



NEPC, LLC

YOU DEMAND MORE. *So do we.*SM

Boston Retirement System

December Flash Report (Gross)

February, 2016

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Index Performance Summary as of 12/31/2016

	2009	2010	2011	2012	2013	2014	2015	Q1	Q2	Q3	Oct	Nov	Dec	YTD
US Small/Mid Cap	34.4%	26.7%	-2.5%	17.9%	36.8%	7.1%	-2.9%	0.4%	3.6%	6.6%	-4.1%	8.5%	1.9%	17.6%
US High Yield	58.2%	15.1%	5.0%	15.8%	7.4%	2.5%	-4.5%	3.4%	5.5%	5.6%	0.4%	-0.5%	1.8%	17.1%
EM Equity	78.5%	18.9%	-18.4%	18.2%	-2.6%	-2.2%	-14.9%	5.7%	0.7%	9.0%	0.2%	-4.6%	0.2%	11.2%
US Large Cap	26.5%	15.1%	2.1%	16.0%	32.4%	13.7%	1.4%	1.3%	2.5%	3.9%	-1.8%	3.7%	2.0%	12.0%
Commodities	18.9%	16.8%	-13.3%	-1.1%	-9.5%	-17.0%	-24.7%	0.4%	12.8%	-3.9%	-0.5%	1.3%	1.8%	11.8%
EM Local Credit	22.0%	15.7%	-1.8%	16.8%	-9.0%	-5.7%	-14.9%	11.0%	2.7%	2.7%	-0.8%	-7.0%	1.9%	9.9%
US Credit	5.9%	6.5%	7.8%	4.2%	-2.0%	6.0%	0.5%	3.0%	2.2%	0.5%	-0.8%	-2.4%	0.1%	2.6%
Global Credit	2.6%	5.2%	6.4%	1.6%	-4.0%	-0.5%	-3.6%	7.1%	3.4%	0.3%	-3.4%	-4.6%	-0.7%	1.6%
US Long Treasuries	-12.9%	9.4%	29.9%	3.6%	-12.7%	25.1%	-1.2%	8.2%	6.4%	-0.4%	-4.1%	-7.4%	-0.5%	1.3%
Int'l Developed Equity	31.8%	7.8%	-12.1%	17.3%	22.8%	-4.9%	-0.8%	-3.0%	-1.5%	6.4%	-2.0%	-2.0%	3.4%	1.0%

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
 WGBI = Global Credit
 GBI-EM Global Diversified = EM Local Credit
 Bloomberg Commodity = Commodities

Source: Bloomberg, Barclays, S&P, Russell, MSCI, JP Morgan, Credit Suisse



NEPC, LLC

Boston Retirement System

Total Fund Performance Detail (Gross)

	Market Value (\$)	% of Portfolio	Policy %	1 Mo (%)	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Return (%)	Since
Total Composite*	4,201,746,452	100.0	100.0	1.8	1.3	7.5	3.9	7.8	5.0	7.7	Aug-94
Allocation Index				1.8	0.8	8.0	3.9	7.4	4.5	--	Aug-94
Policy Index				1.9	0.9	8.9	4.3	7.7	4.9	--	Aug-94
PRIT Core Fund/Teachers*	1,382,744,921	32.9		1.9	-0.2	8.1	5.7	9.2	--	9.4	Jul-10
Total Equity	2,207,116,070	52.5	52.0	1.9	1.3	7.9	3.2	10.4	--	--	
Large Cap Comp	860,212,149	20.5	19.0	1.6	4.2	12.0	8.8	15.8	7.7	8.5	Dec-04
Rhumblin Advisors	110,403,058	2.6		2.0	3.8	11.9	8.8	14.6	7.0	9.5	Aug-94
DE Shaw Core Enhanced	194,855,762	4.6		2.1	4.0	13.0	9.3	15.5	--	14.1	Oct-09
JP Morgan 130/30	158,615,883	3.8		1.4	5.5	10.9	9.1	16.5	--	14.0	Oct-09
S&P 500				2.0	3.8	12.0	8.9	14.7	6.9	13.3	Oct-09
DE Shaw 130/30	168,978,226	4.0		1.7	4.2	14.6	10.0	16.5	--	15.4	Oct-09
Russell 1000				1.9	3.8	12.1	8.6	14.7	7.1	13.3	Oct-09
J&W Seligman	109,818,063	2.6		2.3	9.5	19.2	8.9	16.5	8.8	9.6	Jan-97
Russell 1000 Value				2.5	6.7	17.3	8.6	14.8	5.7	8.3	Jan-97
Zevenbergen Capital	70,408,697	1.7		-0.2	-2.6	-2.0	3.2	14.3	9.6	10.7	Aug-94
Intech	47,132,460	1.1		0.9	0.1	6.9	8.0	14.7	7.7	7.7	Oct-06
Russell 1000 Growth				1.2	1.0	7.1	8.6	14.5	8.3	8.7	Oct-06
Small Cap Comp	275,439,307	6.6	6.0	1.6	4.7	12.7	4.1	13.3	8.7	9.0	Dec-04
Westfield Capital Management	105,977,593	2.5		0.4	1.1	4.2	2.9	12.6	10.0	10.0	Sep-03
Russell 2000 Growth				1.4	3.6	11.3	5.1	13.7	7.8	8.9	Sep-03
Bernzott	82,757,733	2.0		1.1	4.6	17.7	--	--	--	8.8	Nov-15
Russell 2000 Value				4.1	14.1	31.7	8.3	15.1	6.3	23.8	Nov-15
Aristotle	86,703,981	2.1		3.6	9.6	19.9	--	--	--	14.9	Nov-15
Russell 2000				2.8	8.8	21.3	6.7	14.5	7.1	16.0	Nov-15

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

Boston Retirement System

Total Fund Performance Detail (Gross)

	Market Value (\$)	% of Portfolio	Policy %	1 Mo (%)	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Return (%)	Since
Total Non-US Equity	1,071,464,614	25.5	27.0	2.2	-1.6	3.7	-1.2	5.4	1.6	5.9	Aug-94
International Equity	708,666,927	16.9	19.0	3.0	-0.1	0.2	-1.6	7.0	--	4.7	Dec-10
Todd	214,437,069	5.1		1.2	-1.1	--	--	--	--	0.7	Apr-16
MSCI ACWI ex USA Gross				2.6	-1.2	5.0	-1.3	5.5	1.4	5.3	Apr-16
Panagora Asset Management	273,552,559	6.5		3.7	0.9	3.4	1.1	9.7	3.0	5.8	Aug-94
Fisher	220,176,293	5.2		3.8	-0.3	2.0	-0.9	7.3	2.7	3.6	Feb-06
MSCI EAFE				3.4	-0.7	1.0	-1.6	6.5	0.7	2.3	Feb-06
Emerging Markets	362,797,687	8.6	8.0	0.8	-4.5	11.0	-0.2	2.1	--	0.2	Dec-10
Vontobel	79,575,472	1.9		-0.2	-10.6	1.6	-0.1	3.0	6.5	9.7	Oct-05
Polunin	89,874,882	2.1		0.3	1.0	21.9	3.6	--	--	4.4	Oct-13
SSgA Emerging Markets	106,682,727	2.5		1.8	-2.9	11.3	-3.1	--	--	-3.5	Oct-13
MSCI Emerging Markets				0.2	-4.2	11.2	-2.6	1.3	1.8	-1.8	Oct-13
Lazard	86,664,606	2.1		1.1	-5.9	9.8	-0.3	--	--	0.4	Oct-13
MSCI Emerging Markets Small Cap				-0.2	-6.2	2.3	-1.3	3.5	3.4	-0.8	Oct-13
Total Fixed Income	1,011,187,242	24.1	24.0	0.4	-1.4	3.9	3.7	3.0	5.2	4.9	Dec-04
Core Fixed Income	449,572,599	10.7	11.0	0.2	-2.8	3.4	3.6	3.3	5.7	5.5	May-05
Wells Asset Management	154,185,608	3.7		0.9	1.3	4.3	--	--	--	2.3	Aug-15
BlackRock SIO	155,111,972	3.7		0.0	-2.7	3.8	--	--	--	3.2	Jul-15
IR&M	140,275,020	3.3		0.1	-3.0	2.6	3.0	2.2	4.3	2.2	Jul-15
BBgBarc US Aggregate TR				1.2	0.9	11.2	1.8	3.3	--	--	--
Value Added Fixed Income	561,614,643	13.4	13.0	1.4	2.3	12.0	4.6	6.7	7.2	7.3	Jan-06
High Yield Income	380,663,422	9.1	9.0	1.7	2.2	11.1	--	--	--	6.3	May-15
Crescent Capital	125,743,579	3.0		1.5	2.0	13.6	4.1	6.3	6.1	4.2	May-15
50/50 S&P/LSTA Leveraged Loan/BBgBarc High Yield				2.1	3.6	17.9	--	--	--	5.2	May-15
DDJ	131,613,240	3.1		1.7	1.9	15.4	--	--	--	4.4	May-15
75% BC HY 25% S&P Leverage Loan				0.1	--	--	--	--	--	0.1	Dec-16
GoldenTree Multi Spec Opp Credit	80,041,120	1.9		0.7	1.9	7.8	7.5	7.4	8.3	0.7	Dec-16
3-Month LIBOR + 7%				1.2	2.3	10.2	3.6	5.1	4.6	1.2	Dec-16
S&P/LSTA U.S. Leveraged Loan				0.8	1.6	7.9	3.6	4.8	--	4.9	Sep-08
Loomis Sayles Bank Loan	41,579,730	1.0		1.2	2.3	10.2	3.6	5.1	4.6	5.6	Sep-08
S&P/LSTA U.S. Leveraged Loan				0.0	0.0	-14.3	-2.7	4.4	--	11.3	Jul-10
Perella Weinberg*	1,670,138	0.0		0.4	1.8	4.8	5.2	8.4	8.0	8.3	Jul-10
HFRI RV: Fixed Income-Asset Backed											

- Perella Weinberg final as of 09/30/2016.

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

Boston Retirement System

Total Fund Performance Detail (Gross)

	Market Value (\$)	% of Portfolio	Policy %	1 Mo (%)	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Return (%)	Since
Emerging Market Debt	159,405,641	3.8	4.0	0.9	-1.1	9.7	-4.1	-1.6	--	-2.3	Nov-11
Loomis Sayles Emerging Debt & Currencies	159,405,641	3.8		0.9	-1.1	9.7	-4.1	-1.6	--	-2.3	Nov-11
<i>Custom EMD</i>				1.7	-5.1	10.2	-4.0	-1.2	3.8	-2.1	Nov-11
Global Fixed Income	21,545,579	0.5	0.0	-0.2	-6.5	4.4	0.4	1.0	4.3	5.2	Jul-95
Loomis Sayles	21,545,579	0.5		-0.2	-6.5	4.4	0.4	1.0	4.3	5.8	Nov-99
<i>Citi WGBI</i>				-0.7	-8.5	1.6	-0.8	-1.0	3.0	4.1	Nov-99
Total Alternative Assets	964,467,593	23.0	24.0								
Hedge Fund Composite	325,296,861	7.7	7.0	0.8	1.1	0.4	-0.1	3.9	2.3	3.4	Nov-04
Mesirow Absolute Return Class J	59,990,401	1.4		-0.4	-0.3	-3.8	-1.1	3.0	1.6	3.1	Nov-04
Federal Street Offshore LTD	716,788	0.0									
GAM	52,562,444	1.3		0.8	-0.5	-0.7	0.1	4.4	--	0.5	Nov-07
Permal	73,353,218	1.7		1.2	3.3	4.8	0.9	5.1	--	4.3	Nov-07
Entrust	64,536,532	1.5		0.7	0.3	-1.2	-2.3	--	--	1.5	Apr-12
Grosvenor	74,137,478	1.8		1.4	2.1	2.4	1.8	--	--	3.8	Jul-13
<i>HFRI Fund of Funds Composite Index</i>				0.9	0.9	0.5	1.2	3.4	1.3	2.6	Jul-13
Real Estate Composite	419,309,031	10.0	10.0	4.8	4.8	12.4	13.0	12.2	4.2	--	
Private Equity	219,861,701	5.2	7.0	1.3	1.3	1.4	6.3	6.5	5.7	--	
Cash	18,975,547	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.8	1.3	Oct-04

- Perella Weinberg, PE & RE report on a quarterly basis; Perella Weinberg final as of 09/30/2016.
- Real Estate and Private Equity valuations are as of 09/30/2016.
- Entrust market value and return is preliminary.

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



NEPC, LLC

December 31, 2016

PE/RE Summary

Quarter Ending September 30, 2016

Target Weight	Weight in Fund		Committed Capital	Cumulative Distribution	Contributed Capital	QTR	Last Year	Valuation
7.0%	5.2%	Private Equity IRR	\$656,498,636	\$473,868,447	\$519,971,989	1.3%	1.4%	\$219,861,701
10.0%	10.0%	Real Estate IRR	\$789,674,338	\$627,459,413	\$725,623,807	4.8%	12.4%	\$419,309,031

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.
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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.