.00																
<b>Global ex-US Stock</b>	0.84	0.95	0.89	1.00															
<b>Global Stock</b>	0.95	0.91	0.84	0.94	1.00														
<b>Private Equity</b>	0.72	0.63	0.61	0.67	0.73	1.00													
<b>Cash Equivalents</b>	-0.05	-0.09	-0.05	-0.08	-0.06	0.00	1.00												
<b>Core Bond</b>	0.28	0.13	0.00	0.08	0.20	0.30	0.18	1.00											
<b>LT Core Bond</b>	0.31	0.15	0.01	0.11	0.24	0.31	0.11	0.94	1.00										
<b>TIPS</b>	-0.05	0.00	0.15	0.06	-0.01	-0.03	0.20	0.60	0.48	1.00									
<b>High Yield Bond</b>	0.54	0.39	0.49	0.46	0.53	0.31	-0.10	0.24	0.32	0.05	1.00								
<b>Private Credit</b>	0.68	0.55	0.58	0.60	0.68	0.44	0.00	0.24	0.30	0.00	0.76	1.00							
<b>Dev ex-US Bond (Hdg)</b>	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						
<b>US RE Securities</b>	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					
<b>Global RE Securities</b>	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				
<b>Private Real Estate</b>	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			
<b>Commodities</b>	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		
<b>Real Assets</b>	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	
<b>Inflation (CPI)</b>	-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

## 2023 Rate Environment



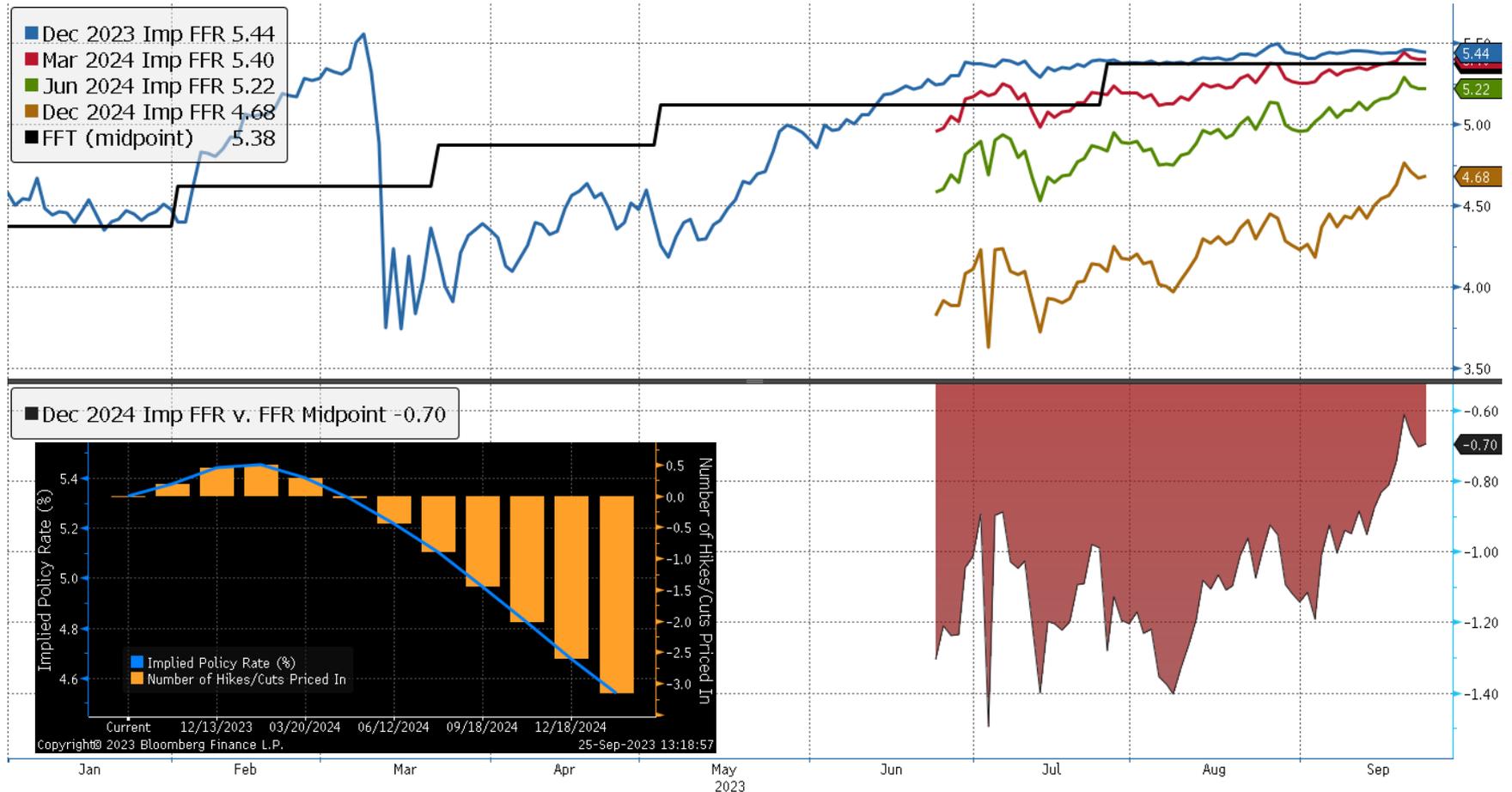
Data Sources: Wilshire, Bloomberg

# Inflation Update v. Fed Policy: At/Near the Neutral Rate?



Data Sources: Bloomberg

## At/Near Neutral Rate?: The Market Thinks So (and that we'll be Lower Next Year)...



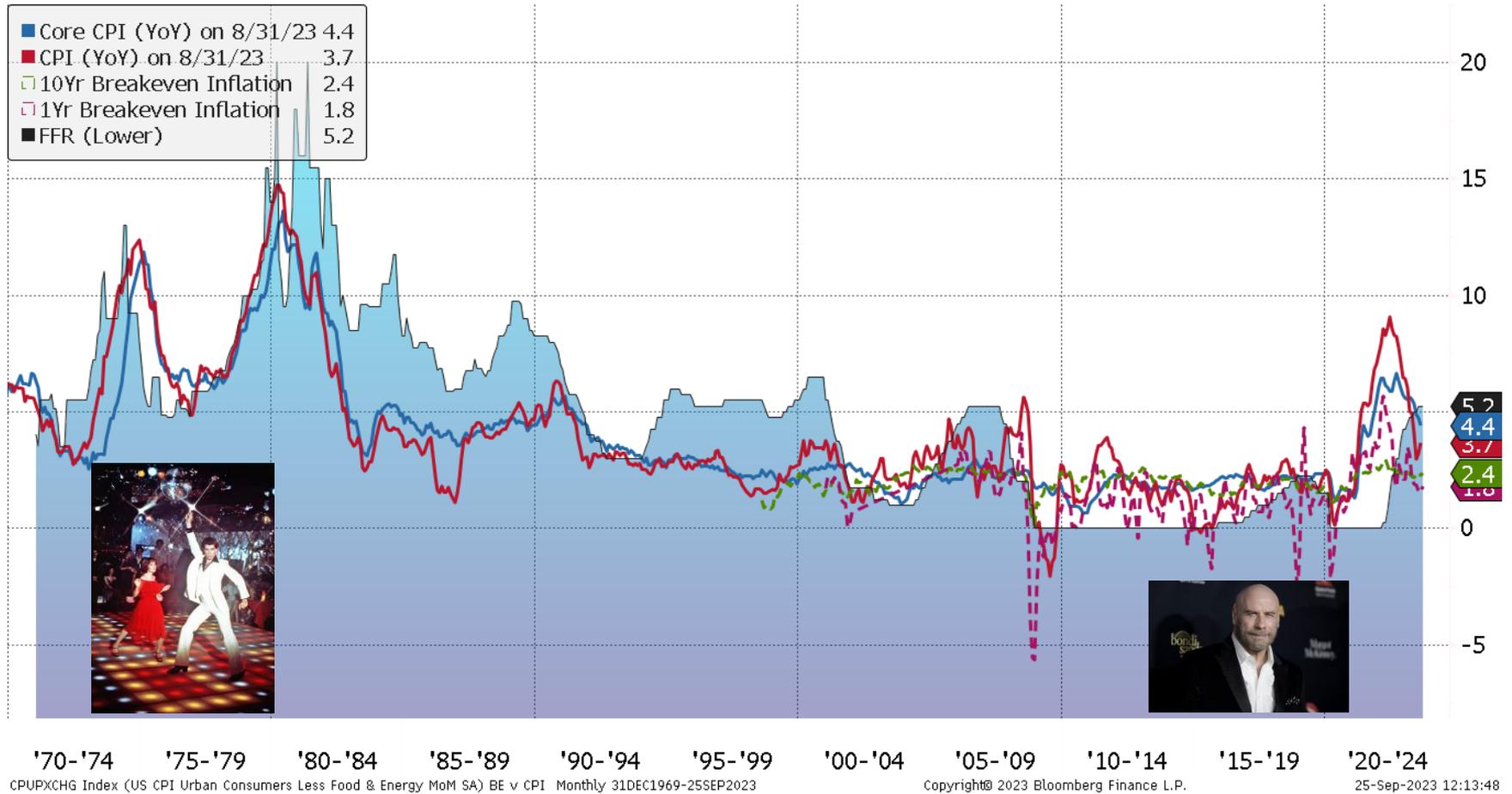
USOAFR DEC2023 Index (WIRP Implied Overnight Rate fo) FFR Implied Daily 30DEC2022-25SEP2023

Copyright © 2023 Bloomberg Finance L.P.

25-Sep-2023 12:27:36

Data Sources: Bloomberg

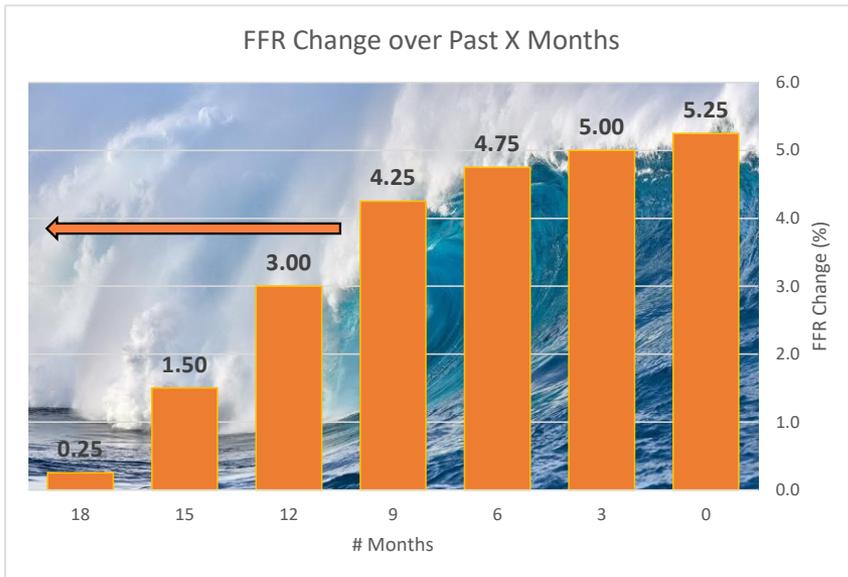
## Inflation: I Know, It's Not the 70s, But the Path Back to Target Might Be Bumpy....



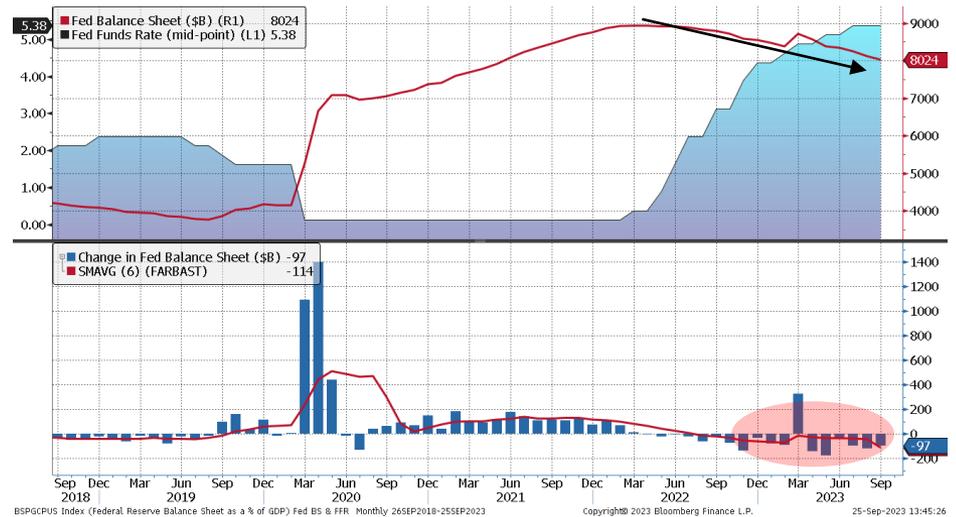
Data Sources: Bloomberg

## Tightening Continues, Even If the FFR Target Rate Remains Unchanged

Impact of Fed tightening known to have long & variable lag



Fed BS run-off (~\$1T/year)

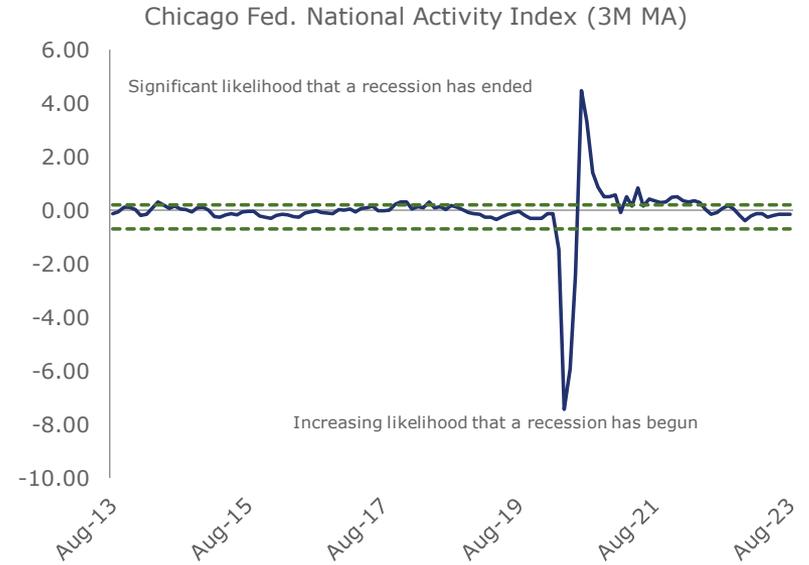
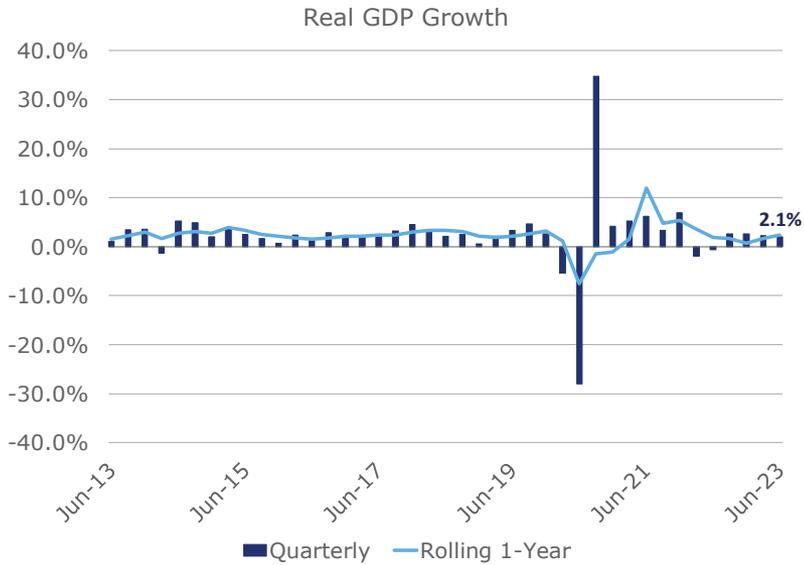


Data Sources: Bloomberg

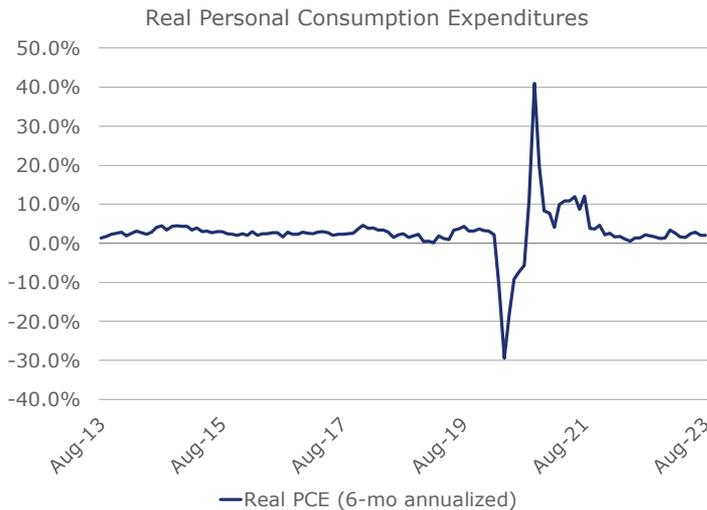
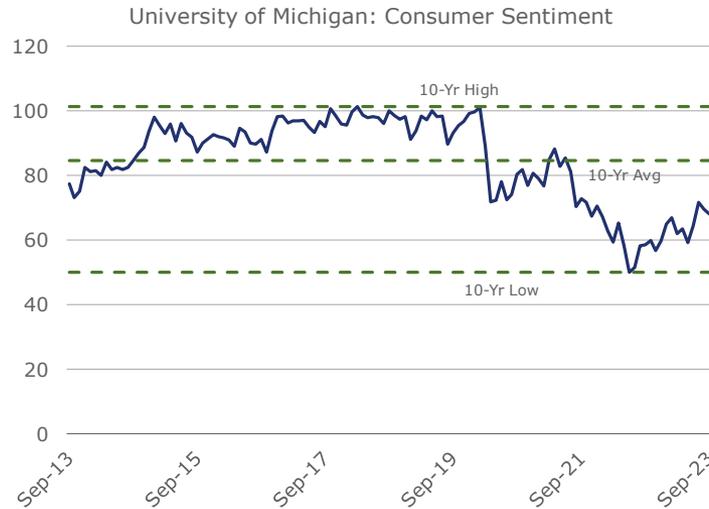
# Economic/Market Activity

Grand Rapids Police & Fire Retirement System

## Economic Growth

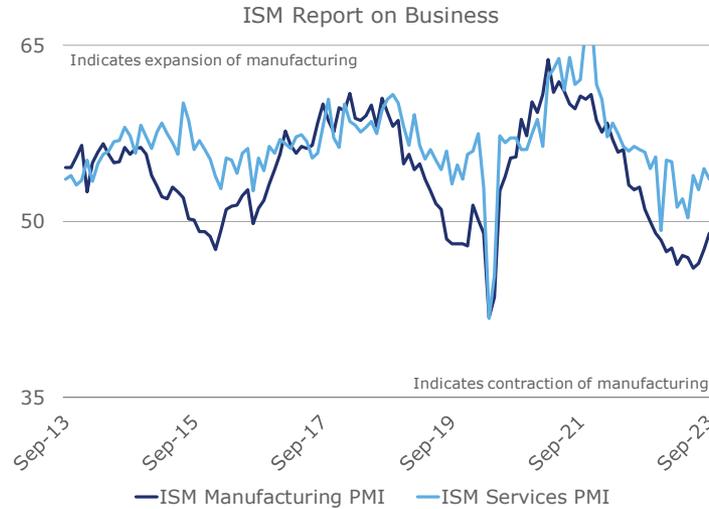


# Consumer Activity



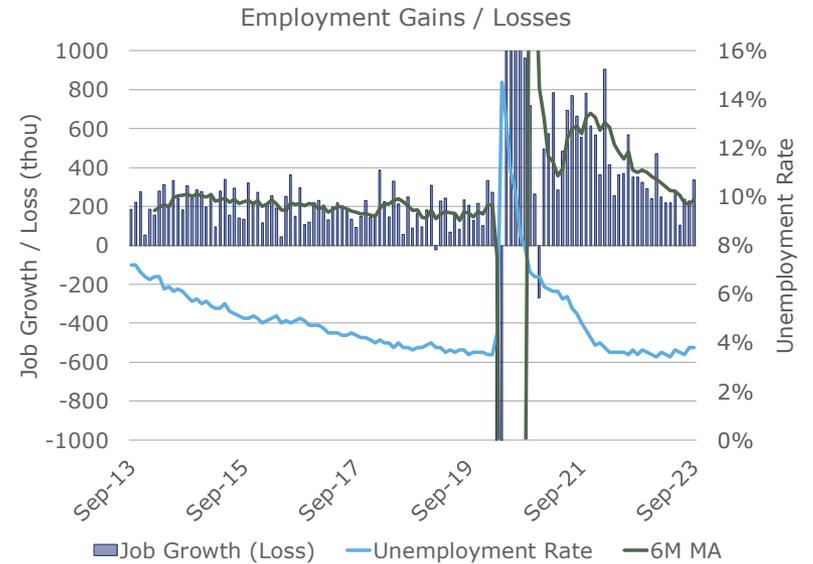
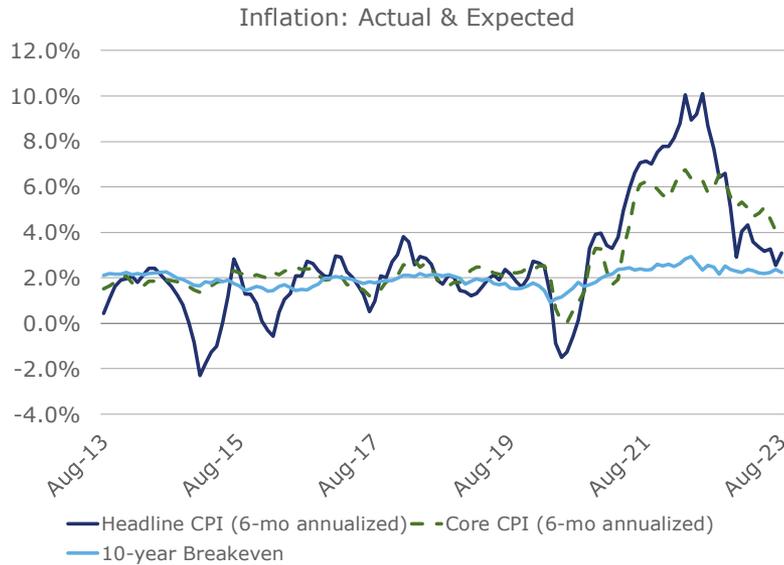
Data Sources: Bloomberg

# Business Activity



Data Sources: Bloomberg

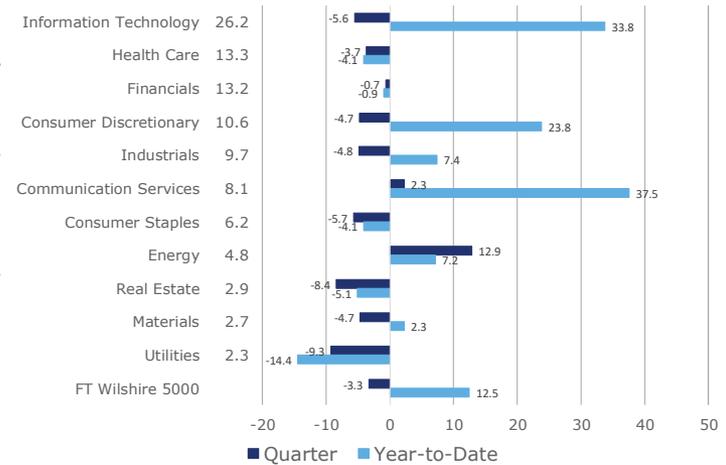
# Inflation And Employment



## U.S. Equity Market

As of 9/30/2023	Quarter	YTD	1 Year	3 Year	5 Year	10 Year
FT Wilshire 5000	-3.3	12.5	20.5	9.7	9.4	11.5
Wilshire U.S. Large Cap	-3.2	13.3	21.3	9.8	10.0	11.9
Wilshire U.S. Small Cap	-4.9	3.5	11.7	9.5	3.6	7.4
Wilshire U.S. Large Growth	-3.4	27.6	28.6	9.3	12.1	14.1
Wilshire U.S. Large Value	-2.9	-0.3	13.4	10.1	7.5	9.6
Wilshire U.S. Small Growth	-5.0	7.8	15.4	5.8	4.0	7.6
Wilshire U.S. Small Value	-4.7	-0.4	8.3	13.5	3.2	7.1
Wilshire REIT Index	-6.4	-0.2	3.9	5.7	2.9	6.0
MSCI USA Min. Vol. Index	-2.0	1.9	11.8	6.2	7.0	10.4
FTSE RAFI U.S. 1000 Index	-2.2	4.4	17.4	14.3	8.7	10.4

U.S. Sector Weight and Return (%)



Large Cap vs Small Cap



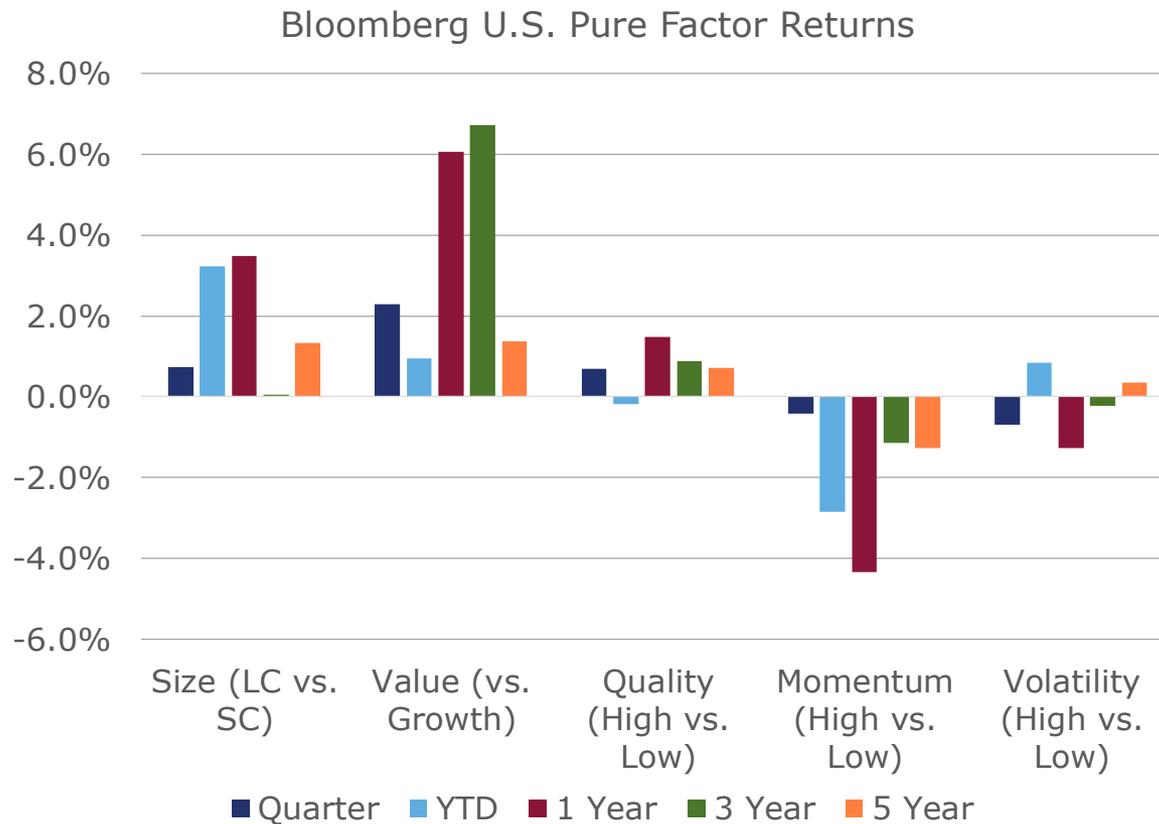
Large Growth vs Large Value



Data Sources: Bloomberg, Wilshire Atlas

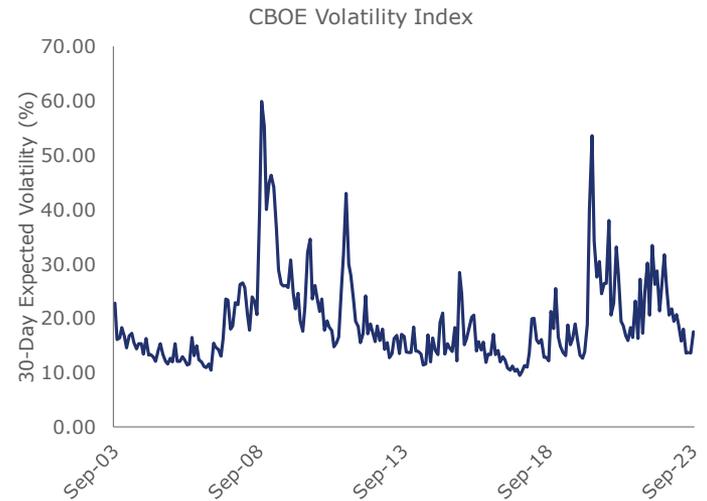
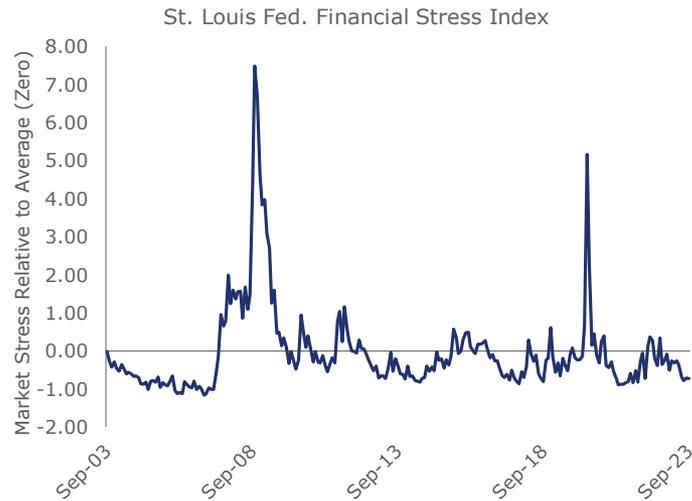
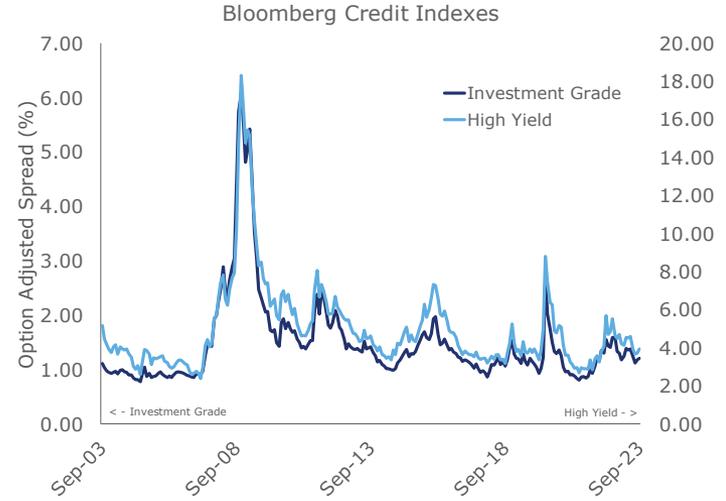
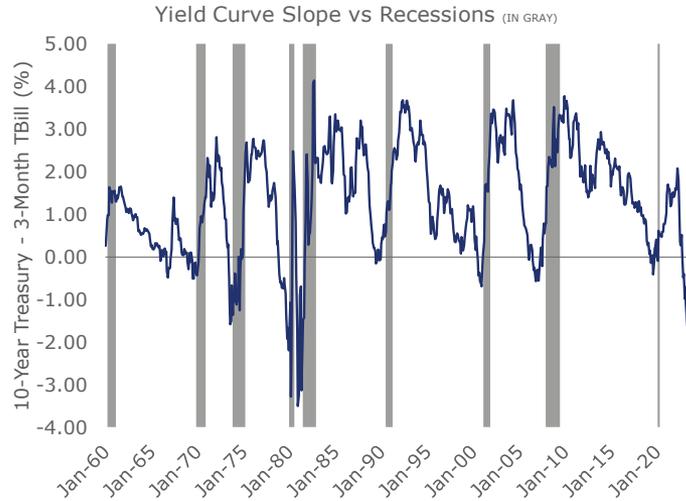
# U.S. Factor Returns

- Factor returns represent the contribution from large cap, value, etc. stocks within Bloomberg’s Portfolio & Risk Analytics module
- Large cap and high volatility have mostly outperformed this year



Data Sources: Bloomberg

## Risk Monitor

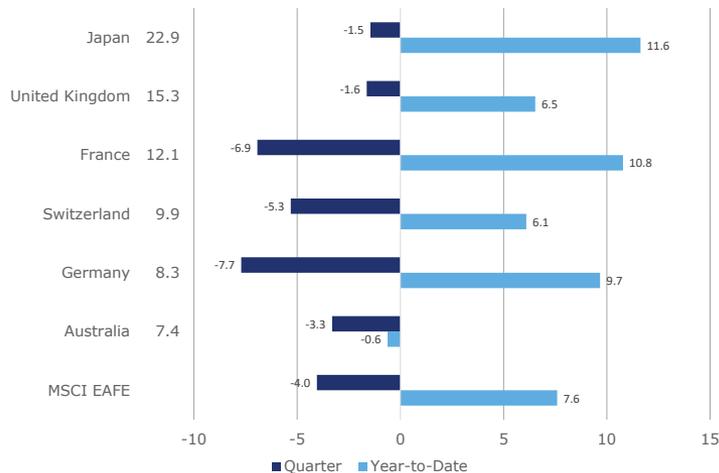


Data Sources: Bloomberg

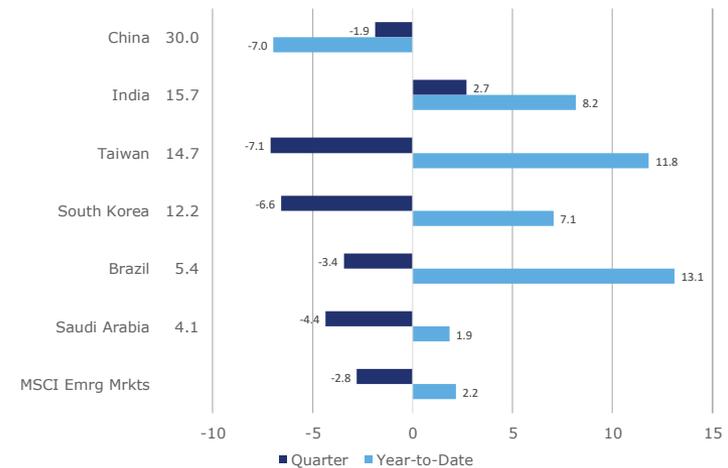
## Non-U.S. Equity Market

As of 9/30/2023	Quarter	YTD	1 Year	3 Year	5 Year	10 Year
MSCI ACWI ex-US (\$G)	-3.7	5.8	21.0	4.2	3.1	3.8
MSCI EAFE (\$G)	-4.0	7.6	26.3	6.3	3.7	4.3
MSCI Emerging Markets (\$G)	-2.8	2.2	12.2	-1.3	0.9	2.5
MSCI Frontier Markets (\$G)	-0.2	4.6	14.2	1.8	-0.7	0.3
MSCI ACWI ex-US Growth (\$G)	-7.3	2.9	16.2	-1.6	2.9	4.3
MSCI ACWI ex-US Value (\$G)	0.1	8.6	25.7	10.1	3.0	3.4
MSCI ACWI ex-US Small (\$G)	-1.6	5.5	19.6	4.5	3.0	4.8
MSCI ACWI Minimum Volatility	-2.3	1.7	10.4	3.8	4.3	7.2
MSCI EAFE Minimum Volatility	-2.7	4.8	17.9	1.3	1.1	4.2
FTSE RAFI Developed ex-US	-1.6	8.7	28.6	11.4	3.9	4.2
MSCI EAFE LC (G)	-1.2	11.2	21.0	11.4	6.2	7.3
MSCI Emerging Markets LC (G)	-1.3	4.4	11.3	1.0	3.1	5.3

Developed Markets Weight and Return (%)

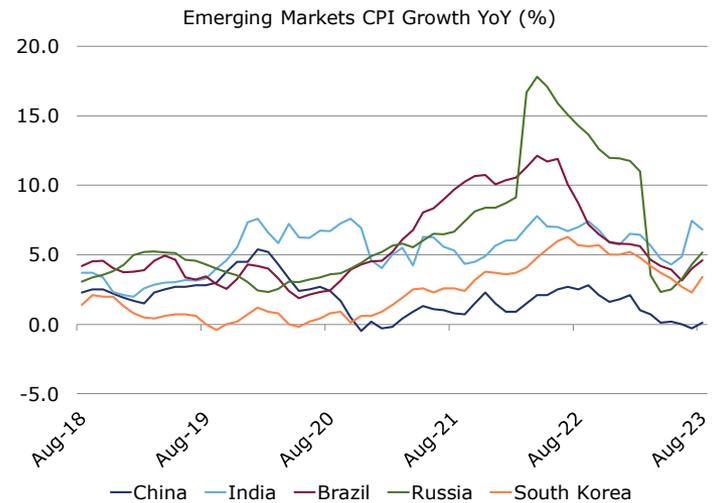
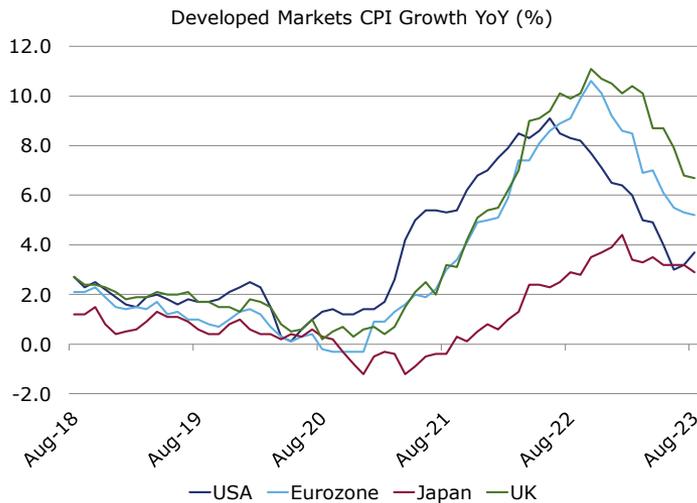
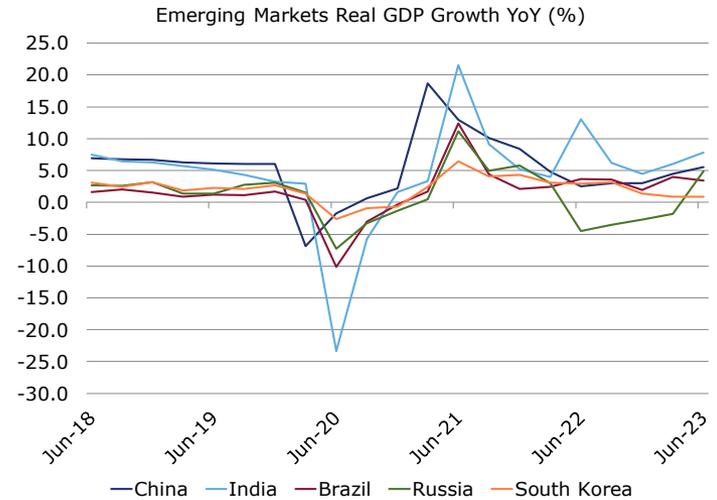
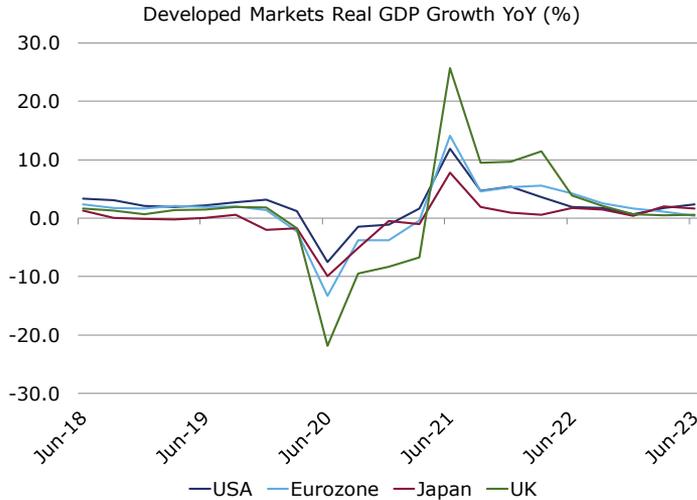


Emerging Markets Weight and Return (%)



Data Sources: Bloomberg

# Non-U.S. Growth and Inflation

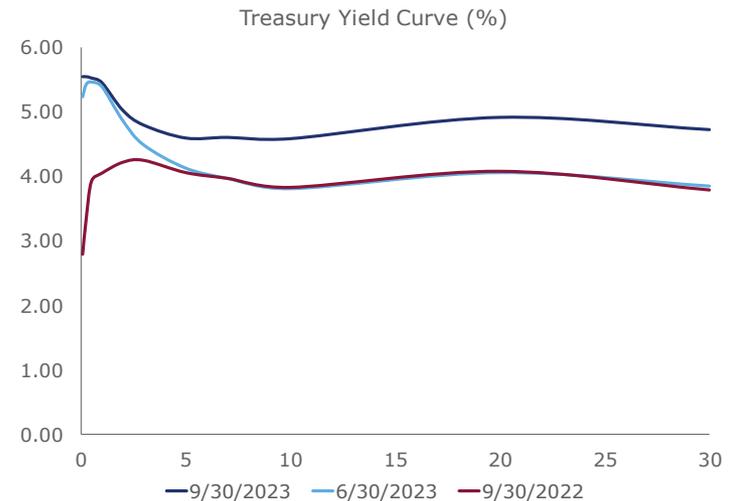
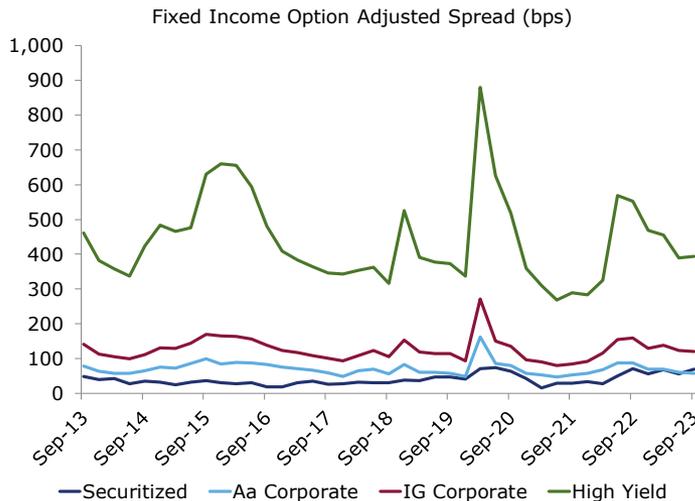


Data Sources: Bloomberg

## U.S. Fixed Income

As of 9/30/2023	YTW	DUR.	QTR	YTD	1 YR	3 YR	5 YR	10 YR
Bloomberg Aggregate	5.4	6.1	-3.2	-1.2	0.6	-5.2	0.1	1.1
Bloomberg Treasury	4.9	5.9	-3.1	-1.5	-0.8	-5.8	-0.1	0.6
Bloomberg Gov't-Rel.	5.4	5.1	-2.0	0.4	2.2	-3.8	0.6	1.4
Bloomberg Securitized	5.6	6.2	-3.8	-2.1	0.0	-4.9	-0.6	0.7
Bloomberg Corporate	6.0	6.8	-3.1	0.0	3.6	-4.9	0.9	2.2
Bloomberg LT Gov't/Credit	5.5	13.7	-9.4	-5.4	-2.9	-11.9	-1.2	1.9
Bloomberg LT Treasury	4.9	15.3	-11.8	-8.6	-9.1	-15.7	-2.8	0.8
Bloomberg LT Gov't-Rel.	6.0	11.3	-7.2	-2.1	2.0	-8.5	-0.6	2.4
Bloomberg LT Corporate	6.1	12.5	-7.2	-2.7	2.6	-9.1	-0.2	2.7
Bloomberg U.S. TIPS *	4.6	7.4	-2.6	-0.8	1.2	-2.0	2.1	1.7
Bloomberg High Yield	8.9	3.5	0.5	5.9	10.3	1.8	3.0	4.2
S&P/LSTA Leveraged Loan	9.5	0.3	3.5	10.2	13.1	6.1	4.5	4.3
Treasury Bills	5.5	0.3	1.3	3.6	4.6	1.7	1.7	1.1

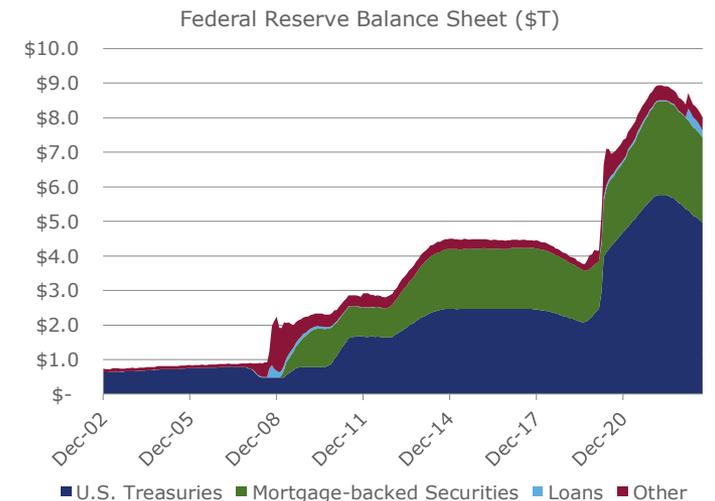
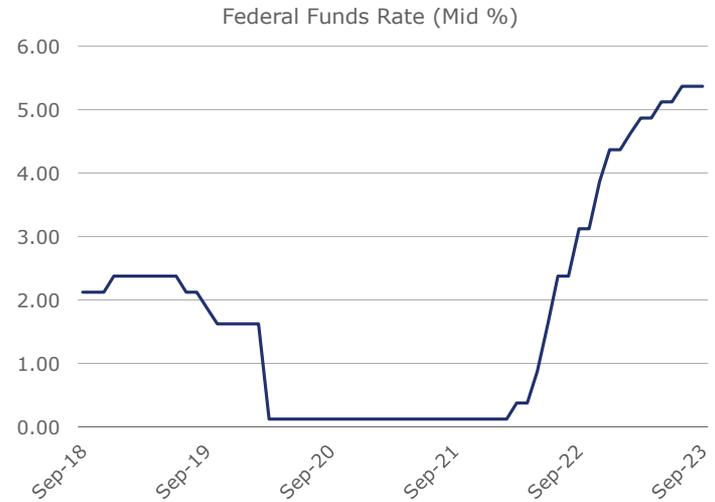
\* Yield and Duration statistics are for a proxy index based on similar maturity, the Bloomberg Barclays U.S. Treasury 7-10 Year Index



Data Sources: Bloomberg

## Federal Reserve

- The Federal Open Market Committee increased the rate an additional 25 basis points in July before pausing increases in September
- QE4 was larger than the 3 phases of quantitative easing – combined – following the global financial crisis
- The Fed’s balance sheet has begun to shrink again during the past six months



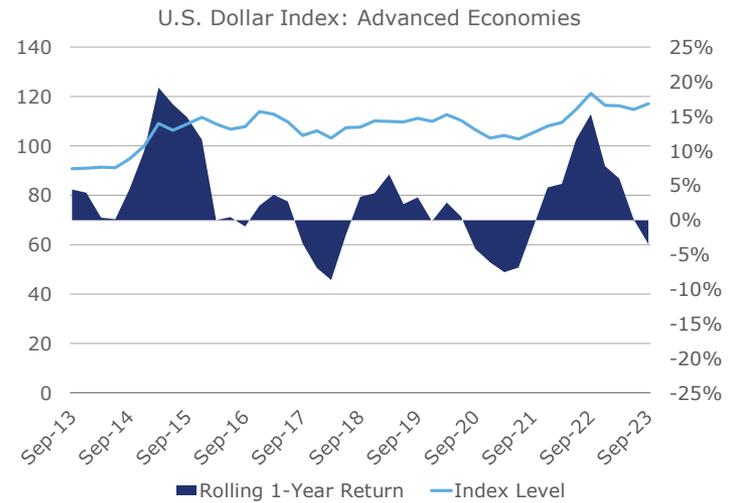
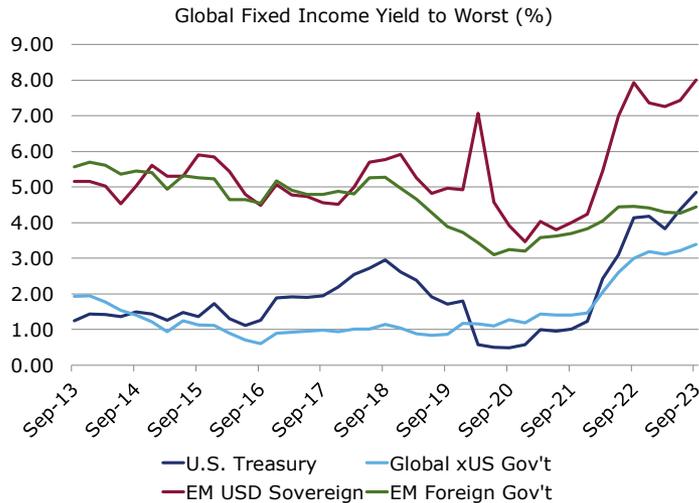
	Announced	Closed	Amount (bil)
QE1	11/25/2008	3/31/2010	\$1,403
QE2	11/3/2010	6/29/2012	\$568
QE3	9/13/2012	10/29/2014	\$1,674
QE4	3/23/2020	3/15/2022	\$4,779

Data Sources: Bloomberg

# Non-U.S. Fixed Income

As of 9/30/2023	Quarter	YTD	1 Year	3 Year	5 Year	10 Year
<b>Developed Markets</b>						
Bloomberg Global Aggregate xUS	-4.0	-3.2	3.4	-8.4	-3.1	-1.7
Bloomberg Global Aggregate xUS *	-0.8	2.8	3.0	-2.6	0.8	2.3
Bloomberg Global Inflation Linked xUS	-7.1	-4.1	1.5	-10.1	-3.8	-1.3
Bloomberg Global Inflation Linked xUS *	-3.5	-2.1	-3.8	-6.2	-0.8	2.5
<b>Emerging Markets (Hard Currency)</b>						
Bloomberg EM USD Aggregate	-2.3	0.9	7.6	-4.2	0.2	2.3
<b>Emerging Markets (Foreign Currency)</b>						
Bloomberg EM Local Currency Gov't	-1.7	0.0	5.8	-1.2	1.3	0.6
Bloomberg EM Local Currency Gov't *	0.2	4.5	6.4	0.4	2.9	2.6
Euro vs. Dollar	-3.1	-1.2	7.9	-3.4	-1.8	-2.4
Yen vs. Dollar	-3.4	-12.2	-3.1	-10.9	-5.3	-4.1
Pound vs. Dollar	-4.0	1.0	9.2	-1.9	-1.3	-2.8

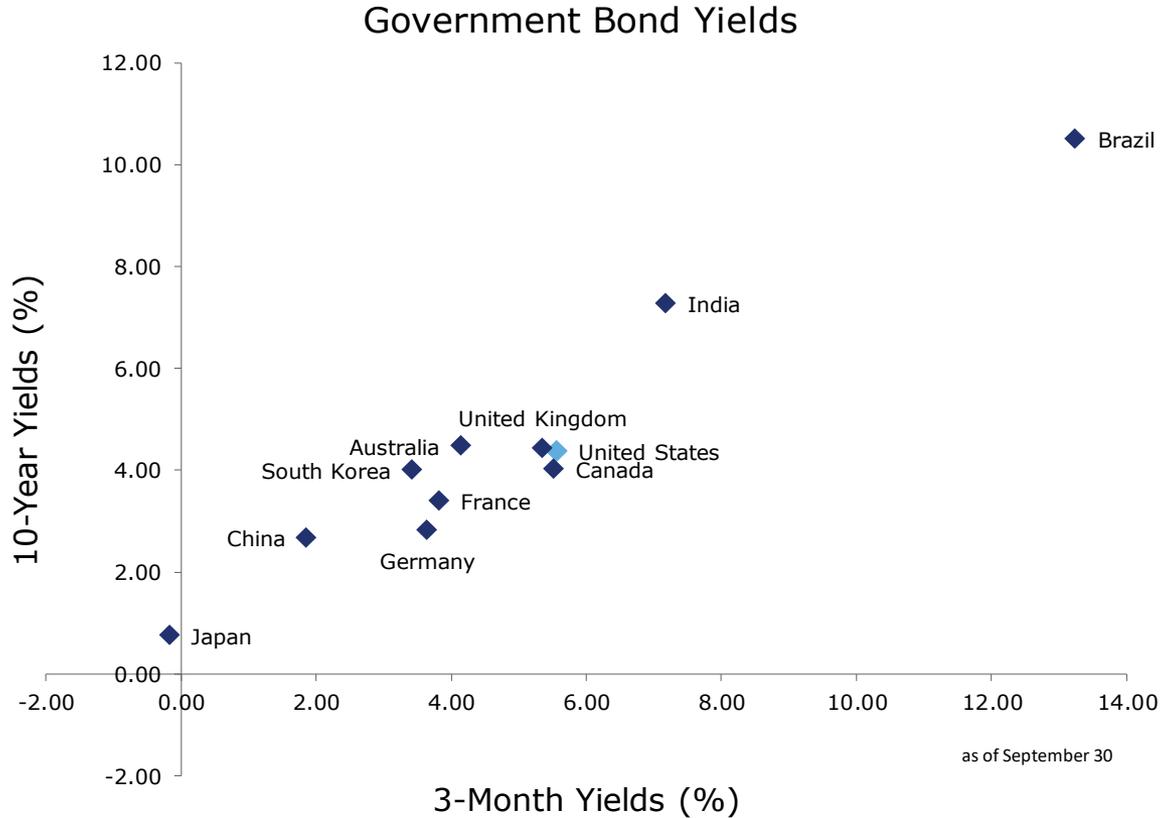
\* Returns are reported in terms of local market investors, which removes currency effects.



Data Sources: Bloomberg

# Global Interest Rates

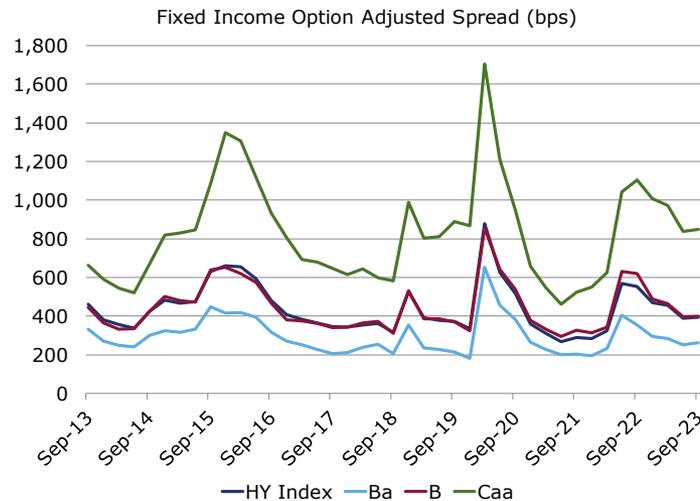
Short-term rates have turned positive in most larger countries; longer-term rates above 4.0% in the U.K. and the U.S.



# High Yield Bond Market

As of 9/30/2023

		YTW	QTR	YTD	1 YR	3 YR	5 YR	10 YR
Bloomberg High Yield		8.9	0.5	5.9	10.3	1.8	3.0	4.2
S&P LSTA Leveraged Loan		9.5	3.1	9.7	13.8	5.2	4.2	3.9
<b>High Yield Quality Distribution</b>	<b>Weight</b>							
Ba U.S. High Yield	47.8%	7.6	-0.4	3.9	8.4	0.8	3.7	4.6
B U.S. High Yield	40.0%	9.0	0.8	6.3	11.6	1.9	2.8	3.9
Caa U.S. High Yield	11.4%	13.3	2.5	12.1	12.7	3.8	0.7	3.7
Ca to D U.S. High Yield	0.9%	15.6	3.0	10.8	26.1	14.4	-2.8	-3.6



## Asset Class Performance

Asset Class Returns - Best to Worst

2018	2019	2020	2021	2022	2023 YTD	Annualized 5-Year as of 9/23
T-Bills 1.9%	U.S. Equity 31.0%	U.S. Equity 20.8%	REITs 46.2%	Commodities 16.1%	U.S. Equity 12.5%	U.S. Equity 9.4%
Core Bond 0.0%	REITs 25.8%	Emrg Mrkts 18.7%	Commodities 27.1%	T-Bills 1.3%	Developed 7.6%	Commodities 6.1%
U.S. TIPS -1.3%	Developed 22.7%	U.S. TIPS 11.0%	U.S. Equity 26.7%	High Yield -11.2%	High Yield 5.9%	Developed 3.7%
High Yield -2.1%	Emrg Mrkts 18.9%	Developed 8.3%	Developed 11.8%	U.S. TIPS -11.8%	T-Bills 3.6%	High Yield 3.0%
REITs -4.8%	High Yield 14.3%	Core Bond 7.5%	U.S. TIPS 6.0%	Core Bond -13.0%	Emrg Mrkts 2.2%	REITs 2.9%
U.S. Equity -5.3%	Core Bond 8.7%	High Yield 7.1%	High Yield 5.3%	Developed -14.0%	REITs -0.2%	U.S. TIPS 2.1%
Commodities -11.2%	U.S. TIPS 8.4%	T-Bills 0.7%	T-Bills 0.0%	U.S. Equity -19.0%	U.S. TIPS -0.8%	T-Bills 1.7%
Developed -13.4%	Commodities 7.7%	Commodities -3.1%	Core Bond -1.5%	Emrg Mrkts -19.7%	Core Bond -1.2%	Emrg Mrkts 0.9%
Emrg Mrkts -14.2%	T-Bills 2.3%	REITs -7.9%	Emrg Mrkts -2.2%	REITs -26.8%	Commodities -3.4%	Core Bond 0.1%

Data Sources: Bloomberg

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

Grand Rapids Police & Fire Retirement System

# Total Fund

# Asset Allocation Compliance

Total Fund

Periods Ended As of September 30, 2023

## Executive Summary

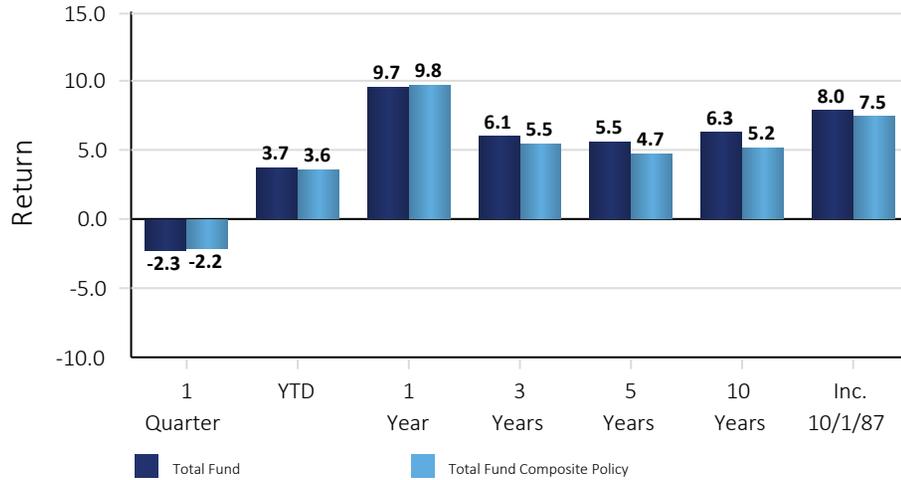
Asset Class	Current Allocation		Policy (%)	Difference to Target	
	(\$000)	(%)		(\$000)	(%)
Domestic Equity	81,945	17.7	17.8	(303)	(0.1)
International Equity	77,112	16.6	17.8	(5,136)	(1.1)
Private Equity	35,271	7.6	5.0	12,102	2.6
<b>Total Growth Assets</b>	<b>194,328</b>	<b>41.9</b>	<b>40.5</b>	<b>6,663</b>	<b>1.4</b>
Global Low Volatility Equity	46,551	10.0	10.0	214	0.0
Private Credit	20,913	4.5	5.0	(2,255)	(0.5)
<b>Total Defensive Growth Assets</b>	<b>67,464</b>	<b>14.6</b>	<b>15.0</b>	<b>(2,041)</b>	<b>(0.4)</b>
Core Fixed Income	106,930	23.1	24.5	(6,595)	(1.4)
Cash & Equivalents	2,837	0.6	0.0	2,837	0.6
<b>Total Defensive Assets</b>	<b>109,767</b>	<b>23.7</b>	<b>24.5</b>	<b>(3,758)</b>	<b>(0.8)</b>
U.S. TIPS	20,916	4.5	5.0	(2,252)	(0.5)
U.S. REITs	21,251	4.6	5.0	(1,918)	(0.4)
Commodities	24,667	5.3	5.0	1,498	0.3
Midstream Energy Infrastructure	24,976	5.4	5.0	1,807	0.4
<b>Total Inflation Oriented Assets</b>	<b>91,809</b>	<b>19.8</b>	<b>20.0</b>	<b>(864)</b>	<b>(0.2)</b>
<b>Total Fund Assets</b>	<b>463,369</b>	<b>100.0</b>	<b>100.0</b>	<b>-</b>	<b>0.0</b>

# Composite Performance Summary

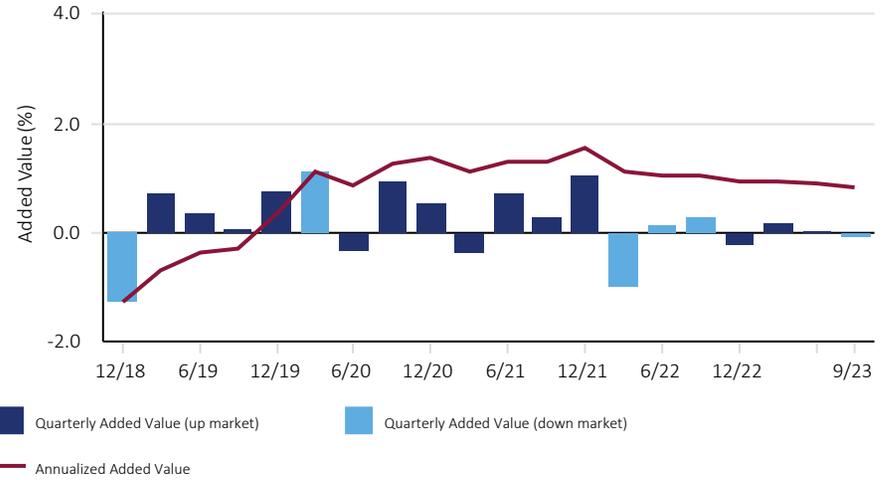
## Total Fund

Periods Ended September 30, 2023

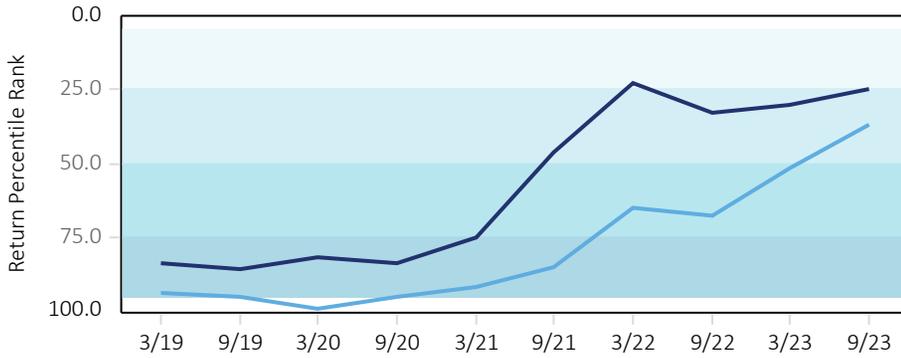
### Comparative Performance



### Added Value History

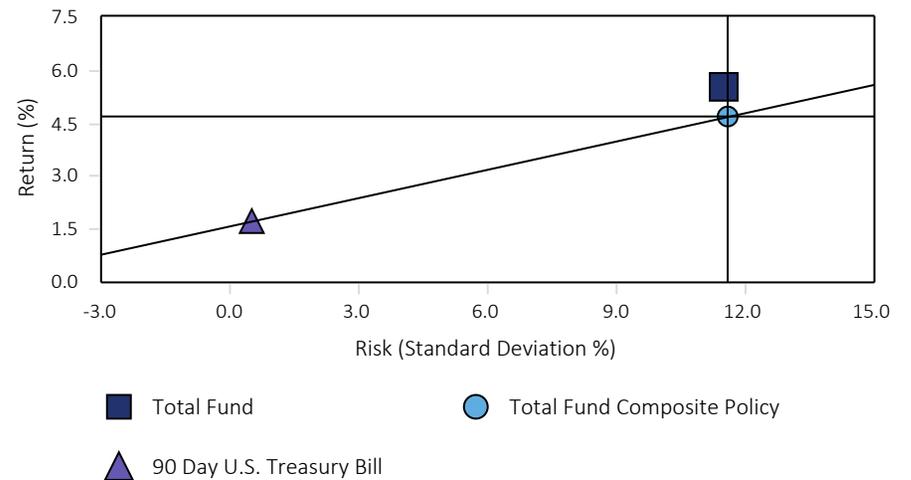


### Rolling Percentile Rank: All Public Plans-Total Fund



	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
— Total Fund	10	2 (20%)	3 (30%)	1 (10%)	4 (40%)
— Benchmark	10	0 (0%)	1 (10%)	3 (30%)	6 (60%)

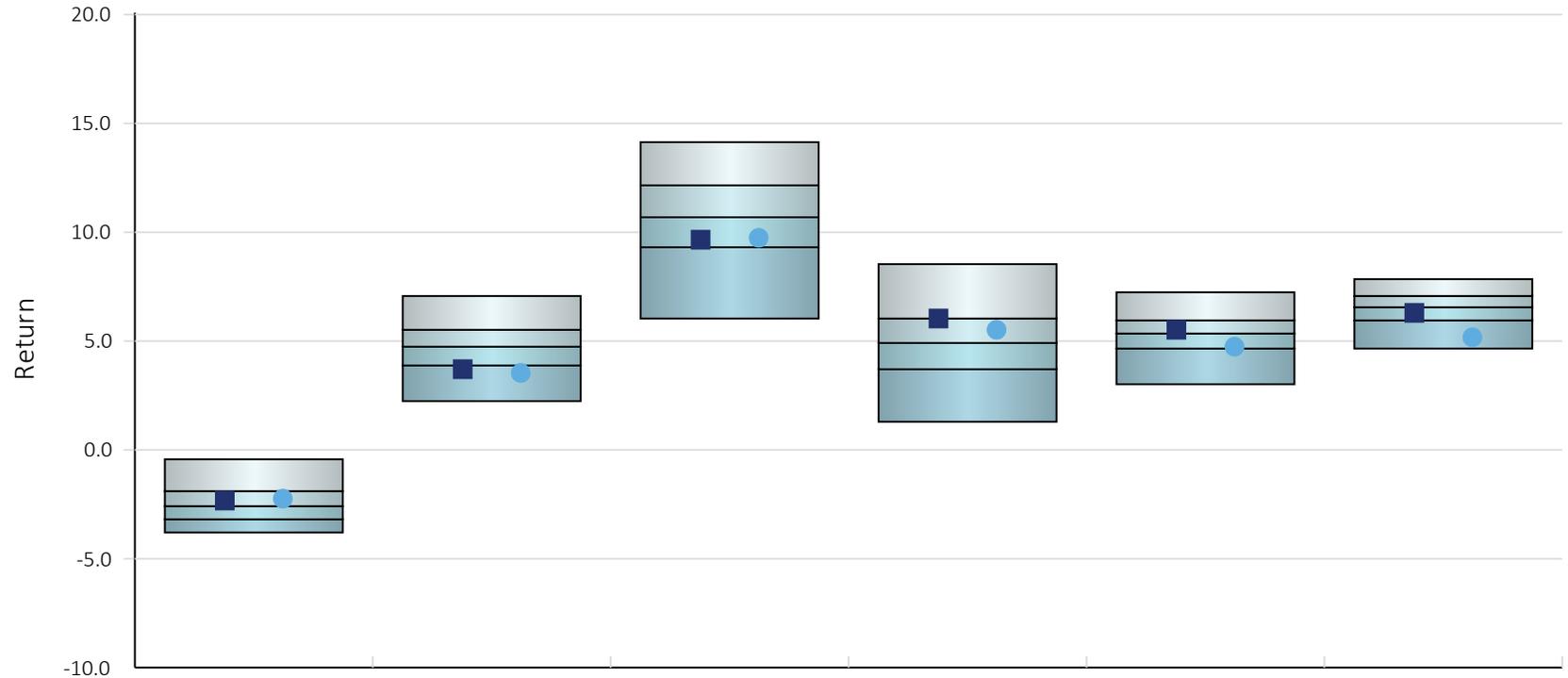
### Risk and Return 10/1/18 - 09/30/23



# Plan Sponsor Peer Group Analysis

Total Fund vs All Public Plans-Total Fund

Periods Ended September 30, 2023



	<b>QTD</b>	<b>YTD</b>	<b>1 Year</b>	<b>3 Years</b>	<b>5 Years</b>	<b>10 Years</b>
■ Total Fund	-2.31 (38)	3.70 (78)	9.67 (70)	6.07 (25)	5.53 (43)	6.29 (60)
● Total Fund Composite Policy	-2.22 (35)	3.57 (81)	9.78 (68)	5.52 (37)	4.70 (74)	5.19 (92)
5th Percentile	-0.40	7.04	14.15	8.56	7.22	7.85
1st Quartile	-1.88	5.48	12.17	6.07	5.97	7.05
Median	-2.57	4.74	10.66	4.90	5.37	6.51
3rd Quartile	-3.18	3.88	9.30	3.67	4.66	5.91
95th Percentile	-3.79	2.22	6.03	1.28	3.06	4.64
Population	417	402	396	379	369	324

Gross of Fees

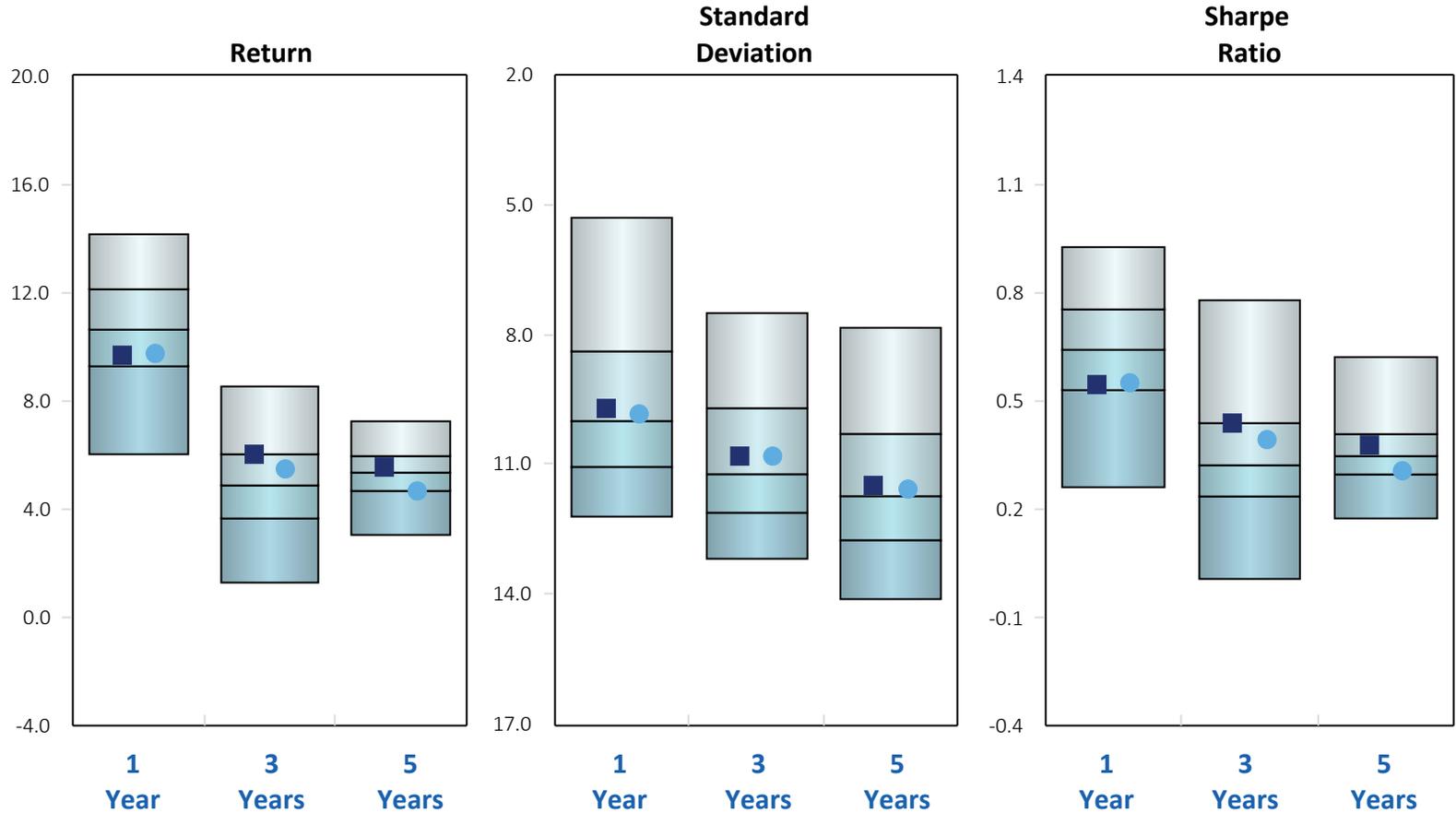
Parentheses contain percentile rankings.

Calculation based on monthly periodicity.

# Plan Sponsor Peer Group Analysis - Multi Statistics

Total Fund vs All Public Plans-Total Fund

Periods Ended September 30, 2023



	<b>1 Year</b>	<b>3 Years</b>	<b>5 Years</b>		<b>1 Year</b>	<b>3 Years</b>	<b>5 Years</b>		<b>1 Year</b>	<b>3 Years</b>	<b>5 Years</b>
■ Total Fund	9.67 (70)	6.07 (25)	5.53 (43)		9.71 (46)	10.83 (40)	11.47 (42)		0.55 (74)	0.44 (26)	0.38 (38)
● Total Fund Composite Policy	9.78 (68)	5.52 (37)	4.70 (74)		9.82 (47)	10.80 (40)	11.59 (46)		0.55 (73)	0.39 (34)	0.31 (70)
5th Percentile	14.15	8.56	7.22		5.31	7.50	7.83		0.93	0.78	0.62
1st Quartile	12.17	6.07	5.97		8.39	9.73	10.33		0.75	0.44	0.41
Median	10.66	4.90	5.37		10.02	11.24	11.75		0.64	0.32	0.35
3rd Quartile	9.30	3.67	4.66		11.07	12.11	12.75		0.53	0.24	0.30
95th Percentile	6.03	1.28	3.06		12.21	13.21	14.14		0.26	0.01	0.18

Gross of Fees

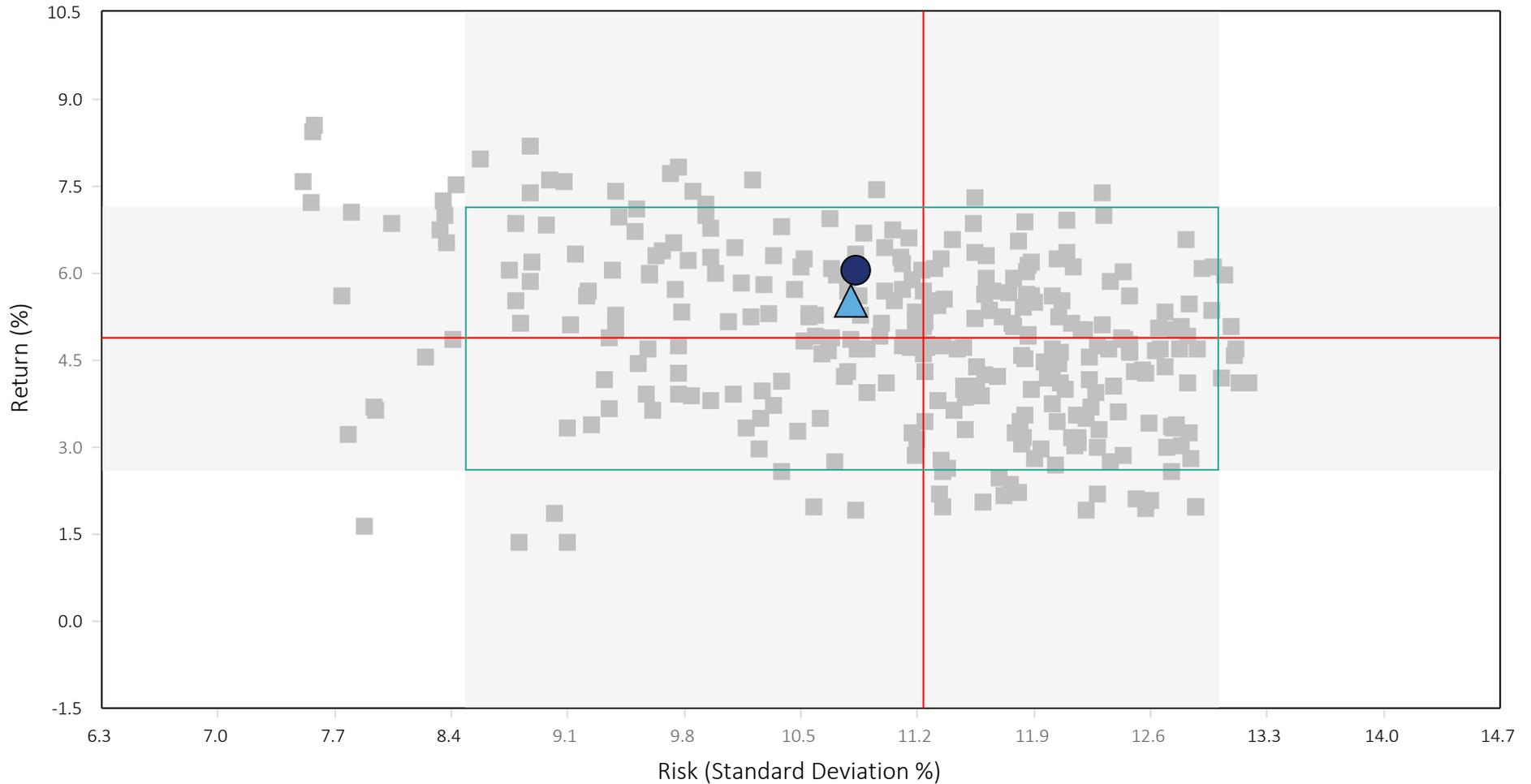
Parentheses contain percentile rankings.

Calculation based on monthly periodicity.

# Plan Sponsor Scattergram

Total Fund vs All Public Plans-Total Fund

Periods Ended October 1, 2020 To September 30, 2023



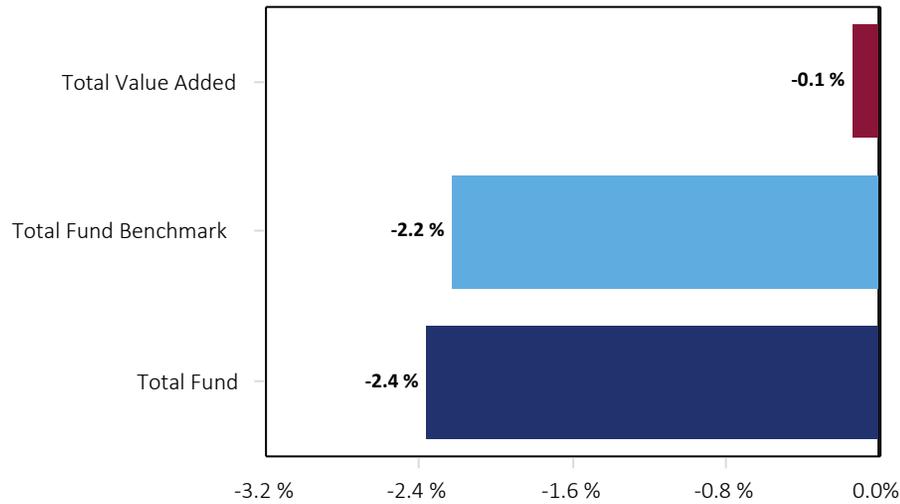
	Return	Standard Deviation
● Total Fund	6.07	10.83
▲ Total Fund Composite Policy	5.52	10.80
— Median	4.90	11.24

# Total Fund Attribution

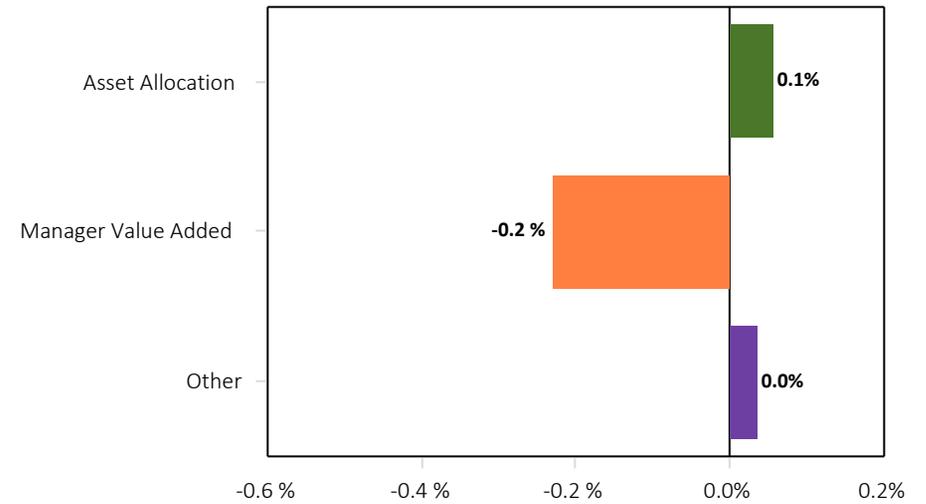
Total Fund

Periods Ended 1 Quarter Ending September 30, 2023

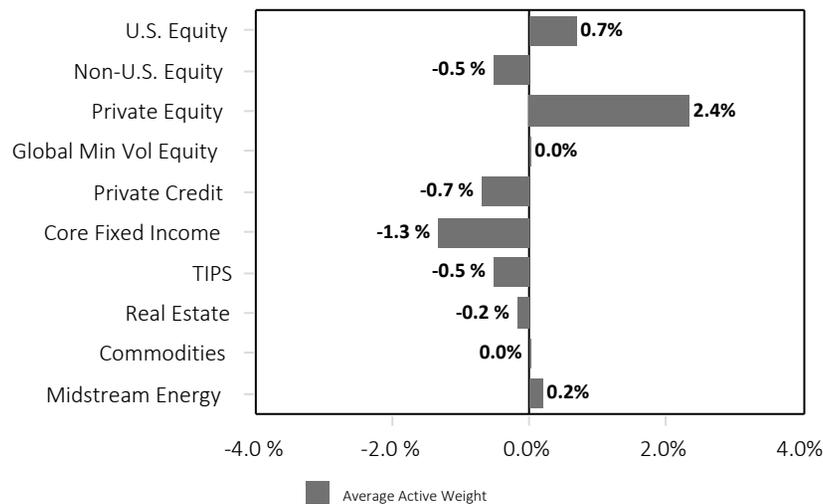
## Total Fund Performance



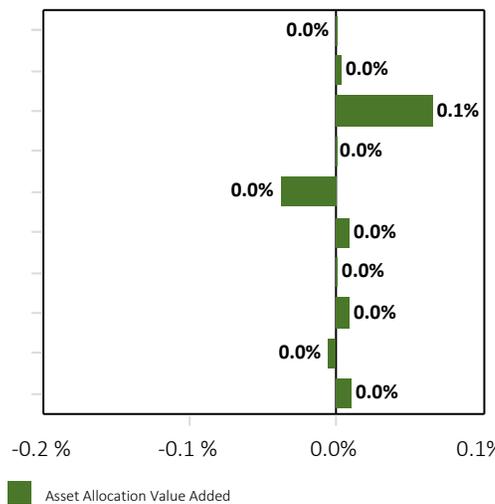
## Total Value Added:-0.1 %



## Total Asset Allocation:0.1%



## Asset Allocation Value Added:0.1%



## Total Manager Value Added:-0.2 %

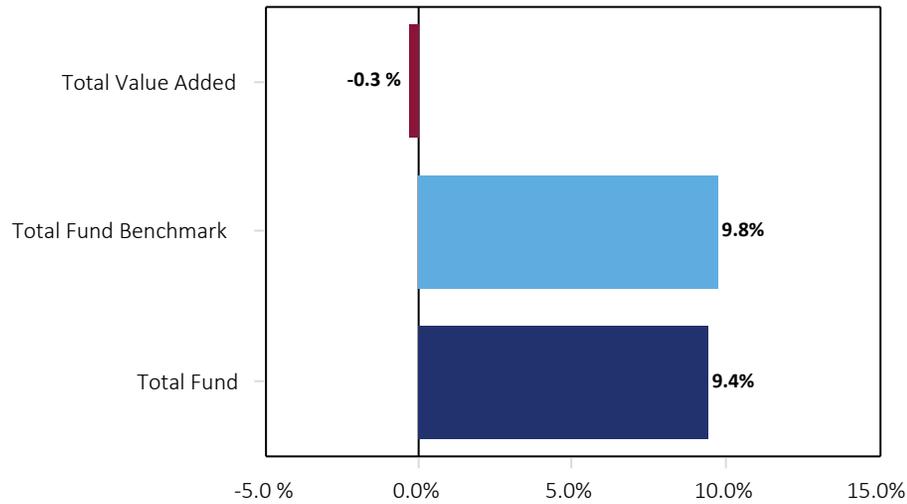


# Total Fund Attribution

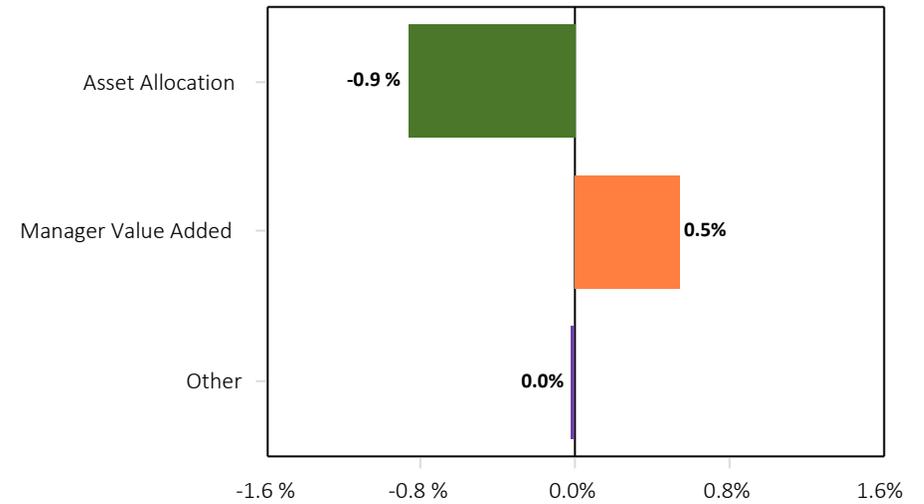
Total Fund

Periods Ended 1 Year Ending September 30, 2023

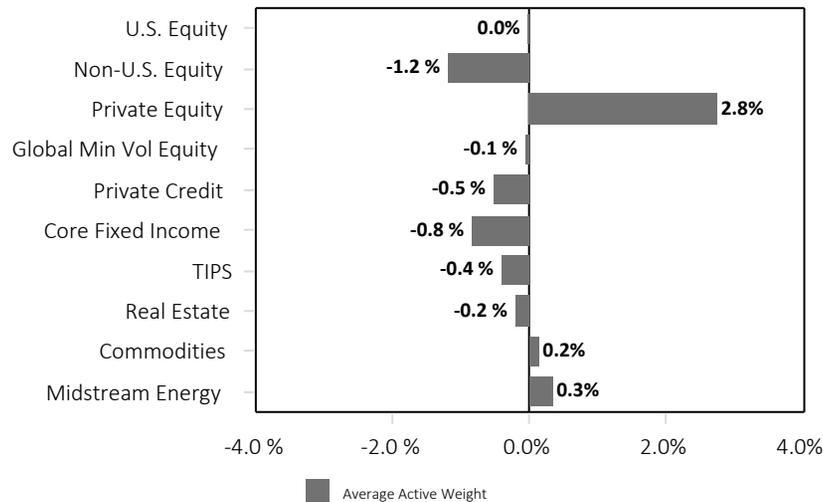
## Total Fund Performance



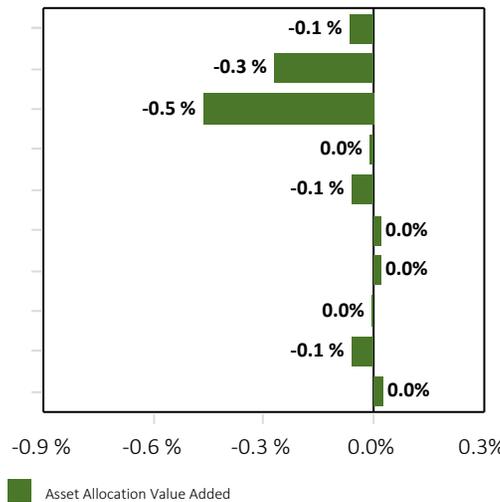
## Total Value Added:-0.3 %



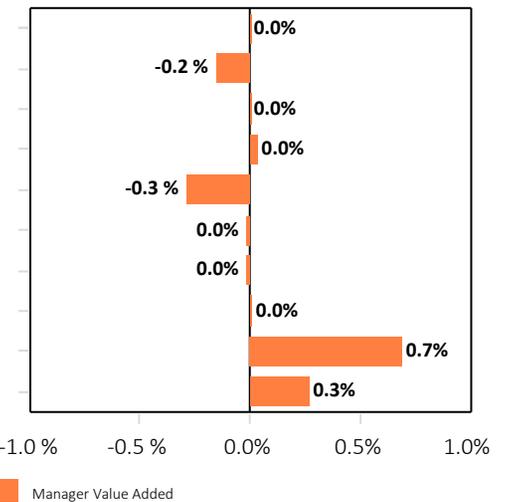
## Total Asset Allocation:-0.9 %



## Asset Allocation Value Added:-0.9 %



## Total Manager Value Added:0.5%

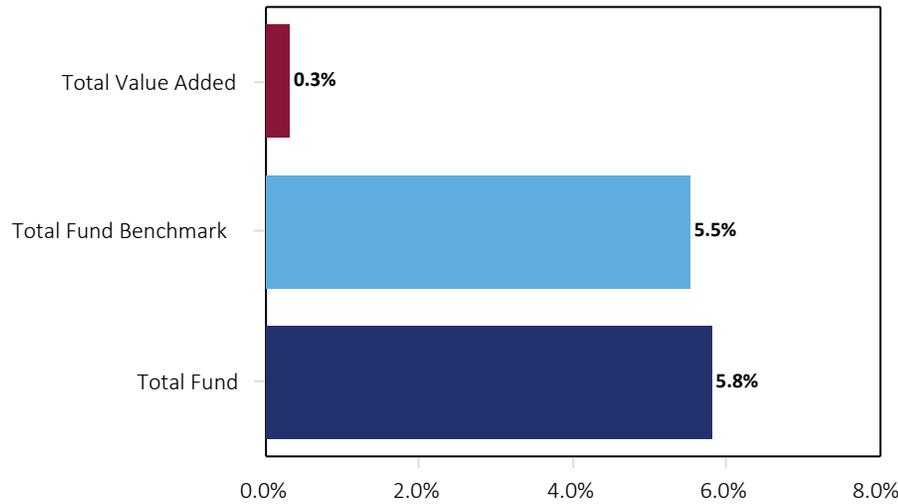


# Total Fund Attribution

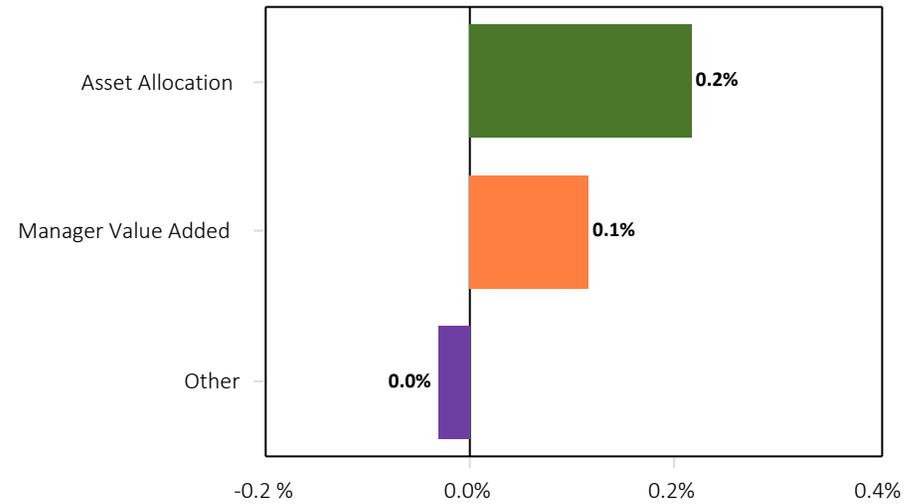
Total Fund

Periods Ended 3 Years Ending September 30, 2023

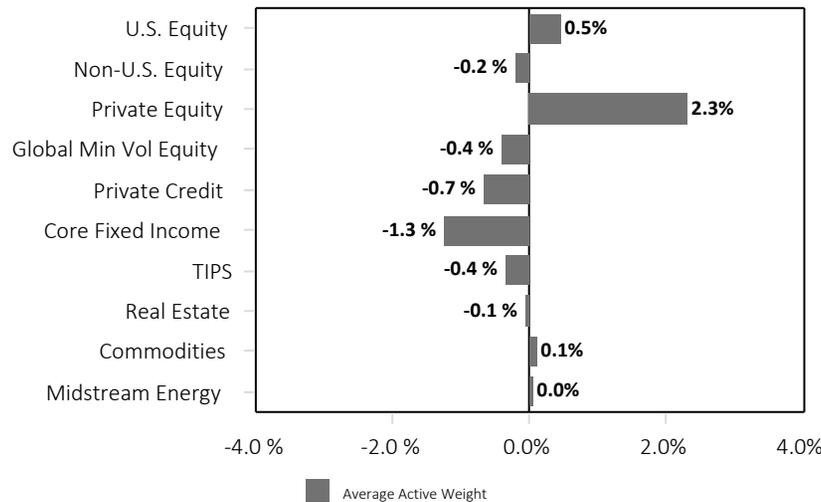
## Total Fund Performance



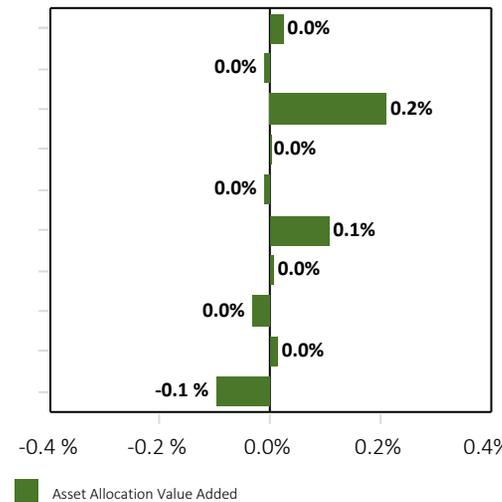
## Total Value Added:0.3%



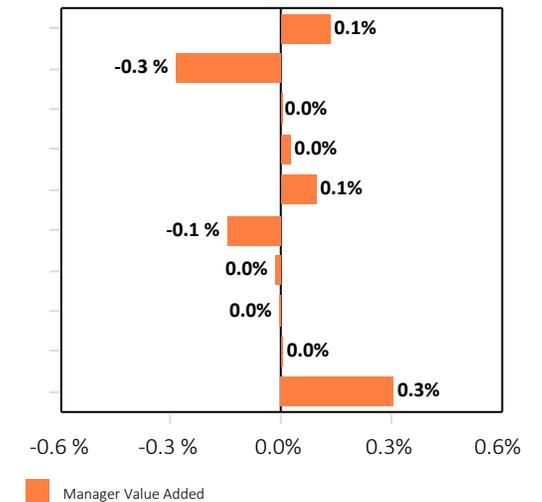
## Total Asset Allocation:0.2%



## Asset Allocation Value Added:0.2%



## Total Manager Value Added:0.1%



# Asset Allocation & Performance

Total Fund

Periods Ended September 30, 2023

	Allocation		Performance (%) net of fees									
	Market Value \$	%	1 Quarter	YTD	FYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Inception	Inception Date
<b>Total Fund</b>	<b>463,369,074</b>	<b>100.00</b>	<b>-2.36</b>	<b>3.53</b>	<b>3.53</b>	<b>9.43</b>	<b>5.83</b>	<b>5.29</b>	<b>6.04</b>	<b>6.04</b>	<b>7.76</b>	<b>10/1/1987</b>
Total Fund Composite Policy			-2.22	3.57	3.57	9.78	5.52	4.70	5.32	5.19	7.53	
Value Added			-0.14	-0.04	-0.04	-0.35	0.31	0.59	0.72	0.85	0.23	
<b>U.S. Equity</b>	<b>81,945,375</b>	<b>17.68</b>	<b>-3.29</b>	<b>12.27</b>	<b>12.27</b>	<b>20.56</b>	<b>10.46</b>	<b>9.34</b>	<b>11.91</b>	<b>11.54</b>	<b>9.73</b>	<b>10/1/1987</b>
FT Wilshire 5000 Index			-3.28	12.52	12.52	20.51	9.73	9.38	11.84	11.49	9.73	
Value Added			-0.01	-0.25	-0.25	0.05	0.73	-0.04	0.07	0.05	0.00	
<b>Non-U.S. Equity</b>	<b>77,111,927</b>	<b>16.64</b>	<b>-6.39</b>	<b>3.85</b>	<b>3.85</b>	<b>19.56</b>	<b>2.08</b>	<b>3.42</b>	<b>5.38</b>	<b>4.49</b>	<b>7.45</b>	<b>1/1/1990</b>
International Equity Composite Policy			-3.77	5.34	5.34	20.39	3.74	2.58	4.73	3.35	4.30	
Value Added			-2.62	-1.49	-1.49	-0.83	-1.66	0.84	0.65	1.14	3.15	
<b>Private Equity</b>	<b>35,270,577</b>	<b>7.61</b>	<b>0.60</b>	<b>-0.24</b>	<b>-0.24</b>	<b>-3.24</b>	<b>24.12</b>	<b>18.88</b>	<b>18.12</b>	<b>15.96</b>	<b>12.46</b>	<b>5/1/2010</b>
Private Equity Policy Index			0.60	-0.24	-0.24	-3.24	24.12	18.88	18.12	15.96	12.46	
Value Added			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
<b>Global Low Volatility Equity</b>	<b>46,551,311</b>	<b>10.05</b>	<b>-2.47</b>	<b>1.46</b>	<b>1.46</b>	<b>10.16</b>	<b>3.53</b>				<b>4.05</b>	<b>6/1/2019</b>
MSCI AC World Minimum Volatility Index (Net)			-2.51	1.18	1.18	9.76	3.24				3.72	
Value Added			0.04	0.28	0.28	0.40	0.29				0.33	
<b>Private Credit</b>	<b>20,913,167</b>	<b>4.51</b>	<b>2.14</b>	<b>5.50</b>	<b>5.50</b>	<b>6.62</b>	<b>8.43</b>	<b>4.84</b>			<b>4.84</b>	<b>10/1/2018</b>
Morningstar LSTA US Leveraged Loan			3.43	10.13	10.13	13.02	6.07	4.46			4.46	
Value Added			-1.29	-4.63	-4.63	-6.40	2.36	0.38			0.38	
<b>Core Fixed Income</b>	<b>106,930,197</b>	<b>23.08</b>	<b>-3.79</b>	<b>-1.63</b>	<b>-1.63</b>	<b>0.59</b>	<b>-5.73</b>	<b>0.17</b>	<b>0.24</b>	<b>1.68</b>	<b>5.77</b>	<b>10/1/1987</b>
Blmbg. U.S. Aggregate Index			-3.23	-1.21	-1.21	0.64	-5.21	0.10	-0.09	1.13	5.41	
Value Added			-0.56	-0.42	-0.42	-0.05	-0.52	0.07	0.33	0.55	0.36	

# Asset Allocation & Performance

Total Fund

Periods Ended September 30, 2023

	Allocation		Performance (%) net of fees									
	Market Value \$	%	1 Quarter	YTD	FYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Inception	Inception Date
<b>Total Real Assets Composite</b>	<b>91,809,318</b>	<b>19.81</b>	<b>1.54</b>	<b>4.00</b>	<b>4.00</b>	<b>9.48</b>	<b>13.74</b>	<b>5.92</b>	<b>4.51</b>		<b>3.30</b>	<b>4/1/2015</b>
Real Assets Composite Policy			1.04	3.42	3.42	8.48	15.53	5.71	4.43		3.19	
Value Added			0.50	0.58	0.58	1.00	-1.79	0.21	0.08		0.11	
<b>TIPS</b>	<b>20,916,195</b>	<b>4.51</b>	<b>-2.74</b>	<b>-0.96</b>	<b>-0.96</b>	<b>0.97</b>	<b>-2.29</b>	<b>1.85</b>	<b>1.23</b>		<b>1.46</b>	<b>5/1/2015</b>
Blmbg. U.S. TIPS Index			-2.60	-0.78	-0.78	1.25	-1.98	2.12	1.46		1.63	
Value Added			-0.14	-0.18	-0.18	-0.28	-0.31	-0.27	-0.23		-0.17	
<b>Real Estate</b>	<b>21,250,925</b>	<b>4.59</b>	<b>-7.29</b>	<b>-1.74</b>	<b>-1.74</b>	<b>2.87</b>	<b>5.97</b>	<b>2.90</b>	<b>2.23</b>	<b>3.53</b>	<b>6.93</b>	<b>6/1/2009</b>
Real Estate Policy Index			-7.40	-2.05	-2.05	2.61	6.11	0.96	1.28	3.17	7.04	
Value Added			0.11	0.31	0.31	0.26	-0.14	1.94	0.95	0.36	-0.11	
<b>Commodities</b>	<b>24,666,516</b>	<b>5.32</b>	<b>8.09</b>	<b>4.21</b>	<b>4.21</b>	<b>11.30</b>	<b>16.99</b>	<b>8.89</b>	<b>7.42</b>	<b>1.35</b>	<b>-0.02</b>	<b>2/1/2013</b>
Bloomberg Commodity Index Total Return			4.71	-3.44	-3.44	-1.30	16.23	6.13	4.68	-0.75	-1.75	
Value Added			3.38	7.65	7.65	12.60	0.76	2.76	2.74	2.10	1.73	
S&P GSCI Equal Weight Index			6.60	2.44	2.44	9.55	16.98	8.18	7.21	1.15	-0.15	
Value Added			1.49	1.77	1.77	1.75	0.01	0.71	0.21	0.20	0.13	
<b>Midstream Energy Composite</b>	<b>24,975,682</b>	<b>5.39</b>	<b>7.63</b>	<b>14.02</b>	<b>14.02</b>	<b>21.85</b>	<b>36.63</b>	<b>6.64</b>	<b>5.31</b>		<b>1.93</b>	<b>3/1/2015</b>
Midstream Energy Policy Index			2.49	7.11	7.11	16.09	29.36	0.54	-0.74		-4.96	
Value Added			5.14	6.91	6.91	5.76	7.27	6.10	6.05		6.89	

# Historical Hybrid Composition

## Grand Rapids General Retirement System

Periods Ended September 30, 2023

Policy Index	Weight (%)
<b>Jan-1976</b>	
FT Wilshire 5000 Index	55.00
Blmbg. U.S. Aggregate Index	40.00
MSCI EAFE (Net)	5.00
<b>Jul-1998</b>	
FT Wilshire 5000 Index	50.00
Blmbg. U.S. Aggregate Index	40.00
MSCI EAFE (Net)	10.00
<b>Oct-2002</b>	
FT Wilshire 5000 Index	50.00
Blmbg. U.S. Aggregate Index	35.00
MSCI EAFE (Net)	15.00
<b>Apr-2006</b>	
FT Wilshire 5000 Index	55.00
Blmbg. U.S. Aggregate Index	30.00
MSCI EAFE (Net)	15.00
<b>Jul-2006</b>	
FT Wilshire 5000 Index	55.00
Blmbg. U.S. Aggregate Index	30.00
MSCI AC World ex USA (Net)	15.00
<b>Jul-2009</b>	
FT Wilshire 5000 Index	50.00
Blmbg. U.S. Aggregate Index	30.00
MSCI AC World ex USA (Net)	15.00
FTSE EPRA/NAREIT Developed Index (Net)	5.00

Policy Index	Weight (%)
<b>Apr-2010</b>	
FT Wilshire 5000 Index	50.00
Blmbg. U.S. Aggregate Index	30.00
MSCI AC World ex USA (Net)	15.00
FTSE EPRA/NAREIT Developed Index (Net)	5.00
<b>May-2010</b>	
FT Wilshire 5000 Index	45.00
Blmbg. U.S. Aggregate Index	30.00
MSCI AC World ex USA (Net)	15.00
FTSE EPRA/NAREIT Developed Index (Net)	5.00
Private Equity	5.00
<b>Jul-2010</b>	
FT Wilshire 5000 Index	45.00
Blmbg. U.S. Aggregate Index	30.00
MSCI AC World ex USA (Net)	15.00
FTSE EPRA/NAREIT Developed Index (Net)	5.00
Private Equity Policy Index	5.00
<b>Jan-2013</b>	
FT Wilshire 5000 Index	40.00
Blmbg. U.S. Aggregate Index	30.00
MSCI AC World ex USA (Net)	15.00
FTSE EPRA/NAREIT Developed Index (Net)	5.00
Private Equity Policy Index	5.00
Bloomberg Commodity Index Total Return	5.00

# Historical Hybrid Composition

## Grand Rapids General Retirement System

Periods Ended September 30, 2023

Policy Index	Weight (%)
<b>Apr-2015</b>	
FT Wilshire 5000 Index	22.50
Blmbg. U.S. Aggregate Index	25.00
MSCI AC World ex USA (Net)	22.50
FTSE EPRA/NAREIT Developed Index (Net)	5.00
Private Equity Policy Index	5.00
Bloomberg Commodity Index Total Return	5.00
S&P MLP Index	5.00
Blmbg. U.S. TIPS Index	10.00
<b>Dec-2018</b>	
FT Wilshire 5000 Index	22.50
Blmbg. U.S. Aggregate Index	25.00
MSCI AC World ex USA (Net)	22.50
FTSE EPRA/NAREIT Developed Index (Net)	5.00
Private Equity Policy Index	5.00
Bloomberg Commodity Index Total Return	5.00
S&P MLP Index	5.00
Blmbg. U.S. TIPS Index	10.00

Policy Index	Weight (%)
<b>Jul-2019</b>	
FT Wilshire 5000 Index	17.75
Blmbg. U.S. Aggregate Index	24.50
MSCI AC World ex USA (Net)	17.75
FTSE EPRA/NAREIT Developed Index (Net)	5.00
Private Equity Policy Index	5.00
Bloomberg Commodity Index Total Return	5.00
Alerian MLP Index	5.00
Blmbg. U.S. TIPS Index	5.00
S&P LSTA Leverage Loan Index	5.00
MSCI AC World Minimum Volatility Index (Net)	10.00
<b>Oct-2019</b>	
FT Wilshire 5000 Index	17.75
MSCI AC World ex USA (Net)	17.75
MSCI AC World Minimum Volatility Index (Net)	10.00
Private Equity Policy Index	5.00
S&P LSTA Leverage Loan Index	5.00
Blmbg. U.S. Aggregate Index	24.50
Blmbg. U.S. TIPS Index	5.00
Dow Jones U.S. Select REIT Total Return Index	5.00
Bloomberg Commodity Index Total Return	5.00
Alerian MLP Index	5.00

# Historical Hybrid Composition

## Grand Rapids General Retirement System

*Periods Ended September 30, 2023*

<b>Policy Index</b>	<b>Weight (%)</b>
<b>Oct-2020</b>	
FT Wilshire 5000 Index	17.75
MSCI AC World ex USA (Net)	17.75
Private Equity Policy Index	5.00
MSCI AC World Minimum Volatility Index (Net)	10.00
S&P LSTA Leverage Loan Index	5.00
Blmbg. U.S. Aggregate Index	24.50
Blmbg. U.S. TIPS Index	5.00
Dow Jones U.S. Select REIT Total Return Index	5.00
Bloomberg Commodity Index Total Return	5.00
Alerian Midstream Energy Index	5.00

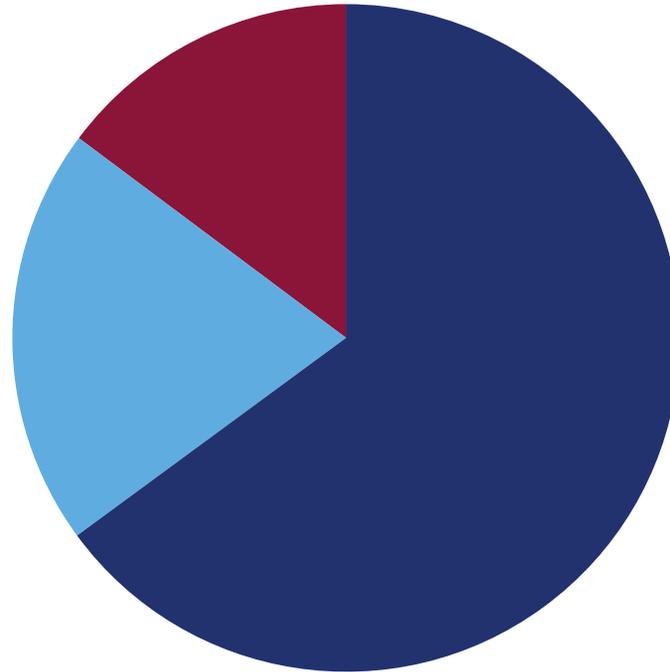
# U.S. Equity

# Asset Allocation By Manager

U.S. Equity

Periods Ended September 30, 2023

Sep-2023 : 81,945,374.9



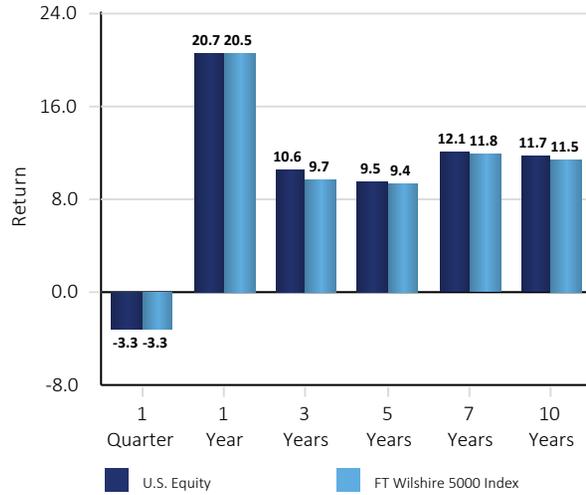
	Market Value \$	Allocation (%)
■ NTAM S&P 500	53,197,244	64.9
■ PIMCO Stock Plus	16,634,265	20.3
■ Wellington Small Cap	12,113,866	14.8

## Performance Summary

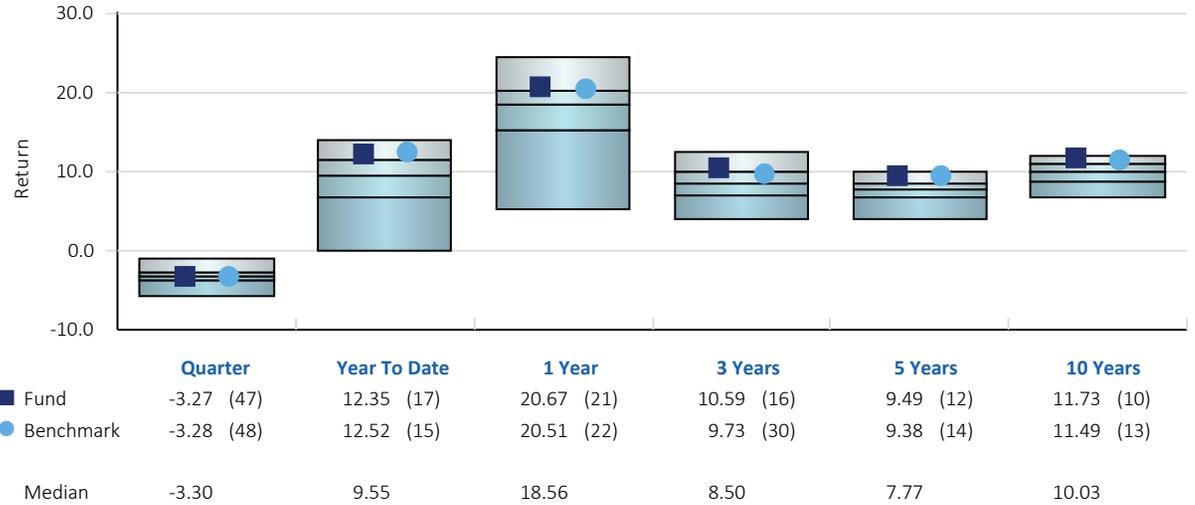
### U.S. Equity

Periods Ended September 30, 2023

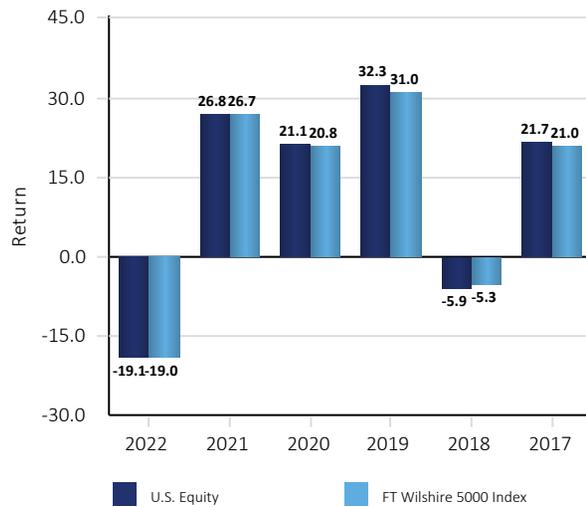
#### Comparative Performance



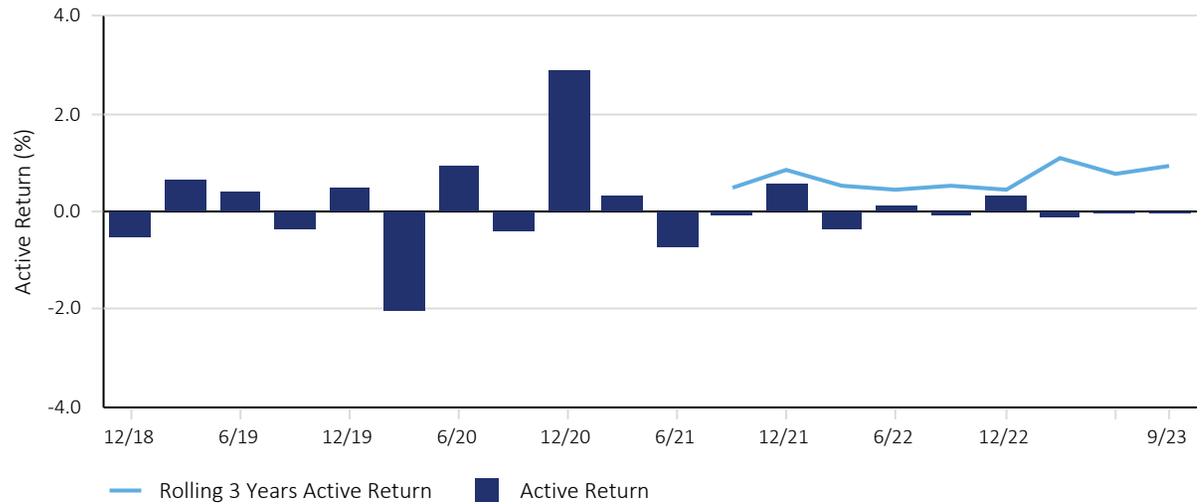
#### Peer Group Analysis: All Master Trust-US Equity Segment



#### Comparative Performance



#### Rolling 3 Years Performance

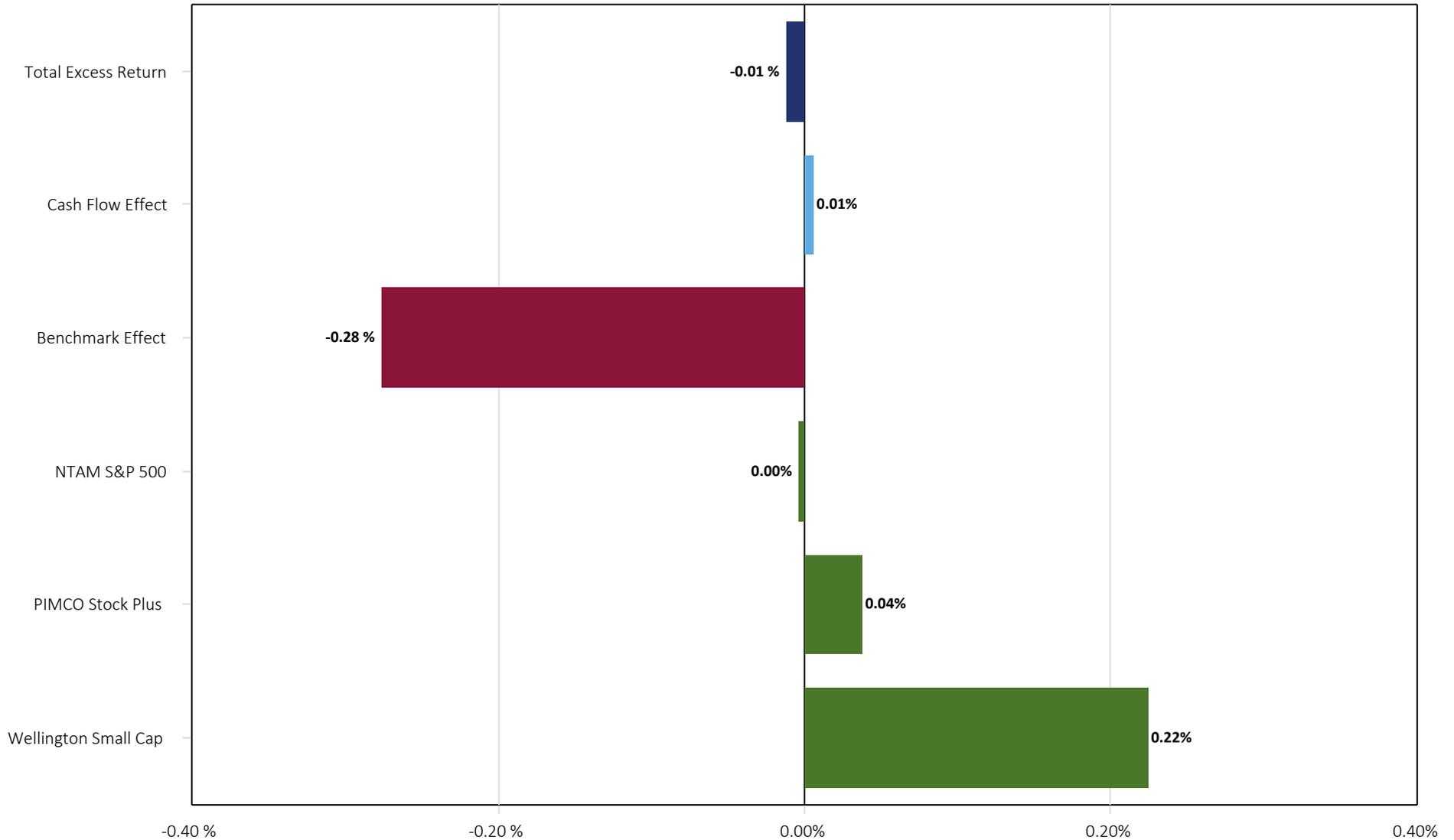


# Asset Class Attribution

U.S. Equity

Periods Ended 1 Quarter Ending September 30, 2023

1 Quarter



# Asset Allocation & Performance

## U.S. Equity

Periods Ended September 30, 2023

	Allocation		Performance (%) net of fees									
	Market Value \$	%	1 Quarter	YTD	FYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Inception	Inception Date
<b>U.S. Equity</b>	<b>81,945,375</b>	<b>100.00</b>	<b>-3.29</b>	<b>12.27</b>	<b>12.27</b>	<b>20.56</b>	<b>10.46</b>	<b>9.34</b>	<b>11.91</b>	<b>11.54</b>	<b>9.73</b>	<b>10/1/1987</b>
FT Wilshire 5000 Index			-3.28	12.52	12.52	20.51	9.73	9.38	11.84	11.49	9.73	
Value Added			-0.01	-0.25	-0.25	0.05	0.73	-0.04	0.07	0.05	0.00	
<b>NTAM S&amp;P 500</b>	<b>53,197,244</b>	<b>64.92</b>	<b>-3.28</b>	<b>13.05</b>	<b>13.05</b>	<b>21.59</b>	<b>10.13</b>	<b>9.92</b>	<b>12.23</b>	<b>11.92</b>	<b>8.51</b>	<b>4/1/1998</b>
NTAM Policy			-3.27	13.07	13.07	21.62	10.15	9.92	12.24	11.91	7.58	
Value Added			-0.01	-0.02	-0.02	-0.03	-0.02	0.00	-0.01	0.01	0.93	
<b>PIMCO Stock Plus</b>	<b>16,634,265</b>	<b>20.30</b>	<b>-3.08</b>	<b>13.63</b>	<b>13.63</b>	<b>21.99</b>	<b>9.15</b>	<b>9.48</b>	<b>12.03</b>	<b>11.73</b>	<b>6.90</b>	<b>6/1/2000</b>
S&P 500 Index			-3.27	13.07	13.07	21.62	10.15	9.92	12.24	11.91	6.86	
Value Added			0.19	0.56	0.56	0.37	-1.00	-0.44	-0.21	-0.18	0.04	
<b>Wellington Small Cap</b>	<b>12,113,866</b>	<b>14.78</b>	<b>-3.61</b>	<b>7.04</b>	<b>7.04</b>	<b>14.19</b>	<b>9.34</b>	<b>6.27</b>	<b>9.92</b>	<b>9.70</b>	<b>10.60</b>	<b>9/1/1999</b>
Russell 2000 Index			-5.13	2.54	2.54	8.93	7.16	2.40	6.62	6.65	7.53	
Value Added			1.52	4.50	4.50	5.26	2.18	3.87	3.30	3.05	3.07	

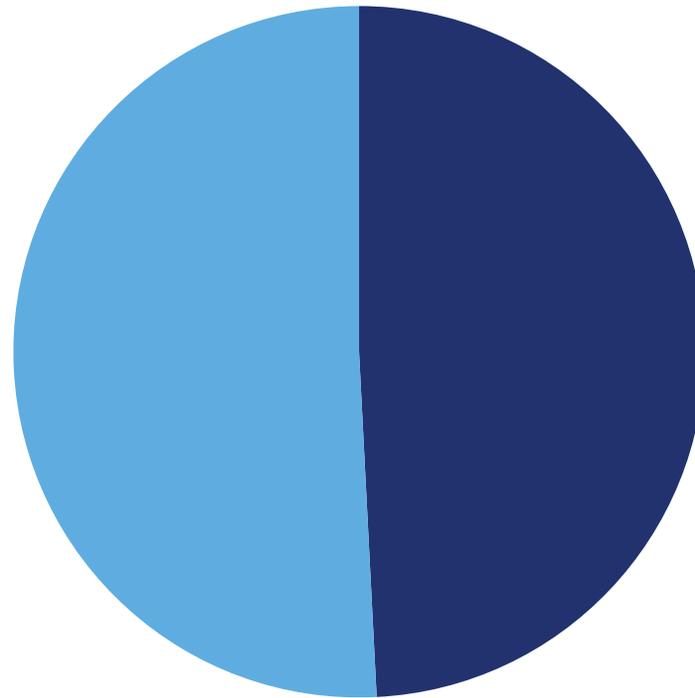
# Non-U.S. Equity

# Asset Allocation By Manager

Non-U.S. Equity

Periods Ended September 30, 2023

Sep-2023 : 77,111,927.2



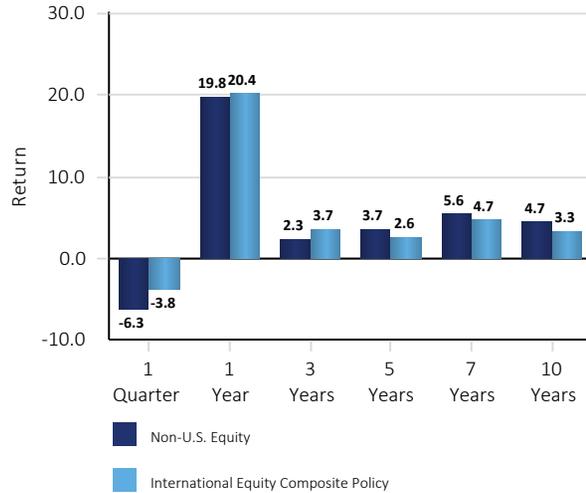
	Market Value \$	Allocation (%)
■ Harding Loevner	37,933,149	49.2
■ Neuberger Berman CIT	39,178,778	50.8

# Performance Summary

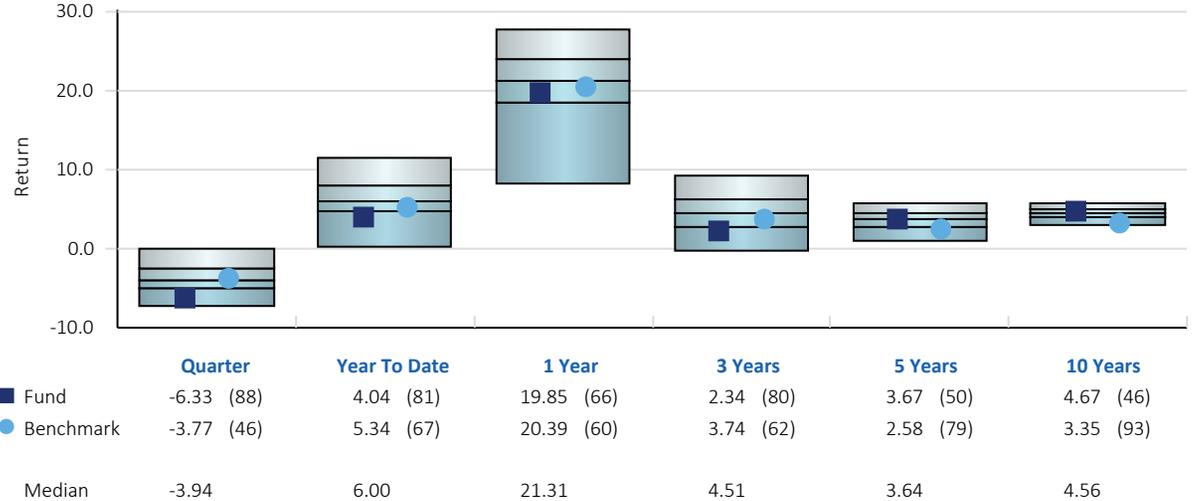
## Non-U.S. Equity

Periods Ended September 30, 2023

### Comparative Performance



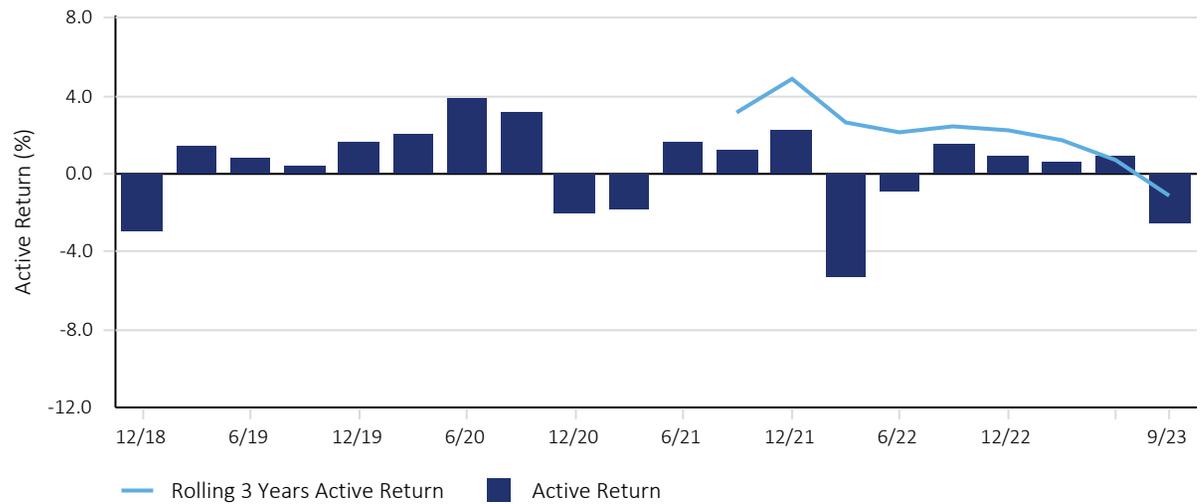
### Peer Group Analysis: All Master Trust-Intl. Equity Segment



### Comparative Performance



### Rolling 3 Years Performance

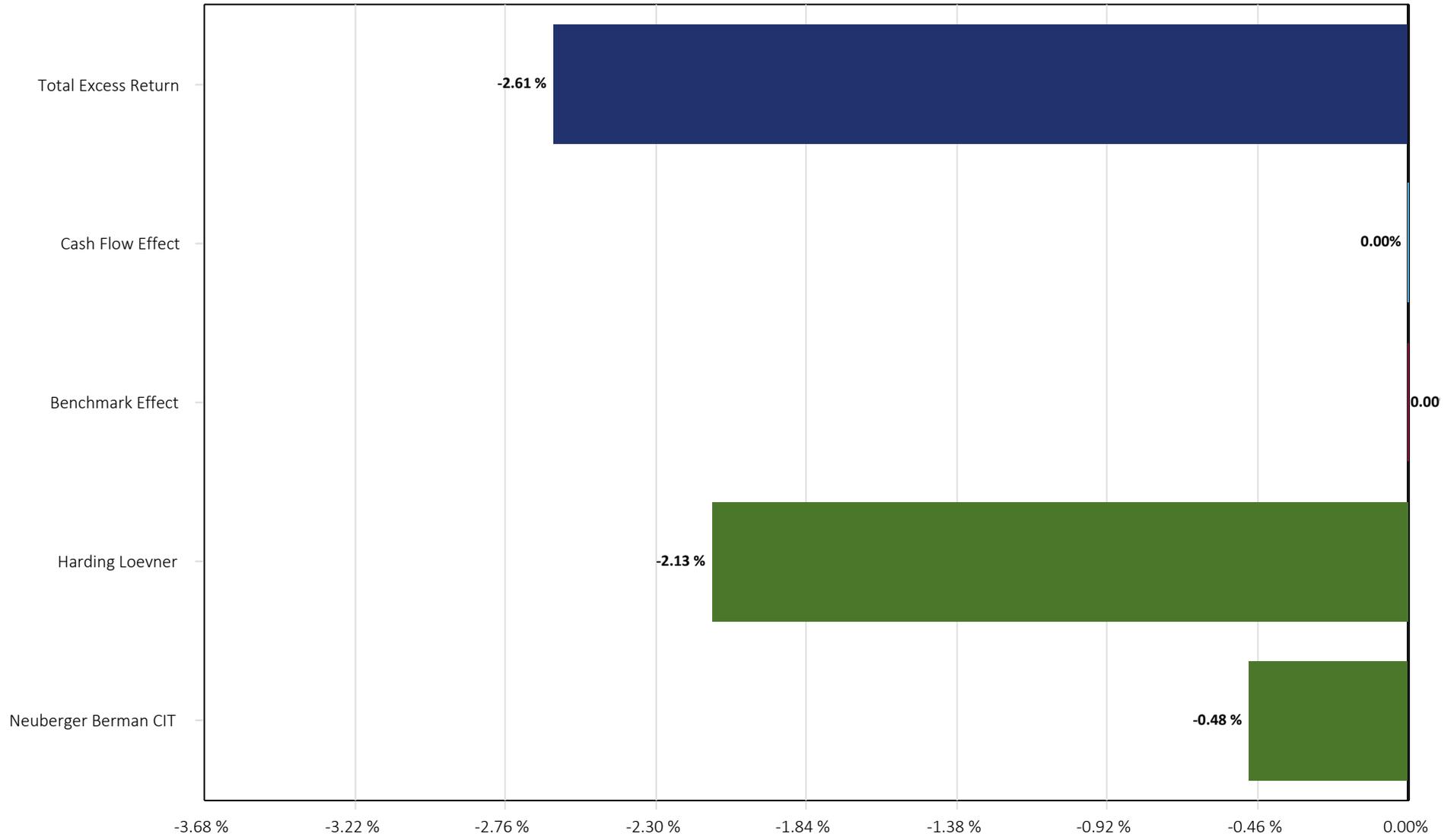


# Asset Class Attribution

Non-U.S. Equity

Periods Ended 1 Quarter Ending September 30, 2023

1 Quarter



# Asset Allocation & Performance

## Non-U.S. Equity

Periods Ended September 30, 2023

	Allocation		Performance (%) net of fees									
	Market Value \$	%	1 Quarter	YTD	FYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Inception	Inception Date
<b>Non-U.S. Equity</b>	<b>77,111,927</b>	<b>100.00</b>	<b>-6.39</b>	<b>3.85</b>	<b>3.85</b>	<b>19.56</b>	<b>2.08</b>	<b>3.42</b>	<b>5.38</b>	<b>4.49</b>	<b>7.45</b>	<b>1/1/1990</b>
International Equity Composite Policy			-3.77	5.34	5.34	20.39	3.74	2.58	4.73	3.35	4.30	
Value Added			-2.62	-1.49	-1.49	-0.83	-1.66	0.84	0.65	1.14	3.15	
<b>Harding Loevner</b>	<b>37,933,149</b>	<b>49.19</b>	<b>-8.03</b>	<b>3.17</b>	<b>3.17</b>	<b>18.72</b>	<b>1.53</b>	<b>2.69</b>	<b>5.26</b>		<b>4.50</b>	<b>4/1/2015</b>
MSCI AC World ex USA (Net)			-3.77	5.34	5.34	20.39	3.74	2.58	4.73		3.44	
Value Added			-4.26	-2.17	-2.17	-1.67	-2.21	0.11	0.53		1.06	
<b>Neuberger Berman CIT</b>	<b>39,178,778</b>	<b>50.81</b>	<b>-4.74</b>	<b>4.51</b>	<b>4.51</b>	<b>20.38</b>	<b>2.62</b>	<b>3.97</b>			<b>3.62</b>	<b>7/1/2018</b>
MSCI AC World ex USA (Net)			-3.77	5.34	5.34	20.39	3.74	2.58			2.59	
Value Added			-0.97	-0.83	-0.83	-0.01	-1.12	1.39			1.03	

# Private Equity

# Private Equity Composite Overview

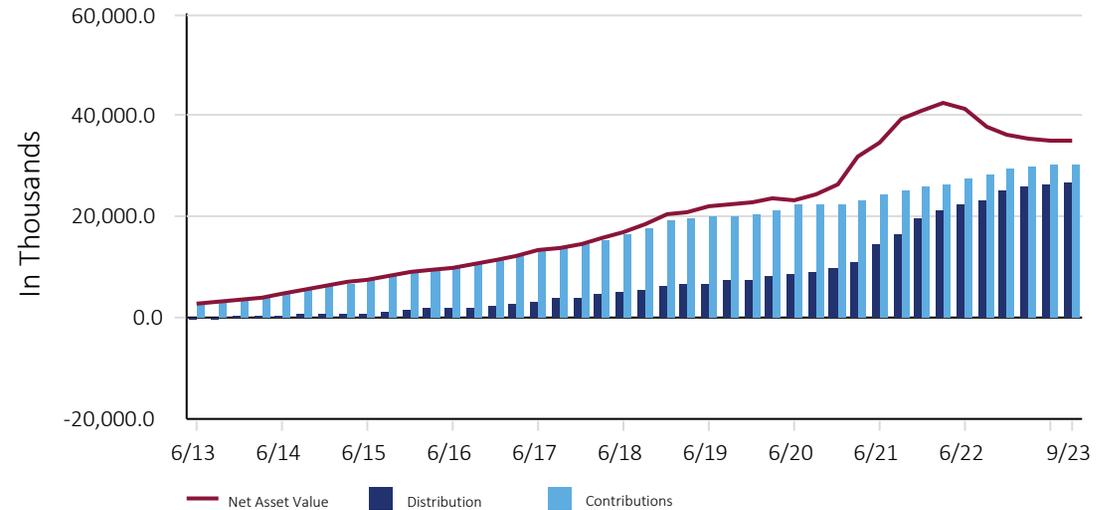
## Private Equity

Periods Ended As of September 30, 2023

### Cash Flow Summary

Capital Committed:	34,500,000
Capital Invested:	9,386,860
Total Contributions:	30,487,634
Remaining Capital Commitment:	4,381,121
Total Distributions:	27,004,829
Market Value:	35,270,577
Inception Date:	5/1/2010
Inception IRR:	16.4
TVPI:	2.0

### Cash Flow Analysis



### Private Equity Portfolio

Partnerships	Capital Committed \$	Total Contribution \$	Total Distribution \$	Market Value \$	IRR (%)	TVPI Multiple (%)
Adams Street 2010 Direct Fund	500,000	480,500	730,781	165,321	11.6	1.9
Adams Street 2010 EM Fund	500,000	449,000	485,123	418,660	10.1	2.0
Adams Street 2010 Non-US Fund	1,500,000	1,350,750	1,947,139	597,155	12.4	1.9
Adams Street 2010 US Fund	2,500,000	2,202,500	4,049,918	1,480,041	16.2	2.5
Adams Street 2013 Global Fund	5,000,000	4,621,316	4,668,812	5,041,590	13.6	2.1
Adams Street 2015 Global	6,500,000	5,735,026	4,613,865	8,183,847	21.5	2.2
Adams Street 2017 Global Fund	6,000,000	4,792,008	1,486,406	7,892,646	20.4	2.0
Aberdeen Global	5,000,000	4,950,000	8,220,004	4,357,591	15.9	2.5
Adams Street 2019 Global	7,000,000	5,906,534	802,781	7,133,726	22.5	1.3

# Private Equity Composite Overview

## Private Equity

*Periods Ended As of September 30, 2023*

<b>Partnerships</b>	<b>Capital Committed \$</b>	<b>Total Contribution \$</b>	<b>Total Distribution \$</b>	<b>Market Value \$</b>	<b>IRR (%)</b>	<b>TVPI Multiple (%)</b>
Private Equity	34,500,000	30,487,634	27,004,829	35,270,577	16.4	2.0

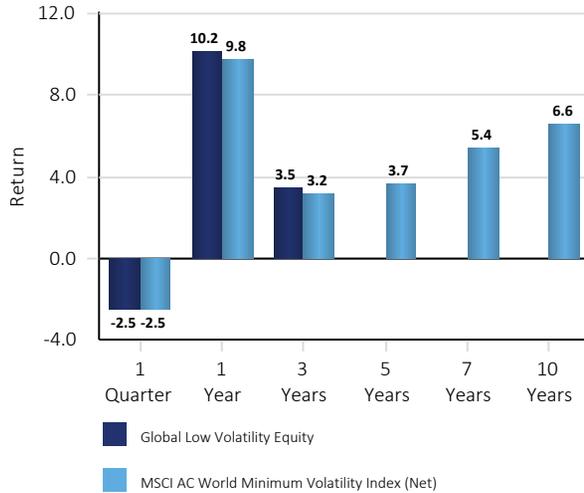
# Global Low Volatility Equity

# Performance Summary

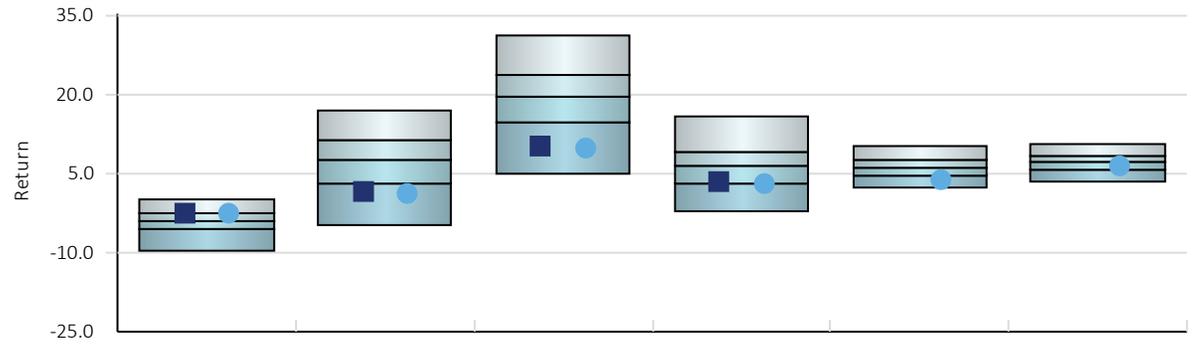
## Global Low Volatility Equity

Periods Ended September 30, 2023

### Comparative Performance

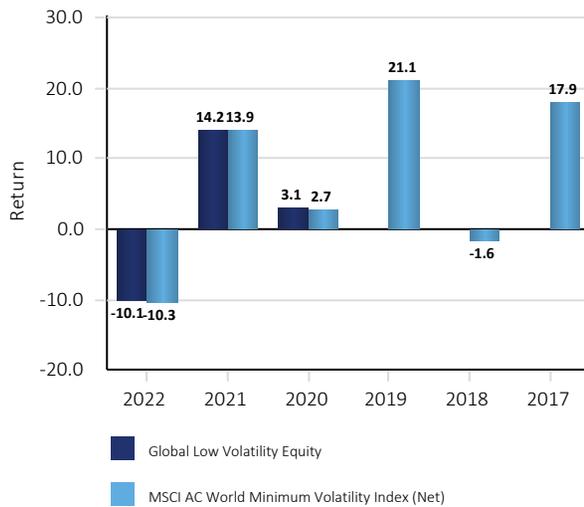


### Peer Group Analysis: IM Global Equity (SA+CF)

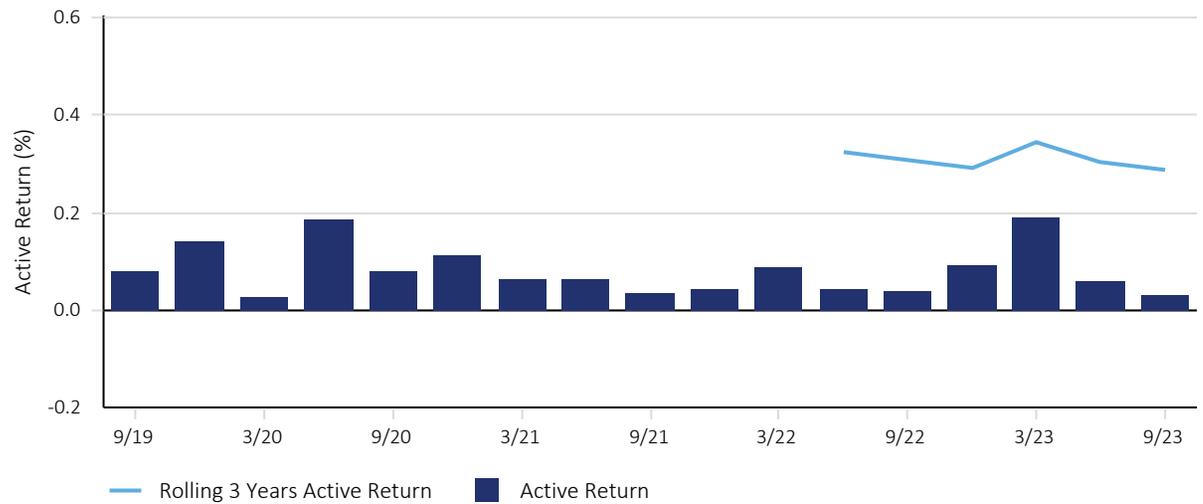


	Quarter	Year To Date	1 Year	3 Years	5 Years	10 Years
■ Fund	-2.47 (25)	1.46 (82)	10.16 (87)	3.53 (71)	3.71 (86)	6.59 (63)
● Benchmark	-2.51 (26)	1.18 (83)	9.76 (88)	3.24 (75)	3.71 (86)	6.59 (63)
Median	-3.99	7.62	19.78	6.33	6.01	7.15

### Comparative Performance



### Rolling 3 Years Performance



# Asset Allocation & Performance

## Global Low Volatility Equity

Periods Ended September 30, 2023

	Allocation		Performance (%) net of fees									
	Market Value \$	%	1 Quarter	YTD	FYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Inception	Inception Date
<b>Global Low Volatility Equity</b>	<b>46,551,311</b>	<b>100.00</b>	<b>-2.47</b>	<b>1.46</b>	<b>1.46</b>	<b>10.16</b>	<b>3.53</b>				<b>4.05</b>	<b>6/1/2019</b>
MSCI AC World Minimum Volatility Index (Net)			-2.51	1.18	1.18	9.76	3.24				3.72	
Value Added			0.04	0.28	0.28	0.40	0.29				0.33	
<b>BlackRock MSCI ACWI Min Vol</b>	<b>46,551,311</b>	<b>100.00</b>	<b>-2.47</b>	<b>1.46</b>	<b>1.46</b>	<b>10.16</b>	<b>3.53</b>				<b>4.05</b>	<b>6/1/2019</b>
MSCI AC World Minimum Volatility Index (Net)			-2.51	1.18	1.18	9.76	3.24				3.72	
Value Added			0.04	0.28	0.28	0.40	0.29				0.33	

# Private Credit

# Private Credit Composite Overview

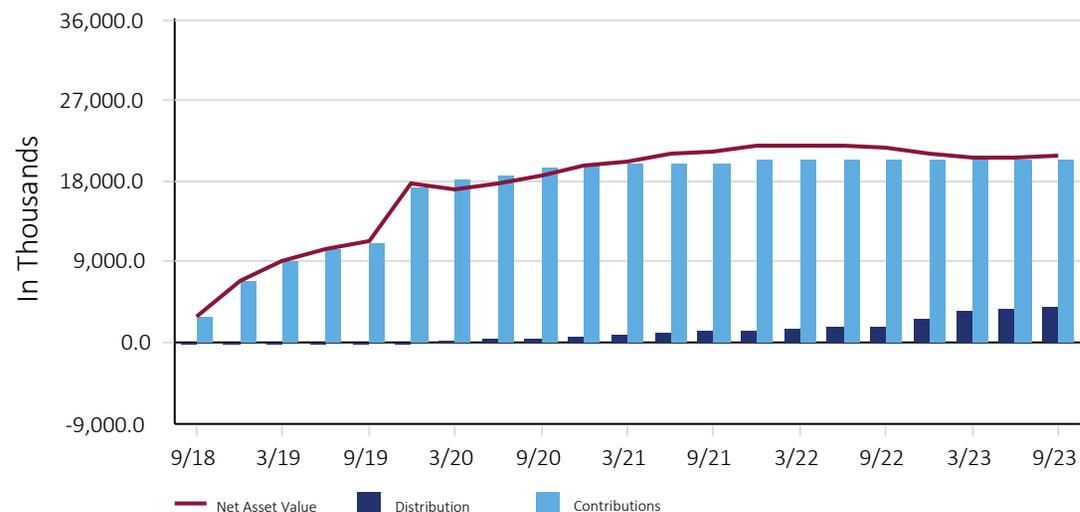
## Private Credit

Periods Ended As of September 30, 2023

### Cash Flow Summary

Capital Committed:	21,000,000
Capital Invested:	2,670,227
Total Contributions:	20,290,736
Remaining Capital Commitment:	709,264
Total Distributions:	3,972,830
Market Value:	20,913,167
Inception Date:	10/1/2018
Inception IRR:	5.3
TVPI:	1.2

### Cash Flow Analysis



### Private Equity Portfolio

Partnerships	Capital Committed \$	Total Contribution \$	Total Distribution \$	Market Value \$	IRR (%)	TVPI Multiple (%)
50 South Capital Private Credit	7,000,000	6,290,736	3,165,690	4,654,406	7.3	1.2
Grosvenor PC	14,000,000	14,000,000	807,139	16,258,761	4.7	1.2
Private Credit	21,000,000	20,290,736	3,972,830	20,913,167	5.3	1.2

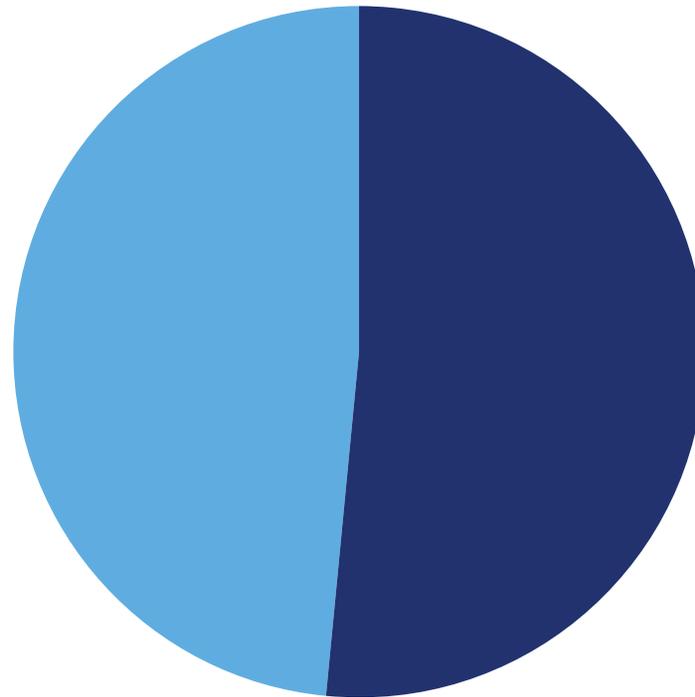
# Core Fixed Income

# Asset Allocation By Manager

Core Fixed Income

Periods Ended September 30, 2023

Sep-2023 : 106,930,197.3



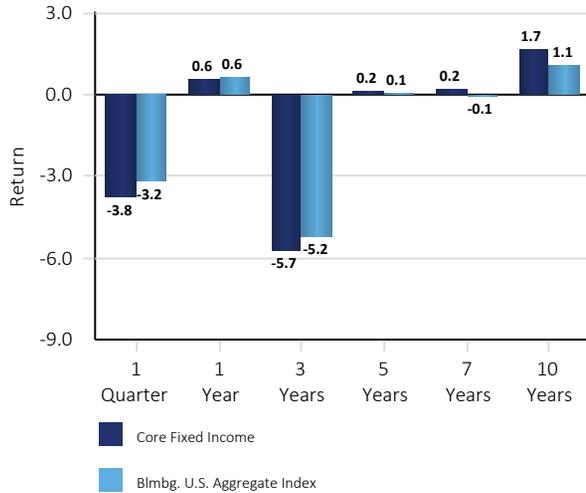
	Market Value \$	Allocation (%)
■ Baird Advisors	55,099,363	51.5
■ Western Asset Management	51,830,834	48.5

# Performance Summary

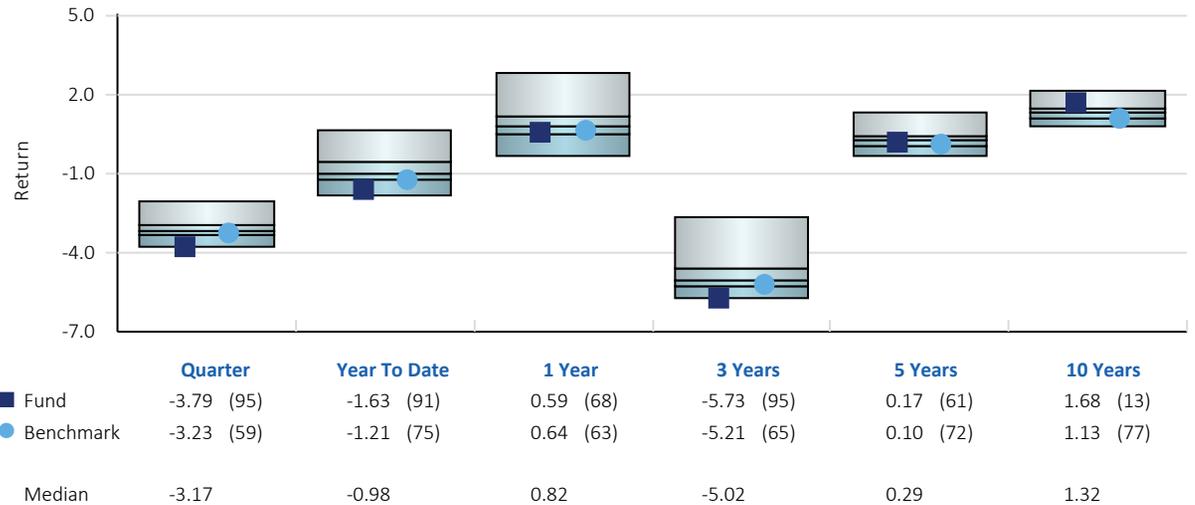
## Core Fixed Income

Periods Ended September 30, 2023

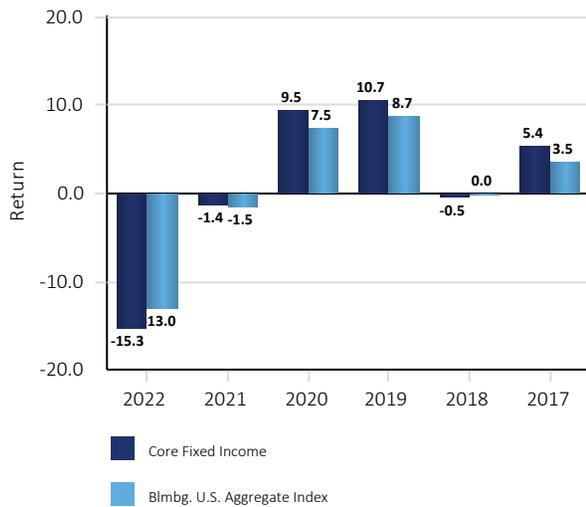
### Comparative Performance



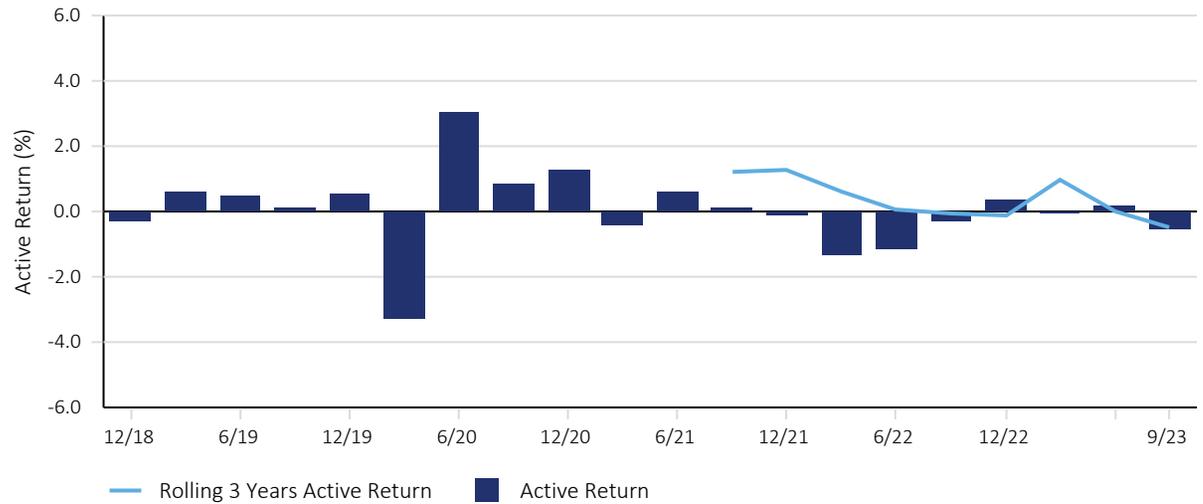
### Peer Group Analysis: IM U.S. Broad Market Core Fixed Income (SA+CF)



### Comparative Performance



### Rolling 3 Years Performance

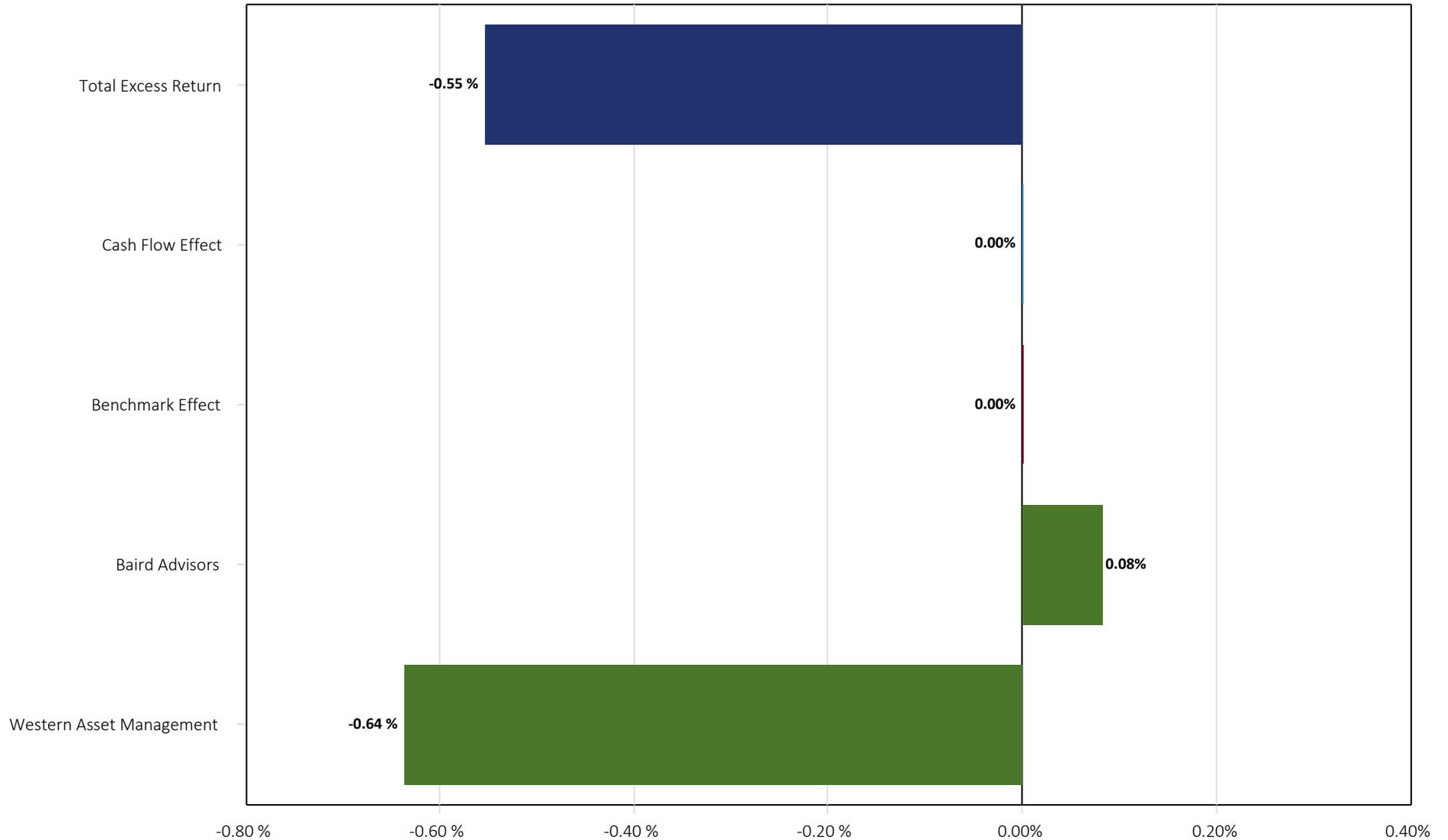


# Asset Class Attribution

Core Fixed Income

Periods Ended 1 Quarter Ending September 30, 2023

1 Quarter



# Asset Allocation & Performance

## Core Fixed Income

Periods Ended September 30, 2023

	Allocation		Performance (%) net of fees									
	Market Value \$	%	1 Quarter	YTD	FYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Inception	Inception Date
<b>Core Fixed Income</b>	<b>106,930,197</b>	<b>100.00</b>	<b>-3.79</b>	<b>-1.63</b>	<b>-1.63</b>	<b>0.59</b>	<b>-5.73</b>	<b>0.17</b>	<b>0.24</b>	<b>1.68</b>	<b>5.77</b>	<b>10/1/1987</b>
Blmbg. U.S. Aggregate Index			-3.23	-1.21	-1.21	0.64	-5.21	0.10	-0.09	1.13	5.41	
Value Added			-0.56	-0.42	-0.42	-0.05	-0.52	0.07	0.33	0.55	0.36	
<b>Baird Advisors</b>	<b>55,099,363</b>	<b>51.53</b>	<b>-3.07</b>	<b>-0.81</b>	<b>-0.81</b>	<b>1.28</b>	<b>-4.95</b>	<b>0.47</b>	<b>0.34</b>	<b>1.62</b>	<b>3.26</b>	<b>12/1/2002</b>
Blmbg. U.S. Aggregate Index			-3.23	-1.21	-1.21	0.64	-5.21	0.10	-0.09	1.13	3.01	
Value Added			0.16	0.40	0.40	0.64	0.26	0.37	0.43	0.49	0.25	
<b>Western Asset Management</b>	<b>51,830,834</b>	<b>48.47</b>	<b>-4.54</b>	<b>-2.50</b>	<b>-2.50</b>	<b>-0.13</b>	<b>-6.54</b>	<b>-0.16</b>	<b>0.10</b>	<b>1.70</b>	<b>3.56</b>	<b>1/1/2004</b>
Blmbg. U.S. Aggregate Index			-3.23	-1.21	-1.21	0.64	-5.21	0.10	-0.09	1.13	2.87	
Value Added			-1.31	-1.29	-1.29	-0.77	-1.33	-0.26	0.19	0.57	0.69	

# TIPS

# Asset Allocation & Performance

TIPS

Periods Ended September 30, 2023

	Allocation		Performance (%) net of fees									
	Market Value \$	%	1 Quarter	YTD	FYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Inception	Inception Date
<b>TIPS</b>	20,916,195	100.00	-2.74	-0.96	-0.96	0.97	-2.29	1.85	1.23		1.46	5/1/2015
Blmbg. U.S. TIPS Index			-2.60	-0.78	-0.78	1.25	-1.98	2.12	1.46		1.63	
Value Added			-0.14	-0.18	-0.18	-0.28	-0.31	-0.27	-0.23		-0.17	
<b>Brown Brothers Harriman</b>	20,916,195	100.00	-2.74	-0.96	-0.96	0.97	-2.29	1.85	1.23		1.46	5/1/2015
Blmbg. U.S. TIPS Index			-2.60	-0.78	-0.78	1.25	-1.98	2.12	1.46		1.63	
Value Added			-0.14	-0.18	-0.18	-0.28	-0.31	-0.27	-0.23		-0.17	

# Real Estate

# Asset Allocation & Performance

## Real Estate

Periods Ended September 30, 2023

	Allocation		Performance (%) net of fees									
	Market Value \$	%	1 Quarter	YTD	FYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Inception	Inception Date
<b>Real Estate</b>	<b>21,250,925</b>	<b>100.00</b>	<b>-7.29</b>	<b>-1.74</b>	<b>-1.74</b>	<b>2.87</b>	<b>5.97</b>	<b>2.90</b>	<b>2.23</b>	<b>3.53</b>	<b>6.93</b>	<b>6/1/2009</b>
Real Estate Policy Index			-7.40	-2.05	-2.05	2.61	6.11	0.96	1.28	3.17	7.04	
Value Added			0.11	0.31	0.31	0.26	-0.14	1.94	0.95	0.36	-0.11	
<b>Centersquare</b>	<b>21,250,925</b>	<b>100.00</b>	<b>-7.29</b>	<b>-1.74</b>	<b>-1.74</b>	<b>2.87</b>	<b>5.97</b>				<b>0.46</b>	<b>10/1/2019</b>
Dow Jones U.S. Select REIT Total Return Index			-7.40	-2.05	-2.05	2.61	6.11				-1.85	
Value Added			0.11	0.31	0.31	0.26	-0.14				2.31	

# Commodities

# Asset Allocation & Performance

## Commodities

Periods Ended September 30, 2023

	Allocation		Performance (%) net of fees									
	Market Value \$	%	1 Quarter	YTD	FYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Inception	Inception Date
<b>Commodities</b>	<b>24,666,516</b>	<b>100.00</b>	<b>8.09</b>	<b>4.21</b>	<b>4.21</b>	<b>11.30</b>	<b>16.99</b>	<b>8.89</b>	<b>7.42</b>	<b>1.35</b>	<b>-0.02</b>	<b>2/1/2013</b>
Bloomberg Commodity Index Total Return			4.71	-3.44	-3.44	-1.30	16.23	6.13	4.68	-0.75	-1.75	
Value Added			3.38	7.65	7.65	12.60	0.76	2.76	2.74	2.10	1.73	
S&P GSCI Equal Weight Index			6.60	2.44	2.44	9.55	16.98	8.18	7.21	1.15	-0.15	
Value Added			1.49	1.77	1.77	1.75	0.01	0.71	0.21	0.20	0.13	
<b>Wellington Commodities</b>	<b>24,666,516</b>	<b>100.00</b>	<b>8.09</b>	<b>4.21</b>	<b>4.21</b>	<b>11.30</b>	<b>16.99</b>	<b>8.89</b>	<b>7.42</b>	<b>1.35</b>	<b>-0.02</b>	<b>2/1/2013</b>
Bloomberg Commodity Index Total Return			4.71	-3.44	-3.44	-1.30	16.23	6.13	4.68	-0.75	-1.75	
Value Added			3.38	7.65	7.65	12.60	0.76	2.76	2.74	2.10	1.73	
S&P GSCI Equal Weight Index			6.60	2.44	2.44	9.55	16.98	8.18	7.21	1.15	-0.15	
Value Added			1.49	1.77	1.77	1.75	0.01	0.71	0.21	0.20	0.13	

# Midstream Energy

# Asset Allocation & Performance

## Midstream Energy Composite

Periods Ended September 30, 2023

	Allocation		Performance (%) net of fees									
	Market Value \$	%	1 Quarter	YTD	FYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Inception	Inception Date
<b>Midstream Energy Composite</b>	<b>24,975,682</b>	<b>100.00</b>	<b>7.63</b>	<b>14.02</b>	<b>14.02</b>	<b>21.85</b>	<b>36.63</b>	<b>6.64</b>	<b>5.31</b>		<b>1.93</b>	<b>3/1/2015</b>
Midstream Energy Policy Index			2.49	7.11	7.11	16.09	29.36	0.54	-0.74		-4.96	
Value Added			5.14	6.91	6.91	5.76	7.27	6.10	6.05		6.89	
<b>Harvest MLP</b>	<b>24,975,682</b>	<b>100.00</b>	<b>7.63</b>	<b>14.02</b>	<b>14.02</b>	<b>21.85</b>	<b>36.63</b>	<b>6.64</b>	<b>5.31</b>		<b>1.93</b>	<b>3/1/2015</b>
Midstream Energy Policy Index			2.49	7.11	7.11	16.09	29.36	0.54	-0.74		-4.96	
Value Added			5.14	6.91	6.91	5.76	7.27	6.10	6.05		6.89	

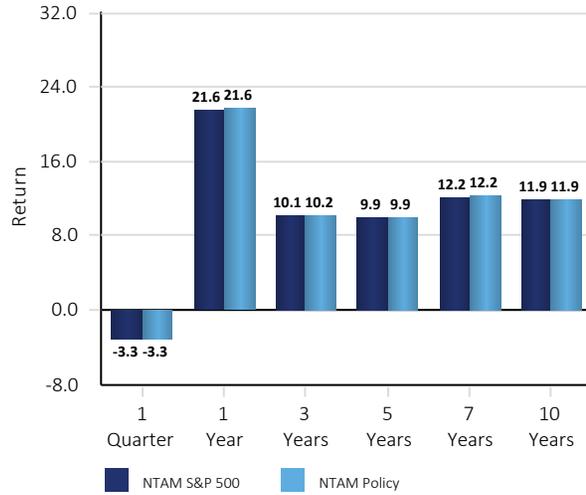
# Appendix

# Performance Summary

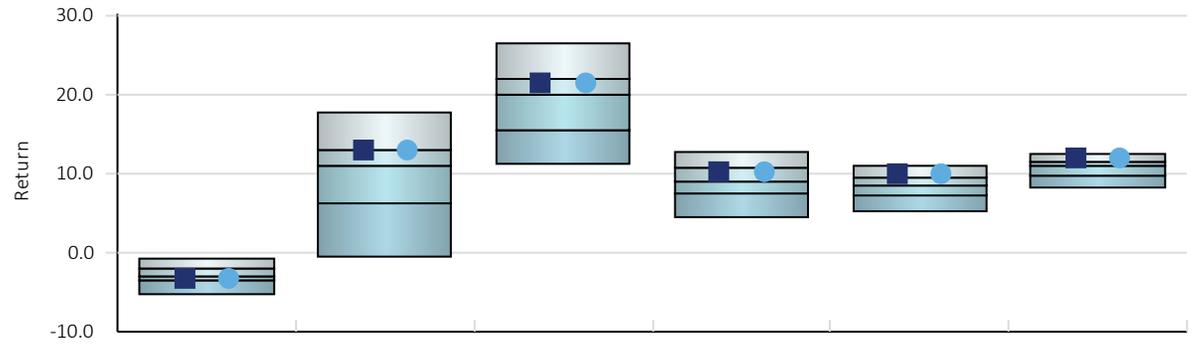
NTAM S&P 500

Periods Ended September 30, 2023

## Comparative Performance

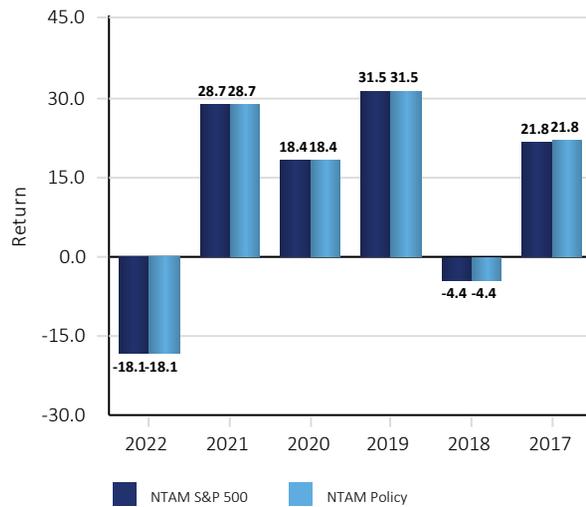


## Peer Group Analysis: IM U.S. Large Cap Core Equity (SA+CF)

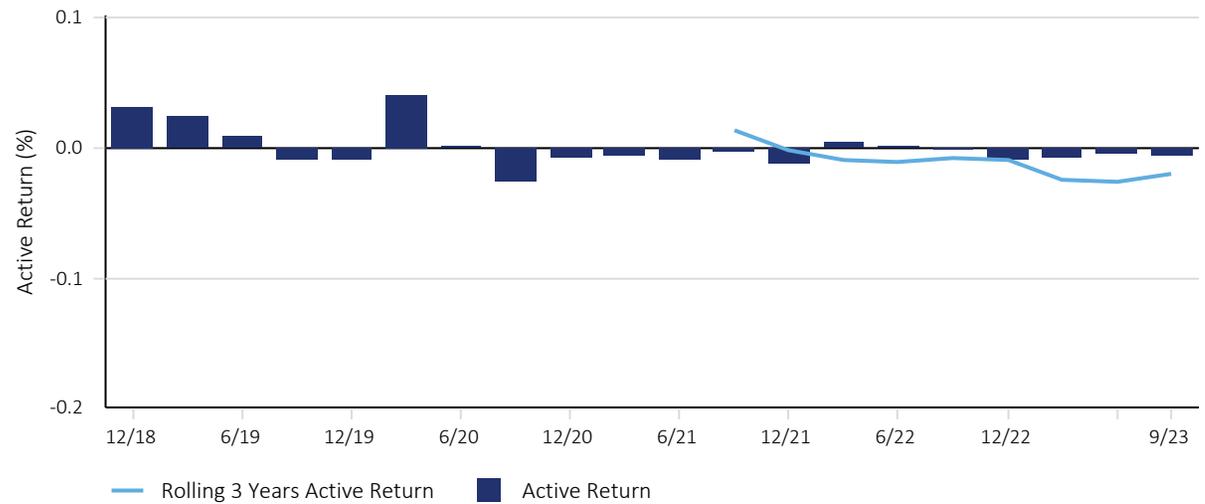


	Quarter	Year To Date	1 Year	3 Years	5 Years	10 Years
■ Fund	-3.28 (64)	13.05 (26)	21.59 (29)	10.13 (36)	9.92 (19)	11.92 (17)
● Benchmark	-3.27 (64)	13.07 (25)	21.62 (29)	10.15 (36)	9.92 (19)	11.91 (17)
Median	-3.02	10.88	19.95	9.08	8.53	10.97

## Comparative Performance



## Rolling 3 Years Performance

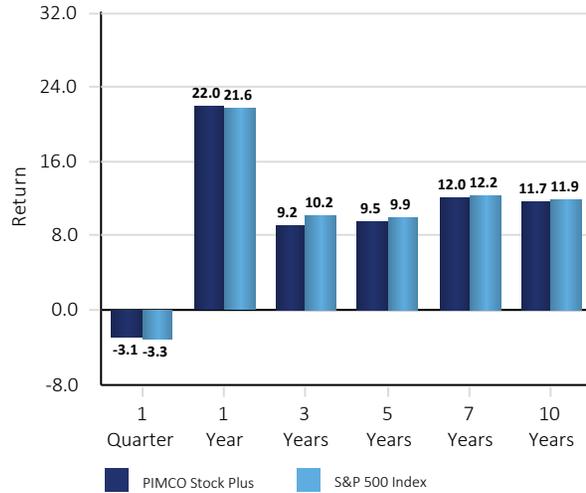


# Performance Summary

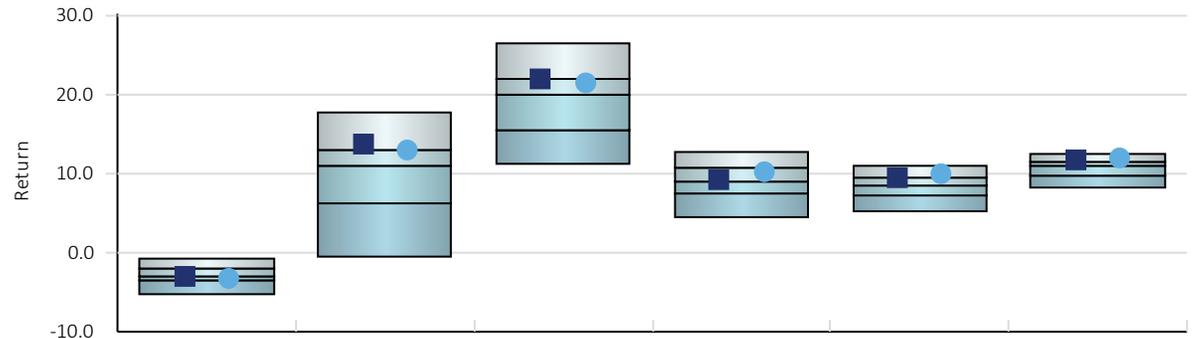
PIMCO Stock Plus

Periods Ended September 30, 2023

## Comparative Performance

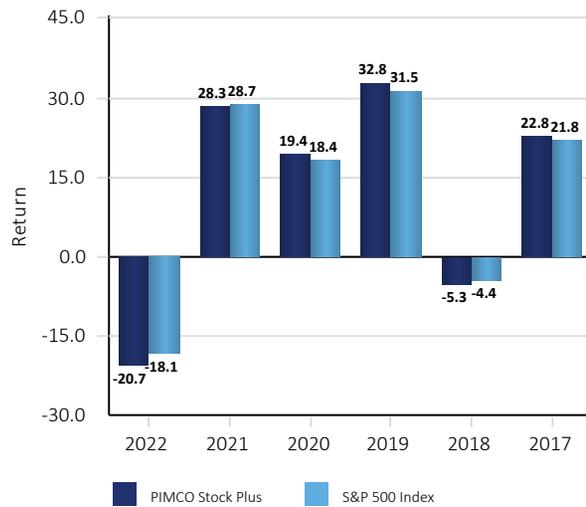


## Peer Group Analysis: IM U.S. Large Cap Core Equity (SA+CF)

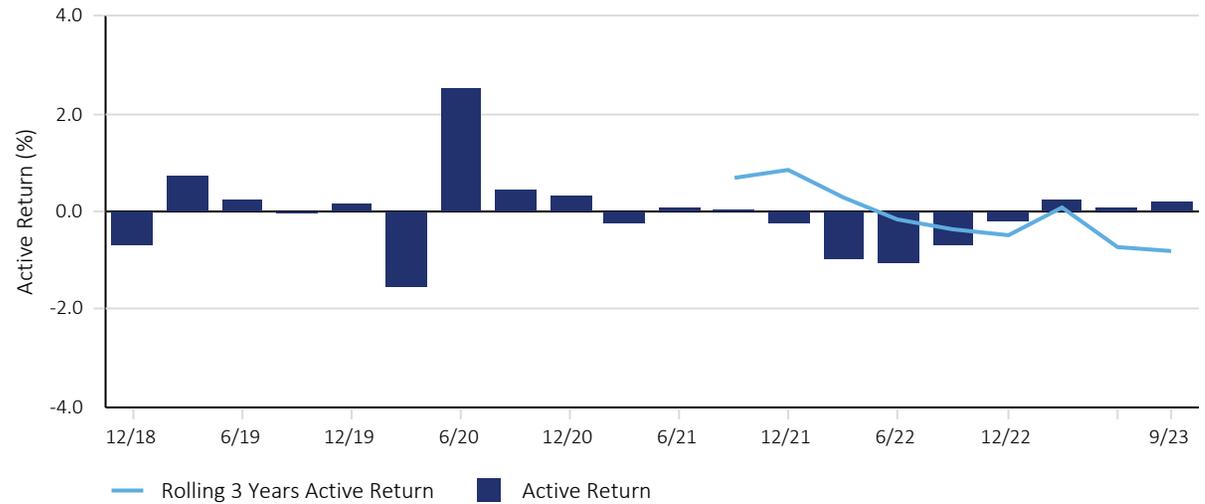


	Quarter	Year To Date	1 Year	3 Years	5 Years	10 Years
■ Fund	-3.08 (52)	13.63 (21)	21.99 (26)	9.15 (49)	9.48 (29)	11.73 (21)
● Benchmark	-3.27 (64)	13.07 (25)	21.62 (29)	10.15 (36)	9.92 (19)	11.91 (17)
Median	-3.02	10.88	19.95	9.08	8.53	10.97

## Comparative Performance



## Rolling 3 Years Performance

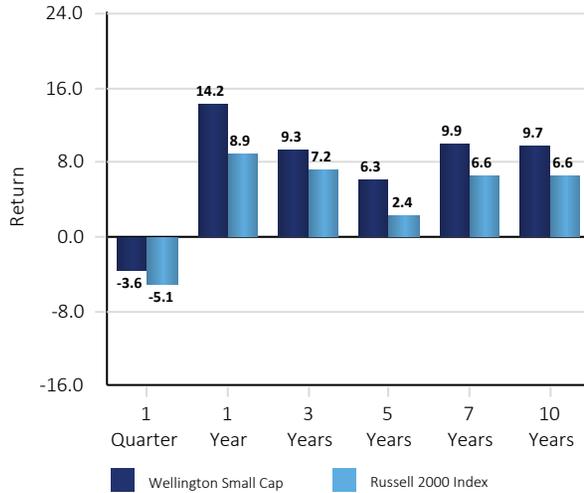


# Performance Summary

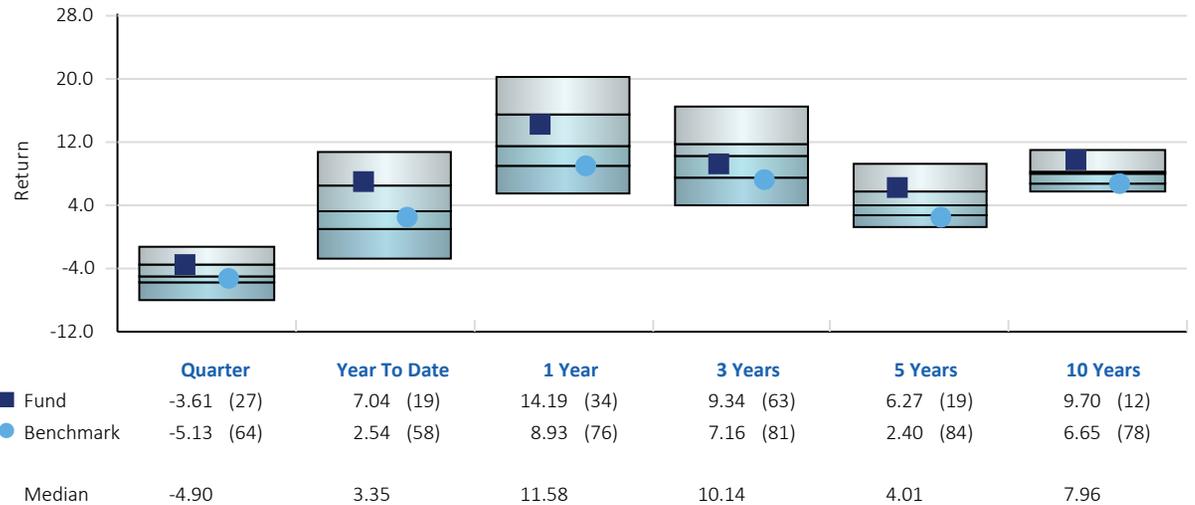
## Wellington Small Cap

Periods Ended September 30, 2023

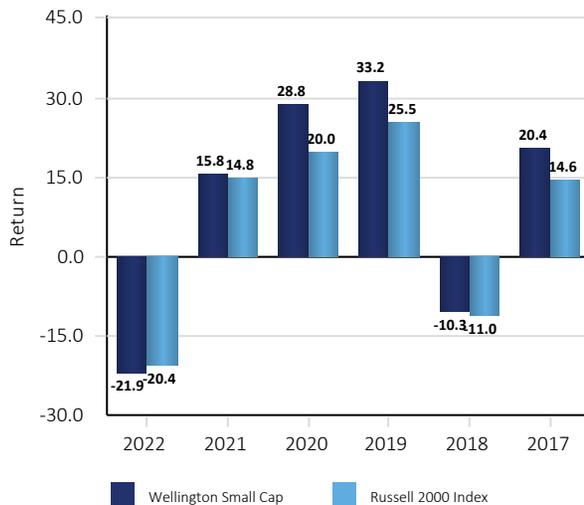
### Comparative Performance



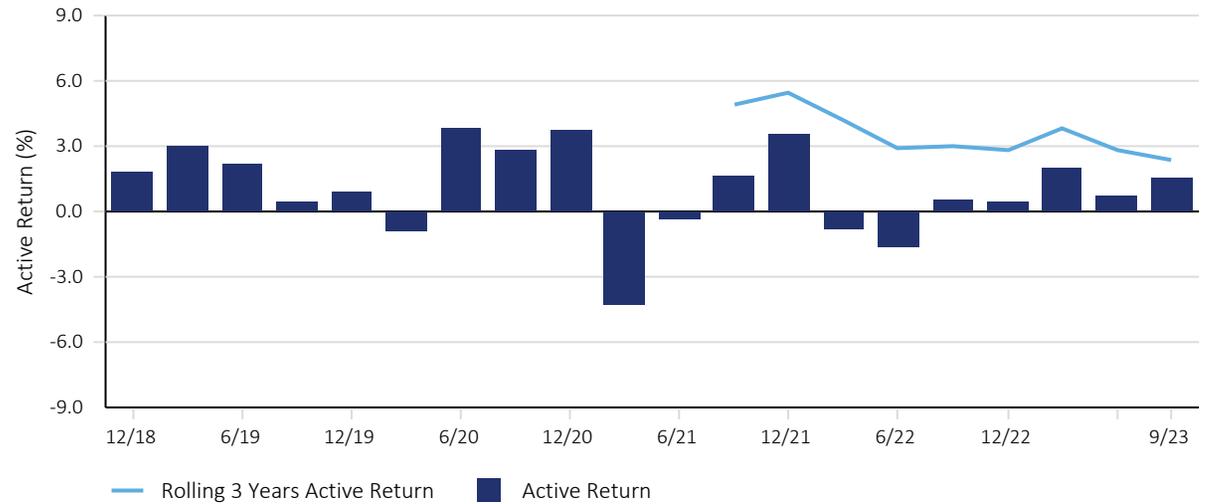
### Peer Group Analysis: IM U.S. Small Cap Core Equity (SA+CF)



### Comparative Performance



### Rolling 3 Years Performance

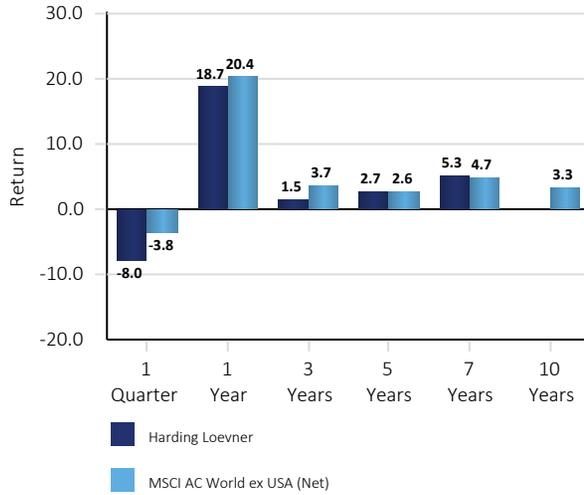


# Performance Summary

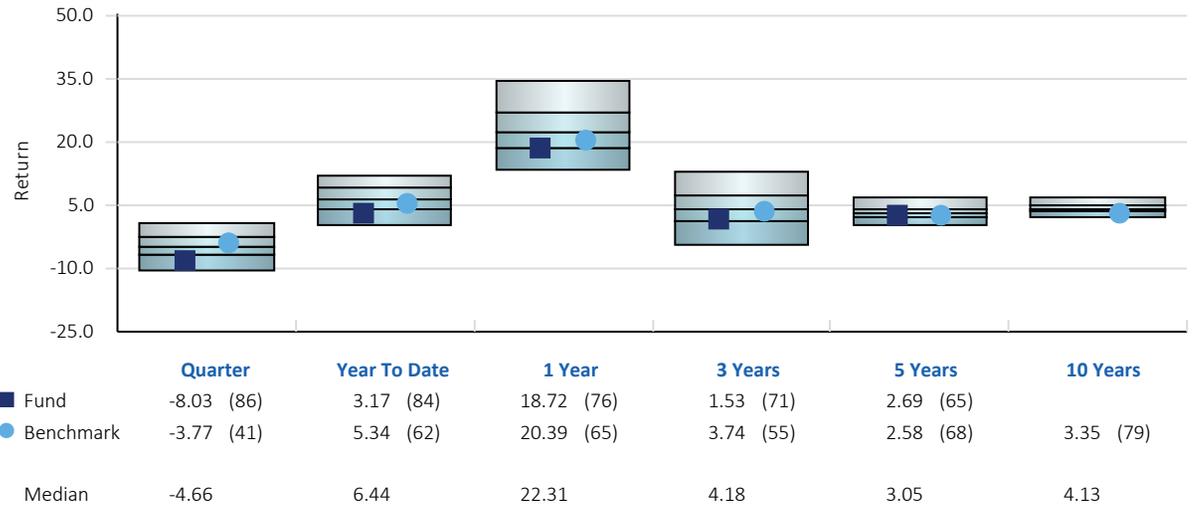
Harding Loevner

Periods Ended September 30, 2023

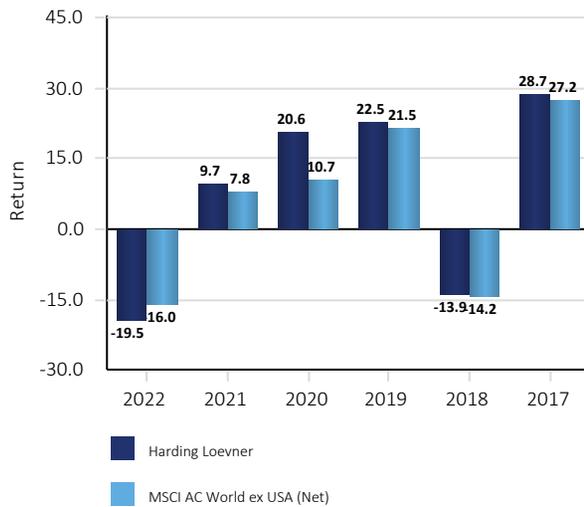
## Comparative Performance



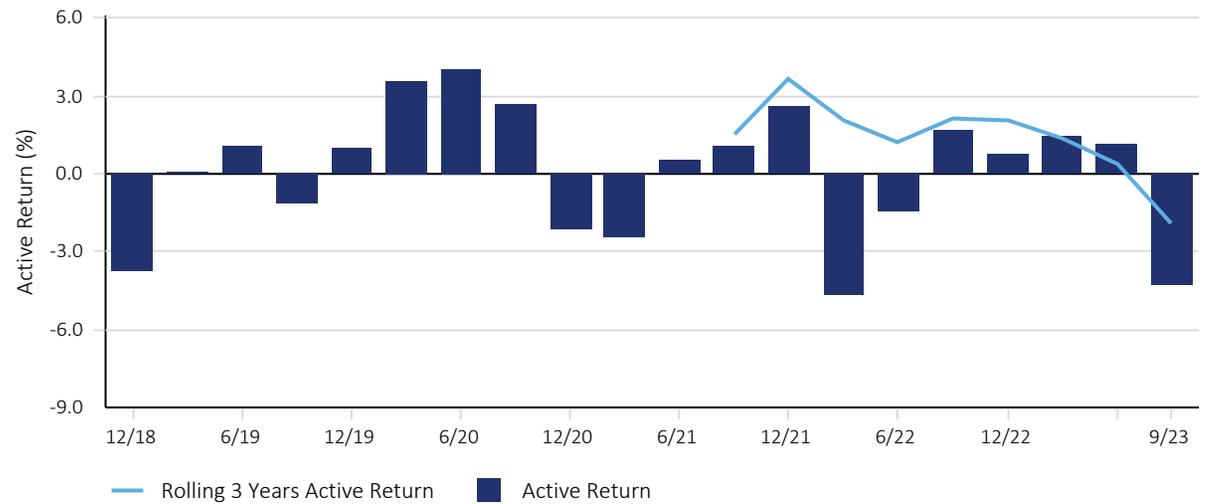
## Peer Group Analysis: IM International Large Cap Equity (SA+CF)



## Comparative Performance



## Rolling 3 Years Performance

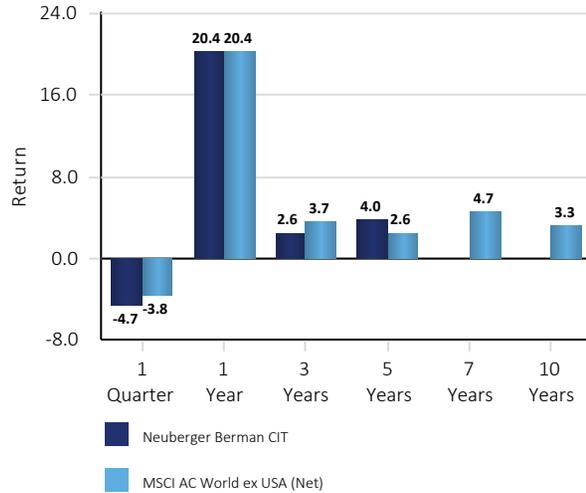


# Performance Summary

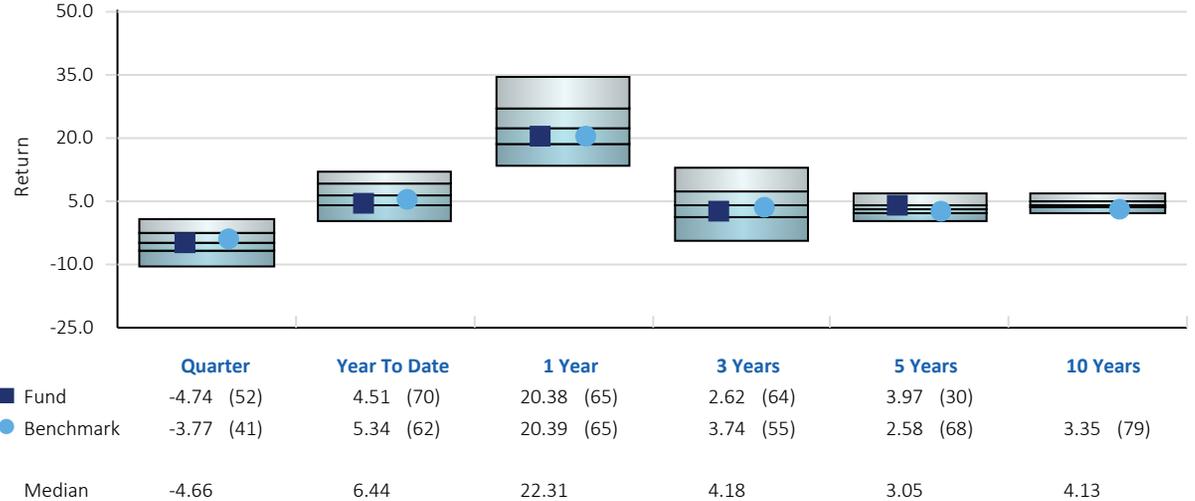
Neuberger Berman CIT

Periods Ended September 30, 2023

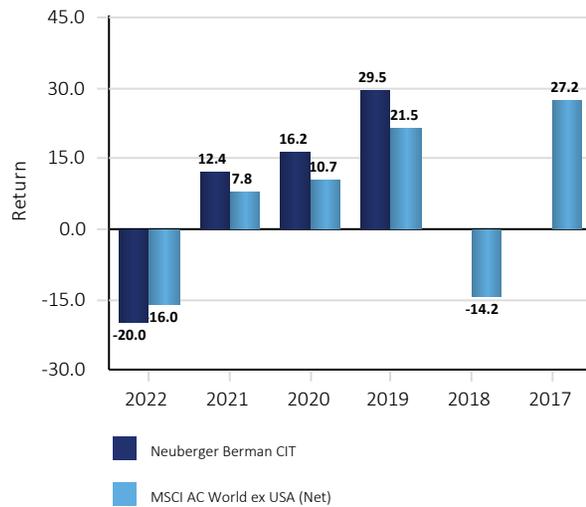
## Comparative Performance



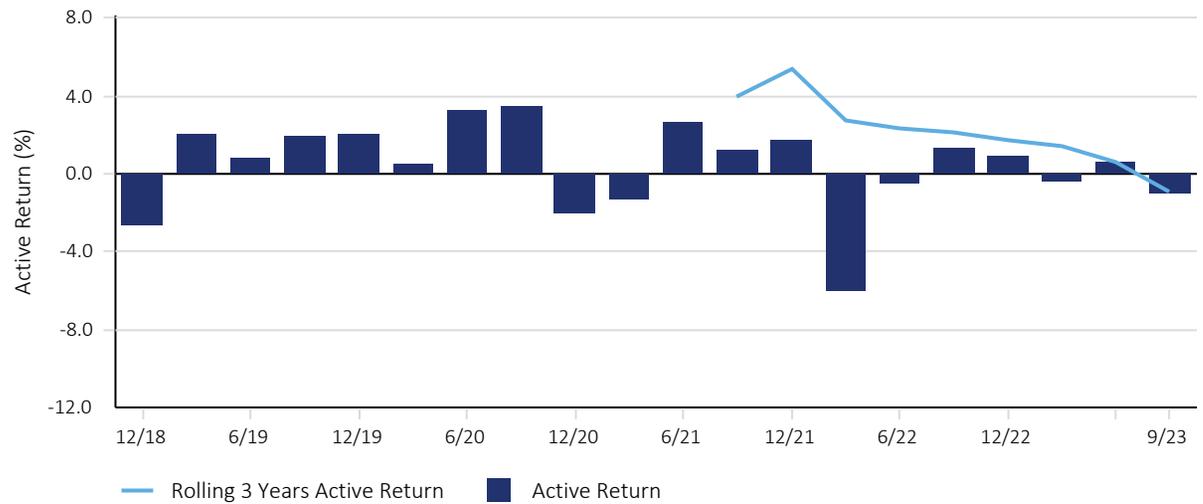
## Peer Group Analysis: IM International Large Cap Equity (SA+CF)



## Comparative Performance



## Rolling 3 Years Performance

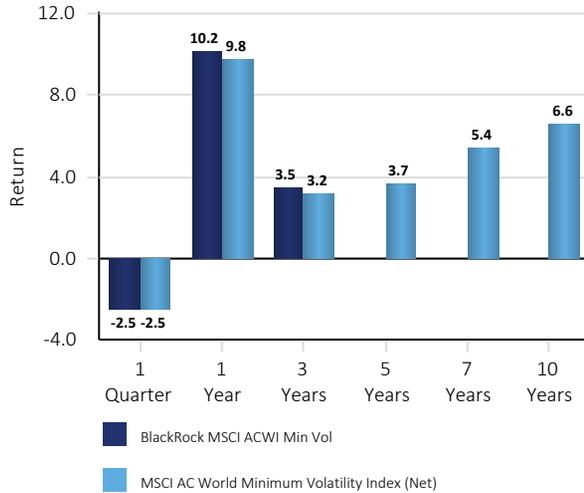


# Performance Summary

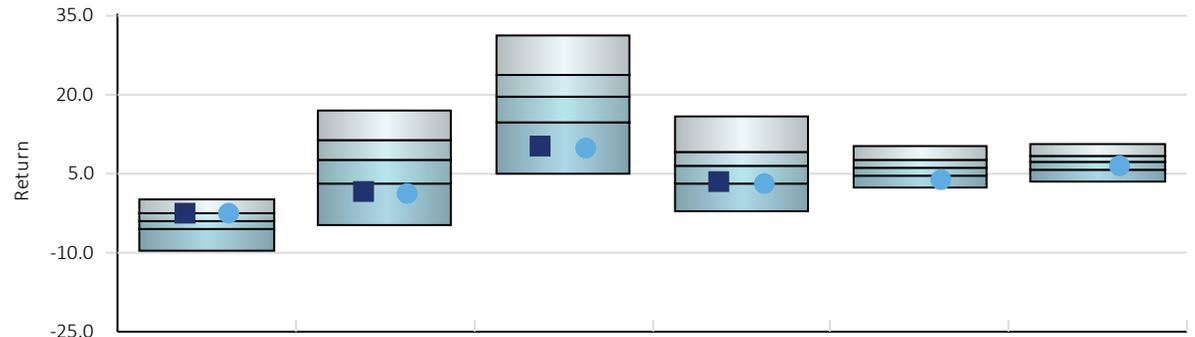
BlackRock MSCI ACWI Min Vol

Periods Ended September 30, 2023

## Comparative Performance

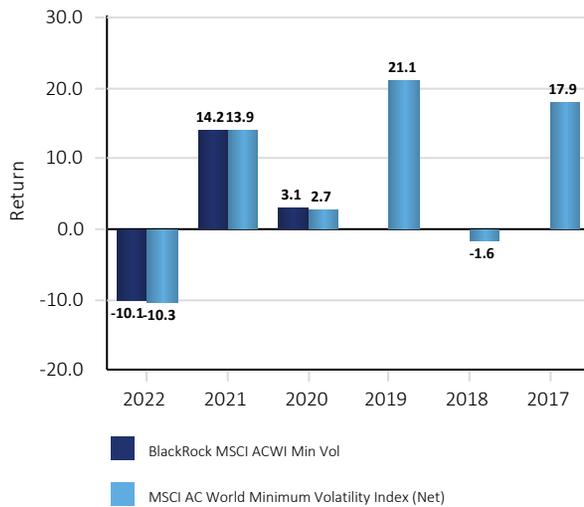


## Peer Group Analysis: IM Global Equity (SA+CF)

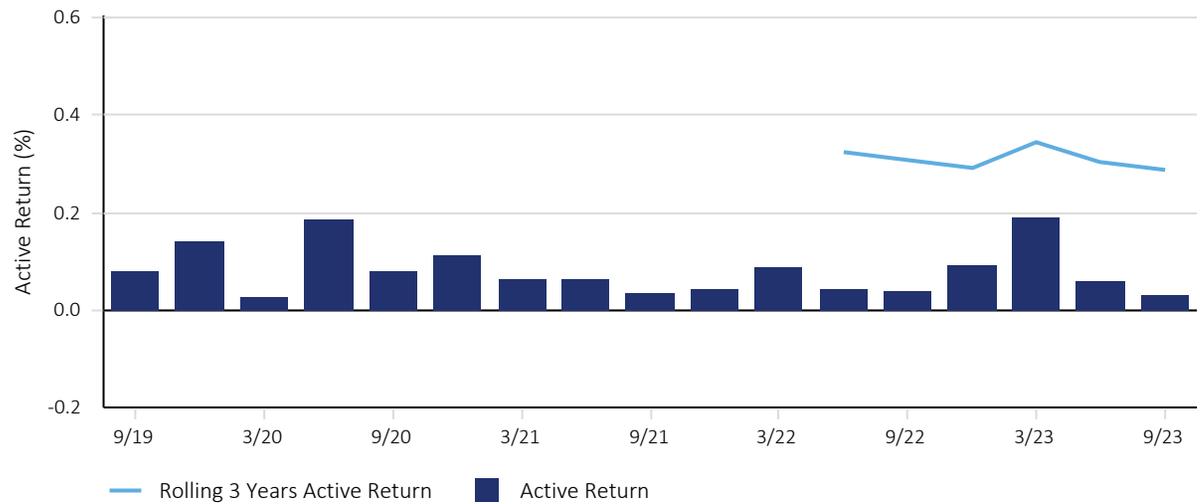


	Quarter	Year To Date	1 Year	3 Years	5 Years	10 Years
Fund	-2.47 (25)	1.46 (82)	10.16 (87)	3.53 (71)	3.71 (86)	6.59 (63)
Benchmark	-2.51 (26)	1.18 (83)	9.76 (88)	3.24 (75)	3.71 (86)	6.59 (63)
Median	-3.99	7.62	19.78	6.33	6.01	7.15

## Comparative Performance



## Rolling 3 Years Performance

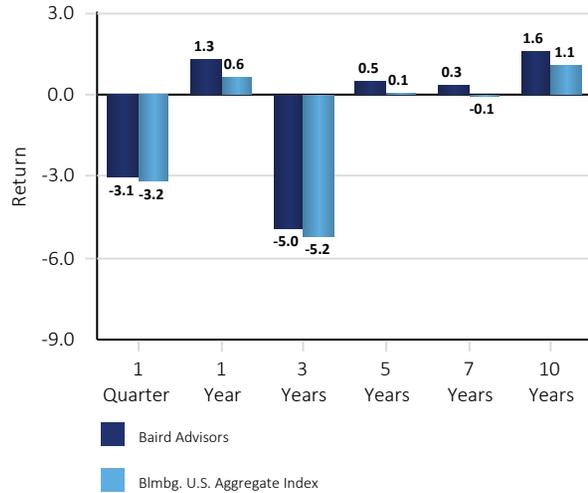


# Performance Summary

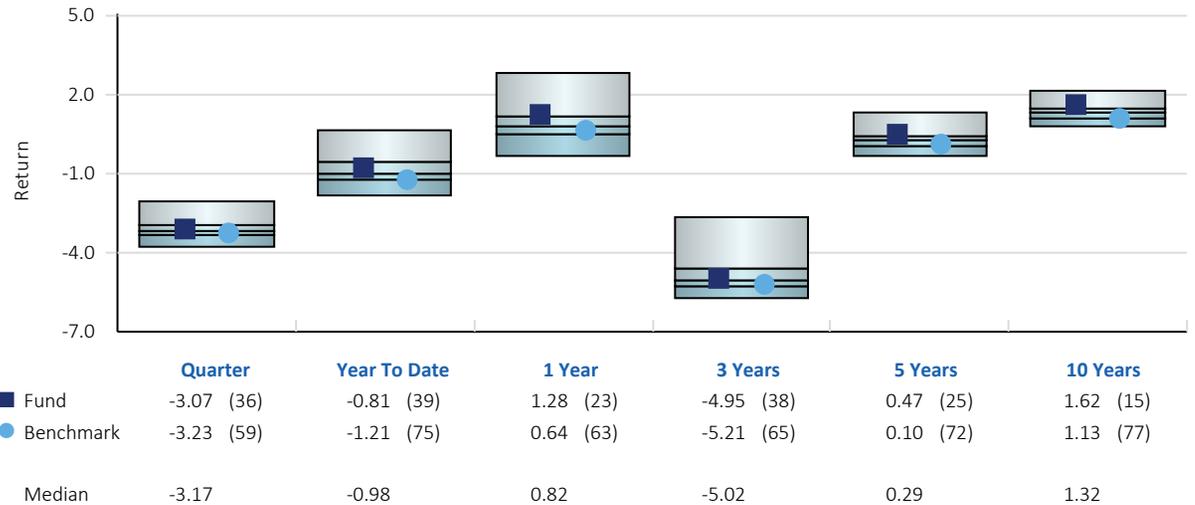
Baird Advisors

Periods Ended September 30, 2023

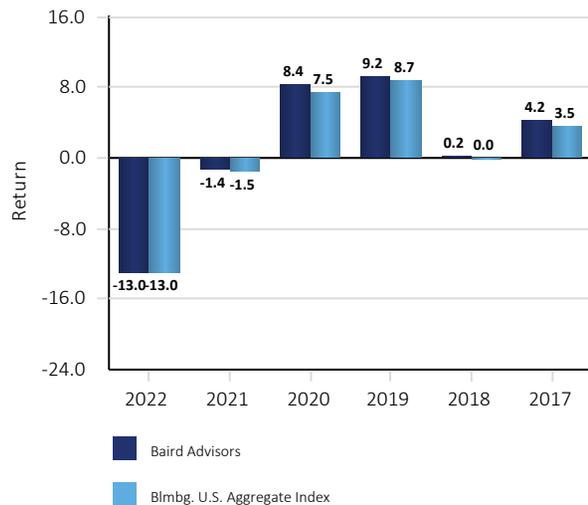
## Comparative Performance



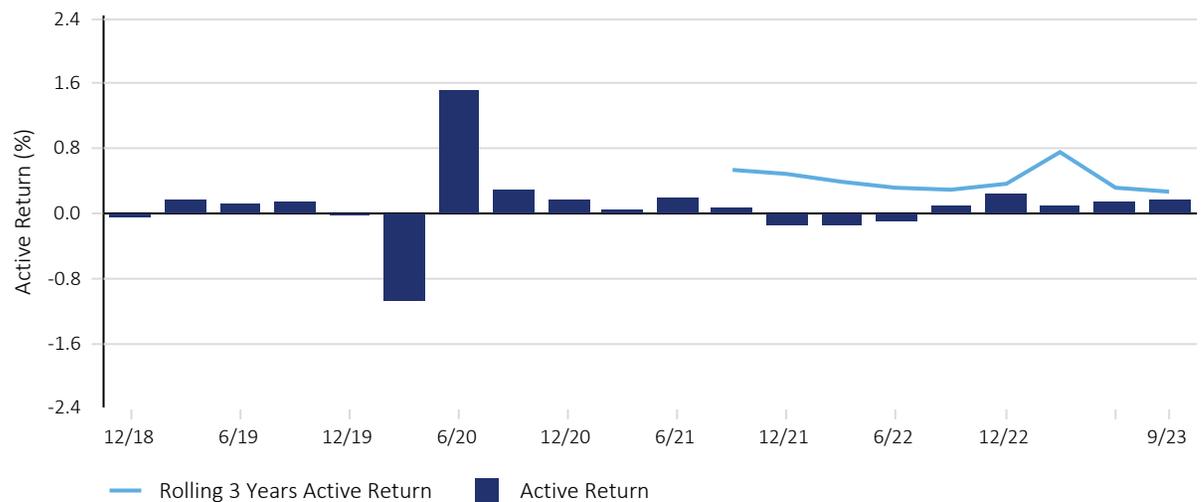
## Peer Group Analysis: IM U.S. Broad Market Core Fixed Income (SA+CF)



## Comparative Performance



## Rolling 3 Years Performance

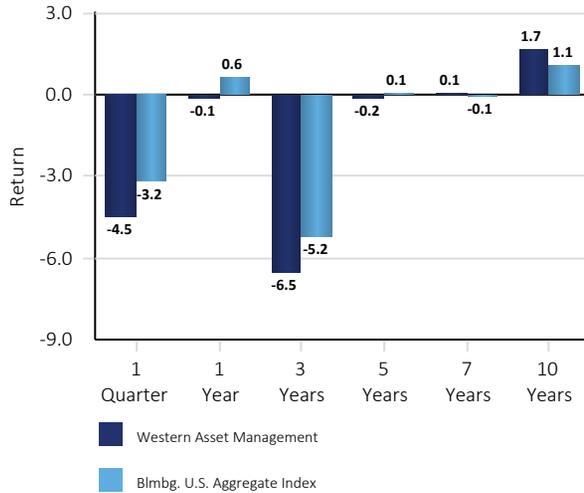


# Performance Summary

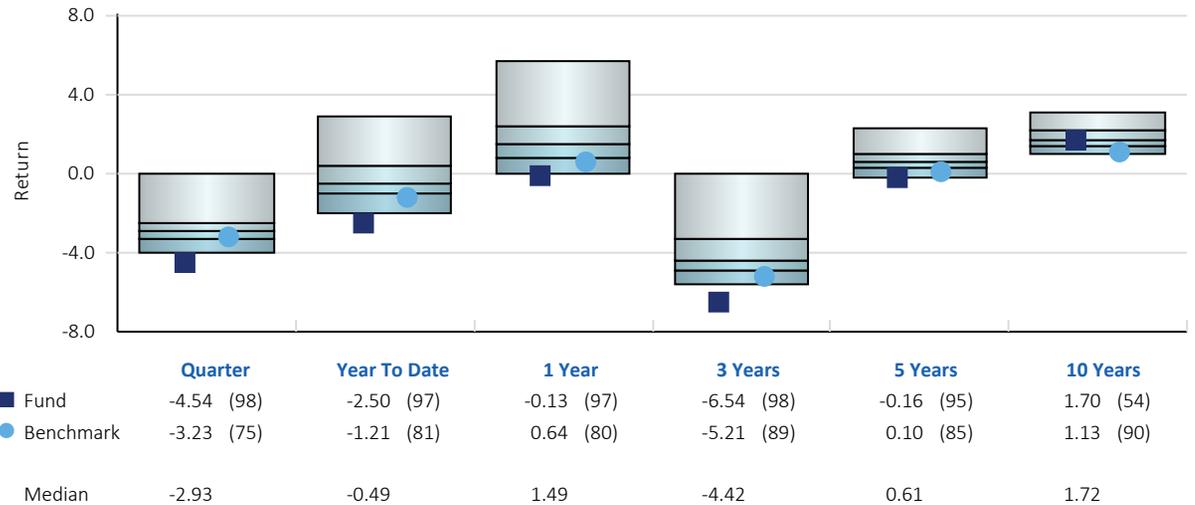
Western Asset Management

Periods Ended September 30, 2023

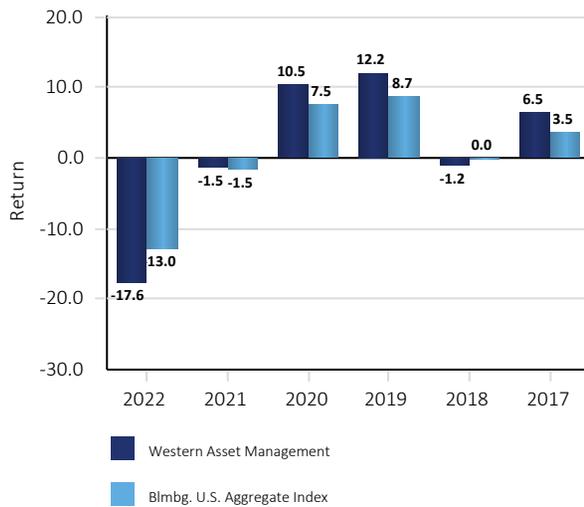
## Comparative Performance



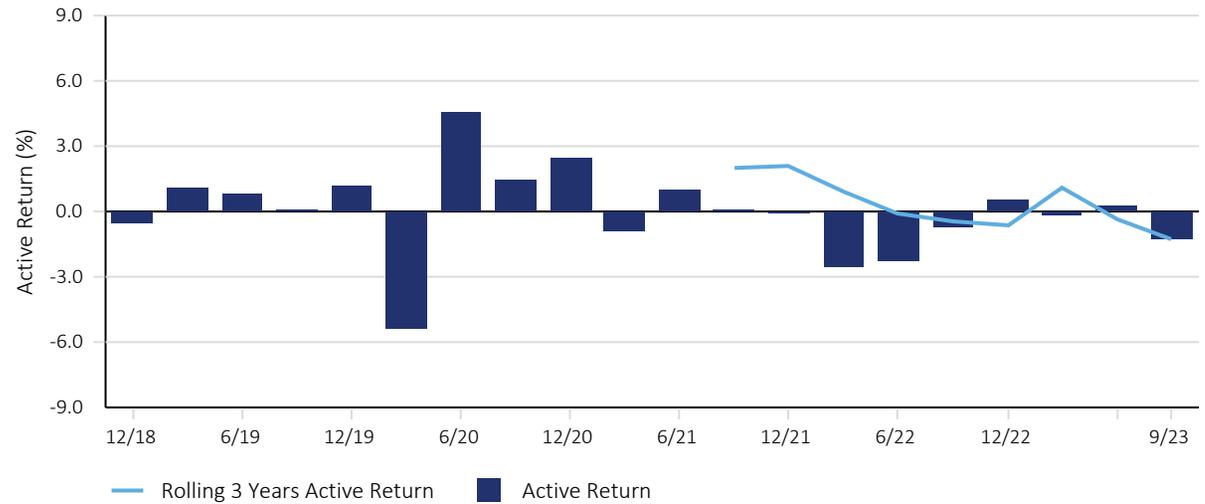
## Peer Group Analysis: IM U.S. Broad Market Core+ Fixed Income (SA+CF)



## Comparative Performance



## Rolling 3 Years Performance

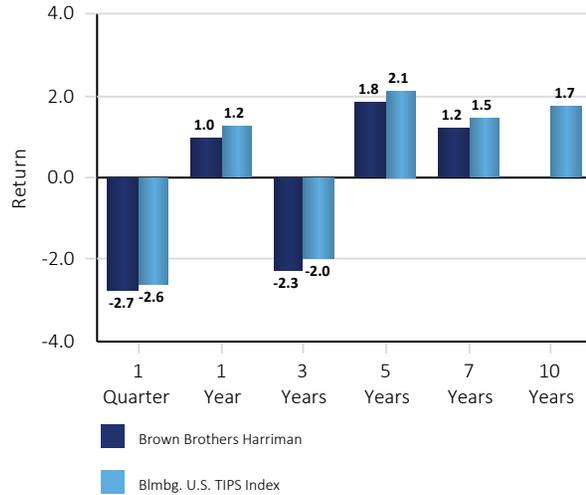


# Performance Summary

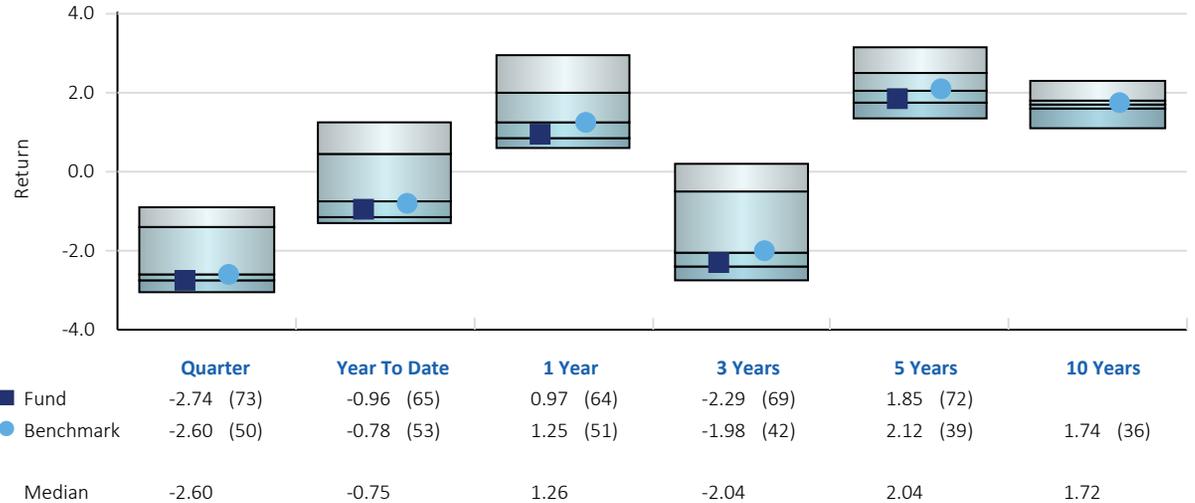
Brown Brothers Harriman

Periods Ended September 30, 2023

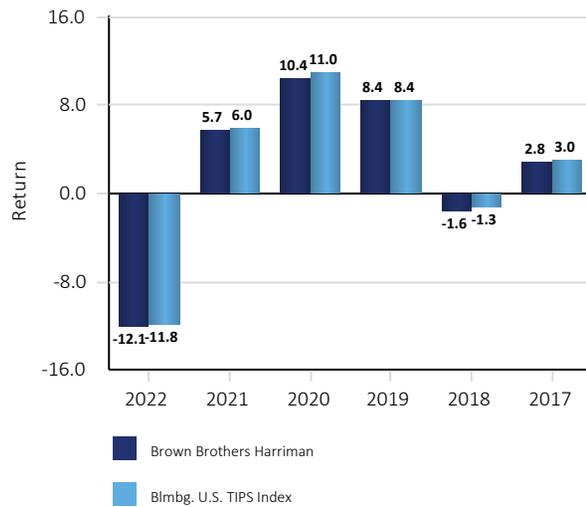
## Comparative Performance



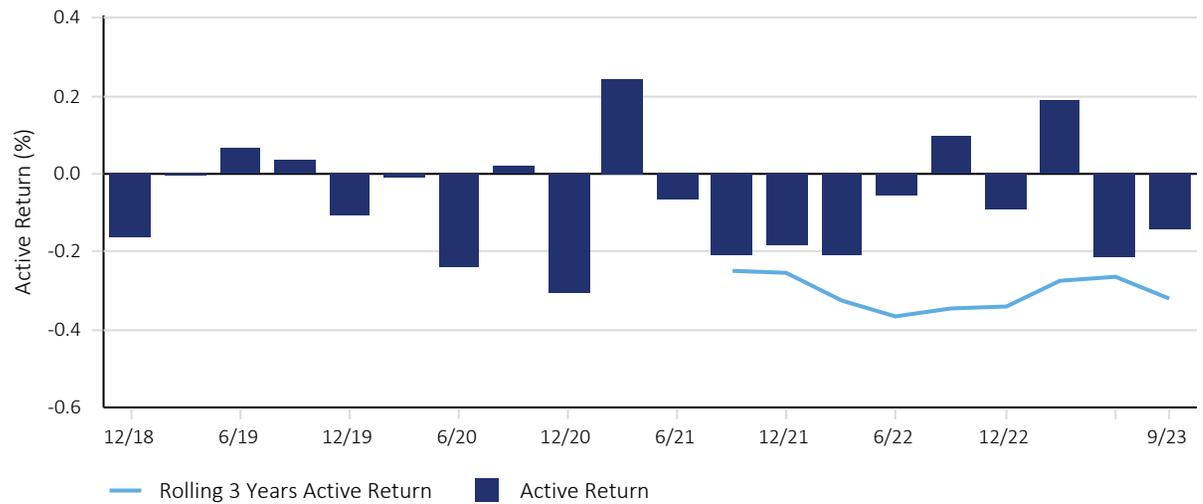
## Peer Group Analysis: IM U.S. TIPS (SA+CF)



## Comparative Performance



## Rolling 3 Years Performance

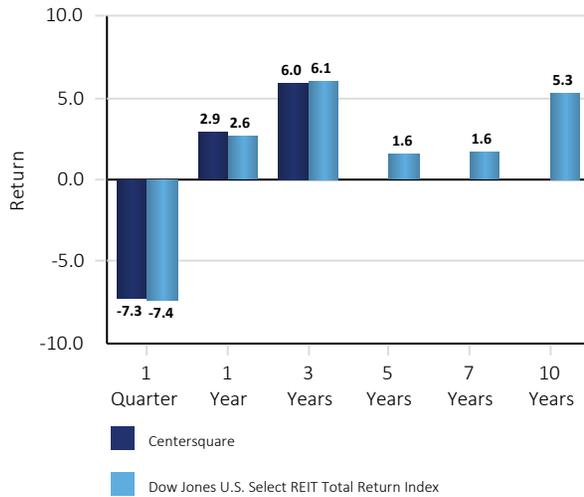


# Performance Summary

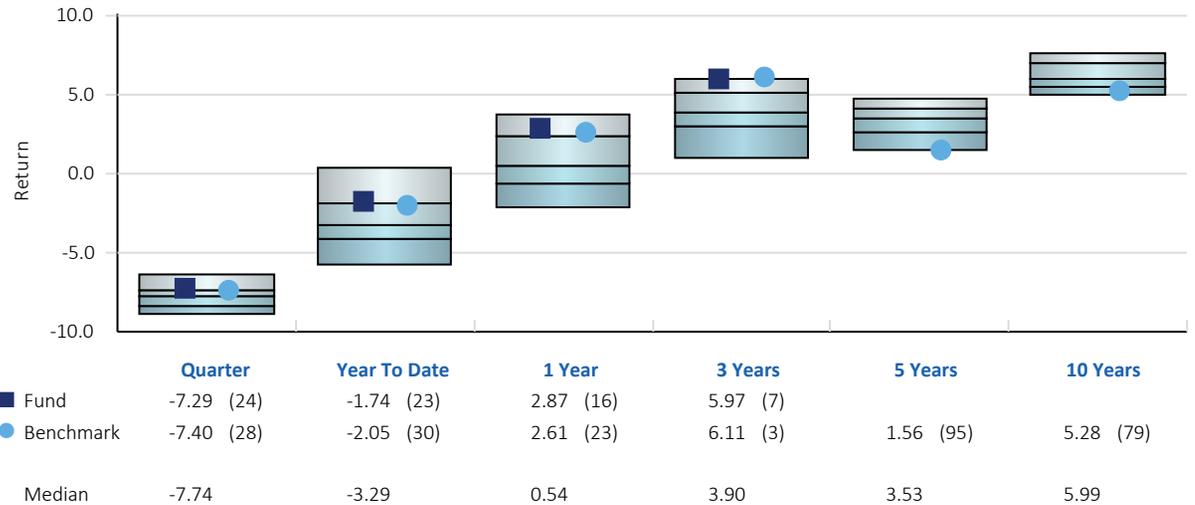
## Centersquare

Periods Ended September 30, 2023

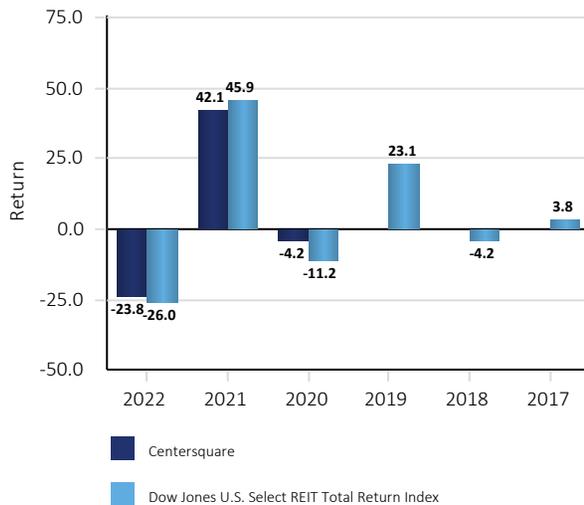
### Comparative Performance



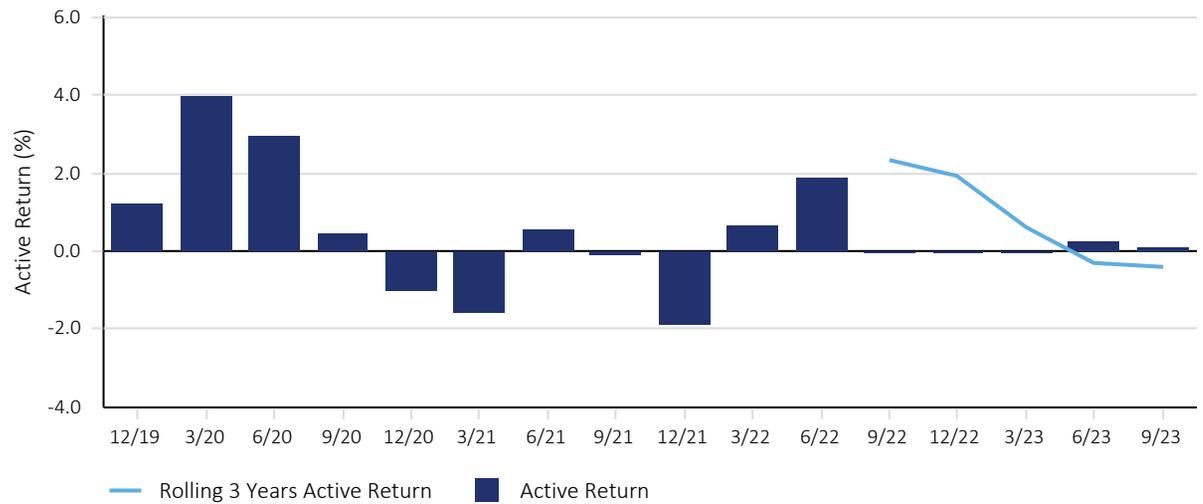
### Peer Group Analysis: IM U.S. REIT (SA+CF)



### Comparative Performance



### Rolling 3 Years Performance

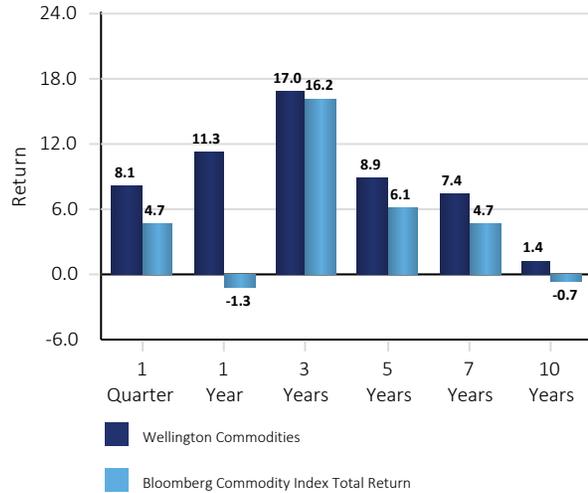


# Performance Summary

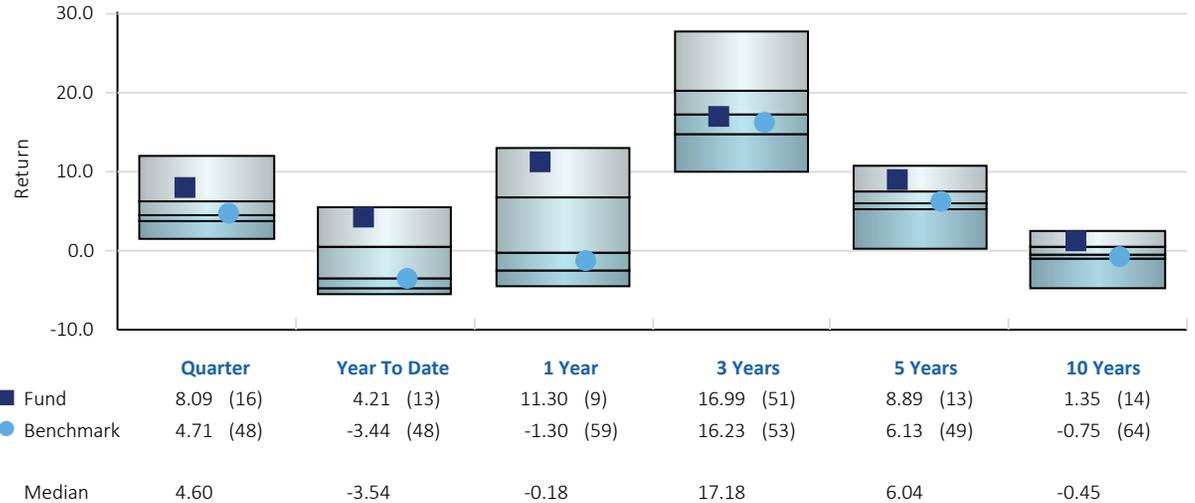
## Wellington Commodities

Periods Ended September 30, 2023

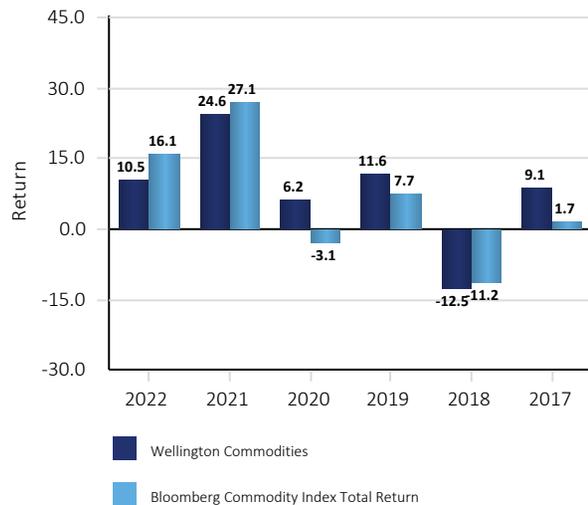
### Comparative Performance



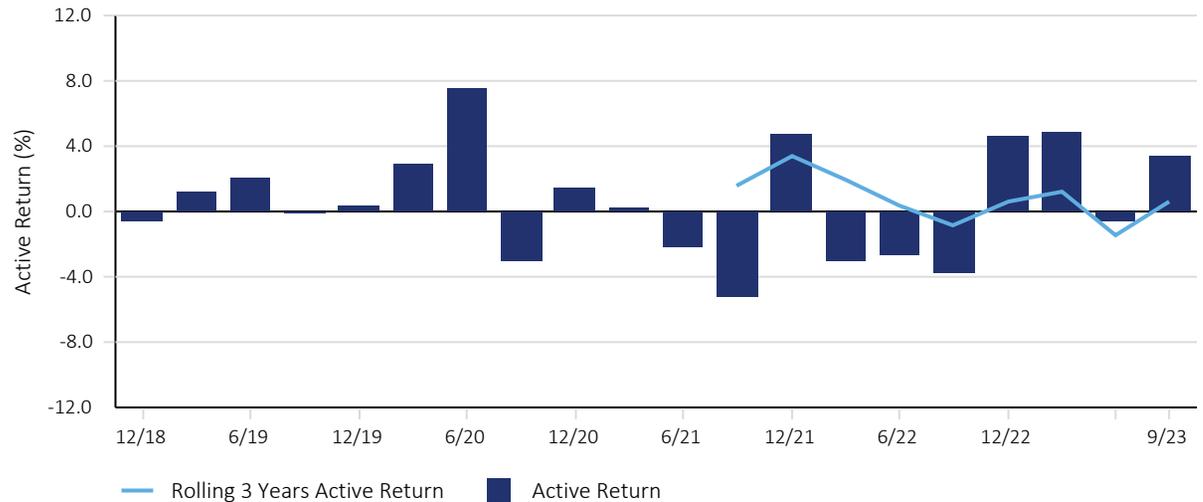
### Peer Group Analysis: Commodities Broad Basket



### Comparative Performance



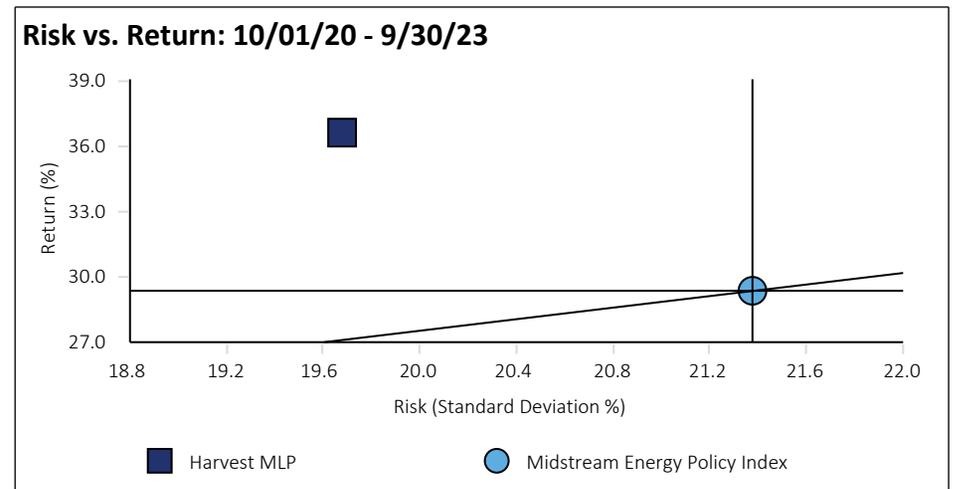
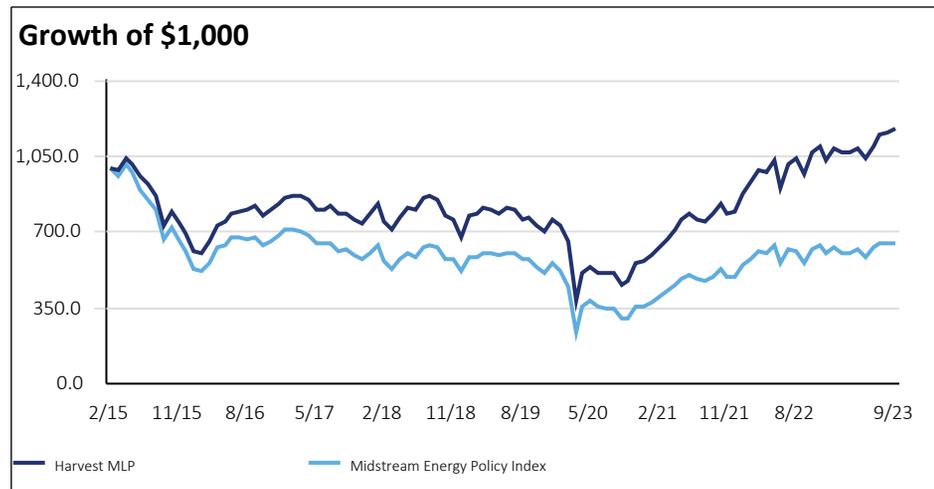
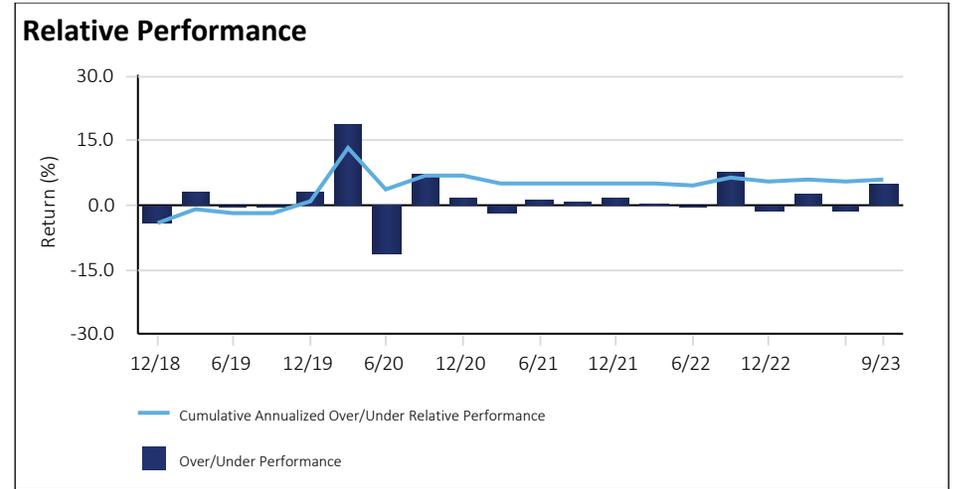
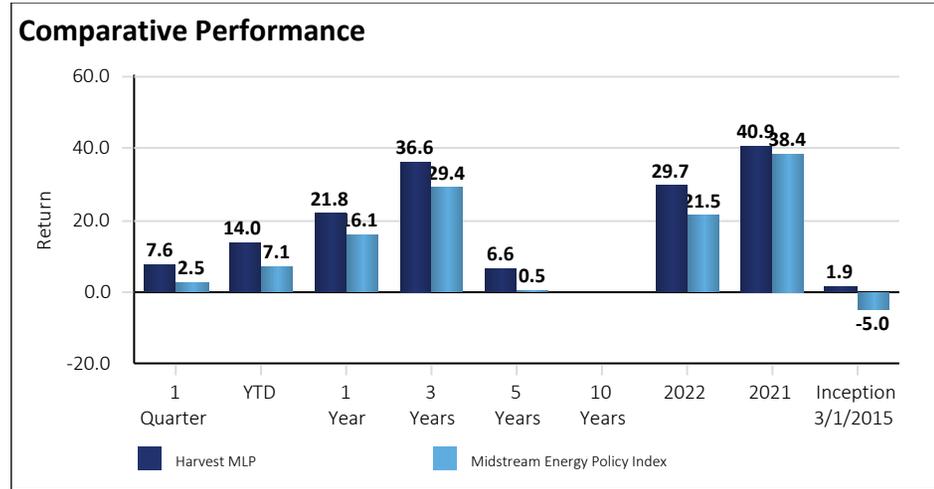
### Rolling 3 Years Performance



# Manager Summary

## Harvest MLP

Periods Ended September 30, 2023



### Historical Statistics: 10/01/20 - 9/30/23

	Alpha	Tracking Error	Information Ratio	Beta	Standard Deviation	Sharpe Ratio	Maximum Drawdown	Up Capture	Down Capture
Fund	8.37	5.50	1.03	0.91	19.33	1.65	-8.51	106.92	7.94
Benchmark	0.00	0.00	-	1.00	20.36	1.29	-9.53	100.00	100.00