

FUND EVALUATION REPORT

Massachusetts Housing Finance Agency Retirement System

Quarterly Review
March 31, 2017



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System Summary

As of March 31, 2017

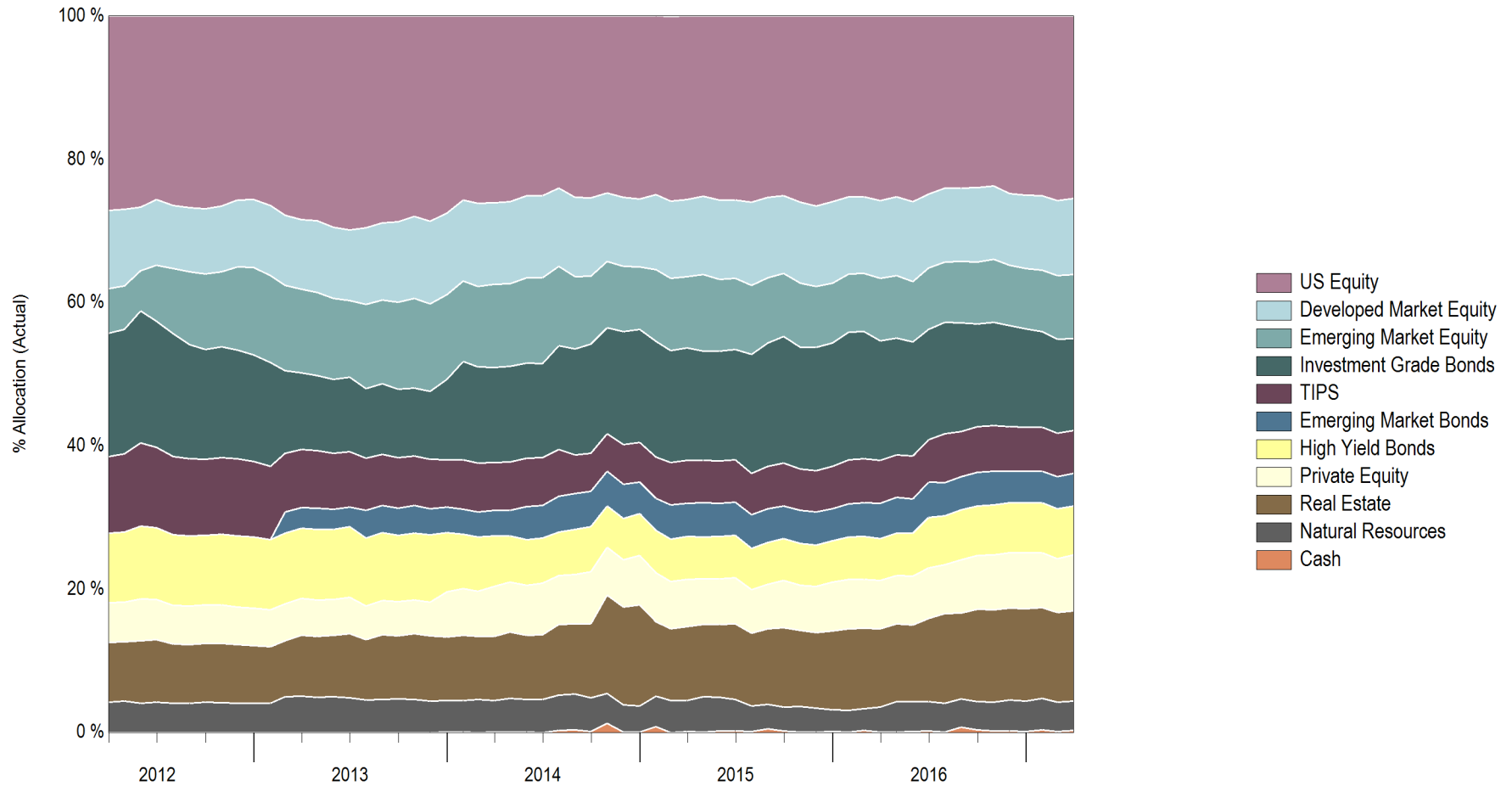
Total Retirement System

As of March 31, 2017

Allocation vs. Targets and Policy

	Current Balance	Current Allocation	Policy	Policy Range	Within IPS Range?
US Equity	\$33,740,260	25%	25%	20% - 30%	Yes
Developed Market Equity	\$14,109,686	11%	10%	6% - 14%	Yes
Emerging Market Equity	\$11,888,096	9%	10%	6% - 14%	Yes
Investment Grade Bonds	\$16,973,743	13%	15%	12% - 18%	Yes
TIPS	\$7,975,349	6%	6%	4% - 8%	Yes
Emerging Market Bonds	\$5,943,811	4%	5%	3% - 7%	Yes
High Yield Bonds	\$9,098,577	7%	6%	3% - 9%	Yes
Private Equity	\$10,332,880	8%	8%	5% - 11%	Yes
Real Estate	\$16,732,301	13%	10%	7% - 13%	Yes
Natural Resources	\$5,382,278	4%	5%	3% - 7%	Yes
Cash	\$390,663	0%	0%	0% - 5%	Yes
Total	\$132,567,643	100%	100%		

Asset Allocation History
5 Years Ending March 31, 2017



Total Retirement System

As of March 31, 2017

Asset Class Performance Summary

	Market Value (\$)	% of Portfolio	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Return (%)	Since
Total Retirement System	132,567,643	100.0	4.4	11.4	4.4	6.4	4.5	5.3	Jul-01
Consumer Price Index			1.0	2.4	1.0	1.2	1.7	2.0	Jul-01
60% MSCI ACWI / 40% Barclays Global Aggregate			4.8	8.0	3.0	5.2	4.0	5.6	Jul-01
Domestic Equity Assets	33,740,260	25.5	5.6	18.3	9.7	13.1	7.5	6.5	Jul-01
Russell 3000			5.7	18.1	9.8	13.2	7.5	6.7	Jul-01
Total International Developed Market Equity	14,109,686	10.6	7.5	11.9	1.5	6.9	2.5	6.0	Jul-01
MSCI EAFE			7.2	11.7	0.5	5.8	1.1	4.9	Jul-01
International Emerging Market Equity Assets	11,888,096	9.0	11.6	17.3	-0.6	-0.7	--	0.2	Jul-07
MSCI Emerging Markets			11.4	17.2	1.2	0.8	2.7	1.3	Jul-07
Investment Grade Bond Assets	16,973,743	12.8	0.8	0.5	2.8	2.2	4.5	4.8	Jul-01
BBgBarc US Aggregate TR			0.8	0.4	2.7	2.3	4.3	4.7	Jul-01
High Yield Bond Assets	9,098,577	6.9	2.1	10.5	4.7	6.7	6.5	6.7	Feb-05
CSFB High Yield Index			2.4	17.4	4.4	6.6	7.1	7.2	Feb-05
TIPS Assets	7,975,349	6.0	1.3	1.3	2.0	0.9	--	4.4	Jul-07
BBgBarc US TIPS TR			1.3	1.5	2.0	1.0	4.2	4.4	Jul-07
Emerging Market Debt Assets	5,943,811	4.5	5.3	4.9	-4.2	--	--	-5.8	Mar-13
JP Morgan GBI EM Global Diversified TR USD			6.5	5.5	-2.7	-1.6	4.1	-3.9	Mar-13
Real Estate Assets	16,732,301	12.6	2.2	9.0	11.7	11.5	3.8	5.7	Apr-05
NCREIF-ODCE			1.8	8.3	11.8	12.0	5.6	7.6	Apr-05
Private Equity Assets	10,332,880	7.8	5.8	11.6	6.3	8.9	6.3	5.0	Oct-03
Russell 3000 + 3%			6.5	21.6	13.0	16.5	10.7	12.3	Oct-03
Natural Resources & Commodities Assets	5,382,278	4.1	-0.8	33.3	-10.8	-5.6	--	-6.2	Jul-11
S&P Global Natural Resources Index TR USD			2.9	24.6	-2.2	-1.0	1.1	-2.8	Jul-11
Cash	390,663	0.3							

Total Retirement System

As of March 31, 2017

Trailing Gross Performance

	Market Value (\$)	% of Portfolio	% of Sector	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Return (%)	Since
Total Retirement System	132,567,643	100.0	--	4.4	11.4	4.4	6.4	4.5	5.3	Jul-01
Consumer Price Index				1.0	2.4	1.0	1.2	1.7	2.0	Jul-01
60% MSCI ACWI / 40% Barclays Global Aggregate				4.8	8.0	3.0	5.2	4.0	5.6	Jul-01
Domestic Equity Assets	33,740,260	25.5	25.5	5.6	18.3	9.7	13.1	7.5	6.5	Jul-01
Russell 3000				5.7	18.1	9.8	13.2	7.5	6.7	Jul-01
SSgA Russell 1000 Value Index-NL	15,529,831	11.7	46.0	3.3	19.2	8.7	13.1	6.0	7.3	Jan-05
Russell 1000 Value				3.3	19.2	8.7	13.1	5.9	7.3	Jan-05
SSgA Russell 1000 Growth-NL	15,135,817	11.4	44.9	8.9	15.8	11.3	13.3	--	8.7	Jul-07
Russell 1000 Growth				8.9	15.8	11.3	13.3	9.1	8.6	Jul-07
SSgA Russell 2000 Index-NL	3,074,612	2.3	9.1	2.5	26.3	7.3	12.4	--	13.6	Aug-10
Russell 2000				2.5	26.2	7.2	12.4	7.1	13.6	Aug-10
Total International Developed Market Equity	14,109,686	10.6	10.6	7.5	11.9	1.5	6.9	2.5	6.0	Jul-01
MSCI EAFE				7.2	11.7	0.5	5.8	1.1	4.9	Jul-01
SSgA MSCI EAFE Index-NL	10,409,923	7.9	73.8	7.4	12.1	0.8	6.2	--	6.2	Aug-10
MSCI EAFE				7.2	11.7	0.5	5.8	1.1	5.9	Aug-10
SSgA MSCI EAFE Small Cap Index-NL	3,699,763	2.8	26.2	8.1	11.3	3.8	9.5	--	9.7	Aug-10
MSCI EAFE Small Cap				8.0	11.0	3.6	9.2	3.0	9.3	Aug-10

Total Retirement System

As of March 31, 2017

	Market Value (\$)	% of Portfolio	% of Sector	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Return (%)	Since
International Emerging Market Equity Assets	11,888,096	9.0	9.0	11.6	17.3	-0.6	-0.7	--	0.2	Jul-07
MSCI Emerging Markets				11.4	17.2	1.2	0.8	2.7	1.3	Jul-07
DFA (Net)	2,387,286	1.8	20.1	14.2	25.7	2.3	1.0	--	1.1	Jul-07
MSCI Emerging Markets				11.4	17.2	1.2	0.8	2.7	1.3	Jul-07
LMCG Emerging Markets	4,450,890	3.4	37.4	11.3	14.2	--	--	--	4.2	Aug-15
MSCI Emerging Markets				11.4	17.2	1.2	0.8	2.7	5.9	Aug-15
KB Investors Emerging Markets Equity	5,049,919	3.8	42.5	10.7	16.2	--	--	--	13.8	Oct-15
MSCI Emerging Markets				11.4	17.2	1.2	0.8	2.7	15.9	Oct-15
Investment Grade Bond Assets	16,973,743	12.8	12.8	0.8	0.5	2.8	2.2	4.5	4.8	Jul-01
BBgBarc US Aggregate TR				0.8	0.4	2.7	2.3	4.3	4.7	Jul-01
McDonnell Core Bond	16,973,743	12.8	100.0	0.8	0.5	2.8	2.2	4.5	4.8	Jul-01
BBgBarc US Aggregate TR				0.8	0.4	2.7	2.3	4.3	4.7	Jul-01
High Yield Bond Assets	9,098,577	6.9	6.9	2.1	10.5	4.7	6.7	6.5	6.7	Feb-05
CSFB High Yield Index				2.4	17.4	4.4	6.6	7.1	7.2	Feb-05
Columbia Institutional High Yield	9,098,577	6.9	100.0	2.1	10.5	4.7	6.7	--	6.4	Mar-12
BBgBarc US High Yield TR				2.7	16.4	4.6	6.8	7.5	6.7	Mar-12
TIPS Assets	7,975,349	6.0	6.0	1.3	1.3	2.0	0.9	--	4.4	Jul-07
BBgBarc US TIPS TR				1.3	1.5	2.0	1.0	4.2	4.4	Jul-07
SSgA TIPS-NL	7,975,349	6.0	100.0	1.3	1.3	2.0	0.9	--	4.4	Jul-07
BBgBarc US TIPS TR				1.3	1.5	2.0	1.0	4.2	4.4	Jul-07
Emerging Market Debt Assets	5,943,811	4.5	4.5	5.3	4.9	-4.2	--	--	-5.8	Mar-13
JP Morgan GBI EM Global Diversified TR USD				6.5	5.5	-2.7	-1.6	4.1	-3.9	Mar-13
Logan Circle Emerging Markets Debt (Net)	2,856,497	2.2	48.1	5.3	--	--	--	--	3.9	Nov-16
50% JPM EMBI GD / 50% JPM GBI-EM				5.2	7.3	1.8	2.1	5.6	0.9	Nov-16

Total Retirement System

As of March 31, 2017

	Market Value (\$)	% of Portfolio	% of Sector	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Return (%)	Since
Aberdeen Emerging Debt	3,087,313	2.3	51.9	5.3	--	--	--	--	5.3	Dec-16
50% JPM EMBI GD / 50% JPM GBI-EM				5.2	7.3	1.8	2.1	5.6	6.9	Dec-16
Real Estate Assets	16,732,301	12.6	12.6	2.2	9.0	11.7	11.5	3.8	5.7	Apr-05
NCREIF-ODCE				1.8	8.3	11.8	12.0	5.6	7.6	Apr-05
AG Realty Fund IV	4,279	0.0	0.0							
TA Associates Realty Fund IX	1,972,381	1.5	11.8							
TA Associates Realty Fund X	2,543,132	1.9	15.2							
Intercontinental U.S. REIF (Net)	5,209,252	3.9	31.1	1.5	11.5	--	--	--	11.3	Oct-14
NCREIF-ODCE				1.8	8.3	11.8	12.0	5.6	11.6	Oct-14
AEW Core Property Trust (Net)	7,003,257	5.3	41.9	1.8	7.6	--	--	--	10.1	Oct-14
NCREIF-ODCE				1.8	8.3	11.8	12.0	5.6	11.6	Oct-14
Private Equity Assets	10,332,880	7.8	7.8	5.8	11.6	6.3	8.9	6.3	5.0	Oct-03
Russell 3000 + 3%				6.5	21.6	13.0	16.5	10.7	12.3	Oct-03
Ascent Venture Partners - Fund II	133,436	0.1	1.3							
Ascent Venture Partners - Fund III	87,661	0.1	0.8							
Ascent Venture Partners - Fund IV	131,689	0.1	1.3							
Ascent Venture Partners - Fund V	924,368	0.7	8.9							
Ascent Venture Partners - Fund VI	548,470	0.4	5.3							
Constitution Capital Partners Ironsides III	1,328,681	1.0	12.9							

AG Realty Fund IV, TA Associates Realty Fund IX, and TA Associates Realty Fund X are based on December 31, 2016 fair market value, adjusted for subsequent cash flows.

Private Equity Assets: Based on December 31, 2016 fair market value, adjusted for subsequent cash flows.



Total Retirement System

As of March 31, 2017

	Market Value (\$)	% of Portfolio	% of Sector	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Return (%)	Since
Constitution Capital Direct IV	723,552	0.5	7.0							
Goldman Sachs PEP 2005	1,127,561	0.9	10.9							
HarbourVest Partners VIII	1,271,999	1.0	12.3							
HarbourVest Partners IX	3,173,703	2.4	30.7							
HarbourVest X Buyout Fund	611,082	0.5	5.9							
Natural Resources & Commodities Assets	5,382,278	4.1	4.1	-0.8	33.3	-10.8	-5.6	--	-6.2	Jul-11
<i>S&P Global Natural Resources Index TR USD</i>				2.9	24.6	-2.2	-1.0	1.1	-2.8	Jul-11
RS Global Natural Resources (Net)	5,382,278	4.1	100.0	-0.8	33.3	-10.8	-5.6	--	-6.2	Jul-11
<i>S&P Global Natural Resources Index TR USD</i>				2.9	24.6	-2.2	-1.0	1.1	-2.8	Jul-11
Cash	390,663	0.3	0.3							
Cash STIF	390,663	0.3	100.0							

Total Retirement System

As of March 31, 2017

Calendar Year Performance

	2016 (%)	2015 (%)	2014 (%)	2013 (%)	2012 (%)	2011 (%)	2010 (%)	2009 (%)	2008 (%)	2007 (%)
Total Retirement System	9.6	-2.7	4.3	10.9	12.2	2.2	12.5	17.7	-24.7	7.9
<i>Consumer Price Index</i>	2.1	0.7	0.8	1.5	1.7	3.0	1.5	2.7	0.1	4.1
Domestic Equity Assets	13.1	0.4	12.4	33.5	16.3	1.0	17.5	30.8	-38.3	3.9
<i>Russell 3000</i>	12.7	0.5	12.6	33.6	16.4	1.0	16.9	28.3	-37.3	5.1
SSgA Russell 1000 Value Index-NL	17.3	-3.7	13.4	32.5	17.4	0.4	15.6	20.0	-36.8	-0.1
<i>Russell 1000 Value</i>	17.3	-3.8	13.5	32.5	17.5	0.4	15.5	19.7	-36.8	-0.2
SSgA Russell 1000 Growth-NL	7.2	5.6	13.1	33.5	15.4	2.6	16.7	37.2	-38.4	--
<i>Russell 1000 Growth</i>	7.1	5.7	13.0	33.5	15.3	2.6	16.7	37.2	-38.4	11.8
SSgA Russell 2000 Index-NL	21.5	-4.4	5.0	38.9	16.4	-4.1	--	--	--	--
<i>Russell 2000</i>	21.3	-4.4	4.9	38.8	16.3	-4.2	26.9	27.2	-33.8	-1.6
Total International Developed Market Equity	1.6	2.0	-4.7	24.4	18.1	-12.6	11.4	36.3	-41.5	9.8
<i>MSCI EAFE</i>	1.0	-0.8	-4.9	22.8	17.3	-12.1	7.8	31.8	-43.4	11.2
SSgA MSCI EAFE Index-NL	1.4	-0.5	-4.6	23.1	17.7	-11.9	--	--	--	--
<i>MSCI EAFE</i>	1.0	-0.8	-4.9	22.8	17.3	-12.1	7.8	31.8	-43.4	11.2
SSgA MSCI EAFE Small Cap Index-NL	2.4	9.7	-4.7	29.5	20.1	-15.0	--	--	--	--
<i>MSCI EAFE Small Cap</i>	2.2	9.6	-4.9	29.3	20.0	-15.9	22.0	46.8	-47.0	1.4
International Emerging Market Equity Assets	11.7	-18.1	-4.4	-3.8	18.8	-25.6	22.1	92.3	-53.9	--
<i>MSCI Emerging Markets</i>	11.2	-14.9	-2.2	-2.6	18.2	-18.4	18.9	78.5	-53.3	39.4
DFA (Net)	19.8	-18.8	-4.4	-3.8	18.8	-25.6	22.1	92.3	-53.9	--
<i>MSCI Emerging Markets</i>	11.2	-14.9	-2.2	-2.6	18.2	-18.4	18.9	78.5	-53.3	39.4
LMCG Emerging Markets	7.0	--	--	--	--	--	--	--	--	--
<i>MSCI Emerging Markets</i>	11.2	-14.9	-2.2	-2.6	18.2	-18.4	18.9	78.5	-53.3	39.4

Total Retirement System

As of March 31, 2017

	2016 (%)	2015 (%)	2014 (%)	2013 (%)	2012 (%)	2011 (%)	2010 (%)	2009 (%)	2008 (%)	2007 (%)
KB Investors Emerging Markets Equity	12.0	--	--	--	--	--	--	--	--	--
<i>MSCI Emerging Markets</i>	11.2	-14.9	-2.2	-2.6	18.2	-18.4	18.9	78.5	-53.3	39.4
Investment Grade Bond Assets	2.7	0.8	6.1	-3.1	4.6	8.5	6.7	9.7	3.8	6.2
<i>BBgBarc US Aggregate TR</i>	2.6	0.5	6.0	-2.0	4.2	7.8	6.5	5.9	5.2	7.0
McDonnell Core Bond	2.7	0.8	6.1	-3.1	4.6	8.5	6.7	9.7	3.8	6.2
<i>BBgBarc US Aggregate TR</i>	2.6	0.5	6.0	-2.0	4.2	7.8	6.5	5.9	5.2	7.0
High Yield Bond Assets	11.5	-0.2	4.1	6.0	13.6	6.2	12.9	43.2	-23.3	2.2
<i>CSFB High Yield Index</i>	18.3	-4.9	1.9	7.5	14.7	5.5	14.4	54.2	-26.2	2.6
Columbia Institutional High Yield	11.5	-0.2	4.1	6.0	--	--	--	--	--	--
<i>BBgBarc US High Yield TR</i>	17.1	-4.5	2.5	7.4	15.8	5.0	15.1	58.2	-26.2	1.9
TIPS Assets	4.5	-1.4	3.6	-8.6	6.9	13.5	6.3	11.3	-2.4	--
<i>BBgBarc US TIPS TR</i>	4.7	-1.4	3.6	-8.6	7.0	13.6	6.3	11.4	-2.4	11.6
SSgA TIPS-NL	4.5	-1.4	3.6	-8.6	6.9	13.5	6.3	11.3	-2.4	--
<i>BBgBarc US TIPS TR</i>	4.7	-1.4	3.6	-8.6	7.0	13.6	6.3	11.4	-2.4	11.6
Emerging Market Debt Assets	10.0	-15.2	-8.5	--	--	--	--	--	--	--
<i>JP Morgan GBI EM Global Diversified TR USD</i>	9.9	-14.9	-5.7	-9.0	16.8	-1.8	15.1	22.0	-5.2	18.1
Logan Circle Emerging Markets Debt (Net)	--	--	--	--	--	--	--	--	--	--
<i>50% JPM EMBI GD / 50% JPM GBI-EM</i>	10.2	-7.1	0.7	-7.1	17.2	2.8	13.8	26.0	-8.6	12.0
Aberdeen Emerging Debt	--	--	--	--	--	--	--	--	--	--
<i>50% JPM EMBI GD / 50% JPM GBI-EM</i>	10.2	-7.1	0.7	-7.1	17.2	2.8	13.8	26.0	-8.6	12.0

Total Retirement System

As of March 31, 2017

	2016 (%)	2015 (%)	2014 (%)	2013 (%)	2012 (%)	2011 (%)	2010 (%)	2009 (%)	2008 (%)	2007 (%)
Real Estate Assets	9.0	13.8	12.8	10.1	12.5	16.7	12.7	-38.9	-14.2	23.6
<i>NCREIF-ODCE</i>	8.8	15.0	12.5	13.9	10.9	16.0	16.4	-29.8	-10.0	16.0
AG Realty Fund IV										
TA Associates Realty Fund IX										
TA Associates Realty Fund X										
Intercontinental U.S. REIF (Net)	10.9	12.5	--	--	--	--	--	--	--	--
<i>NCREIF-ODCE</i>	8.8	15.0	12.5	13.9	10.9	16.0	16.4	-29.8	-10.0	16.0
AEW Core Property Trust (Net)	7.6	12.8	--	--	--	--	--	--	--	--
<i>NCREIF-ODCE</i>	8.8	15.0	12.5	13.9	10.9	16.0	16.4	-29.8	-10.0	16.0
Private Equity Assets	6.3	0.8	13.5	9.5	9.2	7.9	19.9	-14.2	-2.8	17.3
<i>Russell 3000 + 3%</i>	16.1	3.5	15.9	37.5	19.9	4.1	20.4	32.1	-35.3	8.3
Ascent Venture Partners - Fund II										
Ascent Venture Partners - Fund III										
Ascent Venture Partners - Fund IV										
Ascent Venture Partners - Fund V										
Ascent Venture Partners - Fund VI										
Constitution Capital Partners Ironsides III										
Constitution Capital Direct IV										
Goldman Sachs PEP 2005										
HarbourVest Partners VIII										

Total Retirement System

As of March 31, 2017

	2016 (%)	2015 (%)	2014 (%)	2013 (%)	2012 (%)	2011 (%)	2010 (%)	2009 (%)	2008 (%)	2007 (%)
HarbourVest Partners IX										
HarbourVest X Buyout Fund										
Natural Resources & Commodities Assets	53.7	-38.0	-22.6	-0.3	6.5	--	--	--	--	--
<i>S&P Global Natural Resources Index TR USD</i>	32.3	-24.0	-9.7	1.5	7.2	-14.9	11.0	36.1	-38.3	41.7
RS Global Natural Resources (Net)	53.7	-38.0	-22.6	-0.3	6.5	--	--	--	--	--
<i>S&P Global Natural Resources Index TR USD</i>	32.3	-24.0	-9.7	1.5	7.2	-14.9	11.0	36.1	-38.3	41.7
Cash										
Cash STIF										

As of March 31, 2017

Statistics Summary
5 Years Ending March 31, 2017

	Anlzd Return	Anlzd Standard Deviation	Information Ratio	Beta	Sharpe Ratio	Tracking Error
Total Retirement System	6.4%	6.5%	0.8	0.9	1.0	6.4%
Consumer Price Index	1.2%	1.1%	--	1.0	1.0	0.0%
Total Equity	8.7%	11.0%	-1.1	1.0	0.8	4.0%
Russell 3000	13.2%	10.5%	--	1.0	1.2	0.0%
Domestic Equity Assets	13.1%	10.5%	-0.4	1.0	1.2	0.1%
Russell 3000	13.2%	10.5%	--	1.0	1.2	0.0%
SSgA Russell 1000 Value Index-NL	13.0%	10.5%	-1.6	1.0	1.2	0.1%
Russell 1000 Value	13.1%	10.5%	--	1.0	1.2	0.0%
SSgA Russell 1000 Growth-NL	13.2%	10.6%	-2.3	1.0	1.2	0.0%
Russell 1000 Growth	13.3%	10.6%	--	1.0	1.2	0.0%
SSgA Russell 2000 Index-NL	12.3%	14.4%	-0.5	1.0	0.8	0.1%
Russell 2000	12.4%	14.4%	--	1.0	0.9	0.0%
Total International Equity	3.0%	13.7%	-0.7	1.0	0.2	2.9%
MSCI ACWI ex USA IMI Gross	5.1%	12.8%	--	1.0	0.4	0.0%
Total International Developed Market Equity	6.9%	12.9%	0.9	1.0	0.5	1.2%
MSCI EAFE	5.8%	13.2%	--	1.0	0.4	0.0%
SSgA MSCI EAFE Index-NL	6.0%	13.2%	1.9	1.0	0.4	0.1%
MSCI EAFE	5.8%	13.2%	--	1.0	0.4	0.0%
SSgA MSCI EAFE Small Cap Index-NL	9.2%	12.8%	0.0	1.0	0.7	0.2%
MSCI EAFE Small Cap	9.2%	12.9%	--	1.0	0.7	0.0%

Total Retirement System

As of March 31, 2017

	Anlzd Return	Anlzd Standard Deviation	Information Ratio	Beta	Sharpe Ratio	Tracking Error
International Emerging Market Equity Assets	-0.7%	16.3%	-0.5	1.0	0.0	3.2%
MSCI Emerging Markets	0.8%	15.3%	--	1.0	0.0	0.0%
DFA	1.0%	17.2%	0.0	1.1	0.1	3.9%
MSCI Emerging Markets	0.8%	15.3%	--	1.0	0.0	0.0%
LMCG Emerging Markets	--	--	--	--	--	--
MSCI Emerging Markets	0.8%	15.3%	--	1.0	0.0	0.0%
KB Investors Emerging Markets Equity	--	--	--	--	--	--
MSCI Emerging Markets	0.8%	15.3%	--	1.0	0.0	0.0%
Total Fixed Income	2.3%	4.0%	-0.3	1.3	0.5	1.9%
BBgBarc US Universal TR	2.8%	2.8%	--	1.0	1.0	0.0%
Investment Grade Bond Assets	2.2%	3.0%	-0.3	1.1	0.7	0.3%
BBgBarc US Aggregate TR	2.3%	2.9%	--	1.0	0.8	0.0%
McDonnell Core Bond	2.2%	3.0%	-0.3	1.1	0.7	0.3%
BBgBarc US Aggregate TR	2.3%	2.9%	--	1.0	0.8	0.0%
High Yield Bond Assets	6.7%	4.9%	0.0	0.8	1.3	2.2%
CSFB High Yield Index	6.6%	5.4%	--	1.0	1.2	0.0%
Columbia Institutional High Yield	6.7%	4.9%	-0.1	0.8	1.3	1.9%
BBgBarc US High Yield TR	6.8%	5.4%	--	1.0	1.2	0.0%
TIPS Assets	1.0%	4.6%	-0.5	1.0	0.2	0.0%
BBgBarc US TIPS TR	1.0%	4.6%	--	1.0	0.2	0.0%
SSgA TIPS-NL	0.9%	4.6%	-0.9	1.0	0.2	0.1%
BBgBarc US TIPS TR	1.0%	4.6%	--	1.0	0.2	0.0%
Emerging Market Debt Assets	--	--	--	--	--	--
JP Morgan GBI EM Global Diversified TR USD	-1.6%	11.7%	--	1.0	-0.1	0.0%

Total Retirement System

As of March 31, 2017

	Anlzd Return	Anlzd Standard Deviation	Information Ratio	Beta	Sharpe Ratio	Tracking Error
Logan Circle Emerging Markets Debt	--	--	--	--	--	--
50% JPM EMBI GD / 50% JPM GBI-EM	2.1%	8.9%	--	1.0	0.2	0.0%
Aberdeen Emerging Debt	--	--	--	--	--	--
50% JPM EMBI GD / 50% JPM GBI-EM	2.1%	8.9%	--	1.0	0.2	0.0%
Real Estate Assets	11.5%	4.7%	-0.3	0.9	2.4	1.4%
NCREIF-ODCE	12.0%	4.9%	--	1.0	2.4	0.0%
AG Realty Fund IV	0.0%	0.0%	-2.4	0.0	--	4.9%
NCREIF-ODCE	12.0%	4.9%	--	1.0	2.4	0.0%
TA Associates Realty Fund IX	12.5%	5.8%	0.2	1.0	2.1	3.0%
NCREIF-ODCE	12.0%	4.9%	--	1.0	2.4	0.0%
TA Associates Realty Fund X	--	--	--	--	--	--
NCREIF-ODCE	12.0%	4.9%	--	1.0	2.4	0.0%
Intercontinental U.S. REIF	--	--	--	--	--	--
NCREIF-ODCE	12.0%	4.9%	--	1.0	2.4	0.0%
AEW Core Property Trust	--	--	--	--	--	--
NCREIF-ODCE	12.0%	4.9%	--	1.0	2.4	0.0%
Private Equity Assets	8.9%	5.8%	-0.6	0.0	1.5	11.8%
Russell 3000 + 3%	16.5%	10.5%	--	1.0	1.6	0.0%
Natural Resources & Commodities Assets	-5.6%	25.0%	-0.3	1.3	-0.2	13.3%
S&P Global Natural Resources Index TR USD	-1.0%	17.2%	--	1.0	-0.1	0.0%
RS Global Natural Resources	-5.6%	25.0%	-0.3	1.3	-0.2	13.3%
S&P Global Natural Resources Index TR USD	-1.0%	17.2%	--	1.0	-0.1	0.0%

System Detail
As of March 31, 2017

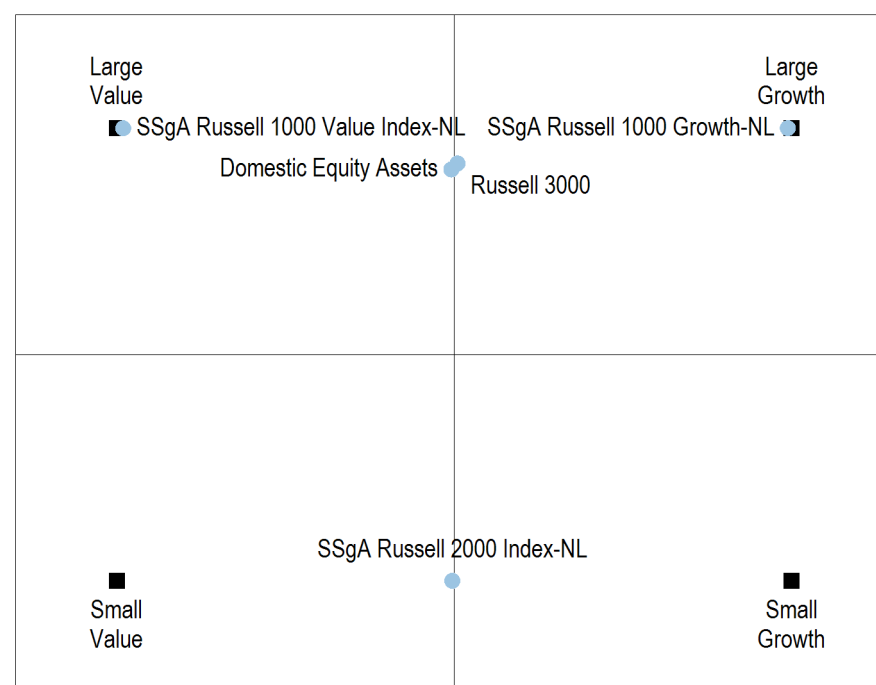
Domestic Equity Assets

Domestic Equity Assets

As of March 31, 2017

Asset Allocation on March 31, 2017

	Actual	Actual
SSgA Russell 1000 Growth-NL	\$15,135,817	44.9%
SSgA Russell 1000 Value Index-NL	\$15,529,831	46.0%
SSgA Russell 2000 Index-NL	\$3,074,612	9.1%
Total	\$33,740,260	100.0%

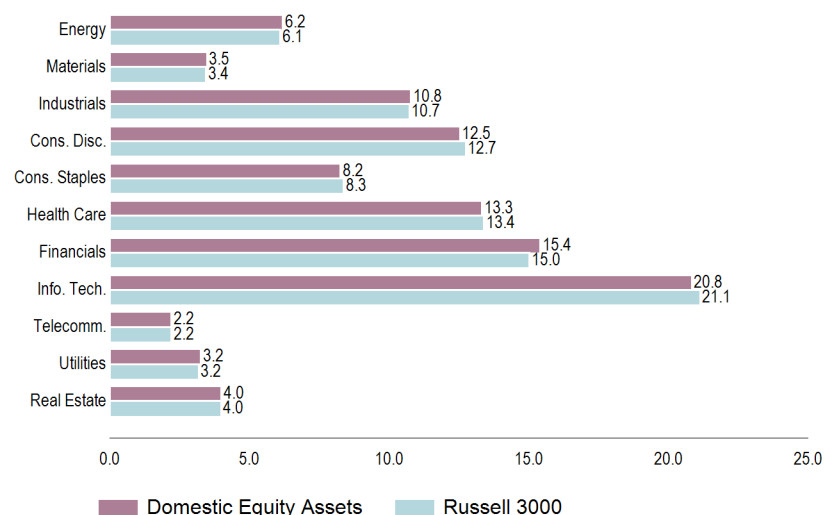
Domestic Equity Assets Style Map
3 Years Ending March 31, 2017

Domestic Equity Assets

As of March 31, 2017

Domestic Equity Assets Characteristics			
	Portfolio Q1-17	Index Q1-17	Portfolio Q4-16
Market Value			
Market Value (\$M)	33.7	--	31.9
Number Of Holdings	2935	2943	2961
Characteristics			
Weighted Avg. Market Cap. (\$B)	125.3	127.3	113.7
Median Market Cap (\$B)	2.0	1.6	1.9
P/E Ratio	24.7	23.8	23.5
Yield	1.9	1.9	2.0
EPS Growth - 5 Yrs.	9.7	9.4	8.5
Price to Book	4.7	4.1	4.3
Beta (holdings; domestic)	1.0	1.0	1.0

Sector Allocation (%) vs Russell 3000



Top 10 Holdings

APPLE	3.1%
MICROSOFT	1.9%
EXXON MOBIL	1.4%
JOHNSON & JOHNSON	1.4%
AMAZON.COM	1.3%
JP MORGAN CHASE & CO.	1.3%
BERKSHIRE HATHAWAY 'B'	1.3%
FACEBOOK CLASS A	1.2%
GENERAL ELECTRIC	1.1%
AT&T	1.1%
Total	15.2%

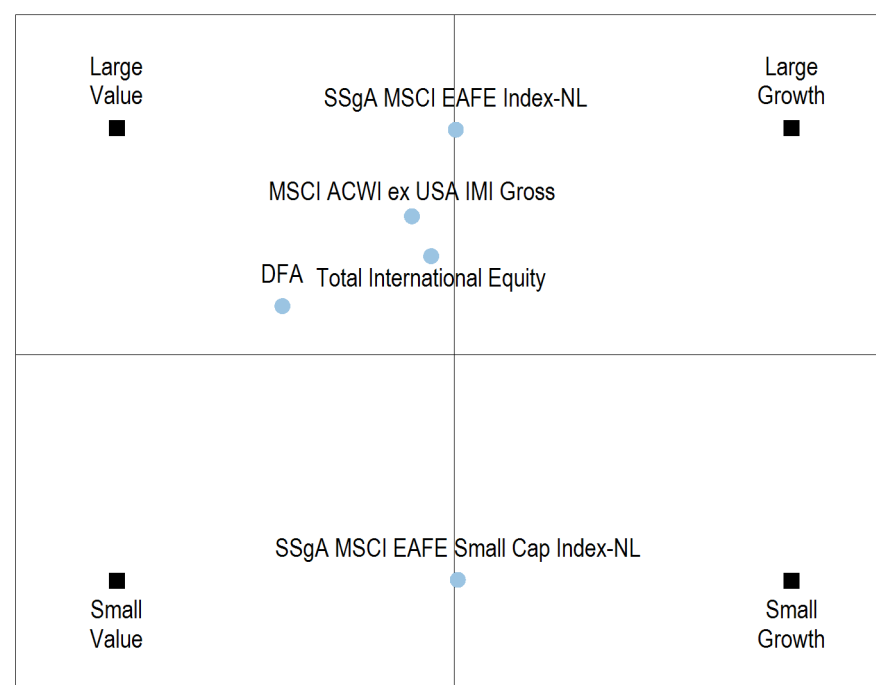
Total International Equity

Total International Equity

As of March 31, 2017

Asset Allocation on March 31, 2017

	Actual	Actual
DFA	\$2,387,286	9.2%
KB Investors Emerging Markets Equity	\$5,049,919	19.4%
LMCG Emerging Markets	\$4,450,890	17.1%
SSgA MSCI EAFE Index-NL	\$10,409,923	40.0%
SSgA MSCI EAFE Small Cap Index-NL	\$3,699,763	14.2%
Total	\$25,997,781	100.0%

Total International Equity Style Map
3 Years Ending March 31, 2017

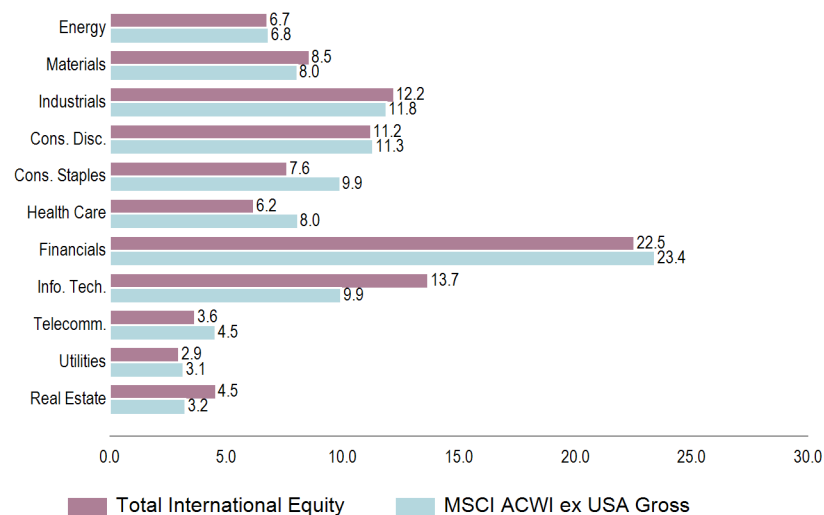
Total International Equity

As of March 31, 2017

Total International Equity Characteristics

	Portfolio Q1-17	Index Q1-17	Portfolio Q4-16
Market Value			
Market Value (\$M)	26.0	--	23.8
Number Of Holdings	5489	1853	5513
Characteristics			
Weighted Avg. Market Cap. (\$B)	38.1	53.1	36.5
Median Market Cap (\$B)	1.1	7.3	1.1
P/E Ratio	18.6	20.7	18.0
Yield	3.1	2.9	3.2
EPS Growth - 5 Yrs.	6.6	4.8	6.8
Price to Book	2.7	2.5	2.7
Beta (holdings; domestic)	1.0	1.1	1.0

Sector Allocation (%) vs MSCI ACWI ex USA Gross



Top 10 Holdings

CHINA CON.BANK 'H'	1.4%
TAIWAN SEMICON.MNFG.	1.3%
INDL. & COML.BK.OF CHINA 'H'	1.0%
ISHARES MSCI INDIA	0.9%
SAMSUNG ELECTRONICS	0.8%
BANK OF CHINA 'H'	0.8%
NESTLE 'R'	0.7%
HON HAI PRECN.IND.	0.7%
WISTRON	0.7%
HCL TECHNOLOGIES	0.6%
Total	9.0%

Total International Equity

As of March 31, 2017

Total International Equity Region Allocation

vs MSCI ACWI ex USA Gross

Region	% of Total	% of Bench	% Diff
North America ex U.S.	0.0%	6.9%	-6.8%
United States	0.6%	0.0%	0.6%
Europe Ex U.K.	23.5%	31.6%	-8.1%
United Kingdom	9.3%	12.4%	-3.1%
Pacific Basin Ex Japan	10.1%	8.8%	1.3%
Japan	13.3%	16.3%	-3.0%
Emerging Markets	42.6%	23.3%	19.3%
Other	0.5%	0.7%	-0.1%
Total	100.0%	100.0%	0.0%

Total International Equity

As of March 31, 2017

Total International Equity Country Allocation

vs MSCI ACWI ex USA Gross

Country	% of Total	% of Bench	% Diff
ARGENTINA	0.0%	0.0%	0.0%
AUSTRALIA	3.9%	5.3%	-1.4%
AUSTRIA	0.2%	0.1%	0.1%
BAHRAIN	0.0%	0.0%	0.0%
BANGLADESH	0.0%	0.0%	0.0%
BELGIUM	0.8%	0.8%	-0.1%
BRAZIL	3.9%	1.8%	2.1%
BULGARIA	0.0%	0.0%	0.0%
CANADA	0.0%	6.9%	-6.8%
CHILE	0.3%	0.3%	0.0%
CHINA	7.3%	6.3%	0.9%
COLOMBIA	0.1%	0.1%	0.0%
CROATIA	0.0%	0.0%	0.0%
CZECH REPUBLIC	0.0%	0.0%	0.0%
DENMARK	0.9%	1.1%	-0.3%
EGYPT	0.0%	0.0%	0.0%
ESTONIA	0.0%	0.0%	0.0%
FINLAND	0.6%	0.7%	-0.1%
FRANCE	4.5%	7.0%	-2.5%
GERMANY	4.6%	6.6%	-2.0%
GREECE	0.0%	0.1%	-0.1%
HONG KONG	5.1%	2.4%	2.7%
HUNGARY	0.4%	0.1%	0.3%
INDIA	4.2%	2.1%	2.1%

Total International Equity

As of March 31, 2017

Country	% of Total	% of Bench	% Diff
INDONESIA	1.2%	0.6%	0.6%
IRELAND	0.3%	0.3%	0.0%
ISRAEL	0.4%	0.5%	-0.1%
ITALY	1.4%	1.5%	-0.1%
JAPAN	13.3%	16.3%	-3.0%
JORDAN	0.0%	0.0%	0.0%
KAZAKHSTAN	0.0%	0.0%	0.0%
KENYA	0.0%	0.0%	0.0%
KOREA	7.1%	3.5%	3.6%
KUWAIT	0.0%	0.0%	0.0%
LEBANON	0.0%	0.0%	0.0%
LITHUANIA	0.0%	0.0%	0.0%
LUXEMBOURG	0.1%	0.0%	0.1%
MALAYSIA	0.9%	0.6%	0.3%
MAURITIUS	0.0%	0.0%	0.0%
MEXICO	1.1%	0.9%	0.3%
MOROCCO	0.0%	0.0%	0.0%
NETHERLANDS	1.9%	2.4%	-0.5%
NEW ZEALAND	0.2%	0.1%	0.1%
NIGERIA	0.0%	0.0%	0.0%
NORWAY	0.5%	0.4%	0.0%
OMAN	0.0%	0.0%	0.0%
OTHER	0.2%	0.0%	0.2%
PAKISTAN	0.0%	0.0%	0.0%
PERU	0.0%	0.1%	-0.1%
PHILIPPINES	0.1%	0.3%	-0.2%
POLAND	0.3%	0.3%	0.0%

Total International Equity

As of March 31, 2017

Country	% of Total	% of Bench	% Diff
PORTUGAL	0.1%	0.1%	0.0%
QATAR	0.0%	0.2%	-0.2%
ROMANIA	0.0%	0.0%	0.0%
RUSSIA	1.4%	0.9%	0.5%
SERBIA	0.0%	0.0%	0.0%
SINGAPORE	0.9%	0.9%	0.0%
SLOVENIA	0.0%	0.0%	0.0%
SOUTH AFRICA	3.3%	1.6%	1.7%
SPAIN	1.7%	2.3%	-0.6%
SRI LANKA	0.0%	0.0%	0.0%
SWEDEN	1.8%	2.0%	-0.2%
SWITZERLAND	4.1%	6.1%	-2.0%
TAIWAN	7.7%	2.9%	4.8%
THAILAND	1.8%	0.5%	1.3%
TUNISIA	0.0%	0.0%	0.0%
TURKEY	1.2%	0.2%	1.0%
UKRAINE	0.0%	0.0%	0.0%
UNITED ARAB EMIRATES	0.3%	0.2%	0.2%
UNITED KINGDOM	9.3%	12.4%	-3.1%
UNITED STATES	0.6%	0.0%	0.6%
VIETNAM	0.0%	0.0%	0.0%
Total	100.0%	100.0%	0.0%

Total Fixed Income

Total Fixed Income

As of March 31, 2017

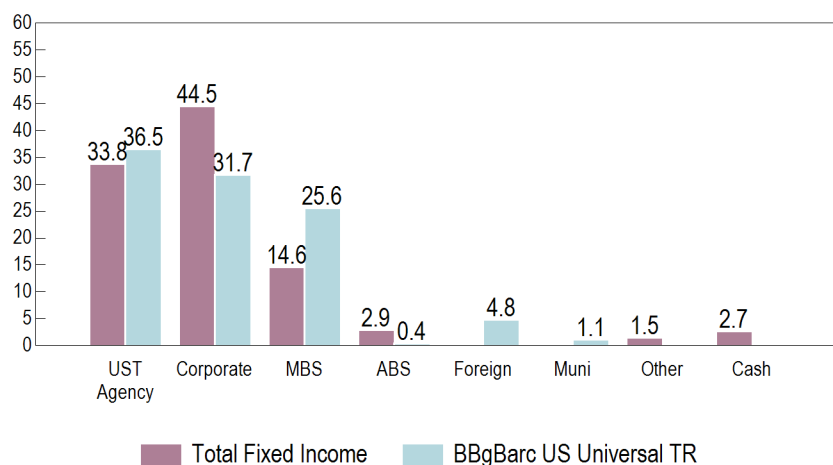
Asset Allocation on March 31, 2017

	Actual	Actual
Aberdeen Emerging Debt	\$3,087,313	7.7%
Columbia Institutional High Yield	\$9,098,577	22.8%
Logan Circle Emerging Markets Debt	\$2,856,497	7.1%
McDonnell Core Bond	\$16,973,743	42.4%
SSgA TIPS-NL	\$7,975,349	19.9%
Total	\$39,991,479	100.0%

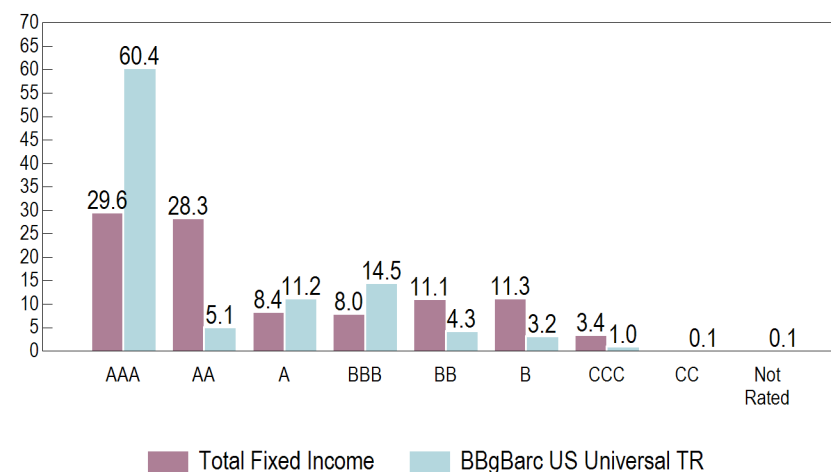
Total Fixed Income Characteristics
vs. BBgBarc US Universal TR

	Portfolio Q1-17	Index Q1-17	Portfolio Q4-16
Fixed Income Characteristics			
Yield to Maturity	3.3	2.9	3.2
Average Duration	5.2	5.8	5.0
Average Quality	A	AA	A
Weighted Average Maturity	7.5	11.9	7.3

Sector Allocation



Credit Quality Allocation



**Portfolio Reviews
As of March 31, 2017**

SSgA Russell 1000 Value Index-NL

As of March 31, 2017

Account Information

Account Name	SSgA Russell 1000 Value Index-NL
Account Structure	Commingled Fund
Investment Style	Passive
Inception Date	1/01/05
Account Type	Equity
Benchmark	Russell 1000 Value
Universe	eA US Large Cap Value Equity Gross

Portfolio Performance Summary

	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	Return (%)	Since
SSgA Russell 1000 Value Index-NL	3.3	19.2	8.7	13.1	7.3	Jan-05
Russell 1000 Value	3.3	19.2	8.7	13.1	7.3	Jan-05
eA US Large Cap Value Equity Gross Rank	70	36	44	43	78	Jan-05

Top 10 Holdings

EXXON MOBIL	3.0%
JP MORGAN CHASE & CO.	2.8%
BERKSHIRE HATHAWAY 'B'	2.8%
JOHNSON & JOHNSON	2.5%
AT&T	2.3%
WELLS FARGO & CO	2.3%
BANK OF AMERICA	2.2%
PROCTER & GAMBLE	2.0%
GENERAL ELECTRIC	2.0%
CHEVRON	1.8%
Total	23.7%

SSgA Russell 1000 Value Index-NL Characteristics

	Portfolio Q1-17	Index Q1-17	Portfolio Q4-16
Market Value			
Market Value (\$M)	15.5	--	15.0
Number Of Holdings	690	692	693
Characteristics			
Weighted Avg. Market Cap. (\$B)	116.1	115.4	114.2
Median Market Cap (\$B)	8.5	8.3	8.0
P/E Ratio	22.2	21.1	20.8
Yield	2.4	2.4	2.5
EPS Growth - 5 Yrs.	5.8	4.8	5.3
Price to Book	2.3	2.5	2.4
Beta (holdings; domestic)	1.0	1.0	1.0
Sector Distribution			
Energy	12.2	12.2	13.6
Materials	3.0	3.0	2.9
Industrials	10.0	10.0	10.0
Consumer Discretionary	4.5	4.5	4.5
Consumer Staples	8.4	8.5	8.0
Health Care	10.8	10.8	10.3
Financials	26.7	26.5	26.8
Information Technology	10.1	10.0	9.4
Telecommunication Services	3.6	3.6	3.9
Utilities	6.2	6.2	6.0
Real Estate	4.5	4.6	4.6

SSgA Russell 1000 Growth-NL

As of March 31, 2017

Account Information

Account Name	SSgA Russell 1000 Growth-NL
Account Structure	Commingled Fund
Investment Style	Passive
Inception Date	7/01/07
Account Type	Equity
Benchmark	Russell 1000 Growth
Universe	eA US Large Cap Value Equity Gross

Portfolio Performance Summary

	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	Return (%)	Since
SSgA Russell 1000 Growth-NL	8.9	15.8	11.3	13.3	8.7	Jul-07
Russell 1000 Growth	8.9	15.8	11.3	13.3	8.6	Jul-07
eA US Large Cap Value Equity Gross Rank	2	71	5	35	9	Jul-07

Top 10 Holdings

APPLE	6.3%
MICROSOFT	4.4%
AMAZON.COM	3.0%
FACEBOOK CLASS A	2.8%
ALPHABET 'A'	2.2%
ALPHABET 'C'	2.2%
WALT DISNEY	1.6%
HOME DEPOT	1.6%
VISA 'A'	1.5%
COMCAST 'A'	1.5%
Total	27.1%

SSgA Russell 1000 Growth-NL Characteristics

	Portfolio Q1-17	Index Q1-17	Portfolio Q4-16
Market Value			
Market Value (\$M)	15.1	--	13.9
Number Of Holdings	607	609	602

Characteristics

Weighted Avg. Market Cap. (\$B)	160.4	159.7	137.1
Median Market Cap (\$B)	9.4	9.3	8.8
P/E Ratio	26.8	26.2	25.8
Yield	1.5	1.5	1.6
EPS Growth - 5 Yrs.	13.4	12.8	12.1
Price to Book	7.5	7.1	6.9
Beta (holdings; domestic)	1.0	1.0	1.0

Sector Distribution

Energy	0.5	0.5	0.6
Materials	3.5	3.5	3.6
Industrials	10.8	10.7	11.1
Consumer Discretionary	20.9	20.9	20.8
Consumer Staples	9.1	9.1	9.5
Health Care	15.9	15.9	16.1
Financials	2.8	2.8	2.9
Information Technology	32.7	32.7	31.5
Telecommunication Services	1.0	1.0	1.3
Utilities	0.0	0.0	0.0
Real Estate	2.7	2.7	2.7

SSgA Russell 2000 Index-NL

As of March 31, 2017

Account Information

Account Name	SSgA Russell 2000 Index-NL
Account Structure	Commingled Fund
Investment Style	Passive
Inception Date	8/01/10
Account Type	Equity
Benchmark	Russell 2000
Universe	eA US Small Cap Core Equity Gross

Portfolio Performance Summary

	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	Return (%)	Since
SSgA Russell 2000 Index-NL	2.5	26.3	7.3	12.4	13.6	Aug-10
Russell 2000	2.5	26.2	7.2	12.4	13.6	Aug-10
eA US Small Cap Core Equity Gross Rank	52	26	62	68	81	Aug-10

Top 10 Holdings

ADVANCED MICRO DEVC.	0.6%
CHEMOURS	0.4%
MICROSEMI	0.3%
OLIN	0.3%
NEW RESIDENTIAL INV.	0.3%
LOGMEIN	0.3%
COHERENT	0.3%
TAKE TWO INTACT.SFTW.	0.3%
EXELIXIS	0.3%
PROSPERITY BCSH.	0.3%
Total	3.1%

SSgA Russell 2000 Index-NL Characteristics

	Portfolio Q1-17	Index Q1-17	Portfolio Q4-16
Market Value			
Market Value (\$M)	3.1	--	3.0
Number Of Holdings	1939	1946	1967
Characteristics			
Weighted Avg. Market Cap. (\$B)	2.2	2.2	2.1
Median Market Cap (\$B)	0.8	0.8	0.8
P/E Ratio	26.2	24.3	25.8
Yield	1.4	1.2	1.4
EPS Growth - 5 Yrs.	8.2	7.7	9.7
Price to Book	3.3	3.0	3.3
Beta (holdings; domestic)	1.3	1.3	1.3
Sector Distribution			
Energy	3.4	3.4	3.7
Materials	5.2	5.2	4.9
Industrials	14.3	14.3	14.6
Consumer Discretionary	12.3	12.2	12.6
Consumer Staples	3.0	2.9	3.0
Health Care	12.9	13.0	11.8
Financials	19.5	19.7	20.1
Information Technology	17.4	17.5	17.1
Telecommunication Services	0.7	0.7	0.8
Utilities	3.7	3.7	3.7
Real Estate	7.5	7.4	7.8

SSgA MSCI EAFE Index-NL

As of March 31, 2017

Account Information

Account Name	SSgA MSCI EAFE Index-NL
Account Structure	Commingled Fund
Investment Style	Passive
Inception Date	8/01/10
Account Type	Equity
Benchmark	MSCI EAFE
Universe	eA EAFE Core Equity Gross

Portfolio Performance Summary

	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	Return (%)	Since
SSgA MSCI EAFE Index-NL	7.4	12.1	0.8	6.2	6.2	Aug-10
MSCI EAFE	7.2	11.7	0.5	5.8	5.9	Aug-10
eA EAFE Core Equity Gross Rank	65	44	78	81	87	Aug-10

Top 10 Holdings

NESTLE 'R'	1.8%
ROCHE HOLDING	1.4%
NOVARTIS 'R'	1.3%
HSBC HDG. (ORD \$0.50)	1.3%
TOYOTA MOTOR	1.1%
BRITISH AMERICAN TOBACCO	1.0%
ROYAL DUTCH SHELL A(LON)	0.9%
TOTAL	0.9%
COMMONWEALTH BK.OF AUS.	0.9%
BP	0.8%
Total	11.3%

SSgA MSCI EAFE Index-NL Characteristics

	Portfolio Q1-17	Index Q1-17	Portfolio Q4-16
Market Value			
Market Value (\$M)	10.4	--	9.7
Number Of Holdings	938	929	964
Characteristics			
Weighted Avg. Market Cap. (\$B)	53.0	53.0	50.9
Median Market Cap (\$B)	9.4	9.4	8.5
P/E Ratio	22.8	21.2	22.0
Yield	3.0	3.0	3.1
EPS Growth - 5 Yrs.	3.8	3.5	5.4
Price to Book	3.0	2.4	3.1
Beta (holdings; domestic)	1.1	1.0	1.0
Sector Distribution			
Energy	5.0	5.0	5.4
Materials	7.9	8.0	7.9
Industrials	14.3	14.3	14.0
Consumer Discretionary	12.2	12.2	12.5
Consumer Staples	11.4	11.4	11.2
Health Care	10.7	10.7	10.7
Financials	21.2	21.3	21.2
Information Technology	5.7	5.7	5.5
Telecommunication Services	4.4	4.4	4.5
Utilities	3.4	3.4	3.4
Real Estate	3.7	3.7	3.7



SSgA MSCI EAFE Small Cap Index-NL

As of March 31, 2017

Account Information

Account Name	SSgA MSCI EAFE Small Cap Index-NL
Account Structure	Commingled Fund
Investment Style	Passive
Inception Date	8/01/10
Account Type	Equity
Benchmark	MSCI EAFE Small Cap
Universe	eA EAFE Small Cap Core Gross

Portfolio Performance Summary

	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	Return (%)	Since
SSgA MSCI EAFE Small Cap Index-NL	8.1	11.3	3.8	9.5	9.7	Aug-10
MSCI EAFE Small Cap	8.0	11.0	3.6	9.2	9.3	Aug-10
eA EAFE Small Cap Core Gross Rank	74	67	72	93	88	Aug-10

Top 10 Holdings

MTU AERO ENGINES HLDG.	0.3%
INFORMA	0.3%
WIRECARD	0.3%
MICRO FOCUS INTL.	0.3%
TELEPERFORMANCE	0.3%
SMURFIT KAPPA GROUP	0.3%
RENTOKIL INITIAL	0.3%
CLARIANT	0.3%
MELROSE INDUSTRIES	0.3%
BLUESCOPE STEEL	0.2%
Total	2.9%

SSgA MSCI EAFE Small Cap Index-NL Characteristics

	Portfolio Q1-17	Index Q1-17	Portfolio Q4-16
Market Value			
Market Value (\$M)	3.7	--	3.4
Number Of Holdings	2218	2218	2230
Characteristics			
Weighted Avg. Market Cap. (\$B)	2.4	2.4	2.2
Median Market Cap (\$B)	1.0	1.0	1.0
P/E Ratio	21.8	20.2	20.7
Yield	2.3	2.3	2.3
EPS Growth - 5 Yrs.	10.7	9.9	10.7
Price to Book	2.9	2.5	2.8
Beta (holdings; domestic)	0.9	0.9	0.9
Sector Distribution			
Energy	2.8	2.8	3.0
Materials	9.4	9.4	9.3
Industrials	22.0	22.1	21.9
Consumer Discretionary	15.9	15.8	16.1
Consumer Staples	6.6	6.7	6.9
Health Care	7.2	7.2	7.0
Financials	11.5	11.4	11.5
Information Technology	10.8	10.8	10.4
Telecommunication Services	1.2	1.1	1.1
Utilities	2.0	2.0	2.0
Real Estate	10.6	10.7	11.0

As of March 31, 2017

Account Information

Account Name	DFA
Account Structure	Mutual Fund
Investment Style	Active
Inception Date	7/01/07
Account Type	Equity
Benchmark	MSCI Emerging Markets
Universe	eA Emg Mkts Equity Net

Portfolio Performance Summary

	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	Return (%)	Since
DFA	14.2	25.7	2.3	1.0	1.1	Jul-07
MSCI Emerging Markets	11.4	17.2	1.2	0.8	1.3	Jul-07
eA Emg Mkts Equity Net Median	12.2	17.2	2.2	2.2	2.0	Jul-07
eA Emg Mkts Equity Net Rank	13	7	49	76	76	Jul-07

Top 10 Holdings

CHINA CON.BANK 'H'	3.1%
RELIANCE INDUSTRIES	2.2%
INDL.& COML.BK.OF CHINA 'H'	1.6%
BANK OF CHINA 'H'	1.5%
HYUNDAI MOTOR	1.5%
OAO GAZPROM ADS (LON)	1.2%
PTT FB	1.2%
VALE PN	1.1%
STANDARD BK.GP.	1.0%
PTRO.BRAO.ADR 1:2	0.9%
Total	15.3%

DFA Characteristics

	Portfolio Q1-17	Index Q1-17	Portfolio Q4-16
Market Value			
Market Value (\$M)	2.4	--	2.1
Number Of Holdings	2210	830	2215
Characteristics			
Weighted Avg. Market Cap. (\$B)	19.5	56.9	18.8
Median Market Cap (\$B)	0.4	5.1	0.4
P/E Ratio	15.1	19.4	13.0
Yield	2.9	2.4	3.0
EPS Growth - 5 Yrs.	0.1	9.3	1.1
Price to Book	1.3	2.7	1.2
Beta (holdings; domestic)	1.2	1.1	1.2
Sector Distribution			
Energy	13.8	7.3	15.5
Materials	16.9	7.4	16.4
Industrials	9.5	5.9	9.1
Consumer Discretionary	9.8	10.4	9.5
Consumer Staples	3.7	7.0	3.8
Health Care	0.5	2.4	0.5
Financials	29.3	24.2	29.6
Information Technology	9.0	24.4	8.3
Telecommunication Services	2.1	5.7	2.2
Utilities	1.7	2.8	1.7
Real Estate	3.6	2.6	3.3

LMCG Emerging Markets

As of March 31, 2017

Account Information

Account Name	LMCG Emerging Markets
Account Structure	Commingled Fund
Investment Style	Active
Inception Date	8/01/15
Account Type	Equity
Benchmark	MSCI Emerging Markets
Universe	eA Emg Mkts Equity Gross

Portfolio Performance Summary

	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	Return (%)	Since
LMCG Emerging Markets	11.3	14.2	--	--	4.2	Aug-15
MSCI Emerging Markets	11.4	17.2	1.2	0.8	5.9	Aug-15
eA Emg Mkts Equity Gross Median	12.2	19.0	2.9	2.9	7.2	Aug-15
eA Emg Mkts Equity Gross Rank	75	79	--	--	82	Aug-15

Top 10 Holdings

ISHARES MSCI INDIA	5.1%
SAMSUNG ELECTRONICS	4.7%
TAIWAN SEMICON.MNFG.	4.1%
TENCENT HOLDINGS	3.7%
HON HAI PRECN.IND.	2.2%
CHINA CON.BANK 'H'	2.1%
ISHARES MSCI EMRG.MKTS. IDX.FD.	1.8%
ALIBABA GROUP HLDG.SPN. ADR 1:1	1.7%
ITAU UNIBANCO HOLDING PN	1.6%
GEELY AUTOMOBILE HDG.	1.5%
Total	28.6%

LMCG Emerging Markets Characteristics

	Portfolio Q1-17	Index Q1-17	Portfolio Q4-16
Market Value			
Market Value (\$M)	4.5	--	4.0
Number Of Holdings	113	830	115
Characteristics			
Weighted Avg. Market Cap. (\$B)	53.9	56.9	48.5
Median Market Cap (\$B)	8.3	5.1	7.6
P/E Ratio	15.4	19.4	14.5
Yield	3.0	2.4	3.1
EPS Growth - 5 Yrs.	9.8	9.3	7.9
Price to Book	2.6	2.7	2.6
Beta (holdings; domestic)	1.1	1.1	1.1
Sector Distribution			
Energy	7.8	7.3	8.7
Materials	6.8	7.4	6.6
Industrials	6.0	5.9	6.1
Consumer Discretionary	7.9	10.4	7.3
Consumer Staples	5.4	7.0	6.5
Health Care	3.7	2.4	3.6
Financials	24.6	24.2	22.4
Information Technology	22.7	24.4	21.5
Telecommunication Services	2.8	5.7	4.3
Utilities	2.1	2.8	2.8
Real Estate	3.2	2.6	4.4

KB Investors Emerging Markets Equity

As of March 31, 2017

Account Information

Account Name	KB Investors Emerging Markets Equity
Account Structure	Commingled Fund
Investment Style	Active
Inception Date	10/01/15
Account Type	Equity
Benchmark	MSCI Emerging Markets
Universe	eA Emg Mkts Equity Gross

Portfolio Performance Summary

	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	Return (%)	Since
KB Investors Emerging Markets Equity	10.7	16.2	--	--	13.8	Oct-15
MSCI Emerging Markets	11.4	17.2	1.2	0.8	15.9	Oct-15
eA Emg Mkts Equity Gross Median	12.2	19.0	2.9	2.9	16.8	Oct-15
eA Emg Mkts Equity Gross Rank	84	72	--	--	76	Oct-15

Top 10 Holdings

CHINA CON.BANK 'H'	3.9%
HCL TECHNOLOGIES	3.2%
INDL. & COML.BK.OF CHINA 'H'	3.1%
TAIWAN SEMICON.MNFG.	3.1%
INFOSYS	2.9%
WISTRON	2.7%
TATA CONSULTANCY SVS.	2.7%
BANK OF CHINA 'H'	2.0%
THAI OIL	2.0%
HYUNDAI MARINE & FIRE IN.	1.8%
Total	27.5%

KB Investors Emerging Markets Equity Characteristics

	Portfolio Q1-17	Index Q1-17	Portfolio Q4-16
Market Value			
Market Value (\$M)	5.0	--	4.6
Number Of Holdings	125	830	132
Characteristics			
Weighted Avg. Market Cap. (\$B)	30.1	56.9	29.6
Median Market Cap (\$B)	6.3	5.1	5.4
P/E Ratio	13.1	19.4	13.5
Yield	3.9	2.4	4.1
EPS Growth - 5 Yrs.	9.3	9.3	8.4
Price to Book	2.3	2.7	2.3
Beta (holdings; domestic)	1.0	1.1	1.0
Sector Distribution			
Energy	8.8	7.3	7.4
Materials	6.7	7.4	7.5
Industrials	7.4	5.9	6.5
Consumer Discretionary	9.2	10.4	8.5
Consumer Staples	4.3	7.0	4.6
Health Care	1.0	2.4	2.1
Financials	28.1	24.2	27.5
Information Technology	26.0	24.4	24.5
Telecommunication Services	5.4	5.7	6.6
Utilities	4.0	2.8	3.0
Real Estate	3.4	2.6	3.2

McDonnell Core Bond

As of March 31, 2017

Account Information

Account Name	McDonnell Core Bond
Account Structure	Separate Account
Investment Style	Active
Inception Date	7/01/01
Account Type	Fixed
Benchmark	BBgBarc US Aggregate TR
Universe	eA US Core Fixed Inc Gross

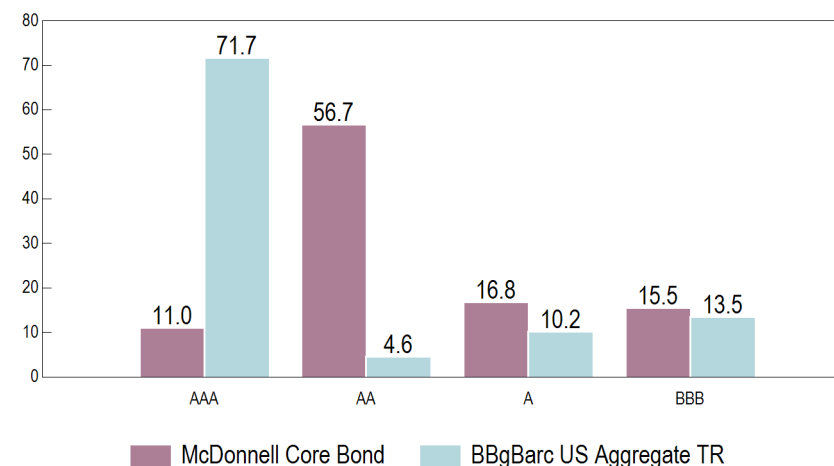
Portfolio Performance Summary

	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	Return (%)	Since
McDonnell Core Bond	0.8	0.5	2.8	2.2	4.8	Jul-01
BBgBarc US Aggregate TR	0.8	0.4	2.7	2.3	4.7	Jul-01
eA US Core Fixed Inc Gross Median	0.9	1.1	3.0	2.8	5.2	Jul-01
eA US Core Fixed Inc Gross Rank	80	76	68	93	86	Jul-01

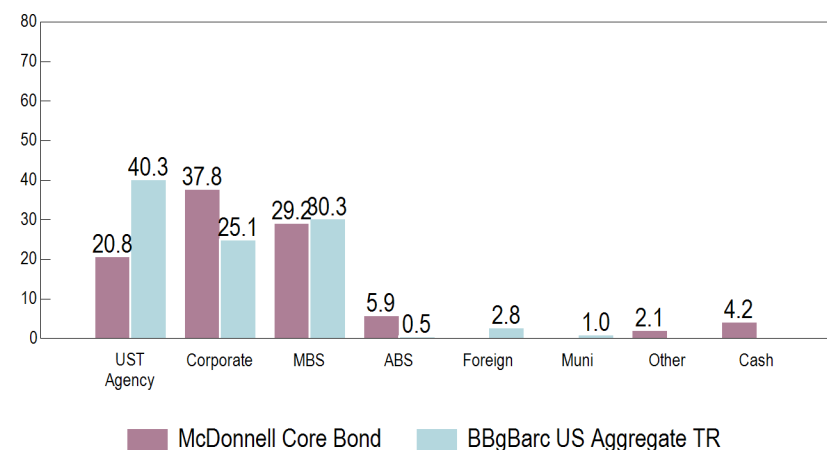
McDonnell Characteristics
vs. BBgBarc US Aggregate TR

	Portfolio Q1-17	Index Q1-17	Portfolio Q4-16
Fixed Income Characteristics			
Yield to Maturity	2.6	2.5	2.6
Average Duration	5.6	6.0	5.4
Average Quality	AA	AA	AA
Weighted Average Maturity	7.4	12.9	7.0

Credit Quality Allocation



Sector Allocation



Columbia Insitutional High Yield

As of March 31, 2017

Account Information

Account Name	Columbia Insitutional High Yield
Account Structure	Commingled Fund
Investment Style	Active
Inception Date	3/01/12
Account Type	Fixed
Benchmark	BBgBarc US High Yield TR
Universe	eA US High Yield Fixed Inc Gross

Portfolio Performance Summary

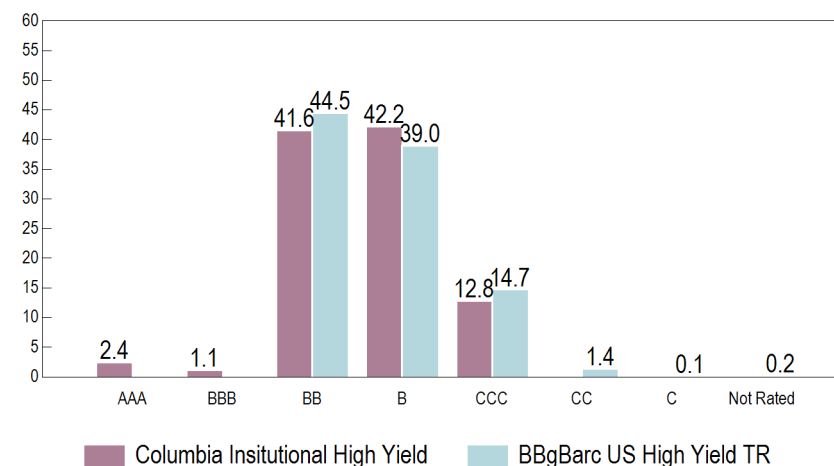
	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	Return (%)	Since
Columbia Insitutional High Yield	2.1	10.5	4.7	6.7	6.4	Mar-12
BBgBarc US High Yield TR	2.7	16.4	4.6	6.8	6.7	Mar-12
eA US High Yield Fixed Inc Gross Median	2.4	14.1	4.3	6.6	6.6	Mar-12
eA US High Yield Fixed Inc Gross Rank	70	79	35	49	58	Mar-12

Columbia Insitutional High Yield Characteristics

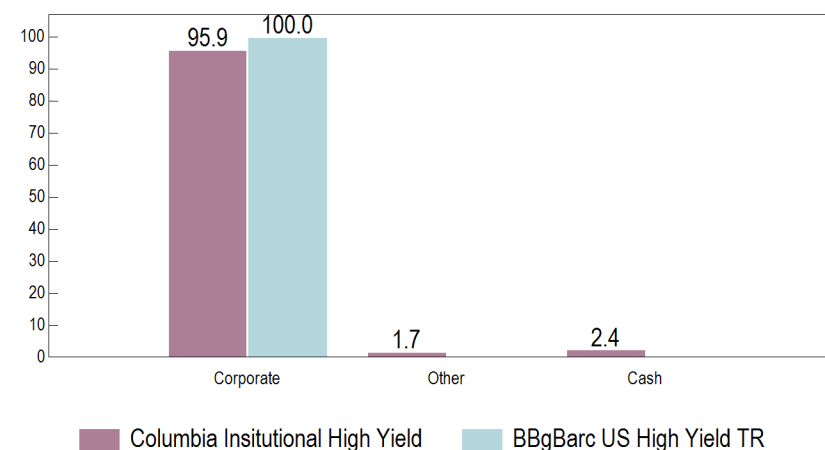
vs. BBgBarc US High Yield TR

	Portfolio Q1-17	Index Q1-17	Portfolio Q4-16
Fixed Income Characteristics			
Yield to Maturity	5.4	6.2	5.5
Average Duration	4.1	4.0	4.3
Average Quality	BB	B	BB
Weighted Average Maturity	6.9	6.2	7.0

Credit Quality Allocation



Sector Allocation



Account Information

Account Name	SSgA TIPS-NL
Account Structure	Commingled Fund
Investment Style	Passive
Inception Date	7/01/07
Account Type	Fixed
Benchmark	BBgBarc US TIPS TR
Universe	eA TIPS / Infl Indexed Fixed Inc Gross

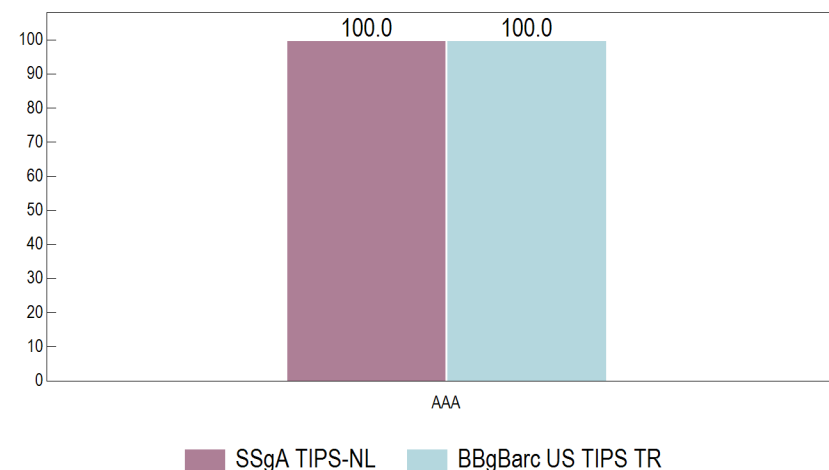
Portfolio Performance Summary

	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	Return (%)	Since
SSgA TIPS-NL	1.3	1.3	2.0	0.9	4.4	Jul-07
BBgBarc US TIPS TR	1.3	1.5	2.0	1.0	4.4	Jul-07
eA TIPS / Infl Indexed Fixed Inc Gross Median	1.3	1.6	2.0	1.0	4.5	Jul-07
eA TIPS / Infl Indexed Fixed Inc Gross Rank	69	90	57	70	70	Jul-07

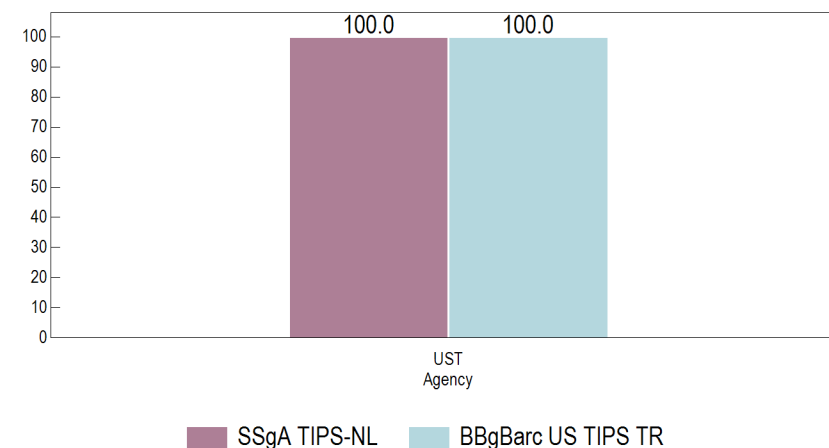
SSgA TIPS-NL Characteristics
vs. BBgBarc US TIPS TR

	Portfolio Q1-17	Index Q1-17	Portfolio Q4-16
Fixed Income Characteristics			
Yield to Maturity	2.3	0.1	2.2
Average Duration	5.7	5.7	4.9
Average Quality	AAA	AAA	AAA
Weighted Average Maturity	8.3	8.3	8.3

Credit Quality Allocation



Sector Allocation



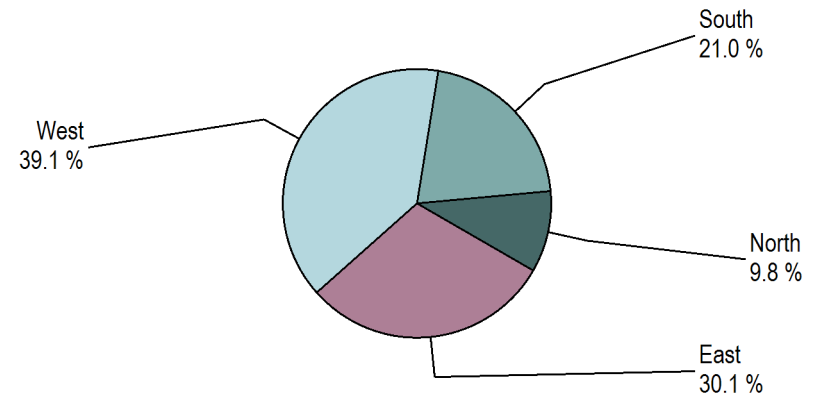
Account Information

Account Name	Intercontinental U.S. REIF
Account Structure	Commingled Fund
Investment Style	Active
Inception Date	10/01/14
Account Type	Real Estate
Benchmark	NCREIF-ODCE
Universe	

Portfolio Performance Summary

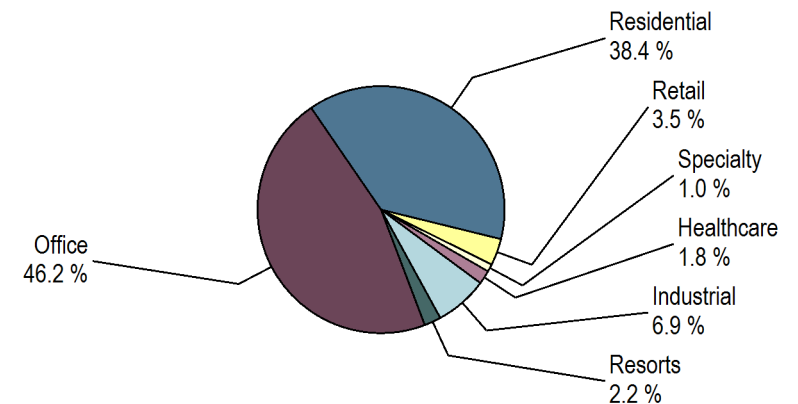
	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	Return (%)	Since
Intercontinental U.S. REIF	1.7	13.6	--	--	13.6	Oct-14
NCREIF-ODCE	1.8	8.3	11.8	12.0	11.6	Oct-14

Geographic Diversification



North represents Midwest.

Property Type Allocation



Note: Number of investments is 114.



As of March 31, 2017

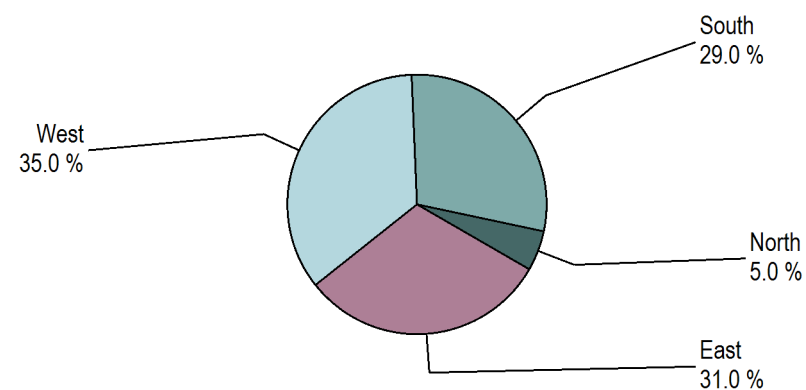
Account Information

Account Name	AEW Core Property Trust
Account Structure	Commingled Fund
Investment Style	Active
Inception Date	10/01/14
Account Type	Real Estate
Benchmark	NCREIF-ODCE
Universe	

Portfolio Performance Summary

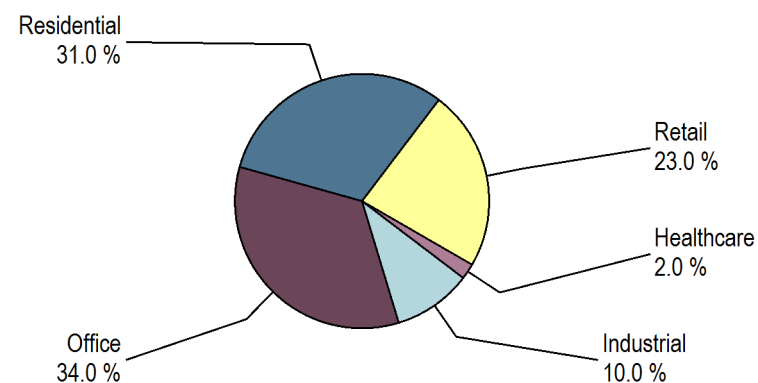
	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	Return (%)	Since
AEW Core Property Trust	2.0	8.5	--	--	11.0	Oct-14
NCREIF-ODCE	1.8	8.3	11.8	12.0	11.6	Oct-14

Geographic Diversification



North represents Midwest.

Property Type Allocation



Note: Number of investments is 63 and Net IRR is 9.77%.

As of March 31, 2017

Account Information

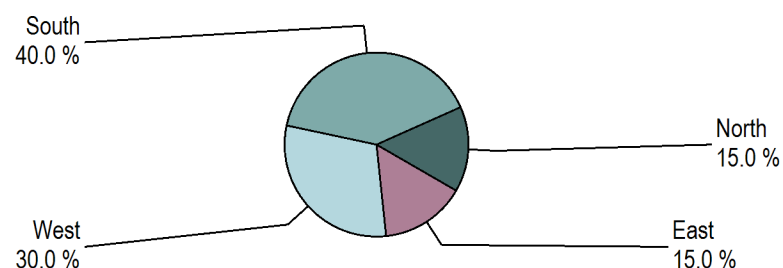
Account Name	TA Associates Realty Fund IX
Account Structure	Other
Investment Style	Active
Inception Date	5/01/10
Account Type	Real Estate
Benchmark	NCREIF-ODCE
Universe	

Non-Marketable Securities Overview

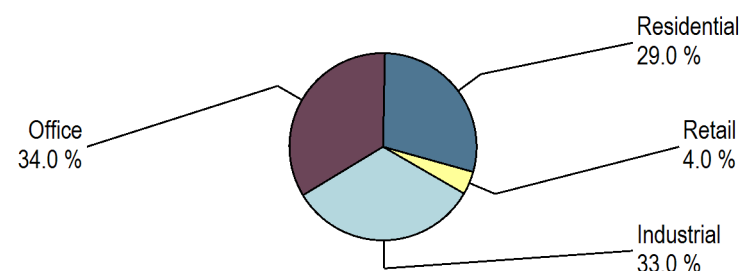
As of March 31, 2017

Account Type	Account	Vintage Year	Commitment	Cumulative Takedown	Cumulative Distributions	Value (RV)	Total Value (RV + Dist)	Unfunded Commitment
Real Estate	TA Associates Realty Fund IX	2010	\$3,000,000	\$2,880,000	\$2,766,521	\$1,972,381	\$4,738,902	\$120,000
	Total Account		\$3,000,000	\$2,880,000	\$2,766,521	\$1,972,381	\$4,738,902	\$120,000

Geographic Diversification



Property Type Allocation



Investment Strategy: TA Associates Realty Fund IX uses a value-added strategy to create a diversified portfolio of direct real estate investments. Fund IX expects to invest in office, industrial, retail, and multifamily properties located primarily in major U.S. markets. Historically, TA Realty commingled funds have received about two-thirds of return from income and maintained moderate leverage of approximately 50% to 55% of the aggregate value of the Fund's real estate investments. Most value-added improvements include re-development, re-positioning, re-tenanting or recapitalization. TA Realty expects to proactively manage tenant and industry exposure with no significant concentration towards either.

Note: As of December 31, 2016, the number of investments is 62 and Net IRR is 10.86%.

As of March 31, 2017

Account Information

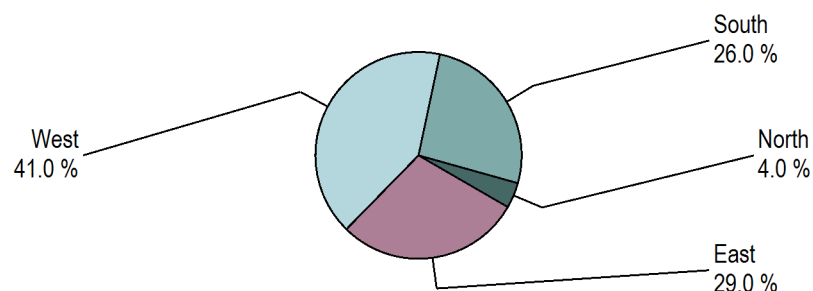
Account Name	TA Associates Realty Fund X
Account Structure	Other
Investment Style	Active
Inception Date	4/01/13
Account Type	Real Estate
Benchmark	NCREIF-ODCE
Universe	

Non-Marketable Securities Overview

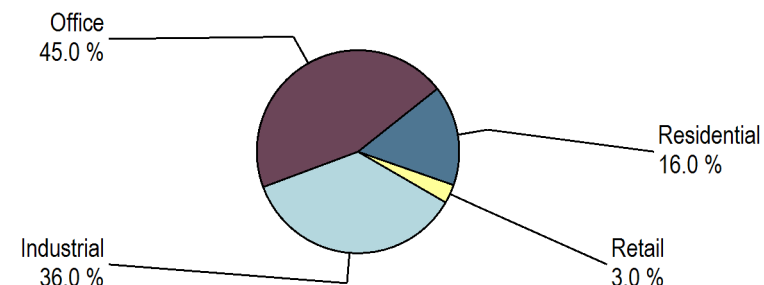
As of March 31, 2017

Account Type	Account	Vintage Year	Commitment	Cumulative Takedown	Cumulative Distributions	Value (RV)	Total Value (RV + Dist)	Unfunded Commitment
Real Estate	TA Associates Realty Fund X	2013	\$3,000,000	\$3,005,227	\$1,511,715	\$2,543,132	\$4,054,847	-\$5,227
	Total Account		\$3,000,000	\$3,005,227	\$1,511,715	\$2,543,132	\$4,054,847	-\$5,227

Geographic Diversification



Property Type Allocation



Investment Strategy: TA Associates Realty Fund X uses a value-added strategy to create a diversified portfolio of direct real estate investments. The strategy is anticipated to target under-leased office, industrial, multifamily, and retail assets that are expected to be well-located, functional buildings with strong net operating income (NOI) growth potential. Geographically, the fund will target over 35 U.S. markets with broad regional diversification targets of 25% to 40% in the west, 20% to 35% in the east, 20% to 30% in the south, and 10% to 20% in the Midwest. The fund will target 35% leverage, with a maximum of 50%. Most value-added improvements include redevelopment, repositioning, retenanting, or recapitalization.

Note: As of December 31, 2016, the number of investments is 89 and Net IRR is 12.30%.

AG Realty Fund IV

As of March 31, 2017

Account Information

Account Name	AG Realty Fund IV
Account Structure	Commingled Fund
Investment Style	Active
Inception Date	
Account Type	Real Estate
Benchmark	NCREIF-ODCE
Universe	

Non-Marketable Securities Overview

As of March 31, 2017

Account Type	Account	Vintage Year	Commitment	Cumulative Takedown	Cumulative Distributions	Value (RV)	Total Value (RV + Dist)	Unfunded Commitment
Real Estate	AG Realty Fund IV	2004	\$1,000,000	\$950,000	\$1,332,500	\$0	\$1,332,500	\$50,000
	Total Account		\$1,000,000	\$950,000	\$1,332,500	\$0	\$1,332,500	\$50,000

Investment Strategy: Funded in 1999, Angelo Gordon's Fund IV is an opportunistic real estate portfolio. Leverage on the portfolio is about 50%. About 75% of return is expected to result from capital appreciation, with the remaining 25% coming from income. The portfolio's emphasis is on purchasing sub-performing and non-performing commercial properties in the \$30 million range. The firm then enhances these properties through redevelopment or other measures. Angelo Gordon seeks to limit downside risk in the portfolio through diversification.

Note: Number of investments is 0.



Ascent Venture Partners - Fund II

As of March 31, 2017

Account Information

Account Name	Ascent Venture Partners - Fund II
Account Structure	Other
Investment Style	Active
Inception Date	
Account Type	Private Equity
Benchmark	

Non-Marketable Securities Overview by Account Type

Account Type	Account	Vintage Year	Commitment	Cumulative Takedown	Cumulative Distributions	Value (RV)	Total Value (RV + Dist)	Unfunded Commitment
Private Equity	Ascent Venture Partners - Fund II	1995	\$500,000	\$484,254	\$1,458,918	\$133,436	\$1,592,354	\$15,746
	Total Account		\$500,000	\$484,254	\$1,458,918	\$133,436	\$1,592,354	\$15,746

Investment Strategy:

Ascent Venture Partners seeks to build private equity portfolios that are balanced with respect to industry (high and low technology ventures), and diverse with respect to company growth stage (from seed through buyout and re capitalization). Ascent favors proven management teams and reasonable valuations. Ascent has shifted their focus to liquidating the remaining investments in the partnership.

Note: As of September 30, 2016, the Net IRR is 26.6%.



Ascent Venture Partners - Fund III

As of March 31, 2017

Account Information

Account Name	Ascent Venture Partners - Fund III
Account Structure	Other
Investment Style	Active
Inception Date	
Account Type	Private Equity
Benchmark	

Non-Marketable Securities Overview by Account Type

Account Type	Account	Vintage Year	Commitment	Cumulative Takedown	Cumulative Distributions	Value (RV)	Total Value (RV + Dist)	Unfunded Commitment
Private Equity	Ascent Venture Partners - Fund III	1999	\$1,500,000	\$1,395,000	\$1,697,063	\$87,661	\$1,784,724	\$105,000
	Total Account		\$1,500,000	\$1,395,000	\$1,697,063	\$87,661	\$1,784,724	\$105,000

Investment Strategy:

Ascent Venture Partners seeks to build private equity portfolios that are balanced with respect to industry (high and low technology ventures), and diverse with respects to company growth stage (from seed through buyout and re-capitalization). Ascent favors proven management teams and reasonable valuations. Ascent has shifted their focus to liquidating the remaining investments in the partnership.

Note: As of September 30, 2016, the Net IRR is 4.0%.



Ascent Venture Partners - Fund IV

As of March 31, 2017

Account Information

Account Name	Ascent Venture Partners - Fund IV
Account Structure	Other
Investment Style	Active
Inception Date	
Account Type	Private Equity
Benchmark	

Non-Marketable Securities Overview by Account Type

Account Type	Account	Vintage Year	Commitment	Cumulative Takedown	Cumulative Distributions	Value (RV)	Total Value (RV + Dist)	Unfunded Commitment
Private Equity	Ascent Venture Partners - Fund IV	2003	\$1,000,000	\$1,000,000	\$155,588	\$131,689	\$287,277	\$0
	Total Account		\$1,000,000	\$1,000,000	\$155,588	\$131,689	\$287,277	\$0

Investment Strategy:

Located in Boston, Ascent Venture Partners (formerly known as Pioneer Capital) was formed in 1999, after Landmark Partners purchased Pioneer's interest. Ascent focuses primarily on high growth companies in the information technology sector. Ascent is an active investor, typically taking a board seat in portfolio companies. As a result, Ascent has focused its investments in the Eastern United States.

Note: As of September 30, 2016, the Net IRR is -21.1%.



Ascent Venture Partners - Fund V

As of March 31, 2017

Account Information

Account Name	Ascent Venture Partners - Fund V
Account Structure	Other
Investment Style	Active
Inception Date	
Account Type	Private Equity
Benchmark	

Non-Marketable Securities Overview by Account Type

Account Type	Account	Vintage Year	Commitment	Cumulative Takedown	Cumulative Distributions	Value (RV)	Total Value (RV + Dist)	Unfunded Commitment
Private Equity	Ascent Venture Partners - Fund V	2010	\$1,000,000	\$880,000	\$569,783	\$924,368	\$1,494,151	\$120,000
	Total Account		\$1,000,000	\$880,000	\$569,783	\$924,368	\$1,494,151	\$120,000

Investment Strategy:

Ascent Venture Partners V is an early stage venture capital fund focused on making investments within the technology products and services industry. Specific areas of interest include next generation software (open source and Software-as-a-Service), data management and analysis, automated computing, security and compliance, financial services, and applications associated with the convergence of remote devices. The GP is located in Boston and will invest in the eastern United States and Canada. The Fund will target companies that have pre-money valuations of \$3 to \$15 million and have the potential for a \$100 million exit value.

Note: As of September 30, 2016, the Net IRR is 11.1%.



Ascent Venture Partners - Fund VI

As of March 31, 2017

Account Information

Account Name	Ascent Venture Partners - Fund VI
Account Structure	Other
Investment Style	Active
Inception Date	6/30/15
Account Type	Private Equity
Benchmark	

Non-Marketable Securities Overview by Account Type

Account Type	Account	Vintage Year	Commitment	Cumulative Takedown	Cumulative Distributions	Value (RV)	Total Value (RV + Dist)	Unfunded Commitment
Private Equity	Ascent Venture Partners - Fund VI	2015	\$1,500,000	\$435,000	\$0	\$548,470	\$548,470	\$1,065,000
	Total Account		\$1,500,000	\$435,000	\$0	\$548,470	\$548,470	\$1,065,000

As of March 31, 2017

Account Information

Account Name	Goldman Sachs PEP 2005
Account Structure	Other
Investment Style	Active
Inception Date	8/01/06
Account Type	Private Equity
Benchmark	

Non-Marketable Securities Overview by Account Type

Account Type	Account	Vintage Year	Commitment	Cumulative Takedown	Cumulative Distributions	Value (RV)	Total Value (RV + Dist)	Unfunded Commitment
Private Equity	Goldman Sachs PEP 2005	2006	\$3,000,000	\$2,926,055	\$2,511,642	\$1,127,561	\$3,639,203	\$73,945
	Total Account		\$3,000,000	\$2,926,055	\$2,511,642	\$1,127,561	\$3,639,203	\$73,945

Investment Strategy:

Goldman Sachs Private Equity Partners 2005 is a fund of funds formed to create a diversified portfolio of 18 to 25 partnerships. The Fund will invest opportunistically in order to commit to the "very best managers." The Fund expects to commit approximately \$40 million to each partnership. Previous funds have invested approximately 30% outside the U.S.

As of March 31, 2017

Account Information

Account Name	HarbourVest Partners VIII
Account Structure	Other
Investment Style	Active
Inception Date	
Account Type	Private Equity
Benchmark	

Non-Marketable Securities Overview by Account Type

Account Type	Account	Vintage Year	Commitment	Cumulative Takedown	Cumulative Distributions	Value (RV)	Total Value (RV + Dist)	Unfunded Commitment
Private Equity	HarbourVest Partners VIII	2006	\$2,500,000	\$2,350,000	\$2,500,626	\$1,271,999	\$3,772,625	\$150,000
	Total Account		\$2,500,000	\$2,350,000	\$2,500,626	\$1,271,999	\$3,772,625	\$150,000

Investment Strategy:

HarbourVest Partners, known as Hancock Venture Partners until 1997, was founded in 1982 to invest in private equity partnerships. The HarbourVest Partners VIII Investment Program consists of three separate fund of funds, each dedicated to distinct private equity strategies: buyout, venture capital and mezzanine debt partnerships. Each vehicle will invest primarily in newly raised funds, but will also invest a portion of assets in secondary interest.

Note: As of September 30, 2016, the Net IRR is 10.0%.



As of March 31, 2017

Account Information

Account Name	HarbourVest Partners IX
Account Structure	Other
Investment Style	Active
Inception Date	
Account Type	Private Equity
Benchmark	

Non-Marketable Securities Overview by Account Type

Account Type	Account	Vintage Year	Commitment	Cumulative Takedown	Cumulative Distributions	Value (RV)	Total Value (RV + Dist)	Unfunded Commitment
Private Equity	HarbourVest Partners IX	2010	\$5,000,000	\$3,012,500	\$1,039,489	\$3,173,703	\$4,213,192	\$1,987,500
	Total Account		\$5,000,000	\$3,012,500	\$1,039,489	\$3,173,703	\$4,213,192	\$1,987,500

Investment Strategy:

HarbourVest Partners, known as Hancock Venture Partners until 1997, was founded in 1982 to invest in private equity partnerships. The HarbourVest Partners IX Fund consists of three separate fund of funds, each dedicated to distinct private equity strategies: buyout, venture capital, and mezzanine debt partnerships. Each vehicle will invest primarily in newly-raised funds, but will also invest a portion of assets in secondary interests.

Note: As of September 30, 2016, the Net IRR is 14.9%.



Constitution Capital Partners Ironsides III

As of March 31, 2017

Account Information

Account Name	Constitution Capital Partners Ironsides III
Account Structure	Other
Investment Style	Active
Inception Date	
Account Type	Private Equity
Benchmark	

Non-Marketable Securities Overview by Account Type

Account Type	Account	Vintage Year	Commitment	Cumulative Takedown	Cumulative Distributions	Value (RV)	Total Value (RV + Dist)	Unfunded Commitment
Private Equity	Constitution Capital Direct IV	2016	\$2,500,000	\$1,238,019	\$472,771	\$723,552	\$1,196,323	\$1,261,981
	Total Account		\$2,500,000	\$1,238,019	\$472,771	\$723,552	\$1,196,323	\$1,261,981

Investment Strategy:

Constitution Capital seeks investments in underlying private equity funds ranging in size from \$200 million to approximately \$1.0 billion, with a few larger potentially. Constitution has noted their preference to invest the majority of capital to funds of less than \$1 billion. Constitution has noted their preference to invest the majority of capital to funds of less than \$1 billion. Constitution targets a variety of fund types (domestic middle-market buyout, special situations, growth equity, distressed, and sector-specific) and will allocate amongst them opportunistically. The group will not invest in early-stage venture capital funds or mega buyout funds. The portfolio will have 12 to 15 underlying fund investments of approximately \$10 million to \$20 million each. For co-investments, it is anticipated that a total of 12-15 co-investments will each range from \$5 million to \$25 million. The enterprise values of the underlying companies are expected to range from \$100 million to \$1.5 billion.

Note: As of September 30, 2016, the Gross IRR is 7.2%.



Constitution Capital Direct IV

As of March 31, 2017

Account Information

Account Name	Constitution Capital Direct IV
Account Structure	Other
Investment Style	Active
Inception Date	
Account Type	Private Equity
Benchmark	

Non-Marketable Securities Overview by Account Type

Account Type	Account	Vintage Year	Commitment	Cumulative Takedown	Cumulative Distributions	Value (RV)	Total Value (RV + Dist)	Unfunded Commitment
Private Equity	Constitution Capital Direct IV	2016	\$2,500,000	\$1,238,019	\$472,771	\$723,552	\$1,196,323	\$1,261,981
	Total Account		\$2,500,000	\$1,238,019	\$472,771	\$723,552	\$1,196,323	\$1,261,981

RS Global Natural Resources

As of March 31, 2017

Account Information

Account Name	RS Global Natural Resources
Account Structure	Mutual Fund
Investment Style	Active
Inception Date	7/01/11
Account Type	Equity
Benchmark	S&P Global Natural Resources Index TR USD
Universe	

Portfolio Performance Summary

	QTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	Return (%)	Since
RS Global Natural Resources	-0.8	-0.8	33.3	-10.8	-5.6	-6.2	Jul-11
S&P Global Natural Resources Index TR USD	2.9	2.9	24.6	-2.2	-1.0	-2.8	Jul-11

RS Global Natural Resources Characteristics

	Portfolio
	Q4-16

Market Value	
Market Value (\$M)	5.4
Number Of Holdings	22

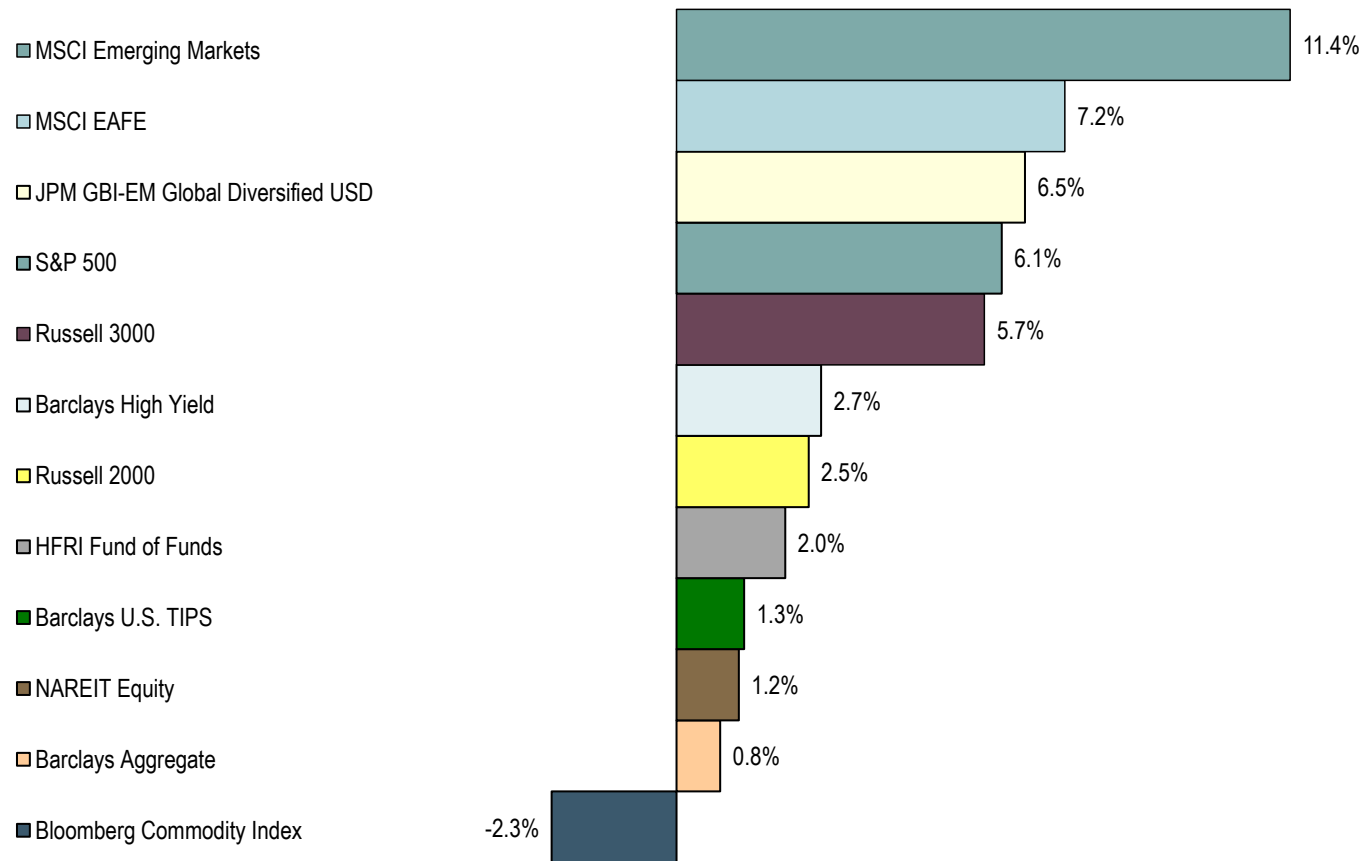
Characteristics	
Weighted Avg. Market Cap. (\$B)	5.7
Median Market Cap (\$B)	3.4
P/E Ratio	10.6
Yield	0.7
EPS Growth - 5 Yrs.	18.0
Price to Book	3.2
Beta (holdings; domestic)	1.7

Sector Distribution	
Energy	47.5
Materials	43.4
Industrials	0.0
Consumer Discretionary	0.0
Consumer Staples	0.0
Health Care	0.0
Financials	0.0
Information Technology	0.0
Telecommunication Services	0.0
Utilities	4.8
Real Estate	0.0

Appendices

The World Markets First Quarter of 2017

The World Markets¹ First Quarter of 2017



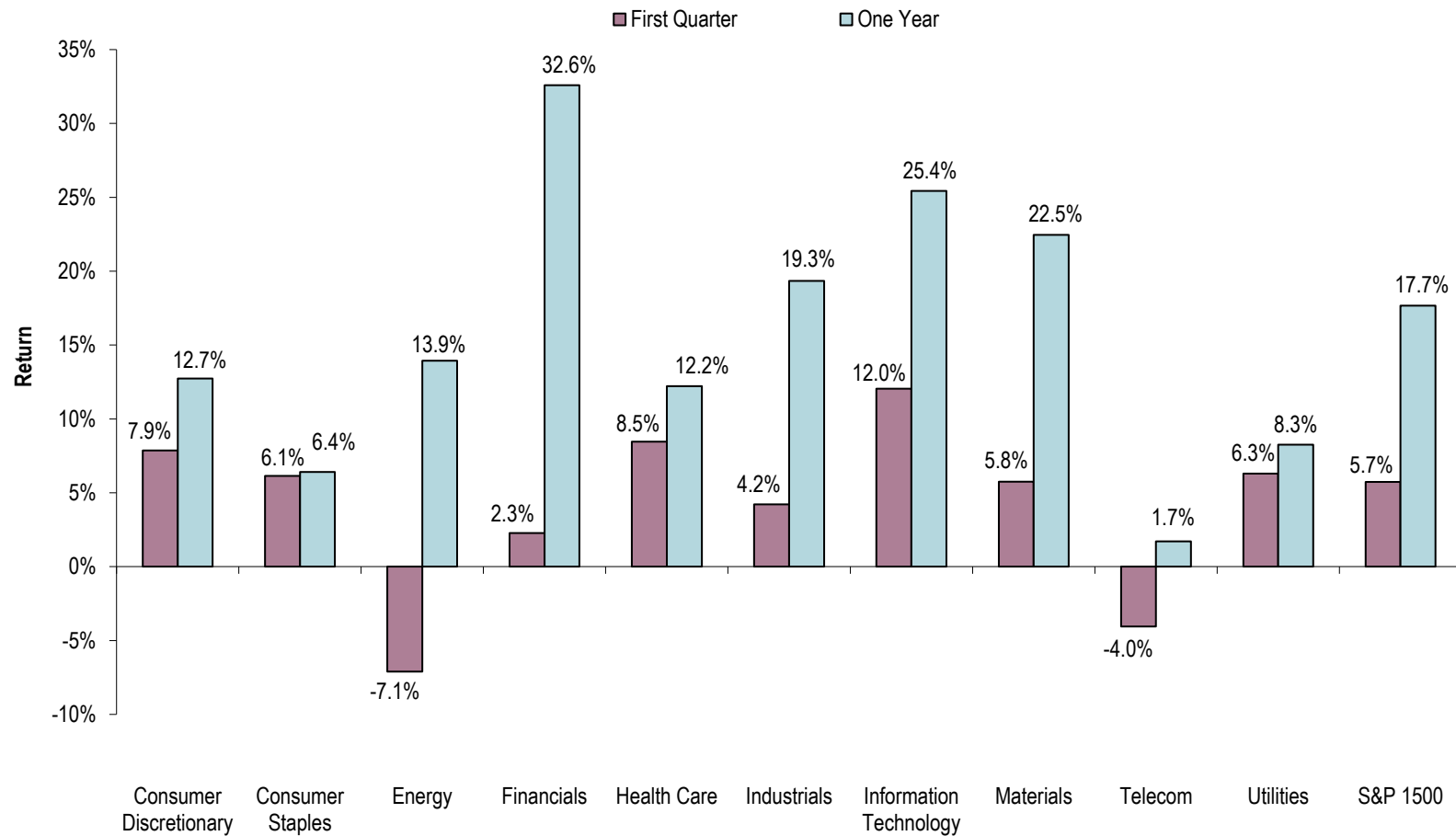
¹ Source: Thomson Reuters.

Index Returns¹

	1Q17 (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
Domestic Equity					
Russell 3000	5.7	18.1	9.8	13.2	7.5
Russell 1000	6.0	17.4	10.0	13.3	7.6
Russell 1000 Growth	8.9	15.8	11.3	13.3	9.1
Russell 1000 Value	3.3	19.2	8.7	13.1	5.9
Russell MidCap	5.1	17.0	8.5	13.1	7.9
Russell MidCap Growth	6.9	14.1	7.9	12.0	8.1
Russell MidCap Value	3.8	19.8	8.9	14.1	7.5
Russell 2000	2.5	26.2	7.2	12.4	7.1
Russell 2000 Growth	5.3	23.0	6.7	12.1	8.1
Russell 2000 Value	-0.1	29.4	7.6	12.5	6.1
Foreign Equity					
MSCI ACWI (ex. U.S.)	7.9	13.1	0.6	4.4	1.4
MSCI EAFE	7.2	11.7	0.5	5.8	1.1
MSCI EAFE (local currency)	4.7	18.0	7.3	10.7	2.3
MSCI EAFE Small Cap	8.0	11.0	3.6	9.2	3.0
MSCI Emerging Markets	11.4	17.2	1.2	0.8	2.7
MSCI Emerging Markets (local currency)	7.8	15.1	5.6	5.1	4.9
Fixed Income					
Bloomberg Barclays Universal	1.1	1.9	3.0	2.8	4.5
Bloomberg Barclays Aggregate	0.8	0.4	2.7	2.3	4.3
Bloomberg Barclays U.S. TIPS	1.3	1.5	2.0	1.0	4.2
Bloomberg Barclays High Yield	2.7	16.4	4.6	6.8	7.5
JPMorgan GBI-EM Global Diversified USD	6.5	5.5	-2.7	-1.6	4.1
Other					
NAREIT Equity	1.2	3.6	10.3	10.0	4.8
Bloomberg Commodity Index	-2.3	8.7	-13.9	-9.5	-6.2
HFRI Fund of Funds	2.0	5.9	1.7	3.1	1.2

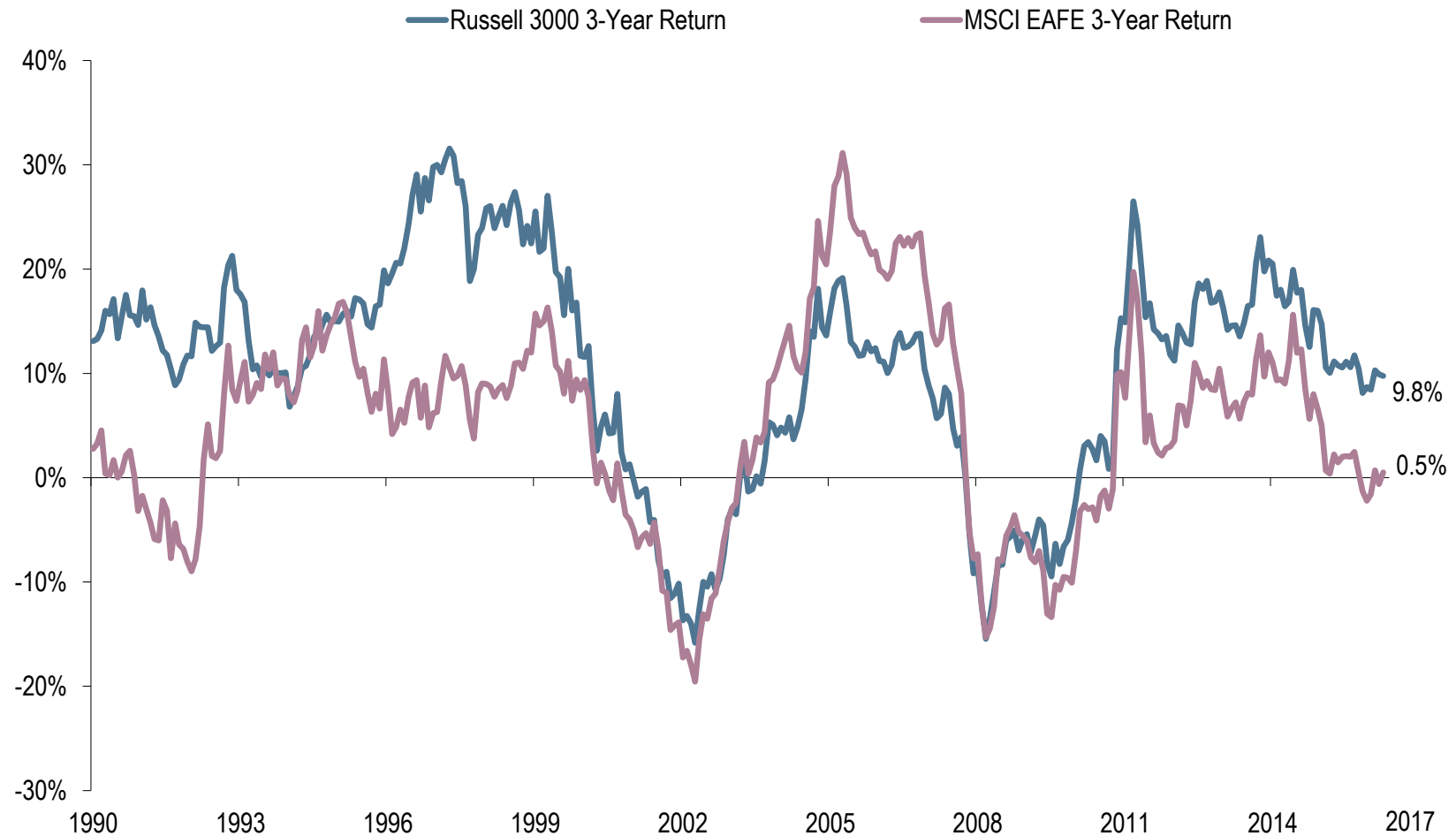
¹ Source: Thomson Reuters.

S&P Sector Returns¹



¹ Source: Thomson Reuters. Represents S&P 1500 (All Cap) data.

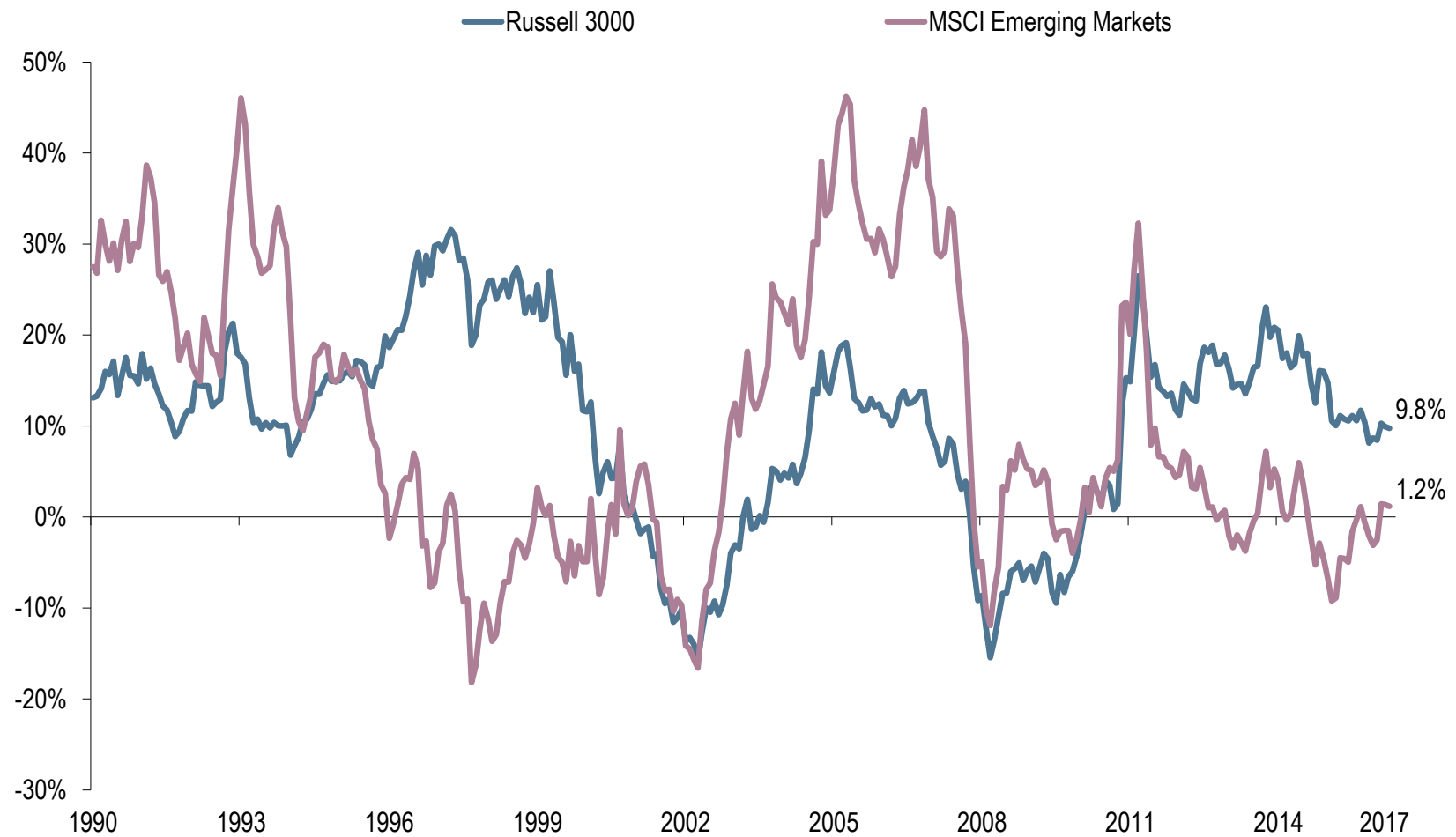
U.S. and Developed Market Foreign Equity Rolling Three-Year Returns¹



¹ Source: Thomson Reuters.



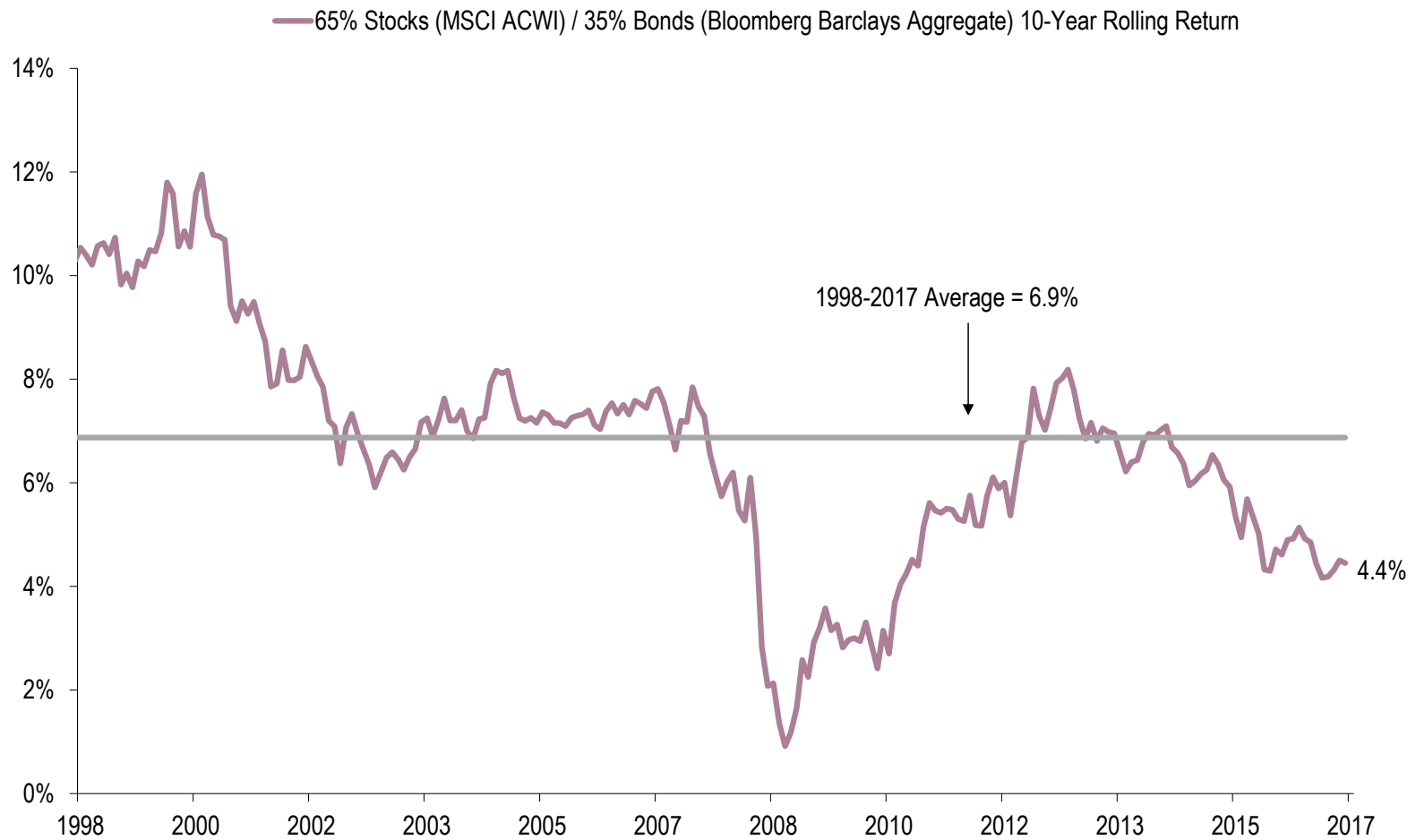
U.S. and Emerging Market Equity Rolling Three-Year Returns¹



¹ Source: Thomson Reuters.



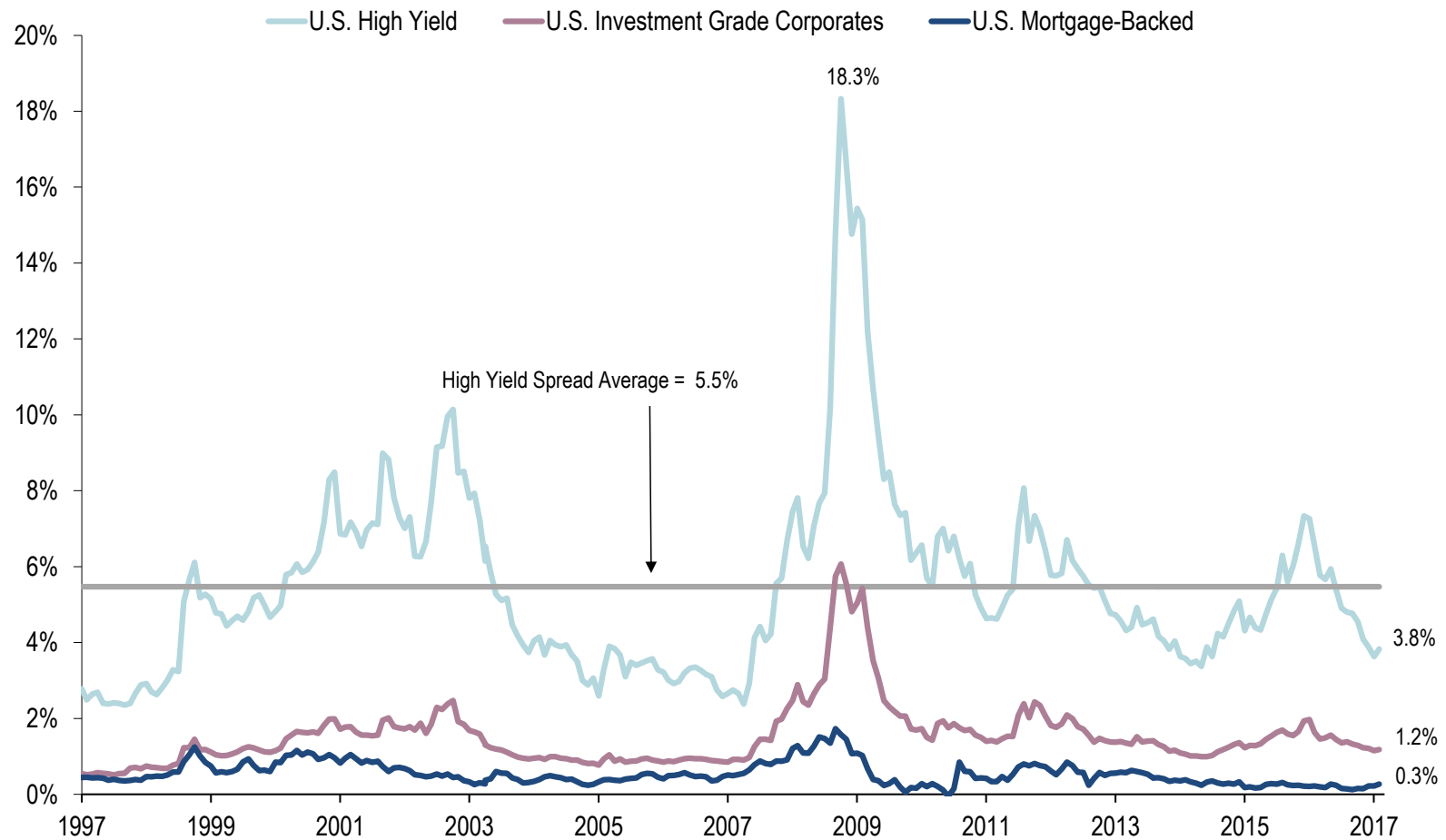
Rolling Ten-Year Returns: 65% Stocks and 35% Bonds¹



¹ Source: Thomson Reuters.



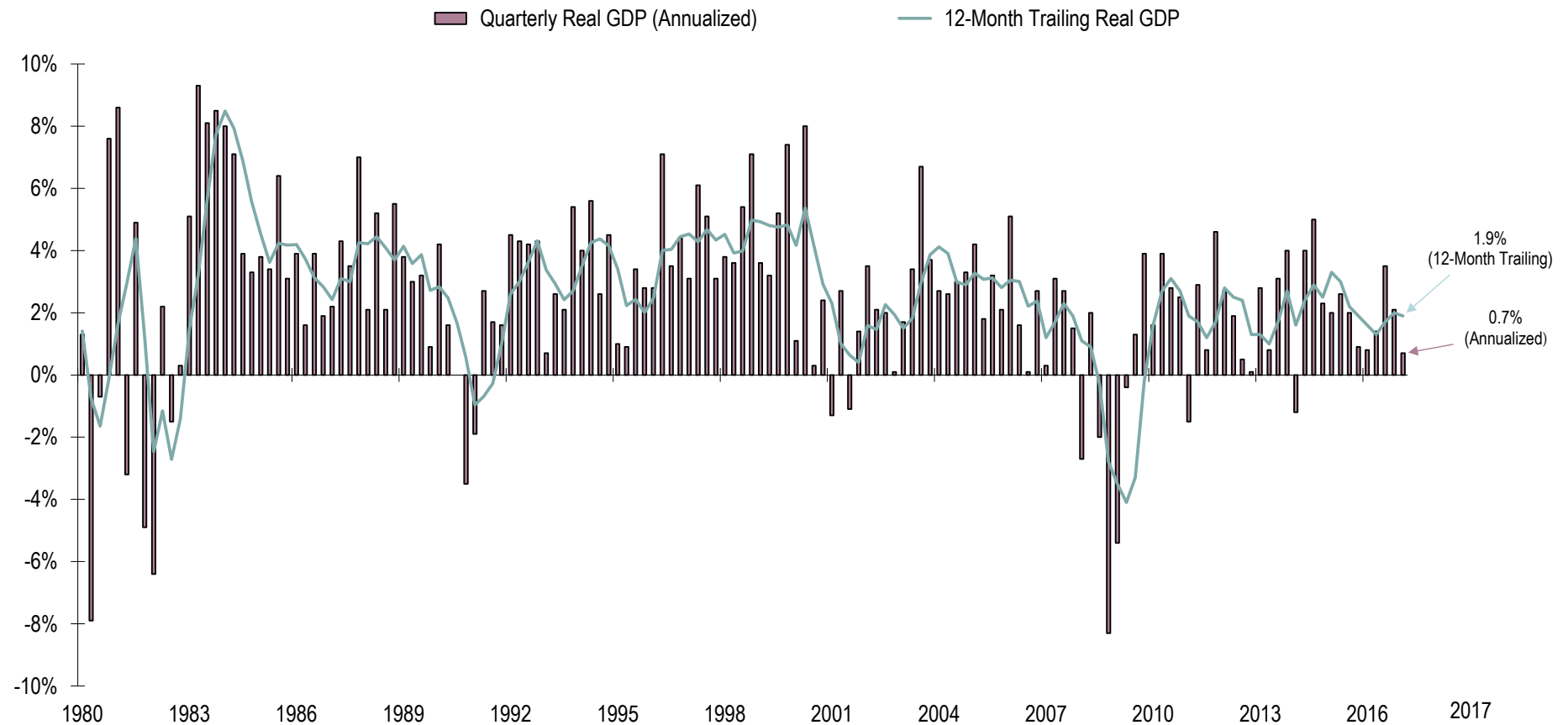
Credit Spreads vs. U.S. Treasury Bonds^{1,2}



¹ Source: Barclays Live.

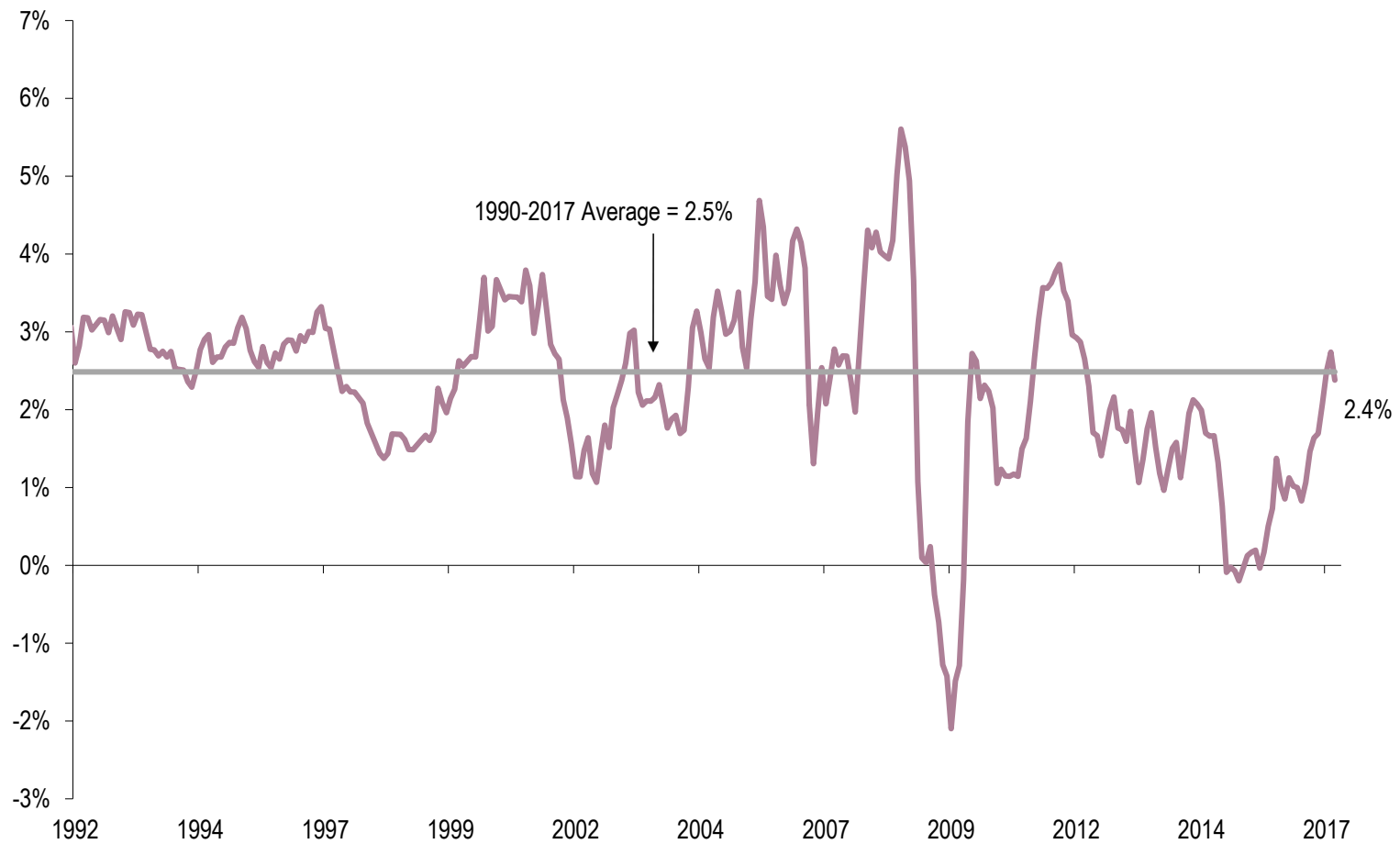
² The median high yield spread was 5.1% from 1997-2017.

U.S. Real Gross Domestic Product (GDP) Growth¹



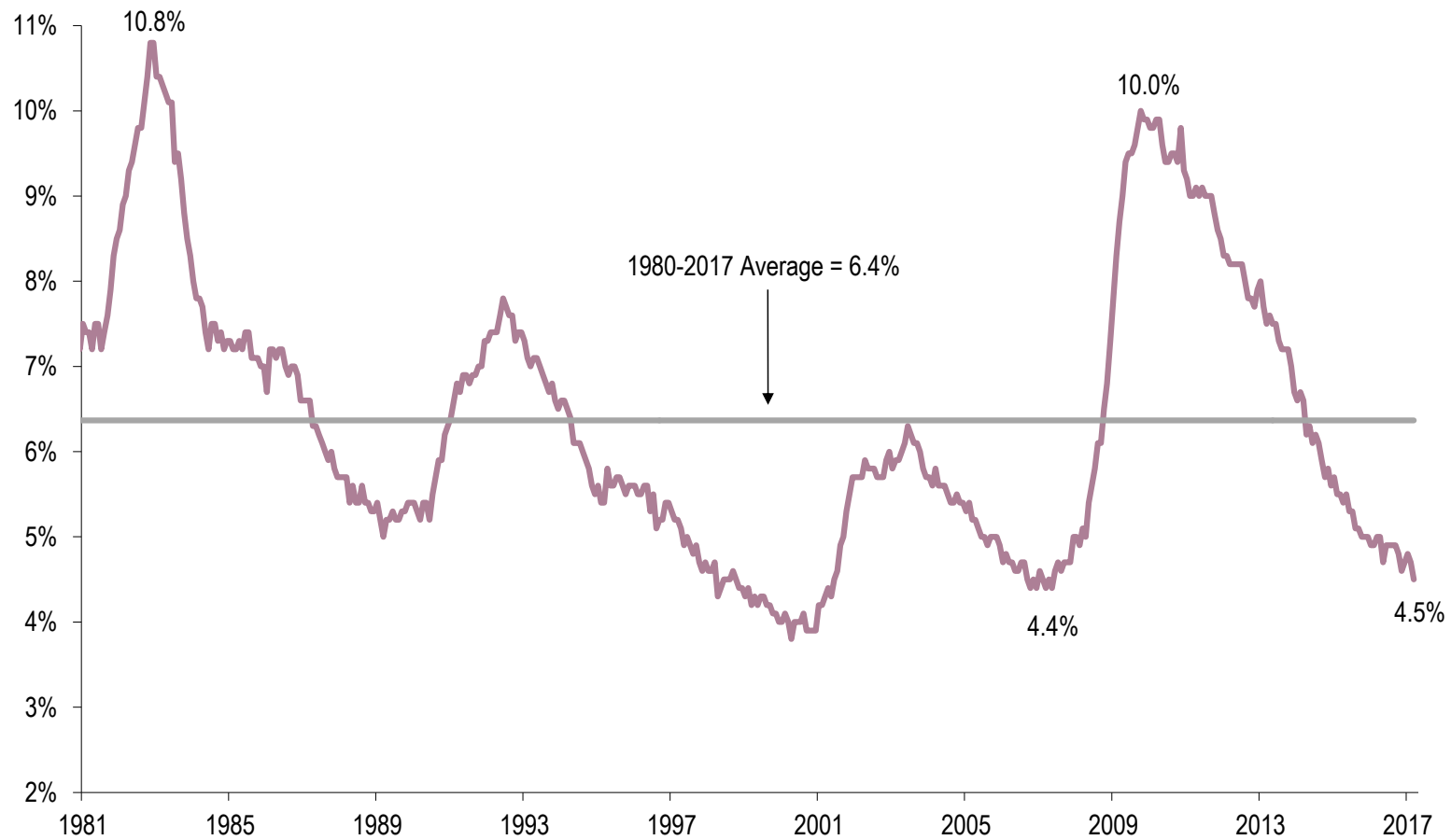
¹ Source: Bureau of Economic Analysis. Data is as of Q1 2017 and represents the first estimate.

U.S. Inflation (CPI) Trailing Twelve Months¹



¹ Source: Bureau of Labor Statistics. Data is non-seasonally adjusted CPI, which may be volatile in the short-term. Data is as of March 31, 2017.

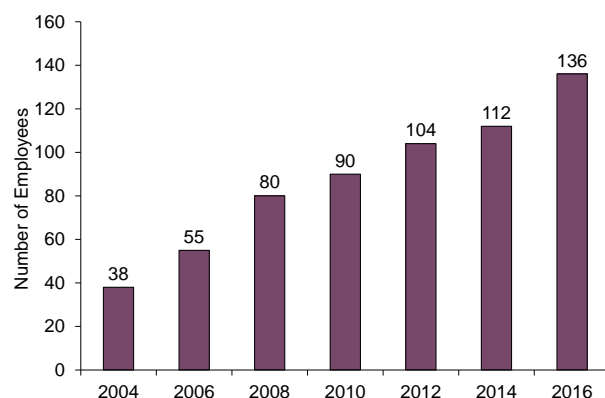
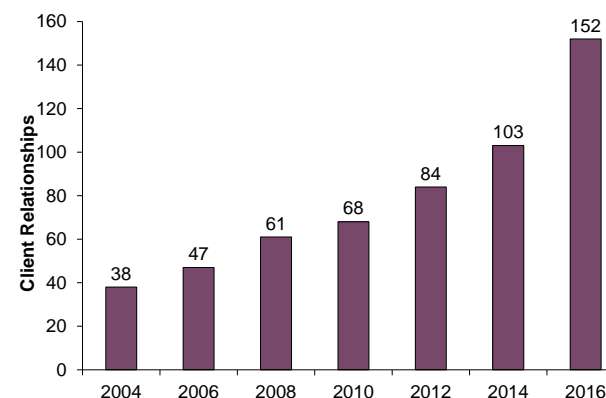
U.S. Unemployment¹



¹ Source: Bureau of Labor Statistics. Data is as of March 31, 2017.

Meketa Investment Group Corporate Update

- Staff of 136, including 88 investment professionals and 27 CFA Charterholders
- 152 clients, with over 250 funds throughout the United States
- Significant investment in staff and resources
- Offices in Boston, Chicago, Miami, Portland (OR), San Diego, and London
- Clients have aggregate assets of over \$890 billion
 - Over \$50 billion in assets committed to alternative investments
 - Private Equity ▪ Infrastructure ▪ Natural Resources
 - Real Estate ▪ Hedge Funds ▪ Commodities

Employee Growth**Client Growth**

Meketa Investment Group is proud to work for over 5 million American families everyday

Asset Classes Followed Intensively by Meketa Investment Group

Domestic Equities	International Equities	Private Equity	Real Assets	Fixed Income	Hedge Funds
<ul style="list-style-type: none"> - Passive - Enhanced Index - Large Cap - Midcap - Small Cap - Microcap - 130/30 	<ul style="list-style-type: none"> - Large Cap Developed - Small Cap Developed - Emerging Markets - Frontier Markets 	<ul style="list-style-type: none"> - Buyouts - Venture Capital - Private Debt - Special Situations - Secondaries - Fund of Funds 	<ul style="list-style-type: none"> - Public REITs - Core Real Estate - Value Added Real Estate - Opportunistic Real Estate - Infrastructure - Timber - Natural Resources - Commodities 	<ul style="list-style-type: none"> - Short-Term - Core - Core Plus - TIPS - High Yield - Bank Loans - Distressed - Global - Emerging Markets 	<ul style="list-style-type: none"> - Long/Short Equity - Event Driven - Relative Value - Fixed Income Arbitrage - Multi Strategy - Market Neutral - Global Macro - Fund of Funds - Portable Alpha

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In general, the valuation numbers presented in this report are prepared by the custodian bank for listed securities, and by the fund manager or appropriate General Partner in the case of unlisted securities. The data used in the market comparison sections of this report are sourced from various databases. These data are continuously updated and are subject to change.

This report does not contain all the information necessary to fully evaluate the potential risks of any of the investments described herein. Because of inherent uncertainties involved in the valuations of investments that are not publicly traded, any estimated fair values shown in this report may differ significantly from the values that would have been used had a ready market for the underlying securities existed, and the differences could be material. Note that for unlisted securities the valuations may be lagged by one or more calendar quarters, or may reflect original cost.

This document may contain certain forward-looking statements, forecasts, estimates, projections, and opinions ("Forward Statements"). No representation is made or will be made that any Forward Statements will be achieved or will prove to be correct. A number of factors, in addition to any risk factors stated in this material, could cause actual future results to vary materially from the Forward Statements. No representation is given that the assumptions disclosed in this document upon which Forward Statements may be based are reasonable. There can be no assurance that the investment strategy or objective of any fund or investment will be achieved, or that the Retirement System will receive a return of the amount invested.

In some cases Meketa Investment Group assists the Board Members in handling capital calls or asset transfers among investment managers. In these cases we do not make any representations as to the managers' use of the funds, but do confirm that the capital called or transferred is within the amounts authorized by the Retirement Board.

Credit Risk: Refers to the risk that the issuer of a fixed income security may default (i.e., the issuer will be unable to make timely principal and/or interest payments on the security.)

Duration: Measure of the sensitivity of the price of a bond to a change in its yield to maturity. Duration summarizes, in a single number, the characteristics that cause bond prices to change in response to a change in interest rates. For example, the price of a bond with a duration of three years will rise by approximately 3% for each 1% decrease in its yield to maturity. Conversely, the price will decrease 3% for each 1% increase in the bond's yield. Price changes for two different bonds can be compared using duration. A bond with a duration of six years will exhibit twice the percentage price change of a bond with a three-year duration. The actual calculation of a bond's duration is somewhat complicated, but the idea behind the calculation is straightforward. The first step is to measure the time interval until receipt for each cash flow (coupon and principal payments) from a bond. The second step is to compute a weighted average of these time intervals. Each time interval is measured by the present value of that cash flow. This weighted average is the duration of the bond measured in years.

Information Ratio: This statistic is a measure of the consistency of a portfolio's performance relative to a benchmark. It is calculated by subtracting the benchmark return from the portfolio return (excess return), and dividing the resulting excess return by the standard deviation (volatility) of this excess return. A positive information ratio indicates outperformance versus the benchmark, and the higher the information ratio, the more consistent the outperformance.

Market Capitalization: For a firm, market capitalization is the total market value of outstanding common stock. For a portfolio, market capitalization is the sum of the capitalization of each company weighted by the ratio of holdings in that company to total portfolio holdings; thus it is a weighted-average capitalization. Meketa Investment Group considers the largest 65% of the broad domestic equity market as large capitalization, the next 25% of the market as medium capitalization, and the smallest 10% of stocks as small capitalization.

Market Weighted: Stocks in many indices are weighted based on the total market capitalization of the issue. Thus, the individual returns of higher market-capitalization issues will more heavily influence an index's return than the returns of the smaller market-capitalization issues in the index.

Maturity: The date on which a loan, bond, mortgage, or other debt/security becomes due and is to be paid off.

Prepayment Risk: The risk that prepayments will increase (homeowners will prepay all or part of their mortgage) when mortgage interest rates decline; hence, investors' monies will be returned to them in a lower interest rate environment. Also, the risk that prepayments will slow down when mortgage interest rates rise; hence, investors will not have as much money as previously anticipated in a higher interest rate environment. A prepayment is any payment in excess of the scheduled mortgage payment.

Price-Book Value (P/B) Ratio: The current market price of a stock divided by its book value per share. Meketa Investment Group calculates P/B as the current price divided by Compustat's quarterly common equity. Common equity includes common stock, capital surplus, retained earnings, and treasury stock adjusted for both common and nonredeemable preferred stock. Similar to high P/E stocks, stocks with high P/B's tend to be riskier investments.

Price-Earnings (P/E) Ratio: A stock's market price divided by its current or estimated future earnings. Lower P/E ratios often characterize stocks in low growth or mature industries, stocks in groups that have fallen out of favor, or stocks of established blue chip companies with long records of stable earnings and regular dividends. Sometimes a company that has good fundamentals may be viewed unfavorably by the market if it is an industry that is temporarily out of favor. Or a business may have experienced financial problems causing investors to be skeptical about its future. Either of these situations would result in lower relative P/E ratios. Some stocks exhibit above-average sales and earnings growth or expectations for above average growth. Consequently, investors are willing to pay more for these companies' earnings, which results in elevated P/E ratios. In other words, investors will pay more for shares of companies whose profits, in their opinion, are expected to increase faster than average. Because future events are in no way assured, high P/E stocks tend to be riskier and more volatile investments. Meketa Investment Group calculates P/E as the current price divided by the I/B/E/S consensus of twelve-month forecast earnings per share.

Quality Rating: The rank assigned a security by such rating services as Fitch, Moody's, and Standard & Poor's. The rating may be determined by such factors as (1) the likelihood of fulfillment of dividend, income, and principal payment of obligations; (2) the nature and provisions of the issue; and (3) the security's relative position in the event of liquidation of the company. Bonds assigned the top four grades (AAA, AA, A, BBB) are considered investment grade because they are eligible bank investments as determined by the controller of the currency.

Sharpe Ratio: A commonly used measure of risk-adjusted return. It is calculated by subtracting the risk free return (usually three-month Treasury bill) from the portfolio return and dividing the resulting excess return by the portfolio's total risk level (standard deviation). The result is a measure of return per unit of total risk taken. The higher the Sharpe ratio, the better the fund's historical risk adjusted performance.

Standard Deviation: A measure of the total risk of an asset or a portfolio. Standard deviation measures the dispersion of a set of numbers around a central point (e.g., the average return). If the standard deviation is small, the distribution is concentrated within a narrow range of values. For a normal distribution, about two thirds of the observations will fall within one standard deviation of the mean, and 95% of the observations will fall within two standard deviations of the mean.

STIF Account: Short-term investment fund at a custodian bank that invests in cash-equivalent instruments. It is generally used to safely invest the excess cash held by portfolio managers.

Style: The description of the type of approach and strategy utilized by an investment manager to manage funds. For example, the style for equities is determined by portfolio characteristics such as price-to-book value, price-to-earnings ratio, and dividend yield. Equity styles include growth, value, and core.

Yield to Maturity: The yield, or return, provided by a bond to its maturity date; determined by a mathematical process, usually requiring the use of a “basis book.” For example, a 5% bond pays \$5 a year interest on each \$100 par value. To figure its current yield, divide \$5 by \$95—the market price of the bond—and you get 5.26%. Assume that the same bond is due to mature in five years. On the maturity date, the issuer is pledged to pay \$100 for the bond that can be bought now for \$95. In other words, the bond is selling at a discount of 5% below par value. To figure yield to maturity, a simple and approximate method is to divide 5% by the five years to maturity, which equals 1% pro rata yearly. Add that 1% to the 5.26% current yield, and the yield to maturity is roughly 6.26%.

$$\frac{5\% \text{ (discount)}}{5 \text{ (yrs. to maturity)}} = 1\% \text{ pro rata, plus } 5.26\% \text{ (current yield)} = 6.26\% \text{ (yield to maturity)}$$

Sources: Investment Terminology, International Foundation of Employee Benefit Plans, 1999.
The Handbook of Fixed Income Securities, Fabozzi, Frank J., 1991.

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Throughout this report, numbers may not sum due to rounding.

Returns for periods greater than one year are annualized throughout this report.

Values shown are in millions of dollars, unless noted otherwise.