

# Peace Officers' Retirement, Accident and Disability System

Quarterly Performance Report

September 30, 2023

# Executive Summary

**IOWA PEACE OFFICERS' RETIREMENT FUND**  
Executive Summary For Quarter Ending September 30, 2023

The following table gives total time weighted returns and percentile rankings (in parenthesis) for periods ending September 30, 2023. A ranking of 1 is best and 100 is the worst.

	<u>Market Value</u>	<u>1 Quarter</u> rank	<u>1 Year</u> rank	<u>3 Years*</u> rank	<u>5 Years*</u> rank	<u>10 Years*</u> rank	<u>Since Inception</u>
<b><u>TOTAL FUND</u></b>							
PORS - Before Fees	640,505,835.78	-5.13 (92)	9.99 (52)	0.74 (82)	5.07 (46)	7.46 (18)	8.67 (7/31/88)
PORS - After Fees	640,505,835.78	-5.22	9.58	0.39	4.70	7.07	8.28 (7/31/88)
Consumer Price Index		1.20	3.69	5.75	4.05	2.79	3.53 (7/31/88)
Consumer Price Index + 4%		2.20	7.69	9.75	8.05	6.79	7.53 (7/31/88)
POR POLICY INDEX		-2.84	11.91	5.57	5.11	6.58	8.08 (7/31/88)
Allocation Index		-3.07	10.42	5.30	4.80	6.82	8.41 (7/31/88)
<b><u>LARGE CAPITALIZATION EQUITIES</u></b>							
Jennison - gross of fees	96,373,734.87	-3.35 (59)	28.95 (08)	1.71 (89)			11.47 (4/01/18)
Jennison - net of fees		-3.45	28.41	1.29			10.98 (4/01/18)
Russell 1000 Growth Index		-3.13 (40)	27.72 (14)	7.97 (64)			14.17 (10/01/11)
Vanguard Total Market - gross of fees	87,414,622.35	-3.24 (51)	20.16 (43)	9.23 (56)	8.99 (35)		12.23 (12/31/12)
Vanguard Total Market - net of fees		-3.24	20.16	9.23	8.99		12.23 (12/31/12)
Russell 3000 Index		-3.25 (51)	20.46 (39)	9.38 (52)	9.14 (34)		12.46 (12/31/12)
<b><u>SMALL CAPITALIZATION EQUITIES</u></b>							
Fisher - gross of fees	116,807,109.38	-4.71 (78)	12.56 (71)	12.16 (26)	6.54 (58)	9.87 (46)	12.26 (11/30/89)
Fisher - net of fees		-4.90	11.69	11.31	5.71	9.02	11.28 (11/30/89)
Russell 2000 Value		-2.96 (39)	7.84 (88)	13.32 (19)	2.59 (87)	6.19 (87)	9.60 (11/30/89)
<b><u>FIXED INCOME</u></b>							
Loomis Sayles - gross of fees	78,834,862.51	-2.19 (41)	2.90 (65)	-2.10 (32)	1.88 (15)	3.32 (13)	5.00 (3/31/07)
Loomis Sayles - net of fees		-2.26	2.60	-2.38	1.58	3.32	4.67 (3/31/07)
Bloomberg US Universal		-2.88	1.61	-4.68	0.34	1.43	2.91 (3/31/07)
Lazard - gross of fees	35,768,630.38	-2.93 (57)	0.86 (73)				-4.11 (7/01/20)
Lazard - net of fees		-2.96	0.71				-4.26 (7/01/20)

**INTERNATIONAL EQUITIES**

Baillie Gifford - <i>gross of fees</i>	145,198,141.18	-10.50 (98)	14.75 (73)	-9.96 (98)	1.82 (78)	4.89 (43)	8.98 (9/30/08)
Baillie Gifford - <i>net of fees</i>		-10.50	14.75	-9.96	1.82	4.89	8.97 (9/30/08)
MSCI ACWI x-US		-3.68 (50)	21.02 (46)	4.65 (46)	2.78 (66)	3.84 (75)	4.83 (1/31/03)

**LIQUIDITY**

Cash	2,067,141.27	1.33	4.68	1.81	1.74	1.63	6.24 (11/30/89)
Merrill Lynch 90 Day Treasury Bill		1.32	4.50	1.71	1.72	1.12	2.79 (11/30/89)

**REITS EQUITY**

Principal US Property - <i>gross of fees</i>	54,265,006.39	-3.91 (73)	-14.45 (74)	5.78 (47)	4.68 (51)	7.63 (46)	5.42 (6/30/06)
Principal US Property - <i>net of fees</i>		-4.14	-15.28	4.79	3.69	7.63	4.90 (6/30/06)
NCREIF NFI-ODCE Index		-1.90	-12.14	7.37	5.98	8.39	6.25 (6/30/06)
Principal Enhanced - <i>gross of fees</i>	23,776,587.45	-2.38 (64)	-13.02 (73)	9.19 (23)	7.20 (27)	11.19 (13)	6.44 (11/30/06)
Principal Enhanced - <i>net of fees</i>		-2.66	-14.00	7.99	5.99	11.19	5.16 (11/30/06)
NCREIF NFI-ODCE Index		-1.90	-12.14	7.37	5.98	8.39	6.25 (11/30/06)

## **EXECUTIVE SUMMARY (Page 1 of 3)**

### **Total Fund Performance**

The market value of the PORS Fund on September 30, 2023, was \$640,505,836, a decrease of \$35,953,396, from the Fund market value on June 30, 2023. For a year over year comparison, the fund has experienced an increase of \$49,007,189 since September 30, 2022. The rate of return for the PORS Fund was -5.13% (before fees) for the quarter. The Fund's quarter performance was below the Policy Index return of -2.84% and below the Allocation Index return of -3.07%. When measured against other master trusts reporting to the Trust Universe Comparison Services (TUCS), the performance of the Fund before fees for the quarter ranked in the 92<sup>nd</sup> percentile. The Fund's annual return of 9.99% before fees for the one-year period ranked 52<sup>nd</sup> in the TUCS universe. For the three-year period, the Fund experienced a return of 0.74%. Over the five-year period ending September 30, 2023, the PORS Fund has earned an annualized rate of return of 5.07% before fees and ranked in the 46<sup>th</sup> percentile in the TUCS universe of all master trusts. Over the ten-year period ending September 30, 2023, the PORS Fund has earned an annualized return of 7.46% before fees. The Fund's Sharpe Ratio (a ratio which measures excess return per unit of risk taken and provides an indicator of the risk-adjusted return) of 0.25 for the five-year period was below the Sharpe Ratio of the Policy Index of 0.31 and below the Allocation Index of 0.28. Over the ten-year period, the Fund's Sharpe Ratio of 0.56 is below the Sharpe Ratio for the Policy Index of 0.60 and was below the Allocation Index of 0.60.

### **Manager Performance**

**Jennison** – Jennison had a quarterly return of -3.35% for the quarter, ranking 59<sup>th</sup> in the TUCS universe. Their benchmark, the Russell 1000 Growth Index had a quarterly return of -3.13%. For the year, Jennison returned 28.95% compared to the benchmark of 27.72%. Over 3 years, Jennison has returned 1.71% annually compared to 7.97% for the Russell 1000 Growth Index.

**Vanguard Total Stock Market** – For the quarter, Vanguard returned -3.24%. Over the past year, Vanguard has returned 20.16%. For the three-year period, Vanguard has an annualized return of 9.23%. Over five years, Vanguard has returned an annualized return of 8.99%. Vanguard Total Stock Market is expected to follow the Russell 3000 Index.

**Fisher Investments Small Capitalization Stock Portfolio** – The Fisher portfolio produced a return of -4.71% (before fees) for the quarter, ranking 78<sup>th</sup> in the universe of U.S. equity portfolios reporting to TUCS. Fisher's benchmark, the Russell 2000 Value returned -2.96% for the quarter and ranked 39<sup>th</sup> in the TUCS universe. Fisher's annual return was 12.56% (before fees) and ranked 71<sup>st</sup> in the TUCS universe. The benchmark had an annual return of 7.84% (88<sup>th</sup> percentile). Fisher's ten-year annualized return of 9.87% before fees is above the 6.19% return of the benchmark.

## **EXECUTIVE SUMMARY (Page 2 of 3)**

### **Manager Performance (continued)**

**Loomis Sayles** – Fixed income manager Loomis Sayles had a quarterly return of -2.19% and ranked 41<sup>st</sup> in the TUCS universe. Its benchmark, the Bloomberg Universal, had a quarterly return of -2.88%. For the year, Loomis Sayles had an annual return of 2.90% while the Bloomberg Universal returned 1.61%. Over the three-year period ending September 30, 2023, Loomis Sayles returned an annualized return of -2.10%. For the ten-year period, Loomis Sayles has an annualized return of 3.32% compared to the benchmark return of 1.43%.

**Lazard** – Lazard had a quarterly return of -2.93% compared to the benchmark of -3.23%. Lazard had an annual return of 0.86% and ranked 73<sup>rd</sup> in the TUCS Universe compared to the benchmark return of 0.64%, which ranked 82<sup>nd</sup>.

**Baillie Gifford International Equities** – Baillie Gifford had a quarterly return of -10.50%, ranking it 98<sup>th</sup> in the TUCS Universe. Their benchmark, the MSCI ACWI-ex US had a quarterly return of -3.68%. On an annual basis, Baillie Gifford returned 14.75% for a 73<sup>rd</sup> ranking in the TUCS universe while the benchmark returned 21.02%. For the ten-year period, Baillie Gifford has earned an annualized return of 4.89%, ranking in the 43<sup>rd</sup> percentile, while the benchmark had a return of 3.84%.

**Principal Real Estate** – The Principal Real Estate Mandate is composed of a core fund and an enhanced fund. The quarter return for the Principal Core Real Estate Fund was -3.91% while the NCREIF NFI-ODCE returned -1.90% for the quarter. Principal Core Real Estate Fund returned -14.45% for the year ending September 30, 2023, while the NCREIF NFI-ODCE had a return of -12.14%. For the ten-year period, the Fund had an annualized return of 7.63%, which ranked in the 46<sup>th</sup> percentile. The Principal Enhanced Real Estate Fund had a quarterly return of -2.38%, which ranked in the 64<sup>th</sup> percentile, while the annual return was -13.02%. The annualized return for the ten-year period was 11.19%, which ranked in the 13<sup>th</sup> percentile.

## **EXECUTIVE SUMMARY (Page 3 of 3)**

### **Asset Allocation**

The Fund's asset allocation on September 30, 2023, was as follows: 17.89% in fixed income bonds, 28.69% was invested in US large cap equity, 22.67% was invested in non-US developed equity, 18.24% was invested in US small/mid cap equity, and 12.18% was invested in real estate. Cash was 0.32% of the portfolio.

### **Compliance Issues**

**Total Fund** - The Fund has earned an annualized rate of return of 5.07% (before fees) and 4.70% (after fees) for the five-year period ending September 30, 2023. This performance was below the Investment Policy return objective to earn at least a 5.11% return, and was below the CPI Index (a proxy for inflation rate) plus 4%. For the five years ending September 30, 2023, the inflation rate plus 4% was 8.05%. The Investment Policy also sets the objective of earning more than the Allocation Index. The Fund did not meet this objective as the Allocation Index recorded a 4.80% return for the five years. Finally, the Investment Policy establishes the objective of earning a risk-adjusted return in excess of the Allocation Index over a market cycle. The fund did not meet this objective, as the Sharpe Ratio for the Fund was 0.25 for the five-year period ending September 30, 2023, which was less than the Sharpe Ratio for the Allocation Index of 0.31.

# Market Summary



## Wilshire Trust Universe Comparison Service

### The Market Environment

September 30, 2023

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. Increases accelerated again this year, in May, while Federal Reserve (Fed) Chair Jerome Powell said that central bank policy “may not be restrictive enough and it has not been restrictive for long enough.” 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. Real GDP growth has moderated this year, equaling 2.1% during the second quarter. After a strong Q1, consumer spending dropped and contributed just a half percent to overall growth. Private spending rebounded strongly during the quarter while government spending continues to grow. The Atlanta Federal Reserve’s GDPNow forecast for the third quarter of 2023 currently stands at 4.9%.

The Treasury curve rose across all maturities during the third quarter. The 10-year Treasury closed at 4.57%, up 73 basis points. The 10-year real yield (i.e., net of inflation) rose 81 basis points to 2.23%. The Federal Open Market Committee (FOMC) increased their overnight rate by 0.25%, targeting a range of 5.25% to 5.50%. The committee’s current median outlook is for a rate of approximately 5.8% by the end of 2023. Consumer price changes have ticked higher recently as the Consumer Price Index rose 1.0% for the three months ending August. For the one-year period, the CPI was up 3.7%. The 10-year breakeven inflation rate was up at 2.34% in September versus 2.23% in June.

The U.S. stock market, represented by the FT Wilshire 5000 Index<sup>SM</sup>, was down -3.28% for the third quarter but is up 18.84% for the past 12 months. A majority of sectors were down for the quarter. The best performing 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.

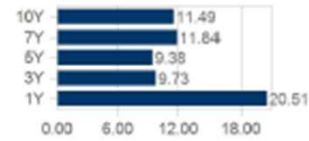
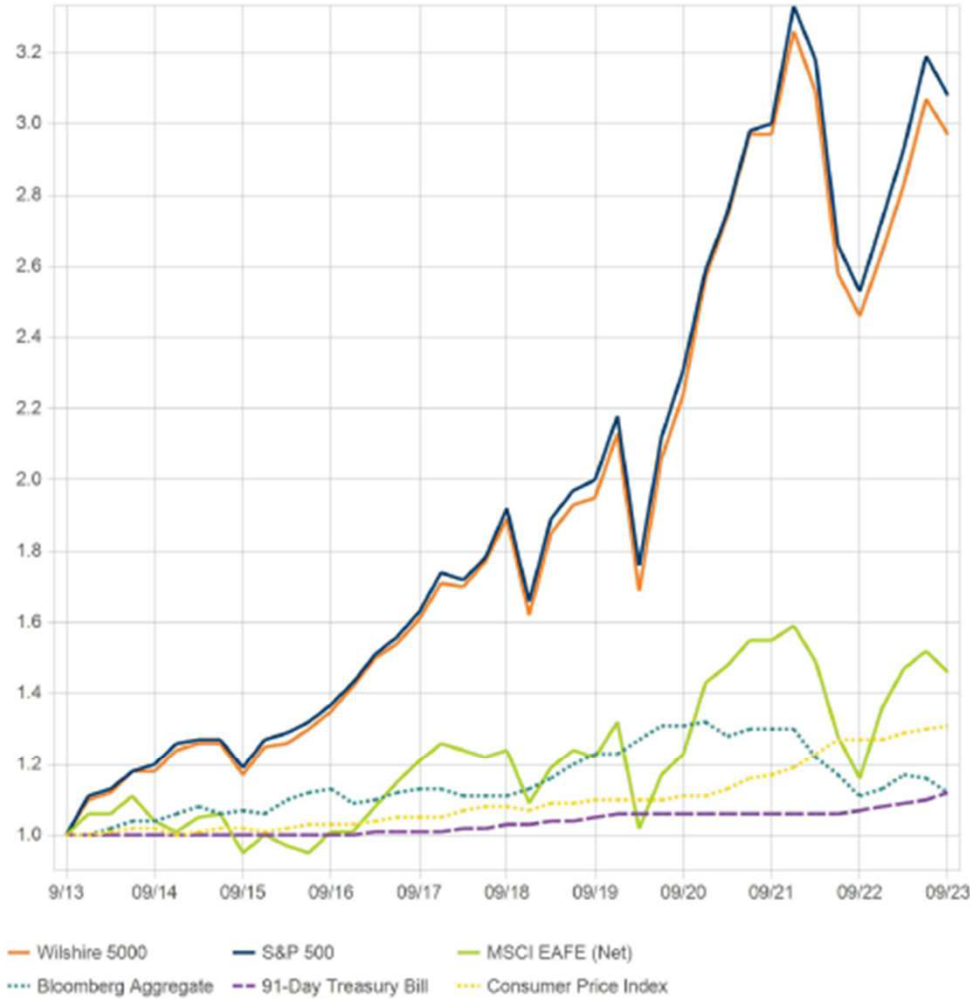
The U.S. Treasury yield curve was up across the maturity spectrum during the quarter, and to a greater degree in the long end of the curve. The 10-year Treasury yield ended the quarter at 4.57%, up 73 basis points from June. Credit spreads were little changed during the quarter with investment grade down just 2 basis points and high yield bonds up 4 basis points. The FOMC met twice during the quarter, as

scheduled, and increased the overnight rate by 0.25% in July, targeting a range of 5.25% to 5.50%, before again pausing increases in September. The Fed’s “dot plot” is messaging that the current expectation is for another 25 basis point increase before the end of 2023 while markets are pricing a slightly lower year-end rate, approximately equal to the current effective rate. 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.”

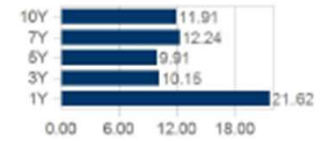
Performance results within international equity markets were negative for the third quarter, with developed underperforming emerging markets. The MSCI EAFE Index was down -4.11% for the quarter, while the MSCI Emerging Markets Index was down -2.93%. The eurozone fell into a mild recession around the 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, the eurozone’s largest economy, continues to suffer due to a sustained decline in demand for goods and services. Weakness is showing in France, as well, as their services sector contracted in September. Finally, 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. Factory output and retail sales accelerated during the third quarter. However, declining investment in the country’s key property sector threatens to act as a drag on overall economic growth.

## State of Iowa Peace Officer Retirement System The Market Environment

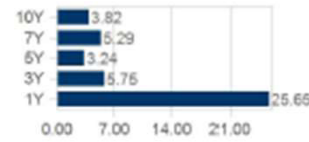
*Historical Perspective*  
Quarter Ending September 30, 2023



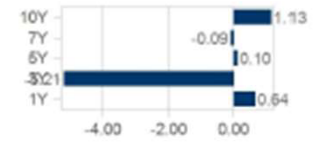
Wilshire 5000



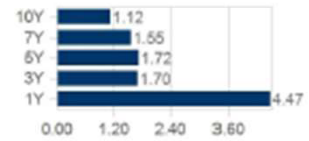
S&P 500



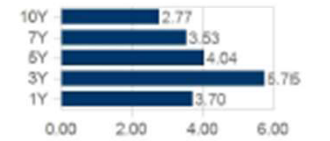
MSCI EAFE (Net)



Bloomberg Aggregate



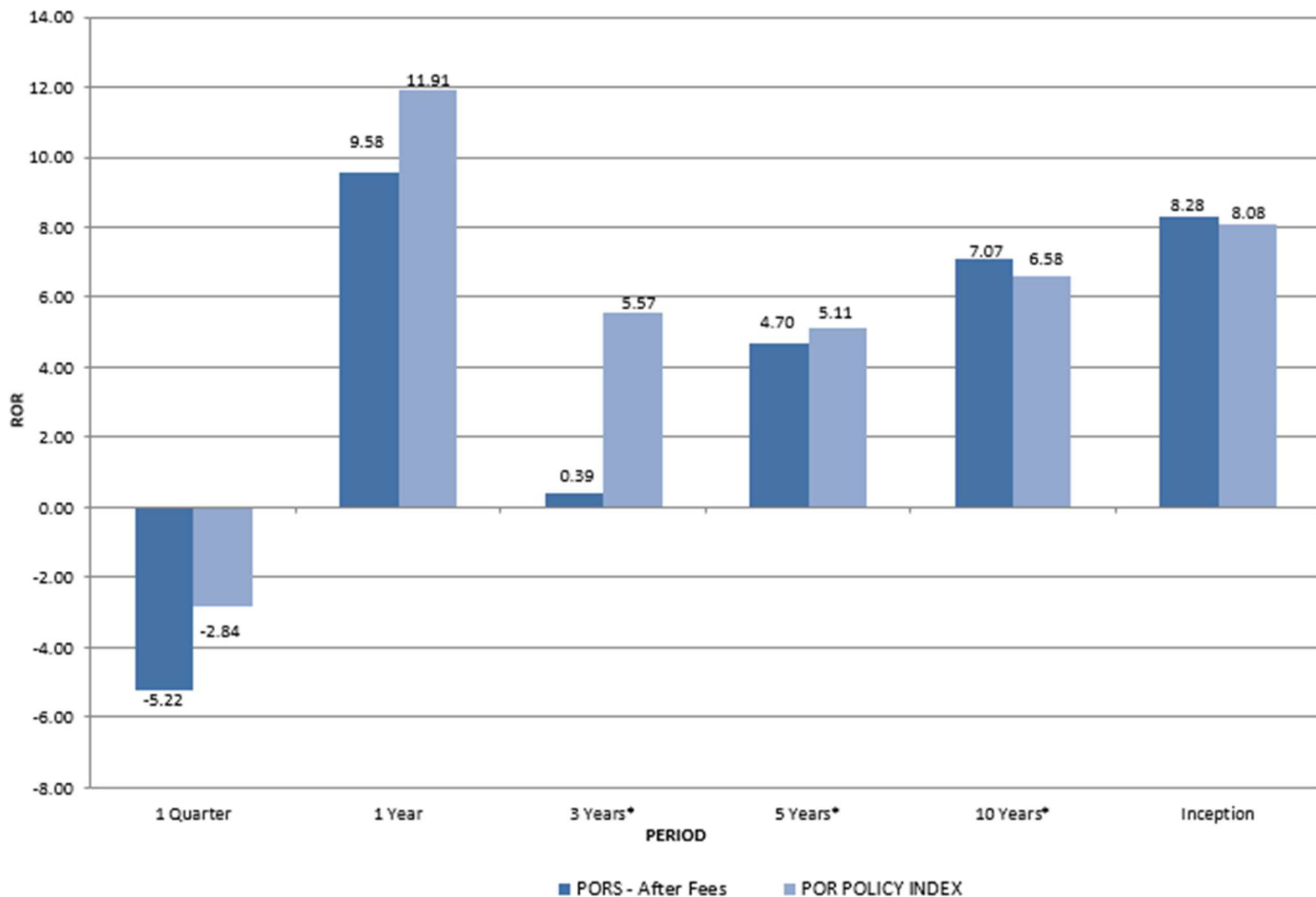
91-Day Treasury Bill



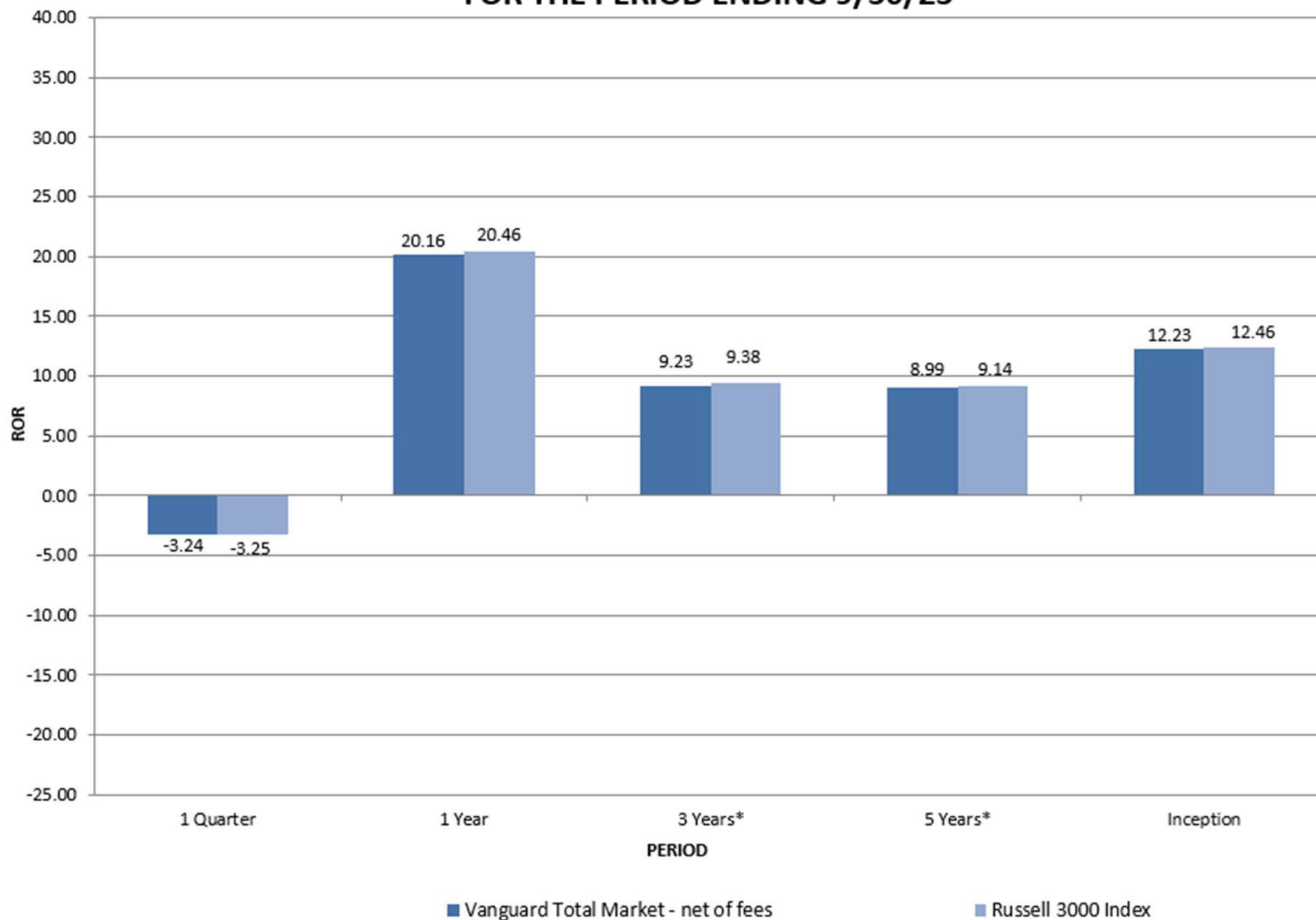
Consumer Price Index

# Investment Returns

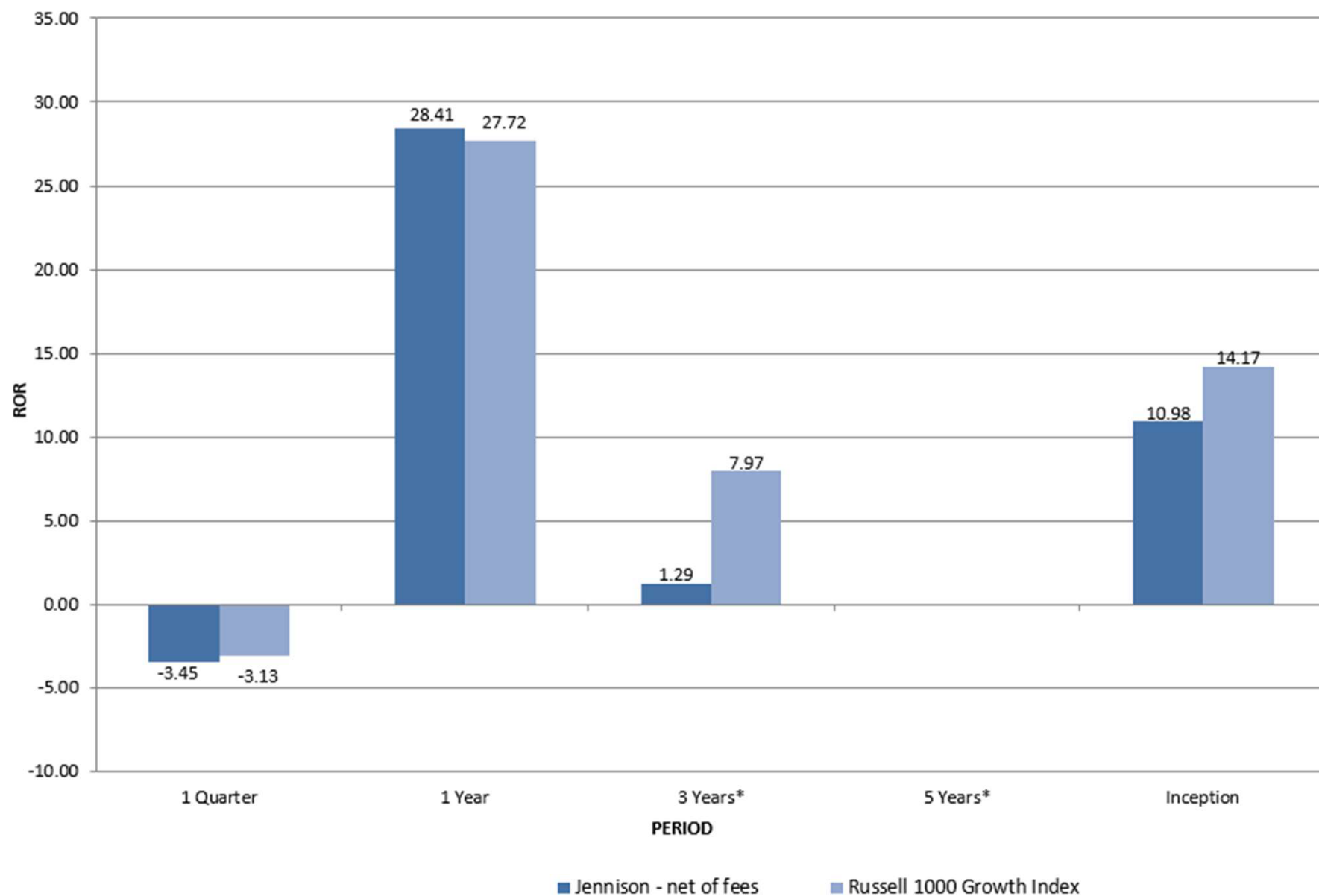
**PEACE OFFICERS' RETIREMENT SYSTEM (net of fees) vs. POLICY INDEX  
FOR THE PERIOD ENDING 9/30/23**



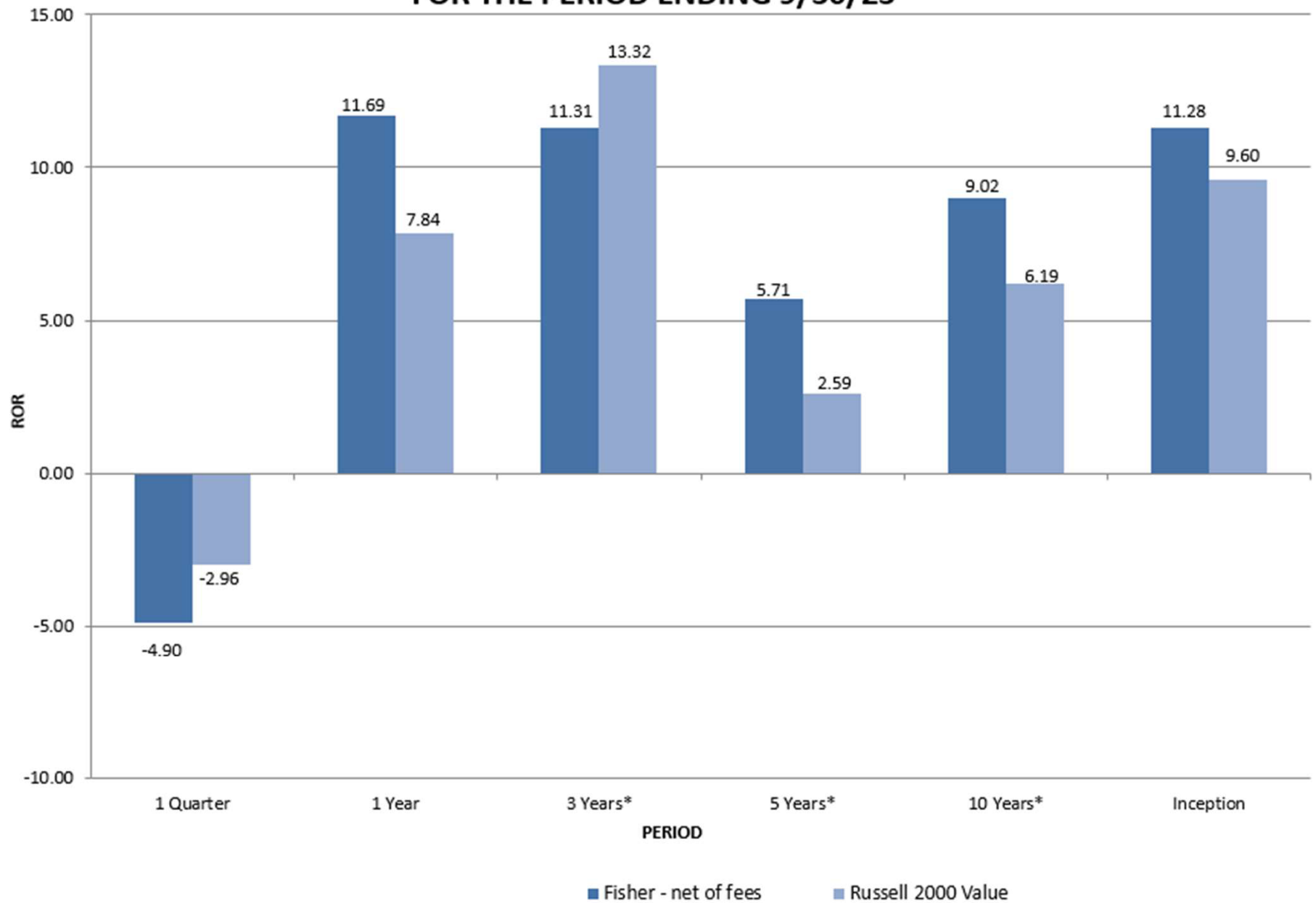
## VANGUARD TOTAL STOCK MARKET (net of fees) vs. RUSSELL 3000 INDEX FOR THE PERIOD ENDING 9/30/23



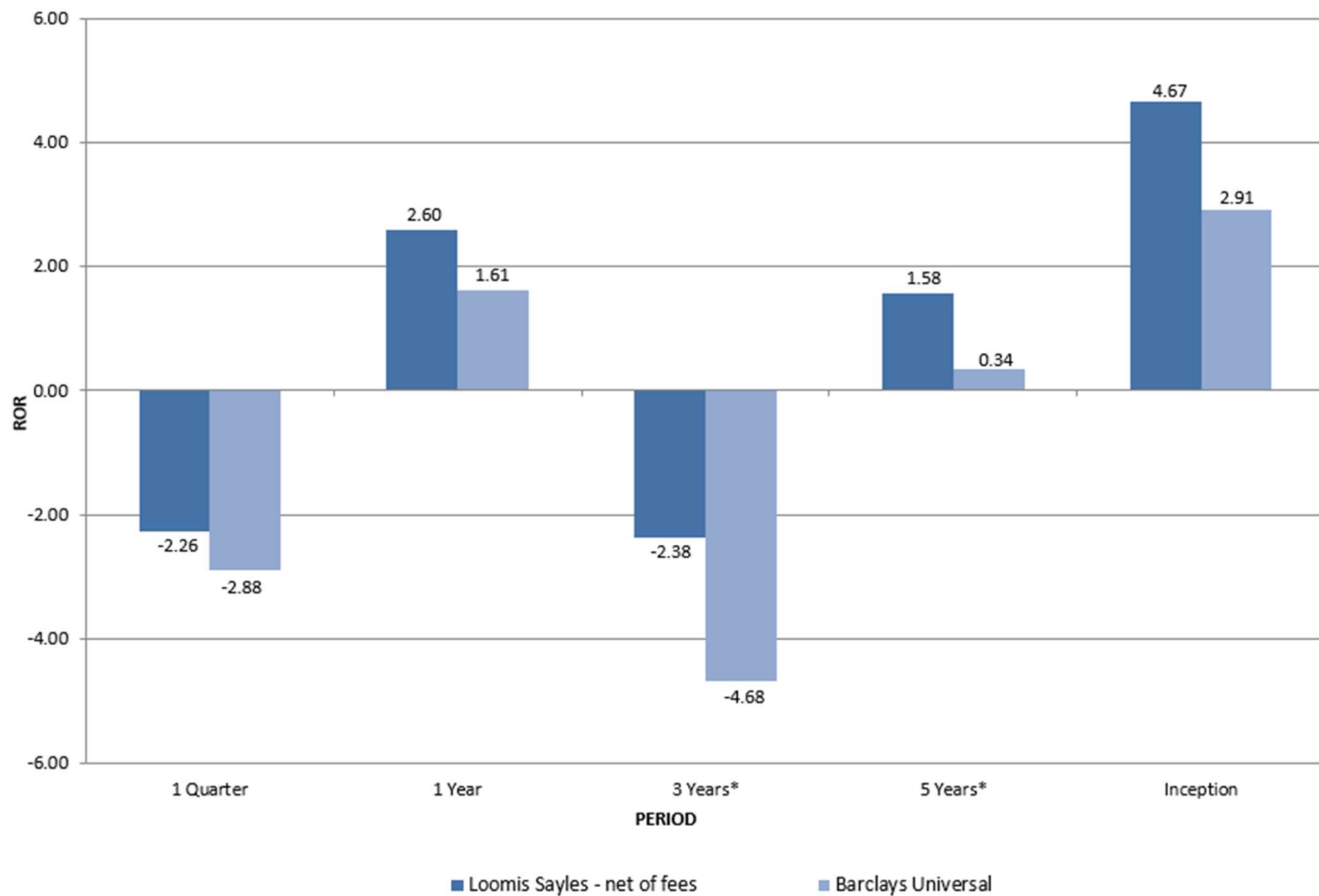
## JENNISON (net of fees) vs. RUSSELL 1000 GROWTH FOR THE PERIOD ENDING 9/30/23



## FISHER (net of fees) vs. RUSSELL 2000 SMALL VALUE FOR THE PERIOD ENDING 9/30/23

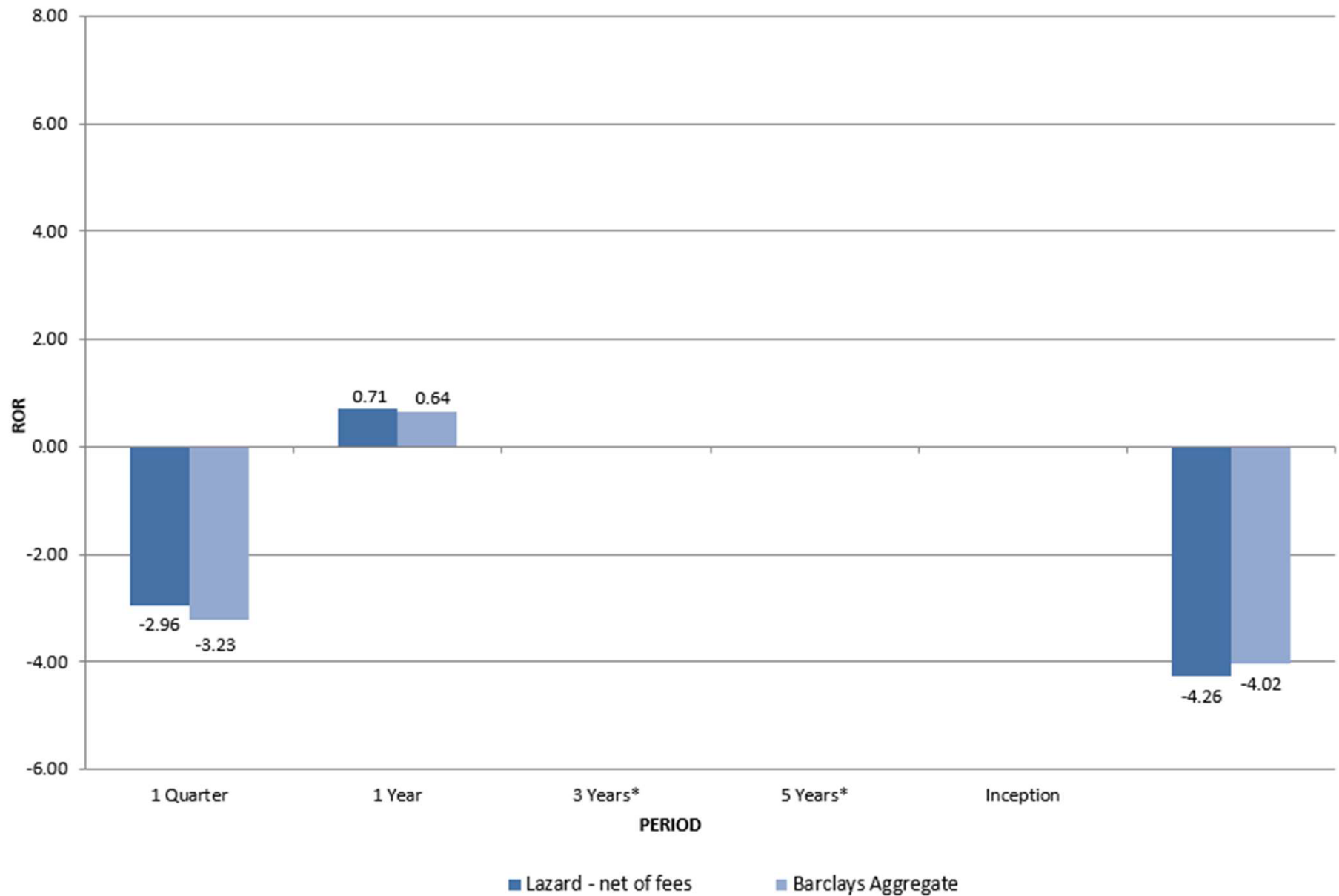


## LOOMIS SAYLES (net of fees) vs. BARCLAYS UNIVERSAL FOR THE PERIOD ENDING 9/30/23

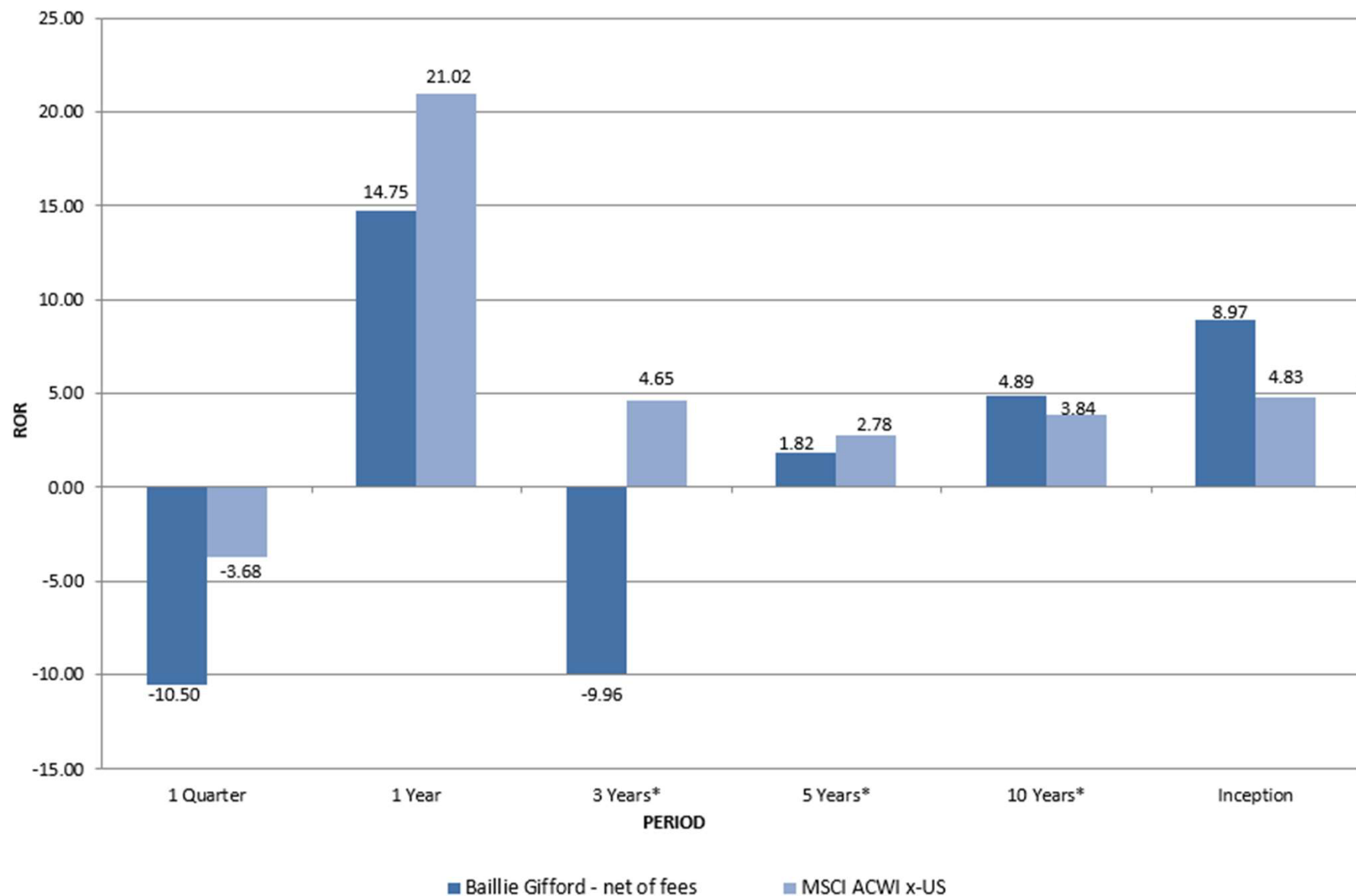




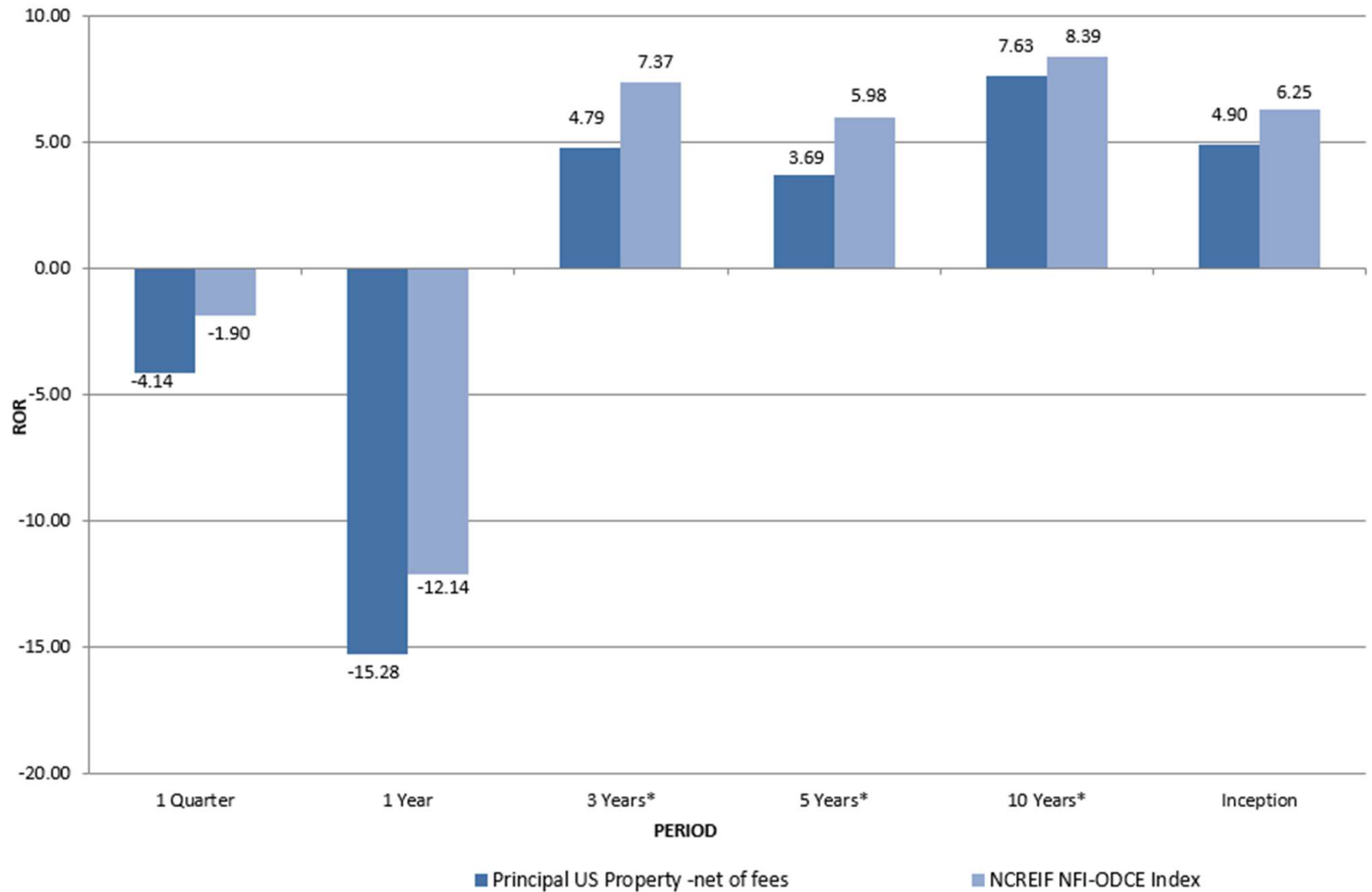
## LAZARD (net of fees) vs. BARCLAYS AGGREGATE FOR THE PERIOD ENDING 9/30/23



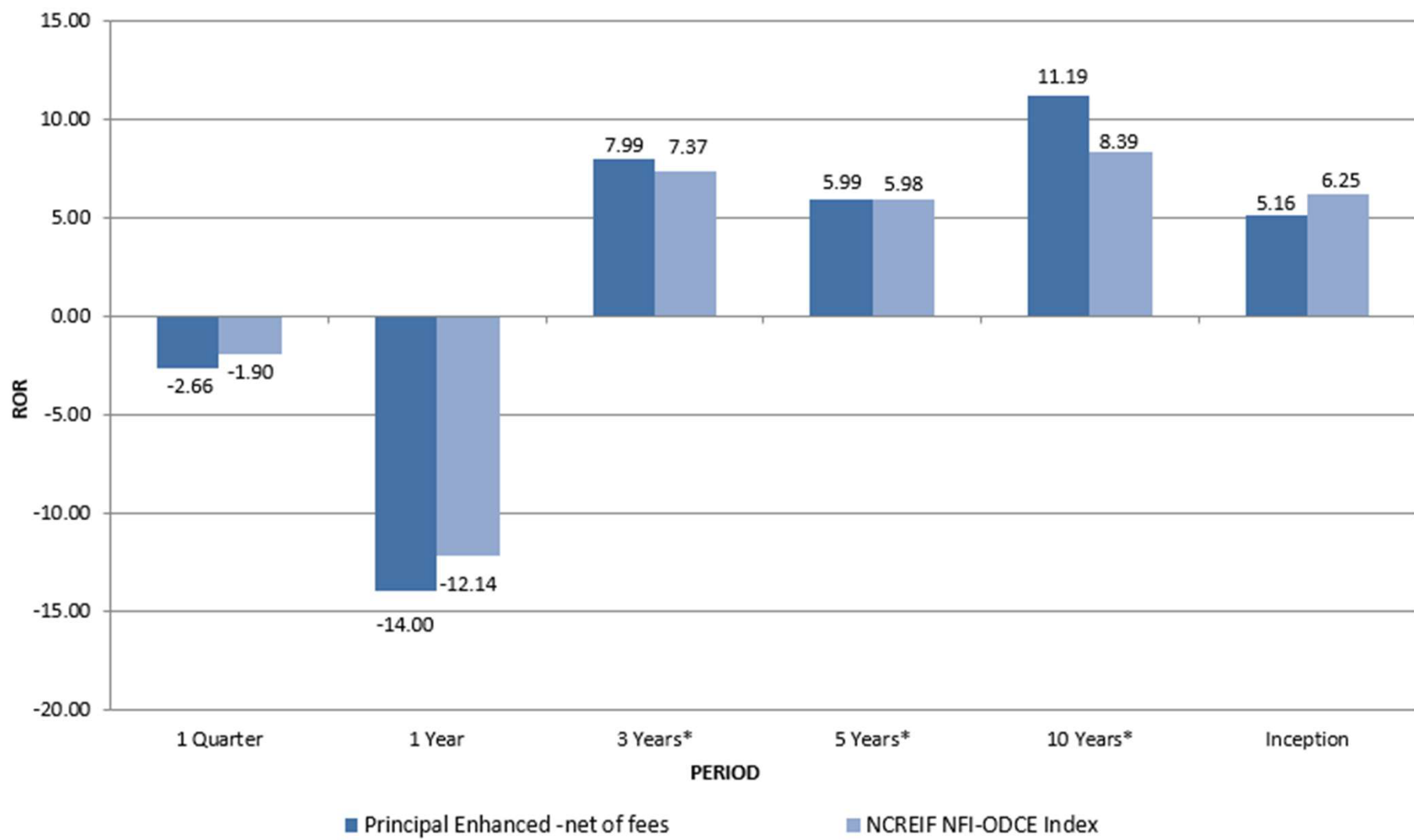
## BAILLIE GIFFORD (net of fees) vs. MSCI EAFE NET FOR THE PERIOD ENDING 9/30/23



## PRINCIPAL US PROPERTY (net of fees) vs. NCREIF NFI FOR THE PERIOD ENDING 9/30/23

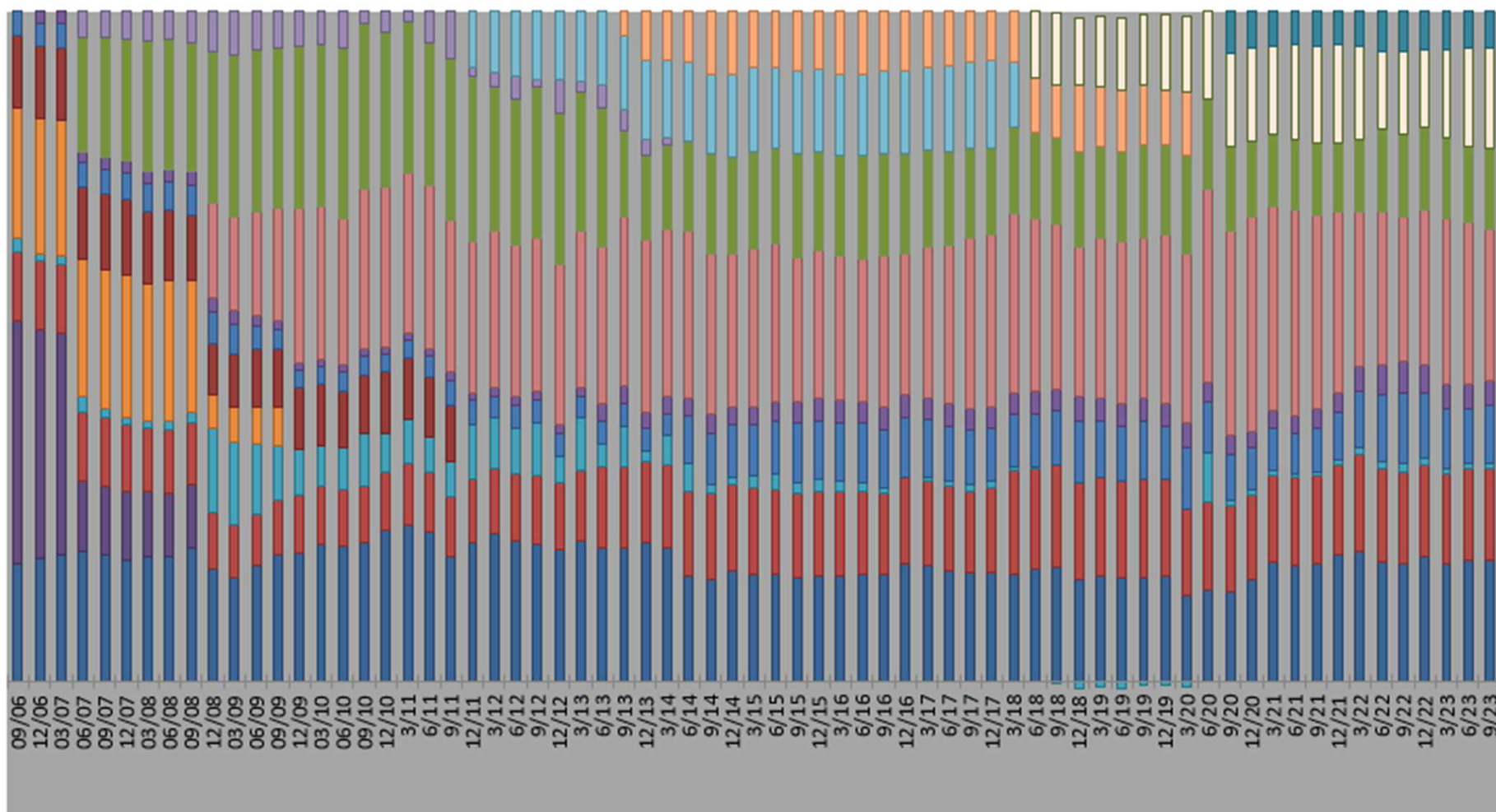


## PRINCIPAL ENHANCED (net of fees) VS. NCREIF NFI FOR THE PERIOD ENDING 9/30/23



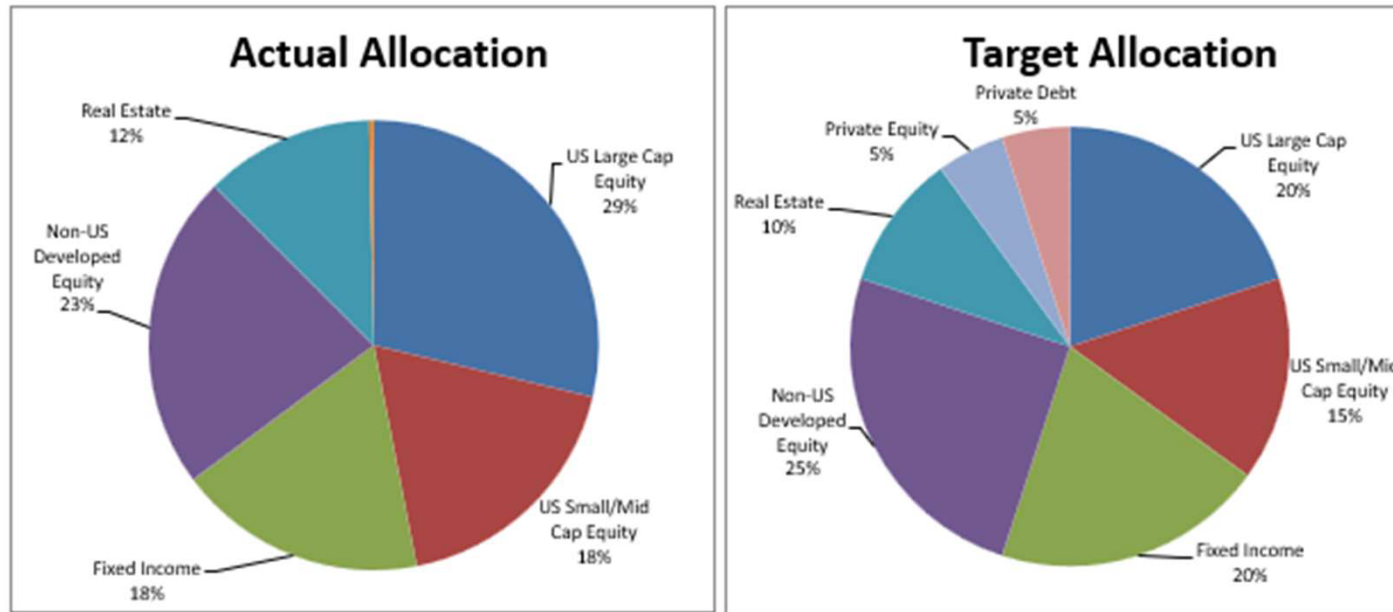
# Asset Allocation

## ASSET ALLOCATION HISTORY



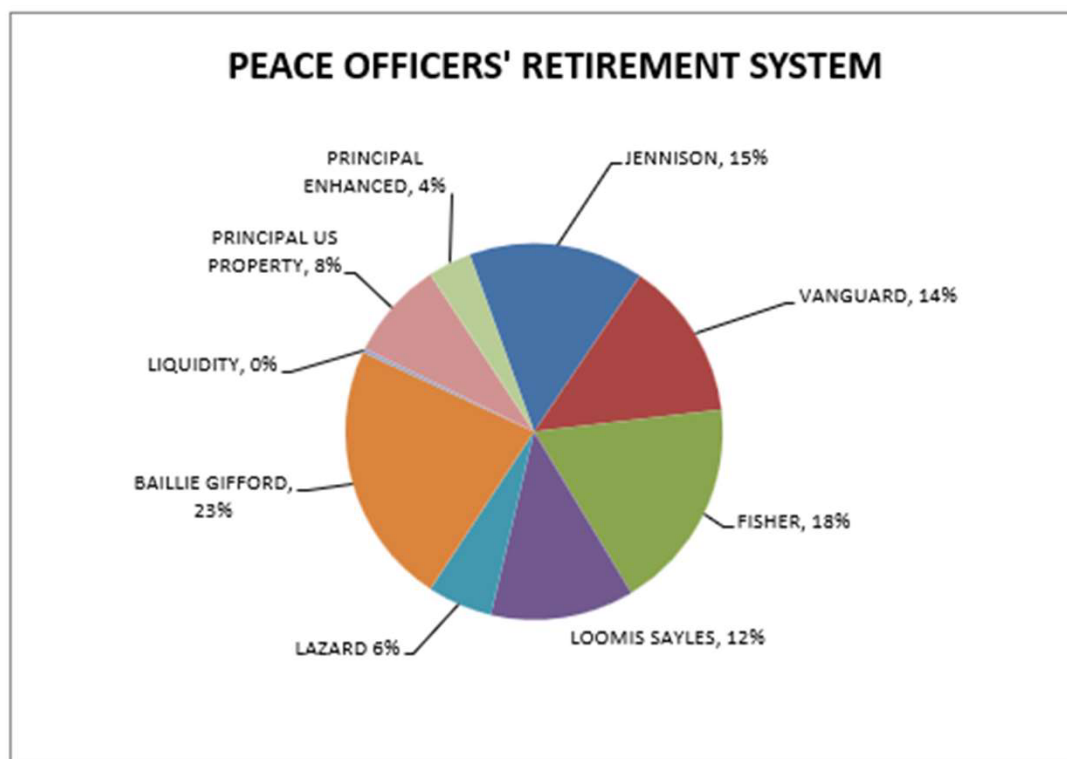
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|--|---|--|---|--|
| <span style="color: blue;">■</span> Fisher           | <span style="color: purple;">■</span> UBS Combined        | <span style="color: red;">■</span> Vanguard              | <span style="color: teal;">■</span> Liquidity       | <span style="color: orange;">■</span> Walter Scott |
| <span style="color: darkred;">■</span> Gardner Lewis | <span style="color: blue;">■</span> Principal US Property | <span style="color: purple;">■</span> Principal Enhanced | <span style="color: pink;">■</span> Baillie Gifford | <span style="color: green;">■</span> Loomis Sayles |
| <span style="color: lightpurple;">■</span> Dix Hills | <span style="color: lightblue;">■</span> Westfield        | <span style="color: orange;">■</span> Lord Abbett        | <span style="color: yellow;">■</span> Jennison      | <span style="color: darkblue;">■</span> Lazard     |

## ACTUAL ASSET ALLOCATION VERSUS TARGET ASSET ALLOCATION AS OF SEPTEMBER 30, 2023



Asset Class	\$ Value Actual	Percent Actual	Percent Target	Percent Range
US Large Cap Equity	183,788,357	28.69%	20.00%	15-30%
US Small/Mid Cap Equity	116,807,109	18.24%	15.00%	10-20%
Fixed Income	114,603,493	17.89%	20.00%	12.75-27%
Non-US Developed Equity	145,198,141	22.67%	25.00%	13.75-35%
Real Estate	78,041,594	12.18%	10.00%	0-13%
Cash	2,067,141	0.32%	0.00%	0.00%
Private Equity	0	0.00%	5.00%	0-8%
Private Debt	0	0.00%	5.00%	0-8%
<b>Total Fund</b>	<b>640,505,836</b>	<b>100%</b>	<b>100%</b>	

**MANAGER DISTRIBUTION  
AS OF SEPTEMBER 30, 2023**

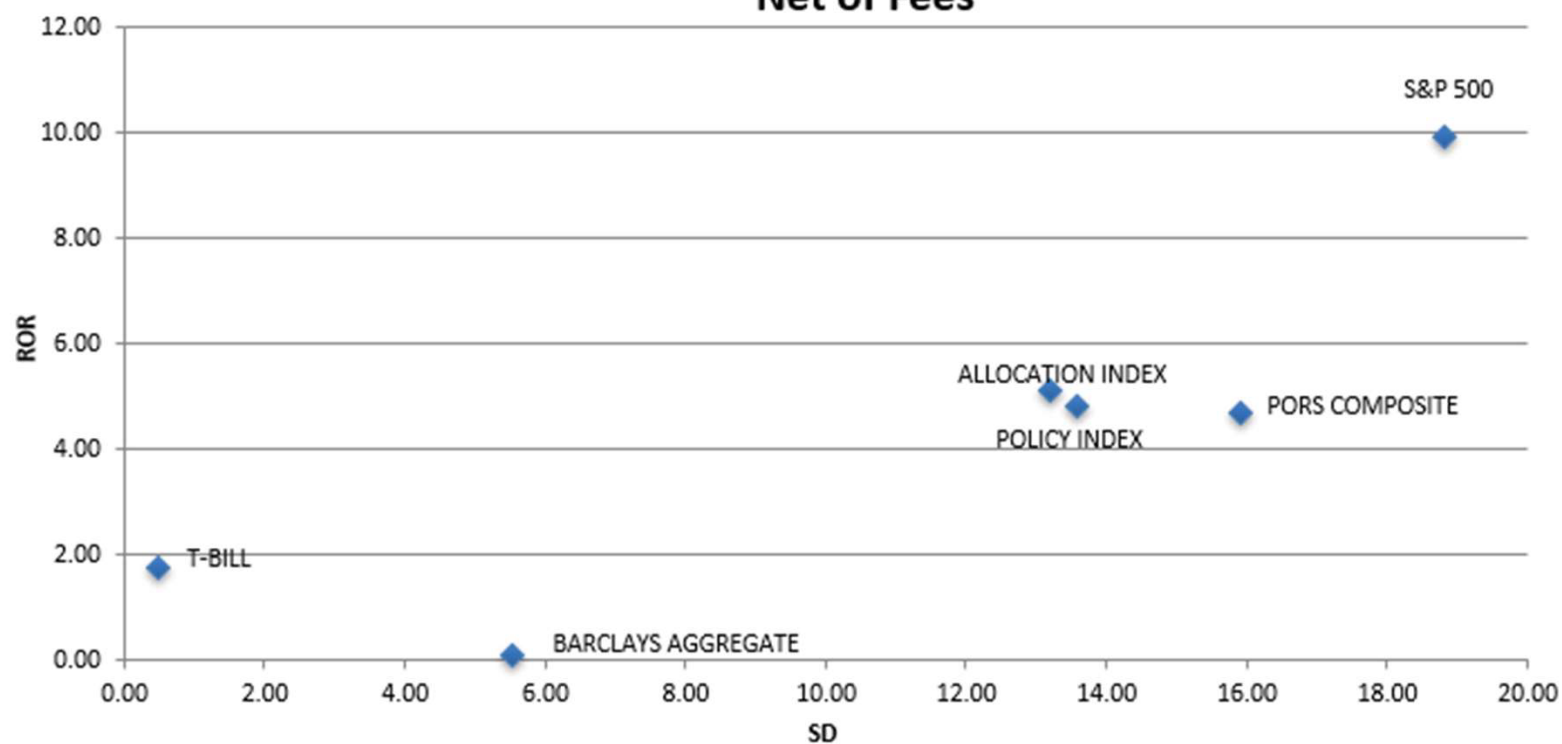


<u>MGR NAME</u>	<u>MARKET VALUE</u>	<u>% OF TOTAL</u>
JENNISON	96,373,734.87	15.05%
VANGUARD	87,414,622.35	13.65%
FISHER	116,807,109.38	18.24%
LOOMIS SAYLES	78,834,862.51	12.31%
LAZARD	35,768,630.38	5.58%
BAILLIE GIFFORD	145,198,141.18	22.67%
LIQUIDITY	2,067,141.27	0.32%
PRINCIPAL US PROPERTY	54,265,006.39	8.47%
PRINCIPAL ENHANCED	23,776,587.45	3.71%
	<u>640,505,835.78</u>	<u>100.00%</u>



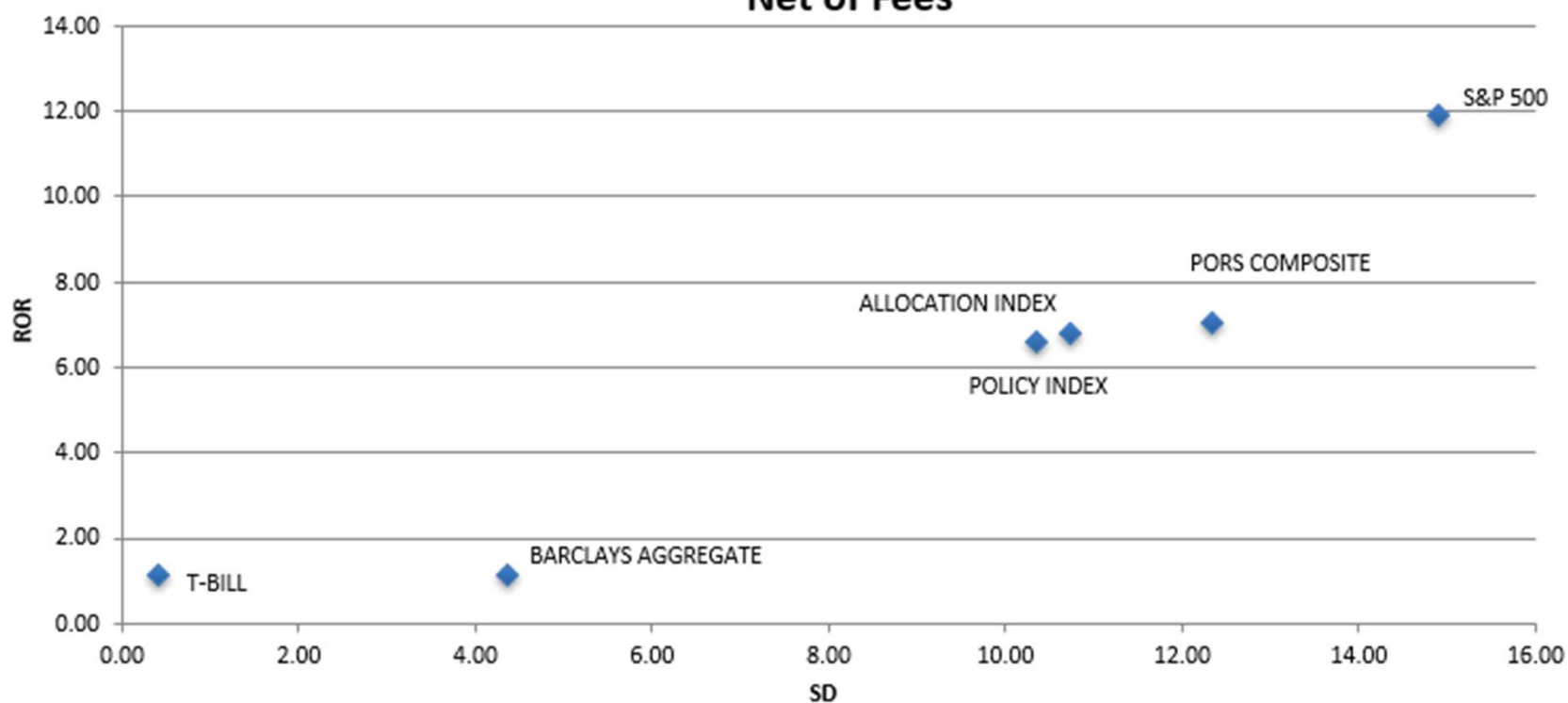
# Risk Measures

**Peace Officers' Retirement System  
5 Year Risk vs. Return  
Net of Fees**



<u>Account/Index</u>	<u>5 Years ROR (net of fees)</u>	<u>5 Years Standard Deviation</u>	<u>5 Years Sharpe Ratio</u>
PEACE OFFICERS COMPOSITE	4.70	15.90	0.25
IOWA PORS POLICY INDEX	5.11	13.21	0.31
PORS ALLOCATION INDEX	4.80	13.58	0.28
S&P 500	9.92	18.81	0.51
BARCLAYS AGGREGATE	0.10	5.55	-0.29
90 DAY T-BILL	1.72	0.50	0.00

**Peace Officers' Retirement System  
10 Year Risk vs. Return  
Net of Fees**



**Account/Index**

**10 Years ROR (net of fees)**

**10 Years Standard Deviation**

**10 Years Sharpe Ratio**

PEACE OFFICERS COMPOSITE

7.07

12.34

0.56

IOWA PORS POLICY INDEX

6.58

10.34

0.60

PORS ALLOCATION INDEX

6.82

10.74

0.60

S&P 500

11.91

14.90

0.78

BARCLAYS AGGREGATE

1.13

4.36

0.04

90 DAY T-BILL

1.12

0.41

0.00

# Compliance Report

**Peace Officers' Retirement System**  
**Investment Policies and Guidelines Compliance Check**  
**Quarter Ending September 30, 2023**

**Total Fund**

Yes = In compliance

<u>Asset Allocation</u>	<u>Target</u>	<u>Range</u>	<u>CurrentPortfolio</u>	<u>Compliance</u>
US Large Cap Equity:	20%	15-30%	28.69%	Yes
US Small/Mid Cap Equity:	15%	10-20%	18.24%	Yes
Fixed Income:	20%	12.75-27%	17.89%	Yes
Non-US Developed Equity	25%	13.75-35%	22.67%	Yes
Real Estate:	10%	0-13%	12.18%	Yes
Private Equity:	5%	0-8%	0.00%	Yes
Private Debt:	5%	0-8%	0.00%	Yes
Cash Equivalents:	0%	0%	0.32%	Yes

Return Objectives (over a five-year market cycle)

Achieve 7% - Absolute Nominal Return:	No
CPI + 4% - Real Return:	No
Exceed Weighted Total Fund Policy Index:	No

Risk Adjusted Total Rate of Return

The Total Fund Sharpe Ratio is expected to exceed the same measure for the Weighted Total Fund Policy Index over the period of investment:	No
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**Semi-Monthly Compliance Violations**  
**Investment Policies and Guideline Compliance Check**  
**Quarter Ending September 30, 2023**

**Fisher:** No violations as of the end of the quarter.

**Jennison** No violations as of the end of the quarter.

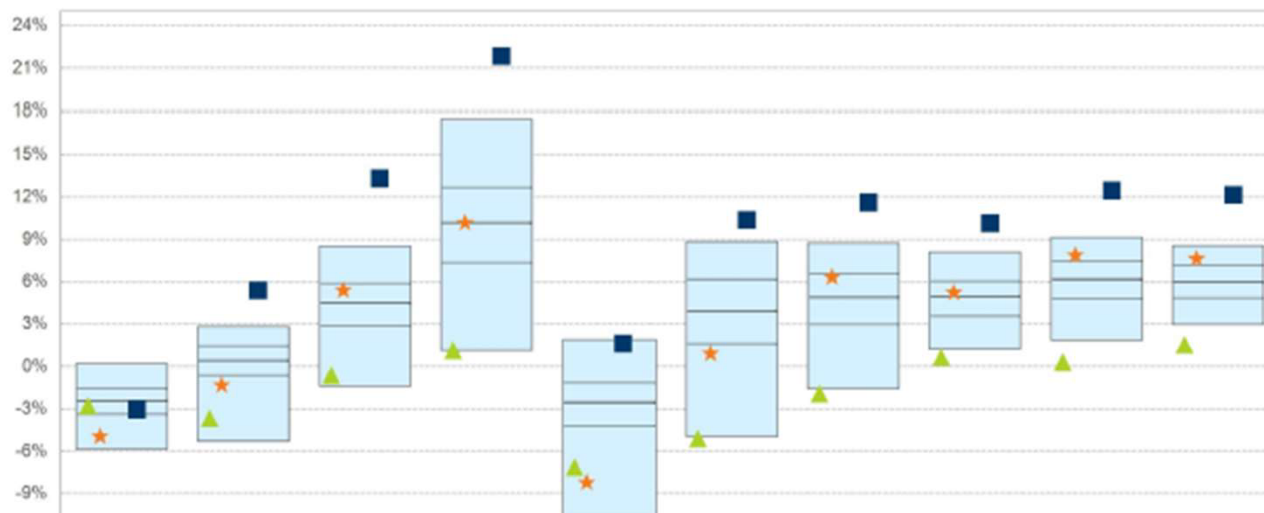
**Loomis Sayles:** No violations as of the end of the quarter.

**Lazard:** No violations as of the end of the quarter.

# Appendix

## State of Iowa Peace Officer Retirement System Performance Comparison

*Total Returns of Master Trusts - All Plans  
Cumulative Periods Ending : September 30, 2023*

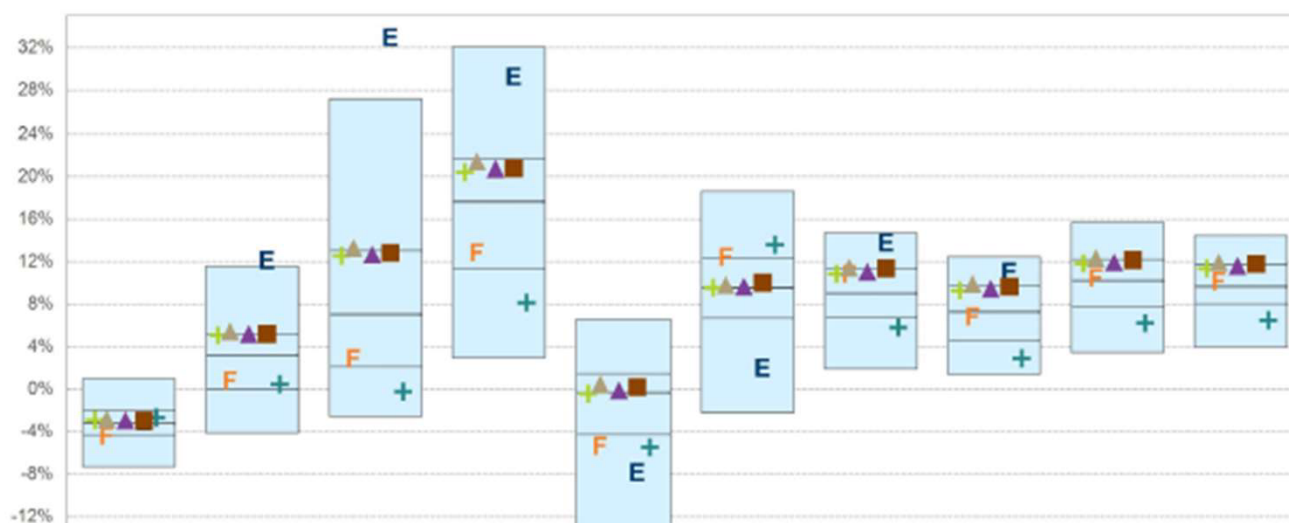


Percentile Rankings	1 Qtr	2 Qtrs	3 Qtrs	1 Year	2 Years	3 Years	4 Years	5 Years	7 Years	10 Years
5th	0.19	2.82	8.52	17.49	1.88	8.83	8.72	8.09	9.14	8.55
25th	-1.57	1.45	5.90	12.70	-1.14	6.17	6.55	6.05	7.47	7.18
50th	-2.42	0.42	4.46	10.19	-2.55	3.95	4.89	4.96	6.18	5.99
75th	-3.41	-0.61	2.84	7.37	-4.19	1.61	2.99	3.56	4.79	4.87
95th	-5.87	-5.30	-1.38	1.17	-10.84	-4.99	-1.57	1.24	1.84	2.97
No. Of Obs	345	343	332	313	301	293	288	243	235	230
★ Total Fund Composite	-5.13 (92)	-1.49 (83)	5.19 (36)	9.99 (52)	-8.41 (90)	0.75 (82)	6.13 (31)	5.07 (46)	7.66 (23)	7.46 (18)
■ S&P 500	-3.27 (72)	5.18 (1)	13.07 (1)	21.62 (1)	1.39 (6)	10.15 (2)	11.38 (1)	9.91 (1)	12.24 (1)	11.91 (1)
▲ Bloomberg Govt/Credit	-3.00 (65)	-3.90 (91)	-0.85 (93)	0.93 (95)	-7.35 (89)	-5.32 (95)	-2.15 (96)	0.41 (95)	0.09 (98)	1.31 (97)



## State of Iowa Peace Officer Retirement System Performance Comparison

*Total Returns of US Equity Portfolios  
Cumulative Periods Ending : September 30, 2023*



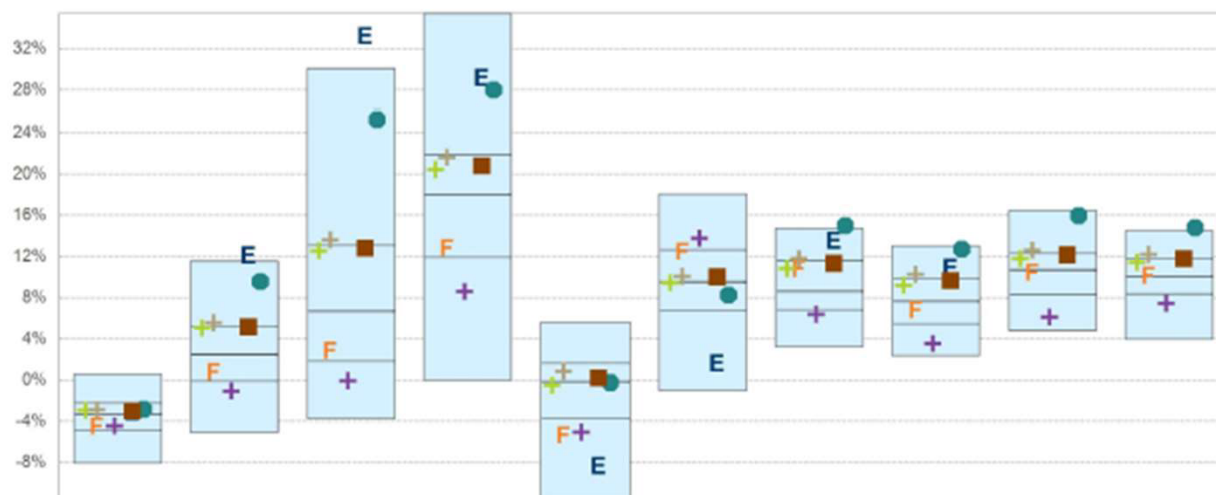
Percentile Rankings	1 Qtr	2 Qtrs	3 Qtrs	1 Year	2 Years	3 Years	4 Years	5 Years	7 Years	10 Years
5th	0.96	11.62	27.15	32.02	6.59	18.68	14.70	12.47	15.68	14.47
25th	-1.98	5.20	13.06	21.66	1.46	12.31	11.37	9.73	12.21	11.74
50th	-3.23	3.22	7.05	17.70	-0.34	9.55	9.04	7.29	10.26	9.67
75th	-4.32	0.00	2.12	11.33	-4.25	6.71	6.75	4.65	7.80	8.04
95th	-7.26	-4.13	-2.54	2.97	-13.32	-2.18	1.93	1.38	3.49	3.94

No. Of Obs	621	602	591	588	568	537	514	412	387	345
F Fisher Investments	-4.71 (78)	0.51 (67)	2.60 (71)	12.57 (71)	-5.63 (81)	12.17 (26)	10.54 (41)	6.54 (58)	10.19 (51)	9.87 (46)
E Jennison	-3.35 (59)	11.86 (4)	32.66 (2)	28.96 (8)	-8.10 (87)	1.71 (89)	13.51 (8)	10.78 (13)		
+ Vanguard Total Market	-3.24 (51)	4.78 (40)	12.27 (36)	20.15 (43)	-0.71 (56)	9.23 (56)	10.56 (41)	8.99 (35)	11.53 (37)	11.07 (34)
+ Russell 2000 Value	-2.96 (39)	0.13 (72)	-0.53 (90)	7.84 (88)	-5.79 (82)	13.31 (19)	5.49 (84)	2.59 (87)	5.94 (88)	6.19 (87)
▲ Russell 3000	-3.25 (51)	4.86 (37)	12.39 (34)	20.46 (39)	-0.40 (50)	9.37 (52)	10.75 (37)	9.14 (34)	11.64 (36)	11.28 (32)
▲ Russell 1000	-3.15 (46)	5.16 (31)	13.01 (28)	21.19 (34)	0.16 (43)	9.53 (51)	11.11 (34)	9.63 (28)	12.00 (30)	11.63 (28)
■ Wilshire 5000	-3.28 (57)	4.88 (35)	12.52 (32)	20.51 (39)	-0.09 (47)	9.73 (48)	11.05 (34)	9.38 (31)	11.84 (33)	11.49 (29)

## State of Iowa Peace Officer Retirement System Performance Comparison

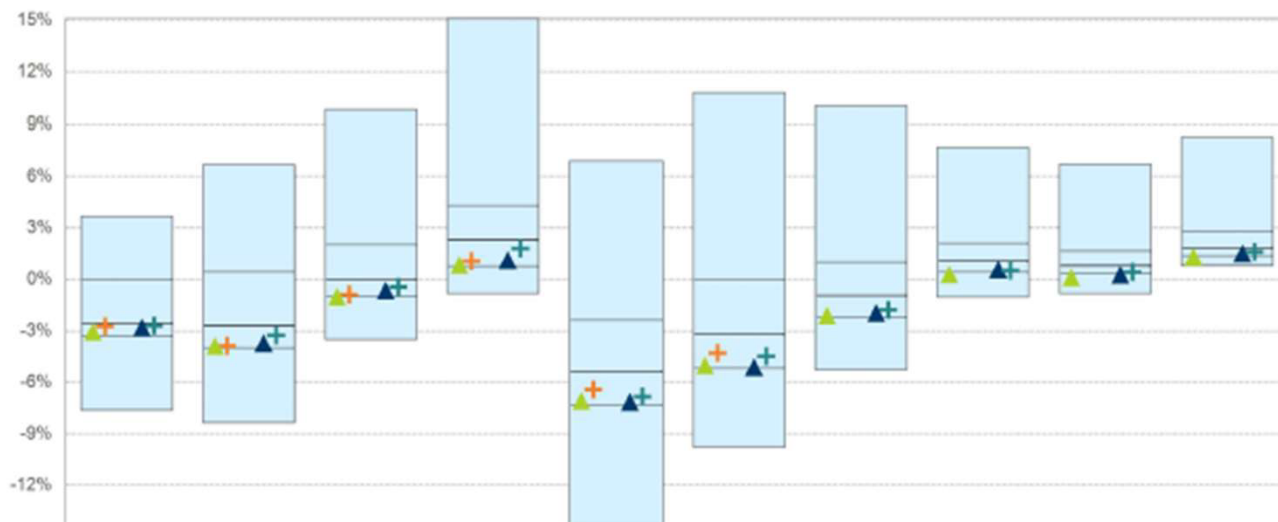
*Total Equity Returns of US Equity Portfolios  
Cumulative Periods Ending : September 30, 2023*



Percentile Rankings	1 Qtr	2 Qtrs	3 Qtrs	1 Year	2 Years	3 Years	4 Years	5 Years	7 Years	10 Years
5th	0.55	11.57	30.09	35.41	5.60	18.09	14.76	13.02	16.48	14.47
25th	-2.23	5.19	13.05	21.89	1.60	12.67	11.59	9.90	12.32	11.76
50th	-3.27	2.47	6.71	18.01	-0.16	9.51	8.63	7.67	10.71	10.10
75th	-4.86	-0.09	1.83	11.91	-3.75	6.76	6.85	5.46	8.30	8.38
95th	-8.07	-5.10	-3.75	0.00	-11.65	-1.03	3.26	2.40	4.83	3.94
No. Of Obs	386	359	342	339	327	310	297	288	276	197
<b>F</b> Fisher Investments	-4.75 (73)	0.52 (64)	2.57 (71)	12.55 (72)	-5.64 (82)	12.23 (28)	10.56 (40)	6.54 (62)	10.20 (57)	9.90 (54)
<b>E</b> Jennison	-3.37 (51)	11.87 (4)	32.96 (3)	28.95 (10)	-8.61 (90)	1.37 (90)	13.29 (14)	10.62 (16)		
<b>+</b> Vanguard Total Market	-3.26 (48)	4.77 (34)	12.26 (30)	20.14 (41)	-0.81 (56)	9.17 (54)	10.52 (40)	8.94 (39)	11.52 (42)	11.17 (39)
<b>●</b> Russell 1000 Growth	-3.13 (40)	9.28 (8)	24.98 (11)	27.72 (14)	-0.57 (53)	7.97 (64)	14.70 (5)	12.42 (10)	15.64 (8)	14.48 (4)
<b>+</b> Wil US Small-Value	-4.74 (73)	-1.38 (83)	-0.36 (86)	8.29 (87)	-5.35 (81)	13.46 (20)	6.09 (81)	3.24 (89)	5.83 (93)	7.13 (85)
<b>+</b> Wilshire US Large-Cap	-3.17 (43)	5.29 (23)	13.33 (21)	21.32 (32)	0.58 (40)	9.80 (47)	11.51 (25)	9.97 (22)	12.32 (25)	11.92 (20)
<b>■</b> Wilshire 5000	-3.28 (50)	4.88 (34)	12.52 (29)	20.51 (38)	-0.09 (49)	9.73 (48)	11.05 (36)	9.38 (35)	11.84 (38)	11.49 (33)

## State of Iowa Peace Officer Retirement System Performance Comparison

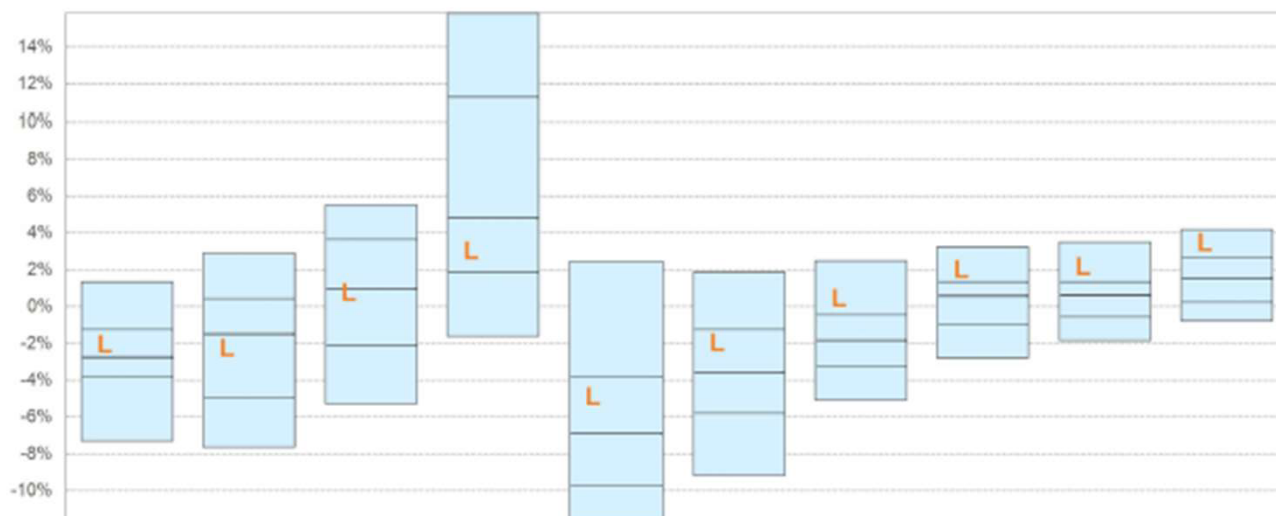
*Total Returns of US Fixed Income Portfolios  
Cumulative Periods Ending : September 30, 2023*



Percentile Rankings	1 Qtr	2 Qtrs	3 Qtrs	1 Year	2 Years	3 Years	4 Years	5 Years	7 Years	10 Years
5th	3.67	6.69	9.79	15.09	6.90	10.80	10.03	7.71	6.72	8.28
25th	0.00	0.42	2.03	4.32	-2.38	-0.01	1.01	2.11	1.65	2.82
50th	-2.56	-2.70	0.00	2.32	-5.37	-3.21	-0.95	1.08	0.81	1.84
75th	-3.31	-4.01	-0.99	0.78	-7.31	-5.18	-2.23	0.44	0.35	1.40
95th	-7.63	-8.38	-3.48	-0.83	-14.52	-9.79	-5.27	-1.04	-0.83	0.81
No. Of Obs	486	471	462	452	419	400	387	283	253	210
+ Lazard	-2.93 (57)	-4.08 (78)	-1.06 (77)	0.86 (73)	-6.61 (56)	-4.48 (60)	-2.15 (71)	0.41 (77)	0.09 (83)	1.31 (80)
▲ Bloomberg Govt/Credit	-3.00 (59)	-3.90 (68)	-0.85 (67)	0.93 (73)	-7.35 (76)	-5.32 (81)	-2.35 (71)	0.10 (85)	-0.09 (87)	1.13 (88)
▲ Bloomberg Aggregate	-3.23 (73)	-4.05 (78)	-1.21 (80)	0.64 (82)	-7.29 (74)	-5.21 (78)	-2.30 (79)	0.10 (85)	-0.09 (87)	1.13 (88)
+ Barclays US Univ Indx	-2.88 (56)	-3.45 (57)	-0.62 (63)	1.61 (59)	-7.02 (64)	-4.67 (63)	-1.95 (68)	0.34 (79)	0.24 (79)	1.43 (73)

## State of Iowa Peace Officer Retirement System Performance Comparison

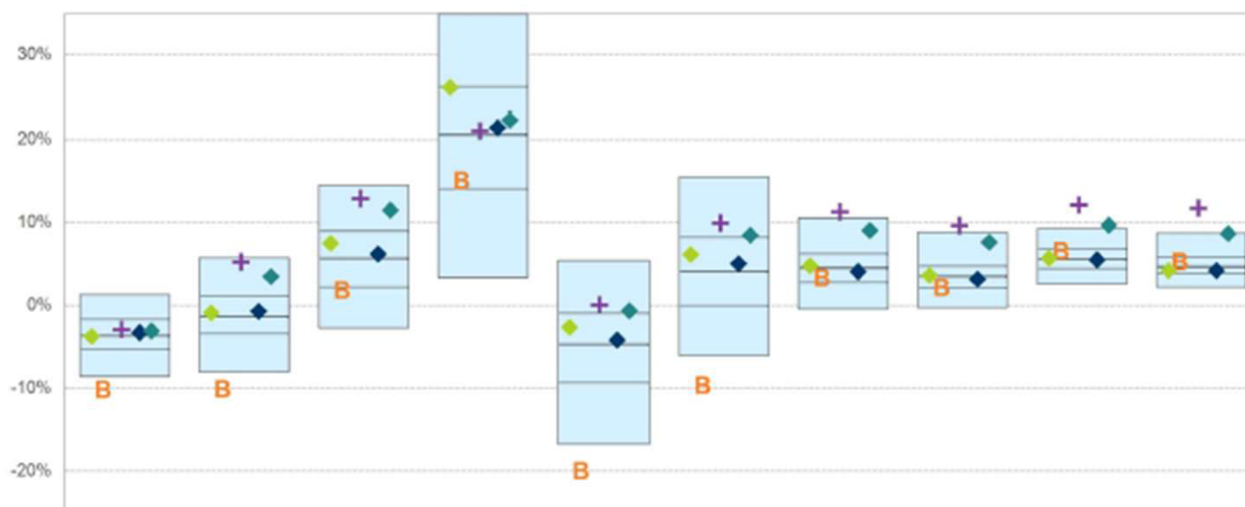
*Total Returns of Non-US Fixed Income Portfolios  
Cumulative Periods Ending : September 30, 2023*



Percentile Rankings	1 Qtr	2 Qtrs	3 Qtrs	1 Year	2 Years	3 Years	4 Years	5 Years	7 Years	10 Years
5th	1.34	2.93	5.52	15.83	2.48	1.88	2.51	3.23	3.50	4.20
25th	-1.23	0.46	3.65	11.28	-3.80	-1.25	-0.45	1.33	1.35	2.64
50th	-2.76	-1.49	1.00	4.82	-6.89	-3.56	-1.84	0.61	0.63	1.56
75th	-3.81	-4.92	-2.11	1.88	-9.74	-5.79	-3.26	-0.98	-0.57	0.25
95th	-7.29	-7.61	-5.29	-1.60	-11.75	-9.17	-5.07	-2.77	-1.82	-0.77
No. Of Obs	171	171	169	157	137	132	129	124	115	111
Loomis Sayles	-2.19 (41)	-2.41 (59)	0.63 (53)	2.89 (65)	-5.05 (32)	-2.10 (32)	0.29 (16)	1.88 (15)	2.03 (14)	3.32 (13)

## State of Iowa Peace Officer Retirement System Performance Comparison

*Total Returns of Non-US Equity Portfolios - All  
Cumulative Periods Ending : September 30, 2023*



Percentile Rankings	1 Qtr	2 Qtrs	3 Qtrs	1 Year	2 Years	3 Years	4 Years	5 Years	7 Years	10 Years
5th	1.30	5.77	14.54	34.90	5.41	15.52	10.51	8.83	9.27	8.72
25th	-1.67	1.13	8.96	26.19	-0.93	8.19	6.19	4.73	6.76	5.88
50th	-3.67	-1.31	5.70	20.60	-4.71	4.10	4.53	3.50	5.58	4.67
75th	-5.26	-3.37	2.23	14.07	-9.36	0.00	2.78	2.17	4.46	3.86
95th	-8.59	-8.03	-2.70	3.39	-16.74	-6.07	-0.45	-0.27	2.58	2.22
No. Of Obs	771	754	748	729	670	633	602	521	483	445
Baillie Gifford	-10.50 (98)	-10.43 (96)	1.47 (80)	14.75 (73)	-20.27 (99)	-9.96 (98)	2.96 (73)	1.82 (78)	6.23 (35)	4.89 (43)
MSCI ACWI x-US	-3.66 (50)	-1.11 (47)	5.81 (49)	21.02 (46)	-4.59 (49)	4.65 (46)	3.71 (64)	2.79 (66)	5.11 (62)	3.84 (75)
MSCI EAFE (Net)	-4.11 (59)	-1.28 (49)	7.08 (37)	25.65 (26)	-3.01 (38)	5.75 (38)	4.41 (52)	3.24 (57)	5.29 (57)	3.82 (76)
MSCI World (Net)	-3.46 (46)	3.13 (14)	11.10 (13)	21.95 (40)	-1.00 (25)	8.08 (25)	8.66 (10)	7.26 (8)	9.32 (4)	8.26 (7)
MSCI Broad Market Inde	-3.28 (44)	4.84 (7)	12.55 (8)	20.67 (49)	-0.33 (22)	9.58 (19)	10.91 (4)	9.26 (3)	11.73 (1)	11.37 (1)

## State of Iowa Peace Officer Retirement System Performance Comparison

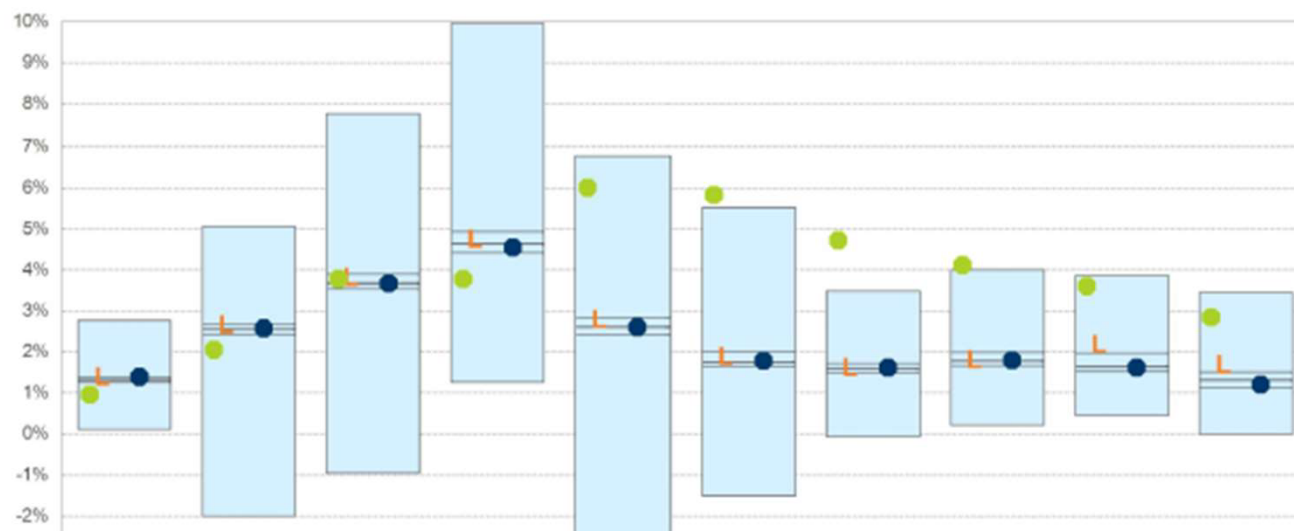
*Total Returns of US Real Estate Portfolios  
Cumulative Periods Ending : September 30, 2023*



Percentile Rankings	1 Qtr	2 Qtrs	3 Qtrs	1 Year	2 Years	3 Years	4 Years	5 Years	7 Years	10 Years
5th	6.09	5.50	7.98	22.11	19.16	16.96	14.93	13.93	16.47	18.25
25th	0.21	-0.09	2.10	2.40	8.32	9.03	7.01	7.51	8.05	9.28
50th	-1.12	-2.83	-4.44	-3.91	3.03	5.22	4.36	4.75	5.61	7.51
75th	-4.28	-7.01	-11.44	-14.84	-7.54	0.41	-3.00	-0.64	1.39	2.65
95th	-20.15	-33.60	-50.74	-53.97	-35.75	-30.04	-22.72	-17.64	-11.56	-4.77
No. Of Obs	97	102	102	102	96	92	84	70	64	56
Principal Enhanced	-2.38 (64)	-4.45 (57)	-7.11 (60)	-13.02 (73)	5.21 (36)	9.19 (23)	7.80 (19)	7.20 (27)	8.63 (17)	11.19 (13)
Principal US Property	-3.91 (73)	-5.74 (68)	-8.75 (67)	-14.45 (74)	2.21 (56)	5.78 (47)	4.37 (48)	4.68 (51)	5.83 (42)	7.63 (46)
NCREIF NFI-ODCE	-1.90 (58)	-4.53 (59)	-7.56 (64)	-12.15 (71)	3.56 (47)	7.37 (35)	5.93 (33)	5.98 (41)	6.64 (34)	8.39 (37)
NCREIF Property Index	-1.37 (53)	-3.32 (51)	-5.07 (53)	-8.40 (60)	3.12 (47)	6.05 (44)	5.02 (40)	5.25 (44)	5.77 (42)	7.40 (51)
Wilshire RESI	-6.42 (82)	-3.33 (51)	-0.07 (27)	4.01 (15)	-7.40 (73)	5.79 (46)	-0.66 (64)	2.87 (57)	2.75 (64)	6.17 (53)

## State of Iowa Peace Officer Retirement System Performance Comparison

*Total Returns of US Cash/Short Term Portfolios  
Cumulative Periods Ending : September 30, 2023*



Percentile Rankings	1 Qtr	2 Qtrs	3 Qtrs	1 Year	2 Years	3 Years	4 Years	5 Years	7 Years	10 Years
5th	2.77	5.06	7.76	9.96	6.77	5.52	3.49	4.00	3.86	3.44
25th	1.39	2.68	3.90	4.93	2.84	2.00	1.72	1.99	1.98	1.51
50th	1.32	2.56	3.67	4.63	2.61	1.76	1.59	1.79	1.65	1.31
75th	1.26	2.44	3.54	4.41	2.43	1.65	1.49	1.66	1.53	1.12
95th	0.11	-2.00	-0.95	1.26	-2.53	-1.51	-0.06	0.22	0.45	0.01
No. Of Obs	171	170	169	170	164	157	132	89	75	69
Liquidity	1.33 (44)	2.60 (42)	3.75 (41)	4.68 (43)	2.73 (33)	1.82 (40)	1.56 (53)	1.74 (57)	2.12 (17)	1.63 (17)
91-Day Treasury Bill	1.31 (67)	2.50 (72)	3.60 (60)	4.47 (62)	2.53 (61)	1.70 (72)	1.55 (62)	1.72 (63)	1.55 (70)	1.12 (75)
Consumer Price Index	0.88 (86)	1.97 (81)	3.70 (48)	3.70 (82)	5.93 (8)	5.75 (4)	4.64 (1)	4.04 (4)	3.53 (5)	2.77 (6)