

FINAL MONTHLY GROSS PERFORMANCE REPORT BOSTON RETIREMENT SYSTEM

SEPTEMBER 30, 2023

Mike Manning, CFA, CAIA, Managing Partner Mike Sullivan, Partner Kiley Murphy, Sr. Consulting Analyst



Boston Retirement System TOTAL FUND PERFORMANCE DETAIL (GROSS)

| | All | Performance (%) | | | | | | | | | | |
|------------------------------|----------------------|-------------------|-----------|-------------|-------------|------------|-------------|--------------|--------------|---------------|------------------|-------------------|
| | Market Value (\$) | % of Portfolio | Policy(%) | 1 Mo (%) | 3 Mo (%) | YTD (%) | 1 Yr (%) | 3 Yrs (%) | 5 Yrs (%) | 10 Yrs (%) | Inception (%) | Inception Date |
| Total Fund | 6,348,844,650 | 100.0 | 100.0 | -2.2 | -1.9 | 4.3 | 10.6 | 5.8 | 5.2 | 6.3 | 7.5 | Aug-94 |
| Allocation Index | | | | -2.3 | -1.9 | 3.7 | 9.8 | 5.4 | 5.0 | 6.0 | | |
| Policy Index | | | | -2.4 | -2.1 | 4.1 | 10.8 | 5.5 | 5.5 | 6.5 | | |
| PRIT Core Fund/Teachers* | 2,053,600,316 | 32.3 | | -2.5 | -1.6 | 4.9 | 9.3 | 7.1 | 6.7 | 7.7 | 8.8 | Jul-10 |
| Total Equity | 3,019,789,303 | 47.6 | 47.0 | -4.0 | -3.7 | 7.6 | 20.2 | 6.3 | 5.2 | 7.2 | 8.4 | Dec-10 |
| MSCI AC World Index (Net) | | | | -4.1 | -3.4 | 10.1 | 20.8 | 6.9 | 6.5 | 7.6 | 8.2 | |
| Large Cap Comp | 1,102,513,871 | 17.4 | 17.0 | -4.6 | -3.6 | 10.8 | 19.0 | 7.5 | 9.1 | 11.9 | 9.8 | Dec-04 |
| Rhumbline Advisors | 290,847,171 | 4.6 | | -4.8 | -3.3 | 13.0 | 21.6 | 10.1 | 9.9 | 11.9 | 10.1 | Aug-94 |
| DE Shaw Core Enhanced | 372,338,024 | 5.9 | | -4.4 | -3.0 | 12.6 | 20.6 | 10.1 | 10.0 | 12.3 | 13.3 | Oct-09 |
| S&P 500 Index | | | | -4.8 | -3.3 | 13.1 | 21.6 | 10.2 | 9.9 | 11.9 | 12.7 | |
| Aristotle Value | 158,755,910 | 2.5 | | -4.0 | -3.0 | 5.0 | 16.2 | 9.4 | | | 8.8 | Nov-19 |
| Columbia Threadneedle | 180,353,971 | 2.8 | | -3.8 | -4.8 | -3.2 | 11.4 | 12.4 | 7.3 | 10.1 | 9.5 | Jan-97 |
| Russell 1000 Value Index | | | | -3.9 | -3.2 | 1.8 | 14.4 | 11.1 | 6.2 | 8.4 | 8.0 | |
| Zevenbergen Capital | 99,823,821 | 1.6 | | -6.9 | -5.4 | 44.4 | 25.9 | -10.4 | 7.4 | 11.8 | 11.7 | Aug-94 |
| Russell 1000 Growth Index | | | | -5.4 | -3.1 | 25.0 | 27.7 | 8.0 | 12.4 | 14.5 | 10.5 | |
| Small Cap Comp | 407,698,835 | 6.4 | 6.0 | -5.0 | -5.0 | 0.7 | 10.9 | 6.9 | 3.9 | 8.2 | 8.9 | Dec-04 |
| Aristotle Small Cap | 178,894,402 | 2.8 | | -5.2 | -5.6 | -3.7 | 8.0 | 10.5 | 2.9 | | 7.7 | Nov-15 |
| Russell 2000 Index | | | | -5.9 | -5.1 | 2.5 | 8.9 | 7.2 | 2.4 | | 7.0 | |
| Westfield Capital Management | 120,267,776 | 1.9 | | -5.3 | -6.6 | 6.3 | 13.3 | 5.1 | 7.1 | 9.9 | 10.7 | Sep-03 |
| Russell 2000 Growth Index | | | | -6.6 | -7.3 | 5.2 | 9.6 | 1.1 | 1.6 | 6.7 | 8.1 | |
| Mesirow Small Cap Value | 108,249,445 | 1.7 | | -4.2 | -1.9 | | | | | | 2.3 | May-23 |
| Russell 2000 Value Index | | | | -5.2 | -3.0 | | | | | | 2.7 | |

Note: Returns are gross of manager fees except for hedge funds and private equity which are net of fees. - PRIT Core Fund/Teachers is not included in the Total Fund value.



Boston Retirement System TOTAL FUND PERFORMANCE DETAIL (GROSS)

| | All | Performance (%) | | | | | | | | | | |
|--|----------------------|-------------------|-----------|-------------|-------------|------------|-------------|--------------|--------------|---------------|------------------|-------------------|
| | Market Value (\$) | % of Portfolio | Policy(%) | 1 Mo (%) | 3 Mo (%) | YTD (%) | 1 Yr (%) | 3 Yrs (%) | 5 Yrs (%) | 10 Yrs (%) | Inception (%) | Inception Date |
| Total Non-US Equity | 1,509,576,598 | 23.8 | 24.0 | -3.2 | -3.4 | 7.3 | 23.9 | 5.2 | 2.4 | 3.4 | 5.7 | Aug-94 |
| International Equity | 1,042,437,139 | 16.4 | 16.0 | -3.3 | -3.8 | 7.2 | 25.2 | 6.3 | 2.6 | 3.6 | 4.9 | Dec-10 |
| Todd | 321,559,792 | 5.1 | | -2.1 | -0.9 | 7.0 | 26.5 | 8.9 | 4.9 | | 6.5 | Apr-16 |
| MSCI ACWI ex USA | | | | -3.2 | -3.8 | 5.3 | 20.4 | 3.7 | 2.6 | | 5.3 | |
| PanAgora Asset Management | 318,605,677 | 5.0 | | -2.8 | -3.3 | 9.0 | 27.9 | 7.8 | 3.2 | 4.6 | 5.7 | Aug-94 |
| Walter Scott International Equity | 270,855,937 | 4.3 | | -6.2 | -9.6 | 5.1 | 20.0 | 1.2 | | | 1.2 | Oct-20 |
| MSCI EAFE (Net) | | | | -3.4 | -4.1 | 7.1 | 25.6 | 5.8 | | | 5.8 | |
| Segall Bryant Hamill | 131,186,625 | 2.1 | | -1.2 | 0.9 | 7.4 | 27.0 | 7.9 | 0.6 | | -0.1 | Nov-17 |
| MSCI EAFE Small Cap (Net) | | | | -4.4 | -3.5 | 1.8 | 17.9 | 1.1 | 0.8 | | 1.0 | |
| Emerging Markets | 467,139,458 | 7.4 | 8.0 | -3.1 | -2.5 | 7.6 | 21.0 | 2.8 | 2.0 | 3.0 | 2.4 | Dec-10 |
| ABS Emerging Markets Strategic Portfolio | 93,145,078 | 1.5 | | -2.8 | -1.7 | 5.3 | 12.7 | | | | -10.3 | Nov-21 |
| Columbia Emerging Markets Equity | 94,487,941 | 1.5 | | -3.5 | -4.9 | 1.6 | 9.9 | | | | -19.1 | Aug-21 |
| Polunin | 126,490,162 | 2.0 | | -3.6 | -3.1 | 4.0 | 21.9 | 6.2 | 3.8 | 5.8 | 5.8 | Oct-13 |
| MSCI Emerging Markets (Net) | | | | -2.6 | -2.9 | 1.8 | 11.7 | -1.7 | 0.6 | 2.1 | 2.1 | |
| Lazard | 153,016,278 | 2.4 | | -2.7 | -1.1 | 16.7 | 34.5 | 12.4 | 6.9 | 4.2 | 4.2 | Oct-13 |
| MSCI Emerging Markets Small Cap (Net) | | | | -2.1 | 2.9 | 13.7 | 23.1 | 10.6 | 6.5 | 4.6 | 4.6 | |
| Total Fixed Income | 1,600,848,572 | 25.2 | 27.0 | -1.4 | -1.0 | 2.5 | 5.8 | -0.6 | 2.1 | 2.7 | 3.2 | Dec-10 |
| Core Fixed Income | 990,654,640 | 15.6 | 18.0 | -1.8 | -1.9 | 0.5 | 2.2 | -2.2 | 1.6 | 2.3 | 3.8 | Dec-04 |
| AFL-CIO H.I.T. | 42,439,921 | 0.7 | | -2.3 | -3.4 | -1.3 | -0.3 | | | | -8.3 | Dec-21 |
| BlackRock SIO | 353,465,409 | 5.6 | | -0.9 | -0.2 | 2.2 | 4.0 | 0.9 | 2.8 | | 2.9 | Aug-15 |
| Allspring Global | 298,418,731 | 4.7 | | -2.5 | -3.1 | -0.6 | 1.3 | -4.9 | 0.6 | 1.6 | 3.7 | May-05 |
| Blmbg. U.S. Aggregate Index | | | | -2.5 | -3.2 | -1.2 | 0.6 | -5.2 | 0.1 | 1.1 | 2.8 | |
| IR&M | 296,330,580 | 4.7 | | -2.0 | -2.4 | -0.2 | 1.6 | -2.4 | 1.6 | | 1.9 | Jul-15 |
| IR&M Custom Benchmark | | | | -1.9 | -2.3 | -0.5 | 1.3 | -2.7 | 1.2 | | 1.4 | |

- IR&M Custom Benchmark reflects Bloomberg Agg since inception through 04/30/2017, from 05/01/2017 to 9/30/2021 reflects 40% Bloomberg Agg/60% Bloomberg Intermediate TIPS and as of 10/1/2021 reflects 60% Bloomberg Agg/40% Bloomberg Intermediate TIPS.

- Wells Asset Management is now Allspring Global.



September 30, 2023

Boston Retirement System TOTAL FUND PERFORMANCE DETAIL (GROSS)

| | Allocation | | | | Performance (%) | | | | | | | | | |
|--|----------------------|-------------------|-----------|-------------|-----------------|------------|-------------|--------------|--------------|---------------|------------------|-------------------|--|--|
| | Market Value (\$) | % of Portfolio | Policy(%) | 1 Mo (%) | 3 Mo (%) | YTD (%) | 1 Yr (%) | 3 Yrs (%) | 5 Yrs (%) | 10 Yrs (%) | Inception (%) | Inception Date | | |
| Value Added Fixed Income | 610,193,931 | 9.6 | 9.0 | -0.8 | 0.5 | 6.1 | 12.1 | 2.0 | 2.9 | 3.1 | 3.7 | Dec-10 | | |
| High Yield Income | 393,837,770 | 6.2 | 5.0 | 0.0 | 2.0 | 8.0 | 11.4 | 5.6 | 4.7 | 5.2 | 6.5 | Jan-06 | | |
| Crescent Capital | 117,640,977 | 1.9 | | -0.3 | 1.4 | 6.9 | 10.0 | 3.2 | 3.4 | | 4.3 | May-15 | | |
| 50/50 S&P/LSTA Leveraged Loan/Bloomberg High Yield | | | | -0.1 | 2.0 | 8.0 | 11.7 | 3.9 | 3.7 | | 4.1 | | | |
| Polen Capital | 102,661,018 | 1.6 | | 0.2 | 2.3 | 10.1 | 11.6 | 6.2 | 4.9 | | 5.9 | May-15 | | |
| 75% BC HY 25% S&P Leverage Loan | | | | -0.6 | 1.2 | 6.9 | 11.0 | 2.9 | 3.4 | | 4.0 | | | |
| GoldenTree Multi Sector Opp Credit | 172,674,421 | 2.7 | | 0.2 | 2.2 | 7.5 | 12.4 | 7.3 | 5.6 | | 5.9 | Dec-16 | | |
| Blended Index | | | | 0.1 | 2.2 | 8.1 | 11.6 | 4.3 | 3.9 | | 4.3 | | | |
| Morningstar LSTA US Leveraged Loan | | | | 1.0 | 3.5 | 10.2 | 13.1 | 6.1 | 4.5 | | 4.6 | | | |
| Emerging Market Debt | 216,356,161 | 3.4 | 4.0 | -2.4 | -2.1 | 2.9 | 13.5 | -3.4 | 0.0 | -0.8 | -0.5 | Nov-11 | | |
| Aberdeen EMD Plus | 216,355,843 | 3.4 | | -2.4 | -2.1 | 2.9 | 13.5 | -3.4 | | | 0.5 | Dec-18 | | |
| JP Morgan EMBI Global Diversified | | | | -2.6 | -2.2 | 1.8 | 10.0 | -4.6 | | | 0.2 | | | |
| Total Alternative Assets | 1,689,976,945 | 26.6 | 26.0 | 0.1 | 0.4 | 0.4 | 0.5 | 11.5 | 8.4 | 7.9 | 8.4 | Dec-10 | | |
| Hedge Fund Composite | 315,600,118 | 5.0 | 5.0 | 0.3 | 1.9 | 5.4 | 5.7 | 5.6 | 4.8 | 3.3 | 3.7 | Nov-04 | | |
| Blackstone | 153,586,208 | 2.4 | | 0.7 | 2.3 | 5.4 | 7.7 | 7.3 | 6.1 | | 5.9 | Feb-18 | | |
| Grosvenor | 161,160,567 | 2.5 | | 0.0 | 1.4 | 5.5 | 6.9 | 5.3 | 5.0 | 4.5 | 4.7 | Jul-13 | | |
| HFRI Fund of Funds Composite Index | | | | -0.4 | 0.5 | 2.8 | 4.6 | 3.8 | 3.4 | 3.3 | 3.4 | | | |
| Hedge Fund Transition Account | 532,970 | 0.0 | 0.0 | | | | | | | | | | | |
| EnTrust Peruvian Bonds | 320,372 | 0.0 | | -1.3 | -4.0 | -22.5 | -92.9 | -58.6 | -42.4 | | -38.3 | Jan-18 | | |
| Real Estate Composite | 638,139,751 | 10.1 | 10.0 | -2.2 | -2.2 | -8.2 | -8.0 | 8.5 | 7.3 | 9.1 | 7.5 | Sep-04 | | |
| Private Equity & Debt | 736,237,076 | 11.6 | 11.0 | 2.1 | 2.1 | 6.7 | 6.6 | 17.6 | 11.2 | 10.3 | 9.2 | Jun-04 | | |
| Cash | 38,229,831 | 0.6 | 0.0 | 0.4 | 1.2 | 3.3 | 3.3 | 1.3 | 1.3 | 0.7 | 1.2 | Oct-04 | | |

-Real Estate and Private Equity & Debt report on a quarterly basis and are lagged one quarter. Current values are as of March 31, 2023.

-The Blended Index Benchmark consists of 30% ML HY II/ 30% S&P LSTA / 25% HFRI RV FI/ 15% BAML ABS.

-DDJ is now Polen Capital

-EnTrust Peruvian Bonds is included in the Hedge Fund Transition Account value.



September 30, 2023

DISCLAIMERS & DISCLOSURES

Past performance is no guarantee of future results.

Returns for pooled funds, e.g. mutual funds and collective investment trusts, are collected from third parties; they are not generally calculated by NEPC. Returns for separate accounts, with some exceptions, are calculated by NEPC. Returns are reported net of manager fees unless otherwise noted.

A "since inception" return, if reported, begins with the first full month after funding, although actual inception dates (e.g. the middle of a month) and the timing of cash flows are taken into account in Composite return calculations.

NEPC's preferred data source is the plan's custodian bank or record-keeper. If data cannot be obtained from one of the preferred data sources, data provided by investment managers may be used. Information on market indices and security characteristics is received from additional providers. While NEPC has exercised reasonable professional care in preparing this report, we cannot guarantee the accuracy of all source information contained within. In addition, some index returns displayed in this report or used in calculation of a policy index, allocation index or other custom benchmark may be preliminary and subject to change.

All investments carry some level of risk. Diversification and other asset allocation techniques are not guaranteed to ensure profit or protect against losses.

The opinions presented herein represent the good faith views of NEPC as of the date of this presentation and are subject to change at any time. Neither fund performance nor universe rankings contained in this report should be considered a recommendation by NEPC.

This report may contain confidential or proprietary information and may not be copied or redistributed to any party not legally entitled to receive it.

Source of private fund performance benchmark data: Cambridge Associates, via Refinitiv



