

Peace Officers' Retirement, Accident and Disability System

Quarterly Performance Report

December 31, 2022

Executive Summary

IOWA PEACE OFFICERS' RETIREMENT FUND
Executive Summary For Quarter Ending December 31, 2022

The following table gives total time weighted returns and percentile rankings (in parenthesis) for periods ending December 31, 2022. 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 | Since <u>Inception</u> |
|---|---------------------|-----------------------|--------------------|----------------------|----------------------|-----------------------|---------------------------|
| <u>TOTAL FUND</u> | | | | | | | |
| PORS - Before Fees | 615,418,299.76 | 4.56 (64) | -22.73 (96) | 3.76 (39) | 5.34 (33) | 8.44 (15) | 8.71 (7/31/88) |
| PORS - After Fees | 615,418,299.76 | 4.46 | -23.03 | 3.40 | 4.97 | 8.05 | 8.31 (7/31/88) |
| Consumer Price Index | | 0.83 | 6.45 | 4.95 | 3.83 | 2.60 | 3.53 (7/31/88) |
| Consumer Price Index + 4% | | 1.83 | 10.45 | 8.95 | 7.83 | 6.60 | 7.53 (7/31/88) |
| POR POLICY INDEX | | 6.40 | -13.95 | 3.87 | 4.96 | 7.30 | 8.10 (7/31/88) |
| Allocation Index | | 5.48 | -14.90 | 3.61 | 4.69 | 7.69 | 8.46 (7/31/88) |
| <u>LARGE CAPITALIZATION EQUITIES</u> | | | | | | | |
| Jennison - gross of fees | 72,648,259.34 | -2.79 (98) | -39.00 (96) | 3.73 (76) | | | 6.85 (4/01/18) |
| Jennison - net of fees | | -2.91 | -39.28 | 3.29 | | | 6.38 (4/01/18) |
| Russell 1000 Growth Index | | 2.20 (87) | -29.14 (89) | 7.79 (27) | | | 11.24 (10/01/11) |
| Vanguard Total Market - gross of fees | 84,360,485.30 | 7.02 (62) | -19.54 (70) | 6.90 (46) | 8.64 (42) | | 11.91 (12/31/12) |
| Vanguard Total Market - net of fees | | 7.02 | -19.54 | 6.90 | 8.64 | | 11.91 (12/31/12) |
| Russell 3000 Index | | 7.18 (61) | -19.21 (69) | 7.07 (44) | 8.79 (41) | | 12.13 (12/31/12) |
| <u>SMALL CAPITALIZATION EQUITIES</u> | | | | | | | |
| Fisher - gross of fees | 114,853,355.06 | 9.71 (39) | -21.05 (73) | 9.88 (13) | 8.16 (47) | 12.31 (35) | 12.46 (11/30/89) |
| Fisher - net of fees | | 9.50 | -21.71 | 9.04 | 7.32 | 11.43 | 11.49 (11/30/89) |
| Russell 2000 Value | | 8.42 (47) | -14.48 (47) | 4.70 (69) | 4.13 (87) | 8.48 (85) | 9.85 (11/30/89) |
| <u>FIXED INCOME</u> | | | | | | | |
| Loomis Sayles - gross of fees | 78,338,741.46 | 2.25 (56) | -10.28 (31) | -0.16 (15) | 1.69 (01) | 2.98 (01) | 5.21 (3/31/07) |
| Loomis Sayles - net of fees | | 2.17 | -10.54 | -0.45 | 1.39 | 2.98 | 4.87 (3/31/07) |
| Barclays Universal | | 2.24 | -12.99 | -2.54 | 0.18 | 1.33 | 3.09 (3/31/07) |
| Lazard - gross of fees | 36,150,025.57 | 1.94 (48) | -11.97 (56) | | | | -4.91 (7/01/20) |
| Lazard - net of fees | | 1.90 | -12.10 | | | | -5.06 (7/01/20) |
| Barclays Aggregate | | 1.87 (52) | -13.01 (65) | | | | -0.23 (7/01/20) |

INTERNATIONAL EQUITIES

| | | | | | | | |
|--|----------------|------------|-------------|------------|-----------|-----------|----------------|
| Baillie Gifford - <i>gross of fees</i> | 143,096,669.66 | 13.09 (59) | -34.36 (96) | -0.98 (75) | 2.00 (43) | 6.65 (18) | 9.37 (9/30/08) |
| Baillie Gifford - <i>net of fees</i> | | 13.09 | -34.36 | -0.98 | 2.00 | 6.65 | 9.35 (9/30/08) |
| MSCI ACWI x-US | | 14.37 | -15.57 | 0.33 | 1.43 | 4.85 | 4.68 (1/31/03) |

LIQUIDITY

| | | | | | | | |
|------------------------------------|------------|------|------|------|------|------|-----------------|
| Cash | 682,855.00 | 0.90 | 1.65 | 0.71 | 2.00 | 1.25 | 6.26 (11/30/89) |
| Merrill Lynch 90 Day Treasury Bill | | 0.85 | 1.47 | 0.73 | 1.27 | 0.77 | 2.74 (11/30/89) |

REITS EQUITY

| | | | | | | | |
|--|---------------|------------|-----------|------------|------------|------------|-----------------|
| Principal US Property - <i>gross of fees</i> | 59,470,227.82 | -6.24 (92) | 4.07 (63) | 8.68 (44) | 8.02 (45) | 9.67 (47) | 6.26 (6/30/06) |
| Principal US Property - <i>net of fees</i> | | -6.47 | 3.09 | 7.66 | 7.01 | 9.67 | 5.76 (6/30/06) |
| NCREIF NFI-ODCE Index | | -4.97 | 7.47 | 10.29 | 9.03 | 10.28 | 7.05 (6/30/06) |
| Principal Enhanced - <i>gross of fees</i> | 25,817,680.55 | -6.37 (92) | 7.58 (53) | 12.24 (23) | 10.77 (18) | 13.49 (16) | 7.24 (11/30/06) |
| Principal Enhanced - <i>net of fees</i> | | -6.62 | 6.47 | 11.00 | 9.52 | 13.49 | 5.95 (11/30/06) |
| NCREIF NFI-ODCE Index | | -4.97 | 7.47 | 10.29 | 9.03 | 10.28 | 7.05 (11/30/06) |

EXECUTIVE SUMMARY (Page 1 of 3)

Total Fund Performance

The market value of the PORS Fund on December 31, 2022, was \$615,418,299.76, an increase of \$23,919,653, from the Fund market value on September 30, 2022. For a year over year comparison, the fund has experienced a decrease of \$194,602,251 since December 31, 2021. The rate of return for the PORS Fund was 4.56% (before fees) for the quarter. The Fund's quarter performance was below the Policy Index return of 6.40% and below the Allocation Index return of 5.48%. 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 64th percentile. The Fund's annual return of -22.73% before fees for the one-year period ranked 96th in the TUCS universe. For the three-year period, the Fund experienced a return of 3.76%. Over the five-year period ending December 31, 2022, the PORS Fund has earned an annualized rate of return of 5.34% before fees and ranked in the 33rd percentile in the TUCS universe of all master trusts. Over the ten-year period ending December 31, 2022, the PORS Fund has earned an annualized return of 8.44% 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 0.32 for the five-year period was below the Sharpe Ratio of the Policy Index of 0.35 and below the Allocation Index of 0.33. Over the ten-year period, the Fund's Sharpe Ratio of 0.66 is below the Sharpe Ratio for the Policy Index of 0.68 and was below the Allocation Index of 0.70.

Manager Performance

Jennison – Jennison had a quarterly return of -2.79% for the quarter, ranking 98th in the TUCS universe. Their benchmark, the Russell 1000 Growth Index had a quarterly return of 2.20%. For the year, Jennison returned -39.00% compared to the benchmark of -29.14%. Over 3 years, Jennison has returned 3.73% annually compared to 7.79% for the Russell 1000 Growth Index.

Vanguard Total Stock Market – For the quarter, Vanguard returned 7.02%. Over the past year, Vanguard has returned -19.54%. For the three-year period, Vanguard has an annualized return of 6.90%. Over five years, Vanguard has returned an annualized return of 8.64%. 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 9.71% (before fees) for the quarter, ranking 39th in the universe of U.S. equity portfolios reporting to TUCS. Fisher's benchmark, the Russell 2000 Value returned 8.42% for the quarter and ranked 47th in the TUCS universe. Fisher's annual return was -21.05% (before fees) and ranked 73rd in the TUCS universe. The benchmark had an annual return of -14.48% (47th percentile). Fisher's ten-year annualized return of 12.31% before fees is above the 8.48% return of the benchmark.

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Manager Performance (continued)

Loomis Sayles – Fixed income manager Loomis Sayles had a quarterly return of 2.25% and ranked 56th in the TUCS universe. Its benchmark, the Barclays Universal, had a quarterly return of 2.24%. For the year, Loomis Sayles had an annual return of -10.28% while the Barclays Universal returned -12.99%. Over the three-year period ending December 31, 2022, Loomis Sayles returned an annualized return of -0.16%. For the ten-year period, Loomis Sayles has an annualized return of 2.98% compared to the benchmark return of 1.33%.

Lazard – Lazard had a quarterly return of 1.94% compared to the benchmark of 1.87%. Lazard had an annual return of -11.97% and ranked 56th in the TUCS Universe compared to the benchmark return of -13.01%, which ranked 65th.

Baillie Gifford International Equities – Baillie Gifford had a quarterly return of 13.09%, ranking it 59th in the TUCS Universe. Their benchmark, the MSCI ACWI-ex US had a quarterly return of 14.37%. On an annual basis, Baillie Gifford returned -34.36% for a 96th ranking in the TUCS universe while the benchmark returned -15.57%. For the ten-year period, Baillie Gifford has earned an annualized return of 6.65%, ranking in the 18th percentile, while the benchmark had a return of 4.85%.

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 -6.24% while the NCREIF NFI-ODCE returned -4.97% for the quarter. Principal Core Real Estate Fund returned 4.07% for the year ending December 31, 2022, while the NCREIF NFI-ODCE had a return of 7.47%. For the ten-year period, the Fund had an annualized return of 9.67%. The Principal Enhanced Real Estate Fund had a quarterly return of -6.37%, which ranked in the 92nd percentile, while the annual return was 7.58%. The annualized return for the ten-year period was 13.49%.

EXECUTIVE SUMMARY (Page 3 of 3)

Asset Allocation

The Fund's asset allocation on December 31, 2022, was as follows: 18.60% in fixed income bonds, 25.51% was invested in US large cap equity, 23.25% was invested in non-US developed equity, 18.66% was invested in US small/mid cap equity, and 13.86% was invested in real estate. Cash was 0.11% of the portfolio. Real estate was above target due to the market sell-off in equities.

Compliance Issues

Total Fund - The Fund has earned an annualized rate of return of 5.34% (before fees) and 4.97% (after fees) for the five-year period ending December 31, 2022. This performance was above the Investment Policy return objective to earn at least a 4.96% return, and was below the CPI Index (a proxy for inflation rate) plus 4%. For the five years ending December 31, 2022, the inflation rate plus 4% was 7.83%. 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 4.69% 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 0.32 for the five-year period ending December 31, 2022, which was less than the Sharpe Ratio for the Allocation Index of 0.33.

Market Summary

Wilshire Trust Universe Comparison Service

The Market Environment

December 31, 2022

The Federal Reserve's aggressive action to combat unacceptably high inflation is the story of 2022 with uncertainty around Fed policy poised to drive market volatility in 2023. The FOMC raised rates 4.25%, with increases becoming more dramatic in May. This marks the largest 12-month increase since 1981 (also a period of inflation near or above double-digits). Unsurprisingly, fixed income suffered but so did equities as investors repriced off a higher risk-free rate. The Fed is currently forecasting a rate 0.75% higher by the end of 2023. The open market does not agree – or perhaps doubts their credibility to continue tightening, with a modest change forecasted for the next year. How this disagreement plays out is likely to be a primary market driver this year.

The Treasury curve rose for maturities two years and lower during the fourth quarter but was mostly unchanged further out on the curve. The 10-year Treasury closed at 3.88%, up 5 basis points. The 10-year real yield (i.e., net of inflation) fell 10 basis points to 1.58%. The Federal Open Market Committee increased their overnight rate by a total of 1.25%, targeting a range of 4.25% to 4.50%. 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 0.9% for the three months ending November. For the one-year period, the CPI was up 7.1%. The 10-year break-even inflation rate increased to 2.30% in December versus 2.15% in September.

The U.S. stock market, represented by the FT Wilshire 5000 IndexSM, was up 7.10% for the fourth quarter but was down -19.04% for all of 2022. A majority of sectors were up for the quarter. The best performing were Energy (+19.9%), Industrials (+16.6%) and Materials (+14.6%). The two sectors producing losses were Consumer Discretionary (-8.0%) and Communication Services (-1.8%). From a size perspective, small-cap outperformed large-cap by 86 basis points. Growth stocks underperformed value for the quarter and also trailed meaningfully for the year.

The U.S. Treasury yield curve was up in the short-end (below 3-years) by 50-135 basis points but largely unchanged across the remainder of the curve. The 10-year Treasury yield ended the quarter at 3.88%, up just 5 basis points from September. Credit spreads tightened during the quarter within both investment grade and high yield bonds (down 84 basis points within the speculative market). The Federal Open Market Committee met twice during the quarter, as scheduled, and increased the overnight rate by 0.75% in November and 0.50% in December, targeting a range of 4.25% to 4.50%. The Fed's "dot plot" is messaging that the current intent is for

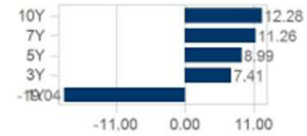
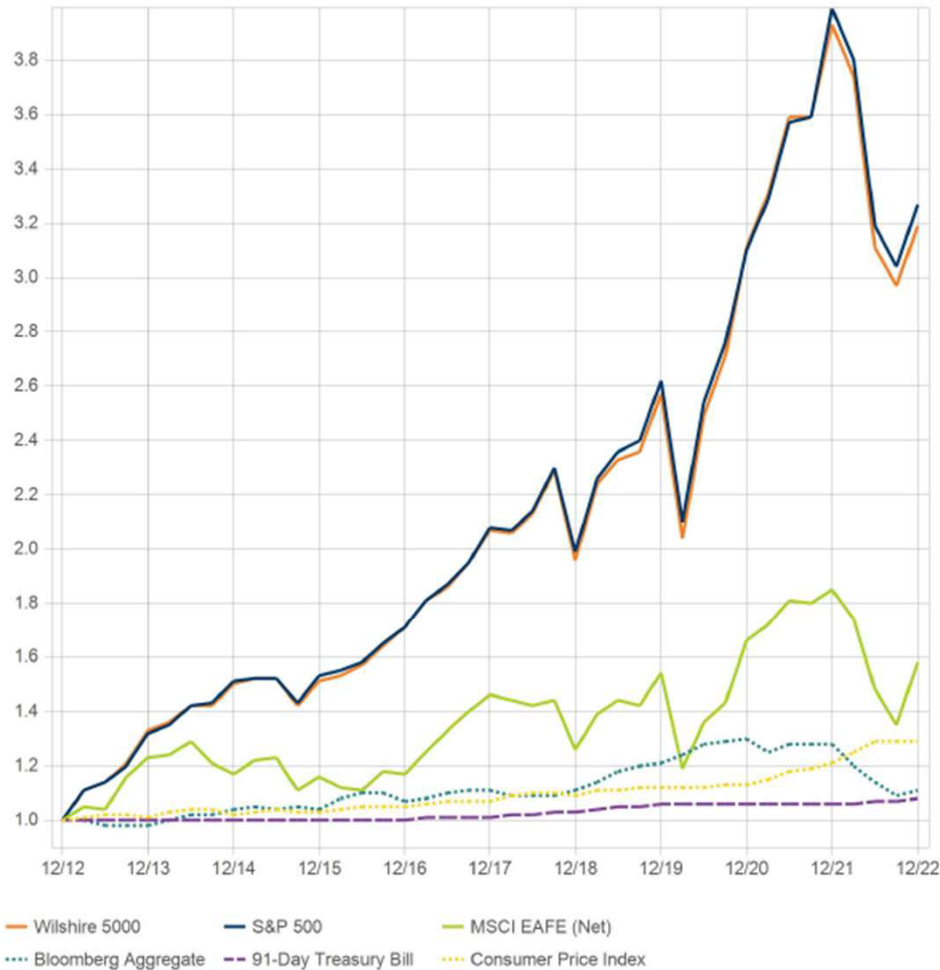
another 75 basis points in increases before the end of 2023. Following the December meeting, Fed Chair Jerome Powell indicated that inflation data during the fourth quarter has been encouraging but that it will take "substantially more evidence" to ensure that modest price increases are sustainable.

Performance results within international equity markets were positive for the fourth quarter, with developed outperforming emerging markets. The MSCI EAFE Index was up 17.34% for the quarter, while the MSCI Emerging Markets Index was up 9.70%. Europe faced similar headwinds as the United States in 2022 – surging inflation and aggressive central bank tightening – but also had to more directly contend with the ongoing war in Ukraine. The labor market remains tight in the eurozone – including Germany where unemployment has fallen below 3% – and many businesses report that a labor shortage is limiting production. Despite China's zero-COVID policies, including widespread lockdowns, infections continued to surge intermittently. Tension among the country's citizens continued to rise and led to protests not seen in decades. In early December, the central government took definitive steps to ease restrictions.

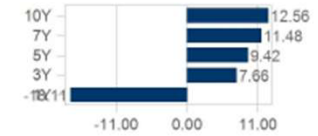


State of Iowa Peace Officer Retirement System The Market Environment

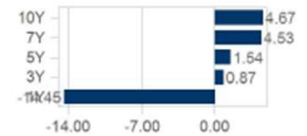
Historical Perspective
Quarter Ending December 31, 2022



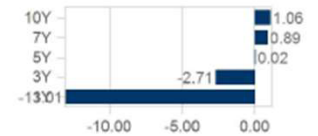
Wilshire 5000



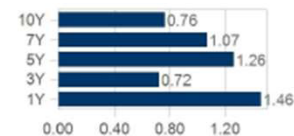
S&P 500



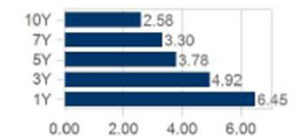
MSCI EAFE (Net)



Bloomberg Aggregate



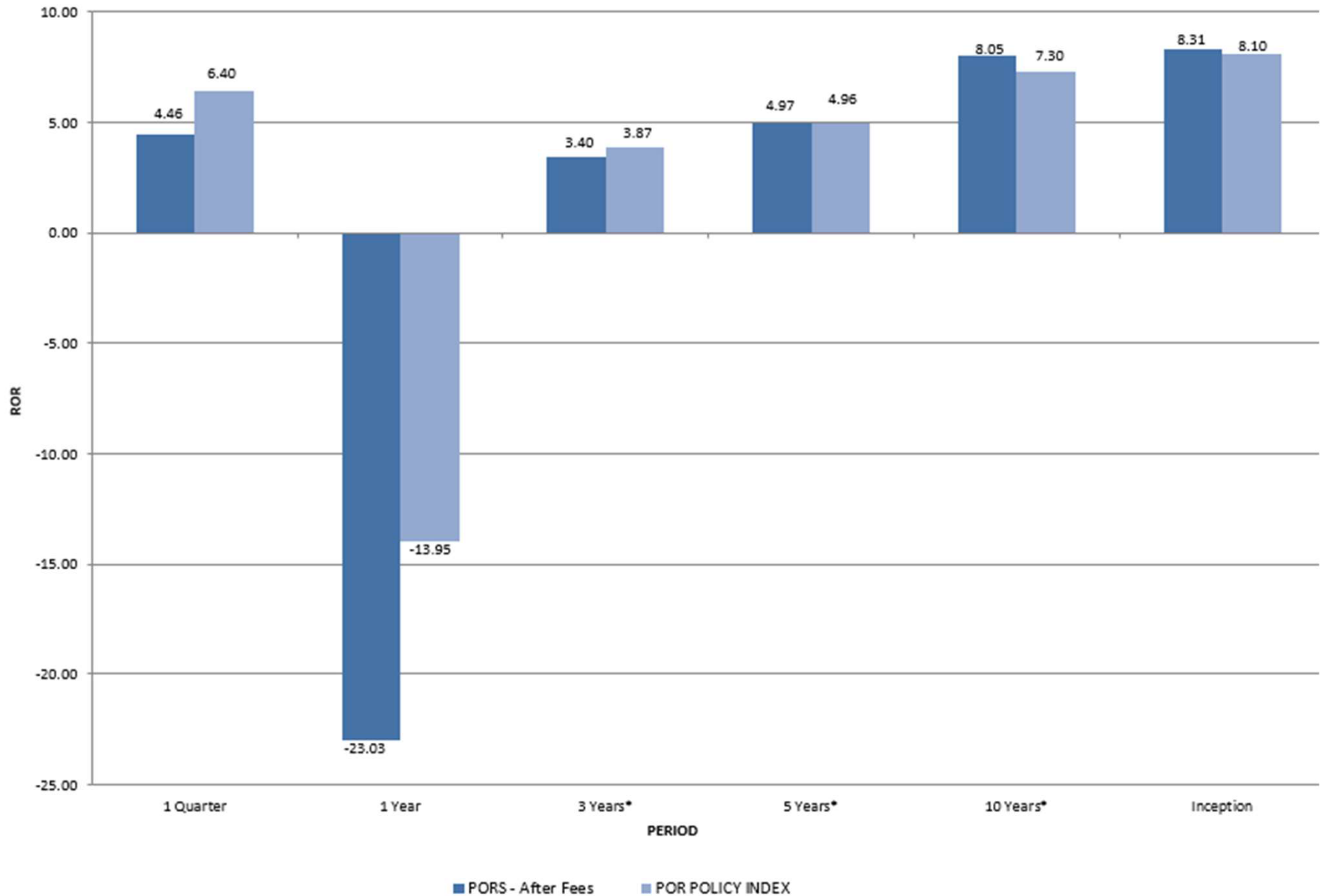
91-Day Treasury Bill



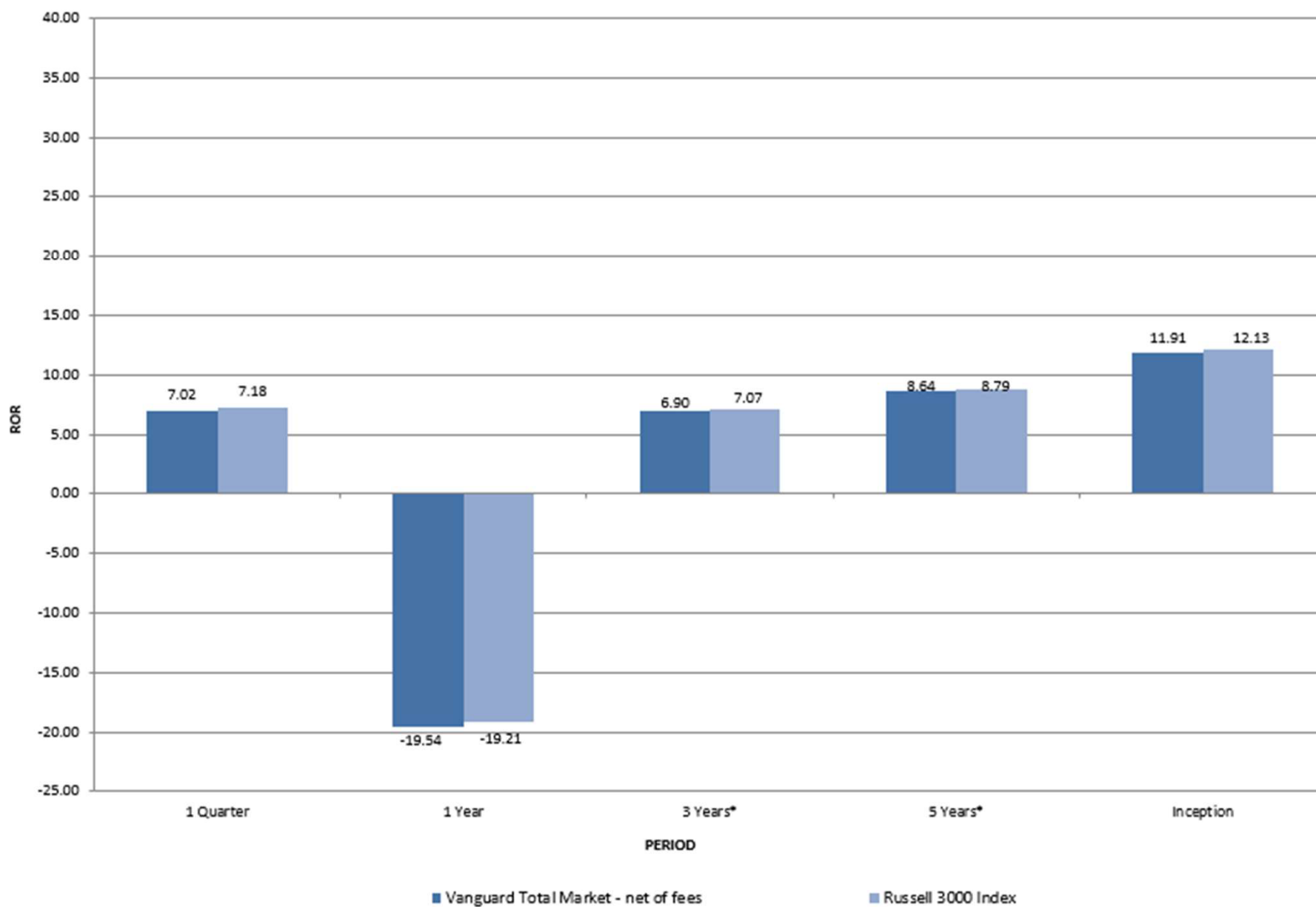
Consumer Price Index

Investment Returns

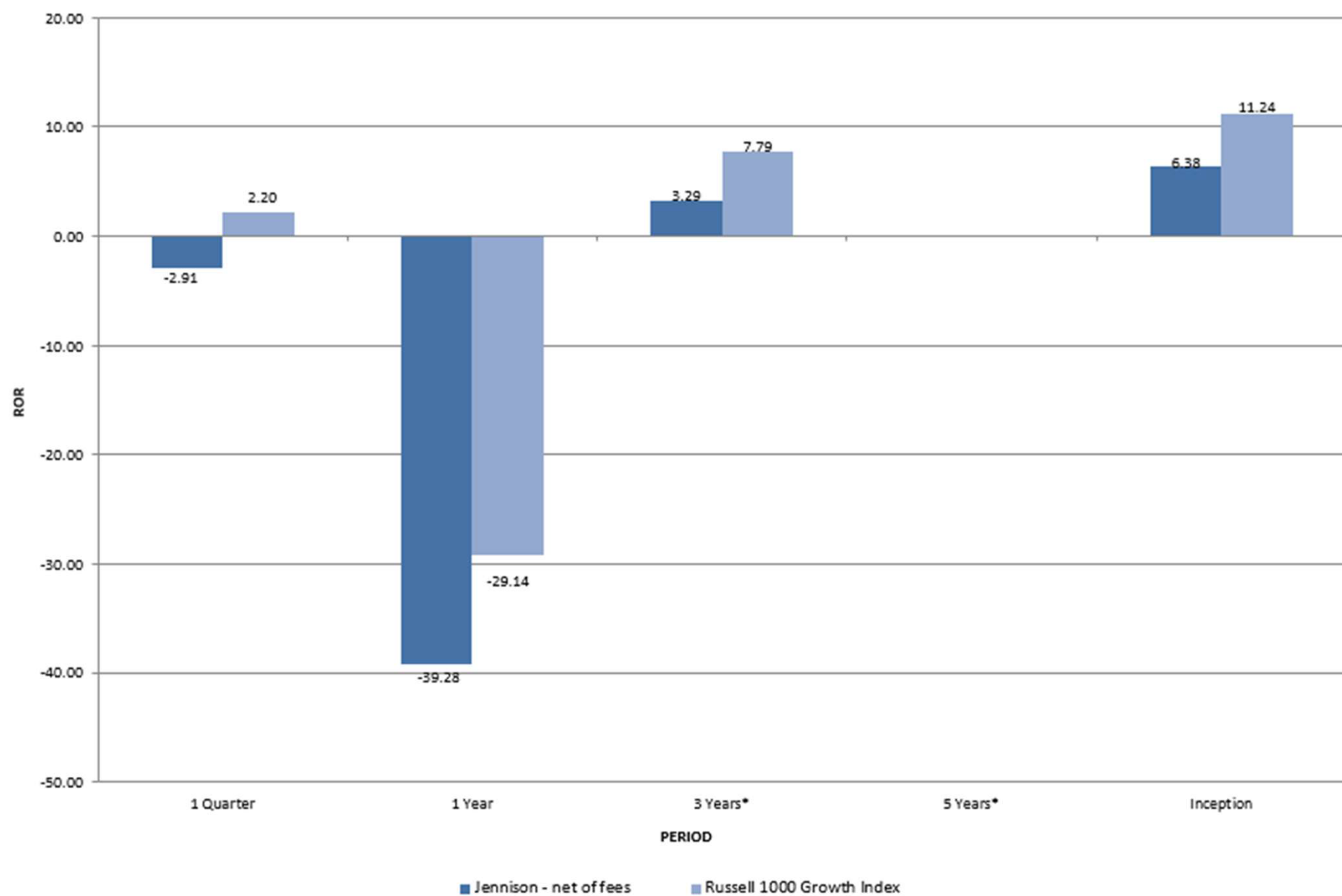
**PEACE OFFICERS' RETIREMENT SYSTEM (net of fees) vs. POLICY INDEX
FOR THE PERIOD ENDING 12/31/22**



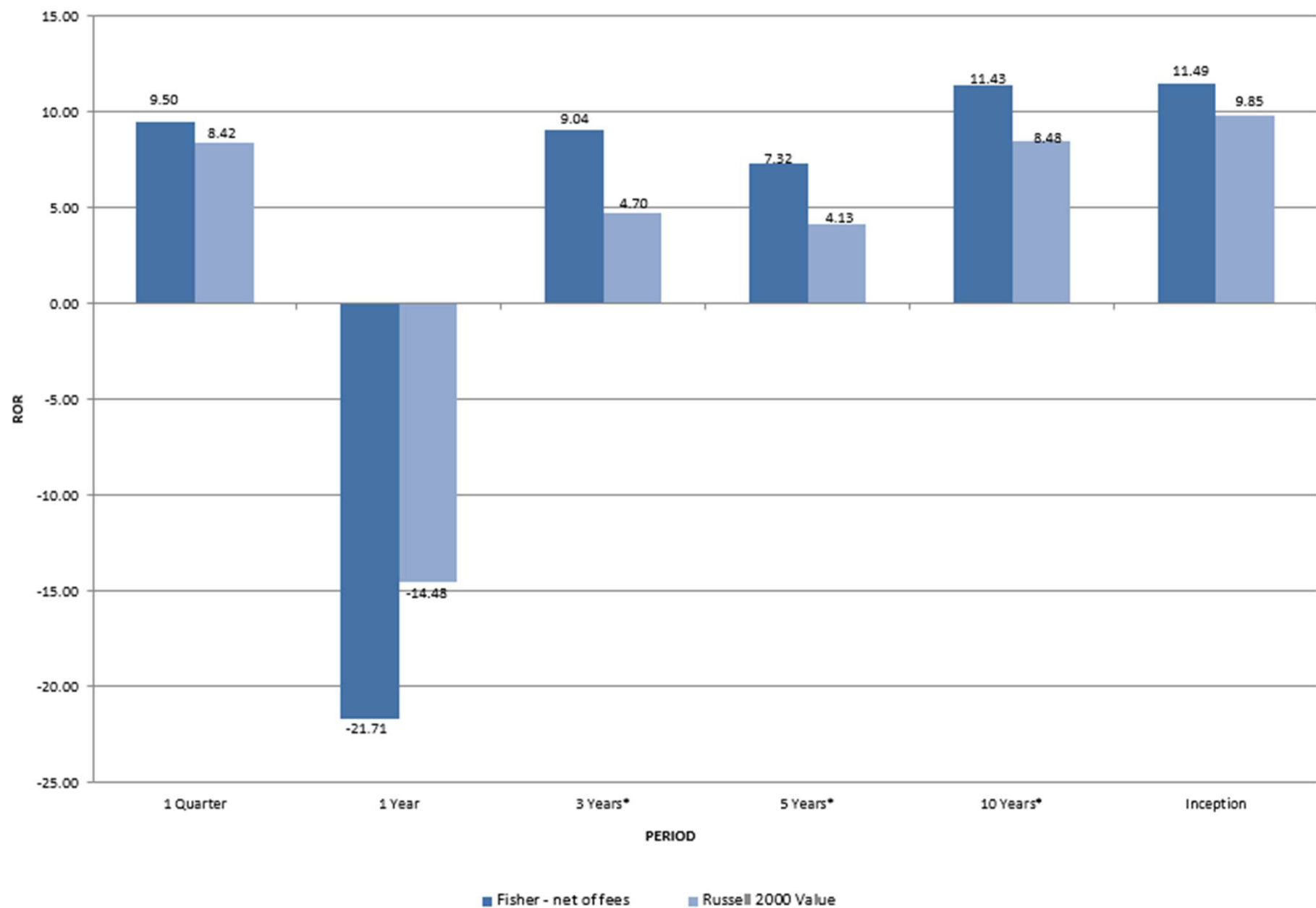
VANGUARD TOTAL STOCK MARKET (net of fees) vs. MSCI BROAD MARKET INDEX FOR THE PERIOD ENDING 12/31/22



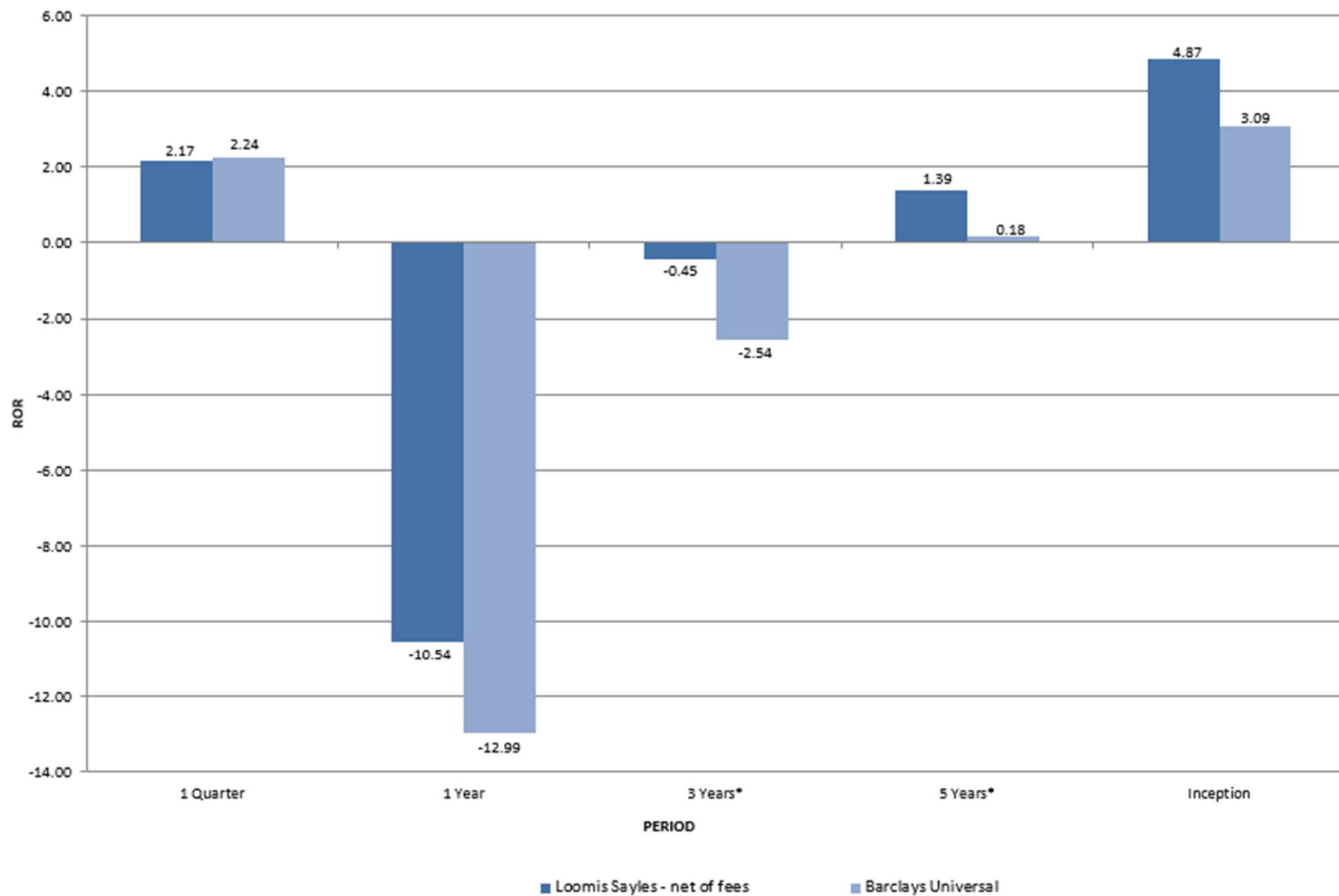
**JENNISON (net of fees) vs. RUSSELL 1000 GROWTH
FOR THE PERIOD ENDING 12/31/22**



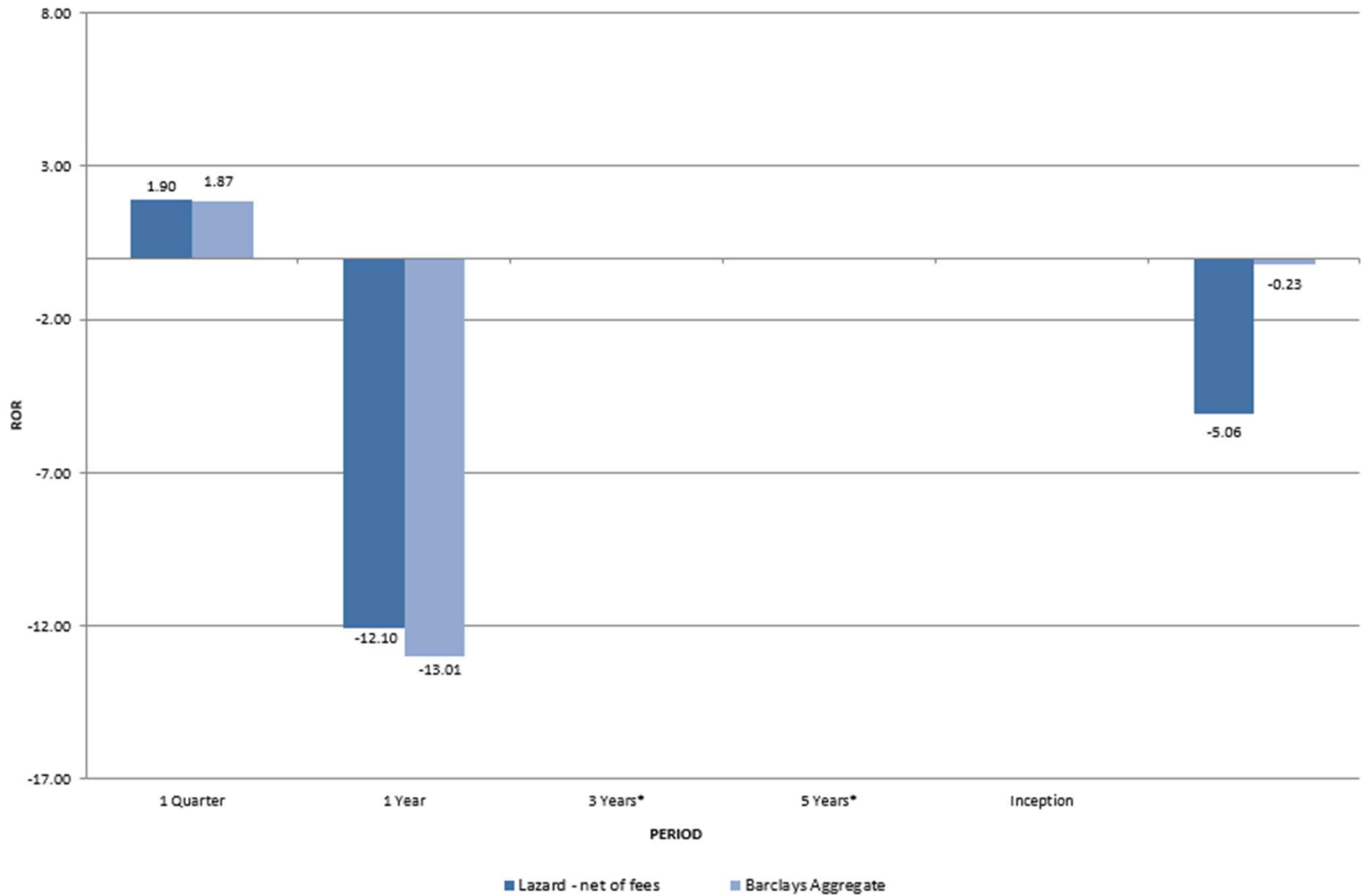
**FISHER (net of fees) vs. RUSSELL 2000 SMALL VALUE
FOR THE PERIOD ENDING 12/31/22**



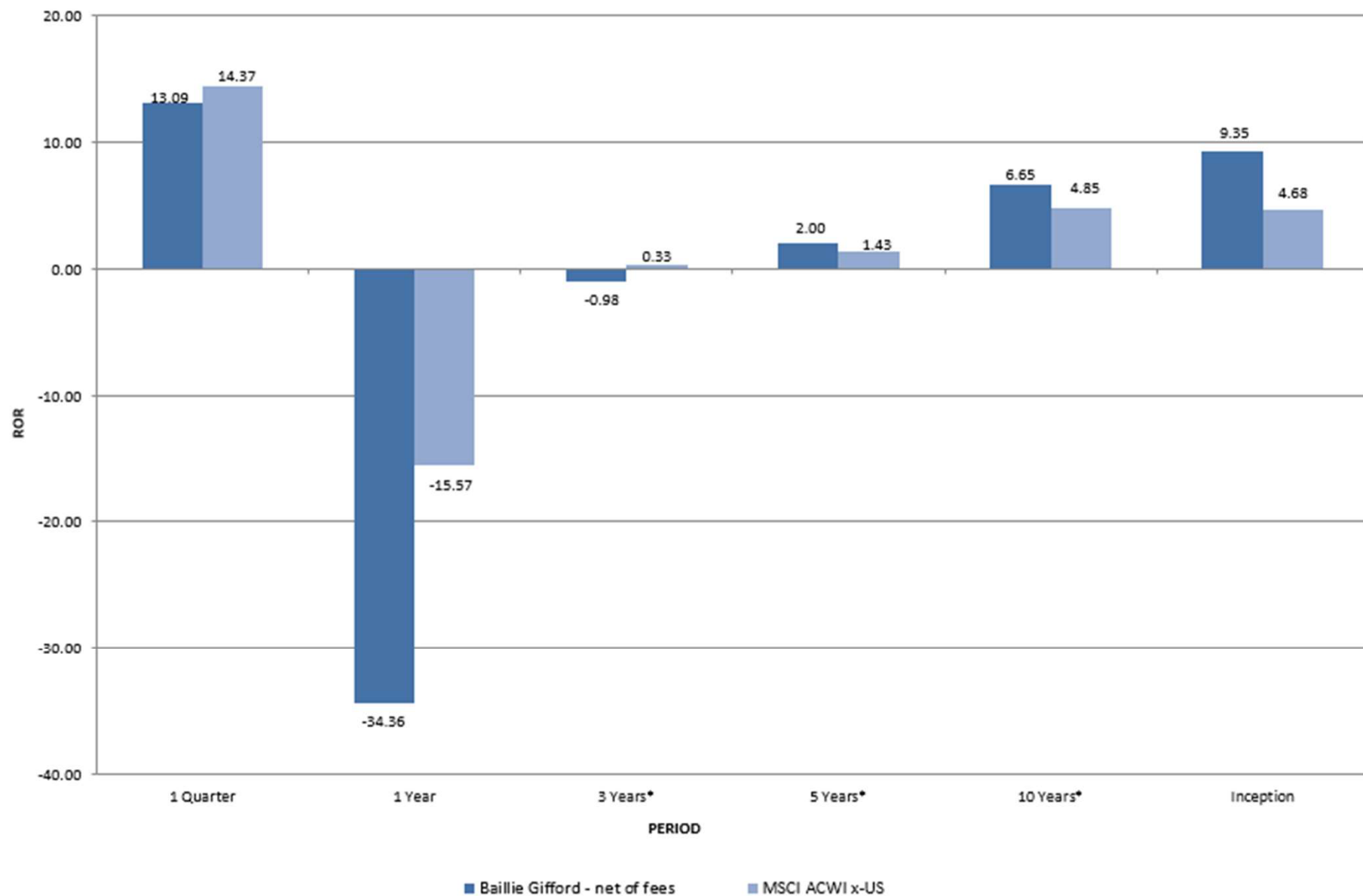
LOOMIS SAYLES (net of fees) vs. BARCLAYS UNIVERSAL FOR THE PERIOD ENDING 12/31/22



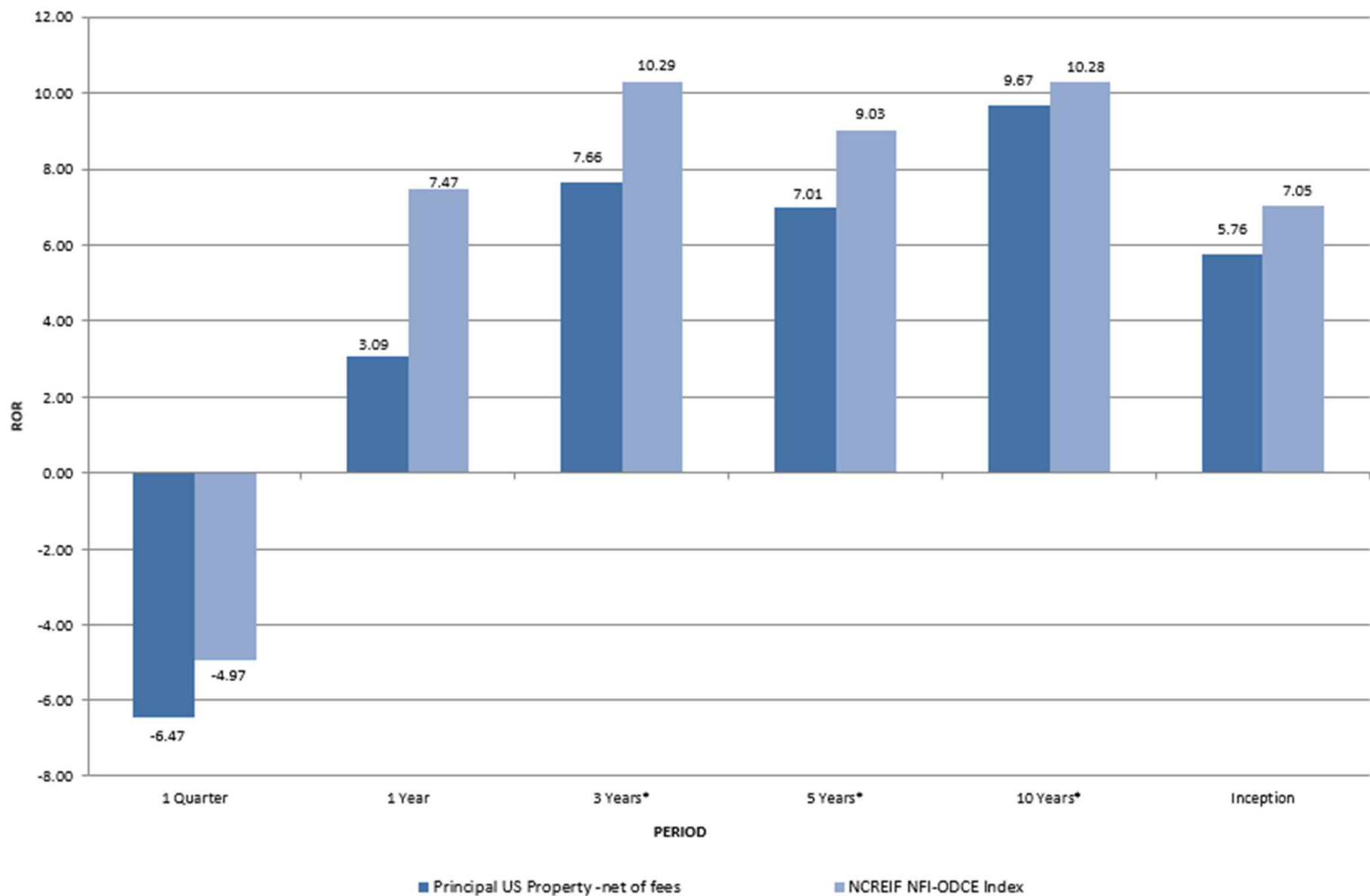
LAZARD (net of fees) vs. BARCLAYS AGGREGATE FOR THE PERIOD ENDING 12/31/22



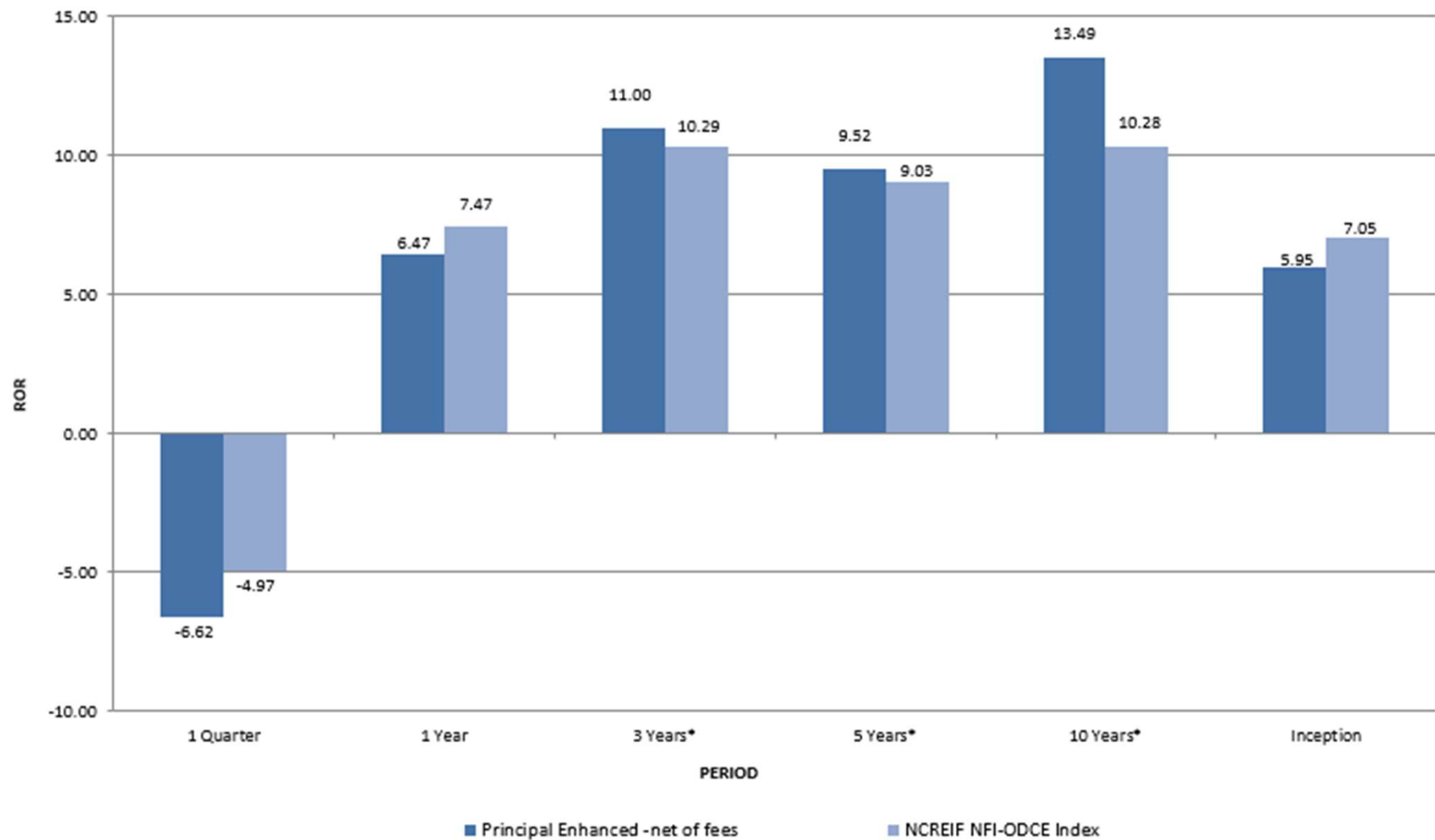
**BAILLIE GIFFORD (net of fees) vs. MSCI EAFE NET
FOR THE PERIOD ENDING 12/31/22**



**PRINCIPAL US PROPERTY (net of fees) vs. NCREIF NFI
FOR THE PERIOD ENDING 12/31/22**

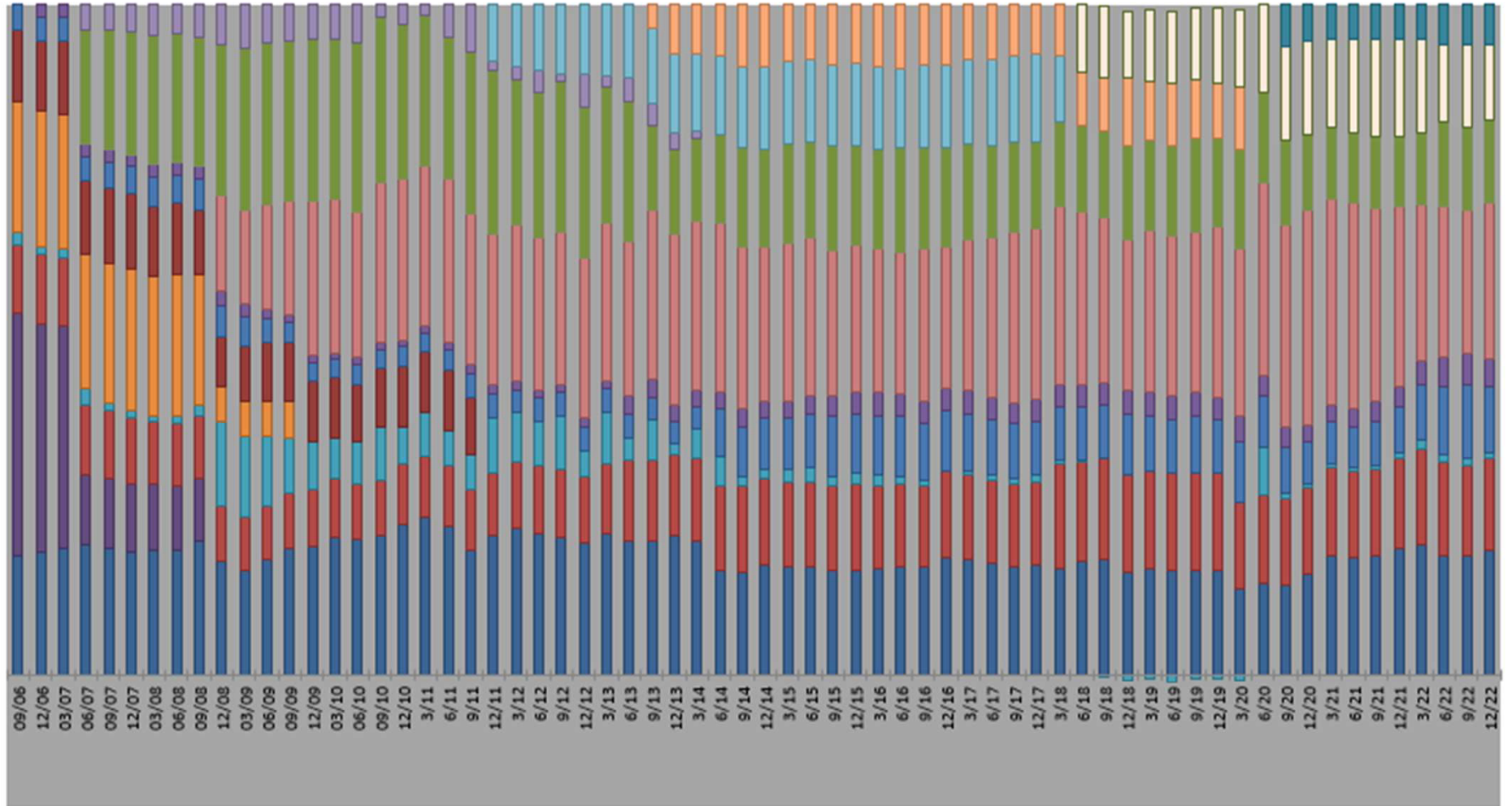


**PRINCIPAL ENHANCED (net of fees) VS. NCREIF NFI
FOR THE PERIOD ENDING 12/31/22**



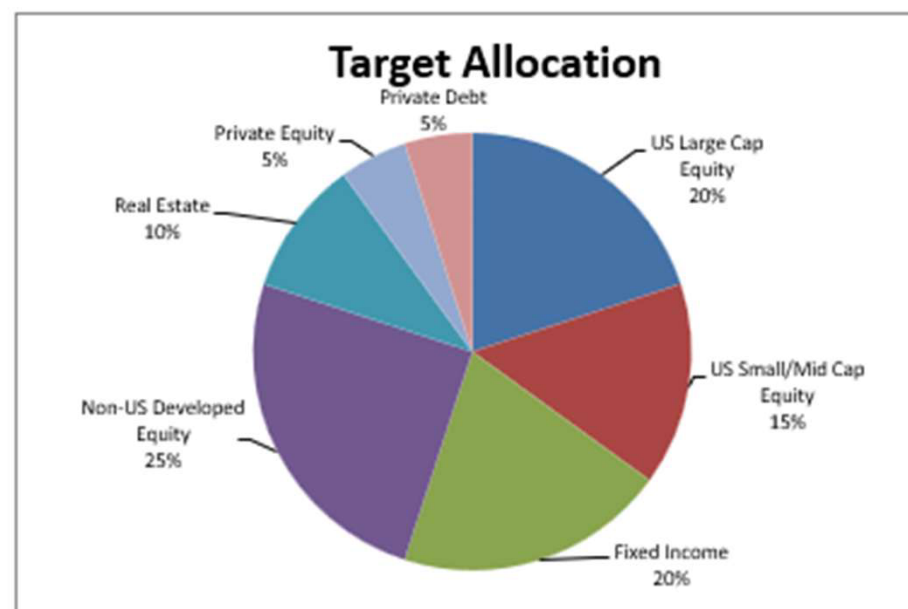
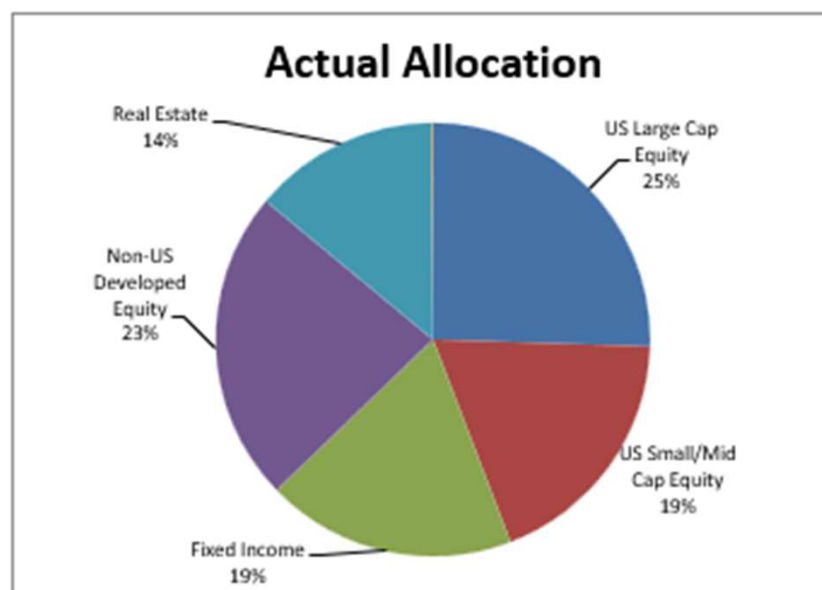
Asset Allocation

ASSET ALLOCATION HISTORY



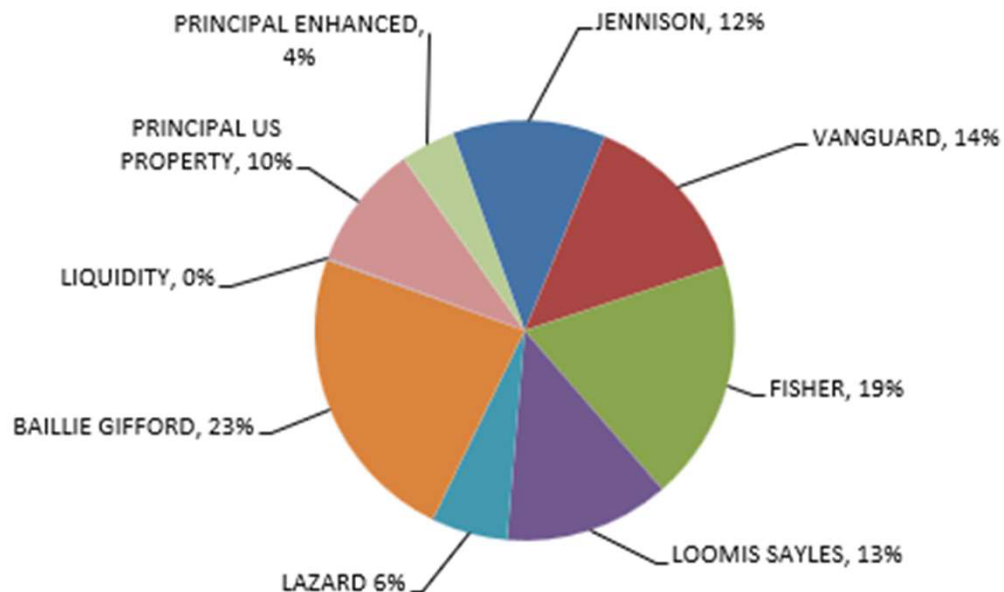
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|--|---|--|---|--|
| ■ Fisher | ■ UBS Combined | ■ Vanguard | ■ Liquidity | ■ Walter Scott |
| ■ Gardner Lewis | ■ Principal US Property | ■ Principal Enhanced | ■ Baillie Gifford | ■ Loomis Sayles |
| ■ Dix Hills | ■ Westfield | ■ Lord Abbett | ■ Jennison | ■ Lazard |

ACTUAL ASSET ALLOCATION VERSUS TARGET ASSET ALLOCATION AS OF DECEMBER 31, 2022



| Asset Class | \$ Value Actual | Percent Actual | Percent Target | Percent Range |
|-------------------------|--------------------|-------------------|-------------------|------------------|
| US Large Cap Equity | 157,008,745 | 25.51% | 20.00% | 15-30% |
| US Small/Mid Cap Equity | 114,853,355 | 18.66% | 15.00% | 10-20% |
| Fixed Income | 114,488,767 | 18.60% | 20.00% | 12.75-27% |
| Non-US Developed Equity | 143,096,670 | 23.25% | 25.00% | 13.75-35% |
| Real Estate | 85,287,908 | 13.86% | 10.00% | 0-13% |
| Cash | 682,855 | 0.11% | 0.00% | 0.00% |
| Private Equity | 0 | 0.00% | 5.00% | 0-8% |
| Private Debt | 0 | 0.00% | 5.00% | 0-8% |
| Total Fund | 615,418,300 | 100% | 100% | |

PEACE OFFICERS' RETIREMENT SYSTEM



| <u>MGR NAME</u> | <u>MARKET VALUE</u> | <u>% OF TOTAL</u> |
|-----------------------|---------------------|-------------------|
| JENNISON | 72,648,259.34 | 11.80% |
| VANGUARD | 84,360,485.30 | 13.71% |
| FISHER | 114,853,355.06 | 18.66% |
| LOOMIS SAYLES | 78,338,741.46 | 12.73% |
| LAZARD | 36,150,025.57 | 5.87% |
| BAILLIE GIFFORD | 143,096,669.66 | 23.25% |
| LIQUIDITY | 682,855.00 | 0.11% |
| PRINCIPAL US PROPERTY | 59,470,227.82 | 9.66% |
| PRINCIPAL ENHANCED | 25,817,680.55 | 4.20% |
| | <hr/> | |
| | 615,418,299.76 | 100.00% |

Risk Measures