

February 21, 2023



Oklahoma State Pension Commission

Meeting Materials



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Executive Summary



OKLAHOMA STATE PENSION COMMISSION

Q4 2022 EXECUTIVE SUMMARY

Economic and Capital Market Review

During Q4, equity and fixed income markets delivered improved results while continuing to experience elevated volatility. However, the positive returns for the quarter came on the tail of a year that yielded significantly negative returns for many investors. Global equities ended 2022 with an annual return of -19.4% as measured by the MSCI ACW IMI Index, while bonds finished with a return of -13.0%, as measured by the Bloomberg US Aggregate Bond Index. Capital markets during the final quarter of 2022 were driven by similar themes as prior quarters, with investors remaining focused on central bank activity, inflation data, and geopolitical turmoil. Current growth estimates for the US remained positive at the end of 2022, however, the outlook for 2023 is dourer with estimates for 2023 GDP growth remaining muted at 0.7% on average. The combination of monetary policy and persistent inflation, as well as continued supply shocks and energy availability concerns in Europe, led some industry observers to increase odds of a global recession in 2023. One commonly cited recession indicator, the spread between the 2-year and 10-year Treasuries, remained inverted indicating a potential recession to come, but in contrast to these indicators, labor markets remained tight. The unemployment rate was 3.5% at quarter-end, though there were some signs of slowing wage growth. Inflation remains a concern for policymakers, though recent data indicated that it is showing some signs of abating. In December, the US Consumer Price Index calculated year-over-year overall inflation at 6.5%, the lowest reading since October 2021. The Federal Reserve Open Market Committee (FOMC) began to slow its pace of interest rate hikes due to the impact of its prior rate increases beginning to show in inflation and other data. In December, the FOMC raised its key policy rate by only 50 basis points, following a series of four straight 75 basis point increases. Current market pricing indicates that the federal funds rate is expected to settle in the 4.75% to 5.25% range in 2023, increasing from the current range of 4.25% to 4.50%. Key market index returns as of December 31, 2022 can be observed in **Figure 1** below.

Figure 1: Key Market Index Returns
Period Ending December 31, 2022

Index	Asset Class	QTD	CYTD	1 Year	5 Year	10 Year
S&P 500 Index	US Equity	7.6	-18.1	-18.1	9.4	12.6
MSCI ACW Ex-US Index (Net)	International Equity	14.3	-16.0	-16.0	0.9	3.8
Bloomberg US Agg	US Fixed Income	1.9	-13.0	-13.0	0.0	1.1
NCREIF ODCE (AWA) (Net)	Core Real Estate	-5.2	6.5	6.5	7.7	9.1
HFRX Absolute Return Index	Hedge Funds	-0.3	0.8	0.8	1.9	2.0
Bloomberg Commodity Index	Commodities	2.2	16.1	16.1	6.4	-1.3

International events, including the war in Ukraine, energy price shocks, and trade tensions continued to test economic and political relationships across multiple countries and regions. Similar to the US, forecasts of global inflation indicate an expectation for moderating levels. The Organization for Economic Co-operation and Development (OECD) recently estimated inflation of 6.6% among developed countries during 2023, compared to its current estimate of 9.4% for 2022. During Q4, the Bank of Japan made an unexpected move to increase the upper target of its 10-year government bond yield from 0.25% to 0.50%. While Japan's policy interest rate level still trails other major central banks, the move was viewed as a signal

that Japan is taking steps away from accommodative policies.

Economic news from emerging markets was primarily focused on China, where signs of a softening stance toward pandemic restrictions and past interest rate cuts were viewed as reasons for optimism regarding the country's outlook. However, concerns over lockdown-related social unrest and the consolidation of power around President Xi Jinping provided cautionary notes for investors. Overall, global GDP growth, estimated by the OECD at 3.1% in 2022, was forecasted by the organization to decline to 2.2% in 2023.

Performance Highlights

Total Fund Performance and Attribution

During the 4th Quarter of 2022, the Oklahoma State Pension Funds produced positive returns, ranging between 2.9% to 7.8% net of fees. Relative to policy benchmarks, performance mostly underperformed over the trailing 12-month period, with only three out of seven plans outperforming its respective policy benchmark net of fees. Detailed comparative performance of the seven plans can be found on **pages 15-18** of the performance report.

In terms of performance attribution, the fundamental drivers have not changed substantially over the longer periods. In the case of the Oklahoma State Pension Funds, the following high-level strategic decisions explain most of the strong performance. The more significant drivers are described below.

1. **High Allocation to Growth Oriented Assets** – Overall, the Pension Plans have a higher than median allocation, when compared to their peers, to growth-oriented assets. This remains appropriate given the Plans' extended time horizons, healthy funded statuses, cash needs, and tolerance for risk. However, such risk posturing can lead to meaningful drawdowns that the plans experienced in 2022.
2. **Bias Toward US Equities** – In general, the Pension Plans are invested more heavily in US equities. International equities have fallen more than their US counterparts year-to-date as recessionary pressures, political changes, and geopolitical pressures have weighed more heavily on non-US stocks; the strategic tilt has benefited the plans over the longer-term as US stocks continue to outpace international over the trailing 10-year time period. This tilt may be appropriate since the plans' liabilities and contributions are closely influenced by US economic conditions.
3. **Avoidance of Dilutive Asset Classes** – Institutional investors are constantly approached with marketing pitches on new investment strategies. Many of these strategies many only add alpha during one type of market environment or are largely unproven over multiple market cycles. They may add portfolio complexity and higher costs without providing commensurate benefits or tend to shift into new asset classes after an increase in their performance. In comparison to peers, the Oklahoma Pension Plans have resisted the temptation to invest in these products, which have kept fees low and avoided the unnecessary dilution of returns.
4. **Selective Use of Active Management** – When evaluating the potential benefits and costs of active management, it is often the case that the costs outweigh the benefits. The relative magnitude of these gap varies by asset class and the unique attributes of the investors themselves. In general, the Oklahoma State Pension Plans have employed active management strategies in a manner that

extracted benefits that have exceeded the associated costs. This has enhanced absolute returns and performance relative to peers.

RVK continues to believe that the Oklahoma Plans are well-positioned and are appropriately monitored for success in a manner that aligns with each Plan's objective, risk tolerance, constraints, and unique competitive advantages.

Asset Class Performance – Q4 2022

Asset class returns varied but have increasingly entered positive territory during the fourth quarter. Performance highlights for specific asset classes are provided below, and detailed performance numbers can be found on **pages 19-30** of the performance report.

1. **US Equity** – Absolute US equity returns were positive during Q4, after spending most of the calendar year in negative territory. Relative to benchmarks, returns varied, with three out of six plans outperforming their respective benchmarks. US equity returns ranged from approximately 7.0% (Firefighters) to 9.0% (Teachers). Longer term performance over 3-, 5-, 7-, and 10-year periods continues to mostly lag broad indexes of US equities.
2. **International Equity** – International equity returns were positive on an absolute basis, with underlying plans generally keeping pace or underperforming their asset class benchmark during the fourth quarter. Returns for the quarter ranged from approximately 9.9% (Firefighters) to 15.2% (Wildlife). The use of active management in this asset class has yielded mixed results over long time periods. Two out of six plans with dedicated international equity buckets outperformed their respective indices over the 10-year trailing period. The Police plan measures total domestic and international equity against a broad, global benchmark of equities, and has outperformed almost all trailing periods.
3. **Fixed Income** – Fixed income absolute returns were positive in the fourth quarter with six out seven plans outperforming their respective asset class benchmarks. Returns ranged from approximately 1.9% (Wildlife) to 4.1% (Firefighters). Over longer periods of time, as measured by 7- and 10-year periods, most plans are exceeding or roughly flat against their respective benchmarks.

4. **Real Estate** – Real estate returns are largely reported on a lagged basis and were mostly positive for the quarter and the trailing year. For the quarter, the NFI-ODCE Index (Net) delivered a return of -5.0% on a preliminary and gross of fees basis, comprised of 0.8% income and -5.8% price appreciation. The income return continues to trend at the lower end of historical levels while price appreciation turned significantly negative.
5. **Hedge Funds** – Hedge funds returns were positive in the fourth quarter. Returns ranged from a low of approximately 0.1% (Firefighters) to a high of 4.6%. (Police). Longer-term returns for Oklahoma Plans’ hedge fund allocations have been challenged, providing negative or low single-digit positive returns over the trailing 7- and 10-year time periods.
6. **Private Equity** – Private equity produced mixed returns over the quarter, but the level of performance varied across the different pension plans. This variability is consistent with expectations given that each plan has different exposures by investment strategy and vintage year. Further, performance versus benchmarks varied considerably, but this is primarily due to the fact that one plan (Teachers) uses a public equity benchmark, while the others use a private benchmark.

Long-Term Performance

In aggregate, the 5-Year and 10-Year absolute and risk-adjusted returns for the Oklahoma Pension Plans continue to compare favorably relative to peers. Three out of seven plans performed at or above median on both metrics. Performance is more favorable on an asset-weighted basis, with 68.5% outperforming the median plan over the trailing 10-year period. The 5-Year and 10-Year return metrics are provided below in **Figure 3** and **Figure 4**.

Figure 3: Five and Ten-Year Performance of Oklahoma Pension Plans
Ordered by Level of 10-Year Net-of-Fees Return as of December 31, 2022

Plan	Percent of Assets	5-Year Return Net of Fees	10-Year Return Net of Fees	10-Year Rank vs. All Public Plans ¹
Firefighters	8.5	6.2	8.4	3 rd
Teachers	52.2	5.6	8.1	6 th
Police	7.8	5.7	6.9	44 th
Public Employees	27.5	4.1	6.6	67 th
Judges	0.9	4.0	6.5	71 st
Wildlife	0.3	4.3	6.4	70 th
Law Enforcement	2.8	4.2	6.3	65 th

¹ Peer ranking are based on gross of fees; therefore, it is possible for a Plan to be ranked higher relative to peers despite having a lower net of fees return.

**Figure 4: 10-Year Risk-Adjusted Returns for Oklahoma Pension Plans
Ranked by Sharpe Ratio as of December 31, 2022**

Plan	Percent of Assets	Sharpe Ratio	10-Year Rank vs. All Public Plans
Police	7.8	0.80	12 th
Firefighters	8.5	0.79	13 th
Teachers	52.2	0.71	30 th
Law Enforcement	2.8	0.63	62 nd
Wildlife	0.3	0.63	66 th
Public Employees	27.5	0.57	82 nd
Judges	0.9	0.56	85 th

68.5% of assets

Asset Allocation Changes (5-Year)

Overall, the seven plans all exhibit characteristics of increasingly diversified, institutional quality portfolios. Exposures to equities (capital appreciation or “growth” assets) make up the largest component for each plan. The charts in Figure 5 show a 5-year asset allocation “lookback” for each plan and how they have moved to today’s portfolio and target.

Figure 5: Asset Allocation Changes (5 Years)
Period Ending December 31, 2022



Total Equity excludes Private Equity. Total Fixed Income includes Private Debt. Other Assets consist of both Private Equity and Hedge Funds for the OFPRS plan since the target allocation combines these into one asset class.

Individual Plan Performance Highlights

Oklahoma Teachers' Retirement System (OTRS)

Detailed performance of the OTRS plan begins on **page 42** of the performance report. As of December 31, 2022, the market value of assets for OTRS was approximately **\$19.56 Billion**. A high-level summary of Total Plan Performance and brief commentary is provided below.

OTRS Annualized Net-of-Fees Returns

Period Ending December 31, 2022

	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years
OTRS Total Fund (Net)	6.57	1.24	-13.25	-13.25	5.10	5.61	7.78	8.06
OTRS Policy Index	6.95	2.57	-14.07	-14.07	4.61	5.82	7.80	7.80
<i>Difference</i>	-0.38	-1.33	0.82	0.82	0.49	-0.21	-0.02	0.26
OTRS Actual Allocation Index	6.05	1.63	-15.02	-15.02	4.93	5.54	7.52	7.88
<i>Difference</i>	0.52	-0.39	1.77	1.77	0.17	0.07	0.26	0.18
All Public Plans – Total Fund Median	5.66	1.08	-12.81	-12.81	3.99	5.18	6.97	7.18
<i>Rank</i>	24	38	54	54	21	27	11	6

Commentary

The OTRS Total Fund returned 6.57% for the quarter, trailing its policy index by -0.38%. The largest sources of underperformance over the quarter were the Private Equity and Private Debt allocations, which trailed their benchmarks by -5.42% and -3.95% respectively. Over long-term periods, the Plan has provided mixed returns relative to its policy index; however, the Plan outperformed its policy index by 0.26% over the 10-year period. Relative to a broad group of pension plans, the Plan has ranked in or near the top quartile over the quarter, trailing 3-year, and all longer time periods. Favorable peer rankings were driven by the higher allocation to public equities (and US equity in particular) relative to other public plans.

In summary, while the OTRS Plan has delivered negative absolute returns for the calendar year-to-date, longer-term performance remains robust and has outperformed its Policy Index by 0.26% annually over the trailing 10-year period. In addition, the Plan has produced strong returns relative to peers over longer-term trailing periods. Finally, on a risk-adjusted basis, the Plan ranks above median relative to other public plans, as well as other Oklahoma plans, as illustrated in **Figure 4** on the previous page.

Oklahoma Public Employees Retirement System (OPERS)

Detailed performance of the OPERS plan begins on **page 63** of the performance report. As of December 31, 2022, the market value of assets for OPERS was approximately **\$10.29 Billion**. A high-level summary of Total Plan Performance and brief commentary is provided below.

OPERS Annualized Net-of-Fees Returns Period Ending December 31, 2022

	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years
OPERS Total Fund (Net)	7.76	0.84	-16.74	-16.74	2.50	4.05	6.32	6.63
OPERS Policy Index	7.40	0.80	-16.62	-16.62	2.32	4.09	6.40	6.56
<i>Difference</i>	0.36	0.04	-0.12	-0.12	0.18	-0.04	-0.08	0.07
OPERS Actual Allocation Index	7.15	0.65	-16.87	-16.87	3.50	4.62	6.74	6.85
<i>Difference</i>	0.61	0.19	0.13	0.13	-1.00	-0.57	-0.42	-0.22
All Public Plans – Total Fund Median	5.66	1.08	-12.81	-12.81	3.99	5.18	6.97	7.18
<i>Rank</i>	5	58	95	95	83	82	73	67

Commentary

The OPERS Total Fund continues to provide returns in line with its policy index over longer time periods but has ranked below median over all periods, except the current quarter, shown relative to a broad peer group of public plans. Among equity strategies, US Active Small Cap Equity was successful in exceeding its benchmark for the quarter, but International Core Passive Equity generally trailed its respective benchmark. Fixed Income performed mostly positive returning in the lower single digits, with the MetWest Core Plus Fixed Income (SA) fund performing best on an absolute and relative basis.

In summary, the OPERS plan has generated long-term returns in line with its policy index but has lagged relative to peers over all trailing periods shown, except for the current quarter. This is due to the plan being much more heavily weighted towards traditional assets rather than alternative assets. On a risk-adjusted basis, the Plan has ranked below median relative to other public plans and 6th among the group of seven Oklahoma plans.

Oklahoma Firefighters Pension & Retirement System (OFPRS)

Detailed performance of the OFPRS plan begins on **page 80** of the performance report. As of December 31, 2022, the market value of assets for OFPRS was approximately **\$3.19 Billion**. A high-level summary of Total Plan Performance and brief commentary is provided below.

OFPRS Annualized Net-of-Fees Returns

Period Ending December 31, 2022

	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years
OFPRS Total Fund (Net)	4.49	0.48	-13.34	-13.34	5.07	6.20	7.98	8.40
OFPRS Policy Index	5.87	1.01	-13.50	-13.50	4.93	6.24	8.00	8.52
<i>Difference</i>	<i>-1.38</i>	<i>-0.53</i>	0.16	0.16	0.14	<i>-0.04</i>	<i>-0.02</i>	<i>-0.12</i>
OFPRS Actual Allocation Index	4.98	0.42	-12.83	-12.83	5.37	6.22	7.98	8.29
<i>Difference</i>	<i>-0.49</i>	0.06	<i>-0.51</i>	<i>-0.51</i>	<i>-0.30</i>	<i>-0.02</i>	0.00	0.11
All Public Plans – Total Fund Median	5.66	1.08	-12.81	-12.81	3.99	5.18	6.97	7.18
<i>Rank</i>	79	68	53	53	18	9	7	3

Commentary

The Firefighters Plan continues to demonstrate the strongest long-term returns among the seven Oklahoma pension plans on an absolute basis, though the Plan trailed its policy and actual allocation index in the fourth quarter with mixed performance over all longer periods. Relative to peers, the Firefighters has ranked above median over the longer trailing periods shown above. Over the trailing ten years, the Plan ranked in the 3rd percentile relative to a broad peer group of public pension plans and 1st among the group of seven Oklahoma pension plans.

In summary, the Firefighters' Plan has generally outpaced the performance of peers and other Oklahoma pension plans and has exceeded its required return of 7.5% over the trailing 7- and 10-year periods. In addition, the Plan has performed well on a risk-adjusted basis, ranking in the 13th percentile relative to other public plans and 2nd among the other Oklahoma Plans.

Oklahoma Police Pension & Retirement System (OPPRS)

Detailed performance of the OPPRS plan begins on **page 107** of the performance report. As of December 31, 2022, the market value of assets for OPPRS was approximately **\$2.94 Billion**. A high-level summary of Total Plan Performance and brief commentary is provided below.

OPPRS Annualized Net-of-Fees Returns

Period Ending December 31, 2022

	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years
OPPRS Total Fund (Net)	2.86	-1.03	-10.39	-10.39	5.64	5.70	6.89	6.87
OPPRS Policy Index	6.06	0.62	-13.27	-13.27	3.89	4.81	6.59	6.28
<i>Difference</i>	-3.20	-1.65	2.88	2.88	1.75	0.89	0.30	0.59
OPPRS Actual Allocation Index	5.55	0.98	-12.42	-12.42	4.44	4.76	6.28	6.28
<i>Difference</i>	-2.69	-2.01	2.03	2.03	1.20	0.94	0.61	0.59
All Public Plans – Total Fund Median	5.66	1.08	-12.81	-12.81	3.99	5.18	6.97	7.18
<i>Rank</i>	95	97	20	20	11	20	36	44

Commentary

The Police Plan provided absolute returns that ranked above median and exceeded both the policy index and actual allocation index over all longer trailing periods. It should be noted that the portfolio is intentionally allocated to reduce downside risk in the portfolio to protect the funded status of the plan. Absolute and risk-adjusted performance for the portfolio are consistent with this objective. As illustrated in **Figure 4** on page 5, the OPPRS 10-year Sharpe ratio is ranked 1st relative to other Oklahoma Plans and in the 12th percentile relative to a broad peer group of public plans. Thus, on a risk-adjusted basis, the OPPRS plan has performed well over the long term and in a manner that is consistent with its stated objectives.

In summary, while the OPPRS plan has struggled to deliver annualized returns in excess of its 7.5% actuarial rate, the portfolio has generally outpaced the performance of peers and other Oklahoma pension plans both on an absolute and risk-adjusted basis through the calendar year of 2022 due to the emphasis on downside risk protection.

Oklahoma Law Enforcement Retirement System (OLERS)

The detailed performance of the OLERS plan begins on **page 121** of the performance report. As of December 31, 2022, the market value of assets for OLERS was approximately **\$1.05 Billion**. A high-level summary of Total Plan Performance and brief commentary is provided below.

OLERS Annualized Net-of-Fees Returns

Period Ending December 31, 2022

	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years
OLERS Total Fund (Net)	4.68	-0.17	-14.24	-14.24	3.32	4.17	5.94	6.28
OLERS Policy Index	5.53	0.56	-13.75	-13.75	3.53	4.95	6.64	7.13
<i>Difference</i>	<i>-0.85</i>	<i>-0.73</i>	<i>-0.49</i>	<i>-0.49</i>	<i>-0.21</i>	<i>-0.78</i>	<i>-0.70</i>	<i>-0.85</i>
OLERS Actual Allocation Index	6.23	1.38	-13.39	-13.39	6.58	6.52	7.89	7.68
<i>Difference</i>	<i>-1.55</i>	<i>-1.55</i>	<i>-0.85</i>	<i>-0.85</i>	<i>-3.26</i>	<i>-2.35</i>	<i>-1.95</i>	<i>-1.40</i>
All Public Plans – Total Fund Median	5.66	1.08	-12.81	-12.81	3.99	5.18	6.97	7.18
<i>Rank</i>	<i>75</i>	<i>90</i>	<i>65</i>	<i>65</i>	<i>57</i>	<i>69</i>	<i>71</i>	<i>65</i>

Commentary

The Law Enforcement Plan generated a return of 4.68% for the quarter, trailing its Policy Index and Actual Allocation Index by -0.85% and -1.55%, respectively. Outperformance was driven primarily by Domestic Equity, which ended the quarter with an 8.08% return for US Large Cap and 7.41% for US Small Cap. Real Assets and Fixed Income also contributed to positive relative performance, as each outperformed their benchmarks by 1.10% and 0.07%, respectively.

In summary, the OLERS Plan has ranked below median relative to peers for all trailing periods and has trailed other Oklahoma plans in terms of absolute returns over various trailing periods. The Plan has also ranked slightly below peers on a risk-adjusted basis, as represented by a Sharpe ratio, ranking in the 62nd percentile relative to peers over the trailing 10-year period.

Uniform Retirement System for Justices & Judges (URSJJ)

Detailed performance of the URSJJ plan begins on **page 135** of the performance report. As of December 31, 2022, the market value of assets for URSJJ was approximately **\$352.86 Million**. A high-level summary of Total Plan Performance and brief commentary is provided below.

URSJJ Annualized Net-of-Fees Returns

Period Ending December 31, 2022

	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years
URSJJ Total Fund (Net)	7.30	0.74	-16.95	-16.95	2.31	3.99	6.32	6.53
URSJJ Policy Index	7.40	0.80	-16.62	-16.62	2.32	4.10	6.41	6.56
<i>Difference</i>	<i>-0.10</i>	<i>-0.06</i>	<i>-0.33</i>	<i>-0.33</i>	<i>-0.01</i>	<i>-0.11</i>	<i>-0.09</i>	<i>-0.03</i>
URSJJ Actual Allocation Index	7.21	0.66	-16.86	-16.86	3.43	4.59	6.70	6.76
<i>Difference</i>	<i>0.09</i>	<i>0.08</i>	<i>-0.09</i>	<i>-0.09</i>	<i>-1.12</i>	<i>-0.60</i>	<i>-0.38</i>	<i>-0.23</i>
All Public Plans – Total Fund Median	5.66	1.08	-12.81	-12.81	3.99	5.18	6.97	7.18
<i>Rank</i>	<i>10</i>	<i>65</i>	<i>97</i>	<i>97</i>	<i>87</i>	<i>86</i>	<i>77</i>	<i>71</i>

Commentary

The Judges Plan generated a 10-year absolute return that ranked 5th relative to other Oklahoma Pension Plans, and in the 71st percentile relative to a broad peer group of public plans over the trailing 10 years. The plan has delivered performance that is generally in line with the benchmark given its significant use of passive management.

Overall, the URSJJ Plan has delivered returns in excess of its 6.5% actuarial rate for the current quarter and trailing 10-year period but has trailed relative to a broad peer group of public plans and to other Oklahoma plans. On a risk-adjusted basis, the Plan performed below median over the past 10 years relative to peers (with a Sharpe ratio ranking in the 85th percentile) and ranked 7th relative to Oklahoma Plans.

Oklahoma Wildlife Conservation Retirement System (OWCRS)

Detailed performance of the OWCRS plan begins on **page 147** of the performance report. As of December 31, 2022, the market value of assets for OWCRS was approximately **\$117.67 Million**. A high-level summary of Total Plan Performance and brief commentary is provided below.

OWCRS Annualized Net-of-Fees Returns

Period Ending December 31, 2022

	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years
OWCRS Total Fund (Net)	6.51	1.14	-14.41	-14.41	2.57	4.34	5.93	6.36
OWCRS Policy Index	7.54	3.00	-14.18	-14.18	2.18	3.57	5.40	5.71
<i>Difference</i>	<i>-1.03</i>	<i>-1.86</i>	<i>-0.23</i>	<i>-0.23</i>	0.39	0.77	0.53	0.65
OWCRS Actual Allocation Index	7.10	2.43	-14.08	-14.08	2.41	4.51	6.37	6.59
<i>Difference</i>	<i>-0.59</i>	<i>-1.29</i>	<i>-0.33</i>	<i>-0.33</i>	0.16	<i>-0.17</i>	<i>-0.44</i>	<i>-0.23</i>
All Public Plans – Total Fund Median	5.66	1.08	-12.81	-12.81	3.99	5.18	6.97	7.18
<i>Rank</i>	25	39	69	69	79	70	82	70

Commentary

The Wildlife Plan generated a return of 6.51% for the quarter, trailing its policy benchmark by -1.03%. Equity investments were the primary detractor from relative performance, trailing the custom index by -1.66%. Looking to longer time periods, the plan has exceeded the policy benchmark over the trailing 3-year and all longer time periods shown. Relative to peers, the Wildlife Plan provided 10-year absolute returns that ranked 6th when compared to other Oklahoma Pension Plans and below median relative to a broad peer group of public plans over all longer trailing periods.

Overall, the OWCRS Plan performed below median relative to a broad peer group of public plans over all longer periods shown. On a risk-adjusted basis, the Plan also ranked below median over the past 10 years, with a Sharpe ratio ranking in the 66th percentile relative to other public plans and ranking 5th relative to the group of seven Oklahoma Plans.

Overview of Fundamental Investment Performance Drivers

When reviewing the performance of the Oklahoma Pension Plans, it is important to understand the key drivers of investment returns, which we will reference throughout this document. In short, the return of an investment portfolio can be attributed to the following three, fundamental factors.

1. **Strategic Asset Allocation** – The long-term strategic asset allocation of a portfolio is by far the most significant driver of absolute returns in the long term. In other words, the percentages that a plan allocates to various asset classes, such as US equity, international equity, private equity, real estate, etc., tend to dominate. To this end, the most significant decision for pension plan boards is the extent of their exposure to various types of assets – especially equities. To this point, the degree of equity exposure is primarily a function of a plan’s risk tolerance and long-term return requirements; thus, understanding these requirements is the most critical responsibility of pension plan sponsors and their advisors.
2. **Tactical Asset Allocation** – Tactical asset allocation is a term that describes the return impact when a portfolio deviates from its long-term strategic asset allocation targets. In general, use of intentional tactical allocation at the total portfolio level is unlikely to add value, thus most institutional investors wisely avoid it. However, some degree of *unintentional* tactical allocation is inevitable due to the inability of institutional investors to match allocations with desired targets at all times. This is especially true in illiquid asset classes, such as private equity, as investors have limited control over the investment and distribution of capital from underlying funds. Nevertheless, even though some degree of tactical allocation is unavoidable, its overall impact on performance is generally modest.
3. **Active Management** – The third driver of investment performance is active management. Active management involves the construction of a portfolio of securities that differs from the mix in a comparable reference index. Although active management is usually not the most important driver of long-term *absolute returns*, it is an important driver of *relative returns* in comparison to peer organizations with similar allocation strategies. In general, there are three primary ways in which active management is incorporated into an institutional investment strategy.
 - a. **Use of Style Tilts within Asset Classes** – When all securities available for investment are aggregated within an asset class, the resulting portfolio can be categorized into various market segments. For example, the US equity market can be divided into small-, mid-, and large-sized companies, as well as value- and growth-oriented companies. Thus, one form of active management is to deliberately tilt a portfolio toward specific market segments in a manner that differs from the broad universe. For example, investors with a “small cap bias” make an active decision to favor investment in small companies rather than large companies. The degree to which this “style tilt” pays off is measured by evaluating an investor’s asset class performance relative to a broad asset class index. After adjusting for manager performance relative to their individual benchmarks, this reveals whether the style tilt added or detracted value.
 - b. **Use of Active Managers in Traditional Asset Classes with Index Fund Alternatives** – In many traditional asset classes, such as US equity, investors can choose a low-cost index fund or a more expensive, actively managed fund. An actively managed fund holds

securities that differ from a reference index representative of the asset class. For example, an active US equity manager may hold a portfolio of stocks that have different weightings than the S&P 500 Index. If an investor chooses to invest in an actively managed fund, their objective is to outperform the reference index. This can be evaluated on an absolute return basis and/or a risk-adjusted basis (i.e., the manager may provide a lower return but with less risk).

- c. **Use of Alternative Asset Classes that Lack Index Funds** – The final way in which active management is used is by investing in asset classes in which index funds are unavailable. Examples include private equity, hedge funds, private real estate, and several other niche market segments. In these situations, the key to evaluating performance is to gauge absolute and risk-adjusted returns versus a relatively comparable public market index or fundamental economic indicator (e.g., the consumer price index, which may be used as a proxy for inflation). In addition, peer rankings can be useful to gauge whether plans are selecting top tier managers relative to other institutional investors, as superior manager selection is essential in these asset classes. Although there are performance metrics that can be useful in these markets, it is also important to acknowledge that these metrics are considerably less precise than the metrics used in traditional asset classes. In addition, the metrics offer particularly limited value over shorter time periods.

In summary, it is important for institutional investors to be aware of the three factors that drive absolute and relative performance of institutional investment portfolios. When evaluating the performance of the Oklahoma pension plans, both individually and collectively, we will often refer to these three performance drivers.



Quarterly Investment Performance Analysis

Oklahoma State Pension Commission

Period Ended: December 31, 2022



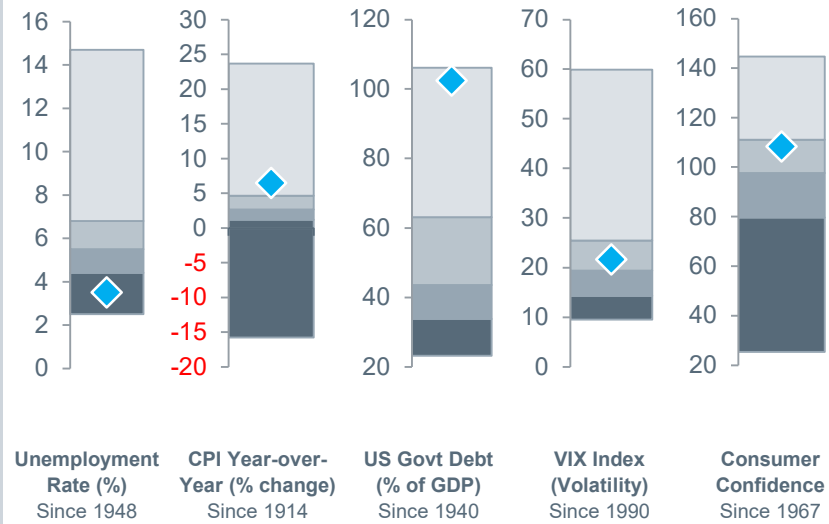
Capital Markets Metrics



Fourth Quarter Economic Environment

In Q4, equity and fixed income markets delivered improved results while continuing to experience elevated volatility. However, positive quarterly returns came on the tail of a significantly negative year for many investors. Regarding economic conditions, the impact of tightening monetary policy and persistent inflation, combined with supply shocks and an energy crisis in Europe, are leading to increasing odds of a global recession in 2023. On a relatively positive note, recent data indicates that the inflationary environment is showing signs of abating. Notably, the US Consumer Price Index declined for a sixth straight month in December with a reading of 6.5%, the lowest level since October 2021. In December, the FOMC did slow the pace of policy rate hikes with a 50 basis point increase, following a series of four straight 75 basis point increases. Internationally, the war in Ukraine caused an energy price shock and trade tensions continue to test economic and political relationships across multiple regions. Within emerging markets, investor attention is focused on China with some pointing to signs of a softening stance toward pandemic restrictions as reason to be optimistic regarding the country's outlook. However, these views are countered with concerns over indications of social unrest and the consolidation of power around President Xi Jinping. With all this considered, global GDP growth forecasts continue to moderate with the OECD forecasting growth of 3.1% in 2022 with an expected decline to 2.2% global GDP growth in 2023.

Key Economic Indicators



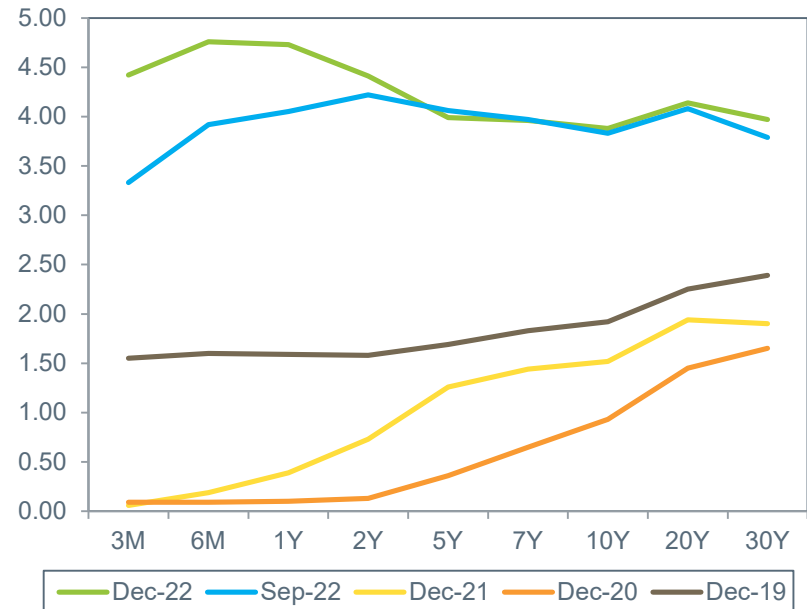
Economic Indicators

	Dec-22	Sep-22	Dec-21	Dec-19	20 Yr
Federal Funds Rate (%)	4.33 ▲	3.08	0.07	1.55	1.30
Breakeven Infl. - 5 Yr (%)	2.38 ▲	2.16	2.91	1.70	1.92
Breakeven Infl. - 10 Yr (%)	2.30 ▲	2.15	2.59	1.79	2.08
CPI YoY (Headline) (%)	6.5 ▼	8.2	7.0	2.3	2.5
Unemployment Rate (%)	3.5 —	3.5	3.9	3.6	6.0
Real GDP YoY (%)	1.0 ▼	1.8	5.7	2.6	2.0
PMI - Manufacturing	48.4 ▼	50.9	58.8	47.9	53.7
USD Total Wtd Idx	121.51 ▼	127.64	115.37	114.67	103.33
WTI Crude Oil per Barrel (\$)	80.3 ▲	79.5	75.2	61.1	67.9
Gold Spot per Oz (\$)	1,824 ▲	1,661	1,829	1,517	1,160

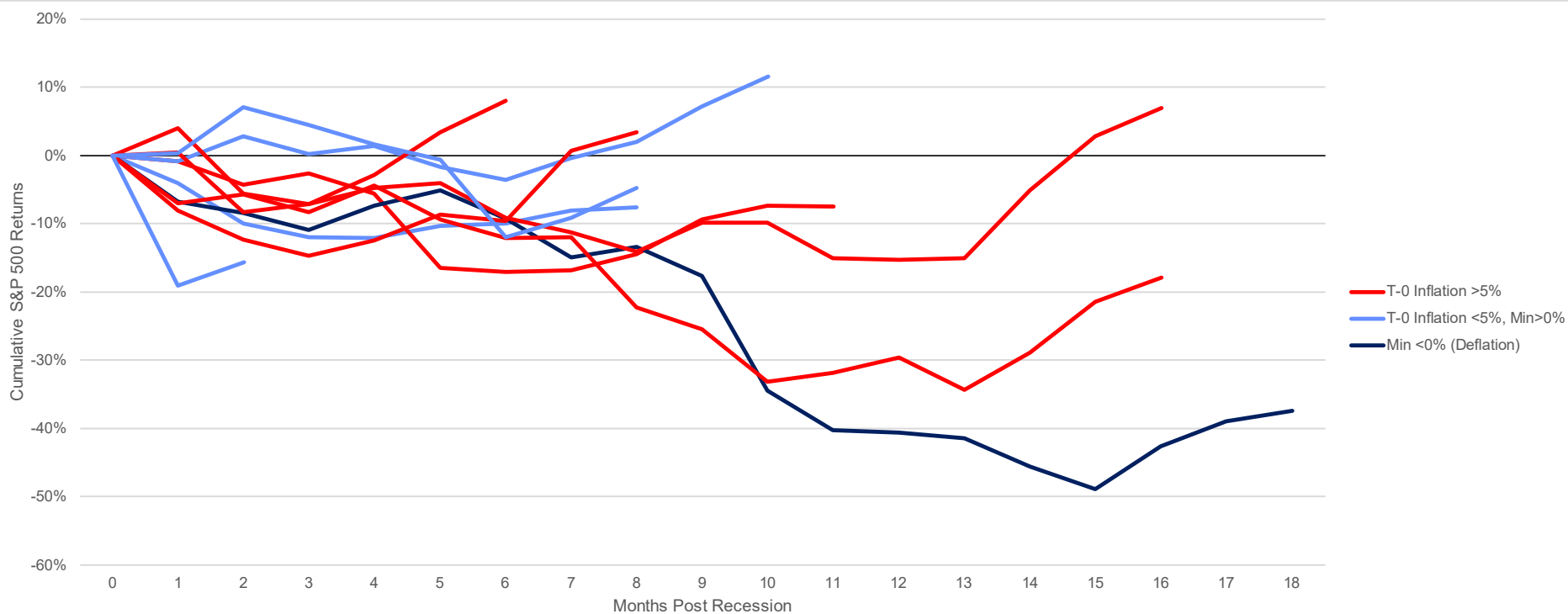
Market Performance (%)

	QTD	CYTD	1 Yr	5 Yr	10 Yr
S&P 500 (Cap Wtd)	7.56	-18.11	-18.11	9.42	12.56
Russell 2000	6.23	-20.44	-20.44	4.13	9.01
MSCI EAFE (Net)	17.34	-14.45	-14.45	1.54	4.67
MSCI EAFE SC (Net)	15.79	-21.39	-21.39	-0.05	6.21
MSCI Emg Mkts (Net)	9.70	-20.09	-20.09	-1.40	1.44
Bloomberg US Agg Bond	1.87	-13.01	-13.01	0.02	1.06
ICE BofAML 3 Mo US T-Bill	0.84	1.46	1.46	1.26	0.76
NCREIF ODCE (Gross)	-4.96	7.47	7.47	8.68	10.10
FTSE NAREIT Eq REIT (TR)	5.24	-24.37	-24.37	3.68	6.53
HFRI FOF Comp	1.79	-5.25	-5.25	3.02	3.51
Bloomberg Cmdty (TR)	2.22	16.09	16.09	6.44	-1.29

Treasury Yield Curve (%)



S&P 500 Performance - Recessionary Periods and Inflation Levels (1957 - Present)



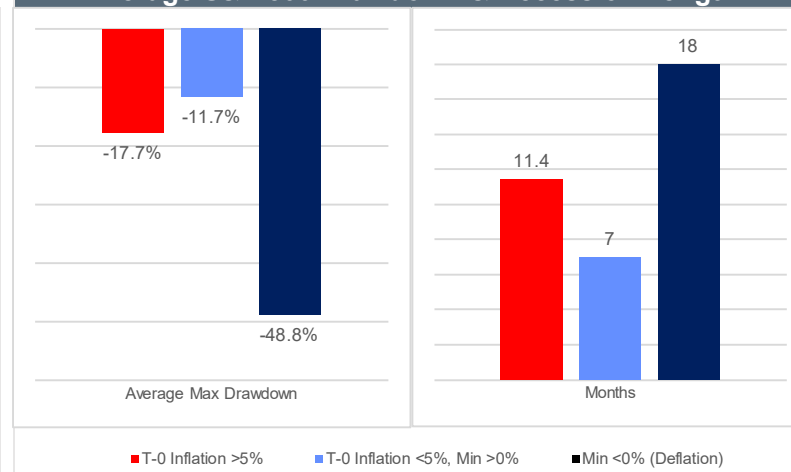
Recession Statistics

Start Date	Length Months	YoY CPI% @ T-0	Max YoY CPI%	Min YoY CPI%	Max Drawdown From T-0	Cumulative Return
9/30/1957	8	2.9	3.4	2.8	-12.0%	-7.6%
5/31/1960	10	1.6	1.6	0.9	-3.6%	11.6%
1/31/1970	11	5.9	5.9	5.0	-17.0%	-7.5%
12/31/1973	16	8.4	11.2	8.4	-34.2%	-17.9%
2/29/1980	6	13.0	13.5	12.1	-7.1%	8.0%
8/31/1981	16	9.9	9.9	4.1	-15.3%	7.0%
8/31/1990	8	5.5	6.0	4.6	-14.7%	3.4%
4/30/2001	8	3.0	3.0	1.7	-11.9%	-4.7%
1/31/2008	18	3.9	5.5	-2.0	-48.8%	-37.4%
3/31/2020	2	1.2	1.2	0.3	-19.1%	-15.7%

Averages

T-0 Inflation > 5%	11.4	8.5	9.3	6.8	-17.7%	-1.4%
T-0 Inflation < 5%, Min > 0%	7.0	2.2	2.3	1.4	-11.7%	-4.1%
Min < 0% (Deflation)	18.0	3.9	5.5	-2.0	-48.8%	-37.4%

Average S&P 500 Drawdown & Recession Length



Performance for each period begins where T-0 is equal to the start of an official recession and runs until the official end of the recession (as reported by the National Bureau of Economic Reporting).

Inflation is measured as the YoY % change in CPI. T-0 = the official recession start date.

Max and Min refer to the maximum and minimum observed YoY CPI% change during the recessionary period.

Source: RVK calculations, based on data from S&P Dow Jones Indices and FRED Database.



Fourth Quarter Review

Broad Market

US equity markets experienced a decrease in volatility in Q4 with short term spikes around CPI release dates and Fed meetings. Returns were positive across market cap and style groups in Q4. The reversal to growth seen in Q3 was short-lived, as value stocks led growth by a wide margin in Q4. Energy had its best year on record with the S&P 500 Energy Index gaining 65.72%.

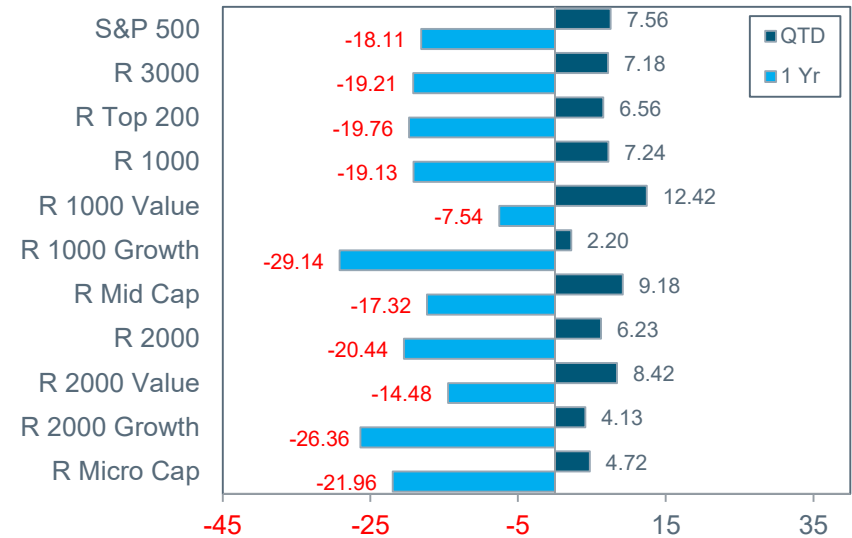
Market Cap

This year marks the worst performance of US equities across market cap groups since the GFC, and only the third time in the last 15 years that the Russell 3000 Index has generated negative returns.

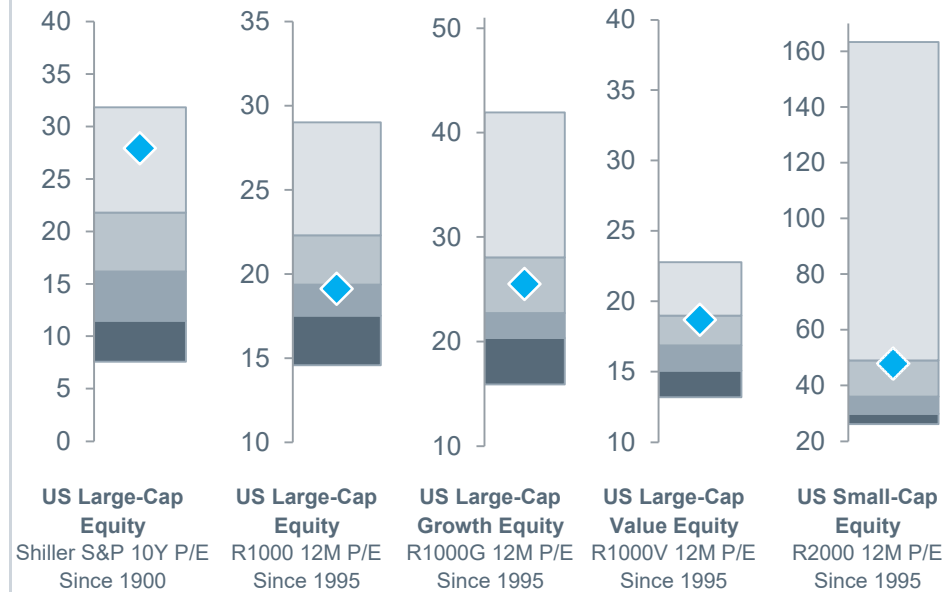
Style and Sector

Value-oriented managers had a higher success rate than core or growth managers in the small- and mid-cap spaces, while large-cap core and growth managers fared better than value managers. Growth managers across the market cap spectrum struggled to provide downside protection in 2022, while value and core managers were broadly successful.

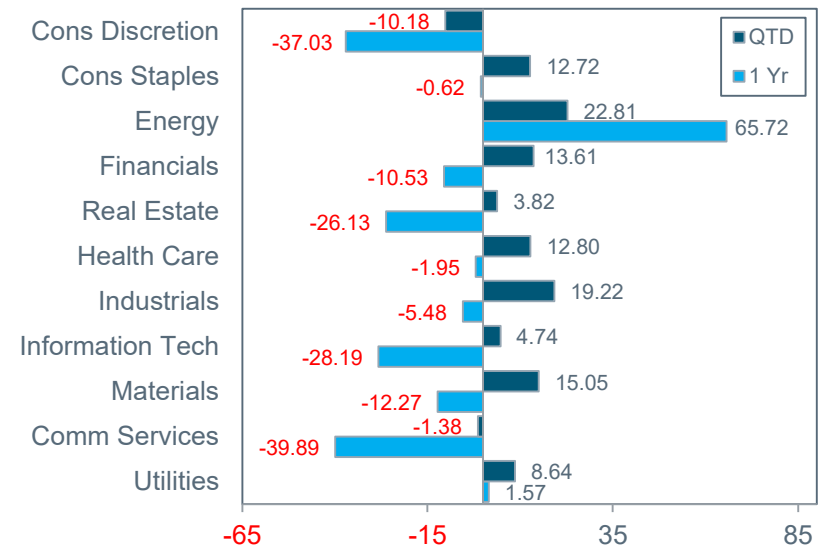
Style and Capitalization Market Performance (%)



Valuations



S&P 500 Index Sector Performance (%)



Valuation data courtesy of Bloomberg Professional Service and Robert J. Shiller, Irrational Exuberance, Second Edition (2000). P/E metrics shown represent the 5th through 95th percentiles to minimize the effect of outliers.



Fourth Quarter Review

Developed Markets

International developed markets meaningfully outperformed their domestic counterparts in Q4 with the MSCI EAFE Index realizing a 17.3% return for the period. Value stocks rebounded back into favor, outperforming growth in a reversal from the prior quarter, while large-cap continued its outperformance over small-cap stocks. Overall, market trends pointed to investors anticipating moderating inflation and easing of rate hikes despite the ongoing uncertainty led by the conflict in Ukraine and near-term recession fears.

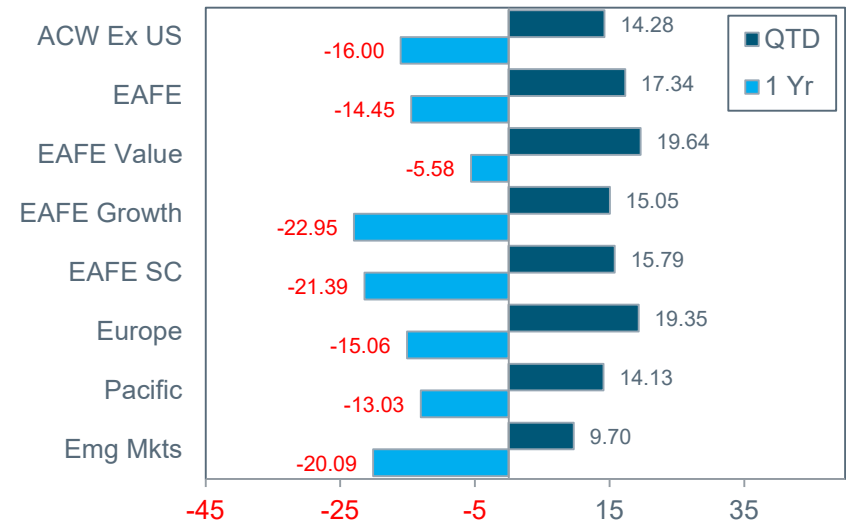
Emerging Markets

Emerging markets lagged behind developed during the quarter with the MSCI Emerging Markets Index finishing with a 9.7% return. Value stocks narrowly outperformed growth and large-cap beat small-cap.

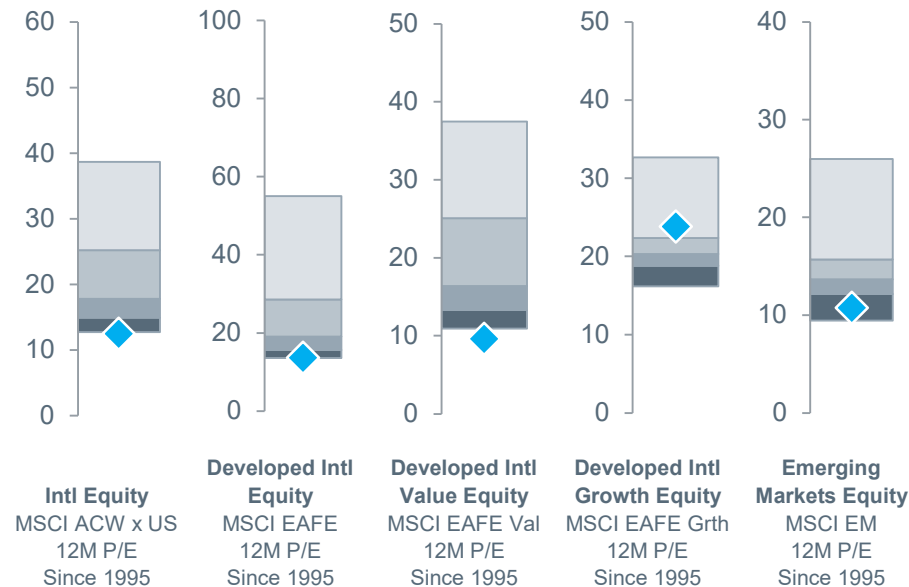
Market Cap & Style

The majority of active managers in emerging markets outperformed the index in Q4; however, active managers in international developed mostly underperformed.

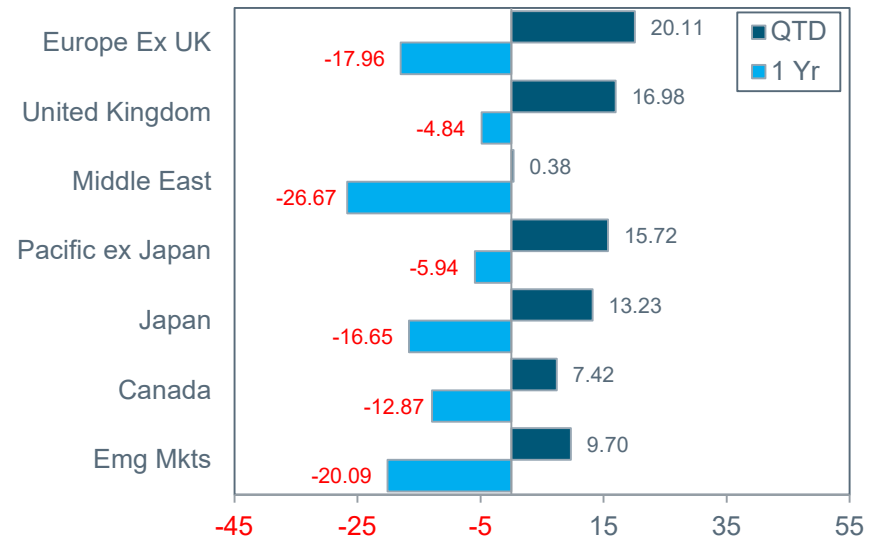
MSCI Style and Capitalization Market Performance (%)



Valuations



MSCI Region Performance (%)



Valuation data courtesy of Bloomberg Professional Service.

P/E metrics shown represent the 5th through 95th percentiles to minimize the effect of outliers.

All returns are shown net of foreign taxes on dividends.



Fourth Quarter Review

Broad Market

The Bloomberg US Aggregate Index finished Q4 with a return of 1.9%, capping off a decline of -13.0% in 2022, the most negative calendar year on record for the index. The year was defined by rising interest rates, as treasury yields rose 236 basis points from 1.5% to 3.9% as measured by the 10-year US Treasury yield. The Federal Reserve aggressively hiked the Federal Funds rate in response to persistent inflation over the course of the year.

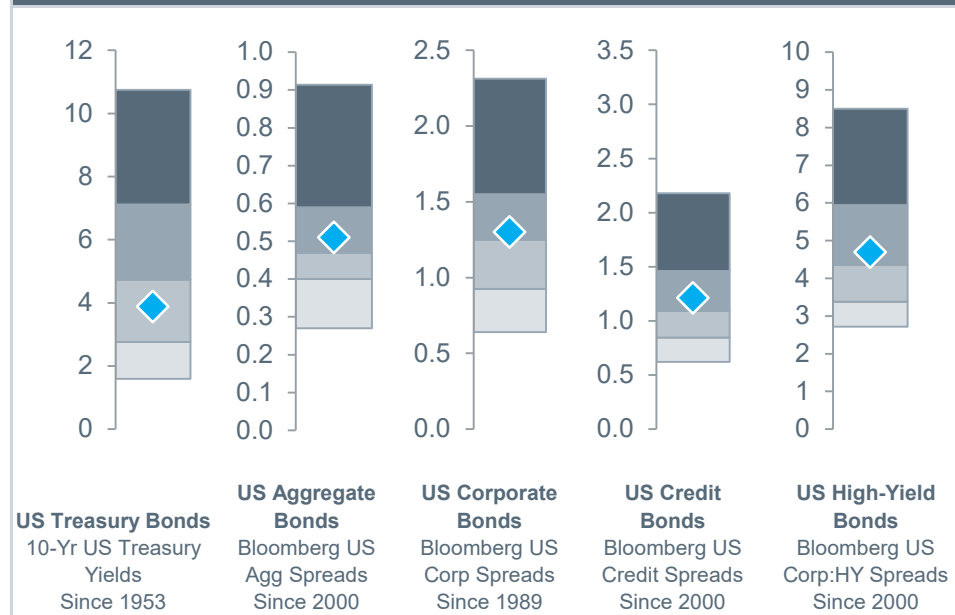
Credit Market

US investment grade corporate bonds rebounded in Q4 as low supply and softer Federal Reserve rhetoric bolstered credit markets. Non-investment grade corporate credit relatively outperformed investment grade over the year.

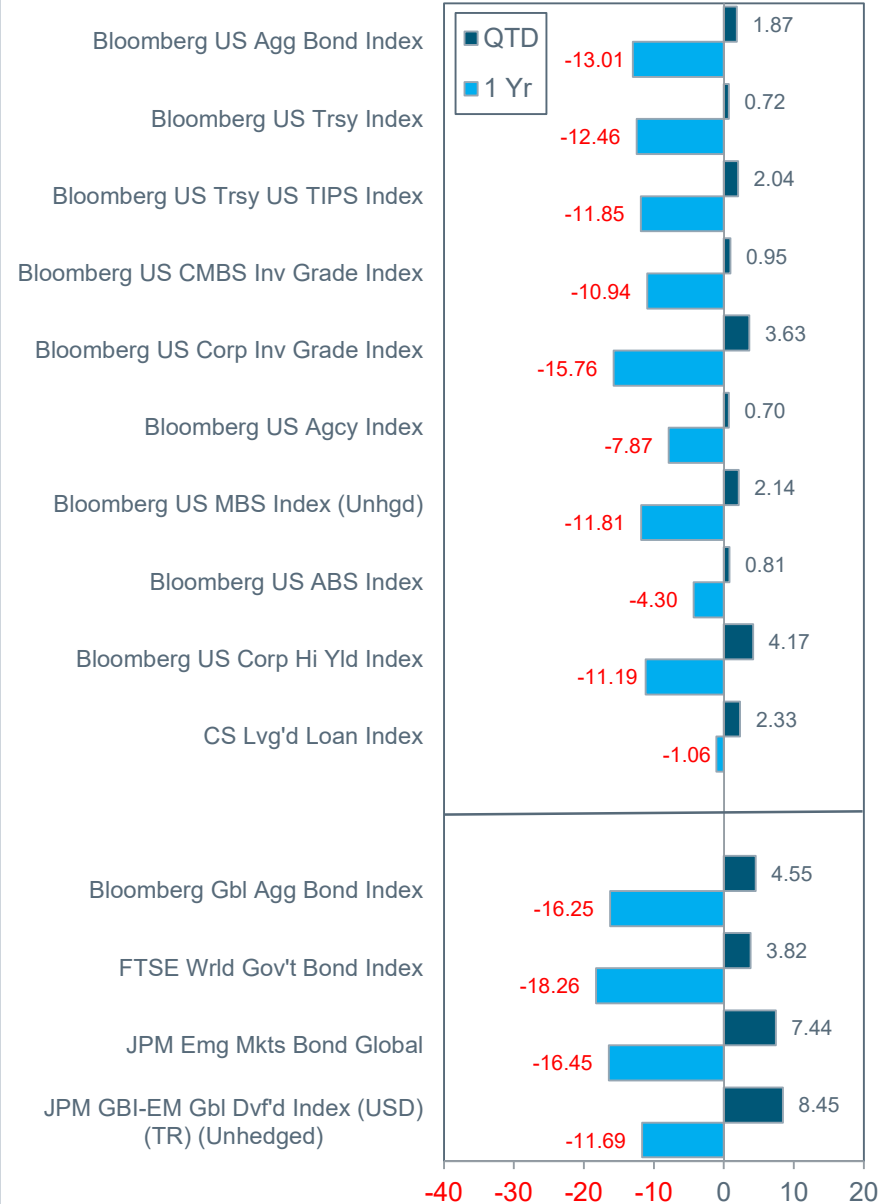
Emerging Market Debt

Conditions in global fixed income markets were defined by concerns over low growth, persistent inflation, rising interest rates, a strong US Dollar, and geopolitical conflict. The Bloomberg Global Aggregate Index returned 1.0% in Q4 and -11.2% in 2022, while the JPM EMBI Global Diversified returned 8.1% and -17.8% over these respective periods.

Valuations



Fixed Income Performance (%)



Valuation data courtesy of Bloomberg Professional Service. Valuations shown represent the 5th through 95th percentiles to minimize the effect of outliers.



Fourth Quarter Review - Absolute Return

General Market - Hedge Funds

Despite a highly challenging market backdrop, hedge funds broadly delivered much-needed capital preservation to institutional investors. The year also ended on a strong note given most managers were reducing leverage and overall market exposure going into Q4. The HFRI Fund-Asset-Weighted Composite Index delivered an annual return of 1.0% while its Asset-Weighted counterpart ended the year at -4.0%.

General Market - Global Tactical Asset Allocation (GTAA)

Global Tactical Asset Allocation (GTAA) strategies that RVK follows closely posted significant gains with moderate dispersion to close an otherwise challenging year. Given a strong quarter for non-US equity, as well as value-oriented equity within the US, nearly all active managers with significant diversification outperformed a US centric blend of 60% equity and 40% fixed income. The top performing long-biased GTAA strategies were those who have included meaningful market neutral idiosyncratic relative valuation exposures. While those who moderately underperformed peers benefitted from a value bias despite maintaining US equity and fixed income exposures.

Fourth Quarter Review - Real Assets

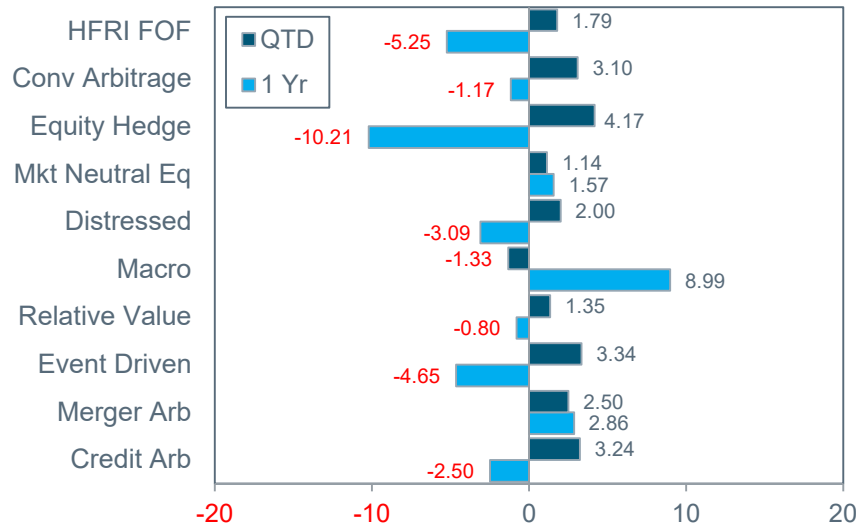
General Market - Diversified Inflation Strategies (DIS)

DIS managers tracked closely by RVK have outperformed a US-centric blend of 60% equity and 40% fixed income both year to date, and over the quarter. After responding positively to record inflationary pressures in Q1 of 2022, DIS posted losses in the second and third quarters that followed. Strong Q4 performance has materialized across the peer group, with those who rely on income-oriented investment processes and those who hold larger TIPS allocation lagging the group to a moderate degree.

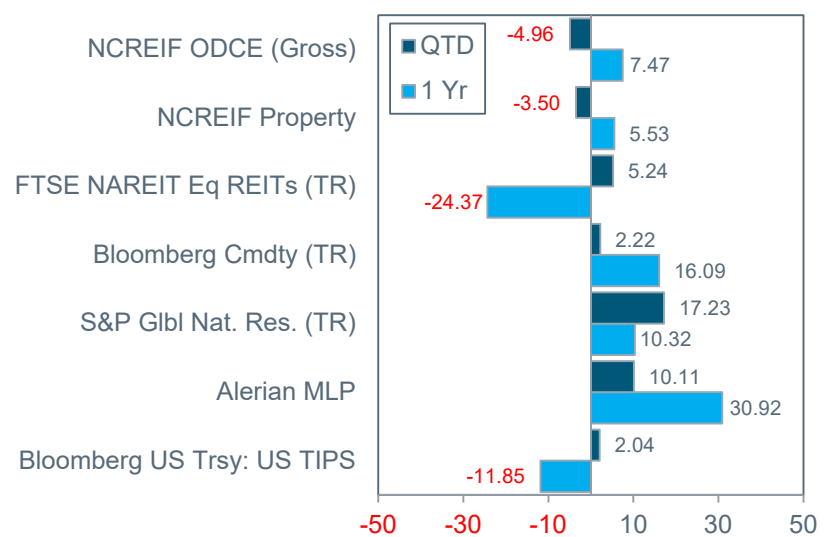
General Market - Real Estate

Core private real estate generated a negative return of -5.0% in Q4 (on a preliminary and gross of fee basis), as reported by the NFI-ODCE Index, with the total return comprising of 0.8% income and -5.8% price appreciation. Investors of publicly traded real estate significantly outperformed their private market counterparts by a meaningful margin. Publicly traded real estate delivered a fourth quarter total return of 4.5%, as measured by FTSE/NAREIT All REITs Index.

HFRI Hedge Fund Performance (%)



Real Asset Performance (%)



Annual Asset Class Performance

As of December 31, 2022

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	CYTD
Best	8.44	78.51	27.94	22.49	20.00	38.82	30.14	15.02	21.31	37.28	8.35	31.49	19.96	43.24	16.09
	5.24	58.21	26.85	15.99	18.23	32.39	19.31	9.59	17.13	33.01	1.87	26.00	18.40	28.71	7.47
	2.06	46.78	22.04	13.56	18.06	29.30	13.69	3.20	11.96	25.03	0.01	25.53	18.31	27.11	1.46
	-2.35	31.78	18.88	8.29	17.32	22.78	12.50	1.38	11.77	21.83	-1.26	24.96	16.12	22.17	-5.25
	-10.01	28.01	16.83	7.84	16.35	13.94	5.97	0.55	11.19	14.65	-2.08	22.01	12.34	14.82	-11.19
	-21.37	27.17	16.36	4.98	16.00	8.96	4.89	0.05	8.77	10.71	-4.02	19.59	10.99	11.26	-11.85
	-26.16	26.46	15.12	2.11	15.81	7.44	3.64	-0.27	8.52	7.77	-4.38	18.42	10.88	10.10	-13.01
	-33.79	18.91	15.06	0.10	10.94	2.47	3.37	-0.81	6.67	7.62	-4.62	14.32	7.82	6.17	-14.45
	-35.65	11.47	10.16	-4.18	8.78	0.07	2.45	-1.44	4.68	7.50	-4.68	8.72	7.51	5.96	-18.11
	-37.00	11.41	7.75	-5.72	6.98	-2.02	0.04	-3.30	2.65	5.23	-11.01	8.43	7.11	5.28	-20.09
	-37.74	5.93	6.54	-12.14	4.79	-2.60	-2.19	-4.41	2.18	3.54	-11.25	8.39	1.19	0.05	-20.44
	-43.33	1.92	6.31	-13.32	4.21	-8.61	-4.90	-4.47	1.00	3.01	-13.73	7.69	0.67	-1.55	-21.39
	-47.01	0.21	5.70	-15.94	0.11	-8.83	-4.95	-14.92	0.51	1.70	-14.57	5.34	-3.12	-2.52	-24.37
Worst	-53.33	-29.76	0.13	-18.42	-1.06	-9.52	-17.01	-24.66	0.33	0.86	-17.89	2.28	-8.00	-2.54	-27.09
	S&P 500 - US Large Cap	R 2000 - US Small Cap	MSCI EAFE (Net) - Int'l Dev.	MSCI EAFE SC (Net) - Int'l SC	MSCI EM (Net) - Int'l Emg Mkts	Bloombrg US Agg Bond - FI	Bloombrg US Corp Hi Yield - FI	Bloombrg US Trsy US TIPS - FI	Bloombrg US Gov Credit Lng - FI	NCREIF ODCE (Gross) - Real Estate	FTSE NAREIT Eq REITs Index (TR)	HFRI FOF Comp Index - ARS	Bloombrg Cmdty (TR) - Commod.	ICE BofAML 3 Mo T-Bill - Cash Equiv	

NCREIF ODCE (Gross) performance is reported quarterly; performance is shown N/A in interim-quarter months.



Examples of State ESG Boycott Initiatives

Kentucky

5/2022: “ESG investment practices are inconsistent with Kentucky law governing fiduciary duties owed by investment management firms to public pension plans.”

4/2022: *State Bill 205: State Dealings with Companies that Engage in Energy Company Boycott* – *passed*

Requires divestment within one year from listed companies that do not cease restricted activities, requires Treasurer to maintain a list of financial companies that boycott fossil fuel companies. No list has been published to date and does not apply to indirect holdings in active or passive investment funds or private equity funds. Requires state agency to request fund managers remove listed companies from fund or create similar fund without listed companies.

Oklahoma

11/2022: *House Bill 2034: Energy Discrimination Elimination Act of 2022* – *passed*

Applies to all OK state retirement systems, requires divestment within one year from listed companies that do not cease restricted activities, requires Treasurer to maintain a list of financial companies that boycott fossil fuel companies. No list has been published to date and does not apply to indirect holdings in active or passive investment funds or private equity funds. Requires state agency to request fund managers remove listed companies from fund or create similar fund without listed companies.

Idaho

7/2022: *State Bill S1405: Disfavored State Investments* – *passed*

Prohibits public entities engaged in investment activities from considering ESG characteristics in a manner that could override the prudent investor rule. Allows ESG investments only if optional and sufficient alternatives are offered.

Texas

9/2021: *State Bill 13: Relating to State Contracts with and Investments in Certain Companies that Boycott Energy Companies* – *passed*

Applies to several Retirement Systems of Texas. Requires the Comptroller to maintain a list of financial companies that boycott energy companies and prohibits investments in listed companies. Does not apply to indirect holdings in active or passive investment funds or private equity funds. Requires state agency to request fund managers remove listed companies from fund or create similar fund without listed companies.

Actions Relating to ESG Taken in 2022 & 2023

2022

States	Action	Dollar Amounts
<ul style="list-style-type: none"> Alabama Idaho Indiana Florida Kentucky 	Most states are still considering additional measures. Currently, they emphasized they will only consider the pecuniary nature of any investment	\$-.-
<ul style="list-style-type: none"> W. Virginia Idaho 	West Virginia barred state agencies from conducting business with the five major financial firms on the next page. Idaho is set to follow suit	\$ TBD
<ul style="list-style-type: none"> Texas 	<p>Compiled and published a list of 10 financial firms and 348 investment funds that governmental entities must eventually divest from. To-date no divestment has been completed</p> <ul style="list-style-type: none"> BlackRock was the only American firm listed 	\$-.-
<ul style="list-style-type: none"> Arkansas (Treasury) Louisiana (Treasury) Missouri (Pension) S. Carolina (Treasury) Utah (Treasury) 	Terminated their relationship with BlackRock. Approximately \$1.7 Billion	\$125 mil \$795 mil \$500 mil \$200 mil \$100 mil

Actions Relating to ESG Taken in 2022 & 2023

2023

States	Action	Dollar Amounts
<ul style="list-style-type: none"> • Texas 	Texas Teachers divested of BlackRock and nine other firms and funds to comply with state law.	Not Disclosed
<ul style="list-style-type: none"> • Kentucky 	Trustees from Kentucky County Employees Retirement System voted and sent a letter indicating that divesting from a list of 11 financial firms would violate their fiduciary duty.	N/A
<ul style="list-style-type: none"> • Indiana 	Indiana Public Retirement System warned in a fiscal statement that divestment from fossil fuel “boycotters” would cause a significant reduction in investment returns.	N/A
<ul style="list-style-type: none"> • West Virginia • Florida 	Considering further actions including proxy voting requirements and transparency. Florida is considering codifying policies including executive policies in place for State Board of Administration (SBA)	N/A

State Bills that have been Pre-filed

The legislative sessions are filled with bills further defining their state's values:

States are pre-filing bills to highlight their initiatives ahead of a legislature session.

- Arkansas, Missouri, here, South Carolina, and Texas all have pre-filed bills.

These bills are differentiated than what was filed in 2022. The focus is on limiting corporations (financials firms, banks, contractors, etc) from discriminating based on ESG scores.

Legislation in 2021 and 2022 were either divestment bills and limiting contracts with companies that boycotted certain industries or to prohibit the use of state funds for ESG or social investment.

The key takeaway is this space continues to evolve as state's consider their values with their pensions, treasury funds, and other state-backed programs.

Oklahoma State Pension Commission



Oklahoma State Pension Commission
All Plans Summary
Asset Allocation & Performance - Net of Fees

As of December 31, 2022

	Allocation		Performance (%)											
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2021	2020	2019	2018
Oklahoma State Pension Commission	37,498,342,864	100.00												
OTRS (Teachers) Total Fund	19,558,299,567	52.16	6.57	1.24	-13.25	-13.25	5.10	5.61	7.78	8.06	18.20	13.22	19.48	-5.29
OTRS Policy Index			6.95	2.57	-14.07	-14.07	4.61	5.82	7.80	7.80	15.60	15.24	21.72	-4.75
Difference			-0.38	-1.33	0.82	0.82	0.49	-0.21	-0.02	0.26	2.60	-2.02	-2.24	-0.54
OTRS Actual Allocation Index			6.05	1.63	-15.02	-15.02	4.93	5.54	7.52	7.88	16.21	16.98	18.94	-4.70
Difference			0.52	-0.39	1.77	1.77	0.17	0.07	0.26	0.18	1.99	-3.76	0.54	-0.59
Actuarial Discount Rate (7.0%)			1.71	3.44	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00
Difference			4.86	-2.20	-20.25	-20.25	-1.90	-1.39	0.78	1.06	11.20	6.22	12.48	-12.29
OPERS (Public Employees) Total Fund	10,291,547,592	27.45	7.76	0.84	-16.74	-16.74	2.50	4.05	6.32	6.63	12.29	15.18	21.23	-6.57
OPERS Policy Index			7.40	0.80	-16.62	-16.62	2.32	4.09	6.40	6.56	11.54	15.19	21.46	-6.09
Difference			0.36	0.04	-0.12	-0.12	0.18	-0.04	-0.08	0.07	0.75	-0.01	-0.23	-0.48
OPERS Actual Allocation Index			7.15	0.65	-16.87	-16.87	3.50	4.62	6.74	6.85	12.14	18.93	20.87	-6.49
Difference			0.61	0.19	0.13	0.13	-1.00	-0.57	-0.42	-0.22	0.15	-3.75	0.36	-0.08
Actuarial Discount Rate (6.5%)			1.59	3.20	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50
Difference			6.17	-2.36	-23.24	-23.24	-4.00	-2.45	-0.18	0.13	5.79	8.68	14.73	-13.07
OFPRS (Firefighters)	3,190,505,920	8.51	4.49	0.48	-13.34	-13.34	5.07	6.20	7.98	8.40	13.46	17.97	19.77	-2.77
OFPRS Policy Index			5.87	1.01	-13.50	-13.50	4.93	6.24	8.00	8.52	16.12	15.02	21.76	-3.80
Difference			-1.38	-0.53	0.16	0.16	0.14	-0.04	-0.02	-0.12	-2.66	2.95	-1.99	1.03
OFPRS Actual Allocation Index			4.98	0.42	-12.83	-12.83	5.37	6.22	7.98	8.29	16.99	14.72	20.30	-3.93
Difference			-0.49	0.06	-0.51	-0.51	-0.30	-0.02	0.00	0.11	-3.53	3.25	-0.53	1.16
Actuarial Discount Rate (7.5%)			1.82	3.68	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50
Difference			2.67	-3.20	-20.84	-20.84	-2.43	-1.30	0.48	0.90	5.96	10.47	12.27	-10.27
OPPRS (Police) Total Fund	2,939,579,441	7.84	2.86	-1.03	-10.39	-10.39	5.64	5.70	6.89	6.87	17.28	12.17	15.22	-2.85
OPPRS Policy Index			6.06	0.62	-13.27	-13.27	3.89	4.81	6.59	6.28	14.76	12.66	19.13	-5.34
Difference			-3.20	-1.65	2.88	2.88	1.75	0.89	0.30	0.59	2.52	-0.49	-3.91	2.49
OPPRS Actual Allocation Index			5.55	0.98	-12.42	-12.42	4.44	4.76	6.28	6.28	13.63	14.47	15.02	-3.70
Difference			-2.69	-2.01	2.03	2.03	1.20	0.94	0.61	0.59	3.65	-2.30	0.20	0.85
Actuarial Discount Rate (7.5%)			1.82	3.68	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50
Difference			1.04	-4.71	-17.89	-17.89	-1.86	-1.80	-0.61	-0.63	9.78	4.67	7.72	-10.35

Performance shown is net of fees. Performance is annualized for periods greater than one year. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01.



All Plans Summary

Asset Allocation & Performance - Net of Fees

	Allocation		Performance (%)											
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2021	2020	2019	2018
OLERS (Law Enforcement) Total Fund	1,047,884,067	2.79	4.68	-0.17	-14.24	-14.24	3.32	4.17	5.94	6.28	14.56	12.26	17.44	-5.30
OLERS Policy Index			5.53	0.56	-13.75	-13.75	3.53	4.95	6.64	7.13	14.02	12.84	19.12	-3.67
Difference			-0.85	-0.73	-0.49	-0.49	-0.21	-0.78	-0.70	-0.85	0.54	-0.58	-1.68	-1.63
OLERS Actual Allocation Index			5.90	1.09	-13.91	-13.91	6.38	6.40	7.81	7.62	14.75	21.88	17.33	-3.47
Difference			-1.22	-1.26	-0.33	-0.33	-3.06	-2.23	-1.87	-1.34	-0.19	-9.62	0.11	-1.83
Actuarial Discount Rate (7.5%)			1.82	3.68	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50
Difference			2.86	-3.85	-21.74	-21.74	-4.18	-3.33	-1.56	-1.22	7.06	4.76	9.94	-12.80
URSJJ (Judges) Total Fund	352,860,722	0.94	7.30	0.74	-16.95	-16.95	2.31	3.99	6.32	6.53	12.08	15.06	21.36	-6.43
URSJJ Policy Index			7.40	0.80	-16.62	-16.62	2.32	4.10	6.41	6.56	11.54	15.19	21.51	-6.09
Difference			-0.10	-0.06	-0.33	-0.33	-0.01	-0.11	-0.09	-0.03	0.54	-0.13	-0.15	-0.34
URSJJ Actual Allocation Index			7.21	0.66	-16.86	-16.86	3.43	4.59	6.70	6.76	12.10	18.70	21.01	-6.52
Difference			0.09	0.08	-0.09	-0.09	-1.12	-0.60	-0.38	-0.23	-0.02	-3.64	0.35	0.09
Actuarial Discount Rate (6.5%)			1.59	3.20	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50
Difference			5.71	-2.46	-23.45	-23.45	-4.19	-2.51	-0.18	0.03	5.58	8.56	14.86	-12.93
OWCRS (Wildlife) Total Fund	117,665,555	0.31	6.51	1.14	-14.41	-14.41	2.57	4.34	5.93	6.36	11.58	13.00	19.21	-3.85
OWCRS Policy Index			7.54	3.00	-14.18	-14.18	2.18	3.57	5.40	5.71	10.35	12.67	17.53	-4.95
Difference			-1.03	-1.86	-0.23	-0.23	0.39	0.77	0.53	0.65	1.23	0.33	1.68	1.10
OWCRS Actual Allocation Index			7.10	2.43	-14.08	-14.08	2.41	4.51	6.37	6.59	10.43	13.21	20.53	-3.71
Difference			-0.59	-1.29	-0.33	-0.33	0.16	-0.17	-0.44	-0.23	1.15	-0.21	-1.32	-0.14
Actuarial Discount Rate (7.0%)			1.71	3.44	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00
Difference			4.80	-2.30	-21.41	-21.41	-4.43	-2.66	-1.07	-0.64	4.58	6.00	12.21	-10.85

Performance shown is net of fees. Performance is annualized for periods greater than one year. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01.



All Plans Summary

Asset Allocation & Performance - Gross of Fees

	Allocation		Performance (%)											
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2021	2020	2019	2018
Oklahoma State Pension Commission	37,498,342,864	100.00												
All Public Plans-Total Fund Median			5.66	1.08	-12.81	-12.81	3.99	5.18	6.97	7.18	14.01	12.54	18.57	-4.02
OTRS (Teachers) Total Fund	19,558,299,567	52.16	6.61	1.33	-13.08	-13.08	5.31	5.87	8.09	8.42	18.42	13.45	19.83	-4.98
OTRS Policy Index			6.95	2.57	-14.07	-14.07	4.61	5.82	7.80	7.80	15.60	15.24	21.72	-4.75
Difference			-0.34	-1.24	0.99	0.99	0.70	0.05	0.29	0.62	2.82	-1.79	-1.89	-0.23
OTRS Actual Allocation Index			6.05	1.63	-15.02	-15.02	4.93	5.54	7.52	7.88	16.21	16.98	18.94	-4.70
Difference			0.56	-0.30	1.94	1.94	0.38	0.33	0.57	0.54	2.21	-3.53	0.89	-0.28
Actuarial Discount Rate (7.0%)			1.71	3.44	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00
Difference			4.90	-2.11	-20.08	-20.08	-1.69	-1.13	1.09	1.42	11.42	6.45	12.83	-11.98
Rank			24	38	54	54	21	27	11	6	9	38	31	73
OPERS (Public Employees) Total Fund	10,291,547,592	27.45	7.81	0.92	-16.64	-16.64	2.64	4.18	6.44	6.76	12.46	15.34	21.38	-6.48
OPERS Policy Index			7.40	0.80	-16.62	-16.62	2.32	4.09	6.40	6.56	11.54	15.19	21.46	-6.09
Difference			0.41	0.12	-0.02	-0.02	0.32	0.09	0.04	0.20	0.92	0.15	-0.08	-0.39
OPERS Actual Allocation Index			7.15	0.65	-16.87	-16.87	3.50	4.62	6.74	6.85	12.14	18.93	20.87	-6.49
Difference			0.66	0.27	0.23	0.23	-0.86	-0.44	-0.30	-0.09	0.32	-3.59	0.51	0.01
Actuarial Discount Rate (6.5%)			1.59	3.20	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50
Difference			6.22	-2.28	-23.14	-23.14	-3.86	-2.32	-0.06	0.26	5.96	8.84	14.88	-12.98
Rank			5	58	95	95	83	82	73	67	72	19	11	94
OFPRS (Firefighters) Total Fund	3,190,505,920	8.51	4.58	0.66	-13.03	-13.03	5.46	6.57	8.34	8.77	13.87	18.44	20.15	-2.46
OFPRS Policy Index			5.87	1.01	-13.50	-13.50	4.93	6.24	8.00	8.52	16.12	15.02	21.76	-3.80
Difference			-1.29	-0.35	0.47	0.47	0.53	0.33	0.34	0.25	-2.25	3.42	-1.61	1.34
OFPRS Actual Allocation Index			4.98	0.42	-12.83	-12.83	5.37	6.22	7.98	8.29	16.99	14.72	20.30	-3.93
Difference			-0.40	0.24	-0.20	-0.20	0.09	0.35	0.36	0.48	-3.12	3.72	-0.15	1.47
Actuarial Discount Rate (7.5%)			1.82	3.68	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50
Difference			2.76	-3.02	-20.53	-20.53	-2.04	-0.93	0.84	1.27	6.37	10.94	12.65	-9.96
Rank			79	68	53	53	18	9	7	3	53	5	27	19

Performance shown is gross of fees. Performance is annualized for periods greater than one year. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01.



All Plans Summary

Asset Allocation & Performance - Gross of Fees

	Allocation		Performance (%)											
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2021	2020	2019	2018
OPPRS (Police) Total Fund	2,939,579,441	7.84	2.94	-0.86	-9.99	-9.99	6.04	6.11	7.32	7.31	17.71	12.54	15.68	-2.46
OPPRS Policy Index			6.06	0.62	-13.27	-13.27	3.89	4.81	6.59	6.28	14.76	12.66	19.13	-5.34
Difference			-3.12	-1.48	3.28	3.28	2.15	1.30	0.73	1.03	2.95	-0.12	-3.45	2.88
OPPRS Actual Allocation Index			5.55	0.98	-12.42	-12.42	4.44	4.76	6.28	6.28	13.63	14.47	15.02	-3.70
Difference			-2.61	-1.84	2.43	2.43	1.60	1.35	1.04	1.03	4.08	-1.93	0.66	1.24
Actuarial Discount Rate (7.5%)			1.82	3.68	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50
Difference			1.12	-4.54	-17.49	-17.49	-1.46	-1.39	-0.18	-0.19	10.21	5.04	8.18	-9.96
Rank			95	97	20	20	11	20	36	44	12	50	85	19
OLERS (Law Enforcement) Total Fund	1,047,884,067	2.79	4.79	0.04	-13.87	-13.87	3.78	4.68	6.48	6.83	15.04	12.80	18.07	-4.76
OLERS Policy Index			5.53	0.56	-13.75	-13.75	3.53	4.95	6.64	7.13	14.02	12.84	19.12	-3.67
Difference			-0.74	-0.52	-0.12	-0.12	0.25	-0.27	-0.16	-0.30	1.02	-0.04	-1.05	-1.09
OLERS Actual Allocation Index			5.90	1.09	-13.91	-13.91	6.38	6.40	7.81	7.62	14.75	21.88	17.33	-3.47
Difference			-1.11	-1.05	0.04	0.04	-2.60	-1.72	-1.33	-0.79	0.29	-9.08	0.74	-1.29
Actuarial Discount Rate (7.5%)			1.82	3.68	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50
Difference			2.97	-3.64	-21.37	-21.37	-3.72	-2.82	-1.02	-0.67	7.54	5.30	10.57	-12.26
Rank			75	90	65	65	57	69	71	65	35	46	57	67
URSJJ (Judges) Total Fund	352,860,722	0.94	7.31	0.75	-16.93	-16.93	2.35	4.03	6.36	6.58	12.12	15.10	21.40	-6.38
URSJJ Policy Index			7.40	0.80	-16.62	-16.62	2.32	4.10	6.41	6.56	11.54	15.19	21.51	-6.09
Difference			-0.09	-0.05	-0.31	-0.31	0.03	-0.07	-0.05	0.02	0.58	-0.09	-0.11	-0.29
URSJJ Actual Allocation Index			7.21	0.66	-16.86	-16.86	3.43	4.59	6.70	6.76	12.10	18.70	21.01	-6.52
Difference			0.10	0.09	-0.07	-0.07	-1.08	-0.56	-0.34	-0.18	0.02	-3.60	0.39	0.14
Actuarial Discount Rate (6.5%)			1.59	3.20	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50
Difference			5.72	-2.45	-23.43	-23.43	-4.15	-2.47	-0.14	0.08	5.62	8.60	14.90	-12.88
Rank			10	65	97	97	87	86	77	71	77	22	11	93
OWCRS (Wildlife) Total Fund	117,665,555	0.31	6.60	1.30	-14.14	-14.14	2.90	4.62	6.19	6.60	11.95	13.34	19.46	-3.68
OWCRS Policy Index			7.54	3.00	-14.18	-14.18	2.18	3.57	5.40	5.71	10.35	12.67	17.53	-4.95
Difference			-0.94	-1.70	0.04	0.04	0.72	1.05	0.79	0.89	1.60	0.67	1.93	1.27
OWCRS Actual Allocation Index			7.10	2.43	-14.08	-14.08	2.41	4.51	6.37	6.59	10.43	13.21	20.53	-3.71
Difference			-0.50	-1.13	-0.06	-0.06	0.49	0.11	-0.18	0.01	1.52	0.13	-1.07	0.03
Actuarial Discount Rate (7.0%)			1.71	3.44	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00
Difference			4.89	-2.14	-21.14	-21.14	-4.10	-2.38	-0.81	-0.40	4.95	6.34	12.46	-10.68
Rank			25	39	69	69	79	70	82	70	79	39	37	44

Performance shown is gross of fees. Performance is annualized for periods greater than one year. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
All Plans Summary
Asset Class Performance - Net of Fees

As of December 31, 2022

	Performance (%)											
	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2021	2020	2019	2018
US Equity												
OTRS US Equity	8.96	3.29	-16.72	-16.72	6.14	6.96	9.97	11.18	24.40	15.40	27.64	-8.27
Russell 3000 Index	7.18	2.40	-19.21	-19.21	7.07	8.79	11.04	12.13	25.66	20.89	31.02	-5.24
Difference	1.78	0.89	2.49	2.49	-0.93	-1.83	-1.07	-0.95	-1.26	-5.49	-3.38	-3.03
OPERS US Equity	8.10	3.17	-17.77	-17.77	7.63	8.56	10.90	12.02	25.96	20.37	29.26	-6.45
OPERS US Equity Custom Index	7.10	2.55	-19.29	-19.29	6.79	8.43	10.80	11.93	24.73	20.97	30.56	-5.70
Difference	1.00	0.62	1.52	1.52	0.84	0.13	0.10	0.09	1.23	-0.60	-1.30	-0.75
OFPRS US Equity	6.95	2.85	-20.77	-20.77	5.90	8.09	10.46	11.61	19.50	25.45	31.05	-5.21
Wilshire 5000 Index	7.10	2.34	-19.04	-19.04	7.41	8.99	11.26	12.28	26.70	20.82	31.02	-5.27
Difference	-0.15	0.51	-1.73	-1.73	-1.51	-0.90	-0.80	-0.67	-7.20	4.63	0.03	0.06
OLERS US Equity	7.84	3.02	-20.76	-20.76	5.91	7.38	10.05	11.13	25.49	19.46	32.12	-9.02
S&P 500 Index (Cap Wtd)	7.56	2.31	-18.11	-18.11	7.66	9.42	11.48	12.56	28.71	18.40	31.49	-4.38
Difference	0.28	0.71	-2.65	-2.65	-1.75	-2.04	-1.43	-1.43	-3.22	1.06	0.63	-4.64
URSJJ US Equity	7.08	2.59	-19.30	-19.30	6.79	8.40	10.78	11.90	24.69	21.02	30.49	-5.83
URSJJ US Equity Custom Index	7.10	2.55	-19.29	-19.29	6.79	8.43	10.80	11.93	24.73	20.97	30.56	-5.70
Difference	-0.02	0.04	-0.01	-0.01	0.00	-0.03	-0.02	-0.03	-0.04	0.05	-0.07	-0.13
OWCRS US Equity	7.07	2.49	-17.26	-17.26	7.52	8.62	10.75	12.15	26.38	18.87	28.92	-5.64
Russell 3000 Index	7.18	2.40	-19.21	-19.21	7.07	8.79	11.04	12.13	25.66	20.89	31.02	-5.24
Difference	-0.11	0.09	1.95	1.95	0.45	-0.17	-0.29	0.02	0.72	-2.02	-2.10	-0.40

Performance shown is net of fees. Performance is annualized for periods greater than one year. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01. OPPRS Total Equity includes Public Equity, Private Equity, and Long/Short Equity.



Oklahoma State Pension Commission
All Plans Summary
Asset Class Performance - Net of Fees

As of December 31, 2022

	Performance (%)											
	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2021	2020	2019	2018
International Equity												
OTRS International Equity	14.06	1.45	-20.25	-20.25	-0.17	0.21	3.93	4.46	11.24	12.13	21.38	-16.32
MSCI ACW Ex US IM Index (USD) (Gross)	14.23	3.28	-16.15	-16.15	0.65	1.32	5.32	4.46	8.99	11.59	22.24	-14.35
Difference	-0.17	-1.83	-4.10	-4.10	-0.82	-1.11	-1.39	0.00	2.25	0.54	-0.86	-1.97
OPERS International Equity	14.54	2.44	-17.40	-17.40	-0.25	1.06	4.85	4.16	6.98	12.30	23.21	-13.81
MSCI ACW Ex US Index (USD) (Gross)	14.37	3.16	-15.57	-15.57	0.53	1.36	5.30	4.28	8.29	11.13	22.13	-13.78
Difference	0.17	-0.72	-1.83	-1.83	-0.78	-0.30	-0.45	-0.12	-1.31	1.17	1.08	-0.03
OFPRS International Equity	9.91	2.23	-21.14	-21.14	3.60	3.92	7.40	5.88	7.00	31.77	26.48	-13.83
MSCI ACW Ex US Index (USD) (Net)	14.28	2.96	-16.00	-16.00	0.07	0.88	4.80	3.80	7.82	10.65	21.51	-14.20
Difference	-4.37	-0.73	-5.14	-5.14	3.53	3.04	2.60	2.08	-0.82	21.12	4.97	0.37
OLERS International Equity	13.12	0.89	-19.15	-19.15	-0.74	0.65	4.53	3.66	7.51	12.49	23.70	-14.62
MSCI ACW Ex US Index (USD) (Gross)	14.37	3.16	-15.57	-15.57	0.53	1.36	5.30	4.28	8.29	11.13	22.13	-13.78
Difference	-1.25	-2.27	-3.58	-3.58	-1.27	-0.71	-0.77	-0.62	-0.78	1.36	1.57	-0.84
URSJJ International Equity	14.30	3.02	-15.73	-15.73	0.32	1.14	5.08	4.05	8.06	10.86	21.83	-13.97
MSCI ACW Ex US Index (USD) (Gross)	14.37	3.16	-15.57	-15.57	0.53	1.36	5.30	4.28	8.29	11.13	22.13	-13.78
Difference	-0.07	-0.14	-0.16	-0.16	-0.21	-0.22	-0.22	-0.23	-0.23	-0.27	-0.30	-0.19
OWCRS International Equity	15.16	3.74	-15.79	-15.79	-0.69	0.76	4.89	3.89	5.57	10.17	23.05	-13.82
MSCI ACW Ex US Index (USD) (Net)	14.28	2.96	-16.00	-16.00	0.07	0.88	4.80	3.80	7.82	10.65	21.51	-14.20
Difference	0.88	0.78	0.21	0.21	-0.76	-0.12	0.09	0.09	-2.25	-0.48	1.54	0.38
Total Equity												
OPPRS Total Equity	4.55	-0.64	-15.22	-15.22	7.46	7.48	9.05	9.10	23.58	18.46	21.98	-5.24
MSCI ACW Index (USD) (Gross)	9.88	2.51	-17.96	-17.96	4.49	5.75	8.66	8.54	19.04	16.82	27.30	-8.93
Difference	-5.33	-3.15	2.74	2.74	2.97	1.73	0.39	0.56	4.54	1.64	-5.32	3.69

Performance shown is net of fees. Performance is annualized for periods greater than one year. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01. OPPRS Total Equity includes Public Equity, Private Equity, and Long/Short Equity.



Oklahoma State Pension Commission
All Plans Summary
Asset Class Performance - Net of Fees

As of December 31, 2022

	Performance (%)											
	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2021	2020	2019	2018
Fixed Income												
OTRS Fixed Income	2.35	-2.35	-16.24	-16.24	-2.12	0.67	2.43	2.22	0.05	11.91	11.84	-1.44
Bloomberg US Unv Bond Index	2.24	-2.31	-12.99	-12.99	-2.54	0.18	1.26	1.33	-1.10	7.58	9.29	-0.25
Difference	0.11	-0.04	-3.25	-3.25	0.42	0.49	1.17	0.89	1.15	4.33	2.55	-1.19
OPERS Fixed Income	1.92	-3.56	-15.02	-15.02	-2.33	0.45	1.34	1.39	-0.82	10.54	10.12	-0.33
OPERS Fixed Income Custom Index	1.48	-4.06	-15.08	-15.08	-2.85	0.00	0.97	1.04	-1.01	9.08	9.43	-0.33
Difference	0.44	0.50	0.06	0.06	0.52	0.45	0.37	0.35	0.19	1.46	0.69	0.00
OFPRS Fixed Income	4.10	-2.65	-14.23	-14.23	-3.41	-1.27	0.46	0.51	-2.93	8.25	6.97	-2.67
Bloomberg US Agg Bond Index	1.87	-2.97	-13.01	-13.01	-2.71	0.02	0.89	1.06	-1.55	7.51	8.72	0.01
Difference	2.23	0.32	-1.22	-1.22	-0.70	-1.29	-0.43	-0.55	-1.38	0.74	-1.75	-2.68
OPPRS Fixed Income	2.70	-0.68	-8.90	-8.90	-0.54	1.04	2.02	1.99	1.28	6.63	7.24	-0.21
Bloomberg US Agg Bond Index	1.87	-2.97	-13.01	-13.01	-2.71	0.02	0.89	1.06	-1.55	7.51	8.72	0.01
Difference	0.83	2.29	4.11	4.11	2.17	1.02	1.13	0.93	2.83	-0.88	-1.48	-0.22
OLERS Fixed Income	1.94	-2.69	-13.40	-13.40	-3.60	-1.00	0.44	0.61	-1.91	5.47	6.01	0.14
Bloomberg US Agg Bond Index	1.87	-2.97	-13.01	-13.01	-2.71	0.02	0.89	1.06	-1.55	7.51	8.72	0.01
Difference	0.07	0.28	-0.39	-0.39	-0.89	-1.02	-0.45	-0.45	-0.36	-2.04	-2.71	0.13
URSJJ Fixed Income	1.89	-3.61	-15.07	-15.07	-2.37	0.42	1.31	1.34	-0.92	10.58	10.06	-0.32
URSJJ Fixed Income Custom Index	1.48	-4.06	-15.08	-15.08	-2.85	0.00	0.97	1.04	-1.01	9.08	9.43	-0.33
Difference	0.41	0.45	0.01	0.01	0.48	0.42	0.34	0.30	0.09	1.50	0.63	0.01
OWCRS Fixed Income	1.85	-2.21	-12.29	-12.29	-1.84	0.57	0.97	1.06	-0.41	8.29	7.94	0.76
Bloomberg US Agg Bond Index	1.87	-2.97	-13.01	-13.01	-2.71	0.02	0.89	1.06	-1.55	7.51	8.72	0.01
Difference	-0.02	0.76	0.72	0.72	0.87	0.55	0.08	0.00	1.14	0.78	-0.78	0.75

Performance shown is net of fees. Performance is annualized for periods greater than one year. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01. OPPRS Total Equity includes Public Equity, Private Equity, and Long/Short Equity.



Oklahoma State Pension Commission
All Plans Summary
Asset Class Performance - Net of Fees

As of December 31, 2022

	Performance (%)											
	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2021	2020	2019	2018
Real Estate												
OTRS Real Estate	1.16	3.94	18.29	18.29	8.80	7.88	7.92	N/A	11.65	-2.48	5.59	7.43
NCREIF Property Index	-3.50	-2.95	5.52	5.52	8.06	7.46	7.46	8.82	17.70	1.60	6.42	6.72
Difference	4.66	6.89	12.77	12.77	0.74	0.42	0.46	N/A	-6.05	-4.08	-0.83	0.71
NCREIF ODCE Index (AWA) (Net)	-5.17	-4.87	6.55	6.55	8.97	7.72	7.57	9.11	21.02	0.34	4.39	7.36
Difference	6.33	8.81	11.74	11.74	-0.17	0.16	0.35	N/A	-9.37	-2.82	1.20	0.07
OPERS Real Estate	3.81	4.48	6.35	6.35	-3.68	-1.44	0.22	N/A	-8.15	-8.51	2.90	1.12
NCREIF ODCE Index (AWA) (Net)	-5.17	-4.87	6.55	6.55	8.97	7.72	7.57	9.11	21.02	0.34	4.39	7.36
Difference	8.98	9.35	-0.20	-0.20	-12.65	-9.16	-7.35	N/A	-29.17	-8.85	-1.49	-6.24
OFPRS Real Estate	-2.70	-3.34	6.39	6.39	7.13	6.79	7.12	8.80	16.14	-0.50	3.99	8.65
NCREIF ODCE Index (AWA) (Net)	-5.17	-4.87	6.55	6.55	8.97	7.72	7.57	9.11	21.02	0.34	4.39	7.36
Difference	2.47	1.53	-0.16	-0.16	-1.84	-0.93	-0.45	-0.31	-4.88	-0.84	-0.40	1.29
Real Assets												
OPPRS Real Assets	-2.59	-2.24	11.32	11.32	9.06	6.81	6.87	6.82	17.79	-1.07	3.52	3.55
OPPRS Real Assets Blended Benchmark	-5.17	-4.87	6.55	6.55	8.97	6.41	6.61	4.90	21.02	0.34	4.43	0.98
Difference	2.58	2.63	4.77	4.77	0.09	0.40	0.26	1.92	-3.23	-1.41	-0.91	2.57
OLERS Real Assets	-4.07	-4.67	4.82	4.82	7.61	5.71	5.97	6.25	18.80	0.06	2.74	3.10
OLERS Real Assets Blended Benchmark	-5.17	-4.87	6.55	6.55	8.97	6.54	6.71	5.60	21.02	0.34	4.46	1.55
Difference	1.10	0.20	-1.73	-1.73	-1.36	-0.83	-0.74	0.65	-2.22	-0.28	-1.72	1.55

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Oklahoma State Pension Commission
 All Plans Summary
 Asset Class Performance - Net of Fees

As of December 31, 2022

	Performance (%)											
	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2021	2020	2019	2018
Hedge Funds												
OFPRS Hedge Fund	0.06	26.16	0.36	0.36	-10.88	-6.57	-3.21	-1.44	-26.04	-4.62	3.52	-2.86
HFRI FOF: Cnsvt Index	1.49	1.70	0.12	0.12	4.68	3.87	3.62	3.64	7.62	6.47	6.30	-0.87
Difference	-1.43	24.46	0.24	0.24	-15.56	-10.44	-6.83	-5.08	-33.66	-11.09	-2.78	-1.99
OPPRS Long/Short Equity												
OPPRS Long/Short Equity	4.56	3.32	-17.32	-17.32	0.42	2.29	3.53	4.65	0.11	22.33	16.34	-4.94
MSCI ACW Index (USD) (Gross)	9.88	2.51	-17.96	-17.96	4.49	5.75	8.66	8.54	19.04	16.82	27.30	-8.93
Difference	-5.32	0.81	0.64	0.64	-4.07	-3.46	-5.13	-3.89	-18.93	5.51	-10.96	3.99
HFRI FOF: Strategic Index	2.67	0.70	-11.87	-11.87	2.39	2.06	3.01	3.38	6.26	14.62	10.52	-6.67
Difference	1.89	2.62	-5.45	-5.45	-1.97	0.23	0.52	1.27	-6.15	7.71	5.82	1.73
OLERS Long/Short Equity												
OLERS Long/Short Equity	3.87	3.42	-17.54	-17.54	-2.79	-0.49	1.38	3.22	-1.52	13.12	12.40	-5.52
MSCI ACW Index (USD) (Gross)	9.88	2.51	-17.96	-17.96	4.49	5.75	8.66	8.54	19.04	16.82	27.30	-8.93
Difference	-6.01	0.91	0.42	0.42	-7.28	-6.24	-7.28	-5.32	-20.56	-3.70	-14.90	3.41
HFRI FOF: Strategic Index	2.67	0.70	-11.87	-11.87	2.39	2.06	3.01	3.38	6.26	14.62	10.52	-6.67
Difference	1.20	2.72	-5.67	-5.67	-5.18	-2.55	-1.63	-0.16	-7.78	-1.50	1.88	1.15

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Oklahoma State Pension Commission
All Plans Summary
Asset Class Performance - Net of Fees

As of December 31, 2022

	Performance (%)											
	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2021	2020	2019	2018
Private Equity												
OTRS Private Equity	1.86	-3.88	-0.26	-0.26	22.65	21.72	19.58	18.76	57.72	17.27	17.73	23.03
R 2000 Index+4%	7.28	5.96	-17.25	-17.25	7.22	8.29	12.21	13.37	19.41	24.76	30.55	-7.45
Difference	-5.42	-9.84	16.99	16.99	15.43	13.43	7.37	5.39	38.31	-7.49	-12.82	30.48
OFPRS Private Equity	0.78	-0.98	10.18	10.18	21.02	17.54	15.57	N/A	49.68	7.49	6.45	18.91
Cambridge US Prvt Eq Index	0.00	0.05	-3.34	-3.34	18.48	15.90	15.87	14.93	40.61	22.37	13.84	10.45
Difference	0.78	-1.03	13.52	13.52	2.54	1.64	-0.30	N/A	9.07	-14.88	-7.39	8.46
OPPRS Private Equity	-6.13	-8.94	-1.91	-1.91	23.89	19.35	15.93	14.49	67.32	15.87	10.51	15.22
MSCI ACW Index (USD) (Gross)	9.88	2.51	-17.96	-17.96	4.49	5.75	8.66	8.54	19.04	16.82	27.30	-8.93
Difference	-16.01	-11.45	16.05	16.05	19.40	13.60	7.27	5.95	48.28	-0.95	-16.79	24.15
Cambridge US Prvt Eq Index	0.00	0.05	-3.34	-3.34	18.48	15.90	15.87	14.93	40.61	22.37	13.84	10.45
Difference	-6.13	-8.99	1.43	1.43	5.41	3.45	0.06	-0.44	26.71	-6.50	-3.33	4.77
OLERS Private Equity	-0.13	-2.26	-0.26	-0.26	19.17	15.13	12.71	12.38	41.10	20.25	14.02	4.82
S&P 500 Index+5%	8.88	4.84	-14.02	-14.02	13.04	14.90	17.05	18.19	35.14	24.32	38.06	0.40
Difference	-9.01	-7.10	13.76	13.76	6.13	0.23	-4.34	-5.81	5.96	-4.07	-24.04	4.42
Cambridge US Prvt Eq Index	0.00	0.05	-3.34	-3.34	18.48	15.90	15.87	14.93	40.61	22.37	13.84	10.45
Difference	-0.13	-2.31	3.08	3.08	0.69	-0.77	-3.16	-2.55	0.49	-2.12	0.18	-5.63
Other Alternatives												
OWCRS Alternative Investments	6.44	2.34	-6.41	-6.41	1.27	2.38	4.56	2.71	8.64	2.14	15.31	-6.07
OWCRS Alternatives Custom Index	1.74	1.38	-5.30	-5.30	3.69	3.01	3.58	N/A	6.17	10.88	8.38	-4.02
Difference	4.70	0.96	-1.11	-1.11	-2.42	-0.63	0.98	N/A	2.47	-8.74	6.93	-2.05

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Oklahoma State Pension Commission
All Plans Summary
Asset Class Performance - Gross of Fees

As of December 31, 2022

	Performance (%)											
	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2021	2020	2019	2018
US Equity												
OTRS US Equity	8.98	3.34	-16.60	-16.60	6.31	7.21	10.29	11.43	24.61	15.62	28.03	-7.94
Russell 3000 Index	7.18	2.40	-19.21	-19.21	7.07	8.79	11.04	12.13	25.66	20.89	31.02	-5.24
Difference	1.80	0.94	2.61	2.61	-0.76	-1.58	-0.75	-0.70	-1.05	-5.27	-2.99	-2.70
OPERS US Equity	8.21	3.30	-17.63	-17.63	7.78	8.71	11.03	12.15	26.13	20.53	29.50	-6.38
OPERS US Equity Custom Index	7.10	2.55	-19.29	-19.29	6.79	8.43	10.80	11.93	24.73	20.97	30.56	-5.70
Difference	1.11	0.75	1.66	1.66	0.99	0.28	0.23	0.22	1.40	-0.44	-1.06	-0.68
OFPRS US Equity	7.02	3.03	-20.49	-20.49	6.25	8.42	10.78	11.93	19.85	25.89	31.43	-4.96
Russell 3000 Index	7.18	2.40	-19.21	-19.21	7.07	8.79	11.04	12.13	25.66	20.89	31.02	-5.24
Difference	-0.16	0.63	-1.28	-1.28	-0.82	-0.37	-0.26	-0.20	-5.81	5.00	0.41	0.28
OLERS US Equity	7.98	3.28	-20.32	-20.32	6.43	7.93	10.61	11.70	26.08	20.00	32.83	-8.51
S&P 500 Index (Cap Wtd)	7.56	2.31	-18.11	-18.11	7.66	9.42	11.48	12.56	28.71	18.40	31.49	-4.38
Difference	0.42	0.97	-2.21	-2.21	-1.23	-1.49	-0.87	-0.86	-2.63	1.60	1.34	-4.13
URSJJ US Equity	7.08	2.59	-19.30	-19.30	6.80	8.41	10.79	11.91	24.70	21.03	30.51	-5.81
URSJJ US Equity Custom Index	7.10	2.55	-19.29	-19.29	6.79	8.43	10.80	11.93	24.73	20.97	30.56	-5.70
Difference	-0.02	0.04	-0.01	-0.01	0.01	-0.02	-0.01	-0.02	-0.03	0.06	-0.05	-0.11
OWCRS US Equity	7.10	2.56	-17.14	-17.14	7.73	8.85	11.00	12.36	26.59	19.18	29.17	-5.38
Russell 3000 Index	7.18	2.40	-19.21	-19.21	7.07	8.79	11.04	12.13	25.66	20.89	31.02	-5.24
Difference	-0.08	0.16	2.07	2.07	0.66	0.06	-0.04	0.23	0.93	-1.71	-1.85	-0.14

Performance shown is gross of fees. Performance is annualized for periods greater than one year. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01. OPPRS Total Equity includes Public Equity, Private Equity, and Long/Short Equity.



Oklahoma State Pension Commission
All Plans Summary
Asset Class Performance - Gross of Fees

As of December 31, 2022

	Performance (%)											
	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2021	2020	2019	2018
International Equity												
OTRS International Equity	14.18	1.66	-19.91	-19.91	0.25	0.66	4.41	4.93	11.72	12.61	21.95	-15.88
MSCI ACW Ex US IM Index (USD) (Gross)	14.23	3.28	-16.15	-16.15	0.65	1.32	5.32	4.46	8.99	11.59	22.24	-14.35
Difference	-0.05	-1.62	-3.76	-3.76	-0.40	-0.66	-0.91	0.47	2.73	1.02	-0.29	-1.53
OPERS International Equity	14.57	2.49	-17.30	-17.30	-0.07	1.22	5.02	4.33	7.22	12.53	23.34	-13.69
MSCI ACW Ex US Index (USD) (Gross)	14.37	3.16	-15.57	-15.57	0.53	1.36	5.30	4.28	8.29	11.13	22.13	-13.78
Difference	0.20	-0.67	-1.73	-1.73	-0.60	-0.14	-0.28	0.05	-1.07	1.40	1.21	0.09
OFPRS International Equity	10.06	2.55	-20.65	-20.65	4.22	4.56	8.09	6.52	7.66	32.50	27.22	-13.23
MSCI ACW Ex US Index (USD) (Net)	14.28	2.96	-16.00	-16.00	0.07	0.88	4.80	3.80	7.82	10.65	21.51	-14.20
Difference	-4.22	-0.41	-4.65	-4.65	4.15	3.68	3.29	2.72	-0.16	21.85	5.71	0.97
OLERS International Equity	13.29	1.21	-18.42	-18.42	-0.24	1.21	5.13	4.21	7.69	13.02	24.39	-14.03
MSCI ACW Ex US Index (USD) (Gross)	14.37	3.16	-15.57	-15.57	0.53	1.36	5.30	4.28	8.29	11.13	22.13	-13.78
Difference	-1.08	-1.95	-2.85	-2.85	-0.77	-0.15	-0.17	-0.07	-0.60	1.89	2.26	-0.25
URSJJ International Equity	14.30	3.02	-15.72	-15.72	0.33	1.16	5.11	4.09	8.09	10.87	21.86	-13.93
MSCI ACW Ex US Index (USD) (Gross)	14.37	3.16	-15.57	-15.57	0.53	1.36	5.30	4.28	8.29	11.13	22.13	-13.78
Difference	-0.07	-0.14	-0.15	-0.15	-0.20	-0.20	-0.19	-0.19	-0.20	-0.26	-0.27	-0.15
OWCRS International Equity	15.31	4.02	-15.34	-15.34	-0.14	1.39	5.61	4.46	6.16	10.82	23.86	-13.14
MSCI ACW Ex US Index (USD) (Net)	14.28	2.96	-16.00	-16.00	0.07	0.88	4.80	3.80	7.82	10.65	21.51	-14.20
Difference	1.03	1.06	0.66	0.66	-0.21	0.51	0.81	0.66	-1.66	0.17	2.35	1.06
Total Equity												
OPPRS Total Equity	4.59	-0.54	-15.04	-15.04	7.74	7.79	9.38	9.45	23.90	18.81	22.38	-4.91
MSCI ACW Index (USD) (Gross)	9.88	2.51	-17.96	-17.96	4.49	5.75	8.66	8.54	19.04	16.82	27.30	-8.93
Difference	-5.29	-3.05	2.92	2.92	3.25	2.04	0.72	0.91	4.86	1.99	-4.92	4.02

Performance shown is gross of fees. Performance is annualized for periods greater than one year. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01. OPPER Total Equity includes Public Equity, Private Equity, and Long/Short Equity.



Oklahoma State Pension Commission
All Plans Summary
Asset Class Performance - Gross of Fees

As of December 31, 2022

	Performance (%)											
	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2021	2020	2019	2018
Fixed Income												
OTRS Fixed Income	2.38	-2.26	-16.10	-16.10	-1.94	0.85	2.64	2.44	0.23	12.11	12.05	-1.23
Bloomberg US Unv Bond Index	2.24	-2.31	-12.99	-12.99	-2.54	0.18	1.26	1.33	-1.10	7.58	9.29	-0.25
Difference	0.14	0.05	-3.11	-3.11	0.60	0.67	1.38	1.11	1.33	4.53	2.76	-0.98
OPERS Fixed Income	1.93	-3.54	-14.97	-14.97	-2.25	0.53	1.43	1.48	-0.72	10.65	10.19	-0.24
OPERS Fixed Income Custom Index	1.48	-4.06	-15.08	-15.08	-2.85	0.00	0.97	1.04	-1.01	9.08	9.43	-0.33
Difference	0.45	0.52	0.11	0.11	0.60	0.53	0.46	0.44	0.29	1.57	0.76	0.09
OFPRS Fixed Income	4.19	-2.48	-13.89	-13.89	-3.16	-1.01	0.71	0.78	-2.70	8.41	7.22	-2.41
Bloomberg US Agg Bond Index	1.87	-2.97	-13.01	-13.01	-2.71	0.02	0.89	1.06	-1.55	7.51	8.72	0.01
Difference	2.32	0.49	-0.88	-0.88	-0.45	-1.03	-0.18	-0.28	-1.15	0.90	-1.50	-2.42
OPPRS Fixed Income	2.78	-0.52	-8.60	-8.60	-0.22	1.42	2.43	2.44	1.60	6.98	7.74	0.24
Bloomberg US Agg Bond Index	1.87	-2.97	-13.01	-13.01	-2.71	0.02	0.89	1.06	-1.55	7.51	8.72	0.01
Difference	0.91	2.45	4.41	4.41	2.49	1.40	1.54	1.38	3.15	-0.53	-0.98	0.23
OLERS Fixed Income	2.00	-2.56	-13.22	-13.22	-3.38	-0.76	0.69	0.87	-1.71	5.74	6.29	0.41
Bloomberg US Agg Bond Index	1.87	-2.97	-13.01	-13.01	-2.71	0.02	0.89	1.06	-1.55	7.51	8.72	0.01
Difference	0.13	0.41	-0.21	-0.21	-0.67	-0.78	-0.20	-0.19	-0.16	-1.77	-2.43	0.40
URSJJ Fixed Income	1.91	-3.59	-15.02	-15.02	-2.28	0.50	1.39	1.43	-0.82	10.70	10.14	-0.23
URSJJ Fixed Income Custom Index	1.48	-4.06	-15.08	-15.08	-2.85	0.00	0.97	1.04	-1.01	9.08	9.43	-0.33
Difference	0.43	0.47	0.06	0.06	0.57	0.50	0.42	0.39	0.19	1.62	0.71	0.10
OWCRS Fixed Income	1.93	-2.05	-12.01	-12.01	-1.54	0.75	1.10	1.15	-0.10	8.56	7.94	0.76
Bloomberg US Agg Bond Index	1.87	-2.97	-13.01	-13.01	-2.71	0.02	0.89	1.06	-1.55	7.51	8.72	0.01
Difference	0.06	0.92	1.00	1.00	1.17	0.73	0.21	0.09	1.45	1.05	-0.78	0.75

Performance shown is gross of fees. Performance is annualized for periods greater than one year. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01. OPPRS Total Equity includes Public Equity, Private Equity, and Long/Short Equity.



Oklahoma State Pension Commission
 All Plans Summary
 Asset Class Performance - Gross of Fees

As of December 31, 2022

	Performance (%)											
	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2021	2020	2019	2018
Real Estate												
OTRS Real Estate	1.22	4.07	18.60	18.60	9.06	8.10	8.13	N/A	11.92	-2.27	5.77	7.60
NCREIF Property Index	-3.50	-2.95	5.52	5.52	8.06	7.46	7.46	8.82	17.70	1.60	6.42	6.72
Difference	4.72	7.02	13.08	13.08	1.00	0.64	0.67	N/A	-5.78	-3.87	-0.65	0.88
NCREIF ODCE Index (AWA) (Gross)	-4.97	-4.47	7.47	7.47	9.93	8.68	8.54	10.10	22.17	1.19	5.34	8.35
Difference	6.19	8.54	11.13	11.13	-0.87	-0.58	-0.41	N/A	-10.25	-3.46	0.43	-0.75
OPERS Real Estate	3.81	4.48	6.35	6.35	-3.68	-1.44	0.22	N/A	-8.15	-8.51	2.90	1.12
NCREIF ODCE Index (AWA) (Gross)	-4.97	-4.47	7.47	7.47	9.93	8.68	8.54	10.10	22.17	1.19	5.34	8.35
Difference	8.78	8.95	-1.12	-1.12	-13.61	-10.12	-8.32	N/A	-30.32	-9.70	-2.44	-7.23
OFPRS Real Estate	-2.55	-3.06	7.01	7.01	7.79	7.48	7.83	9.46	16.84	0.18	4.69	9.39
NCREIF Property Index	-3.50	-2.95	5.52	5.52	8.06	7.46	7.46	8.82	17.70	1.60	6.42	6.72
Difference	0.95	-0.11	1.49	1.49	-0.27	0.02	0.37	0.64	-0.86	-1.42	-1.73	2.67
NCREIF ODCE Index (AWA) (Gross)	-4.97	-4.47	7.47	7.47	9.93	8.68	8.54	10.10	22.17	1.19	5.34	8.35
Difference	2.42	1.41	-0.46	-0.46	-2.14	-1.20	-0.71	-0.64	-5.33	-1.01	-0.65	1.04
Real Assets												
OPPRS Real Assets	-2.44	-1.80	13.11	13.11	10.25	7.81	7.81	7.70	19.08	-0.51	4.21	4.30
OPPRS Real Assets Blended Benchmark	-5.17	-4.87	6.55	6.55	8.97	6.41	6.61	4.90	21.02	0.34	4.43	0.98
Difference	2.73	3.07	6.56	6.56	1.28	1.40	1.20	2.80	-1.94	-0.85	-0.22	3.32
OLERS Real Assets	-3.89	-4.33	5.60	5.60	8.50	6.61	6.90	7.19	19.82	0.94	3.67	4.01
OLERS Real Assets Blended Benchmark	-5.17	-4.87	6.55	6.55	8.97	6.54	6.71	5.60	21.02	0.34	4.46	1.55
Difference	1.28	0.54	-0.95	-0.95	-0.47	0.07	0.19	1.59	-1.20	0.60	-0.79	2.46

Performance shown is gross of fees. Performance is annualized for periods greater than one year. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01. OPPRS Total Equity includes Public Equity, Private Equity, and Long/Short Equity.



Oklahoma State Pension Commission
 All Plans Summary
 Asset Class Performance - Gross of Fees

As of December 31, 2022

	Performance (%)											
	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2021	2020	2019	2018
Hedge Funds												
OFPRS Hedge Fund	0.06	26.16	0.36	0.36	-10.88	-6.57	-3.21	-1.44	-26.04	-4.62	3.52	-2.86
HFRI FOF: Cnsvt Index	1.49	1.70	0.12	0.12	4.68	3.87	3.62	3.64	7.62	6.47	6.30	-0.87
Difference	-1.43	24.46	0.24	0.24	-15.56	-10.44	-6.83	-5.08	-33.66	-11.09	-2.78	-1.99
OPPRS Long/Short Equity	4.56	3.32	-17.31	-17.31	0.53	2.54	3.83	5.03	0.14	22.68	16.85	-4.52
HFRI FOF: Strategic Index	2.67	0.70	-11.87	-11.87	2.39	2.06	3.01	3.38	6.26	14.62	10.52	-6.67
Difference	1.89	2.62	-5.44	-5.44	-1.86	0.48	0.82	1.65	-6.12	8.06	6.33	2.15
OLERS Long/Short Equity	3.87	3.43	-17.53	-17.53	-2.53	-0.01	2.01	3.98	-1.46	13.93	13.34	-4.75
HFRI FOF: Strategic Index	2.67	0.70	-11.87	-11.87	2.39	2.06	3.01	3.38	6.26	14.62	10.52	-6.67
Difference	1.20	2.73	-5.66	-5.66	-4.92	-2.07	-1.00	0.60	-7.72	-0.69	2.82	1.92

Performance shown is gross of fees. Performance is annualized for periods greater than one year. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01. OPPRS Total Equity includes Public Equity, Private Equity, and Long/Short Equity.



Oklahoma State Pension Commission
 All Plans Summary
 Asset Class Performance - Gross of Fees

As of December 31, 2022

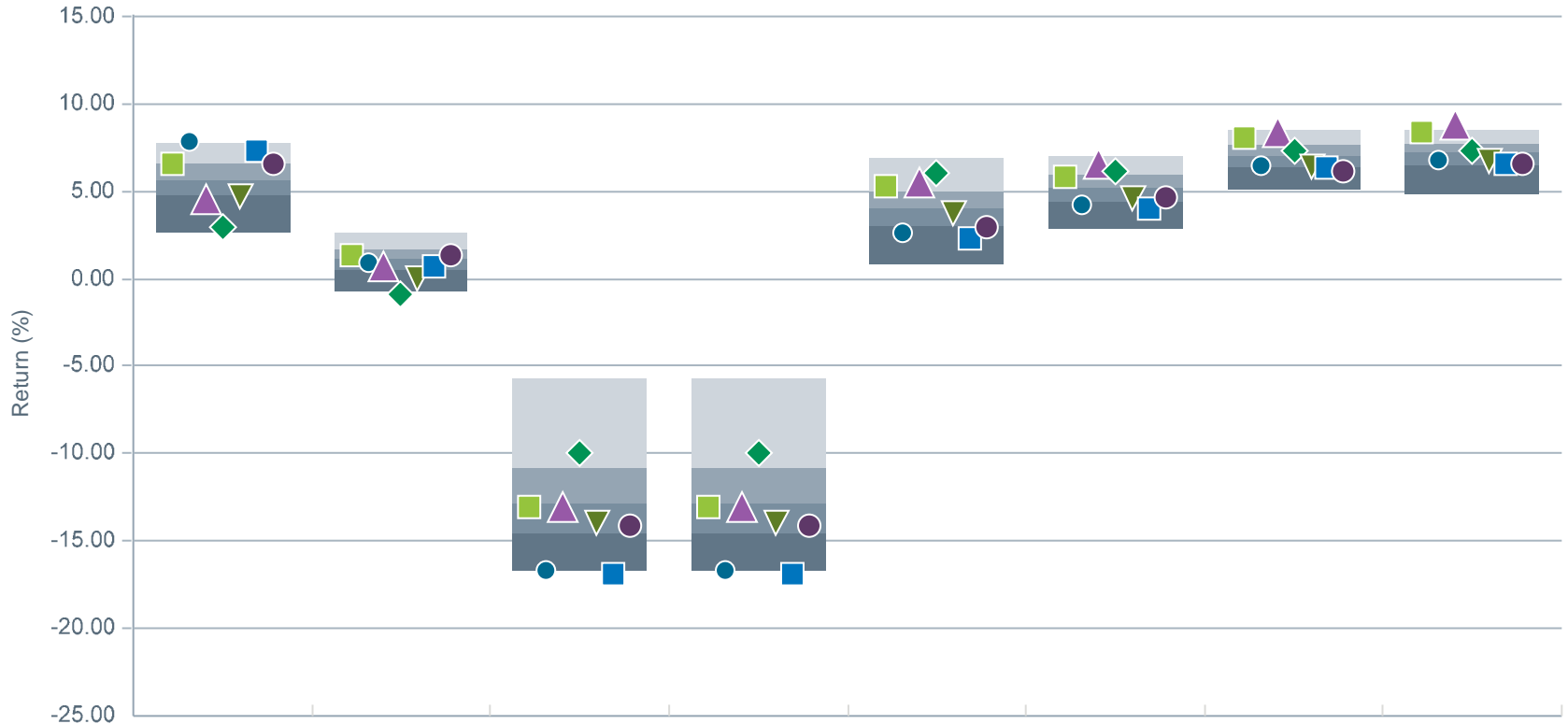
	Performance (%)											
	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2021	2020	2019	2018
Private Equity												
OTRS Private Equity	1.86	-3.80	-0.26	-0.26	22.65	21.72	19.58	18.76	57.72	17.27	17.73	23.03
R 2000 Index+4%	7.28	5.96	-17.25	-17.25	7.22	8.29	12.21	13.37	19.41	24.76	30.55	-7.45
Difference	-5.42	-9.84	16.99	16.99	15.43	13.43	7.37	5.39	38.31	-7.49	-12.82	30.48
OFPRS Private Equity	0.78	-0.98	10.18	10.18	21.02	17.54	15.57	N/A	49.68	7.49	6.45	18.91
Cambridge US Prvt Eq Index	0.00	0.05	-3.34	-3.34	18.48	15.90	15.87	14.93	40.61	22.37	13.84	10.45
Difference	0.78	-1.03	13.52	13.52	2.54	1.64	-0.30	N/A	9.07	-14.88	-7.39	8.46
OPPRS Private Equity	-6.13	-8.94	-1.91	-1.91	23.89	19.35	15.93	14.49	67.32	15.87	10.51	15.22
Cambridge US Prvt Eq Index	0.00	0.05	-3.34	-3.34	18.48	15.90	15.87	14.93	40.61	22.37	13.84	10.45
Difference	-6.13	-8.99	1.43	1.43	5.41	3.45	0.06	-0.44	26.71	-6.50	-3.33	4.77
OLERS Private Equity	-0.13	-2.26	-0.26	-0.26	19.17	15.13	12.71	12.38	41.10	20.25	14.02	4.82
Cambridge US Prvt Eq Index	0.00	0.05	-3.34	-3.34	18.48	15.90	15.87	14.93	40.61	22.37	13.84	10.45
Difference	-0.13	-2.31	3.08	3.08	0.69	-0.77	-3.16	-2.55	0.49	-2.12	0.18	-5.63
Other Alternatives												
OWCRS Alternative Investments	6.73	2.85	-5.53	-5.53	2.08	2.87	4.92	2.95	9.60	2.74	15.31	-6.07
OWCRS Alternatives Custom Index	1.74	1.38	-5.30	-5.30	3.69	3.01	3.58	N/A	6.17	10.88	8.38	-4.02
Difference	4.99	1.47	-0.23	-0.23	-1.61	-0.14	1.34	N/A	3.43	-8.14	6.93	-2.05

Performance shown is gross of fees. Performance is annualized for periods greater than one year. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01. OPPRS Total Equity includes Public Equity, Private Equity, and Long/Short Equity.



Oklahoma State Pension Commission
 All Public Plans-Total Fund
 Plan Sponsor Peer Group Analysis

As of December 31, 2022



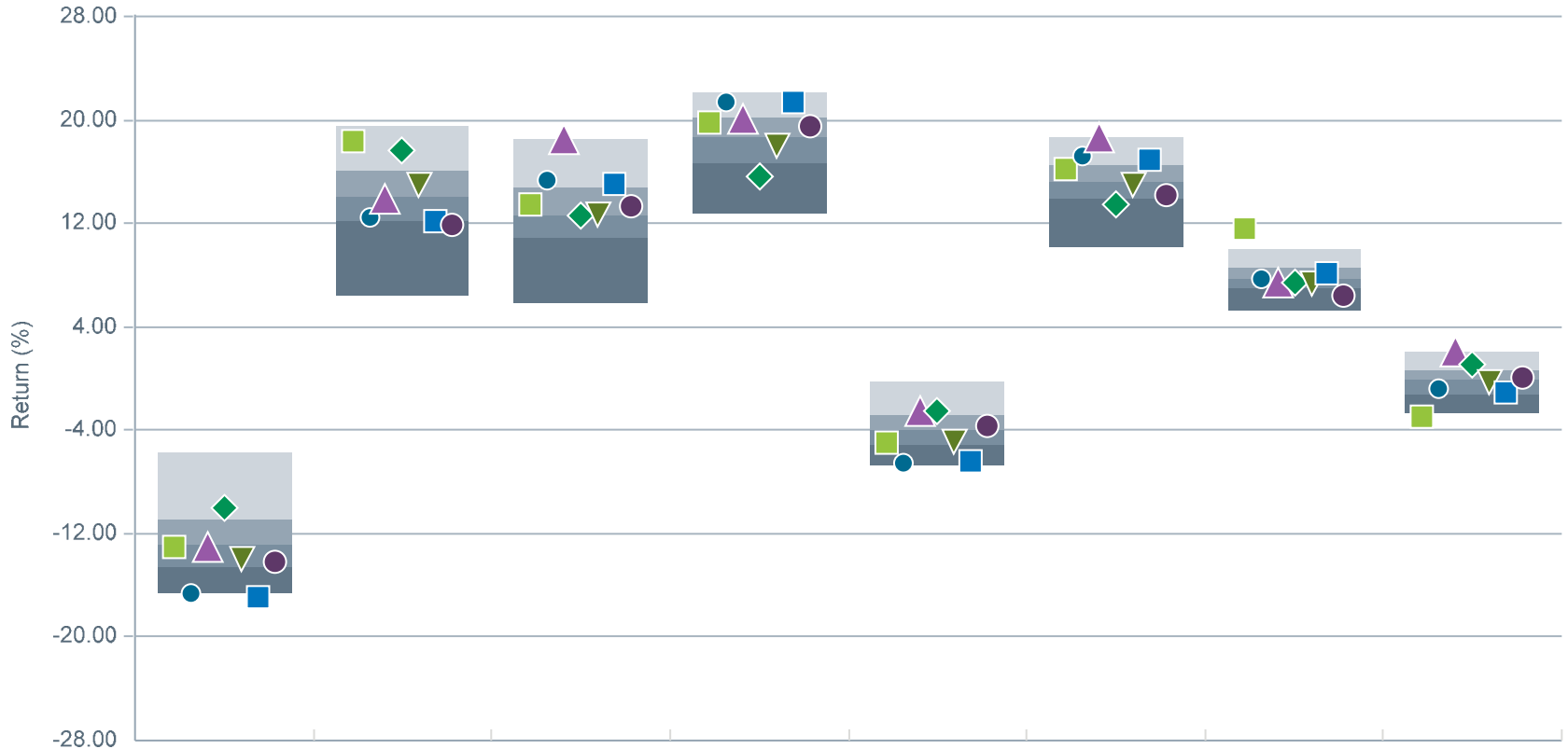
	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years
■ OTRS (Teachers)	6.61 (24)	1.33 (38)	-13.08 (54)	-13.08 (54)	5.31 (21)	5.87 (27)	8.09 (11)	8.42 (6)
● OPERS (Public Employees)	7.81 (5)	0.92 (58)	-16.64 (95)	-16.64 (95)	2.64 (83)	4.18 (82)	6.44 (73)	6.76 (67)
▲ OFPRS (Firefighters)	4.58 (79)	0.66 (68)	-13.03 (53)	-13.03 (53)	5.46 (18)	6.57 (9)	8.34 (7)	8.77 (3)
◆ OPPRS (Police)	2.94 (95)	-0.86 (97)	-9.99 (20)	-9.99 (20)	6.04 (11)	6.11 (20)	7.32 (36)	7.31 (44)
▼ OLERS (Law Enforcement)	4.79 (75)	0.04 (90)	-13.87 (65)	-13.87 (65)	3.78 (57)	4.68 (69)	6.48 (71)	6.83 (65)
■ URSJJ (Judges)	7.31 (10)	0.75 (65)	-16.93 (97)	-16.93 (97)	2.35 (87)	4.03 (86)	6.36 (77)	6.58 (71)
● OWCRS (Wildlife)	6.60 (25)	1.30 (39)	-14.14 (69)	-14.14 (69)	2.90 (79)	4.62 (70)	6.19 (82)	6.60 (70)
5th Percentile	7.73	2.59	-5.72	-5.72	6.93	7.03	8.45	8.48
1st Quartile	6.58	1.63	-10.82	-10.82	5.03	5.94	7.60	7.72
Median	5.66	1.08	-12.81	-12.81	3.99	5.18	6.97	7.18
3rd Quartile	4.79	0.52	-14.55	-14.55	3.03	4.47	6.38	6.45
95th Percentile	2.64	-0.63	-16.67	-16.67	0.78	2.88	5.06	4.90

Performance shown is gross of fees. Parentheses contain percentile ranks. Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
 All Public Plans-Total Fund
 Plan Sponsor Peer Group Analysis

As of December 31, 2022



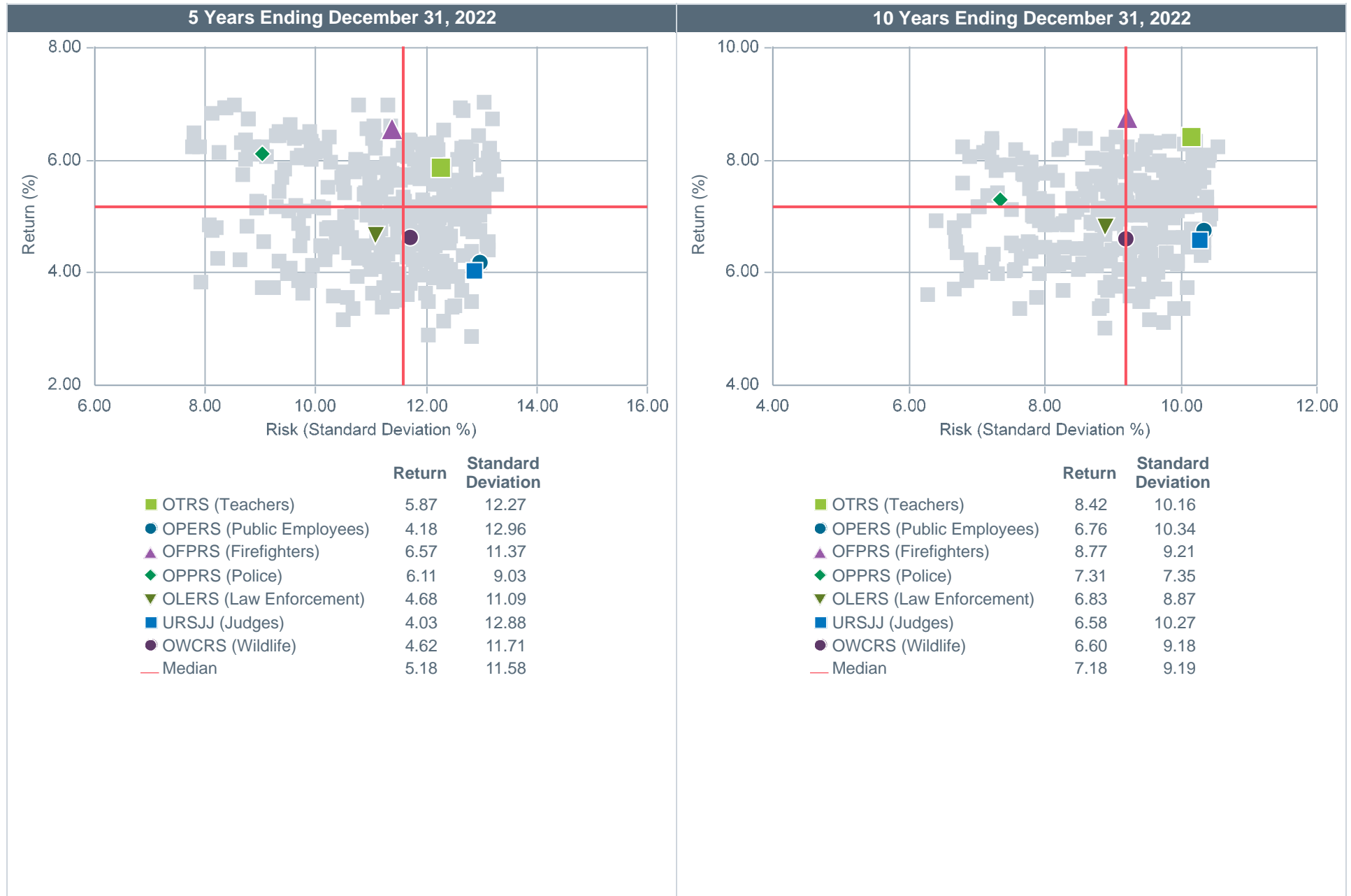
	CYTD	2021	2020	2019	2018	2017	2016	2015
OTRS (Teachers)	-13.08 (54)	18.42 (9)	13.45 (38)	19.83 (31)	-4.98 (73)	16.20 (29)	11.54 (1)	-2.90 (97)
OPERS (Public Employees)	-16.64 (95)	12.46 (72)	15.34 (19)	21.38 (11)	-6.48 (94)	17.13 (15)	7.69 (51)	-0.77 (66)
OFPRS (Firefighters)	-13.03 (53)	13.87 (53)	18.44 (5)	20.15 (27)	-2.46 (19)	18.67 (5)	7.42 (59)	2.12 (5)
OPPRS (Police)	-9.99 (20)	17.71 (12)	12.54 (50)	15.68 (85)	-2.46 (19)	13.40 (83)	7.47 (57)	1.05 (17)
OLERS (Law Enforcement)	-13.87 (65)	15.04 (35)	12.80 (46)	18.07 (57)	-4.76 (67)	15.00 (53)	7.38 (61)	-0.25 (54)
URSJJ (Judges)	-16.93 (97)	12.12 (77)	15.10 (22)	21.40 (11)	-6.38 (93)	16.89 (18)	8.09 (39)	-1.07 (74)
OWCRS (Wildlife)	-14.14 (69)	11.95 (79)	13.34 (39)	19.46 (37)	-3.68 (44)	14.13 (71)	6.39 (86)	0.05 (45)
5th Percentile	-5.72	19.53	18.43	22.14	-0.28	18.60	9.98	2.09
1st Quartile	-10.82	16.09	14.70	20.20	-2.88	16.45	8.51	0.72
Median	-12.81	14.01	12.54	18.57	-4.02	15.16	7.69	-0.12
3rd Quartile	-14.55	12.21	10.93	16.65	-5.11	13.88	6.93	-1.17
95th Percentile	-16.67	6.37	5.89	12.67	-6.64	10.14	5.29	-2.64

Performance shown is gross of fees. Parentheses contain percentile ranks. Oklahoma State Pension Commission fiscal year begins on 07/01.



All Plans

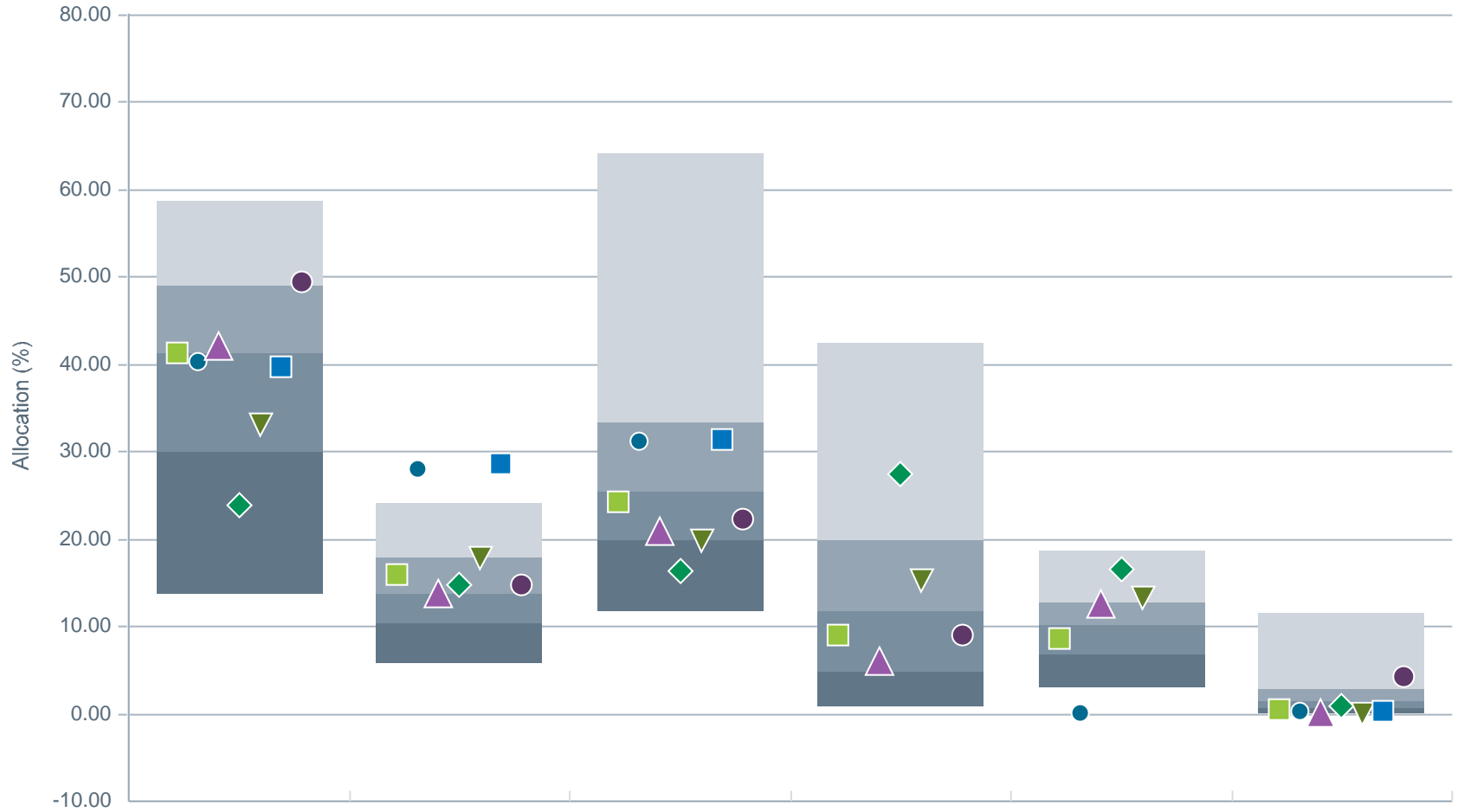
Total Fund Risk & Return vs. All Public Plans-Total Fund



Performance shown is gross of fees. Calculation is based on monthly periodicity.

Oklahoma State Pension Commission
 All Plans Total Fund vs. All Public Plans-Total Fund
 Plan Sponsor TF Asset Allocation

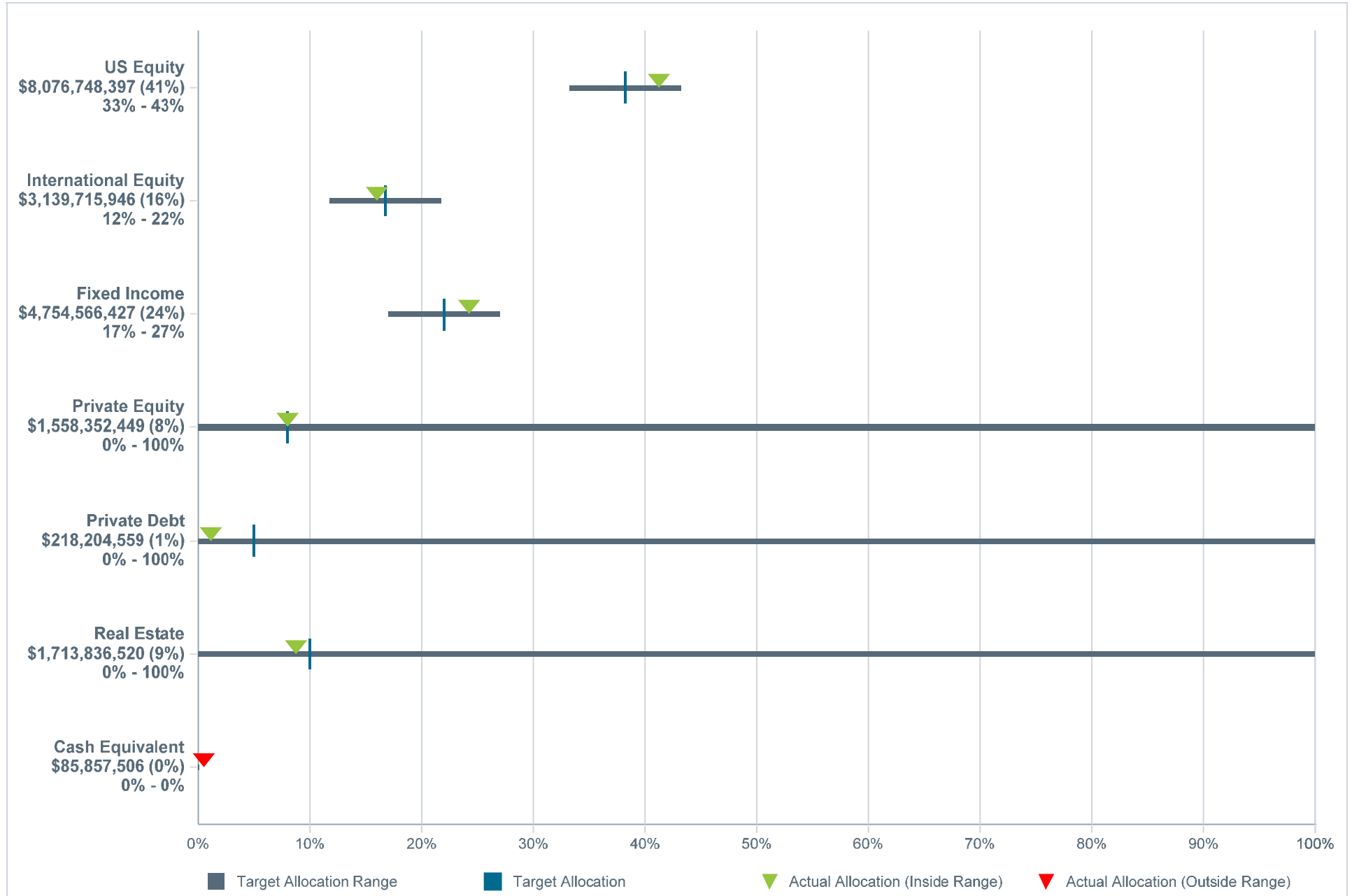
As of December 31, 2022



	US Equity	Global ex-US Equity	Total Fixed Income	Alternatives	Total Real Estate	Cash & Equivalents
OTRS (Teachers)	41.30	16.05	24.31	9.08	8.54	0.50
OPERS (Public Employees)	40.31	28.05	31.17	N/A	0.08	0.38
OFPRS (Firefighters)	42.18	13.73	20.93	6.00	12.56	0.18
OPPRS (Police)	23.92	14.70	16.42	27.40	16.56	1.00
OLERS (Law Enforcement)	33.18	18.04	19.89	15.29	13.45	0.14
URSJJ (Judges)	39.71	28.60	31.40	N/A	N/A	0.28
OWCRS (Wildlife)	49.52	14.81	22.33	9.06	N/A	4.28
Median	41.33	13.81	25.58	11.87	10.17	1.49

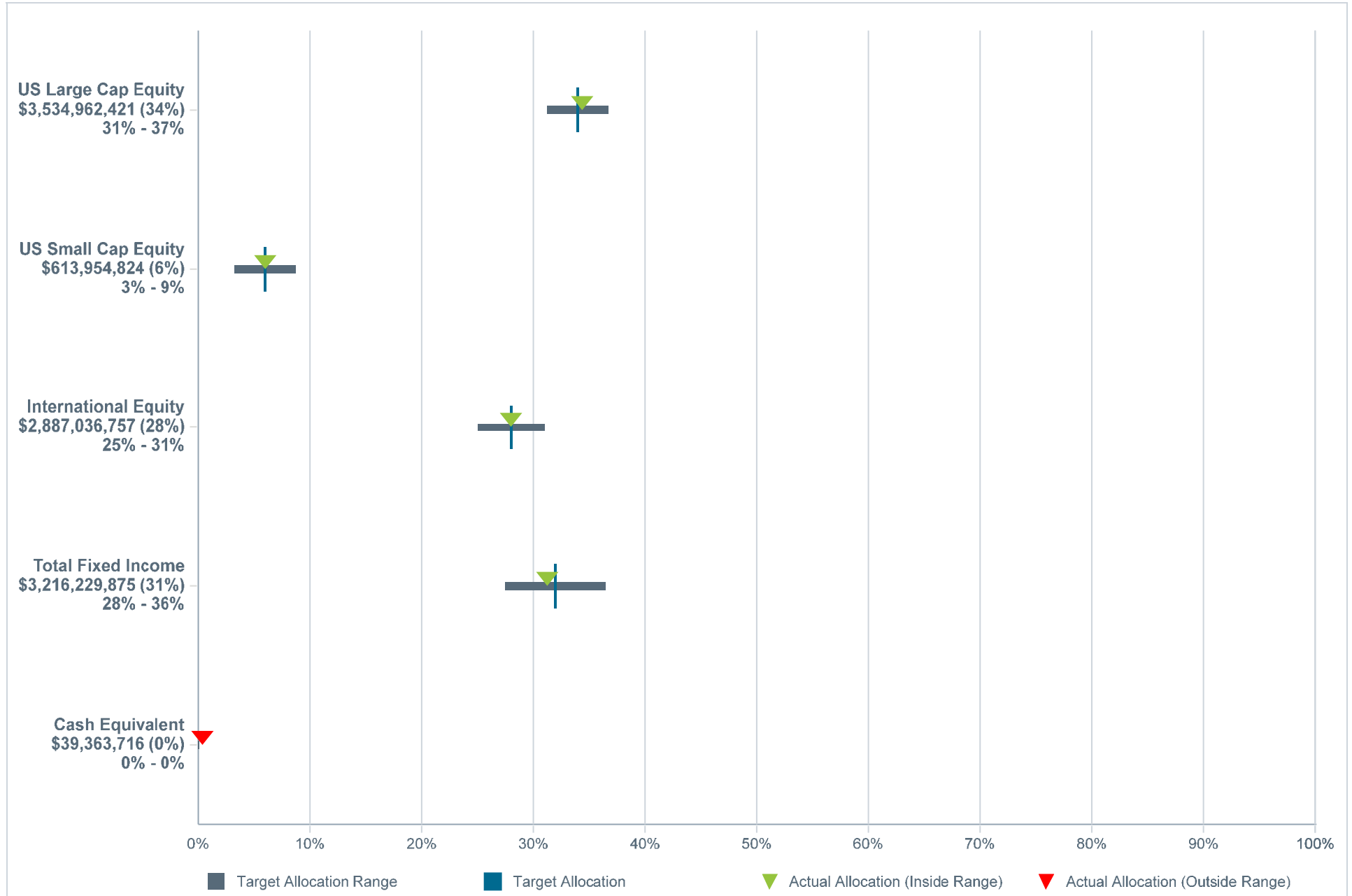
Parentheses contain percentile ranks.





Allocations shown may not sum up to 100% exactly due to rounding. Allocation to Private Equity includes Private Credit. Cash held in short-term investments with the Custodian shall be considered as domestic fixed income for rebalancing purposes.



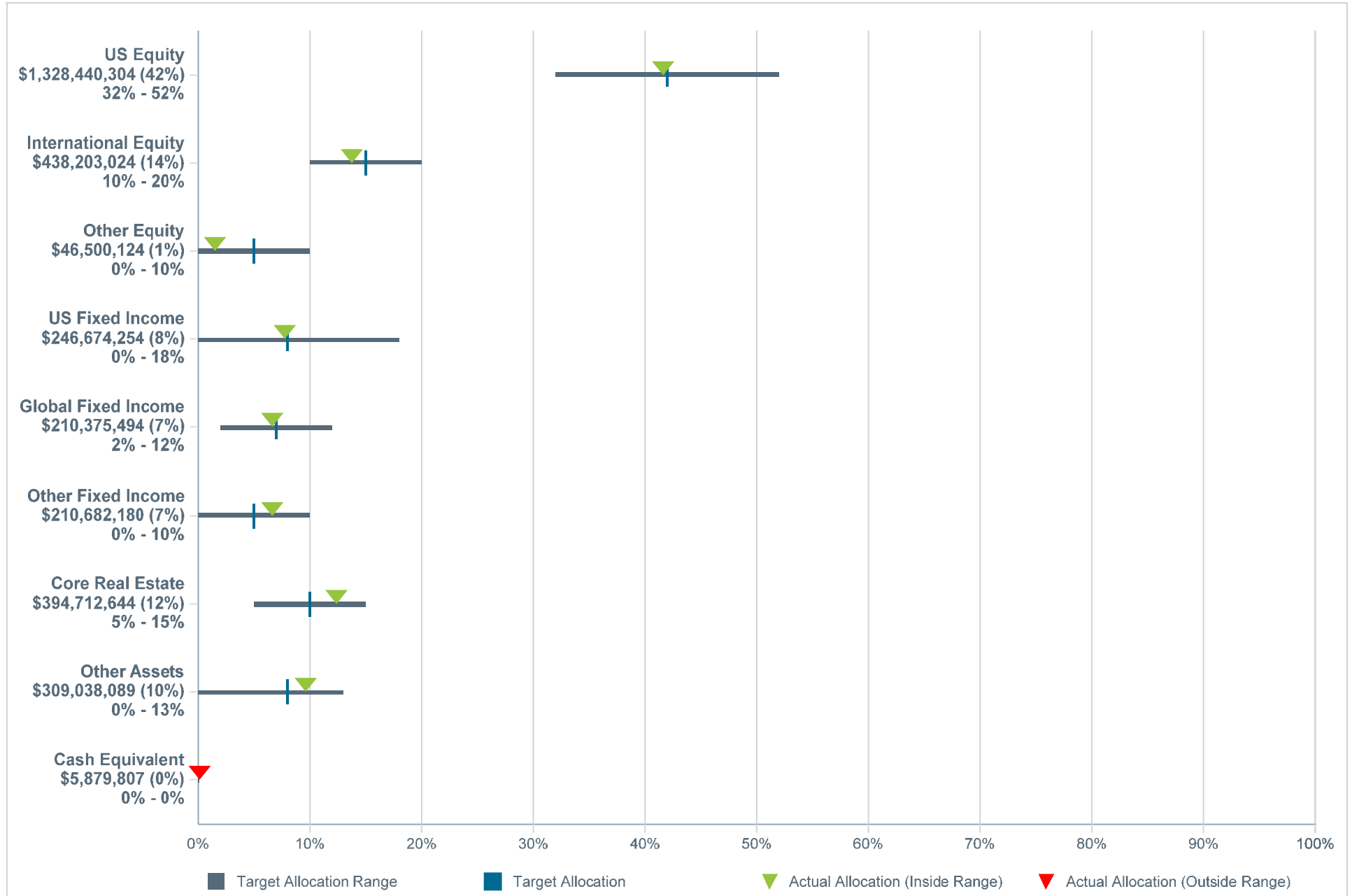


Allocations shown may not sum up to 100% exactly due to rounding. Cash held in short-term investments with the Master Custodian and direct real estate holdings shall be considered as U.S. fixed income for rebalancing purposes.



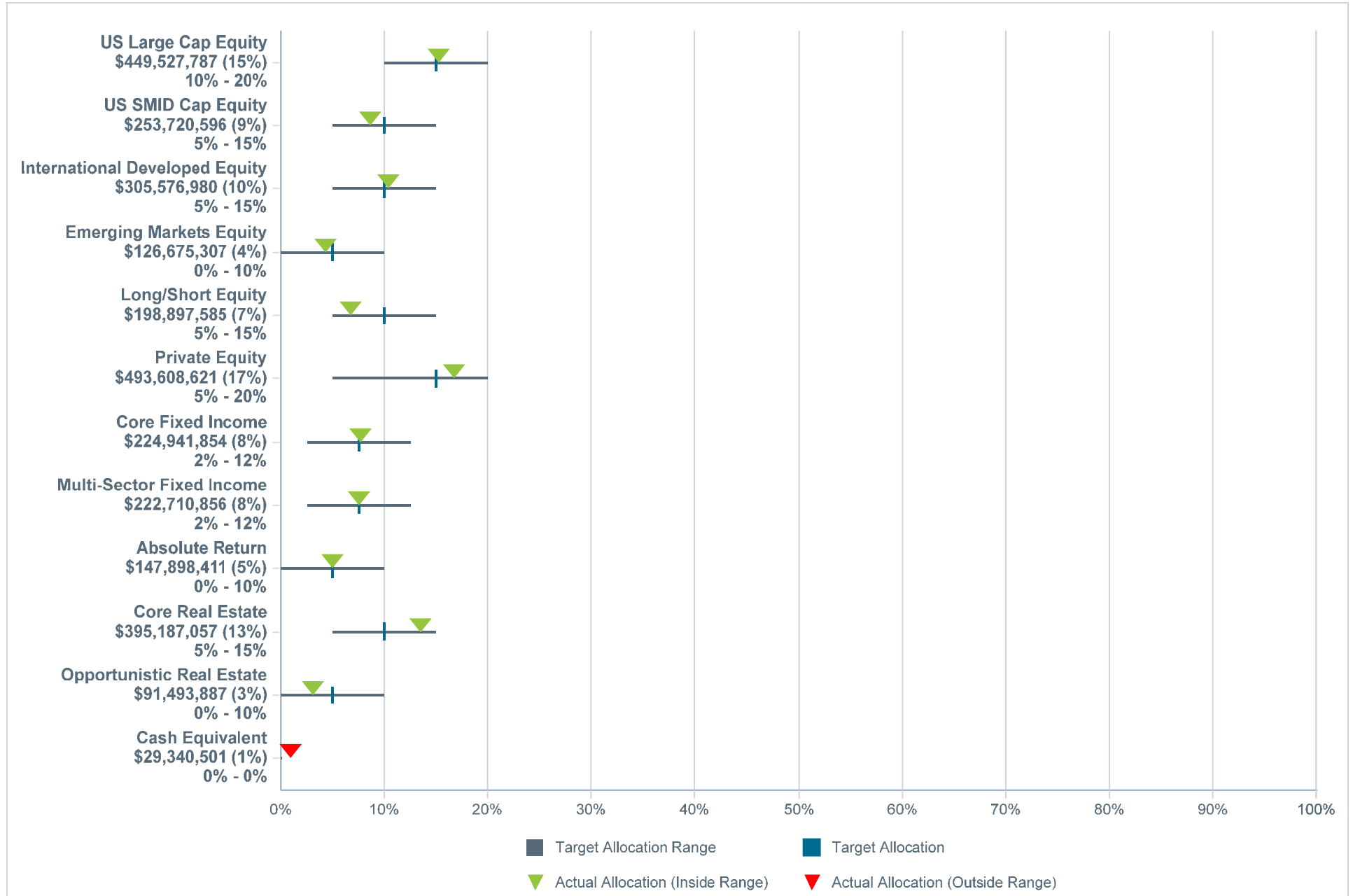
Oklahoma State Pension Commission
 Oklahoma Firefighters Pension & Retirement System
 Asset Allocation vs. Target Allocation

As of December 31, 2022

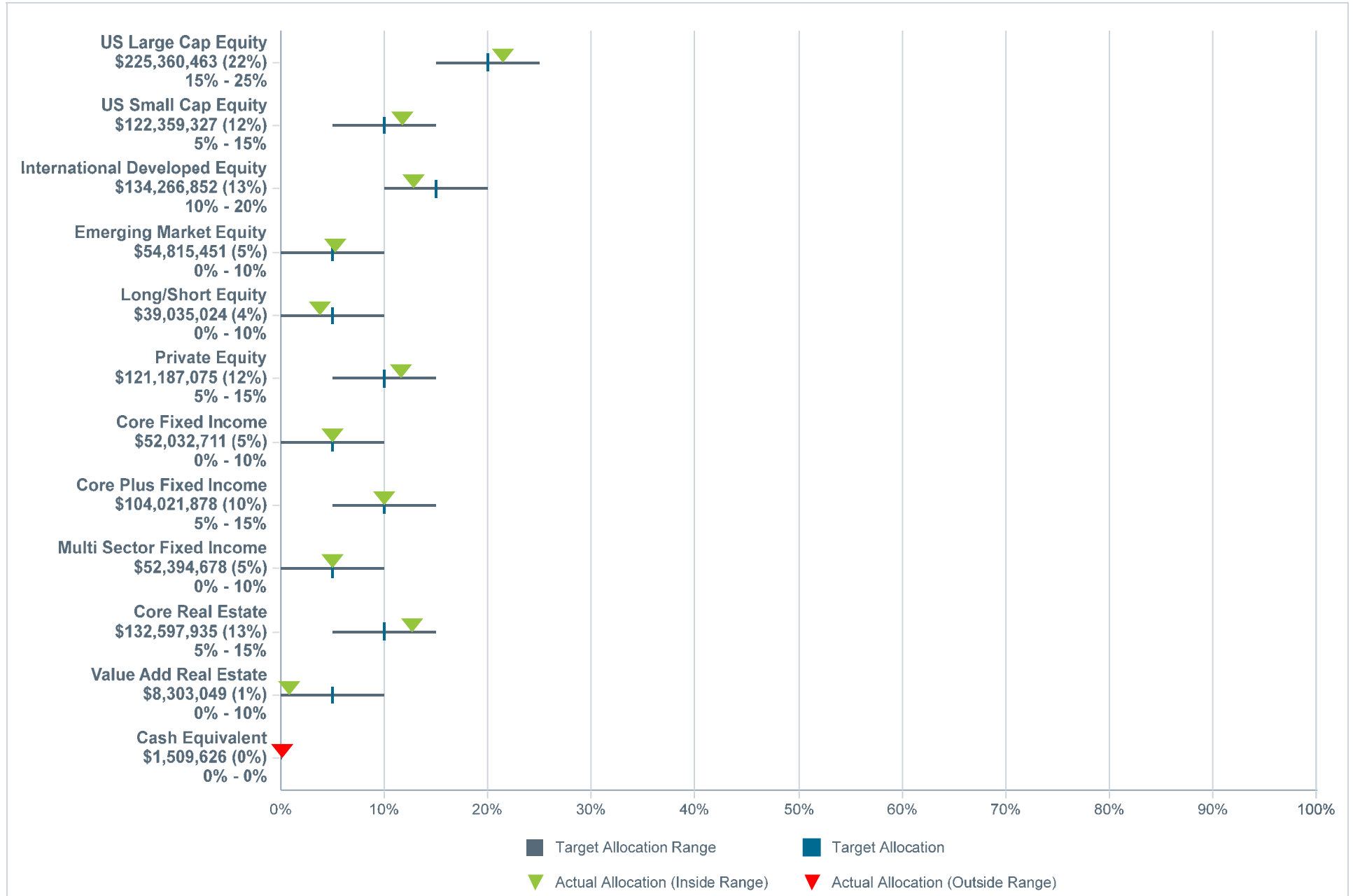


Allocations shown may not sum up to 100% exactly due to rounding. Allocation to Other Equity includes opportunistic equity; Other Fixed Income includes non-core Fixed Income; and Other Assets include Hedge Funds and Private Equity.





Allocations shown may not sum up to 100% exactly due to rounding. Allocation to Multi-Sector Fixed Income includes Private Credit.

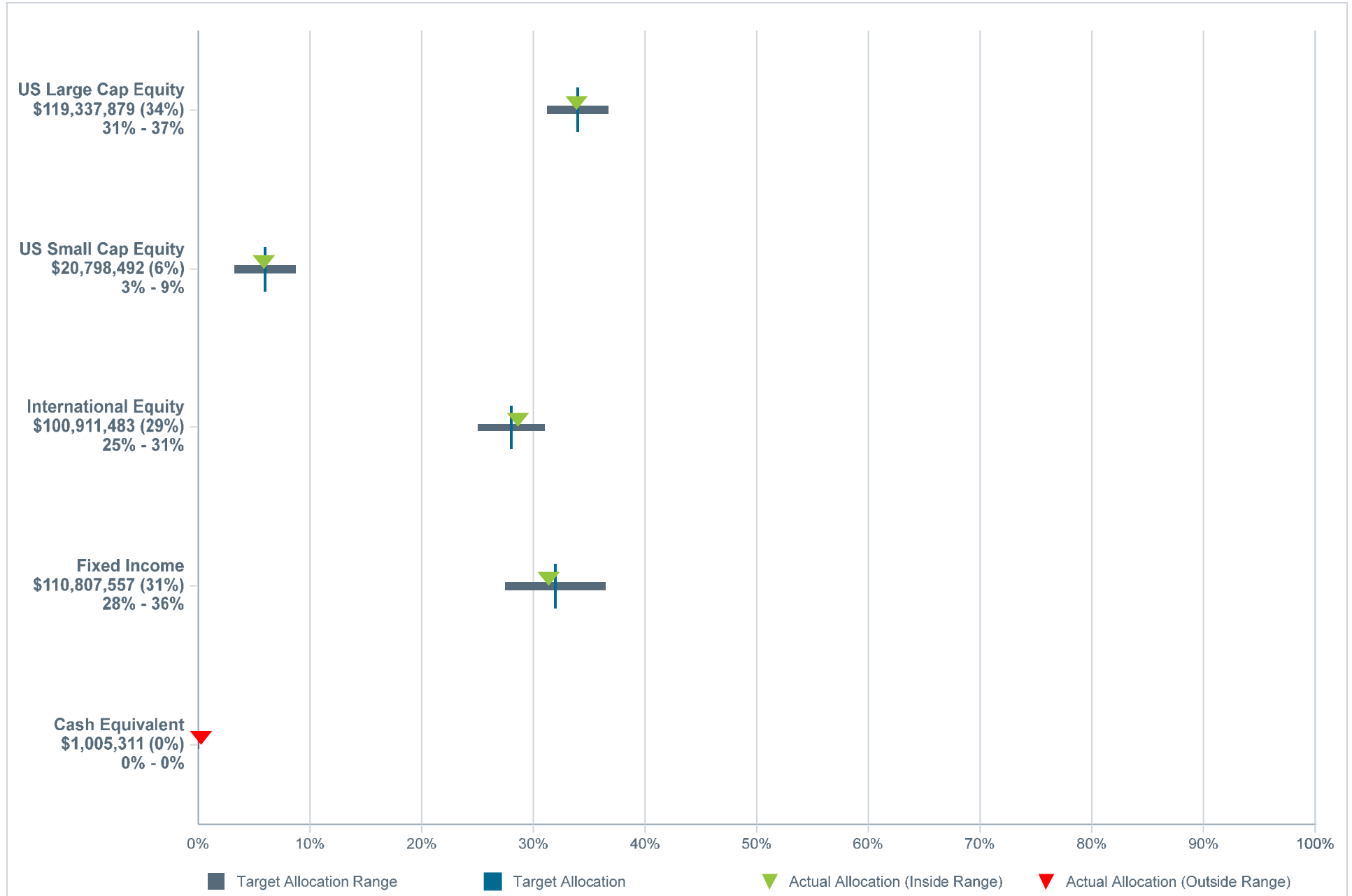


Allocations shown may not sum up to 100% exactly due to rounding. Short term cash reserves shall be considered as fixed income for rebalancing purposes.



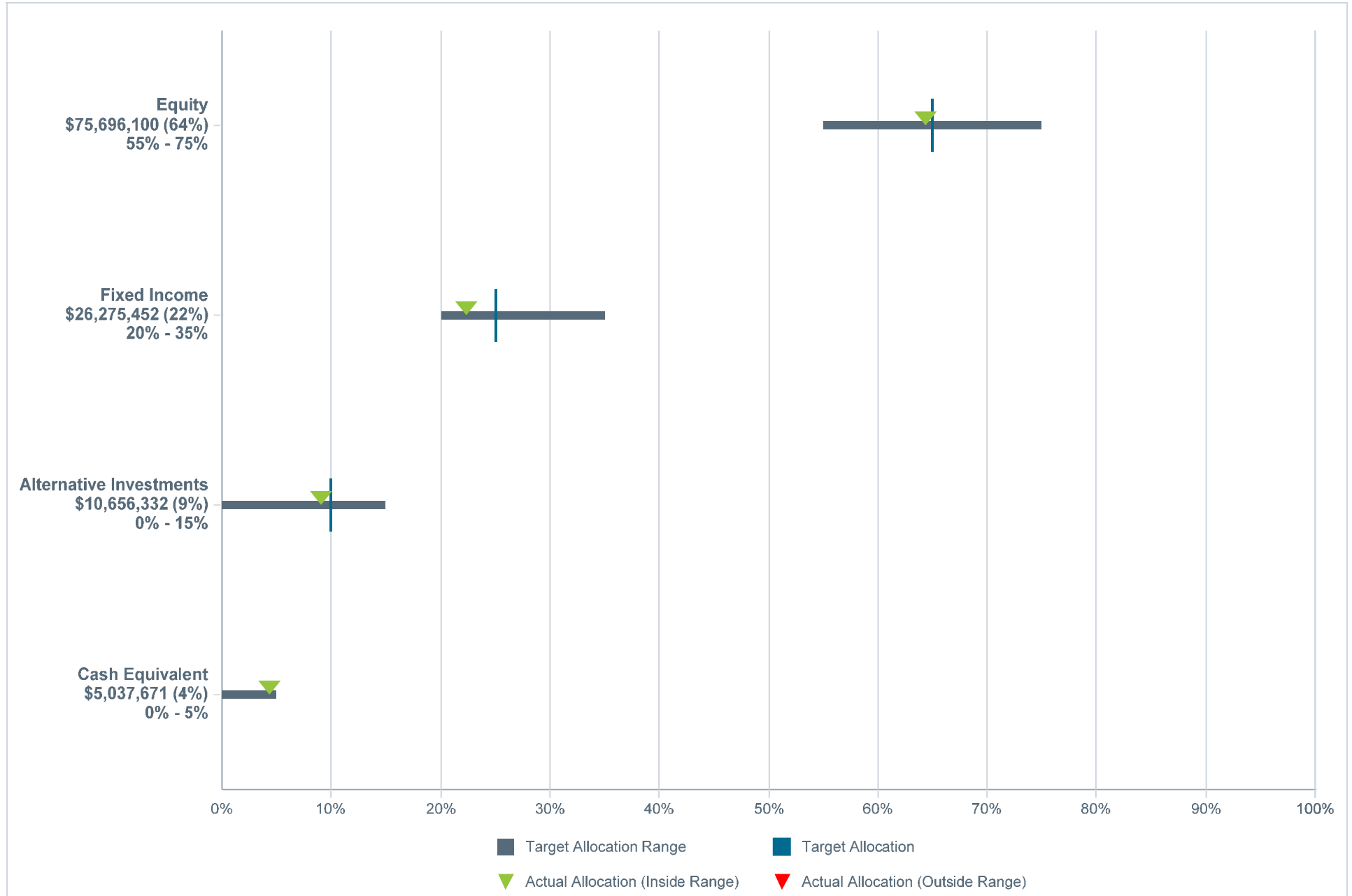
Oklahoma State Pension Commission
 Uniform Retirement System for Justices & Judges
 Asset Allocation vs. Target Allocation

As of December 31, 2022



Allocations shown may not sum up to 100% exactly due to rounding. Cash held in short-term investments with the Master Custodian and direct real estate holdings shall be considered as U.S. fixed income for rebalancing purposes.





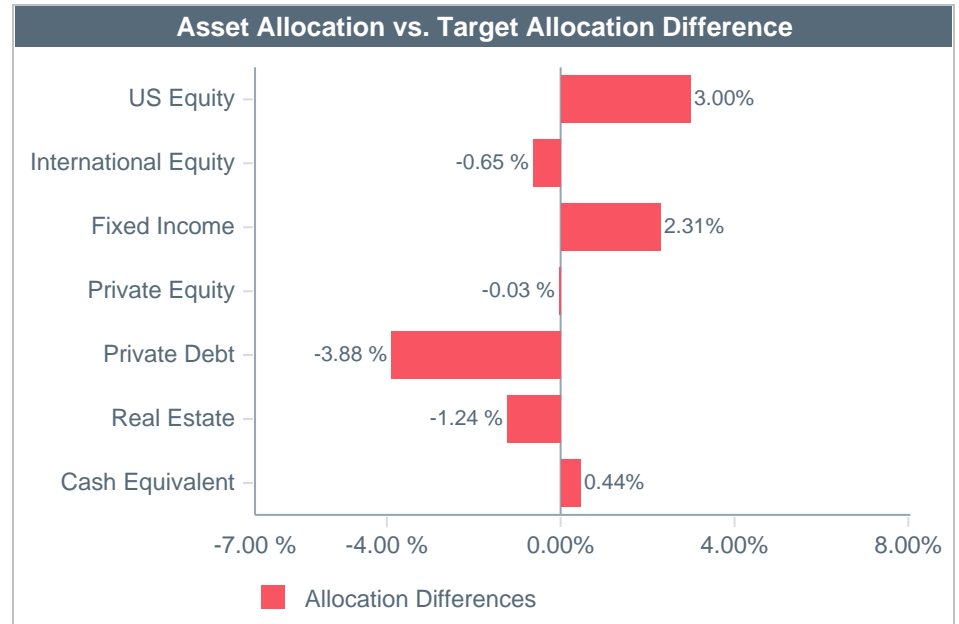
Allocations shown may not sum up to 100% exactly due to rounding.

Oklahoma Teachers' Retirement System (OTRS)



	Performance (%)												
	Trailing							Calendar Year					
	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2021	2020	2019	2018	2017
OTRS Total Fund (Net)	6.57	1.24	-13.25	-13.25	5.10	5.61	7.78	8.06	18.20	13.22	19.48	-5.29	15.83
OTRS Policy Index	6.95	2.57	-14.07	-14.07	4.61	5.82	7.80	7.80	15.60	15.24	21.72	-4.75	15.16
Difference	-0.38	-1.33	0.82	0.82	0.49	-0.21	-0.02	0.26	2.60	-2.02	-2.24	-0.54	0.67
OTRS Actual Allocation Index	6.05	1.63	-15.02	-15.02	4.93	5.54	7.52	7.88	16.21	16.98	18.94	-4.70	14.35
Difference	0.52	-0.39	1.77	1.77	0.17	0.07	0.26	0.18	1.99	-3.76	0.54	-0.59	1.48
Actuarial Discount Rate (7.0%)	1.71	3.44	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00
Difference	4.86	-2.20	-20.25	-20.25	-1.90	-1.39	0.78	1.06	11.20	6.22	12.48	-12.29	8.83
OTRS Total Fund (Gross)	6.61	1.33	-13.08	-13.08	5.31	5.87	8.09	8.42	18.42	13.45	19.83	-4.08	16.20
OTRS Policy Index	6.95	2.57	-14.07	-14.07	4.61	5.82	7.80	7.80	15.60	15.24	21.72	-4.75	15.16
Difference	-0.34	-1.24	0.99	0.99	0.70	0.05	0.29	0.62	2.82	-1.79	-1.89	-0.23	1.04
OTRS Actual Allocation Index	6.05	1.63	-15.02	-15.02	4.93	5.54	7.52	7.88	16.21	16.98	18.94	-4.70	14.35
Difference	0.56	-0.30	1.94	1.94	0.38	0.33	0.57	0.54	2.21	-3.53	0.89	-0.28	1.85
All Public Plans-Total Fund Median	5.66	1.08	-12.81	-12.81	3.99	5.18	6.97	7.18	14.01	12.54	18.57	-4.02	15.16
Rank	24	38	54	54	21	27	11	6	9	38	31	73	29

Asset Allocation vs. Target Allocation			
	Asset Allocation (\$)	Asset Allocation (%)	Target Allocation (%)
OTRS (Teachers)	19,558,299,567	100.00	100.00
US Equity	8,076,748,397	41.30	38.30
International Equity	3,139,715,946	16.05	16.70
Fixed Income	4,754,566,427	24.31	22.00
Private Equity	1,558,352,449	7.97	8.00
Private Debt	218,204,559	1.12	5.00
Real Estate	1,713,836,520	8.76	10.00
Cash Equivalent	85,857,506	0.44	0.00



Parentheses contain percentile ranks. Allocations shown may not sum up to 100% exactly due to rounding. Opportunistic Fixed Income accounts for 1.12% of the Total Fund. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
Oklahoma Teachers' Retirement System
Asset Allocation & Performance - Net of Fees

As of December 31, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
OTRS Total Fund	19,558,299,567	100.00	6.57	1.24	-13.25	-13.25	5.10	5.61	7.78	8.06	8.62	12/01/1991
OTRS Policy Index			6.95	2.57	-14.07	-14.07	4.61	5.82	7.80	7.80	8.65	
Difference			-0.38	-1.33	0.82	0.82	0.49	-0.21	-0.02	0.26	-0.03	
OTRS Actual Allocation Index			6.05	1.63	-15.02	-15.02	4.93	5.54	7.52	7.88	N/A	
Difference			0.52	-0.39	1.77	1.77	0.17	0.07	0.26	0.18	N/A	
Actuarial Discount Rate (7.0%)			1.71	3.44	7.00	7.00	7.00	7.00	7.00	7.00	7.00	
Difference			4.86	-2.20	-20.25	-20.25	-1.90	-1.39	0.78	1.06	1.62	
US Equity	8,076,748,397	41.30	8.96	3.29	-16.72	-16.72	6.14	6.96	9.97	11.18	10.36	04/01/1990
Russell 3000 Index			7.18	2.40	-19.21	-19.21	7.07	8.79	11.04	12.13	9.94	
Difference			1.78	0.89	2.49	2.49	-0.93	-1.83	-1.07	-0.95	0.42	
US Active Equity	786,876,759	4.02	9.41	3.73	-18.11	-18.11	6.20	6.84	9.99	11.12	8.29	12/01/1998
Russell 3000 Index			7.18	2.40	-19.21	-19.21	7.07	8.79	11.04	12.13	7.29	
Difference			2.23	1.33	1.10	1.10	-0.87	-1.95	-1.05	-1.01	1.00	
Frontier Small Cap Value Equity (SA)	406,753,454	2.08	13.07	9.71	-6.85	-6.85	8.47	6.54	9.54	N/A	9.03	06/01/2013
Russell 2000 Val Index			8.42	3.42	-14.48	-14.48	4.70	4.13	8.23	8.48	7.30	
Difference			4.65	6.29	7.63	7.63	3.77	2.41	1.31	N/A	1.73	
Geneva US Small Cap Growth Equity (SA)	380,123,306	1.94	5.90	0.45	-24.78	-24.78	4.04	7.68	10.20	N/A	10.88	06/01/2013
Russell 2000 Grth Index			4.13	4.38	-26.36	-26.36	0.65	3.51	7.09	9.20	7.73	
Difference			1.77	-3.93	1.58	1.58	3.39	4.17	3.11	N/A	3.15	
US Passive Equity (Cap Wgt)	4,296,386,055	21.97	7.17	2.30	-23.08	-23.08	4.68	7.51	9.71	11.34	10.92	04/01/2012
Northern Trust Russell 3000 Index (SA)	4,296,386,056	21.97	7.19	2.30	N/A	N/A	N/A	N/A	N/A	N/A	2.30	07/01/2022
Russell 3000 Index			7.18	2.40	-19.21	-19.21	7.07	8.79	11.04	12.13	2.40	
Difference			0.01	-0.10	N/A	N/A	N/A	N/A	N/A	N/A	-0.10	
US Passive Equity (Non-Cap Wgt)	2,992,982,417	15.30	11.51	5.37	-12.06	-12.06	5.96	7.56	10.57	11.82	11.56	04/01/2012
NTGI SciBetUS HF Ex MulBeEW Gr			11.58	5.42	-11.96	-11.96	6.01	7.51	N/A	N/A	N/A	
Difference			-0.07	-0.05	-0.10	-0.10	-0.05	0.05	N/A	N/A	N/A	
SciBeta US High FactorExposure Index (SA)	2,992,982,417	15.30	11.51	5.37	-12.06	-12.06	5.96	7.56	N/A	N/A	7.45	12/01/2017
NTGI SciBetUS HF Ex MulBeEW Gr			11.58	5.42	-11.96	-11.96	6.01	7.51	N/A	N/A	7.50	
Difference			-0.07	-0.05	-0.10	-0.10	-0.05	0.05	N/A	N/A	-0.05	

During 10/2022, AGXI Non-Core Real Estate was funded, and Wellington Mid Cap Growth (SA) was fully liquidated. During 11/2022, Hotchkis & Wiley Mid Cap Value Equity (SA), Northern Trust Russell 1000 Index (SA), and Northern Trust Russell Mid Cap Index (CF) were fully liquidated. During 12/2022, TPG Real Estate IV was funded, and PIMCO Bravo I LP was liquidated. Performance shown is net of fees. Performance is annualized for periods greater than one year. Manager inception dates shown represent the first full month following initial funding. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
Oklahoma Teachers' Retirement System
Asset Allocation & Performance - Net of Fees

As of December 31, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
International Equity	3,139,715,946	16.05	14.06	1.45	-20.25	-20.25	-0.17	0.21	3.93	4.46	6.87	02/01/1996
MSCI ACW Ex US IM Index (USD) (Gross)			14.23	3.28	-16.15	-16.15	0.65	1.32	5.32	4.46	5.03	
Difference			-0.17	-1.83	-4.10	-4.10	-0.82	-1.11	-1.39	0.00	1.84	
Causeway Intl Opportunities (SA)	560,352,748	2.87	17.49	5.23	-11.14	-11.14	0.39	0.46	4.49	4.25	7.23	05/01/2003
MSCI ACW Ex US Val Index (USD) (Gross)			15.82	3.90	-7.95	-7.95	0.69	0.57	4.83	3.33	7.10	
Difference			1.67	1.33	-3.19	-3.19	-0.30	-0.11	-0.34	0.92	0.13	
Allianz Best Styles AC Intl Equity (SA)	26,086	0.00	0.00	-0.86	-17.51	-17.51	-1.23	-0.44	N/A	N/A	4.80	07/01/2016
MSCI ACW Ex US Index (USD) (Gross)			14.37	3.16	-15.57	-15.57	0.53	1.36	5.30	4.28	5.83	
Difference			-14.37	-4.02	-1.94	-1.94	-1.76	-1.80	N/A	N/A	-1.03	
NT ACWI Ex US Investable Market Fund (CF)	1,112,497,748	5.69	14.45	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.15	09/01/2022
MSCI ACW Ex US Index (USD) (Gross)			14.37	3.16	-15.57	-15.57	0.53	1.36	5.30	4.28	3.00	
Difference			0.08	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.15	
Wellington Intl Quality Growth (SA)	551,454,352	2.82	12.35	-1.14	-27.18	-27.18	-0.25	2.48	N/A	N/A	6.49	07/01/2016
MSCI ACW Ex US Grth Index (USD) (Gross)			12.94	2.43	-22.80	-22.80	-0.10	1.83	5.53	5.04	5.90	
Difference			-0.59	-3.57	-4.38	-4.38	-0.15	0.65	N/A	N/A	0.59	
Wasatch International Small Cap Growth (SA)	307,635,161	1.57	9.90	-0.28	-34.44	-34.44	-2.93	0.40	3.39	5.71	7.73	12/01/2011
MSCI ACW Ex US Sm Cap Index (USD) (Gross)			13.39	4.04	-19.57	-19.57	1.50	1.08	5.49	5.65	6.57	
Difference			-3.49	-4.32	-14.87	-14.87	-4.43	-0.68	-2.10	0.06	1.16	
Wellington International Small Cap Equity (CF)	272,574,531	1.39	18.92	8.49	-20.11	-20.11	-0.79	-2.25	1.78	4.60	6.23	12/01/2011
MSCI EAFE Sm Cap Index (USD) (Gross)			15.85	4.55	-21.02	-21.02	-0.54	0.35	4.85	6.60	7.54	
Difference			3.07	3.94	0.91	0.91	-0.25	-2.60	-3.07	-2.00	-1.31	
SSGA Emerging Market Small Cap (CF)	335,172,253	1.71	10.73	3.42	-14.12	-14.12	5.83	2.18	N/A	N/A	5.59	09/01/2016
MSCI Emg Mkts Sm Cap Index (USD) (Gross)			8.33	2.89	-17.54	-17.54	5.60	1.49	5.78	3.59	5.14	
Difference			2.40	0.53	3.42	3.42	0.23	0.69	N/A	N/A	0.45	

During 10/2022, AGXI Non-Core Real Estate was funded, and Wellington Mid Cap Growth (SA) was fully liquidated. During 11/2022, Hotchkis & Wiley Mid Cap Value Equity (SA), Northern Trust Russell 1000 Index (SA), and Northern Trust Russell Mid Cap Index (CF) were fully liquidated. During 12/2022, TPG Real Estate IV was funded, and PIMCO Bravo I LP was liquidated. Performance shown is net of fees. Performance is annualized for periods greater than one year. Manager inception dates shown represent the first full month following initial funding. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
Oklahoma Teachers' Retirement System
Asset Allocation & Performance - Net of Fees

As of December 31, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
Fixed Income	4,754,566,427	24.31	2.35	-2.35	-16.24	-16.24	-2.12	0.67	2.43	2.22	6.05	04/01/1990
OTRS Fixed Income Blended Benchmark			2.52	-1.11	-12.42	-12.42	-1.89	0.71	2.15	1.96	N/A	
Difference			-0.17	-1.24	-3.82	-3.82	-0.23	-0.04	0.28	0.26	N/A	
Loomis Sayles Multisector Full Discretion (SA)	1,393,115,299	7.12	2.91	0.12	-11.88	-11.88	0.51	1.89	3.15	2.52	5.29	07/01/1999
OTRS Fixed Income Blended Benchmark			2.52	-1.11	-12.42	-12.42	-1.89	0.71	2.15	1.96	4.62	
Difference			0.39	1.23	0.54	0.54	2.40	1.18	1.00	0.56	0.67	
Mackay Shields Core+ Extended Discretion (SA)	1,349,398,324	6.90	3.44	-0.53	-13.06	-13.06	-0.97	1.20	2.25	1.85	4.05	11/01/2004
OTRS Fixed Income Blended Benchmark			2.52	-1.11	-12.42	-12.42	-1.89	0.71	2.15	1.96	3.93	
Difference			0.92	0.58	-0.64	-0.64	0.92	0.49	0.10	-0.11	0.12	
Lord Abbett Core Plus Full Discretion (SA)	1,325,791,815	6.78	2.29	-1.76	-12.81	-12.81	-1.67	0.71	1.78	1.80	3.96	11/01/2004
OTRS Fixed Income Blended Benchmark			2.52	-1.11	-12.42	-12.42	-1.89	0.71	2.15	1.96	3.93	
Difference			-0.23	-0.65	-0.39	-0.39	0.22	0.00	-0.37	-0.16	0.03	
Hoisington Active Duration Long Bonds (SA)	686,260,988	3.51	-0.71	-11.03	-32.37	-32.37	-8.26	-2.49	-0.31	0.59	4.59	11/01/2004
Bloomberg US Trsy Index			0.72	-3.66	-12.46	-12.46	-2.62	-0.10	0.41	0.58	2.57	
Difference			-1.43	-7.37	-19.91	-19.91	-5.64	-2.39	-0.72	0.01	2.02	
Private Equity	1,558,352,449	7.97	1.86	-3.88	-0.26	-0.26	22.65	21.72	19.58	18.76	18.54	07/01/2015
R 2000 Index+4%			7.28	5.96	-17.25	-17.25	7.22	8.29	12.21	13.37	10.29	
Difference			-5.42	-9.84	16.99	16.99	15.43	13.43	7.37	5.39	8.25	
Franklin Park Private Equity LP	1,550,975,542	7.93	1.87	-3.86	-0.24	-0.24	22.78	21.98	19.76	17.84	18.64	07/01/2015
Legacy Private Equity LP	7,376,907	0.04	0.95	-9.21	-3.36	-3.36	7.67	3.25	4.20	6.15	3.86	10/01/2008

During 10/2022, AGXI Non-Core Real Estate was funded, and Wellington Mid Cap Growth (SA) was fully liquidated. During 11/2022, Hotchkis & Wiley Mid Cap Value Equity (SA), Northern Trust Russell 1000 Index (SA), and Northern Trust Russell Mid Cap Index (CF) were fully liquidated. During 12/2022, TPG Real Estate IV was funded, and PIMCO Bravo I LP was liquidated. Performance shown is net of fees. Performance is annualized for periods greater than one year. Manager inception dates shown represent the first full month following initial funding. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
Oklahoma Teachers' Retirement System
Asset Allocation & Performance - Net of Fees

As of December 31, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
Private Debt	218,204,559	1.12	-0.13	-2.50	6.75	6.75	8.82	8.25	8.60	N/A	8.37	07/01/2015
S&P/LSTA Leveraged Loan 100 Index +3%			3.82	5.20	-0.54	-0.54	1.95	3.12	4.23	3.27	3.32	
Difference			-3.95	-7.70	7.29	7.29	6.87	5.13	4.37	N/A	5.05	
PIMCO Bravo II LP	11,585,788	0.06	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	03/01/2013
PIMCO Bravo III LP	169,990,210	0.87	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	04/01/2017
PIMCO COF II LP	36,628,560	0.19	8.33	5.80	20.29	20.29	14.50	11.57	N/A	N/A	12.70	10/01/2016
Bloomberg US Unv Bond Index			2.24	-2.31	-12.99	-12.99	-2.54	0.18	1.26	1.33	0.36	
Difference			6.09	8.11	33.28	33.28	17.04	11.39	N/A	N/A	12.34	

During 10/2022, AGXI Non-Core Real Estate was funded, and Wellington Mid Cap Growth (SA) was fully liquidated. During 11/2022, Hotchkis & Wiley Mid Cap Value Equity (SA), Northern Trust Russell 1000 Index (SA), and Northern Trust Russell Mid Cap Index (CF) were fully liquidated. During 12/2022, TPG Real Estate IV was funded, and PIMCO Bravo I LP was liquidated. Performance shown is net of fees. Performance is annualized for periods greater than one year. Manager inception dates shown represent the first full month following initial funding. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
Oklahoma Teachers' Retirement System
Asset Allocation & Performance - Net of Fees

As of December 31, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
Real Estate	1,713,836,520	8.76	1.16	3.94	18.29	18.29	8.80	7.88	7.92	N/A	8.43	07/01/2015
NCREIF Property Index			-3.50	-2.95	5.52	5.52	8.06	7.46	7.46	8.82	7.79	
Difference			4.66	6.89	12.77	12.77	0.74	0.42	0.46	N/A	0.64	
AEW Core Property Trust (CF)	457,129,230	2.34	2.02	5.22	23.05	23.05	11.67	9.87	8.79	9.32	8.96	07/01/2011
NCREIF ODCE Index (AWA) (Net)			-5.17	-4.87	6.55	6.55	8.97	7.72	7.57	9.11	9.32	
Difference			7.19	10.09	16.50	16.50	2.70	2.15	1.22	0.21	-0.36	
Heitman America Real Estate (CF)	460,667,895	2.36	1.52	5.82	25.99	25.99	11.74	9.23	9.24	9.88	9.66	05/01/2011
NCREIF ODCE Index (AWA) (Net)			-5.17	-4.87	6.55	6.55	8.97	7.72	7.57	9.11	9.58	
Difference			6.69	10.69	19.44	19.44	2.77	1.51	1.67	0.77	0.08	
L&B Core Income Partners LP	7,189,522	0.04	-1.62	-8.35	-8.52	-8.52	-4.24	-2.62	0.68	3.87	3.64	04/01/2011
NCREIF ODCE Index (AWA) (Net)			-5.17	-4.87	6.55	6.55	8.97	7.72	7.57	9.11	9.51	
Difference			3.55	-3.48	-15.07	-15.07	-13.21	-10.34	-6.89	-5.24	-5.87	
American Strategic Value Realty (CF)	132,874,826	0.68	1.44	4.08	15.63	15.63	10.93	9.78	10.03	N/A	9.92	12/01/2014
NCREIF ODCE Index (AWA) (Net)			-5.17	-4.87	6.55	6.55	8.97	7.72	7.57	9.11	8.66	
Difference			6.61	8.95	9.08	9.08	1.96	2.06	2.46	N/A	1.26	
Angelo Gordon Value X LP	46,798,278	0.24	-0.17	7.54	25.69	25.69	19.76	N/A	N/A	N/A	9.20	07/01/2019
NCREIF ODCE Index (AWA) (Net)			-5.17	-4.87	6.55	6.55	8.97	7.72	7.57	9.11	8.36	
Difference			5.00	12.41	19.14	19.14	10.79	N/A	N/A	N/A	0.84	
AGXI Non-Core Real Estate	7,000,000	0.04	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.00	11/01/2022
NCREIF ODCE Index (AWA) (Net)			-5.17	-4.87	6.55	6.55	8.97	7.72	7.57	9.11	-5.17	
Difference			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.17	
Artemis Real Estate III LP	33,621,331	0.17	-1.29	9.24	30.22	30.22	31.76	N/A	N/A	N/A	N/A	02/01/2019
NCREIF ODCE Index (AWA) (Net)			-5.17	-4.87	6.55	6.55	8.97	7.72	7.57	9.11	7.98	
Difference			3.88	14.11	23.67	23.67	22.79	N/A	N/A	N/A	N/A	
Artemis Real Estate IV LP	1,352,428	0.01	-10.89	-50.56	N/A	N/A	N/A	N/A	N/A	N/A	-50.56	07/01/2022
NCREIF ODCE Index (AWA) (Net)			-5.17	-4.87	6.55	6.55	8.97	7.72	7.57	9.11	-4.87	
Difference			-5.72	-45.69	N/A	N/A	N/A	N/A	N/A	N/A	-45.69	

During 10/2022, AGXI Non-Core Real Estate was funded, and Wellington Mid Cap Growth (SA) was fully liquidated. During 11/2022, Hotchkis & Wiley Mid Cap Value Equity (SA), Northern Trust Russell 1000 Index (SA), and Northern Trust Russell Mid Cap Index (CF) were fully liquidated. During 12/2022, TPG Real Estate IV was funded, and PIMCO Bravo I LP was liquidated. Performance shown is net of fees. Performance is annualized for periods greater than one year. Manager inception dates shown represent the first full month following initial funding. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
Oklahoma Teachers' Retirement System
Asset Allocation & Performance - Net of Fees

As of December 31, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
Dune Real Estate III LP	35,190,596	0.18	0.64	0.32	3.80	3.80	-2.03	1.52	4.25	N/A	4.73	11/01/2014
NCREIF ODCE Index (AWA) (Net)			-5.17	-4.87	6.55	6.55	8.97	7.72	7.57	9.11	8.57	
Difference			5.81	5.19	-2.75	-2.75	-11.00	-6.20	-3.32	N/A	-3.84	
Dune Real Estate IV LP	31,516,246	0.16	7.42	11.37	25.67	25.67	2.07	N/A	N/A	N/A	-5.24	09/01/2019
NCREIF ODCE Index (AWA) (Net)			-5.17	-4.87	6.55	6.55	8.97	7.72	7.57	9.11	8.80	
Difference			12.59	16.24	19.12	19.12	-6.90	N/A	N/A	N/A	-14.04	
FCP Realty IV LP	39,675,179	0.20	-0.12	3.67	26.25	26.25	18.18	N/A	N/A	N/A	0.22	12/01/2018
NCREIF ODCE Index (AWA) (Net)			-5.17	-4.87	6.55	6.55	8.97	7.72	7.57	9.11	8.04	
Difference			5.05	8.54	19.70	19.70	9.21	N/A	N/A	N/A	-7.82	
FCP Realty V LP	44,842,138	0.23	1.74	-0.72	-6.79	-6.79	N/A	N/A	N/A	N/A	-21.40	10/01/2021
NCREIF ODCE Index (AWA) (Net)			-5.17	-4.87	6.55	6.55	8.97	7.72	7.57	9.11	11.60	
Difference			6.91	4.15	-13.34	-13.34	N/A	N/A	N/A	N/A	-33.00	
GreenOak US II LP	22,268,815	0.11	-8.48	-6.85	-13.03	-13.03	-21.61	-11.63	-7.18	N/A	-6.59	10/01/2014
NCREIF ODCE Index (AWA) (Net)			-5.17	-4.87	6.55	6.55	8.97	7.72	7.57	9.11	8.48	
Difference			-3.31	-1.98	-19.58	-19.58	-30.58	-19.35	-14.75	N/A	-15.07	
GreenOak US III LP	40,642,925	0.21	0.25	0.44	8.84	8.84	1.67	N/A	N/A	N/A	-7.98	06/01/2018
NCREIF ODCE Index (AWA) (Net)			-5.17	-4.87	6.55	6.55	8.97	7.72	7.57	9.11	7.98	
Difference			5.42	5.31	2.29	2.29	-7.30	N/A	N/A	N/A	-15.96	
Harbert European Real Estate V LP	43,581,469	0.22	4.08	-0.82	5.96	5.96	9.81	N/A	N/A	N/A	-0.19	12/01/2018
NCREIF ODCE Index (AWA) (Net)			-5.17	-4.87	6.55	6.55	8.97	7.72	7.57	9.11	8.04	
Difference			9.25	4.05	-0.59	-0.59	0.84	N/A	N/A	N/A	-8.23	
Invesco VI Global Real Estate Fund	34,369,515	0.18	3.75	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.75	10/01/2022
NCREIF ODCE Index (AWA) (Net)			-5.17	-4.87	6.55	6.55	8.97	7.72	7.57	9.11	-5.17	
Difference			8.92	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8.92	
Invesco Strategic Opportunity (CF)	14,293,584	0.07	2.96	14.79	34.66	34.66	52.36	N/A	N/A	N/A	47.50	10/01/2019
NCREIF ODCE Index (AWA) (Net)			-5.17	-4.87	6.55	6.55	8.97	7.72	7.57	9.11	8.67	
Difference			8.13	19.66	28.11	28.11	43.39	N/A	N/A	N/A	38.83	

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Oklahoma State Pension Commission
Oklahoma Teachers' Retirement System
Asset Allocation & Performance - Net of Fees

As of December 31, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
L&B Gloden Driller (SA)	76,577,903	0.39	-0.03	-2.93	-2.95	-2.95	-3.22	5.33	4.51	N/A	N/A	07/01/2014
NCREIF ODCE Index (AWA) (Net)			-5.17	-4.87	6.55	6.55	8.97	7.72	7.57	9.11	8.60	
Difference			5.14	1.94	-9.50	-9.50	-12.19	-2.39	-3.06	N/A	N/A	
Landmark Real Estate VII LP	5,923,273	0.03	-5.14	-4.56	-0.95	-0.95	-1.93	-0.67	3.48	N/A	7.22	12/01/2014
NCREIF ODCE Index (AWA) (Net)			-5.17	-4.87	6.55	6.55	8.97	7.72	7.57	9.11	8.66	
Difference			0.03	0.31	-7.50	-7.50	-10.90	-8.39	-4.09	N/A	-1.44	
Lyrical-OTRS Realty Partner IV LP	64,123,712	0.33	1.13	1.85	18.01	18.01	10.35	15.89	8.61	N/A	5.74	11/01/2014
NCREIF ODCE Index (AWA) (Net)			-5.17	-4.87	6.55	6.55	8.97	7.72	7.57	9.11	8.57	
Difference			6.30	6.72	11.46	11.46	1.38	8.17	1.04	N/A	-2.83	
Starwood Opportunity X LP	11,784,627	0.06	0.38	3.92	32.13	32.13	18.48	15.75	16.67	N/A	14.96	07/01/2015
NCREIF ODCE Index (AWA) (Net)			-5.17	-4.87	6.55	6.55	8.97	7.72	7.57	9.11	7.97	
Difference			5.55	8.79	25.58	25.58	9.51	8.03	9.10	N/A	6.99	
Starwood Opportunity XI LP	51,318,371	0.26	-3.86	-0.11	6.52	6.52	11.18	N/A	N/A	N/A	19.73	08/01/2018
NCREIF ODCE Index (AWA) (Net)			-5.17	-4.87	6.55	6.55	8.97	7.72	7.57	9.11	7.86	
Difference			1.31	4.76	-0.03	-0.03	2.21	N/A	N/A	N/A	11.87	
Starwood Opportunity XII LP	34,366,625	0.18	-1.14	4.59	19.16	19.16	N/A	N/A	N/A	N/A	19.16	01/01/2022
NCREIF ODCE Index (AWA) (Net)			-5.17	-4.87	6.55	6.55	8.97	7.72	7.57	9.11	6.55	
Difference			4.03	9.46	12.61	12.61	N/A	N/A	N/A	N/A	12.61	
TPG Real Estate IV LP	6,328,031	0.03	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	01/01/2023
NCREIF ODCE Index (AWA) (Net)			-5.17	-4.87	6.55	6.55	8.97	7.72	7.57	9.11	N/A	
Difference			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Property ACQ Fund	10,400,000	0.05	0.00	0.00	3.17	3.17	-7.47	-9.86	N/A	N/A	-9.05	08/01/2017

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Oklahoma State Pension Commission
Oklahoma Teachers' Retirement System
Asset Allocation & Performance - Gross of Fees

As of December 31, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
OTRS Total Fund	19,558,299,567	100.00	6.61	1.33	-13.08	-13.08	5.31	5.87	8.09	8.42	8.96	12/01/1991
OTRS Policy Index			6.95	2.57	-14.07	-14.07	4.61	5.82	7.80	7.80	8.65	
Difference			-0.34	-1.24	0.99	0.99	0.70	0.05	0.29	0.62	0.31	
OTRS Actual Allocation Index			6.05	1.63	-15.02	-15.02	4.93	5.54	7.52	7.88	N/A	
Difference			0.56	-0.30	1.94	1.94	0.38	0.33	0.57	0.54	N/A	
Actuarial Discount Rate (7.0%)			1.71	3.44	7.00	7.00	7.00	7.00	7.00	7.00	7.00	
Difference			4.90	-2.11	-20.08	-20.08	-1.69	-1.13	1.09	1.42	1.96	
All Public Plans-Total Fund Median			5.66	1.08	-12.81	-12.81	3.99	5.18	6.97	7.18	7.82	
Rank			24	38	54	54	21	27	11	6	1	
US Equity	8,076,748,397	41.30	8.98	3.34	-16.60	-16.60	6.31	7.21	10.29	11.43	10.44	04/01/1990
Russell 3000 Index			7.18	2.40	-19.21	-19.21	7.07	8.79	11.04	12.13	9.94	
Difference			1.80	0.94	2.61	2.61	-0.76	-1.58	-0.75	-0.70	0.50	
IM U.S. Equity (SA+CF) Median			8.68	4.24	-16.59	-16.59	7.06	8.09	10.56	11.66	10.91	
Rank			48	61	51	51	61	64	57	55	65	
US Active Equity	786,876,759	4.02	9.56	4.17	-17.42	-17.42	6.82	7.41	10.49	11.61	8.77	12/01/1998
Russell 3000 Index			7.18	2.40	-19.21	-19.21	7.07	8.79	11.04	12.13	7.29	
Difference			2.38	1.77	1.79	1.79	-0.25	-1.38	-0.55	-0.52	1.48	
IM U.S. Equity (SA+CF) Median			8.68	4.24	-16.59	-16.59	7.06	8.09	10.56	11.66	9.18	
Rank			44	51	54	54	54	61	52	52	58	
Frontier Small Cap Value Equity (SA)	406,753,454	2.08	13.17	9.90	-6.32	-6.32	9.17	7.29	10.40	N/A	9.92	06/01/2013
Russell 2000 Val Index			8.42	3.42	-14.48	-14.48	4.70	4.13	8.23	8.48	7.30	
Difference			4.75	6.48	8.16	8.16	4.47	3.16	2.17	N/A	2.62	
IM U.S. Small Cap Value Equity (SA+CF) Median			11.05	5.98	-10.85	-10.85	7.53	5.74	9.59	10.43	9.00	
Rank			24	16	22	22	30	29	32	N/A	29	
Geneva US Small Cap Growth Equity (SA)	380,123,306	1.94	5.98	0.61	-24.30	-24.30	4.71	8.39	10.95	N/A	11.47	06/01/2013
Russell 2000 Grth Index			4.13	4.38	-26.36	-26.36	0.65	3.51	7.09	9.20	7.73	
Difference			1.85	-3.77	2.06	2.06	4.06	4.88	3.86	N/A	3.74	
IM U.S. Small Cap Growth Equity (SA+CF) Median			4.52	3.36	-27.30	-27.30	5.50	8.73	11.29	12.24	10.73	
Rank			34	81	32	32	62	60	56	N/A	32	

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Oklahoma State Pension Commission
Oklahoma Teachers' Retirement System
Asset Allocation & Performance - Gross of Fees

As of December 31, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
US Passive Equity (Cap Wgt)	4,296,386,055	21.97	7.18	2.30	-23.08	-23.08	4.68	7.51	9.72	11.35	10.93	04/01/2012
Northern Trust Russell 3000 Index (SA)	4,296,386,056	21.97	7.19	2.30	N/A	N/A	N/A	N/A	N/A	N/A	2.30	07/01/2022
Russell 3000 Index			7.18	2.40	-19.21	-19.21	7.07	8.79	11.04	12.13	2.40	
Difference			0.01	-0.10	N/A	N/A	N/A	N/A	N/A	N/A	-0.10	
IM U.S. Large Cap Equity (SA+CF) Median			8.14	2.93	-17.57	-17.57	7.42	9.07	11.10	12.36	2.93	
Rank			68	64	N/A	N/A	N/A	N/A	N/A	N/A	64	
US Passive Equity (Non-Cap Wgt)	2,992,982,417	15.30	11.53	5.38	-12.01	-12.01	6.03	7.62	10.62	11.86	11.60	04/01/2012
NTGI SciBetUS HF Ex MulBeEW Gr			11.58	5.42	-11.96	-11.96	6.01	7.51	N/A	N/A	N/A	
Difference			-0.05	-0.04	-0.05	-0.05	0.02	0.11	N/A	N/A	N/A	
SciBeta US High FactorExposure Index (SA)	2,992,982,417	15.30	11.53	5.38	-12.01	-12.01	6.03	7.62	N/A	N/A	7.52	12/01/2017
NTGI SciBetUS HF Ex MulBeEW Gr			11.58	5.42	-11.96	-11.96	6.01	7.51	N/A	N/A	7.50	
Difference			-0.05	-0.04	-0.05	-0.05	0.02	0.11	N/A	N/A	0.02	
IM U.S. Large Cap Index Equity (SA+CF) Median			7.54	2.31	-18.53	-18.53	7.45	9.16	11.34	12.40	9.24	
Rank			19	18	19	19	87	83	N/A	N/A	85	
International Equity	3,139,715,946	16.05	14.18	1.66	-19.91	-19.91	0.25	0.66	4.41	4.93	7.31	02/01/1996
MSCI ACW Ex US IM Index (USD) (Gross)			14.23	3.28	-16.15	-16.15	0.65	1.32	5.32	4.46	5.03	
Difference			-0.05	-1.62	-3.76	-3.76	-0.40	-0.66	-0.91	0.47	2.28	
IM International Equity (SA+CF) Median			15.51	4.72	-16.40	-16.40	1.42	1.95	5.51	5.82	6.80	
Rank			68	85	69	69	70	76	77	74	39	
Causeway Intl Opportunities (SA)	560,352,748	2.87	17.58	5.40	-10.85	-10.85	0.71	0.79	4.85	4.52	7.37	05/01/2003
MSCI ACW Ex US Val Index (USD) (Gross)			15.82	3.90	-7.95	-7.95	0.69	0.57	4.83	3.33	7.10	
Difference			1.76	1.50	-2.90	-2.90	0.02	0.22	0.02	1.19	0.27	
IM ACWI Ex US Value (SA+CF) Median			17.73	5.00	-11.07	-11.07	1.27	1.80	5.17	5.13	7.61	
Rank			54	47	47	47	61	68	62	67	57	
Allianz Best Styles AC Intl Equity (SA)	26,086	0.00	0.00	-0.86	-17.39	-17.39	-1.01	-0.20	N/A	N/A	5.07	07/01/2016
MSCI ACW Ex US Index (USD) (Gross)			14.37	3.16	-15.57	-15.57	0.53	1.36	5.30	4.28	5.83	
Difference			-14.37	-4.02	-1.82	-1.82	-1.54	-1.56	N/A	N/A	-0.76	
IM ACWI Ex US Core (SA+CF) Median			14.64	3.55	-17.02	-17.02	1.15	1.81	5.14	5.11	5.89	
Rank			100	100	52	52	84	87	N/A	N/A	68	
NT ACWI Ex US Investable Market Fund (CF)	1,112,497,748	5.69	14.45	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.15	09/01/2022
MSCI ACW Ex US Index (USD) (Gross)			14.37	3.16	-15.57	-15.57	0.53	1.36	5.30	4.28	3.00	
Difference			0.08	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.15	
IM ACWI Ex US Core (SA+CF) Median			14.64	3.55	-17.02	-17.02	1.15	1.81	5.14	5.11	3.81	
Rank			60	N/A	N/A	N/A	N/A	N/A	N/A	N/A	68	

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Wellington Intl Quality Growth (SA)	551,454,352	2.82	12.50	-0.86	-26.75	-26.75	0.30	3.07	N/A	N/A	7.08	07/01/2016
MSCI ACW Ex US Grth Index (USD) (Gross)			12.94	2.43	-22.80	-22.80	-0.10	1.83	5.53	5.04	5.90	
Difference			-0.44	-3.29	-3.95	-3.95	0.40	1.24	N/A	N/A	1.18	
IM ACWI Ex US Growth (SA+CF) Median			13.93	4.56	-23.62	-23.62	1.10	2.95	6.06	5.95	7.07	
Rank			77	99	70	70	74	41	N/A	N/A	50	
Wasatch International Small Cap Growth (SA)	307,635,161	1.57	10.10	0.09	-33.91	-33.91	-2.23	1.15	4.19	6.57	8.61	12/01/2011
MSCI ACW Ex US Sm Cap Index (USD) (Gross)			13.39	4.04	-19.57	-19.57	1.50	1.08	5.49	5.65	6.57	
Difference			-3.29	-3.95	-14.34	-14.34	-3.73	0.07	-1.30	0.92	2.04	
IM International Small Cap Equity (SA+CF) Median			16.10	4.91	-21.41	-21.41	0.98	1.44	5.62	7.11	8.32	
Rank			90	93	93	93	87	57	70	66	43	
Wellington International Small Cap Equity (CF)	272,574,531	1.39	19.03	8.71	-19.87	-19.87	-0.40	-1.74	2.35	5.23	6.89	12/01/2011
MSCI EAFE Sm Cap Index (USD) (Gross)			15.85	4.55	-21.02	-21.02	-0.54	0.35	4.85	6.60	7.54	
Difference			3.18	4.16	1.15	1.15	0.14	-2.09	-2.50	-1.37	-0.65	
IM EAFE Core (SA+CF) Median			17.13	5.99	-14.57	-14.57	1.70	2.29	5.09	5.68	6.76	
Rank			14	7	89	89	91	100	99	70	45	
SSGA Emerging Market Small Cap (CF)	335,172,253	1.71	10.92	3.78	-13.53	-13.53	6.54	2.87	N/A	N/A	6.26	09/01/2016
MSCI Emg Mkts Sm Cap Index (USD) (Gross)			8.33	2.89	-17.54	-17.54	5.60	1.49	5.78	3.59	5.14	
Difference			2.59	0.89	4.01	4.01	0.94	1.38	N/A	N/A	1.12	
IM Emerging Markets Equity (SA+CF) Median			10.59	-1.03	-19.57	-19.57	-0.98	-0.12	5.86	2.82	4.36	
Rank			43	18	24	24	9	13	N/A	N/A	20	

During 10/2022, AGXI Non-Core Real Estate was funded, and Wellington Mid Cap Growth (SA) was fully liquidated. During 11/2022, Hotchkis & Wiley Mid Cap Value Equity (SA), Northern Trust Russell 1000 Index (SA), and Northern Trust Russell Mid Cap Index (CF) were fully liquidated. During 12/2022, TPG Real Estate IV was funded, and PIMCO Bravo I LP was liquidated. Performance shown is gross of fees. Performance is annualized for periods greater than one year. Manager inception dates shown represent the first full month following initial funding. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
Oklahoma Teachers' Retirement System
Asset Allocation & Performance - Gross of Fees

As of December 31, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
Fixed Income	4,754,566,427	24.31	2.38	-2.26	-16.10	-16.10	-1.94	0.85	2.64	2.44	6.23	04/01/1990
OTRS Fixed Income Blended Benchmark			2.52	-1.11	-12.42	-12.42	-1.89	0.71	2.15	1.96	N/A	
Difference			-0.14	-1.15	-3.68	-3.68	-0.05	0.14	0.49	0.48	N/A	
IM U.S. Fixed Income (SA+CF) Median			1.99	-1.14	-9.49	-9.49	-0.57	1.20	1.87	1.83	5.41	
Rank			38	68	90	90	73	66	32	31	21	
Loomis Sayles Multisector Full Discretion (SA)	1,393,115,299	7.12	2.97	0.29	-11.69	-11.69	0.74	2.11	3.36	2.71	5.49	07/01/1999
OTRS Fixed Income Blended Benchmark			2.52	-1.11	-12.42	-12.42	-1.89	0.71	2.15	1.96	4.62	
Difference			0.45	1.40	0.73	0.73	2.63	1.40	1.21	0.75	0.87	
IM U.S. Broad Market Core+ Fixed Income (SA+CF) Median			2.14	-2.26	-12.95	-12.95	-1.73	0.84	1.93	1.92	4.84	
Rank			14	10	20	20	5	9	11	16	16	
Mackay Shields Core+ Extended Discretion (SA)	1,349,398,324	6.90	3.44	-0.48	-12.94	-12.94	-0.78	1.40	2.46	2.06	4.29	11/01/2004
OTRS Fixed Income Blended Benchmark			2.52	-1.11	-12.42	-12.42	-1.89	0.71	2.15	1.96	3.93	
Difference			0.92	0.63	-0.52	-0.52	1.11	0.69	0.31	0.10	0.36	
IM U.S. Broad Market Core+ Fixed Income (SA+CF) Median			2.14	-2.26	-12.95	-12.95	-1.73	0.84	1.93	1.92	3.93	
Rank			8	15	50	50	20	20	23	43	29	
Lord Abbett Core Plus Full Discretion (SA)	1,325,791,815	6.78	2.33	-1.69	-12.68	-12.68	-1.50	0.88	1.95	1.97	4.14	11/01/2004
OTRS Fixed Income Blended Benchmark			2.52	-1.11	-12.42	-12.42	-1.89	0.71	2.15	1.96	3.93	
Difference			-0.19	-0.58	-0.26	-0.26	0.39	0.17	-0.20	0.01	0.21	
IM U.S. Broad Market Core+ Fixed Income (SA+CF) Median			2.14	-2.26	-12.95	-12.95	-1.73	0.84	1.93	1.92	3.93	
Rank			34	29	40	40	37	45	49	48	35	
Hoisington Active Duration Long Bonds (SA)	686,260,988	3.51	-0.68	-10.98	-32.31	-32.31	-8.18	-2.40	-0.20	0.71	4.73	11/01/2004
Bloomberg US Trsy Index			0.72	-3.66	-12.46	-12.46	-2.62	-0.10	0.41	0.58	2.57	
Difference			-1.40	-7.32	-19.85	-19.85	-5.56	-2.30	-0.61	0.13	2.16	
IM U.S. Long Duration (SA+CF) Median			2.68	-6.03	-26.70	-26.70	-5.37	-0.52	2.21	2.10	5.13	
Rank			98	100	100	100	100	100	100	100	87	

During 10/2022, AGXI Non-Core Real Estate was funded, and Wellington Mid Cap Growth (SA) was fully liquidated. During 11/2022, Hotchkis & Wiley Mid Cap Value Equity (SA), Northern Trust Russell 1000 Index (SA), and Northern Trust Russell Mid Cap Index (CF) were fully liquidated. During 12/2022, TPG Real Estate IV was funded, and PIMCO Bravo I LP was liquidated. Performance shown is gross of fees. Performance is annualized for periods greater than one year. Manager inception dates shown represent the first full month following initial funding. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
Oklahoma Teachers' Retirement System
Asset Allocation & Performance - Gross of Fees

As of December 31, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
Private Equity	1,558,352,449	7.97	1.86	-3.88	-0.26	-0.26	22.65	21.72	19.58	18.76	18.54	07/01/2015
R 2000 Index+4%			7.28	5.96	-17.25	-17.25	7.22	8.29	12.21	13.37	10.29	
Difference			-5.42	-9.84	16.99	16.99	15.43	13.43	7.37	5.39	8.25	
Franklin Park Private Equity LP	1,550,975,542	7.93	1.87	-3.86	-0.24	-0.24	22.78	21.98	19.86	17.96	18.80	07/01/2015
Legacy Private Equity LP	7,376,907	0.04	0.95	-9.21	-3.36	-3.36	7.67	3.25	4.26	6.19	3.89	10/01/2008
Private Debt	218,204,559	1.12	-0.13	-2.50	6.75	6.75	8.82	8.25	8.60	N/A	8.37	07/01/2015
S&P/LSTA Leveraged Loan 100 Index +3%			3.82	5.20	-0.54	-0.54	1.95	3.12	4.23	3.27	3.32	
Difference			-3.95	-7.70	7.29	7.29	6.87	5.13	4.37	N/A	5.05	
PIMCO Bravo II LP	11,585,788	0.06	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	03/01/2013
PIMCO Bravo III LP	169,990,210	0.87	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	04/01/2017
PIMCO COF II LP	36,628,560	0.19	8.33	5.80	20.29	20.29	14.50	11.57	N/A	N/A	12.70	10/01/2016
Bloomberg US Unv Bond Index			2.24	-2.31	-12.99	-12.99	-2.54	0.18	1.26	1.33	0.36	
Difference			6.09	8.11	33.28	33.28	17.04	11.39	N/A	N/A	12.34	
Real Estate	1,713,836,520	8.76	1.22	4.07	18.60	18.60	9.06	8.10	8.13	N/A	8.63	07/01/2015
NCREIF Property Index			-3.50	-2.95	5.52	5.52	8.06	7.46	7.46	8.82	7.79	
Difference			4.72	7.02	13.08	13.08	1.00	0.64	0.67	N/A	0.84	
AEW Core Property Trust (CF)	457,129,230	2.34	2.02	5.22	23.05	23.05	11.67	9.87	8.89	9.89	9.56	07/01/2011
NCREIF ODCE Index (AWA) (Gross)			-4.97	-4.47	7.47	7.47	9.93	8.68	8.54	10.10	10.32	
Difference			6.99	9.69	15.58	15.58	1.74	1.19	0.35	-0.21	-0.76	
Heitman America Real Estate (CF)	460,667,895	2.36	1.70	6.20	26.89	26.89	12.54	10.01	10.01	10.67	10.46	05/01/2011
NCREIF ODCE Index (AWA) (Gross)			-4.97	-4.47	7.47	7.47	9.93	8.68	8.54	10.10	10.59	
Difference			6.67	10.67	19.42	19.42	2.61	1.33	1.47	0.57	-0.13	
L&B Core Income Partners LP	7,189,522	0.04	-3.14	-9.76	-9.93	-9.93	-5.01	-3.22	0.22	3.64	3.50	04/01/2011
NCREIF ODCE Index (AWA) (Gross)			-4.97	-4.47	7.47	7.47	9.93	8.68	8.54	10.10	10.51	
Difference			1.83	-5.29	-17.40	-17.40	-14.94	-11.90	-8.32	-6.46	-7.01	
American Strategic Value Realty (CF)	132,874,826	0.68	1.71	4.64	16.91	16.91	12.19	11.04	11.28	N/A	11.23	12/01/2014
NCREIF ODCE Index (AWA) (Gross)			-4.97	-4.47	7.47	7.47	9.93	8.68	8.54	10.10	9.66	
Difference			6.68	9.11	9.44	9.44	2.26	2.36	2.74	N/A	1.57	
Angelo Gordon Value X LP	46,798,278	0.24	-0.17	7.54	25.69	25.69	19.76	N/A	N/A	N/A	9.20	07/01/2019
NCREIF ODCE Index (AWA) (Gross)			-4.97	-4.47	7.47	7.47	9.93	8.68	8.54	10.10	9.32	
Difference			4.80	12.01	18.22	18.22	9.83	N/A	N/A	N/A	-0.12	

During 10/2022, AGXI Non-Core Real Estate was funded, and Wellington Mid Cap Growth (SA) was fully liquidated. During 11/2022, Hotchkis & Wiley Mid Cap Value Equity (SA), Northern Trust Russell 1000 Index (SA), and Northern Trust Russell Mid Cap Index (CF) were fully liquidated. During 12/2022, TPG Real Estate IV was funded, and PIMCO Bravo I LP was liquidated. Performance shown is gross of fees. Performance is annualized for periods greater than one year. Manager inception dates shown represent the first full month following initial funding. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
Oklahoma Teachers' Retirement System
Asset Allocation & Performance - Gross of Fees

As of December 31, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
AGXI Non-Core Real Estate	7,000,000	0.04	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.00	11/01/2022
NCREIF ODCE Index (AWA) (Gross)			-4.97	-4.47	7.47	7.47	9.93	8.68	8.54	10.10	-4.97	
Difference			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.97	
Artemis Real Estate III LP	33,621,331	0.17	-1.29	9.24	30.22	30.22	31.76	N/A	N/A	N/A	N/A	02/01/2019
NCREIF ODCE Index (AWA) (Gross)			-4.97	-4.47	7.47	7.47	9.93	8.68	8.54	10.10	8.96	
Difference			3.68	13.71	22.75	22.75	21.83	N/A	N/A	N/A	N/A	
Artemis Real Estate IV LP	1,352,428	0.01	-10.89	-50.56	N/A	N/A	N/A	N/A	N/A	N/A	-50.56	07/01/2022
NCREIF ODCE Index (AWA) (Gross)			-4.97	-4.47	7.47	7.47	9.93	8.68	8.54	10.10	-4.47	
Difference			-5.92	-46.09	N/A	N/A	N/A	N/A	N/A	N/A	-46.09	
Dune Real Estate III LP	35,190,596	0.18	0.64	0.32	3.80	3.80	-2.03	1.52	4.43	N/A	5.69	11/01/2014
NCREIF ODCE Index (AWA) (Gross)			-4.97	-4.47	7.47	7.47	9.93	8.68	8.54	10.10	9.56	
Difference			5.61	4.79	-3.67	-3.67	-11.96	-7.16	-4.11	N/A	-3.87	
Dune Real Estate IV LP	31,516,246	0.16	7.42	11.37	25.67	25.67	2.07	N/A	N/A	N/A	-5.24	09/01/2019
NCREIF ODCE Index (AWA) (Gross)			-4.97	-4.47	7.47	7.47	9.93	8.68	8.54	10.10	9.81	
Difference			12.39	15.84	18.20	18.20	-7.86	N/A	N/A	N/A	-15.05	
FCP Realty IV LP	39,675,179	0.20	-0.12	3.67	26.25	26.25	18.18	N/A	N/A	N/A	0.22	12/01/2018
NCREIF ODCE Index (AWA) (Gross)			-4.97	-4.47	7.47	7.47	9.93	8.68	8.54	10.10	9.04	
Difference			4.85	8.14	18.78	18.78	8.25	N/A	N/A	N/A	-8.82	
FCP Realty V LP	44,842,138	0.23	1.74	-0.72	-6.79	-6.79	N/A	N/A	N/A	N/A	-21.40	10/01/2021
NCREIF ODCE Index (AWA) (Gross)			-4.97	-4.47	7.47	7.47	9.93	8.68	8.54	10.10	12.63	
Difference			6.71	3.75	-14.26	-14.26	N/A	N/A	N/A	N/A	-34.03	
GreenOak US II LP	22,268,815	0.11	-8.48	-6.85	-13.03	-13.03	-21.61	-11.63	-6.99	N/A	-5.73	10/01/2014
NCREIF ODCE Index (AWA) (Gross)			-4.97	-4.47	7.47	7.47	9.93	8.68	8.54	10.10	9.46	
Difference			-3.51	-2.38	-20.50	-20.50	-31.54	-20.31	-15.53	N/A	-15.19	
GreenOak US III LP	40,642,925	0.21	0.25	0.44	8.84	8.84	1.67	N/A	N/A	N/A	-7.98	06/01/2018
NCREIF ODCE Index (AWA) (Gross)			-4.97	-4.47	7.47	7.47	9.93	8.68	8.54	10.10	8.99	
Difference			5.22	4.91	1.37	1.37	-8.26	N/A	N/A	N/A	-16.97	
Harbert European Real Estate V LP	43,581,469	0.22	4.08	-0.82	5.96	5.96	9.81	N/A	N/A	N/A	-0.19	12/01/2018
NCREIF ODCE Index (AWA) (Gross)			-4.97	-4.47	7.47	7.47	9.93	8.68	8.54	10.10	9.04	
Difference			9.05	3.65	-1.51	-1.51	-0.12	N/A	N/A	N/A	-9.23	

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Oklahoma State Pension Commission
Oklahoma Teachers' Retirement System
Asset Allocation & Performance - Gross of Fees

As of December 31, 2022

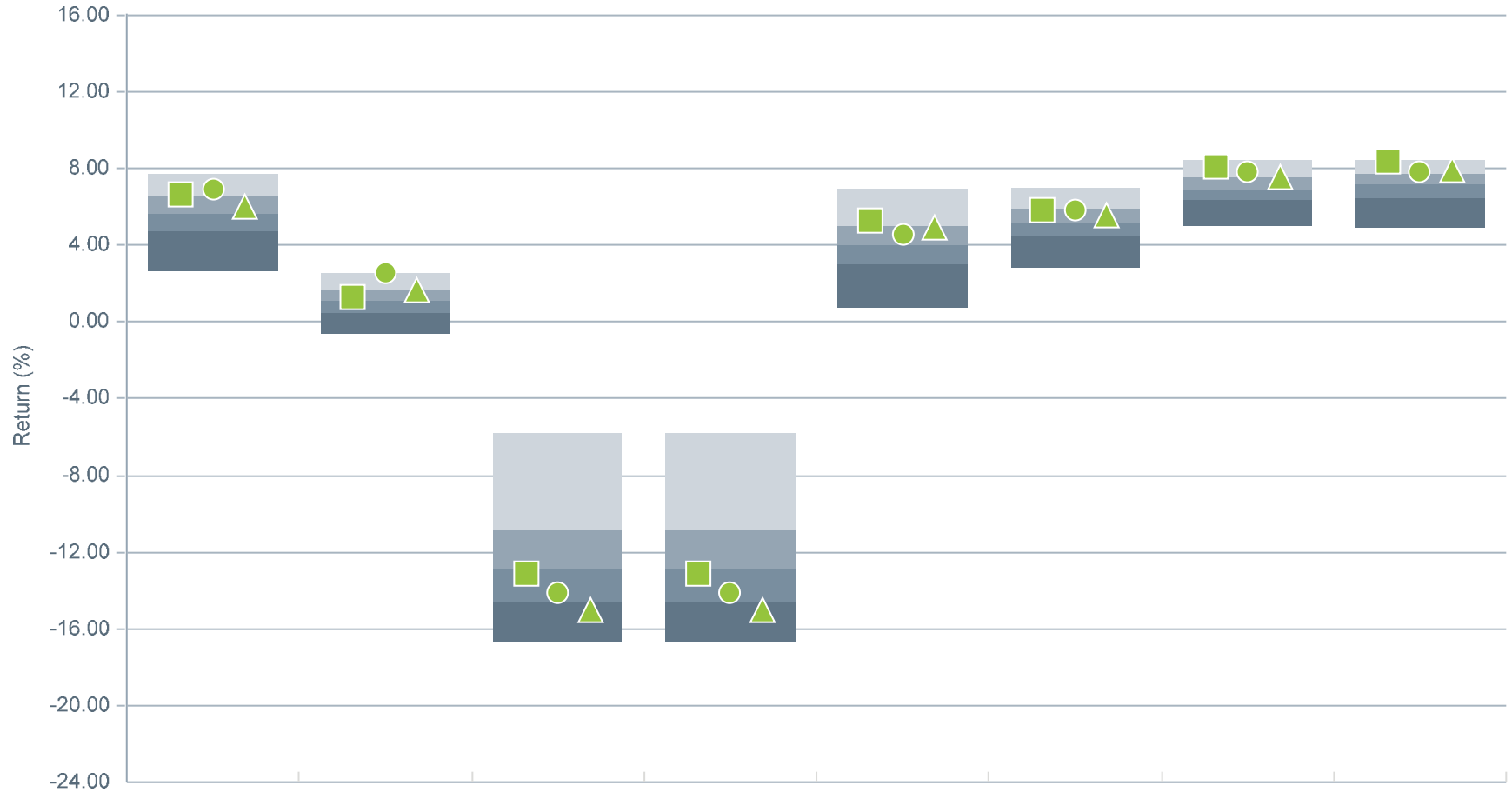
	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
Invesco VI Global Real Estate Fund	34,369,515	0.18	3.75	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.75	10/01/2022
NCREIF ODCE Index (AWA) (Gross)			-4.97	-4.47	7.47	7.47	9.93	8.68	8.54	10.10	-4.97	
Difference			8.72	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8.72	
Invesco Strategic Opportunity (CF)	14,293,584	0.07	2.96	14.79	34.66	34.66	52.36	N/A	N/A	N/A	47.50	10/01/2019
NCREIF ODCE Index (AWA) (Gross)			-4.97	-4.47	7.47	7.47	9.93	8.68	8.54	10.10	9.64	
Difference			7.93	19.26	27.19	27.19	42.43	N/A	N/A	N/A	37.86	
L&B Gloden Driller (SA)	76,577,903	0.39	-0.03	-2.93	-2.95	-2.95	-3.22	5.33	4.59	N/A	3.51	07/01/2014
NCREIF ODCE Index (AWA) (Gross)			-4.97	-4.47	7.47	7.47	9.93	8.68	8.54	10.10	9.58	
Difference			4.94	1.54	-10.42	-10.42	-13.15	-3.35	-3.95	N/A	-6.07	
Landmark Real Estate VII LP	5,923,273	0.03	-5.14	-4.56	-0.95	-0.95	-1.93	-0.67	3.76	N/A	8.98	12/01/2014
NCREIF ODCE Index (AWA) (Gross)			-4.97	-4.47	7.47	7.47	9.93	8.68	8.54	10.10	9.66	
Difference			-0.17	-0.09	-8.42	-8.42	-11.86	-9.35	-4.78	N/A	-0.68	
Lyrical-OTRS Realty Partner IV LP	64,123,712	0.33	1.13	1.85	18.01	18.01	10.35	15.89	8.94	N/A	7.62	11/01/2014
NCREIF ODCE Index (AWA) (Gross)			-4.97	-4.47	7.47	7.47	9.93	8.68	8.54	10.10	9.56	
Difference			6.10	6.32	10.54	10.54	0.42	7.21	0.40	N/A	-1.94	
Starwood Opportunity X LP	11,784,627	0.06	0.38	3.92	32.13	32.13	18.48	15.75	16.97	N/A	15.76	07/01/2015
NCREIF ODCE Index (AWA) (Gross)			-4.97	-4.47	7.47	7.47	9.93	8.68	8.54	10.10	8.95	
Difference			5.35	8.39	24.66	24.66	8.55	7.07	8.43	N/A	6.81	
Starwood Opportunity XI LP	51,318,371	0.26	-3.86	-0.11	6.52	6.52	11.18	N/A	N/A	N/A	19.73	08/01/2018
NCREIF ODCE Index (AWA) (Gross)			-4.97	-4.47	7.47	7.47	9.93	8.68	8.54	10.10	8.84	
Difference			1.11	4.36	-0.95	-0.95	1.25	N/A	N/A	N/A	10.89	
Starwood Opportunity XII LP	34,366,625	0.18	-1.14	4.59	19.16	19.16	N/A	N/A	N/A	N/A	19.16	01/01/2022
NCREIF ODCE Index (AWA) (Gross)			-4.97	-4.47	7.47	7.47	9.93	8.68	8.54	10.10	7.47	
Difference			3.83	9.06	11.69	11.69	N/A	N/A	N/A	N/A	11.69	
TPG Real Estate IV LP	6,328,031	0.03	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	01/01/2023
NCREIF ODCE Index (AWA) (Gross)			-4.97	-4.47	7.47	7.47	9.93	8.68	8.54	10.10	N/A	
Difference			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Property ACQ Fund	10,400,000	0.05	0.00	0.00	3.17	3.17	-7.45	-4.07	N/A	N/A	-3.67	08/01/2017

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Oklahoma State Pension Commission
 Oklahoma Teachers' Retirement System vs. All Public Plans-Total Fund
 Plan Sponsor Peer Group Analysis

As of December 31, 2022



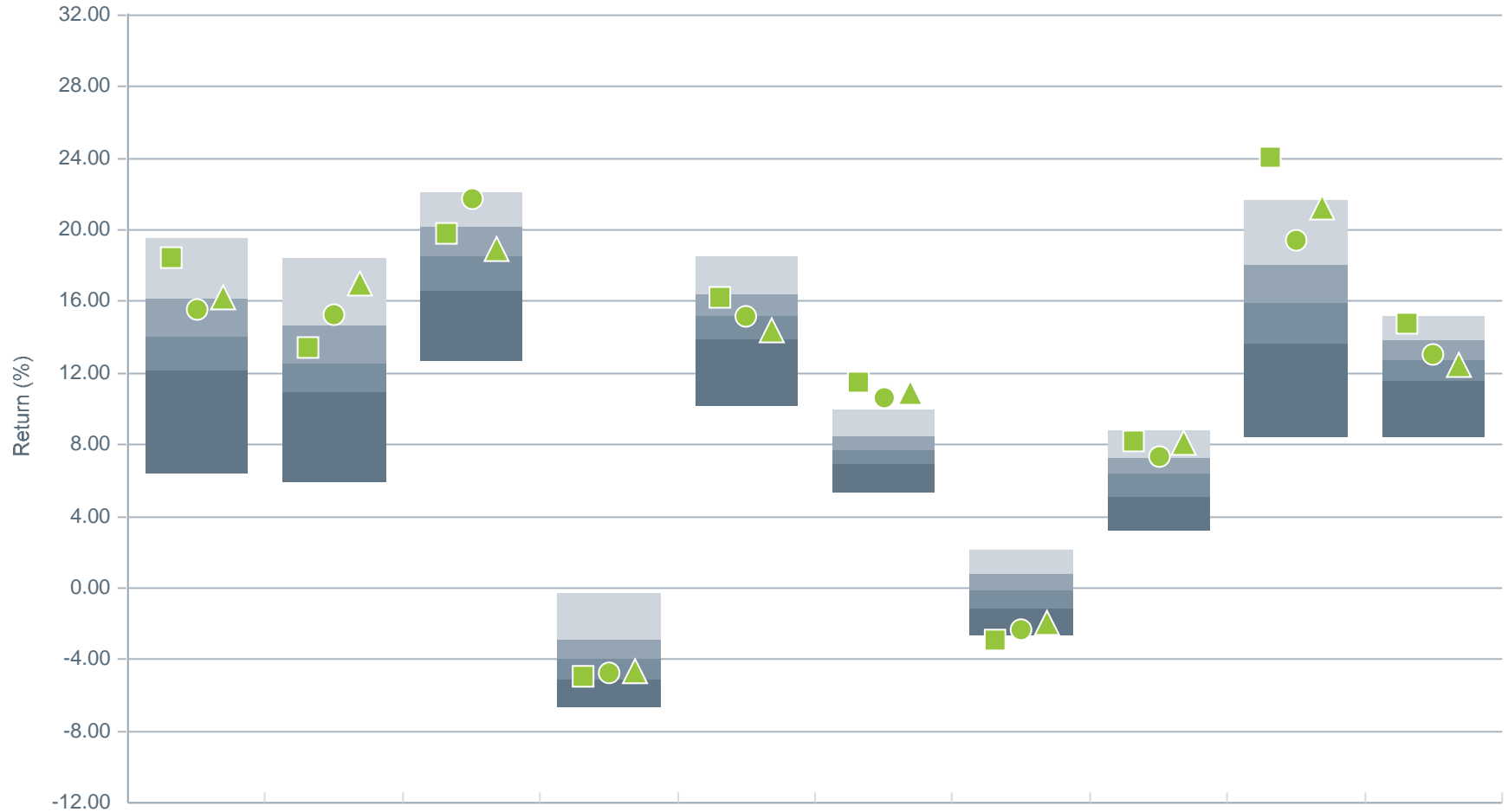
	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years
■ OTRS Total Fund	6.61 (24)	1.33 (38)	-13.08 (54)	-13.08 (54)	5.31 (21)	5.87 (27)	8.09 (11)	8.42 (6)
● OTRS Policy Index	6.95 (16)	2.57 (6)	-14.07 (67)	-14.07 (67)	4.61 (35)	5.82 (28)	7.80 (17)	7.80 (23)
▲ OTRS Allocation Index	6.05 (40)	1.63 (25)	-15.02 (82)	-15.02 (82)	4.93 (28)	5.54 (38)	7.52 (29)	7.88 (20)
5th Percentile	7.73	2.59	-5.72	-5.72	6.93	7.03	8.45	8.48
1st Quartile	6.58	1.63	-10.82	-10.82	5.03	5.94	7.60	7.72
Median	5.66	1.08	-12.81	-12.81	3.99	5.18	6.97	7.18
3rd Quartile	4.79	0.52	-14.55	-14.55	3.03	4.47	6.38	6.45
95th Percentile	2.64	-0.63	-16.67	-16.67	0.78	2.88	5.06	4.90

Performance shown is gross of fees. Parentheses contain percentile ranks. Please see the Addendum for custom index definitions and additional comments.
 Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
 Oklahoma Teachers' Retirement System vs. All Public Plans-Total Fund
 Plan Sponsor Peer Group Analysis

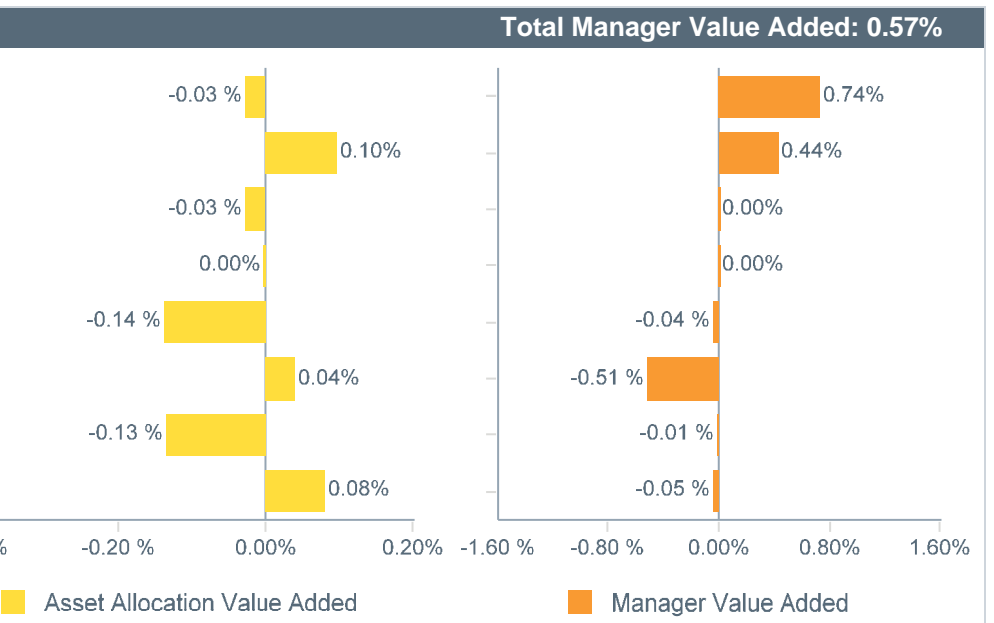
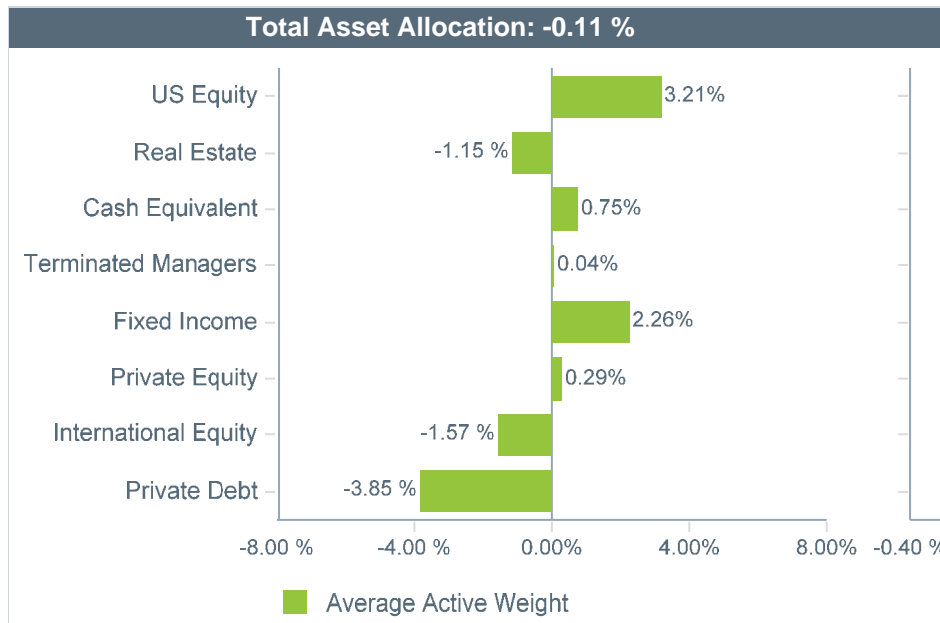
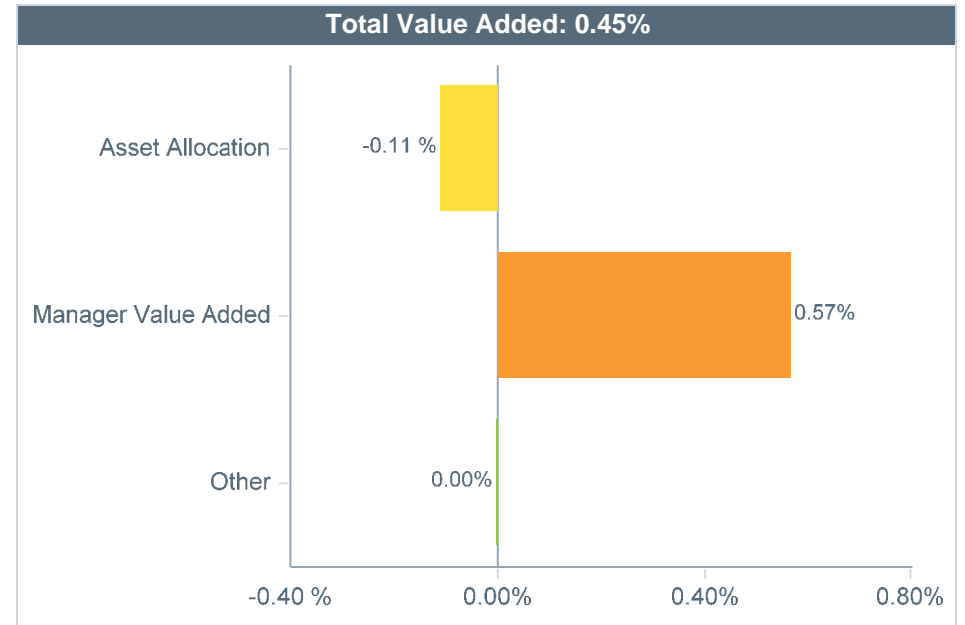
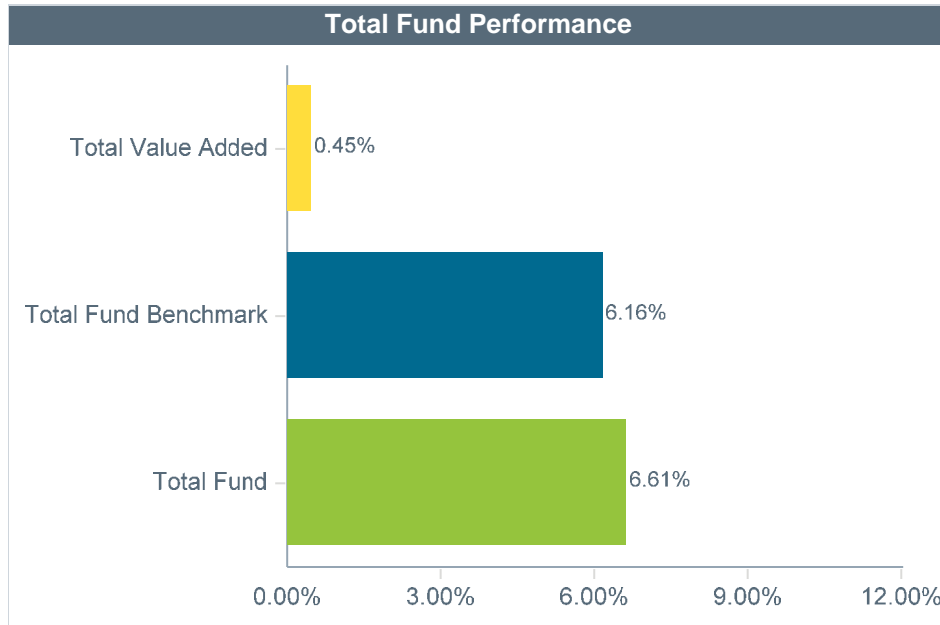
As of December 31, 2022



	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012
■ OTRS Total Fund	18.42 (9)	13.45 (38)	19.83 (31)	-4.98 (73)	16.20 (29)	11.54 (1)	-2.90 (97)	8.16 (9)	24.03 (2)	14.76 (9)
● OTRS Policy Index	15.60 (30)	15.24 (20)	21.72 (9)	-4.75 (67)	15.16 (50)	10.65 (3)	-2.33 (93)	7.36 (24)	19.45 (15)	13.09 (39)
▲ OTRS Allocation Index	16.21 (25)	16.98 (9)	18.94 (44)	-4.70 (65)	14.35 (67)	10.93 (3)	-1.95 (87)	8.15 (10)	21.24 (6)	12.44 (59)
5th Percentile	19.53	18.43	22.14	-0.28	18.60	9.98	2.09	8.76	21.62	15.18
1st Quartile	16.09	14.70	20.20	-2.88	16.45	8.51	0.72	7.28	18.08	13.79
Median	14.01	12.54	18.57	-4.02	15.16	7.69	-0.12	6.37	15.91	12.71
3rd Quartile	12.21	10.93	16.65	-5.11	13.88	6.93	-1.17	5.09	13.66	11.63
95th Percentile	6.37	5.89	12.67	-6.64	10.14	5.29	-2.64	3.19	8.42	8.41

Performance shown is gross of fees. Parentheses contain percentile ranks. Please see the Addendum for custom index definitions and additional comments.

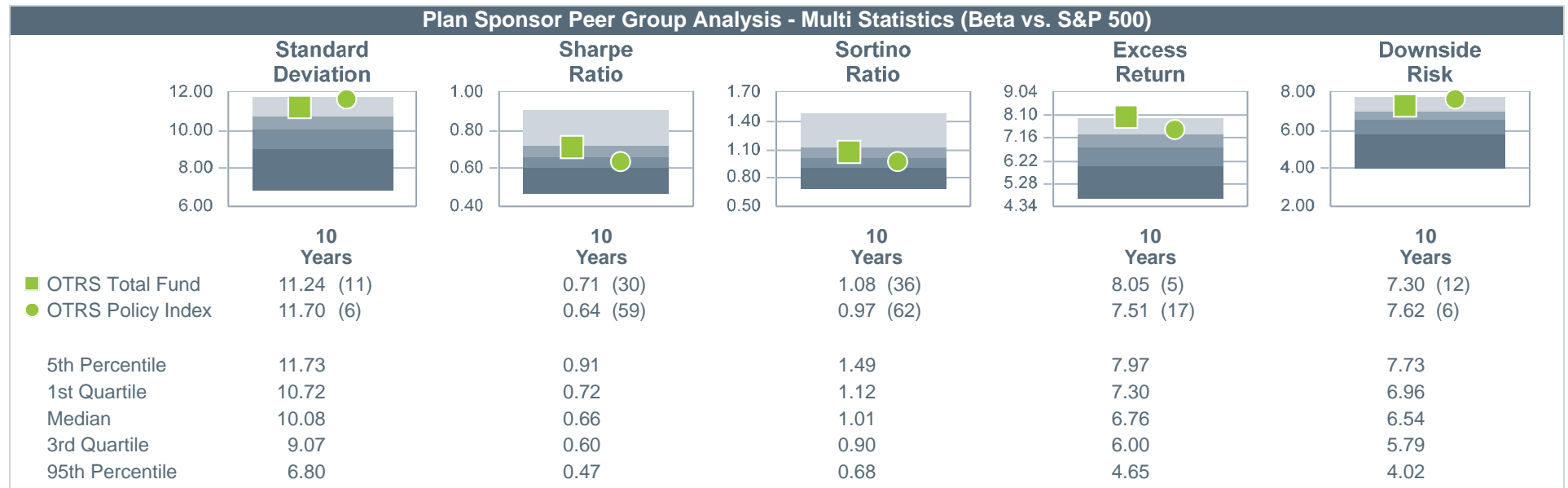
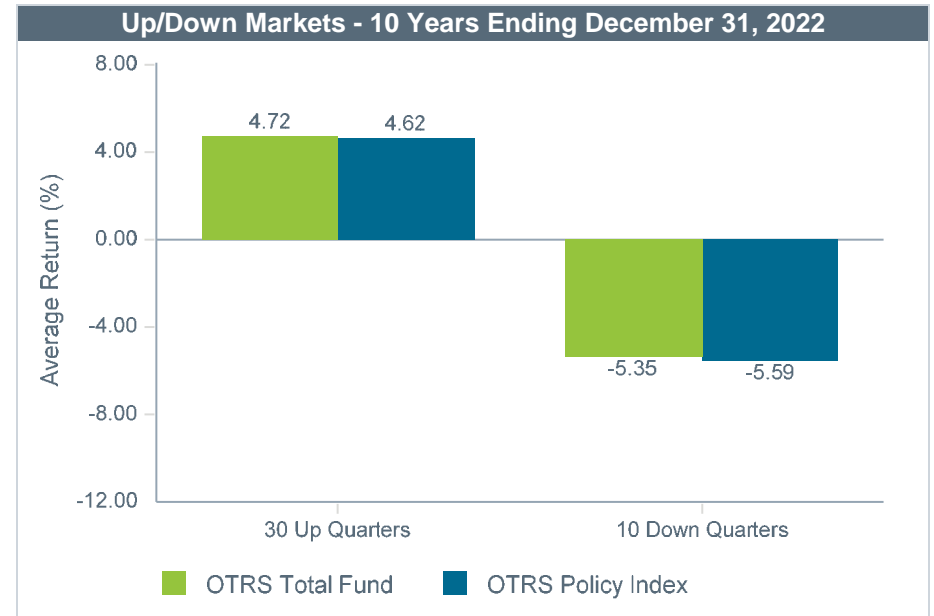
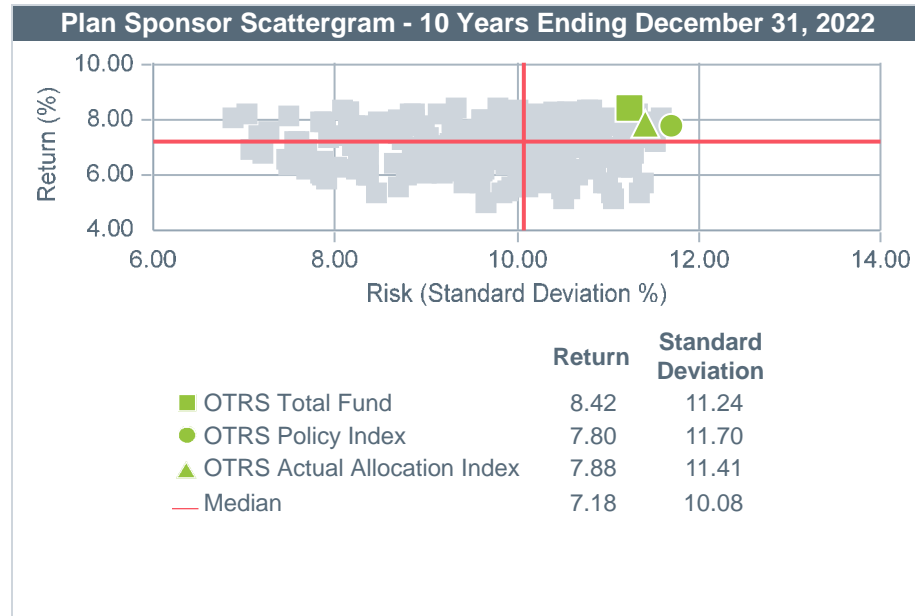




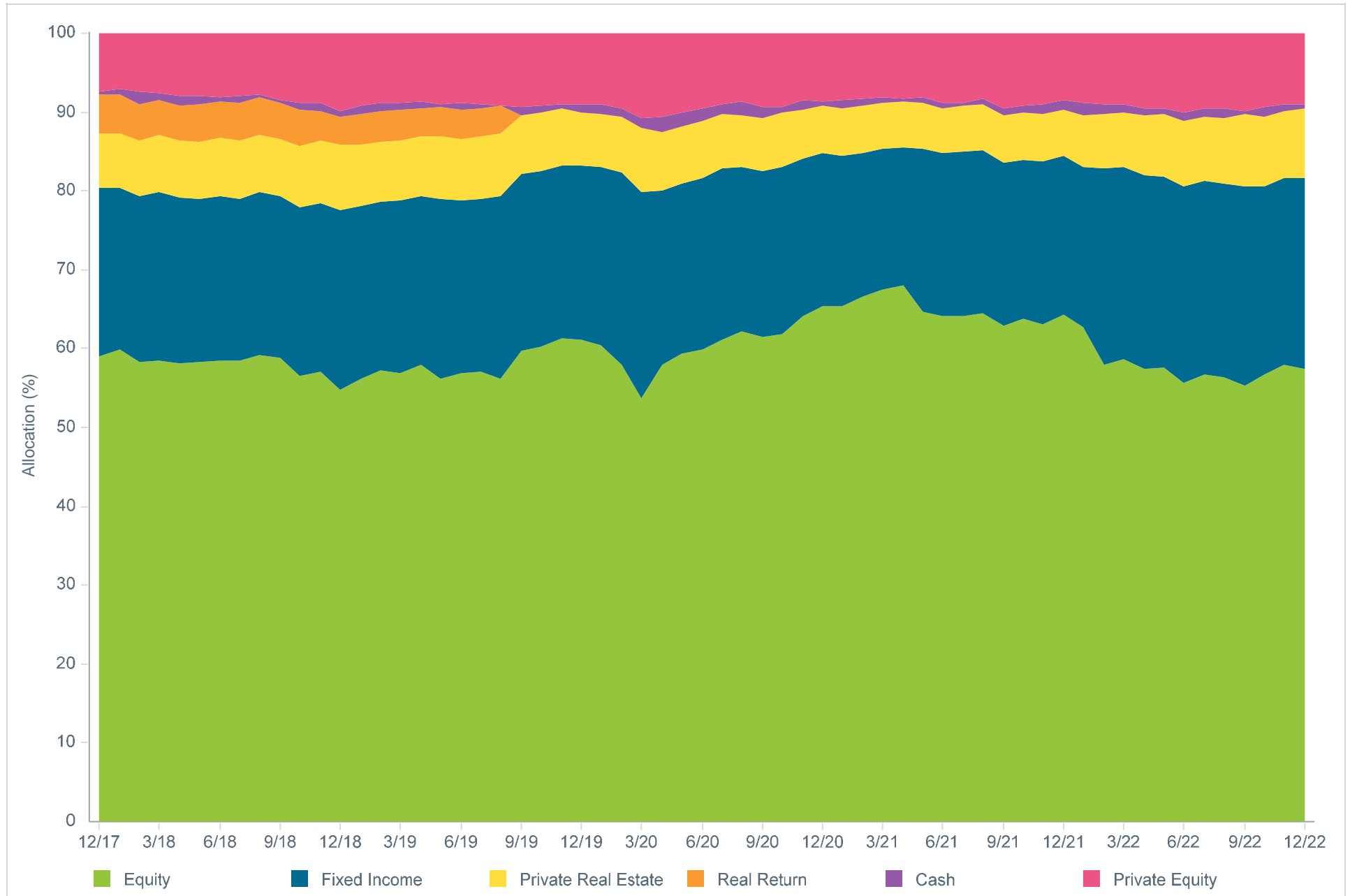
Performance shown is gross of fees. Calculation is based on monthly periodicity. See Glossary for additional information regarding the Total Fund Attribution calculation. Allocation to Private Equity includes Private Credit.



Total Fund Risk & Return, Up/Down Markets, and Multi Statistics



Performance shown is gross of fees. Calculation is based on quarterly periodicity. Parentheses contain percentile ranks. Please see the Addendum for custom index definitions and additional comments.

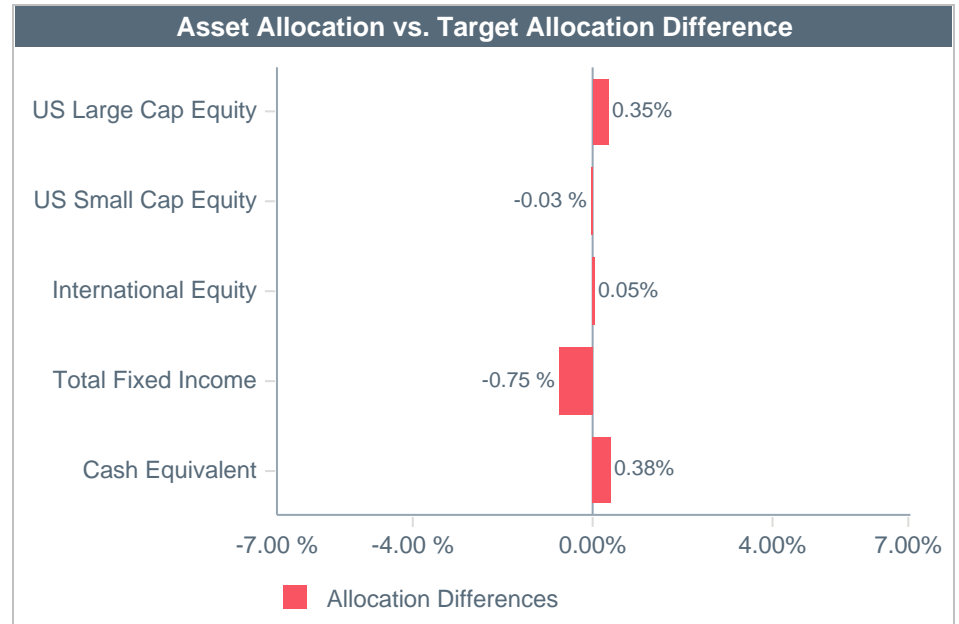


Oklahoma Public Employees Retirement System (OPERS)



	Performance (%)												
	Trailing							Calendar Year					
	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2021	2020	2019	2018	2017
OPERS Total Fund (Net)	7.76	0.84	-16.74	-16.74	2.50	4.05	6.32	6.63	12.29	15.18	21.23	-6.57	17.01
OPERS Policy Index	7.40	0.80	-16.62	-16.62	2.32	4.09	6.40	6.56	11.54	15.19	21.46	-6.09	16.86
Difference	0.36	0.04	-0.12	-0.12	0.18	-0.04	-0.08	0.07	0.75	-0.01	-0.23	-0.48	0.15
OPERS Actual Allocation Index	7.15	0.65	-16.87	-16.87	3.50	4.62	6.74	6.85	12.14	18.93	20.87	-6.49	16.51
Difference	0.61	0.19	0.13	0.13	-1.00	-0.57	-0.42	-0.22	0.15	-3.75	0.36	-0.08	0.50
Actuarial Discount Rate (6.5%)	1.59	3.20	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50
Difference	6.17	-2.36	-23.24	-23.24	-4.00	-2.45	-0.18	0.13	5.79	8.68	14.73	-13.07	10.51
OPERS Total Fund (Gross)	7.81	0.92	-16.64	-16.64	2.64	4.18	6.44	6.76	12.46	15.34	21.38	-6.48	17.13
OPERS Policy Index	7.40	0.80	-16.62	-16.62	2.32	4.09	6.40	6.56	11.54	15.19	21.46	-6.09	16.86
Difference	0.41	0.12	-0.02	-0.02	0.32	0.09	0.04	0.20	0.92	0.15	-0.08	-0.39	0.27
OPERS Actual Allocation Index	7.15	0.65	-16.87	-16.87	3.50	4.62	6.74	6.85	12.14	18.93	20.87	-6.49	16.51
Difference	0.66	0.27	0.23	0.23	-0.86	-0.44	-0.30	-0.09	0.32	-3.59	0.51	0.01	0.62
All Public Plans-Total Fund Median	5.66	1.08	-12.81	-12.81	3.99	5.18	6.97	7.18	14.01	12.54	18.57	-4.02	15.16
Rank	5	58	95	95	83	82	73	67	72	19	11	94	15

Asset Allocation vs. Target Allocation			
	Asset Allocation (\$)	Asset Allocation (%)	Target Allocation (%)
OPERS (Public Employees)	10,291,547,592	100.00	100.00
US Large Cap Equity	3,534,962,421	34.35	34.00
US Small Cap Equity	613,954,824	5.97	6.00
International Equity	2,887,036,757	28.05	28.00
Total Fixed Income	3,216,229,875	31.25	32.00
Cash Equivalent	39,363,716	0.38	0.00



Parentheses contain percentile ranks. Allocations shown may not sum up to 100% exactly due to rounding. Fixed Income includes the Grand Centre Real Estate allocation for Policy purposes. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
Oklahoma Public Employees Retirement System
Asset Allocation & Performance - Net of Fees

As of December 31, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
OPERS Total Fund	10,291,547,592	100.00	7.76	0.84	-16.74	-16.74	2.50	4.05	6.32	6.63	N/A	03/01/1987
OPERS Policy Index			7.40	0.80	-16.62	-16.62	2.32	4.09	6.40	6.56	7.79	
Difference			0.36	0.04	-0.12	-0.12	0.18	-0.04	-0.08	0.07	N/A	
OPERS Actual Allocation Index			7.15	0.65	-16.87	-16.87	3.50	4.62	6.74	6.85	7.84	
Difference			0.61	0.19	0.13	0.13	-1.00	-0.57	-0.42	-0.22	N/A	
Actuarial Discount Rate (6.5%)			1.59	3.20	6.50	6.50	6.50	6.50	6.50	6.50	6.50	
Difference			6.17	-2.36	-23.24	-23.24	-4.00	-2.45	-0.18	0.13	N/A	
US Equity	4,148,917,245	40.31	8.10	3.17	-17.77	-17.77	7.63	8.56	10.90	12.02	N/A	09/01/1988
OPERS US Equity Custom Index			7.10	2.55	-19.29	-19.29	6.79	8.43	10.80	11.93	N/A	
Difference			1.00	0.62	1.52	1.52	0.84	0.13	0.10	0.09	N/A	
US Active Large Cap Equity	303,986,771	2.95	2.56	-0.61	-28.90	-28.90	1.03	4.53	7.61	9.76	N/A	08/01/2003
Russell 1000 Index			7.24	2.30	-19.13	-19.13	7.35	9.13	11.26	12.37	9.46	
Difference			-4.68	-2.91	-9.77	-9.77	-6.32	-4.60	-3.65	-2.61	N/A	
Westfield Large Cap Growth Equity (SA)	303,986,771	2.95	2.56	-0.61	-28.90	-28.90	6.27	10.09	N/A	N/A	12.71	02/01/2017
Russell 1000 Grth Index			2.20	-1.48	-29.14	-29.14	7.79	10.96	12.95	14.10	13.53	
Difference			0.36	0.87	0.24	0.24	-1.52	-0.87	N/A	N/A	-0.82	
US Large Cap Enhanced Index Equity	1,192,949,996	11.59	7.64	2.55	-17.59	-17.59	7.51	8.34	10.52	11.97	N/A	03/01/2000
Russell 1000 Index			7.24	2.30	-19.13	-19.13	7.35	9.13	11.26	12.37	6.69	
Difference			0.40	0.25	1.54	1.54	0.16	-0.79	-0.74	-0.40	N/A	
State Street Large Cap Enhanced Index (SA)	601,823,390	5.85	7.73	3.34	-17.32	-17.32	7.77	9.20	11.22	12.57	9.03	09/01/2004
Russell 1000 Index			7.24	2.30	-19.13	-19.13	7.35	9.13	11.26	12.37	9.29	
Difference			0.49	1.04	1.81	1.81	0.42	0.07	-0.04	0.20	-0.26	
Mellon EB DV Large Cap Stock Index (SA)	591,126,606	5.74	7.54	1.76	-17.86	-17.86	7.24	7.46	9.81	11.36	8.37	06/01/2004
Russell 1000 Index			7.24	2.30	-19.13	-19.13	7.35	9.13	11.26	12.37	9.08	
Difference			0.30	-0.54	1.27	1.27	-0.11	-1.67	-1.45	-1.01	-0.71	
US Large Cap Passive Equity	2,038,025,654	19.80	8.00	2.81	-17.43	-17.43	7.98	9.53	11.51	12.61	N/A	01/01/2003
Russell 1000 Index			7.24	2.30	-19.13	-19.13	7.35	9.13	11.26	12.37	9.92	
Difference			0.76	0.51	1.70	1.70	0.63	0.40	0.25	0.24	N/A	

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Oklahoma State Pension Commission
Oklahoma Public Employees Retirement System
Asset Allocation & Performance - Net of Fees

As of December 31, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
BlackRock Russell 1000 Value (CF)	307,882,643	2.99	12.42	5.90	-7.82	-7.82	N/A	N/A	N/A	N/A	7.42	01/01/2021
Russell 1000 Val Index			12.42	6.11	-7.54	-7.54	5.96	6.67	9.12	10.29	7.58	
Difference			0.00	-0.21	-0.28	-0.28	N/A	N/A	N/A	N/A	-0.16	
Blackrock Russell 1000 Index (CF)	1,730,143,011	16.81	7.24	2.30	-19.10	-19.10	7.39	9.17	11.30	12.41	13.22	09/01/2010
Russell 1000 Index			7.24	2.30	-19.13	-19.13	7.35	9.13	11.26	12.37	13.18	
Difference			0.00	0.00	0.03	0.03	0.04	0.04	0.04	0.04	0.04	
US Active Small Cap Equity	613,954,824	5.97	12.28	7.62	-12.99	-12.99	10.22	8.45	11.65	11.58	N/A	08/01/2003
Russell 2000 Index			6.23	3.91	-20.44	-20.44	3.10	4.13	7.90	9.01	8.39	
Difference			6.05	3.71	7.45	7.45	7.12	4.32	3.75	2.57	N/A	
BHMS Small Cap Value Equity (SA)	209,823,917	2.04	15.97	11.01	-9.71	-9.71	11.38	7.20	11.26	11.50	10.27	12/01/2004
Russell 2000 Val Index			8.42	3.42	-14.48	-14.48	4.70	4.13	8.23	8.48	6.66	
Difference			7.55	7.59	4.77	4.77	6.68	3.07	3.03	3.02	3.61	
UBS US Small Cap Growth Equity (SA)	181,004,656	1.76	6.35	4.84	-27.78	-27.78	7.16	9.03	10.33	11.82	N/A	06/01/2003
Russell 2000 Grth Index			4.13	4.38	-26.36	-26.36	0.65	3.51	7.09	9.20	8.83	
Difference			2.22	0.46	-1.42	-1.42	6.51	5.52	3.24	2.62	N/A	
DePrince Race & Zollo Small Cap Value (SA)	223,126,251	2.17	13.53	6.77	-2.70	-2.70	9.51	7.36	12.16	10.41	9.88	03/01/2011
Russell 2000 Val Index			8.42	3.42	-14.48	-14.48	4.70	4.13	8.23	8.48	7.66	
Difference			5.11	3.35	11.78	11.78	4.81	3.23	3.93	1.93	2.22	
International Equity	2,887,036,757	28.05	14.54	2.44	-17.40	-17.40	-0.25	1.06	4.85	4.16	N/A	05/01/1994
MSCI ACW Ex US Index (USD) (Gross)			14.37	3.16	-15.57	-15.57	0.53	1.36	5.30	4.28	5.17	
Difference			0.17	-0.72	-1.83	-1.83	-0.78	-0.30	-0.45	-0.12	N/A	
International Core Active Equity	624,277,112	6.07	16.00	0.10	-11.55	-11.55	-1.63	0.01	3.61	3.38	N/A	08/01/2003
MSCI ACW Ex US Index (USD) (Gross)			14.37	3.16	-15.57	-15.57	0.53	1.36	5.30	4.28	6.71	
Difference			1.63	-3.06	4.02	4.02	-2.16	-1.35	-1.69	-0.90	N/A	
Mondrian ACWI ex US Equity (SA)	624,277,112	6.07	16.00	0.10	-11.55	-11.55	-1.63	0.01	3.61	3.38	N/A	08/01/2001
MSCI ACW Ex US Val Index (USD) (Gross)			15.82	3.90	-7.95	-7.95	0.69	0.57	4.83	3.33	5.53	
Difference			0.18	-3.80	-3.60	-3.60	-2.32	-0.56	-1.22	0.05	N/A	

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Oklahoma State Pension Commission
Oklahoma Public Employees Retirement System
Asset Allocation & Performance - Net of Fees

As of December 31, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
International Core Passive Equity	1,671,335,340	16.24	14.31	3.03	-15.73	-15.73	0.33	1.14	5.08	4.06	N/A	08/01/2003
MSCI ACW Ex US Index (USD) (Gross)			14.37	3.16	-15.57	-15.57	0.53	1.36	5.30	4.28	6.71	
Difference			-0.06	-0.13	-0.16	-0.16	-0.20	-0.22	-0.22	-0.22	N/A	
Blackrock ACWI Ex US Index (CF)	1,671,335,340	16.24	14.31	3.03	-15.73	-15.73	0.33	1.14	5.08	4.06	4.41	11/01/2009
MSCI ACW Ex US Index (USD) (Gross)			14.37	3.16	-15.57	-15.57	0.53	1.36	5.30	4.28	4.63	
Difference			-0.06	-0.13	-0.16	-0.16	-0.20	-0.22	-0.22	-0.22	-0.22	
International Growth Equity	591,424,305	5.75	13.69	3.30	-26.62	-26.62	-1.17	1.26	5.05	4.64	5.32	05/01/2005
MSCI ACW Ex US Grth Index (USD) (Gross)			12.94	2.43	-22.80	-22.80	-0.10	1.83	5.53	5.04	5.55	
Difference			0.75	0.87	-3.82	-3.82	-1.07	-0.57	-0.48	-0.40	-0.23	
Baillie Gifford Intl Growth Equity (SA)	275,696,100	2.68	14.61	4.45	-32.10	-32.10	-2.40	0.73	4.69	N/A	3.93	10/01/2013
MSCI ACW Ex US Grth Index (USD) (Gross)			12.94	2.43	-22.80	-22.80	-0.10	1.83	5.53	5.04	4.31	
Difference			1.67	2.02	-9.30	-9.30	-2.30	-1.10	-0.84	N/A	-0.38	
Blackrock ACWI Ex US Growth (CF)	315,728,205	3.07	12.90	2.31	-21.07	-21.07	-0.01	1.70	5.35	4.61	5.08	11/01/2009
MSCI ACW Ex US Grth Index (USD) (Gross)			12.94	2.43	-22.80	-22.80	-0.10	1.83	5.53	5.04	5.41	
Difference			-0.04	-0.12	1.73	1.73	0.09	-0.13	-0.18	-0.43	-0.33	
Fixed Income	3,207,579,875	31.17	1.92	-3.56	-15.02	-15.02	-2.33	0.45	1.34	1.39	N/A	04/01/1989
OPERS Fixed Income Custom Index			1.48	-4.06	-15.08	-15.08	-2.85	0.00	0.97	1.04	N/A	
Difference			0.44	0.50	0.06	0.06	0.52	0.45	0.37	0.35	N/A	
Active Fixed Income	1,233,379,067	11.98	1.58	-4.84	-18.35	-18.35	-3.43	0.00	1.09	1.41	N/A	08/01/2003
Bloomberg US Agg Bond Index			1.87	-2.97	-13.01	-13.01	-2.71	0.02	0.89	1.06	3.17	
Difference			-0.29	-1.87	-5.34	-5.34	-0.72	-0.02	0.20	0.35	N/A	
MetWest Core Plus Fixed Income (SA)	960,180,095	9.33	2.23	-2.98	-13.38	-13.38	-2.04	0.64	1.40	1.54	N/A	09/01/2001
Bloomberg US Agg Bond Index			1.87	-2.97	-13.01	-13.01	-2.71	0.02	0.89	1.06	3.43	
Difference			0.36	-0.01	-0.37	-0.37	0.67	0.62	0.51	0.48	N/A	
Hoisington Long Duration Fixed Income (SA)	273,198,972	2.65	-0.63	-10.85	-32.05	-32.05	-8.20	-2.50	-0.34	0.68	N/A	10/01/1991
Bloomberg US Trsy Lng Trm Bond Index			-0.59	-10.16	-29.26	-29.26	-7.40	-2.20	-0.23	0.60	6.05	
Difference			-0.04	-0.69	-2.79	-2.79	-0.80	-0.30	-0.11	0.08	N/A	

Performance shown is net of fees. Performance is annualized for periods greater than one year. Manager inception dates shown represent the first full month following initial funding. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01. Grand Centre Real Estate holding is considered Fixed Income for policy purposes; benchmark shown is for illustrative purposes only.



Oklahoma State Pension Commission
Oklahoma Public Employees Retirement System
Asset Allocation & Performance - Net of Fees

As of December 31, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
Enhanced Fixed Income	1,583,344,840	15.38	2.19	-2.61	-13.02	-13.02	-2.31	0.35	1.20	1.34	N/A	06/01/2000
Bloomberg US Agg Bond Index			1.87	-2.97	-13.01	-13.01	-2.71	0.02	0.89	1.06	3.98	
Difference			0.32	0.36	-0.01	-0.01	0.40	0.33	0.31	0.28	N/A	
Blackrock Enhanced Core (SA)	1,583,344,840	15.38	2.19	-2.61	-13.02	-13.02	-2.31	0.35	1.20	1.34	N/A	06/01/2000
Bloomberg US Agg Bond Index			1.87	-2.97	-13.01	-13.01	-2.71	0.02	0.89	1.06	3.98	
Difference			0.32	0.36	-0.01	-0.01	0.40	0.33	0.31	0.28	N/A	
Passive Fixed Income	390,855,968	3.80	1.88	-3.35	-11.93	-11.93	1.23	2.17	2.69	1.20	2.89	03/01/2010
Bloomberg US Agg Bond Index			1.87	-2.97	-13.01	-13.01	-2.71	0.02	0.89	1.06	2.10	
Difference			0.01	-0.38	1.08	1.08	3.94	2.15	1.80	0.14	0.79	
Blackrock TIPS (CF)	390,855,968	3.80	1.88	-3.35	-11.93	-11.93	1.23	2.17	2.69	1.20	2.89	03/01/2010
Bloomberg US Trsy US TIPS Index			2.04	-3.21	-11.85	-11.85	1.21	2.11	2.60	1.12	2.86	
Difference			-0.16	-0.14	-0.08	-0.08	0.02	0.06	0.09	0.08	0.03	

Performance shown is net of fees. Performance is annualized for periods greater than one year. Manager inception dates shown represent the first full month following initial funding. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01. Grand Centre Real Estate holding is considered Fixed Income for policy purposes; benchmark shown is for illustrative purposes only.



Oklahoma State Pension Commission
Oklahoma Public Employees Retirement System
Asset Allocation & Performance - Gross of Fees

As of December 31, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
OPERS Total Fund	10,291,547,592	100.00	7.81	0.92	-16.64	-16.64	2.64	4.18	6.44	6.76	7.94	03/01/1987
OPERS Policy Index			7.40	0.80	-16.62	-16.62	2.32	4.09	6.40	6.56	7.79	
Difference			0.41	0.12	-0.02	-0.02	0.32	0.09	0.04	0.20	0.15	
OPERS Actual Allocation Index			7.15	0.65	-16.87	-16.87	3.50	4.62	6.74	6.85	7.84	
Difference			0.66	0.27	0.23	0.23	-0.86	-0.44	-0.30	-0.09	0.10	
Actuarial Discount Rate (6.5%)			1.59	3.20	6.50	6.50	6.50	6.50	6.50	6.50	6.50	
Difference			6.22	-2.28	-23.14	-23.14	-3.86	-2.32	-0.06	0.26	1.44	
All Public Plans-Total Fund Median			5.66	1.08	-12.81	-12.81	3.99	5.18	6.97	7.18	8.11	
Rank			5	58	95	95	83	82	73	67	69	
US Equity	4,148,917,245	40.31	8.21	3.30	-17.63	-17.63	7.78	8.71	11.03	12.15	10.09	09/01/1988
OPERS US Equity Custom Index			7.10	2.55	-19.29	-19.29	6.79	8.43	10.80	11.93	N/A	
Difference			1.11	0.75	1.66	1.66	0.99	0.28	0.23	0.22	N/A	
IM U.S. Equity (SA+CF) Median			8.68	4.24	-16.59	-16.59	7.06	8.09	10.56	11.66	11.26	
Rank			55	61	54	54	37	41	40	39	92	
US Active Large Cap Equity	303,986,771	2.95	2.59	-0.55	-28.81	-28.81	1.12	4.60	7.70	9.90	7.86	08/01/2003
Russell 1000 Index			7.24	2.30	-19.13	-19.13	7.35	9.13	11.26	12.37	9.46	
Difference			-4.65	-2.85	-9.68	-9.68	-6.23	-4.53	-3.56	-2.47	-1.60	
IM U.S. Large Cap Equity (SA+CF) Median			8.14	2.93	-17.57	-17.57	7.42	9.07	11.10	12.36	9.74	
Rank			90	85	83	83	98	97	97	94	97	
Westfield Large Cap Growth Equity (SA)	303,986,771	2.95	2.59	-0.55	-28.81	-28.81	6.37	10.19	N/A	N/A	12.89	02/01/2017
Russell 1000 Grth Index			2.20	-1.48	-29.14	-29.14	7.79	10.96	12.95	14.10	13.53	
Difference			0.39	0.93	0.33	0.33	-1.42	-0.77	N/A	N/A	-0.64	
IM U.S. Large Cap Growth Equity (SA+CF) Median			3.91	-0.39	-29.57	-29.57	6.30	9.98	11.65	13.26	12.52	
Rank			69	54	45	45	49	48	N/A	N/A	41	

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Oklahoma State Pension Commission
Oklahoma Public Employees Retirement System
Asset Allocation & Performance - Gross of Fees

As of December 31, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
US Large Cap Enhanced Index Equity	1,192,949,996	11.59	7.64	2.56	-17.57	-17.57	7.53	8.36	10.54	12.00	5.80	03/01/2000
Russell 1000 Index			7.24	2.30	-19.13	-19.13	7.35	9.13	11.26	12.37	6.69	
Difference			0.40	0.26	1.56	1.56	0.18	-0.77	-0.72	-0.37	-0.89	
IM U.S. Large Cap Enhanced Index Equity (SA+CF) Median			7.44	2.17	-17.85	-17.85	7.63	8.75	11.19	12.32	7.22	
Rank			43	34	49	49	56	56	75	73	100	
State Street Large Cap Enhanced Index (SA)	601,823,390	5.85	7.74	3.35	-17.29	-17.29	7.80	9.23	11.25	12.60	9.08	09/01/2004
Russell 1000 Index			7.24	2.30	-19.13	-19.13	7.35	9.13	11.26	12.37	9.29	
Difference			0.50	1.05	1.84	1.84	0.45	0.10	-0.01	0.23	-0.21	
IM U.S. Large Cap Enhanced Index Equity (SA+CF) Median			7.44	2.17	-17.85	-17.85	7.63	8.75	11.19	12.32	9.39	
Rank			37	22	45	45	41	30	48	45	77	
Mellon EB DV Large Cap Stock Index (SA)	591,126,606	5.74	7.55	1.78	-17.84	-17.84	7.26	7.48	9.83	11.38	8.41	06/01/2004
Russell 1000 Index			7.24	2.30	-19.13	-19.13	7.35	9.13	11.26	12.37	9.08	
Difference			0.31	-0.52	1.29	1.29	-0.09	-1.65	-1.43	-0.99	-0.67	
IM U.S. Large Cap Enhanced Index Equity (SA+CF) Median			7.44	2.17	-17.85	-17.85	7.63	8.75	11.19	12.32	9.20	
Rank			45	70	50	50	59	77	85	85	98	
US Large Cap Passive Equity	2,038,025,654	19.80	8.00	2.81	-17.43	-17.43	7.98	9.54	11.52	12.62	10.18	01/01/2003
Russell 1000 Index			7.24	2.30	-19.13	-19.13	7.35	9.13	11.26	12.37	9.92	
Difference			0.76	0.51	1.70	1.70	0.63	0.41	0.26	0.25	0.26	
BlackRock Russell 1000 Value (CF)	307,882,643	2.99	12.42	5.90	-7.81	-7.81	N/A	N/A	N/A	N/A	7.42	01/01/2021
Russell 1000 Val Index			12.42	6.11	-7.54	-7.54	5.96	6.67	9.12	10.29	7.58	
Difference			0.00	-0.21	-0.27	-0.27	N/A	N/A	N/A	N/A	-0.16	
IM U.S. Large Cap Value Equity (SA+CF) Median			12.75	6.53	-5.44	-5.44	8.06	8.11	10.46	11.33	9.67	
Rank			56	60	70	70	N/A	N/A	N/A	N/A	74	
Blackrock Russell 1000 Index (CF)	1,730,143,011	16.81	7.24	2.30	-19.10	-19.10	7.40	9.18	11.31	12.41	13.23	09/01/2010
Russell 1000 Index			7.24	2.30	-19.13	-19.13	7.35	9.13	11.26	12.37	13.18	
Difference			0.00	0.00	0.03	0.03	0.05	0.05	0.05	0.04	0.05	
IM U.S. Large Cap Index Equity (SA+CF) Median			7.54	2.31	-18.53	-18.53	7.45	9.16	11.34	12.40	13.22	
Rank			61	71	58	58	51	50	52	49	50	

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Oklahoma State Pension Commission
Oklahoma Public Employees Retirement System
Asset Allocation & Performance - Gross of Fees

As of December 31, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
US Active Small Cap Equity	613,954,824	5.97	13.04	8.51	-12.11	-12.11	11.17	9.32	12.40	12.30	11.53	08/01/2003
Russell 2000 Index			6.23	3.91	-20.44	-20.44	3.10	4.13	7.90	9.01	8.39	
Difference			6.81	4.60	8.33	8.33	8.07	5.19	4.50	3.29	3.14	
IM U.S. Small Cap Equity (SA+CF) Median			8.58	4.69	-16.45	-16.45	6.22	6.56	9.76	10.92	10.45	
Rank			10	16	29	29	11	17	14	22	16	
BHMS Small Cap Value Equity (SA)	209,823,917	2.04	16.10	11.13	-9.38	-9.38	11.88	7.71	11.81	12.06	10.89	12/01/2004
Russell 2000 Val Index			8.42	3.42	-14.48	-14.48	4.70	4.13	8.23	8.48	6.66	
Difference			7.68	7.71	5.10	5.10	7.18	3.58	3.58	3.58	4.23	
IM U.S. Small Cap Value Equity (SA+CF) Median			11.05	5.98	-10.85	-10.85	7.53	5.74	9.59	10.43	8.85	
Rank			5	8	40	40	9	24	15	12	4	
UBS US Small Cap Growth Equity (SA)	181,004,656	1.76	6.39	5.13	-27.51	-27.51	8.29	10.04	11.11	12.60	10.64	06/01/2003
Russell 2000 Grth Index			4.13	4.38	-26.36	-26.36	0.65	3.51	7.09	9.20	8.83	
Difference			2.26	0.75	-1.15	-1.15	7.64	6.53	4.02	3.40	1.81	
IM U.S. Small Cap Growth Equity (SA+CF) Median			4.52	3.36	-27.30	-27.30	5.50	8.73	11.29	12.24	11.36	
Rank			26	32	52	52	28	28	53	39	80	
DePrince Race & Zollo Small Cap Value (SA)	223,126,251	2.17	15.61	8.83	-0.64	-0.64	10.55	8.35	13.01	11.18	10.64	03/01/2011
Russell 2000 Val Index			8.42	3.42	-14.48	-14.48	4.70	4.13	8.23	8.48	7.66	
Difference			7.19	5.41	13.84	13.84	5.85	4.22	4.78	2.70	2.98	
IM U.S. Micro Cap Equity (SA+CF) Median			8.66	5.28	-17.00	-17.00	8.61	7.19	10.51	12.33	10.93	
Rank			4	21	2	2	42	28	28	73	62	
International Equity	2,887,036,757	28.05	14.57	2.49	-17.30	-17.30	-0.07	1.22	5.02	4.33	5.39	05/01/1994
MSCI ACW Ex US Index (USD) (Gross)			14.37	3.16	-15.57	-15.57	0.53	1.36	5.30	4.28	5.17	
Difference			0.20	-0.67	-1.73	-1.73	-0.60	-0.14	-0.28	0.05	0.22	
IM All ACWI Ex US (SA+CF) Median			14.94	4.29	-16.84	-16.84	1.16	2.24	5.56	5.68	6.87	
Rank			59	82	53	53	76	72	66	84	100	
International Core Active Equity	624,277,112	6.07	16.09	0.28	-11.23	-11.23	-1.25	0.37	3.98	3.76	6.28	08/01/2003
MSCI ACW Ex US Index (USD) (Gross)			14.37	3.16	-15.57	-15.57	0.53	1.36	5.30	4.28	6.71	
Difference			1.72	-2.88	4.34	4.34	-1.78	-0.99	-1.32	-0.52	-0.43	
IM All ACWI Ex US (SA+CF) Median			14.94	4.29	-16.84	-16.84	1.16	2.24	5.56	5.68	7.32	
Rank			34	95	21	21	90	83	83	94	91	
Mondrian ACWI ex US Equity (SA)	624,277,112	6.07	16.09	0.28	-11.23	-11.23	-1.25	0.37	3.98	3.76	6.18	08/01/2001
MSCI ACW Ex US Val Index (USD) (Gross)			15.82	3.90	-7.95	-7.95	0.69	0.57	4.83	3.33	5.53	
Difference			0.27	-3.62	-3.28	-3.28	-1.94	-0.20	-0.85	0.43	0.65	
IM ACWI Ex US Core (SA+CF) Median			14.64	3.55	-17.02	-17.02	1.15	1.81	5.14	5.11	6.31	
Rank			15	98	6	6	85	81	76	100	75	

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Oklahoma State Pension Commission
Oklahoma Public Employees Retirement System
Asset Allocation & Performance - Gross of Fees

As of December 31, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
International Core Passive Equity	1,671,335,340	16.24	14.31	3.03	-15.72	-15.72	0.35	1.17	5.11	4.09	5.99	08/01/2003
MSCI ACW Ex US Index (USD) (Gross)			14.37	3.16	-15.57	-15.57	0.53	1.36	5.30	4.28	6.71	
Difference			-0.06	-0.13	-0.15	-0.15	-0.18	-0.19	-0.19	-0.19	-0.72	
Blackrock ACWI Ex US Index (CF)	1,671,335,340	16.24	14.31	3.03	-15.72	-15.72	0.35	1.17	5.11	4.09	4.45	11/01/2009
MSCI ACW Ex US Index (USD) (Gross)			14.37	3.16	-15.57	-15.57	0.53	1.36	5.30	4.28	4.63	
Difference			-0.06	-0.13	-0.15	-0.15	-0.18	-0.19	-0.19	-0.19	-0.18	
International Growth Equity	591,424,305	5.75	13.71	3.35	-26.53	-26.53	-0.81	1.53	5.33	4.87	5.48	05/01/2005
MSCI ACW Ex US Grth Index (USD) (Gross)			12.94	2.43	-22.80	-22.80	-0.10	1.83	5.53	5.04	5.55	
Difference			0.77	0.92	-3.73	-3.73	-0.71	-0.30	-0.20	-0.17	-0.07	
IM ACWI Ex US Growth (SA+CF) Median			13.93	4.56	-23.62	-23.62	1.10	2.95	6.06	5.95	6.62	
Rank			60	77	65	65	84	77	73	99	98	
Baillie Gifford Intl Growth Equity (SA)	275,696,100	2.68	14.66	4.56	-31.93	-31.93	-1.76	1.21	5.19	N/A	4.37	10/01/2013
MSCI ACW Ex US Grth Index (USD) (Gross)			12.94	2.43	-22.80	-22.80	-0.10	1.83	5.53	5.04	4.31	
Difference			1.72	2.13	-9.13	-9.13	-1.66	-0.62	-0.34	N/A	0.06	
IM ACWI Ex US Growth (SA+CF) Median			13.93	4.56	-23.62	-23.62	1.10	2.95	6.06	5.95	5.14	
Rank			32	50	95	95	93	86	74	N/A	82	
Blackrock ACWI Ex US Growth (CF)	315,728,205	3.07	12.90	2.31	-21.04	-21.04	0.03	1.74	5.40	4.67	5.13	11/01/2009
MSCI ACW Ex US Grth Index (USD) (Gross)			12.94	2.43	-22.80	-22.80	-0.10	1.83	5.53	5.04	5.41	
Difference			-0.04	-0.12	1.76	1.76	0.13	-0.09	-0.13	-0.37	-0.28	
IM ACWI Ex US Growth (SA+CF) Median			13.93	4.56	-23.62	-23.62	1.10	2.95	6.06	5.95	6.74	
Rank			72	86	43	43	76	74	72	100	99	

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Oklahoma State Pension Commission
Oklahoma Public Employees Retirement System
Asset Allocation & Performance - Gross of Fees

As of December 31, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
Fixed Income	3,207,579,875	31.17	1.93	-3.54	-14.97	-14.97	-2.25	0.53	1.43	1.48	6.06	04/01/1989
OPERS Fixed Income Custom Index			1.48	-4.06	-15.08	-15.08	-2.85	0.00	0.97	1.04	N/A	
Difference			0.45	0.52	0.11	0.11	0.60	0.53	0.46	0.44	N/A	
IM U.S. Broad Market Fixed Income (SA+CF) Median			1.92	-2.60	-12.92	-12.92	-2.04	0.60	1.57	1.69	5.82	
Rank			50	96	97	97	64	57	63	72	18	
Active Fixed Income	1,233,379,067	11.98	1.60	-4.80	-18.28	-18.28	-3.31	0.12	1.20	1.53	4.89	08/01/2003
Bloomberg US Agg Bond Index			1.87	-2.97	-13.01	-13.01	-2.71	0.02	0.89	1.06	3.17	
Difference			-0.27	-1.83	-5.27	-5.27	-0.60	0.10	0.31	0.47	1.72	
IM U.S. Broad Market Fixed Income (SA+CF) Median			1.92	-2.60	-12.92	-12.92	-2.04	0.60	1.57	1.69	3.86	
Rank			79	100	100	100	99	89	85	64	11	
MetWest Core Plus Fixed Income (SA)	960,180,095	9.33	2.24	-2.95	-13.33	-13.33	-1.92	0.75	1.50	1.65	4.50	09/01/2001
Bloomberg US Agg Bond Index			1.87	-2.97	-13.01	-13.01	-2.71	0.02	0.89	1.06	3.43	
Difference			0.37	0.02	-0.32	-0.32	0.79	0.73	0.61	0.59	1.07	
IM U.S. Broad Market Core+ Fixed Income (SA+CF) Median			2.14	-2.26	-12.95	-12.95	-1.73	0.84	1.93	1.92	4.37	
Rank			39	85	65	65	59	56	79	77	41	
Hoisington Long Duration Fixed Income (SA)	273,198,972	2.65	-0.60	-10.79	-31.96	-31.96	-8.08	-2.37	-0.21	0.82	6.75	10/01/1991
Bloomberg US Trsy Lng Trm Bond Index			-0.59	-10.16	-29.26	-29.26	-7.40	-2.20	-0.23	0.60	6.05	
Difference			-0.01	-0.63	-2.70	-2.70	-0.68	-0.17	0.02	0.22	0.70	
IM U.S. Long Duration (SA+CF) Median			2.68	-6.03	-26.70	-26.70	-5.37	-0.52	2.21	2.10	N/A	
Rank			98	100	100	100	100	100	100	100	N/A	
Enhanced Fixed Income	1,583,344,840	15.38	2.21	-2.59	-12.96	-12.96	-2.24	0.43	1.27	1.42	4.19	06/01/2000
Bloomberg US Agg Bond Index			1.87	-2.97	-13.01	-13.01	-2.71	0.02	0.89	1.06	3.98	
Difference			0.34	0.38	0.05	0.05	0.47	0.41	0.38	0.36	0.21	
IM U.S. Broad Market Core Fixed Income (SA+CF) Median			1.82	-2.89	-12.95	-12.95	-2.20	0.45	1.39	1.50	4.37	
Rank			13	23	52	52	54	53	65	63	74	
Blackrock Enhanced Core (SA)	1,583,344,840	15.38	2.21	-2.59	-12.96	-12.96	-2.24	0.43	1.27	1.42	4.19	06/01/2000
Bloomberg US Agg Bond Index			1.87	-2.97	-13.01	-13.01	-2.71	0.02	0.89	1.06	3.98	
Difference			0.34	0.38	0.05	0.05	0.47	0.41	0.38	0.36	0.21	
IM U.S. Broad Market Core Fixed Income (SA+CF) Median			1.82	-2.89	-12.95	-12.95	-2.20	0.45	1.39	1.50	4.37	
Rank			13	23	52	52	54	53	65	63	74	

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Oklahoma State Pension Commission
Oklahoma Public Employees Retirement System
Asset Allocation & Performance - Gross of Fees

As of December 31, 2022

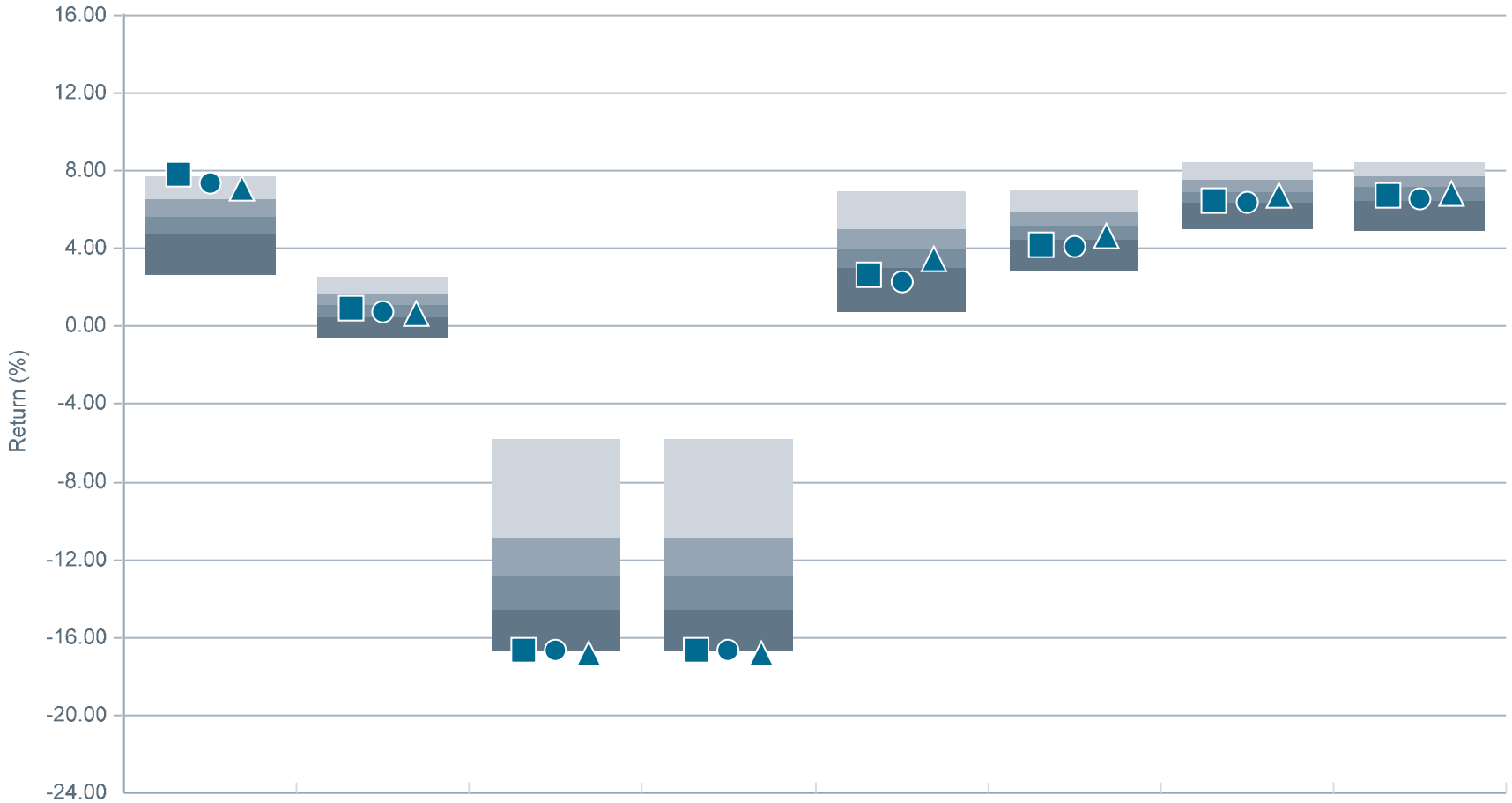
	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
Passive Fixed Income	390,855,968	3.80	1.88	-3.35	-11.93	-11.93	1.24	2.17	2.70	1.21	2.90	03/01/2010
Bloomberg US Agg Bond Index			1.87	-2.97	-13.01	-13.01	-2.71	0.02	0.89	1.06	2.10	
Difference			0.01	-0.38	1.08	1.08	3.95	2.15	1.81	0.15	0.80	
Blackrock TIPS (CF)	390,855,968	3.80	1.88	-3.35	-11.93	-11.93	1.24	2.17	2.70	1.21	2.90	03/01/2010
Bloomberg US Trsy US TIPS Index			2.04	-3.21	-11.85	-11.85	1.21	2.11	2.60	1.12	2.86	
Difference			-0.16	-0.14	-0.08	-0.08	0.03	0.06	0.10	0.09	0.04	
IM U.S. TIPS (SA+CF) Median			2.02	-3.12	-11.79	-11.79	1.24	2.15	2.70	1.22	2.93	
Rank			65	90	68	68	52	45	41	54	58	

Performance shown is gross of fees. Performance is annualized for periods greater than one year. Manager inception dates shown represent the first full month following initial funding. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01. Grand Centre Real Estate holding is considered Fixed Income for policy purposes; benchmark shown is for illustrative purposes only.



Oklahoma State Pension Commission
 Oklahoma Public Employees Retirement System vs. All Public Plans-Total Fund
 Plan Sponsor Peer Group Analysis

As of December 31, 2022



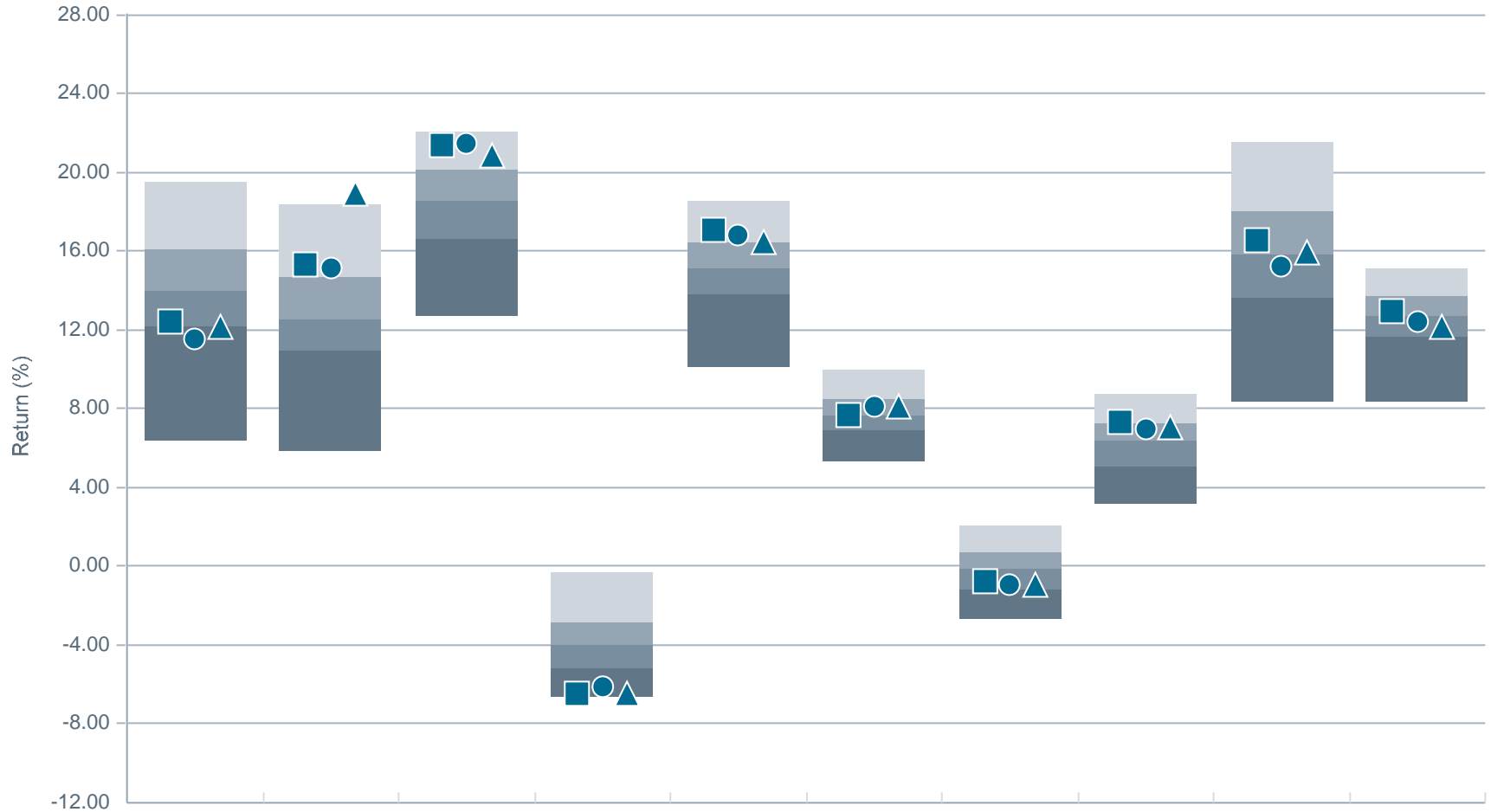
	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years
■ OPERS Total Fund	7.81 (5)	0.92 (58)	-16.64 (95)	-16.64 (95)	2.64 (83)	4.18 (82)	6.44 (73)	6.76 (67)
● OPERS Policy Index	7.40 (8)	0.80 (62)	-16.62 (95)	-16.62 (95)	2.32 (87)	4.09 (83)	6.40 (74)	6.56 (72)
▲ OPERS Allocation Index	7.15 (13)	0.65 (69)	-16.87 (97)	-16.87 (97)	3.50 (62)	4.62 (70)	6.74 (62)	6.85 (64)
5th Percentile	7.73	2.59	-5.72	-5.72	6.93	7.03	8.45	8.48
1st Quartile	6.58	1.63	-10.82	-10.82	5.03	5.94	7.60	7.72
Median	5.66	1.08	-12.81	-12.81	3.99	5.18	6.97	7.18
3rd Quartile	4.79	0.52	-14.55	-14.55	3.03	4.47	6.38	6.45
95th Percentile	2.64	-0.63	-16.67	-16.67	0.78	2.88	5.06	4.90

Performance shown is gross of fees. Parentheses contain percentile ranks. Please see the Addendum for custom index definitions and additional comments.
 Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
 Oklahoma Public Employees Retirement System vs. All Public Plans-Total Fund
 Plan Sponsor Peer Group Analysis

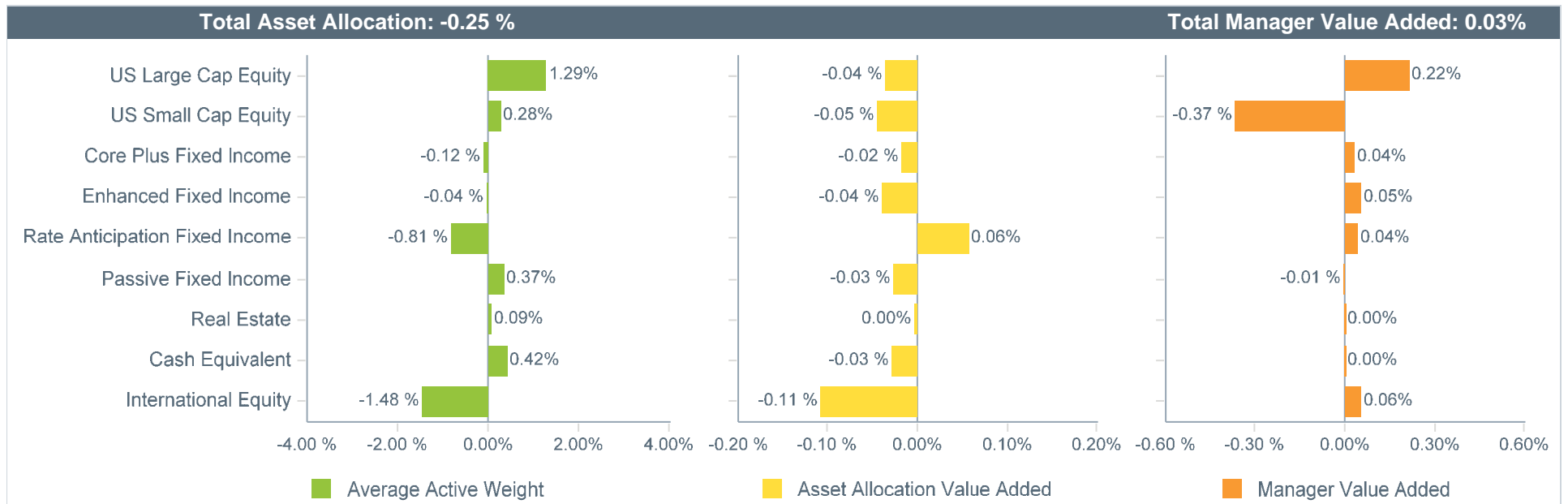
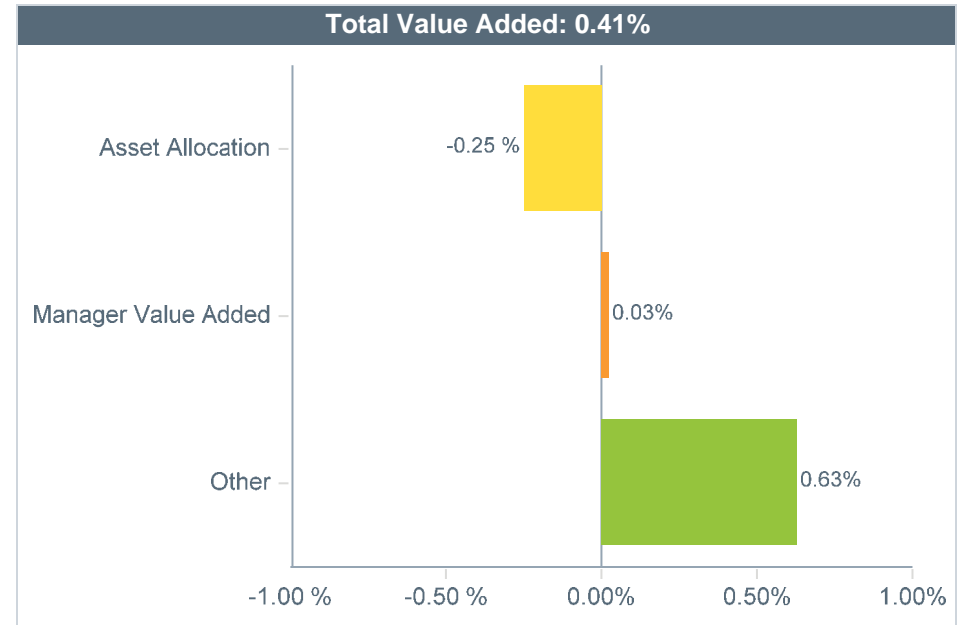
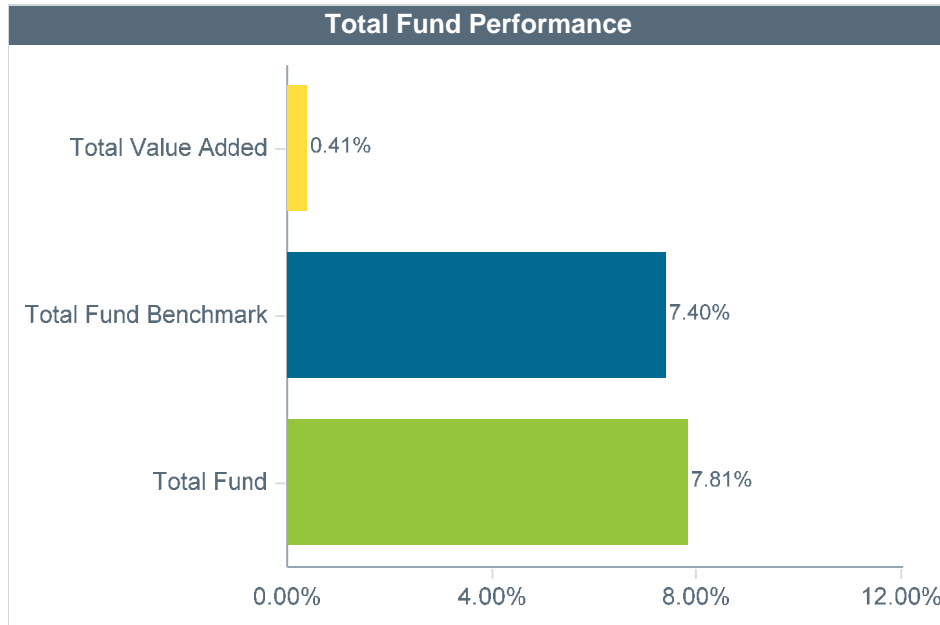
As of December 31, 2022



	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012
■ OPERS Total Fund	12.46 (72)	15.34 (19)	21.38 (11)	-6.48 (94)	17.13 (15)	7.69 (51)	-0.77 (66)	7.37 (24)	16.60 (44)	12.94 (43)
● OPERS Policy Index	11.54 (82)	15.19 (21)	21.46 (11)	-6.09 (91)	16.86 (19)	8.12 (38)	-0.89 (70)	7.00 (32)	15.27 (58)	12.47 (59)
▲ OPERS Allocation Index	12.14 (77)	18.93 (4)	20.87 (17)	-6.49 (94)	16.51 (24)	8.09 (39)	-0.94 (72)	7.05 (30)	15.94 (50)	12.21 (63)
5th Percentile	19.53	18.43	22.14	-0.28	18.60	9.98	2.09	8.76	21.62	15.18
1st Quartile	16.09	14.70	20.20	-2.88	16.45	8.51	0.72	7.28	18.08	13.79
Median	14.01	12.54	18.57	-4.02	15.16	7.69	-0.12	6.37	15.91	12.71
3rd Quartile	12.21	10.93	16.65	-5.11	13.88	6.93	-1.17	5.09	13.66	11.63
95th Percentile	6.37	5.89	12.67	-6.64	10.14	5.29	-2.64	3.19	8.42	8.41

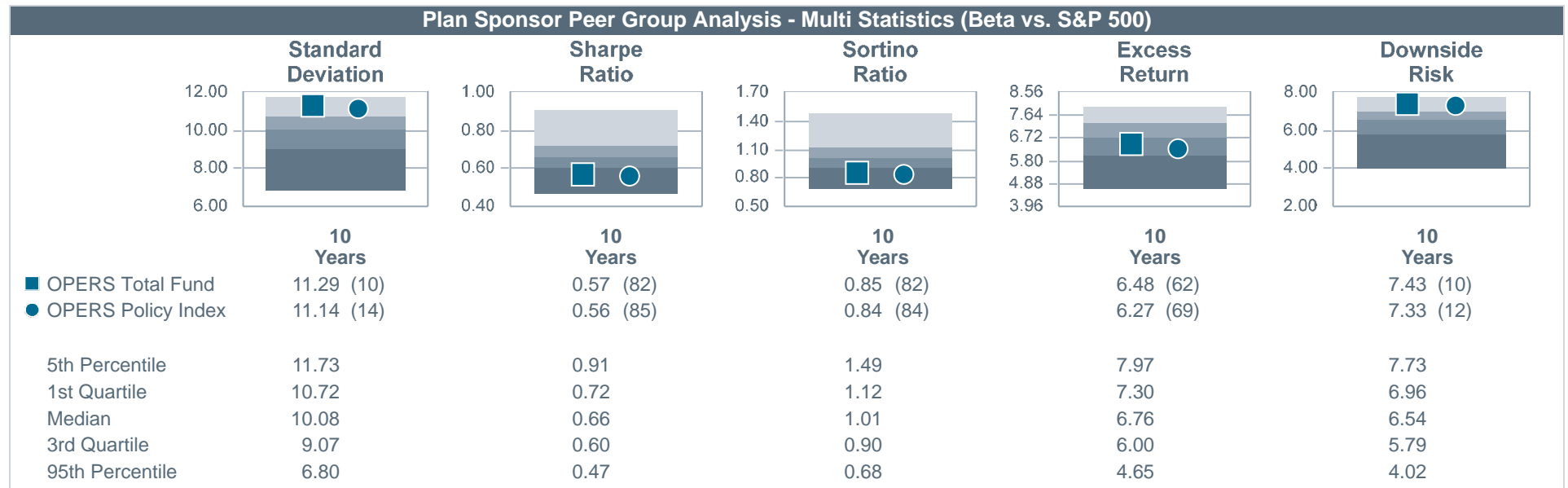
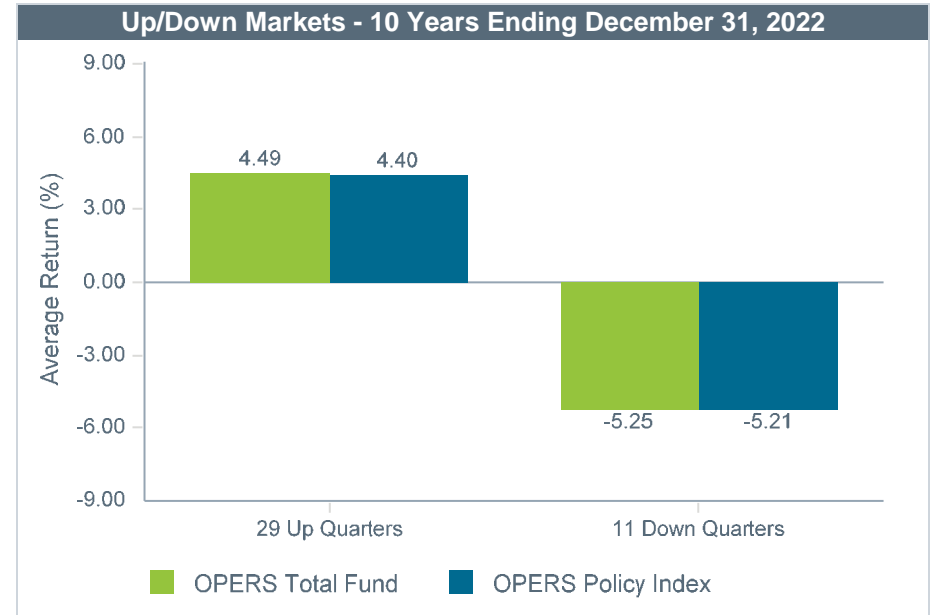
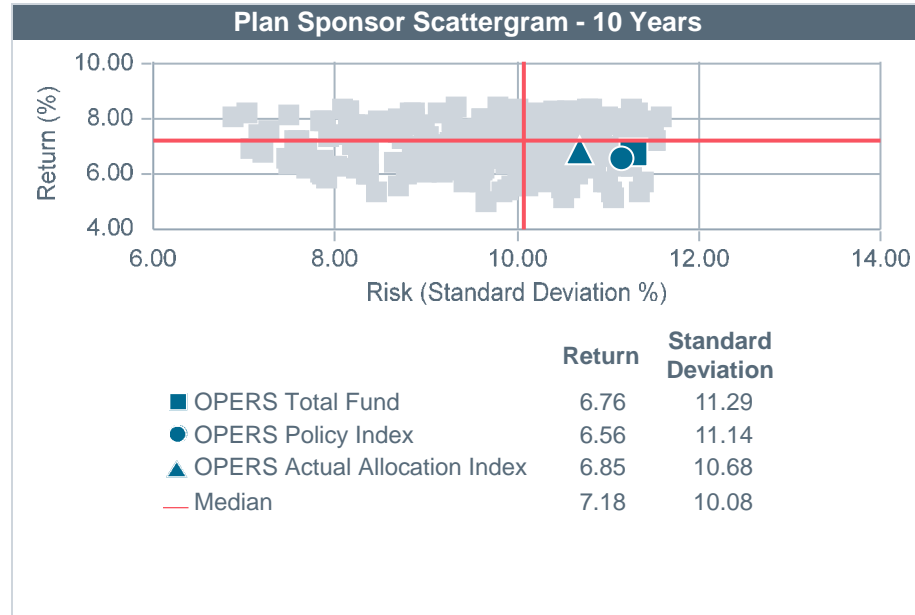
Performance shown is gross of fees. Parentheses contain percentile ranks. Please see the Addendum for custom index definitions and additional comments.



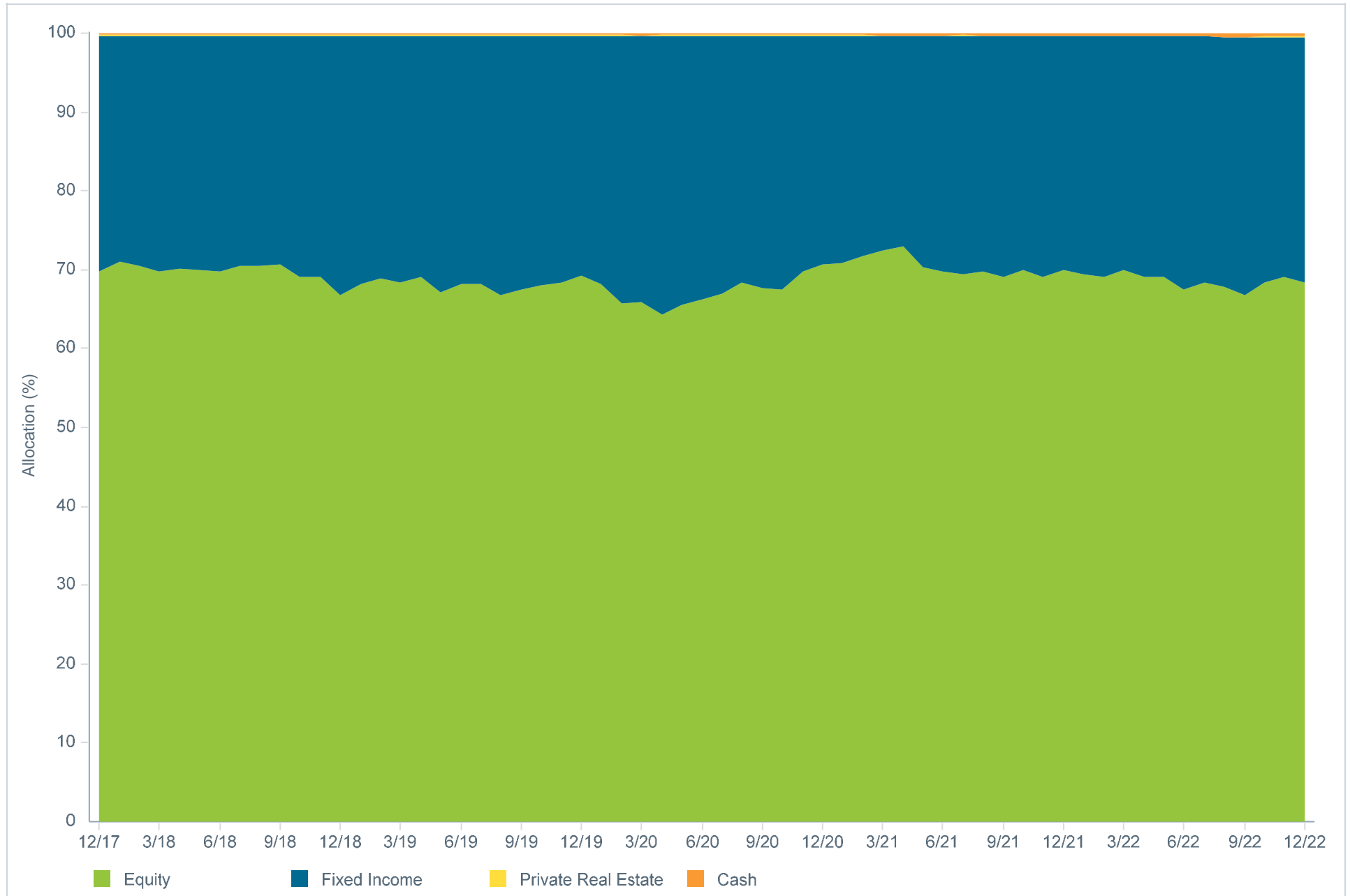


Performance shown is gross of fees. Calculation is based on monthly periodicity. See Glossary for additional information regarding the Total Fund Attribution calculation.





Performance shown is gross of fees. Calculation is based on quarterly periodicity. Parentheses contain percentile ranks. Please see the Addendum for custom index definitions and additional comments.

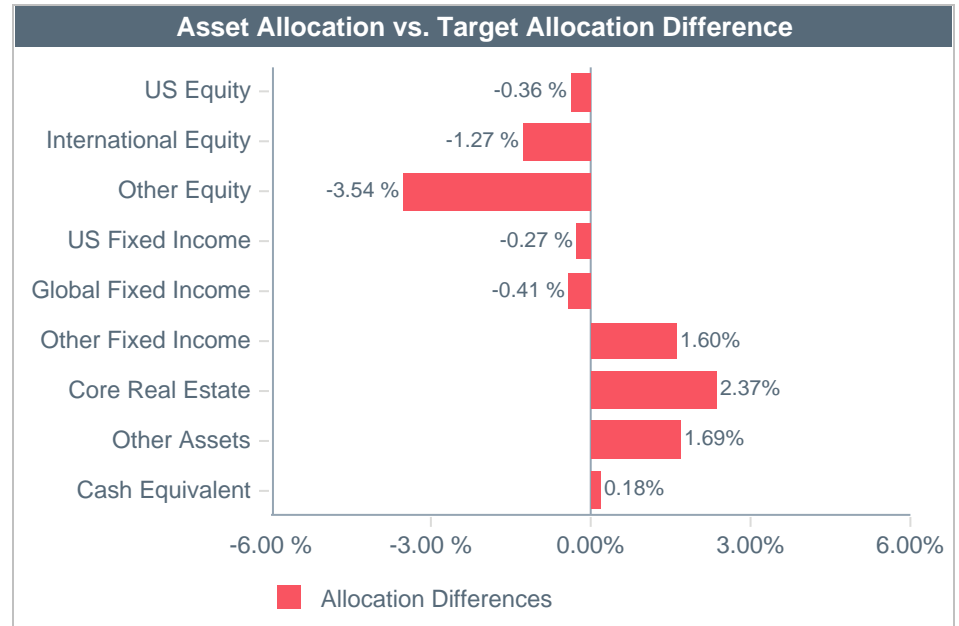


Oklahoma Firefighters Pension & Retirement System (OFPRS)



	Performance (%)												
	Trailing							Calendar Year					
	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2021	2020	2019	2018	2017
OFPRS Total Fund (Net)	4.49	0.48	-13.34	-13.34	5.07	6.20	7.98	8.40	13.46	17.97	19.77	-2.77	18.30
OFPRS Policy Index	5.87	1.01	-13.50	-13.50	4.93	6.24	8.00	8.52	16.12	15.02	21.76	-3.80	16.41
Difference	-1.38	-0.53	0.16	0.16	0.14	-0.04	-0.02	-0.12	-2.66	2.95	-1.99	1.03	1.89
OFPRS Actual Allocation Index	4.98	0.42	-12.83	-12.83	5.37	6.22	7.98	8.29	16.99	14.72	20.30	-3.93	15.64
Difference	-0.49	0.06	-0.51	-0.51	-0.30	-0.02	0.00	0.11	-3.53	3.25	-0.53	1.16	2.66
Actuarial Discount Rate (7.5%)	1.82	3.68	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50
Difference	2.67	-3.20	-20.84	-20.84	-2.43	-1.30	0.48	0.90	5.96	10.47	12.27	-10.27	10.80
OFPRS Total Fund (Gross)	4.58	0.66	-13.03	-13.03	5.46	6.57	8.34	8.77	13.87	18.44	20.15	-2.46	18.67
OFPRS Policy Index	5.87	1.01	-13.50	-13.50	4.93	6.24	8.00	8.52	16.12	15.02	21.76	-3.80	16.41
Difference	-1.29	-0.35	0.47	0.47	0.53	0.33	0.34	0.25	-2.25	3.42	-1.61	1.34	2.26
OFPRS Actual Allocation Index	4.98	0.42	-12.83	-12.83	5.37	6.22	7.98	8.29	16.99	14.72	20.30	-3.93	15.64
Difference	-0.40	0.24	-0.20	-0.20	0.09	0.35	0.36	0.48	-3.12	3.72	-0.15	1.47	3.03
All Public Plans-Total Fund Median	5.66	1.08	-12.81	-12.81	3.99	5.18	6.97	7.18	14.01	12.54	18.57	-4.02	15.16
Rank	79	68	53	53	18	9	7	3	53	5	27	19	5

Asset Allocation vs. Target Allocation			
	Asset Allocation (\$)	Asset Allocation (%)	Target Allocation (%)
OFPRS (Firefighters)	3,190,505,920	100.00	100.00
US Equity	1,328,440,304	41.64	42.00
International Equity	438,203,024	13.73	15.00
Other Equity	46,500,124	1.46	5.00
US Fixed Income	246,674,254	7.73	8.00
Global Fixed Income	210,375,494	6.59	7.00
Other Fixed Income	210,682,180	6.60	5.00
Core Real Estate	394,712,644	12.37	10.00
Other Assets	309,038,089	9.69	8.00
Cash Equivalent	5,879,807	0.18	0.00



Parenteses contain percentile ranks. Allocations shown may not sum up to 100% exactly due to rounding. Please see the Addendum for custom index definitions and additional Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
Oklahoma Firefighters Pension & Retirement System
Asset Allocation & Performance - Net of Fees

As of December 31, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
OFPRS Total Fund	3,190,505,920	100.00	4.49	0.48	-13.34	-13.34	5.07	6.20	7.98	8.40	6.83	01/01/1997
OFPRS Policy Index			5.87	1.01	-13.50	-13.50	4.93	6.24	8.00	8.52	7.30	
Difference			-1.38	-0.53	0.16	0.16	0.14	-0.04	-0.02	-0.12	-0.47	
OFPRS Actual Allocation Index			4.98	0.42	-12.83	-12.83	5.37	6.22	7.98	8.29	7.19	
Difference			-0.49	0.06	-0.51	-0.51	-0.30	-0.02	0.00	0.11	-0.36	
Actuarial Discount Rate (7.5%)			1.82	3.68	7.50	7.50	7.50	7.50	7.50	7.50	7.50	
Difference			2.67	-3.20	-20.84	-20.84	-2.43	-1.30	0.48	0.90	-0.67	
All Public Plans-Total Fund Median			5.70	1.02	-13.85	-13.85	3.56	4.91	6.62	6.84	6.50	
Rank			85	78	43	43	13	9	6	3	35	
Total Equity	1,766,643,327	55.37	7.68	2.73	-20.83	-20.83	5.31	7.15	9.85	10.47	7.35	01/01/1997
Wilshire 5000 Index			7.10	2.34	-19.04	-19.04	7.41	8.99	11.26	12.28	8.59	
Difference			0.58	0.39	-1.79	-1.79	-2.10	-1.84	-1.41	-1.81	-1.24	
US Equity	1,328,440,304	41.64	6.95	2.85	-20.77	-20.77	5.90	8.09	10.46	11.61	7.85	01/01/1997
Wilshire 5000 Index			7.10	2.34	-19.04	-19.04	7.41	8.99	11.26	12.28	8.59	
Difference			-0.15	0.51	-1.73	-1.73	-1.51	-0.90	-0.80	-0.67	-0.74	
IM U.S. Equity (SA+CF) Median			8.47	3.86	-17.25	-17.25	6.11	7.34	9.74	10.80	9.19	
Rank			68	62	67	67	54	38	36	34	90	
US Large Cap Equity	941,149,901	29.50	6.91	2.32	-20.02	-20.02	6.09	8.05	10.31	11.77	7.95	12/01/1996
Russell 1000 Index			7.24	2.30	-19.13	-19.13	7.35	9.13	11.26	12.37	8.51	
Difference			-0.33	0.02	-0.89	-0.89	-1.26	-1.08	-0.95	-0.60	-0.56	
IM U.S. Large Cap Equity (SA+CF) Median			7.99	2.67	-17.75	-17.75	6.67	8.24	10.35	11.63	8.65	
Rank			68	54	67	67	61	55	52	46	86	
US Large Cap Core Equity	442,834,660	13.88	7.35	2.41	-18.17	-18.17	7.35	8.76	10.96	12.27	8.38	12/01/1997
S&P 500 Index (Cap Wtd)			7.56	2.31	-18.11	-18.11	7.66	9.42	11.48	12.56	7.68	
Difference			-0.21	0.10	-0.06	-0.06	-0.31	-0.66	-0.52	-0.29	0.70	
IM U.S. Large Cap Core Equity (SA+CF) Median			7.97	2.77	-17.36	-17.36	6.65	8.19	10.35	11.77	7.98	
Rank			70	58	59	59	35	37	33	25	24	
Liquidity Pool - SSgA Equity Index (CF)	192,378,503	6.03	7.56	2.31	-18.11	-18.11	N/A	N/A	N/A	N/A	N/A	03/01/2021
S&P 500 Index (Cap Wtd)			7.56	2.31	-18.11	-18.11	7.66	9.42	11.48	12.56	1.96	
Difference			0.00	0.00	0.00	0.00	N/A	N/A	N/A	N/A	N/A	
IM U.S. Large Cap Core Equity (SA+CF) Median			7.97	2.77	-17.36	-17.36	6.65	8.19	10.35	11.77	1.54	
Rank			59	59	59	59	N/A	N/A	N/A	N/A	N/A	

During 10/2022, AG Realty Value Fund XI was funded. During 12/2022, Capital Dynamics Global Second VI and Comvest Credit Partners VI were funded. Performance shown is net of fees. Performance is annualized for periods greater than one year. Manager inception dates shown represent the first full month following initial funding. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
Oklahoma Firefighters Pension & Retirement System
Asset Allocation & Performance - Net of Fees

As of December 31, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
Intech Enhanced Investment Tech (SA)	250,456,157	7.85	7.34	2.65	-18.07	-18.07	7.41	8.85	10.71	12.26	8.63	01/01/2002
S&P 500 Index (Cap Wtd)			7.56	2.31	-18.11	-18.11	7.66	9.42	11.48	12.56	8.02	
Difference			-0.22	0.34	0.04	0.04	-0.25	-0.57	-0.77	-0.30	0.61	
IM U.S. Large Cap Index Equity (SA+CF) Median			7.42	2.28	-18.30	-18.30	7.36	8.97	11.22	12.25	7.99	
Rank			56	23	23	23	49	56	73	49	4	
US Large Cap Value Equity	265,513,223	8.32	13.84	7.85	-6.38	-6.38	6.11	6.35	8.98	9.86	7.58	12/01/1996
Russell 1000 Val Index			12.42	6.11	-7.54	-7.54	5.96	6.67	9.12	10.29	8.13	
Difference			1.42	1.74	1.16	1.16	0.15	-0.32	-0.14	-0.43	-0.55	
IM U.S. Large Cap Value Equity (SA+CF) Median			12.57	6.30	-5.87	-5.87	7.32	7.47	9.72	10.66	8.58	
Rank			29	26	57	57	74	73	69	72	89	
Beutel Goodman American Equity (SA)	137,188,342	4.30	17.16	10.90	2.16	2.16	9.63	9.61	N/A	N/A	12.04	04/01/2016
Russell 1000 Val Index			12.42	6.11	-7.54	-7.54	5.96	6.67	9.12	10.29	9.21	
Difference			4.74	4.79	9.70	9.70	3.67	2.94	N/A	N/A	2.83	
IM U.S. Large Cap Value Equity (SA+CF) Median			12.57	6.30	-5.87	-5.87	7.32	7.47	9.72	10.66	9.92	
Rank			2	6	7	7	14	10	N/A	N/A	9	
Aristotle US Equity (SA)	128,324,882	4.02	10.49	4.78	-14.59	-14.59	N/A	N/A	N/A	N/A	8.57	09/01/2020
Russell 1000 Val Index			12.42	6.11	-7.54	-7.54	5.96	6.67	9.12	10.29	12.35	
Difference			-1.93	-1.33	-7.05	-7.05	N/A	N/A	N/A	N/A	-3.78	
IM U.S. Large Cap Value Equity (SA+CF) Median			12.57	6.30	-5.87	-5.87	7.32	7.47	9.72	10.66	13.31	
Rank			81	72	87	87	N/A	N/A	N/A	N/A	84	

During 10/2022, AG Realty Value Fund XI was funded. During 12/2022, Capital Dynamics Global Second VI and Comvest Credit Partners VI were funded. Performance shown is net of fees. Performance is annualized for periods greater than one year. Manager inception dates shown represent the first full month following initial funding. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
Oklahoma Firefighters Pension & Retirement System
Asset Allocation & Performance - Net of Fees

As of December 31, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
US Large Cap Growth Equity	232,802,017	7.30	-0.81	-3.49	-36.24	-36.24	2.28	7.60	9.82	12.25	6.73	12/01/1996
Russell 1000 Grth Index			2.20	-1.48	-29.14	-29.14	7.79	10.96	12.95	14.10	8.36	
Difference			-3.01	-2.01	-7.10	-7.10	-5.51	-3.36	-3.13	-1.85	-1.63	
IM U.S. Large Cap Growth Equity (SA+CF) Median			3.58	-0.74	-30.69	-30.69	5.35	9.04	10.82	12.33	8.92	
Rank			89	84	87	87	84	76	73	53	100	
Fred Alger Capital Appreciation (SA)	232,802,017	7.30	-0.81	-3.49	-35.86	-35.86	2.63	7.82	9.97	12.35	12.70	07/01/2010
Russell 1000 Grth Index			2.20	-1.48	-29.14	-29.14	7.79	10.96	12.95	14.10	14.76	
Difference			-3.01	-2.01	-6.72	-6.72	-5.16	-3.14	-2.98	-1.75	-2.06	
IM U.S. Large Cap Growth Equity (SA+CF) Median			3.58	-0.74	-30.69	-30.69	5.35	9.04	10.82	12.33	13.14	
Rank			89	84	86	86	82	73	70	49	67	
US Small Cap Equity	387,290,403	12.14	7.48	4.62	-21.82	-21.82	5.67	8.25	10.81	11.49	8.38	01/01/1997
Russell 2000 Index			6.23	3.91	-20.44	-20.44	3.10	4.13	7.90	9.01	7.68	
Difference			1.25	0.71	-1.38	-1.38	2.57	4.12	2.91	2.48	0.70	
IM U.S. Small Cap Equity (SA+CF) Median			8.44	4.43	-17.00	-17.00	5.35	5.78	9.07	10.15	9.89	
Rank			61	48	69	69	46	20	23	21	89	
Liquidity Pool - SSgA Small Cap Completeness Index (CF)	52,165,443	1.64	4.85	2.37	-25.51	-25.51	N/A	N/A	N/A	N/A	N/A	03/01/2021
Russell Sm Cap Compl Index			4.85	2.36	-25.49	-25.49	3.70	5.33	8.65	9.89	-12.60	
Difference			0.00	0.01	-0.02	-0.02	N/A	N/A	N/A	N/A	N/A	
IM U.S. Small Cap Equity (SA+CF) Median			8.44	4.43	-17.00	-17.00	5.35	5.78	9.07	10.15	-4.40	
Rank			81	78	79	79	N/A	N/A	N/A	N/A	N/A	
US Small Cap Value Equity	172,272,267	5.40	8.60	6.13	-12.75	-12.75	5.63	6.58	10.40	10.36	8.86	12/01/1996
Russell 2000 Val Index			8.42	3.42	-14.48	-14.48	4.70	4.13	8.23	8.48	8.65	
Difference			0.18	2.71	1.73	1.73	0.93	2.45	2.17	1.88	0.21	
IM U.S. Small Cap Value Equity (SA+CF) Median			10.86	5.38	-11.57	-11.57	6.44	4.73	8.57	9.41	9.76	
Rank			79	43	62	62	59	26	18	24	88	
Earnest Partner Small Cap Value Equity (SA)	85,673,529	2.69	10.55	8.76	-9.95	-9.95	10.30	8.48	12.12	11.80	8.76	08/01/2005
Russell 2000 Val Index			8.42	3.42	-14.48	-14.48	4.70	4.13	8.23	8.48	6.38	
Difference			2.13	5.34	4.53	4.53	5.60	4.35	3.89	3.32	2.38	
IM U.S. Small Cap Value Equity (SA+CF) Median			10.86	5.38	-11.57	-11.57	6.44	4.73	8.57	9.41	7.58	
Rank			55	21	37	37	13	6	6	5	21	
River Road Small Cap Value Equity (SA)	86,598,738	2.71	9.71	6.83	-6.26	-6.26	5.15	7.25	10.55	10.20	6.76	04/01/2007
Russell 2000 Val Index			8.42	3.42	-14.48	-14.48	4.70	4.13	8.23	8.48	5.68	
Difference			1.29	3.41	8.22	8.22	0.45	3.12	2.32	1.72	1.08	
IM U.S. Small Cap Value Equity (SA+CF) Median			10.86	5.38	-11.57	-11.57	6.44	4.73	8.57	9.41	7.14	
Rank			64	38	15	15	67	17	17	29	70	

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Oklahoma State Pension Commission
Oklahoma Firefighters Pension & Retirement System
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	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
US Small Cap Growth Equity	162,852,692	5.10	4.78	1.38	-37.53	-37.53	-0.32	6.47	8.68	10.72	6.06	07/01/1995
Russell 2000 Grth Index			4.13	4.38	-26.36	-26.36	0.65	3.51	7.09	9.20	6.86	
Difference			0.65	-3.00	-11.17	-11.17	-0.97	2.96	1.59	1.52	-0.80	
IM U.S. Small Cap Growth Equity (SA+CF) Median			4.18	2.91	-28.23	-28.23	4.66	7.92	10.44	11.37	10.15	
Rank			43	68	91	91	98	76	82	74	100	
Lord Abbett Small Cap Growth Equity (SA)	81,784,132	2.56	-0.01	0.46	-35.45	-35.45	3.32	9.00	10.08	11.33	9.35	04/01/2011
Russell 2000 Grth Index			4.13	4.38	-26.36	-26.36	0.65	3.51	7.09	9.20	7.95	
Difference			-4.14	-3.92	-9.09	-9.09	2.67	5.49	2.99	2.13	1.40	
IM U.S. Small Cap Growth Equity (SA+CF) Median			4.18	2.91	-28.23	-28.23	4.66	7.92	10.44	11.37	9.80	
Rank			89	77	83	83	65	36	59	51	65	
Delaware SMID Focus Growth Equity (SA)	81,068,560	2.54	10.09	2.33	-38.30	-38.30	-3.21	4.43	7.53	10.14	9.07	04/01/2011
Russell 2500 Grth Index			4.72	4.59	-26.21	-26.21	2.88	5.97	8.98	10.62	9.34	
Difference			5.37	-2.26	-12.09	-12.09	-6.09	-1.54	-1.45	-0.48	-0.27	
IM U.S. SMID Cap Growth Equity (SA+CF) Median			4.74	2.81	-28.89	-28.89	5.67	8.75	10.39	11.00	9.81	
Rank			3	55	93	93	95	89	88	75	70	
Other Equity												
OFP Adams Street Co-Invest Fund V	2,445,485	0.08	-2.18	-2.18	N/A	N/A	N/A	N/A	N/A	N/A	-2.18	07/01/2022
OFP LGT Co-Invest Fund III	14,776,406	0.46	2.35	2.73	2.08	2.08	N/A	N/A	N/A	N/A	2.08	01/01/2022
OFP Schroders P/E Global DIR III	29,278,233	0.92	-7.19	-7.19	3.10	3.10	N/A	N/A	N/A	N/A	3.10	01/01/2022
International Equity	438,203,024	13.73	9.91	2.23	-21.14	-21.14	3.60	3.92	7.40	5.88	4.85	01/01/1997
MSCI ACW Ex US Index (USD) (Net)			14.28	2.96	-16.00	-16.00	0.07	0.88	4.80	3.80	4.63	
Difference			-4.37	-0.73	-5.14	-5.14	3.53	3.04	2.60	2.08	0.22	
IM International Equity (SA+CF) Median			15.58	4.40	-17.25	-17.25	0.70	1.35	4.77	5.04	5.92	
Rank			91	79	68	68	14	13	12	31	91	
International Developed Equity	280,165,190	8.78	9.29	3.56	-21.76	-21.76	5.92	6.27	8.86	7.87	5.57	01/01/1997
MSCI ACW Ex US Index (USD) (Net)			14.28	2.96	-16.00	-16.00	0.07	0.88	4.80	3.80	4.63	
Difference			-4.99	0.60	-5.76	-5.76	5.85	5.39	4.06	4.07	0.94	
IM International Equity Developed Markets (SA+CF) Median			15.74	4.54	-17.25	-17.25	0.65	1.29	4.69	5.10	5.93	
Rank			96	65	71	71	3	4	2	8	64	

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Liquidity Pool - SSgA MSCI ACWI ex US (CF)	56,667,573	1.78	14.25	2.94	-15.77	-15.77	N/A	N/A	N/A	N/A	N/A	03/01/2021
MSCI ACW Ex US Index (USD) (Net)			14.28	2.96	-16.00	-16.00	0.07	0.88	4.80	3.80	-6.38	
Difference			-0.03	-0.02	0.23	0.23	N/A	N/A	N/A	N/A	N/A	
IM All ACWI Ex US (SA+CF) Median			14.81	4.00	-17.04	-17.04	0.36	1.39	4.81	4.91	-6.24	
Rank			65	74	44	44	N/A	N/A	N/A	N/A	N/A	
Chautauqua Intl Growth Equity (CF)	145,731,807	4.57	4.77	3.77	-15.94	-15.94	8.38	5.54	8.54	7.89	8.22	08/01/2012
MSCI ACW Ex US Index (USD) (Net)			14.28	2.96	-16.00	-16.00	0.07	0.88	4.80	3.80	4.79	
Difference			-9.51	0.81	0.06	0.06	8.31	4.66	3.74	4.09	3.43	
IM All ACWI Ex US (SA+CF) Median			14.81	4.00	-17.04	-17.04	0.36	1.39	4.81	4.91	5.73	
Rank			100	56	44	44	1	2	3	4	5	
WCM Berkeley Street Intl Equity (SA)	134,403,772	4.21	12.18	3.77	-29.26	-29.26	3.36	6.73	9.03	9.01	9.26	08/01/2012
MSCI EAFE Index (USD) (Net)			17.34	6.36	-14.45	-14.45	0.87	1.54	4.53	4.67	5.68	
Difference			-5.16	-2.59	-14.81	-14.81	2.49	5.19	4.50	4.34	3.58	
IM EAFE Core (SA+CF) Median			16.62	5.59	-14.99	-14.99	0.94	1.59	4.26	4.99	6.00	
Rank			100	80	100	100	4	1	1	1	1	
Emerging Markets Equity	101,370,261	3.18	12.00	-2.28	-19.40	-19.40	-3.25	-2.82	3.16	0.45	3.10	08/01/2012
MSCI Emg Mkts Index (USD) (Net)			9.70	-2.99	-20.09	-20.09	-2.69	-1.40	5.17	1.44	2.45	
Difference			2.30	0.71	0.69	0.69	-0.56	-1.42	-2.01	-0.99	0.65	
IM Emerging Markets Equity (SA+CF) Median			10.43	-1.38	-20.54	-20.54	-1.66	-0.74	5.16	2.05	3.14	
Rank			26	61	43	43	69	88	92	94	52	
RBC GAM Emerging Markets Equity (CF)	52,374,400	1.64	13.53	0.43	-13.99	-13.99	-1.44	N/A	N/A	N/A	1.17	01/01/2019
MSCI Emg Mkts Index (USD) (Net)			9.70	-2.99	-20.09	-20.09	-2.69	-1.40	5.17	1.44	2.20	
Difference			3.83	3.42	6.10	6.10	1.25	N/A	N/A	N/A	-1.03	
IM Emerging Markets Equity (SA+CF) Median			10.43	-1.38	-20.54	-20.54	-1.66	-0.74	5.16	2.05	3.33	
Rank			13	36	24	24	46	N/A	N/A	N/A	88	
Wellington Emerging Markets (CF)	48,995,861	1.54	10.41	-5.02	-24.50	-24.50	-5.07	N/A	N/A	N/A	-1.20	01/01/2019
MSCI Emg Mkts Index (USD) (Net)			9.70	-2.99	-20.09	-20.09	-2.69	-1.40	5.17	1.44	2.20	
Difference			0.71	-2.03	-4.41	-4.41	-2.38	N/A	N/A	N/A	-3.40	
IM Emerging Markets Equity (SA+CF) Median			10.43	-1.38	-20.54	-20.54	-1.66	-0.74	5.16	2.05	3.33	
Rank			51	86	71	71	89	N/A	N/A	N/A	99	

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Fixed Income	457,049,749	14.33	4.10	-2.65	-14.23	-14.23	-3.41	-1.27	0.46	0.51	4.07	01/01/1997
Bloomberg US Agg Bond Index			1.87	-2.97	-13.01	-13.01	-2.71	0.02	0.89	1.06	4.19	
Difference			2.23	0.32	-1.22	-1.22	-0.70	-1.29	-0.43	-0.55	-0.12	
IM Global Fixed Income (SA+CF) Median			4.41	0.32	-13.11	-13.11	-1.99	0.52	2.14	1.48	3.69	
Rank			57	84	57	57	69	74	81	58	43	
Garcia Hamilton Core Fixed Income (SA)	99,763,743	3.13	1.77	-3.56	-11.25	-11.25	-2.27	0.17	1.07	N/A	1.36	07/01/2014
Bloomberg US Agg Bond Index			1.87	-2.97	-13.01	-13.01	-2.71	0.02	0.89	1.06	1.03	
Difference			-0.10	-0.59	1.76	1.76	0.44	0.15	0.18	N/A	0.33	
IM U.S. Broad Market Core Fixed Income (SA+CF) Median			1.77	-3.00	-13.12	-13.12	-2.47	0.18	1.12	1.22	1.21	
Rank			50	94	8	8	37	54	58	N/A	24	
Orleans Core Fixed Income (SA)	85,708,180	2.69	2.32	-2.28	-12.61	-12.61	-2.83	0.03	1.11	N/A	1.00	07/01/2014
Bloomberg US Agg Bond Index			1.87	-2.97	-13.01	-13.01	-2.71	0.02	0.89	1.06	1.03	
Difference			0.45	0.69	0.40	0.40	-0.12	0.01	0.22	N/A	-0.03	
IM U.S. Broad Market Core Fixed Income (SA+CF) Median			1.77	-3.00	-13.12	-13.12	-2.47	0.18	1.12	1.22	1.21	
Rank			7	10	26	26	79	69	56	N/A	78	
Liquidity Pool - SSgA Aggregate Bond (CF)	57,580,870	1.80	1.68	-3.13	-13.17	-13.17	N/A	N/A	N/A	N/A	N/A	03/01/2021
Bloomberg US Agg Bond Index			1.87	-2.97	-13.01	-13.01	-2.71	0.02	0.89	1.06	-7.01	
Difference			-0.19	-0.16	-0.16	-0.16	N/A	N/A	N/A	N/A	N/A	
IM U.S. Broad Market Core Fixed Income (SA+CF) Median			1.77	-3.00	-13.12	-13.12	-2.47	0.18	1.12	1.22	-7.04	
Rank			59	68	52	52	N/A	N/A	N/A	N/A	N/A	
Garrison Middle Market Funding (CF)	118,430	0.00	-29.40	-30.76	-37.43	-37.43	-1.57	-3.41	-2.20	N/A	0.19	07/01/2013
Bloomberg US Agg Bond Index			1.87	-2.97	-13.01	-13.01	-2.71	0.02	0.89	1.06	1.38	
Difference			-31.27	-27.79	-24.42	-24.42	1.14	-3.43	-3.09	N/A	-1.19	
IM U.S. Broad Market Core+ Fixed Income (SA+CF) Median			2.04	-2.45	-13.28	-13.28	-2.13	0.48	1.56	1.64	1.98	
Rank			100	100	100	100	25	100	100	N/A	100	
Brandywine Global Fixed Income (CF)	210,375,494	6.59	6.86	-2.32	-16.43	-16.43	-3.95	-1.72	1.19	0.12	2.56	08/01/2009
FTSE Wrld Gov't Bond Index			3.82	-4.08	-18.26	-18.26	-5.75	-2.54	-0.58	-1.22	0.21	
Difference			3.04	1.76	1.83	1.83	1.80	0.82	1.77	1.34	2.35	
IM Global Fixed Income (SA+CF) Median			4.41	0.32	-13.11	-13.11	-1.99	0.52	2.14	1.48	2.58	
Rank			16	81	77	77	77	84	69	63	51	

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Other Fixed Income												
Comvest Credit Partners VI LP	8,000,000	0.25	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	01/01/2023
Bloomberg US Corp Hi Yld Index			4.17	3.50	-11.19	-11.19	0.05	2.31	5.05	4.03	N/A	
Difference			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
PIMCO Corporate Opp II (CF)	12,918,212	0.40	8.39	5.94	20.73	20.73	14.21	11.52	N/A	N/A	12.32	12/01/2016
Bloomberg US Corp Hi Yld Index			4.17	3.50	-11.19	-11.19	0.05	2.31	5.05	4.03	3.43	
Difference			4.22	2.44	31.92	31.92	14.16	9.21	N/A	N/A	8.89	
PIMCO Bravo III (CF)	48,258,697	1.51	0.07	-1.43	7.70	7.70	9.30	10.70	N/A	N/A	10.52	12/01/2017
Bloomberg US Corp Hi Yld Index			4.17	3.50	-11.19	-11.19	0.05	2.31	5.05	4.03	2.33	
Difference			-4.10	-4.93	18.89	18.89	9.25	8.39	N/A	N/A	8.19	
PIMCO Private Income (CF)	96,970,157	3.04	-0.33	-0.84	1.75	1.75	8.43	N/A	N/A	N/A	7.71	05/01/2019
Bloomberg US Corp Hi Yld Index			4.17	3.50	-11.19	-11.19	0.05	2.31	5.05	4.03	1.40	
Difference			-4.50	-4.34	12.94	12.94	8.38	N/A	N/A	N/A	6.31	
PIMCO Bravo IV (CF)	44,535,115	1.40	-0.03	-3.57	0.24	0.24	N/A	N/A	N/A	N/A	-0.99	10/01/2021
Bloomberg US Corp Hi Yld Index			4.17	3.50	-11.19	-11.19	0.05	2.31	5.05	4.03	-8.54	
Difference			-4.20	-7.07	11.43	11.43	N/A	N/A	N/A	N/A	7.55	
Hedge Fund												
HFRI FOF: Cnsvt Index	72,361	0.00	0.06	26.16	0.36	0.36	-10.88	-6.57	-3.21	-1.44	0.67	01/01/2006
HFRI FOF: Cnsvt Index			1.49	1.70	0.12	0.12	4.68	3.87	3.62	3.64	2.65	
Difference			-1.43	24.46	0.24	0.24	-15.56	-10.44	-6.83	-5.08	-1.98	
Glouston Capital Partners Permal (CF)	72,361	0.00	0.06	26.16	0.36	0.36	-10.88	-6.30	-3.51	N/A	-3.53	06/01/2015
HFRI FOF: Cnsvt Index			1.49	1.70	0.12	0.12	4.68	3.87	3.62	3.64	3.01	
Difference			-1.43	24.46	0.24	0.24	-15.56	-10.17	-7.13	N/A	-6.54	
Core Real Estate												
NCREIF ODCE Index (AWA) (Net)	394,712,644	12.37	-2.70	-3.34	6.39	6.39	7.13	6.79	7.12	8.80	6.62	05/01/2005
NCREIF ODCE Index (AWA) (Net)			-5.17	-4.87	6.55	6.55	8.97	7.72	7.57	9.11	6.99	
Difference			2.47	1.53	-0.16	-0.16	-1.84	-0.93	-0.45	-0.31	-0.37	
JP Morgan Strategic Property (CF)	121,723,846	3.82	-5.21	-6.65	3.46	3.46	7.57	6.63	6.69	8.61	7.37	04/01/2005
NCREIF ODCE Index (AWA) (Net)			-5.17	-4.87	6.55	6.55	8.97	7.72	7.57	9.11	6.95	
Difference			-0.04	-1.78	-3.09	-3.09	-1.40	-1.09	-0.88	-0.50	0.42	
Portfolio Advisors Real Estate III LP	2,192,601	0.07	-0.61	1.77	10.91	10.91	-3.91	-4.31	-1.07	4.07	-1.34	07/01/2008
NCREIF ODCE Index (AWA) (Net)			-5.17	-4.87	6.55	6.55	8.97	7.72	7.57	9.11	5.37	
Difference			4.56	6.64	4.36	4.36	-12.88	-12.03	-8.64	-5.04	-6.71	

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Portfolio Advisors Real Estate IV LP	825,994	0.03	-8.66	-9.39	8.22	8.22	1.01	3.86	6.10	8.89	6.71	07/01/2011
NCREIF ODCE Index (AWA) (Net)			-5.17	-4.87	6.55	6.55	8.97	7.72	7.57	9.11	9.32	
Difference			-3.49	-4.52	1.67	1.67	-7.96	-3.86	-1.47	-0.22	-2.61	
Angelo Gordon Net Lease III LP	22,666,291	0.71	1.51	3.19	9.25	9.25	7.56	8.03	7.34	N/A	5.53	03/01/2014
NCREIF ODCE Index (AWA) (Net)			-5.17	-4.87	6.55	6.55	8.97	7.72	7.57	9.11	8.86	
Difference			6.68	8.06	2.70	2.70	-1.41	0.31	-0.23	N/A	-3.33	
Angelo Gordon Realty Value Fund XI LP	3,500,000	0.11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.00	11/01/2022
NCREIF ODCE Index (AWA) (Net)			-5.17	-4.87	6.55	6.55	8.97	7.72	7.57	9.11	-5.17	
Difference			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.17	
Mesirow Real Estate (CF)	4,525,945	0.14	0.45	16.89	25.49	25.49	48.88	32.38	25.68	N/A	19.98	04/01/2014
NCREIF ODCE Index (AWA) (Net)			-5.17	-4.87	6.55	6.55	8.97	7.72	7.57	9.11	8.67	
Difference			5.62	21.76	18.94	18.94	39.91	24.66	18.11	N/A	11.31	
Mesirow Real Estate Value IV LP	20,793,940	0.65	0.68	1.44	12.01	12.01	N/A	N/A	N/A	N/A	N/A	06/01/2021
NCREIF ODCE Index (AWA) (Net)			-5.17	-4.87	6.55	6.55	8.97	7.72	7.57	9.11	16.04	
Difference			5.85	6.31	5.46	5.46	N/A	N/A	N/A	N/A	N/A	
Dune Real Estate III LP	16,367,690	0.51	0.64	0.32	3.80	3.80	-1.93	1.57	4.78	N/A	6.00	05/01/2014
NCREIF ODCE Index (AWA) (Net)			-5.17	-4.87	6.55	6.55	8.97	7.72	7.57	9.11	8.76	
Difference			5.81	5.19	-2.75	-2.75	-10.90	-6.15	-2.79	N/A	-2.76	
Portfolio Advisors Real Estate LP	3,618,449	0.11	-1.30	-1.14	4.83	4.83	-5.95	-2.87	-0.08	N/A	2.62	06/01/2014
NCREIF ODCE Index (AWA) (Net)			-5.17	-4.87	6.55	6.55	8.97	7.72	7.57	9.11	8.85	
Difference			3.87	3.73	-1.72	-1.72	-14.92	-10.59	-7.65	N/A	-6.23	
Landmark Real Estate VII LP	4,230,910	0.13	-5.14	-4.56	-1.74	-1.74	-2.18	-0.84	3.54	N/A	8.48	09/01/2014
NCREIF ODCE Index (AWA) (Net)			-5.17	-4.87	6.55	6.55	8.97	7.72	7.57	9.11	8.78	
Difference			0.03	0.31	-8.29	-8.29	-11.15	-8.56	-4.03	N/A	-0.30	
JP Morgan Special Situation Property (CF)	70,978,589	2.22	-7.26	-10.74	-2.56	-2.56	6.69	6.91	7.31	N/A	8.99	11/01/2014
NCREIF ODCE Index (AWA) (Net)			-5.17	-4.87	6.55	6.55	8.97	7.72	7.57	9.11	8.57	
Difference			-2.09	-5.87	-9.11	-9.11	-2.28	-0.81	-0.26	N/A	0.42	
Hall Capital III LP	7,435,839	0.23	0.09	0.22	0.27	0.27	4.87	5.45	6.22	N/A	2.57	11/01/2014
NCREIF ODCE Index (AWA) (Net)			-5.17	-4.87	6.55	6.55	8.97	7.72	7.57	9.11	8.57	
Difference			5.26	5.09	-6.28	-6.28	-4.10	-2.27	-1.35	N/A	-6.00	
Portfolio Advisors Real Estate VI LP	17,469,918	0.55	-1.23	1.88	20.19	20.19	11.21	12.76	N/A	N/A	11.27	01/01/2017
NCREIF ODCE Index (AWA) (Net)			-5.17	-4.87	6.55	6.55	8.97	7.72	7.57	9.11	7.54	
Difference			3.94	6.75	13.64	13.64	2.24	5.04	N/A	N/A	3.73	

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Oklahoma State Pension Commission
Oklahoma Firefighters Pension & Retirement System
Asset Allocation & Performance - Net of Fees

As of December 31, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
Dune Real Estate IV LP	26,272,680	0.82	7.39	11.33	25.61	25.61	1.80	N/A	N/A	N/A	-0.71	08/01/2019
NCREIF ODCE Index (AWA) (Net)			-5.17	-4.87	6.55	6.55	8.97	7.72	7.57	9.11	8.57	
Difference			12.56	16.20	19.06	19.06	-7.17	N/A	N/A	N/A	-9.28	
Hall Capital Real Estate LP	10,062,659	0.32	0.84	2.27	16.41	16.41	13.67	N/A	N/A	N/A	10.25	09/01/2018
NCREIF ODCE Index (AWA) (Net)			-5.17	-4.87	6.55	6.55	8.97	7.72	7.57	9.11	8.02	
Difference			6.01	7.14	9.86	9.86	4.70	N/A	N/A	N/A	2.23	
Terracap Partners V LP	55,603,802	1.74	1.10	0.35	11.84	11.84	N/A	N/A	N/A	N/A	N/A	05/01/2021
NCREIF ODCE Index (AWA) (Net)			-5.17	-4.87	6.55	6.55	8.97	7.72	7.57	9.11	15.18	
Difference			6.27	5.22	5.29	5.29	N/A	N/A	N/A	N/A	N/A	
OFP Centerbridge Real Estate II	6,443,489	0.20	-14.78	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-14.78	08/01/2022
NCREIF ODCE Index (AWA) (Net)			-5.17	-4.87	6.55	6.55	8.97	7.72	7.57	9.11	-4.87	
Difference			-9.61	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-9.91	

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Private Equity	308,965,728	9.68	0.78	-0.98	10.18	10.18	21.02	17.54	15.57	N/A	17.09	03/01/2014
Pomona Captial VIII LP	3,039,468	0.10	-3.22	-13.96	-20.66	-20.66	15.35	12.26	13.32	N/A	15.35	03/01/2014
Capital Dynamics Global Secondaries IV	24,179,493	0.76	-2.84	-8.31	-0.72	-0.72	8.97	10.73	9.92	N/A	10.13	12/01/2014
Capital Dynamics Global Secondaries VI	5,950,000	0.19	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	01/01/2023
Ardian AESF VI LP	35,780,379	1.12	-1.44	0.74	9.75	9.75	18.20	15.31	N/A	N/A	14.00	02/01/2017
Pomona Capital IX LP	24,148,062	0.76	-2.09	-8.50	-4.30	-4.30	22.06	N/A	N/A	N/A	31.39	02/01/2018
Pomona Capital X LP	15,934,122	0.50	-8.35	-21.25	N/A	N/A	N/A	N/A	N/A	N/A	N/A	01/01/2022
Argonaut Private Equity IV LP	23,715,456	0.74	13.72	32.26	65.76	65.76	23.35	N/A	N/A	N/A	16.88	08/01/2018
Argonaut Private Equity V LP	8,408,571	0.26	1.28	1.98	0.08	0.08	N/A	N/A	N/A	N/A	0.08	01/01/2022
Ardian ASF VIII LP	48,900,635	1.53	-3.36	-8.11	2.31	2.31	N/A	N/A	N/A	N/A	34.59	05/01/2020
Ardian Real Estate (CF)	5,868,630	0.18	-5.36	-10.49	-2.14	-2.14	17.27	14.18	12.98	N/A	14.14	04/01/2014
IFM Global Infrastructure Fund LP	111,845,000	3.51	4.34	4.22	11.85	11.85	N/A	N/A	N/A	N/A	N/A	12/01/2021
Riverside Micro Cap Fund VI LP	1,195,911	0.04	-9.97	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-9.97	10/01/2022

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Oklahoma State Pension Commission
Oklahoma Firefighters Pension & Retirement System
Asset Allocation & Performance - Gross of Fees

As of December 31, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
OFPRS Total Fund	3,190,505,920	100.00	4.58	0.66	-13.03	-13.03	5.46	6.57	8.34	8.77	8.13	07/01/1989
OFPRS Policy Index			5.87	1.01	-13.50	-13.50	4.93	6.24	8.00	8.52	N/A	
Difference			-1.29	-0.35	0.47	0.47	0.53	0.33	0.34	0.25	N/A	
OFPRS Actual Allocation Index			4.98	0.42	-12.83	-12.83	5.37	6.22	7.98	8.29	7.97	
Difference			-0.40	0.24	-0.20	-0.20	0.09	0.35	0.36	0.48	0.16	
Actuarial Discount Rate (7.5%)			1.82	3.68	7.50	7.50	7.50	7.50	7.50	7.50	7.50	
Difference			2.76	-3.02	-20.53	-20.53	-2.04	-0.93	0.84	1.27	0.63	
All Public Plans-Total Fund Median			5.66	1.08	-12.81	-12.81	3.99	5.18	6.97	7.18	7.97	
Rank			79	68	53	53	18	9	7	3	41	
Total Equity	1,766,643,327	55.37	7.78	2.94	-20.51	-20.51	5.72	7.55	10.17	10.71	8.98	07/01/1989
Wilshire 5000 Index			7.10	2.34	-19.04	-19.04	7.41	8.99	11.26	12.28	9.92	
Difference			0.68	0.60	-1.47	-1.47	-1.69	-1.44	-1.09	-1.57	-0.94	
US Equity	1,328,440,304	41.64	7.02	3.03	-20.49	-20.49	6.25	8.42	10.78	11.93	9.45	07/01/1989
Wilshire 5000 Index			7.10	2.34	-19.04	-19.04	7.41	8.99	11.26	12.28	9.92	
Difference			-0.08	0.69	-1.45	-1.45	-1.16	-0.57	-0.48	-0.35	-0.47	
IM U.S. Equity (SA+CF) Median			8.68	4.24	-16.59	-16.59	7.06	8.09	10.56	11.66	10.88	
Rank			70	63	69	69	62	45	45	45	96	
US Large Cap Equity	941,149,901	29.50	6.98	2.46	-19.82	-19.82	6.31	8.25	10.51	11.99	9.78	07/01/1989
Russell 1000 Index			7.24	2.30	-19.13	-19.13	7.35	9.13	11.26	12.37	10.06	
Difference			-0.26	0.16	-0.69	-0.69	-1.04	-0.88	-0.75	-0.38	-0.28	
IM U.S. Large Cap Equity (SA+CF) Median			8.14	2.93	-17.57	-17.57	7.42	9.07	11.10	12.36	10.48	
Rank			71	55	70	70	71	67	67	62	93	
US Large Cap Core Equity	442,834,660	13.88	7.37	2.44	-18.12	-18.12	7.41	8.81	11.01	12.35	9.42	11/01/1996
S&P 500 Index (Cap Wtd)			7.56	2.31	-18.11	-18.11	7.66	9.42	11.48	12.56	8.69	
Difference			-0.19	0.13	-0.01	-0.01	-0.25	-0.61	-0.47	-0.21	0.73	
IM U.S. Large Cap Core Equity (SA+CF) Median			8.08	3.12	-16.86	-16.86	7.47	9.08	11.27	12.54	9.28	
Rank			71	64	65	65	53	58	55	59	45	
Liquidity Pool - SSgA Equity Index (CF)	192,378,503	6.03	7.56	2.31	-18.11	-18.11	N/A	N/A	N/A	N/A	-0.45	04/01/2021
S&P 500 Index (Cap Wtd)			7.56	2.31	-18.11	-18.11	7.66	9.42	11.48	12.56	-0.42	
Difference			0.00	0.00	0.00	0.00	N/A	N/A	N/A	N/A	-0.03	
IM U.S. Large Cap Core Equity (SA+CF) Median			8.08	3.12	-16.86	-16.86	7.47	9.08	11.27	12.54	-0.39	
Rank			64	69	64	64	N/A	N/A	N/A	N/A	53	

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Oklahoma State Pension Commission
Oklahoma Firefighters Pension & Retirement System
Asset Allocation & Performance - Gross of Fees

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	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
Intech Enhanced Investment Tech (SA)	250,456,157	7.85	7.37	2.70	-17.98	-17.98	7.54	8.98	10.85	12.48	8.86	02/01/2002
S&P 500 Index (Cap Wtd)			7.56	2.31	-18.11	-18.11	7.66	9.42	11.48	12.56	8.13	
Difference			-0.19	0.39	0.13	0.13	-0.12	-0.44	-0.63	-0.08	0.73	
IM U.S. Large Cap Index Equity (SA+CF) Median			7.54	2.31	-18.53	-18.53	7.45	9.16	11.34	12.40	8.27	
Rank			53	21	21	21	48	65	81	48	2	
US Large Cap Value Equity	265,513,223	8.32	13.96	8.10	-5.96	-5.96	6.54	6.72	9.34	10.15	9.18	06/01/1990
Russell 1000 Val Index			12.42	6.11	-7.54	-7.54	5.96	6.67	9.12	10.29	9.55	
Difference			1.54	1.99	1.58	1.58	0.58	0.05	0.22	-0.14	-0.37	
IM U.S. Large Cap Value Equity (SA+CF) Median			12.75	6.53	-5.44	-5.44	8.06	8.11	10.46	11.33	10.65	
Rank			31	26	57	57	77	80	77	88	97	
Beutel Goodman American Equity (SA)	137,188,342	4.30	17.29	11.16	2.62	2.62	10.10	10.07	N/A	N/A	12.85	05/01/2016
Russell 1000 Val Index			12.42	6.11	-7.54	-7.54	5.96	6.67	9.12	10.29	8.99	
Difference			4.87	5.05	10.16	10.16	4.14	3.40	N/A	N/A	3.86	
IM U.S. Large Cap Value Equity (SA+CF) Median			12.75	6.53	-5.44	-5.44	8.06	8.11	10.46	11.33	10.51	
Rank			3	8	8	8	19	14	N/A	N/A	9	
Aristotle US Equity (SA)	128,324,882	4.02	10.61	5.02	-14.21	-14.21	N/A	N/A	N/A	N/A	9.04	09/01/2020
Russell 1000 Val Index			12.42	6.11	-7.54	-7.54	5.96	6.67	9.12	10.29	12.35	
Difference			-1.81	-1.09	-6.67	-6.67	N/A	N/A	N/A	N/A	-3.31	
IM U.S. Large Cap Value Equity (SA+CF) Median			12.75	6.53	-5.44	-5.44	8.06	8.11	10.46	11.33	14.04	
Rank			81	73	87	87	N/A	N/A	N/A	N/A	84	

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	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
US Large Cap Growth Equity	232,802,017	7.30	-0.70	-3.26	-35.97	-35.97	2.73	8.07	10.29	12.76	9.19	07/01/1989
Russell 1000 Grth Index			2.20	-1.48	-29.14	-29.14	7.79	10.96	12.95	14.10	10.12	
Difference			-2.90	-1.78	-6.83	-6.83	-5.06	-2.89	-2.66	-1.34	-0.93	
IM U.S. Large Cap Growth Equity (SA+CF) Median			3.91	-0.39	-29.57	-29.57	6.30	9.98	11.65	13.26	11.03	
Rank			90	86	89	89	88	84	84	66	100	
Fred Alger Capital Appreciation (SA)	232,802,017	7.30	-0.70	-3.26	-35.58	-35.58	3.09	8.29	10.44	12.86	13.33	08/01/2010
Russell 1000 Grth Index			2.20	-1.48	-29.14	-29.14	7.79	10.96	12.95	14.10	14.23	
Difference			-2.90	-1.78	-6.44	-6.44	-4.70	-2.67	-2.51	-1.24	-0.90	
IM U.S. Large Cap Growth Equity (SA+CF) Median			3.91	-0.39	-29.57	-29.57	6.30	9.98	11.65	13.26	13.50	
Rank			90	86	88	88	86	80	82	63	54	
US Small Cap Equity	387,290,403	12.14	7.59	4.92	-21.43	-21.43	6.17	8.79	11.33	11.96	9.61	07/01/1992
Russell 2000 Index			6.23	3.91	-20.44	-20.44	3.10	4.13	7.90	9.01	9.07	
Difference			1.36	1.01	-0.99	-0.99	3.07	4.66	3.43	2.95	0.54	
IM U.S. Small Cap Equity (SA+CF) Median			8.58	4.69	-16.45	-16.45	6.22	6.56	9.76	10.92	12.31	
Rank			60	50	69	69	51	21	26	27	96	
Liquidity Pool - SSgA Small Cap Completeness Index (CF)	52,165,443	1.64	4.85	2.37	-25.51	-25.51	N/A	N/A	N/A	N/A	-13.09	04/01/2021
Russell Sm Cap Compl Index			4.85	2.36	-25.49	-25.49	3.70	5.33	8.65	9.89	-13.09	
Difference			0.00	0.01	-0.02	-0.02	N/A	N/A	N/A	N/A	0.00	
IM U.S. Small Cap Equity (SA+CF) Median			8.58	4.69	-16.45	-16.45	6.22	6.56	9.76	10.92	-5.50	
Rank			83	82	80	80	N/A	N/A	N/A	N/A	84	
US Small Cap Value Equity	172,272,267	5.40	8.74	6.59	-11.96	-11.96	6.66	7.60	11.38	11.30	10.46	09/01/1992
Russell 2000 Val Index			8.42	3.42	-14.48	-14.48	4.70	4.13	8.23	8.48	10.01	
Difference			0.32	3.17	2.52	2.52	1.96	3.47	3.15	2.82	0.45	
IM U.S. Small Cap Value Equity (SA+CF) Median			11.05	5.98	-10.85	-10.85	7.53	5.74	9.59	10.43	12.78	
Rank			82	45	64	64	60	25	20	25	100	
Earnest Partner Small Cap Value Equity (SA)	85,673,529	2.69	10.62	9.25	-8.94	-8.94	11.47	9.53	13.09	12.75	9.47	09/01/2005
Russell 2000 Val Index			8.42	3.42	-14.48	-14.48	4.70	4.13	8.23	8.48	6.56	
Difference			2.20	5.83	5.54	5.54	6.77	5.40	4.86	4.27	2.91	
IM U.S. Small Cap Value Equity (SA+CF) Median			11.05	5.98	-10.85	-10.85	7.53	5.74	9.59	10.43	8.61	
Rank			56	22	36	36	12	7	8	4	30	
River Road Small Cap Value Equity (SA)	86,598,738	2.71	9.91	7.25	-5.62	-5.62	6.10	8.26	11.55	11.13	7.55	05/01/2007
Russell 2000 Val Index			8.42	3.42	-14.48	-14.48	4.70	4.13	8.23	8.48	5.64	
Difference			1.49	3.83	8.86	8.86	1.40	4.13	3.32	2.65	1.91	
IM U.S. Small Cap Value Equity (SA+CF) Median			11.05	5.98	-10.85	-10.85	7.53	5.74	9.59	10.43	7.86	
Rank			65	39	16	16	68	16	19	28	66	

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US Small Cap Growth Equity	162,852,692	5.10	4.90	1.62	-37.25	-37.25	0.11	6.90	9.08	11.11	7.48	07/01/1992
Russell 2000 Grth Index			4.13	4.38	-26.36	-26.36	0.65	3.51	7.09	9.20	7.65	
Difference			0.77	-2.76	-10.89	-10.89	-0.54	3.39	1.99	1.91	-0.17	
IM U.S. Small Cap Growth Equity (SA+CF) Median			4.52	3.36	-27.30	-27.30	5.50	8.73	11.29	12.24	12.31	
Rank			46	70	91	91	99	75	87	82	100	
Lord Abbett Small Cap Growth Equity (SA)	81,784,132	2.56	0.22	0.93	-34.91	-34.91	4.19	9.89	10.90	12.14	9.82	05/01/2011
Russell 2000 Grth Index			4.13	4.38	-26.36	-26.36	0.65	3.51	7.09	9.20	7.68	
Difference			-3.91	-3.45	-8.55	-8.55	3.54	6.38	3.81	2.94	2.14	
IM U.S. Small Cap Growth Equity (SA+CF) Median			4.52	3.36	-27.30	-27.30	5.50	8.73	11.29	12.24	10.50	
Rank			89	78	83	83	66	32	58	52	71	
Delaware SMID Focus Growth Equity (SA)	81,068,560	2.54	10.09	2.33	-38.30	-38.30	-3.21	4.43	7.53	10.14	8.91	05/01/2011
Russell 2500 Grth Index			4.72	4.59	-26.21	-26.21	2.88	5.97	8.98	10.62	9.09	
Difference			5.37	-2.26	-12.09	-12.09	-6.09	-1.54	-1.45	-0.48	-0.18	
IM U.S. SMID Cap Growth Equity (SA+CF) Median			4.90	3.16	-28.21	-28.21	6.41	9.49	11.46	12.03	10.45	
Rank			6	60	94	94	96	95	94	85	84	
Other Equity												
OFP Adams Street Co-Invest Fund V	2,445,485	0.08	-2.18	-2.18	N/A	N/A	N/A	N/A	N/A	N/A	-2.18	07/01/2022
OFP LGT Co-Invest Fund III	14,776,406	0.46	2.35	2.73	2.08	2.08	N/A	N/A	N/A	N/A	2.08	01/01/2022
OFP Schroders P/E Global DIR III	29,278,233	0.92	-7.19	-7.19	3.10	3.10	N/A	N/A	N/A	N/A	3.10	01/01/2022
International Equity	438,203,024	13.73	10.06	2.55	-20.65	-20.65	4.22	4.56	8.09	6.52	N/A	07/01/1989
MSCI ACW Ex US Index (USD) (Net)			14.28	2.96	-16.00	-16.00	0.07	0.88	4.80	3.80	N/A	
Difference			-4.22	-0.41	-4.65	-4.65	4.15	3.68	3.29	2.72	N/A	
IM International Equity (SA+CF) Median			15.51	4.72	-16.40	-16.40	1.42	1.95	5.51	5.82	7.47	
Rank			89	79	72	72	16	15	15	36	N/A	
International Developed Equity	280,165,190	8.78	9.49	3.98	-21.10	-21.10	6.70	7.08	9.75	8.70	6.34	04/01/1994
MSCI ACW Ex US Index (USD) (Net)			14.28	2.96	-16.00	-16.00	0.07	0.88	4.80	3.80	4.90	
Difference			-4.79	1.02	-5.10	-5.10	6.63	6.20	4.95	4.90	1.44	
IM International Equity Developed Markets (SA+CF) Median			15.71	4.86	-16.45	-16.45	1.37	1.91	5.45	5.87	6.94	
Rank			96	64	74	74	3	4	4	11	74	

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Oklahoma State Pension Commission
Oklahoma Firefighters Pension & Retirement System
Asset Allocation & Performance - Gross of Fees

As of December 31, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
Liquidity Pool - SSgA MSCI ACWI ex US (CF)	56,667,573	1.78	14.25	2.94	-15.77	-15.77	N/A	N/A	N/A	N/A	-7.14	04/01/2021
MSCI ACW Ex US Index (USD) (Net)			14.28	2.96	-16.00	-16.00	0.07	0.88	4.80	3.80	-7.34	
Difference			-0.03	-0.02	0.23	0.23	N/A	N/A	N/A	N/A	0.20	
IM All ACWI Ex US (SA+CF) Median			14.94	4.29	-16.84	-16.84	1.16	2.24	5.56	5.68	-6.92	
Rank			66	79	44	44	N/A	N/A	N/A	N/A	53	
Chautauqua Intl Growth Equity (CF)	145,731,807	4.57	4.77	3.77	-15.94	-15.94	8.38	5.59	8.74	8.18	8.58	09/01/2012
MSCI ACW Ex US Index (USD) (Net)			14.28	2.96	-16.00	-16.00	0.07	0.88	4.80	3.80	4.62	
Difference			-9.51	0.81	0.06	0.06	8.31	4.71	3.94	4.38	3.96	
IM All ACWI Ex US (SA+CF) Median			14.94	4.29	-16.84	-16.84	1.16	2.24	5.56	5.68	6.34	
Rank			100	62	45	45	1	6	7	6	7	
WCM Berkeley Street Intl Equity (SA)	134,403,772	4.21	12.63	4.76	-27.96	-27.96	4.92	8.18	10.47	10.37	10.78	09/01/2012
MSCI EAFE Index (USD) (Net)			17.34	6.36	-14.45	-14.45	0.87	1.54	4.53	4.67	5.46	
Difference			-4.71	-1.60	-13.51	-13.51	4.05	6.64	5.94	5.70	5.32	
IM EAFE Core (SA+CF) Median			17.13	5.99	-14.57	-14.57	1.70	2.29	5.09	5.68	6.42	
Rank			96	74	100	100	2	1	1	1	1	
Emerging Markets Equity	101,370,261	3.18	12.09	-2.07	-19.08	-19.08	-2.89	-2.55	3.37	0.66	1.67	09/01/2012
MSCI Emg Mkts Index (USD) (Net)			9.70	-2.99	-20.09	-20.09	-2.69	-1.40	5.17	1.44	2.50	
Difference			2.39	0.92	1.01	1.01	-0.20	-1.15	-1.80	-0.78	-0.83	
IM Emerging Markets Equity (SA+CF) Median			10.59	-1.03	-19.57	-19.57	-0.98	-0.12	5.86	2.82	3.91	
Rank			27	61	47	47	76	95	94	99	99	
RBC GAM Emerging Markets Equity (CF)	52,374,400	1.64	13.53	0.43	-13.99	-13.99	-1.44	N/A	N/A	N/A	1.19	02/01/2019
MSCI Emg Mkts Index (USD) (Net)			9.70	-2.99	-20.09	-20.09	-2.69	-1.40	5.17	1.44	0.08	
Difference			3.83	3.42	6.10	6.10	1.25	N/A	N/A	N/A	1.11	
IM Emerging Markets Equity (SA+CF) Median			10.59	-1.03	-19.57	-19.57	-0.98	-0.12	5.86	2.82	1.98	
Rank			14	36	26	26	57	N/A	N/A	N/A	64	
Wellington Emerging Markets (CF)	48,995,861	1.54	10.60	-4.62	-23.90	-23.90	-4.36	N/A	N/A	N/A	-0.51	02/01/2019
MSCI Emg Mkts Index (USD) (Net)			9.70	-2.99	-20.09	-20.09	-2.69	-1.40	5.17	1.44	0.08	
Difference			0.90	-1.63	-3.81	-3.81	-1.67	N/A	N/A	N/A	-0.59	
IM Emerging Markets Equity (SA+CF) Median			10.59	-1.03	-19.57	-19.57	-0.98	-0.12	5.86	2.82	1.98	
Rank			50	87	73	73	90	N/A	N/A	N/A	90	

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Oklahoma State Pension Commission
Oklahoma Firefighters Pension & Retirement System
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As of December 31, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
Fixed Income	457,049,749	14.33	4.19	-2.48	-13.89	-13.89	-3.16	-1.01	0.71	0.78	5.10	07/01/1989
Bloomberg US Agg Bond Index			1.87	-2.97	-13.01	-13.01	-2.71	0.02	0.89	1.06	5.17	
Difference			2.32	0.49	-0.88	-0.88	-0.45	-1.03	-0.18	-0.28	-0.07	
IM Global Fixed Income (SA+CF) Median			4.57	0.50	-12.67	-12.67	-1.44	1.09	2.63	1.97	N/A	
Rank			57	83	59	59	71	77	83	59	N/A	
Garcia Hamilton Core Fixed Income (SA)	99,763,743	3.13	1.81	-3.47	-11.09	-11.09	-2.10	0.35	1.26	N/A	1.52	08/01/2014
Bloomberg US Agg Bond Index			1.87	-2.97	-13.01	-13.01	-2.71	0.02	0.89	1.06	1.07	
Difference			-0.06	-0.50	1.92	1.92	0.61	0.33	0.37	N/A	0.45	
IM U.S. Broad Market Core Fixed Income (SA+CF) Median			1.82	-2.89	-12.95	-12.95	-2.20	0.45	1.39	1.50	1.52	
Rank			51	95	8	8	43	64	67	N/A	51	
Orleans Core Fixed Income (SA)	85,708,180	2.69	2.36	-2.20	-12.48	-12.48	-2.70	0.16	1.25	N/A	1.22	08/01/2014
Bloomberg US Agg Bond Index			1.87	-2.97	-13.01	-13.01	-2.71	0.02	0.89	1.06	1.07	
Difference			0.49	0.77	0.53	0.53	0.01	0.14	0.36	N/A	0.15	
IM U.S. Broad Market Core Fixed Income (SA+CF) Median			1.82	-2.89	-12.95	-12.95	-2.20	0.45	1.39	1.50	1.52	
Rank			8	9	27	27	89	79	68	N/A	79	
Liquidity Pool - SSgA Aggregate Bond (CF)	57,580,870	1.80	1.68	-3.13	-13.17	-13.17	N/A	N/A	N/A	N/A	-6.77	04/01/2021
Bloomberg US Agg Bond Index			1.87	-2.97	-13.01	-13.01	-2.71	0.02	0.89	1.06	-6.66	
Difference			-0.19	-0.16	-0.16	-0.16	N/A	N/A	N/A	N/A	-0.11	
IM U.S. Broad Market Core Fixed Income (SA+CF) Median			1.82	-2.89	-12.95	-12.95	-2.20	0.45	1.39	1.50	-6.51	
Rank			67	81	71	71	N/A	N/A	N/A	N/A	78	
Garrison Middle Market Funding (CF)	118,430	0.00	-29.40	-30.76	-37.43	-37.43	-1.57	-3.41	-2.20	N/A	0.19	08/01/2013
Bloomberg US Agg Bond Index			1.87	-2.97	-13.01	-13.01	-2.71	0.02	0.89	1.06	1.37	
Difference			-31.27	-27.79	-24.42	-24.42	1.14	-3.43	-3.09	N/A	-1.18	
IM U.S. Broad Market Core+ Fixed Income (SA+CF) Median			2.14	-2.26	-12.95	-12.95	-1.73	0.84	1.93	1.92	2.21	
Rank			100	100	100	100	39	100	100	N/A	100	
Brandywine Global Fixed Income (CF)	210,375,494	6.59	7.02	-2.01	-15.80	-15.80	-3.54	-1.30	1.63	0.64	3.17	10/01/2009
FTSE Wrld Gov't Bond Index			3.82	-4.08	-18.26	-18.26	-5.75	-2.54	-0.58	-1.22	-0.10	
Difference			3.20	2.07	2.46	2.46	2.21	1.24	2.21	1.86	3.27	
IM Global Fixed Income (SA+CF) Median			4.57	0.50	-12.67	-12.67	-1.44	1.09	2.63	1.97	2.58	
Rank			14	78	75	75	77	85	71	62	44	

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Other Fixed Income												
Comvest Credit Partners VI LP	8,000,000	0.25	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	01/01/2023
Bloomberg US Corp Hi Yld Index			4.17	3.50	-11.19	-11.19	0.05	2.31	5.05	4.03	N/A	
Difference			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
PIMCO Corporate Opp II (CF)	12,918,212	0.40	8.39	5.94	20.73	20.73	14.21	11.52	N/A	N/A	12.50	01/01/2017
Bloomberg US Corp Hi Yld Index			4.17	3.50	-11.19	-11.19	0.05	2.31	5.05	4.03	3.16	
Difference			4.22	2.44	31.92	31.92	14.16	9.21	N/A	N/A	9.34	
PIMCO Bravo III (CF)	48,258,697	1.51	0.07	-1.43	7.70	7.70	9.30	10.70	N/A	N/A	10.52	12/01/2017
Bloomberg US Corp Hi Yld Index			4.17	3.50	-11.19	-11.19	0.05	2.31	5.05	4.03	2.33	
Difference			-4.10	-4.93	18.89	18.89	9.25	8.39	N/A	N/A	8.19	
PIMCO Private Income (CF)	96,970,157	3.04	-0.33	-0.84	1.75	1.75	8.43	N/A	N/A	N/A	7.71	05/01/2019
Bloomberg US Corp Hi Yld Index			4.17	3.50	-11.19	-11.19	0.05	2.31	5.05	4.03	1.40	
Difference			-4.50	-4.34	12.94	12.94	8.38	N/A	N/A	N/A	6.31	
PIMCO Bravo IV (CF)	44,535,115	1.40	-0.03	-3.57	0.24	0.24	N/A	N/A	N/A	N/A	-0.99	10/01/2021
Bloomberg US Corp Hi Yld Index			4.17	3.50	-11.19	-11.19	0.05	2.31	5.05	4.03	-8.54	
Difference			-4.20	-7.07	11.43	11.43	N/A	N/A	N/A	N/A	7.55	
Hedge Fund												
HFRI FOF: Cnsvt Index	72,361	0.00	0.06	26.16	0.36	0.36	-10.88	-6.57	-3.21	-1.44	-3.27	06/01/2015
HFRI FOF: Cnsvt Index			1.49	1.70	0.12	0.12	4.68	3.87	3.62	3.64	3.01	
Difference			-1.43	24.46	0.24	0.24	-15.56	-10.44	-6.83	-5.08	-6.28	
Glouston Capital Partners Permal (CF)	72,361	0.00	0.06	26.16	0.36	0.36	-10.88	-6.30	-3.51	N/A	-3.53	06/01/2015
HFRI FOF: Cnsvt Index			1.49	1.70	0.12	0.12	4.68	3.87	3.62	3.64	3.01	
Difference			-1.43	24.46	0.24	0.24	-15.56	-10.17	-7.13	N/A	-6.54	
Core Real Estate												
NCREIF ODCE Index (AWA) (Gross)	394,712,644	12.37	-2.55	-3.06	7.01	7.01	7.79	7.48	7.83	9.46	7.09	05/01/2005
NCREIF ODCE Index (AWA) (Gross)			-4.97	-4.47	7.47	7.47	9.93	8.68	8.54	10.10	7.98	
Difference			2.42	1.41	-0.46	-0.46	-2.14	-1.20	-0.71	-0.64	-0.89	
JP Morgan Strategic Property (CF)	121,723,846	3.82	-4.97	-6.18	4.64	4.64	8.63	7.65	7.69	9.57	8.07	05/01/2005
NCREIF ODCE Index (AWA) (Gross)			-4.97	-4.47	7.47	7.47	9.93	8.68	8.54	10.10	7.98	
Difference			0.00	-1.71	-2.83	-2.83	-1.30	-1.03	-0.85	-0.53	0.09	
Portfolio Advisors Real Estate III LP	2,192,601	0.07	-0.61	1.77	10.91	10.91	-3.91	-4.31	-1.07	4.07	-1.35	08/01/2008
NCREIF ODCE Index (AWA) (Gross)			-4.97	-4.47	7.47	7.47	9.93	8.68	8.54	10.10	6.37	
Difference			4.36	6.24	3.44	3.44	-13.84	-12.99	-9.61	-6.03	-7.72	

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Portfolio Advisors Real Estate IV LP	825,994	0.03	-8.66	-9.39	8.22	8.22	1.01	3.86	6.10	8.89	6.76	08/01/2011
NCREIF ODCE Index (AWA) (Gross)			-4.97	-4.47	7.47	7.47	9.93	8.68	8.54	10.10	10.40	
Difference			-3.69	-4.92	0.75	0.75	-8.92	-4.82	-2.44	-1.21	-3.64	
Angelo Gordon Net Lease III LP	22,666,291	0.71	1.51	3.19	9.25	9.25	7.56	8.03	7.34	N/A	5.58	04/01/2014
NCREIF ODCE Index (AWA) (Gross)			-4.97	-4.47	7.47	7.47	9.93	8.68	8.54	10.10	9.65	
Difference			6.48	7.66	1.78	1.78	-2.37	-0.65	-1.20	N/A	-4.07	
Angelo Gordon Realty Value Fund XI LP	3,500,000	0.11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.00	11/01/2022
NCREIF ODCE Index (AWA) (Gross)			-4.97	-4.47	7.47	7.47	9.93	8.68	8.54	10.10	-4.97	
Difference			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.97	
Mesirow Real Estate (CF)	4,525,945	0.14	0.45	16.89	25.49	25.49	48.88	32.38	25.68	N/A	20.19	05/01/2014
NCREIF ODCE Index (AWA) (Gross)			-4.97	-4.47	7.47	7.47	9.93	8.68	8.54	10.10	9.75	
Difference			5.42	21.36	18.02	18.02	38.95	23.70	17.14	N/A	10.44	
Mesirow Real Estate Value IV LP	20,793,940	0.65	0.68	1.44	12.01	12.01	N/A	N/A	N/A	N/A	N/A	06/01/2021
NCREIF ODCE Index (AWA) (Gross)			-4.97	-4.47	7.47	7.47	9.93	8.68	8.54	10.10	17.21	
Difference			5.65	5.91	4.54	4.54	N/A	N/A	N/A	N/A	N/A	
Dune Real Estate III LP	16,367,690	0.51	0.64	0.32	3.80	3.80	-1.93	1.57	4.78	N/A	6.06	06/01/2014
NCREIF ODCE Index (AWA) (Gross)			-4.97	-4.47	7.47	7.47	9.93	8.68	8.54	10.10	9.85	
Difference			5.61	4.79	-3.67	-3.67	-11.86	-7.11	-3.76	N/A	-3.79	
Portfolio Advisors Real Estate LP	3,618,449	0.11	-1.30	-1.14	4.83	4.83	-5.95	-2.87	-0.08	N/A	2.65	07/01/2014
NCREIF ODCE Index (AWA) (Gross)			-4.97	-4.47	7.47	7.47	9.93	8.68	8.54	10.10	9.58	
Difference			3.67	3.33	-2.64	-2.64	-15.88	-11.55	-8.62	N/A	-6.93	
Landmark Real Estate VII LP	4,230,910	0.13	-5.14	-4.56	-1.74	-1.74	-2.18	-0.84	3.54	N/A	8.57	10/01/2014
NCREIF ODCE Index (AWA) (Gross)			-4.97	-4.47	7.47	7.47	9.93	8.68	8.54	10.10	9.46	
Difference			-0.17	-0.09	-9.21	-9.21	-12.11	-9.52	-5.00	N/A	-0.89	
JP Morgan Special Situation Property (CF)	70,978,589	2.22	-6.90	-10.07	-0.66	-0.66	8.57	8.74	9.11	N/A	10.83	12/01/2014
NCREIF ODCE Index (AWA) (Gross)			-4.97	-4.47	7.47	7.47	9.93	8.68	8.54	10.10	9.66	
Difference			-1.93	-5.60	-8.13	-8.13	-1.36	0.06	0.57	N/A	1.17	
Hall Capital III LP	7,435,839	0.23	0.09	0.22	0.27	0.27	4.87	5.45	6.22	N/A	2.59	12/01/2014
NCREIF ODCE Index (AWA) (Gross)			-4.97	-4.47	7.47	7.47	9.93	8.68	8.54	10.10	9.66	
Difference			5.06	4.69	-7.20	-7.20	-5.06	-3.23	-2.32	N/A	-7.07	
Portfolio Advisors Real Estate VI LP	17,469,918	0.55	-1.23	1.88	20.19	20.19	11.21	12.76	N/A	N/A	11.44	02/01/2017
NCREIF ODCE Index (AWA) (Gross)			-4.97	-4.47	7.47	7.47	9.93	8.68	8.54	10.10	8.63	
Difference			3.74	6.35	12.72	12.72	1.28	4.08	N/A	N/A	2.81	

During 10/2022, AG Realty Value Fund XI was funded. During 12/2022, Capital Dynamics Global Second VI and Comvest Credit Partners VI were funded. Performance shown is gross of fees. Performance is annualized for periods greater than one year. Manager inception dates shown represent the first full month following initial funding. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
Oklahoma Firefighters Pension & Retirement System
Asset Allocation & Performance - Gross of Fees

As of December 31, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
Dune Real Estate IV LP	26,272,680	0.82	7.39	11.33	25.61	25.61	1.80	N/A	N/A	N/A	-0.73	09/01/2019
NCREIF ODCE Index (AWA) (Gross)			-4.97	-4.47	7.47	7.47	9.93	8.68	8.54	10.10	9.81	
Difference			12.36	15.80	18.14	18.14	-8.13	N/A	N/A	N/A	-10.54	
Hall Capital Real Estate LP	10,062,659	0.32	0.84	2.27	16.41	16.41	13.67	N/A	N/A	N/A	10.45	10/01/2018
NCREIF ODCE Index (AWA) (Gross)			-4.97	-4.47	7.47	7.47	9.93	8.68	8.54	10.10	8.67	
Difference			5.81	6.74	8.94	8.94	3.74	N/A	N/A	N/A	1.78	
Terracap Partners V LP	55,603,802	1.74	1.10	0.35	11.84	11.84	N/A	N/A	N/A	N/A	N/A	05/01/2021
NCREIF ODCE Index (AWA) (Gross)			-4.97	-4.47	7.47	7.47	9.93	8.68	8.54	10.10	16.28	
Difference			6.07	4.82	4.37	4.37	N/A	N/A	N/A	N/A	N/A	
OFP Centerbridge Real Estate II	6,443,489	0.20	-14.78	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-14.78	08/01/2022
NCREIF ODCE Index (AWA) (Gross)			-4.97	-4.47	7.47	7.47	9.93	8.68	8.54	10.10	-4.47	
Difference			-9.81	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-10.31	

During 10/2022, AG Realty Value Fund XI was funded. During 12/2022, Capital Dynamics Global Second VI and Comvest Credit Partners VI were funded. Performance shown is gross of fees. Performance is annualized for periods greater than one year. Manager inception dates shown represent the first full month following initial funding. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
Oklahoma Firefighters Pension & Retirement System
Asset Allocation & Performance - Gross of Fees

As of December 31, 2022

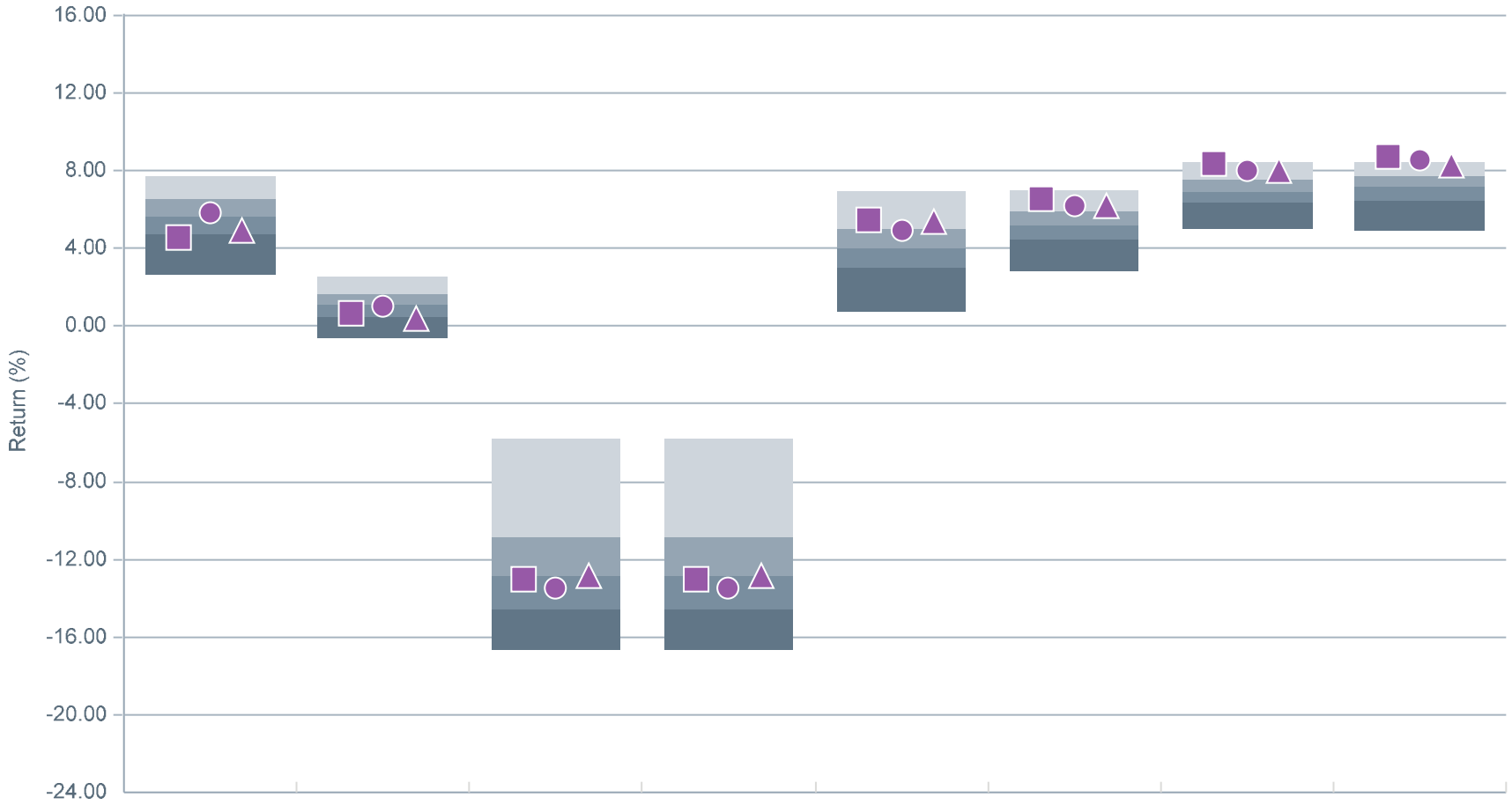
	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
Private Equity	308,965,728	9.68	0.78	-0.98	10.18	10.18	21.02	17.54	15.57	N/A	17.27	04/01/2014
Pomona Captial VIII LP	3,039,468	0.10	-3.22	-13.96	-20.66	-20.66	15.35	12.26	13.32	N/A	15.50	04/01/2014
Capital Dynamics Global Secondaries IV	24,179,493	0.76	-2.84	-8.31	-0.72	-0.72	8.97	10.73	9.92	N/A	10.24	01/01/2015
Capital Dynamics Global Secondaries VI	5,950,000	0.19	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	01/01/2023
Ardian AESF VI LP	35,780,379	1.12	-1.44	0.74	9.75	9.75	18.20	15.31	N/A	N/A	14.44	04/01/2017
Pomona Capital IX LP	24,148,062	0.76	-2.09	-8.50	-4.30	-4.30	22.06	N/A	N/A	N/A	32.01	03/01/2018
Pomona Capital X LP	15,934,122	0.50	-8.35	-21.25	N/A	N/A	N/A	N/A	N/A	N/A	N/A	01/01/2022
Argonaut Private Equity IV LP	23,715,456	0.74	13.72	32.26	65.76	65.76	23.35	N/A	N/A	N/A	17.24	09/01/2018
Argonaut Private Equity V LP	8,408,571	0.26	1.28	1.98	0.08	0.08	N/A	N/A	N/A	N/A	0.08	01/01/2022
Ardian ASF VIII LP	48,900,635	1.53	-3.36	-8.11	2.31	2.31	N/A	N/A	N/A	N/A	34.59	05/01/2020
Ardian Real Estate (CF)	5,868,630	0.18	-5.36	-10.49	-2.14	-2.14	17.27	14.18	12.98	N/A	14.29	05/01/2014
IFM Global Infrastructure Fund LP	111,845,000	3.51	4.34	4.22	11.85	11.85	N/A	N/A	N/A	N/A	N/A	12/01/2021
Riverside Micro Cap Fund VI LP	1,195,911	0.04	-9.97	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-9.97	10/01/2022

During 10/2022, AG Realty Value Fund XI was funded. During 12/2022, Capital Dynamics Global Second VI and Comvest Credit Partners VI were funded. Performance shown is gross of fees. Performance is annualized for periods greater than one year. Manager inception dates shown represent the first full month following initial funding. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
 Oklahoma Firefighters Pension & Retirement System vs. All Public Plans-Total Fund
 Plan Sponsor Peer Group Analysis

As of December 31, 2022



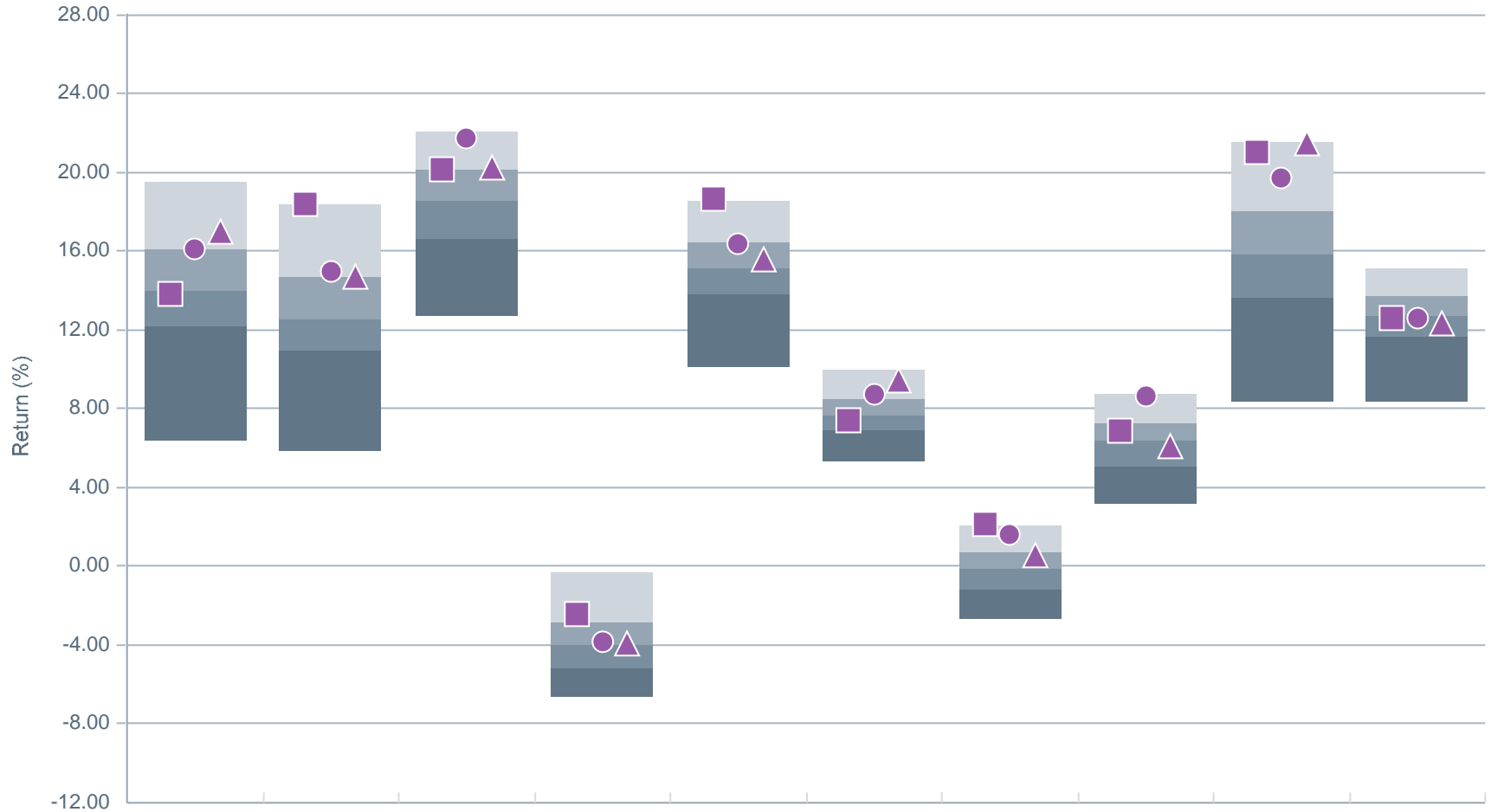
	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years
■ OFPRS Total Fund	4.58 (79)	0.66 (68)	-13.03 (53)	-13.03 (53)	5.46 (18)	6.57 (9)	8.34 (7)	8.77 (3)
● OFPRS Policy Index	5.87 (44)	1.01 (53)	-13.50 (59)	-13.50 (59)	4.93 (28)	6.24 (16)	8.00 (13)	8.52 (5)
▲ OFPRS Allocation Index	4.98 (72)	0.42 (80)	-12.83 (51)	-12.83 (51)	5.37 (20)	6.22 (17)	7.98 (13)	8.29 (9)
5th Percentile	7.73	2.59	-5.72	-5.72	6.93	7.03	8.45	8.48
1st Quartile	6.58	1.63	-10.82	-10.82	5.03	5.94	7.60	7.72
Median	5.66	1.08	-12.81	-12.81	3.99	5.18	6.97	7.18
3rd Quartile	4.79	0.52	-14.55	-14.55	3.03	4.47	6.38	6.45
95th Percentile	2.64	-0.63	-16.67	-16.67	0.78	2.88	5.06	4.90

Performance shown is gross of fees. Parentheses contain percentile ranks. Please see the Addendum for custom index definitions and additional comments.
 Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
 Oklahoma Firefighters Pension & Retirement System vs. All Public Plans-Total Fund
 Plan Sponsor Peer Group Analysis

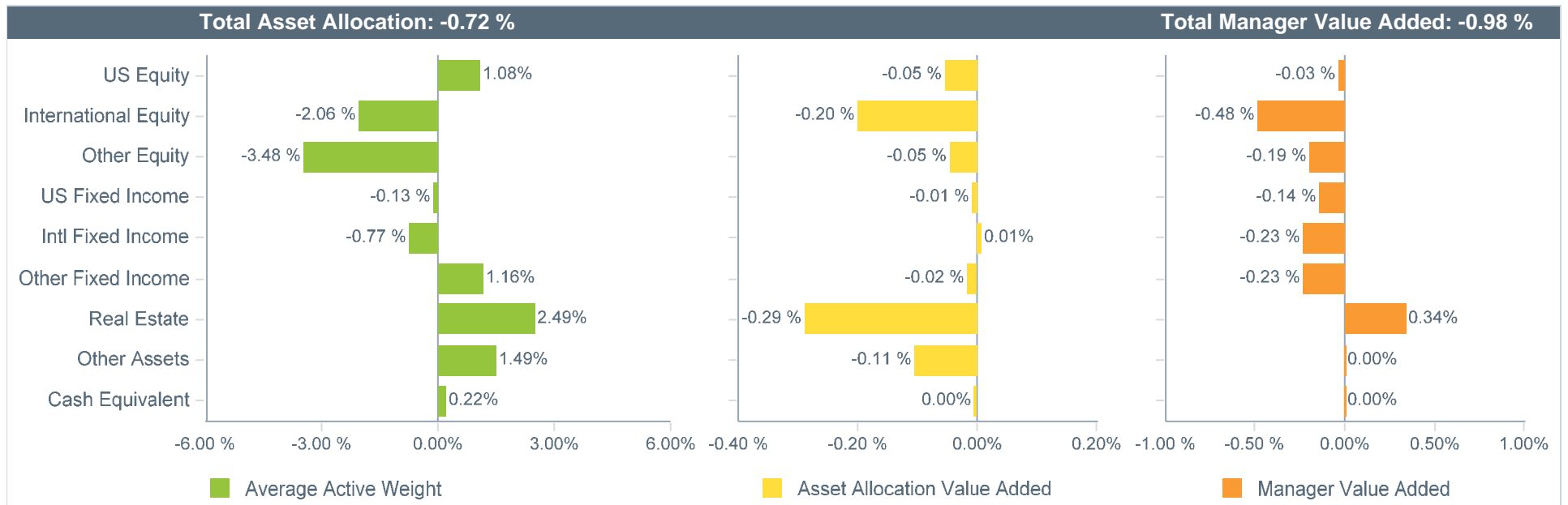
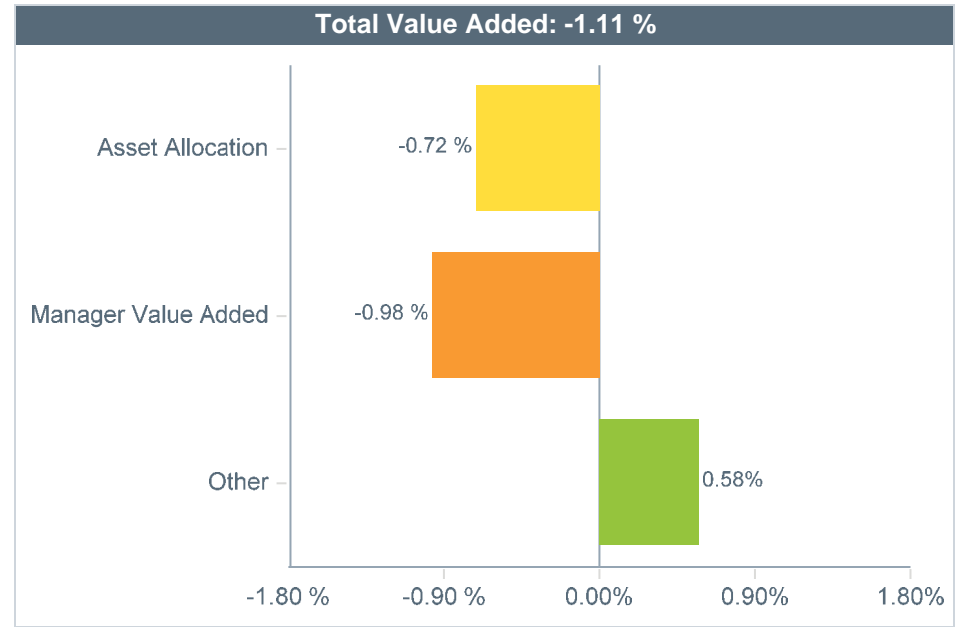
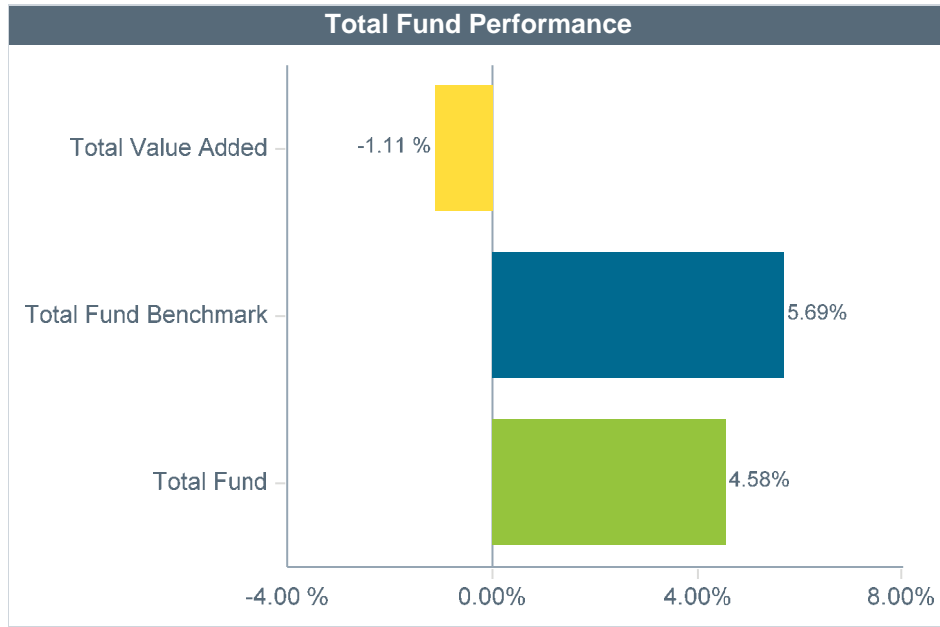
As of December 31, 2022



	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012
■ OFPRS Total Fund	13.87 (53)	18.44 (5)	20.15 (27)	-2.46 (19)	18.67 (5)	7.42 (59)	2.12 (5)	6.91 (36)	21.10 (6)	12.57 (55)
● OFPRS Policy Index	16.12 (25)	15.02 (22)	21.76 (8)	-3.80 (46)	16.41 (26)	8.76 (20)	1.60 (9)	8.64 (6)	19.76 (13)	12.63 (53)
▲ OFPRS Allocation Index	16.99 (18)	14.72 (25)	20.30 (24)	-3.93 (48)	15.64 (40)	9.45 (10)	0.56 (30)	6.12 (56)	21.48 (6)	12.32 (62)
5th Percentile	19.53	18.43	22.14	-0.28	18.60	9.98	2.09	8.76	21.62	15.18
1st Quartile	16.09	14.70	20.20	-2.88	16.45	8.51	0.72	7.28	18.08	13.79
Median	14.01	12.54	18.57	-4.02	15.16	7.69	-0.12	6.37	15.91	12.71
3rd Quartile	12.21	10.93	16.65	-5.11	13.88	6.93	-1.17	5.09	13.66	11.63
95th Percentile	6.37	5.89	12.67	-6.64	10.14	5.29	-2.64	3.19	8.42	8.41

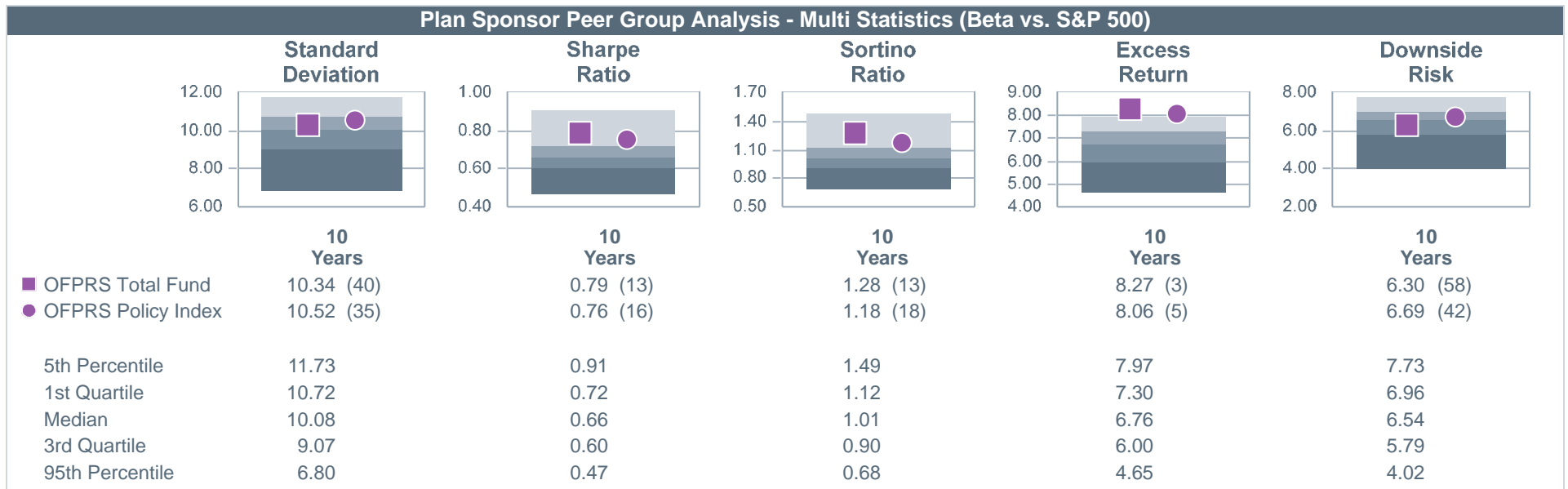
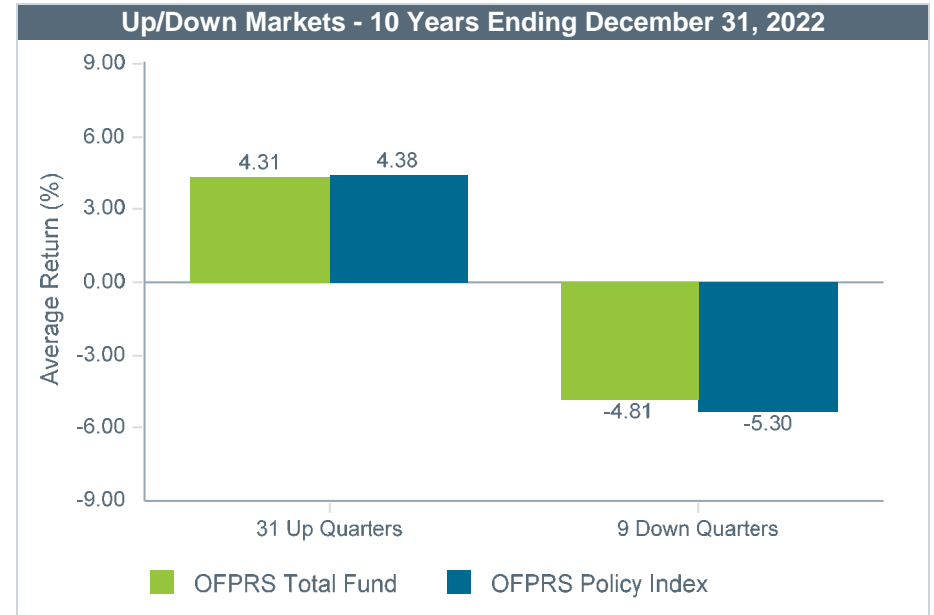
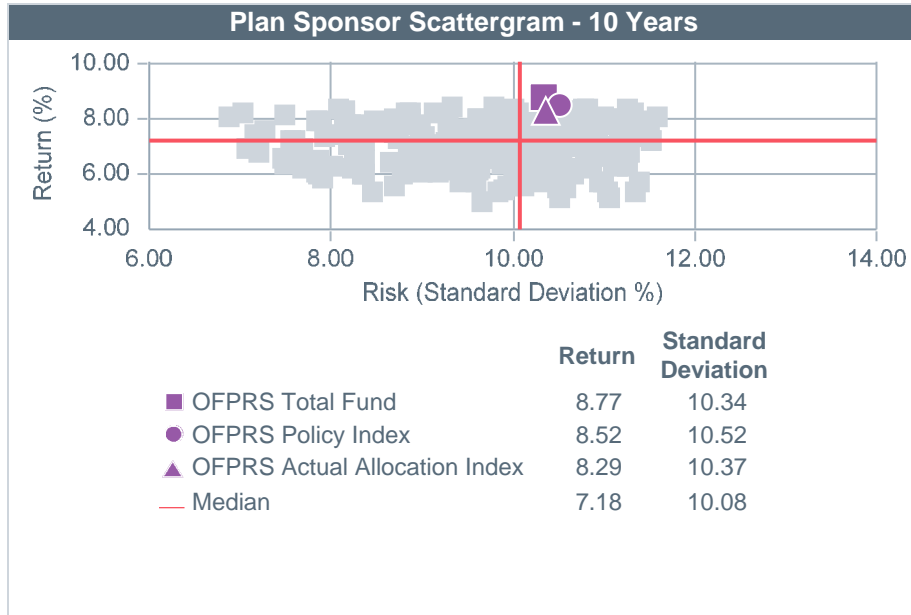
Performance shown is gross of fees. Parentheses contain percentile ranks. Please see the Addendum for custom index definitions and additional comments.



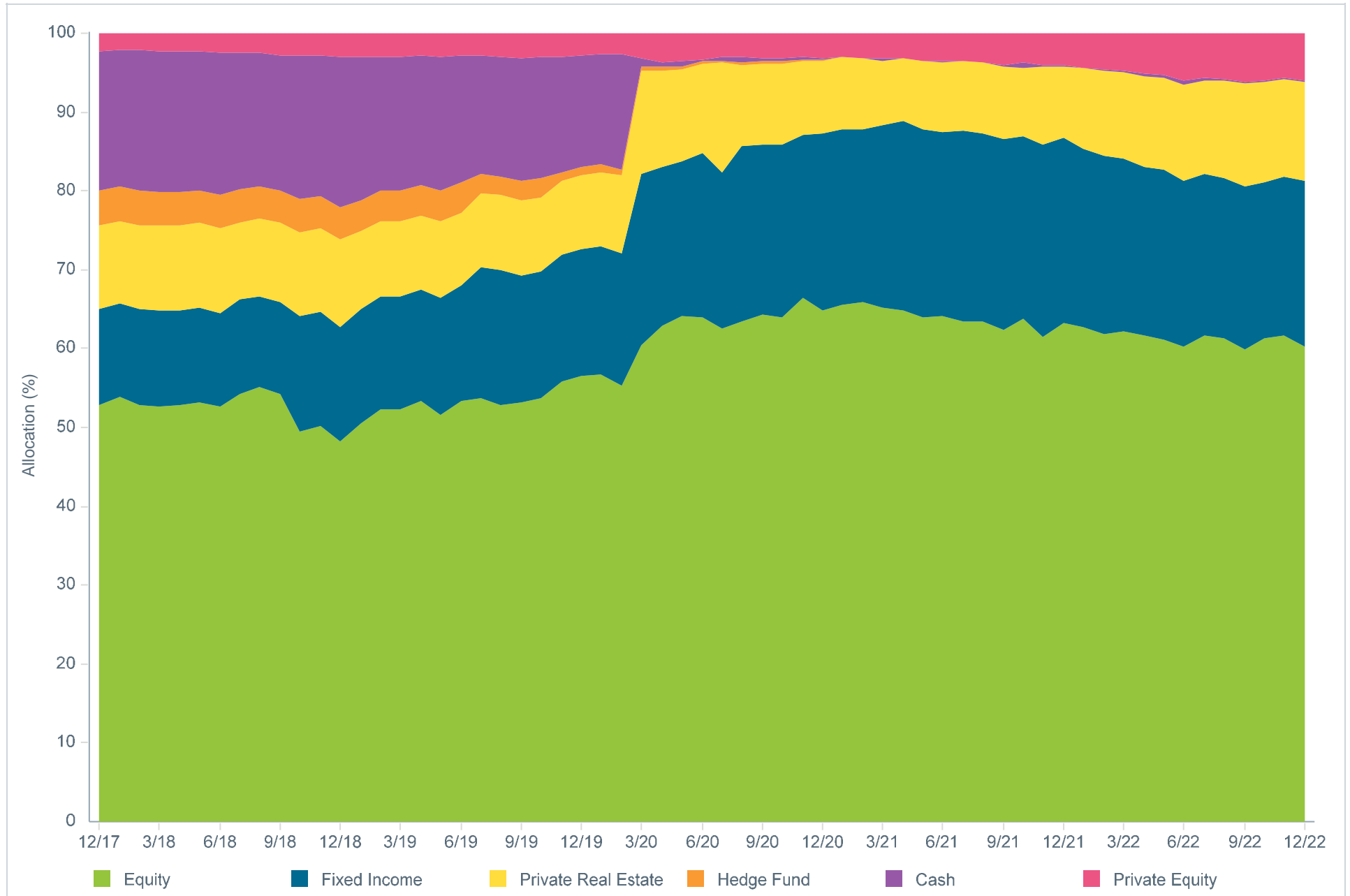


Performance shown is gross of fees. Calculation is based on monthly periodicity. See Glossary for additional information regarding the Total Fund Attribution calculation. Allocation to Other Equity includes opportunistic equity; Other Fixed Income includes non-core Fixed Income; and Other Assets include Hedge Funds and Private Equity.





Performance shown is gross of fees. Calculation is based on quarterly periodicity. Parentheses contain percentile ranks. Please see the Addendum for custom index definitions and additional comments.

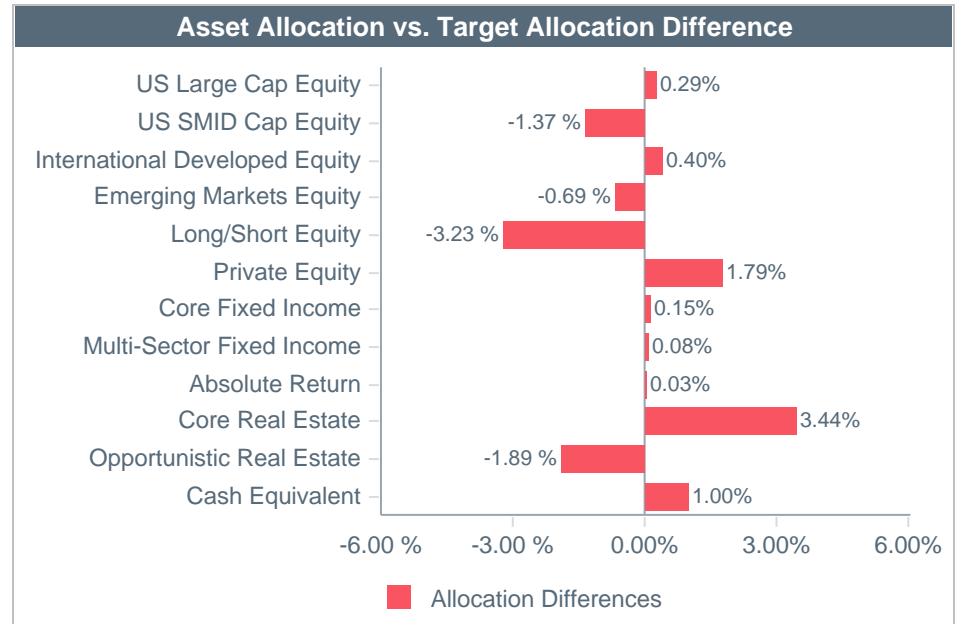


Oklahoma Police Pension & Retirement System (OPPRS)



	Performance (%)												
	Trailing							Calendar Year					
	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2021	2020	2019	2018	2017
OPPRS Total Fund (Net)	2.86	-1.03	-10.39	-10.39	5.64	5.70	6.89	6.87	17.28	12.17	15.22	-2.85	12.91
OPPRS Policy Index	6.06	0.62	-13.27	-13.27	3.89	4.81	6.59	6.28	14.76	12.66	19.13	-5.34	15.45
Difference	-3.20	-1.65	2.88	2.88	1.75	0.89	0.30	0.59	2.52	-0.49	-3.91	2.49	-2.54
OPPRS Actual Allocation Index	5.55	0.98	-12.42	-12.42	4.44	4.76	6.28	6.28	13.63	14.47	15.02	-3.70	13.78
Difference	-2.69	-2.01	2.03	2.03	1.20	0.94	0.61	0.59	3.65	-2.30	0.20	0.85	-0.87
Actuarial Discount Rate (7.5%)	1.82	3.68	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50
Difference	1.04	-4.71	-17.89	-17.89	-1.86	-1.80	-0.61	-0.63	9.78	4.67	7.72	-10.35	5.41
OPPRS Total Fund (Gross)	2.94	-0.86	-9.99	-9.99	6.04	6.11	7.32	7.31	17.71	12.54	15.68	-2.46	13.40
OPPRS Policy Index	6.06	0.62	-13.27	-13.27	3.89	4.81	6.59	6.28	14.76	12.66	19.13	-5.34	15.45
Difference	-3.12	-1.48	3.28	3.28	2.15	1.30	0.73	1.03	2.95	-0.12	-3.45	2.88	-2.05
OPPRS Actual Allocation Index	5.55	0.98	-12.42	-12.42	4.44	4.76	6.28	6.28	13.63	14.47	15.02	-3.70	13.78
Difference	-2.61	-1.84	2.43	2.43	1.60	1.35	1.04	1.03	4.08	-1.93	0.66	1.24	-0.38
All Public Plans-Total Fund Median	5.66	1.08	-12.81	-12.81	3.99	5.18	6.97	7.18	14.01	12.54	18.57	-4.02	15.16
Rank	95	97	20	20	11	20	36	44	12	50	85	19	83

Asset Allocation vs. Target Allocation			
	Asset Allocation (\$)	Asset Allocation (%)	Target Allocation (%)
OPPRS (Police)	2,939,579,441	100.00	100.00
US Large Cap Equity	449,527,787	15.29	15.00
US SMID Cap Equity	253,720,596	8.63	10.00
International Developed Equity	305,576,980	10.40	10.00
Emerging Markets Equity	126,675,307	4.31	5.00
Long/Short Equity	198,897,585	6.77	10.00
Private Equity	493,608,621	16.79	15.00
Core Fixed Income	224,941,854	7.65	7.50
Multi-Sector Fixed Income	222,710,856	7.58	7.50
Absolute Return	147,898,411	5.03	5.00
Core Real Estate	395,187,057	13.44	10.00
Opportunistic Real Estate	91,493,887	3.11	5.00
Cash Equivalent	29,340,501	1.00	0.00



Parentheses contain percentile ranks. Allocations shown may not sum up to 100% exactly due to rounding. Please see the Addendum for custom index definitions and additional Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
Oklahoma Police Pension & Retirement System
Asset Allocation & Performance - Net of Fees

As of December 31, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
OPPRS Total Fund	2,939,579,441	100.00	2.86	-1.03	-10.39	-10.39	5.64	5.70	6.89	6.87	6.25	07/01/2005
OPPRS Policy Index			6.06	0.62	-13.27	-13.27	3.89	4.81	6.59	6.28	5.87	
Difference			-3.20	-1.65	2.88	2.88	1.75	0.89	0.30	0.59	0.38	
OPPRS Actual Allocation Index			5.55	0.98	-12.42	-12.42	4.44	4.76	6.28	6.28	5.98	
Difference			-2.69	-2.01	2.03	2.03	1.20	0.94	0.61	0.59	0.27	
Actuarial Discount Rate (7.5%)			1.82	3.68	7.50	7.50	7.50	7.50	7.50	7.50	7.50	
Difference			1.04	-4.71	-17.89	-17.89	-1.86	-1.80	-0.61	-0.63	-1.25	
Total Equity	1,828,006,875	62.19	4.55	-0.64	-15.22	-15.22	7.46	7.48	9.05	9.10	7.35	07/01/2005
MSCI ACW Index (USD) (Gross)			9.88	2.51	-17.96	-17.96	4.49	5.75	8.66	8.54	7.14	
Difference			-5.33	-3.15	2.74	2.74	2.97	1.73	0.39	0.56	0.21	
US Equity												
Northern Trust Russell 1000 Index (SA)	449,527,787	15.29	7.24	2.29	-19.11	-19.11	7.34	9.13	11.26	12.37	N/A	07/01/1998
Russell 1000 Index			7.24	2.30	-19.13	-19.13	7.35	9.13	11.26	12.37	7.24	
Difference			0.00	-0.01	0.02	0.02	-0.01	0.00	0.00	0.00	N/A	
Boston Partners SMID Value Equity (SA)	137,428,219	4.68	10.00	3.09	-9.68	-9.68	5.97	4.76	8.57	9.20	N/A	06/01/1997
Russell 2500 Val Index			9.21	4.29	-13.08	-13.08	5.22	4.75	8.26	8.93	8.94	
Difference			0.79	-1.20	3.40	3.40	0.75	0.01	0.31	0.27	N/A	
Silvercrest Small Cap Growth Equity (SA)	116,292,377	3.96	7.58	9.40	-25.71	-25.71	10.40	11.46	13.41	N/A	7.15	01/01/2014
Russell 2000 Grth Index			4.13	4.38	-26.36	-26.36	0.65	3.51	7.09	9.20	5.95	
Difference			3.45	5.02	0.65	0.65	9.75	7.95	6.32	N/A	1.20	
International Equity												
Mondrian International Value Equity (SA)	146,909,747	5.00	16.74	0.07	-10.90	-10.90	-1.63	0.03	3.45	3.97	N/A	04/01/2004
MSCI EAFE Val Index (USD) (Gross)			19.73	7.61	-4.95	-4.95	1.26	0.79	4.30	4.10	4.66	
Difference			-2.99	-7.54	-5.95	-5.95	-2.89	-0.76	-0.85	-0.13	N/A	
Barings Focused EAFE Plus Equity (SA)	158,667,233	5.40	16.90	5.21	-16.16	-16.16	-0.46	0.74	4.27	4.20	3.77	02/01/2012
MSCI ACW Ex US Index (USD) (Gross)			14.37	3.16	-15.57	-15.57	0.53	1.36	5.30	4.28	4.82	
Difference			2.53	2.05	-0.59	-0.59	-0.99	-0.62	-1.03	-0.08	-1.05	

Performance shown is net of fees. Performance is annualized for periods greater than one year. Manager inception dates shown represent the first full month following initial funding. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01. Total Equity includes Public Equity, Private Equity, and Long/Short Equity.



Oklahoma State Pension Commission
Oklahoma Police Pension & Retirement System
Asset Allocation & Performance - Net of Fees

As of December 31, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
Axiom Emerging Markets Equity (SA)	81,747,697	2.78	6.03	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-6.05	08/01/2022
MSCI Emg Mkts Index (USD) (Gross)			9.79	-2.74	-19.74	-19.74	-2.34	-1.03	5.56	1.81	-2.58	
Difference			-3.76	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-3.47	
Wasatch EM Small Cap (SA)	44,927,610	1.53	3.91	-1.02	-39.54	-39.54	3.15	3.02	6.08	3.19	4.14	08/01/2012
MSCI Emg Mkts Sm Cap Index (USD) (Gross)			8.33	2.89	-17.54	-17.54	5.60	1.49	5.78	3.59	4.77	
Difference			-4.42	-3.91	-22.00	-22.00	-2.45	1.53	0.30	-0.40	-0.63	
Fixed Income	595,551,122	20.26	2.70	-0.68	-8.90	-8.90	-0.54	1.04	2.02	1.99	N/A	07/01/2005
Bloomberg US Agg Bond Index			1.87	-2.97	-13.01	-13.01	-2.71	0.02	0.89	1.06	2.92	
Difference			0.83	2.29	4.11	4.11	2.17	1.02	1.13	0.93	N/A	
Agincourt Core Fixed Income (SA)	224,941,854	7.65	2.14	-2.67	-12.76	-12.76	-2.34	0.34	1.28	1.35	N/A	07/01/1998
Bloomberg US Agg Bond Index			1.87	-2.97	-13.01	-13.01	-2.71	0.02	0.89	1.06	3.89	
Difference			0.27	0.30	0.25	0.25	0.37	0.32	0.39	0.29	N/A	
Loomis Sayles Global World Bond (SA)	70,911,870	2.41	4.91	-3.07	-18.67	-18.67	-4.85	-1.96	0.44	-0.59	1.45	05/01/2008
FTSE Wrld Gov't Bond Index			3.82	-4.08	-18.26	-18.26	-5.75	-2.54	-0.58	-1.22	0.51	
Difference			1.09	1.01	-0.41	-0.41	0.90	0.58	1.02	0.63	0.94	
Oaktree Global Credit (SA)	126,394,841	4.30	3.85	2.97	-6.18	-6.18	0.76	1.50	3.74	3.40	5.10	01/01/1998
Oaktree Global Credit Custom Index			4.64	3.91	-7.24	-7.24	0.36	1.29	1.80	1.69	4.23	
Difference			-0.79	-0.94	1.06	1.06	0.40	0.21	1.94	1.71	0.87	
Absolute Return	147,898,411	5.03	2.22	1.38	0.94	0.94	0.83	1.53	1.52	2.44	2.39	12/01/2010
PAAMCO (CF)	4,023,156	0.14	0.15	-0.15	-0.65	-0.65	3.75	2.74	2.50	3.12	N/A	10/01/2002
HFRI FOF: Cnsvt Index			1.49	1.70	0.12	0.12	4.68	3.87	3.62	3.64	3.31	
Difference			-1.34	-1.85	-0.77	-0.77	-0.93	-1.13	-1.12	-0.52	N/A	
Wellington Global Total Return (CF)	83,423,255	2.84	2.19	1.84	6.38	6.38	2.71	3.59	N/A	N/A	3.17	12/01/2016
ICE BofAML 3 Mo US T-Bill Index+4%			1.84	3.32	5.51	5.51	4.75	5.31	5.11	4.79	5.23	
Difference			0.35	-1.48	0.87	0.87	-2.04	-1.72	N/A	N/A	-2.06	
TCW MetWest Unconstrained (SA)	60,452,000	2.06	2.37	0.74	-5.84	-5.84	N/A	N/A	N/A	N/A	-2.58	01/01/2021
ICE BofAML 3 Mo US T-Bill Index+3%			1.59	2.82	4.50	4.50	3.74	4.30	4.10	3.79	3.77	
Difference			0.78	-2.08	-10.34	-10.34	N/A	N/A	N/A	N/A	-6.35	
Private Credit	25,404,146	0.86	-0.87	-4.33	-5.62	-5.62	8.60	7.99	N/A	N/A	8.23	10/01/2016

Performance shown is net of fees. Performance is annualized for periods greater than one year. Manager inception dates shown represent the first full month following initial funding. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01. Total Equity includes Public Equity, Private Equity, and Long/Short Equity.



Oklahoma State Pension Commission
Oklahoma Police Pension & Retirement System
Asset Allocation & Performance - Net of Fees

As of December 31, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
Real Assets	486,680,943	16.56	-2.59	-2.24	11.32	11.32	9.06	6.81	6.87	6.82	N/A	01/01/1998
OPPRS Real Assets Blended Benchmark			-5.17	-4.87	6.55	6.55	8.97	6.41	6.61	4.90	6.20	
Difference			2.58	2.63	4.77	4.77	0.09	0.40	0.26	1.92	N/A	
JP Morgan Strategic Property (CF)	190,578,029	6.48	-5.17	-6.56	3.82	3.82	7.80	6.77	6.78	8.62	5.47	11/01/2007
NCREIF ODCE Index (AWA) (Net)			-5.17	-4.87	6.55	6.55	8.97	7.72	7.57	9.11	5.34	
Difference			0.00	-1.69	-2.73	-2.73	-1.17	-0.95	-0.79	-0.49	0.13	
Blackstone Property Partners (CF)	204,609,028	6.96	-0.94	1.47	18.11	18.11	10.29	9.00	9.37	N/A	10.19	12/01/2014
NCREIF ODCE Index (AWA) (Net)			-5.17	-4.87	6.55	6.55	8.97	7.72	7.57	9.11	8.66	
Difference			4.23	6.34	11.56	11.56	1.32	1.28	1.80	N/A	1.53	
Private Real Estate	91,493,887	3.11	-0.80	-1.07	14.29	14.29	12.16	11.68	11.02	11.55	10.02	08/01/2011
NCREIF ODCE Index (AWA) (Net)			-5.17	-4.87	6.55	6.55	8.97	7.72	7.57	9.11	9.39	
Difference			4.37	3.80	7.74	7.74	3.19	3.96	3.45	2.44	0.63	
Columbus Square (SA)	4,450,594	0.15	1.51	3.57	6.21	6.21	-0.89	1.91	4.06	4.90	N/A	03/01/1995
NCREIF ODCE Index (AWA) (Net)			-5.17	-4.87	6.55	6.55	8.97	7.72	7.57	9.11	8.17	
Difference			6.68	8.44	-0.34	-0.34	-9.86	-5.81	-3.51	-4.21	N/A	
Long/Short Equity	198,897,585	6.77	4.56	3.32	-17.32	-17.32	0.42	2.29	3.53	4.65	4.57	05/01/2012
MSCI ACW Index (USD) (Gross)			9.88	2.51	-17.96	-17.96	4.49	5.75	8.66	8.54	8.52	
Difference			-5.32	0.81	0.64	0.64	-4.07	-3.46	-5.13	-3.89	-3.95	
HFRI FOF: Strategic Index			2.67	0.70	-11.87	-11.87	2.39	2.06	3.01	3.38	3.32	
Difference			1.89	2.62	-5.45	-5.45	-1.97	0.23	0.52	1.27	1.25	
Grosvenor Long/Short Equity (CF)	1,988,693	0.07	5.03	-2.33	-12.02	-12.02	5.02	5.08	5.53	6.08	N/A	09/01/2003
HFRI FOF: Strategic Index			2.67	0.70	-11.87	-11.87	2.39	2.06	3.01	3.38	3.59	
Difference			2.36	-3.03	-0.15	-0.15	2.63	3.02	2.52	2.70	N/A	
K2 Ascent (CF)	196,908,892	6.70	4.55	3.38	-17.38	-17.38	N/A	N/A	N/A	N/A	0.13	06/01/2020
HFRI FOF: Strategic Index			2.67	0.70	-11.87	-11.87	2.39	2.06	3.01	3.38	4.77	
Difference			1.88	2.68	-5.51	-5.51	N/A	N/A	N/A	N/A	-4.64	
Private Equity	493,608,621	16.79	-6.13	-8.94	-1.91	-1.91	23.89	19.35	15.93	14.49	13.69	07/01/2003
MSCI ACW Index (USD) (Gross)			9.88	2.51	-17.96	-17.96	4.49	5.75	8.66	8.54	8.22	
Difference			-16.01	-11.45	16.05	16.05	19.40	13.60	7.27	5.95	5.47	
Cambridge US Prvt Eq Index			0.00	0.05	-3.34	-3.34	18.48	15.90	15.87	14.93	15.07	
Difference			-6.13	-8.99	1.43	1.43	5.41	3.45	0.06	-0.44	-1.38	

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Oklahoma State Pension Commission
Oklahoma Police Pension & Retirement System
Asset Allocation & Performance - Gross of Fees

As of December 31, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
OPPRS Total Fund	2,939,579,441	100.00	2.94	-0.86	-9.99	-9.99	6.04	6.11	7.32	7.31	6.60	07/01/2005
OPPRS Policy Index			6.06	0.62	-13.27	-13.27	3.89	4.81	6.59	6.28	5.87	
Difference			-3.12	-1.48	3.28	3.28	2.15	1.30	0.73	1.03	0.73	
OPPRS Actual Allocation Index			5.55	0.98	-12.42	-12.42	4.44	4.76	6.28	6.28	5.98	
Difference			-2.61	-1.84	2.43	2.43	1.60	1.35	1.04	1.03	0.62	
Actuarial Discount Rate (7.5%)			1.82	3.68	7.50	7.50	7.50	7.50	7.50	7.50	7.50	
Difference			1.12	-4.54	-17.49	-17.49	-1.46	-1.39	-0.18	-0.19	-0.90	
All Public Plans-Total Fund Median			5.66	1.08	-12.81	-12.81	3.99	5.18	6.97	7.18	6.49	
Rank			95	97	20	20	11	20	36	44	43	
Total Equity	1,828,006,875	62.19	4.59	-0.54	-15.04	-15.04	7.74	7.79	9.38	9.45	7.64	07/01/2005
MSCI ACW Index (USD) (Gross)			9.88	2.51	-17.96	-17.96	4.49	5.75	8.66	8.54	7.14	
Difference			-5.29	-3.05	2.92	2.92	3.25	2.04	0.72	0.91	0.50	
IM Global Equity (SA+CF) Median			10.70	3.37	-16.19	-16.19	4.89	6.06	8.48	9.04	7.57	
Rank			96	90	44	44	16	22	33	39	47	
US Equity												
Northern Trust Russell 1000 Index (SA)	449,527,787	15.29	7.24	2.30	-19.10	-19.10	7.35	9.14	11.27	12.38	7.35	07/01/1998
Russell 1000 Index			7.24	2.30	-19.13	-19.13	7.35	9.13	11.26	12.37	7.24	
Difference			0.00	0.00	0.03	0.03	0.00	0.01	0.01	0.01	0.11	
IM U.S. Large Cap Index Equity (SA+CF) Median			7.54	2.31	-18.53	-18.53	7.45	9.16	11.34	12.40	7.14	
Rank			65	75	58	58	58	57	57	54	3	
Boston Partners SMID Value Equity (SA)	137,428,219	4.68	10.15	3.37	-9.15	-9.15	6.60	5.37	9.21	9.86	9.51	06/01/1997
Russell 2500 Val Index			9.21	4.29	-13.08	-13.08	5.22	4.75	8.26	8.93	8.94	
Difference			0.94	-0.92	3.93	3.93	1.38	0.62	0.95	0.93	0.57	
IM U.S. SMID Cap Value Equity (SA+CF) Median			10.45	5.21	-10.53	-10.53	7.08	6.75	9.62	10.50	N/A	
Rank			57	81	41	41	57	71	62	70	N/A	
Silvercrest Small Cap Growth Equity (SA)	116,292,377	3.96	7.81	9.85	-25.04	-25.04	11.34	12.41	14.40	N/A	8.10	01/01/2014
Russell 2000 Grth Index			4.13	4.38	-26.36	-26.36	0.65	3.51	7.09	9.20	5.95	
Difference			3.68	5.47	1.32	1.32	10.69	8.90	7.31	N/A	2.15	
IM U.S. Small Cap Growth Equity (SA+CF) Median			4.52	3.36	-27.30	-27.30	5.50	8.73	11.29	12.24	8.85	
Rank			14	6	36	36	12	9	14	N/A	72	

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Oklahoma State Pension Commission
Oklahoma Police Pension & Retirement System
Asset Allocation & Performance - Gross of Fees

As of December 31, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
International Equity												
Mondrian International Value Equity (SA)	146,909,747	5.00	16.86	0.29	-10.52	-10.52	-1.21	0.46	3.89	4.41	5.20	04/01/2004
MSCI EAFE Val Index (USD) (Gross)			19.73	7.61	-4.95	-4.95	1.26	0.79	4.30	4.10	4.66	
Difference			-2.87	-7.32	-5.57	-5.57	-2.47	-0.33	-0.41	0.31	0.54	
IM International Value Equity (SA+CF) Median			17.86	5.90	-9.69	-9.69	1.48	1.75	5.09	5.33	6.24	
Rank			63	98	55	55	87	71	80	77	83	
Barings Focused EAFE Plus Equity (SA)	158,667,233	5.40	17.01	5.43	-15.82	-15.82	0.06	1.14	4.84	4.79	4.31	02/01/2012
MSCI ACW Ex US Index (USD) (Gross)			14.37	3.16	-15.57	-15.57	0.53	1.36	5.30	4.28	4.82	
Difference			2.64	2.27	-0.25	-0.25	-0.47	-0.22	-0.46	0.51	-0.51	
IM International Value Equity (SA+CF) Median			15.51	4.72	-16.40	-16.40	1.42	1.95	5.51	5.82	6.61	
Rank			33	41	47	47	73	68	69	78	94	
Axiom Emerging Markets Equity (SA)	81,747,697	2.78	6.03	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-6.05	08/01/2022
MSCI Emg Mkts Index (USD) (Gross)			9.79	-2.74	-19.74	-19.74	-2.34	-1.03	5.56	1.81	-2.58	
Difference			-3.76	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-3.47	
IM Emerging Markets Equity (SA+CF) Median			10.59	-1.03	-19.57	-19.57	-0.98	-0.12	5.86	2.82	-1.18	
Rank			85	N/A	N/A	N/A	N/A	N/A	N/A	N/A	95	
Wasatch EM Small Cap (SA)	44,927,610	1.53	4.20	-0.47	-38.87	-38.87	4.42	4.26	7.40	4.42	5.33	08/01/2012
MSCI Emg Mkts Sm Cap Index (USD) (Gross)			8.33	2.89	-17.54	-17.54	5.60	1.49	5.78	3.59	4.77	
Difference			-4.13	-3.36	-21.33	-21.33	-1.18	2.77	1.62	0.83	0.56	
IM Emerging Markets Equity (SA+CF) Median			10.59	-1.03	-19.57	-19.57	-0.98	-0.12	5.86	2.82	3.96	
Rank			92	45	99	99	13	7	19	21	21	
Fixed Income												
Bloomberg US Agg Bond Index	595,551,122	20.26	2.78	-0.52	-8.60	-8.60	-0.22	1.42	2.43	2.44	4.08	07/01/2005
Bloomberg US Agg Bond Index			1.87	-2.97	-13.01	-13.01	-2.71	0.02	0.89	1.06	2.92	
Difference			0.91	2.45	4.41	4.41	2.49	1.40	1.54	1.38	1.16	
IM U.S. Fixed Income (SA+CF) Median			1.99	-1.14	-9.49	-9.49	-0.57	1.20	1.87	1.83	3.46	
Rank			31	44	46	46	43	40	36	31	30	
Agincourt Core Fixed Income (SA)	224,941,854	7.65	2.18	-2.59	-12.63	-12.63	-2.20	0.49	1.45	1.53	4.32	07/01/1998
Bloomberg US Agg Bond Index			1.87	-2.97	-13.01	-13.01	-2.71	0.02	0.89	1.06	3.89	
Difference			0.31	0.38	0.38	0.38	0.51	0.47	0.56	0.47	0.43	
IM U.S. Broad Market Core Fixed Income (SA+CF) Median			1.82	-2.89	-12.95	-12.95	-2.20	0.45	1.39	1.50	4.30	
Rank			17	24	33	33	50	47	42	44	49	

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Oklahoma State Pension Commission
Oklahoma Police Pension & Retirement System
Asset Allocation & Performance - Gross of Fees

As of December 31, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
Loomis Sayles Global World Bond (SA)	70,911,870	2.41	5.01	-2.89	-18.37	-18.37	-4.53	-1.63	0.78	-0.25	1.77	05/01/2008
FTSE Wrld Gov't Bond Index			3.82	-4.08	-18.26	-18.26	-5.75	-2.54	-0.58	-1.22	0.51	
Difference			1.19	1.19	-0.11	-0.11	1.22	0.91	1.36	0.97	1.26	
IM Global Fixed Income (SA+CF) Median			4.57	0.50	-12.67	-12.67	-1.44	1.09	2.63	1.97	2.44	
Rank			43	86	93	93	89	88	81	81	69	
Oaktree Global Credit (SA)	126,394,841	4.30	4.00	3.29	-5.56	-5.56	1.38	2.13	4.38	4.02	5.59	01/01/1998
Oaktree Global Credit Custom Index			4.64	3.91	-7.24	-7.24	0.36	1.29	1.80	1.69	4.23	
Difference			-0.64	-0.62	1.68	1.68	1.02	0.84	2.58	2.33	1.36	
Absolute Return	147,898,411	5.03	2.31	1.56	1.30	1.30	1.27	2.06	2.12	3.01	2.86	12/01/2010
PAAMCO (CF)	4,023,156	0.14	0.35	0.27	0.22	0.22	4.68	3.57	3.36	3.99	4.70	10/01/2002
HFRI FOF: Cnsvt Index			1.49	1.70	0.12	0.12	4.68	3.87	3.62	3.64	3.31	
Difference			-1.14	-1.43	0.10	0.10	0.00	-0.30	-0.26	0.35	1.39	
Wellington Global Total Return (CF)	83,423,255	2.84	2.26	1.97	6.65	6.65	2.96	3.99	N/A	N/A	3.54	12/01/2016
ICE BofAML 3 Mo US T-Bill Index+4%			1.84	3.32	5.51	5.51	4.75	5.31	5.11	4.79	5.23	
Difference			0.42	-1.35	1.14	1.14	-1.79	-1.32	N/A	N/A	-1.69	
TCW MetWest Unconstrained (SA)	60,452,000	2.06	2.48	0.97	-5.41	-5.41	N/A	N/A	N/A	N/A	-2.12	01/01/2021
ICE BofAML 3 Mo US T-Bill Index+3%			1.59	2.82	4.50	4.50	3.74	4.30	4.10	3.79	3.77	
Difference			0.89	-1.85	-9.91	-9.91	N/A	N/A	N/A	N/A	-5.89	
Private Credit	25,404,146	0.86	-0.87	-4.33	-5.62	-5.62	8.60	7.99	N/A	N/A	8.23	10/01/2016
Real Assets	486,680,943	16.56	-2.44	-1.80	13.11	13.11	10.25	7.81	7.81	7.70	6.17	01/01/1998
OPPRS Real Assets Blended Benchmark			-5.17	-4.87	6.55	6.55	8.97	6.41	6.61	4.90	6.20	
Difference			2.73	3.07	6.56	6.56	1.28	1.40	1.20	2.80	-0.03	
JP Morgan Strategic Property (CF)	190,578,029	6.48	-4.97	-6.18	4.64	4.64	8.68	7.68	7.71	9.58	6.38	11/01/2007
NCREIF ODCE Index (AWA) (Gross)			-4.97	-4.47	7.47	7.47	9.93	8.68	8.54	10.10	6.31	
Difference			0.00	-1.71	-2.83	-2.83	-1.25	-1.00	-0.83	-0.52	0.07	
Blackstone Property Partners (CF)	204,609,028	6.96	-0.77	2.18	21.90	21.90	12.32	10.68	11.24	N/A	11.90	12/01/2014
NCREIF ODCE Index (AWA) (Gross)			-4.97	-4.47	7.47	7.47	9.93	8.68	8.54	10.10	9.66	
Difference			4.20	6.65	14.43	14.43	2.39	2.00	2.70	N/A	2.24	
Private Real Estate	91,493,887	3.11	-0.80	-1.07	14.29	14.29	12.16	11.68	11.02	11.55	10.02	08/01/2011
NCREIF ODCE Index (AWA) (Gross)			-4.97	-4.47	7.47	7.47	9.93	8.68	8.54	10.10	10.40	
Difference			4.17	3.40	6.82	6.82	2.23	3.00	2.48	1.45	-0.38	

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Oklahoma State Pension Commission
Oklahoma Police Pension & Retirement System
Asset Allocation & Performance - Gross of Fees

As of December 31, 2022

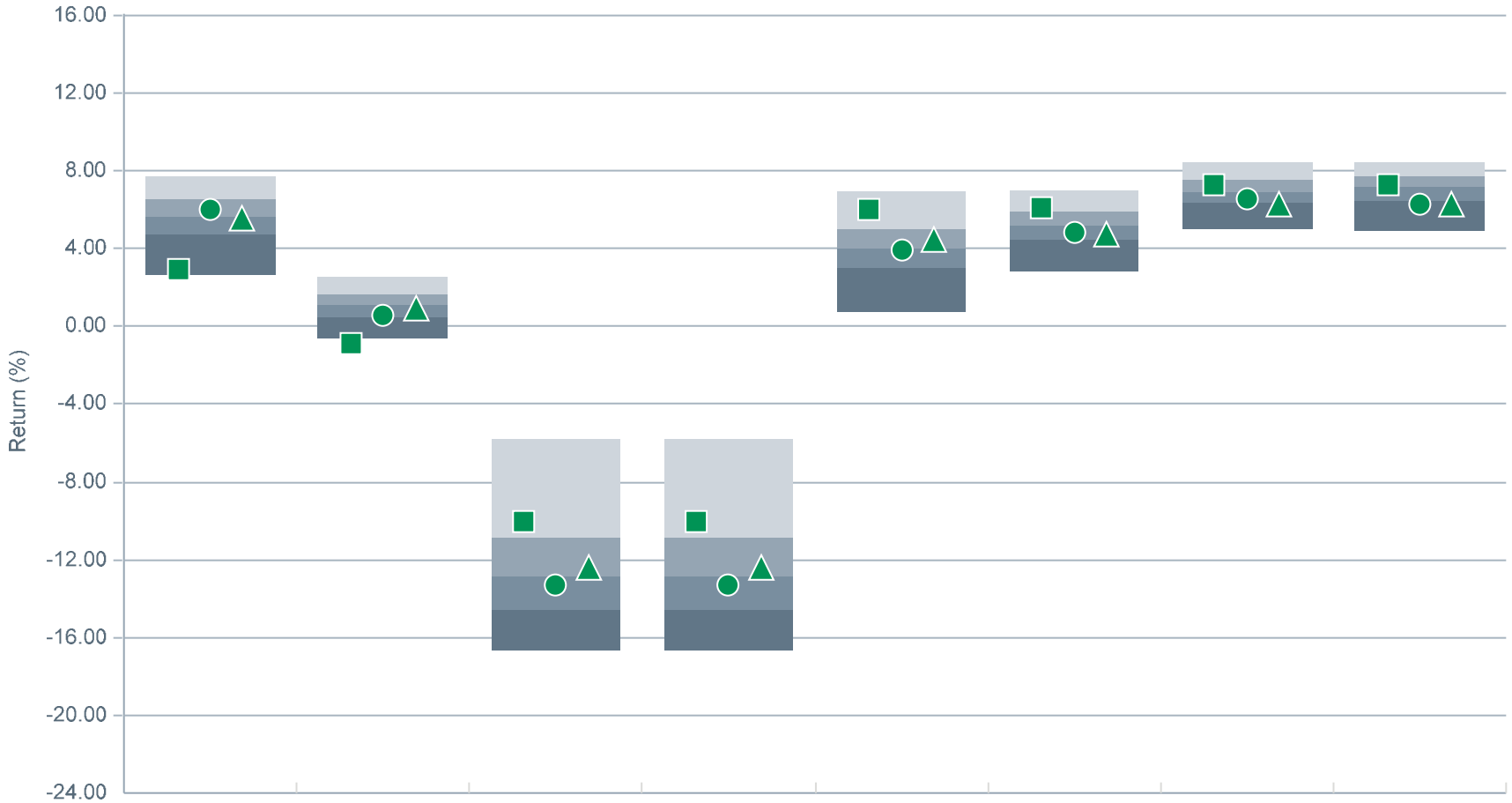
	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
Columbus Square (SA)	4,450,594	0.15	1.51	3.57	6.21	6.21	-0.89	1.91	4.10	5.10	11.91	03/01/1995
NCREIF ODCE Index (AWA) (Gross)			-4.97	-4.47	7.47	7.47	9.93	8.68	8.54	10.10	9.20	
Difference			6.48	8.04	-1.26	-1.26	-10.82	-6.77	-4.44	-5.00	2.71	
Long/Short Equity	198,897,585	6.77	4.56	3.32	-17.31	-17.31	0.53	2.54	3.83	5.03	4.96	05/01/2012
MSCI ACW Index (USD) (Gross)			9.88	2.51	-17.96	-17.96	4.49	5.75	8.66	8.54	8.52	
Difference			-5.32	0.81	0.65	0.65	-3.96	-3.21	-4.83	-3.51	-3.56	
HFRI FOF: Strategic Index			2.67	0.70	-11.87	-11.87	2.39	2.06	3.01	3.38	3.32	
Difference			1.89	2.62	-5.44	-5.44	-1.86	0.48	0.82	1.65	1.64	
Grosvenor Long/Short Equity (CF)	1,988,693	0.07	5.25	-1.93	-11.30	-11.30	5.86	5.72	6.12	6.66	5.35	09/01/2003
HFRI FOF: Strategic Index			2.67	0.70	-11.87	-11.87	2.39	2.06	3.01	3.38	3.59	
Difference			2.58	-2.63	0.57	0.57	3.47	3.66	3.11	3.28	1.76	
K2 Ascent (CF)	196,908,892	6.70	4.55	3.38	-17.38	-17.38	N/A	N/A	N/A	N/A	0.13	06/01/2020
HFRI FOF: Strategic Index			2.67	0.70	-11.87	-11.87	2.39	2.06	3.01	3.38	4.77	
Difference			1.88	2.68	-5.51	-5.51	N/A	N/A	N/A	N/A	-4.64	
Private Equity	493,608,621	16.79	-6.13	-8.94	-1.91	-1.91	23.89	19.35	15.93	14.49	13.69	07/01/2003
MSCI ACW Index (USD) (Gross)			9.88	2.51	-17.96	-17.96	4.49	5.75	8.66	8.54	8.22	
Difference			-16.01	-11.45	16.05	16.05	19.40	13.60	7.27	5.95	5.47	
Cambridge US Prvt Eq Index			0.00	0.05	-3.34	-3.34	18.48	15.90	15.87	14.93	15.07	
Difference			-6.13	-8.99	1.43	1.43	5.41	3.45	0.06	-0.44	-1.38	

Performance shown for Private Equity is net of fees. Performance shown is gross of fees. Performance is annualized for periods greater than one year. Manager inception dates shown represent the first full month following initial funding. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01. Total Equity includes Public Equity, Private Equity, and Long/Short Equity.



Oklahoma State Pension Commission
 Oklahoma Police Pension & Retirement System vs. All Public Plans-Total Fund
 Plan Sponsor Peer Group Analysis

As of December 31, 2022



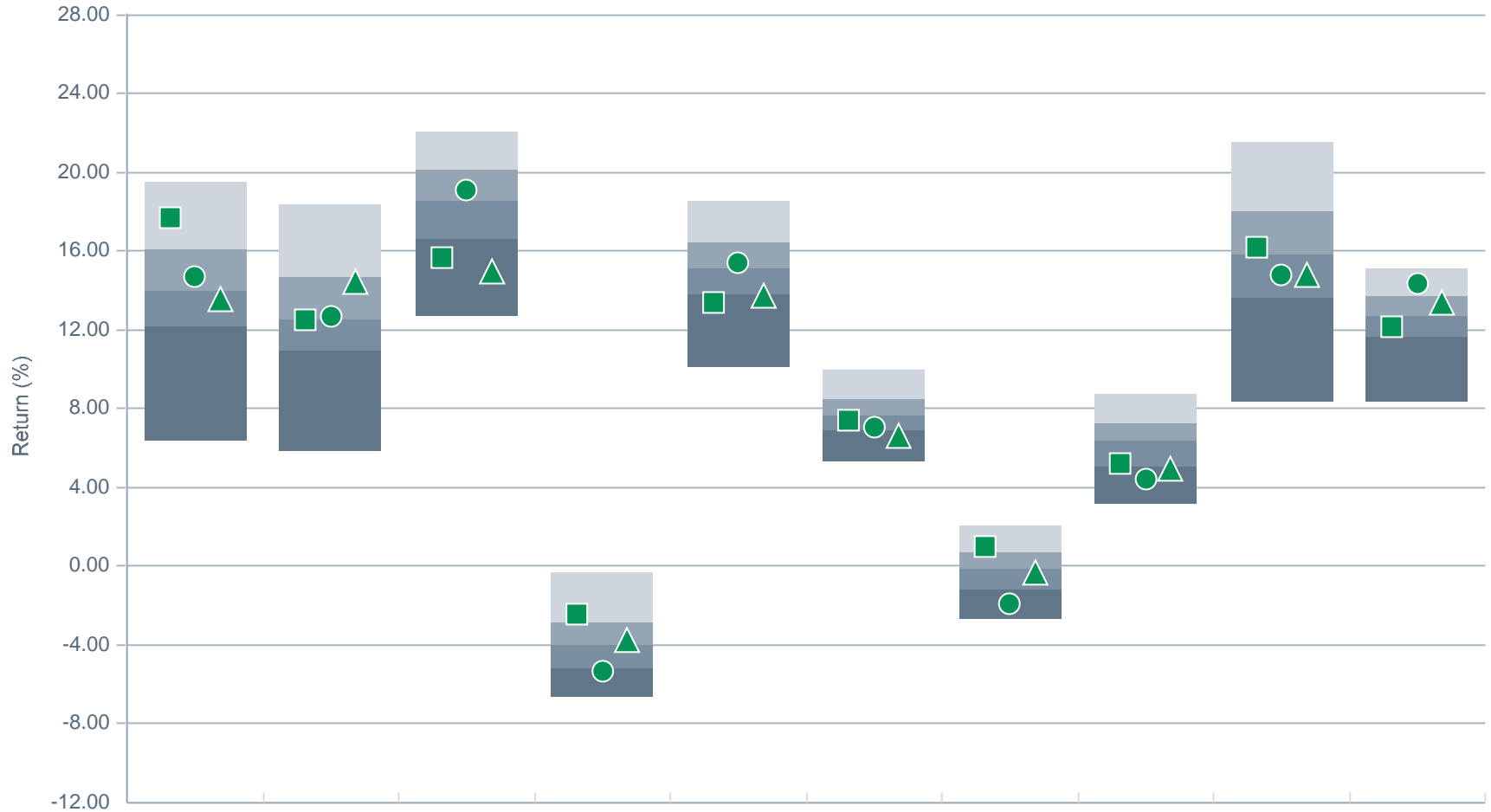
	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years
■ OPPRS Total Fund	2.94 (95)	-0.86 (97)	-9.99 (20)	-9.99 (20)	6.04 (11)	6.11 (20)	7.32 (36)	7.31 (44)
● OPPRS Policy Index	6.06 (40)	0.62 (70)	-13.27 (56)	-13.27 (56)	3.89 (54)	4.81 (64)	6.59 (66)	6.28 (80)
▲ OPPRS Allocation Index	5.55 (55)	0.98 (55)	-12.42 (45)	-12.42 (45)	4.44 (39)	4.76 (66)	6.28 (80)	6.28 (80)
5th Percentile	7.73	2.59	-5.72	-5.72	6.93	7.03	8.45	8.48
1st Quartile	6.58	1.63	-10.82	-10.82	5.03	5.94	7.60	7.72
Median	5.66	1.08	-12.81	-12.81	3.99	5.18	6.97	7.18
3rd Quartile	4.79	0.52	-14.55	-14.55	3.03	4.47	6.38	6.45
95th Percentile	2.64	-0.63	-16.67	-16.67	0.78	2.88	5.06	4.90

Performance shown is gross of fees. Parentheses contain percentile ranks. Please see the Addendum for custom index definitions and additional comments.
 Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
 Oklahoma Police Pension & Retirement System vs. All Public Plans-Total Fund
 Plan Sponsor Peer Group Analysis

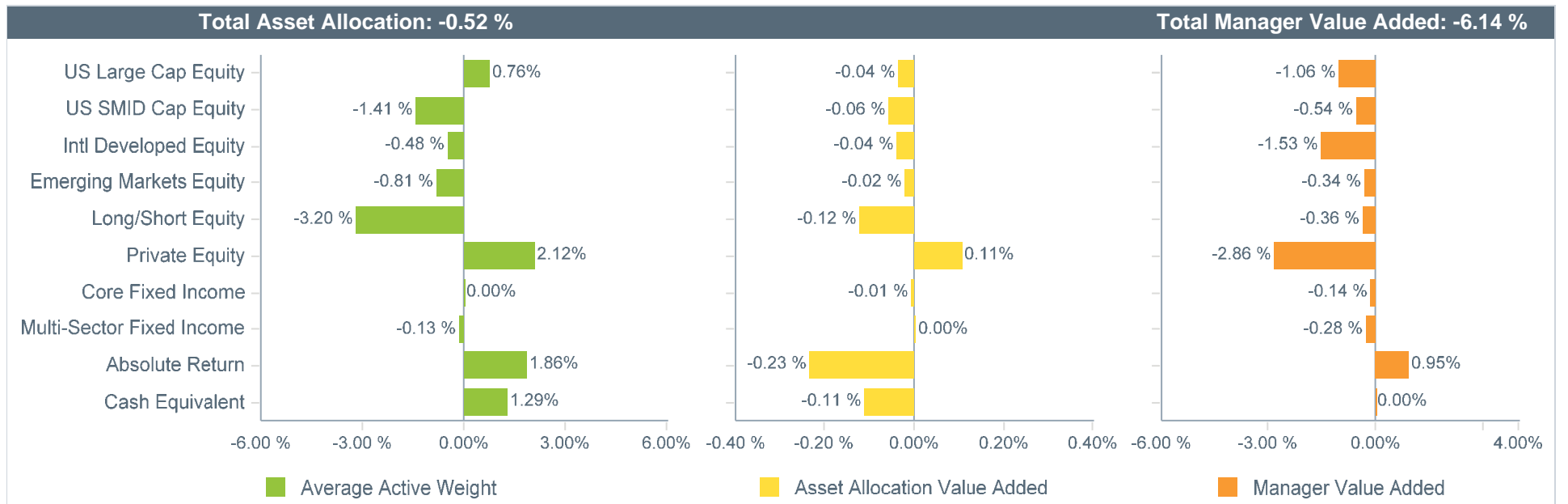
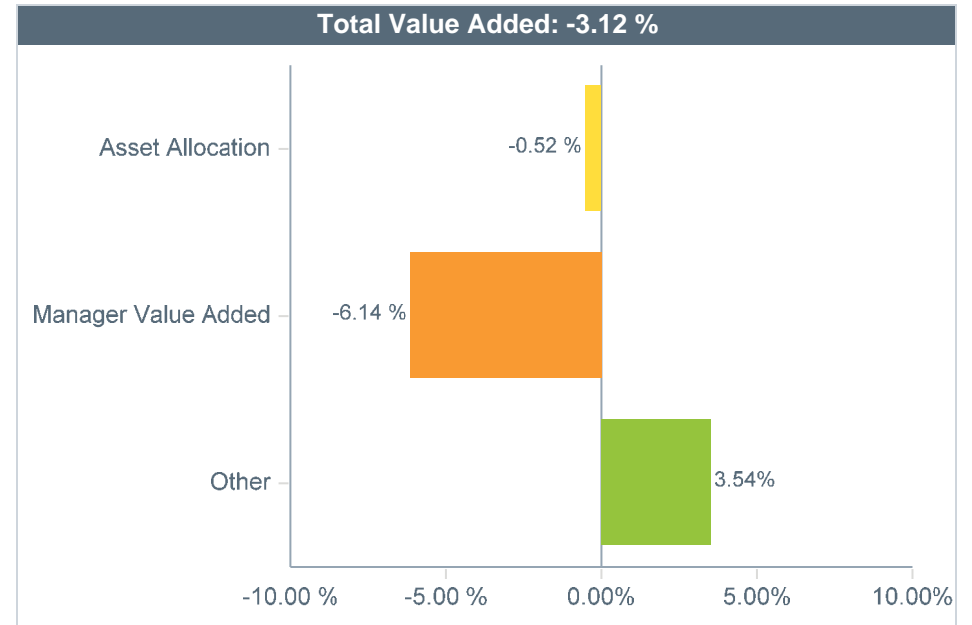
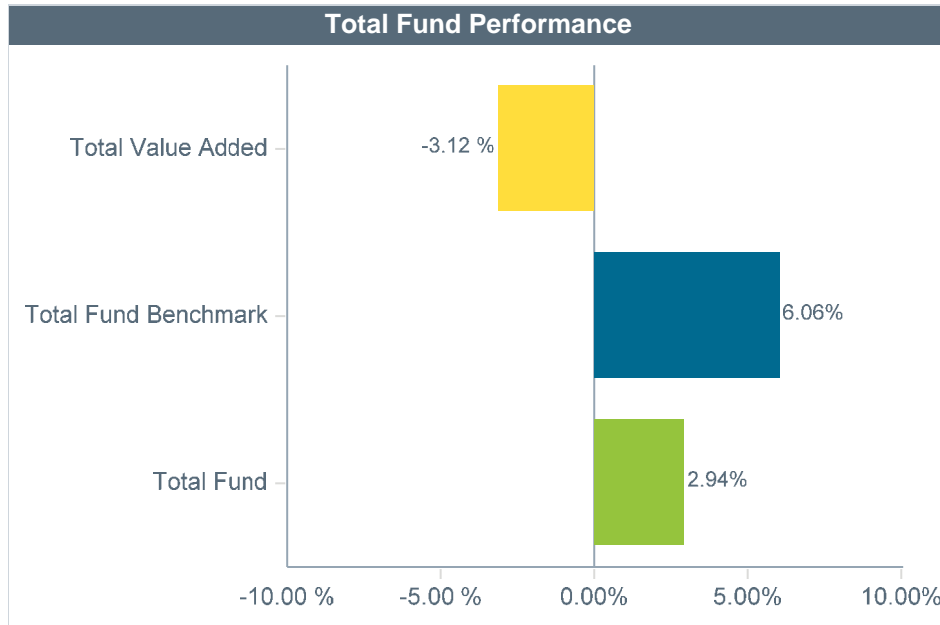
As of December 31, 2022



	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012
■ OPPRS Total Fund	17.71 (12)	12.54 (50)	15.68 (85)	-2.46 (19)	13.40 (83)	7.47 (57)	1.05 (17)	5.20 (74)	16.18 (47)	12.20 (64)
● OPPRS Policy Index	14.76 (38)	12.66 (49)	19.13 (41)	-5.34 (80)	15.45 (44)	7.07 (72)	-1.93 (87)	4.47 (86)	14.82 (62)	14.35 (16)
▲ OPPRS Allocation Index	13.63 (56)	14.47 (28)	15.02 (89)	-3.70 (44)	13.78 (77)	6.66 (82)	-0.35 (57)	4.97 (79)	14.77 (63)	13.44 (31)
5th Percentile	19.53	18.43	22.14	-0.28	18.60	9.98	2.09	8.76	21.62	15.18
1st Quartile	16.09	14.70	20.20	-2.88	16.45	8.51	0.72	7.28	18.08	13.79
Median	14.01	12.54	18.57	-4.02	15.16	7.69	-0.12	6.37	15.91	12.71
3rd Quartile	12.21	10.93	16.65	-5.11	13.88	6.93	-1.17	5.09	13.66	11.63
95th Percentile	6.37	5.89	12.67	-6.64	10.14	5.29	-2.64	3.19	8.42	8.41

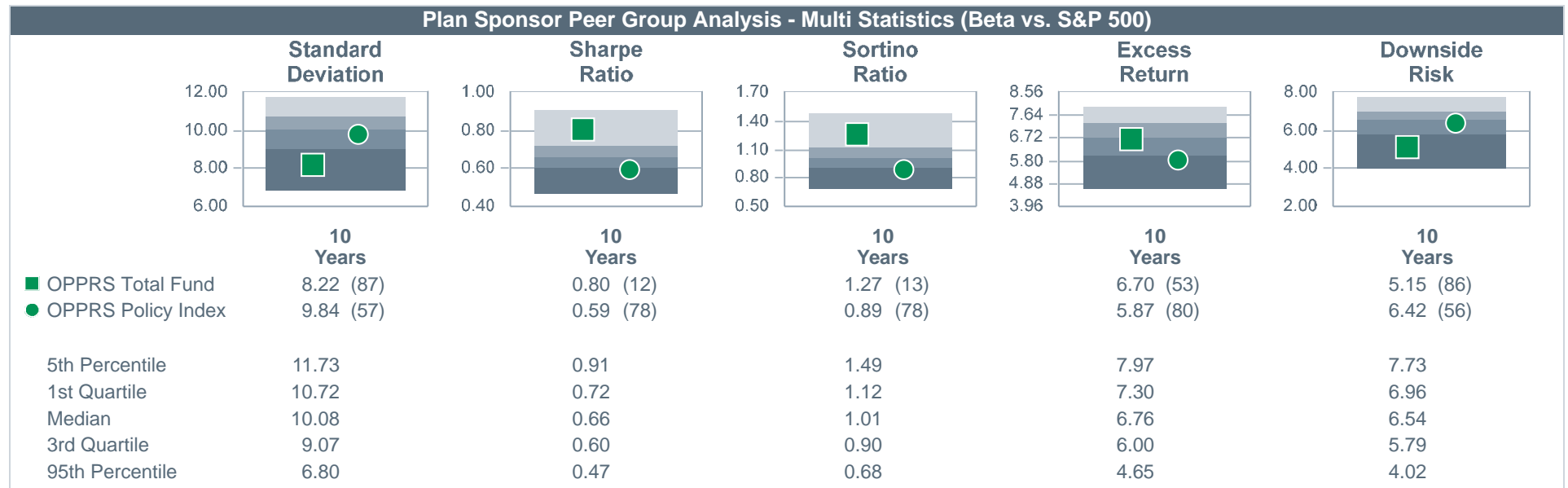
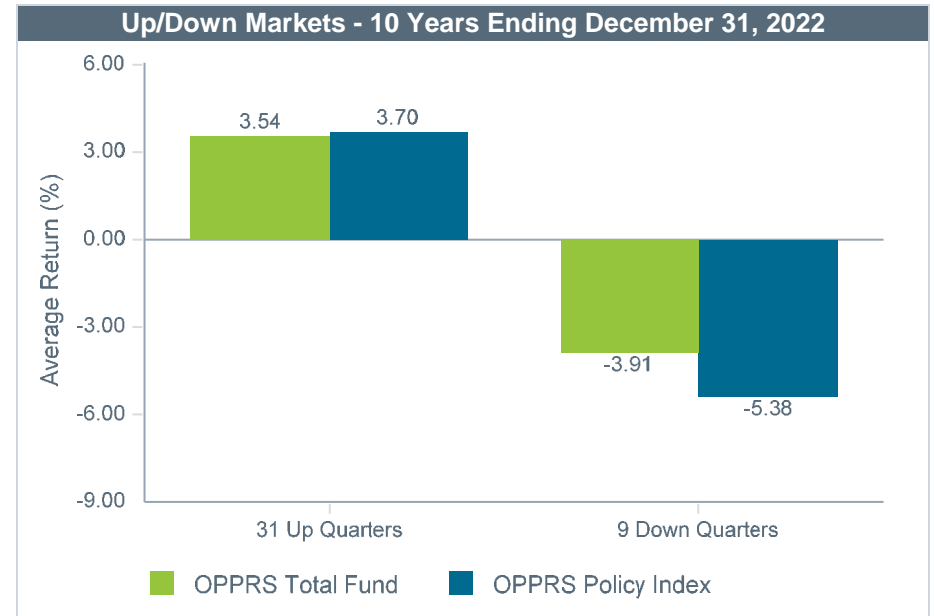
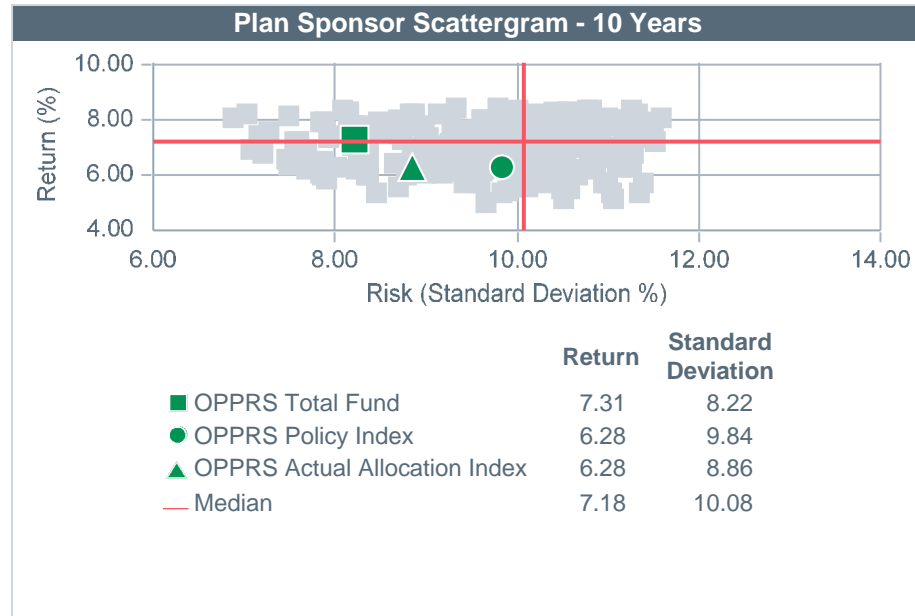
Performance shown is gross of fees. Parentheses contain percentile ranks. Please see the Addendum for custom index definitions and additional comments.



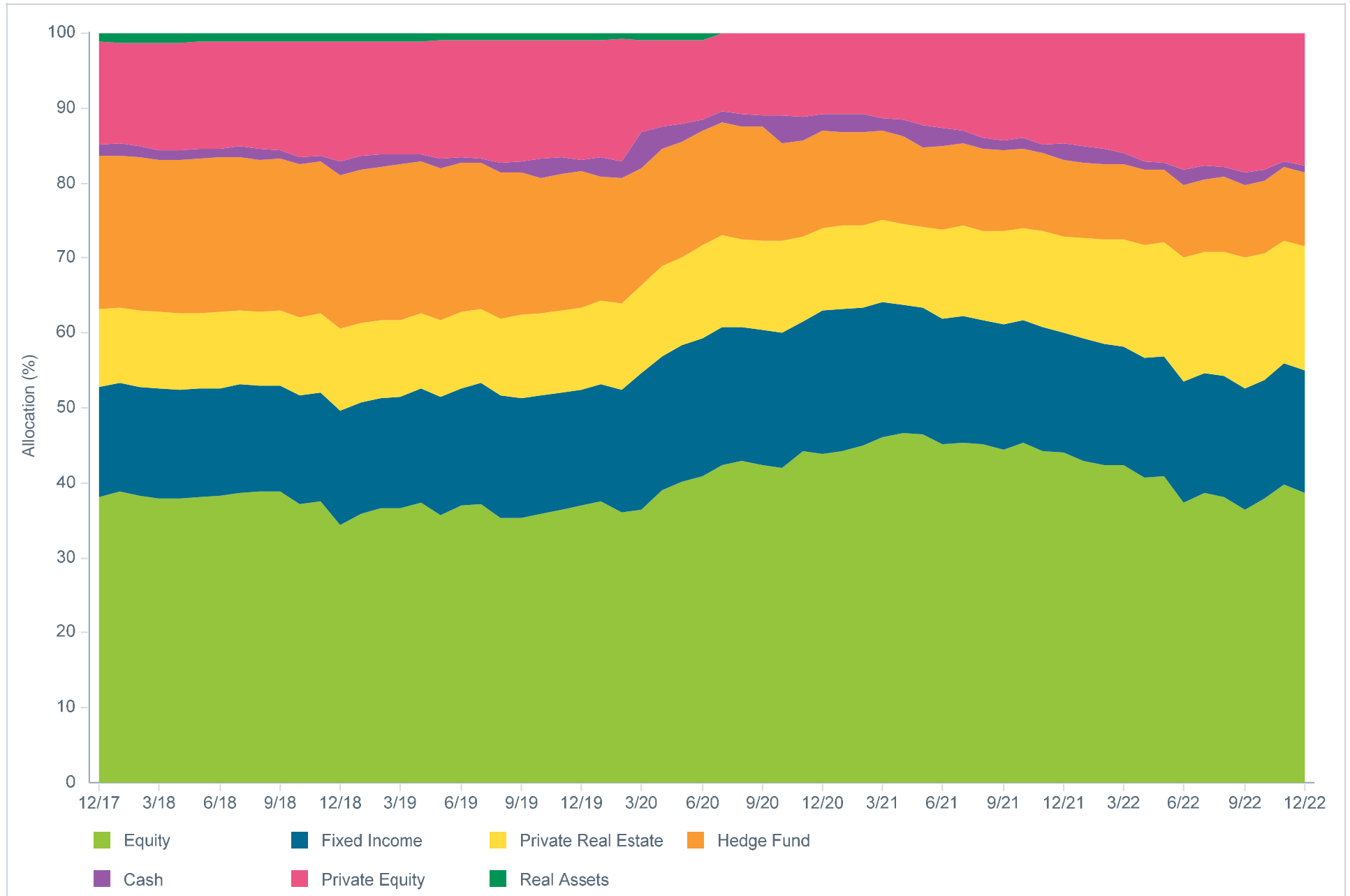


Performance shown is gross of fees. Calculation is based on monthly periodicity. See Glossary for additional information regarding the Total Fund Attribution calculation. Allocation to Multi-Sector Fixed Income includes Private Credit.





Performance shown is gross of fees. Calculation is based on quarterly periodicity. Parentheses contain percentile ranks. Please see the Addendum for custom index definitions and additional comments.



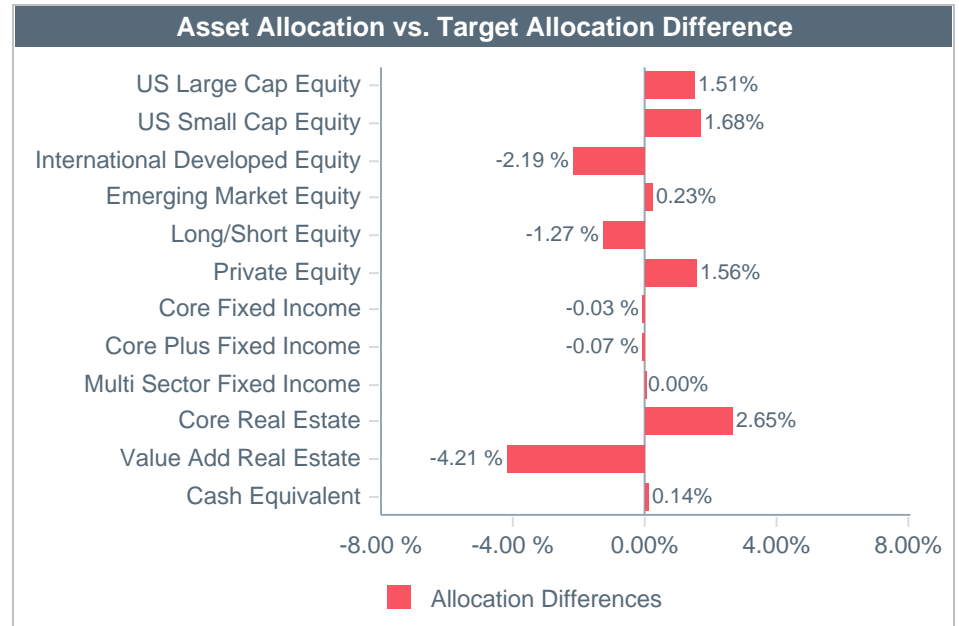
Allocation to Fixed Income includes Private Credit.

Oklahoma Law Enforcement Retirement System (OLERS)



	Performance (%)												
	Trailing							Calendar Year					
	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2021	2020	2019	2018	2017
OLERS Total Fund (Net)	4.68	-0.17	-14.24	-14.24	3.32	4.17	5.94	6.28	14.56	12.26	17.44	-5.30	14.36
OLERS Policy Index	5.53	0.56	-13.75	-13.75	3.53	4.95	6.64	7.13	14.02	12.84	19.12	-3.67	13.36
Difference	-0.85	-0.73	-0.49	-0.49	-0.21	-0.78	-0.70	-0.85	0.54	-0.58	-1.68	-1.63	1.00
OLERS Actual Allocation Index	5.90	1.09	-13.91	-13.91	6.38	6.40	7.81	7.62	14.75	21.88	17.33	-3.47	14.63
Difference	-1.22	-1.26	-0.33	-0.33	-3.06	-2.23	-1.87	-1.34	-0.19	-9.62	0.11	-1.83	-0.27
Actuarial Discount Rate (7.5%)	1.82	3.68	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50
Difference	2.86	-3.85	-21.74	-21.74	-4.18	-3.33	-1.56	-1.22	7.06	4.76	9.94	-12.80	6.86
OLERS Total Fund (Gross)	4.79	0.04	-13.87	-13.87	3.78	4.68	6.48	6.83	15.04	12.80	18.07	-4.76	15.00
OLERS Policy Index	5.53	0.56	-13.75	-13.75	3.53	4.95	6.64	7.13	14.02	12.84	19.12	-3.67	13.36
Difference	-0.74	-0.52	-0.12	-0.12	0.25	-0.27	-0.16	-0.30	1.02	-0.04	-1.05	-1.09	1.64
OLERS Actual Allocation Index	5.90	1.09	-13.91	-13.91	6.38	6.40	7.81	7.62	14.75	21.88	17.33	-3.47	14.63
Difference	-1.11	-1.05	0.04	0.04	-2.60	-1.72	-1.33	-0.79	0.29	-9.08	0.74	-1.29	0.37
All Public Plans-Total Fund Median	5.66	1.08	-12.81	-12.81	3.99	5.18	6.97	7.18	14.01	12.54	18.57	-4.02	15.16
Rank	75	90	65	65	57	69	71	65	35	46	57	67	53

Asset Allocation vs. Target Allocation			
	Asset Allocation (\$)	Asset Allocation (%)	Target Allocation (%)
OLERS (Law Enforcement)	1,047,884,067	100.00	100.00
US Large Cap Equity	225,360,463	21.51	20.00
US Small Cap Equity	122,359,327	11.68	10.00
International Developed Equity	134,266,852	12.81	15.00
Emerging Market Equity	54,815,451	5.23	5.00
Long/Short Equity	39,035,024	3.73	5.00
Private Equity	121,187,075	11.56	10.00
Core Fixed Income	52,032,711	4.97	5.00
Core Plus Fixed Income	104,021,878	9.93	10.00
Multi Sector Fixed Income	52,394,678	5.00	5.00
Core Real Estate	132,597,935	12.65	10.00
Value Add Real Estate	8,303,049	0.79	5.00
Cash Equivalent	1,509,626	0.14	0.00



Parentheses contain percentile ranks. Allocations shown may not sum up to 100% exactly due to rounding. Please see the Addendum for custom index definitions and additional Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
Oklahoma Law Enforcement Retirement System
Asset Allocation & Performance - Net of Fees

As of December 31, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
OLERS Total Fund	1,047,884,067	100.00	4.68	-0.17	-14.24	-14.24	3.32	4.17	5.94	6.28	30.44	10/01/1990
OLERS Policy Index			5.53	0.56	-13.75	-13.75	3.53	4.95	6.64	7.13	8.29	
Difference			-0.85	-0.73	-0.49	-0.49	-0.21	-0.78	-0.70	-0.85	22.15	
OLERS Actual Allocation Index			5.90	1.09	-13.91	-13.91	6.38	6.40	7.81	7.62	8.26	
Difference			-1.22	-1.26	-0.33	-0.33	-3.06	-2.23	-1.87	-1.34	22.18	
Actuarial Discount Rate (7.5%)			1.82	3.68	7.50	7.50	7.50	7.50	7.50	7.50	7.50	
Difference			2.86	-3.85	-21.74	-21.74	-4.18	-3.33	-1.56	-1.22	22.94	
US Large Cap Equity	225,360,463	21.51	8.08	1.88	-20.60	-20.60	6.52	8.73	11.02	12.40	11.69	04/01/2010
S&P 500 Index (Cap Wtd)			7.56	2.31	-18.11	-18.11	7.66	9.42	11.48	12.56	11.96	
Difference			0.52	-0.43	-2.49	-2.49	-1.14	-0.69	-0.46	-0.16	-0.27	
Hotchkis Wiley Large Cap Value Equity (SA)	70,276,068	6.71	16.99	8.58	-4.27	-4.27	7.90	6.99	10.56	11.52	11.62	11/01/1990
Russell 1000 Val Index			12.42	6.11	-7.54	-7.54	5.96	6.67	9.12	10.29	10.32	
Difference			4.57	2.47	3.27	3.27	1.94	0.32	1.44	1.23	1.30	
NTGI S&P 500 Index (CF)	93,881,740	8.96	7.56	2.31	-18.11	-18.11	7.68	9.42	11.46	12.54	10.21	08/01/2008
S&P 500 Index (Cap Wtd)			7.56	2.31	-18.11	-18.11	7.66	9.42	11.48	12.56	10.21	
Difference			0.00	0.00	0.00	0.00	0.02	0.00	-0.02	-0.02	0.00	
Polen Focus Growth (CF)	61,202,655	5.84	-0.24	-5.57	-37.83	-37.83	1.06	N/A	N/A	N/A	9.31	01/01/2019
Russell 1000 Grth Index			2.20	-1.48	-29.14	-29.14	7.79	10.96	12.95	14.10	14.32	
Difference			-2.44	-4.09	-8.69	-8.69	-6.73	N/A	N/A	N/A	-5.01	
US Small Cap Equity	122,359,327	11.68	7.41	5.18	-20.96	-20.96	4.35	4.74	8.12	8.68	N/A	11/01/2009
Russell 2000 Index			6.23	3.91	-20.44	-20.44	3.10	4.13	7.90	9.01	10.53	
Difference			1.18	1.27	-0.52	-0.52	1.25	0.61	0.22	-0.33	N/A	
Kennedy Capital Small Cap Value Equity (SA)	61,021,199	5.82	10.38	7.69	-12.78	-12.78	8.69	5.66	9.51	10.10	20.86	02/01/1996
Russell 2000 Val Index			8.42	3.42	-14.48	-14.48	4.70	4.13	8.23	8.48	8.99	
Difference			1.96	4.27	1.70	1.70	3.99	1.53	1.28	1.62	11.87	
Wellington Small Cap Growth (CF)	61,338,128	5.85	4.48	2.99	-28.66	-28.66	-0.49	3.32	N/A	N/A	6.73	08/01/2016
Russell 2000 Grth Index			4.13	4.38	-26.36	-26.36	0.65	3.51	7.09	9.20	6.97	
Difference			0.35	-1.39	-2.30	-2.30	-1.14	-0.19	N/A	N/A	-0.24	

Performance shown is net of fees. Performance is annualized for periods greater than one year. Manager inception dates shown represent the first full month following initial funding. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
Oklahoma Law Enforcement Retirement System
Asset Allocation & Performance - Net of Fees

As of December 31, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
International Equity	189,082,303	18.04	13.12	0.89	-19.15	-19.15	-0.74	0.65	4.53	3.66	N/A	04/01/1994
MSCI ACW Ex US Index (USD) (Gross)			14.37	3.16	-15.57	-15.57	0.53	1.36	5.30	4.28	5.28	
Difference			-1.25	-2.27	-3.58	-3.58	-1.27	-0.71	-0.77	-0.62	N/A	
Mondrian International Equity (SA)	70,203,636	6.70	16.73	0.03	-10.98	-10.98	-1.72	-0.09	3.31	3.82	3.93	01/01/2005
MSCI ACW Ex US Index (USD) (Gross)			14.37	3.16	-15.57	-15.57	0.53	1.36	5.30	4.28	4.85	
Difference			2.36	-3.13	4.59	4.59	-2.25	-1.45	-1.99	-0.46	-0.92	
Barings Focused Intl Equity (SA)	64,063,216	6.11	16.90	5.21	-16.16	-16.16	-0.43	0.76	4.28	4.12	4.12	02/01/2012
MSCI ACW Ex US Index (USD) (Gross)			14.37	3.16	-15.57	-15.57	0.53	1.36	5.30	4.28	4.82	
Difference			2.53	2.05	-0.59	-0.59	-0.96	-0.60	-1.02	-0.16	-0.70	
William Blair Emerging Markets Leaders (CF)	39,409,715	3.76	5.43	-3.35	-25.81	-25.81	-3.82	-0.99	N/A	N/A	3.82	09/01/2016
MSCI Emg Mkts Index (USD) (Gross)			9.79	-2.74	-19.74	-19.74	-2.34	-1.03	5.56	1.81	3.86	
Difference			-4.36	-0.61	-6.07	-6.07	-1.48	0.04	N/A	N/A	-0.04	
Wasatch EM Small Cap CI A (CF)	15,405,735	1.47	3.91	-1.02	-39.54	-39.54	3.15	3.02	6.08	3.19	4.20	07/01/2012
MSCI Emg Mkts Index (USD) (Gross)			9.79	-2.74	-19.74	-19.74	-2.34	-1.03	5.56	1.81	3.00	
Difference			-5.88	1.72	-19.80	-19.80	5.49	4.05	0.52	1.38	1.20	
Long/Short Equity	39,035,024	3.73	3.87	3.42	-17.54	-17.54	-2.79	-0.49	1.38	3.22	3.23	04/01/2010
MSCI ACW Index (USD) (Gross)			9.88	2.51	-17.96	-17.96	4.49	5.75	8.66	8.54	8.12	
Difference			-6.01	0.91	0.42	0.42	-7.28	-6.24	-7.28	-5.32	-4.89	
HFRI FOF: Strategic Index			2.67	0.70	-11.87	-11.87	2.39	2.06	3.01	3.38	2.88	
Difference			1.20	2.72	-5.67	-5.67	-5.18	-2.55	-1.63	-0.16	0.35	
Grosvenor (CF)	305,605	0.03	-3.55	-6.99	-10.46	-10.46	0.20	1.33	2.70	4.16	2.77	01/01/2008
MSCI ACW Index (USD) (Gross)			9.88	2.51	-17.96	-17.96	4.49	5.75	8.66	8.54	5.40	
Difference			-13.43	-9.50	7.50	7.50	-4.29	-4.42	-5.96	-4.38	-2.63	
HFRI FOF: Strategic Index			2.67	0.70	-11.87	-11.87	2.39	2.06	3.01	3.38	1.40	
Difference			-6.22	-7.69	1.41	1.41	-2.19	-0.73	-0.31	0.78	1.37	
Mauna Kea (CF)	38,729,419	3.70	3.93	3.51	-15.99	-15.99	N/A	N/A	N/A	N/A	-2.05	08/01/2020
MSCI ACW Index (USD) (Gross)			9.88	2.51	-17.96	-17.96	4.49	5.75	8.66	8.54	6.03	
Difference			-5.95	1.00	1.97	1.97	N/A	N/A	N/A	N/A	-8.08	
HFRI FOF: Strategic Index			2.67	0.70	-11.87	-11.87	2.39	2.06	3.01	3.38	2.66	
Difference			1.26	2.81	-4.12	-4.12	N/A	N/A	N/A	N/A	-4.71	

Performance shown is net of fees. Performance is annualized for periods greater than one year. Manager inception dates shown represent the first full month following initial funding. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
Oklahoma Law Enforcement Retirement System
Asset Allocation & Performance - Net of Fees

As of December 31, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
Private Equity	121,187,075	11.56	-0.13	-2.26	-0.26	-0.26	19.17	15.13	12.71	12.38	9.66	12/01/2001
S&P 500 Index+5%			8.88	4.84	-14.02	-14.02	13.04	14.90	17.05	18.19	13.43	
Difference			-9.01	-7.10	13.76	13.76	6.13	0.23	-4.34	-5.81	-3.77	
Cambridge US Prvt Eq Index			0.00	0.05	-3.34	-3.34	18.48	15.90	15.87	14.93	13.81	
Difference			-0.13	-2.31	3.08	3.08	0.69	-0.77	-3.16	-2.55	-4.15	
Fixed Income	208,449,267	19.89	1.94	-2.69	-13.40	-13.40	-3.60	-1.00	0.44	0.61	N/A	10/01/1990
Bloomberg US Agg Bond Index			1.87	-2.97	-13.01	-13.01	-2.71	0.02	0.89	1.06	5.10	
Difference			0.07	0.28	-0.39	-0.39	-0.89	-1.02	-0.45	-0.45	N/A	
NTGI Aggregate Index (SA)	52,032,711	4.97	1.86	-2.89	-12.90	-12.90	-2.68	0.05	0.90	1.06	2.99	04/01/2004
Bloomberg US Agg Bond Index			1.87	-2.97	-13.01	-13.01	-2.71	0.02	0.89	1.06	2.94	
Difference			-0.01	0.08	0.11	0.11	0.03	0.03	0.01	0.00	0.05	
TCW Core Plus Fixed Income (SA)	104,021,878	9.93	1.72	-3.40	-14.16	-14.16	-2.20	0.53	1.40	1.63	4.75	12/01/1993
Bloomberg US Agg Bond Index			1.87	-2.97	-13.01	-13.01	-2.71	0.02	0.89	1.06	4.38	
Difference			-0.15	-0.43	-1.15	-1.15	0.51	0.51	0.51	0.57	0.37	
Loomis Sayles	52,394,678	5.00	2.47	-0.97	-12.50	-12.50	N/A	N/A	N/A	N/A	-9.98	09/01/2021
Bloomberg US Gov't Crdt Bond Index			1.80	-2.84	-13.58	-13.58	-2.57	0.21	1.14	1.16	-10.96	
Difference			0.67	1.87	1.08	1.08	N/A	N/A	N/A	N/A	0.98	
Real Assets	140,900,984	13.45	-4.07	-4.67	4.82	4.82	7.61	5.71	5.97	6.25	N/A	06/01/1999
NCREIF ODCE Index (AWA) (Net)			-5.17	-4.87	6.55	6.55	8.97	7.72	7.57	9.11	7.60	
Difference			1.10	0.20	-1.73	-1.73	-1.36	-2.01	-1.60	-2.86	N/A	
Core Real Estate												
JPMCB Strategic Property (CF)	108,894,273	10.39	-5.18	-6.58	3.76	3.76	7.70	6.68	6.70	8.54	8.79	04/01/2012
NCREIF Property Index			-3.50	-2.95	5.52	5.52	8.06	7.46	7.46	8.82	8.93	
Difference			-1.68	-3.63	-1.76	-1.76	-0.36	-0.78	-0.76	-0.28	-0.14	
UBS Trumbull Property (SA)	18,903,662	1.80	-0.15	-0.15	6.89	6.89	5.54	3.87	4.35	6.16	6.16	01/01/2013
NCREIF Property Index			-3.50	-2.95	5.52	5.52	8.06	7.46	7.46	8.82	8.82	
Difference			3.35	2.80	1.37	1.37	-2.52	-3.59	-3.11	-2.66	-2.66	
Colcord Center (CF)	4,800,000	0.46	1.20	6.15	1.93	1.93	6.76	5.80	5.38	5.89	5.35	05/01/2008
Value Add Real Estate	8,303,049	0.79	-0.76	8.10	N/A	N/A	N/A	N/A	N/A	N/A	19.98	03/01/2022
NCREIF ODCE Index (AWA) (Net)			-5.17	-4.87	6.55	6.55	8.97	7.72	7.57	9.11	6.55	
Difference			4.41	12.97	N/A	N/A	N/A	N/A	N/A	N/A	13.43	

Performance shown is net of fees. Performance is annualized for periods greater than one year. Manager inception dates shown represent the first full month following initial funding. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
Oklahoma Law Enforcement Retirement System
Asset Allocation & Performance - Gross of Fees

As of December 31, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
OLERS Total Fund	1,047,884,067	100.00	4.79	0.04	-13.87	-13.87	3.78	4.68	6.48	6.83	7.78	10/01/1990
OLERS Policy Index			5.53	0.56	-13.75	-13.75	3.53	4.95	6.64	7.13	8.29	
Difference			-0.74	-0.52	-0.12	-0.12	0.25	-0.27	-0.16	-0.30	-0.51	
OLERS Actual Allocation Index			5.90	1.09	-13.91	-13.91	6.38	6.40	7.81	7.62	8.26	
Difference			-1.11	-1.05	0.04	0.04	-2.60	-1.72	-1.33	-0.79	-0.48	
Actuarial Discount Rate (7.5%)			1.82	3.68	7.50	7.50	7.50	7.50	7.50	7.50	7.50	
Difference			2.97	-3.64	-21.37	-21.37	-3.72	-2.82	-1.02	-0.67	0.28	
All Public Plans-Total Fund Median			5.66	1.08	-12.81	-12.81	3.99	5.18	6.97	7.18	8.13	
Rank			75	90	65	65	57	69	71	65	76	
US Large Cap Equity	225,360,463	21.51	8.16	2.03	-20.31	-20.31	6.82	9.08	11.38	12.80	12.00	04/01/2010
S&P 500 Index (Cap Wtd)			7.56	2.31	-18.11	-18.11	7.66	9.42	11.48	12.56	11.96	
Difference			0.60	-0.28	-2.20	-2.20	-0.84	-0.34	-0.10	0.24	0.04	
Hotchkis Wiley Large Cap Value Equity (SA)	70,276,068	6.71	17.13	8.86	-3.81	-3.81	8.31	7.51	11.08	12.11	11.62	11/01/1990
Russell 1000 Val Index			12.42	6.11	-7.54	-7.54	5.96	6.67	9.12	10.29	10.32	
Difference			4.71	2.75	3.73	3.73	2.35	0.84	1.96	1.82	1.30	
IM U.S. Large Cap Value Equity (SA+CF) Median			12.75	6.53	-5.44	-5.44	8.06	8.11	10.46	11.33	11.35	
Rank			3	19	38	38	47	64	29	24	38	
NTGI S&P 500 Index (CF)	93,881,740	8.96	7.56	2.31	-18.10	-18.10	7.69	9.44	11.48	12.57	10.23	08/01/2008
S&P 500 Index (Cap Wtd)			7.56	2.31	-18.11	-18.11	7.66	9.42	11.48	12.56	10.21	
Difference			0.00	0.00	0.01	0.01	0.03	0.02	0.00	0.01	0.02	
IM U.S. Large Cap Index Equity (SA+CF) Median			7.54	2.31	-18.53	-18.53	7.45	9.16	11.34	12.40	10.20	
Rank			37	54	32	32	22	28	36	29	37	
Polen Focus Growth (CF)	61,202,655	5.84	-0.12	-5.34	-37.52	-37.52	1.57	N/A	N/A	N/A	9.85	01/01/2019
Russell 1000 Grth Index			2.20	-1.48	-29.14	-29.14	7.79	10.96	12.95	14.10	14.32	
Difference			-2.32	-3.86	-8.38	-8.38	-6.22	N/A	N/A	N/A	-4.47	
IM U.S. Large Cap Growth Equity (SA+CF) Median			3.91	-0.39	-29.57	-29.57	6.30	9.98	11.65	13.26	12.69	
Rank			90	97	91	91	93	N/A	N/A	N/A	88	

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Oklahoma State Pension Commission
Oklahoma Law Enforcement Retirement System
Asset Allocation & Performance - Gross of Fees

As of December 31, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
US Small Cap Equity	122,359,327	11.68	7.65	5.65	-20.27	-20.27	5.25	5.65	9.04	9.56	N/A	11/01/2009
Russell 2000 Index			6.23	3.91	-20.44	-20.44	3.10	4.13	7.90	9.01	10.53	
Difference			1.42	1.74	0.17	0.17	2.15	1.52	1.14	0.55	N/A	
Kennedy Capital Small Cap Value Equity (SA)	61,021,199	5.82	10.64	8.18	-12.05	-12.05	9.66	6.62	10.51	11.12	12.46	02/01/1996
Russell 2000 Val Index			8.42	3.42	-14.48	-14.48	4.70	4.13	8.23	8.48	8.99	
Difference			2.22	4.76	2.43	2.43	4.96	2.49	2.28	2.64	3.47	
IM U.S. Small Cap Value Equity (SA+CF) Median			11.05	5.98	-10.85	-10.85	7.53	5.74	9.59	10.43	11.46	
Rank			56	28	65	65	21	35	29	28	13	
Wellington Small Cap Growth (CF)	61,338,128	5.85	4.70	3.43	-28.07	-28.07	0.31	4.15	N/A	N/A	7.55	08/01/2016
Russell 2000 Grth Index			4.13	4.38	-26.36	-26.36	0.65	3.51	7.09	9.20	6.97	
Difference			0.57	-0.95	-1.71	-1.71	-0.34	0.64	N/A	N/A	0.58	
IM U.S. Small Cap Growth Equity (SA+CF) Median			4.52	3.36	-27.30	-27.30	5.50	8.73	11.29	12.24	11.37	
Rank			49	50	58	58	99	95	N/A	N/A	97	
International Equity	189,082,303	18.04	13.29	1.21	-18.42	-18.42	-0.24	1.21	5.13	4.21	N/A	04/01/1994
MSCI ACW Ex US Index (USD) (Gross)			14.37	3.16	-15.57	-15.57	0.53	1.36	5.30	4.28	5.28	
Difference			-1.08	-1.95	-2.85	-2.85	-0.77	-0.15	-0.17	-0.07	N/A	
IM International Equity (SA+CF) Median			15.51	4.72	-16.40	-16.40	1.42	1.95	5.51	5.82	6.94	
Rank			76	87	62	62	77	66	61	88	N/A	
Mondrian International Equity (SA)	70,203,636	6.70	16.86	0.29	-10.52	-10.52	-1.21	0.46	3.89	4.41	4.42	01/01/2005
MSCI ACW Ex US Index (USD) (Gross)			14.37	3.16	-15.57	-15.57	0.53	1.36	5.30	4.28	4.85	
Difference			2.49	-2.87	5.05	5.05	-1.74	-0.90	-1.41	0.13	-0.43	
IM All ACWI Ex US (SA+CF) Median			14.94	4.29	-16.84	-16.84	1.16	2.24	5.56	5.68	5.73	
Rank			25	95	16	16	89	82	86	83	92	
Barings Focused Intl Equity (SA)	64,063,216	6.11	17.01	5.43	-15.82	-15.82	0.07	1.35	4.99	4.89	4.86	02/01/2012
MSCI ACW Ex US Index (USD) (Gross)			14.37	3.16	-15.57	-15.57	0.53	1.36	5.30	4.28	4.82	
Difference			2.64	2.27	-0.25	-0.25	-0.46	-0.01	-0.31	0.61	0.04	
IM All ACWI Ex US (SA+CF) Median			14.94	4.29	-16.84	-16.84	1.16	2.24	5.56	5.68	6.19	
Rank			25	27	44	44	73	69	66	73	86	
William Blair Emerging Markets Leaders (CF)	39,409,715	3.76	5.65	-2.94	-25.19	-25.19	-3.05	-0.20	N/A	N/A	4.61	09/01/2016
MSCI Emg Mkts Index (USD) (Gross)			9.79	-2.74	-19.74	-19.74	-2.34	-1.03	5.56	1.81	3.86	
Difference			-4.14	-0.20	-5.45	-5.45	-0.71	0.83	N/A	N/A	0.75	
IM Emerging Markets Equity (SA+CF) Median			10.59	-1.03	-19.57	-19.57	-0.98	-0.12	5.86	2.82	4.36	
Rank			88	70	81	81	79	52	N/A	N/A	43	

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Oklahoma State Pension Commission
Oklahoma Law Enforcement Retirement System
Asset Allocation & Performance - Gross of Fees

As of December 31, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
Wasatch EM Small Cap CI A (CF)	15,405,735	1.47	4.26	-0.35	-38.72	-38.72	4.56	4.48	7.61	4.70	5.72	07/01/2012
MSCI Emg Mkts Index (USD) (Gross)			9.79	-2.74	-19.74	-19.74	-2.34	-1.03	5.56	1.81	3.00	
Difference			-5.53	2.39	-18.98	-18.98	6.90	5.51	2.05	2.89	2.72	
IM Emerging Markets Equity (SA+CF) Median			10.59	-1.03	-19.57	-19.57	-0.98	-0.12	5.86	2.82	4.13	
Rank			92	44	99	99	13	6	16	19	18	
Long/Short Equity	39,035,024	3.73	3.87	3.43	-17.53	-17.53	-2.53	-0.01	2.01	3.98	3.83	04/01/2010
MSCI ACW Index (USD) (Gross)			9.88	2.51	-17.96	-17.96	4.49	5.75	8.66	8.54	8.12	
Difference			-6.01	0.92	0.43	0.43	-7.02	-5.76	-6.65	-4.56	-4.29	
HFRI FOF: Strategic Index			2.67	0.70	-11.87	-11.87	2.39	2.06	3.01	3.38	2.88	
Difference			1.20	2.73	-5.66	-5.66	-4.92	-2.07	-1.00	0.60	0.95	
Grosvenor (CF)	305,605	0.03	-3.21	-6.33	-9.18	-9.18	1.52	2.47	3.81	5.26	3.49	01/01/2008
HFRI FOF: Strategic Index			2.67	0.70	-11.87	-11.87	2.39	2.06	3.01	3.38	1.40	
Difference			-5.88	-7.03	2.69	2.69	-0.87	0.41	0.80	1.88	2.09	
Mauna Kea (CF)	38,729,419	3.70	3.93	3.51	-15.99	-15.99	N/A	N/A	N/A	N/A	-2.05	08/01/2020
HFRI FOF: Strategic Index			2.67	0.70	-11.87	-11.87	2.39	2.06	3.01	3.38	2.66	
Difference			1.26	2.81	-4.12	-4.12	N/A	N/A	N/A	N/A	-4.71	
Private Equity	121,187,075	11.56	-0.13	-2.26	-0.26	-0.26	19.17	15.13	12.71	12.38	N/A	10/01/1990
S&P 500 Index+5%			8.88	4.84	-14.02	-14.02	13.04	14.90	17.05	18.19	15.91	
Difference			-9.01	-7.10	13.76	13.76	6.13	0.23	-4.34	-5.81	N/A	
Cambridge US Prvt Eq Index			0.00	0.05	-3.34	-3.34	18.48	15.90	15.87	14.93	14.82	
Difference			-0.13	-2.31	3.08	3.08	0.69	-0.77	-3.16	-2.55	N/A	

Performance shown is gross of fees. Performance is annualized for periods greater than one year. Manager inception dates shown represent the first full month following initial funding. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
Oklahoma Law Enforcement Retirement System
Asset Allocation & Performance - Gross of Fees

As of December 31, 2022

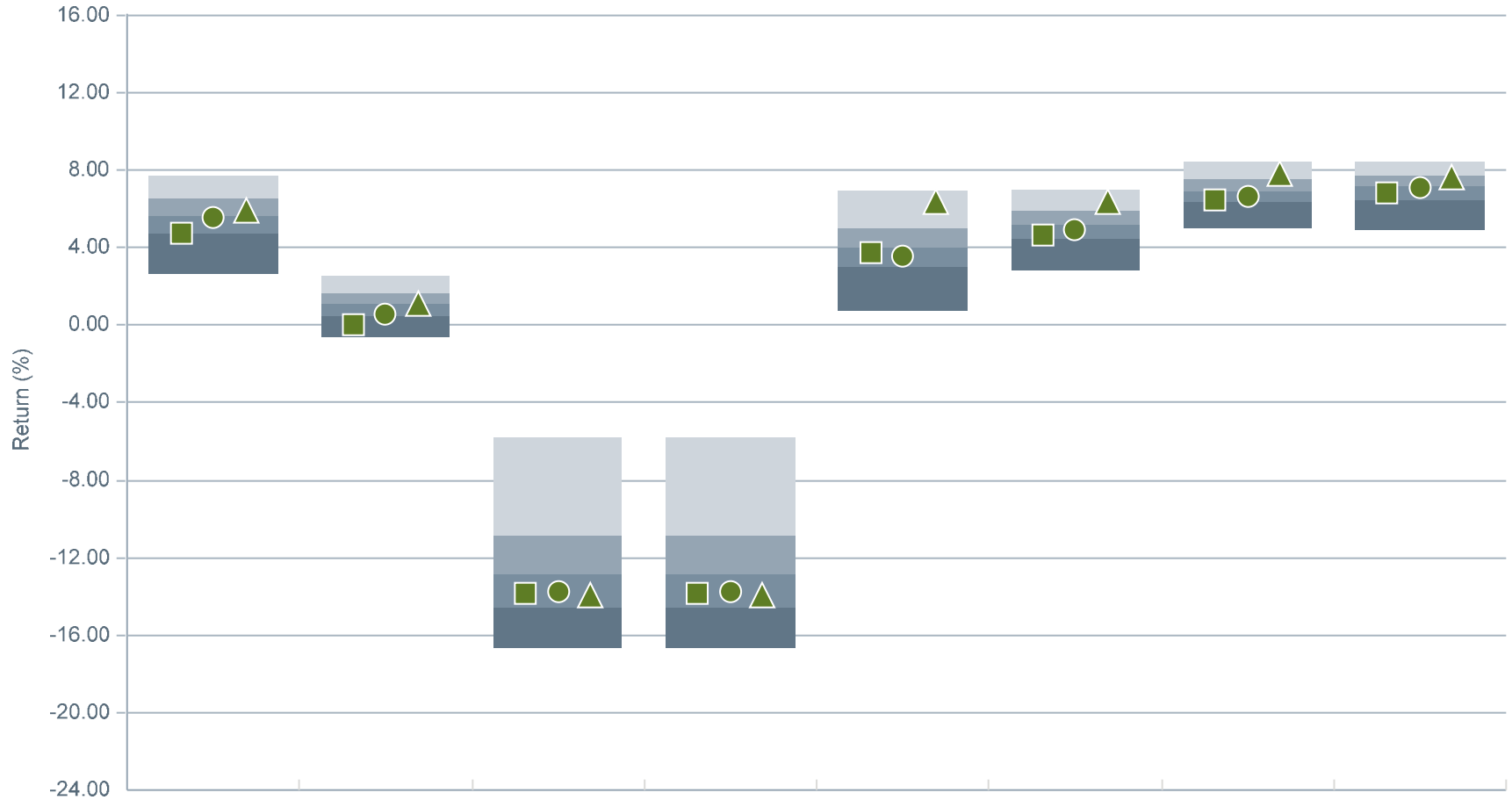
	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
Fixed Income	208,449,267	19.89	2.00	-2.56	-13.22	-13.22	-3.38	-0.76	0.69	0.87	5.90	10/01/1990
Bloomberg US Agg Bond Index			1.87	-2.97	-13.01	-13.01	-2.71	0.02	0.89	1.06	5.10	
Difference			0.13	0.41	-0.21	-0.21	-0.67	-0.78	-0.20	-0.19	0.80	
IM Global Fixed Income (SA+CF) Median			4.57	0.50	-12.67	-12.67	-1.44	1.09	2.63	1.97	N/A	
Rank			87	83	54	54	77	75	84	59	N/A	
NTGI Aggregate Index (SA)	52,032,711	4.97	1.87	-2.88	-12.88	-12.88	-2.66	0.07	0.93	1.09	2.95	04/01/2004
Bloomberg US Agg Bond Index			1.87	-2.97	-13.01	-13.01	-2.71	0.02	0.89	1.06	2.94	
Difference			0.00	0.09	0.13	0.13	0.05	0.05	0.04	0.03	0.01	
IM U.S. Broad Market Core Fixed Income (SA+CF) Median			1.82	-2.89	-12.95	-12.95	-2.20	0.45	1.39	1.50	3.37	
Rank			43	50	45	45	83	85	88	88	91	
TCW Core Plus Fixed Income (SA)	104,021,878	9.93	1.81	-3.24	-13.87	-13.87	-1.89	0.85	1.72	1.95	5.12	12/01/1993
Bloomberg US Agg Bond Index			1.87	-2.97	-13.01	-13.01	-2.71	0.02	0.89	1.06	4.38	
Difference			-0.06	-0.27	-0.86	-0.86	0.82	0.83	0.83	0.89	0.74	
IM U.S. Broad Market Core+ Fixed Income (SA+CF) Median			2.14	-2.26	-12.95	-12.95	-1.73	0.84	1.93	1.92	5.23	
Rank			72	94	82	82	57	49	63	48	59	
Loomis Sayles	52,394,678	5.00	2.56	-0.80	-12.35	-12.35	N/A	N/A	N/A	N/A	-9.87	09/01/2021
Bloomberg US Gov't Crdt Bond Index			1.80	-2.84	-13.58	-13.58	-2.57	0.21	1.14	1.16	-10.96	
Difference			0.76	2.04	1.23	1.23	N/A	N/A	N/A	N/A	1.09	
IM U.S. Broad Market Core+ Fixed Income (SA+CF) Median			2.14	-2.26	-12.95	-12.95	-1.73	0.84	1.93	1.92	-10.38	
Rank			24	16	31	31	N/A	N/A	N/A	N/A	29	
Real Assets	140,900,984	13.45	-3.89	-4.33	5.60	5.60	8.50	6.61	6.90	7.19	7.19	06/01/1999
NCREIF ODCE Index (AWA) (Gross)			-4.97	-4.47	7.47	7.47	9.93	8.68	8.54	10.10	8.61	
Difference			1.08	0.14	-1.87	-1.87	-1.43	-2.07	-1.64	-2.91	-1.42	
Core Real Estate												
JPMCB Strategic Property (CF)	108,894,273	10.39	-4.97	-6.18	4.64	4.64	8.68	7.69	7.71	9.58	9.77	04/01/2012
NCREIF Property Index			-3.50	-2.95	5.52	5.52	8.06	7.46	7.46	8.82	8.93	
Difference			-1.47	-3.23	-0.88	-0.88	0.62	0.23	0.25	0.76	0.84	
UBS Trumbull Property (SA)	18,903,662	1.80	0.02	0.02	7.40	7.40	6.20	4.64	5.24	7.13	7.13	01/01/2013
NCREIF Property Index			-3.50	-2.95	5.52	5.52	8.06	7.46	7.46	8.82	8.82	
Difference			3.52	2.97	1.88	1.88	-1.86	-2.82	-2.22	-1.69	-1.69	
Colcord Center (CF)	4,800,000	0.46	1.20	6.15	1.93	1.93	6.76	5.80	5.38	5.89	5.35	05/01/2008
Value Add Real Estate	8,303,049	0.79	-0.76	8.10	N/A	N/A	N/A	N/A	N/A	N/A	19.98	03/01/2022
NCREIF ODCE Index (AWA) (Gross)			-4.97	-4.47	7.47	7.47	9.93	8.68	8.54	10.10	7.47	
Difference			4.21	12.57	N/A	N/A	N/A	N/A	N/A	N/A	12.51	

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Oklahoma State Pension Commission
 Oklahoma Law Enforcement Retirement System vs. All Public Plans-Total Fund
 Plan Sponsor Peer Group Analysis

As of December 31, 2022



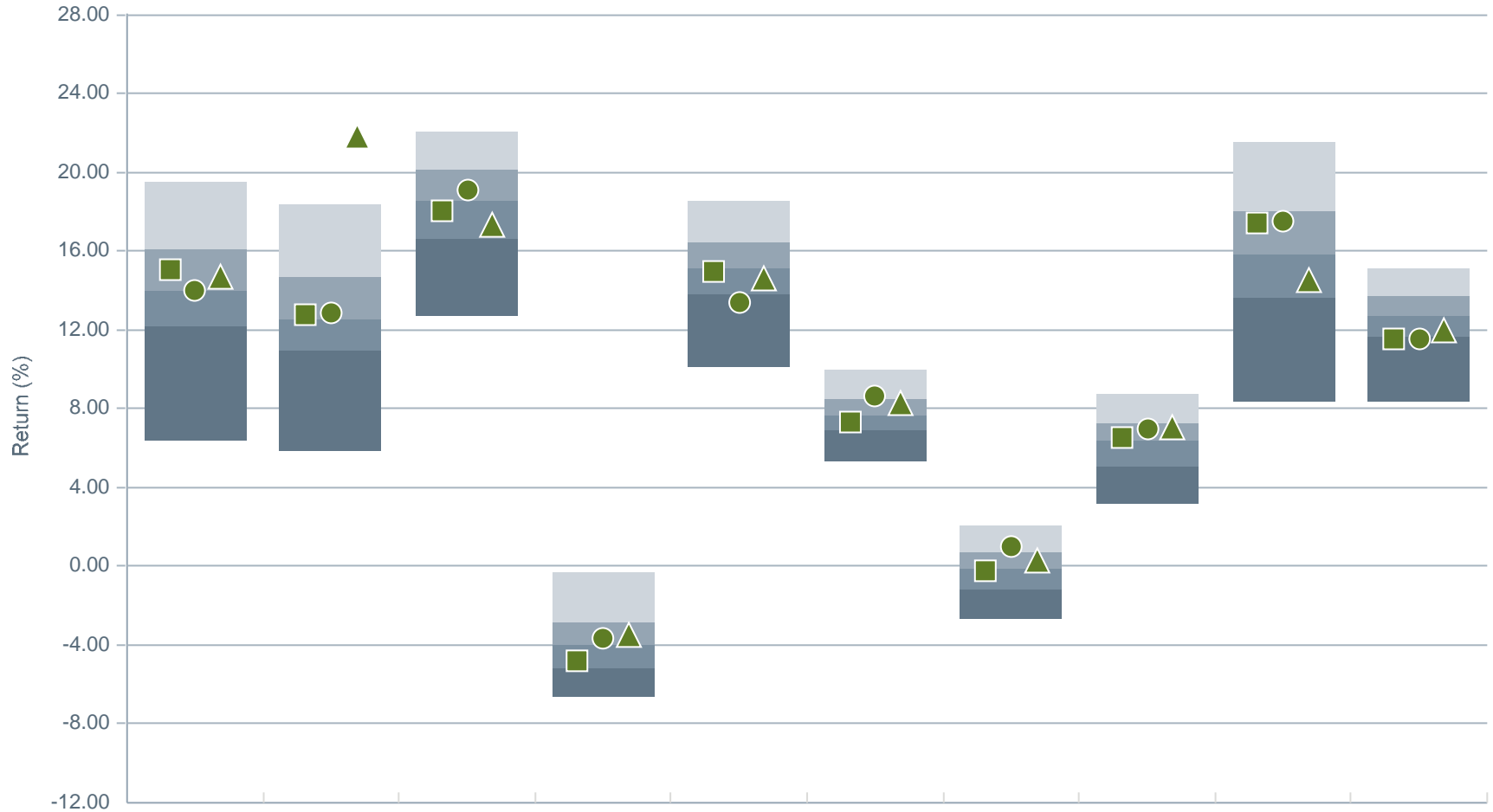
	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years
■ OLERS Total Fund	4.79 (75)	0.04 (90)	-13.87 (65)	-13.87 (65)	3.78 (57)	4.68 (69)	6.48 (71)	6.83 (65)
● OLERS Policy Index	5.53 (57)	0.56 (74)	-13.75 (63)	-13.75 (63)	3.53 (61)	4.95 (60)	6.64 (65)	7.13 (53)
▲ OLERS Allocation Index	5.90 (43)	1.09 (50)	-13.91 (66)	-13.91 (66)	6.38 (8)	6.40 (12)	7.81 (17)	7.62 (29)
5th Percentile	7.73	2.59	-5.72	-5.72	6.93	7.03	8.45	8.48
1st Quartile	6.58	1.63	-10.82	-10.82	5.03	5.94	7.60	7.72
Median	5.66	1.08	-12.81	-12.81	3.99	5.18	6.97	7.18
3rd Quartile	4.79	0.52	-14.55	-14.55	3.03	4.47	6.38	6.45
95th Percentile	2.64	-0.63	-16.67	-16.67	0.78	2.88	5.06	4.90

Performance shown is gross of fees. Parentheses contain percentile ranks. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
 Oklahoma Law Enforcement Retirement System vs. All Public Plans-Total Fund
 Plan Sponsor Peer Group Analysis

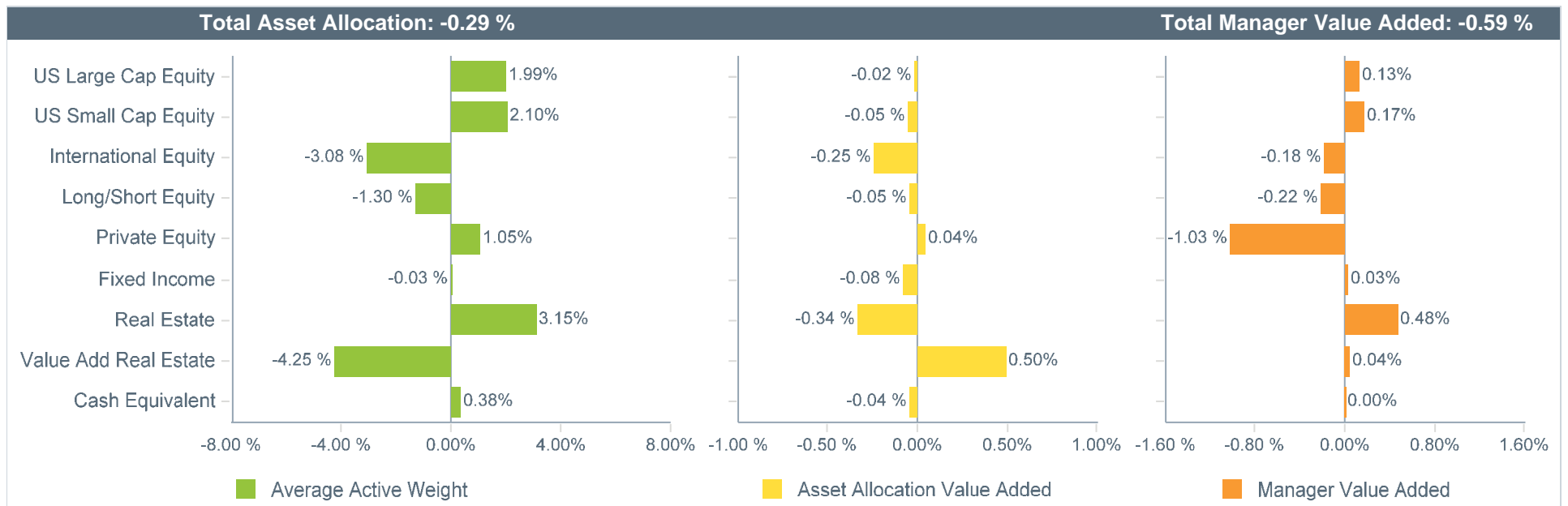
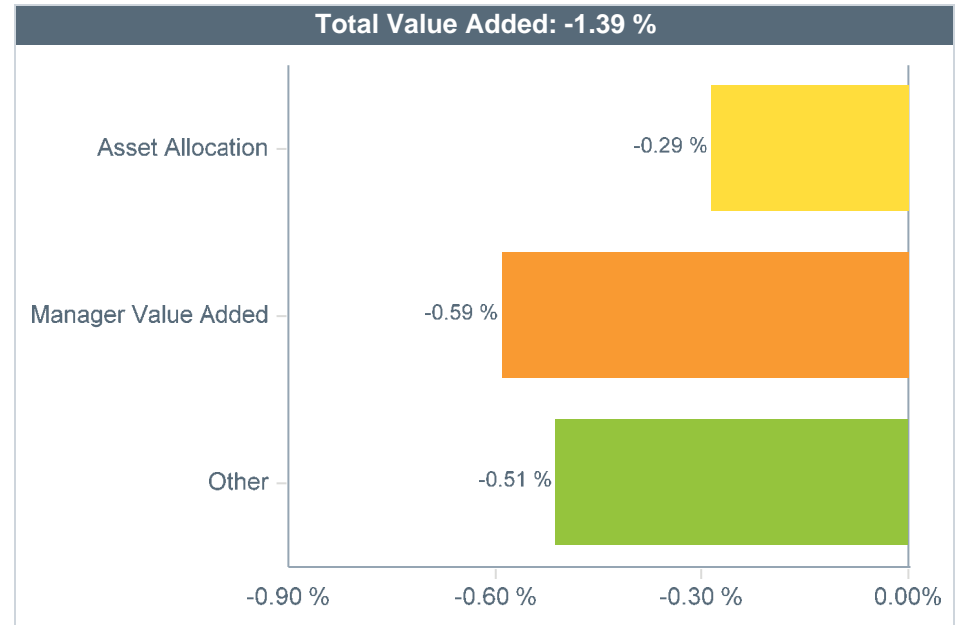
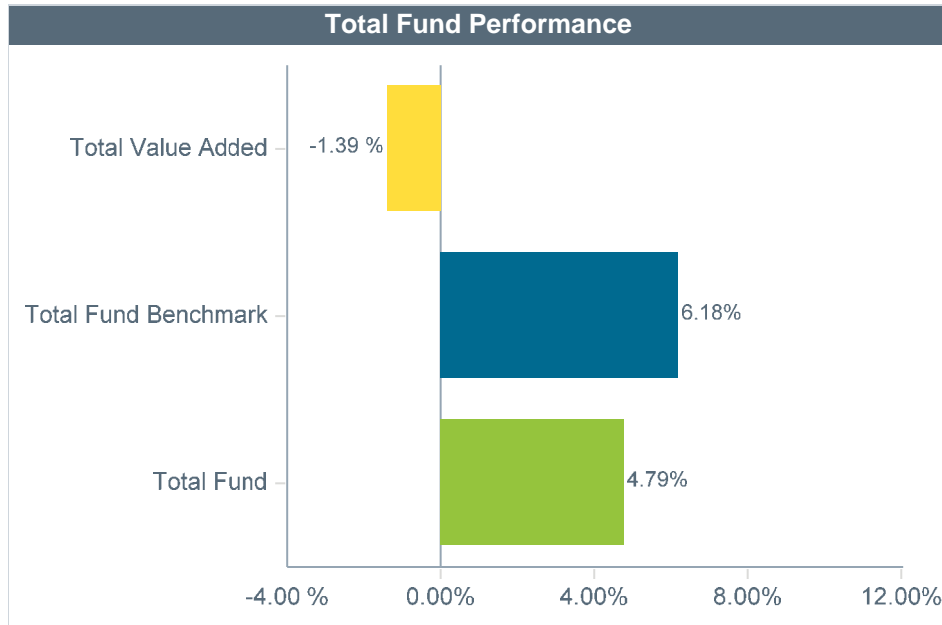
As of December 31, 2022



	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012
■ OLETS Total Fund	15.04 (35)	12.80 (46)	18.07 (57)	-4.76 (67)	15.00 (53)	7.38 (61)	-0.25 (54)	6.51 (46)	17.46 (32)	11.56 (76)
● OLETS Policy Index	14.02 (50)	12.84 (46)	19.12 (41)	-3.67 (43)	13.36 (83)	8.64 (23)	1.00 (18)	7.01 (31)	17.53 (31)	11.57 (76)
▲ OLETS Allocation Index	14.75 (38)	21.88 (1)	17.33 (67)	-3.47 (38)	14.63 (61)	8.27 (33)	0.33 (36)	7.07 (30)	14.59 (65)	12.03 (67)
5th Percentile	19.53	18.43	22.14	-0.28	18.60	9.98	2.09	8.76	21.62	15.18
1st Quartile	16.09	14.70	20.20	-2.88	16.45	8.51	0.72	7.28	18.08	13.79
Median	14.01	12.54	18.57	-4.02	15.16	7.69	-0.12	6.37	15.91	12.71
3rd Quartile	12.21	10.93	16.65	-5.11	13.88	6.93	-1.17	5.09	13.66	11.63
95th Percentile	6.37	5.89	12.67	-6.64	10.14	5.29	-2.64	3.19	8.42	8.41

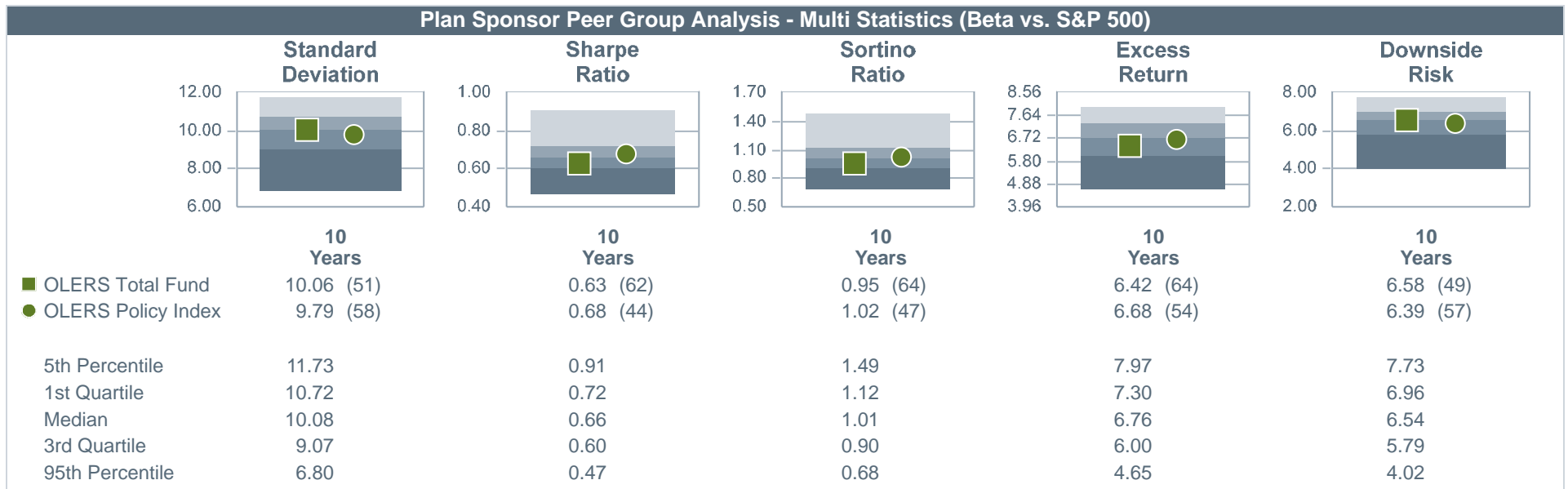
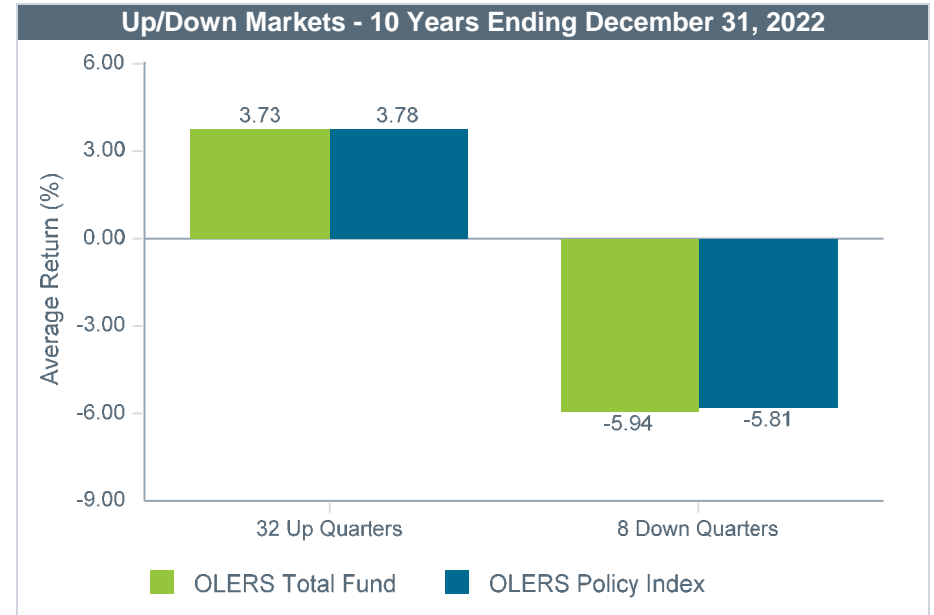
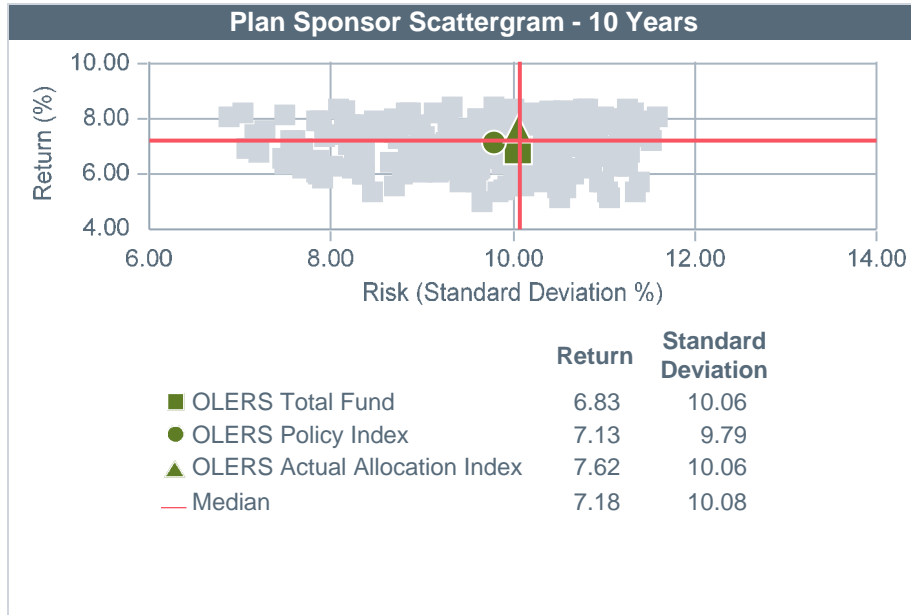
Performance shown is gross of fees. Parentheses contain percentile ranks. Please see the Addendum for custom index definitions and additional comments.



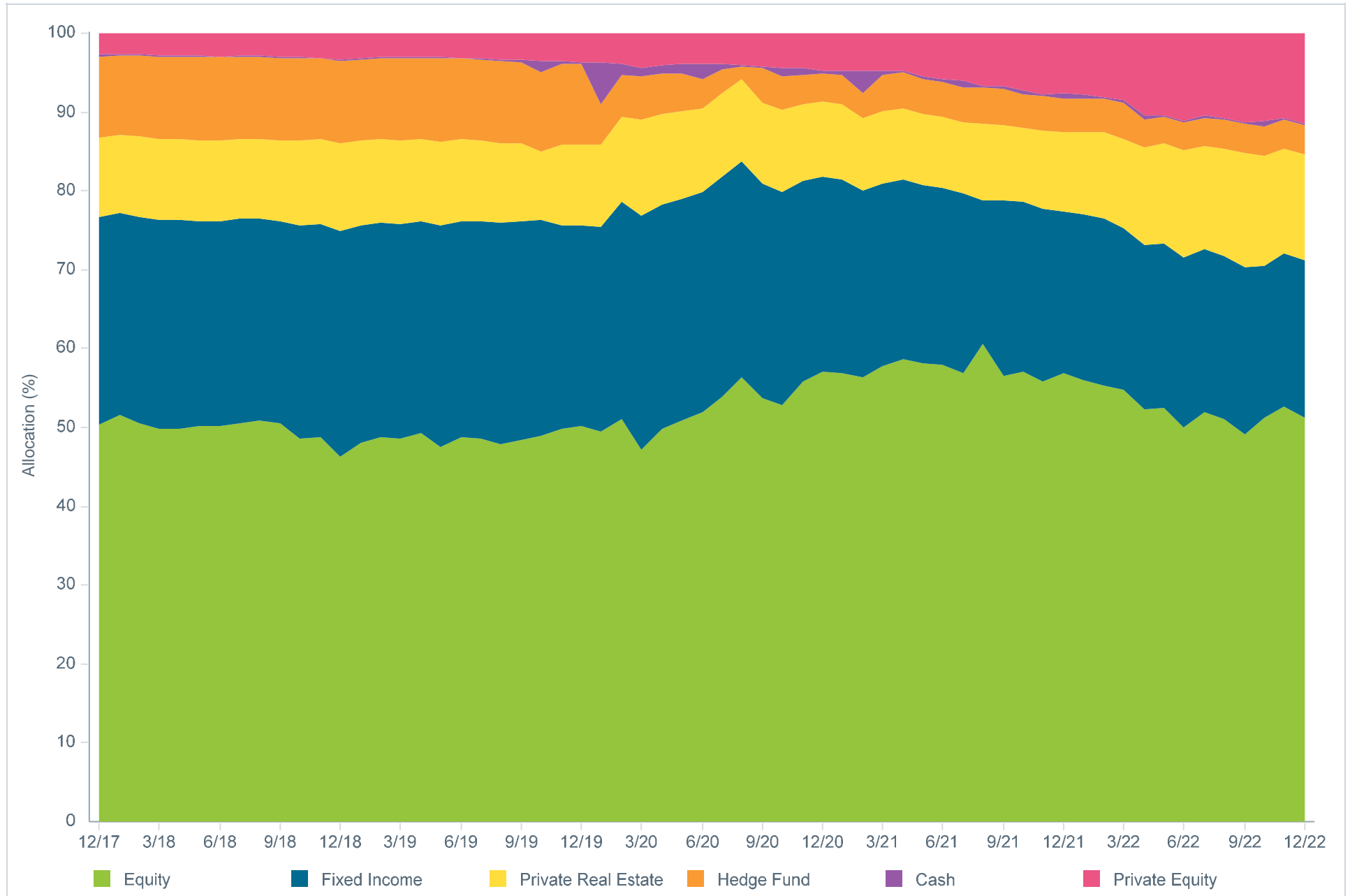


Performance shown is gross of fees. Calculation is based on monthly periodicity. See Glossary for additional information regarding the Total Fund Attribution calculation.





Performance shown is gross of fees. Calculation is based on quarterly periodicity. Parentheses contain percentile ranks. Please see the Addendum for custom index definitions and additional comments.



Uniform Retirement System for Justices & Judges (URSJJ)

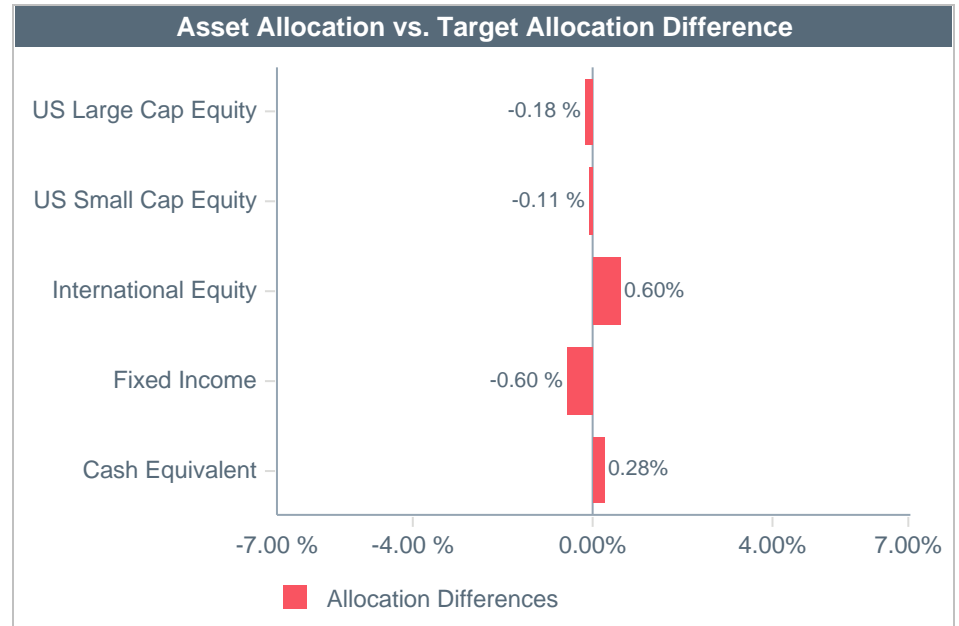


Oklahoma State Pension Commission
 Uniform Retirement System for Justices & Judges
 Total Fund Summary

As of December 31, 2022

	Performance (%)												
	Trailing							Calendar Year					
	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2021	2020	2019	2018	2017
URSJJ Total Fund (Net)	7.30	0.74	-16.95	-16.95	2.31	3.99	6.32	6.53	12.08	15.06	21.36	-6.43	16.85
URSJJ Policy Index	7.40	0.80	-16.62	-16.62	2.32	4.10	6.41	6.56	11.54	15.19	21.51	-6.09	16.86
Difference	-0.10	-0.06	-0.33	-0.33	-0.01	-0.11	-0.09	-0.03	0.54	-0.13	-0.15	-0.34	-0.01
URSJJ Actual Allocation Index	7.21	0.66	-16.86	-16.86	3.43	4.59	6.70	6.76	12.10	18.70	21.01	-6.52	16.63
Difference	0.09	0.08	-0.09	-0.09	-1.12	-0.60	-0.38	-0.23	-0.02	-3.64	0.35	0.09	0.22
Actuarial Discount Rate (6.5%)	1.59	3.20	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50
Difference	5.71	-2.46	-23.45	-23.45	-4.19	-2.51	-0.18	0.03	5.58	8.56	14.86	-12.93	10.35
URSJJ Total Fund (Gross)	7.31	0.75	-16.93	-16.93	2.35	4.03	6.36	6.58	12.12	15.10	21.40	-6.38	16.89
URSJJ Policy Index	7.40	0.80	-16.62	-16.62	2.32	4.10	6.41	6.56	11.54	15.19	21.51	-6.09	16.86
Difference	-0.09	-0.05	-0.31	-0.31	0.03	-0.07	-0.05	0.02	0.58	-0.09	-0.11	-0.29	0.03
URSJJ Actual Allocation Index	7.21	0.66	-16.86	-16.86	3.43	4.59	6.70	6.76	12.10	18.70	21.01	-6.52	16.63
Difference	0.10	0.09	-0.07	-0.07	-1.08	-0.56	-0.34	-0.18	0.02	-3.60	0.39	0.14	0.26
All Public Plans-Total Fund Median	5.66	1.08	-12.81	-12.81	3.99	5.18	6.97	7.18	14.01	12.54	18.57	-4.02	15.16
Rank	10	65	97	97	87	86	77	71	77	22	11	93	18

Asset Allocation vs. Target Allocation			
	Asset Allocation (\$)	Asset Allocation (%)	Target Allocation (%)
URSJJ (Judges)	352,860,722	100.00	100.00
US Large Cap Equity	119,337,879	33.82	34.00
US Small Cap Equity	20,798,492	5.89	6.00
International Equity	100,911,483	28.60	28.00
Fixed Income	110,807,557	31.40	32.00
Cash Equivalent	1,005,311	0.28	0.00



Parentheses contain percentile ranks. Allocations shown may not sum up to 100% exactly due to rounding. Please see the Addendum for custom index definitions and additional Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
Uniform Retirement System for Justices & Judges
Asset Allocation & Performance - Net of Fees

As of December 31, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
URSJJ Total Fund	352,860,722	100.00	7.30	0.74	-16.95	-16.95	2.31	3.99	6.32	6.53	N/A	06/01/1986
URSJJ Policy Index			7.40	0.80	-16.62	-16.62	2.32	4.10	6.41	6.56	8.33	
Difference			-0.10	-0.06	-0.33	-0.33	-0.01	-0.11	-0.09	-0.03	N/A	
URSJJ Actual Allocation Index			7.21	0.66	-16.86	-16.86	3.43	4.59	6.70	6.76	7.91	
Difference			0.09	0.08	-0.09	-0.09	-1.12	-0.60	-0.38	-0.23	N/A	
Actuarial Discount Rate (6.5%)			1.59	3.20	6.50	6.50	6.50	6.50	6.50	6.50	6.50	
Difference			5.71	-2.46	-23.45	-23.45	-4.19	-2.51	-0.18	0.03	N/A	
US Equity	140,136,371	39.71	7.08	2.59	-19.30	-19.30	6.79	8.40	10.78	11.90	N/A	10/01/1989
URSJJ US Equity Custom Index			7.10	2.55	-19.29	-19.29	6.79	8.43	10.80	11.93	N/A	
Difference			-0.02	0.04	-0.01	-0.01	0.00	-0.03	-0.02	-0.03	N/A	
BlackRock Russell 1000 Index (CF)	119,337,879	33.82	7.23	2.35	-19.12	-19.12	7.38	9.15	11.29	12.40	12.76	07/01/2009
Russell 1000 Index			7.24	2.30	-19.13	-19.13	7.35	9.13	11.26	12.37	13.34	
Difference			-0.01	0.05	0.01	0.01	0.03	0.02	0.03	0.03	-0.58	
BlackRock Russell 2000 Index (CF)	20,798,492	5.89	6.25	3.95	-20.34	-20.34	3.17	4.24	8.06	9.19	11.28	07/01/2009
Russell 2000 Index			6.23	3.91	-20.44	-20.44	3.10	4.13	7.90	9.01	11.12	
Difference			0.02	0.04	0.10	0.10	0.07	0.11	0.16	0.18	0.16	
International Equity	100,911,483	28.60	14.30	3.02	-15.73	-15.73	0.32	1.14	5.08	4.05	N/A	05/01/1994
MSCI ACW Ex US Index (USD) (Gross)			14.37	3.16	-15.57	-15.57	0.53	1.36	5.30	4.28	5.17	
Difference			-0.07	-0.14	-0.16	-0.16	-0.21	-0.22	-0.22	-0.23	N/A	
BlackRock MSCI ACWI Ex US (CF)	100,911,483	28.60	14.30	3.02	-15.73	-15.73	0.32	1.14	5.08	4.05	4.38	10/01/2009
MSCI ACW Ex US Index (USD) (Gross)			14.37	3.16	-15.57	-15.57	0.53	1.36	5.30	4.28	4.50	
Difference			-0.07	-0.14	-0.16	-0.16	-0.21	-0.22	-0.22	-0.23	-0.12	

Performance shown is net of fees. Performance is annualized for periods greater than one year. Manager inception dates shown represent the first full month following initial funding. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
Uniform Retirement System for Justices & Judges
Asset Allocation & Performance - Net of Fees

As of December 31, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
Fixed Income	110,807,557	31.40	1.89	-3.61	-15.07	-15.07	-2.37	0.42	1.31	1.34	N/A	10/01/1989
URSJJ Fixed Income Custom Index			1.48	-4.06	-15.08	-15.08	-2.85	0.00	0.97	1.04	N/A	
Difference			0.41	0.45	0.01	0.01	0.48	0.42	0.34	0.30	N/A	
BlackRock US Fixed Income (SA)	54,994,549	15.59	2.21	-2.62	-12.93	-12.93	-2.35	0.32	1.16	1.31	N/A	06/01/2000
Bloomberg US Agg Bond Index			1.87	-2.97	-13.01	-13.01	-2.71	0.02	0.89	1.06	3.98	
Difference			0.34	0.35	0.08	0.08	0.36	0.30	0.27	0.25	N/A	
MetWest US Fixed Income (SA)	33,192,643	9.41	2.15	-3.02	-13.39	-13.39	-2.04	0.64	1.37	1.50	N/A	09/01/2001
Bloomberg US Agg Bond Index			1.87	-2.97	-13.01	-13.01	-2.71	0.02	0.89	1.06	3.43	
Difference			0.28	-0.05	-0.38	-0.38	0.67	0.62	0.48	0.44	N/A	
Hoisington US Long Duration Fixed Income (SA)	9,612,721	2.72	-0.70	-11.00	-32.31	-32.31	-8.26	-2.52	-0.32	0.55	N/A	10/01/1991
Bloomberg US Agg Bond Index			1.87	-2.97	-13.01	-13.01	-2.71	0.02	0.89	1.06	4.77	
Difference			-2.57	-8.03	-19.30	-19.30	-5.55	-2.54	-1.21	-0.51	N/A	
BlackRock TIPS (CF)	13,007,644	3.69	1.88	-3.35	-11.93	-11.93	1.23	2.17	2.69	1.20	2.89	03/01/2010
Bloomberg US Trsy US TIPS Index			2.04	-3.21	-11.85	-11.85	1.21	2.11	2.60	1.12	2.86	
Difference			-0.16	-0.14	-0.08	-0.08	0.02	0.06	0.09	0.08	0.03	

Performance shown is net of fees. Performance is annualized for periods greater than one year. Manager inception dates shown represent the first full month following initial funding. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
Uniform Retirement System for Justices & Judges
Asset Allocation & Performance - Gross of Fees

As of December 31, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
URSJJ Total Fund	352,860,722	100.00	7.31	0.75	-16.93	-16.93	2.35	4.03	6.36	6.58	8.04	06/01/1986
URSJJ Policy Index			7.40	0.80	-16.62	-16.62	2.32	4.10	6.41	6.56	8.33	
Difference			-0.09	-0.05	-0.31	-0.31	0.03	-0.07	-0.05	0.02	-0.29	
URSJJ Actual Allocation Index			7.21	0.66	-16.86	-16.86	3.43	4.59	6.70	6.76	7.91	
Difference			0.10	0.09	-0.07	-0.07	-1.08	-0.56	-0.34	-0.18	0.13	
Actuarial Discount Rate (7.0%)			1.71	3.44	7.00	7.00	7.00	7.00	7.00	7.00	7.00	
Difference			5.60	-2.69	-23.93	-23.93	-4.65	-2.97	-0.64	-0.42	1.04	
All Public Plans-Total Fund Median			5.66	1.08	-12.81	-12.81	3.99	5.18	6.97	7.18	8.23	
Rank			10	65	97	97	87	86	77	71	66	
US Equity	140,136,371	39.71	7.08	2.59	-19.30	-19.30	6.80	8.41	10.79	11.91	9.36	10/01/1989
URSJJ US Equity Custom Index			7.10	2.55	-19.29	-19.29	6.79	8.43	10.80	11.93	N/A	
Difference			-0.02	0.04	-0.01	-0.01	0.01	-0.02	-0.01	-0.02	N/A	
All Public Plans-US Equity Segment Median			7.49	2.32	-18.06	-18.06	6.70	8.14	10.52	11.58	N/A	
Rank			72	40	67	67	49	41	34	34	N/A	
BlackRock Russell 1000 Index (CF)	119,337,879	33.82	7.23	2.35	-19.12	-19.12	7.39	9.16	11.30	12.40	12.77	07/01/2009
Russell 1000 Index			7.24	2.30	-19.13	-19.13	7.35	9.13	11.26	12.37	13.34	
Difference			-0.01	0.05	0.01	0.01	0.04	0.03	0.04	0.03	-0.57	
IM U.S. Large Cap Core Equity (SA+CF) Median			8.08	3.12	-16.86	-16.86	7.47	9.08	11.27	12.54	13.33	
Rank			73	66	73	73	53	48	48	57	79	
BlackRock Russell 2000 Index (CF)	20,798,492	5.89	6.25	3.95	-20.34	-20.34	3.18	4.26	8.08	9.22	11.30	07/01/2009
Russell 2000 Index			6.23	3.91	-20.44	-20.44	3.10	4.13	7.90	9.01	11.12	
Difference			0.02	0.04	0.10	0.10	0.08	0.13	0.18	0.21	0.18	
IM U.S. Small Cap Core Equity (SA+CF) Median			8.90	5.57	-16.43	-16.43	6.29	6.90	9.76	11.03	13.21	
Rank			86	70	79	79	94	86	87	93	96	

Performance shown is gross of fees. Performance is annualized for periods greater than one year. Manager inception dates shown represent the first full month following initial funding. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
Uniform Retirement System for Justices & Judges
Asset Allocation & Performance - Gross of Fees

As of December 31, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
International Equity	100,911,483	28.60	14.30	3.02	-15.72	-15.72	0.33	1.16	5.11	4.09	5.18	05/01/1994
MSCI ACW Ex US Index (USD) (Gross)			14.37	3.16	-15.57	-15.57	0.53	1.36	5.30	4.28	5.17	
Difference			-0.07	-0.14	-0.15	-0.15	-0.20	-0.20	-0.19	-0.19	0.01	
All Public Plans-Intl. Equity Segment Median			14.78	3.67	-16.98	-16.98	1.03	2.29	5.80	5.15	N/A	
Rank			62	66	38	38	71	81	84	98	N/A	
BlackRock MSCI ACWI Ex US (CF)	100,911,483	28.60	14.30	3.02	-15.72	-15.72	0.33	1.16	5.11	4.09	4.44	11/01/2009
MSCI ACW Ex US Index (USD) (Gross)			14.37	3.16	-15.57	-15.57	0.53	1.36	5.30	4.28	4.63	
Difference			-0.07	-0.14	-0.15	-0.15	-0.20	-0.20	-0.19	-0.19	-0.19	
IM All ACWI Ex US (SA+CF) Median			14.94	4.29	-16.84	-16.84	1.16	2.24	5.56	5.68	6.02	
Rank			66	77	44	44	70	73	61	87	91	
Fixed Income	110,807,557	31.40	1.91	-3.59	-15.02	-15.02	-2.28	0.50	1.39	1.43	5.82	10/01/1989
URSJJ Fixed Income Custom Index			1.48	-4.06	-15.08	-15.08	-2.85	0.00	0.97	1.04	N/A	
Difference			0.43	0.47	0.06	0.06	0.57	0.50	0.42	0.39	N/A	
BlackRock US Fixed Income (SA)	54,994,549	15.59	2.24	-2.60	-12.87	-12.87	-2.28	0.40	1.24	1.39	4.25	06/01/2000
Bloomberg US Agg Bond Index			1.87	-2.97	-13.01	-13.01	-2.71	0.02	0.89	1.06	3.98	
Difference			0.37	0.37	0.14	0.14	0.43	0.38	0.35	0.33	0.27	
IM U.S. Broad Market Fixed Income (SA+CF) Median			1.92	-2.60	-12.92	-12.92	-2.04	0.60	1.57	1.69	4.63	
Rank			25	49	47	47	68	70	82	81	80	
MetWest US Fixed Income (SA)	33,192,643	9.41	2.16	-2.99	-13.35	-13.35	-1.91	0.75	1.47	1.61	4.37	09/01/2001
Bloomberg US Agg Bond Index			1.87	-2.97	-13.01	-13.01	-2.71	0.02	0.89	1.06	3.43	
Difference			0.29	-0.02	-0.34	-0.34	0.80	0.73	0.58	0.55	0.94	
IM U.S. Broad Market Fixed Income (SA+CF) Median			1.92	-2.60	-12.92	-12.92	-2.04	0.60	1.57	1.69	4.11	
Rank			33	77	72	72	45	40	59	56	28	
Hoisington US Long Duration Fixed Income (SA)	9,612,721	2.72	-0.66	-10.94	-32.21	-32.21	-8.14	-2.39	-0.18	0.69	6.70	10/01/1991
Bloomberg US Agg Bond Index			1.87	-2.97	-13.01	-13.01	-2.71	0.02	0.89	1.06	4.77	
Difference			-2.53	-7.97	-19.20	-19.20	-5.43	-2.41	-1.07	-0.37	1.93	
IM U.S. Long Duration (SA+CF) Median			2.68	-6.03	-26.70	-26.70	-5.37	-0.52	2.21	2.10	N/A	
Rank			98	100	100	100	100	100	100	100	N/A	

Performance shown is gross of fees. Performance is annualized for periods greater than one year. Manager inception dates shown represent the first full month following initial funding. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
 Uniform Retirement System for Justices & Judges
 Asset Allocation & Performance - Gross of Fees

As of December 31, 2022

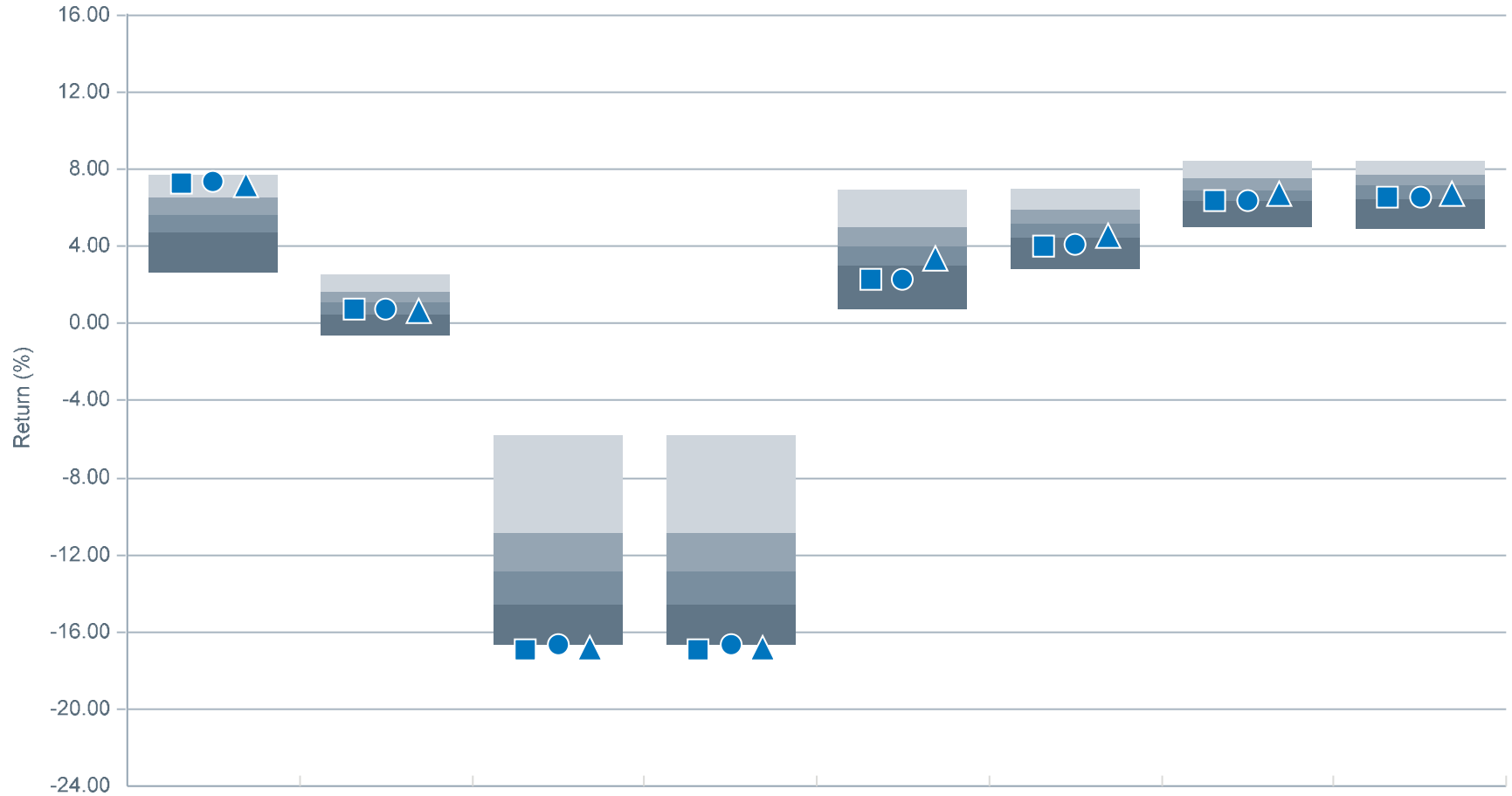
	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
BlackRock TIPS (CF)	13,007,644	3.69	1.88	-3.35	-11.93	-11.93	1.24	2.17	2.70	1.21	2.90	03/01/2010
Bloomberg US Trsy US TIPS Index			2.04	-3.21	-11.85	-11.85	1.21	2.11	2.60	1.12	2.86	
Difference			-0.16	-0.14	-0.08	-0.08	0.03	0.06	0.10	0.09	0.04	
IM U.S. TIPS (SA+CF) Median			2.02	-3.12	-11.79	-11.79	1.24	2.15	2.70	1.22	2.93	
Rank			65	90	68	68	52	45	41	54	56	

Performance shown is gross of fees. Performance is annualized for periods greater than one year. Manager inception dates shown represent the first full month following initial funding. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
 Uniform Retirement System for Justices & Judges vs. All Public Plans-Total Fund
 Plan Sponsor Peer Group Analysis

As of December 31, 2022



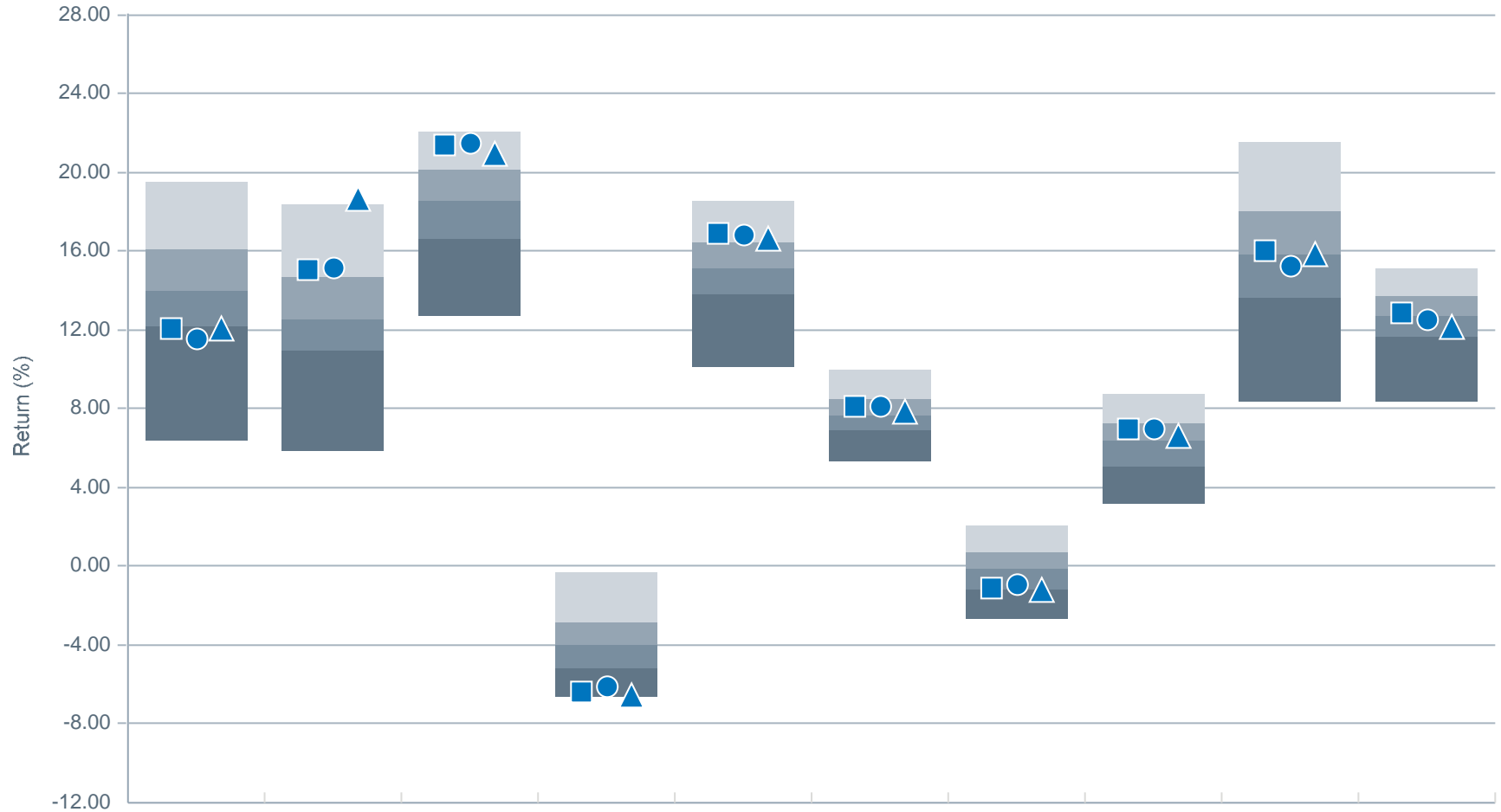
	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years
■ URSJJ Total Fund	7.31 (10)	0.75 (65)	-16.93 (97)	-16.93 (97)	2.35 (87)	4.03 (86)	6.36 (77)	6.58 (71)
● URSJJ Policy Index	7.40 (8)	0.80 (62)	-16.62 (95)	-16.62 (95)	2.32 (87)	4.10 (83)	6.41 (74)	6.56 (72)
▲ URSJJ Allocation Index	7.21 (12)	0.66 (68)	-16.86 (97)	-16.86 (97)	3.43 (64)	4.59 (71)	6.70 (64)	6.76 (67)
5th Percentile	7.73	2.59	-5.72	-5.72	6.93	7.03	8.45	8.48
1st Quartile	6.58	1.63	-10.82	-10.82	5.03	5.94	7.60	7.72
Median	5.66	1.08	-12.81	-12.81	3.99	5.18	6.97	7.18
3rd Quartile	4.79	0.52	-14.55	-14.55	3.03	4.47	6.38	6.45
95th Percentile	2.64	-0.63	-16.67	-16.67	0.78	2.88	5.06	4.90

Performance shown is gross of fees. Parentheses contain percentile ranks. Please see the Addendum for custom index definitions and additional comments.
 Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
 Uniform Retirement System for Justices & Judges vs. All Public Plans-Total Fund
 Plan Sponsor Peer Group Analysis

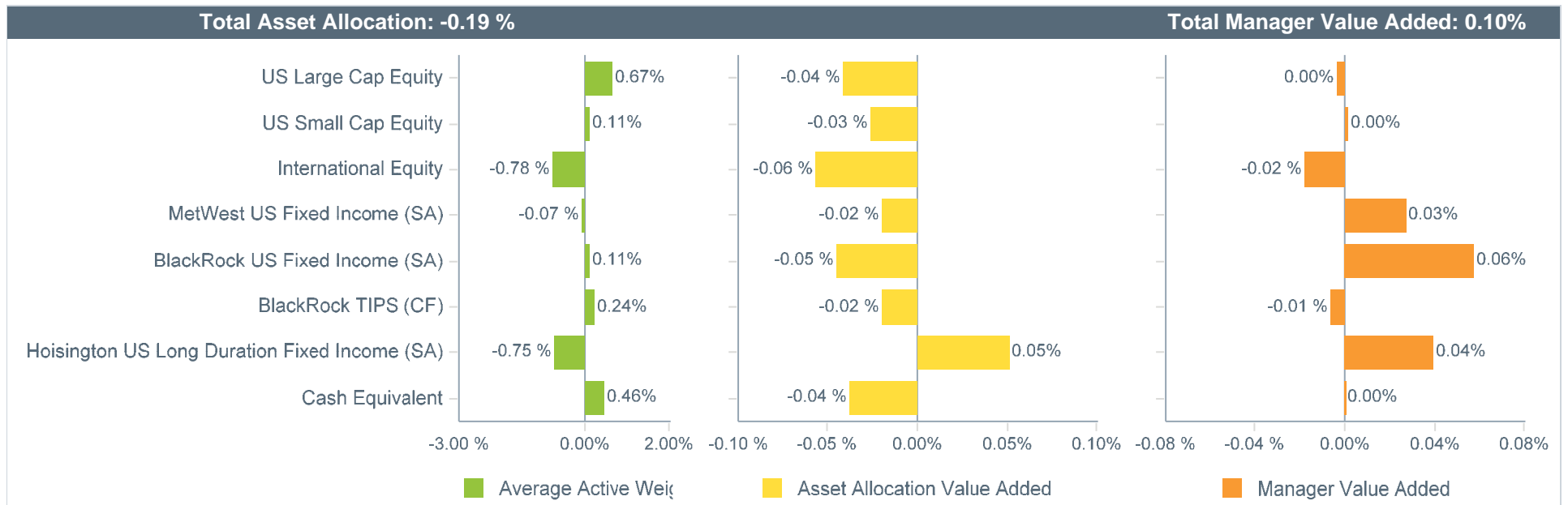
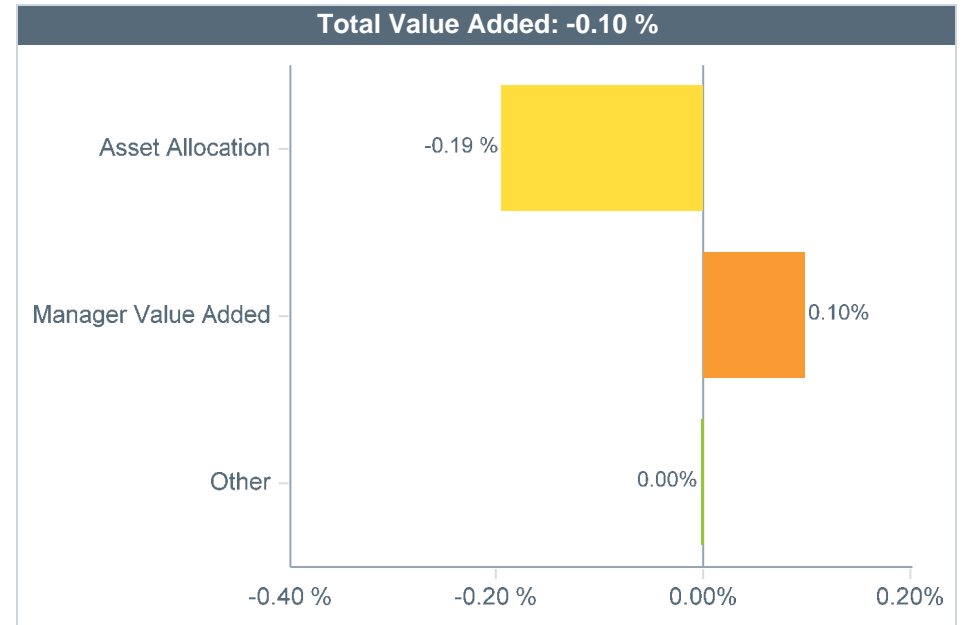
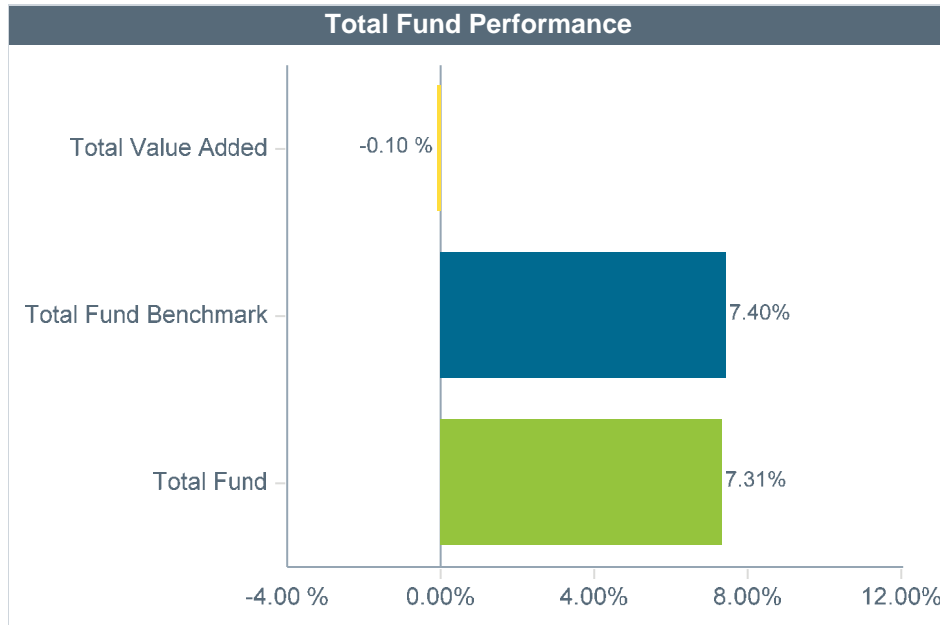
As of December 31, 2022



	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012
■ URSJJ Total Fund	12.12 (77)	15.10 (22)	21.40 (11)	-6.38 (93)	16.89 (18)	8.09 (39)	-1.07 (74)	7.00 (32)	16.01 (49)	12.91 (44)
● URSJJ Policy Index	11.54 (82)	15.19 (21)	21.51 (10)	-6.09 (91)	16.86 (19)	8.12 (38)	-0.89 (70)	7.00 (32)	15.27 (58)	12.52 (56)
▲ URSJJ Allocation Index	12.10 (78)	18.70 (4)	21.01 (16)	-6.52 (95)	16.63 (22)	7.90 (46)	-1.19 (76)	6.67 (43)	15.87 (51)	12.14 (65)
5th Percentile	19.53	18.43	22.14	-0.28	18.60	9.98	2.09	8.76	21.62	15.18
1st Quartile	16.09	14.70	20.20	-2.88	16.45	8.51	0.72	7.28	18.08	13.79
Median	14.01	12.54	18.57	-4.02	15.16	7.69	-0.12	6.37	15.91	12.71
3rd Quartile	12.21	10.93	16.65	-5.11	13.88	6.93	-1.17	5.09	13.66	11.63
95th Percentile	6.37	5.89	12.67	-6.64	10.14	5.29	-2.64	3.19	8.42	8.41

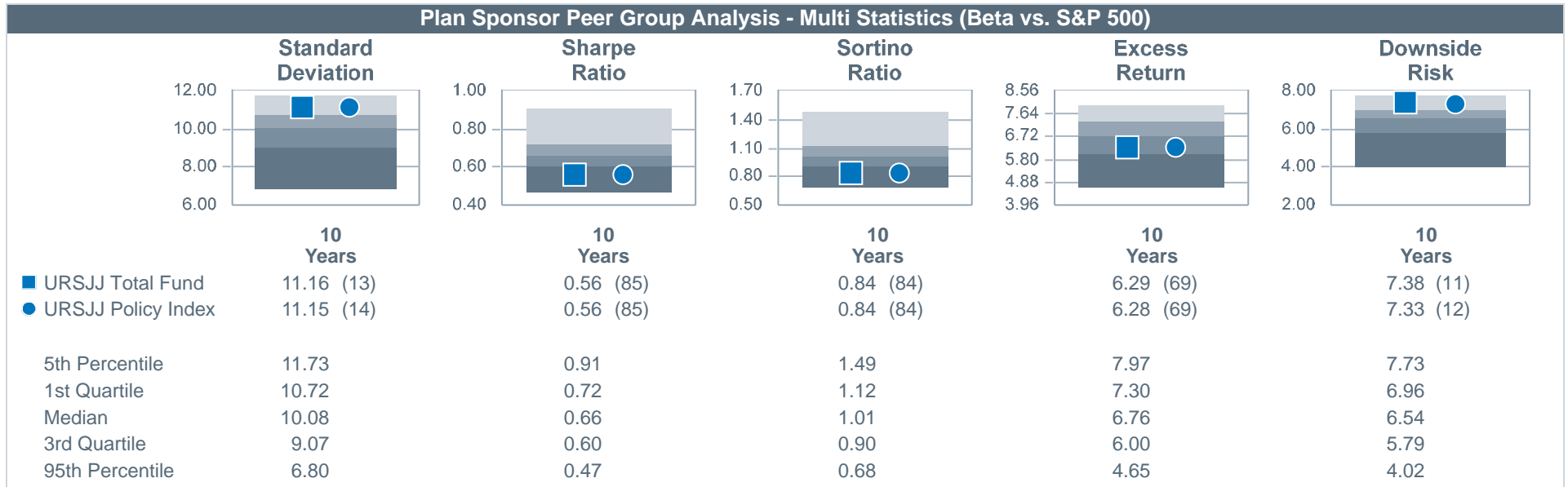
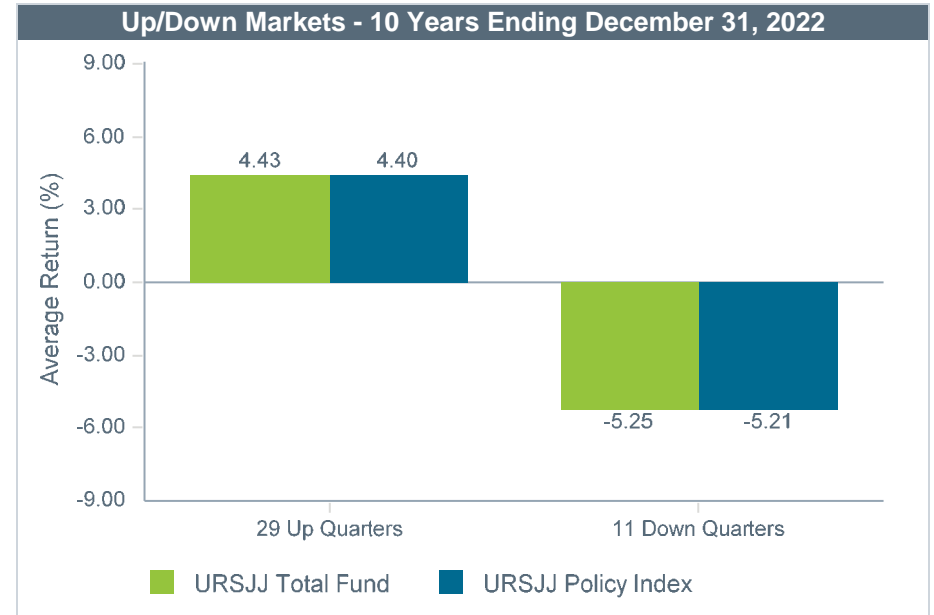
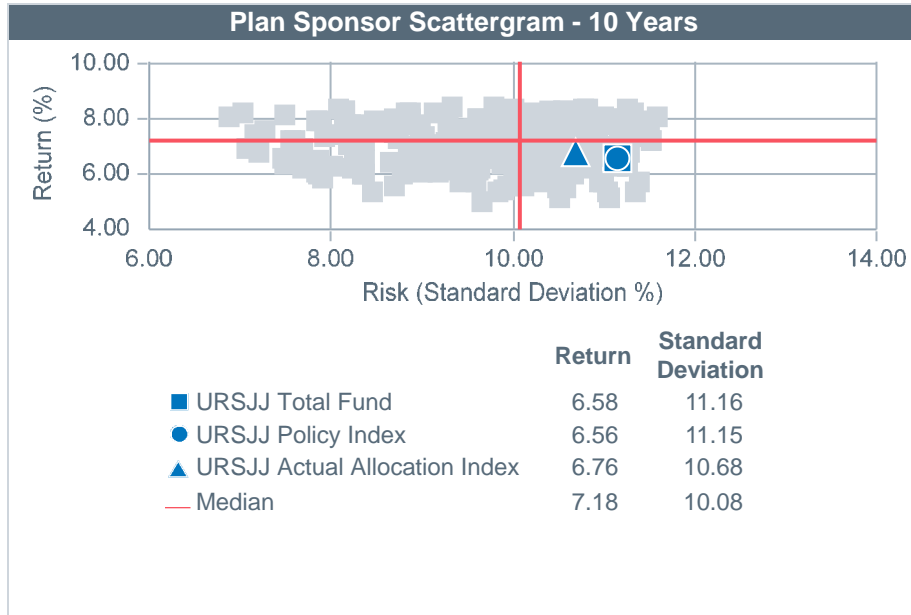
Performance shown is gross of fees. Parentheses contain percentile ranks. Please see the Addendum for custom index definitions and additional comments.



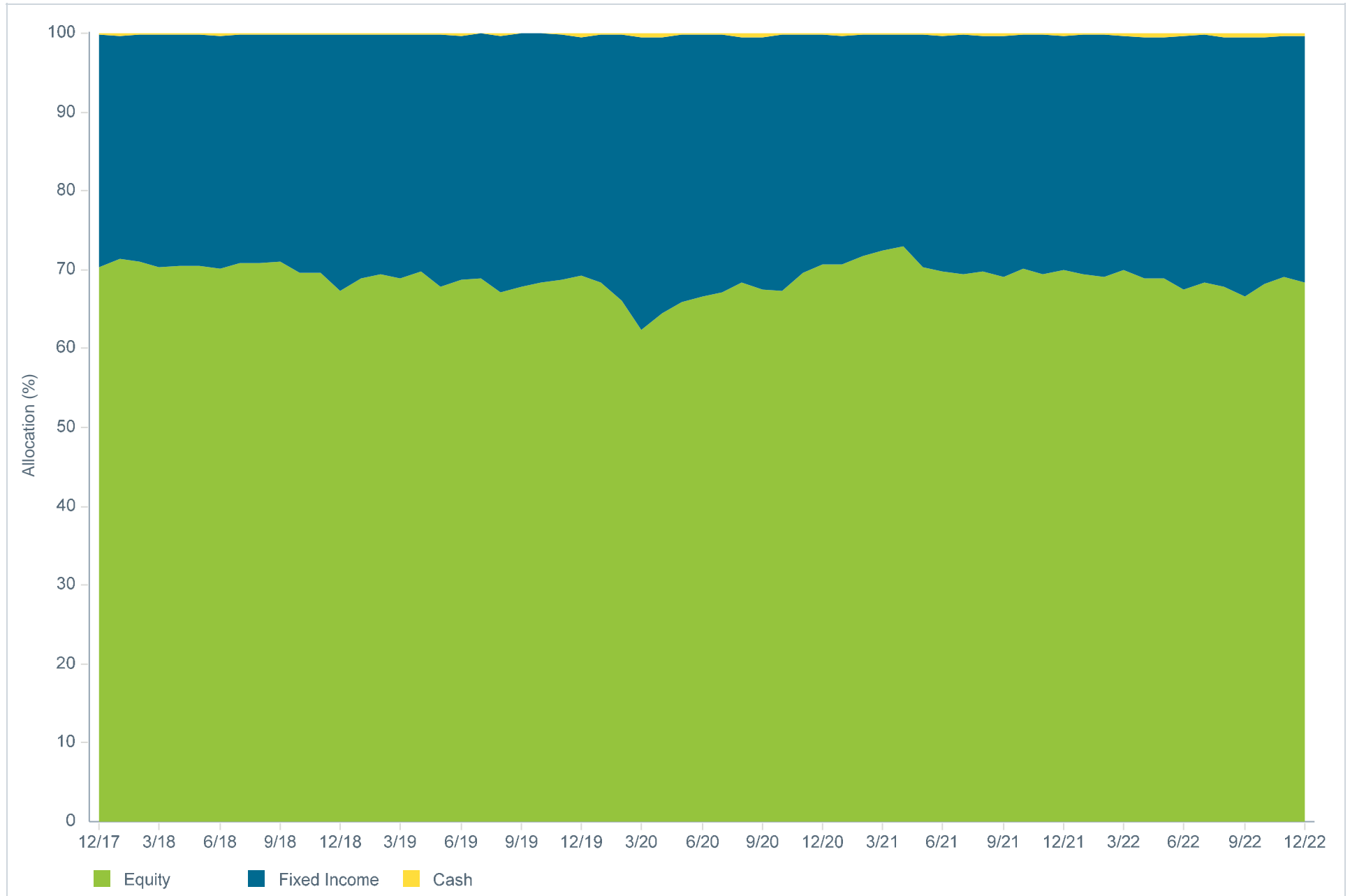


Performance shown is gross of fees. Calculation is based on monthly periodicity. See Glossary for additional information regarding the Total Fund Attribution calculation.





Performance shown is gross of fees. Calculation is based on quarterly periodicity. Parentheses contain percentile ranks. Please see the Addendum for custom index definitions and additional comments.

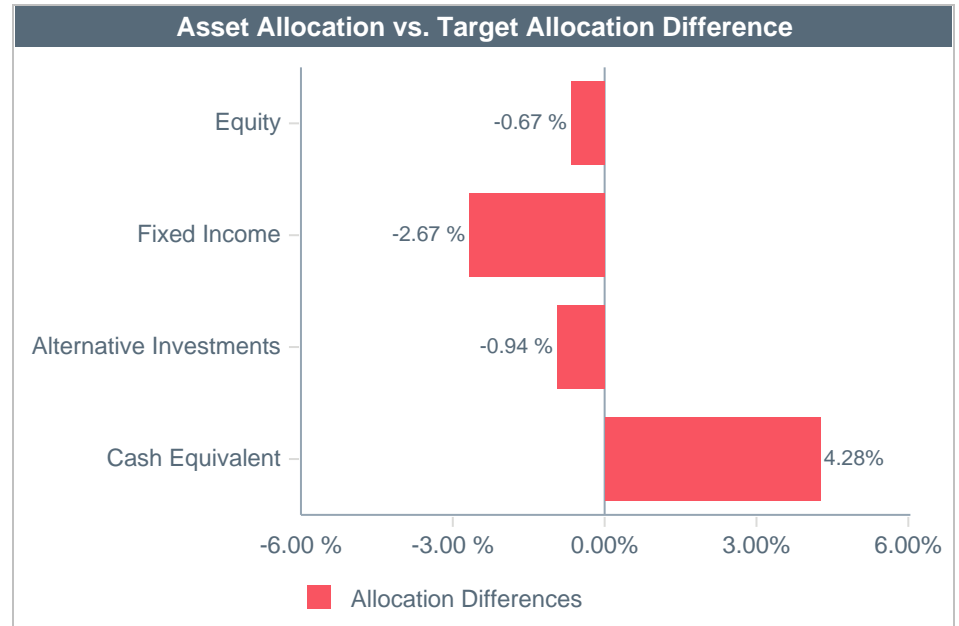


Oklahoma Wildlife Conservation Retirement System (OWCRS)



	Performance (%)												
	Trailing							Calendar Year					
	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2021	2020	2019	2018	2017
OWCRS Total Fund (Net)	6.51	1.14	-14.41	-14.41	2.57	4.34	5.93	6.36	11.58	13.00	19.21	-3.85	13.93
OWCRS Policy Index	7.54	3.00	-14.18	-14.18	2.18	3.57	5.40	5.71	10.35	12.67	17.53	-4.95	12.96
Difference	-1.03	-1.86	-0.23	-0.23	0.39	0.77	0.53	0.65	1.23	0.33	1.68	1.10	0.97
OWCRS Actual Allocation Index	7.10	2.43	-14.08	-14.08	2.41	4.51	6.37	6.59	10.43	13.21	20.53	-3.71	14.38
Difference	-0.59	-1.29	-0.33	-0.33	0.16	-0.17	-0.44	-0.23	1.15	-0.21	-1.32	-0.14	-0.45
Actuarial Discount Rate (7.0%)	1.71	3.44	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00
Difference	4.80	-2.30	-21.41	-21.41	-4.43	-2.66	-1.07	-0.64	4.58	6.00	12.21	-10.85	6.93
OWCRS Total Fund (Gross)	6.60	1.30	-14.14	-14.14	2.90	4.62	6.19	6.60	11.95	13.34	19.46	-3.68	14.13
OWCRS Policy Index	7.54	3.00	-14.18	-14.18	2.18	3.57	5.40	5.71	10.35	12.67	17.53	-4.95	12.96
Difference	-0.94	-1.70	0.04	0.04	0.72	1.05	0.79	0.89	1.60	0.67	1.93	1.27	1.17
OWCRS Actual Allocation Index	7.10	2.43	-14.08	-14.08	2.41	4.51	6.37	6.59	10.43	13.21	20.53	-3.71	14.38
Difference	-0.50	-1.13	-0.06	-0.06	0.49	0.11	-0.18	0.01	1.52	0.13	-1.07	0.03	-0.25
All Public Plans-Total Fund Median	5.66	1.08	-12.81	-12.81	3.99	5.18	6.97	7.18	14.01	12.54	18.57	-4.02	15.16
Rank	25	39	69	69	79	70	82	70	79	39	37	44	71

Asset Allocation vs. Target Allocation			
	Asset Allocation (\$)	Asset Allocation (%)	Target Allocation (%)
OWCRS (Wildlife)	117,665,555	100.00	100.00
Equity	75,696,100	64.33	65.00
Fixed Income	26,275,452	22.33	25.00
Alternative Investments	10,656,332	9.06	10.00
Cash Equivalent	5,037,671	4.28	0.00



Parentheses contain percentile ranks. Allocations shown may not sum up to 100% exactly due to rounding. Please see the Addendum for custom index definitions and additional Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
Oklahoma Wildlife Conservation Retirement System
Asset Allocation & Performance - Net of Fees

As of December 31, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
OWCRS Total Fund	117,665,555	100.00	6.51	1.14	-14.41	-14.41	2.57	4.34	5.93	6.36	5.37	01/01/2006
OWCRS Policy Index			7.54	3.00	-14.18	-14.18	2.18	3.57	5.40	5.71	5.55	
Difference			-1.03	-1.86	-0.23	-0.23	0.39	0.77	0.53	0.65	-0.18	
OWCRS Actual Allocation Index			7.10	2.43	-14.08	-14.08	2.41	4.51	6.37	6.59	5.88	
Difference			-0.59	-1.29	-0.33	-0.33	0.16	-0.17	-0.44	-0.23	-0.51	
Actuarial Discount Rate (7.0%)			1.71	3.44	7.00	7.00	7.00	7.00	7.00	7.00	7.00	
Difference			4.80	-2.30	-21.41	-21.41	-4.43	-2.66	-1.07	-0.64	-1.63	
Equity	75,696,100	64.33	8.85	2.67	-17.01	-17.01	4.50	6.56	9.34	10.65	7.81	01/01/2006
OWCRS Equity Custom Index			10.51	5.27	-16.41	-16.41	4.89	5.59	8.43	N/A	N/A	
Difference			-1.66	-2.60	-0.60	-0.60	-0.39	0.97	0.91	N/A	N/A	
iShares:Russell 1000 L/C Idx;K (BRGKX)	5,751,527	4.89	7.24	2.26	-19.14	-19.14	6.79	8.73	10.93	12.10	10.44	03/01/2020
Russell 1000 Index			7.24	2.30	-19.13	-19.13	7.35	9.13	11.26	12.37	11.05	
Difference			0.00	-0.04	-0.01	-0.01	-0.56	-0.40	-0.33	-0.27	-0.61	
Vanguard S-C Id;Inst (VSCIX)	4,380,165	3.72	7.96	5.17	-17.81	-17.81	4.75	5.84	8.99	10.06	8.35	12/01/2005
Russell 2000 Index			6.23	3.91	-20.44	-20.44	3.10	4.13	7.90	9.01	7.19	
Difference			1.73	1.26	2.63	2.63	1.65	1.71	1.09	1.05	1.16	
Bank of Oklahoma Managed Equity (SA)	48,138,818	40.91	6.96	2.25	-17.03	-17.03	N/A	N/A	N/A	N/A	16.14	04/01/2020
Russell 3000 Index			7.18	2.40	-19.21	-19.21	7.07	8.79	11.04	12.13	17.32	
Difference			-0.22	-0.15	2.18	2.18	N/A	N/A	N/A	N/A	-1.18	
Vanguard Dev Mkt;Adm (VTMGX)	5,854,637	4.98	17.11	4.88	-15.32	-15.32	1.33	1.67	4.99	4.92	3.89	09/01/1999
MSCI Wrld Ex US Index (USD) (Net)			16.18	5.50	-14.29	-14.29	1.27	1.79	4.87	4.59	3.88	
Difference			0.93	-0.62	-1.03	-1.03	0.06	-0.12	0.12	0.33	0.01	
Dodge & Cox Intl Stck;I (DODFX)	4,258,121	3.62	16.01	3.60	-6.78	-6.78	1.84	1.24	5.21	4.81	2.54	03/01/2014
MSCI ACW Ex US Index (USD) (Net)			14.28	2.96	-16.00	-16.00	0.07	0.88	4.80	3.80	2.62	
Difference			1.73	0.64	9.22	9.22	1.77	0.36	0.41	1.01	-0.08	
MFS Intl New Discv;R6 (MIDLX)	4,263,999	3.62	14.54	4.53	-18.49	-18.49	-1.94	0.79	4.75	5.22	3.72	03/01/2014
MSCI ACW Ex US Grth Index (USD) (Net)			12.89	2.31	-23.05	-23.05	-0.40	1.49	5.17	4.68	3.59	
Difference			1.65	2.22	4.56	4.56	-1.54	-0.70	-0.42	0.54	0.13	

During 12/2022, MetWest:Total Rtn;I (MWTIX) was liquidated. Performance shown is net of fees. Performance is annualized for periods greater than one year. Manager inception dates shown represent the first full month following initial funding. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
Oklahoma Wildlife Conservation Retirement System
Asset Allocation & Performance - Net of Fees

As of December 31, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
Invesco Dev Mkt;R6 (ODVIX)	3,048,833	2.59	11.42	0.54	-24.85	-24.85	-6.36	-2.04	3.94	1.65	1.62	06/01/2013
MSCI Emg Mkts Index (USD) (Net)			9.70	-2.99	-20.09	-20.09	-2.69	-1.40	5.17	1.44	1.87	
Difference			1.72	3.53	-4.76	-4.76	-3.67	-0.64	-1.23	0.21	-0.25	
Fixed Income	26,275,452	22.33	1.85	-2.21	-12.29	-12.29	-1.84	0.57	0.97	1.06	2.48	01/01/2006
Bloomberg US Agg Bond Index			1.87	-2.97	-13.01	-13.01	-2.71	0.02	0.89	1.06	3.01	
Difference			-0.02	0.76	0.72	0.72	0.87	0.55	0.08	0.00	-0.53	
Bank of Oklahoma Managed Fixed Income (SA)	13,707,760	11.65	0.95	-3.39	-13.40	-13.40	-2.70	-0.03	0.45	0.60	2.24	12/01/2005
Bloomberg US Agg Bond Index			1.87	-2.97	-13.01	-13.01	-2.71	0.02	0.89	1.06	3.05	
Difference			-0.92	-0.42	-0.39	-0.39	0.01	-0.05	-0.44	-0.46	-0.81	
PIMCO:Income;Inst (PIMIX)	5,582,619	4.74	3.41	1.49	-7.81	-7.81	0.03	1.70	3.64	4.00	2.04	08/01/2017
Bloomberg US Agg Bond Index			1.87	-2.97	-13.01	-13.01	-2.71	0.02	0.89	1.06	0.17	
Difference			1.54	4.46	5.20	5.20	2.74	1.68	2.75	2.94	1.87	
PIMCO:Intl Bd (DH);Inst (PFORX)	3,130,363	2.66	0.88	-1.53	-9.84	-9.84	-2.00	0.73	2.00	2.61	-2.74	03/01/2020
Bloomberg US Agg Bond Index			1.87	-2.97	-13.01	-13.01	-2.71	0.02	0.89	1.06	-4.13	
Difference			-0.99	1.44	3.17	3.17	0.71	0.71	1.11	1.55	1.39	

During 12/2022, MetWest:Total Rtn;I (MWTIX) was liquidated. Performance shown is net of fees. Performance is annualized for periods greater than one year. Manager inception dates shown represent the first full month following initial funding. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
Oklahoma Wildlife Conservation Retirement System
Asset Allocation & Performance - Net of Fees

As of December 31, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
Alternative Investments	10,656,332	9.06	6.44	2.34	-6.41	-6.41	1.27	2.38	4.56	2.71	2.82	12/01/2010
OWCRS Alternatives Custom Index			1.74	1.38	-5.30	-5.30	3.69	3.01	3.58	N/A	N/A	
Difference			4.70	0.96	-1.11	-1.11	-2.42	-0.63	0.98	N/A	N/A	
First Eagle:Global;I (SGIIX)	3,734,338	3.17	13.38	4.31	-6.25	-6.25	4.64	4.84	6.93	6.61	5.38	08/01/2017
MSCI Wrld Index (USD) (Net)			9.77	2.97	-18.14	-18.14	4.94	6.14	8.52	8.85	7.17	
Difference			3.61	1.34	11.89	11.89	-0.30	-1.30	-1.59	-2.24	-1.79	
Calamos:Mkt Neut Inc;I (CMNIX)	3,488,930	2.97	3.12	2.93	-4.26	-4.26	1.90	2.83	3.42	3.35	2.88	08/01/2017
Bloomberg US Govt/Credit Bond Index			1.80	-2.84	-13.58	-13.58	-2.57	0.21	1.14	1.16	0.35	
Difference			1.32	5.77	9.32	9.32	4.47	2.62	2.28	2.19	2.53	
Neuberman L/S;Inst (NLSIX)	3,433,064	2.92	2.96	0.72	-6.88	-6.88	5.37	5.00	5.97	5.41	2.96	10/01/2022
HFRX Equity Hedge Index			1.69	1.61	-3.18	-3.18	4.33	2.63	3.28	3.27	1.69	
Difference			1.27	-0.89	-3.70	-3.70	1.04	2.37	2.69	2.14	1.27	

During 12/2022, MetWest:Total Rtn;I (MWTIX) was liquidated. Performance shown is net of fees. Performance is annualized for periods greater than one year. Manager inception dates shown represent the first full month following initial funding. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
Oklahoma Wildlife Conservation Retirement System
Asset Allocation & Performance - Gross of Fees

As of December 31, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
OWCRS Total Fund	117,665,555	100.00	6.60	1.30	-14.14	-14.14	2.90	4.62	6.19	6.60	5.59	01/01/2006
OWCRS Policy Index			7.54	3.00	-14.18	-14.18	2.18	3.57	5.40	5.71	5.55	
Difference			-0.94	-1.70	0.04	0.04	0.72	1.05	0.79	0.89	0.04	
OWCRS Actual Allocation Index			7.10	2.43	-14.08	-14.08	2.41	4.51	6.37	6.59	5.88	
Difference			-0.50	-1.13	-0.06	-0.06	0.49	0.11	-0.18	0.01	-0.29	
Actuarial Discount Rate (7.0%)			1.71	3.44	7.00	7.00	7.00	7.00	7.00	7.00	7.00	
Difference			4.89	-2.14	-21.14	-21.14	-4.10	-2.38	-0.81	-0.40	-1.41	
All Public Plans-Total Fund Median			5.66	1.08	-12.81	-12.81	3.99	5.18	6.97	7.18	6.34	
Rank			25	39	69	69	79	70	82	70	87	
Equity	75,696,100	64.33	8.91	2.79	-16.81	-16.81	4.74	6.70	9.45	10.72	7.85	01/01/2006
OWCRS Equity Custom Index			10.51	5.27	-16.41	-16.41	4.89	5.59	8.43	N/A	N/A	
Difference			-1.60	-2.48	-0.40	-0.40	-0.15	1.11	1.02	N/A	N/A	
iShares:Russell 1000 L/C Idx;K (BRGKX)	5,751,527	4.89	7.26	2.32	-19.03	-19.03	6.95	8.90	11.10	12.26	10.60	03/01/2020
Russell 1000 Index			7.24	2.30	-19.13	-19.13	7.35	9.13	11.26	12.37	11.05	
Difference			0.02	0.02	0.10	0.10	-0.40	-0.23	-0.16	-0.11	-0.45	
IM U.S. Large Cap Equity (MF) Median			7.27	1.89	-19.79	-19.79	6.35	8.37	10.26	11.54	9.92	
Rank			51	46	46	46	38	38	27	28	43	
Vanguard S-C Id;Inst (VSCIX)	4,380,165	3.72	7.97	5.19	-17.78	-17.78	4.80	5.88	9.03	10.10	8.39	12/01/2005
Russell 2000 Index			6.23	3.91	-20.44	-20.44	3.10	4.13	7.90	9.01	7.19	
Difference			1.74	1.28	2.66	2.66	1.70	1.75	1.13	1.09	1.20	
IM U.S. Small Cap Core Equity (MF) Median			9.65	4.51	-15.77	-15.77	5.17	4.76	8.01	8.97	7.25	
Rank			77	41	73	73	58	22	25	21	12	
Bank of Oklahoma Managed Equity (SA)	48,138,818	40.91	7.00	2.33	-16.90	-16.90	N/A	N/A	N/A	N/A	16.31	04/01/2020
Russell 3000 Index			7.18	2.40	-19.21	-19.21	7.07	8.79	11.04	12.13	17.32	
Difference			-0.18	-0.07	2.31	2.31	N/A	N/A	N/A	N/A	-1.01	
Vanguard Dev Mkt;Adm (VTMGX)	5,854,637	4.98	17.12	4.92	-15.26	-15.26	1.40	1.74	5.07	4.99	3.96	09/01/1999
MSCI Wrld Ex US Index (USD) (Net)			16.18	5.50	-14.29	-14.29	1.27	1.79	4.87	4.59	3.88	
Difference			0.94	-0.58	-0.97	-0.97	0.13	-0.05	0.20	0.40	0.08	
IM All ACWI Ex US (MF) Median			14.82	3.38	-18.39	-18.39	0.10	1.03	4.48	4.14	4.43	
Rank			24	19	29	29	24	35	33	23	64	

During 12/2022, MetWest:Total Rtn;I (MWTIX) was liquidated. Performance shown is gross of fees. Performance is annualized for periods greater than one year. Manager inception dates shown represent the first full month following initial funding. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
Oklahoma Wildlife Conservation Retirement System
Asset Allocation & Performance - Gross of Fees

As of December 31, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
Dodge & Cox Intl Stck;I (DODFX)	4,258,121	3.62	16.18	3.92	-6.20	-6.20	2.48	1.88	5.88	5.47	3.19	03/01/2014
MSCI ACW Ex US Index (USD) (Net)			14.28	2.96	-16.00	-16.00	0.07	0.88	4.80	3.80	2.62	
Difference			1.90	0.96	9.80	9.80	2.41	1.00	1.08	1.67	0.57	
IM ACWI Ex US Core (MF) Median			15.33	3.80	-16.52	-16.52	0.21	1.03	4.56	4.01	2.62	
Rank			43	47	1	1	14	25	13	5	22	
MFS Intl New Discv;R6 (MIDLX)	4,263,999	3.62	14.78	5.00	-17.74	-17.74	-1.03	1.72	5.71	6.19	4.68	03/01/2014
MSCI ACW Ex US Grth Index (USD) (Net)			12.89	2.31	-23.05	-23.05	-0.40	1.49	5.17	4.68	3.59	
Difference			1.89	2.69	5.31	5.31	-0.63	0.23	0.54	1.51	1.09	
IM ACWI Ex US Growth (MF) Median			13.69	2.82	-26.63	-26.63	-0.30	1.70	4.86	4.87	3.26	
Rank			23	14	19	19	70	50	29	25	27	
Invesco Dev Mkt;R6 (ODVIX)	3,048,833	2.59	11.64	0.95	-24.22	-24.22	-5.58	-1.23	4.80	2.49	2.46	06/01/2013
MSCI Emg Mkts Index (USD) (Net)			9.70	-2.99	-20.09	-20.09	-2.69	-1.40	5.17	1.44	1.87	
Difference			1.94	3.94	-4.13	-4.13	-2.89	0.17	-0.37	1.05	0.59	
IM Emerging Markets Equity (MF) Median			9.94	-2.29	-22.45	-22.45	-3.16	-1.74	4.53	1.24	1.50	
Rank			22	23	64	64	82	38	42	25	27	

During 12/2022, MetWest:Total Rtn;I (MWTIX) was liquidated. Performance shown is gross of fees. Performance is annualized for periods greater than one year. Manager inception dates shown represent the first full month following initial funding. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
Oklahoma Wildlife Conservation Retirement System
Asset Allocation & Performance - Gross of Fees

As of December 31, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
Fixed Income	26,275,452	22.33	1.93	-2.05	-12.01	-12.01	-1.54	0.75	1.10	1.15	2.53	01/01/2006
Bloomberg US Agg Bond Index			1.87	-2.97	-13.01	-13.01	-2.71	0.02	0.89	1.06	3.01	
Difference			0.06	0.92	1.00	1.00	1.17	0.73	0.21	0.09	-0.48	
Bank of Oklahoma Managed Fixed Income (SA)	13,707,760	11.65	0.99	-3.30	-13.25	-13.25	-2.53	0.15	0.66	0.80	2.44	12/01/2005
Bloomberg US Agg Bond Index			1.87	-2.97	-13.01	-13.01	-2.71	0.02	0.89	1.06	3.05	
Difference			-0.88	-0.33	-0.24	-0.24	0.18	0.13	-0.23	-0.26	-0.61	
IM U.S. Broad Market Fixed Income (SA+CF) Median			1.92	-2.60	-12.92	-12.92	-2.04	0.60	1.57	1.69	3.74	
Rank			97	92	67	67	84	88	100	100	100	
PIMCO:Income;Inst (PIMIX)	5,582,619	4.74	3.54	1.75	-7.34	-7.34	0.64	2.51	4.54	4.96	2.87	08/01/2017
Bloomberg US Agg Bond Index			1.87	-2.97	-13.01	-13.01	-2.71	0.02	0.89	1.06	0.17	
Difference			1.67	4.72	5.67	5.67	3.35	2.49	3.65	3.90	2.70	
IM Multi-Sector General Bond (MF) Median			2.53	-0.19	-11.73	-11.73	-1.33	0.78	2.47	2.14	0.98	
Rank			27	16	17	17	9	5	2	1	3	
PIMCO:Intl Bd (DH);Inst (PFORX)	3,130,363	2.66	1.01	-1.28	-9.38	-9.38	-1.47	1.28	2.56	3.17	-2.21	03/01/2020
Bloomberg US Agg Bond Index			1.87	-2.97	-13.01	-13.01	-2.71	0.02	0.89	1.06	-4.13	
Difference			-0.86	1.69	3.63	3.63	1.24	1.26	1.67	2.11	1.92	
IM International Fixed Income (MF) Median			7.07	-1.60	-12.94	-12.94	-5.44	-2.76	-0.74	-1.38	-5.28	
Rank			77	47	17	17	4	2	1	1	5	

During 12/2022, MetWest:Total Rtn;I (MWTIX) was liquidated. Performance shown is gross of fees. Performance is annualized for periods greater than one year. Manager inception dates shown represent the first full month following initial funding. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
Oklahoma Wildlife Conservation Retirement System
Asset Allocation & Performance - Gross of Fees

As of December 31, 2022

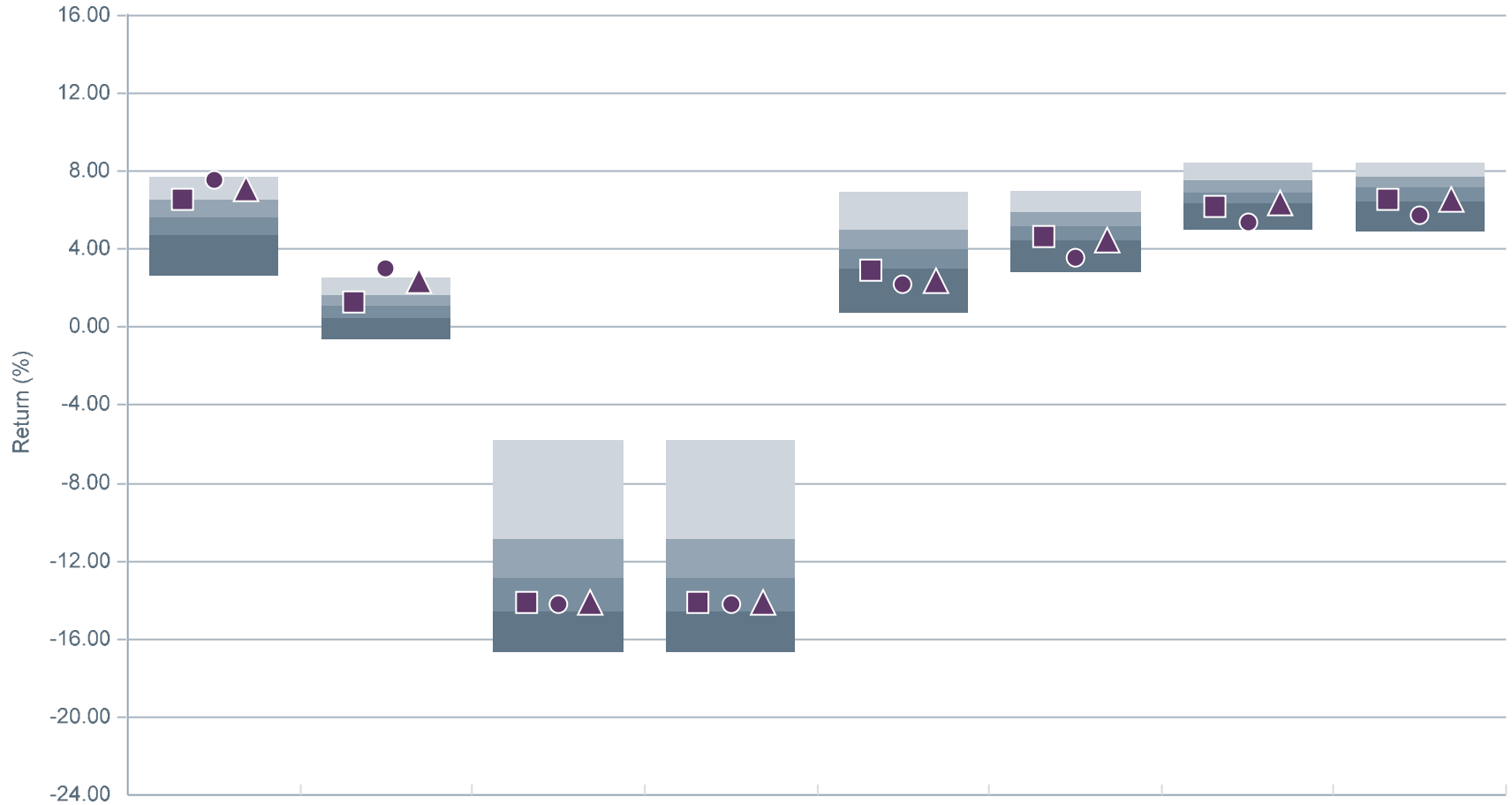
	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
Alternative Investments	10,656,332	9.06	6.73	2.85	-5.53	-5.53	2.08	2.87	4.92	2.95	3.03	12/01/2010
OWCRS Alternatives Custom Index			1.74	1.38	-5.30	-5.30	3.69	3.01	3.58	N/A	N/A	
Difference			4.99	1.47	-0.23	-0.23	-1.61	-0.14	1.34	N/A	N/A	
First Eagle:Global;I (SGIIX)	3,734,338	3.17	13.61	4.75	-5.45	-5.45	5.53	5.73	7.84	7.52	6.27	08/01/2017
MSCI Wrld Index (USD) (Net)			9.77	2.97	-18.14	-18.14	4.94	6.14	8.52	8.85	7.17	
Difference			3.84	1.78	12.69	12.69	0.59	-0.41	-0.68	-1.33	-0.90	
Calamos:Mkt Neut Inc;I (CMNIX)	3,488,930	2.97	3.35	3.43	-3.36	-3.36	2.88	3.84	4.44	4.38	3.90	08/01/2017
Bloomberg US Govt/Credit Bond Index			1.80	-2.84	-13.58	-13.58	-2.57	0.21	1.14	1.16	0.35	
Difference			1.55	6.27	10.22	10.22	5.45	3.63	3.30	3.22	3.55	
Neuberman L/S;Inst (NLSIX)	3,433,064	2.92	3.36	1.52	-5.37	-5.37	7.06	6.69	7.67	7.10	3.36	10/01/2022
HFRX Equity Hedge Index			1.69	1.61	-3.18	-3.18	4.33	2.63	3.28	3.27	1.69	
Difference			1.67	-0.09	-2.19	-2.19	2.73	4.06	4.39	3.83	1.67	

During 12/2022, MetWest:Total Rtn;I (MWTIX) was liquidated. Performance shown is gross of fees. Performance is annualized for periods greater than one year. Manager inception dates shown represent the first full month following initial funding. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
 Oklahoma Wildlife Conservation Retirement System vs. All Public Plans-Total Fund
 Plan Sponsor Peer Group Analysis

As of December 31, 2022



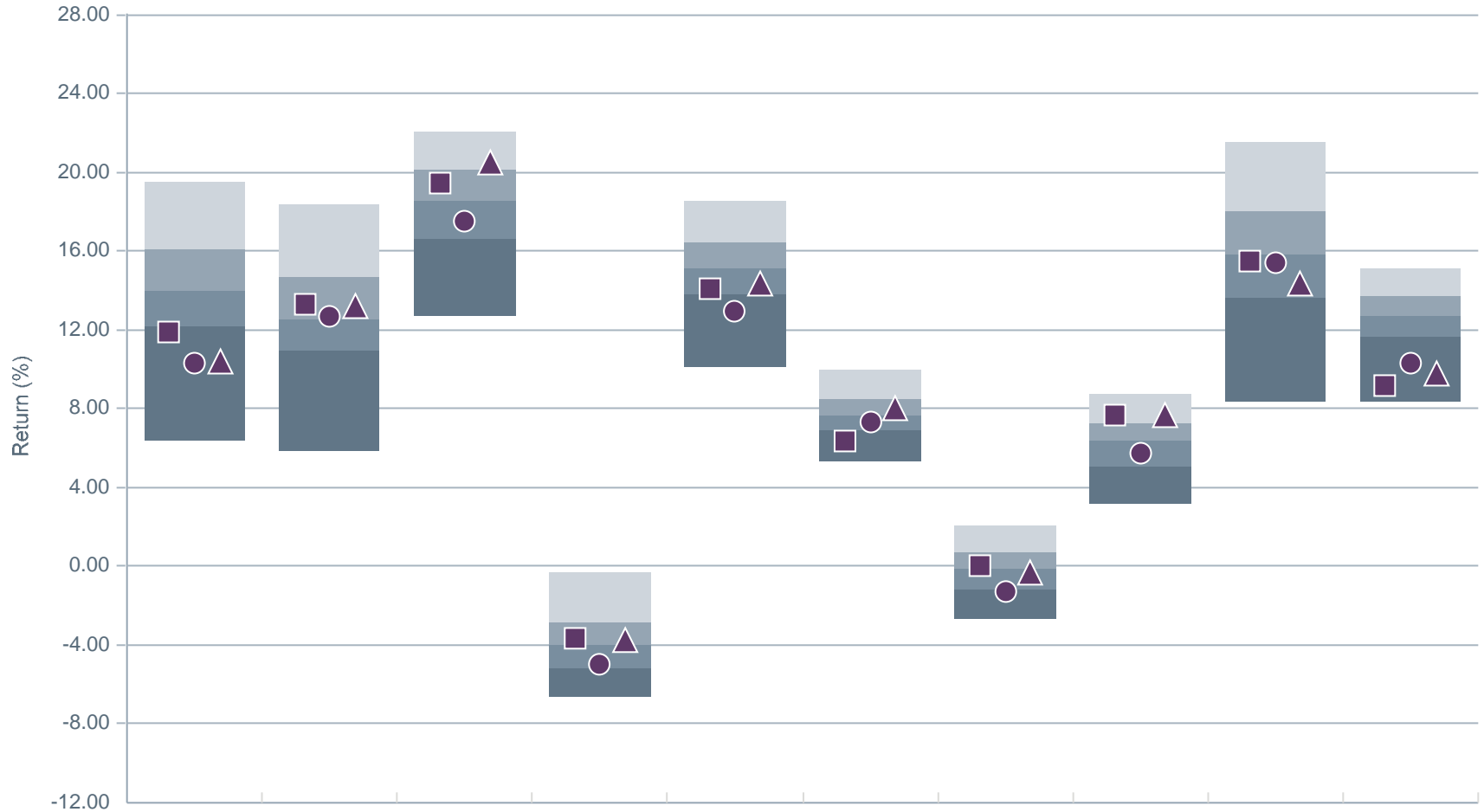
	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years
■ OWCERS Total Fund	6.60 (25)	1.30 (39)	-14.14 (69)	-14.14 (69)	2.90 (79)	4.62 (70)	6.19 (82)	6.60 (70)
● OWCERS Policy Index	7.54 (6)	3.00 (4)	-14.18 (69)	-14.18 (69)	2.18 (89)	3.57 (93)	5.40 (93)	5.71 (91)
▲ OWCERS Allocation Index	7.10 (14)	2.43 (7)	-14.08 (68)	-14.08 (68)	2.41 (86)	4.51 (74)	6.37 (76)	6.59 (71)
5th Percentile	7.73	2.59	-5.72	-5.72	6.93	7.03	8.45	8.48
1st Quartile	6.58	1.63	-10.82	-10.82	5.03	5.94	7.60	7.72
Median	5.66	1.08	-12.81	-12.81	3.99	5.18	6.97	7.18
3rd Quartile	4.79	0.52	-14.55	-14.55	3.03	4.47	6.38	6.45
95th Percentile	2.64	-0.63	-16.67	-16.67	0.78	2.88	5.06	4.90

Performance shown is gross of fees. Parentheses contain percentile ranks. Please see the Addendum for custom index definitions and additional comments.
 Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
 Oklahoma Wildlife Conservation Retirement System vs. All Public Plans-Total Fund
 Plan Sponsor Peer Group Analysis

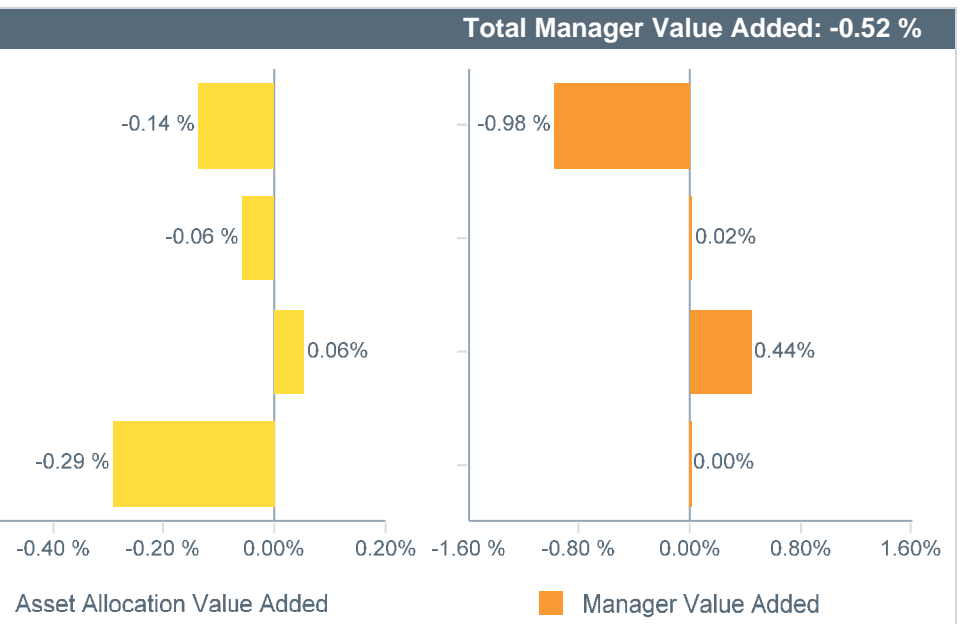
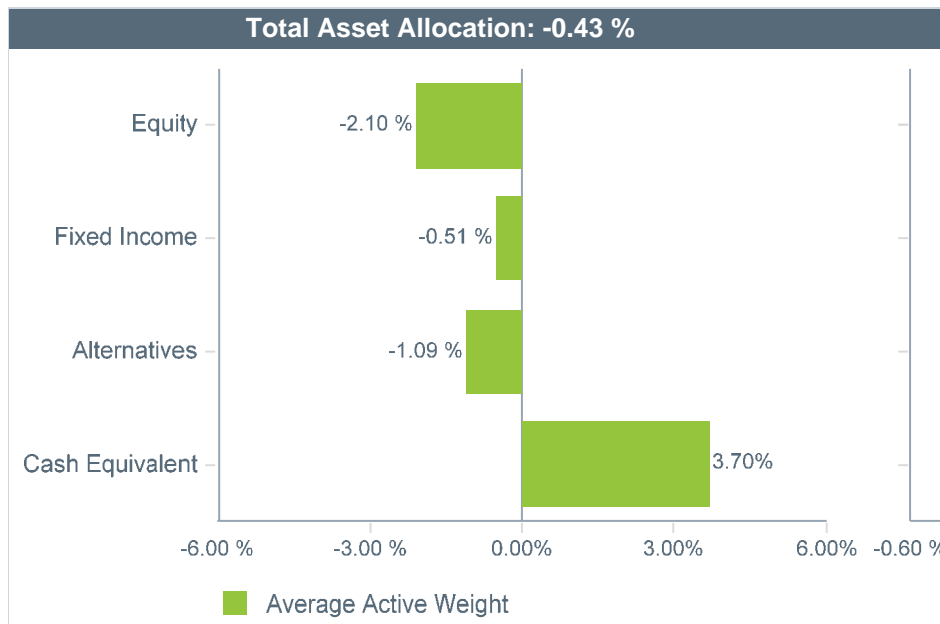
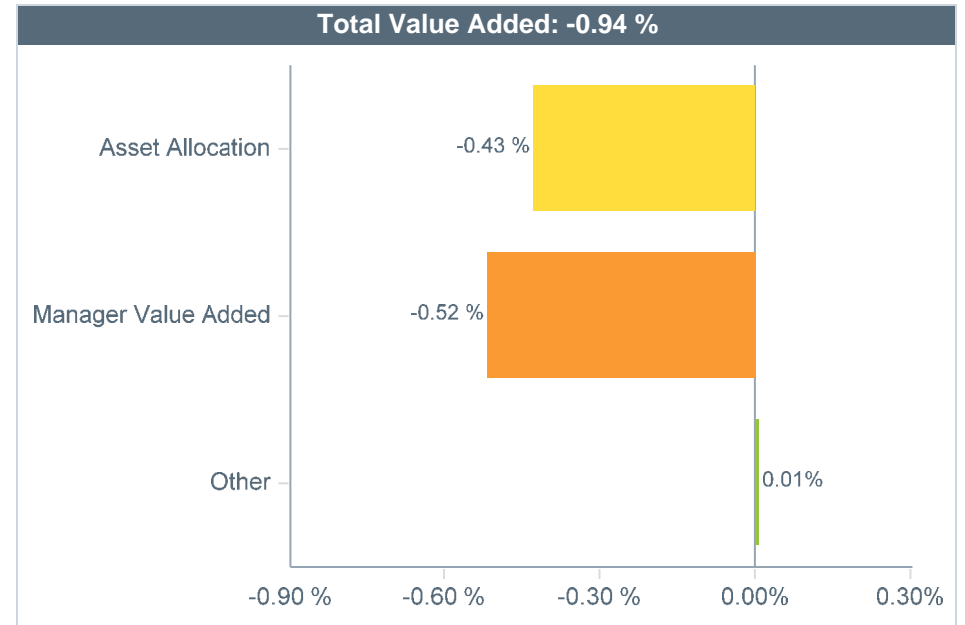
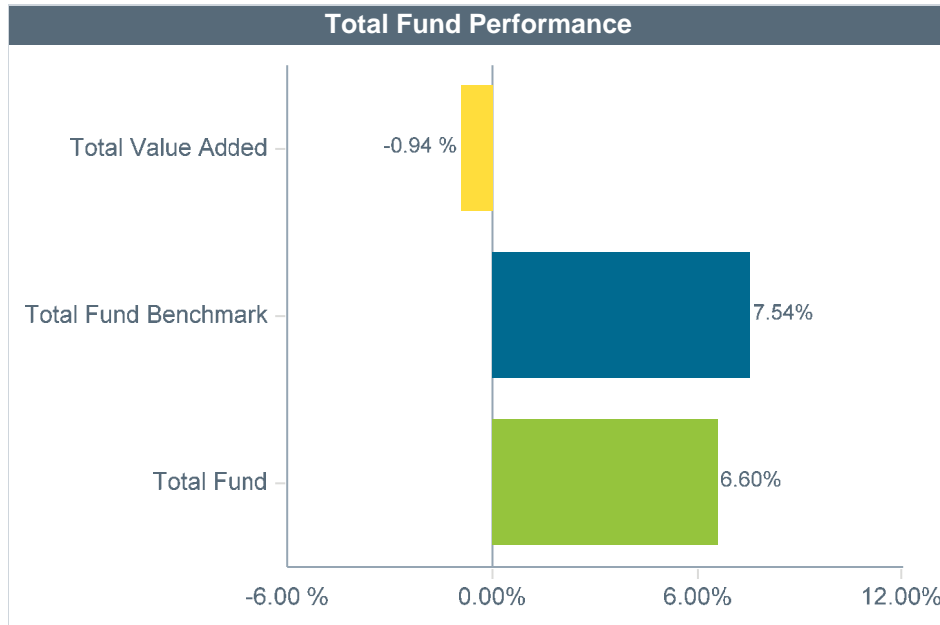
As of December 31, 2022



	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012
■ OWCERS Total Fund	11.95 (79)	13.34 (39)	19.46 (37)	-3.68 (44)	14.13 (71)	6.39 (86)	0.05 (45)	7.71 (17)	15.51 (55)	9.15 (93)
● OWCERS Policy Index	10.35 (89)	12.67 (49)	17.53 (64)	-4.95 (72)	12.96 (86)	7.34 (63)	-1.27 (77)	5.80 (63)	15.43 (57)	10.29 (87)
▲ OWCERS Allocation Index	10.43 (89)	13.21 (42)	20.53 (21)	-3.71 (44)	14.38 (66)	8.04 (41)	-0.28 (55)	7.68 (17)	14.39 (68)	9.78 (91)
5th Percentile	19.53	18.43	22.14	-0.28	18.60	9.98	2.09	8.76	21.62	15.18
1st Quartile	16.09	14.70	20.20	-2.88	16.45	8.51	0.72	7.28	18.08	13.79
Median	14.01	12.54	18.57	-4.02	15.16	7.69	-0.12	6.37	15.91	12.71
3rd Quartile	12.21	10.93	16.65	-5.11	13.88	6.93	-1.17	5.09	13.66	11.63
95th Percentile	6.37	5.89	12.67	-6.64	10.14	5.29	-2.64	3.19	8.42	8.41

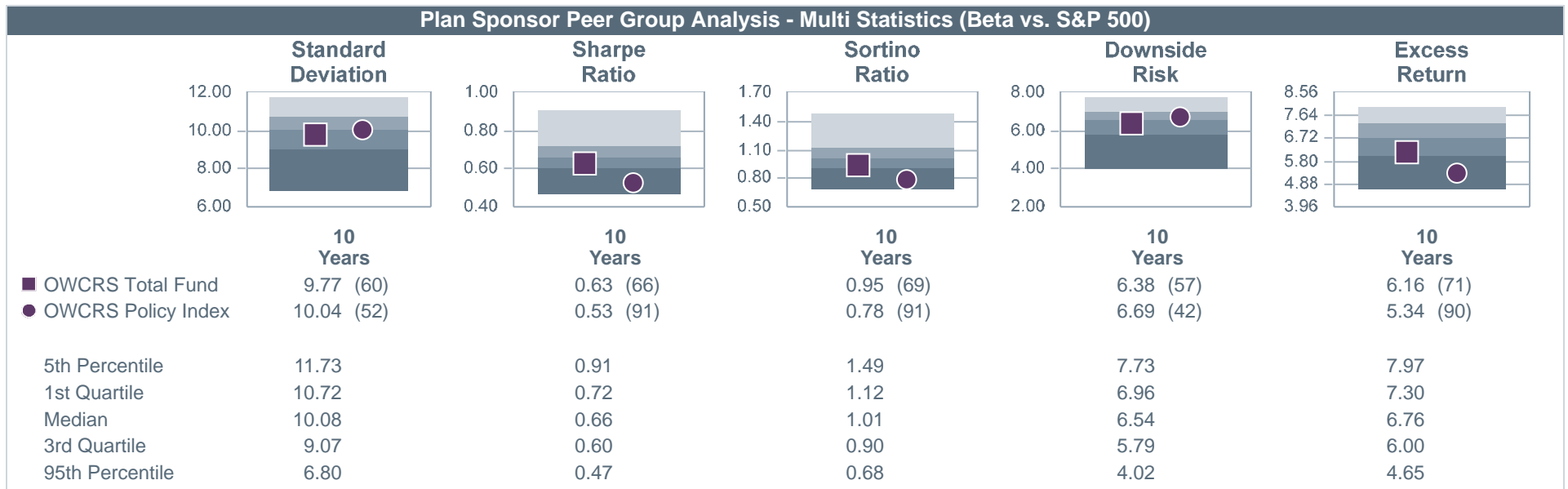
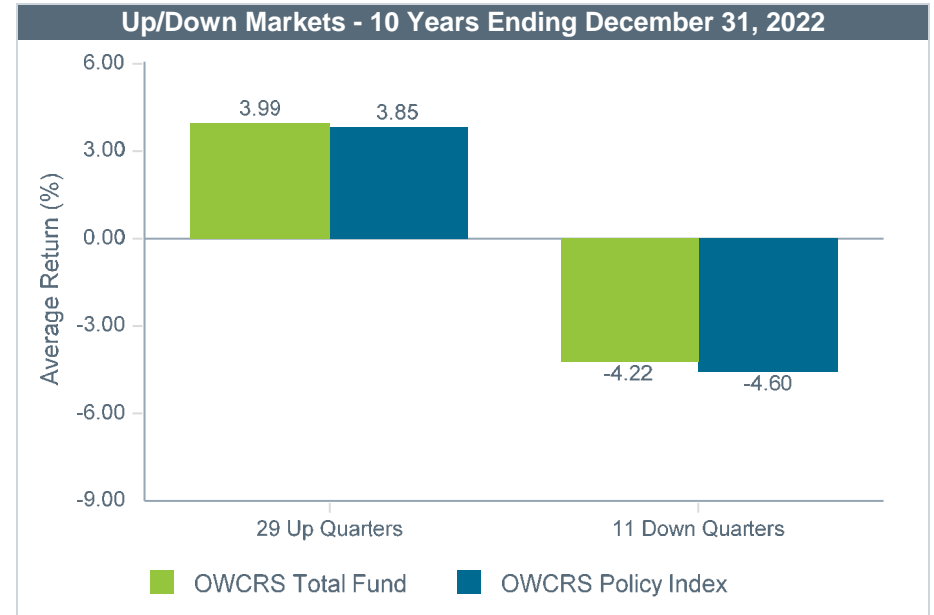
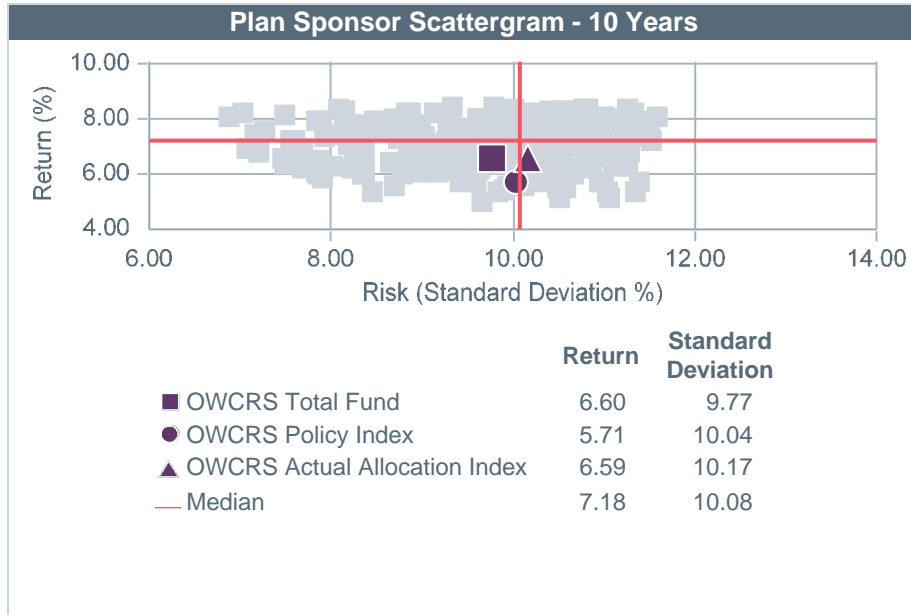
Performance shown is gross of fees. Parentheses contain percentile ranks. Please see the Addendum for custom index definitions and additional comments.



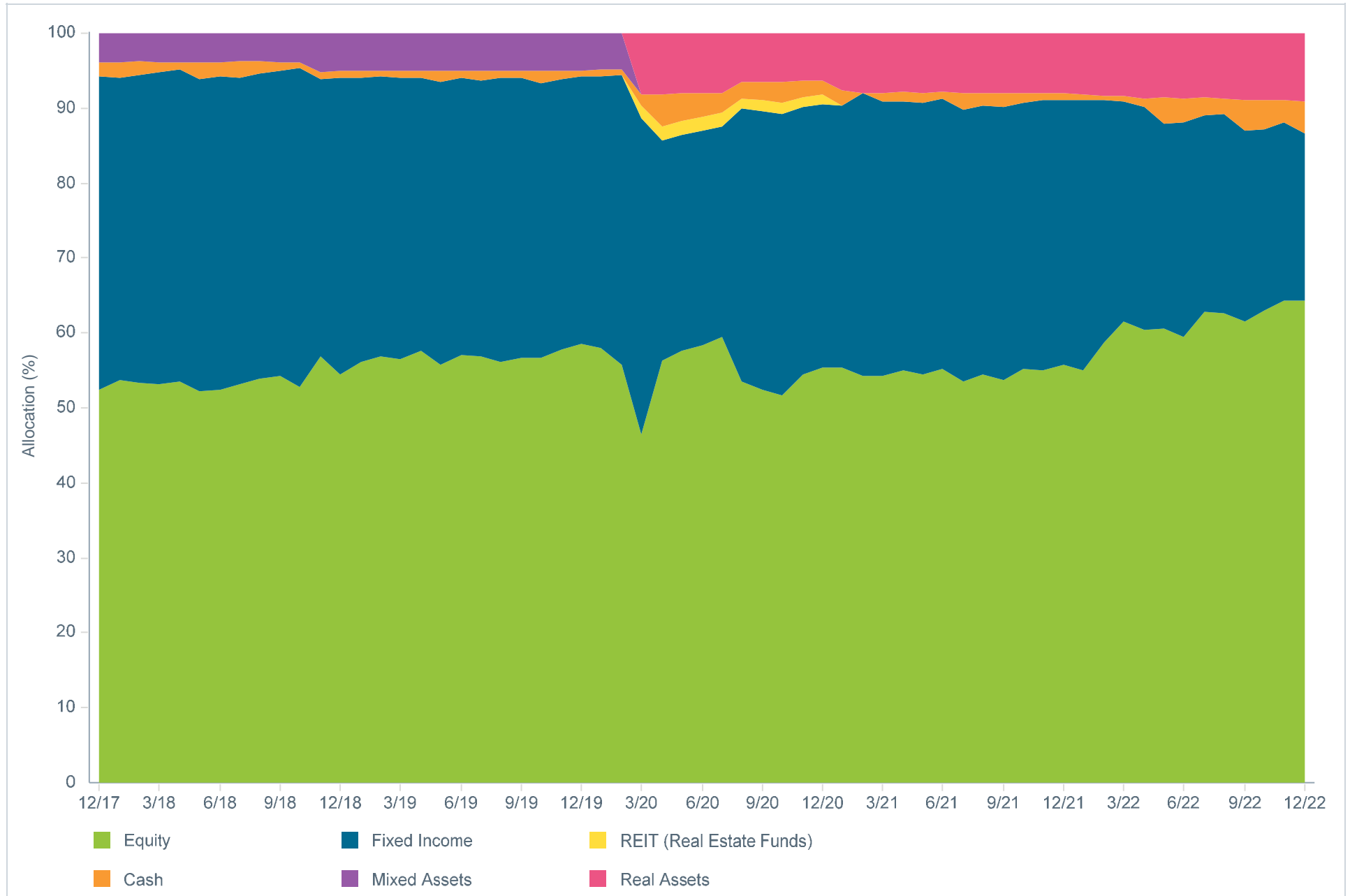


Performance shown is gross of fees. Calculation is based on monthly periodicity. See Glossary for additional information regarding the Total Fund Attribution calculation.





Performance shown is gross of fees. Calculation is based on quarterly periodicity. Parentheses contain percentile ranks. Please see the Addendum for custom index definitions and additional comments.



Addendum & Glossary



Performance Comments:

- Fiscal year begins on 07/01.
- RVK began monitoring the assets of Oklahoma State Pension Commission as of 07/01/2020. Prior historical data on market values and performance was provided by the prior investment consultant and/or custodian bank.
- Manager inception dates shown reflect the first full month of performance following initial funding.
- Mutual fund performance prior to 07/01/2020 or client inception is product specific.
- Manager inception dates shown represent the first full month following initial funding.
- Indices show N/A for since inception returns when the fund contains more history than the corresponding benchmark.
- Net of fees performance show N/A for since inception returns when the fund contains more gross of fees performance history.
- During 10/2022, AGXI Non-Core Real Estate and AG Realty Value Fund XI were funded, and Wellington Mid Cap Growth (SA) was fully liquidated.
- During 11/2022, Hotchkis & Wiley Mid Cap Value Equity (SA), Northern Trust Russell 1000 Index (SA), and Northern Trust Russell Mid Cap Index (CF) were fully liquidated.
- During 12/2022, TPG Real Estate IV, Capital Dynamics Global Second VI, and Comvest Credit Partners VI were funded, and PIMCO Bravo I LP and MetWest:Total Rtn;I (MWTIX) were fully liquidated.

Custom Index Comments:

- The active **Actual Allocation Index** of each plan is calculated monthly based on beginning of period investment weights applied to the corresponding primary benchmark return.
- **OTRS Policy Index:** OTRS's passive, policy index is calculated monthly and currently consists of 42.5% Russell 3000 Index, 18.5% MSCI ACW ex US IMI (USD) (Gross), 22% OTRS Fixed Income Custom Index, 9% OTRS Real Estate Custom Index, and 8% Russell 2000 Index +4%. Performance prior to 07/01/2020 was calculated by the prior investment consultant.
- **OTRS Fixed Income Custom Index** is calculated monthly and currently consists of 70% Bloomberg US Agg Bond Index and 30% ICE BofAML US High Yield Master II Constrained Index. Performance prior to 07/01/2020 was calculated by the prior investment consultant.
- **OTRS Real Estate Custom Index** is calculated monthly and currently consists of 50% NCREIF ODCE (AWA) (Net) (Monthly) and 50% NCREIF ODCE (AWA) (Net) (Monthly) +1%. Performance prior to 07/01/2020 was calculated by the prior investment consultant.
- **OPERS Policy Index:** OPERS's passive, policy index is calculated monthly and currently consists of 40% OPERS US Equity Custom Index, 28% MSCI ACW ex US Index (USD) (Gross), and 32% OPERS Fixed Income Custom Index. Performance prior to 07/01/2020 was calculated by the prior investment consultant.
- **OPERS US Equity Custom Index** is calculated monthly and currently consists of 85% Russell 1000 Index and 15% Russell 2000 Index. Performance prior to 07/01/2020 was calculated by the prior investment consultant.
- **OPERS Fixed Income Custom Index** is calculated monthly and current consists of 78% Bloomberg US Agg Bond Index, 11% FTSE Treasury Index - 20+ Yr Index, and 11% Bloomberg US Treasury US TIPS Index. Performance prior to 07/01/2020 was calculated by the prior investment consultant.
- **OFPRS Policy Index:** OFPRS's passive, policy index is calculated monthly and currently consists of 47% Russell 3000 Index, 15% MSCI ACW ex US Index (USD) (Net), 13% Bloomberg US Agg Bond Index, 7% Bloomberg Global Agg ex US Index (USD) (Unhedged), 10% NCREIF ODCE Index (EWA) (Net), 4% Cambridge Associates Private Equity Index, and 4% Bloomberg U.S. Treasury Bellwethers 1 Yr +3%. Performance prior to 07/01/2020 was calculated by the prior investment consultant.
- **OPPRS Policy Index:** OPPRS's passive, policy index is calculated monthly and currently consists of 65% MSCI ACW Index (USD) (Gross), 20% Bloomberg US Universal Bond Index, and 15% NCREIF ODCE Index (AWA) (Net). From 07/01/2020 through 01/31/2021, it consisted of 60% MSCI ACW Index (USD) (Net), 25% Bloomberg US Universal Bond Index, and 15% NCREIF ODCE Index (AWA) (Net). Performance prior to 07/01/2020 was calculated by the prior investment consultant.
- **OPPRS Real Assets Blended Index:** is calculated monthly and current consists of 100% NCREIF ODCE Index (AWA) (Net) (Monthly). From 01/01/2016 through 08/31/2019, it consisted of 67% NCREIF ODCE Index (AWA) (Net) (Monthly) and 33% Bloomberg Commodity Index (TR). From 08/01/2014 through 12/31/2015, it consisted of 50% NCREIF ODCE Index (AWA) (Net) (Monthly) and 50% Bloomberg Commodity Index (TR). Prior to 08/01/2014, the index consisted of 100% NCREIF ODCE Index (AWA) (Net) (Monthly).
- **Oaktree Global Credit Custom Index** is calculated monthly and current consists of 50% ICE BofAML Global High Yield Index and 50% Credit Suisse Leveraged Loan Index.
- **OLERS Policy Index:** OLERS's passive, policy index is calculated monthly and currently consists of 35% S&P 500 Index (Cap Weighted), 10% Russell 2000 Index, 15% MSCI ACW ex US Index (USD) (Gross), 30% Bloomberg US Agg Bond Index, and 10% NCREIF ODCE Index (AWA) (Net) (Monthly). Performance prior to 07/01/2020 was calculated by the prior investment consultant.
- **OLERS Real Assets Blended Index:** is calculated monthly and current consists of 100% NCREIF ODCE Index (AWA) (Net) (Monthly).
- **URSJJ Policy Index:** URSJJ's passive, policy index is calculated monthly and currently consists of 40% URSJJ US Equity Custom Index, 28% MSCI ACW ex US Index (USD) (Gross), and 32% URSJJ Fixed Income Index. Performance prior to 07/01/2020 was calculated by the prior investment consultant.

- **URSJJ US Equity Custom Index** is calculated monthly and current consists of 85% Russell 1000 Index and 15% Russell 2000 Index. Performance prior to 07/01/2020 was calculated by the prior investment consultant.
- **URSJJ Fixed Income Custom Index** is calculated monthly and current consists of 78% Bloomberg US Agg Bond Index, 11% FTSE Treasury Index - 20+ Yr Index, and 11% Bloomberg US Treasury US TIPS Index. Performance prior to 07/01/2020 was calculated by the prior investment consultant.
- **OWCRS Policy Index:** OWCRS's passive, policy index is calculated monthly and currently consists of 65% OWCRS Equity Custom Index, 25% Bloomberg US Agg Bond Index, and 10% HFRI FoF Composite Index. From 07/01/2020 through 12/01/2021, it consisted of 50% OWCRS Equity Custom Index, 40% Bloomberg US Agg Bond Index, and 10% HFRI FoF Composite Index. Performance prior to 07/01/2020 was calculated by the prior investment consultant.
- **OWCRS Equity Custom Index** is calculated monthly and current consists of 25% MSCI EAFE Index (USD) (Net), 25% S&P 500 Index (Cap Weighted), 25% Russell 2000 Index, and 25% S&P Mid Cap 400 Index (Gross) (Cap Weighted). Performance prior to 07/01/2020 was calculated by the prior investment consultant.
- **OWCRS Alternatives Custom Index** is calculated monthly and currently consists of 100% HFRI FoF Composite Index. Performance prior to 07/01/2020 was calculated by the prior investment consultant.
- **Vanguard Spl Sm Cap Val Index** consists of S&P Sm Cap 600 Val Index through 05/16/03; MSCI US Sm Cap Val Index through 04/16/13; and CRSP US Sm Cap Val Index thereafter.

Glossary

Active Return - The difference between the investment manager/composite performance relative to the performance of an appropriate market benchmark.

Active Share - Measures the degree to which the holdings of a fund differ from the holdings of the benchmark. Active share is calculated by taking the sum of the absolute value of the differences of the weight of each holding in the fund versus the weight of each holding in the benchmark and dividing by two.

Alpha - A measure of the difference between a portfolio's actual returns and its expected performance, given its level of risk as measured by beta. It is a measure of the portfolio's historical performance not explained by movements of the market or a portfolio's non-systematic return.

Alpha Ratio - A measure of a portfolio's non-systematic return per unit of downside risk. It is measured by dividing the alpha of a portfolio by the downside risk. The non-systematic return is a measure of a portfolio's historical performance not explained by movements of the market.

Average Quality - Bond quality ratings are reported using the investment managers' and the index providers' preferred rating agency. *Average Quality for managers unable to provide this statistic is instead provided by Morningstar; if unavailable on Morningstar, it has been estimated using a credit quality distribution provided by the manager.* There are two primary rating agencies in the US. *Moody's* assigns ratings on a system that employs up to four symbols (consisting of letters and numbers), such as, Aaa, Aa2, etc., with Aaa being the highest or safest rating. *Standard & Poor's (S&P)* employs a system that uses + and - along with letters, such as AAA, AA+, etc. The two rating agencies' systems are summarized below:

<u>S&P</u>	<u>Moody's</u>	<u>Explanation</u>	<u>S&P</u>	<u>Moody's</u>	<u>Explanation</u>
Higher Credit Quality – Investment Grade			Lower Credit Quality – Below Investment Grade		
AAA	Aaa	Prime/Highest credit quality	BB+	Ba1	Speculative/Low credit quality
AA+	Aa1	High credit quality	BB	Ba2	
AA	Aa2		BB-	Ba3	
AA-	Aa3		B+	B1	Highly speculative
A+	A1	Upper-medium credit quality	B	B2	
A	A2		B-	B3	
A-	A3		CCC+	Caa1	Substantial credit/default risk
BBB+	Baa1	Lower-medium credit quality	CCC	Caa2	Extremely speculative
BBB	Baa2		CCC-	Caa3	
BBB-	Baa3		CC	Ca	Vulnerable to default
			C	Ca	
			D	C	In default

Benchmark Effect - The difference between the blended return of each respective managers' benchmark within a composite and the composite's benchmark return.

Beta - A measure of the sensitivity of a portfolio to the movements in the market. It is a measure of a portfolio's non-diversifiable or systematic risk.

Box Plots - A graphical representation of the distribution of observations. From top to bottom, the four boxes represent the spread between the maximum value and the minimum value in each quartile. A quartile represents the values that divide the observations into four quarters (i.e., 1st quartile, 2nd quartile, 3rd quartile, and 4th quartile). The median observation is where the 2nd quartile and 3rd quartile meet.

Buy and Hold Attribution - At the beginning of the time period under analysis, the manager and benchmark portfolios are broken down into segments (i.e., styles, sectors, countries, and regions) based on the desired type of attribution. The formula assumes zero turn-over to the manager and benchmark portfolios throughout the period and calculates the segment returns ("buy and hold returns") to arrive at performance attribution. Due to portfolio turnover, buy and hold attribution may not accurately represent quarterly performance relative to the benchmark. Country, region, sector, and style allocations are as of the date one quarter prior to the reporting date, and the returns shown are for those segments throughout the quarter reported. Due to disclosure guidelines set by each investment manager, equity characteristics shown are as of the most recent date available. The following is the methodology for segment classification:

Sector - Attribution is calculated using the Global Industry Classification Standard (GICS), which is a detailed and comprehensive structure for sector and industry analysis. Stocks are classified by their primary sector as defined by S&P Capital IQ data. Attribution to "other" is the result of securities based in industries that do not fit into any GICS classification.

Country/Region - Attribution is calculated using the Morgan Stanley Capital International (MSCI) region standards. Stocks are classified by their domicile country/region, as defined by S&P Capital IQ data, and thus may differ from the classification of the investment manager and/or index provider. Attribution to "other" is the result of securities based in countries/regions that do not fit into any MSCI classification.

Style - Stocks are classified into the following style boxes: large/mid/small vs. growth/neutral/value. Stocks are classified along large/mid/small categories at the time of the Russell index rebalancing, using the index market cap boundaries as cutoff points. Stocks are classified along growth/neutral/value categories at the time of the Russell index rebalancing, using the price/book ratio as supplied by S&P Capital IQ. Stocks in the Russell 3000 Index portfolio are sorted by price/book ratio; names with the highest price/book ratio that make up 1/3 of the total market capitalization are assigned to the growth category, and names that make up the subsequent 1/3 of the total market capitalization are assigned to the neutral category, while the balance of the names are assigned to the value category. Stocks are unclassified when there is not enough data to determine a size and style metric.

Portfolio Characteristics and Buy and Hold Attribution reports utilize product-specific data for all mutual funds and commingled funds.

Capital Markets Review -

Breakeven Inflation - Measures the expected inflation rate at each stated maturity by taking the difference between the real yield of the inflation-linked maturity curve and the yield of the closest nominal Treasury maturity.

Consumer Confidence - Measures domestic consumer confidence as defined by the degree of optimism on the state of the economy that consumers express through saving and spending.

Consumer Price Index (CPI) - Measures the change in the price level of consumer goods and services.



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- Federal Funds Rate** - The interest rate at which a depository institution lends funds maintained at the Federal Reserve to another depository institution overnight. It is one of the most influential interest rates in the US economy, since it affects monetary and financial conditions, which in turn have a bearing on key aspects of the broad economy including employment, growth and inflation.
- Option-Adjusted Spread** - Measures the flat spread of an index or bond to the Treasury yield curve after removing the effect of any embedded options.
- Purchasing Managers Index (PMI)** - Measures economic activity by surveying purchasing managers on a monthly basis as to whether business conditions have improved, worsened, or stayed the same.
- Real Gross Domestic Product (Real GDP)** - An inflation-adjusted measure that reflects the value of all goods and services produced by an economy in a given year.
- Unemployment Rate** - The percentage of the total labor force that is unemployed but actively seeking employment.
- US Dollar Total Weighted Index** - Measures the value of the US Dollar relative to a basket of other world currencies. It is calculated as the weighted geometric mean of the dollar's value versus the EUR, GBP, CAD, SEK, CHF, and JPY.
- VIX** - Measures the implied volatility of S&P 500 Index options by looking at the market's expectation of the S&P 500 Index volatility over the next 30 day period. Commonly referred to as the "fear index" or the "fear gauge."
- Cash Flow Effect** – The composite's active return minus the sum of each managers' active return minus the benchmark effect.
- Consistency** - The percentage of quarters that a product achieved a rate of return higher than that of its benchmark. The higher the consistency figure, the more value a manager has contributed to the product's performance.
- Convexity** - A measure of the shape of the curve that describes the relationship between bond prices and bond yields.
- Correlation** - A statistical measure of the relationship between asset class returns. A value of 1.00 is a perfect correlation; that is, the asset classes always move in the same direction. A value of -1.00 indicates a perfect negative correlation, in which the asset classes always move in opposite directions of each other. A value of 0 indicates there is no relationship between the direction of returns of the two asset classes. Correlation calculations only consider the direction of changes relative to two variables and not the magnitude of those changes.
- Coupon Rate** - The percentage rate of interest paid on a bond or fixed income security; it is typically paid twice per year.
- Current Yield** - The annual income of a security divided by the security's current price.
- Down Market Capture** - Down market by definition is negative benchmark return and down market capture represents the ratio in % terms of the average portfolios return over the benchmark during the down market period. The lower the value of the down market capture the better the product's performance.
- Downside Risk** - A measure similar to standard deviation that focuses only on the negative movements of the return series. It is calculated by taking the standard deviation of the negative returns for the selected periodicity. The higher the factor, the riskier the product.
- Earnings Per Share** - It is backward looking, calculated using the one year current EPS divided by the one year EPS five years ago.
- Effective Duration** - The approximate percentage change in a bond's price for a 100 basis point change in yield.
- Excess Return vs. Market** - Average of the monthly arithmetic difference between the manager's return and the benchmark return over a specified time period, shown on an annualized basis.
- Excess Return vs. Risk Free** - Average of the monthly arithmetic difference between the manager's return and the risk-free return (i.e., ICE BofAML 3 Mo US T-Bill Index unless specified otherwise) over a specified time period, shown on an annualized basis.
- Excess Risk** - A measure of the standard deviation of a portfolio's performance relative to the risk-free return.
- Expense Ratios** - Morningstar is the source for mutual fund expense ratios.
- Gain/Loss** - The net increase or decrease in the market value of a portfolio excluding its Net Cash Flow for a given period.
- Indices** - All indices and related information are considered intellectual property and are licensed by each index provider. The indices may not be copied, used, or distributed without the index provider's prior written approval. Index providers make no warranties and bear no liability with respect to the indices, any related data, their quality, accuracy, suitability, and/or completeness.
- Information Ratio** - Measured by dividing the active rate of return by the tracking error. The higher the information ratio, the more value-added contribution by the manager.
- Liability Driven Investing (LDI)** - A method to optimally structure asset investments relative to liabilities. The change in liabilities is estimated by the Ryan Labs Generic PPA Index of appropriate duration for that Plan. This benchmark is based on generic data and is therefore an approximation. RVK is not an actuarial firm, and does not have actuarial expertise.
- Estimated Funded Status** - The estimated ratio of a Plan's assets relative to its future liabilities. This is calculated by dividing the Plan's asset market value by the estimated present value of its liabilities. The higher the estimated funded status, the better the Plan's ability to cover its projected benefit obligations. An estimated funded status of 100% indicates a Plan that is fully funded.
- Estimated PV of Liabilities** - An estimate of a Plan's future liabilities in present value terms. The beginning of the period liability is provided by the Plan's actuary. The period-end present value liability estimate provided in this report is derived by applying the estimated percentage change generated using the Ryan Labs Generic PPA Index with duration similar to that reported on the most recent actuarial valuation report.
- Duration of Liabilities** - The sensitivity of the value of a Plan's liabilities to changes in interest rates, as calculated by the Plan's actuary.
- Duration of Assets** - The dollar-weighted average duration of all the individual Plan assets.
- Estimated Plan Hedge Ratio** - The estimate of how well a Plan's investment portfolio is hedged against changes in interest rates - a primary driver of funded status movements. This is calculated by dividing the dollar-weighted values of both the Plan asset duration by the liability duration and

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multiplying by the estimated funded status. An estimated plan hedge ratio of zero indicates that the Plan's liabilities have not been hedged, whereas a value of one indicates fully hedged.

Modified Duration - The approximate percentage change in a bond's price for a 100 basis point change in yield, assuming the bonds' expected cash flows do not change.

Mutual Fund Performance - Whenever possible, manager performance is extended for any share class that does not have 10 years of history. Using Morningstar's methodology, a single ticker within the same fund family (often the oldest share class) is chosen to append historical performance.

Net Cash Flow - The sum, in dollars, of a portfolio's contributions and withdrawals. This includes all management fees and expenses only when performance shown is gross of fees.

Peer Groups -

Plan Sponsor Peer Groups - RVK utilizes the Mellon Analytical Solutions Trust Universe along with the Investment Metrics Plan Sponsor Universe. The combined Mellon Analytical Solutions Trust Universe and Investment Metrics Plan Sponsor Universe is used for comparison of total fund composite results and utilizes actual client performance compiled from consultant and custodian data. The Plan Sponsor Peer Group database includes performance and other quantitative data for over 2,100 plans which include corporate, endowment, foundation, public, and Taft Hartley plans.

Investment Manager Peer Groups - RVK utilizes Investment Metrics' Peer Groups for investment manager peer comparison and ranking. The Investment Metrics Peer Group database includes performance and other quantitative data for over 840 investment management firms and 29,000 investments products, across more than 160 standard peer groups. Mutual Fund Peer Groups are net of fees.

Percentile Rankings - Percentile rank compares an individual fund's performance with those of other funds within a defined peer group of managers possessing a similar investment style. Percentile rank identifies the percentage of a fund's peer group that has a higher return (or other comparative measurement) than the fund being ranked. Conversely, 100 minus the individual fund's ranking will identify the percentage of funds within the peer group that have a lower return than the fund being ranked.

1 - Highest Statistical Value 100 - Lowest Statistical Value

Example: American Funds AMCP;R-4 (RAFEX) is ranked in the 4th percentile within the IM US Equity Large-Cap Growth Funds (MF) Peer Group for the Sharpe Ratio. Within the IM US Equity Large-Cap Growth Funds peer group, 4% of the other funds performed better than American Funds AMCP;R-4 (RAFEX), while 96% of the funds performed worse.

Performance Methodology - RVK calculates performance for investment managers and composites using different methodologies.

Investment Managers - Performance is calculated for interim periods between all large external cash flows for a given month and geometrically linked to calculate period returns. An external cash flow is defined as cash, securities, or assets that enter or exit a portfolio. RVK defines a "large cash flow" as a net aggregate cash flow of $\geq 10\%$ of the beginning-period portfolio market value or any cash flow that causes RVK calculated performance to deviate from manager/custodian reported performance in excess of 5 basis points for a given month.

Composites - The Modified Dietz methodology is utilized to calculate asset class, sub-asset class, and total fund composite performance. The Modified Dietz method calculates a time-weighted total rate of return that considers the timing of external cash flows; however, it does not utilize interim period performance to mitigate the impact of significant cash in- and outflows to the composite.

RVK calculates performance beginning with the first full month following inception. Since inception performance may vary from manager reported performance due to RVK using the first full month of returns as the inception date. Performance for both managers and composites is annualized for periods greater than one year.

Portfolio Characteristics - Due to disclosure guidelines set by each investment manager, portfolio characteristics shown are as of the most recent date available.

Price to Earnings Ratio - The ratio valuing a company's current share price relative to its trailing 12-month per-share earnings (EPS).

Private Equity Quartile Ranks - Private Equity quartile ranks are generated using vintage year peer group data provided by Thomson Reuters, and are based on each fund's annualized, since inception internal rate of return (IRR). Three Private Equity peer groups are available via Thomson Reuters: Buyout, Venture, and All Private Equity. Ranks are available quarterly, at a one-quarter lag.

R-Squared - The percentage of a portfolio's performance explained by the behavior of the appropriate benchmark. High R-Squared means a higher correlation of the portfolio's performance to the appropriate benchmark.

Return - Compounded rate of return for the period.

% Return - The time-weighted rate of return of a portfolio for a given period.

Risk Free Benchmark - ICE BofAML 3 Mo US T-Bill Index unless specified otherwise.



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RVK Liquidity Rating - A qualitative method for determining the relative amount of liquidity in a portfolio. The characteristics considered when determining relative liquidity include trading volume, gates for redemption, leverage, nature of transactions, and pricing mechanisms. The RVK Liquidity Rating is calculated using beginning of month investment weights applied to each corresponding asset class liquidity rating.

<u>Asset Class</u>	<u>RVK Liquidity Rating</u>	<u>Asset Class</u>	<u>RVK Liquidity Rating</u>
<u>Liquid Investments</u>		<u>Less Liquid Investments</u>	
T-Bills and Treasuries	100	Fixed Income Plus Sector	50
Cash Equivalents	98	Stable Value (Plan Sponsor Directed)	50
TIPS	95	Hedge Funds of Funds	35
US Large Cap Equity	95		
Diversified Real Return	93		
Stable Value (Participant Directed)	91		
Global Equity	90	<u>Not Liquid Investments</u>	
Non-US Large Cap Equity	90	Core Real Estate	25
Global Tactical Asset Allocation	88	Core Plus Real Estate	15
MLPs	85	Non-Core Real Estate	5
US Mid Cap Equity	85	Private Equity Funds of Funds	5
US SMid Cap Equity	85		
US Small Cap Equity	85		
REITs	85		
Non-US Small Cap Equity	85		
Emerging Markets Equity	85		
Core Fixed Income	85		
Core Plus Fixed Income	80		

Sector Allocation - Negative fixed income sector allocation reflects manager's use of derivatives, short selling, or interest rate swaps.

Sharpe Ratio - Represents the excess rate of return over the risk-free return (i.e., ICE BofAML 3 Mo US T-Bill Index unless specified otherwise), divided by the standard deviation of the excess return to the risk free asset. The result is the absolute rate of return per unit of risk. The higher the value, the better the product's historical risk-adjusted performance.

Simple Alpha - The difference between the manager's return and the benchmark's return.

Spread Duration - The approximate percentage change in a bond's price for a 100 basis point change in its spread over a Treasury of the same maturity.

Standard Deviation - A statistical measure of the range of a portfolio's performance. The variability of a return around its average return over a specified time period.

Thematic Classification - Represents dedicated manager allocations; as such, thematic allocations are approximations. RVK categorizes the following asset classes as Alpha, Capital Appreciation, Capital Preservation, and Inflation:

<u>Alpha</u>	<u>Capital Appreciation</u>	<u>Capital Preservation</u>	<u>Inflation</u>
Absolute Return Strategies	Public Equity	Core Fixed Income	TIPS
Currency Overlay	Private Equity	CMBS Fixed Income	Bank Loans
	Preferred Securities	Asset Backed Fixed Income	Core Real Estate
	High Yield	Domestic Core Plus Fixed Income	Real Return
	Convertible Fixed Income	Mortgage Backed Fixed Income	Inflation Hedges
	TALF Funds	International Developed Fixed Income	REITs
	Distressed Debt	Cash Equivalents	Commodities
	Emerging Market Fixed Income	Stable Value	
	Value Added Real Estate		
	Opportunistic Real Estate		

Time Period Abbreviations - **QTD** - Quarter-to-Date. **CYTD** - Calendar Year-to-Date. **FYTD** - Fiscal Year-to-Date. **YOY** - Year Over Year.

Total Fund Attribution - The Investment Decision Process (IDP) model provides an approach to evaluating investment performance that applies to all asset classes and investment styles. The IDP model is based on a top-down hierarchy framework of investment decisions, with each decision contributing to the overall profit or loss. The IDP approach starts from the strategic asset allocation and follows the flow of the investments down to the manager's skill.

Strategic Asset Allocation (SAA) - The percentage return gained or lost from the long-term strategic asset allocation decision, the most significant determinant of long-term performance. SAA is the product of the target asset allocation multiplied by the corresponding benchmark returns.

Tactical Asset Allocation (TAA) - The percentage return gained or lost from not having been precisely allocated at the target asset allocation mix, whether by deviations that are tactical in nature or a by-product of moving towards the target mix. TAA is the product of the actual asset allocation multiplied by the broad asset class benchmarks, less the SAA.

Style Selection (SS) - The percentage return gained or lost from intentional style biases within each asset class (e.g. value rather than core or overweight to emerging markets relative to benchmark). SS is the product of the actual manager allocation within each asset class multiplied by their specific benchmark, less TAA.

Manager's Skill (MS) - The percentage return gained or lost from manager value added relative to their specific benchmark. MS is the product of the actual manager allocation multiplied by their achieved excess return.

Total Fund Beta - Total Fund Beta is calculated using the S&P 500 as the benchmark. It represents a measure of the sensitivity of the total fund to movements in the S&P 500 and is a measure of the Total Fund's non-diversifiable or systematic risk.



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Tracking Error - A measure of the standard deviation of a portfolio's performance relative to the performance of an appropriate market benchmark.

Treynor Ratio - Similar to Sharpe ratio, but focuses on beta rather than excess risk (standard deviation). Treynor ratio represents the excess rate of return over the risk-free rate (i.e., ICE BofAML 3 Mo US T-Bill Index unless specified otherwise) divided by the beta. The result is the absolute rate of return per unit of risk. The higher the value, the better historical risk-adjusted performance.

Unit Value - The dollar value of a portfolio, assuming an initial nominal investment of \$100, growing at the compounded rate of %Return for a given period.

Up Market Capture - Up market by definition is positive benchmark return and up market capture represents the ratio in % terms of the average portfolio's return over the benchmark during the up market period. The higher the value of the up market capture the better the product's performance.

Yield to Maturity - The rate of return achieved on a bond or other fixed income security assuming the security is bought and held to maturity and that the coupon interest paid over the life of the bond will be reinvested at the same rate of return. The 30-Day SEC Yield is similar to the Yield to Maturity and is reported for mutual funds.

Yield to Worst - The bond yield calculated by using the worst possible yield taking into consideration all call, put, and optional sink dates.

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