

FUND EVALUATION REPORT

City of Marlborough Contributory Retirement System

Quarterly Review
June 30, 2018



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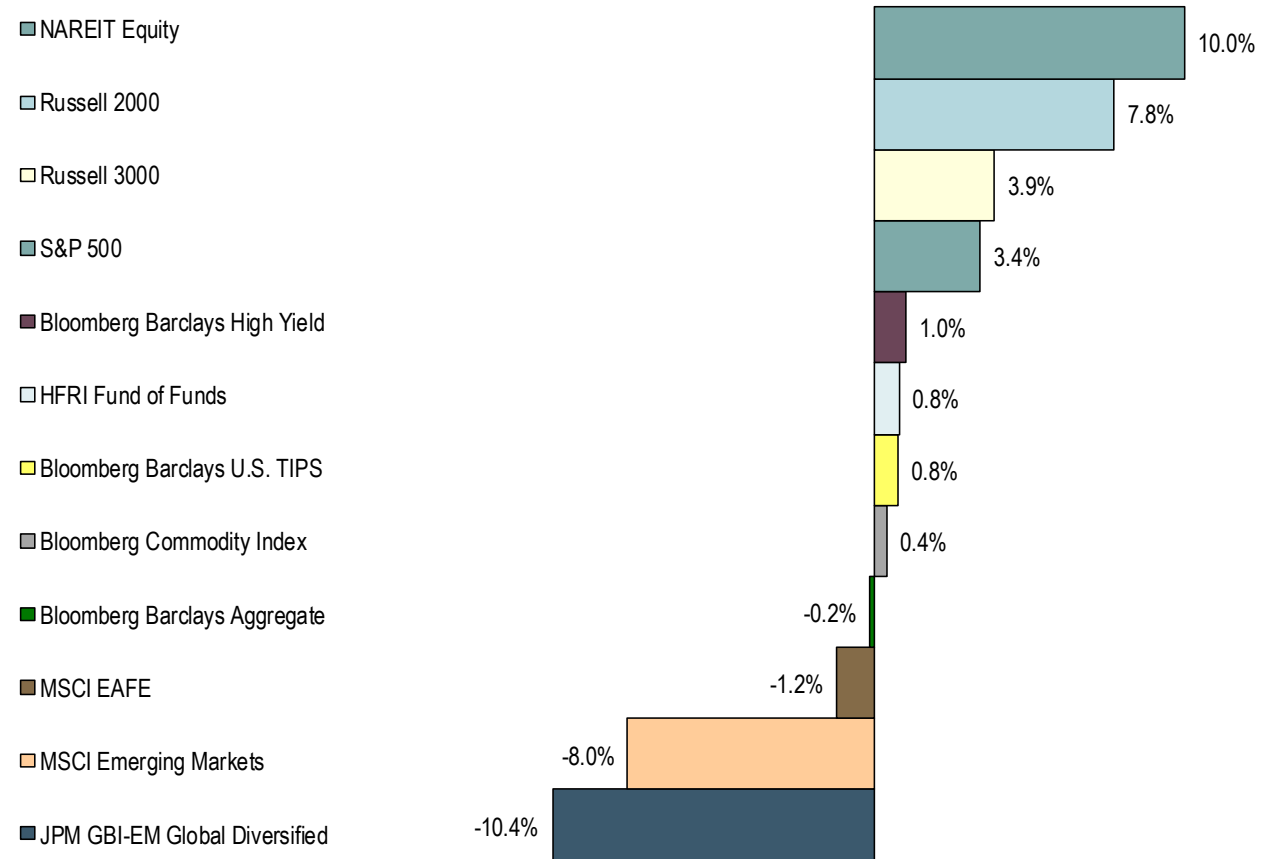
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The World Markets Second Quarter of 2018

The World Markets¹ Second Quarter of 2018



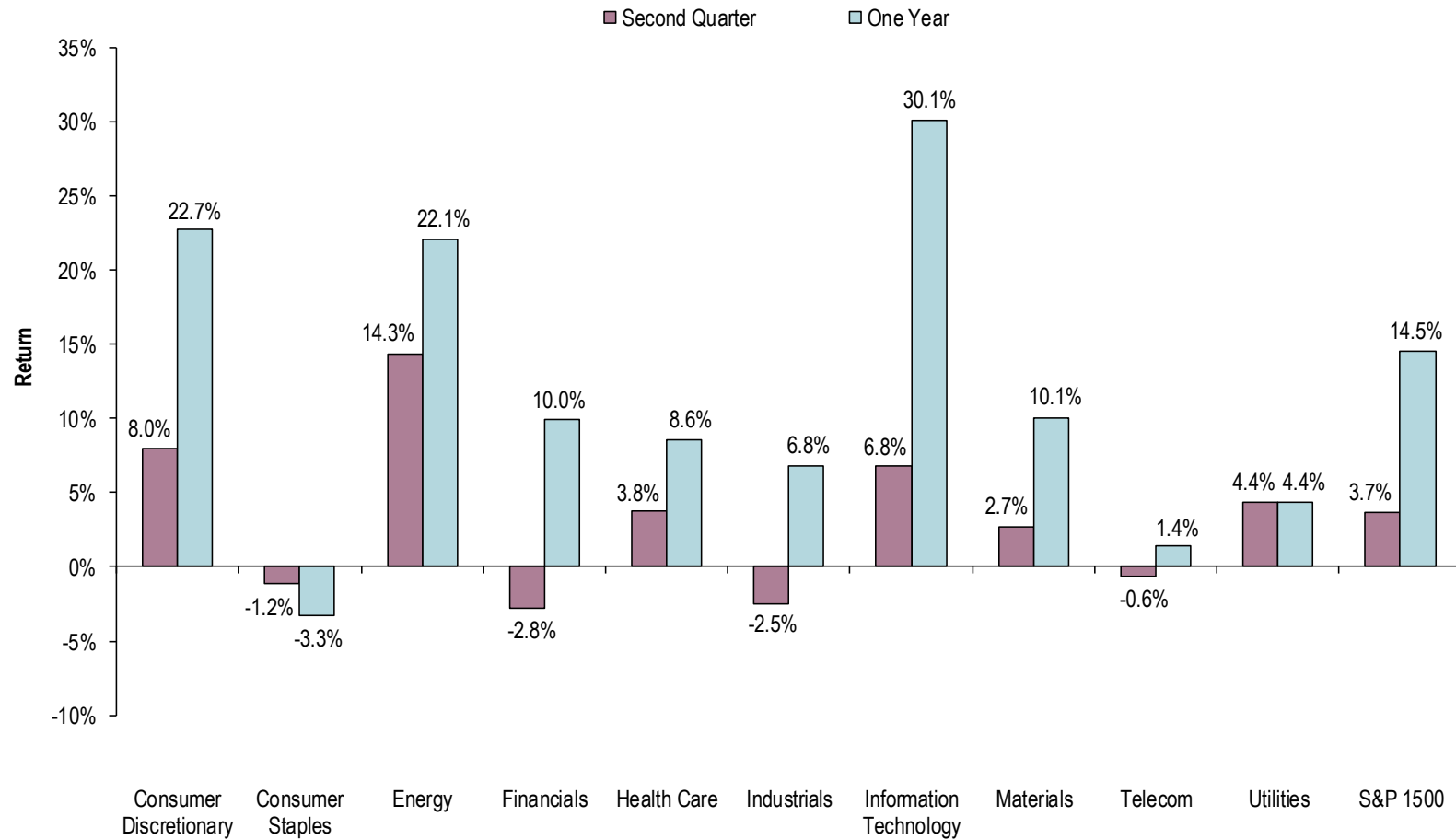
¹ Source: InvestorForce.

Index Returns¹

	2Q18 (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
Domestic Equity						
Russell 3000	3.9	3.2	14.8	11.6	13.3	10.2
Russell 1000	3.6	2.9	14.5	11.6	13.4	10.2
Russell 1000 Growth	5.8	7.3	22.5	15.0	16.4	11.8
Russell 1000 Value	1.2	-1.7	6.8	8.3	10.3	8.5
Russell MidCap	2.8	2.3	12.3	9.6	12.2	10.2
Russell MidCap Growth	3.2	5.4	18.5	10.7	13.4	10.5
Russell MidCap Value	2.4	-0.2	7.6	8.8	11.3	10.1
Russell 2000	7.8	7.7	17.6	11.0	12.5	10.6
Russell 2000 Growth	7.2	9.7	21.9	10.6	13.6	11.2
Russell 2000 Value	8.3	5.4	13.1	11.2	11.2	9.9
Foreign Equity						
MSCI ACWI (ex. U.S.)	-2.6	-3.8	7.3	5.1	6.0	2.5
MSCI EAFE	-1.2	-2.7	6.8	4.9	6.4	2.8
MSCI EAFE (Local Currency)	3.5	-1.0	6.1	5.2	8.9	5.0
MSCI EAFE Small Cap	-1.6	-1.3	12.4	10.1	11.3	6.8
MSCI Emerging Markets	-8.0	-6.7	8.2	5.6	5.0	2.3
MSCI Emerging Markets (Local Currency)	-3.5	-2.8	10.5	7.5	8.4	5.2
Fixed Income						
Bloomberg Barclays Universal	-0.3	-1.7	-0.3	2.1	2.6	4.1
Bloomberg Barclays Aggregate	-0.2	-1.6	-0.4	1.7	2.3	3.7
Bloomberg Barclays U.S. TIPS	0.8	0.0	2.1	1.9	1.7	3.0
Bloomberg Barclays High Yield	1.0	0.2	2.6	5.5	5.5	8.2
JPM GBI-EM Global Diversified	-10.4	-6.4	-2.3	2.0	-1.4	2.6
Other						
NAREIT Equity	10.0	1.0	3.5	8.1	8.3	7.9
Bloomberg Commodity Index	0.4	0.0	7.3	-4.5	-6.4	-9.0
HFRI Fund of Funds	0.8	1.0	5.5	2.0	3.5	1.4

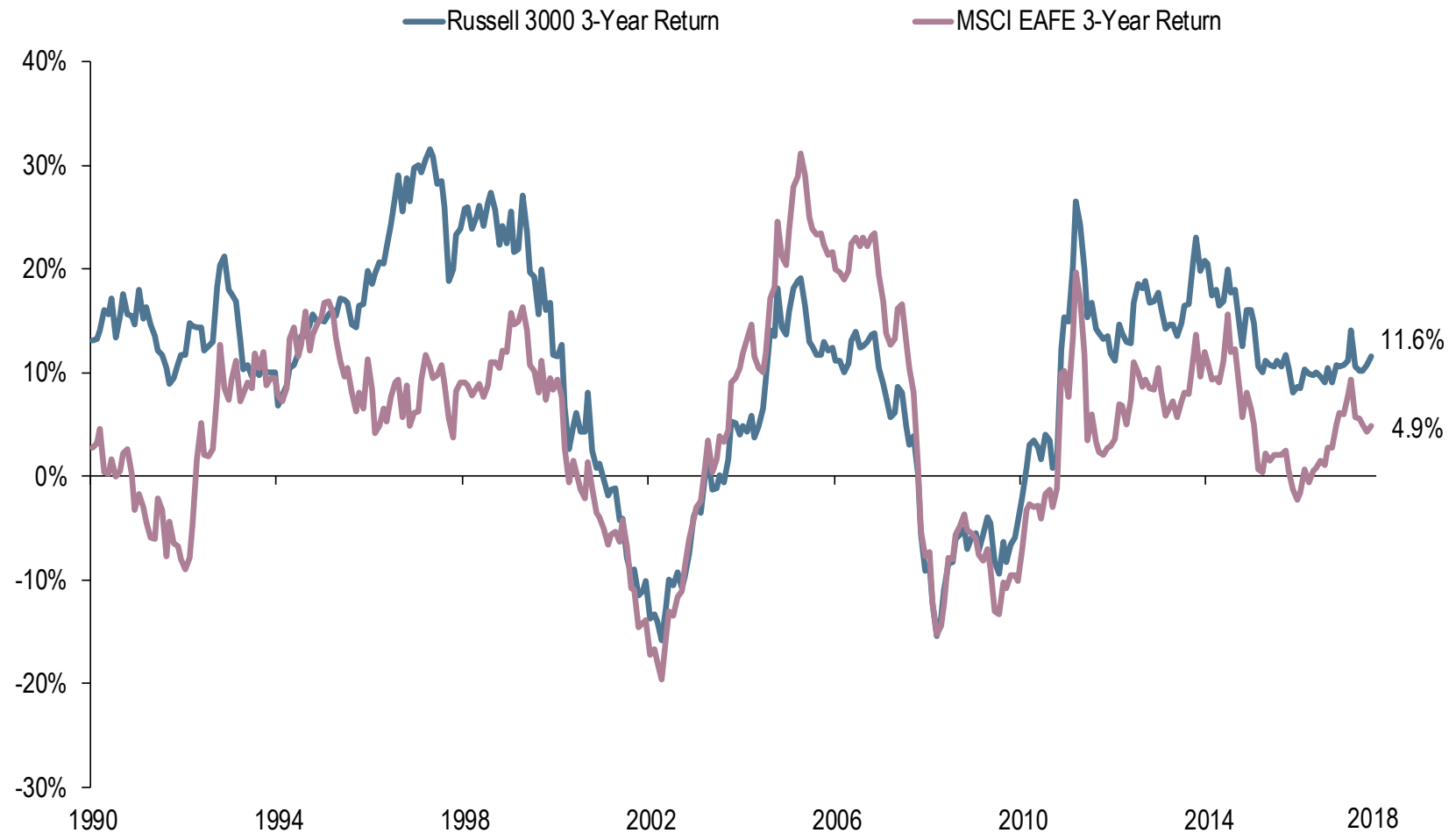
¹ Source: InvestorForce.

S&P Sector Returns¹



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

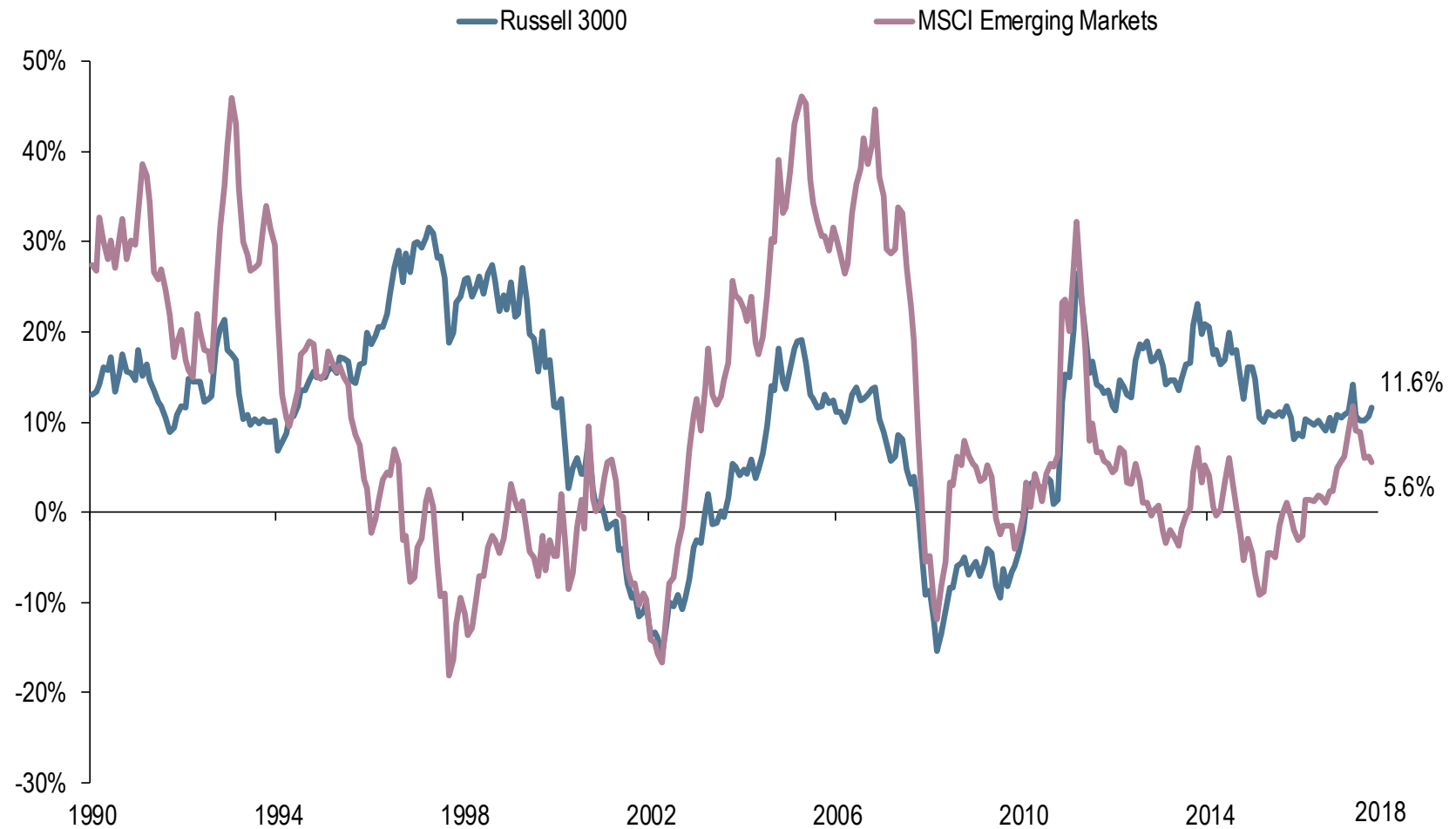
U.S. and Developed Market Foreign Equity Rolling Three-Year Returns¹



¹ Source: InvestorForce.



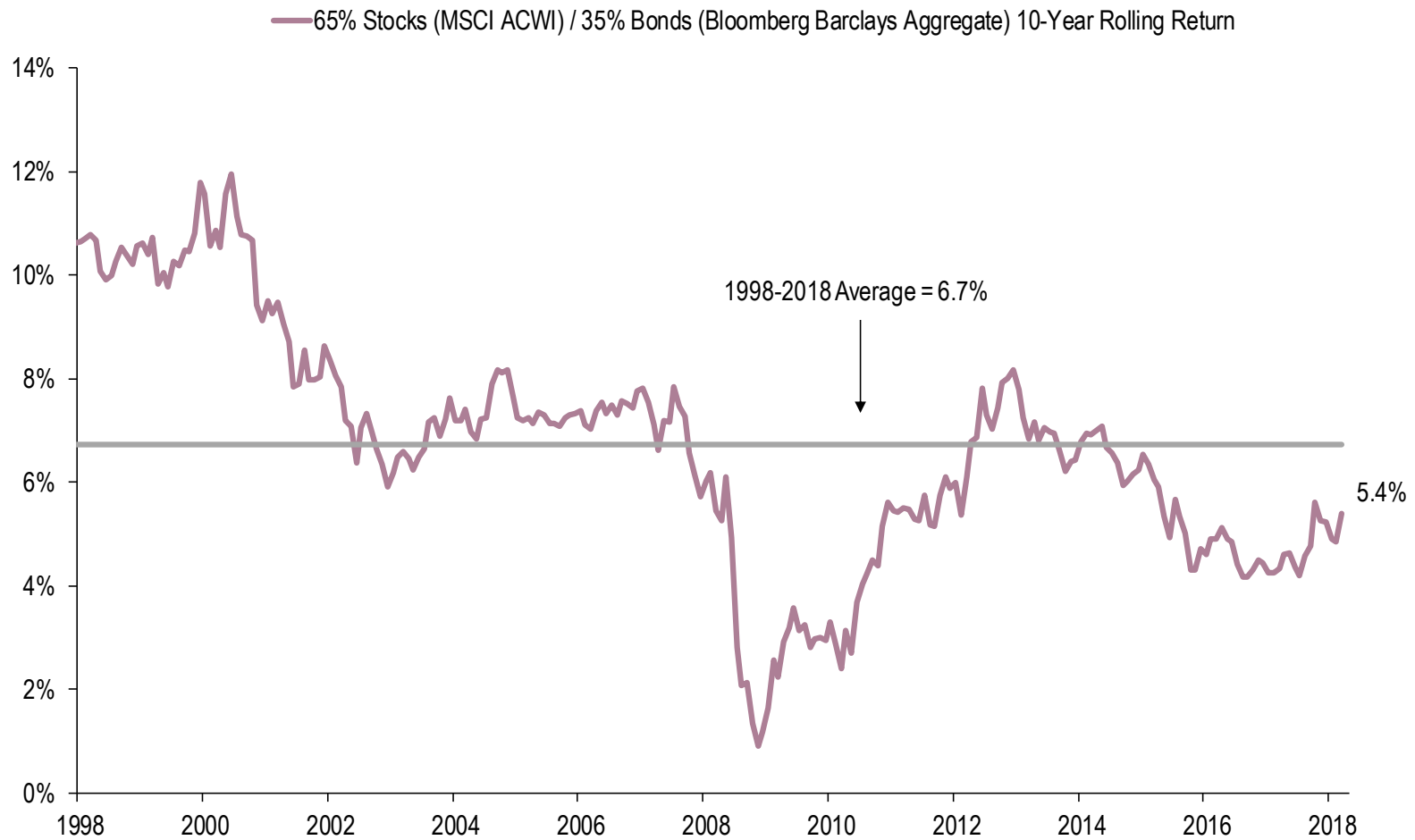
U.S. and Emerging Market Equity Rolling Three-Year Returns¹



¹ Source: InvestorForce.



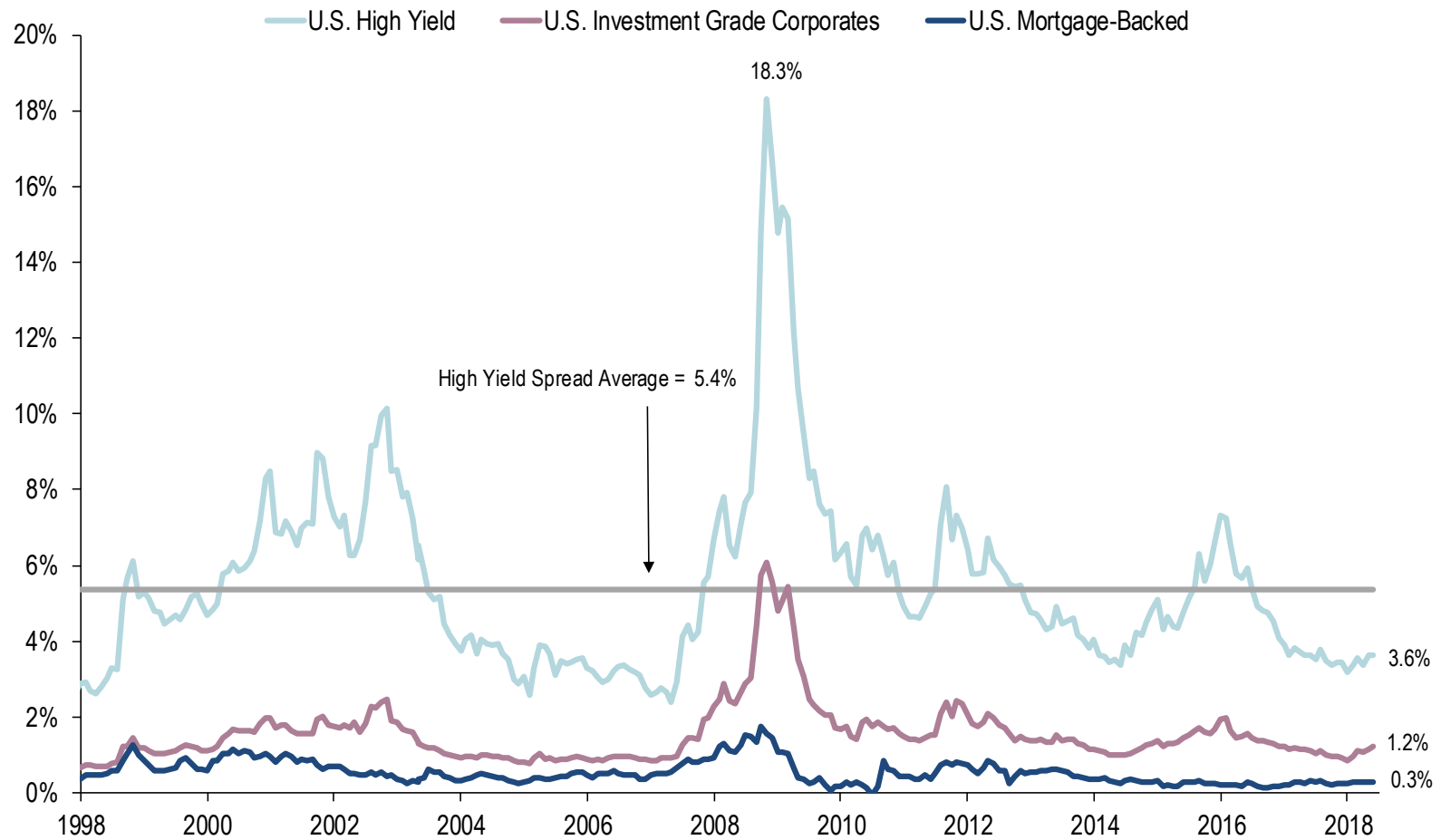
Rolling Ten-Year Returns: 65% Stocks and 35% Bonds¹



¹ Source: InvestorForce.



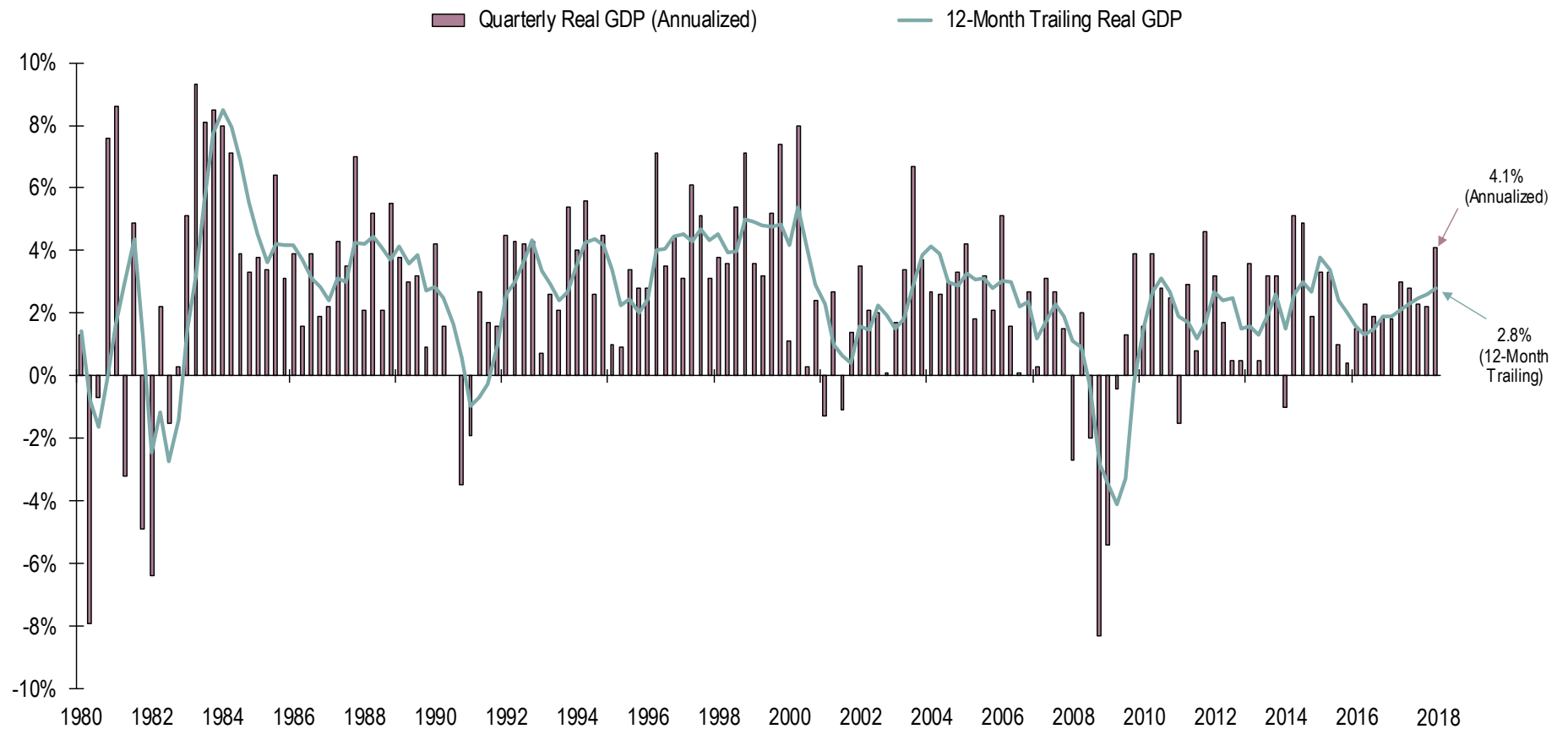
Credit Spreads vs. U.S. Treasury Bonds^{1,2}



¹ Source: Barclays Live.

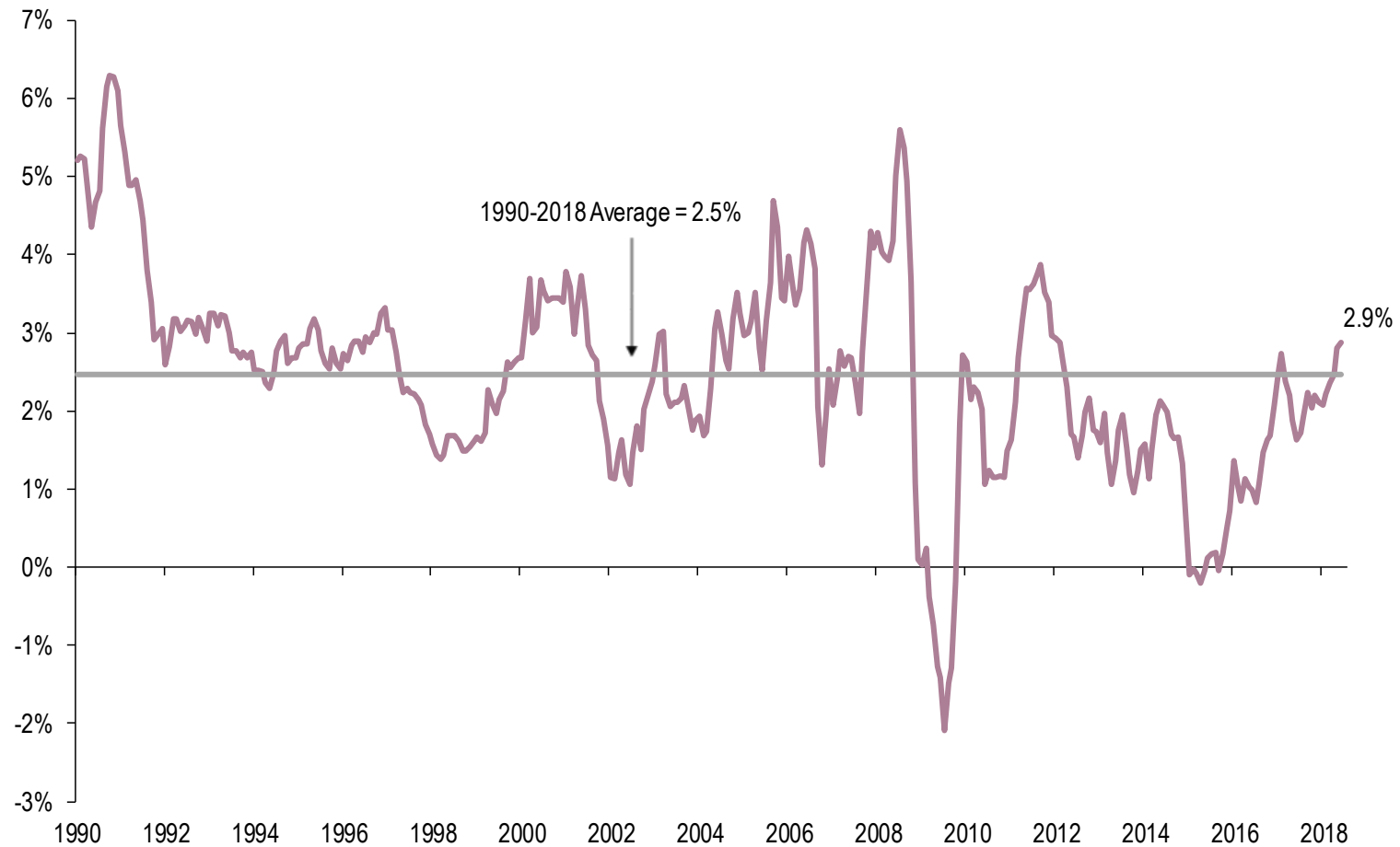
² The median high yield spread was 4.8% from 1997-2018.

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



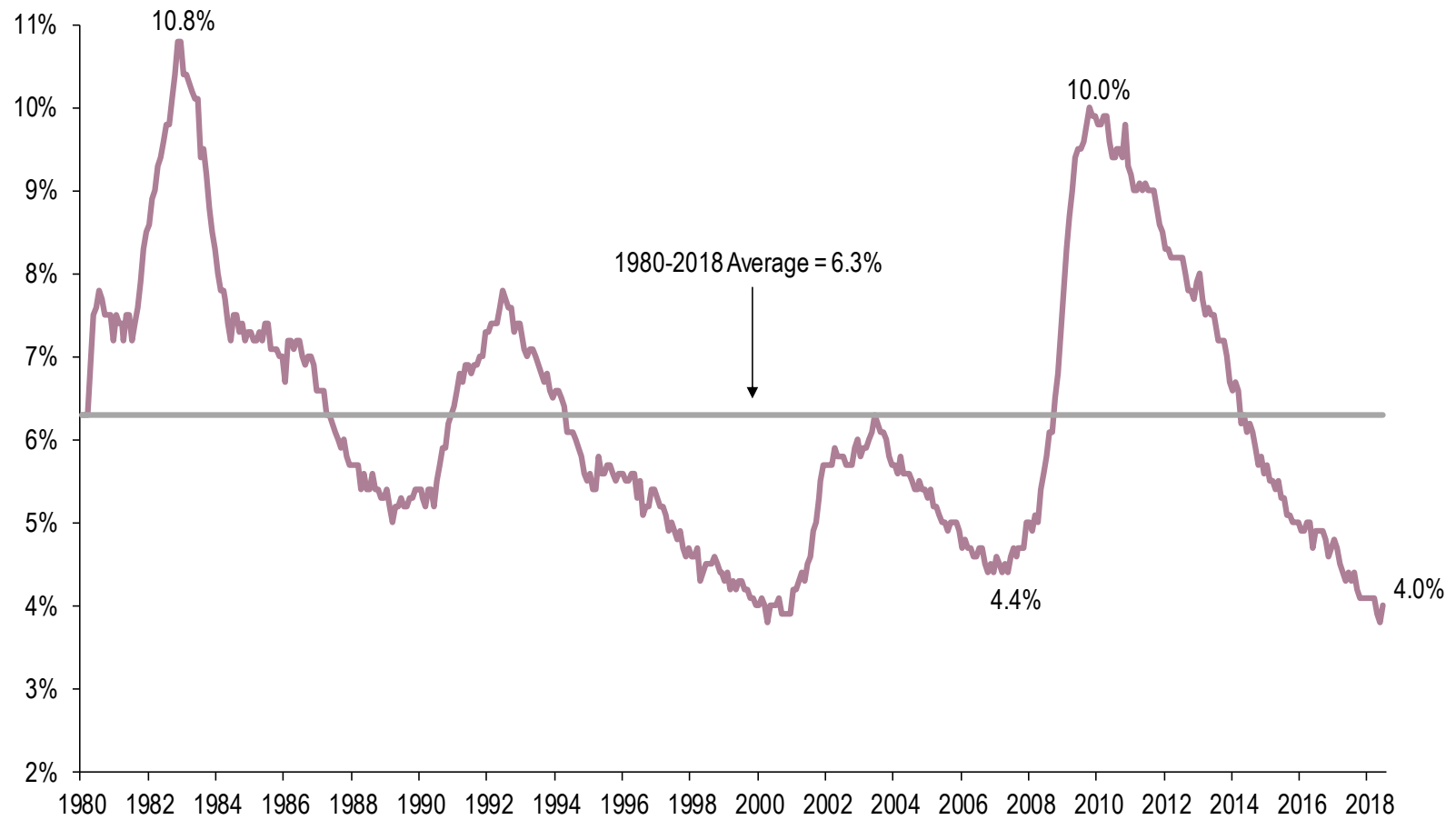
¹ Source: Bureau of Economic Analysis. Data is as of Q2 2018 and represents the first estimate.

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 June 30, 2018.

U.S. Unemployment¹













¹ Source: Bureau of Labor Statistics. Data is as of June 30, 2018.

Retirement System Summary

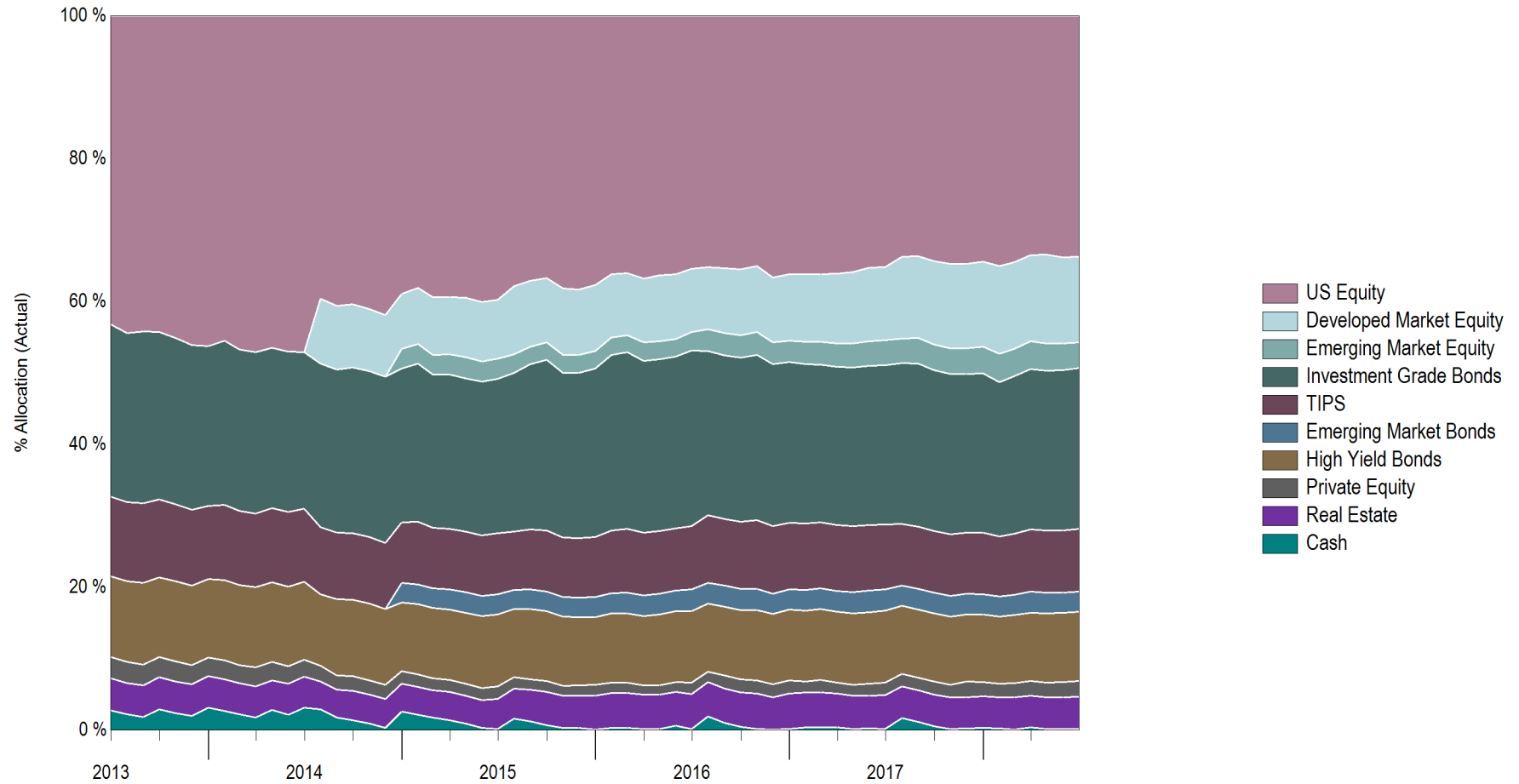
Total Retirement System

As of June 30, 2018

Allocation vs. Targets and Policy

	Current Balance	Current Allocation	Policy	Policy Range
 US Equity	\$56,420,369	34%	33%	28% - 38%
 Developed Market Equity	\$20,036,197	12%	9%	5% - 13%
 Emerging Market Equity	\$5,996,210	4%	3%	1% - 5%
 Investment Grade Bonds	\$37,673,810	23%	22%	17% - 27%
 TIPS	\$14,716,037	9%	10%	7% - 13%
 Emerging Market Bonds	\$4,653,353	3%	3%	1% - 5%
 High Yield Bonds	\$16,227,611	10%	10%	7% - 13%
 Private Equity	\$3,687,211	2%	5%	3% - 7%
 Real Estate	\$7,517,830	4%	5%	2% - 8%
 Cash	\$331,168	0%	0%	0% - 100%
Total	\$167,259,796	100%	100%	

Asset Allocation History
5 Years Ending June 30, 2018



Total Retirement System

As of June 30, 2018

	Actual Asset Allocation (%)	Target Allocation (%)	Target Range (%)	PRIT Asset Allocation ¹ (%)
Total Retirement System	NA	NA	NA	NA
<i>Equity Assets</i>	49	45	37-53	40
Domestic Equity Assets	34	33	28-38	19
International Equity Assets	16	12	9-15	23
<i>Fixed Income Assets</i>	44	45	32-53	22
Domestic Investment Grade Assets	23	22	17-27	8
High Yield Bond Assets	10	10	7-13	2
TIPS	9	10	7-13	5
Emerging Market Debt	3	3	1-5	-
<i>Absolute Return Assets</i>	NA	NA	NA	-
<i>Portfolio Completion Strategies</i>	NA	NA	NA	13
<i>Real Estate Assets</i>	4	5	3-7	10
<i>Private Equity</i>	2	5	3-7	11
<i>Timber/Natural Resources</i>	NA	NA	NA	4
<i>Cash</i>	< 1	5	< 5	0

¹ PRIT asset allocation as of June 2018. TIPS and Emerging Market Debt are reflected in PRIT's Core and Value-Added Fixed Income Sleeves, respectively.

Total Retirement System

As of June 30, 2018

Asset Class Performance Summary

	Market Value (\$)	% of Portfolio	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	20 Yrs (%)	Inception (%)	Inception Date
Total Retirement System	167,259,796	100.0	0.9	0.0	6.1	6.2	7.3	6.3	6.4	7.7	Jul-88
55% MSCI World & 45% Barclays Aggregate			0.9	-0.4	5.9	5.5	6.6	5.4	5.3	7.0	Jul-88
Consumer Price Index			1.0	2.2	2.9	1.8	1.5	1.4	2.2	2.6	Jul-88
PRIT Core Fund			1.1	1.7	10.0	8.4	9.3	6.3	7.2	8.9	Jul-88
Domestic Equity Assets	56,420,369	33.7	3.8	2.3	12.8	10.7	12.7	9.8	--	8.3	Oct-06
Russell 3000			3.9	3.2	14.8	11.6	13.3	10.2	6.8	8.7	Oct-06
PRIT Domestic Equity			4.2	3.9	15.6	11.7	13.2	9.2	6.6	7.6	Oct-06
International Developed Markets Equity Assets	20,036,197	12.0	-0.9	-2.5	6.9	5.0	5.4	2.8	--	2.8	Oct-06
MSCI EAFE			-1.2	-2.7	6.8	4.9	6.4	2.8	4.3	3.2	Oct-06
International Emerging Markets Equity Assets	5,996,210	3.6	-8.7	-6.8	9.2	6.4	--	--	--	6.4	Jan-15
MSCI Emerging Markets			-8.0	-6.7	8.2	5.6	5.0	2.3	8.6	5.7	Jan-15
Investment Grade Bonds Assets	37,673,810	22.5	-0.2	-1.6	-0.4	1.7	2.3	3.7	4.6	6.1	Jul-88
BBgBarc US Aggregate TR			-0.2	-1.6	-0.4	1.7	2.3	3.7	4.7	6.1	Jul-88
PRIT Core Fixed Income			0.4	-1.0	1.4	3.6	4.3	4.0	5.4	6.9	Jul-88
High Yield Bond Assets	16,227,611	9.7	0.9	0.2	2.6	4.2	5.2	7.2	--	6.8	Sep-03
BBgBarc US High Yield TR			1.0	0.2	2.6	5.5	5.5	8.2	6.5	7.9	Sep-03
PRIT Public Value-Added Fixed Income			-2.0	-1.0	1.9	4.4	3.1	5.3	--	6.8	Sep-03
TIPS Assets	14,716,037	8.8	0.8	0.0	2.1	1.9	1.7	3.0	--	3.7	Oct-05
BBgBarc US TIPS TR			0.8	0.0	2.1	1.9	1.7	3.0	5.4	3.7	Oct-05
Emerging Market Debt Assets	4,653,353	2.8	-5.2	-6.2	-1.3	4.6	--	--	--	4.4	Jan-15
JP Morgan EMBI Global Diversified			-3.5	-5.2	-1.6	4.6	5.1	6.7	8.6	4.5	Jan-15
Open-Ended Real Estate	5,501,326	3.3	2.7	5.3	9.7	9.8	11.5	4.1	7.7	8.2	Oct-95
NCREIF-ODCE			2.1	4.3	8.4	9.4	11.0	5.3	8.7	9.2	Oct-95
Total Closed End Real Estate	2,016,504	1.2	1.5	3.0	11.8	13.0	16.0	--	--	15.1	Jan-13
NCREIF ODCE			2.1	4.3	8.4	9.4	11.0	5.3	8.7	11.3	Jan-13
Private Equity Assets	3,687,211	2.2									
Cash	331,168	0.2									

Total Retirement System

As of June 30, 2018

Trailing Performance

	Market Value (\$)	% of Portfolio	% of Sector	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	20 Yrs (%)	Inception (%)	Inception Date
Total Retirement System	167,259,796	100.0	--	0.9	0.0	6.1	6.2	7.3	6.3	6.4	7.7	Jul-88
55% MSCI World & 45% Barclays Aggregate				0.9	-0.4	5.9	5.5	6.6	5.4	5.3	7.0	Jul-88
Consumer Price Index				1.0	2.2	2.9	1.8	1.5	1.4	2.2	2.6	Jul-88
PRIT Core Fund				1.1	1.7	10.0	8.4	9.3	6.3	7.2	8.9	Jul-88
Domestic Equity Assets	56,420,369	33.7	33.7	3.8	2.3	12.8	10.7	12.7	9.8	--	8.3	Oct-06
Russell 3000				3.9	3.2	14.8	11.6	13.3	10.2	6.8	8.7	Oct-06
PRIT Domestic Equity				4.2	3.9	15.6	11.7	13.2	9.2	6.6	7.6	Oct-06
RhumbLine S&P 500 Index	16,761,312	10.0	29.7	3.4	2.6	14.4	11.9	13.4	10.2	--	6.2	Mar-99
S&P 500				3.4	2.6	14.4	11.9	13.4	10.2	6.5	6.2	Mar-99
Fiduciary Large Cap Equity	22,304,708	13.3	39.5	3.4	2.2	12.3	9.9	11.6	--	--	12.9	Sep-12
Russell 3000				3.9	3.2	14.8	11.6	13.3	10.2	6.8	14.4	Sep-12
Frontier Capital Appreciation	17,354,349	10.4	30.8	4.6	2.0	11.4	9.2	12.8	--	--	14.0	Feb-13
Russell 2500 Growth				5.5	8.0	21.5	10.9	13.9	11.4	8.2	14.4	Feb-13
International Developed Markets Equity Assets	20,036,197	12.0	12.0	-0.9	-2.5	6.9	5.0	5.4	2.8	--	2.8	Oct-06
MSCI EAFE				-1.2	-2.7	6.8	4.9	6.4	2.8	4.3	3.2	Oct-06
Rhumblin MSCI EAFE Index	20,036,197	12.0	100.0	-0.9	-2.5	6.9	5.0	--	--	--	3.3	Aug-14
MSCI EAFE				-1.2	-2.7	6.8	4.9	6.4	2.8	4.3	3.1	Aug-14
International Emerging Markets Equity Assets	5,996,210	3.6	3.6	-8.7	-6.8	9.2	6.4	--	--	--	6.4	Jan-15
MSCI Emerging Markets				-8.0	-6.7	8.2	5.6	5.0	2.3	8.6	5.7	Jan-15
DFA Emerging Markets	2,896,864	1.7	48.3	-9.9	-8.4	5.2	5.4	--	--	--	5.3	Jan-15
MSCI Emerging Markets				-8.0	-6.7	8.2	5.6	5.0	2.3	8.6	5.7	Jan-15

Total Retirement System

As of June 30, 2018

	Market Value (\$)	% of Portfolio	% of Sector	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	20 Yrs (%)	Inception (%)	Inception Date
Driehaus Emerging Market Equity	3,099,346	1.9	51.7	-7.6	-5.4	13.2	7.4	--	--	--	7.5	Jan-15
MSCI Emerging Markets				-8.0	-6.7	8.2	5.6	5.0	2.3	8.6	5.7	Jan-15
Investment Grade Bonds Assets	37,673,810	22.5	22.5	-0.2	-1.6	-0.4	1.7	2.3	3.7	4.6	6.1	Jul-88
BBgBarc US Aggregate TR				-0.2	-1.6	-0.4	1.7	2.3	3.7	4.7	6.1	Jul-88
PRIT Core Fixed Income				0.4	-1.0	1.4	3.6	4.3	4.0	5.4	6.9	Jul-88
SSgA U.S. Aggregate Bond Index	37,673,810	22.5	100.0	-0.2	-1.6	-0.4	1.7	2.3	3.7	--	4.5	May-01
BBgBarc US Aggregate TR				-0.2	-1.6	-0.4	1.7	2.3	3.7	4.7	4.4	May-01
High Yield Bond Assets	16,227,611	9.7	9.7	0.9	0.2	2.6	4.2	5.2	7.2	--	6.8	Sep-03
BBgBarc US High Yield TR				1.0	0.2	2.6	5.5	5.5	8.2	6.5	7.9	Sep-03
PRIT Public Value-Added Fixed Income				-2.0	-1.0	1.9	4.4	3.1	5.3	--	6.8	Sep-03
Shenkman Capital	16,227,611	9.7	100.0	0.9	0.2	2.7	4.3	5.2	7.2	--	6.8	Apr-06
BBgBarc US High Yield TR				1.0	0.2	2.6	5.5	5.5	8.2	6.5	7.4	Apr-06
TIPS Assets	14,716,037	8.8	8.8	0.8	0.0	2.1	1.9	1.7	3.0	--	3.7	Oct-05
BBgBarc US TIPS TR				0.8	0.0	2.1	1.9	1.7	3.0	5.4	3.7	Oct-05
SSgA TIPS Index-NL	14,716,037	8.8	100.0	0.8	0.0	2.1	1.9	1.7	3.0	--	3.7	Oct-05
BBgBarc US TIPS TR				0.8	0.0	2.1	1.9	1.7	3.0	5.4	3.7	Oct-05
Emerging Market Debt Assets	4,653,353	2.8	2.8	-5.2	-6.2	-1.3	4.6	--	--	--	4.4	Jan-15
JP Morgan EMBI Global Diversified				-3.5	-5.2	-1.6	4.6	5.1	6.7	8.6	4.5	Jan-15
Payden Emerging Market Bond	4,653,353	2.8	100.0	-5.2	-6.2	-1.3	4.6	--	--	--	4.4	Jan-15
JP Morgan EMBI Global Diversified				-3.5	-5.2	-1.6	4.6	5.1	6.7	8.6	4.5	Jan-15

Total Retirement System

As of June 30, 2018

	Market Value (\$)	% of Portfolio	% of Sector	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	20 Yrs (%)	Inception (%)	Inception Date
Open-Ended Real Estate	5,501,326	3.3	3.3	2.7	5.3	9.7	9.8	11.5	4.1	7.7	8.2	Oct-95
<i>NCREIF-ODCE</i>				2.1	4.3	8.4	9.4	11.0	5.3	8.7	9.2	Oct-95
Clarion Partners	5,501,326	3.3	100.0	2.7	5.3	9.7	9.8	11.5	4.1	--	7.4	Oct-02
<i>NCREIF-ODCE</i>				2.1	4.3	8.4	9.4	11.0	5.3	8.7	8.3	Oct-02
Total Closed End Real Estate	2,016,504	1.2	1.2	1.5	3.0	11.8	13.0	16.0	--	--	15.1	Jan-13
<i>NCREIF ODCE</i>				2.1	4.3	8.4	9.4	11.0	5.3	8.7	11.3	Jan-13
Colony Realty Partners IV	2,016,504	1.2	100.0	1.5	3.0	11.8	13.0	--	--	--	--	Jan-13
<i>NCREIF-ODCE</i>				2.1	4.3	8.4	9.4	11.0	5.3	8.7	11.3	Jan-13
Private Equity Assets	3,687,211	2.2	2.2									
North American Strategic Partners 2006	1,166,159	0.7	31.6									
Ironsides Partnership Fund IV	412,355	0.2	11.2									
Ironsides Direct Investment Fund IV	2,108,697	1.3	57.2									
Cash	331,168	0.2	0.2									

Total Retirement System

As of June 30, 2018

Calendar Year Performance

	2017 (%)	2016 (%)	2015 (%)	2014 (%)	2013 (%)	2012 (%)	2011 (%)	2010 (%)	2009 (%)	2008 (%)
Total Retirement System	13.1	8.7	-0.2	6.3	14.0	10.9	2.4	12.3	16.8	-20.8
55% MSCI World & 45% Barclays Aggregate	13.6	5.5	0.0	5.5	13.0	10.7	0.7	10.0	19.2	-22.5
Consumer Price Index	2.1	2.1	0.7	0.8	1.5	1.7	3.0	1.5	2.7	0.1
PRIT Core Fund	17.7	8.0	1.1	8.1	15.2	13.9	0.1	13.6	17.7	-29.5
Domestic Equity Assets	20.3	14.6	-1.6	13.1	33.1	15.3	0.0	18.8	29.8	-38.9
Russell 3000	21.1	12.7	0.5	12.6	33.6	16.4	1.0	16.9	28.3	-37.3
PRIT Domestic Equity	20.8	12.9	0.3	11.7	33.7	16.9	1.1	16.8	25.4	-42.3
RhumbLine S&P 500 Index	21.8	11.9	1.4	13.6	32.2	16.0	2.1	15.0	26.6	-36.6
S&P 500	21.8	12.0	1.4	13.7	32.4	16.0	2.1	15.1	26.5	-37.0
Fiduciary Large Cap Equity (net)	19.2	13.8	-2.4	12.4	30.5	--	--	--	--	--
Russell 3000	21.1	12.7	0.5	12.6	33.6	16.4	1.0	16.9	28.3	-37.3
Frontier Capital Appreciation (net)	19.1	20.5	-6.5	12.4	--	--	--	--	--	--
Russell 2500 Growth	24.5	9.7	-0.2	7.1	40.6	16.1	-1.6	28.9	41.7	-41.5
International Developed Markets Equity Assets	24.9	1.4	-0.8	-8.7	21.2	15.0	-14.1	10.6	34.1	-40.0
MSCI EAFE	25.0	1.0	-0.8	-4.9	22.8	17.3	-12.1	7.8	31.8	-43.4
Rhumbline MSCI EAFE Index (net)	24.9	1.4	-0.8	--	--	--	--	--	--	--
MSCI EAFE	25.0	1.0	-0.8	-4.9	22.8	17.3	-12.1	7.8	31.8	-43.4
International Emerging Markets Equity Assets	39.7	9.4	-12.7	--	--	--	--	--	--	--
MSCI Emerging Markets	37.3	11.2	-14.9	-2.2	-2.6	18.2	-18.4	18.9	78.5	-53.3
DFA Emerging Markets (net)	36.6	12.4	-14.9	--	--	--	--	--	--	--
MSCI Emerging Markets	37.3	11.2	-14.9	-2.2	-2.6	18.2	-18.4	18.9	78.5	-53.3

Total Retirement System

As of June 30, 2018

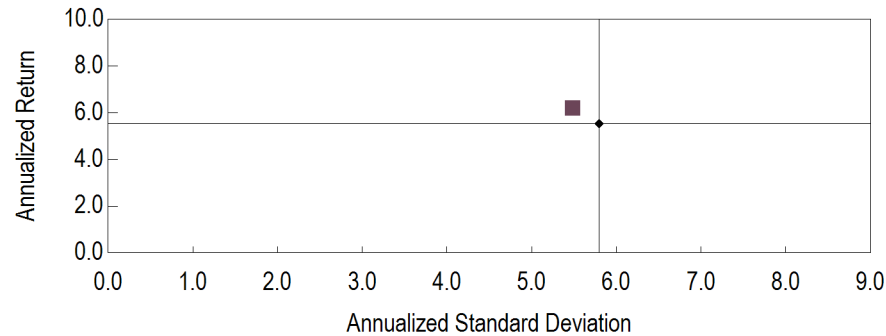
	2017 (%)	2016 (%)	2015 (%)	2014 (%)	2013 (%)	2012 (%)	2011 (%)	2010 (%)	2009 (%)	2008 (%)
Driehaus Emerging Market Equity (net)	42.9	6.5	-10.6	--	--	--	--	--	--	--
<i>MSCI Emerging Markets</i>	37.3	11.2	-14.9	-2.2	-2.6	18.2	-18.4	18.9	78.5	-53.3
Investment Grade Bonds Assets	3.6	2.6	0.6	6.0	-2.0	4.3	7.8	6.6	6.0	5.3
<i>BBgBarc US Aggregate TR</i>	3.5	2.6	0.5	6.0	-2.0	4.2	7.8	6.5	5.9	5.2
<i>PRIT Core Fixed Income</i>	5.4	4.0	-2.0	15.2	-2.8	6.4	8.1	7.5	11.9	-5.2
SSgA U.S. Aggregate Bond Index	3.6	2.6	0.6	6.0	-2.0	4.3	7.8	6.6	6.0	5.3
<i>BBgBarc US Aggregate TR</i>	3.5	2.6	0.5	6.0	-2.0	4.2	7.8	6.5	5.9	5.2
High Yield Bond Assets	7.0	12.7	-2.3	2.9	6.4	12.4	6.0	12.8	34.3	-14.2
<i>BBgBarc US High Yield TR</i>	7.5	17.1	-4.5	2.5	7.4	15.8	5.0	15.1	58.2	-26.2
<i>PRIT Public Value-Added Fixed Income</i>	9.0	11.7	-4.7	-0.2	-1.5	14.7	5.3	13.6	39.7	-22.3
Shenkman Capital	7.2	12.7	-2.3	2.9	6.4	12.4	6.0	12.8	34.3	-14.2
<i>BBgBarc US High Yield TR</i>	7.5	17.1	-4.5	2.5	7.4	15.8	5.0	15.1	58.2	-26.2
TIPS Assets	3.0	4.7	-1.4	3.6	-8.6	6.9	13.5	6.3	11.3	-2.3
<i>BBgBarc US TIPS TR</i>	3.0	4.7	-1.4	3.6	-8.6	7.0	13.6	6.3	11.4	-2.4
SSgA TIPS Index-NL	3.0	4.7	-1.4	3.6	-8.6	6.9	13.5	6.3	11.3	-2.3
<i>BBgBarc US TIPS TR</i>	3.0	4.7	-1.4	3.6	-8.6	7.0	13.6	6.3	11.4	-2.4
Emerging Market Debt Assets	12.0	11.5	-0.8	--	--	--	--	--	--	--
<i>JP Morgan EMBI Global Diversified</i>	10.3	10.2	1.2	7.4	-5.3	17.4	7.3	12.2	29.8	-12.0
Payden Emerging Market Bond (net)	12.0	11.5	-0.8	--	--	--	--	--	--	--
<i>JP Morgan EMBI Global Diversified</i>	10.3	10.2	1.2	7.4	-5.3	17.4	7.3	12.2	29.8	-12.0

Total Retirement System

As of June 30, 2018

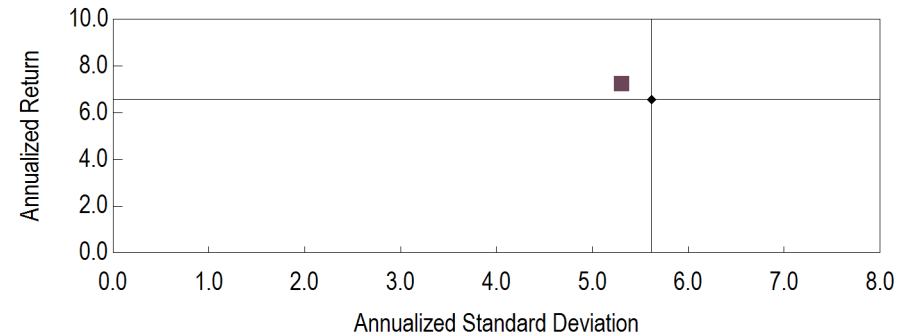
	2017 (%)	2016 (%)	2015 (%)	2014 (%)	2013 (%)	2012 (%)	2011 (%)	2010 (%)	2009 (%)	2008 (%)
Open-Ended Real Estate	7.9	9.1	15.7	13.2	12.8	10.9	18.7	19.2	-38.6	-12.5
NCREIF-ODCE	7.6	8.8	15.0	12.5	13.9	10.9	16.0	16.4	-29.8	-10.0
Clarion Partners	7.9	9.1	15.7	13.2	12.8	10.9	18.7	19.2	-38.6	-12.5
NCREIF-ODCE	7.6	8.8	15.0	12.5	13.9	10.9	16.0	16.4	-29.8	-10.0
Total Closed End Real Estate	15.1	9.5	23.8	13.3	18.8	--	--	--	--	--
NCREIF ODCE	7.6	8.8	15.0	12.5	13.9	10.9	16.0	16.4	-29.8	-10.0
Colony Realty Partners IV	15.1	9.5	23.8	13.3	--	--	--	--	--	--
NCREIF-ODCE	7.6	8.8	15.0	12.5	13.9	10.9	16.0	16.4	-29.8	-10.0
Private Equity Assets										
North American Strategic Partners 2006 (net)										
Ironsides Partnership Fund IV (net)										
Ironsides Direct Investment Fund IV (net)										
Cash										

Annualized Return vs. Annualized Standard Deviation
3 Years Ending June 30, 2018



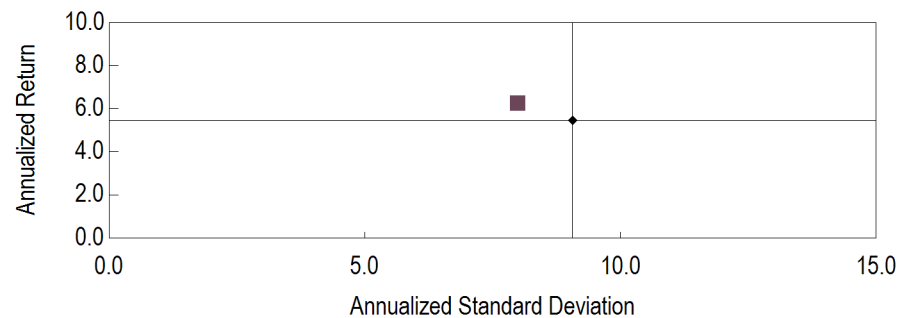
- Total Retirement System
- ◆ 55% MSCI World & 45% Barclays Aggregate

Annualized Return vs. Annualized Standard Deviation
5 Years Ending June 30, 2018



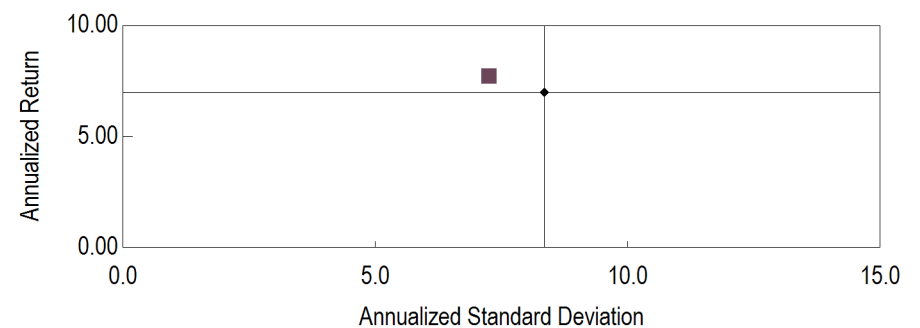
- Total Retirement System
- ◆ 55% MSCI World & 45% Barclays Aggregate

Annualized Return vs. Annualized Standard Deviation
10 Years Ending June 30, 2018



- Total Retirement System
- ◆ 55% MSCI World & 45% Barclays Aggregate

Annualized Return vs. Annualized Standard Deviation
Since Inception



- Total Retirement System
- ◆ 55% MSCI World & 45% Barclays Aggregate

As of June 30, 2018

Statistics Summary
5 Years Ending June 30, 2018

	Anlzd Return	Anlzd Standard Deviation	Information Ratio	Beta	Sharpe Ratio	Tracking Error
Total Retirement System	7.3%	5.3%	0.6	0.9	1.3	1.2%
55% MSCI World & 45% Barclays Aggregate	6.6%	5.6%	--	1.0	1.1	0.0%
Equity Assets	10.7%	9.7%	-1.2	1.0	1.1	2.2%
Russell 3000	13.3%	10.0%	--	1.0	1.3	0.0%
Domestic Equity Assets	12.7%	9.9%	-0.4	1.0	1.2	1.7%
Russell 3000	13.3%	10.0%	--	1.0	1.3	0.0%
RhumbLine S&P 500 Index	13.4%	9.8%	-0.9	1.0	1.3	0.0%
S&P 500	13.4%	9.8%	--	1.0	1.3	0.0%
Fiduciary Large Cap Equity	11.6%	9.4%	-0.5	0.9	1.2	3.4%
Russell 3000	13.3%	10.0%	--	1.0	1.3	0.0%
Frontier Capital Appreciation	12.7%	13.2%	-0.2	0.9	0.9	4.9%
Russell 2500 Growth	13.9%	13.0%	--	1.0	1.0	0.0%
International Developed Markets Equity Assets	5.4%	11.6%	-1.0	1.0	0.4	1.1%
MSCI EAFE	6.4%	11.6%	--	1.0	0.5	0.0%
Rhumblne MSCI EAFE Index	--	--	--	--	--	--
MSCI EAFE	6.4%	11.6%	--	1.0	0.5	0.0%
International Emerging Markets Equity Assets	--	--	--	--	--	--
MSCI Emerging Markets	5.0%	14.9%	--	1.0	0.3	0.0%
DFA Emerging Markets	--	--	--	--	--	--
MSCI Emerging Markets	5.0%	14.9%	--	1.0	0.3	0.0%

As of June 30, 2018

	Anlzd Return	Anlzd Standard Deviation	Information Ratio	Beta	Sharpe Ratio	Tracking Error
Driehaus Emerging Market Equity	--	--	--	--	--	--
MSCI Emerging Markets	5.0%	14.9%	--	1.0	0.3	0.0%
Investment Grade Bonds Assets	2.3%	2.7%	0.5	1.0	0.7	0.0%
BBgBarc US Aggregate TR	2.3%	2.7%	--	1.0	0.7	0.0%
SSgA U.S. Aggregate Bond Index	2.3%	2.7%	0.5	1.0	0.7	0.0%
BBgBarc US Aggregate TR	2.3%	2.7%	--	1.0	0.7	0.0%
High Yield Bond Assets	5.0%	4.6%	-0.5	0.9	1.0	1.0%
BBgBarc US High Yield TR	5.5%	5.0%	--	1.0	1.0	0.0%
Shenkman Capital	5.0%	4.6%	-0.5	0.9	1.0	1.0%
BBgBarc US High Yield TR	5.5%	5.0%	--	1.0	1.0	0.0%
TIPS Assets	1.7%	3.7%	-0.1	1.0	0.3	0.0%
BBgBarc US TIPS TR	1.7%	3.7%	--	1.0	0.3	0.0%
SSgA TIPS Index-NL	1.7%	3.7%	-0.2	1.0	0.3	0.0%
BBgBarc US TIPS TR	1.7%	3.7%	--	1.0	0.3	0.0%
Emerging Market Debt Assets	--	--	--	--	--	--
JP Morgan EMBI Global Diversified	5.1%	5.5%	--	1.0	0.9	0.0%
Payden Emerging Market Bond	--	--	--	--	--	--
JP Morgan EMBI Global Diversified	5.1%	5.5%	--	1.0	0.9	0.0%
Open-Ended Real Estate	11.5%	4.9%	0.4	1.0	2.3	1.1%
NCREIF-ODCE	11.0%	4.6%	--	1.0	2.3	0.0%
Clarion Partners	11.5%	4.9%	0.4	1.0	2.3	1.1%
NCREIF-ODCE	11.0%	4.6%	--	1.0	2.3	0.0%

Total Retirement System

As of June 30, 2018

	Anlzd Return	Anlzd Standard Deviation	Information Ratio	Beta	Sharpe Ratio	Tracking Error
Total Closed End Real Estate	16.0%	9.0%	0.8	1.5	1.7	6.2%
NCREIF ODCE	11.0%	4.6%	--	1.0	2.3	0.0%
Colony Realty Partners IV	--	--	--	--	--	--
NCREIF-ODCE	11.0%	4.6%	--	1.0	2.3	0.0%
Comerica Short Term Fund	0.2%	0.1%	-1.5	0.1	-2.7	0.2%
91 Day T-Bills	0.4%	0.2%	--	1.0	0.0	0.0%

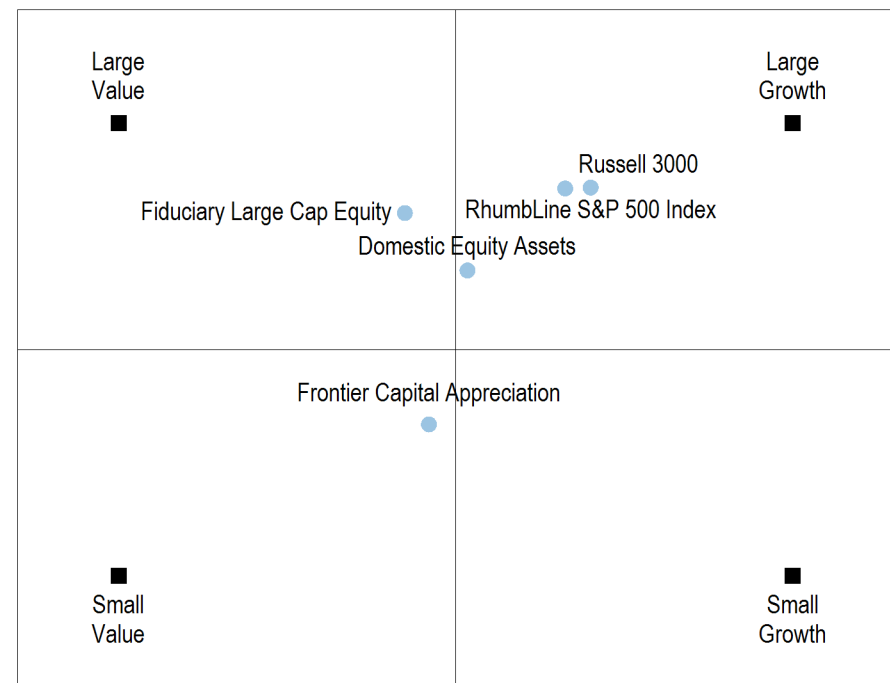
Retirement System Detail

Domestic Equity Assets

As of June 30, 2018

Asset Allocation on June 30, 2018

	Actual	Actual
Fiduciary Large Cap Equity	\$22,304,708	39.5%
Frontier Capital Appreciation	\$17,354,349	30.8%
RhumbLine S&P 500 Index	\$16,761,312	29.7%
Total	\$56,420,369	100.0%

Domestic Equity Assets Style Map
3 Years Ending June 30, 2018

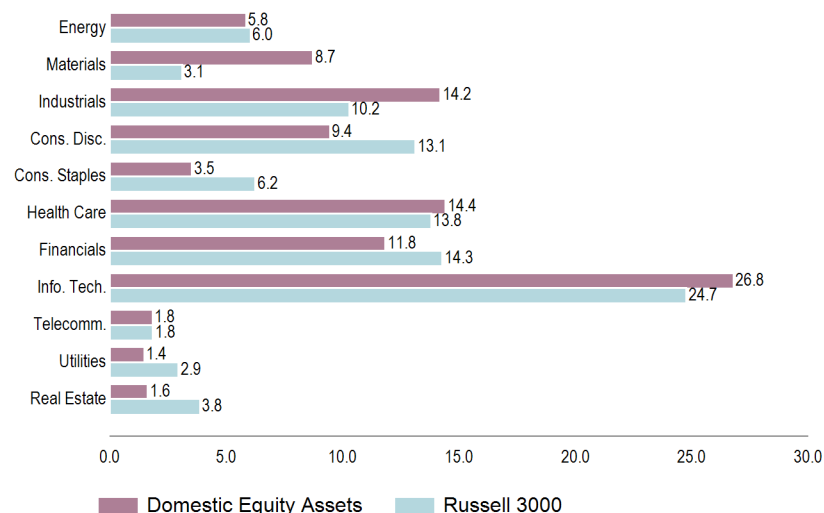
Domestic Equity Assets

As of June 30, 2018

Domestic Equity Assets Characteristics

	Portfolio Q2-18	Index Q2-18	Portfolio Q1-18
Market Value			
Market Value (\$M)	56.4	--	56.4
Number Of Holdings	632	3008	626
Characteristics			
Weighted Avg. Market Cap. (\$B)	102.7	164.7	100.5
Median Market Cap (\$B)	16.2	1.8	16.1
P/E Ratio	25.6	22.8	23.8
Yield	1.3	1.8	1.5
EPS Growth - 5 Yrs.	15.6	9.1	15.1
Price to Book	5.2	4.6	4.6
Beta (holdings; domestic)	1.2	1.0	1.1

Sector Allocation (%) vs Russell 3000



Top 10 Holdings

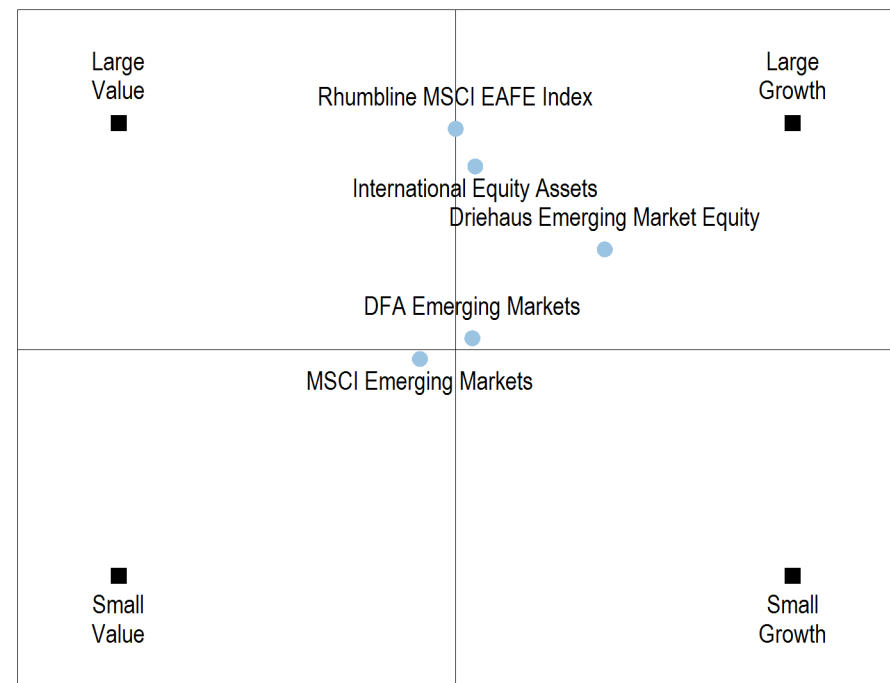
APPLE	1.9%
UNITED CONTINENTAL HDG.	1.9%
MICROSOFT	1.6%
AMAZON.COM	1.5%
INSULET	1.3%
ALLEGHENY TECHS.	1.1%
FACEBOOK CLASS A	1.0%
QORVO	0.9%
MONOLITHIC PWR.SYS.	0.9%
TANDEM DIABETES CARE	0.9%
Total	13.0%

International Equity Assets

As of June 30, 2018

Asset Allocation on June 30, 2018

	Actual	Actual
DFA Emerging Markets	\$2,896,864	11.1%
Driehaus Emerging Market Equity	\$3,099,346	11.9%
Rhumblin MSCI EAFE Index	\$20,036,197	77.0%
Total	\$26,032,407	100.0%

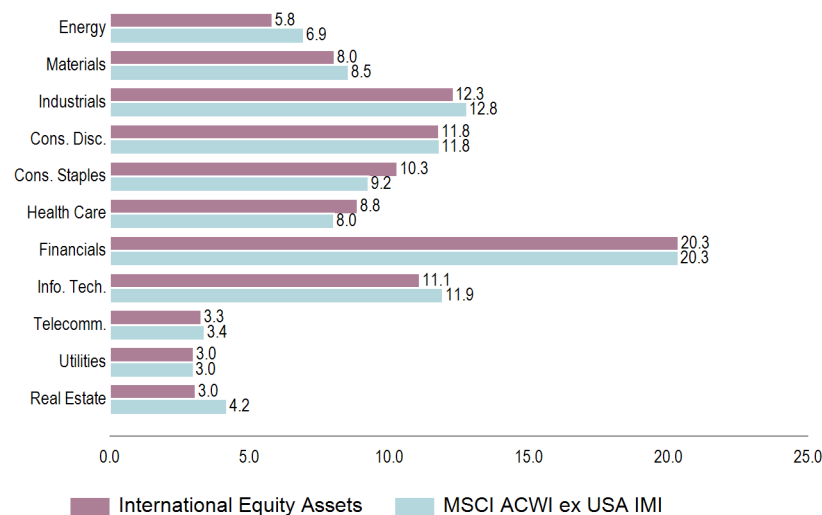
International Equity Assets Style Map
3 Years Ending June 30, 2018

International Equity Assets

As of June 30, 2018

International Equity Characteristics			
	Portfolio Q2-18	Index Q2-18	Portfolio Q1-18
Market Value			
Market Value (\$M)	26.0	--	26.8
Number Of Holdings	5933	6472	5083
Characteristics			
Weighted Avg. Market Cap. (\$B)	60.6	54.5	61.9
Median Market Cap (\$B)	0.7	1.6	0.9
P/E Ratio	21.0	19.0	19.4
Yield	3.0	2.9	3.0
EPS Growth - 5 Yrs.	10.6	10.8	10.2
Price to Book	3.2	2.6	3.2
Beta (holdings; domestic)	1.1	1.0	1.1

Sector Allocation (%) vs MSCI ACWI ex USA IMI



Top 10 Holdings

NESTLE 'R'	1.4%
CASH - USD	1.0%
HSBC HOLDINGS	1.0%
TENCENT HOLDINGS	0.9%
NOVARTIS 'R'	0.9%
AIA GROUP	0.9%
ROYAL DUTCH SHELL A(LON)	0.8%
ROCHE HOLDING	0.8%
ROYAL DUTCH SHELL B	0.8%
BP	0.8%
Total	9.4%

As of June 30, 2018

Country Allocation Report

As of 6/30/2018

Region	% of Total	% of Bench	% Diff
North America ex U.S.	0.0%	6.7%	-6.7%
United States	2.0%	0.0%	2.0%
Europe Ex U.K.	35.4%	30.4%	4.9%
United Kingdom	13.4%	12.5%	0.8%
Pacific Basin Ex Japan	12.2%	8.3%	3.9%
Japan	18.5%	17.6%	0.9%
Emerging Markets	18.0%	23.7%	-5.8%
Other	0.7%	0.7%	-0.1%
Total	100.0%	100.0%	0.0%

International Equity Assets

As of June 30, 2018

International Equity Country Allocation

vs MSCI ACWI ex USA IMI

Country	% of Total	% of Bench	% Diff
ARGENTINA	0.0%	0.0%	0.0%
AUSTRALIA	5.4%	4.9%	0.5%
AUSTRIA	0.2%	0.2%	0.0%
BAHRAIN	0.0%	0.0%	0.0%
BANGLADESH	0.0%	0.0%	0.0%
BELGIUM	0.8%	0.8%	0.0%
BRAZIL	1.5%	1.4%	0.1%
BULGARIA	0.0%	0.0%	0.0%
CANADA	0.0%	6.7%	-6.7%
CHILE	0.1%	0.3%	-0.1%
CHINA	2.5%	7.3%	-4.9%
COLOMBIA	0.1%	0.1%	-0.1%
CROATIA	0.0%	0.0%	0.0%
CZECH REPUBLIC	0.0%	0.0%	0.0%
DENMARK	1.3%	1.2%	0.1%
EGYPT	0.1%	0.0%	0.0%
ESTONIA	0.0%	0.0%	0.0%
FINLAND	0.8%	0.8%	0.0%
FRANCE	8.3%	6.8%	1.5%
GERMANY	7.2%	6.1%	1.1%
GREECE	0.0%	0.1%	-0.1%
HONG KONG	5.4%	2.4%	3.1%
HUNGARY	0.2%	0.1%	0.1%
INDIA	3.1%	2.3%	0.8%

International Equity Assets

As of June 30, 2018

Country	% of Total	% of Bench	% Diff
INDONESIA	0.5%	0.5%	0.1%
IRELAND	0.3%	0.4%	-0.1%
ISRAEL	0.3%	0.5%	-0.2%
ITALY	1.9%	1.8%	0.1%
JAPAN	18.5%	17.6%	0.9%
JORDAN	0.0%	0.0%	0.0%
KAZAKHSTAN	0.0%	0.0%	0.0%
KENYA	0.0%	0.0%	0.0%
KOREA	2.8%	3.7%	-0.9%
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	0.4%	0.6%	-0.2%
MAURITIUS	0.0%	0.0%	0.0%
MEXICO	0.7%	0.7%	0.0%
MOROCCO	0.0%	0.0%	0.0%
NETHERLANDS	3.5%	2.4%	1.1%
NEW ZEALAND	0.2%	0.2%	0.0%
NIGERIA	0.0%	0.0%	0.0%
NORWAY	0.5%	0.6%	-0.1%
OMAN	0.0%	0.0%	0.0%
OTHER	0.3%	0.0%	0.3%
PAKISTAN	0.0%	0.0%	0.0%
PERU	0.1%	0.1%	0.0%
PHILIPPINES	0.2%	0.2%	0.0%
POLAND	0.2%	0.3%	-0.1%

International Equity Assets

As of June 30, 2018

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	0.9%	0.8%	0.1%
SERBIA	0.0%	0.0%	0.0%
SINGAPORE	1.2%	0.9%	0.3%
SLOVENIA	0.0%	0.0%	0.0%
SOUTH AFRICA	1.1%	1.5%	-0.4%
SPAIN	2.4%	2.1%	0.3%
SRI LANKA	0.0%	0.0%	0.0%
SWEDEN	1.9%	2.0%	-0.1%
SWITZERLAND	6.1%	5.0%	1.1%
TAIWAN	2.8%	3.0%	-0.3%
THAILAND	0.6%	0.6%	0.0%
TUNISIA	0.0%	0.0%	0.0%
TURKEY	0.2%	0.2%	0.0%
UKRAINE	0.0%	0.0%	0.0%
UNITED ARAB EMIRATES	0.0%	0.1%	-0.1%
UNITED KINGDOM	13.4%	12.5%	0.8%
UNITED STATES	2.0%	0.0%	2.0%
VIETNAM	0.0%	0.0%	0.0%
Total	100.0%	100.0%	0.0%

Fixed Income Assets

As of June 30, 2018

Asset Allocation on June 30, 2018

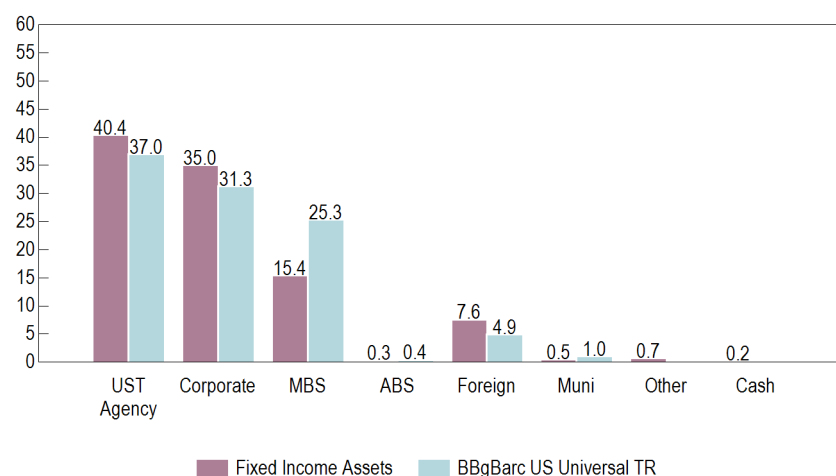
	Actual	Actual
Payden Emerging Market Bond	\$4,653,353	6.4%
Shenkman Capital	\$16,227,611	22.1%
SSgA TIPS Index-NL	\$14,716,037	20.1%
SSgA U.S. Aggregate Bond Index	\$37,673,810	51.4%
Total	\$73,270,811	100.0%

Fixed Income Characteristics

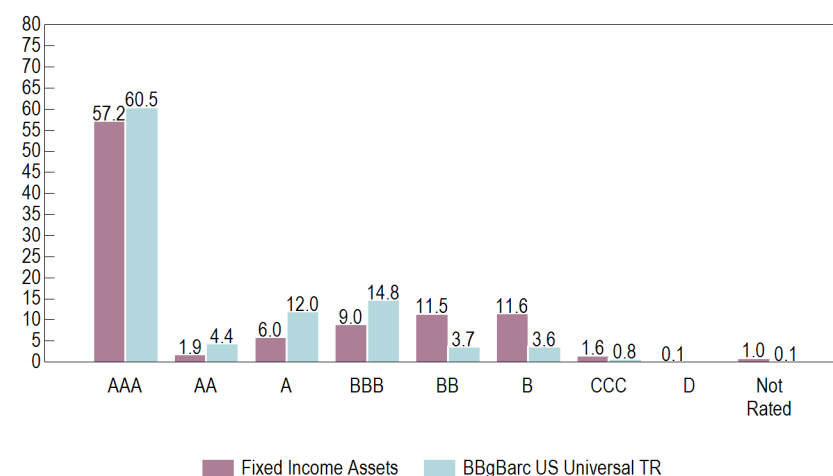
vs. BBgBarc US Universal TR

	Portfolio Q2-18	Index Q2-18	Portfolio Q1-18
Fixed Income Characteristics			
Yield to Maturity	4.2	3.7	4.0
Average Duration	5.3	5.8	5.4
Average Quality	A	AA	A
Weighted Average Maturity	8.0	12.0	8.1

Sector Allocation



Credit Quality Allocation



Portfolio Reviews

RhumbLine S&P 500 Index

As of June 30, 2018

Account Information

Account Name	RhumbLine S&P 500 Index
Account Structure	Commingled Fund
Investment Style	Passive
Inception Date	3/01/99
Account Type	US Equity
Benchmark	S&P 500
Universe	eV US Passive S&P 500 Equity Gross

Portfolio Performance Summary

	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
RhumbLine S&P 500 Index	3.4	2.6	14.4	11.9	13.4	10.2	6.2	Mar-99
S&P 500	3.4	2.6	14.4	11.9	13.4	10.2	6.2	Mar-99

Top 10 Holdings

APPLE	3.9%
MICROSOFT	3.3%
AMAZON.COM	3.0%
FACEBOOK CLASS A	2.0%
BERKSHIRE HATHAWAY 'B'	1.6%
JP MORGAN CHASE & CO.	1.5%
EXXON MOBIL	1.5%
ALPHABET 'C'	1.5%
ALPHABET A	1.5%
JOHNSON & JOHNSON	1.4%
Total	21.2%

RhumbLine S&P 500 Index Characteristics

	Portfolio Q2-18	Index Q2-18
Market Value		
Market Value (\$M)	16.8	--
Number Of Holdings	507	505
Characteristics		
Weighted Avg. Market Cap. (\$B)	199.0	198.9
Median Market Cap (\$B)	20.5	20.5
P/E Ratio	33.9	23.5
Yield	2.0	1.9
EPS Growth - 5 Yrs.	16.6	8.3
Price to Book	6.0	4.9
Beta (holdings; domestic)	1.0	1.0

Sector Distribution

Energy	6.3	6.3
Materials	2.6	2.6
Industrials	9.6	9.5
Consumer Discretionary	12.9	12.9
Consumer Staples	6.9	7.0
Health Care	14.0	14.1
Financials	13.9	13.8
Information Technology	25.9	26.0
Telecommunication Services	2.0	2.0
Utilities	2.9	2.9
Real Estate	2.8	2.9

Fiduciary Large Cap Equity

As of June 30, 2018

Account Information

Account Name	Fiduciary Large Cap Equity
Account Structure	Mutual Fund
Investment Style	Active
Inception Date	9/01/12
Account Type	US Equity
Benchmark	Russell 3000
Universe	eV US Large Cap Equity Net

Portfolio Performance Summary

	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Fiduciary Large Cap Equity	3.4	2.2	12.3	9.9	11.6	--	12.9	Sep-12
Russell 3000	3.9	3.2	14.8	11.6	13.3	10.2	14.4	Sep-12

Top Holdings as of June 30, 2018

TJX COMPANIES INC	5.35%
BERKSHIRE HATHAWAY INC B	4.77%
DOLLAR GENERAL CORP	4.71%
UNITEDHEALTH GROUP INC	4.52%
HONEYWELL INTERNATIONAL INC	4.31%
TWENTY-FIRST CENTURY FOX INC CLASS B	4.18%
JPMORGAN CHASE & CO	3.91%
EBAY INC	3.77%
ACCENTURE PLC A	3.60%
QUEST DIAGNOSTICS INC	3.54%

Fund Characteristics as of June 30, 2018

Versus Russell 3000

Sharpe Ratio (3 Year)	0.92
Average Market Cap (\$mm)	59,006.45
Price/Earnings	18.02
Price/Book	3.11
Price/Sales	1.85
Price/Cash Flow	11.69
Dividend Yield	1.85
Number of Equity Holdings	28
R-Squared (3 Year)	0.88
Alpha (3 Year)	-0.04%

Sector Allocation as of June 30, 2018

BASIC MATERIALS	5.85%
COMMUNICATION SERVICES	2.74%
CONSUMER CYCLICAL	17.73%
CONSUMER DEFENSIVE	14.56%
ENERGY	3.41%
FINANCIAL SERVICES	16.22%
HEALTHCARE	13.96%
INDUSTRIALS	13.44%
REAL ESTATE	0.00%
TECHNOLOGY	12.08%
UTILITIES	0.00%

Frontier Capital Appreciation

As of June 30, 2018

Account Information

Account Name	Frontier Capital Appreciation
Account Structure	Commingled Fund
Investment Style	Active
Inception Date	2/01/13
Account Type	US Equity
Benchmark	Russell 2500 Growth
Universe	eV US Small-Mid Cap Growth Equity Net

Portfolio Performance Summary

	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Frontier Capital Appreciation	4.4	1.6	10.7	9.0	12.7	--	13.9	Feb-13
Russell 2500 Growth	5.5	8.0	21.5	10.9	13.9	11.4	14.4	Feb-13

Top 10 Holdings

UNITED CONTINENTAL HDG.	3.7%
INSULET	2.5%
ALLEGHENY TECHS.	2.1%
QORVO	1.8%
MONOLITHIC PWR.SYS.	1.8%
TANDEM DIABETES CARE	1.8%
TUTOR PERINI	1.7%
COOPER COS.	1.6%
COGENT COMMS.HOLDINGS	1.6%
MASTEC	1.5%
Total	20.2%

Frontier Capital Appreciation Characteristics

	Portfolio Q2-18	Index Q2-18	Portfolio Q1-18
Market Value			
Market Value (\$M)	17.4	--	16.6
Number Of Holdings	142	1473	137

Characteristics

Weighted Avg. Market Cap. (\$B)	5.5	4.9	5.7
Median Market Cap (\$B)	2.9	1.3	2.8
P/E Ratio	17.0	21.4	20.5
Yield	0.7	0.6	0.9
EPS Growth - 5 Yrs.	14.0	14.5	14.6
Price to Book	3.1	6.4	3.6
Beta (holdings; domestic)	1.3	1.2	1.3

Sector Distribution

Energy	5.3	1.9	2.9
Materials	14.6	5.1	14.6
Industrials	18.6	17.1	19.1
Consumer Discretionary	6.0	16.5	5.9
Consumer Staples	0.2	2.0	0.2
Health Care	14.7	22.0	12.9
Financials	9.8	7.4	9.8
Information Technology	27.5	24.5	27.7
Telecommunication Services	1.6	0.7	1.4
Utilities	0.0	0.2	0.0
Real Estate	0.4	2.5	0.0

Rhumbline MSCI EAFE Index

As of June 30, 2018

Account Information

Account Name	Rhumbline MSCI EAFE Index
Account Structure	Commingled Fund
Investment Style	Passive
Inception Date	8/01/14
Account Type	Non-US Stock Developed
Benchmark	MSCI EAFE
Universe	eV EAFE All Cap Equity Net

Portfolio Performance Summary

	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Rhumbline MSCI EAFE Index	-0.9	-2.5	6.9	5.0	--	--	3.3	Aug-14
MSCI EAFE	-1.2	-2.7	6.8	4.9	6.4	2.8	3.1	Aug-14

Top 10 Holdings

NESTLE 'R'	1.7%
HSBC HOLDINGS	1.3%
CASH - USD	1.2%
NOVARTIS 'R'	1.2%
ROYAL DUTCH SHELL A(LON)	1.1%
ROCHE HOLDING	1.1%
ROYAL DUTCH SHELL B	1.0%
BP	1.0%
TOYOTA MOTOR	1.0%
TOTAL	1.0%
Total	11.6%

Rhumbline MSCI EAFE Index Characteristics

	Portfolio Q2-18	Index Q2-18	Portfolio Q1-18
Market Value			
Market Value (\$M)	20.0	--	20.2
Number Of Holdings	928	926	930
Characteristics			
Weighted Avg. Market Cap. (\$B)	56.9	56.3	57.3
Median Market Cap (\$B)	10.9	10.9	11.2
P/E Ratio	20.5	18.9	19.0
Yield	3.2	3.1	3.2
EPS Growth - 5 Yrs.	9.8	9.4	9.6
Price to Book	3.0	2.5	2.9
Beta (holdings; domestic)	1.1	1.0	1.1

Sector Distribution

Energy	5.9	6.1	5.2
Materials	8.0	8.1	7.9
Industrials	13.9	14.3	14.2
Consumer Discretionary	12.0	12.4	12.3
Consumer Staples	11.2	11.3	10.8
Health Care	10.2	10.6	9.9
Financials	19.6	19.8	20.6
Information Technology	6.6	6.8	6.4
Telecommunication Services	3.5	3.7	3.7
Utilities	3.2	3.3	3.2
Real Estate	3.3	3.6	3.5

DFA Emerging Markets

As of June 30, 2018

Account Information

Account Name	DFA Emerging Markets
Account Structure	Mutual Fund
Investment Style	Active
Inception Date	1/01/15
Account Type	Non-US Stock Emerging
Benchmark	MSCI Emerging Markets
Universe	eV Emg Mkt Equity Hedged Net

Portfolio Performance Summary

	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
DFA Emerging Markets	-9.9	-8.4	5.2	5.4	--	--	5.3	Jan-15
MSCI Emerging Markets	-8.0	-6.7	8.2	5.6	5.0	2.3	5.7	Jan-15

Top 10 Holdings

SAMSUNG ELECTRONICS	3.7%
TENCENT HOLDINGS	1.9%
TAIWAN SEMICON.SPN.ADR 1:5	1.4%
CASH - USD	1.2%
TAIWAN SEMICON.MNFG.	1.1%
ALIBABA GROUP HLDG.SPN. ADR 1:1	0.9%
SK HYNIX	0.9%
VALE ON	0.8%
CHINA CON.BANK 'H'	0.8%
PING AN INSURANCE (GROUP) OF CHINA 'H'	0.6%
Total	13.2%

DFA Emerging Markets Characteristics

	Portfolio Q2-18	Index Q2-18	Portfolio Q1-18
Market Value			
Market Value (\$M)	2.9	--	3.2
Number Of Holdings	4986	1138	4131

Characteristics

Weighted Avg. Market Cap. (\$B)	43.9	87.8	51.5
Median Market Cap (\$B)	0.4	5.5	0.5
P/E Ratio	19.7	19.4	19.0
Yield	2.7	2.5	2.4
EPS Growth - 5 Yrs.	11.4	14.0	10.9
Price to Book	3.1	2.6	3.5
Beta (holdings; domestic)	1.1	1.1	1.1

Sector Distribution

Energy	5.5	7.2	4.9
Materials	11.3	7.6	11.4
Industrials	8.9	5.2	8.5
Consumer Discretionary	11.0	9.7	10.7
Consumer Staples	7.6	6.6	7.0
Health Care	3.6	3.2	2.3
Financials	17.3	22.8	19.5
Information Technology	23.0	27.9	24.6
Telecommunication Services	3.6	4.3	3.9
Utilities	3.1	2.4	3.5
Real Estate	3.4	2.9	3.5

Driehaus Emerging Market Equity

As of June 30, 2018

Account Information

Account Name	Driehaus Emerging Market Equity
Account Structure	Mutual Fund
Investment Style	Active
Inception Date	1/01/15
Account Type	Non-US Stock Emerging
Benchmark	MSCI Emerging Markets
Universe	eV Emg Mkt Equity Hedged Net

Portfolio Performance Summary

	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Driehaus Emerging Market Equity	-7.6	-5.4	13.2	7.4	--	--	7.5	Jan-15
MSCI Emerging Markets	-8.0	-6.7	8.2	5.6	5.0	2.3	5.7	Jan-15

Top 10 Holdings

TENCENT HOLDINGS	6.4%
ALIBABA GROUP HLDG.SPN. ADR 1:1	4.3%
HDFC BANK ADR 1:3	4.0%
SBERBANK OF RUSSIA (LON) ADR	3.5%
SAMSUNG ELECTRONICS	3.5%
TAIWAN SEMICON.SPN.ADR 1:5	3.2%
AIA GROUP	3.1%
YANDEX	2.5%
INDL&COML.BOC.'H'	2.2%
CHINA CON.BANK 'H'	2.1%
Total	34.7%

Driehaus Emerging Market Equity Characteristics

	Portfolio Q2-18	Index Q2-18	Portfolio Q1-18
Market Value			
Market Value (\$M)	3.1	--	3.4
Number Of Holdings	91	1138	96
Characteristics			
Weighted Avg. Market Cap. (\$B)	104.2	87.8	104.2
Median Market Cap (\$B)	18.6	5.5	14.7
P/E Ratio	26.0	19.4	22.6
Yield	2.0	2.5	2.0
EPS Growth - 5 Yrs.	14.8	14.0	13.8
Price to Book	5.7	2.6	5.7
Beta (holdings; domestic)	1.1	1.1	1.2

Sector Distribution

Energy	5.3	7.2	4.7
Materials	5.0	7.6	8.5
Industrials	4.3	5.2	5.2
Consumer Discretionary	10.6	9.7	12.9
Consumer Staples	6.5	6.6	2.5
Health Care	4.4	3.2	3.3
Financials	28.7	22.8	29.1
Information Technology	30.3	27.9	28.8
Telecommunication Services	1.2	4.3	2.5
Utilities	1.1	2.4	1.0
Real Estate	0.9	2.9	0.0

SSgA U.S. Aggregate Bond Index

As of June 30, 2018

Account Information

Account Name	SSgA U.S. Aggregate Bond Index
Account Structure	Commingled Fund
Investment Style	Passive
Inception Date	5/01/01
Account Type	US Fixed Income Investment Grade
Benchmark	BBgBarc US Aggregate TR
Universe	eV US Core Fixed Inc Gross

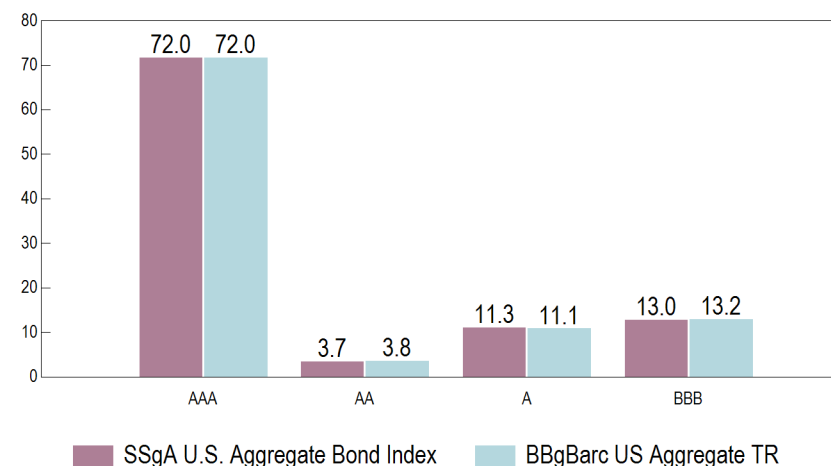
Portfolio Performance Summary

	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
SSgA U.S. Aggregate Bond Index	-0.2	-1.6	-0.4	1.7	2.3	3.7	4.5	May-01
BBgBarc US Aggregate TR	-0.2	-1.6	-0.4	1.7	2.3	3.7	4.4	May-01

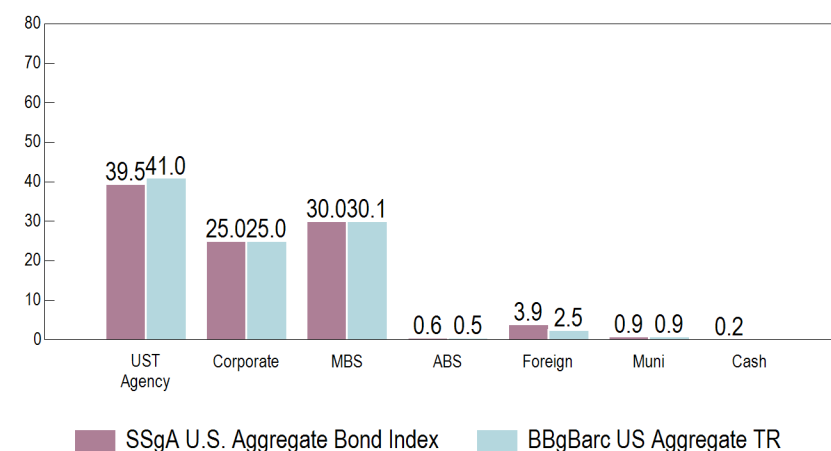
SSgA U.S. Aggregate Bond Index Characteristics
vs. BBgBarc US Aggregate TR

	Portfolio Q2-18	Index Q2-18	Portfolio Q1-18
Fixed Income Characteristics			
Yield to Maturity	3.3	3.3	3.1
Average Duration	6.0	6.0	6.1
Average Quality	AA	AA	AA
Weighted Average Maturity	8.4	13.0	8.4

Credit Quality Allocation



Sector Allocation



As of June 30, 2018

Account Information

Account Name	Shenkman Capital
Account Structure	Commingled Fund
Investment Style	Active
Inception Date	4/01/06
Account Type	US Fixed Income High Yield
Benchmark	BBgBarc US High Yield TR
Universe	eV US High Yield Fixed Inc Gross

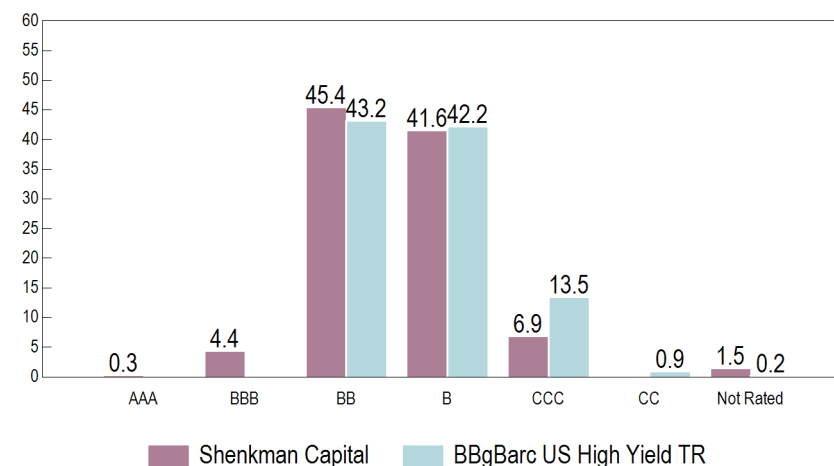
Portfolio Performance Summary

	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Shenkman Capital	0.8	0.0	2.1	4.0	5.0	7.1	6.7	Apr-06
BBgBarc US High Yield TR	1.0	0.2	2.6	5.5	5.5	8.2	7.4	Apr-06

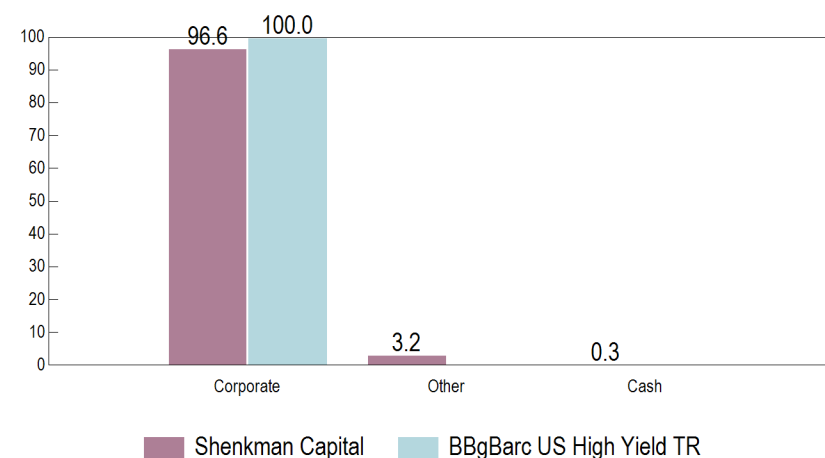
Shenkman Capital Characteristics
vs. BBgBarc US High Yield TR

	Portfolio Q2-18	Index Q2-18	Portfolio Q1-18
Fixed Income Characteristics			
Yield to Maturity	6.1	6.7	6.1
Average Duration	3.9	3.9	3.9
Average Quality	BB	B	BB
Weighted Average Maturity	5.8	6.1	6.0

Credit Quality Allocation



Sector Allocation



SSgA TIPS Index-NL

As of June 30, 2018

Account Information

Account Name	SSgA TIPS Index-NL
Account Structure	Commingled Fund
Investment Style	Passive
Inception Date	10/01/05
Account Type	US Inflation Protected Fixed
Benchmark	BBgBarc US TIPS TR
Universe	eV US TIPS / Inflation Fixed Inc Gross

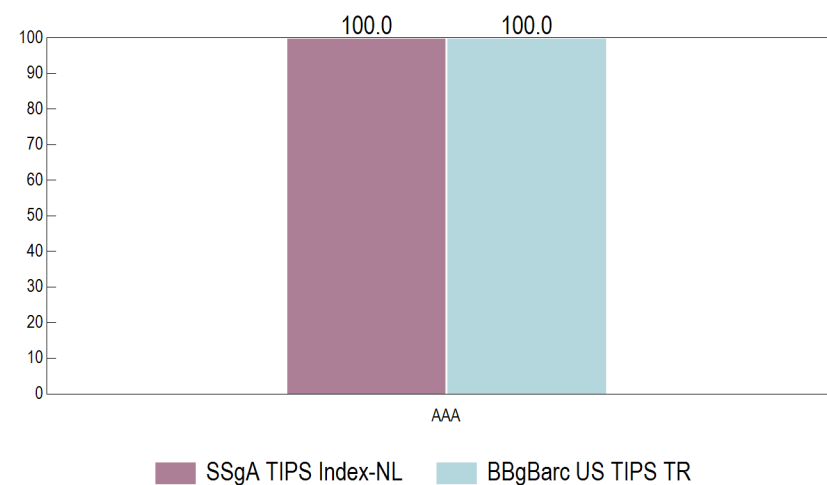
Portfolio Performance Summary

	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
SSgA TIPS Index-NL	0.8	0.0	2.1	1.9	1.7	3.0	3.7	Oct-05
BBgBarc US TIPS TR	0.8	0.0	2.1	1.9	1.7	3.0	3.7	Oct-05

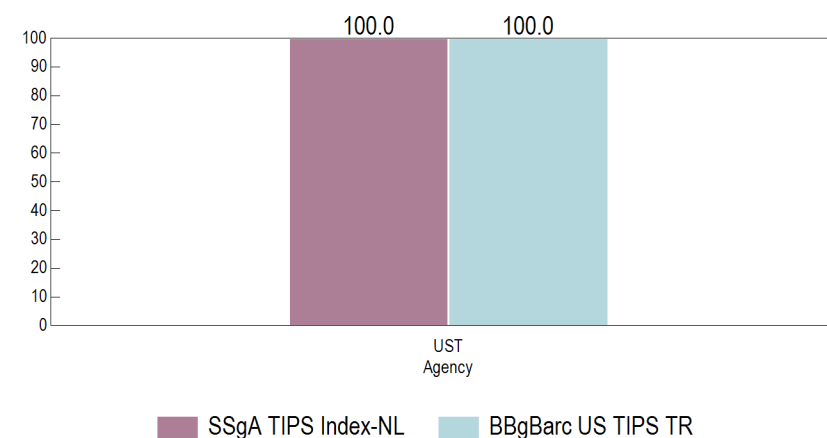
SSgA TIPS Index-NL Characteristics
vs. BBgBarc US TIPS TR

	Portfolio Q2-18	Index Q2-18	Portfolio Q1-18
Fixed Income Characteristics			
Yield to Maturity	3.0	0.7	2.8
Average Duration	4.9	4.9	5.0
Average Quality	AAA	AAA	AAA
Weighted Average Maturity	8.4	8.4	8.2

Credit Quality Allocation



Sector Allocation



Payden Emerging Market Bond

As of June 30, 2018

Account Information

Account Name	Payden Emerging Market Bond
Account Structure	Mutual Fund
Investment Style	Active
Inception Date	1/01/15
Account Type	International Emerging Market Debt
Benchmark	JP Morgan EMBI Global Diversified
Universe	eV Emg Mkt Fixed Inc Hedged Net

Portfolio Performance Summary

	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Payden Emerging Market Bond	-5.2	-6.2	-1.3	4.6	--	--	4.4	Jan-15
JP Morgan EMBI Global Diversified	-3.5	-5.2	-1.6	4.6	5.1	6.7	4.5	Jan-15

Fund Characteristics as of June 30, 2018

Versus JP Morgan EMBI Global Diversified

Sharpe Ratio (3 Year)	0.66
Average Duration	6.64
Average Coupon	6.75%
Average Effective Maturity	11.74
R-Squared (3 Year)	0.96
Alpha (3 Year)	-0.03%
Beta (3 Year)	1.08

Payden Emerging Market Bond Characteristics

vs. JP Morgan EMBI Global TR

	Portfolio Q2-18	Index Q2-18	Portfolio Q1-18
Fixed Income Characteristics			
Yield to Maturity	8.1	6.1	7.0
Average Duration	6.6	6.8	6.9
Average Quality	BB	BB	BB
Weighted Average Maturity	11.7	11.3	11.5

Fixed Income Sectors as of June 30, 2018

GOVERNMENT	72.09%
MUNICIPAL	0.00%
CORPORATE	18.77%
SECURITIZED	0.00%
CASH & EQUIVALENTS	4.55%
DERIVATIVE	4.59%

Credit Quality as of June 30, 2018

AAA	1.00%
AA	0.00%
A	2.00%
BBB	28.00%
BB	23.00%
B	41.00%
Below B	5.00%
Not Rated	0.00%

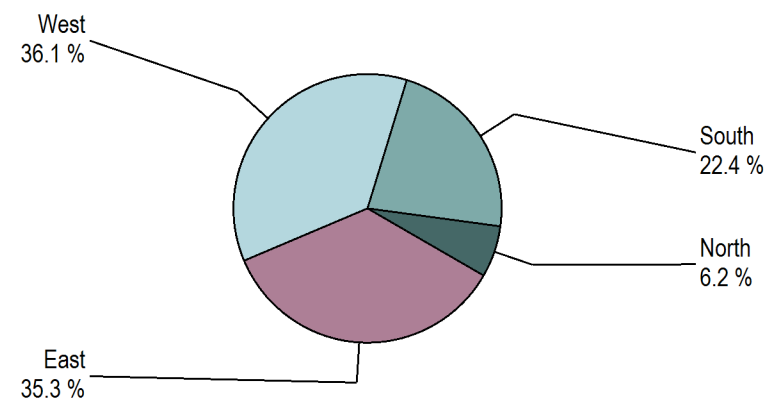
Account Information

Account Name	Clarion Partners
Account Structure	Commingled Fund
Investment Style	Active
Inception Date	10/01/02
Account Type	Real Estate
Benchmark	NCREIF-ODCE
Universe	US Real Estate Equity

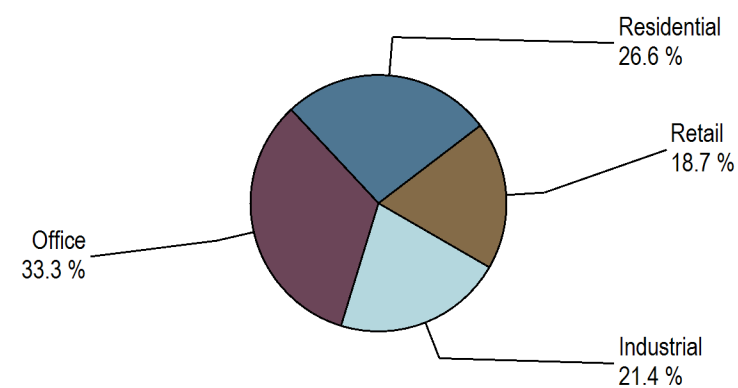
Portfolio Performance Summary

	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Clarion Partners	2.7	5.3	9.7	9.8	11.5	4.1	7.4	Oct-02
NCREIF-ODCE	2.1	4.3	8.4	9.4	11.0	5.3	8.3	Oct-02

Geographic Diversification



Property Type Allocation



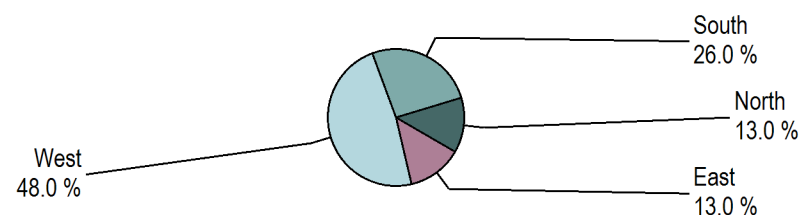
Colony Realty Partners IV

As of June 30, 2018

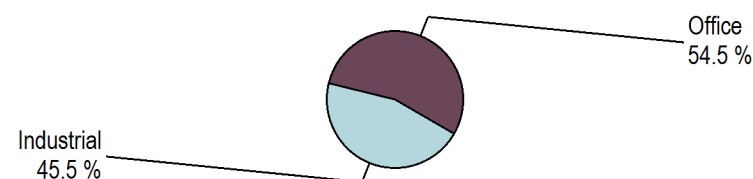
Account Information

Account Name	Colony Realty Partners IV
Account Structure	Other
Investment Style	Active
Inception Date	1/01/13
Account Type	Real Estate
Benchmark	NCREIF-ODCE
Universe	US Real Estate Equity

Geographic Diversification



Property Type Allocation



Non-Marketable Securities Overview

As of June 30, 2018

Account Type	Account	Vintage Year	Commitment	Cumulative Takedown	Cumulative Distributions	Value (RV)	Total Value (RV + Dist)	Unfunded Commitment
Real Estate	Colony Realty Partners IV	2012	\$2,000,000	\$2,162,030	\$1,382,699	\$2,016,504	\$3,399,203	-\$162,030
	Total Account		\$2,000,000	\$2,162,030	\$1,382,699	\$2,016,504	\$3,399,203	-\$162,030

Colony IV 's net IRR was 17% as of June 30, 2017. Geographic Diversification and Property Type Allocation are as of September 30th, 2017

Private Equity Assets

As of June 30, 2018

Non-Marketable Securities Overview by Account Type

As of June 30, 2018

Account Type	Account	Vintage Year	Commitment	Cumulative Takedown	Cumulative Distributions	Value (RV)	Total Value (RV + Dist)	Unfunded Commitment
Private Equity	North American Strategic Partners 2006	2006	\$4,539,998	\$4,369,826	\$3,153,215	\$1,166,159	\$4,319,374	\$170,172
	Ironsides Partnership Fund IV	2015	\$2,500,000	\$375,000	\$0	\$412,355	\$412,355	\$2,125,000
	Ironsides Direct Investment Fund IV	2015	\$2,500,000	\$2,072,929	\$0	\$2,108,697	\$2,108,697	\$427,071
	Total Account		\$9,539,998	\$6,817,754	\$3,153,215	\$3,687,211	\$6,840,426	\$2,722,244

North American Strategic Partners' net IRR was 7.5% as of September 30, 2016.



As of June 30, 2018

Annual Investment Expense Analysis
As Of June 30, 2018

Name	Fee Schedule	Market Value	Estimated Fee Value	Estimated Fee
Equity Assets		\$82,452,776		
Domestic Equity Assets		\$56,420,369		
RhumbLine S&P 500 Index	0.07% of First 25.0 Mil, 0.05% of Next 25.0 Mil, 0.04% Thereafter	\$16,761,312	\$11,733	0.07%
Fiduciary Large Cap Equity	0.85% of Assets	\$22,304,708	\$189,590	0.85%
Frontier Capital Appreciation	0.75% of Assets	\$17,354,349	\$130,158	0.75%
International Equity Assets		\$26,032,407		
International Developed Markets Equity Assets		\$20,036,197		
Rhumblin MSCI EAFE Index	0.08% of First 25.0 Mil, 0.07% of Next 25.0 Mil, 0.05% Thereafter	\$20,036,197	\$16,029	0.08%
International Emerging Markets Equity Assets		\$5,996,210		
DFA Emerging Markets	0.53% of Assets	\$2,896,864	\$15,353	0.53%
Driehaus Emerging Market Equity	1.47% of Assets	\$3,099,346	\$45,560	1.47%
Fixed Income Assets		\$73,270,811		
Investment Grade Bonds Assets		\$37,673,810		
SSgA U.S. Aggregate Bond Index	0.06% of First 50.0 Mil, 0.05% of Next 50.0 Mil, 0.04% Thereafter	\$37,673,810	\$22,604	0.06%
High Yield Bond Assets		\$16,227,611		
Shenkman Capital	0.45% of Assets	\$16,227,611	\$73,024	0.45%
TIPS Assets		\$14,716,037		
SSgA TIPS Index-NL	0.06% of Assets	\$14,716,037	\$8,830	0.06%
Emerging Market Debt Assets		\$4,653,353		
Payden Emerging Market Bond	0.75% of Assets	\$4,653,353	\$34,900	0.75%

Total Retirement System

As of June 30, 2018

Name	Fee Schedule	Market Value	Estimated Fee Value	Estimated Fee
Real Estate Assets		\$7,517,830		
Open-Ended Real Estate		\$5,501,326		
Clarion Partners	1.10% of Assets	\$5,501,326	\$60,515	1.10%
Total Closed End Real Estate		\$2,016,504		
Colony Realty Partners IV	1.5% management fee based on committed equity during the investment period and invested equity thereafter	\$2,016,504		
Private Equity Assets		\$3,687,211		
North American Strategic Partners 2006	0.8% on drawn and undrawn capital less investments sold or written off 5% carried interest, 8% preferred return	\$1,166,159		
Ironsides Partnership Fund IV	0% Management fee, 8% Preferred Return, 5% Carried Interest	\$412,355		
Ironsides Direct Investment Fund IV	0.5% Management fee, 8% Preferred Return, 15% Carried Interest	\$2,108,697		
Cash		\$331,168		
Comerica Short Term Fund		\$331,168		
Total		\$167,259,796	\$608,296	0.36%

Passive Fixed Income RFP Respondent Review

Background

- In May 2018, Meketa Investment Group issued an RFP for passive fixed income mandates in Aggregate Bonds and TIPS.
 - SSGA currently manages these mandates for the System.
- Meketa Investment Group received three responses from investment managers.
- The results of our review of responses are listed on the following pages.

RFP Respondents

Manager	Headquarters	Strategy	Overall Rating
State Street Global Advisors	Boston, MA	Aggregate Bonds & TIPS	Highly Advantageous
RhumbLine	Boston, MA	Aggregate Bonds & TIPS	Advantageous
Garcia Hamilton	Houston, TX	TIPS Only	Not Advantageous

State Street Global Advisors (SSGA)

Rating Criteria	Rating	Rationale
Overall	Highly Advantageous	
Organization	Advantageous	<ul style="list-style-type: none"> State Street Global Advisors is the investment management division of State Street Corporation (NYSE: STT), a large, publicly traded financial services and bank holding company. The firm is headquartered in Boston, MA. State Street manages \$2.7 trillion in assets across a range of passive, enhanced index, and active investment products across asset classes.
Team	Advantageous	<ul style="list-style-type: none"> SSGA's indexing teams are broadly broken down into equity and fixed income beta groups. The teams tend to be composed of a mixture of internal and external hires to allow for employees with strong operational knowledge to contribute while also incorporating new approaches. Global Equity Beta is led by Lynn Blake, a 20+ year State Street veteran with significant experience in all aspects of index management. Team turnover has been moderate and in line with industry peers.
Investment Philosophy & Process	Advantageous	<ul style="list-style-type: none"> SSGA attempts to minimize tracking error versus the benchmark subject to implementations costs across all of its strategies. Most equity strategies utilize replication to construct the portfolio while most fixed income strategies (with the arguable exclusion of TIPS) are based on optimized sampling methods. A key differentiator for SSGA is its ability to "cross trade" a significant portion of its trading volume. State Street's asset management, custodial, and broker/dealer clients provide a pool of liquidity with each other to trade securities with minimal transaction costs and significantly lowered tracking error. While the impact of cross trading is stronger in equities, SSGA retains the ability to cross trade fixed income securities as well where appropriate.
Performance	Highly Advantageous	<ul style="list-style-type: none"> Performance is consistent with the underlying benchmark. 5-year tracking error for aggregate bonds and TIPS is 2 bps for both strategies.
Fees	Highly Advantageous	<ul style="list-style-type: none"> TIPS Commingled Fund (\$5mm min): 0.04% flat non-lending, 0.03% flat with securities lending Bloomberg Barclays Aggregate Commingled Fund (\$5mm min): 0.04% flat non-lending, 0.03% flat with securities lending

RhumbLine

Rating Criteria	Rating	Rationale
Overall	Advantageous	
Organization	Highly Advantageous	<ul style="list-style-type: none"> RhumbLine is a 100% employee-owned firm established in 1992 to concentrate solely on managing passively managed strategies. It is a majority women-/minority-owned firm (53%). RhumbLine has made a dedicated effort to remove conflicts of interest from its business model – it does not engage in ancillary businesses such as securities lending.
Team	Advantageous	<ul style="list-style-type: none"> The investment team is led by Alex Ryer. Mr. Ryer has spent his entire career in passive management, starting his career at SSgA in 2000, working for RhumbLine as a portfolio manager from 2003-2005, and then following up with stints at both Northern Trust and BlackRock in quantitative research before returning to RhumbLine in 2016. He is supported by portfolio managers Julie Lind and Jeff Kusmierz, each with 15 years and 10 years of experience with the company, respectively. Investment team turnover has been extremely low, with the departure of former CIO Norm Meltz (retirement) in 2017 representing the first significant departure in a decade.
Investment Philosophy & Process	Advantageous	<ul style="list-style-type: none"> RhumbLine's investment approach is determined by a number of factors including mandate size, benchmark, client restrictions, and trading cost. All of the fixed income strategies are likely to be optimized. RhumbLine's trading approach is extremely cost-focused; the firm will continuously evaluate reductions in tracking error versus trading cost, at times incurring additional tracking error to avoid absolute losses.
Performance	Advantageous	<ul style="list-style-type: none"> While not the lowest amongst its peers, RhumbLine's tracking error for its strategies is reasonable. 5-year tracking error for aggregate bonds and TIPS is 27 bps and 22 bps, respectively.
Fees	Advantageous	<ul style="list-style-type: none"> Commingled Funds: 0.0475% on all assets in the RhumbLine Core Bond and TIPS Pooled Funds

Garcia Hamilton

Rating Criteria	Rating	Rationale
Overall	Not Advantageous	
Organization	Advantageous	<ul style="list-style-type: none"> Garcia Hamilton & Associates is a small asset management firm based in Houston, TX founded in June 1988. The firm is 100% employee-owned and is also a majority women-/minority-owned firm (91%). Garcia Hamilton predominantly manages active fixed income strategies (\$10.1 billion), having exited equity asset management in 2017 due to sizing issues (equity AUM made up < 2% of overall firm AUM). Most strategies are managed in institutional separate accounts while < 10% of assets are subadvised for a mutual fund company.
Team	Advantageous	<ul style="list-style-type: none"> Gilbert Garcia is a managing partner of Garcia Hamilton and would serve as portfolio manager for the strategy. He began his career in 1985 at Solomon Brothers, subsequently joining Cisneros Asset management Company in 1990 before leaving for Garcia Hamilton in 2002. He is supported by portfolio managers Nancy Rodriguez and Jeffrey Detwiller. Team stability has been favorable, with 4 recent additions and no significant departures in recent years.
Investment Philosophy & Process	Not Advantageous	<ul style="list-style-type: none"> Garcia Hamilton states in its response that tracking error does not drive the investment process and that while their management is benchmark aware they do not optimize their exposure or allow composition of the index to drive the investment decision making. While this approach is acceptable for an active or enhanced index strategy, it is not consistent with the RFP request for a passive indexing strategy.
Performance	Not Advantageous	<ul style="list-style-type: none"> Assessing performance is difficult, as the firm's TIPS strategy currently has no assets, with monthly returns only available from January 2009 to December 2011. While the firm's TIPS composite appears to have a longer track record, it's not clear that the composite follows an indexing strategy, as it exhibits significant tracking error and index dispersion.
Fees	Not Advantageous	<ul style="list-style-type: none"> TIPS Separate Account: 0.10%.

Summary

- Based upon our review and evaluation of each respondent, Meketa Investment Group has SSGA as highly advantageous given its strong performance and low fees. We recommend retaining SSGA for their current mandates.

Core Real Estate Search

RFP Respondents

- In December, Meketa Investment Group issued a search for a core real estate manager on behalf of City of Marlborough Contributory Retirement System.
- The Retirement System currently has exposure to Clarion Lion Properties Fund, which makes up 3.2% of the overall Retirement System.
- In order to maintain compliance with the Chapter 176 regulations, we issued this RFP to re-evaluate the core real estate universe.
- Meketa Investment Group reviewed all the responses and rated each respondent with Highly Advantageous, Advantageous, or Less Advantageous.
- The ratings are based on firm's investment team, performance, organization stability, fees, and other factors we view important.
- We highlight the two firms we rated as Highly Advantageous: Clarion and RREEF.

RFP Respondents

- 12 real estate managers responded to the RFP. All funds have total net assets under management that exceed \$1 billion as of 12/31/2017, and are well diversified with more than 30 properties.

Fund	Manager	Headquarters	Overall Score
Clarion Lion Properties Fund	Clarion Partners	New York, NY	Highly Advantageous
RREEF America REIT II	DWS	New York, NY	Highly Advantageous
TA Realty Core Property Fund	TA Realty	Boston, MA	Advantageous
AEW Core Property Trust	AEW Capital Management	Boston, MA	Advantageous
American Core Realty Fund	American Realty Advisors	Los Angeles, CA	Advantageous
GRE U.S. Property Fund	Guggenheim Real Estate	Boston, MA	Advantageous
Heitman America Real Estate Trust	Heitman	Chicago, IL	Advantageous
Intercontinental U.S. Real Estate Investment Fund	Intercontinental Real Estate Corp.	Boston, MA	Advantageous
Madison Core Property Fund	NYL Investors	New York, NY	Advantageous
Smart Markets Fund	Stockbridge Core and Value Advisors	San Francisco, CA	Advantageous
ASB Allegiance Real Estate Fund	ASB Capital Management	Bethesda, MD	Less Advantageous
MEPT Edgemoor	Bentall Kennedy	Boston, MA	Less Advantageous

- Meketa Investment Group has rated two managers as Highly Advantageous.

Clarion Lion Properties Fund

Organization	<ul style="list-style-type: none"> The firm was established in 1982. It is 18% owned by senior management, and 82% by Legg Mason. The firm is headquartered in New York, NY. Clarion Partners manages \$45.6 billion globally. Lion Properties Fund is the largest of the firm's accounts, making up \$11.2 billion of the core investment program (\$21.5 billion).
Team	<ul style="list-style-type: none"> Clarion has 293 employees responsible for the firm's North America core, value-added, and opportunistic products located across nine offices. Lion Properties Fund has 17 professionals assigned to its management. This includes 6 portfolio management professionals and 11 accounting/financial professionals. Jeb Belford is the Portfolio Manager for the strategy. Jeb, along with Assistant Portfolio Managers Jon Gelb and Christy Hill, are fully dedicated to the Fund.
Investment Philosophy & Process	<ul style="list-style-type: none"> Clarion focuses on operating substantially leased properties in strong markets; diversified across the four major property types: office, retail, industrial, and multifamily residential. The Fund favors metro areas and regions that benefit from economic sectors with the strongest job growth, including technology, life science/healthcare, education, media, and segments of the energy industry. The Fund generally employs higher leverage than the NFI-ODCE Equal Weighted Index (+2%). The Fund also expects its allocation to value-add investments to be in the 7% to 9% range for 2018. More investments in industrial (+5%), and multifamily (+2%); and less in office (-2%) compared to the NFI-ODCE Index. More investments in the East (+5%), and South (+4%); and less in the West (-6%) and Midwest (-3%) compared to the NFI-ODCE Index; 144 total investments. More investments in larger properties; 60% of investments have a gross asset value of \$100 mm or more.
Performance	<ul style="list-style-type: none"> Trailing performance has been strong, outperforming the NFI-ODCE Equal Weighted Index over the one, three, and five, and seven-year periods, but underperforming over the ten-year period.
Terms	<ul style="list-style-type: none"> 1.10% annual management fee on first \$25 mm; 0.85% on greater than \$25 million; 0.1% cash management fee.

DWS RREEF America REIT II

Organization	<ul style="list-style-type: none"> DWS is the managing arm for the private real estate division of Deutsche Bank. DWS's Private Real Estate division manages approximately \$61.2 billion in global real estate AUM, with \$12.5 billion in RREEF America REIT II. Deutsche Bank recently floated a minority stake in Deutsche Asset Management through an IPO, and rebranded Deutsche Asset Management as DWS.
Team	<ul style="list-style-type: none"> RREEF II has a dedicated portfolio management team of 6 responsible for the strategy across three major offices in New York, Chicago, and San Francisco. John Ehli and Jay Miller are co-lead portfolio managers and sit on the investment committee. In addition, the RREEF II team has access to the broader DWS real estate business platform of resources, including Research & Strategy, Global Client Group, Portfolio/Asset Management, Transactions, ESG & Sustainability and Operations. Together, there are 350 employees in DWS's private real estate business across its global platform. RREEF II has a 4 member investment committee requiring a unanimous vote to approve potential opportunities.
Investment Philosophy & Process	<ul style="list-style-type: none"> RREEF II is an actively-managed open-ended real estate commingled fund investing in low-risk core and selected moderate-risk/enhanced return income producing properties. RREEF II invests solely in the main four property types and primarily in major metropolitan markets. RREEF II completes very few development projects with 0% of NAV committed currently. RREEF II will continue to emphasize investments primarily in major gateway cities, while selectively considering "next tier" markets such as Portland and Phoenix. Of RREEF II's \$12.5 billion in gross real estate assets, ~\$1.4 billion is located in San Francisco, ~\$1.2 billion in New York, ~\$1.0 billion in Seattle, and ~\$0.9 billion in Los Angeles. 39% of the portfolio is dedicated to office assets, 19% to multifamily, 19% to retail, and 22% to industrial. Compared to the index, the fund has a slight overweight to office properties (39% vs 36%) and industrial (22% vs 16%), and a slight underweight to multifamily properties (19% vs 24%). Leverage is 18.5% which is lower than the index (21.1%).
Performance	<ul style="list-style-type: none"> RREEF II has been solid with the Fund outperforming the NFI-ODCE Equal Weighted Index over the one-year, three-year, five-year, seven-year and ten-year time horizons.
Terms	<ul style="list-style-type: none"> Annual asset management fee equal to 0.95% of the fund's NAV.

Fund Overview as of March 31, 2018

	Clarion Lion Properties Fund	DWS RREEF II	NFI-ODCE Equal Weighted Index
Fund Name	Clarion Lion Properties Fund	RREEF America REIT II ("RREEF II")	<i>Open-End Diversified Core Equity</i>
Inception Date	April 2000	October 1998 ¹	<i>March 1978</i>
Gross Market Value (\$ mm) ²	10,912	12,285	229,839
Net Asset Value (\$ mm)	9,490	10,276	190,309
Leverage Ratio (%)	23.3	18.5	22.4
Percent Leased (%)	94 ³	90	92
Number of Investors ⁴	351	294	24
External Appraisal Policy	Quarterly	Quarterly	NA
Redemption Liquidity ⁵	Quarterly	Quarterly	NA
Investment Queue (\$ mm)	\$0	\$671	NA
Queue Est. Quarters ⁶	0-1	3-4	NA

¹ The Fund was acquired by Deutsche Bank in March of 2002.

² Gross market value includes debt and minority interests. Net Asset Value reflects the fair market value of only the investors' assets.

³ Commercial Assets Only according to TA Realty.

⁴ For the NFI-ODCE Equal Weighted Index, represents the number of active funds that report to the index.

⁵ Open-end private market structures do not guarantee quarterly liquidity.

⁶ Represents the estimated number of quarters to invest all capital committed.

Portfolio Characteristics¹ as of March 31, 2018

	Clarion Lion Properties Fund	DWS RREEF II	NFI-ODCE Equal Weighted Index
Property Type Allocation: (%)			
Apartments	26	19	25
Industrial	21	22	19
Office	34	37	35
Retail	19	19	19
Hotel	-	-	1
Other	-	-	3
Geographic Allocation: (%)			
East	36	31	29
Midwest	6	8	11
West	35	45	40
South	23	15	20
Composition:			
Number of Investments	144	97	2,580
Average Investment Size (\$ mm)	\$76	\$127	\$89
Allocation: (%)			
Core	90.3	89.7	NA ²
Value-added/Non-Core	8.2	6.6	NA
Cash	1.5	3.7	2.9

¹ May not sum due to rounding

² Most funds in the NFI-ODCE tend to allocate approximately 90% to 95% to core properties and the remainder to non-core properties.

Trailing and Calendar Year Performance as of March 31, 2018¹

	Clarion Lion Properties Fund	DWS RREEF II	NFI-ODCE Equal Weighted Index
Trailing Period Returns:			
1Q 2018	2.4	2.1	2.0
1 Year	8.0	7.4	7.3
3 Years	10.0	9.4	9.3
5 Years	11.1	11.2	10.5
7 Years	11.2	11.2	10.9
10 Years	3.1	4.6	4.0
Calendar Year Returns:			
2017	8.1	6.4	6.9
2016	8.2	8.1	8.4
2015	14.7	15.7	14.2
2014	12.2	12.0	11.4
2013	11.8	14.5	12.4
2012	9.9	10.1	9.9

¹ Data shown is net of fees.



Summary

- Based upon our review and evaluation of each respondent, Meketa Investment Group has Clarion Lion as highly advantageous given its strong performance and low fees. We recommend retaining Clarion Lion for their current mandates.

Appendices

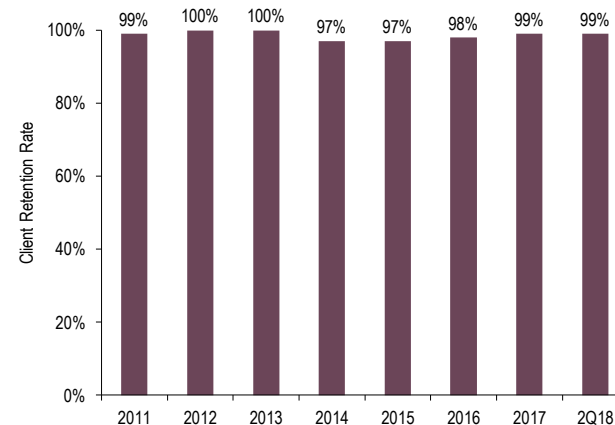
Meketa Investment Group Corporate Update

- Staff of 152, including 100 investment professionals and 32 CFA Charterholders
- 170 clients, with over 290 funds throughout the United States
- Significant investment in staff and resources
- Offices in Boston, Chicago, Miami, Portland (OR), San Diego, and London
- We advise on over \$635 billion in client assets
 - Over \$90 billion in assets committed to alternative investments
 - Private Equity ▪ Infrastructure ▪ Natural Resources
 - Real Estate ▪ Hedge Funds ▪ Commodities

Client to Consultant Ratio



Client Retention Rate¹



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

¹ Client Retention Rate is one minus the number of clients lost divided by the number of clients at prior year-end.

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

Disclaimer, Glossary, and Notes

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INFORMATION USED TO PREPARE THIS REPORT WAS OBTAINED FROM INVESTMENT MANAGERS, CUSTODIANS, AND OTHER EXTERNAL SOURCES. WHILE WE HAVE EXERCISED REASONABLE CARE IN PREPARING THIS REPORT, WE CANNOT GUARANTEE THE ACCURACY OF ALL SOURCE INFORMATION CONTAINED HEREIN.

CERTAIN INFORMATION CONTAINED IN THIS REPORT MAY CONSTITUTE "FORWARD - LOOKING STATEMENTS," WHICH CAN BE IDENTIFIED BY THE USE OF TERMINOLOGY SUCH AS "MAY," "WILL," "SHOULD," "EXPECT," "AIM," "ANTICIPATE," "TARGET," "PROJECT," "ESTIMATE," "INTEND," "CONTINUE" OR "BELIEVE," OR THE NEGATIVES THEREOF OR OTHER VARIATIONS THEREON OR COMPARABLE TERMINOLOGY. ANY FORWARD - LOOKING STATEMENTS, FORECASTS, PROJECTIONS, VALUATIONS, OR RESULTS IN THIS PRESENTATION ARE BASED UPON CURRENT ASSUMPTIONS. CHANGES TO ANY ASSUMPTIONS MAY HAVE A MATERIAL IMPACT ON FORWARD - LOOKING STATEMENTS, FORECASTS, PROJECTIONS, VALUATIONS, OR RESULTS. ACTUAL RESULTS MAY THEREFORE BE MATERIALLY DIFFERENT FROM ANY FORECASTS, PROJECTIONS, VALUATIONS, OR RESULTS IN THIS PRESENTATION.

PERFORMANCE DATA CONTAINED HEREIN REPRESENT PAST PERFORMANCE. PAST PERFORMANCE IS NO GUARANTEE OF FUTURE RESULTS.

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.

Jensen's Alpha: A measure of the average return of a portfolio or investment in excess of what is predicted by its beta or "market" risk. Portfolio Return- $[\text{Risk Free Rate} + \text{Beta} * (\text{market return} - \text{Risk Free Rate})]$.

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.