

# Peace Officers' Retirement, Accident and Disability System

Quarterly Performance Report

June 30, 2023

# Executive Summary

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

The following table gives total time weighted returns and percentile rankings (in parenthesis) for periods ending June 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	676,459,232.04	3.84 (17)	10.30 (25)	5.41 (63)	6.58 (37)	8.87 (07)	8.90 (7/31/88)
PORS - After Fees	676,459,232.04	3.74	9.87	5.05	6.21	8.48	8.51 (7/31/88)
Consumer Price Index		0.67	3.09	5.74	3.89	2.71	3.53 (7/31/88)
Consumer Price Index + 4%		1.67	7.09	9.74	7.89	6.71	7.53 (7/31/88)
POR POLICY INDEX		3.42	9.47	8.24	6.32	7.53	8.23 (7/31/88)
Allocation Index		3.60	8.35	8.11	5.96	7.86	8.57 (7/31/88)
<b><u>LARGE CAPITALIZATION EQUITIES</u></b>							
Jennison - <i>gross of fees</i>	99,712,512.51	15.74 (01)	31.97 (04)	8.16 (84)			12.78 (4/01/18)
Jennison - <i>net of fees</i>		15.63	31.40	7.72			12.28 (4/01/18)
Russell 1000 Growth Index		12.81 (08)	27.11 (12)	13.73 (56)			15.59 (10/01/11)
Vanguard Total Market - <i>gross of fees</i>	92,693,383.44	8.29 (35)	18.67 (45)	13.72 (58)	11.22 (33)		12.90 (12/31/12)
Vanguard Total Market - <i>net of fees</i>		8.29	18.67	13.72	11.22		12.90 (12/31/12)
Russell 3000 Index		8.39 (34)	18.95 (42)	13.89 (51)	11.39 (32)		13.13 (12/31/12)
<b><u>SMALL CAPITALIZATION EQUITIES</u></b>							
Fisher - <i>gross of fees</i>	122,586,460.08	5.48 (51)	10.66 (80)	16.30 (19)	8.28 (59)	11.25 (45)	12.52 (11/30/89)
Fisher - <i>net of fees</i>		5.28	9.75	15.41	7.44	10.39	11.54 (11/30/89)
Russell 2000 Value		3.18 (76)	6.01 (90)	15.43 (25)	3.54 (92)	7.29 (89)	9.78 (11/30/89)
<b><u>FIXED INCOME</u></b>							
Loomis Sayles - <i>gross of fees</i>	80,596,881.07	-0.22 (60)	1.57 (61)	-0.72 (31)	2.54 (14)	3.42 (13)	5.23 (3/31/07)
Loomis Sayles - <i>net of fees</i>		-0.29	1.27	-1.00	2.24	3.42	4.89 (3/31/07)
Barclays Universal		-0.59	-0.04	-3.43	0.98	1.80	3.14 (3/31/07)
Lazard - <i>gross of fees</i>	36,846,546.82	-1.18 (90)	-0.59 (72)				-3.50 (7/01/20)
Lazard - <i>net of fees</i>		-1.21	-0.75				-3.64 (7/01/20)
Barclays Aggregate		-0.84 (82)	-0.94 (83)				-4.02 (7/01/20)

**INTERNATIONAL EQUITIES**

Baillie Gifford - <i>gross of fees</i>	162,224,747.81	0.08 (87)	14.64 (51)	-2.18 (97)	3.43 (66)	7.81 (18)	9.97 (9/30/08)
Baillie Gifford - <i>net of fees</i>		0.08	14.64	-2.18	3.43	7.81	9.95 (9/30/08)
MSCI ACWI x-US		2.67 (49)	13.33 (58)	7.66 (53)	3.85 (59)	5.38 (72)	5.18 (1/31/03)

**LIQUIDITY**

Cash	902,496.20	1.25	3.82	1.38	1.58	1.49	6.24 (11/30/89)
Merrill Lynch 90 Day Treasury Bill		1.18	3.62	1.28	1.56	0.99	2.77 (11/30/89)

**REITS EQUITY**

Principal US Property - <i>gross of fees</i>	56,470,277.33	-1.90 (55)	-10.60 (74)	7.21 (40)	6.04 (45)	8.34 (48)	5.75 (6/30/06)
Principal US Property - <i>net of fees</i>		-2.14	-11.46	6.21	5.04	8.34	5.23 (6/30/06)
NCREIF NFI-ODCE Index		-2.68	-9.97	8.26	6.83	8.96	6.47 (6/30/06)
Principal Enhanced - <i>gross of fees</i>	24,425,926.78	-2.12 (58)	-9.37 (69)	10.11 (20)	8.40 (19)	11.89 (12)	6.70 (11/30/06)
Principal Enhanced - <i>net of fees</i>		-2.39	-10.37	8.89	7.17	11.89	5.41 (11/30/06)
NCREIF NFI-ODCE Index		-2.68	-9.97	8.26	6.83	8.96	6.47 (11/30/06)



## EXECUTIVE SUMMARY (Page 1 of 3)

### Total Fund Performance

The market value of the PORS Fund on June 30, 2023, was \$676,459,232, an increase of \$20,442,832, from the Fund market value on March 31, 2023. For a year over year comparison, the fund has experienced an increase of \$52,143,507 since June 30, 2022. The rate of return for the PORS Fund was 3.84% (before fees) for the quarter. The Fund's quarter performance was above the Policy Index return of 3.42% and above the Allocation Index return of 3.60%. 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 17<sup>th</sup> percentile. The Fund's annual return of 10.30% before fees for the one-year period ranked 25<sup>th</sup> in the TUCS universe. For the three-year period, the Fund experienced a return of 5.41%. Over the five-year period ending June 30, 2023, the PORS Fund has earned an annualized rate of return of 6.58% before fees and ranked in the 37<sup>th</sup> percentile in the TUCS universe of all master trusts. Over the ten-year period ending June 30, 2023, the PORS Fund has earned an annualized return of 8.87% 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 0.36 for the five-year period was below the Sharpe Ratio of the Policy Index of 0.42 and below the Allocation Index of 0.38. Over the ten-year period, the Fund's Sharpe Ratio of 0.62 is below the Sharpe Ratio for the Policy Index of 0.64 and was below the Allocation Index of 0.65.

### Manager Performance

**Jennison** – Jennison had a quarterly return of 15.74% for the quarter, ranking 1<sup>st</sup> in the TUCS universe. Their benchmark, the Russell 1000 Growth Index had a quarterly return of 12.81%. For the year, Jennison returned 31.97% compared to the benchmark of 27.11%. Over 3 years, Jennison has returned 8.16% annually compared to 13.73% for the Russell 1000 Growth Index.

**Vanguard Total Stock Market** – For the quarter, Vanguard returned 8.29%. Over the past year, Vanguard has returned 18.67%. For the three-year period, Vanguard has an annualized return of 13.72%. Over five years, Vanguard has returned an annualized return of 11.22%. 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 5.48% (before fees) for the quarter, ranking 51<sup>st</sup> in the universe of U.S. equity portfolios reporting to TUCS. Fisher's benchmark, the Russell 2000 Value returned 3.18% for the quarter and ranked 76<sup>th</sup> in the TUCS universe. Fisher's annual return was 10.66% (before fees) and ranked 80<sup>th</sup> in the TUCS universe. The benchmark had an annual return of 6.01% (90<sup>th</sup> percentile). Fisher's ten-year annualized return of 11.25% before fees is above the 7.29% 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 -0.22% and ranked 60<sup>th</sup> in the TUCS universe. Its benchmark, the Barclays Universal, had a quarterly return of -0.59%. For the year, Loomis Sayles had an annual return of 1.57% while the Barclays Universal returned -0.04%. Over the three-year period ending June 30, 2023, Loomis Sayles returned an annualized return of -0.72%. For the ten-year period, Loomis Sayles has an annualized return of 3.42% compared to the benchmark return of 1.80%.

**Lazard** – Lazard had a quarterly return of -1.18% compared to the benchmark of -0.84%. Lazard had an annual return of -0.59% and ranked 72<sup>nd</sup> in the TUCS Universe compared to the benchmark return of -0.94%, which ranked 83<sup>rd</sup>.

**Baillie Gifford International Equities** – Baillie Gifford had a quarterly return of 0.08%, ranking it 87<sup>th</sup> in the TUCS Universe. Their benchmark, the MSCI ACWI-ex US had a quarterly return of 2.67%. On an annual basis, Baillie Gifford returned 14.64% for a 51<sup>st</sup> ranking in the TUCS universe while the benchmark returned 13.33%. For the ten-year period, Baillie Gifford has earned an annualized return of 7.81%, ranking in the 18<sup>th</sup> percentile, while the benchmark had a return of 5.38%.

**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 -1.90% while the NCREIF NFI-ODCE returned -2.68% for the quarter. Principal Core Real Estate Fund returned -10.60% for the year ending June 30, 2023, while the NCREIF NFI-ODCE had a return of -9.97%. For the ten-year period, the Fund had an annualized return of 8.34%, which ranked in the 48<sup>th</sup> percentile. The Principal Enhanced Real Estate Fund had a quarterly return of -2.12%, which ranked in the 58<sup>th</sup> percentile, while the annual return was -9.37%. The annualized return for the ten-year period was 11.89%, which ranked in the 12<sup>th</sup> percentile.

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

### **Asset Allocation**

The Fund's asset allocation on June 30, 2023, was as follows: 17.36% in fixed income bonds, 28.44% was invested in US large cap equity, 23.98% was invested in non-US developed equity, 18.12% was invested in US small/mid cap equity, and 11.96% was invested in real estate. Cash was 0.13% of the portfolio.

### **Compliance Issues**

**Total Fund** - The Fund has earned an annualized rate of return of 6.58% (before fees) and 6.21% (after fees) for the five-year period ending June 30, 2023. This performance was below the Investment Policy return objective to earn at least a 6.32% return, and was below the CPI Index (a proxy for inflation rate) plus 4%. For the five years ending June 30, 2023, the inflation rate plus 4% was 7.89%. The Investment Policy also sets the objective of earning more than the Allocation Index. The Fund met this objective as the Allocation Index recorded a 5.96% 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 0.36 for the five-year period ending June 30, 2023, which was less than the Sharpe Ratio for the Allocation Index of 0.38.

# Market Summary

## Wilshire Trust Universe Comparison Service

### The Market Environment

June 30, 2023

Large-cap growth stocks are outperforming value stocks by an astonishing margin this year. While growth tends to lead during bull markets, the current 6-month return difference is the largest in 25 years at +29.4%. This can be dissected further to find that just a few stocks are contributing a vast majority of the overall market return through June. Additionally, most of these names are technology sector stocks – Amazon, Apple, Google and Meta. It is worth noting that these companies are highly dependent on the consumer's ability to spend. U.S. real personal consumption's steady growth during the past 1.5 years will need to continue to support not just economic growth but also current stock prices. Real GDP growth continued to slow during the first quarter but was still positive, expanding an annualized 2.0%. Consumer spending was quite strong, registering its best quarter in nearly two years and contributing 2.8% to growth. However, private spending was down by double-digits. The Atlanta Federal Reserve's (Fed) GDPNow forecast for the second quarter of 2023 currently stands at 2.2%.

The Treasury curve rose across all maturities during the second quarter. The 10-year Treasury closed at 3.84%, up 37 basis points. The 10-year real yield (i.e., net of inflation) rose 47 basis points to 1.62%. The Federal Open Market Committee (FOMC) increased their overnight rate by 0.25%, targeting a range of 5.00% to 5.25%. The committee's current median outlook is for a rate of approximately 5.6% by the end of 2023. Consumer price changes have moderated as the Consumer Price Index rose 0.5% for the three months ending May. For the one-year period, the CPI was up 4.1%. The 10-year breakeven inflation rate was down slightly at 2.23% in June versus 2.32% in March.

The U.S. stock market, represented by the FT Wilshire 5000 Index<sup>SM</sup>, was up 8.43% for the second quarter and is up 19.03% for the past 12 months. A majority of sectors were up for the quarter. The best performing were information technology (+17.2%), consumer discretionary (+14.6) and communication services (+13.1%). The worst performing sector was utilities (-2.5%). From a size perspective, large-cap outperformed small-cap by 331 basis points. Growth stocks vastly outperformed value for the second straight quarter and now lead meaningfully for the one-year return.

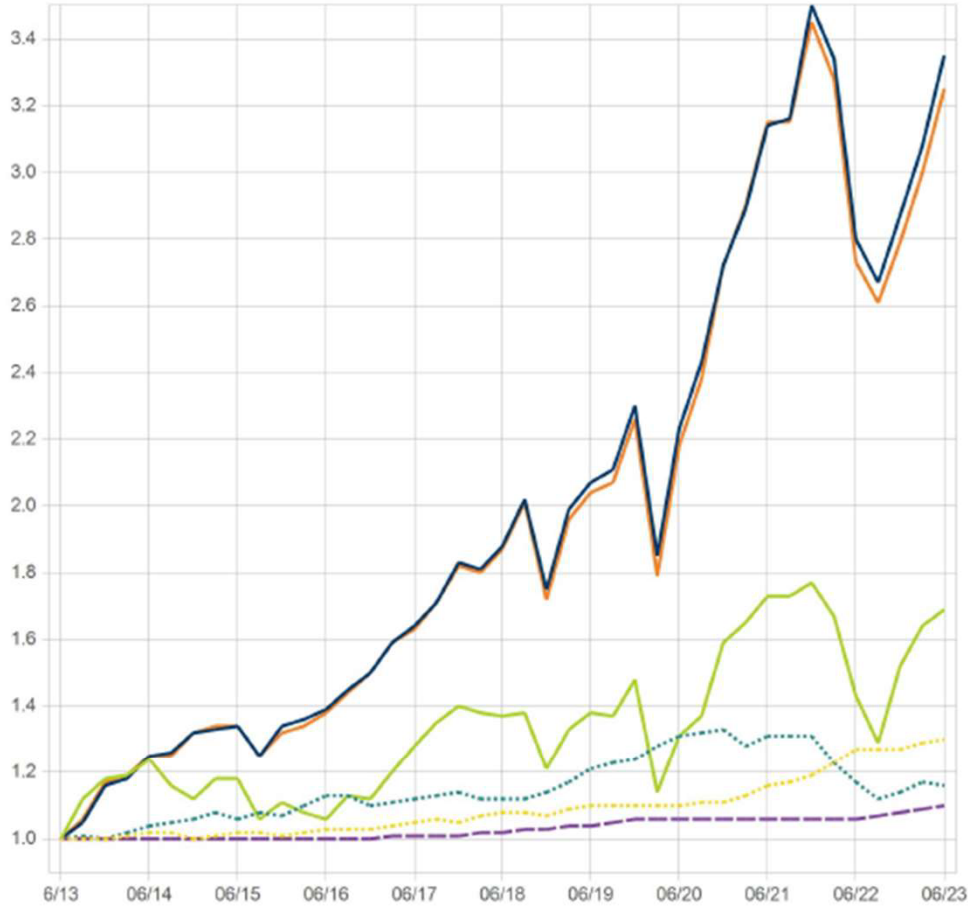
The U.S. Treasury yield curve was up across the maturity spectrum during the quarter, and to a greater degree from the short end to 3-years. The 10-year Treasury yield ended the quarter at 3.84%, up 37 basis points from March. Credit spreads were noticeably down during the quarter with investment grade down 15 basis points and

high yield bonds down 69 basis points. The FOMC met twice during the quarter, as scheduled, and increased the overnight rate by 0.25% in May, targeting a range of 5.00% to 5.25%, before pausing increases in June. The Fed's "dot plot" is messaging that the current expectation is for another 50 basis point in increases before the end of 2023 while markets are pricing a slightly lower year-end rate, equal to approximately 25 basis points higher than the current rate. In late June, Fed Chair Jerome Powell said that central bank policy "may not be restrictive enough and it has not been restrictive for long enough."

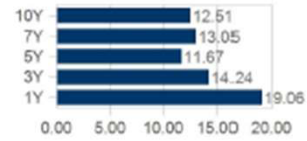
Performance results within international equity markets were positive for the second quarter, with developed outperforming emerging markets. The MSCI EAFE Index was up 2.95% for the quarter, while the MSCI Emerging Markets Index was up 0.90%. The eurozone fell into a mild recession around the start of the new year as real GDP fell during the fourth and first quarters. Consumer spending has been hampered by high inflation and rising interest rates while government spending fell sharply. Economic growth within the United Kingdom has been positive enough this year to barely escape a technical recession, for now. Inflation has been trending downward within Britain but at a much slower pace versus other regions, with annual changes being twice as high in the United Kingdom as in the United States, as of the end of May. In China, several economic indicators have fallen short of expectations during the past few weeks, including measurements of industrial production, retail sales and trade. Recent policy statements indicate that officials are increasingly concerned about the economy.

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

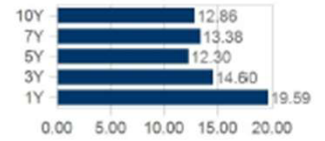
*Historical Perspective*  
*Quarter Ending June 30, 2023*



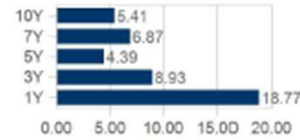
— Wilshire 5000    
 — S&P 500    
 — MSCI EAFE (Net)  
- - - Bloomberg Aggregate    
 - - - 91-Day Treasury Bill    
 - - - Consumer Price Index



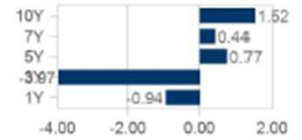
Wilshire 5000



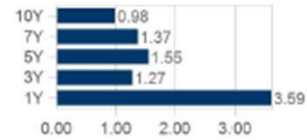
S&P 500



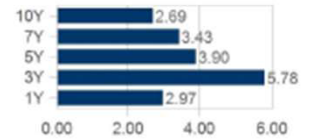
MSCI EAFE (Net)



Bloomberg Aggregate



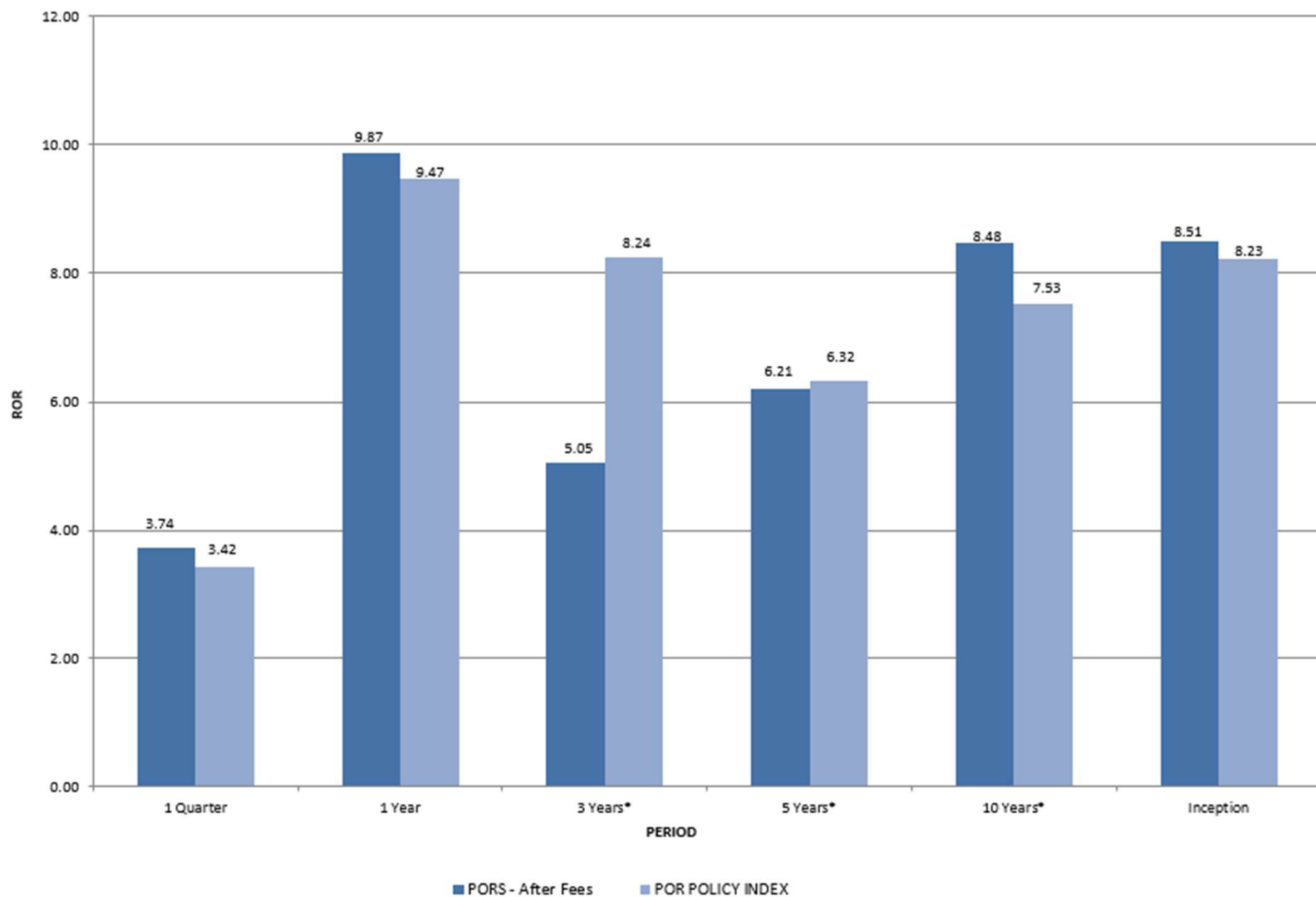
91-Day Treasury Bill



Consumer Price Index

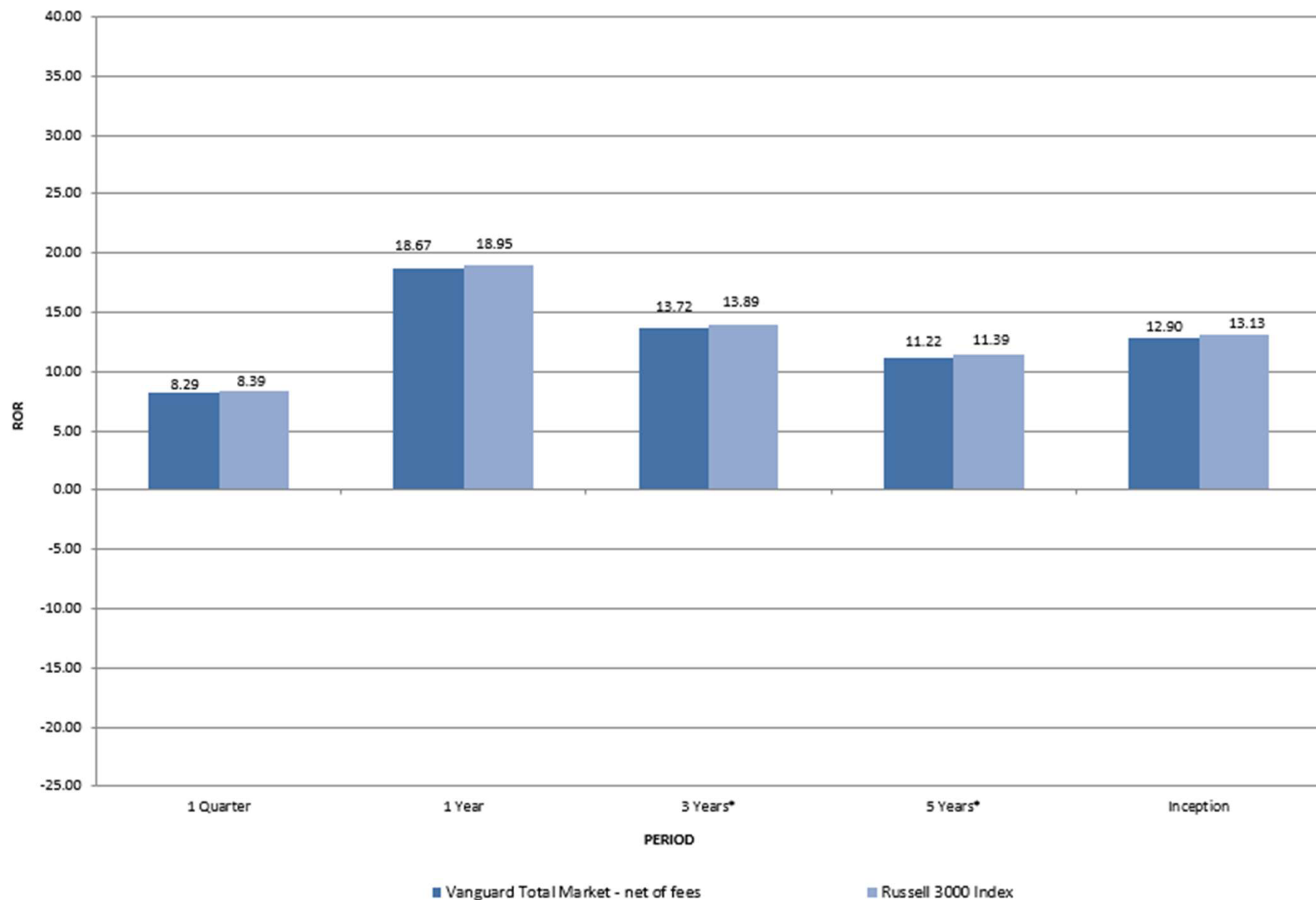
# Investment Returns

**PEACE OFFICERS' RETIREMENT SYSTEM (net of fees) vs. POLICY INDEX  
FOR THE PERIOD ENDING 6/30/23**

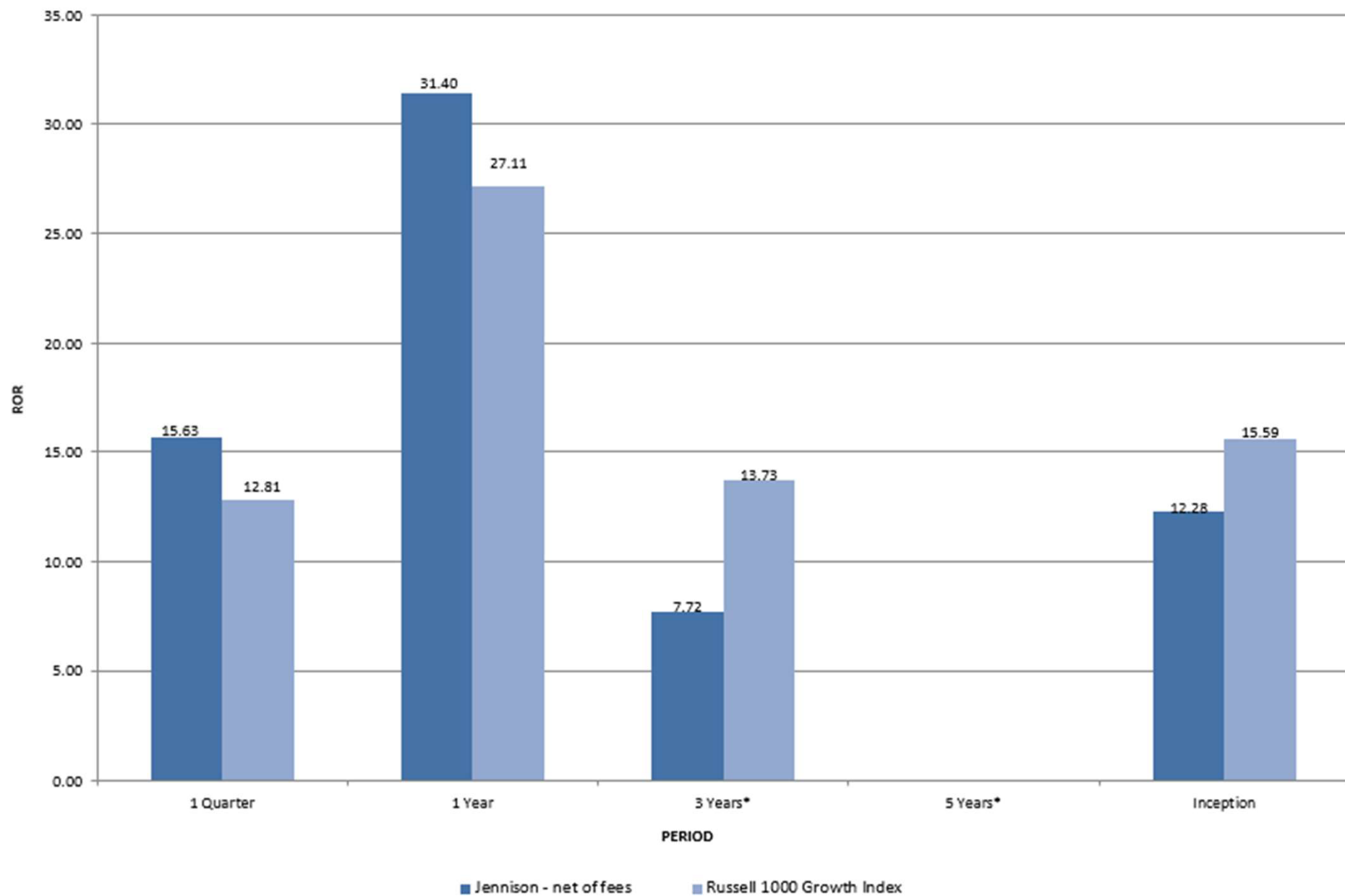




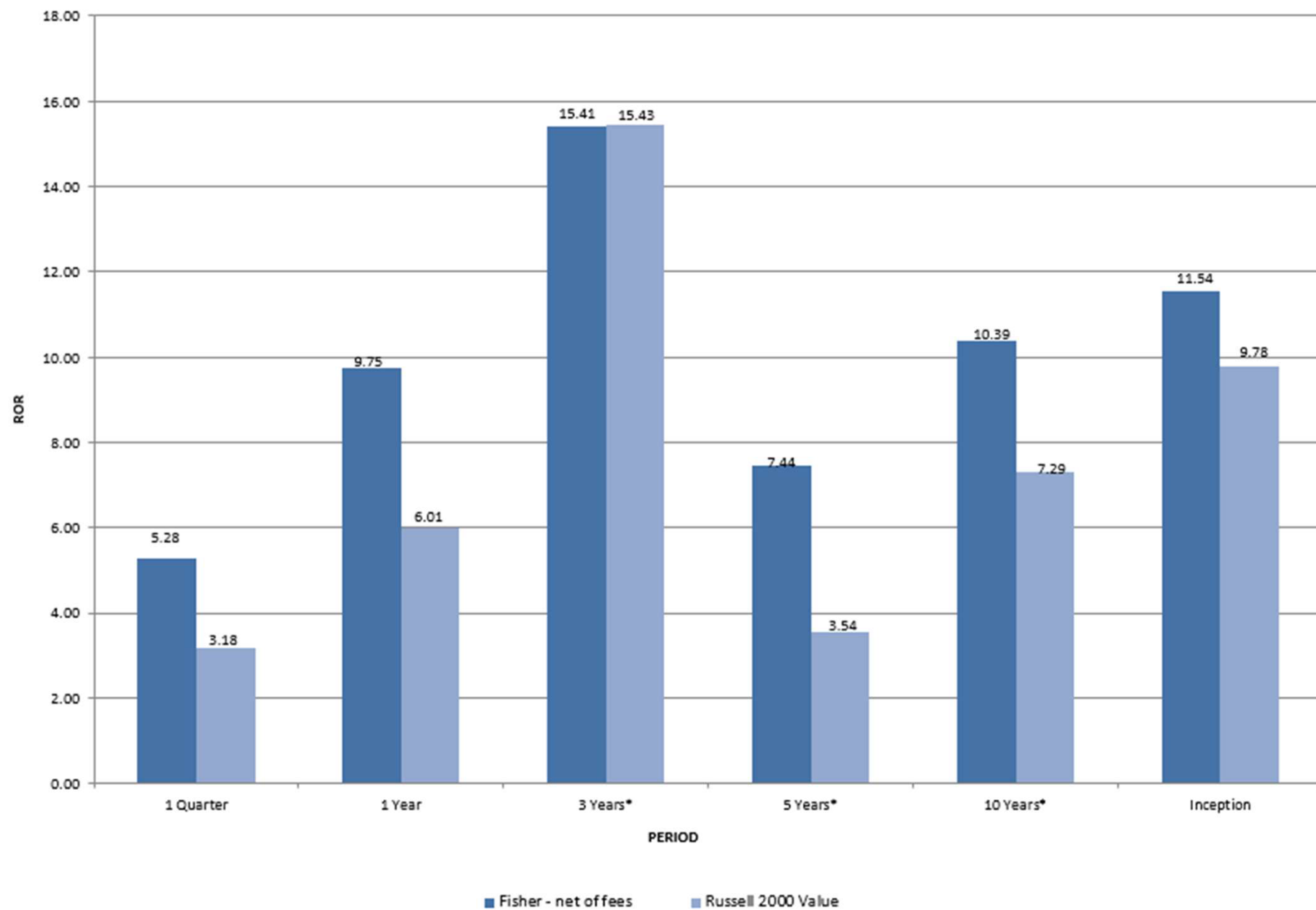
### VANGUARD TOTAL STOCK MARKET (net of fees) vs. RUSSELL 3000 INDEX FOR THE PERIOD ENDING 6/30/23



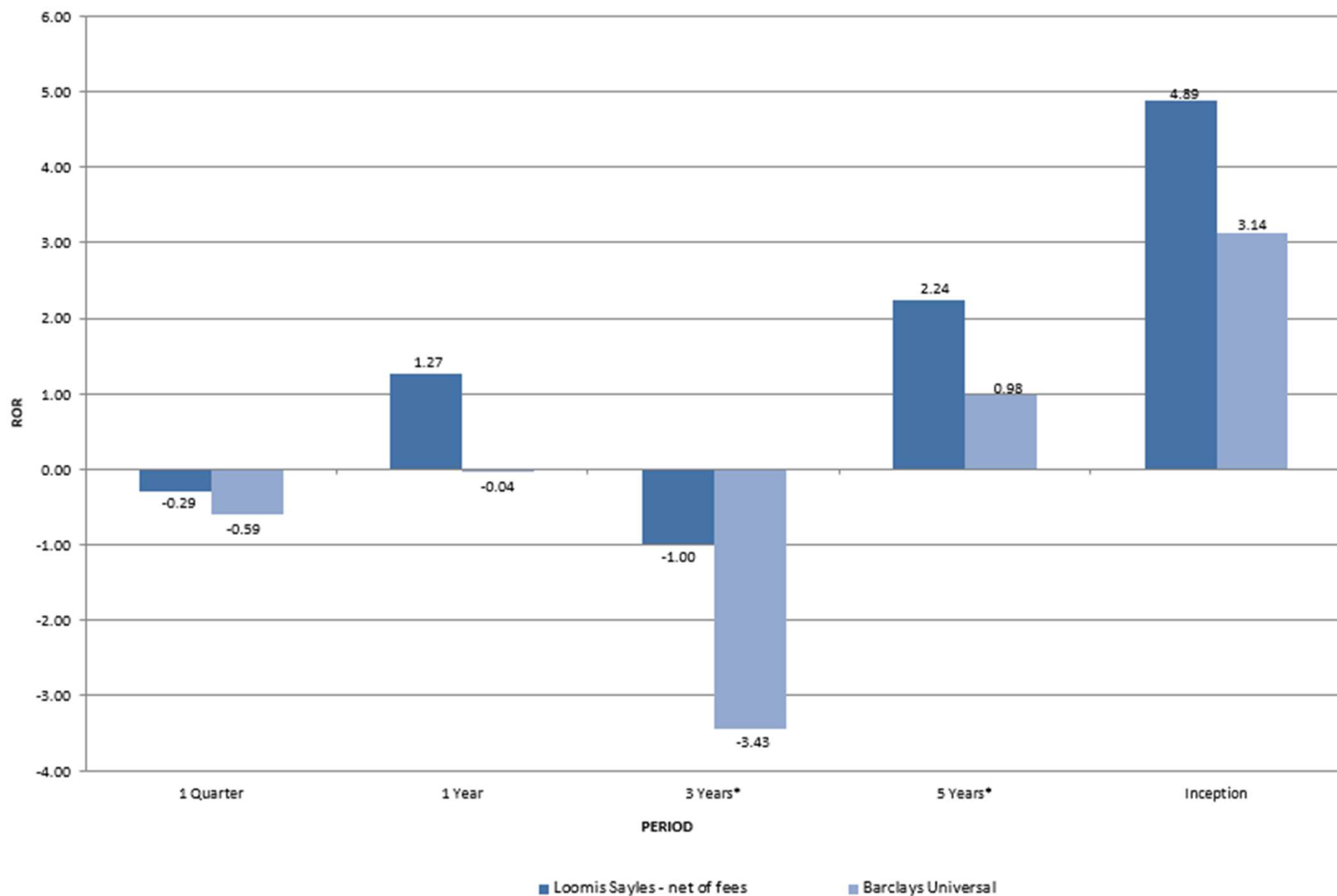
**JENNISON (net of fees) vs. RUSSELL 1000 GROWTH  
FOR THE PERIOD ENDING 6/30/23**



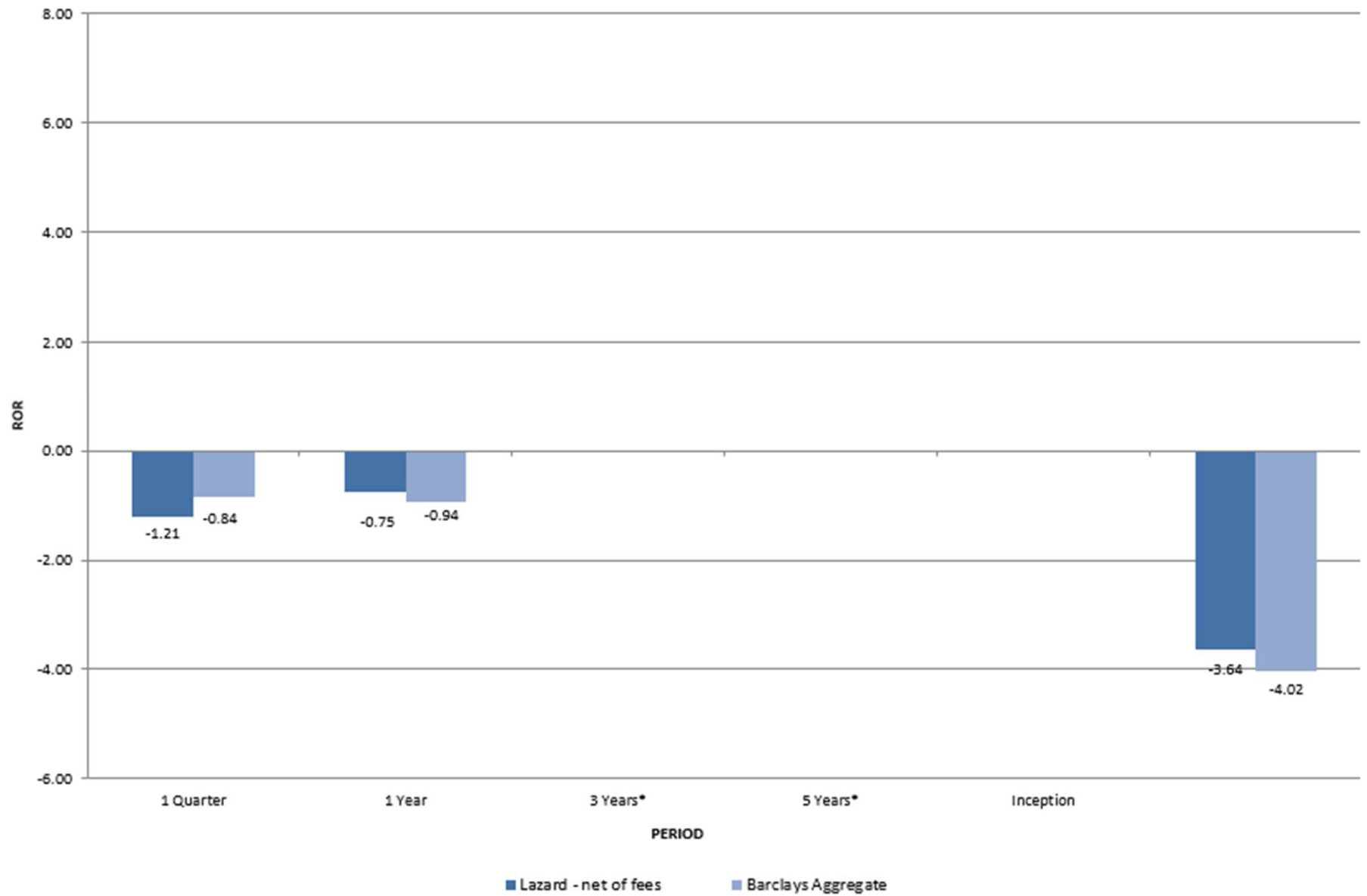
### FISHER (net of fees) vs. RUSSELL 2000 SMALL VALUE FOR THE PERIOD ENDING 6/30/23



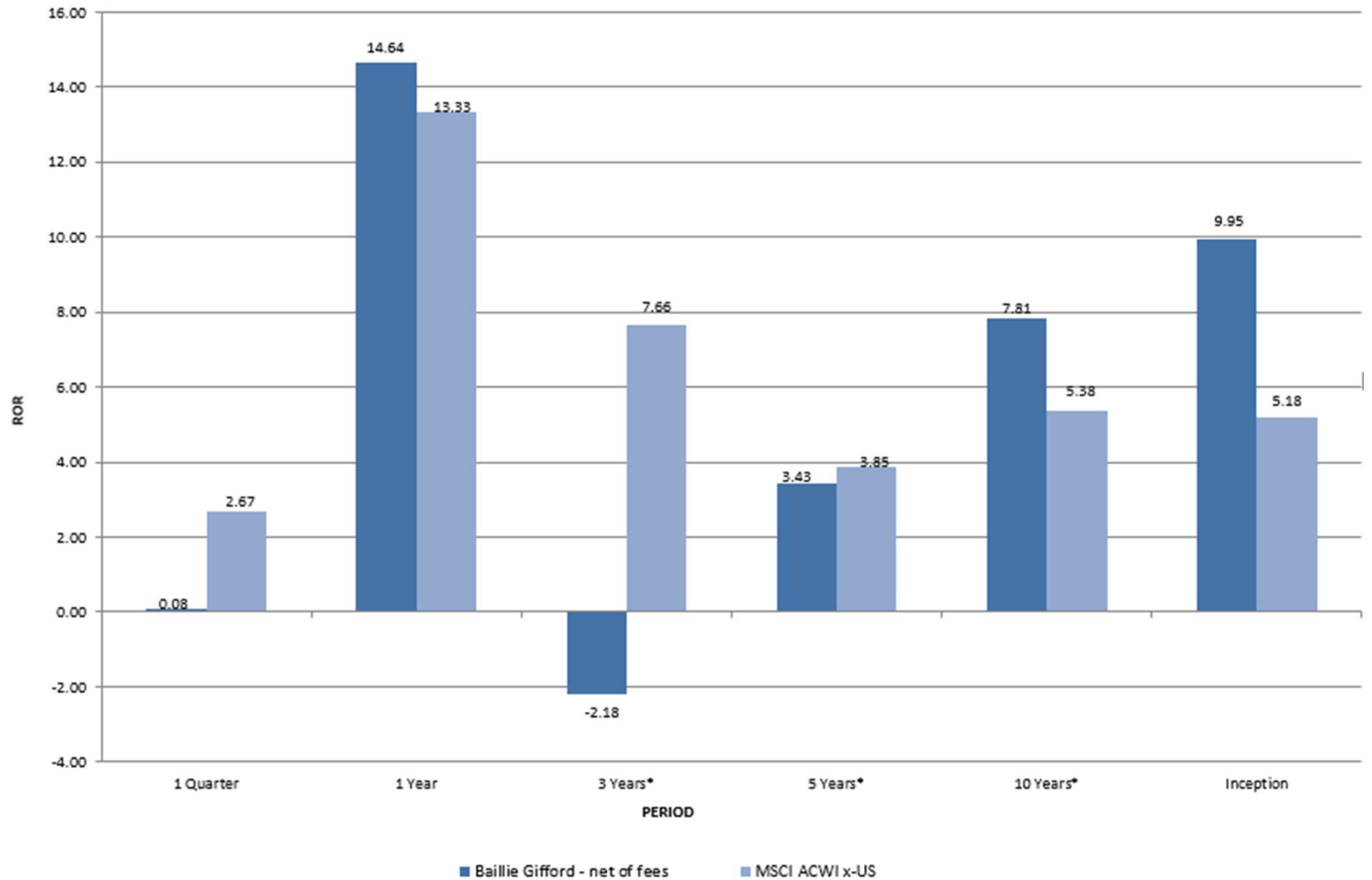
**LOOMIS SAYLES (net of fees) vs. BARCLAYS UNIVERSAL  
FOR THE PERIOD ENDING 6/30/23**



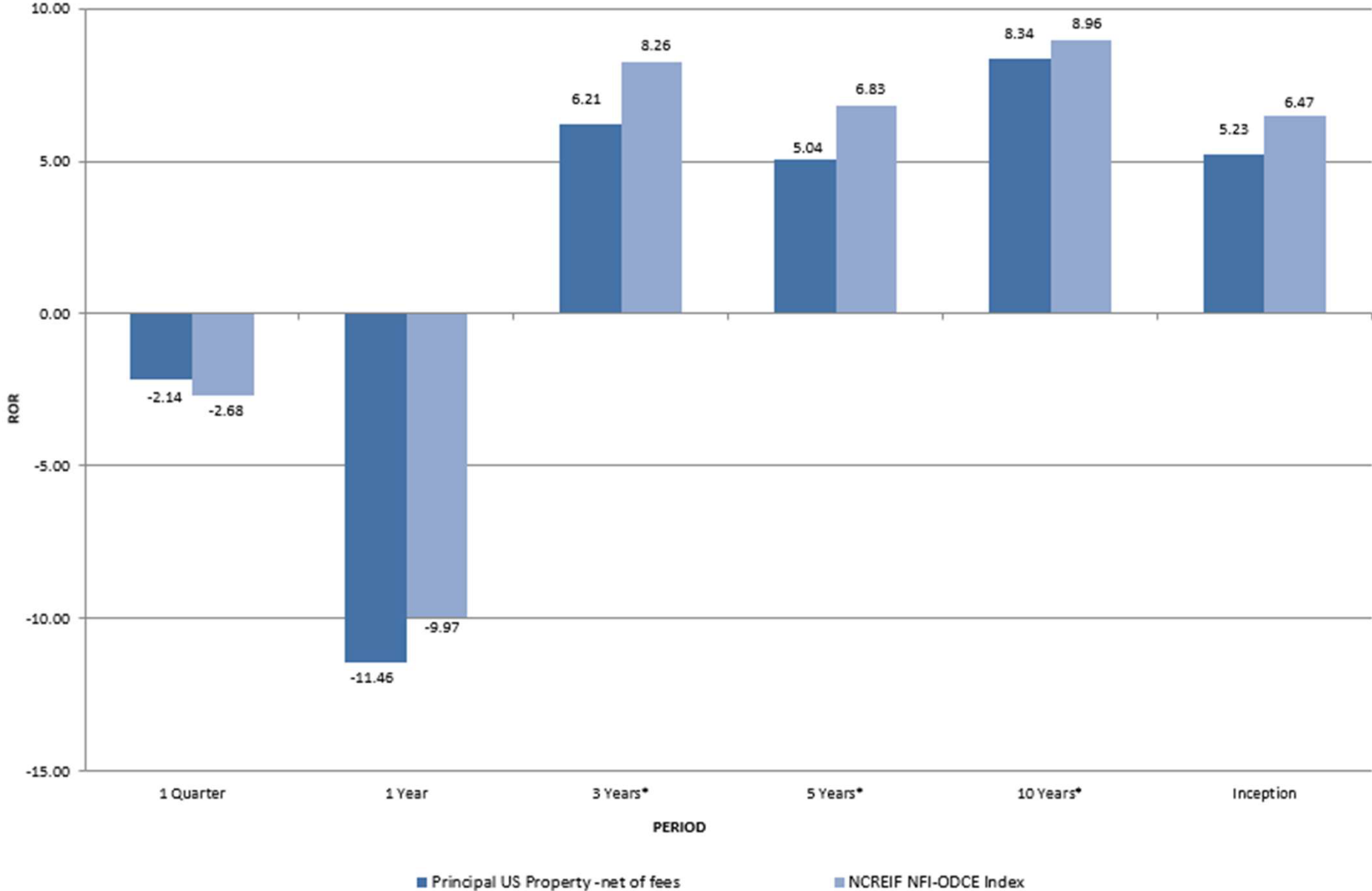
### LAZARD (net of fees) vs. BARCLAYS AGGREGATE FOR THE PERIOD ENDING 6/30/23



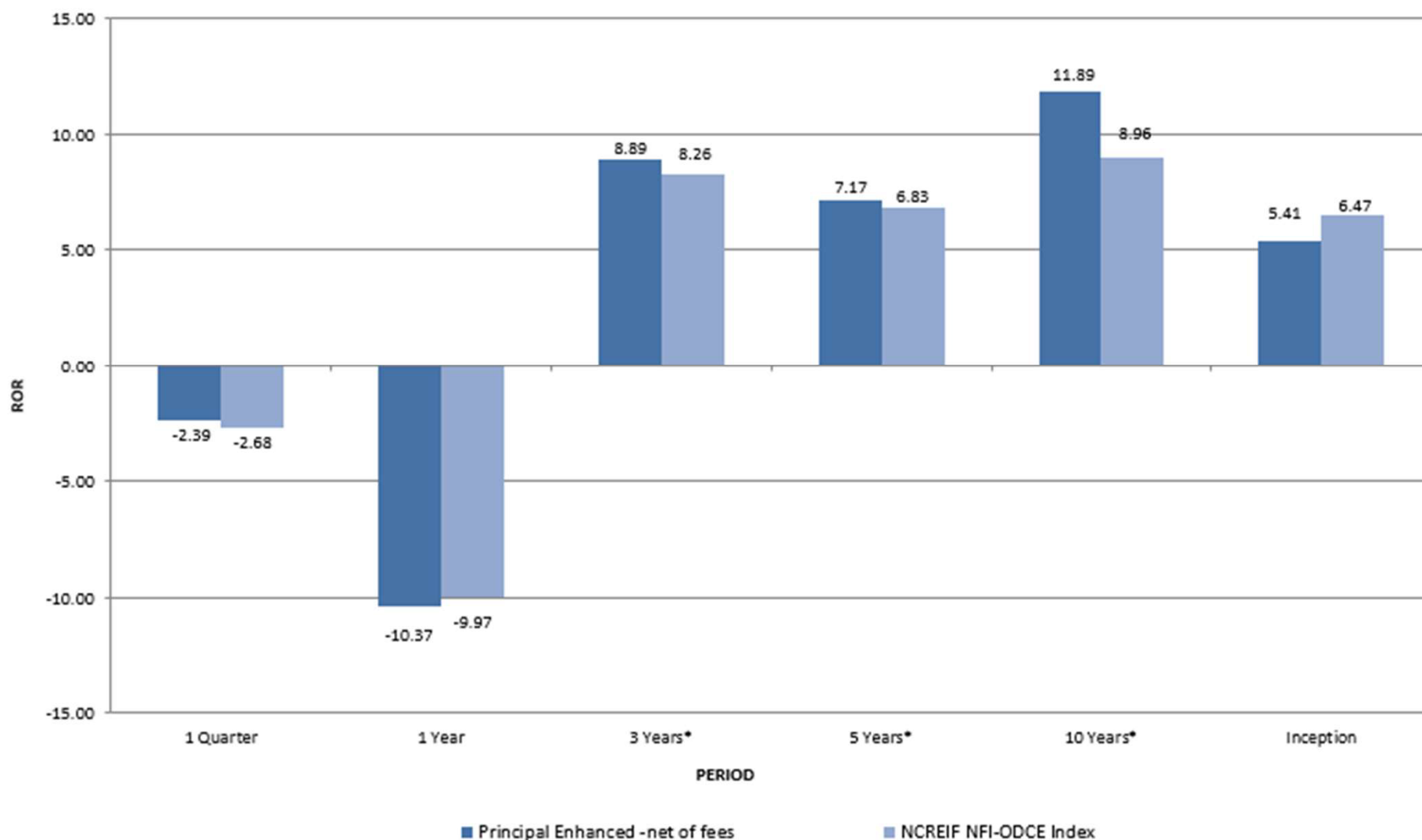
**BAILLIE GIFFORD (net of fees) vs. MSCI EAFE NET  
FOR THE PERIOD ENDING 6/30/23**



**PRINCIPAL US PROPERTY (net of fees) vs. NCREIF NFI  
FOR THE PERIOD ENDING 6/30/23**



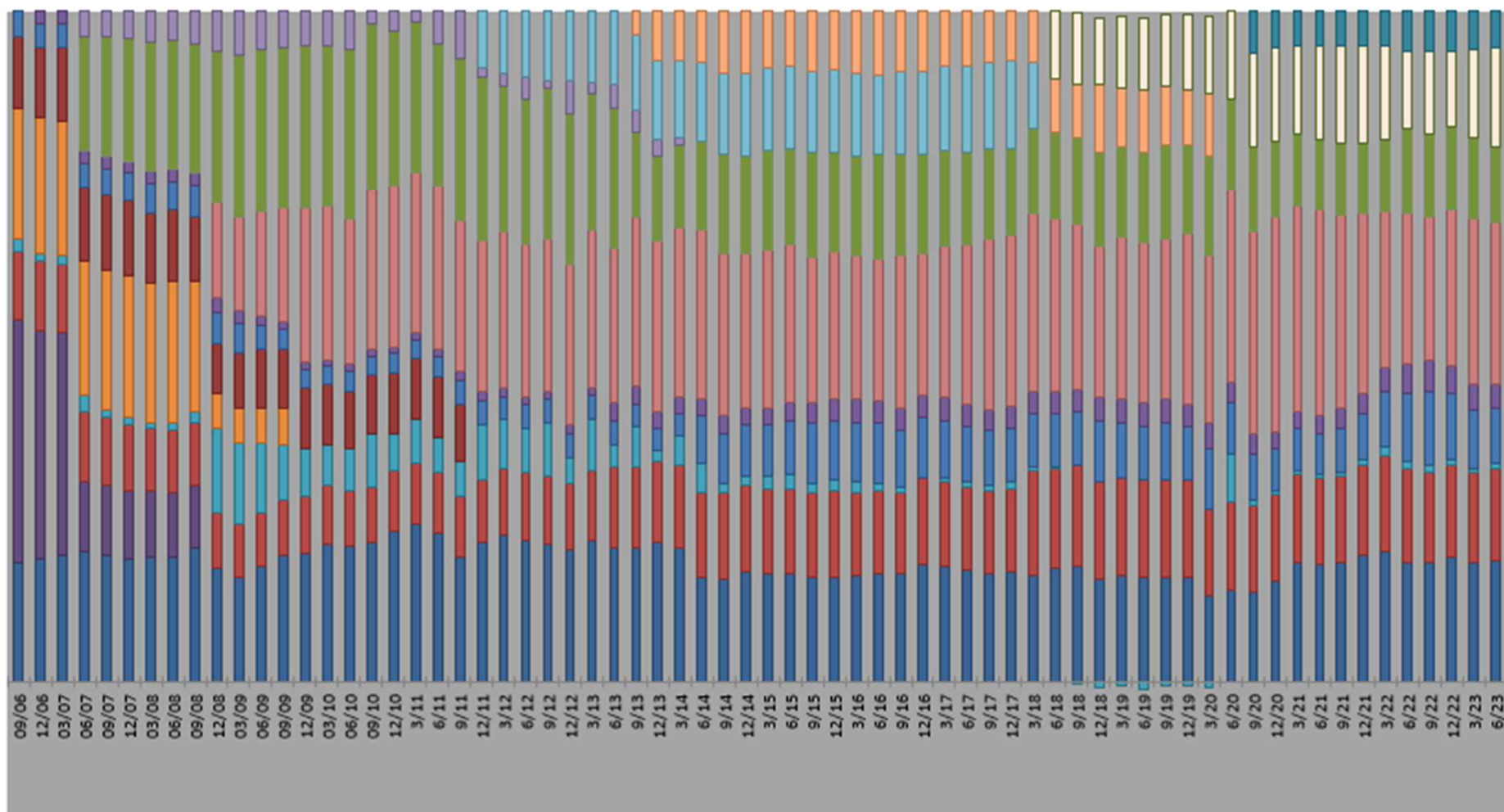
**PRINCIPAL ENHANCED (net of fees) VS. NCREIF NFI  
FOR THE PERIOD ENDING 6/30/23**





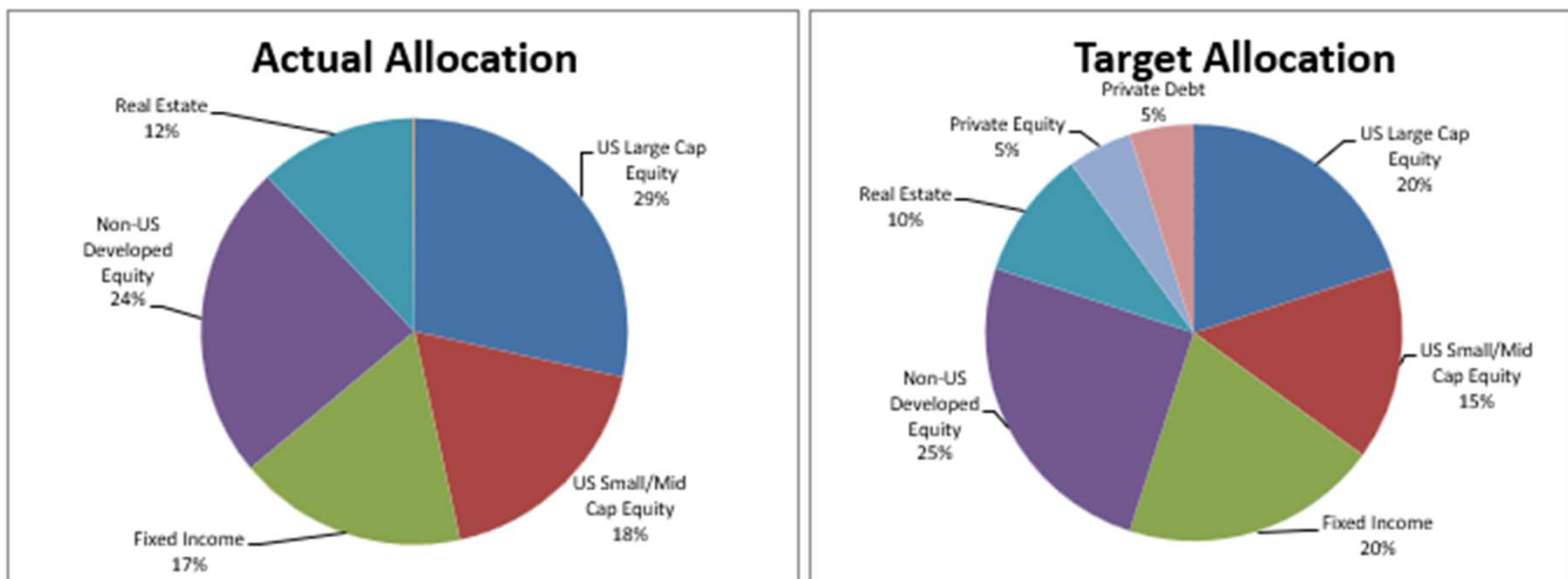
# Asset Allocation

## ASSET ALLOCATION HISTORY



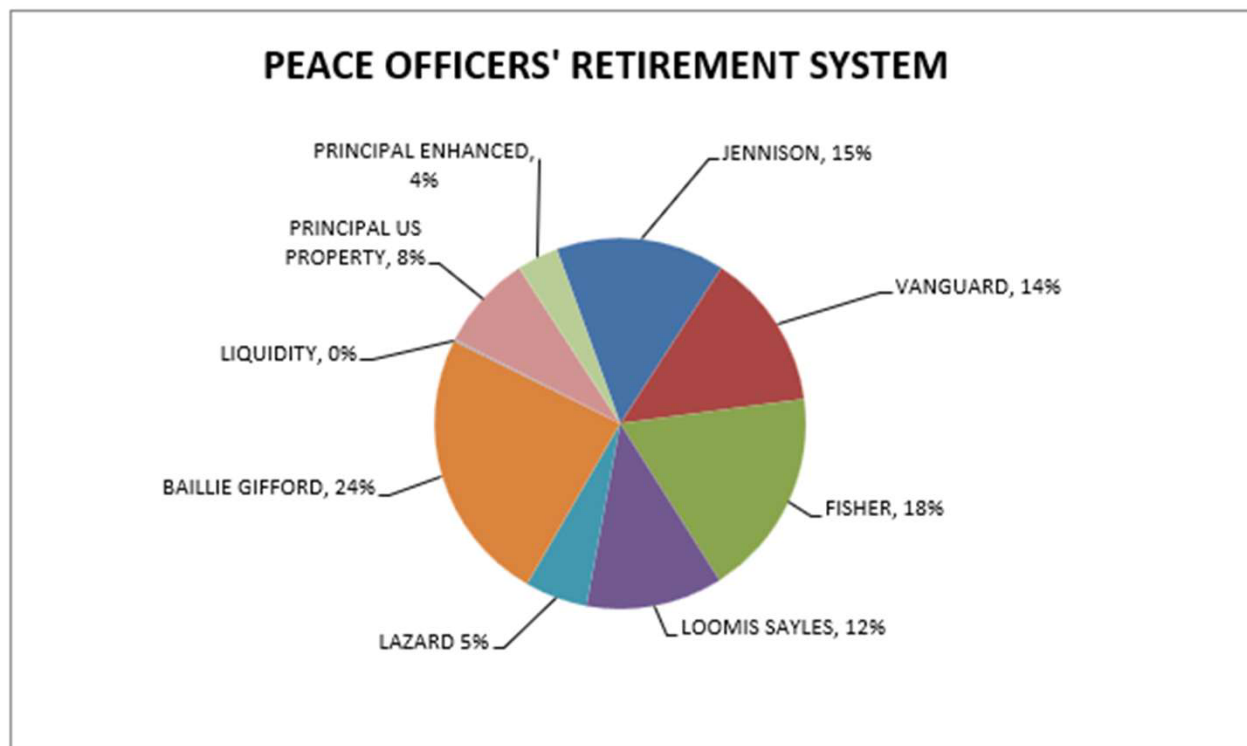
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|--|---|--|---|--|
| <span style="color: blue;">■</span> Fisher           | <span style="color: purple;">■</span> UBS Combined        | <span style="color: red;">■</span> Vanguard              | <span style="color: cyan;">■</span> Liquidity       | <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: grey;">■</span> Dix Hills        | <span style="color: cyan;">■</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 JUNE 30, 2023



Asset Class	\$ Value	Percent	Percent	Percent
	Actual	Actual	Target	Range
US Large Cap Equity	192,405,896	28.44%	20.00%	15-30%
US Small/Mid Cap Equity	122,586,460	18.12%	15.00%	10-20%
Fixed Income	117,443,428	17.36%	20.00%	12.75-27%
Non-US Developed Equity	162,224,748	23.98%	25.00%	13.75-35%
Real Estate	80,896,204	11.96%	10.00%	0-13%
Cash	902,496	0.13%	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>676,459,232</b>	<b>100%</b>	<b>100%</b>	

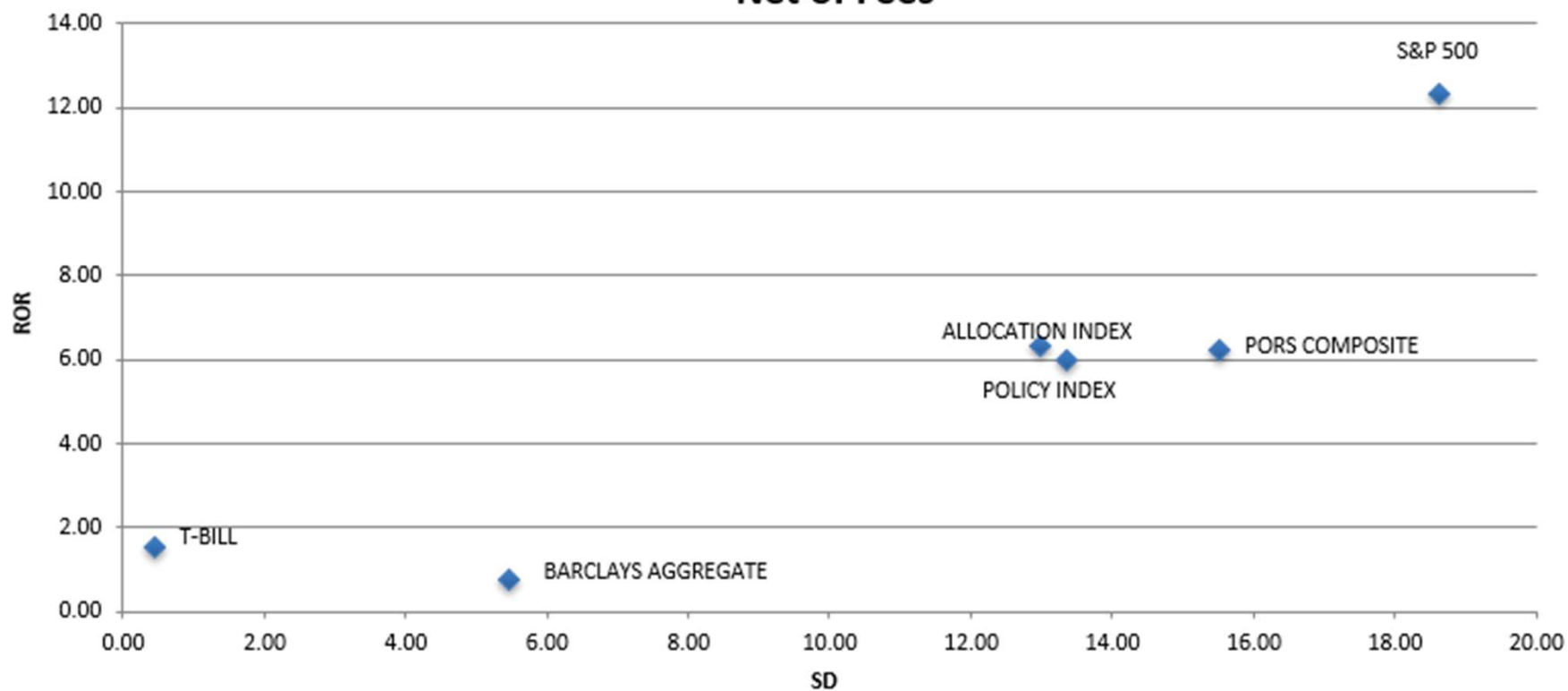
**MANAGER DISTRIBUTION  
AS OF JUNE 30, 2023**



<u>MGR NAME</u>	<u>MARKET VALUE</u>	<u>% OF TOTAL</u>
JENNISON	99,712,512.51	14.74%
VANGUARD	92,693,383.44	13.70%
FISHER	122,586,460.08	18.12%
LOOMIS SAYLES	80,596,881.07	11.91%
LAZARD	36,846,546.82	5.45%
BAILLIE GIFFORD	162,224,747.81	23.98%
LIQUIDITY	902,496.20	0.13%
PRINCIPAL US PROPERTY	56,470,277.33	8.35%
PRINCIPAL ENHANCED	24,425,926.78	3.61%
	<u>676,459,232.04</u>	<u>100.00%</u>

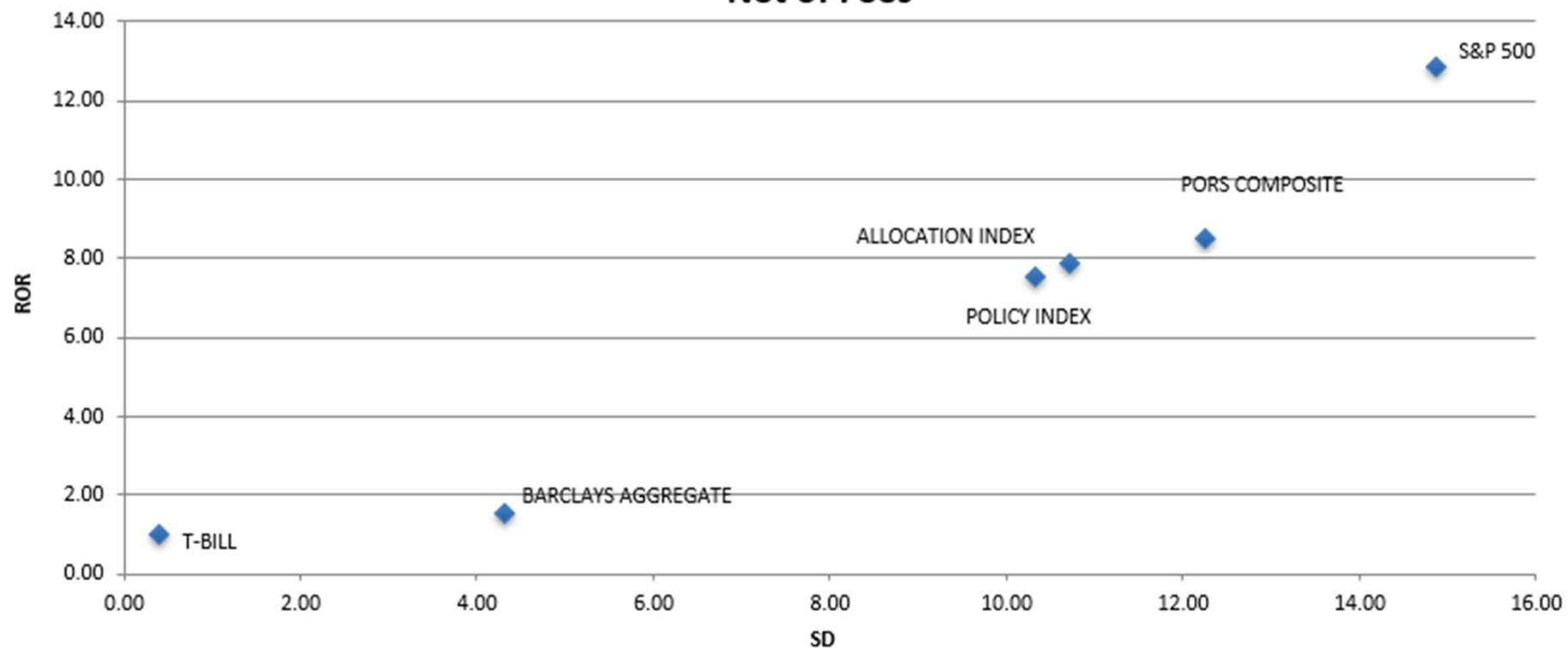
# Risk Measures

## 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	6.21	15.52	0.36
IOWA PORS POLICY INDEX	6.32	12.99	0.42
PORS ALLOCATION INDEX	5.96	13.33	0.38
S&P 500	12.31	18.64	0.64
BARCLAYS AGGREGATE	0.77	5.43	-0.13
90 DAY T-BILL	1.56	0.44	0.00

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



<u>Account/Index</u>	<u>10 Years ROR (net of fees)</u>	<u>10 Years Standard Deviation</u>	<u>10 Years Sharpe Ratio</u>
PEACE OFFICERS COMPOSITE	8.48	12.25	0.62
IOWA PORS POLICY INDEX	7.53	10.33	0.64
PORS ALLOCATION INDEX	7.86	10.72	0.65
S&P 500	12.86	14.86	0.81
BARCLAYS AGGREGATE	1.52	4.29	0.11
90 DAY T-BILL	0.99	0.37	0.00

# Compliance Report



Peace Officers' Retirement System  
Investment Policies and Guidelines Compliance Check  
Quarter Ending June 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%	28.44%	Yes
US Small/Mid Cap Equity:	15%	10-20%	18.12%	Yes
Fixed Income:	20%	12.75-27%	17.36%	Yes
Non-US Developed Equity	25%	13.75-35%	23.98%	Yes
Real Estate:	10%	0-13%	11.96%	Yes
Private Equity:	5%	0-8%	0.00%	Yes
Private Debt:	5%	0-8%	0.00%	Yes
Cash Equivalents:	0%	0%	0.13%	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
--	----

**Semi-Monthly Compliance Violations**  
**Investment Policies and Guideline Compliance Check**  
**Quarter Ending June 30, 2023**

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

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

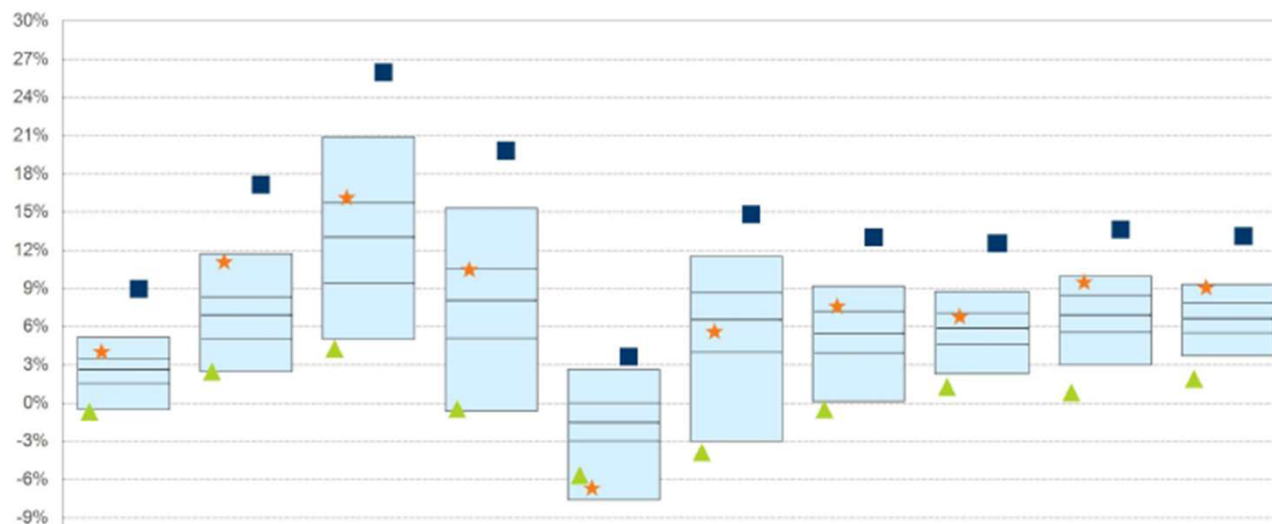
**Loomis Sayles:** No violations as of the end of the quarter.

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

# Appendix

## State of Iowa Peace Officer Retirement System Performance Comparison

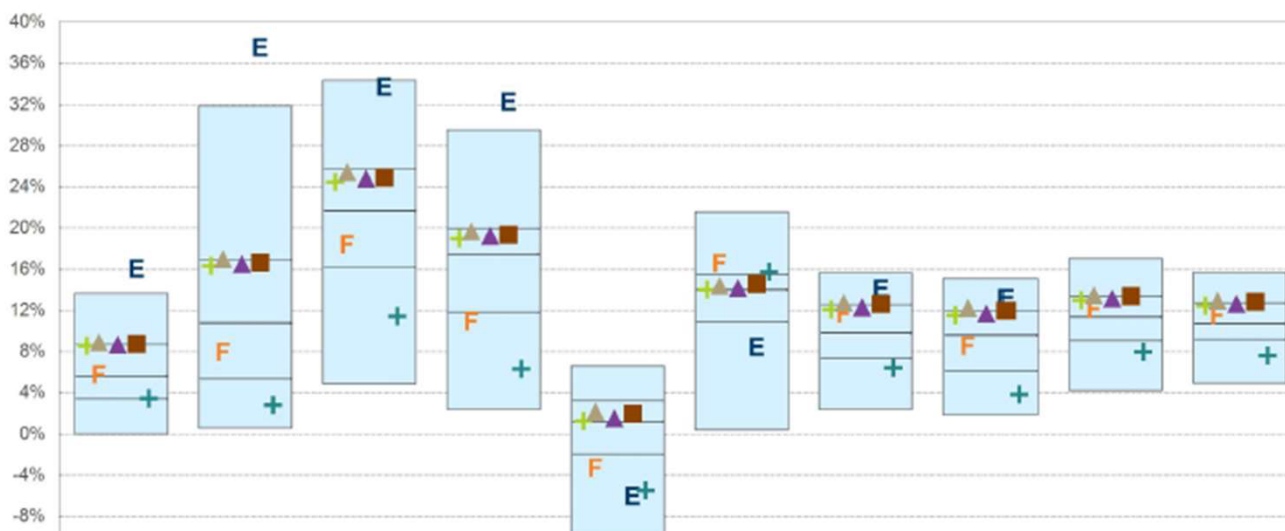
*Total Returns of Master Trusts - All Plans  
Cumulative Periods Ending : June 30, 2023*



Percentile Rankings	1 Qtr	2 Qtrs	3 Qtrs	1 Year	2 Years	3 Years	4 Years	5 Years	7 Years	10 Years
5th	5.21	11.76	20.90	15.31	2.67	11.54	9.22	8.78	9.96	9.31
25th	3.52	8.34	15.74	10.54	0.02	8.70	7.21	7.11	8.45	7.89
50th	2.67	6.94	13.02	8.08	-1.51	6.59	5.52	5.89	6.92	6.65
75th	1.60	5.01	9.43	5.13	-2.94	4.00	3.96	4.65	5.60	5.53
95th	-0.48	2.49	5.01	-0.60	-7.57	-2.99	0.16	2.32	3.00	3.73
No. Of Obs	339	328	318	318	301	297	265	232	223	218
★ Total Fund Composite	3.84 (17)	10.88 (7)	15.94 (23)	10.30 (25)	-6.92 (92)	5.42 (63)	7.41 (21)	6.58 (37)	9.28 (9)	8.88 (7)
■ S&P 500	8.74 (1)	16.89 (1)	25.73 (1)	19.59 (1)	3.39 (3)	14.60 (1)	12.78 (1)	12.30 (1)	13.38 (1)	12.86 (1)
▲ Bloomberg Govt/Credit	-0.93 (97)	2.21 (95)	4.04 (96)	-0.70 (95)	-5.91 (89)	-4.11 (96)	-0.76 (97)	1.03 (98)	0.59 (97)	1.66 (97)

## State of Iowa Peace Officer Retirement System Performance Comparison

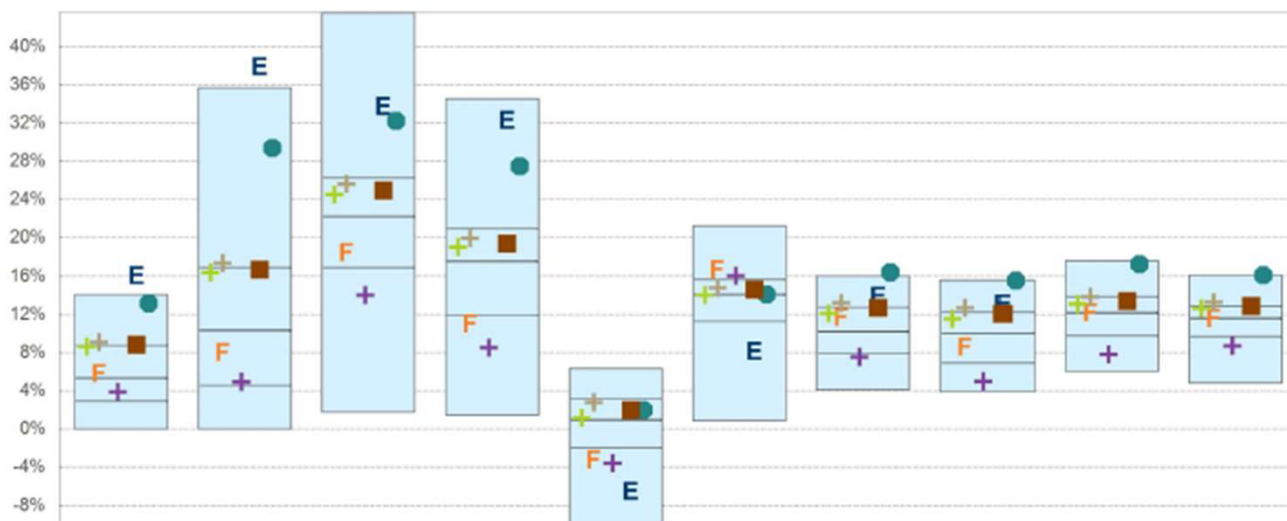
*Total Returns of US Equity Portfolios  
Cumulative Periods Ending : June 30, 2023*



Percentile Rankings	1 Qtr	2 Qtrs	3 Qtrs	1 Year	2 Years	3 Years	4 Years	5 Years	7 Years	10 Years
5th	13.65	31.89	34.36	29.57	6.60	21.60	15.63	15.10	17.08	15.73
25th	8.72	16.87	25.71	19.95	3.24	15.49	12.57	11.94	13.39	12.76
50th	5.61	10.81	21.69	17.50	1.23	14.06	9.83	9.61	11.42	10.74
75th	3.45	5.38	16.18	11.82	-1.94	10.94	7.34	6.14	9.09	9.20
95th	0.02	0.55	4.86	2.38	-10.04	0.41	2.42	1.86	4.24	4.96
No. Of Obs	574	562	562	562	535	510	449	383	358	315
<b>F</b> Fisher Investments	5.48 (51)	7.67 (64)	18.13 (65)	10.66 (80)	-3.55 (80)	16.30 (19)	11.39 (38)	8.28 (59)	11.84 (45)	11.26 (45)
<b>E</b> Jennison	15.74 (1)	37.26 (2)	33.43 (6)	31.97 (4)	-6.32 (89)	8.17 (84)	13.80 (9)	12.93 (13)		
<b>+</b> Vanguard Total Market	8.29 (35)	16.03 (36)	24.18 (40)	18.66 (45)	0.94 (53)	13.72 (58)	11.77 (36)	11.22 (33)	12.70 (37)	12.13 (37)
<b>+</b> Russell 2000 Value	3.18 (76)	2.50 (88)	11.13 (90)	6.01 (90)	-5.80 (88)	15.42 (25)	6.13 (84)	3.54 (92)	7.69 (87)	7.29 (89)
<b>▲</b> Russell 3000	8.39 (34)	16.17 (35)	24.51 (37)	18.95 (42)	1.21 (50)	13.88 (51)	12.00 (33)	11.39 (32)	12.86 (35)	12.34 (35)
<b>▲</b> Russell 1000	8.58 (28)	16.68 (30)	25.13 (33)	19.36 (35)	1.88 (42)	14.09 (49)	12.40 (29)	11.92 (28)	13.15 (31)	12.64 (30)
<b>■</b> Wilshire 5000	8.44 (30)	16.34 (31)	24.60 (35)	19.06 (39)	1.66 (45)	14.24 (44)	12.33 (30)	11.67 (28)	13.05 (33)	12.51 (32)

## State of Iowa Peace Officer Retirement System Performance Comparison

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



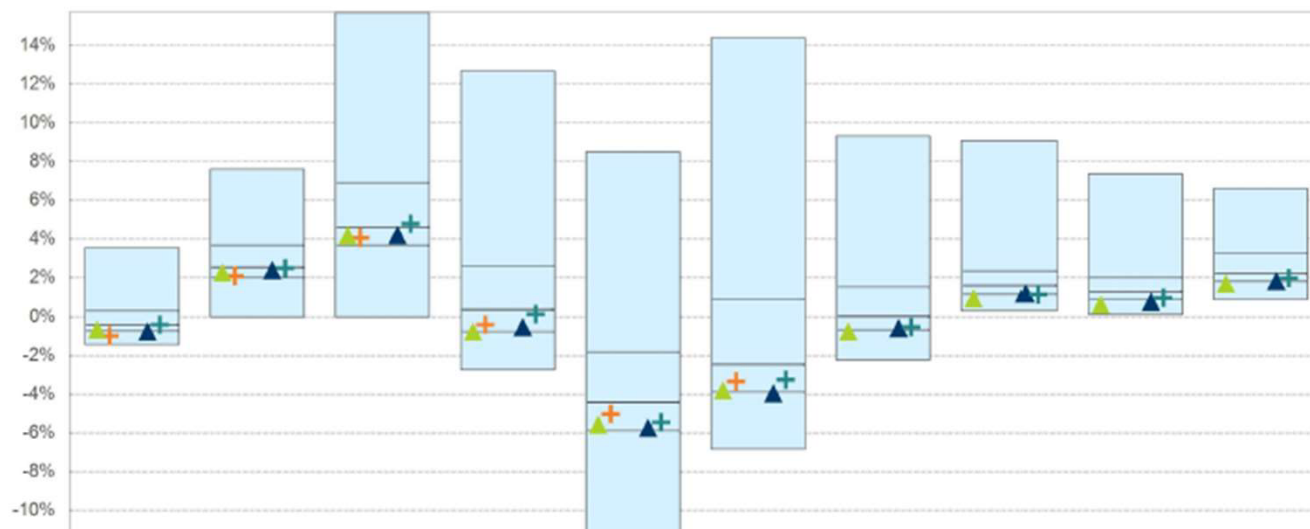
Percentile Rankings	1 Qtr	2 Qtrs	3 Qtrs	1 Year	2 Years	3 Years	4 Years	5 Years	7 Years	10 Years
5th	14.07	35.72	43.50	34.56	6.30	21.21	15.96	15.56	17.61	16.09
25th	8.74	16.88	26.28	20.93	3.14	15.65	12.74	12.19	13.84	12.87
50th	5.33	10.29	22.22	17.54	0.92	14.06	10.22	10.00	12.15	11.60
75th	2.88	4.57	16.92	11.90	-1.96	11.23	7.89	6.90	9.72	9.66
95th	0.00	0.00	1.75	1.46	-10.22	0.90	4.14	3.91	6.04	4.83
No. Of Obs	349	333	329	326	309	299	292	286	274	188
<b>F</b> Fisher Investments	5.53 (49)	7.68 (62)	18.16 (68)	10.70 (81)	-3.54 (80)	16.40 (19)	11.41 (39)	8.29 (63)	11.86 (52)	11.29 (52)
<b>E</b> Jennison	15.77 (1)	37.59 (3)	33.45 (9)	31.97 (6)	-6.82 (89)	7.83 (87)	13.59 (15)	12.77 (19)		
<b>+</b> Vanguard Total Market	8.30 (31)	16.04 (32)	24.19 (41)	18.70 (44)	0.85 (50)	13.66 (59)	11.73 (37)	11.18 (37)	12.74 (41)	12.25 (42)
<b>●</b> Russell 1000 Growth	12.81 (8)	29.02 (8)	31.85 (12)	27.11 (12)	1.61 (45)	13.73 (56)	16.05 (3)	15.14 (8)	16.91 (9)	15.74 (6)
<b>+</b> Wil US Small-Value	3.54 (69)	4.61 (74)	13.68 (85)	8.15 (86)	-3.90 (82)	15.71 (24)	7.16 (78)	4.67 (91)	7.47 (92)	8.36 (86)
<b>+</b> Wilshire US Large-Cap	8.73 (25)	17.04 (23)	25.29 (32)	19.62 (30)	2.44 (32)	14.42 (44)	12.83 (20)	12.33 (20)	13.46 (27)	12.90 (22)
<b>■</b> Wilshire 5000	8.44 (30)	16.34 (30)	24.60 (39)	19.06 (41)	1.66 (44)	14.24 (47)	12.33 (32)	11.67 (35)	13.05 (36)	12.51 (38)



## State of Iowa Peace Officer Retirement System Performance Comparison

*Total Returns of US Fixed Income Portfolios*

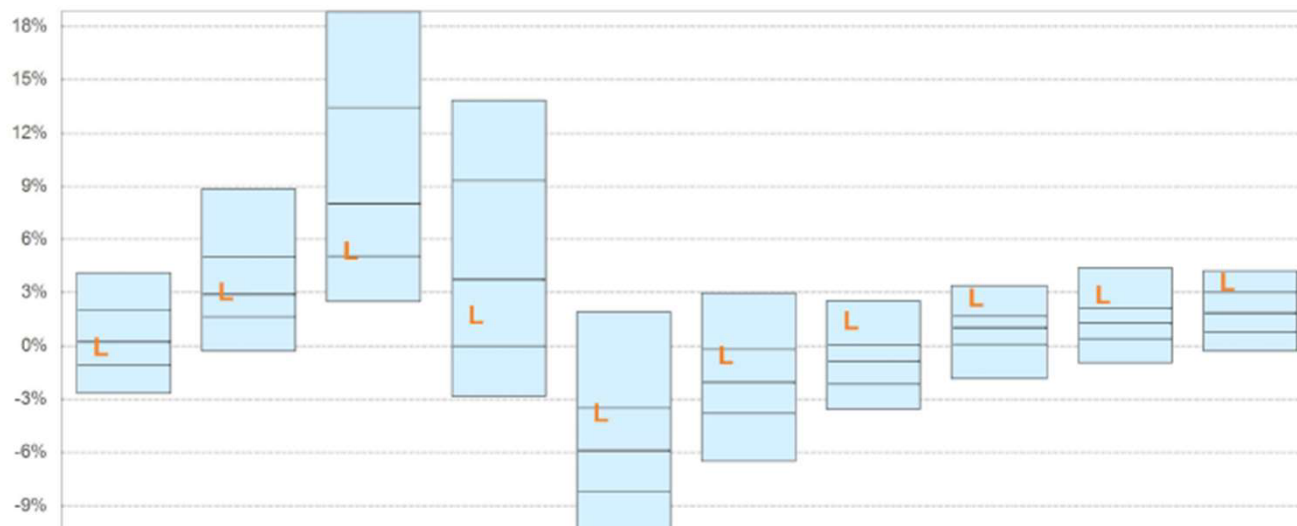
*Cumulative Periods Ending : June 30, 2023*



Percentile Rankings	1 Qtr	2 Qtrs	3 Qtrs	1 Year	2 Years	3 Years	4 Years	5 Years	7 Years	10 Years
5th	3.54	7.59	15.87	12.87	8.48	14.36	9.29	9.06	7.38	6.81
25th	0.32	3.68	6.89	2.61	-1.83	0.91	1.52	2.35	2.02	3.27
50th	-0.41	2.53	4.61	0.36	-4.42	-2.47	0.01	1.60	1.28	2.21
75th	-0.74	2.01	3.70	-0.77	-5.88	-3.88	-0.67	1.15	0.89	1.81
95th	-1.42	0.00	0.00	-2.73	-11.21	-6.85	-2.24	0.32	0.09	0.89
No. Of Obs	502	495	490	486	443	424	353	267	238	191
+ Lazard	-1.18 (90)	1.92 (77)	3.90 (72)	-0.60 (72)	-5.19 (54)	-3.50 (68)				
▲ Bloomberg Govt/Credit	-0.93 (87)	2.21 (69)	4.04 (64)	-0.70 (73)	-5.91 (75)	-4.11 (82)	-0.76 (76)	1.03 (84)	0.59 (86)	1.66 (79)
▲ Bloomberg Aggregate	-0.94 (82)	2.09 (73)	4.00 (67)	-0.94 (83)	-5.73 (68)	-3.97 (77)	-0.94 (84)	0.77 (90)	0.44 (89)	1.52 (85)
+ Barclays US Univ Indx	-0.59 (65)	2.32 (60)	4.62 (49)	-0.04 (58)	-5.62 (63)	-3.43 (67)	-0.71 (75)	0.98 (85)	0.79 (81)	1.80 (76)

## State of Iowa Peace Officer Retirement System Performance Comparison

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

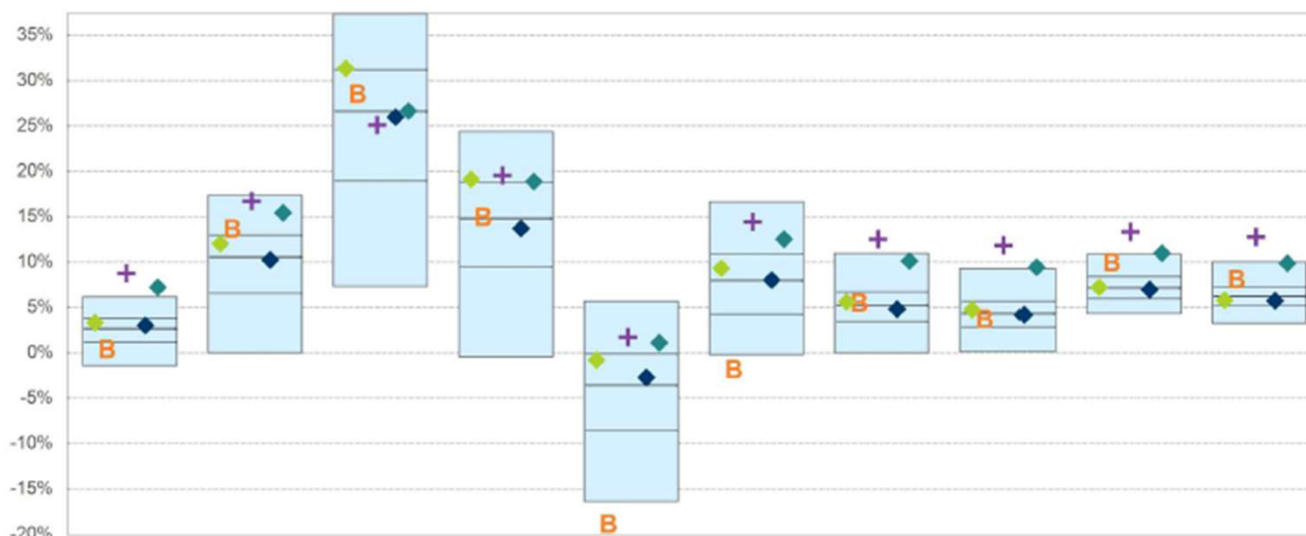


Percentile Rankings	1 Qtr	2 Qtrs	3 Qtrs	1 Year	2 Years	3 Years	4 Years	5 Years	7 Years	10 Years
5th	4.13	8.85	18.82	13.86	1.91	2.98	2.53	3.40	4.41	4.24
25th	2.05	5.03	13.43	9.31	-3.51	-0.21	0.07	1.68	2.14	3.00
50th	0.24	2.93	8.03	3.74	-5.91	-2.04	-0.85	1.04	1.28	1.85
75th	-1.08	1.67	5.07	0.00	-8.22	-3.80	-2.16	0.10	0.41	0.78
95th	-2.66	-0.29	2.50	-2.83	-10.43	-6.49	-3.57	-1.82	-0.96	-0.28
No. Of Obs	173	170	157	151	138	132	129	122	116	111
Loomis Sayles	-0.22 (60)	2.88 (51)	5.20 (74)	1.57 (81)	-3.94 (27)	-0.71 (31)	1.25 (11)	2.54 (14)	2.71 (13)	3.42 (13)



## State of Iowa Peace Officer Retirement System Performance Comparison

*Total Returns of Non-US Equity Portfolios - All  
Cumulative Periods Ending : June 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	6.15	17.38	37.36	24.30	5.70	16.65	11.01	9.27	10.86	10.03
25th	3.81	12.99	31.26	18.83	-0.14	10.91	6.75	5.66	8.42	7.23
50th	2.63	10.56	26.60	14.84	-3.56	7.98	5.24	4.33	7.16	6.24
75th	1.15	6.56	18.99	9.45	-8.53	4.29	3.49	2.87	6.02	5.20
95th	-1.43	0.00	7.37	-0.42	-16.36	-0.19	0.00	0.11	4.34	3.25
No. Of Obs	758	752	733	730	668	630	570	515	480	441
<b>B</b> Baillie Gifford	0.08 (87)	13.37 (21)	28.21 (41)	14.85 (51)	-19.21 (97)	-2.18 (97)	5.17 (51)	3.43 (66)	9.62 (11)	7.81 (18)
<b>◆</b> MSCI ACWI x-US	2.67 (49)	9.86 (53)	25.64 (57)	13.33 (58)	-3.11 (47)	7.66 (53)	4.42 (62)	3.85 (59)	6.63 (63)	5.38 (72)
<b>◆</b> MSCI EAFE (Net)	2.95 (43)	11.67 (39)	31.03 (25)	18.77 (25)	-1.17 (32)	8.93 (43)	5.23 (50)	4.39 (49)	6.87 (58)	5.41 (71)
<b>◆</b> MSCI World (Net)	6.83 (3)	15.09 (11)	26.33 (52)	18.51 (26)	0.75 (18)	12.17 (16)	9.76 (7)	9.07 (5)	10.62 (5)	9.50 (7)
<b>+</b> MSCI Broad Market Inde	8.40 (1)	16.37 (6)	24.76 (60)	19.20 (22)	1.35 (15)	14.11 (10)	12.17 (2)	11.50 (1)	12.97 (1)	12.43 (1)

## State of Iowa Peace Officer Retirement System Performance Comparison

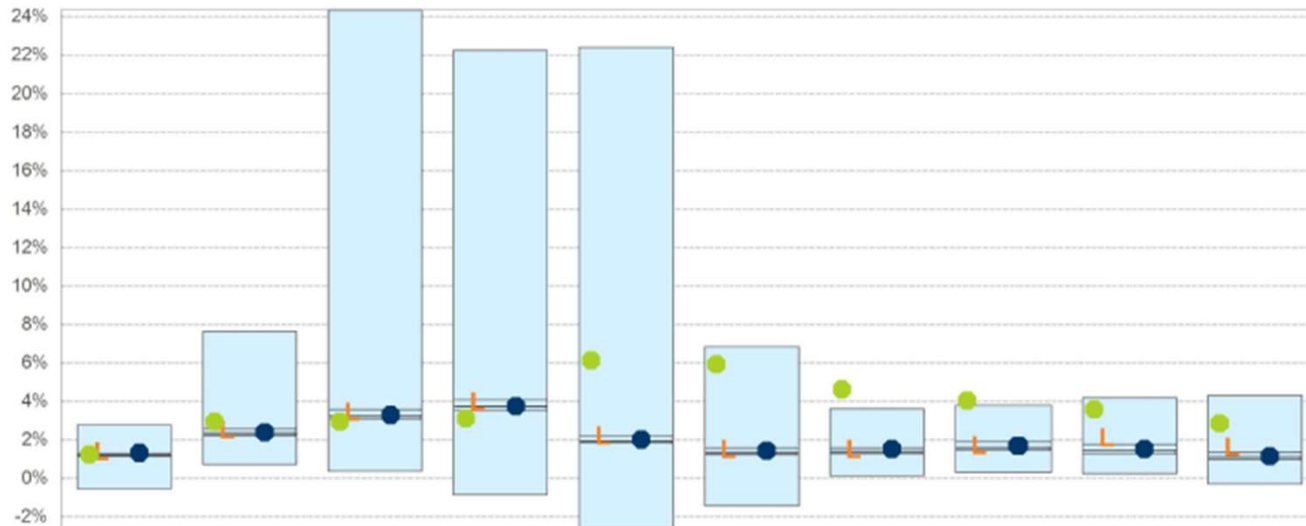
*Total Returns of US Real Estate Portfolios  
Cumulative Periods Ending : June 30, 2023*



Percentile Rankings	1 Qtr	2 Qtrs	3 Qtrs	1 Year	2 Years	3 Years	4 Years	5 Years	7 Years	10 Years
5th	7.59	11.64	20.29	26.04	29.53	20.08	15.88	14.30	10.29	15.43
25th	1.04	1.80	3.03	2.36	10.25	9.20	7.89	7.76	8.15	9.68
50th	-1.68	-3.25	-4.89	-3.60	6.30	6.47	5.22	5.90	6.21	8.29
75th	-4.36	-8.54	-11.33	-10.63	-3.07	0.37	-1.67	0.95	2.25	3.33
95th	-10.31	-25.23	-26.40	-35.66	-29.52	-22.80	-18.12	-13.77	-8.20	-3.01
No. Of Obs	101	112	115	116	115	114	76	66	61	54
Q Principal Enhanced	-2.12 (58)	-4.84 (61)	-10.90 (72)	-9.38 (69)	9.85 (27)	10.10 (20)	8.70 (11)	8.40 (19)	9.47 (12)	11.88 (12)
P Principal US Property	-1.90 (55)	-5.04 (62)	-10.96 (73)	-10.59 (74)	6.83 (46)	7.21 (40)	5.84 (44)	6.04 (45)	6.75 (33)	8.35 (46)
A NCREIF NFI-ODCE	-2.88 (62)	-5.77 (65)	-10.45 (70)	-9.98 (70)	7.97 (40)	8.26 (33)	6.81 (34)	6.83 (35)	7.26 (31)	8.96 (36)
+ NCREIF Property Index	-1.98 (55)	-3.75 (54)	-7.12 (58)	-6.59 (61)	6.51 (49)	6.80 (46)	5.75 (47)	5.90 (50)	6.24 (48)	7.82 (51)
● Wilshire RESI	3.29 (12)	6.78 (5)	11.14 (7)	-0.19 (33)	-3.49 (76)	8.61 (29)	2.93 (55)	4.39 (57)	3.51 (68)	6.57 (55)

## State of Iowa Peace Officer Retirement System Performance Comparison

*Total Returns of US Cash/Short Term Portfolios  
Cumulative Periods Ending : June 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	2.80	7.64	24.33	22.24	22.43	6.85	3.62	3.80	4.22	4.32
25th	1.30	2.58	3.60	4.08	2.22	1.60	1.60	1.92	1.78	1.38
50th	1.23	2.35	3.25	3.75	1.95	1.34	1.40	1.60	1.45	1.15
75th	1.17	2.25	3.11	3.54	1.84	1.25	1.31	1.49	1.32	0.98
95th	-0.55	0.72	0.37	-0.84	-2.57	-1.42	0.15	0.34	0.28	-0.29
No. Of Obs	176	174	176	177	171	160	120	90	74	70
Liquidity	1.25 (45)	2.38 (42)	3.31 (40)	3.82 (41)	2.05 (38)	1.38 (44)	1.37 (57)	1.57 (57)	1.97 (15)	1.49 (16)
91-Day Treasury Bill	1.17 (76)	2.25 (75)	3.12 (65)	3.59 (74)	1.87 (71)	1.27 (74)	1.36 (83)	1.55 (62)	1.37 (69)	0.98 (77)
Consumer Price Index	1.08 (79)	2.80 (16)	2.80 (82)	2.97 (81)	5.97 (7)	5.78 (5)	4.47 (2)	3.90 (4)	3.43 (6)	2.69 (6)