

# Peace Officers' Retirement, Accident and Disability System

Quarterly Performance Report

March 31, 2023

# Executive Summary

**IOWA PEACE OFFICERS' RETIREMENT FUND**  
Executive Summary For Quarter Ending March 31, 2023

The following table gives total time weighted returns and percentile rankings (in parenthesis) for periods ending March 31, 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	656,016,400.21	6.78 (05)	-9.16 (93)	11.00 (38)	6.33 (31)	8.49 (10)	8.85 (7/31/88)
PORS - After Fees	656,016,400.21	6.68	-9.51	10.62	5.96	8.10	8.45 (7/31/88)
Consumer Price Index		0.94	4.99	5.35	3.87	2.65	3.53 (7/31/88)
Consumer Price Index + 4%		1.94	8.99	9.35	7.87	6.65	7.53 (7/31/88)
POR POLICY INDEX		4.68	-6.13	11.62	6.09	7.19	8.18 (7/31/88)
Allocation Index		4.24	-7.53	11.33	5.69	7.53	8.52 (7/31/88)
<b><u>LARGE CAPITALIZATION EQUITIES</u></b>							
Jennison - gross of fees	86,152,302.57	18.59 (02)	-16.06 (94)	14.09 (84)			10.19 (4/01/18)
Jennison - net of fees		18.47	-16.44	13.62			9.70 (4/01/18)
Russell 1000 Growth Index		14.37 (09)	-10.90 (78)	18.58 (47)			13.66 (10/01/11)
Vanguard Total Market - gross of fees	87,812,277.39	7.15 (40)	-8.85 (74)	18.31 (55)	10.30 (37)		12.35 (12/31/12)
Vanguard Total Market - net of fees		7.15	-8.85	18.31	10.30		12.35 (12/31/12)
Russell 3000 Index		7.18 (38)	-8.58 (70)	18.48 (51)	10.45 (35)		12.58 (12/31/12)
<b><u>SMALL CAPITALIZATION EQUITIES</u></b>							
Fisher - gross of fees	117,240,835.51	2.08 (74)	-17.12 (95)	23.75 (12)	8.83 (53)	11.10 (46)	12.43 (11/30/89)
Fisher - net of fees		1.88	-17.80	22.80	7.98	10.24	11.46 (11/30/89)
Russell 2000 Value		-0.66 (93)	-12.96 (91)	21.01 (23)	4.55 (89)	7.22 (89)	9.75 (11/30/89)
<b><u>FIXED INCOME</u></b>							
Loomis Sayles - gross of fees	80,773,691.04	3.11 (37)	-2.95 (37)	1.75 (40)	2.44 (01)	3.12 (01)	5.32 (3/31/07)
Loomis Sayles - net of fees		3.03	-3.23	1.46	2.14	3.12	4.99 (3/31/07)
Barclays Universal		2.93	-4.61	-2.02	1.05	1.62	3.23 (3/31/07)
Lazard - gross of fees	37,284,991.84	3.14 (48)	-3.69 (43)				-3.39 (7/01/20)
Lazard - net of fees		3.10	-3.84				-3.54 (7/01/20)
Barclays Aggregate		2.96 (55)	-4.78 (60)				-4.02 (7/01/20)

**INTERNATIONAL EQUITIES**

Baillie Gifford - <i>gross of fees</i>	162,094,545.12	13.28 (05)	-5.00 (63)	8.55 (81)	3.40 (49)	7.58 (13)	10.14 (9/30/08)
Baillie Gifford - <i>net of fees</i>		13.28	-5.00	8.55	3.40	7.58	10.13 (9/30/08)
MSCI ACWI x-US		7.00 (54)	-4.56 (59)	11.83 (63)	3.10 (54)	5.02 (64)	5.08 (1/31/03)

**LIQUIDITY**

Cash	2,068,043.47	1.12	2.78	0.98	1.42	1.37	6.25 (11/30/89)
Merrill Lynch 90 Day Treasury Bill		1.08	2.53	0.90	1.41	0.87	2.75 (11/30/89)

**REITS EQUITY**

Principal US Property - <i>gross of fees</i>	57,564,722.16	-3.20 (64)	-6.12 (73)	7.37 (49)	6.92 (41)	9.00 (48)	5.96 (6/30/06)
Principal US Property - <i>net of fees</i>		-3.44	-7.01	6.36	5.91	9.00	5.45 (6/30/06)
NCREIF NFI-ODCE Index		-3.17	-3.09	8.78	7.86	9.65	6.74 (6/30/06)
Principal Enhanced - <i>gross of fees</i>	25,024,991.11	-2.78 (58)	-2.67 (65)	10.34 (23)	9.43 (18)	12.69 (11)	6.94 (11/30/06)
Principal Enhanced - <i>net of fees</i>		-3.07	-3.72	9.12	8.19	12.69	5.65 (11/30/06)
NCREIF NFI-ODCE Index		-3.17	-3.09	8.78	7.86	9.65	6.74 (11/30/06)

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

### **Total Fund Performance**

The market value of the PORS Fund on March 31, 2023, was \$656,016,400, an increase of \$40,598,100, from the Fund market value on December 31, 2022. For a year over year comparison, the fund has experienced a decrease of \$77,076,901 since March 31, 2022. The rate of return for the PORS Fund was 6.78% (before fees) for the quarter. The Fund's quarter performance was above the Policy Index return of 4.68% and above the Allocation Index return of 4.24%. 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 5<sup>th</sup> percentile. The Fund's annual return of -9.16% before fees for the one-year period ranked 93<sup>rd</sup> in the TUCS universe. For the three-year period, the Fund experienced a return of 11.00%. Over the five-year period ending March 31, 2023, the PORS Fund has earned an annualized rate of return of 6.33% before fees and ranked in the 31<sup>st</sup> percentile in the TUCS universe of all master trusts. Over the ten-year period ending March 31, 2023, the PORS Fund has earned an annualized return of 8.49% 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 0.35 for the five-year period was below the Sharpe Ratio of the Policy Index of 0.40 and below the Allocation Index of 0.37. Over the ten-year period, the Fund's Sharpe Ratio of 0.64 is below the Sharpe Ratio for the Policy Index of 0.66 and was below the Allocation Index of 0.67.

### **Manager Performance**

**Jennison** – Jennison had a quarterly return of 18.59% for the quarter, ranking 2<sup>nd</sup> in the TUCS universe. Their benchmark, the Russell 1000 Growth Index had a quarterly return of 14.37%. For the year, Jennison returned -16.06% compared to the benchmark of -10.90%. Over 3 years, Jennison has returned 14.09% annually compared to 18.58% for the Russell 1000 Growth Index.

**Vanguard Total Stock Market** – For the quarter, Vanguard returned 7.15%. Over the past year, Vanguard has returned -8.85%. For the three-year period, Vanguard has an annualized return of 18.31%. Over five years, Vanguard has returned an annualized return of 10.30%. 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 2.08% (before fees) for the quarter, ranking 74<sup>th</sup> in the universe of U.S. equity portfolios reporting to TUCS. Fisher's benchmark, the Russell 2000 Value returned -0.66% for the quarter and ranked 93<sup>rd</sup> in the TUCS universe. Fisher's annual return was -17.12% (before fees) and ranked 95<sup>th</sup> in the TUCS universe. The benchmark had an annual return of -12.96% (91<sup>st</sup> percentile). Fisher's ten-year annualized return of 11.10% before fees is above the 7.22% 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 3.11% and ranked 37<sup>th</sup> in the TUCS universe. Its benchmark, the Barclays Universal, had a quarterly return of 2.93%. For the year, Loomis Sayles had an annual return of -2.95% while the Barclays Universal returned -4.61%. Over the three-year period ending March 31, 2023, Loomis Sayles returned an annualized return of 1.75%. For the ten-year period, Loomis Sayles has an annualized return of 3.12% compared to the benchmark return of 1.62%.

**Lazard** – Lazard had a quarterly return of 3.14% compared to the benchmark of 2.96%. Lazard had an annual return of -3.69% and ranked 43<sup>rd</sup> in the TUCS Universe compared to the benchmark return of -4.78%, which ranked 60<sup>th</sup>.

**Baillie Gifford International Equities** – Baillie Gifford had a quarterly return of 13.28%, ranking it 5<sup>th</sup> in the TUCS Universe. Their benchmark, the MSCI ACWI-ex US had a quarterly return of 7.00%. On an annual basis, Baillie Gifford returned -5.00% for a 63<sup>rd</sup> ranking in the TUCS universe while the benchmark returned -4.56%. For the ten-year period, Baillie Gifford has earned an annualized return of 7.58%, ranking in the 13<sup>th</sup> percentile, while the benchmark had a return of 5.02%.

**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 -3.20% while the NCREIF NFI-ODCE returned -3.17% for the quarter. Principal Core Real Estate Fund returned -6.12% for the year ending March 31, 2023, while the NCREIF NFI-ODCE had a return of -3.09%. For the ten-year period, the Fund had an annualized return of 9.00%, which ranked in the 48<sup>th</sup> percentile. The Principal Enhanced Real Estate Fund had a quarterly return of -2.78%, which ranked in the 58<sup>th</sup> percentile, while the annual return was -2.67%. The annualized return for the ten-year period was 12.69%, which ranked in the 11<sup>th</sup> percentile.

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

### **Asset Allocation**

The Fund's asset allocation on March 31, 2023, was as follows: 18.00% in fixed income bonds, 26.52% was invested in US large cap equity, 24.71% was invested in non-US developed equity, 17.87% was invested in US small/mid cap equity, and 12.59% 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 6.33% (before fees) and 5.96% (after fees) for the five-year period ending March 31, 2023. This performance was below the Investment Policy return objective to earn at least a 6.09% return, and was below the CPI Index (a proxy for inflation rate) plus 4%. For the five years ending March 31, 2023, the inflation rate plus 4% was 7.87%. 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 5.69% 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 0.35 for the five-year period ending March 31, 2023, which was less than the Sharpe Ratio for the Allocation Index of 0.37.

# Market Summary

## Wilshire Trust Universe Comparison Service

### The Market Environment

March 31, 2023

The yield curve inversion that began during the third quarter of last year worsened during the first quarter of 2023. The spread between the 10-year Treasury and 3-month T-Bill, arguably the strongest predictor of a pending recession, is at a level not seen since the early 1980's. The Federal Reserve's (Fed's) aggressive action has pushed the short-term rate to a spread of 1.37% above the benchmark ten-year. The probability of a recession in the next 12 months, according to the Federal Reserve Bank of New York, currently stands at 62%. The short end of the curve had been rising this quarter until early March when the FDIC announced that they had closed the failing Silicon Valley Bank. Market action quickly pushed the curve mostly below year-end 2022 levels. Real GDP growth was positive during the fourth quarter, expanding an annualized 2.6%. Growth for all of 2022 was modest at 0.9% after a rebound year in 2021, when the economy grew by 5.7%. Consumer, business and government spending all contributed to growth during the fourth quarter. The Atlanta Fed's GDPNow forecast for the first quarter of 2023 currently stands at 2.5%.

The Treasury curve fell for maturities one year and higher during the first quarter and rose modestly in the shorter end of the curve. The 10-year Treasury closed at 3.47%, down 41 basis points. The 10-year real yield (i.e., net of inflation) fell 43 basis points to 1.15%. The Federal Open Market Committee increased their overnight rate by 0.50%, targeting a range of 4.75% to 5.00%. The committee's current median outlook is for a rate of approximately 5.1% by the end of 2023. Consumer price changes have moderated as the Consumer Price Index rose 1.0% for the three months ending February. For the one-year period, the CPI was up 6.0%. The 10-year break-even inflation rate was little changed at 2.32% in March versus 2.30% in December.

The U.S. stock market, represented by the FT Wilshire 5000 Index<sup>SM</sup>, was up 7.29% for the first quarter but is down -8.62% for the past 12 months. A majority of sectors were up for the quarter. The best performing were Information Technology (+21.2%) and Communication Services (+19.8%). The worst performing sectors were Financials (-5.2%) and Energy (-4.6%). From a size perspective, large-cap outperformed small-cap by 409 basis points. Growth stocks vastly outperformed value for the quarter but still trail meaningfully for the one-year return.

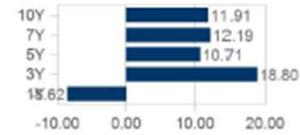
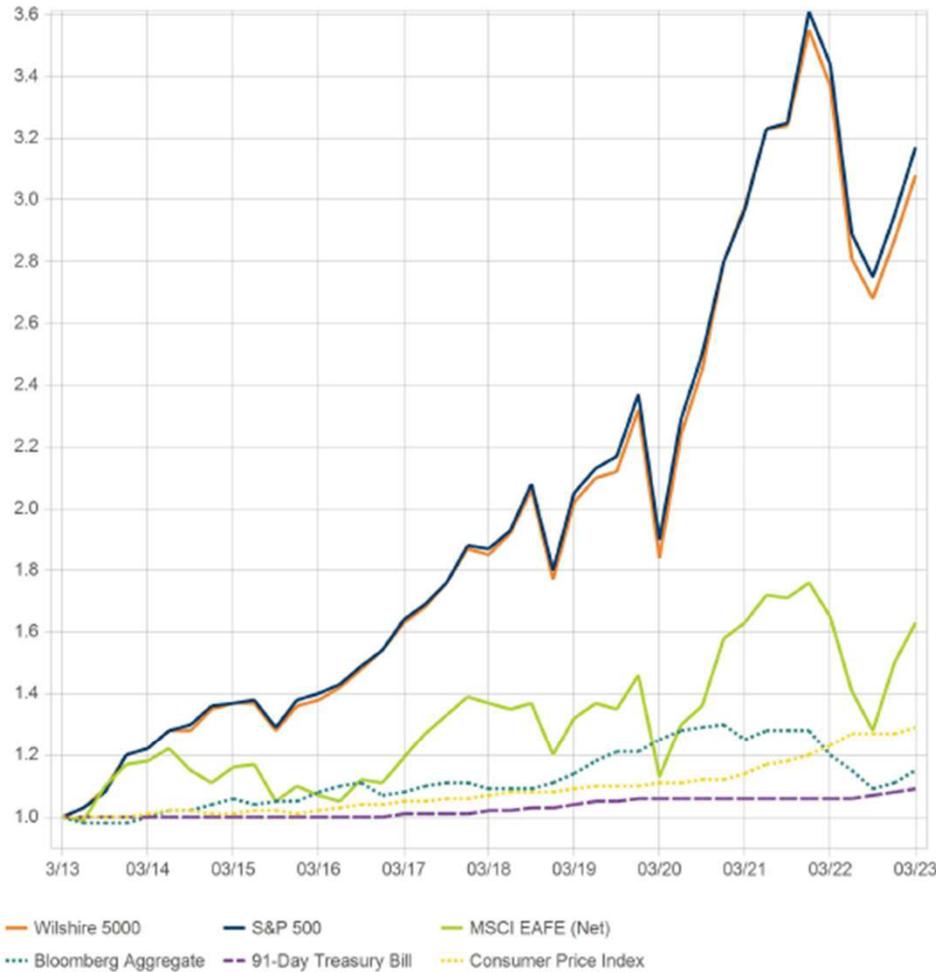
The U.S. Treasury yield curve was up in the short-end (below 1-year) by approximately 50 basis points but fell across the remainder of the curve. The 10-year Treasury yield ended the quarter at 3.47%, down 41 basis points from December. Credit spreads were little changed during the quarter with investment grade up 8

basis points and high yield bonds down 14 basis points. The Federal Open Market Committee met twice during the quarter, as scheduled, and increased the overnight rate by 0.25% in both January and March, targeting a range of 4.75% to 5.00%. 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 year-end rate that would be approximately 50 basis points lower than the current rate. Following the March meeting, Fed Chair Jerome Powell tried to ensure market participants that banking issues were isolated to a few banks and that the broader system was "sound and resilient."

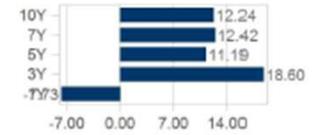
Performance results within international equity markets were positive for the first quarter, with developed outperforming emerging markets. The MSCI EAFE Index was up 8.47% for the quarter, while the MSCI Emerging Markets Index was up 3.96%. Banking weakness appeared in Europe as the Swiss bank, Credit Suisse, a key component of European finance, saw billions in depositor outflows in one day due to concerns of instability within the organization. Swiss authorities quickly pressed a plan for rival UBS to acquire the smaller bank at a reduced price, with Credit Suisse investors and creditors losing nearly everything. Across Europe, consumers continue to struggle with stubbornly high inflation and aggressive central bank tightening. China is quickly seeing benefits from its relaxed COVID-related restrictions as a key index measuring their services sector jumped in March to its highest level in more than a decade. The government has launched a concerted effort to attract foreign companies and boost foreign trade and investment.

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

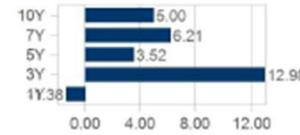
*Historical Perspective*  
Quarter Ending March 31, 2023



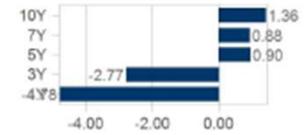
Wilshire 5000



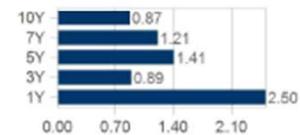
S&P 500



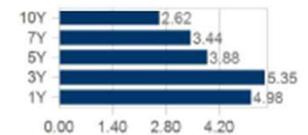
MSCI EAFE (Net)



Bloomberg Aggregate



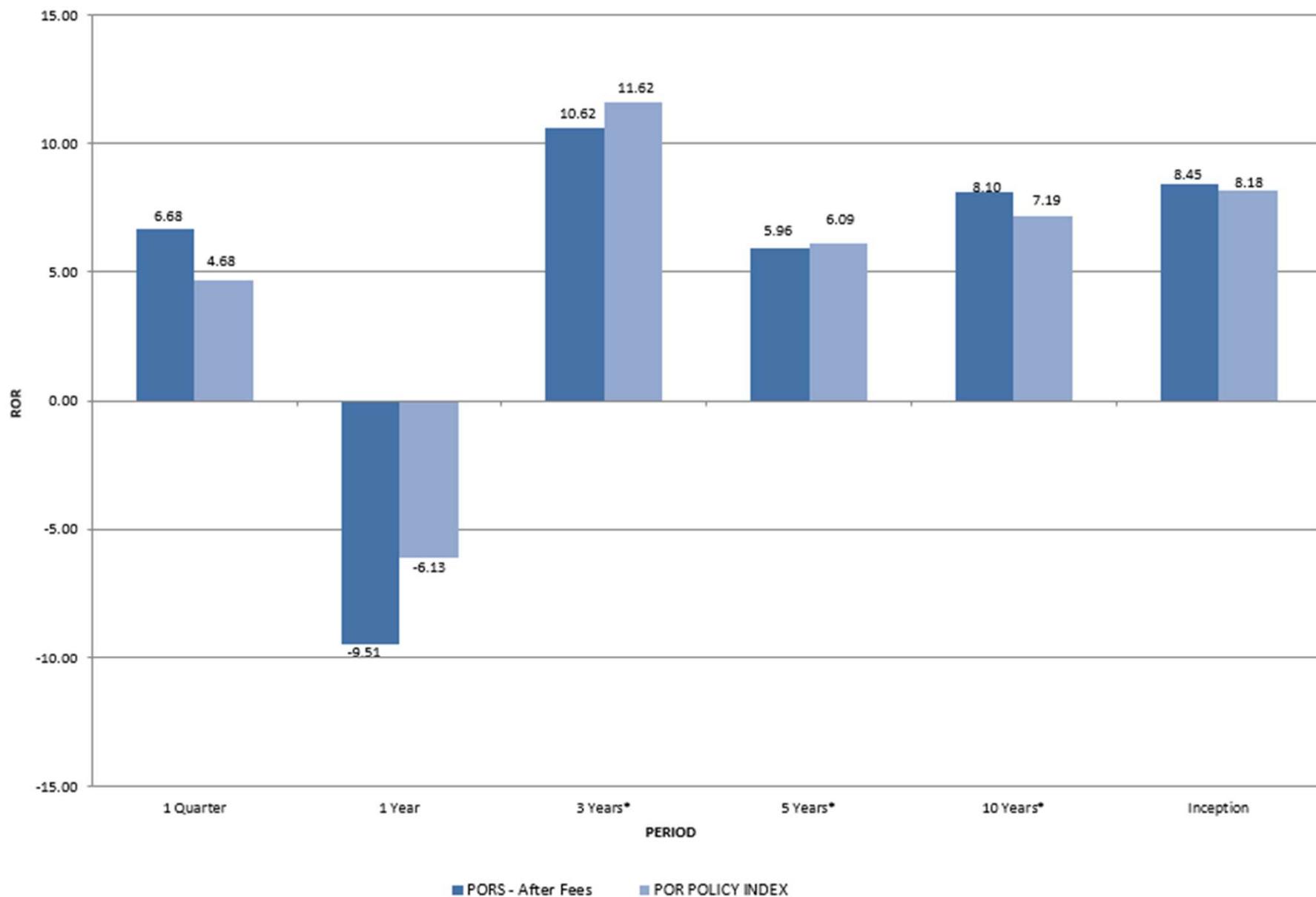
91-Day Treasury Bill



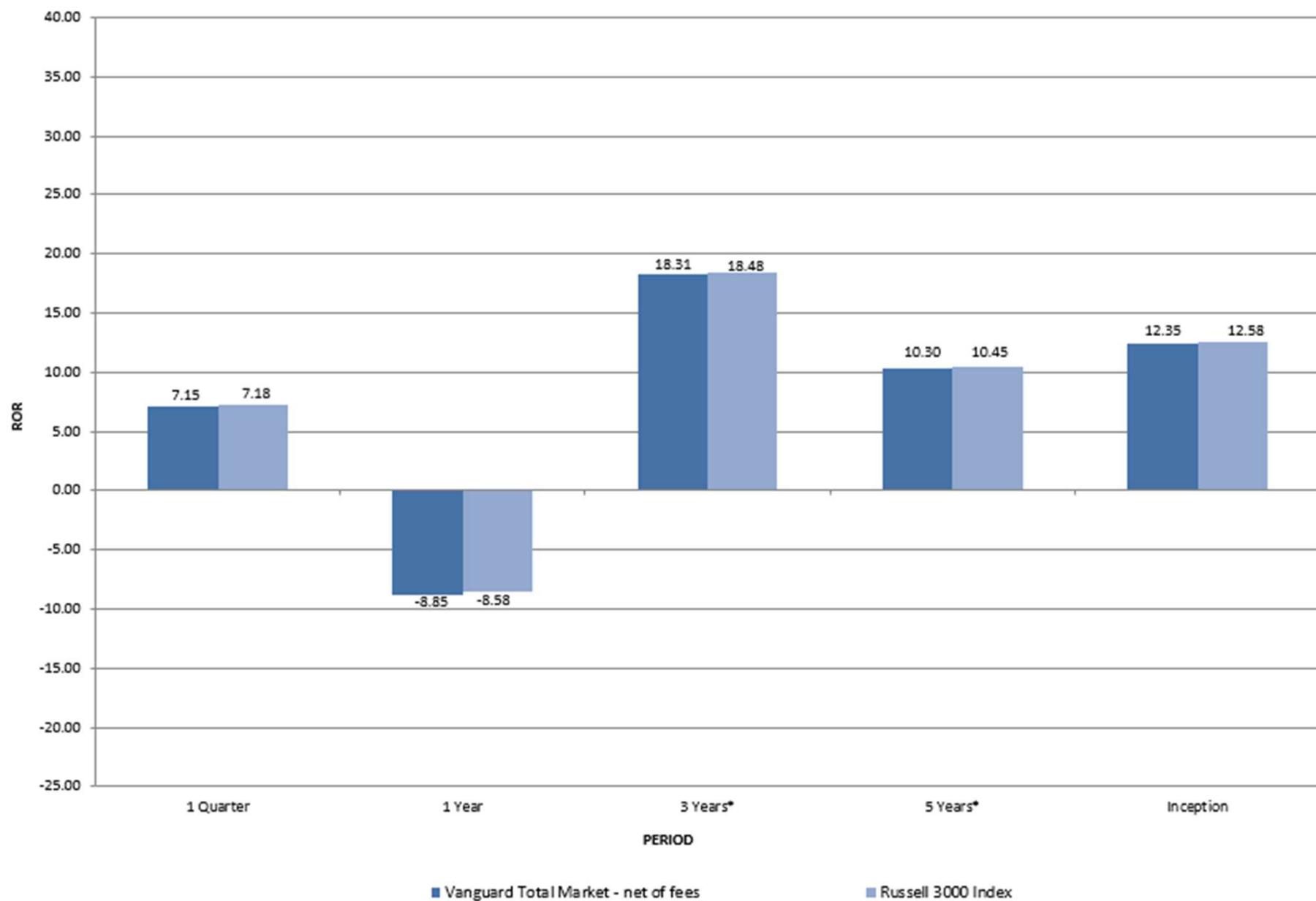
Consumer Price Index

# Investment Returns

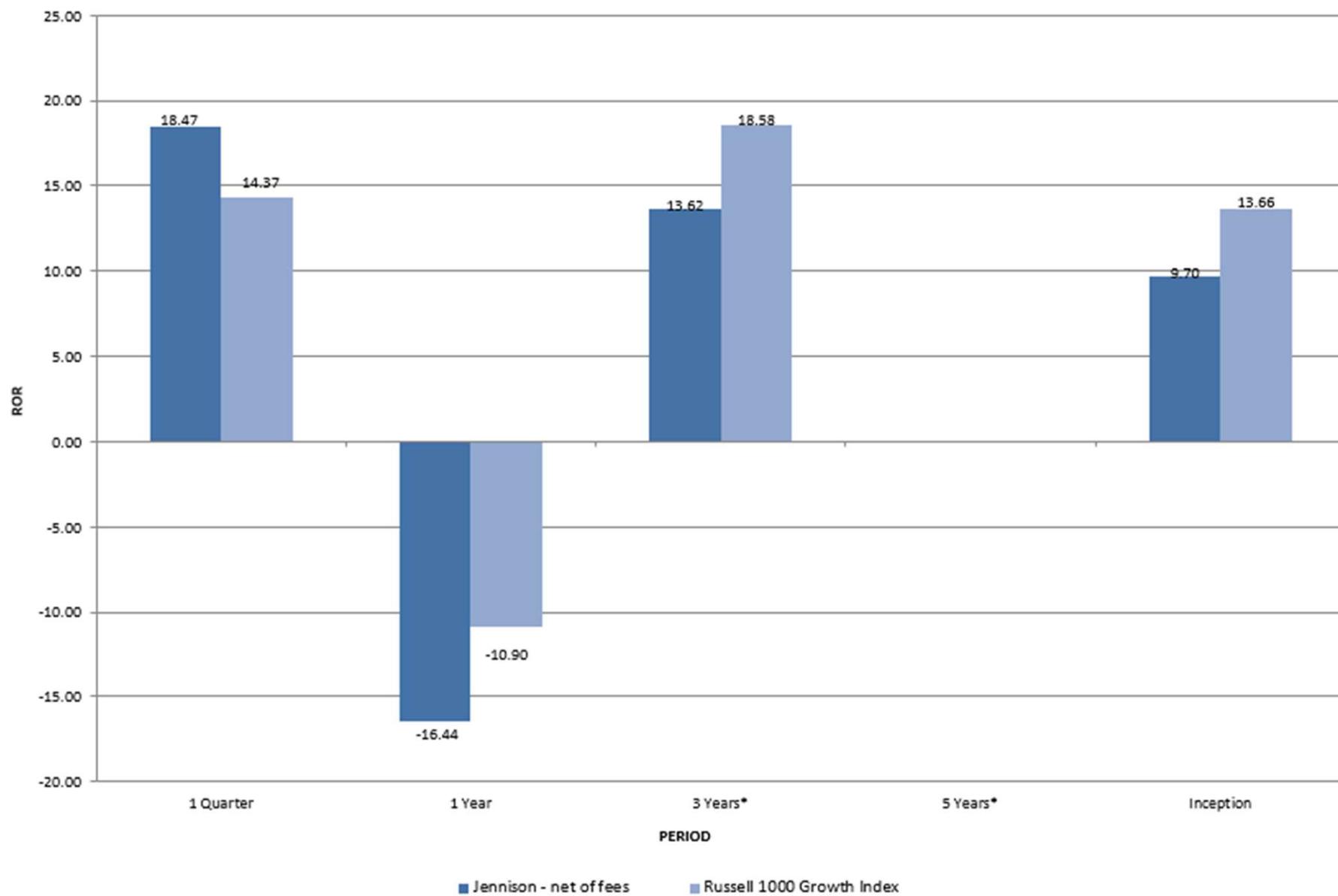
**PEACE OFFICERS' RETIREMENT SYSTEM (net of fees) vs. POLICY INDEX  
FOR THE PERIOD ENDING 3/31/23**



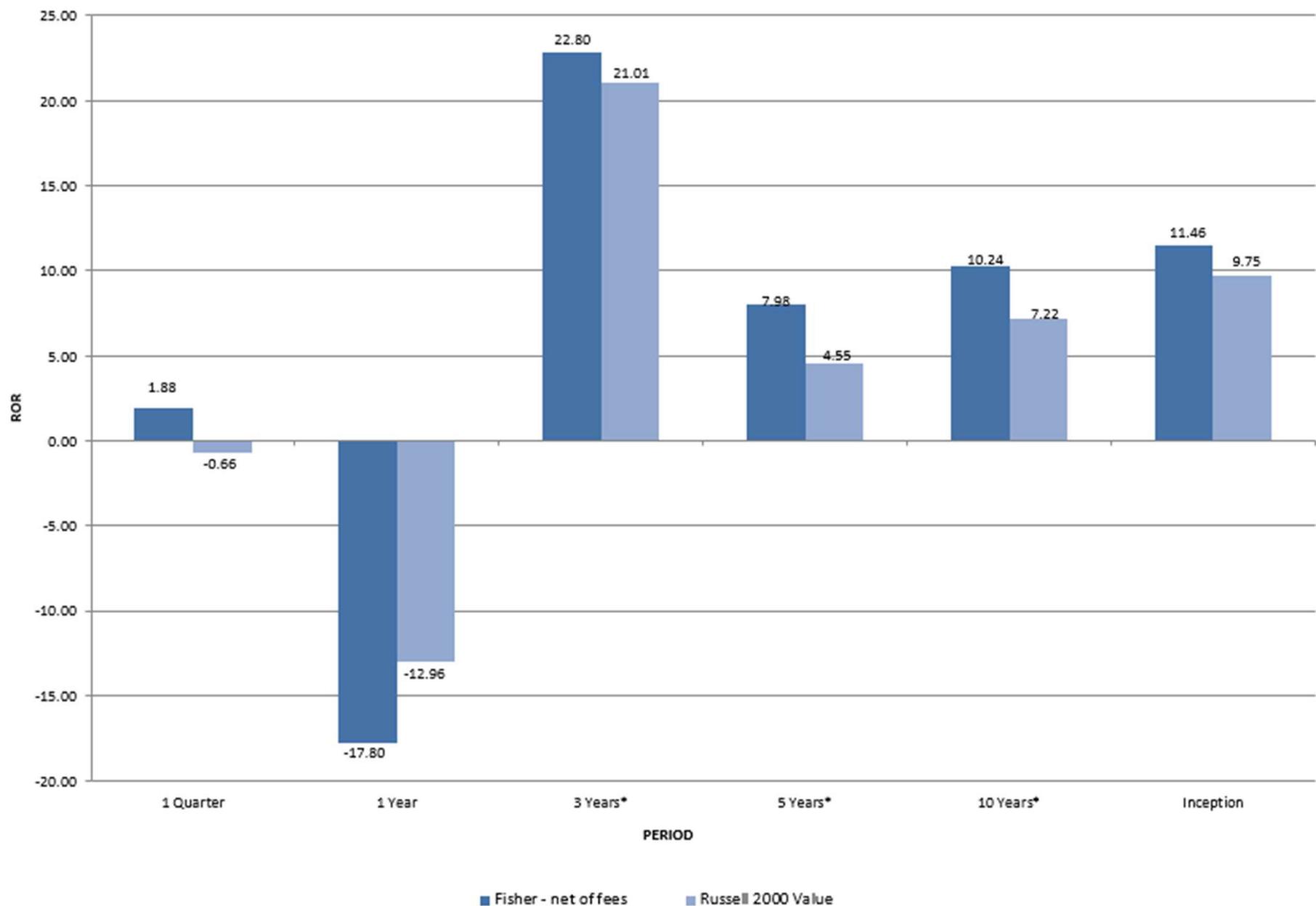
### VANGUARD TOTAL STOCK MARKET (net of fees) vs. RUSSELL 3000 INDEX FOR THE PERIOD ENDING 3/31/23



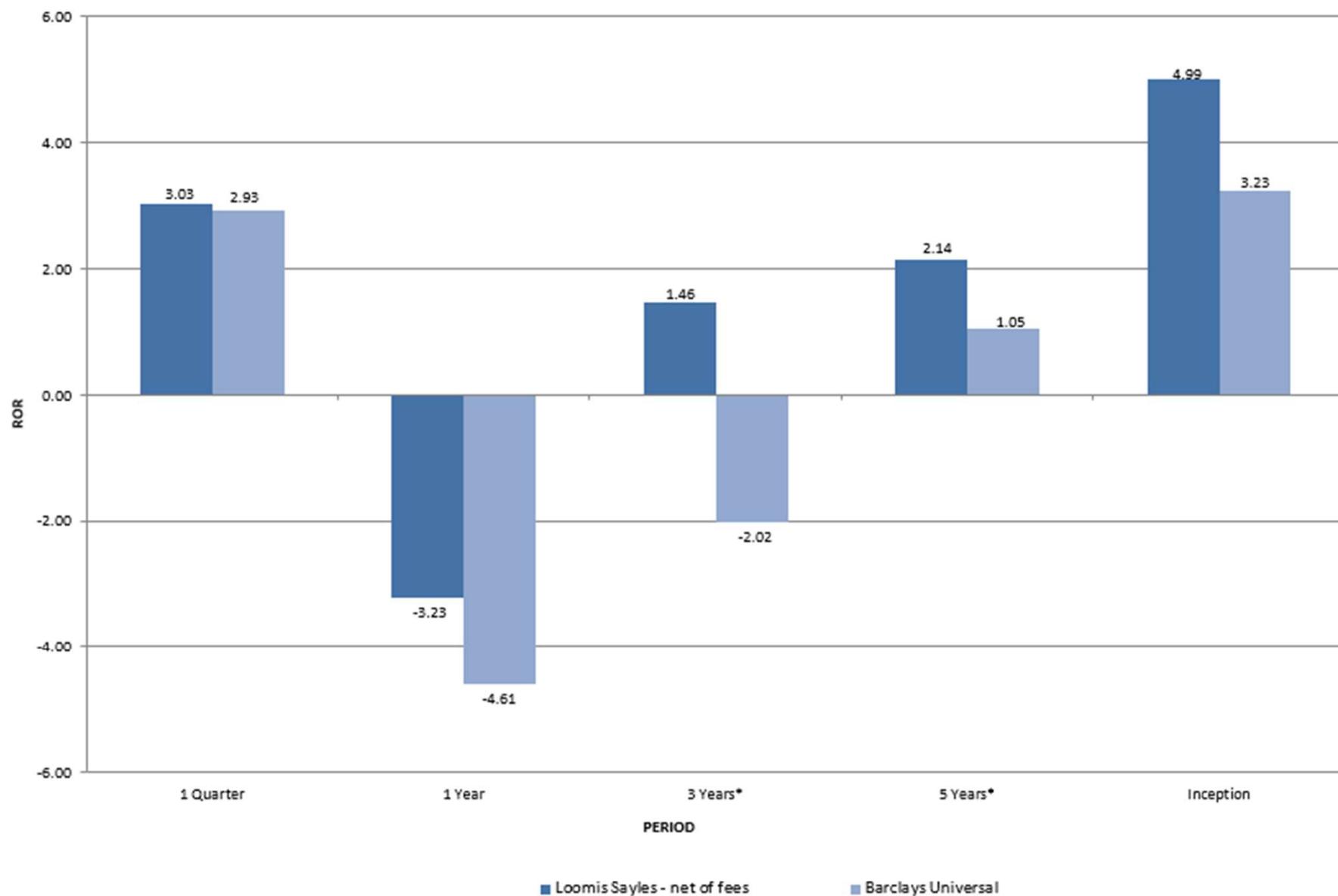
**JENNISON (net of fees) vs. RUSSELL 1000 GROWTH  
FOR THE PERIOD ENDING 3/31/23**



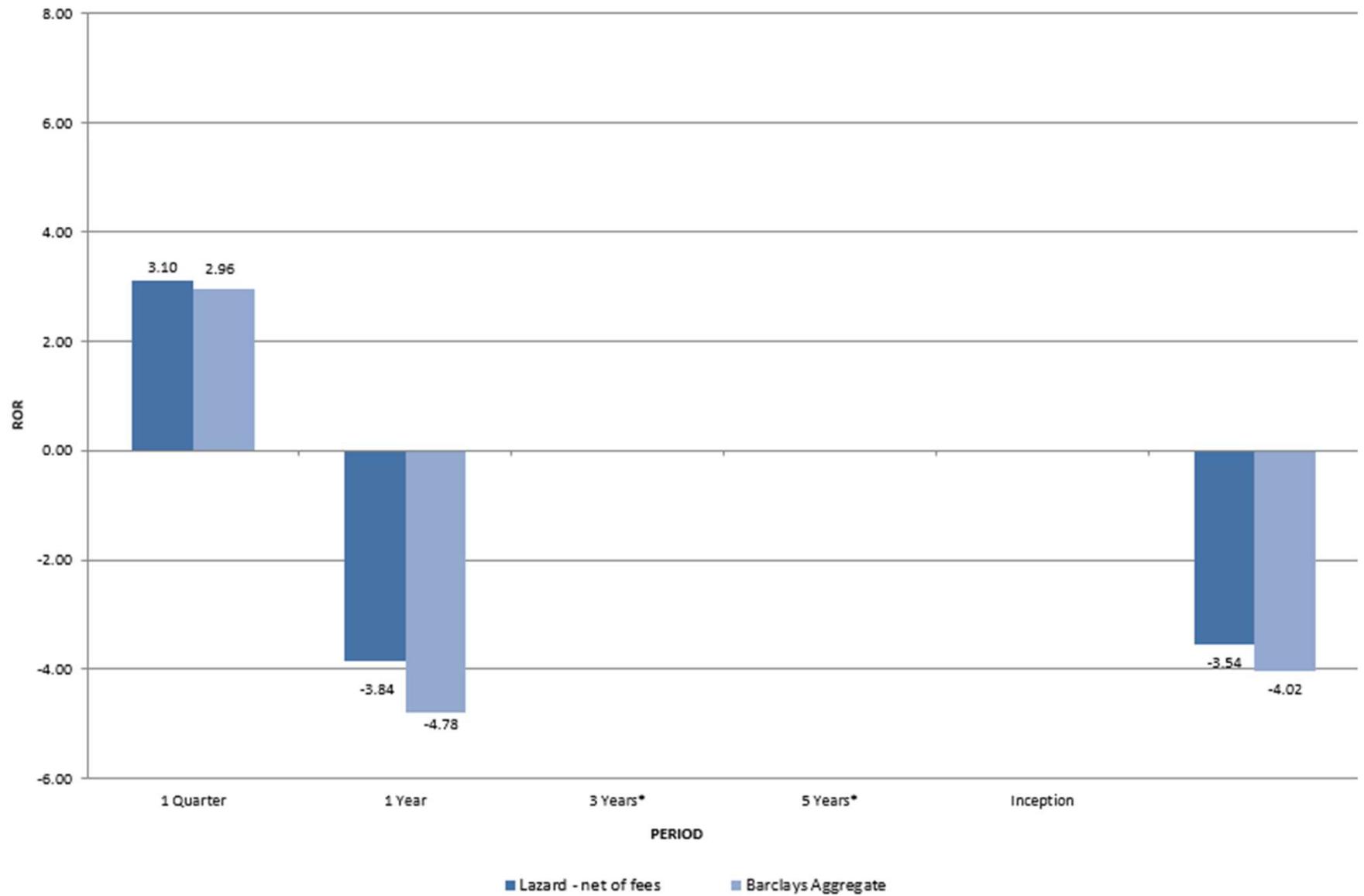
### FISHER (net of fees) vs. RUSSELL 2000 SMALL VALUE FOR THE PERIOD ENDING 3/31/23



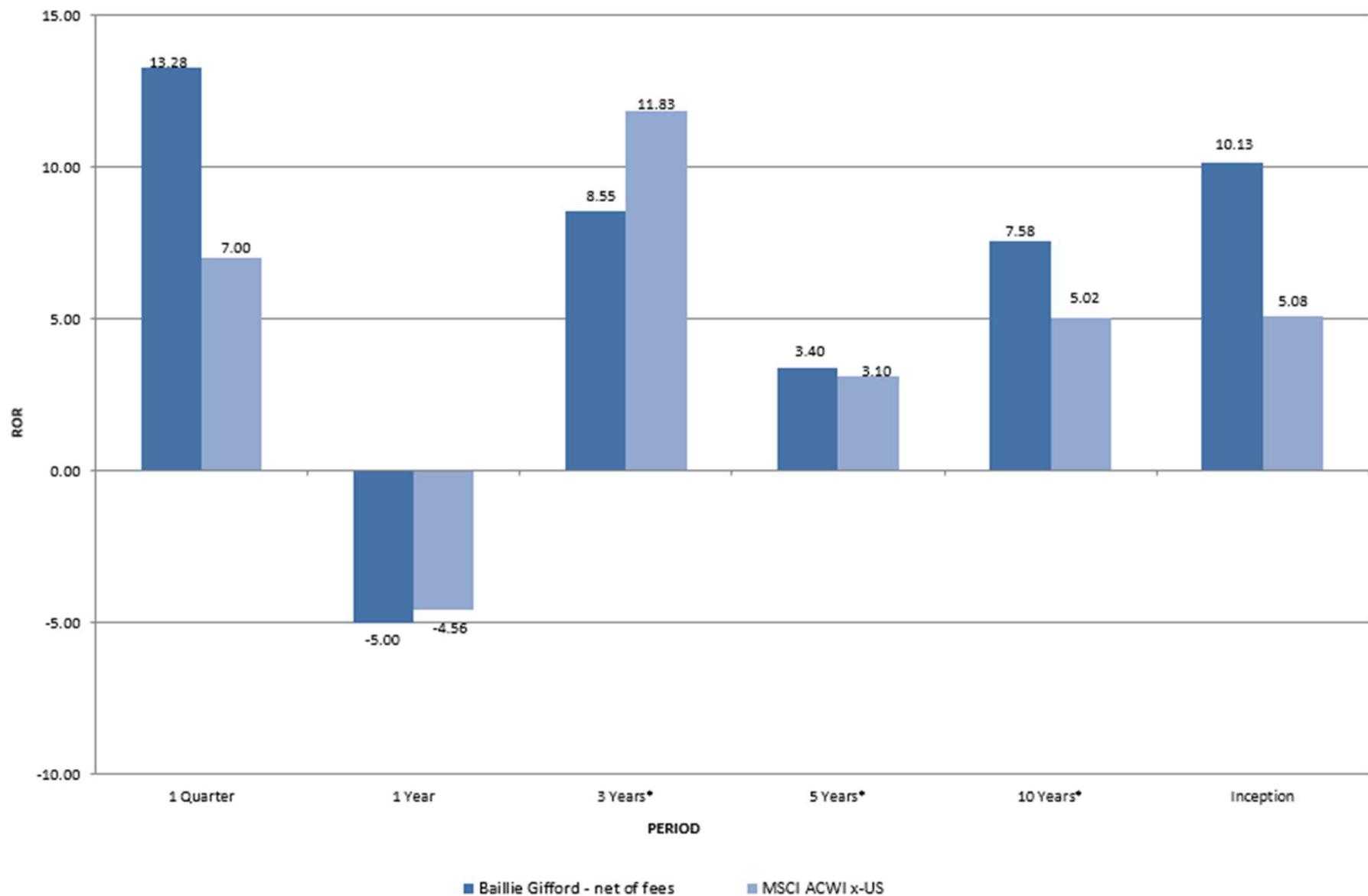
**LOOMIS SAYLES (net of fees) vs. BARCLAYS UNIVERSAL  
FOR THE PERIOD ENDING 3/31/23**



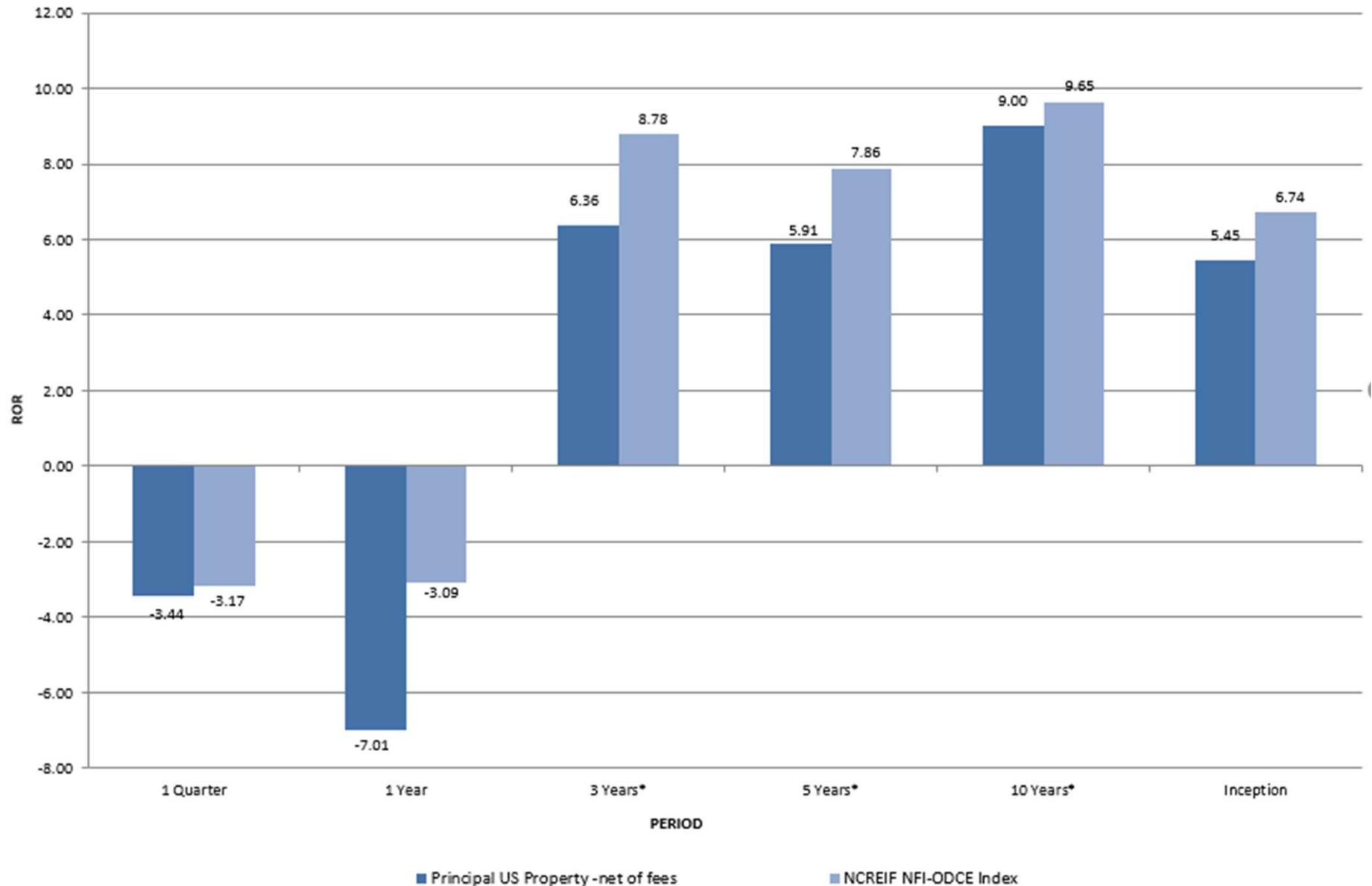
### LAZARD (net of fees) vs. BARCLAYS AGGREGATE FOR THE PERIOD ENDING 3/31/23



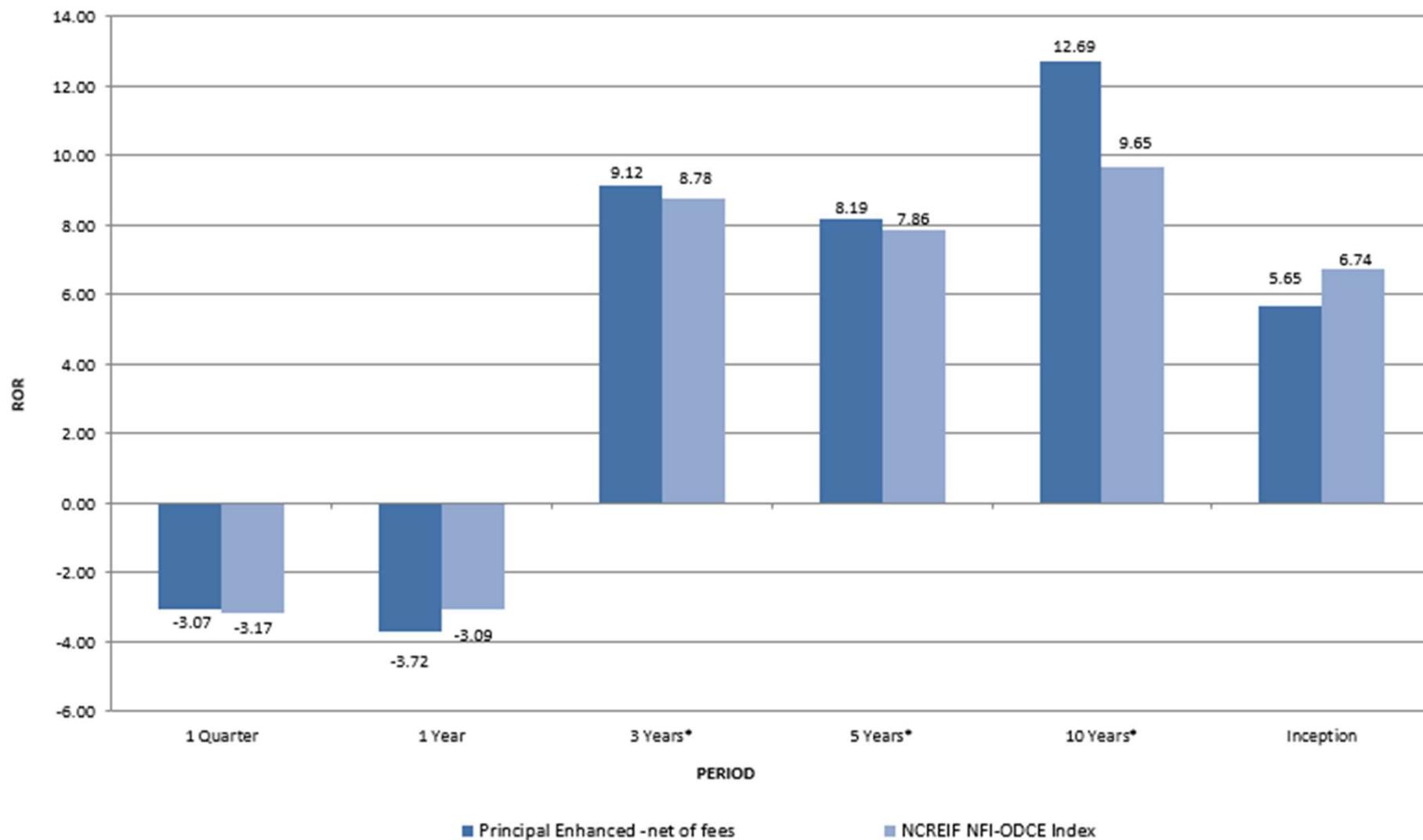
**BAILLIE GIFFORD (net of fees) vs. MSCI EAFE NET  
FOR THE PERIOD ENDING 3/31/23**



**PRINCIPAL US PROPERTY (net of fees) vs. NCREIF NFI  
FOR THE PERIOD ENDING 3/31/23**

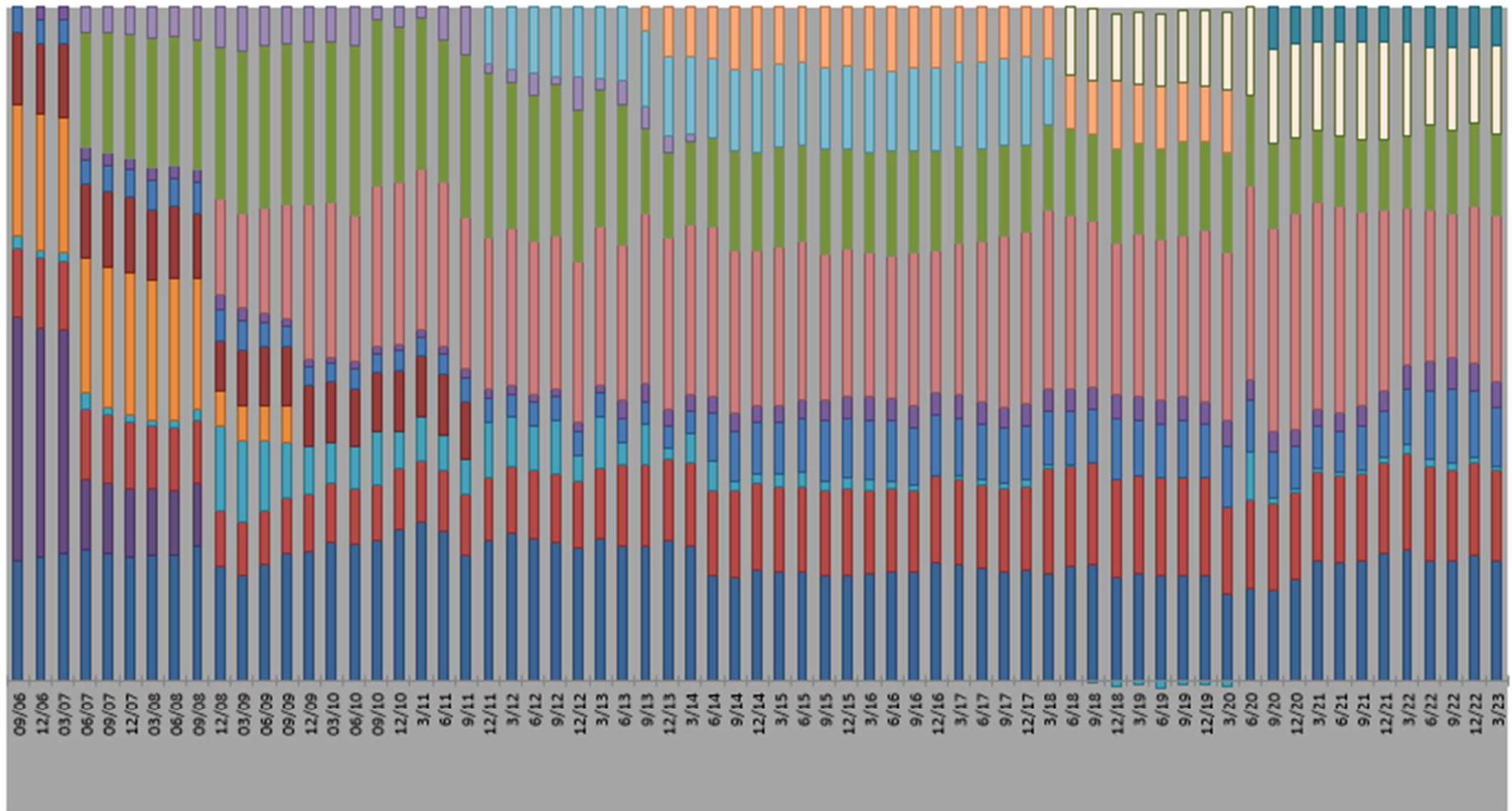


**PRINCIPAL ENHANCED (net of fees) VS. NCREIF NFI  
FOR THE PERIOD ENDING 3/31/23**



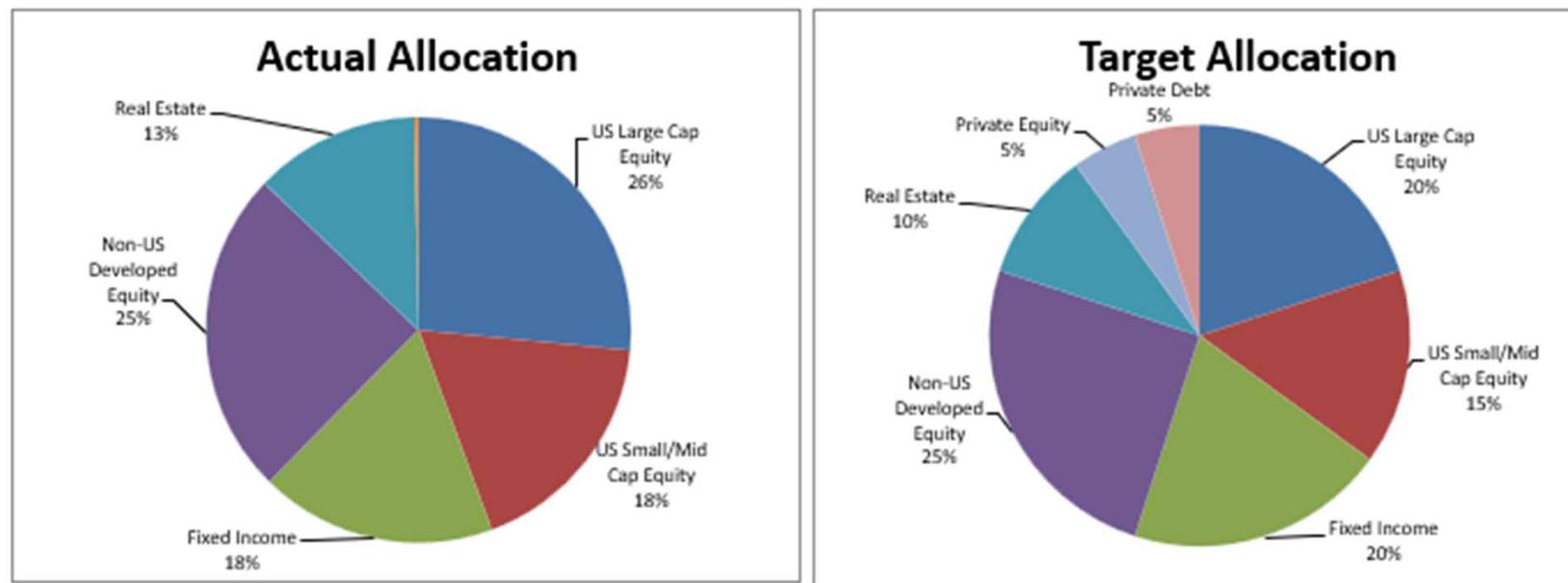
# Asset Allocation

## ASSET ALLOCATION HISTORY



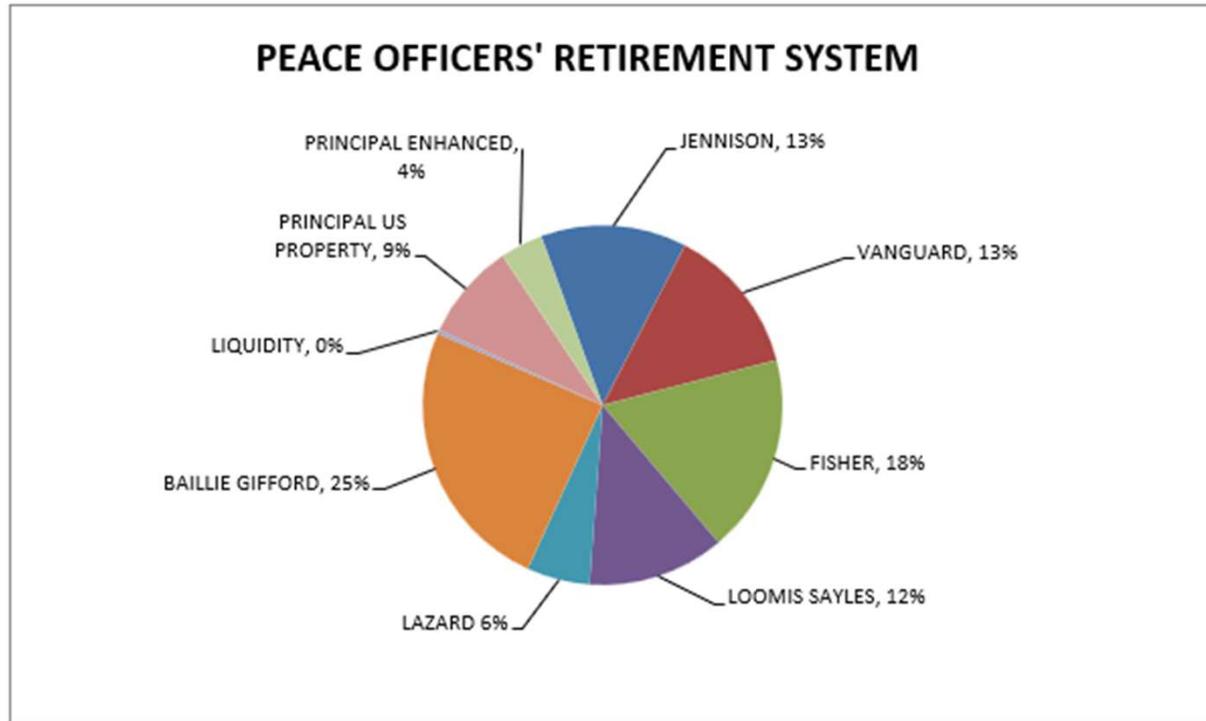
- |  |   |  |   |  |
|--|---|--|---|--|
| <span style="color: blue;">■</span> Fisher         | <span style="color: purple;">■</span> UBS Combined        | <span style="color: red;">■</span> Vanguard              | <span style="color: cyan;">■</span> Liquidity       | <span style="color: orange;">■</span> Walter Scott |
| <span style="color: brown;">■</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: teal;">■</span> Lazard         |

## ACTUAL ASSET ALLOCATION VERSUS TARGET ASSET ALLOCATION AS OF MARCH 31, 2023



Asset Class	\$ Value Actual	Percent Actual	Percent Target	Percent Range
US Large Cap Equity	173,964,580	26.52%	20.00%	15-30%
US Small/Mid Cap Equity	117,240,836	17.87%	15.00%	10-20%
Fixed Income	118,058,683	18.00%	20.00%	12.75-27%
Non-US Developed Equity	162,094,545	24.71%	25.00%	13.75-35%
Real Estate	82,589,713	12.59%	10.00%	0-13%
Cash	2,068,043	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>656,016,400</b>	<b>100%</b>	<b>100%</b>	

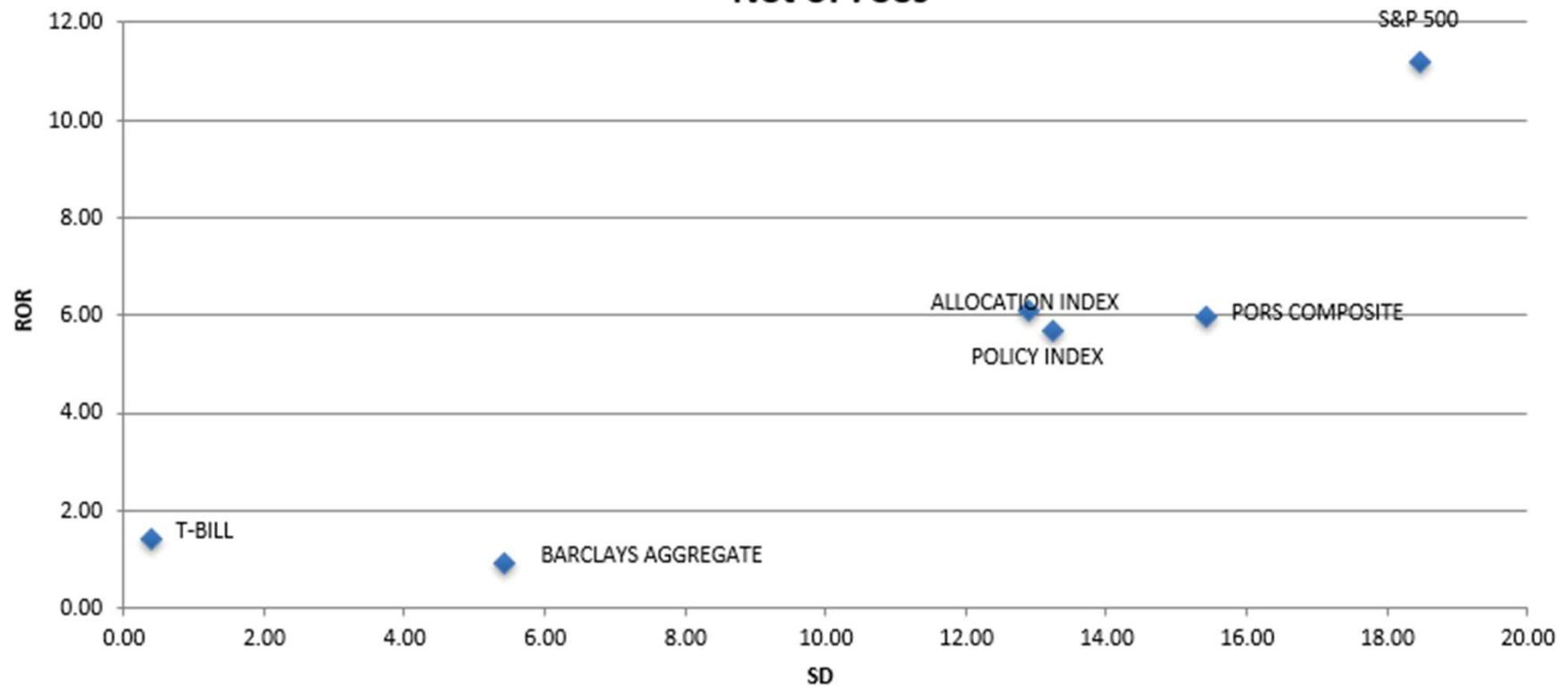
**MANAGER DISTRIBUTION  
AS OF MARCH 31, 2023**



<u>MGR NAME</u>	<u>MARKET VALUE</u>	<u>% OF TOTAL</u>
JENNISON	86,152,302.57	13.13%
VANGUARD	87,812,277.39	13.39%
FISHER	117,240,835.51	17.87%
LOOMIS SAYLES	80,773,691.04	12.31%
LAZARD	37,284,991.84	5.68%
BAILLIE GIFFORD	162,094,545.12	24.71%
LIQUIDITY	2,068,043.47	0.32%
PRINCIPAL US PROPERTY	57,564,722.16	8.77%
PRINCIPAL ENHANCED	25,024,991.11	3.81%
	<hr/>	
	656,016,400.21	100.00%

# Risk Measures

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



**Account/Index**

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

**5 Years Standard Deviation**

**5 Years Sharpe Ratio**

PEACE OFFICERS COMPOSITE

5.96

15.43

0.35

IOWA PORS POLICY INDEX

6.09

12.90

0.40

PORS ALLOCATION INDEX

5.69

13.23

0.37

S&P 500

11.19

18.48

0.56

BARCLAYS AGGREGATE

0.91

5.42

-0.05

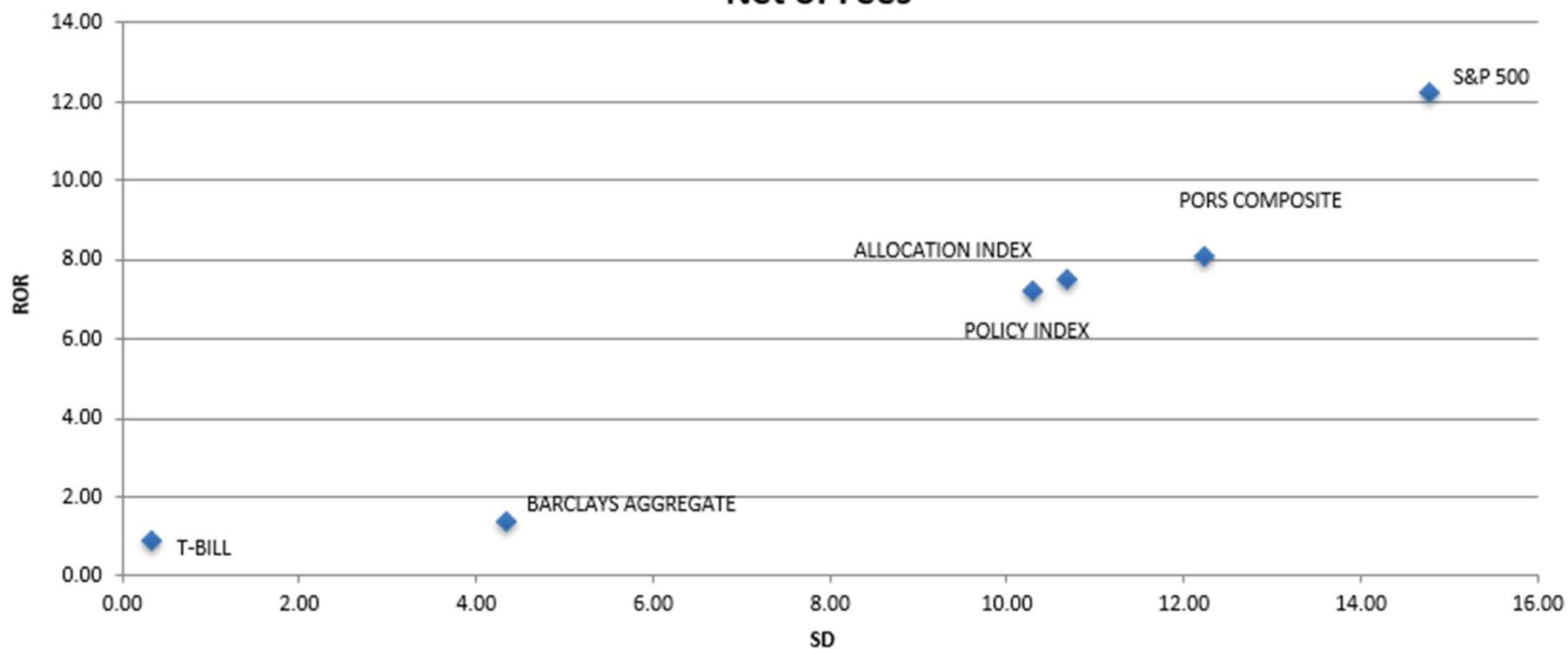
90 DAY T-BILL

1.41

0.39

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  
IOWA PORS POLICY INDEX  
PORS ALLOCATION INDEX  
S&P 500  
BARCLAYS AGGREGATE  
90 DAY T-BILL

8.10  
7.19  
7.53  
12.24  
1.36  
0.87

12.23  
10.30  
10.69  
14.79  
4.35  
0.33

0.64  
0.66  
0.67  
0.82  
0.13  
0.00

# Compliance Report

**Peace Officers' Retirement System**  
**Investment Policies and Guidelines Compliance Check**  
**Quarter Ending March 31, 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%	26.52%	Yes
US Small/Mid Cap Equity:	15%	10-20%	17.87%	Yes
Fixed Income:	20%	12.75-27%	18.00%	Yes
Non-US Developed Equity	25%	13.75-35%	24.71%	Yes
Real Estate:	10%	0-13%	12.59%	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 March 31, 2023**

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

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

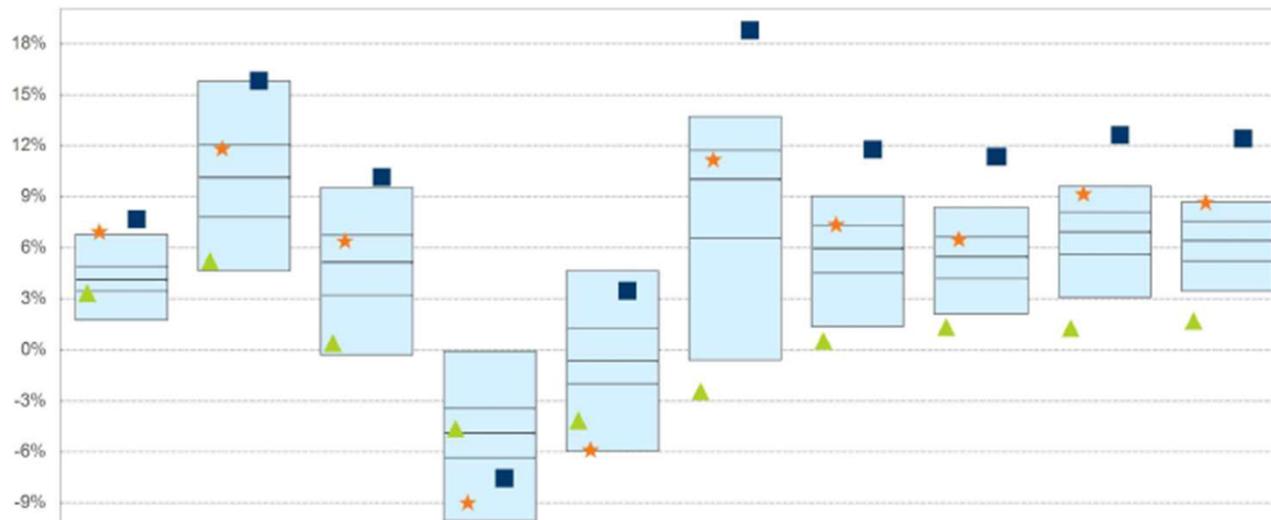
**Loomis Sayles:** No violations as of the end of the quarter.

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

# Appendix

## State of Iowa Peace Officer Retirement System Performance Comparison

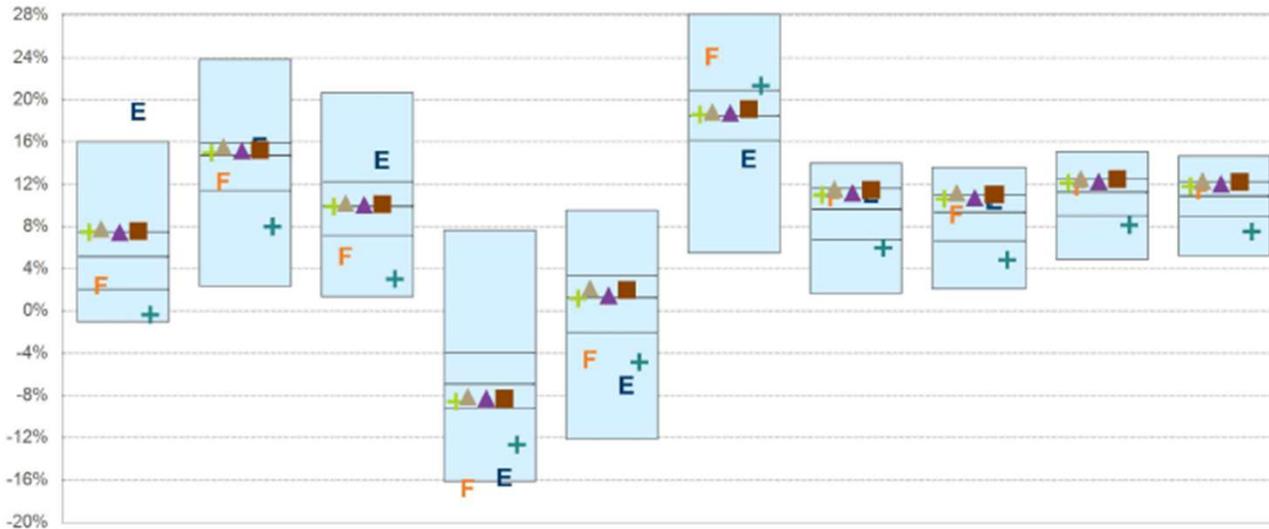
*Total Returns of Master Trusts - All Plans  
Cumulative Periods Ending : March 31, 2023*



Percentile Rankings	1 Qtr	2 Qtrs	3 Qtrs	1 Year	2 Years	3 Years	4 Years	5 Years	7 Years	10 Years
5th	6.79	15.79	9.57	-0.07	4.65	13.72	9.04	8.40	9.81	8.70
25th	4.90	12.04	6.74	-3.42	1.26	11.73	7.32	6.65	8.11	7.56
50th	4.14	10.15	5.15	-4.89	-0.66	10.05	5.96	5.47	6.93	6.42
75th	3.46	7.81	3.22	-6.35	-1.97	6.60	4.52	4.18	5.60	5.22
95th	1.76	4.65	-0.31	-10.03	-5.97	-0.60	1.37	2.11	3.09	3.45
No. Of Obs	365	351	350	339	327	327	267	261	254	250
★ Total Fund Composite	6.78 (5)	11.65 (31)	6.22 (32)	-9.16 (93)	-6.04 (95)	11.00 (36)	7.19 (26)	6.34 (31)	9.01 (9)	8.49 (10)
■ S&P 500	7.50 (2)	15.62 (5)	9.98 (4)	-7.73 (87)	3.30 (12)	18.60 (1)	11.61 (1)	11.19 (1)	12.42 (1)	12.24 (1)
▲ Bloomberg Govt/Credit	3.17 (80)	5.02 (92)	0.23 (92)	-4.81 (48)	-4.33 (90)	-2.63 (97)	0.34 (97)	1.16 (97)	1.10 (98)	1.50 (97)

## State of Iowa Peace Officer Retirement System Performance Comparison

*Total Returns of US Equity Portfolios  
Cumulative Periods Ending : March 31, 2023*



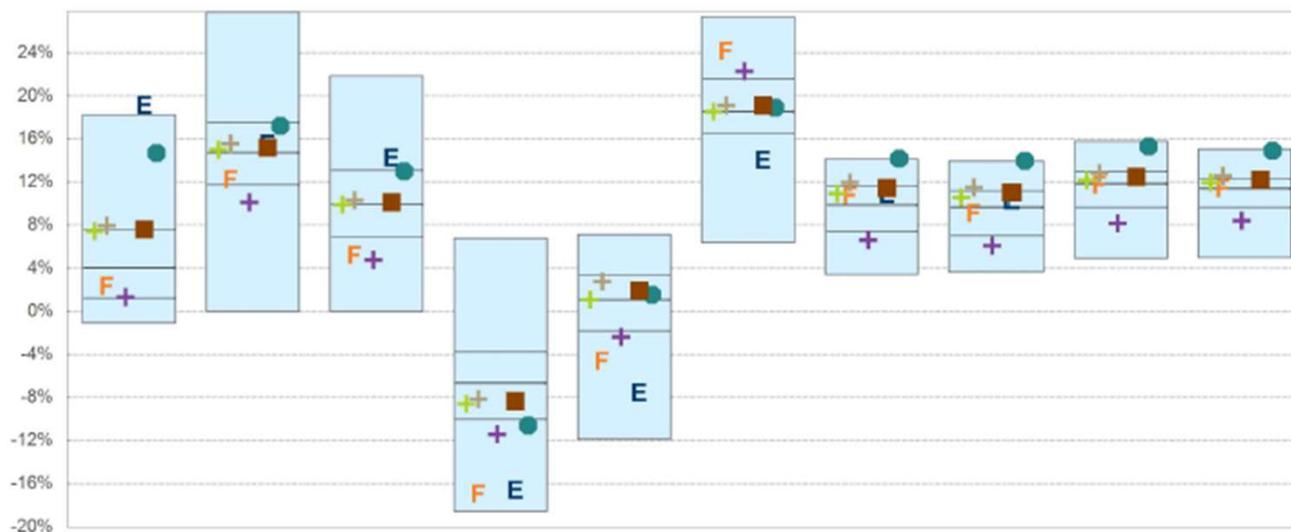
Percentile Rankings	1 Qtr	2 Qtrs	3 Qtrs	1 Year	2 Years	3 Years	4 Years	5 Years	7 Years	10 Years
5th	16.02	23.84	20.65	7.65	9.53	28.07	13.97	13.60	15.07	14.66
25th	7.50	15.92	12.24	-3.94	3.32	20.90	11.59	11.01	12.50	12.22
50th	5.17	14.72	9.91	-8.90	1.26	18.52	9.65	9.36	11.23	10.90
75th	2.05	11.40	7.16	-9.17	-2.06	16.18	6.77	6.67	9.05	8.99
95th	-0.99	2.36	1.35	-16.10	-12.11	5.52	1.66	2.08	4.87	5.23

No. Of Obs	597	595	595	578	544	529	416	406	373	315
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F Fisher Investments	2.08 (74)	11.99 (72)	4.91 (86)	-17.12 (95)	-4.87 (85)	23.76 (12)	10.45 (41)	8.83 (53)	11.46 (47)	11.10 (46)
E Jennison	18.59 (2)	15.28 (38)	14.02 (14)	-16.05 (94)	-7.33 (90)	14.10 (84)	10.77 (40)	10.19 (39)		
+ Vanguard Total Market	7.15 (40)	14.67 (50)	9.58 (58)	-8.85 (74)	0.87 (57)	18.31 (55)	10.67 (40)	10.30 (37)	11.82 (43)	11.52 (42)
+ Russell 2000 Value	-0.66 (93)	7.70 (88)	2.74 (92)	-12.96 (91)	-5.17 (86)	21.01 (23)	5.67 (83)	4.54 (89)	7.86 (86)	7.22 (89)
▲ Russell 3000	7.18 (38)	14.88 (46)	9.75 (53)	-8.58 (70)	1.15 (52)	18.47 (51)	10.87 (38)	10.45 (35)	11.98 (41)	11.73 (39)
▲ Russell 1000	7.46 (31)	15.24 (39)	9.93 (48)	-8.39 (67)	1.86 (44)	18.55 (48)	11.26 (31)	10.87 (28)	12.22 (36)	12.01 (33)
■ Wilshire 5000	7.29 (35)	14.91 (45)	9.80 (52)	-8.62 (70)	1.66 (46)	18.80 (38)	11.16 (33)	10.71 (31)	12.19 (37)	11.91 (34)

## State of Iowa Peace Officer Retirement System Performance Comparison

*Total Equity Returns of US Equity Portfolios  
Cumulative Periods Ending : March 31, 2023*

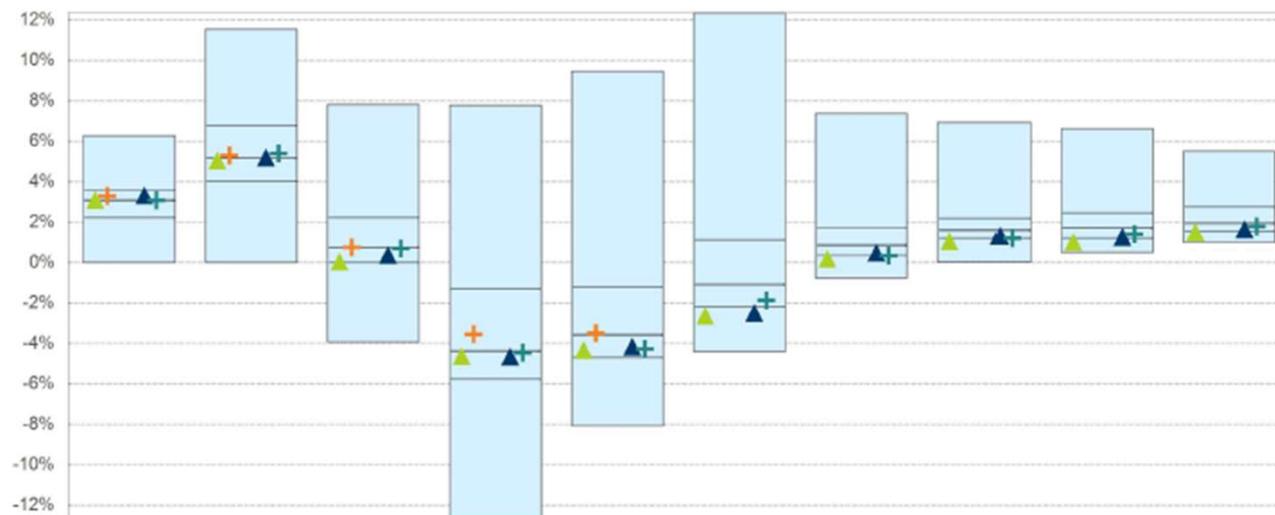


Percentile Rankings	1 Qtr	2 Qtrs	3 Qtrs	1 Year	2 Years	3 Years	4 Years	5 Years	7 Years	10 Years
5th	18.21	27.74	21.82	6.78	7.12	27.31	14.12	13.83	15.77	15.04
25th	7.60	17.49	13.07	-3.76	3.37	21.58	11.67	11.18	12.99	12.33
50th	4.06	14.73	9.93	-6.66	1.09	18.53	9.87	9.65	11.84	11.38
75th	1.22	11.74	6.94	-10.05	-1.83	16.55	7.39	7.04	9.65	9.66
95th	-1.11	0.00	0.00	-18.57	-11.87	6.42	3.44	3.66	4.90	4.97
No. Of Obs	372	365	361	353	330	321	316	309	296	204
<b>F</b> Fisher Investments	2.04 (70)	11.97 (73)	4.90 (87)	-17.24 (94)	-4.88 (86)	23.89 (10)	10.46 (45)	8.83 (56)	11.47 (51)	11.12 (55)
<b>E</b> Jennison	18.85 (3)	15.27 (42)	13.99 (20)	-16.86 (93)	-7.82 (91)	13.78 (87)	10.56 (44)	10.03 (41)		
<b>+</b> Vanguard Total Market	7.15 (36)	14.67 (50)	9.60 (56)	-8.89 (70)	0.77 (52)	18.25 (52)	10.64 (44)	10.27 (39)	11.88 (48)	11.63 (47)
<b>●</b> Russell 1000 Growth	14.37 (9)	18.88 (26)	12.67 (27)	-10.90 (78)	1.21 (47)	18.57 (47)	13.89 (8)	13.66 (7)	15.01 (10)	14.59 (7)
<b>+</b> Wil US Small-Value	1.03 (75)	9.80 (83)	4.46 (89)	-11.71 (86)	-2.66 (77)	21.97 (22)	6.30 (83)	5.81 (85)	7.83 (91)	8.12 (88)
<b>+</b> Wilshire US Large-Cap	7.64 (24)	15.23 (44)	10.02 (46)	-8.42 (88)	2.47 (38)	18.78 (40)	11.64 (25)	11.21 (22)	12.53 (31)	12.26 (27)
<b>■</b> Wilshire 5000	7.29 (35)	14.91 (48)	9.80 (53)	-8.62 (70)	1.66 (44)	18.80 (40)	11.16 (37)	10.71 (33)	12.19 (42)	11.91 (39)

## State of Iowa Peace Officer Retirement System Performance Comparison

*Total Returns of US Fixed Income Portfolios*

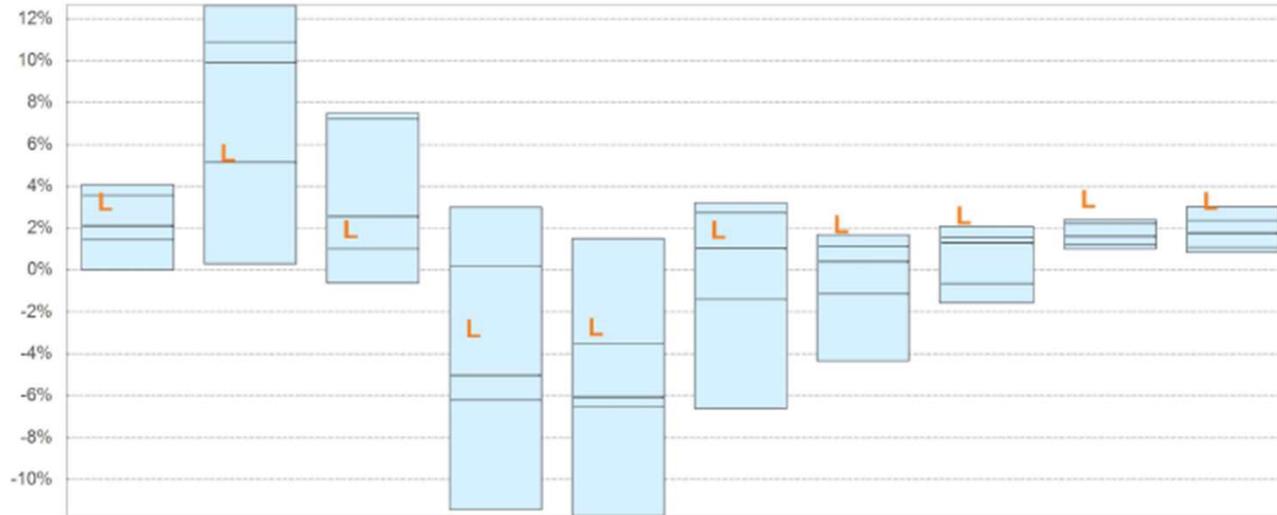
*Cumulative Periods Ending : March 31, 2023*



Percentile Rankings	1 Qtr	2 Qtrs	3 Qtrs	1 Year	2 Years	3 Years	4 Years	5 Years	7 Years	10 Years	
5th	6.26	11.55	7.81	7.77	9.47	12.32	7.38	6.92	6.61	5.52	
25th	3.59	6.77	2.22	-1.28	-1.21	1.14	1.74	2.19	2.46	2.75	
50th	3.09	5.15	0.77	-4.38	-3.55	-1.07	0.88	1.59	1.70	1.95	
75th	2.21	4.03	0.00	-5.74	-4.80	-2.17	0.35	1.22	1.22	1.55	
95th	0.00	0.00	-3.92	-12.77	-8.08	-4.39	-0.76	0.02	0.52	1.00	
No. Of Obs	568	559	552	517	482	467	332	306	265	212	
+	Lazard	3.14 (48)	5.14 (50)	0.59 (53)	-3.69 (43)	-3.63 (51)	-2.63 (80)	0.34 (75)	1.16 (79)	1.10 (84)	1.50 (78)
▲	Bloomberg Govt/Credit	3.17 (43)	5.02 (53)	0.23 (85)	-4.81 (61)	-4.33 (62)	-2.77 (84)	0.90 (88)	0.88 (89)	0.88 (89)	1.36 (86)
▲	Bloomberg Aggregate	2.96 (55)	4.89 (60)	-0.09 (79)	-4.78 (60)	-4.47 (69)	-2.02 (73)	1.05 (83)	1.24 (74)	1.62 (71)	
+	Barclays US Univ Indx	2.93 (56)	5.24 (47)	0.55 (54)	-4.61 (53)	-4.42 (67)	-2.02 (73)	0.20 (83)	1.05 (83)	1.24 (74)	1.62 (71)

## State of Iowa Peace Officer Retirement System Performance Comparison

*Total Returns of Non-US Fixed Income Portfolios  
Cumulative Periods Ending : March 31, 2023*



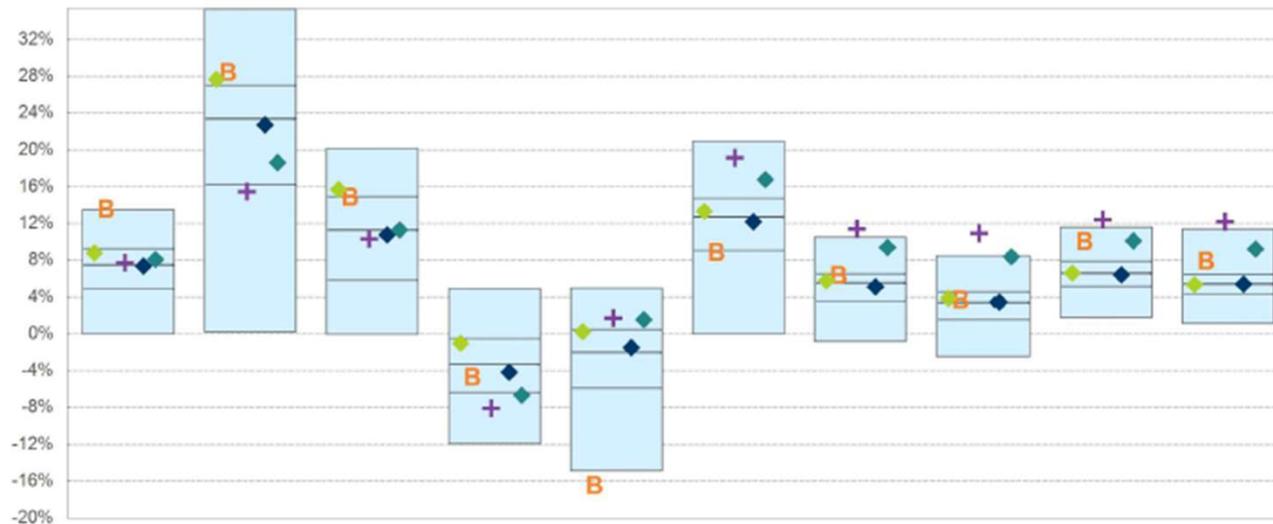
Percentile Rankings	1 Qtr	2 Qtrs	3 Qtrs	1 Year	2 Years	3 Years	4 Years	5 Years	7 Years	10 Years
5th	4.07	12.62	7.48	2.99	1.50	3.21	1.70	2.09	2.41	3.02
25th	3.50	10.88	7.23	0.20	-3.49	2.73	1.15	1.57	2.22	2.37
50th	2.11	9.93	2.56	-5.01	-6.08	1.03	0.41	1.30	1.60	1.76
75th	1.46	5.16	1.01	-8.21	-6.52	-1.41	-1.14	-0.84	1.21	1.09
95th	0.00	0.30	-0.81	-11.45	-11.73	-6.62	-4.34	-1.57	1.02	0.85

No. Of Obs	34	28	28	26	20	20	17	16	14	13
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Loomis Sayles	3.11 (37)	5.43 (67)	1.79 (53)	-2.95 (37)	-2.87 (18)	1.76 (40)	2.02 (1)	2.44 (1)	3.24 (1)	3.12 (1)
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## State of Iowa Peace Officer Retirement System Performance Comparison

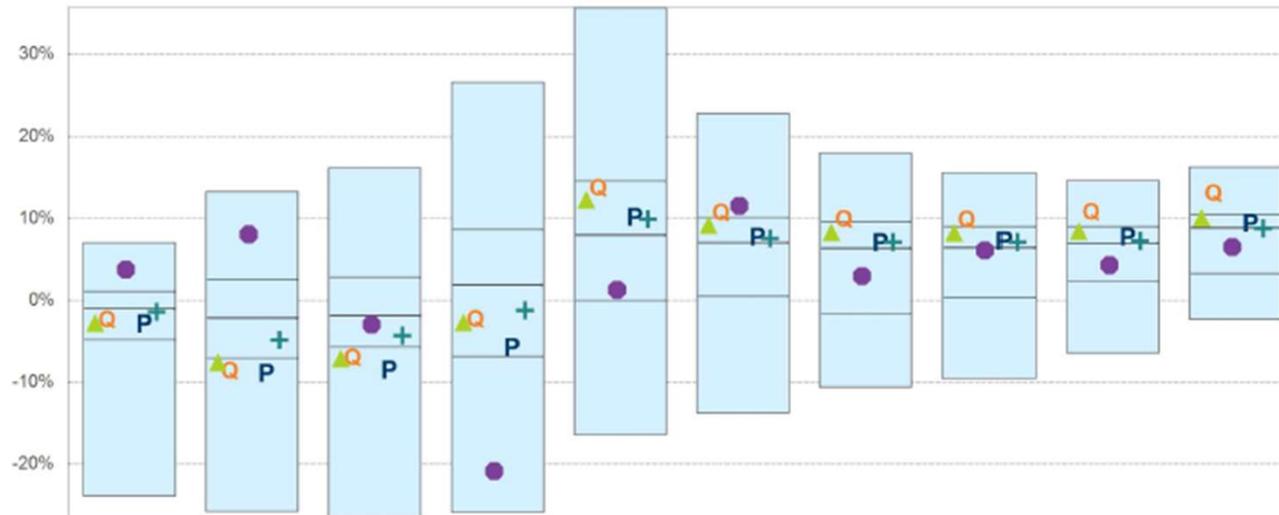
*Total Returns of Non-US Equity Portfolios - All  
Cumulative Periods Ending : March 31, 2023*



Percentile Rankings	1 Qtr	2 Qtrs	3 Qtrs	1 Year	2 Years	3 Years	4 Years	5 Years	7 Years	10 Years
5th	13.49	35.27	20.18	-4.93	4.99	20.98	10.51	8.52	11.57	11.41
25th	9.25	28.99	14.91	-0.47	0.46	14.75	6.54	4.55	7.88	6.48
50th	7.48	23.39	11.27	-3.33	-2.02	12.72	5.51	3.38	6.62	5.38
75th	4.84	16.24	5.83	-6.36	-5.92	9.08	3.55	1.52	5.19	4.34
95th	0.00	0.21	-0.08	-11.96	-14.90	0.00	-0.82	-2.44	1.80	1.15
No. Of Obs	362	358	357	339	306	292	204	192	171	145
<b>B</b> Baillie Gifford	13.28 (5)	28.11 (15)	14.55 (26)	-5.00 (63)	-16.78 (96)	8.55 (81)	6.05 (34)	3.40 (49)	9.73 (10)	7.58 (13)
<b>◆</b> MSCI ACWI x-US	7.00 (54)	22.38 (58)	10.38 (55)	-4.56 (59)	-1.84 (48)	11.83 (63)	4.75 (59)	3.10 (54)	6.05 (65)	5.03 (64)
<b>◆</b> MSCI EAFE (Net)	8.46 (33)	27.27 (22)	15.36 (20)	-1.38 (36)	-0.12 (35)	12.98 (46)	5.42 (50)	3.52 (47)	6.21 (58)	5.00 (64)
<b>◆</b> MSCI World (Net)	7.73 (47)	18.25 (71)	10.93 (51)	-7.02 (78)	1.18 (20)	16.40 (17)	9.03 (7)	8.01 (7)	9.73 (10)	8.85 (9)
<b>+</b> MSCI Broad Market Inde	7.35 (51)	15.09 (79)	9.96 (62)	-8.48 (84)	1.36 (17)	18.78 (9)	11.03 (4)	10.57 (2)	12.09 (4)	11.83 (2)

## State of Iowa Peace Officer Retirement System Performance Comparison

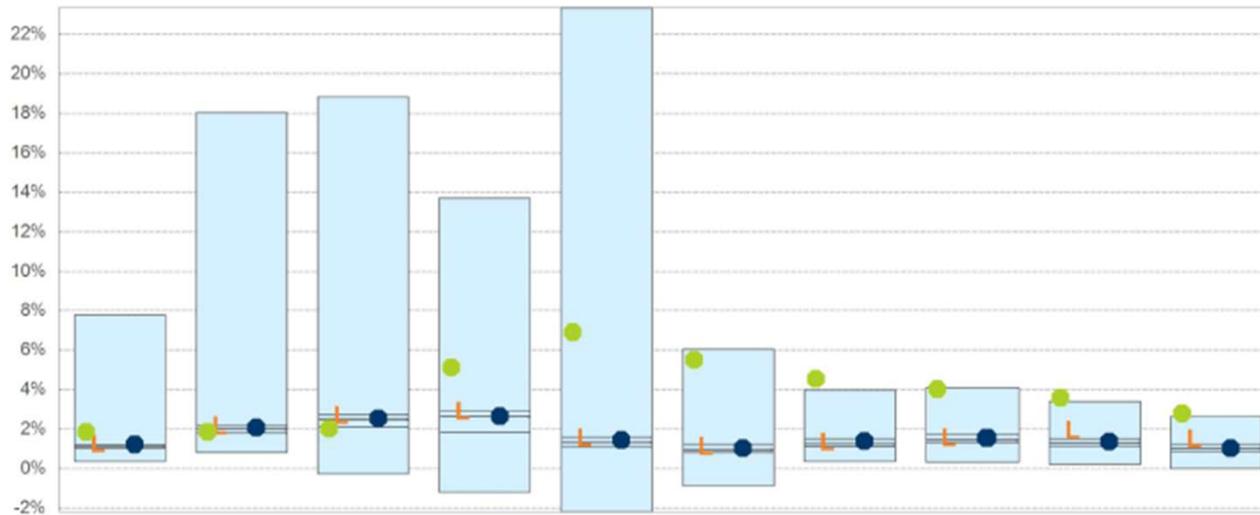
*Total Returns of US Real Estate Portfolios  
Cumulative Periods Ending : March 31, 2023*



Percentile Rankings	1 Qtr	2 Qtrs	3 Qtrs	1 Year	2 Years	3 Years	4 Years	5 Years	7 Years	10 Years
5th	7.03	13.24	16.12	26.64	35.66	22.80	17.95	15.55	14.62	16.25
25th	1.07	2.52	2.79	8.62	14.51	10.10	9.57	8.95	9.00	10.45
50th	-1.05	-2.17	-1.91	1.90	8.00	7.00	6.37	6.43	6.94	8.87
75th	-4.81	-7.05	-5.74	-8.84	0.02	0.46	-1.81	0.35	2.25	3.29
95th	-23.88	-25.73	-26.63	-25.91	-16.41	-13.75	-10.63	-9.55	-6.47	-2.27
No. Of Obs	109	122	125	125	119	115	79	73	70	58
Q Principal Enhanced	-2.78 (58)	-8.97 (80)	-7.42 (76)	-2.88 (65)	13.35 (31)	10.34 (23)	9.54 (25)	9.43 (18)	10.40 (13)	12.69 (11)
P Principal US Property	-3.20 (64)	-9.24 (81)	-8.86 (77)	-6.12 (73)	9.81 (44)	7.37 (49)	6.69 (43)	6.92 (41)	7.39 (38)	9.01 (48)
▲ NCREIF NFI-ODCE	-3.17 (63)	-7.98 (78)	-7.50 (76)	-3.09 (66)	11.83 (35)	8.78 (36)	7.90 (41)	7.86 (36)	8.01 (36)	9.65 (39)
+ NCREIF Property Index	-1.81 (55)	-5.25 (71)	-4.71 (71)	-1.63 (62)	9.50 (46)	7.16 (49)	6.68 (45)	6.71 (45)	6.85 (50)	8.34 (57)
● Wilshire RESI	3.37 (13)	7.60 (14)	-3.38 (61)	-21.25 (90)	0.83 (72)	11.10 (20)	2.51 (63)	5.67 (56)	3.90 (67)	6.08 (62)

## State of Iowa Peace Officer Retirement System Performance Comparison

*Total Returns of US Cash/Short Term Portfolios  
Cumulative Periods Ending : March 31, 2023*



Percentile Rankings	1 Qtr	2 Qtrs	3 Qtrs	1 Year	2 Years	3 Years	4 Years	5 Years	7 Years	10 Years
5th	7.79	18.03	18.84	13.70	23.33	6.03	3.98	4.10	3.39	2.63
25th	1.20	2.19	2.73	2.92	1.59	1.24	1.51	1.74	1.52	1.24
50th	1.10	2.00	2.49	2.63	1.34	0.95	1.27	1.46	1.32	1.05
75th	1.05	1.81	2.12	1.84	1.11	0.82	1.13	1.31	1.15	0.87
95th	0.36	0.82	-0.28	-1.17	-2.17	-0.89	0.35	0.34	0.22	0.01
No. Of Obs	195	196	196	196	186	180	118	105	94	88
Liquidity	1.12 (41)	2.03 (41)	2.54 (41)	2.78 (31)	1.42 (39)	0.98 (45)	1.20 (63)	1.42 (58)	1.80 (14)	1.37 (17)
91-Day Treasury Bill	1.07 (71)	1.93 (58)	2.40 (56)	2.50 (65)	1.28 (61)	0.89 (70)	1.23 (59)	1.41 (61)	1.21 (68)	0.87 (75)
Consumer Price Index	1.70 (13)	1.69 (81)	1.88 (76)	4.98 (9)	6.75 (6)	5.35 (5)	4.39 (3)	3.88 (5)	3.44 (4)	2.62 (5)