



NEPC, LLC

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Boston Retirement System

October Flash Report (Gross)

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Index Performance Summary as of 10/31/2017

	2009	2010	2011	2012	2013	2014	2015	2016	Q1	Q2	Q3	Sept	Oct	YTD
EM Equity	78.5%	18.9%	-18.4%	18.2%	-2.6%	-2.2%	-14.9%	11.2%	11.4%	6.3%	7.9%	-0.4%	3.5%	32.3%
Int'l Developed Equity	31.8%	7.8%	-12.1%	17.3%	22.8%	-4.9%	-0.8%	1.0%	7.2%	6.1%	5.4%	2.5%	1.5%	21.8%
US Large Cap	26.5%	15.1%	2.1%	16.0%	32.4%	13.7%	1.4%	12.0%	6.1%	3.1%	4.5%	2.1%	2.3%	16.9%
US Small/Mid Cap	34.4%	26.7%	-2.5%	17.9%	36.8%	7.1%	-2.9%	17.6%	3.8%	2.1%	4.7%	4.5%	1.5%	12.7%
EM Local Credit	22.0%	15.7%	-1.8%	16.8%	-9.0%	-5.7%	-14.9%	9.9%	6.5%	3.6%	3.6%	-0.3%	-2.8%	11.1%
US High Yield	58.2%	15.1%	5.0%	15.8%	7.4%	2.5%	-4.5%	17.1%	2.7%	2.2%	2.0%	0.9%	0.4%	7.5%
US Long Treasuries	-12.9%	9.4%	29.9%	3.6%	-12.7%	25.1%	-1.2%	1.3%	1.4%	4.0%	0.6%	-2.2%	-0.1%	5.9%
Global Credit	-6.5%	-5.3%	-5.3%	-4.1%	2.7%	-0.6%	3.3%	2.1%	1.8%	2.6%	1.8%	-0.9%	-0.4%	5.8%
US Credit	5.9%	6.5%	7.8%	4.2%	-2.0%	6.0%	0.5%	2.6%	0.8%	1.4%	0.8%	-0.5%	0.1%	3.2%
US TIPS	11.4%	6.3%	13.6%	7.0%	-8.6%	3.6%	-1.4%	4.7%	1.3%	-0.4%	0.9%	-0.6%	0.2%	1.9%
Commodities	18.9%	16.8%	-13.3%	-1.1%	-9.5%	-17.0%	-24.7%	11.8%	-2.3%	-3.2%	2.5%	-0.1%	2.1%	-0.8%

S&P 500 = US Large Cap
 Russell 2500 = US Small/Mid Cap
 MSCI EAFE = International Developed Equity
 MSCI EM = Emerging Market Equity
 Barclays Agg = US Credit
 Barclays Long Treasury = US Long Treasuries
 Barclays High Yield = US HY
 Barclays Global Agg = Global Credit
 GBI-EM Global Diversified = EM Local Credit
 Bloomberg Commodity = Commodities
 Barclays US TIPS = US TIPS



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Boston Retirement System

Total Fund Performance Detail (Gross)

	Market Value (\$)	% of Portfolio	Policy %	1 Mo (%)	3 Mo (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Return (%)	Since
Total Composite*	4,817,577,021	100.0	100.0	1.2	3.6	15.1	17.4	7.1	8.8	5.2	8.1	Aug-94
Allocation Index				1.3	3.4	13.8	15.9	6.8	8.3	4.7	--	Aug-94
Policy Index				1.1	3.2	13.7	16.1	7.1	8.5	5.1	--	Aug-94
PRIT Core Fund/Teachers*	1,560,408,138	32.4		1.1	3.4	14.5	15.9	8.2	10.0	--	10.3	Jul-10
Total Equity	2,695,012,387	55.9	52.0	2.1	5.2	23.5	27.3	9.3	12.4	--	--	
Large Cap Comp	1,004,685,111	20.9	19.0	2.4	5.7	19.6	26.7	11.8	16.8	8.4	9.4	Dec-04
Rhumblin Advisors	128,986,959	2.7		2.3	4.8	16.9	23.6	10.7	15.1	7.6	9.8	Aug-94
DE Shaw Core Enhanced	228,392,050	4.7		2.2	5.2	17.3	24.2	11.3	15.7	--	14.8	Oct-09
JP Morgan 130/30	185,415,433	3.8		2.4	4.5	17.7	25.2	10.7	16.7	--	14.7	Oct-09
S&P 500				2.3	4.8	16.9	23.6	10.8	15.2	7.5	14.0	Oct-09
DE Shaw 130/30	203,382,156	4.2		2.4	7.4	21.1	27.9	14.5	17.2	--	16.4	Oct-09
Russell 1000				2.3	4.8	16.8	23.7	10.6	15.2	7.6	14.1	Oct-09
J&W Seligman	124,767,573	2.6		1.5	6.5	13.9	26.0	10.1	16.5	8.7	9.9	Jan-97
Russell 1000 Value				0.7	2.5	8.7	17.8	8.0	13.5	6.0	8.4	Jan-97
Zevenbergen Capital	72,392,100	1.5		1.7	3.4	32.3	33.8	10.1	20.0	9.8	11.6	Aug-94
Intech	61,348,841	1.3		5.4	9.6	30.6	35.3	14.5	17.7	9.0	9.7	Oct-06
Russell 1000 Growth				3.9	7.2	25.4	29.7	13.1	16.8	9.1	10.3	Oct-06
Small Cap Comp	335,626,144	7.0	6.0	2.0	7.6	22.2	33.6	10.2	14.9	9.2	10.1	Dec-04
Westfield Capital Management	131,008,087	2.7		3.2	6.3	23.8	31.1	8.4	14.4	9.6	11.1	Sep-03
Russell 2000 Growth				1.5	7.0	18.6	31.0	10.5	15.4	8.2	9.7	Sep-03
Bernzott	103,180,357	2.1		3.0	11.6	24.9	35.4	--	--	--	17.4	Nov-15
Russell 2000 Value				0.1	4.6	5.8	24.8	9.7	13.6	7.0	16.5	Nov-15
Aristotle	101,429,678	2.1		-0.4	5.3	17.6	35.1	--	--	--	17.6	Nov-15
Russell 2000				0.9	5.8	11.9	27.8	10.1	14.5	7.6	15.4	Nov-15

Note: Returns are gross of manager fees except for hedge funds and private equity which are net of fees.

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Total Fund Performance Detail (Gross)

	Market Value (\$)	% of Portfolio	Policy %	1 Mo (%)	3 Mo (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Return (%)	Since
Total Non-US Equity	1,354,701,132	28.1	27.0	2.0	4.3	26.9	26.3	7.1	8.2	2.1	6.8	Aug-94
International Equity	881,760,229	18.3	19.0	1.6	4.6	24.8	26.7	7.3	9.5	--	7.5	Dec-10
Todd	268,436,055	5.6		1.7	4.5	25.6	25.6	--	--	--	16.0	Apr-16
MSCI ACWI ex USA Gross				1.9	4.4	23.9	24.2	6.2	7.8	1.4	18.3	Apr-16
Panagora Asset Management	330,948,532	6.9		1.2	3.5	21.3	23.8	8.8	10.8	3.3	6.5	Aug-94
Fisher	281,968,012	5.9		2.0	6.1	28.4	31.6	9.4	10.4	3.0	5.6	Feb-06
MSCI EAFE				1.5	4.0	21.8	23.4	6.1	8.5	1.1	3.9	Feb-06
Emerging Markets	472,940,903	9.8	8.0	2.6	3.6	31.1	25.5	7.0	5.3	--	4.2	Dec-10
Vontobel	102,533,474	2.1		1.0	0.8	29.8	18.9	5.0	5.4	5.2	11.4	Oct-05
Polunin	118,438,806	2.5		3.8	5.0	33.8	35.0	11.3	--	--	11.1	Oct-13
SSgA Emerging Markets	141,854,799	2.9		3.5	5.4	33.0	27.6	5.1	--	--	4.2	Oct-13
MSCI Emerging Markets				3.5	5.4	32.3	26.5	5.7	4.8	0.6	5.5	Oct-13
Lazard	110,113,824	2.3		1.9	2.5	27.1	20.1	7.0	--	--	6.3	Oct-13
MSCI Emerging Markets Small Cap				3.5	5.6	26.8	20.7	5.0	5.6	1.4	5.3	Oct-13
Total Fixed Income	1,093,964,026	22.7	24.0									
Core Fixed Income	505,482,533	10.5	11.0	0.2	0.8	3.7	2.7	3.1	2.6	5.1	4.9	Dec-04
Wells Asset Management	118,220,304	2.5		0.0	0.5	3.4	1.2	2.9	2.5	5.6	5.4	May-05
BlackRock SIO	172,138,681	3.6		0.4	1.5	4.9	6.0	--	--	--	3.6	Aug-15
BBgBarc US Aggregate TR				0.1	0.5	3.2	0.9	2.4	2.0	4.2	2.6	Aug-15
IR&M	215,123,548	4.5		0.1	0.5	3.1	0.9	--	--	--	3.4	Jul-15
IR&M Custom Benchmark				0.1	0.5	2.6	0.3	2.2	1.9	4.1	2.5	Jul-15

- IR&M Custom Benchmark reflects BC Agg since inception through 04/30/2017, as of 05/01/2017 forward it reflects 60% BC Agg/40% BC US TIPS.

Note: Returns are gross of manager fees except for hedge funds and private equity which are net of fees.

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Total Fund Performance Detail (Gross)

	Market Value (\$)	% of Portfolio	Policy %	1 Mo (%)	3 Mo (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Return (%)	Since
Value Added Fixed Income	588,481,493	12.2	13.0	0.1	1.1	8.8	9.5	3.6	3.2	--	--	
High Yield Income	388,440,695	8.1	9.0	0.7	1.6	7.9	9.8	5.9	6.1	7.5	7.4	Jan-06
Crescent Capital	122,625,631	2.5		0.4	1.2	6.0	8.0	--	--	--	6.6	May-15
50/50 S&P/LSTA Leveraged Loan/BBgBarc High Yield				0.5	1.1	5.5	7.0	4.8	5.2	6.3	5.0	May-15
DDJ	136,262,838	2.8		1.3	2.2	12.0	14.8	--	--	--	8.2	May-15
75% BC HY 25% S&P Leverage Loan				0.5	1.2	6.5	7.9	--	--	--	5.5	May-15
GoldenTree Multi Spec Opp Credit	127,767,480	2.7		0.5	1.4	6.2	--	--	--	--	7.2	Dec-16
3-Month LIBOR + 7%				0.7	2.1	6.9	8.3	7.8	7.6	7.9	7.6	Dec-16
S&P/LSTA U.S. Leveraged Loan				0.6	0.9	3.6	5.1	4.0	4.2	4.7	4.8	Dec-16
Emerging Market Debt	176,998,906	3.7	4.0	-1.3	0.1	11.0	9.8	-1.2	-1.7	--	-0.2	Nov-11
Loomis Sayles Emerging Debt & Currencies	176,998,906	3.7		-1.3	0.1	11.0	9.8	-1.2	-1.7	--	-0.2	Nov-11
Custom EMD				-1.3	0.2	10.0	5.6	-1.4	-1.7	3.0	-0.3	Nov-11
Global Fixed Income	23,041,892	0.5	0.0	-0.4	0.0	7.3	2.8	2.1	1.0	4.1	5.3	Jul-95
Loomis Sayles	23,041,892	0.5		-0.4	0.0	7.3	2.8	2.1	1.0	4.2	6.0	Nov-99
Citi WGBI				-0.5	-0.6	5.8	0.2	0.8	-0.4	2.7	4.2	Nov-99
Total Alternative Assets	1,009,611,904	21.0	24.0									
Hedge Fund Composite	335,567,381	7.0	7.0	0.5	1.1	3.3	5.0	0.2	3.4	1.6	3.4	Nov-04
Mesrow Absolute Return Class J	61,948,636	1.3		0.5	1.3	3.3	3.9	-1.9	2.7	0.6	3.2	Nov-04
GAM	54,824,170	1.1		1.6	2.4	4.3	4.6	1.2	3.9	0.9	0.9	Nov-07
Permal	75,142,389	1.6		-0.5	0.6	2.4	5.3	1.4	3.9	4.1	4.1	Nov-07
Entrust	65,968,620	1.4		0.6	-0.1	1.8	4.4	-2.2	1.8	--	1.6	Apr-12
Grosvenor	77,592,226	1.6		0.8	1.7	4.6	6.8	2.6	--	--	4.2	Jul-13
HFRI Fund of Funds Composite Index				1.2	2.5	6.9	8.1	2.9	4.2	0.9	3.6	Jul-13
Real Estate Composite	433,786,417	9.0	10.0	0.0	2.4	5.9	8.2	10.6	11.6	3.4	--	
Private Equity	240,258,106	5.0	7.0	0.0	3.4	7.3	8.6	5.6	7.3	5.5	--	
Cash	18,988,704	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	1.2	Oct-04

- Real Estate and Private Equity report on a quarterly basis, valuations are as of 06/30/2017.
 - Entrust is preliminary.

Note: Returns are gross of manager fees except for hedge funds and private equity which are net of fees.

PE/RE Summary

Quarter Ending June 30, 2017

Target Weight	Weight in Fund		Committed Capital	Cumulative Distribution	Contributed Capital	QTR	Last Year	Valuation
7.0%	5.1%	Private Equity IRR	\$717,509,174	\$492,363,783	\$533,131,808	3.4%	8.6%	\$240,258,106
10.0%	9.1%	Real Estate IRR	\$839,996,934	\$656,819,675	\$744,785,046	2.4%	8.2%	\$433,786,417

Information Disclaimer and Reporting Methodology

Information Disclaimer

- Past performance is no guarantee of future results.
- All investments carry some level of risk. Diversification and other asset allocation techniques are not guaranteed to ensure profit or protect against losses.
- NEPC's source for portfolio pricing, calculation of accruals, and transaction information is the plan's custodian bank. Information on market indices and security characteristics is received from other sources external to NEPC. While NEPC has exercised reasonable professional care in preparing this report, we cannot guarantee the accuracy of all source information contained within.
- Some index returns displayed in this report or used in calculation of a policy, allocation or custom benchmark may be preliminary and subject to change.
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Reporting Methodology

- The client's custodian bank is NEPC's preferred data source unless otherwise directed. NEPC generally reconciles custodian data to manager data. If the custodian cannot provide accurate data, manager data may be used.
- Trailing time period returns are determined by geometrically linking the holding period returns, from the first full month after inception to the report date. Rates of return are annualized when the time period is longer than a year. Performance is presented gross and/or net of manager fees as indicated on each page.
- For managers funded in the middle of a month, the "since inception" return will start with the first full month, although actual inception dates and cash flows are taken into account in all Composite calculations.
- This report may contain forward-looking statements that are based on NEPC's estimates, opinions and beliefs, but NEPC cannot guarantee that any plan will achieve its targeted return or meet other goals.