



Quarterly Investment Performance Analysis

City of Jacksonville Employees' Retirement System

Period Ended: September 30, 2019



Table of Contents

1	Capital Markets Review	Page 3
2	Total Fund	Page 10
3	Composite Profiles	Page 29
4	Investment Manager Profiles	Page 42
5	Addendum & Glossary	Page 68

Capital Markets Review

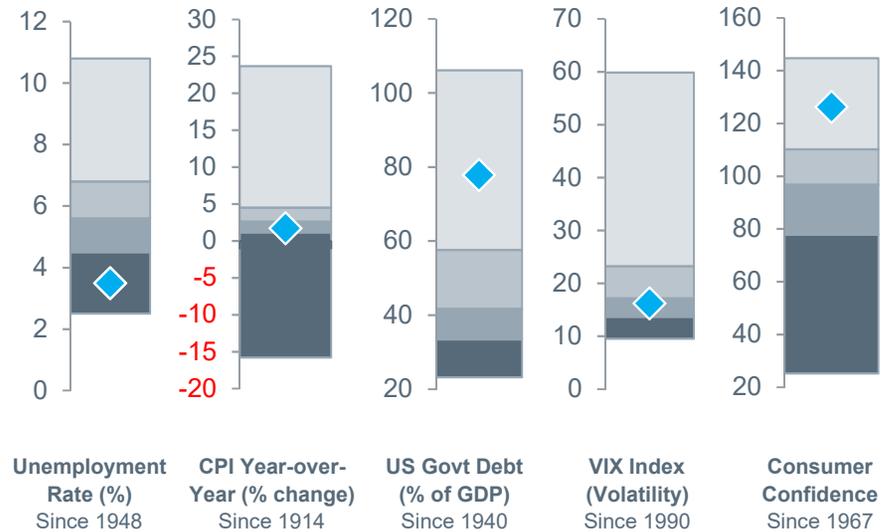


Third Quarter Economic Environment

Key Economic Indicators

Financial markets experienced bouts of volatility during Q3 as dominant market themes from the past few quarters persisted. Market participants noted that investor sentiment continued to be significantly influenced by signs of global economic weakness, geopolitical concerns largely stemming from ongoing tariffs and trade wars, and expectations for central bank policy actions. Specifically, trade tensions were cited by the International Monetary Fund as a key reason for recently lowering its estimate for global growth in 2019 from 3.2% down to 3.0%. The US equity market ended the quarter higher, while economic headwinds and conflict escalations outside the US led international equity markets lower. Yields on fixed income assets declined as growth and inflation expectations weakened. The 10-year Treasury yield reached near record lows, and the Treasury yield curve experienced continued inversion between multiple maturity points. Global central bank policy also captured investor attention during the period. The Federal Reserve took steps to mitigate developing concerns of weakening inflation and growth expectations, primarily by cutting policy rates by 0.25% at the September FOMC meeting.

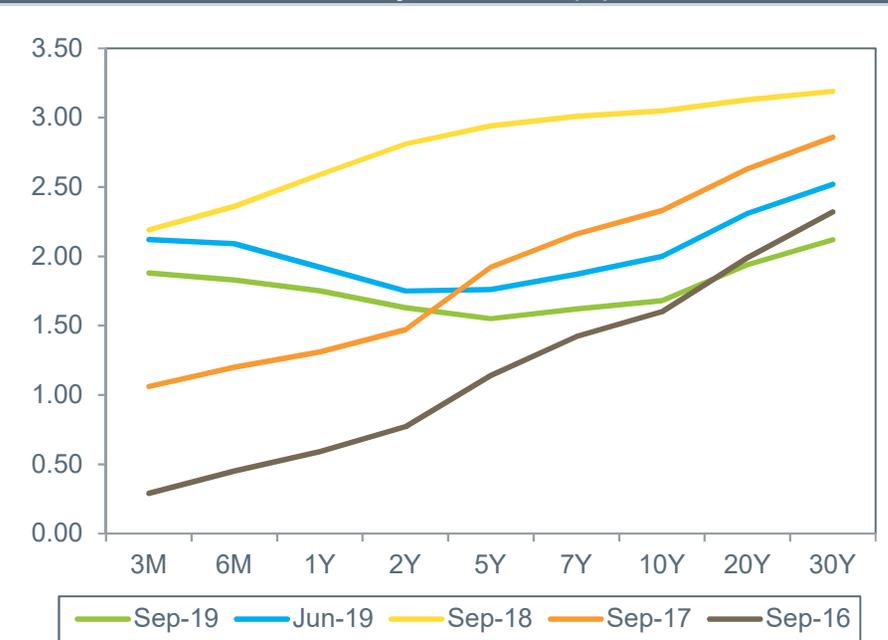
Key Economic Indicators



Economic Indicators

	Sep-19	Jun-19	Sep-18	Sep-16	20 Yr
Federal Funds Rate (%)	1.90 ▼	2.40	2.18	0.29	1.84
Breakeven Infl. - 5 Yr (%)	1.35 ▼	1.54	2.03	1.49	1.85
Breakeven Infl. - 10 Yr (%)	1.52 ▼	1.70	2.14	1.61	2.03
CPI YoY (Headline) (%)	1.7 ▲	1.6	2.3	1.5	2.2
Unemployment Rate (%)	3.5 ▼	3.7	3.7	5.0	5.9
Real GDP YoY (%)	2.0 ▼	2.3	3.1	1.6	2.2
PMI - Manufacturing	47.8 ▼	51.7	59.5	51.3	52.8
USD Total Wtd Idx	93.25 ▲	90.86	90.11	89.93	86.12
WTI Crude Oil per Barrel (\$)	54.1 ▼	58.5	73.3	48.2	61.5
Gold Spot per Oz (\$)	1,472 ▲	1,410	1,191	1,316	920

Treasury Yield Curve (%)



Market Performance (%)

	QTD	CYTD	1 Yr	5 Yr	10 Yr
S&P 500 (Cap Wtd)	1.70	20.55	4.25	10.84	13.24
Russell 2000	-2.40	14.18	-8.89	8.19	11.19
MSCI EAFE (Net)	-1.07	12.80	-1.34	3.27	4.90
MSCI EAFE SC (Net)	-0.44	12.05	-5.93	6.02	7.45
MSCI Emg Mkts (Net)	-4.25	5.90	-2.02	2.33	3.37
Bloomberg US Agg Bond	2.27	8.52	10.30	3.38	3.75
ICE BofAML 3 Mo US T-Bill	0.56	1.81	2.38	0.98	0.54
NCREIF ODCE (Gross)	1.31	3.77	5.60	9.35	10.86
FTSE NAREIT Eq REIT (TR)	7.80	26.96	18.42	10.26	13.03
HFRI FOF Comp	-0.82	5.29	0.08	1.96	2.68
Bloomberg Cmdbt (TR)	-1.84	3.13	-6.57	-7.18	-4.32

Third Quarter Review

Broad Market

US markets saw varied results during Q3 amid ongoing economic growth concerns, uncertainty surrounding US-China trade negotiations, and political risks spurred by the recently announced impeachment proceedings. The month of September was positive for most indexes, as key economic fundamentals continued to be reported at better than expected levels.

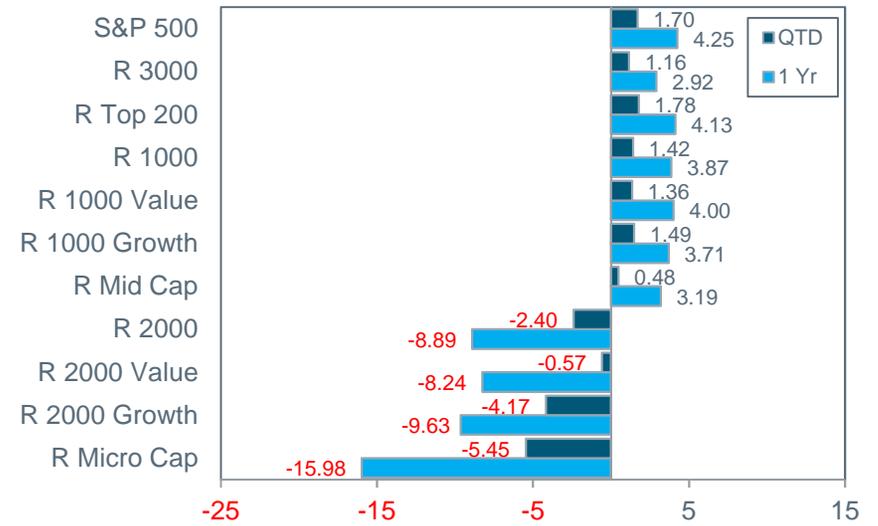
Market Cap

Large-cap stocks were the only size segment to experience positive returns across all styles, with the S&P 500 Index returning 1.7%. Conversely, small-cap markets saw negative returns across all styles, with the Russell 2000 Index returning -2.4%.

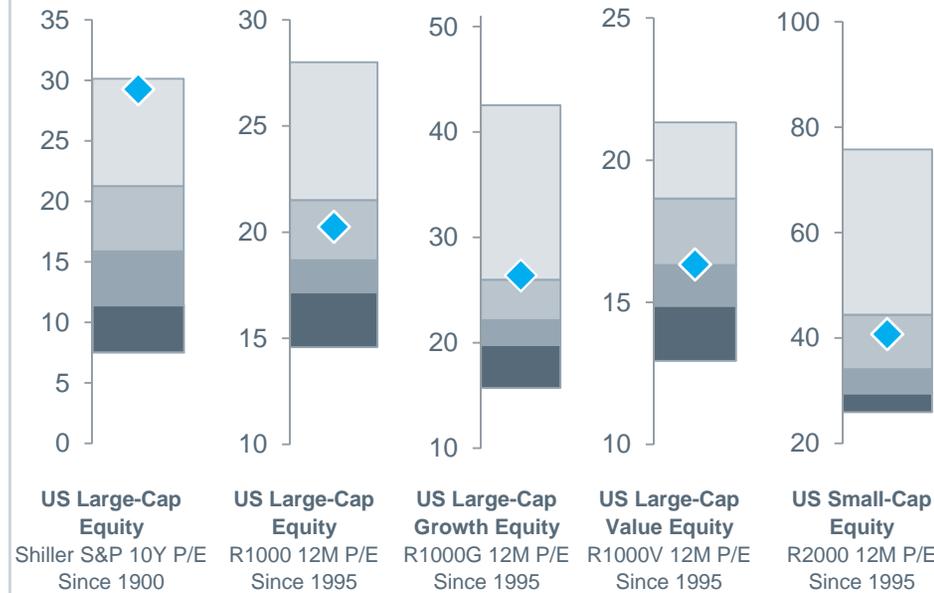
Style and Sector

Despite positive performance across large-cap indexes, active management generally struggled in this segment during the quarter. In addition, core and value-tilted managers performed relatively better than growth managers.

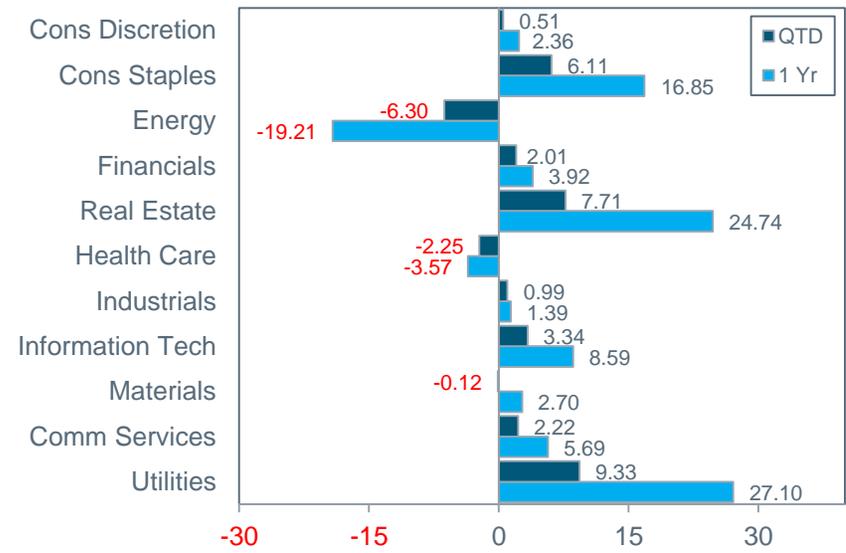
Style and Capitalization Market Performance (%)



Valuations



S&P 500 Index Sector Performance (%)



Valuation data courtesy of Bloomberg Professional Service and Robert J. Shiller, Irrational Exuberance, Second Edition. P/E metrics shown represent the 5th through 95th percentiles to minimize the effect of outliers.



Third Quarter Review

Developed Markets

Developed international equity markets finished Q3 in negative territory, in contrast to the US market. Japan provided the highest positive returns, as second quarter growth figures announced in August revealed that it had grown at an annualized rate of 1.8%, which easily beat estimates. On the other hand, weakness in manufacturing drove the Purchasing Managers Index in Europe to its lowest level since 2013.

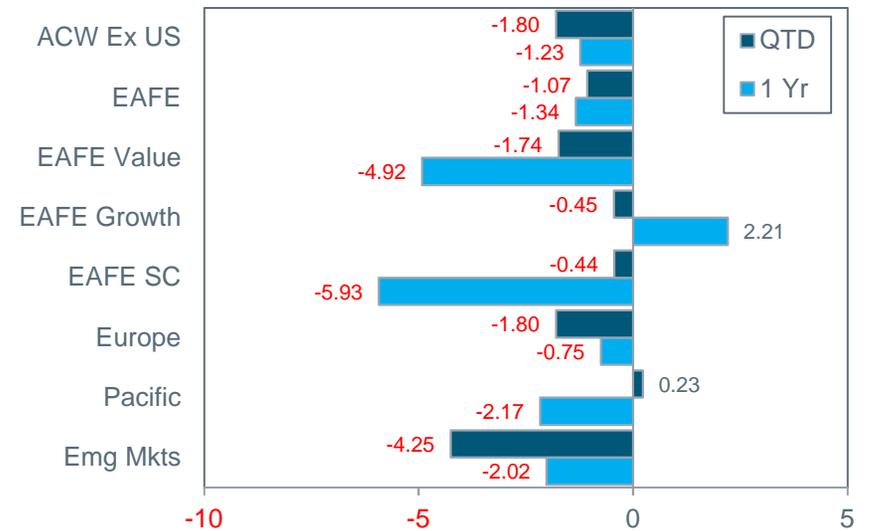
Emerging Markets

Emerging markets fared worse than developed markets during the quarter. Returns continue to be driven by trade tensions between the US and China, and market trends reversed numerous times in reaction to new tariff announcements and indications of short-term postponement.

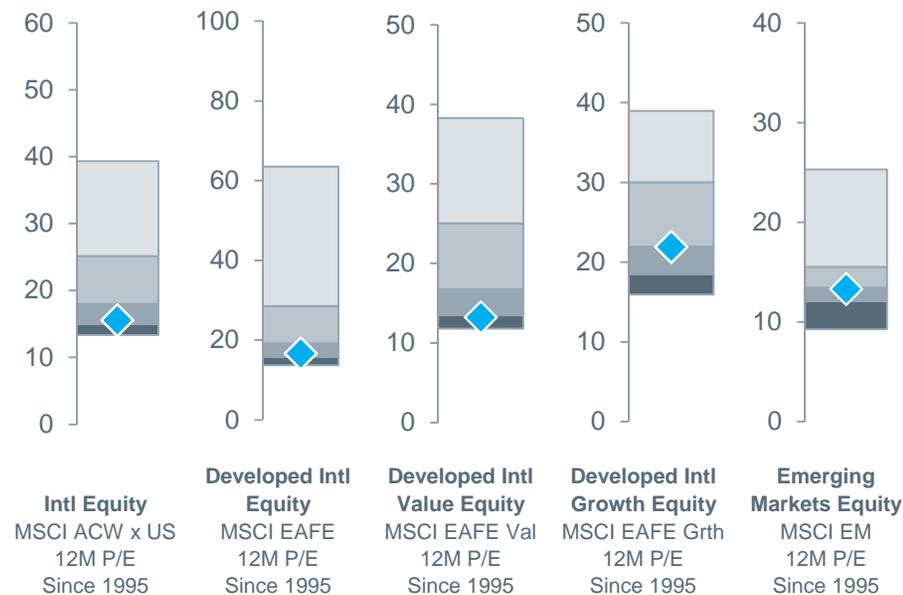
Market Cap & Style

During the quarter, value stocks continued to underperform growth stocks, and small-cap stocks outperformed their larger counterparts, in both the developed international markets and emerging markets.

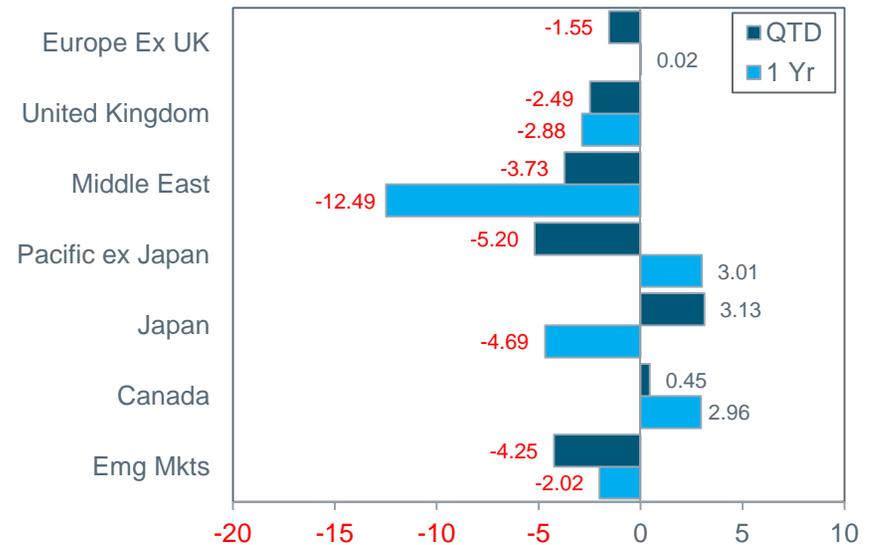
MSCI Style and Capitalization Market Performance (%)



Valuations



MSCI Region Performance (%)



Valuation data courtesy of Bloomberg Professional Service.

P/E metrics shown represent the 5th through 95th percentiles to minimize the effect of outliers. All returns are shown net of foreign taxes on dividends.



Third Quarter Review

Broad Market

Bonds registered another strong quarter, with the Bloomberg US Aggregate Bond Index returning 2.3% for Q3. US Treasury yields fell across the curve, most notably in the longer-dated maturities. Concerns for economic growth increased investor focus on the behavior between shorter- and longer-term maturities along the Treasury yield curve. The spread between 2- and 10-year US Treasury maturities ended August 27th in negative territory.

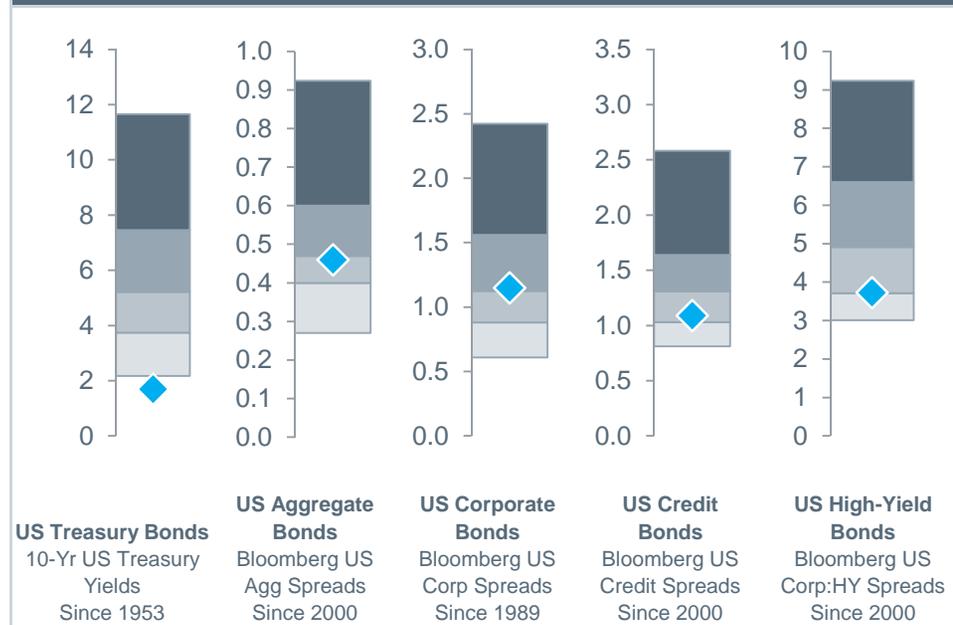
Credit Market

US investment-grade corporate spreads were volatile over the quarter, yet they ended exactly where they began. With assistance from the decline in Treasury rates, the Bloomberg US Corporate Index returned 3.1%.

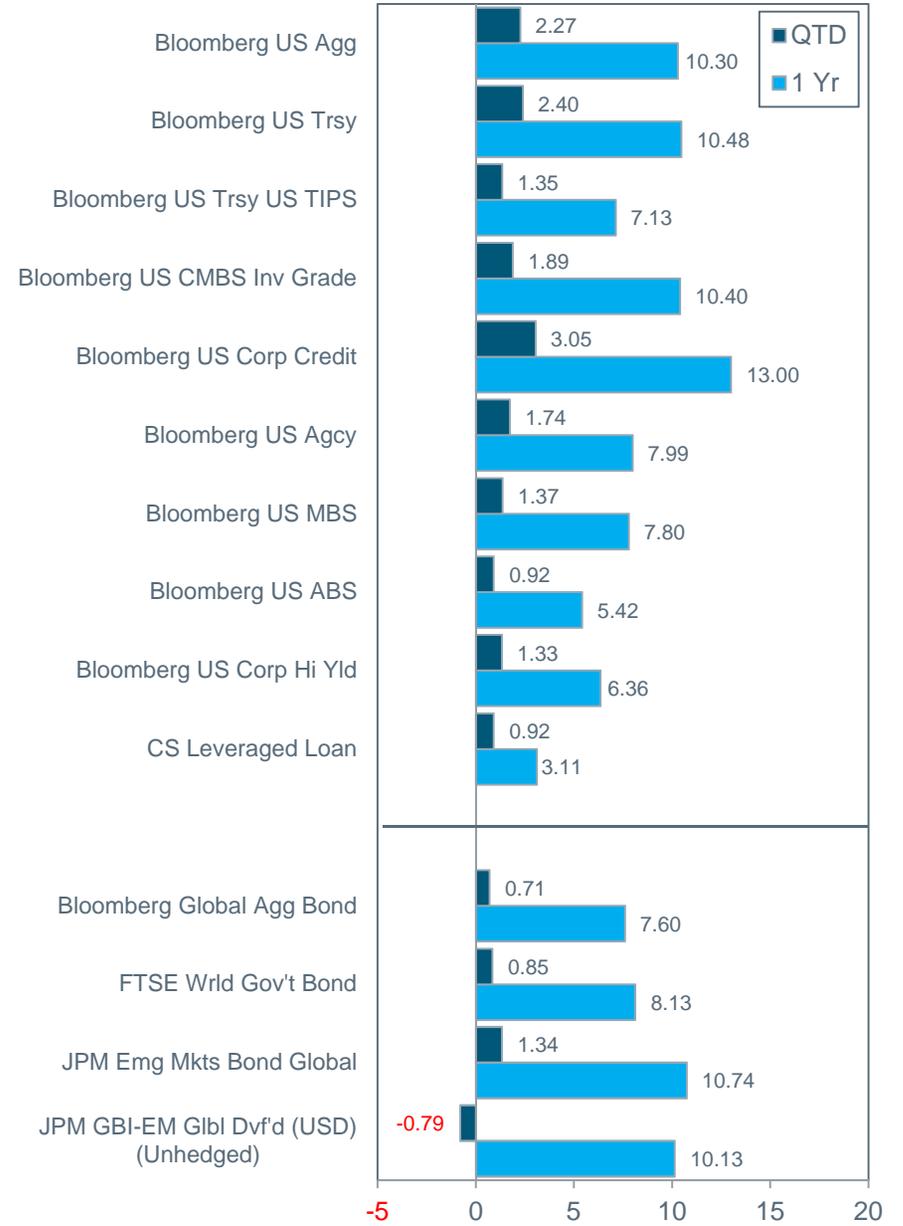
Emerging Market Debt

Hard currency emerging market debt continued to add to the gains experienced during Q1 and Q2 of 2019. Country specific risks heavily impacted certain pockets of the asset class in Q3, however the hard currency JPM EMBI Global Diversified Index still generated positive returns of 1.5%.

Valuations



Fixed Income Performance (%)



Valuation data courtesy of Bloomberg Professional Service. Valuations shown represent the 5th through 95th percentiles to minimize the effect of outliers.



Third Quarter Review - Absolute Return

General Market - Hedge Funds

Following the industry’s best first half performance since 2009, hedge funds produced lackluster returns during Q3, albeit with considerable dispersion across strategies. The Fund of Hedge Funds (“FoHF”) strategies RVK follows closely produced returns between 0% and -1% during the quarter with year-to-date returns ranging from 3.0% to 8.0%.

General Market - Global Tactical Asset Allocation (GTAA)

GTAA managers posted mixed and wide-ranging returns during Q3—both on an absolute basis and relative to a blend of 60% US equity and 40% US fixed income. Managers that saw positive returns, both on an absolute basis and relative to peers, generally held higher dedicated allocations to large-cap US equity markets. Other strategies that performed well against peers included managers with more idiosyncratic positions within international developed or emerging market currency, credit, and interest rates.

Third Quarter Review - Real Assets

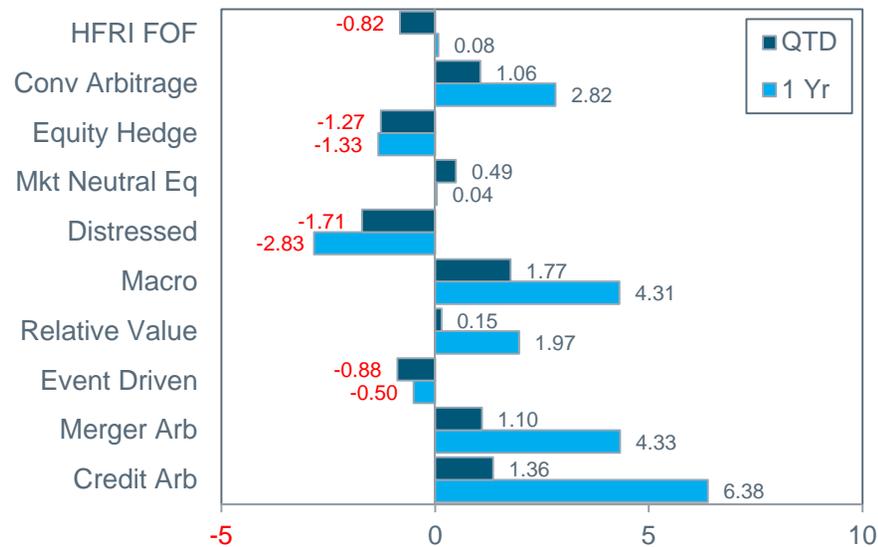
General Market - Diversified Inflation Strategies (DIS)

Most DIS managers posted positive absolute returns during Q3. Performance ranged widely amongst managers RVK tracks and was once again bifurcated with the stronger performing managers generally having significantly larger allocations to REITs and, to a lesser extent, global listed infrastructure. Both of those asset classes saw positive returns during Q3 and have seen strong returns so far in 2019.

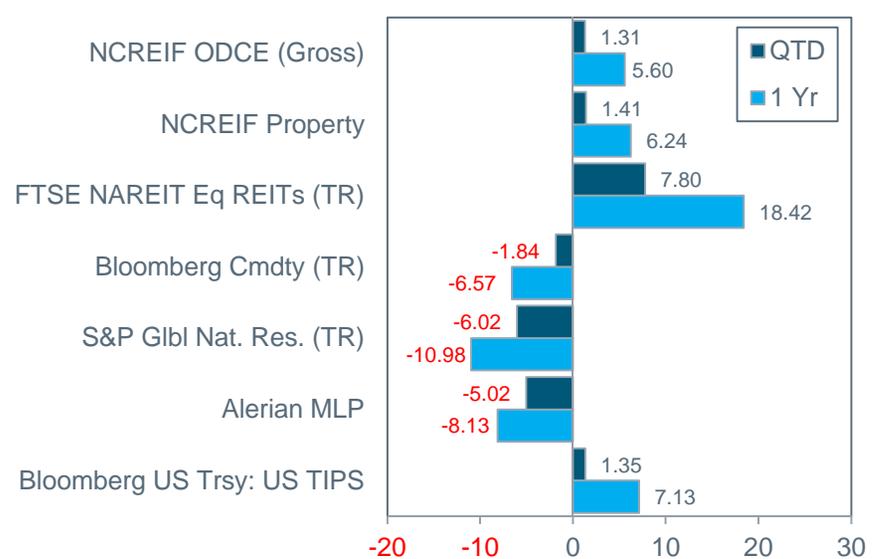
General Market - Real Estate

Core private real estate returned 1.3% during Q3, as reported by the NCREIF-ODCE Index, with the total gross return comprised of 1.1% income and 0.3% price appreciation. While the income component remained in-line with historical levels, price appreciation increased by 26 basis points from the prior quarter. Investors in publicly traded real estate significantly outperformed their private market counterparts, returning 7.2% during the quarter, as measured by the FTSE/NAREIT All REITs Index.

HFRI Hedge Fund Performance (%)



Real Asset Performance (%)



Annual Asset Class Performance

As of September 30, 2019

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	YTD
Best	34.00	35.03	39.38	8.44	78.51	27.94	22.49	20.00	38.82	30.14	15.02	21.31	37.28	8.35	26.96
	26.19	32.18	16.23	5.24	58.21	26.85	15.99	18.23	32.39	19.31	9.59	17.13	33.01	1.87	20.93
	21.39	26.34	15.97	2.06	46.78	22.04	13.56	18.06	29.30	13.69	3.20	11.96	25.03	0.01	20.55
	21.36	19.31	11.63	-2.35	31.78	18.88	8.29	17.32	22.78	12.50	1.38	11.77	21.83	-1.26	14.18
	13.54	18.37	11.17	-10.01	28.01	16.83	7.84	16.35	13.94	5.97	0.55	11.19	14.65	-2.08	12.80
	12.17	16.32	10.25	-21.37	27.17	16.36	4.98	16.00	8.96	4.89	0.05	8.77	10.71	-4.02	12.05
	7.49	15.79	6.97	-26.16	26.46	15.12	2.11	15.81	7.44	3.64	-0.27	8.52	7.77	-4.38	11.41
	5.34	11.86	6.60	-33.79	18.91	15.06	0.10	10.94	2.47	3.37	-0.81	6.67	7.62	-4.62	8.52
	4.91	10.39	5.49	-35.65	11.47	10.16	-4.18	8.78	0.07	2.45	-1.44	4.68	7.50	-4.68	7.58
	4.55	4.85	5.00	-37.00	11.41	7.75	-5.72	6.98	-2.02	0.04	-3.30	2.65	5.23	-11.01	5.90
	3.07	4.34	1.87	-37.74	5.93	6.54	-12.14	4.79	-2.60	-2.19	-4.41	2.18	3.54	-11.25	5.29
	2.84	2.72	1.45	-43.33	1.92	6.31	-13.32	4.21	-8.61	-4.90	-4.47	1.00	3.01	-13.79	3.77
	2.74	2.07	-1.57	-47.01	0.21	5.70	-15.94	0.11	-8.83	-4.95	-14.92	0.51	1.70	-14.58	3.13
Worst	2.43	0.49	-15.70	-53.33	-29.76	0.13	-18.42	-1.06	-9.52	-17.01	-24.66	0.33	0.86	-17.89	1.81
	S&P 500 - US Large Cap	R 2000 - US Small Cap	MSCI EAFE (Net) - Int'l Dev.	MSCI EAFE SC (Net) - Int'l SC	MSCI EM (Net) - Int'l Emg Mkts	Bloombrg US Agg Bond - FI	Bloombrg US Corp Hi Yield - FI	Bloombrg US Trsy US TIPS - FI	Bloombrg US Gov Credit Lng - FI	NCREIF ODCE (Gross) - Real Estate	FTSE NAREIT Eq REITs Index (TR)	HFRI FOF Comp Index - ARS	Bloombrg Cmdty (TR) - Commod.	ICE BofAML 3 Mo T-Bill - Cash Equiv	

NCREIF ODCE (Gross) performance is reported quarterly; performance is shown N/A in interim-quarter months.



Total Fund



City of Jacksonville Employees' Retirement System
 Asset Allocation, Performance & Schedule of Investable Assets

As of September 30, 2019

	Allocation		Performance (%)		Allocation		Performance (%)
	Market Value (\$)	%	QTD		Market Value (\$)	%	QTD
US Equity	729,087,486	33.04	-0.08	Real Estate	384,249,542	17.41	1.45
Eagle Capital Large Cap Value (SA)	180,327,347	8.17	-1.37	Harrison Street Core Property, LP	103,461,564	4.69	1.88
Mellon Large Cap Core Index (CF)	206,573,754	9.36	1.41	PGIM Real Estate PRISA II (CF)	56,709,419	2.57	1.42
Loomis Sayles Large Cap Growth (CF)	146,324,201	6.63	-1.45	Principal US Property (CF)	121,975,882	5.53	1.67
William Blair Small Cap Value (SA)	98,144,991	4.45	-1.08	UBS Trumbull Property (CF)	100,959,291	4.58	0.70
Pinnacle Associates US SMID Cap Growth (SA)	97,717,193	4.43	0.19	Vanguard RE Idx;ETF (VNQ)	1,143,386	0.05	7.53
International Equity	495,296,851	22.45	-2.40	Diversifying Assets	146,639,476	6.65	-3.34
Silchester International Value (CF)	248,639,235	11.27	-1.38	Harvest Fund Advisors MLP (SA)	47,955,776	2.17	-5.22
Baillie Gifford EAFE (BGEFX)	127,768,812	5.79	-2.58	Tortoise Capital Advisors MLP (SA)	46,562,391	2.11	-6.30
Acadian Emerging Markets (CF)	118,888,804	5.39	-4.29	Hancock Timberland (SA)	52,121,309	2.36	1.36
Fixed Income	447,104,548	20.26	-0.16	Dreyfus Gvt Csh Mgt;Inst (DGCXX)	3,290,936	0.15	0.53
Richmond Capital Core (SA)	138,789,346	6.29	2.11	Transition Account	781,142	0.04	N/A
Taplin Canida & Habacht Intermediate Duration (SA)	136,473,705	6.19	1.18				
Franklin Templeton Global Multisector Plus (CF)	101,404,463	4.60	-5.72				
Loomis Sayles Multisector Full Discretion (CF)	70,437,034	3.19	1.42				

Schedule of Investable Assets (Total Assets)

Periods Ending	Beginning Market Value (\$)	Net Cash Flow (\$)	Gain/Loss (\$)	Ending Market Value (\$)	% Return	Unit Value
CYTD	2,107,578,103	-126,785,496	225,657,374	2,206,449,981	10.70	110.70

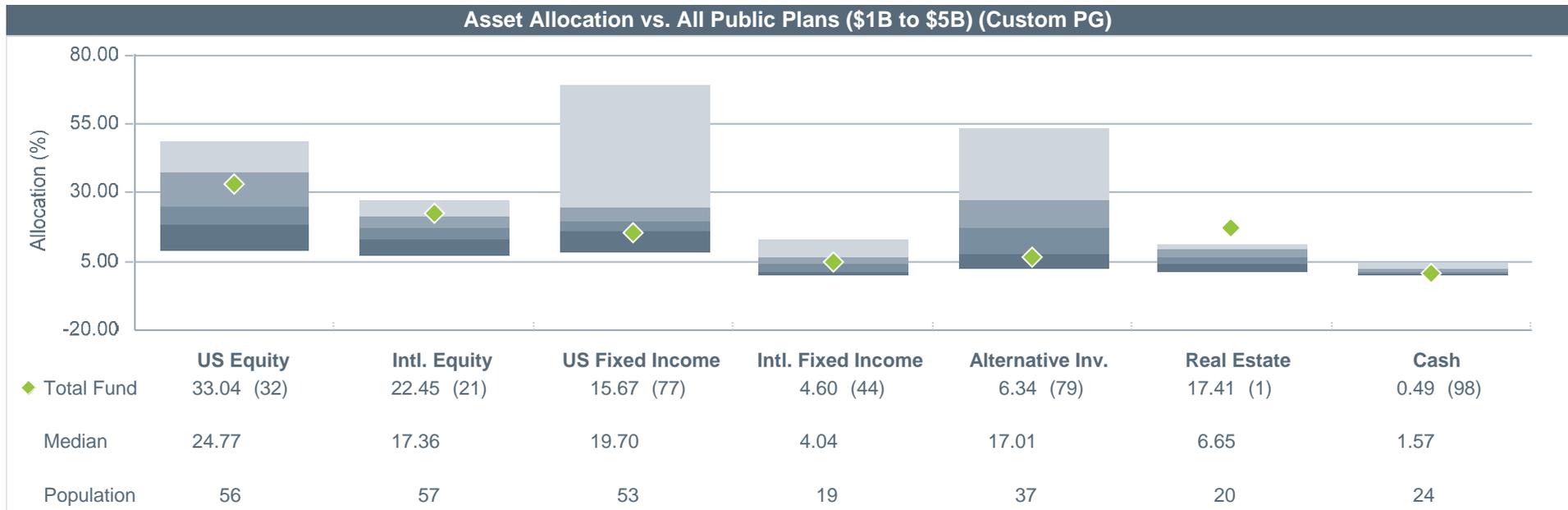
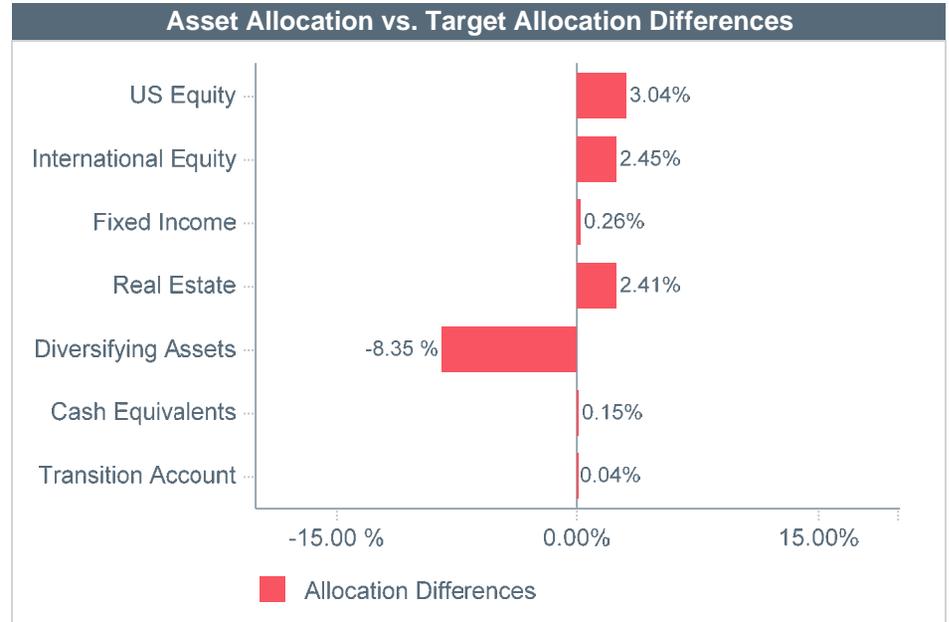
Performance shown is net of fees. Allocations shown may not sum up to 100% exactly due to rounding.



City of Jacksonville Employees' Retirement System
Total Fund vs. All Public Plans (\$1B to \$5B) (Custom PG)
Asset Allocation vs. Target and Plan Sponsor Peer Group

As of September 30, 2019

Asset Allocation vs. Target Allocation					
	Market Value (\$)	Allocation (%)	Min (%)	Target (%)	Max (%)
Total Fund	2,206,449,981	100.00	-	100.00	-
US Equity	729,087,486	33.04	20.00	30.00	40.00
International Equity	495,296,851	22.45	10.00	20.00	25.00
Fixed Income	447,104,548	20.26	10.00	20.00	30.00
Real Estate	384,249,542	17.41	0.00	15.00	20.00
Diversifying Assets	146,639,476	6.65	0.00	15.00	20.00
Cash Equivalents	3,290,936	0.15	0.00	0.00	10.00
Transition Account	781,142	0.04	0.00	0.00	0.00

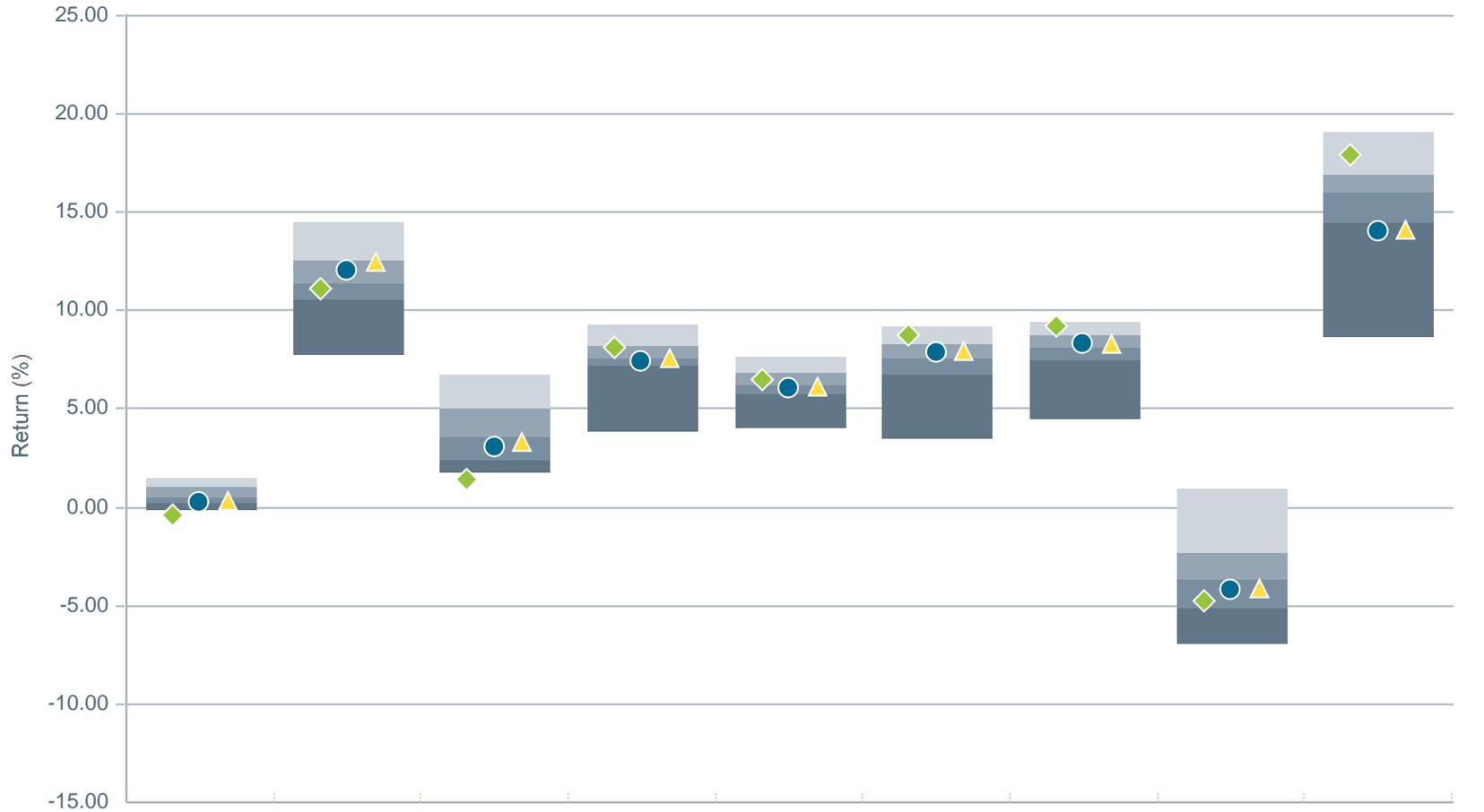


Allocations shown may not sum up to 100% exactly due to rounding. Parentheses contain percentile ranks.



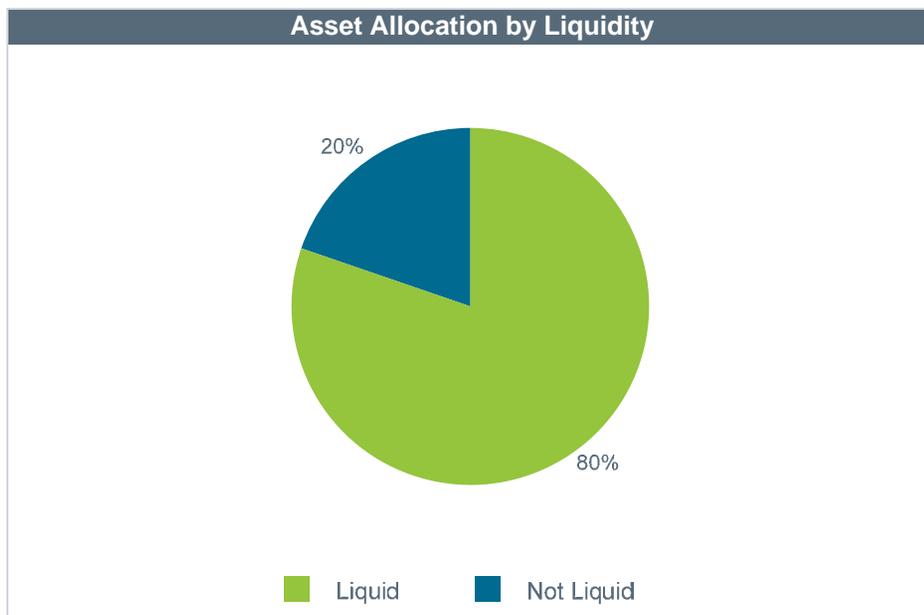
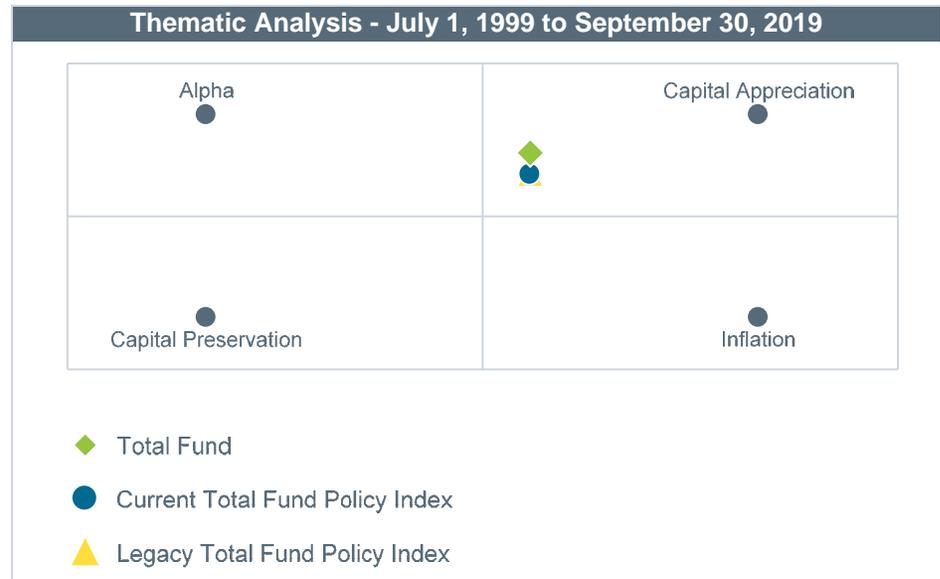
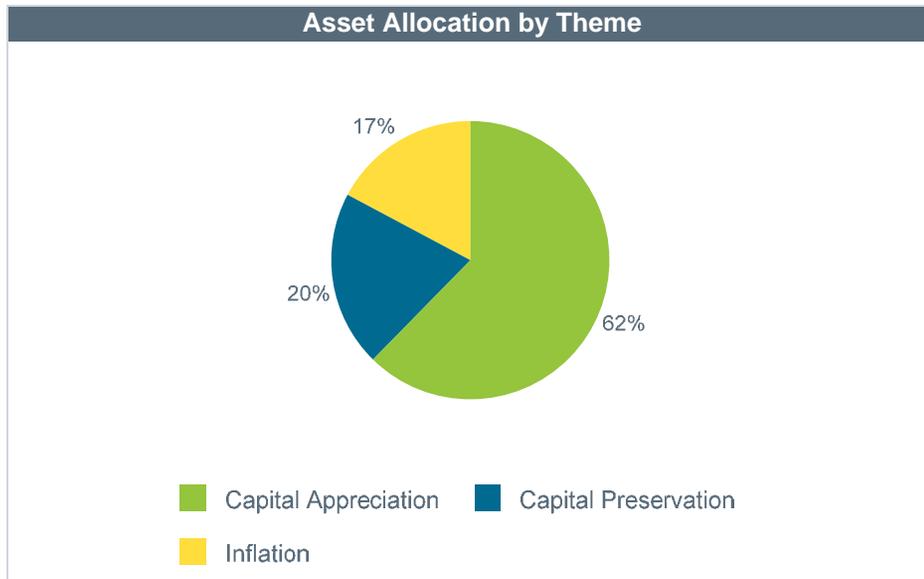
City of Jacksonville Employees' Retirement System
 Total Fund vs. All Public Plans (\$1B to \$5B) (Custom PG)
 Plan Sponsor Peer Group Analysis

As of September 30, 2019



	QTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017
◆ Total Fund	-0.44 (98)	11.15 (59)	1.40 (98)	8.14 (30)	6.47 (35)	8.79 (12)	9.24 (9)	-4.72 (70)	17.95 (13)
● Current Total Fund Policy Index	0.20 (77)	12.06 (32)	3.10 (61)	7.37 (68)	6.04 (62)	7.88 (42)	8.27 (40)	-4.24 (66)	14.00 (83)
▲ Legacy Total Fund Policy Index	0.37 (66)	12.51 (26)	3.37 (55)	7.57 (54)	6.15 (56)	7.96 (36)	8.33 (37)	-4.16 (64)	14.07 (82)
5th Percentile	1.47	14.49	6.76	9.33	7.69	9.23	9.42	0.98	19.14
1st Quartile	1.04	12.55	5.05	8.26	6.84	8.28	8.73	-2.33	16.95
Median	0.54	11.41	3.63	7.60	6.23	7.58	8.17	-3.64	15.98
3rd Quartile	0.24	10.61	2.41	7.21	5.76	6.78	7.50	-5.15	14.52
95th Percentile	-0.08	7.73	1.78	3.82	4.03	3.49	4.53	-6.96	8.63

Performance shown is gross of fees. Parentheses contain percentile ranks.



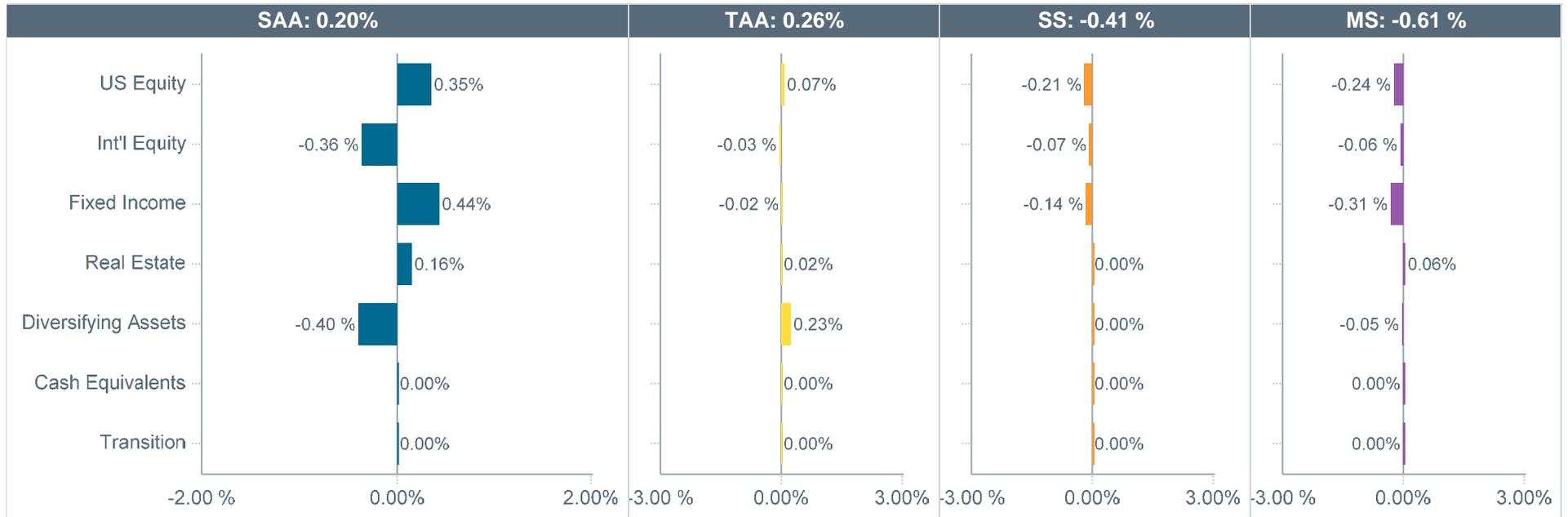
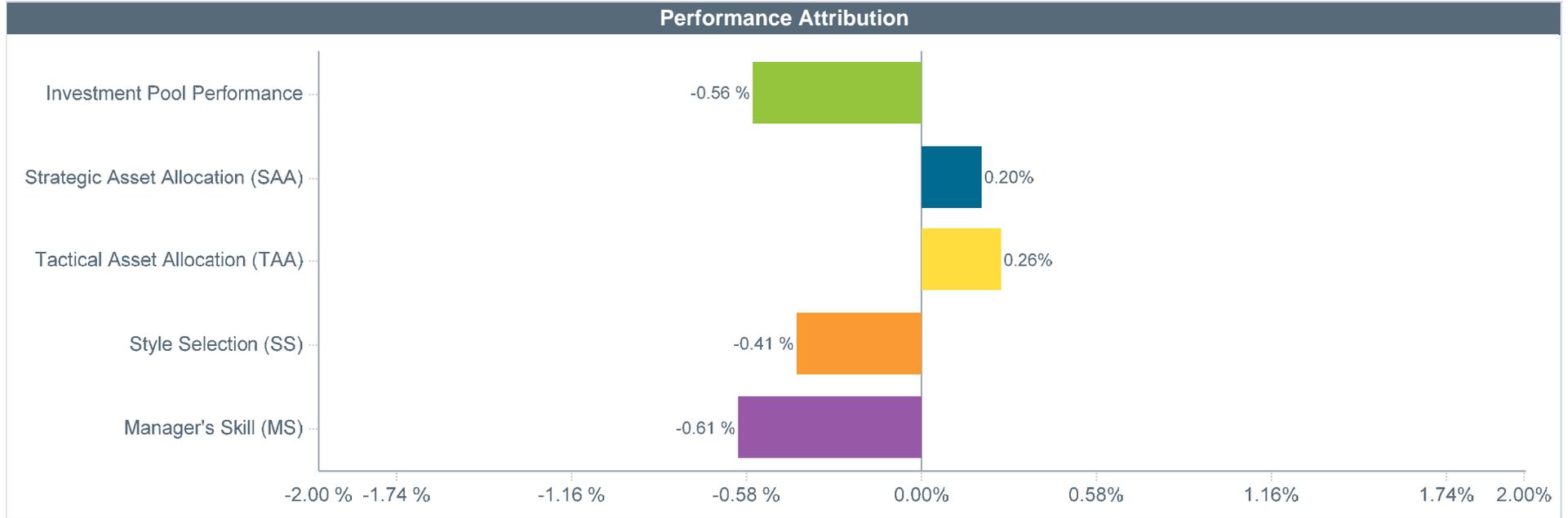
Correlation Matrix - 10 Years

	A	B	C	D
A	1.00			
B	0.68	1.00		
C	-0.29	-0.38	1.00	
D	0.53	0.77	-0.01	1.00

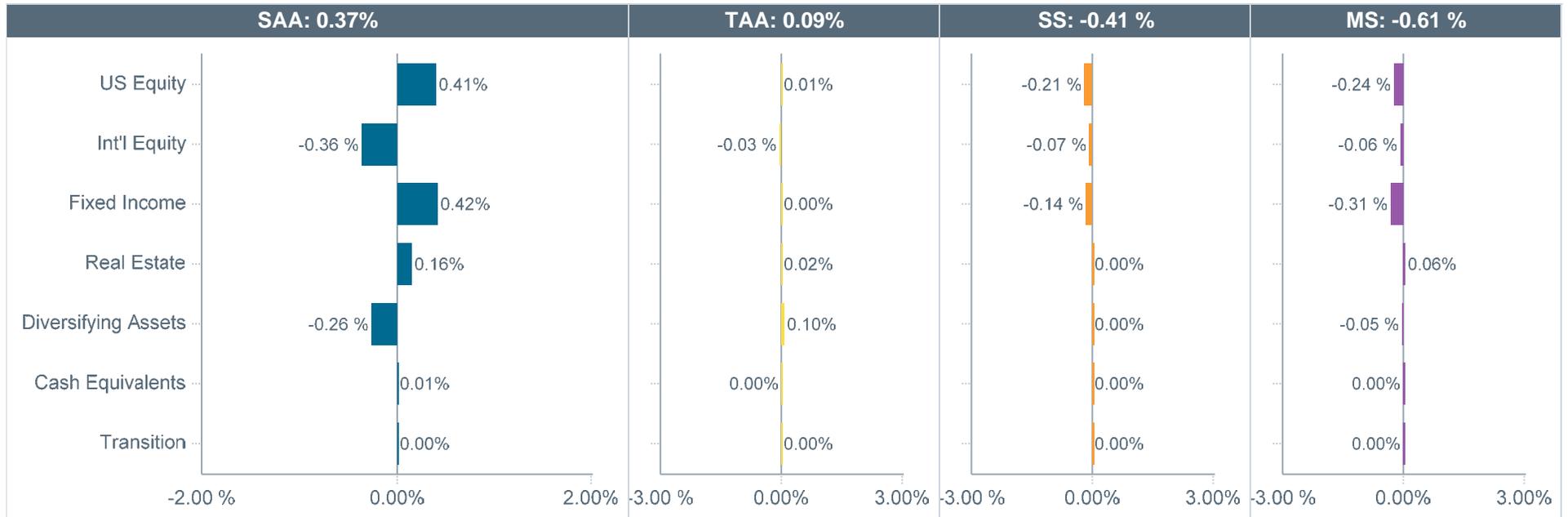
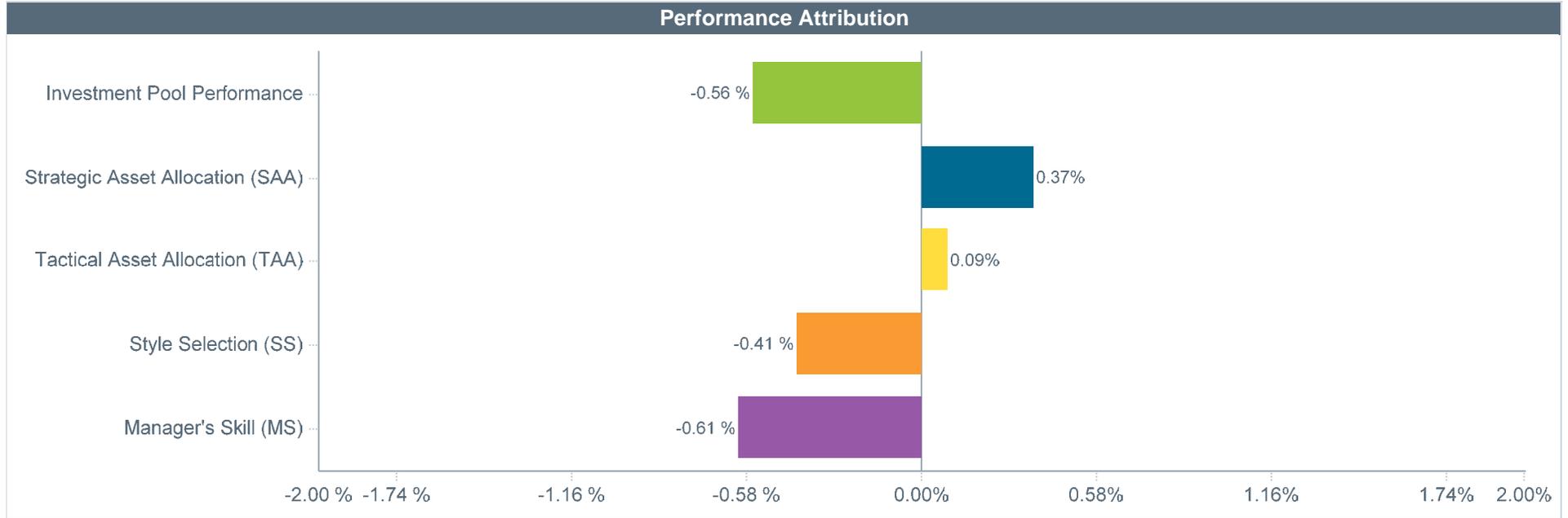
Legend:

- A = HFRI EH: Eq Mkt Neut Index (Alpha)
- B = MSCI ACW Index (USD) (Gross) (Capital Appreciation)
- C = Bloomberg US Gov't Bond Index (Capital Preservation)
- D = Real Return Custom Index (Inflation)

Asset Allocation by Theme is based on dedicated manager allocations; as such, thematic allocations are approximations. The RVK Liquidity Rating is calculated using beginning of month investment weights applied to each corresponding asset class liquidity rating. Please see the Glossary for additional information regarding liquidity, thematic, and custom index descriptions.



Performance shown is net of fees. Calculation is based on monthly periodicity. See Glossary for additional information regarding the Total Fund Attribution - IDP calculation.



Performance shown is net of fees. Calculation is based on monthly periodicity. See Glossary for additional information regarding the Total Fund Attribution - IDP calculation.

City of Jacksonville Employees' Retirement System
Asset Allocation & Performance (Gross of Fees)

As of September 30, 2019

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	CYTD	FYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
Total Fund	2,206,449,981	100.00	-0.44	11.15	1.40	1.40	8.14	6.47	8.79	9.24	6.44	07/01/1999
Current Total Fund Policy Index			0.20	12.06	3.10	3.10	7.37	6.04	7.88	8.27	5.75	
Difference			-0.64	-0.91	-1.70	-1.70	0.77	0.43	0.91	0.97	0.69	
Legacy Total Fund Policy Index			0.37	12.51	3.37	3.37	7.57	6.15	7.96	8.33	5.78	
Difference			-0.81	-1.36	-1.97	-1.97	0.57	0.32	0.83	0.91	0.66	
All Public Plans (\$1B to \$5B) (Custom PG) Median			0.51	11.30	3.72	3.72	7.60	6.22	7.62	8.17	6.08	
Rank			99	56	97	97	30	36	14	12	24	
Total Equity	1,224,384,337	55.49	-0.82	16.54	-0.09	-0.09	10.92	8.26	11.00	11.03	6.20	07/01/1999
US Equity	729,087,486	33.04	0.03	20.51	2.03	2.03	12.90	10.18	12.93	12.99	6.66	07/01/1999
US Equity Index			1.16	20.09	2.92	2.92	12.83	10.44	13.00	13.08	6.35	
Difference			-1.13	0.42	-0.89	-0.89	0.07	-0.26	-0.07	-0.09	0.31	
IM U.S. Equity (SA+CF) Median			0.52	18.74	0.26	0.26	11.31	9.44	12.45	12.83	8.43	
Rank			57	37	41	41	36	42	41	47	80	
International Equity	495,296,851	22.45	-2.26	10.37	-3.44	-3.44	7.73	4.90	7.53	7.30	5.89	07/01/1999
International Equity Index			-1.80	11.56	-1.23	-1.23	6.33	2.90	5.01	4.16	3.74	
Difference			-0.46	-1.19	-2.21	-2.21	1.40	2.00	2.52	3.14	2.15	
IM International Equity (SA+CF) Median			-1.84	11.88	-1.55	-1.55	6.53	4.09	6.54	6.33	6.88	
Rank			61	59	67	67	32	38	33	32	68	
Fixed Income	447,104,548	20.26	-0.11	5.47	6.61	6.61	3.39	2.77	2.85	4.57	5.44	07/01/1999
Fixed Income Index			2.12	8.80	10.07	10.07	2.91	3.37	2.71	3.74	4.98	
Difference			-2.23	-3.33	-3.46	-3.46	0.48	-0.60	0.14	0.83	0.46	
IM Global Fixed Income (SA+CF) Median			1.24	8.48	7.46	7.46	3.93	3.40	3.42	4.30	6.53	
Rank			82	81	61	61	62	62	56	45	67	
Real Estate	384,249,542	17.41	1.68	3.32	5.05	5.05	7.42	9.10	9.43	9.38	6.43	12/01/2005
NCREIF ODCE Index (AWA) (Gross)			1.31	3.77	5.60	5.60	7.31	9.35	10.30	10.86	7.16	
Difference			0.37	-0.45	-0.55	-0.55	0.11	-0.25	-0.87	-1.48	-0.73	
Diversifying Assets	146,639,476	6.65	-3.22	6.48	-6.77	-6.77	1.08	-2.25	5.03	N/A	6.61	03/01/2011
Diversifying Assets Index			-2.63	9.45	-3.59	-3.59	1.33	-1.58	3.42	5.90	3.94	
Difference			-0.59	-2.97	-3.18	-3.18	-0.25	-0.67	1.61	N/A	2.67	

Performance shown is gross of fees and is annualized for periods greater than one year. Allocations may not sum up to 100% due to the exclusion of managers in liquidation. Please see the addendum for custom benchmark definitions. Fiscal year for the COJ ends 09/30.



City of Jacksonville Employees' Retirement System
 Asset Allocation & Performance (Gross of Fees)

As of September 30, 2019

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	CYTD	FYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
US Equity												
Eagle Capital Large Cap Value (SA)	180,327,347	8.17	-1.19	19.33	3.21	3.21	15.32	11.29	14.54	15.14	10.70	02/01/2007
Russell 1000 Val Index			1.36	17.81	4.00	4.00	9.43	7.79	11.30	11.46	6.10	
Difference			-2.55	1.52	-0.79	-0.79	5.89	3.50	3.24	3.68	4.60	
IM U.S. Large Cap Value Equity (SA+CF) Median			1.66	17.56	2.21	2.21	10.45	8.11	11.88	11.91	7.21	
Rank			96	33	42	42	4	8	3	2	1	
Mellon Large Cap Core Index (CF)	206,573,754	9.36	1.41	N/A	1.61	05/01/2019						
Russell 1000 Index			1.42	20.53	3.87	3.87	13.19	10.62	13.21	13.23	1.62	
Difference			-0.01	N/A	-0.01							
IM U.S. Large Cap Core Equity (SA+CF) Median			1.58	19.91	3.38	3.38	12.56	10.29	13.16	13.08	1.78	
Rank			59	N/A	54							
Loomis Sayles Large Cap Growth (CF)	146,324,201	6.63	-1.38	20.52	6.57	6.57	N/A	N/A	N/A	N/A	13.50	08/01/2017
Russell 1000 Grth Index			1.49	23.30	3.71	3.71	16.89	13.39	15.02	14.94	14.90	
Difference			-2.87	-2.78	2.86	2.86	N/A	N/A	N/A	N/A	-1.40	
IM U.S. Large Cap Growth Equity (SA+CF) Median			0.83	22.42	4.30	4.30	16.23	12.83	14.67	14.56	14.12	
Rank			85	72	30	30	N/A	N/A	N/A	N/A	60	
William Blair Small Cap Value (SA)	98,144,991	4.45	-0.86	16.16	-6.02	-6.02	6.69	N/A	N/A	N/A	6.18	11/01/2014
Russell 2000 Val Index			-0.57	12.82	-8.24	-8.24	6.54	7.17	9.35	10.06	5.83	
Difference			-0.29	3.34	2.22	2.22	0.15	N/A	N/A	N/A	0.35	
IM U.S. Small Cap Value Equity (SA+CF) Median			-0.20	15.74	-6.34	-6.34	7.17	7.64	10.97	11.72	6.67	
Rank			65	47	48	48	60	N/A	N/A	N/A	60	
Pinnacle Associates US SMID Cap Growth (SA)	97,717,193	4.43	0.34	21.57	-1.16	-1.16	12.38	9.14	12.80	N/A	13.59	03/01/2010
Russell 2500 Grth Index			-3.18	19.97	-4.11	-4.11	12.33	10.22	12.77	13.48	13.38	
Difference			3.52	1.60	2.95	2.95	0.05	-1.08	0.03	N/A	0.21	
IM U.S. SMID Cap Growth Equity (SA+CF) Median			-2.99	22.27	-2.36	-2.36	14.47	11.14	13.12	14.35	14.10	
Rank			13	56	40	40	79	80	59	N/A	64	

Performance shown is gross of fees and is annualized for periods greater than one year. Allocations may not sum up to 100% due to the exclusion of managers in liquidation. Please see the addendum for custom benchmark definitions. Fiscal year for the COJ ends 09/30.



City of Jacksonville Employees' Retirement System
Asset Allocation & Performance (Gross of Fees)

As of September 30, 2019

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	CYTD	FYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
International Equity												
Silchester International Value (CF)	248,639,235	11.27	-1.24	8.04	-3.64	-3.64	6.97	4.94	8.85	8.54	9.94	06/01/2009
MSCI EAFE Val Index (USD) (Net)			-1.74	7.67	-4.92	-4.92	5.10	0.99	4.70	3.23	5.03	
Difference			0.50	0.37	1.28	1.28	1.87	3.95	4.15	5.31	4.91	
IM EAFE Value (SA+CF) Median			-1.18	10.21	-4.74	-4.74	5.52	2.99	6.29	5.84	7.25	
Rank			57	89	46	46	16	20	13	5	8	
Baillie Gifford EAFE (BGEFX)	127,768,812	5.79	-2.45	20.96	-2.09	-2.09	11.40	7.69	9.70	8.64	10.33	06/01/2009
Baillie Gifford Index			-0.85	16.21	2.03	2.03	6.71	4.87	7.02	6.20	7.59	
Difference			-1.60	4.75	-4.12	-4.12	4.69	2.82	2.68	2.44	2.74	
IM International Growth Equity (SA+CF) Median			-1.47	16.49	-0.85	-0.85	7.76	5.38	7.65	7.51	9.08	
Rank			78	17	62	62	13	22	12	22	22	
Acadian Emerging Markets (CF)	118,888,804	5.39	-4.15	5.22	-4.48	-4.48	5.05	1.75	2.78	N/A	2.16	02/01/2011
MSCI Emg Mkts Index (USD) (Net)			-4.25	5.90	-2.02	-2.02	5.97	2.33	2.41	3.37	1.21	
Difference			0.10	-0.68	-2.46	-2.46	-0.92	-0.58	0.37	N/A	0.95	
IM Emerging Markets Equity (SA+CF) Median			-3.62	8.26	0.07	0.07	5.97	3.09	4.00	4.83	2.65	
Rank			62	73	89	89	66	77	78	N/A	63	
Fixed Income												
Richmond Capital Core (SA)	138,789,346	6.29	2.16	8.36	10.15	10.15	3.19	3.69	3.13	4.28	5.38	06/01/1999
Richmond Capital Index			2.27	8.52	10.30	10.30	2.92	3.38	2.72	3.72	4.98	
Difference			-0.11	-0.16	-0.15	-0.15	0.27	0.31	0.41	0.56	0.40	
IM U.S. Broad Market Core Fixed Income (SA+CF) Median			2.33	8.99	10.47	10.47	3.35	3.72	3.13	4.34	5.37	
Rank			85	86	79	79	65	58	50	58	49	
Taplin Canida & Habacht Intermediate Duration (SA)	136,473,705	6.19	1.21	7.08	7.30	7.30	2.91	2.87	2.70	4.03	5.02	06/01/1999
ICE BofAML US Corp & Gov't 1-10 Yr Index			1.39	6.46	8.18	8.18	2.45	2.73	2.20	3.13	4.45	
Difference			-0.18	0.62	-0.88	-0.88	0.46	0.14	0.50	0.90	0.57	
IM U.S. Intermediate Duration (SA+CF) Median			1.42	6.51	8.04	8.04	2.63	2.92	2.42	3.40	4.77	
Rank			86	17	82	82	24	57	25	16	26	
Franklin Templeton Global Multisector Plus (CF)	101,404,463	4.60	-5.62	-2.11	0.07	0.07	3.16	0.54	2.24	5.19	6.89	09/01/2007
Frank. Temp. Global Multisector Index			0.63	6.45	7.54	7.54	1.81	2.14	1.40	3.18	3.65	
Difference			-6.25	-8.56	-7.47	-7.47	1.35	-1.60	0.84	2.01	3.24	
IM Global Fixed Income (SA+CF) Median			1.24	8.48	7.46	7.46	3.93	3.40	3.42	4.30	4.73	
Rank			100	100	96	96	64	99	64	35	13	
Loomis Sayles Multisector Full Discretion (CF)	70,437,034	3.19	1.42	8.73	8.58	8.58	5.45	4.76	5.57	7.63	6.98	10/01/2007
Bloomberg Gbl Agg Bond Index			0.71	6.32	7.60	7.60	1.59	2.00	1.21	2.34	3.27	
Difference			0.71	2.41	0.98	0.98	3.86	2.76	4.36	5.29	3.71	
IM Global Fixed Income (SA+CF) Median			1.24	8.48	7.46	7.46	3.93	3.40	3.42	4.30	4.66	
Rank			42	49	34	34	25	27	18	9	7	

Performance shown is gross of fees and is annualized for periods greater than one year. Allocations may not sum up to 100% due to the exclusion of managers in liquidation. Please see the addendum for custom benchmark definitions. Fiscal year for the COJ ends 09/30.



City of Jacksonville Employees' Retirement System
Asset Allocation & Performance (Gross of Fees)

As of September 30, 2019

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	CYTD	FYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
Real Estate												
Harrison Street Core Property, LP	103,461,564	4.69	2.14	5.32	7.49	7.49	8.92	N/A	N/A	N/A	8.44	11/01/2015
NCREIF ODCE Index (AWA) (Gross)			1.31	3.77	5.60	5.60	7.31	9.35	10.30	10.86	8.17	
Difference			0.83	1.55	1.89	1.89	1.61	N/A	N/A	N/A	0.27	
PGIM Real Estate PRISA II (CF)	56,709,419	2.57	1.71	5.26	6.79	6.79	9.23	N/A	N/A	N/A	10.14	01/01/2015
NCREIF ODCE Index (AWA) (Gross)			1.31	3.77	5.60	5.60	7.31	9.35	10.30	10.86	9.12	
Difference			0.40	1.49	1.19	1.19	1.92	N/A	N/A	N/A	1.02	
Principal US Property (CF)	121,975,882	5.53	1.87	5.40	6.97	6.97	8.84	10.60	N/A	N/A	10.80	01/01/2014
NCREIF ODCE Index (AWA) (Gross)			1.31	3.77	5.60	5.60	7.31	9.35	10.30	10.86	9.70	
Difference			0.56	1.63	1.37	1.37	1.53	1.25	N/A	N/A	1.10	
UBS Trumbull Property (CF)	100,959,291	4.58	0.90	-2.15	-0.46	-0.46	4.10	6.75	7.79	8.89	6.23	12/01/2005
NCREIF ODCE Index (AWA) (Gross)			1.31	3.77	5.60	5.60	7.31	9.35	10.30	10.86	7.16	
Difference			-0.41	-5.92	-6.06	-6.06	-3.21	-2.60	-2.51	-1.97	-0.93	
Vanguard RE Idx;ETF (VNQ)	1,143,386	0.05	7.53	28.10	19.86	19.86	6.86	9.82	9.55	12.31	14.55	12/01/2008
Custom REITs Index			7.43	28.22	19.61	19.61	7.65	10.36	10.09	13.12	15.48	
Difference			0.10	-0.12	0.25	0.25	-0.79	-0.54	-0.54	-0.81	-0.93	
Diversifying Assets												
Harvest Fund Advisors MLP (SA)	47,955,776	2.17	-5.04	14.56	-9.09	-9.09	-1.17	-5.75	3.54	N/A	6.36	03/01/2011
S&P MLP Index (TR)			-4.04	13.28	-6.88	-6.88	-0.80	-8.02	0.15	7.08	1.90	
Difference			-1.00	1.28	-2.21	-2.21	-0.37	2.27	3.39	N/A	4.46	
Tortoise Capital Advisors MLP (SA)	46,562,391	2.11	-6.12	10.48	-7.46	-7.46	-1.14	-6.08	3.21	N/A	5.11	03/01/2011
S&P MLP Index (TR)			-4.04	13.28	-6.88	-6.88	-0.80	-8.02	0.15	7.08	1.90	
Difference			-2.08	-2.80	-0.58	-0.58	-0.34	1.94	3.06	N/A	3.21	
Hancock Timberland (SA)	52,121,309	2.36	1.36	-3.02	-3.83	-3.83	5.40	4.76	7.36	4.72	3.42	10/01/2006
NCREIF Timberland Index			0.18	1.34	2.10	2.10	3.12	4.36	5.95	3.97	5.61	
Difference			1.18	-4.36	-5.93	-5.93	2.28	0.40	1.41	0.75	-2.19	
Dreyfus Gvt Csh Mgt;Inst (DGCXX)	3,290,936	0.15	0.57	1.80	2.35	2.35	1.62	1.04	0.78	0.58	1.45	04/01/2001
FTSE 3 Mo T-Bill Index			0.56	1.78	2.36	2.36	1.52	0.96	0.70	0.51	1.41	
Difference			0.01	0.02	-0.01	-0.01	0.10	0.08	0.08	0.07	0.04	

Performance shown is gross of fees and is annualized for periods greater than one year. Allocations may not sum up to 100% due to the exclusion of managers in liquidation. Please see the addendum for custom benchmark definitions. Fiscal year for the COJ ends 09/30.



City of Jacksonville Employees' Retirement System
 Asset Allocation & Performance (Net of Fees)

As of September 30, 2019

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	CYTD	FYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
Total Fund	2,206,449,981	100.00	-0.56	10.70	0.85	0.85	7.59	5.93	8.25	8.74	6.14	07/01/1999
Current Total Fund Policy Index			0.20	12.06	3.10	3.10	7.37	6.04	7.88	8.27	5.75	
Difference			-0.76	-1.36	-2.25	-2.25	0.22	-0.11	0.37	0.47	0.39	
Legacy Total Fund Policy Index			0.37	12.51	3.37	3.37	7.57	6.15	7.96	8.33	5.78	
Difference			-0.93	-1.81	-2.52	-2.52	0.02	-0.22	0.29	0.41	0.36	
Total Equity	1,224,384,337	55.49	-0.94	16.12	-0.60	-0.60	10.33	7.67	10.40	10.49	5.91	07/01/1999
US Equity	729,087,486	33.04	-0.08	20.11	1.53	1.53	12.32	9.60	12.34	12.45	6.37	07/01/1999
US Equity Index			1.16	20.09	2.92	2.92	12.83	10.44	13.00	13.08	6.35	
Difference			-1.24	0.02	-1.39	-1.39	-0.51	-0.84	-0.66	-0.63	0.02	
International Equity	495,296,851	22.45	-2.40	9.91	-3.98	-3.98	7.13	4.30	6.91	6.74	5.58	07/01/1999
International Equity Index			-1.80	11.56	-1.23	-1.23	6.33	2.90	5.01	4.16	3.74	
Difference			-0.60	-1.65	-2.75	-2.75	0.80	1.40	1.90	2.58	1.84	
Fixed Income	447,104,548	20.26	-0.16	5.17	6.28	6.28	3.13	2.55	2.65	4.38	5.29	07/01/1999
Fixed Income Index			2.12	8.80	10.07	10.07	2.91	3.37	2.71	3.74	4.98	
Difference			-2.28	-3.63	-3.79	-3.79	0.22	-0.82	-0.06	0.64	0.31	
Real Estate	384,249,542	17.41	1.45	2.62	4.10	4.10	6.61	8.29	8.58	8.58	5.76	12/01/2005
NCREIF ODCE Index (AWA) (Net)			1.08	3.08	4.65	4.65	6.34	8.36	9.29	9.84	6.09	
Difference			0.37	-0.46	-0.55	-0.55	0.27	-0.07	-0.71	-1.26	-0.33	
Diversifying Assets	146,639,476	6.65	-3.34	5.95	-7.30	-7.30	0.59	-2.73	4.51	N/A	6.09	03/01/2011
Diversifying Assets Index			-2.63	9.45	-3.59	-3.59	1.33	-1.58	3.42	5.90	3.94	
Difference			-0.71	-3.50	-3.71	-3.71	-0.74	-1.15	1.09	N/A	2.15	

Performance shown is net of fees and is annualized for periods greater than one year. Allocations may not sum up to 100% due to the exclusion of managers in liquidation. Please see the addendum for custom benchmark definitions. Fiscal year for the COJ ends 09/30.



City of Jacksonville Employees' Retirement System
Asset Allocation & Performance (Net of Fees)

As of September 30, 2019

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	CYTD	FYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
US Equity												
Eagle Capital Large Cap Value (SA)	180,327,347	8.17	-1.37	18.64	2.38	2.38	14.45	10.46	13.68	14.37	10.02	02/01/2007
Russell 1000 Val Index			1.36	17.81	4.00	4.00	9.43	7.79	11.30	11.46	6.10	
Difference			-2.73	0.83	-1.62	-1.62	5.02	2.67	2.38	2.91	3.92	
Mellon Large Cap Core Index (CF)	206,573,754	9.36	1.41	N/A	1.61	05/01/2019						
Russell 1000 Index			1.42	20.53	3.87	3.87	13.19	10.62	13.21	13.23	1.62	
Difference			-0.01	N/A	-0.01							
Loomis Sayles Large Cap Growth (CF)	146,324,201	6.63	-1.45	20.22	6.18	6.18	N/A	N/A	N/A	N/A	13.00	08/01/2017
Russell 1000 Grth Index			1.49	23.30	3.71	3.71	16.89	13.39	15.02	14.94	14.90	
Difference			-2.94	-3.08	2.47	2.47	N/A	N/A	N/A	N/A	-1.90	
William Blair Small Cap Value (SA)	98,144,991	4.45	-1.08	15.40	-6.86	-6.86	5.86	N/A	N/A	N/A	5.38	11/01/2014
Russell 2000 Val Index			-0.57	12.82	-8.24	-8.24	6.54	7.17	9.35	10.06	5.83	
Difference			-0.51	2.58	1.38	1.38	-0.68	N/A	N/A	N/A	-0.45	
Pinnacle Associates US SMID Cap Growth (SA)	97,717,193	4.43	0.19	21.06	-1.75	-1.75	11.75	8.39	12.02	N/A	12.82	03/01/2010
Russell 2500 Grth Index			-3.18	19.97	-4.11	-4.11	12.33	10.22	12.77	13.48	13.38	
Difference			3.37	1.09	2.36	2.36	-0.58	-1.83	-0.75	N/A	-0.56	
International Equity												
Silchester International Value (CF)	248,639,235	11.27	-1.38	7.58	-4.18	-4.18	6.36	4.33	8.22	7.90	9.29	06/01/2009
MSCI EAFE Val Index (USD) (Net)			-1.74	7.67	-4.92	-4.92	5.10	0.99	4.70	3.23	5.03	
Difference			0.36	-0.09	0.74	0.74	1.26	3.34	3.52	4.67	4.26	
Baillie Gifford EAFE (BGEFX)	127,768,812	5.79	-2.58	20.50	-2.59	-2.59	10.82	7.12	9.13	8.25	9.94	06/01/2009
Baillie Gifford Index			-0.85	16.21	2.03	2.03	6.71	4.87	7.02	6.20	7.59	
Difference			-1.73	4.29	-4.62	-4.62	4.11	2.25	2.11	2.05	2.35	
Acadian Emerging Markets (CF)	118,888,804	5.39	-4.29	4.77	-5.04	-5.04	4.45	1.15	2.16	N/A	1.57	02/01/2011
MSCI Emg Mkts Index (USD) (Net)			-4.25	5.90	-2.02	-2.02	5.97	2.33	2.41	3.37	1.21	
Difference			-0.04	-1.13	-3.02	-3.02	-1.52	-1.18	-0.25	N/A	0.36	

Performance shown is net of fees and is annualized for periods greater than one year. Allocations may not sum up to 100% due to the exclusion of managers in liquidation. Please see the addendum for custom benchmark definitions. Fiscal year for the COJ ends 09/30.



City of Jacksonville Employees' Retirement System
Asset Allocation & Performance (Net of Fees)

As of September 30, 2019

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	CYTD	FYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
Fixed Income												
Richmond Capital Core (SA)	138,789,346	6.29	2.11	8.22	9.96	9.96	3.01	3.51	2.95	4.12	5.28	06/01/1999
Richmond Capital Index			2.27	8.52	10.30	10.30	2.92	3.38	2.72	3.72	4.98	
Difference			-0.16	-0.30	-0.34	-0.34	0.09	0.13	0.23	0.40	0.30	
Taplin Canada & Habacht Intermediate Duration (SA)	136,473,705	6.19	1.18	6.98	7.17	7.17	2.79	2.74	2.57	3.91	4.96	06/01/1999
ICE BofAML US Corp & Gov't 1-10 Yr Index			1.39	6.46	8.18	8.18	2.45	2.73	2.20	3.13	4.45	
Difference			-0.21	0.52	-1.01	-1.01	0.34	0.01	0.37	0.78	0.51	
Franklin Templeton Global Multisector Plus (CF)	101,404,463	4.60	-5.72	-2.71	-0.54	-0.54	2.56	-0.07	1.53	4.43	6.10	09/01/2007
Frank. Temp. Global Multisector Index			0.63	6.45	7.54	7.54	1.81	2.14	1.40	3.18	3.65	
Difference			-6.35	-9.16	-8.08	-8.08	0.75	-2.21	0.13	1.25	2.45	
Loomis Sayles Multisector Full Discretion (CF)	70,437,034	3.19	1.42	8.21	8.06	8.06	5.07	4.36	5.14	7.25	6.63	10/01/2007
Bloomberg Gbl Agg Bond Index			0.71	6.32	7.60	7.60	1.59	2.00	1.21	2.34	3.27	
Difference			0.71	1.89	0.46	0.46	3.48	2.36	3.93	4.91	3.36	
Real Estate												
Harrison Street Core Property, LP	103,461,564	4.69	1.88	4.52	6.41	6.41	8.46	N/A	N/A	N/A	8.09	11/01/2015
NCREIF ODCE Index (AWA) (Net)			1.08	3.08	4.65	4.65	6.34	8.36	9.29	9.84	7.02	
Difference			0.80	1.44	1.76	1.76	2.12	N/A	N/A	N/A	1.07	
PGIM Real Estate PRISA II (CF)	56,709,419	2.57	1.42	4.35	5.56	5.56	8.04	N/A	N/A	N/A	9.23	01/01/2015
NCREIF ODCE Index (AWA) (Net)			1.08	3.08	4.65	4.65	6.34	8.36	9.29	9.84	8.13	
Difference			0.34	1.27	0.91	0.91	1.70	N/A	N/A	N/A	1.10	
Principal US Property (CF)	121,975,882	5.53	1.67	4.77	6.12	6.12	7.95	9.71	N/A	N/A	9.91	01/01/2014
NCREIF ODCE Index (AWA) (Net)			1.08	3.08	4.65	4.65	6.34	8.36	9.29	9.84	8.71	
Difference			0.59	1.69	1.47	1.47	1.61	1.35	N/A	N/A	1.20	
UBS Trumbull Property (CF)	100,959,291	4.58	0.70	-2.75	-1.27	-1.27	3.16	5.75	6.77	7.86	5.27	12/01/2005
NCREIF ODCE Index (AWA) (Net)			1.08	3.08	4.65	4.65	6.34	8.36	9.29	9.84	6.09	
Difference			-0.38	-5.83	-5.92	-5.92	-3.18	-2.61	-2.52	-1.98	-0.82	
Vanguard RE Idx;ETF (VNQ)	1,143,386	0.05	7.53	28.10	19.86	19.86	6.86	9.82	9.55	12.31	14.55	12/01/2008
Custom REITs Index			7.43	28.22	19.61	19.61	7.65	10.36	10.09	13.12	15.48	
Difference			0.10	-0.12	0.25	0.25	-0.79	-0.54	-0.54	-0.81	-0.93	

Performance shown is net of fees and is annualized for periods greater than one year. Allocations may not sum up to 100% due to the exclusion of managers in liquidation. Please see the addendum for custom benchmark definitions. Fiscal year for the COJ ends 09/30.



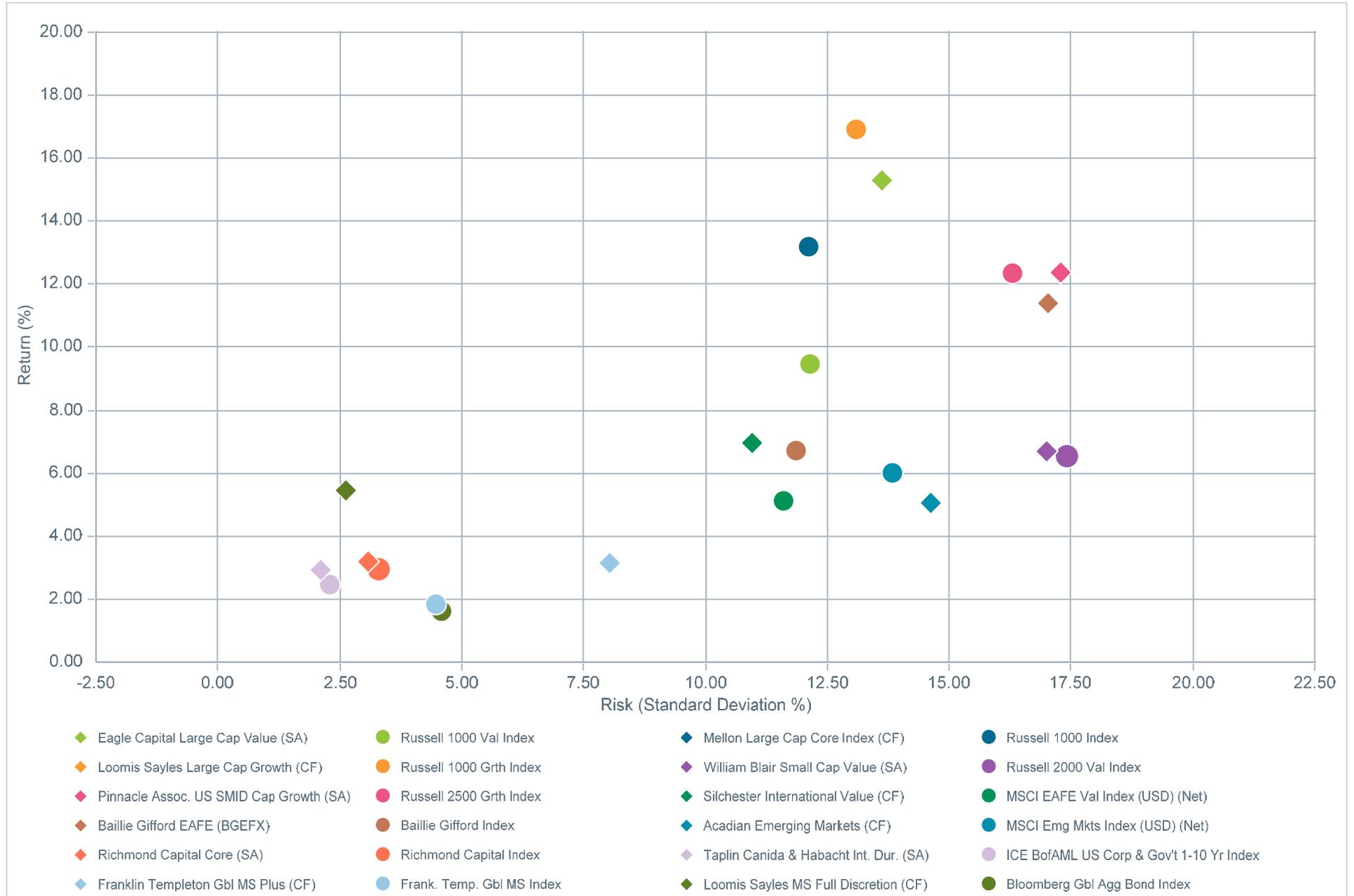
City of Jacksonville Employees' Retirement System
 Asset Allocation & Performance (Net of Fees)

As of September 30, 2019

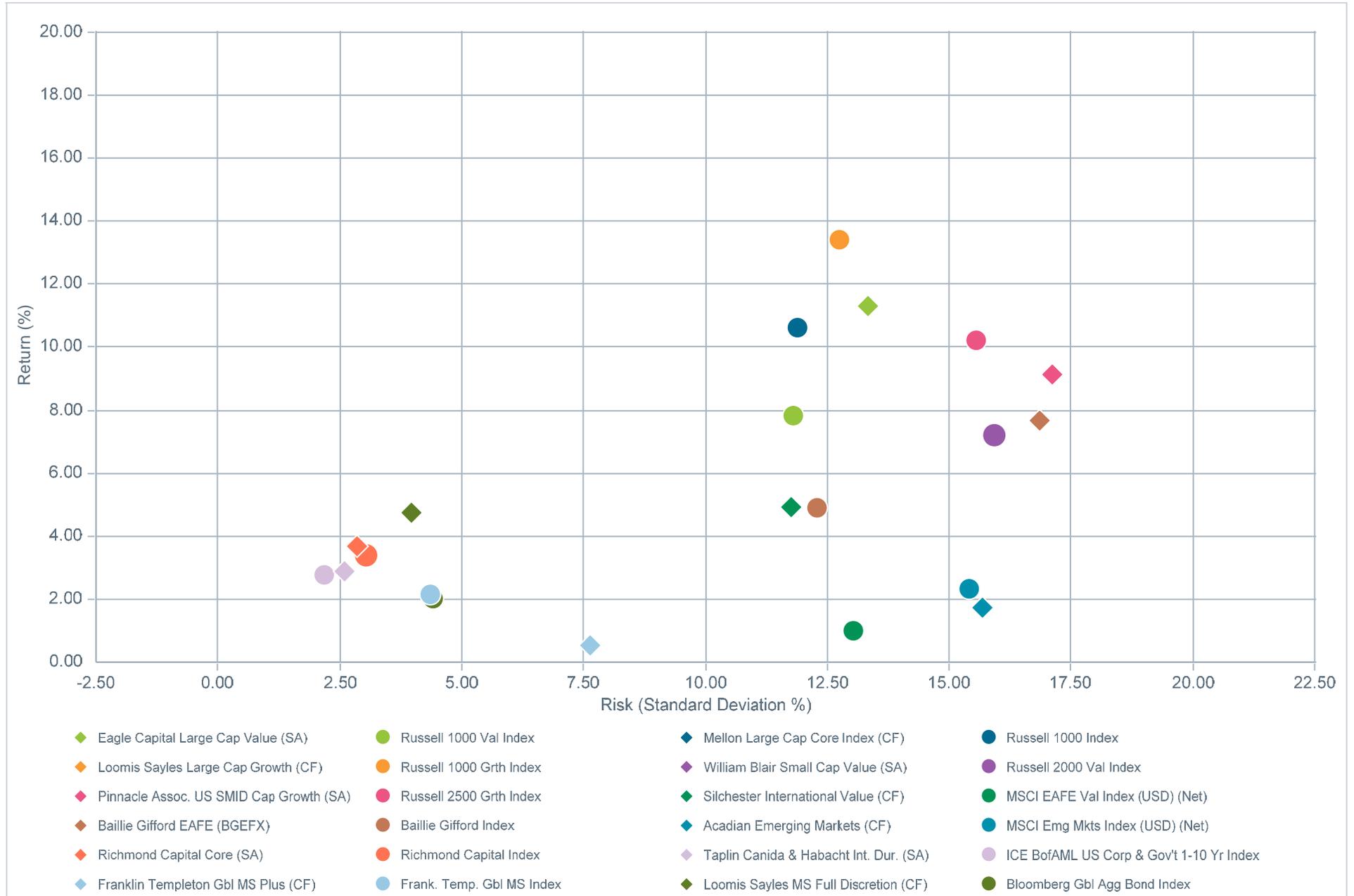
	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	CYTD	FYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
Diversifying Assets												
Harvest Fund Advisors MLP (SA)	47,955,776	2.17	-5.22	13.41	-10.00	-10.00	-1.92	-6.49	2.75	N/A	5.59	03/01/2011
S&P MLP Index (TR)			-4.04	13.28	-6.88	-6.88	-0.80	-8.02	0.15	7.08	1.90	
Difference			-1.18	0.13	-3.12	-3.12	-1.12	1.53	2.60	N/A	3.69	
Tortoise Capital Advisors MLP (SA)	46,562,391	2.11	-6.30	9.88	-8.17	-8.17	-1.87	-6.80	2.43	N/A	4.36	03/01/2011
S&P MLP Index (TR)			-4.04	13.28	-6.88	-6.88	-0.80	-8.02	0.15	7.08	1.90	
Difference			-2.26	-3.40	-1.29	-1.29	-1.07	1.22	2.28	N/A	2.46	
Hancock Timberland (SA)	52,121,309	2.36	1.36	-3.02	-3.83	-3.83	5.40	4.76	7.36	4.72	3.42	10/01/2006
NCREIF Timberland Index			0.18	1.34	2.10	2.10	3.12	4.36	5.95	3.97	5.61	
Difference			1.18	-4.36	-5.93	-5.93	2.28	0.40	1.41	0.75	-2.19	
Dreyfus Gvt Csh Mgt;Inst (DGCXX)	3,290,936	0.15	0.53	1.68	2.19	2.19	1.57	1.00	0.75	0.56	1.42	04/01/2001
FTSE 3 Mo T-Bill Index			0.56	1.78	2.36	2.36	1.52	0.96	0.70	0.51	1.41	
Difference			-0.03	-0.10	-0.17	-0.17	0.05	0.04	0.05	0.05	0.01	

Performance shown is net of fees and is annualized for periods greater than one year. Allocations may not sum up to 100% due to the exclusion of managers in liquidation. Please see the addendum for custom benchmark definitions. Fiscal year for the COJ ends 09/30.

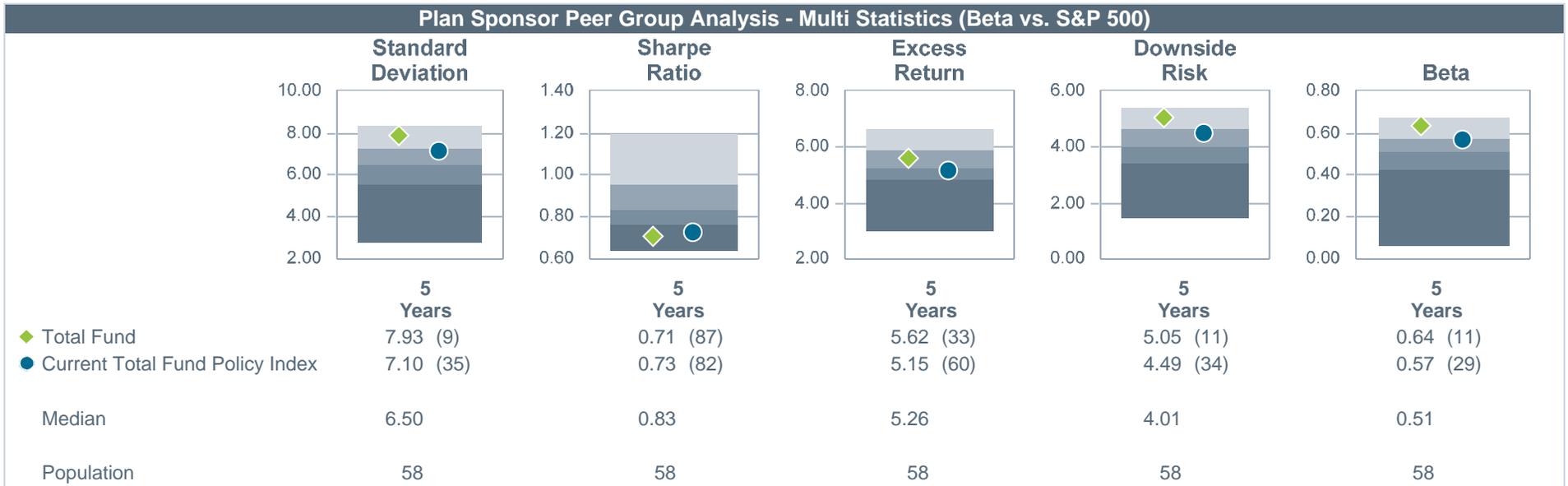
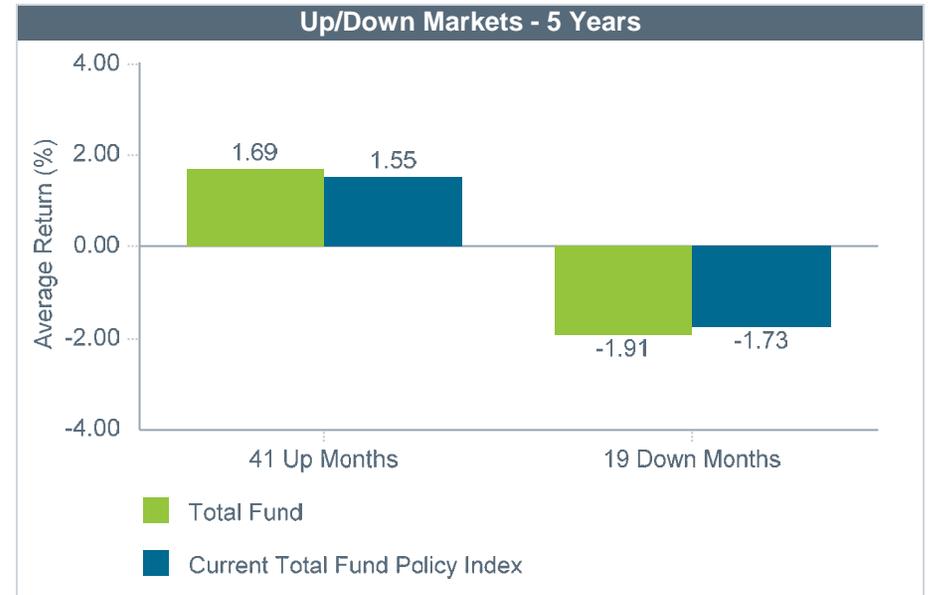
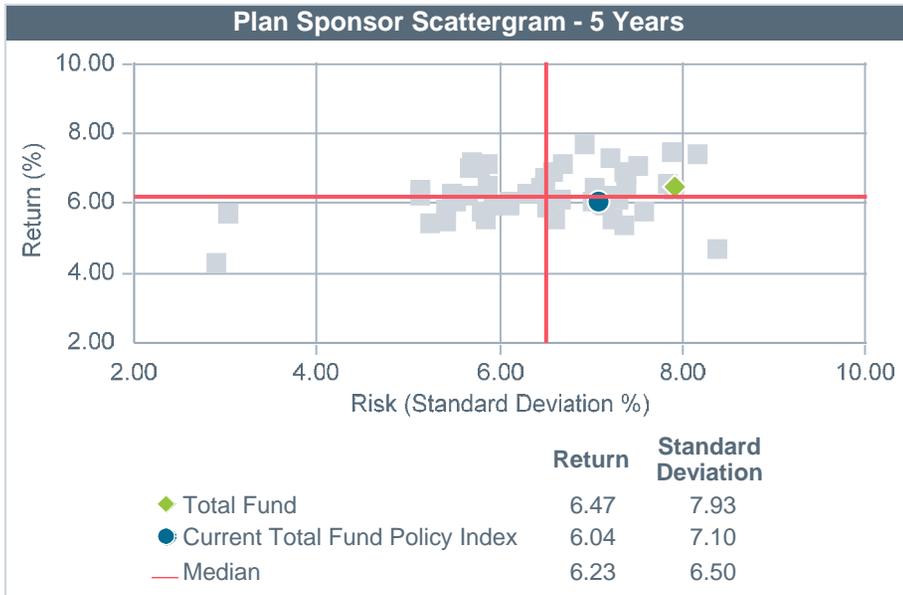




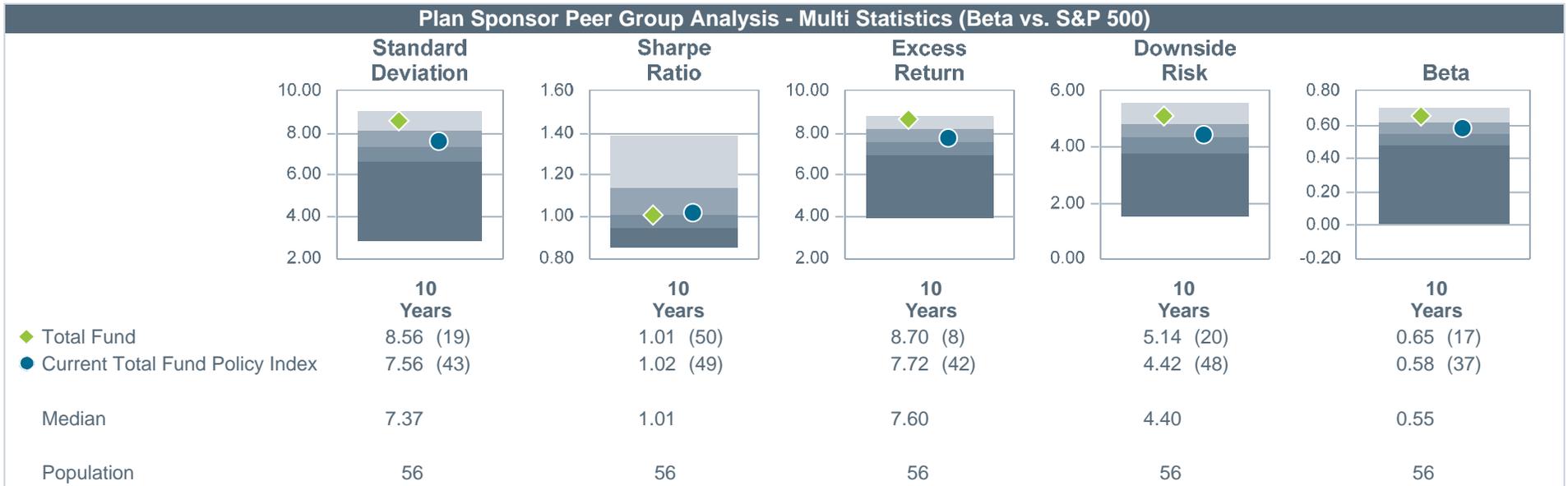
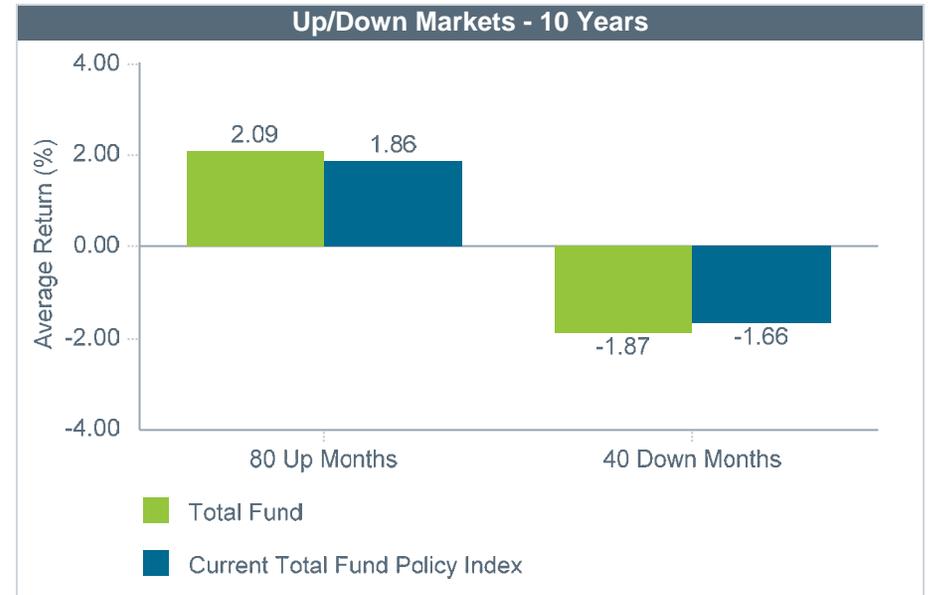
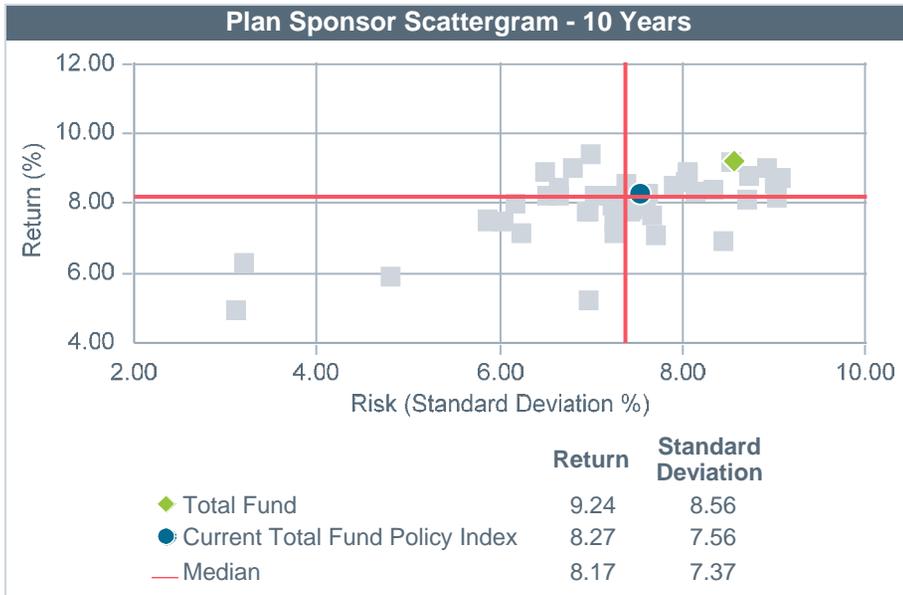
Performance shown is gross of fees and client specific. Calculation is based on monthly periodicity. Managers with less history than the specified time period will not appear. Please see the Addendum for custom index definitions.



Performance shown is gross of fees and client specific. Calculation is based on monthly periodicity. Managers with less history than the specified time period will not appear. Please see the Addendum for custom index definitions.



Performance shown is gross of fees. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.



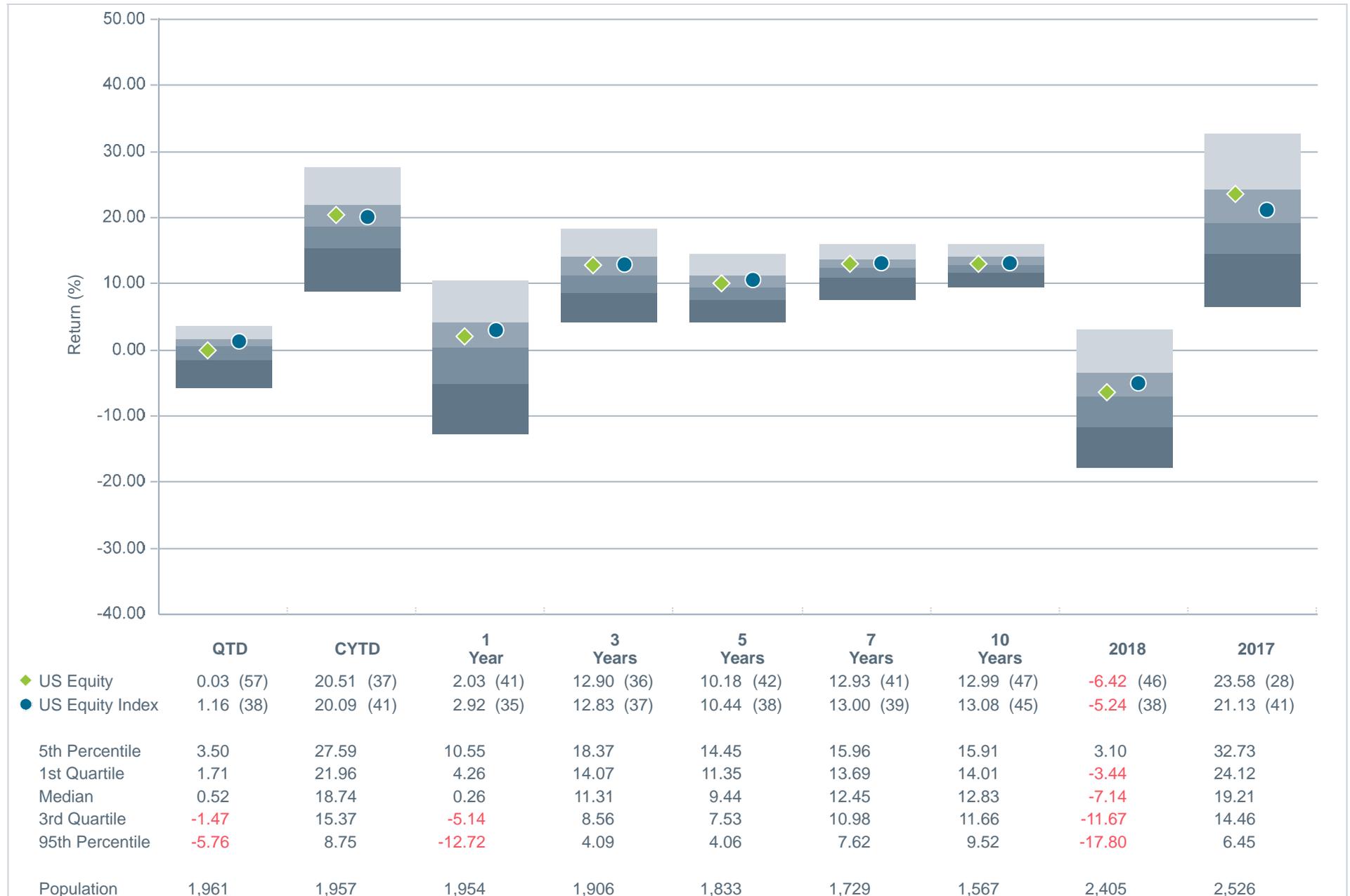
Performance shown is gross of fees. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.

Composite Profiles



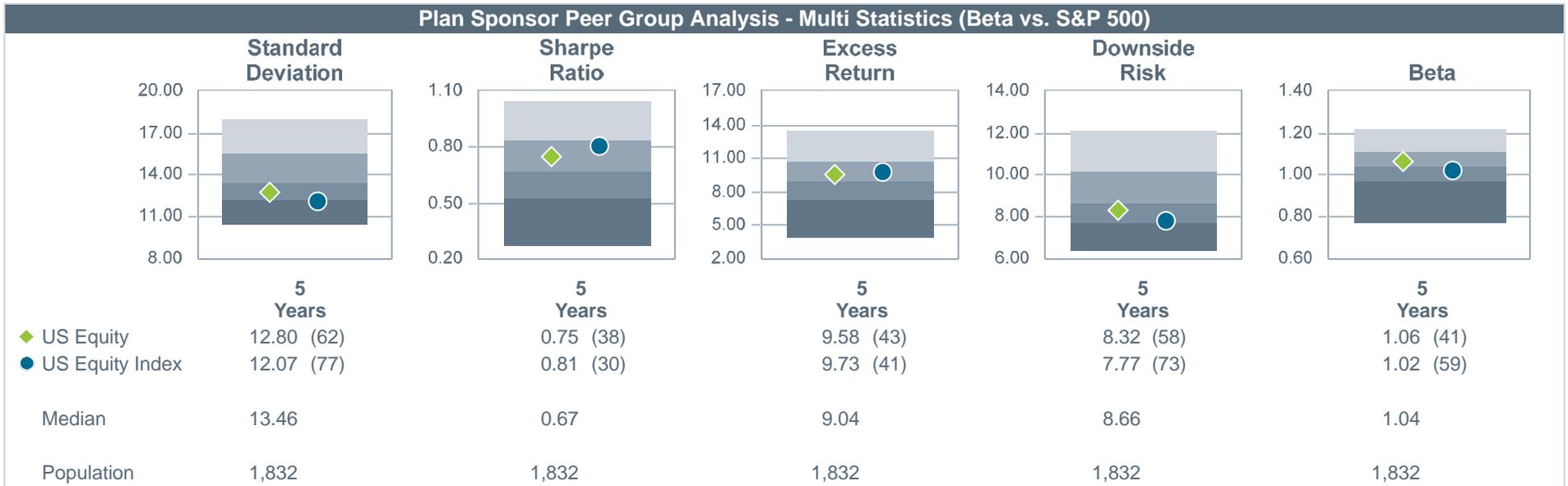
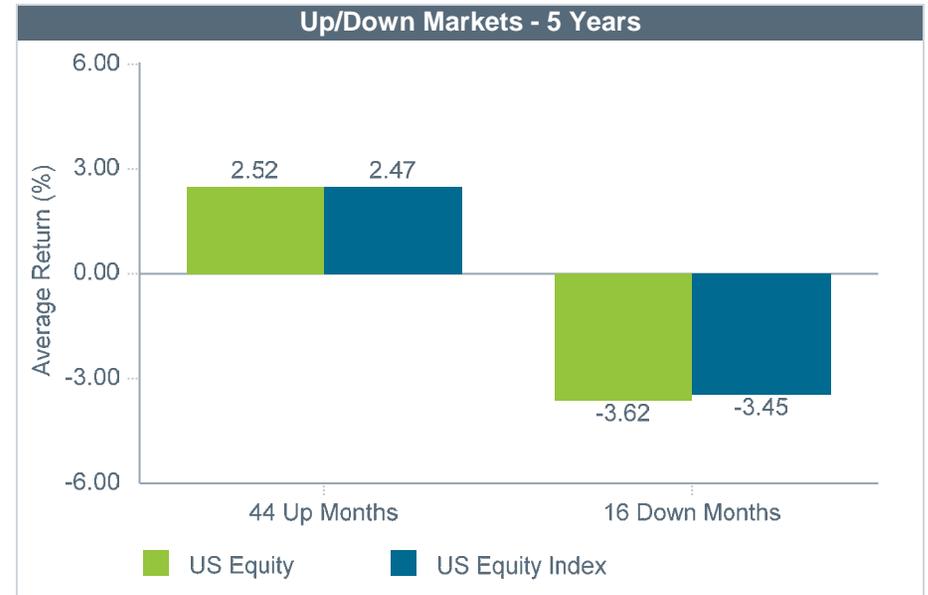
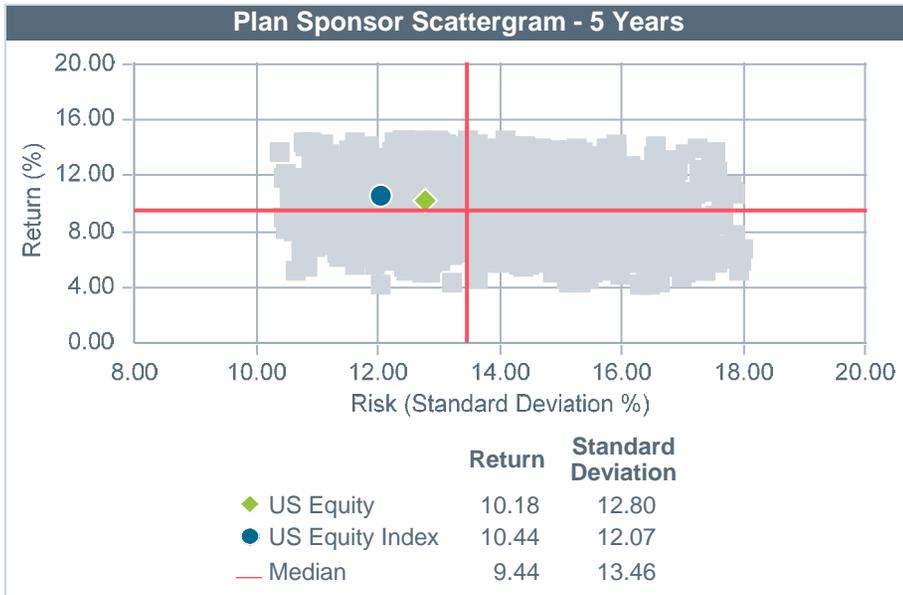
City of Jacksonville Employees' Retirement System
 US Equity vs. IM U.S. Equity (SA+CF)
 Peer Group Analysis

As of September 30, 2019



Performance shown is gross of fees. Parentheses contain percentile ranks.

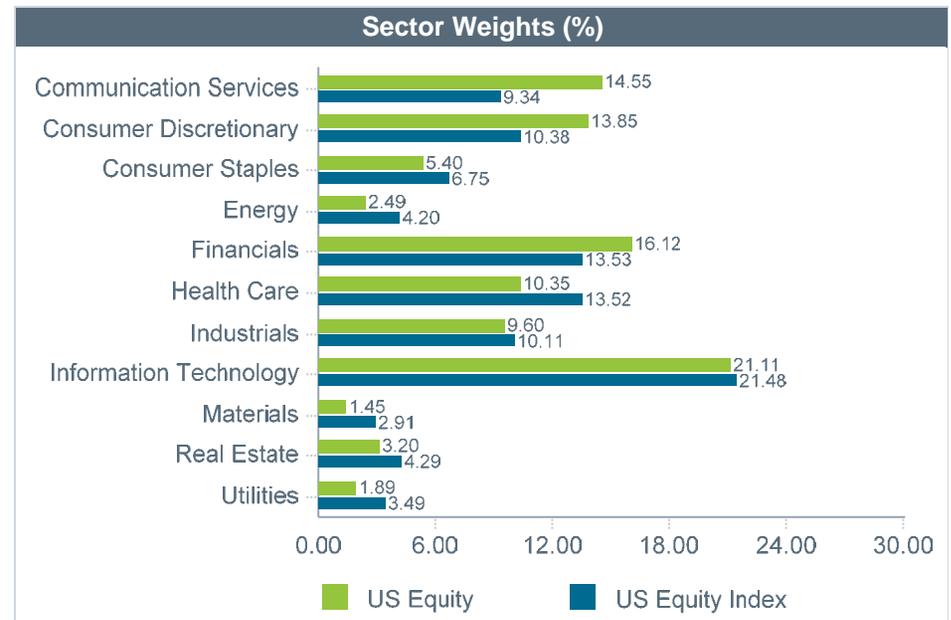
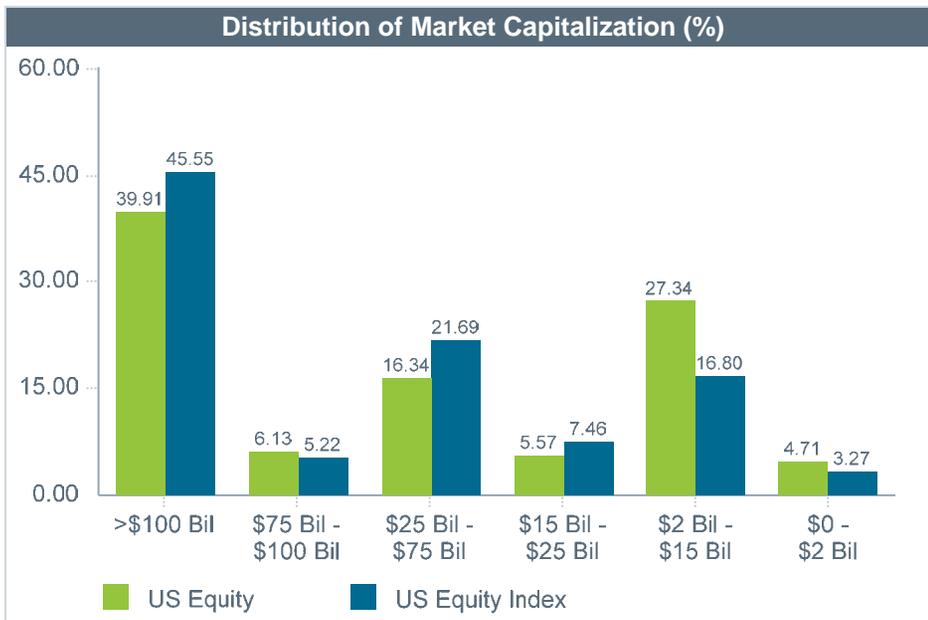




Performance shown is gross of fees. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.

Top Ten Equity Holdings				
	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)
Microsoft Corp	3.94	3.58	0.36	4.14
Amazon.com Inc	3.43	2.44	0.99	-8.33
Alphabet Inc	3.01	1.26	1.75	12.78
Berkshire Hathaway Inc	2.39	1.38	1.01	-2.42
Facebook Inc	2.35	1.45	0.90	-7.73
Oracle Corp	1.91	0.42	1.49	-3.01
Visa Inc	1.76	1.02	0.74	-0.75
Citigroup Inc	1.74	0.53	1.21	-0.61
Comcast Corp	1.59	0.69	0.90	7.15
Wells Fargo & Co	1.41	0.68	0.73	7.76
% of Portfolio	23.53	13.45	10.08	

Portfolio Characteristics		
	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	201,928	209,668
Median Mkt. Cap (\$M)	8,763	1,604
Price/Earnings Ratio	20.19	20.43
Price/Book Ratio	3.29	3.35
5 Yr. EPS Growth Rate (%)	18.24	15.73
Current Yield (%)	1.48	1.90
Beta (5 Years, Monthly)	1.05	1.00
Number of Securities	1,119	3,005



Style Map (12 Months Rolling)

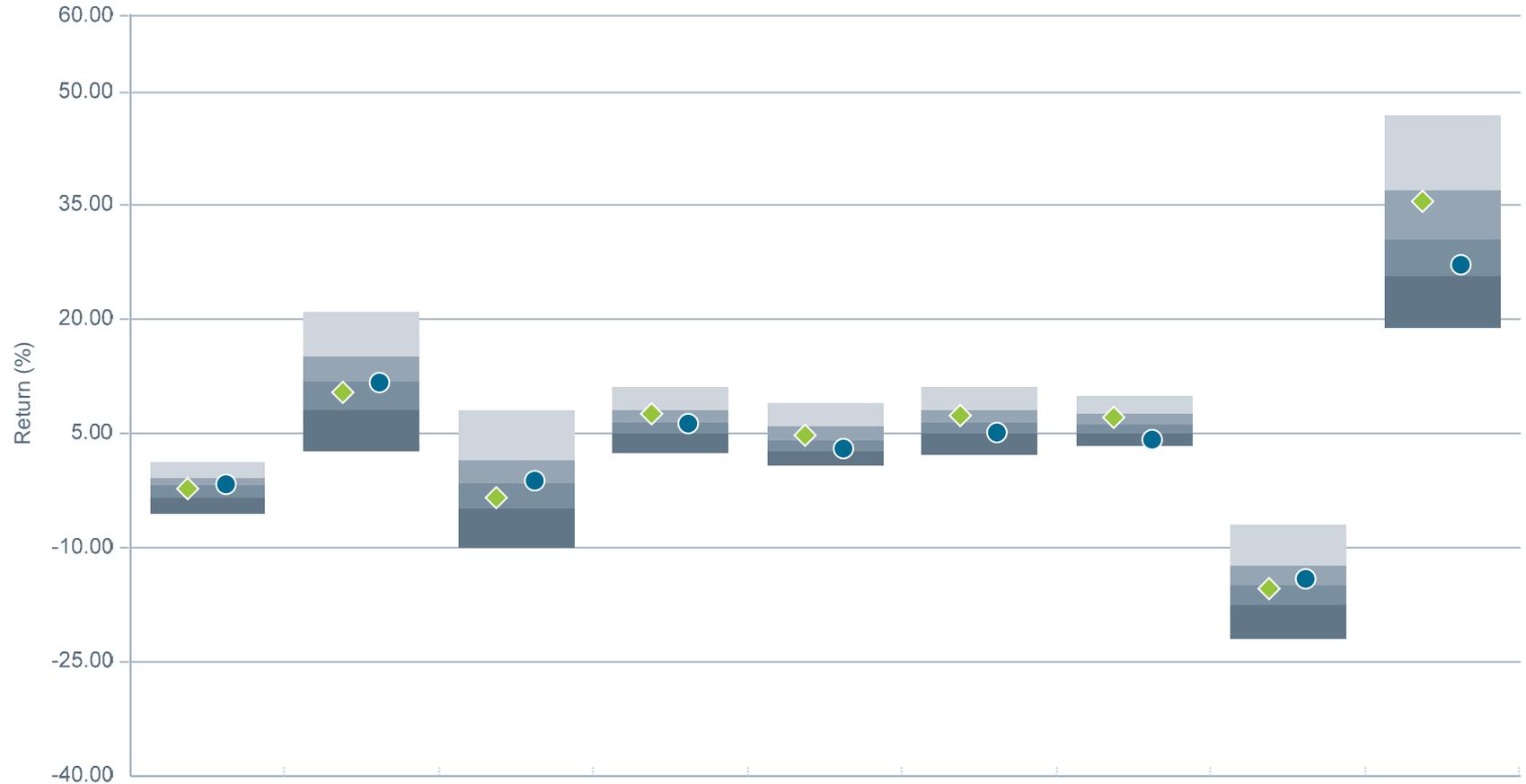


- ◆ US Equity
- Eagle Capital Large Cap Value (SA)
- ◆ Mellon Large Cap Core Index (CF)
- ▼ Loomis Sayles Large Cap Growth (CF)
- William Blair Small Cap Value (SA)
- Pinnacle Associates US SMID Cap Growth (SA)

Calculation is based on monthly periodicity. This is a return based calculation.

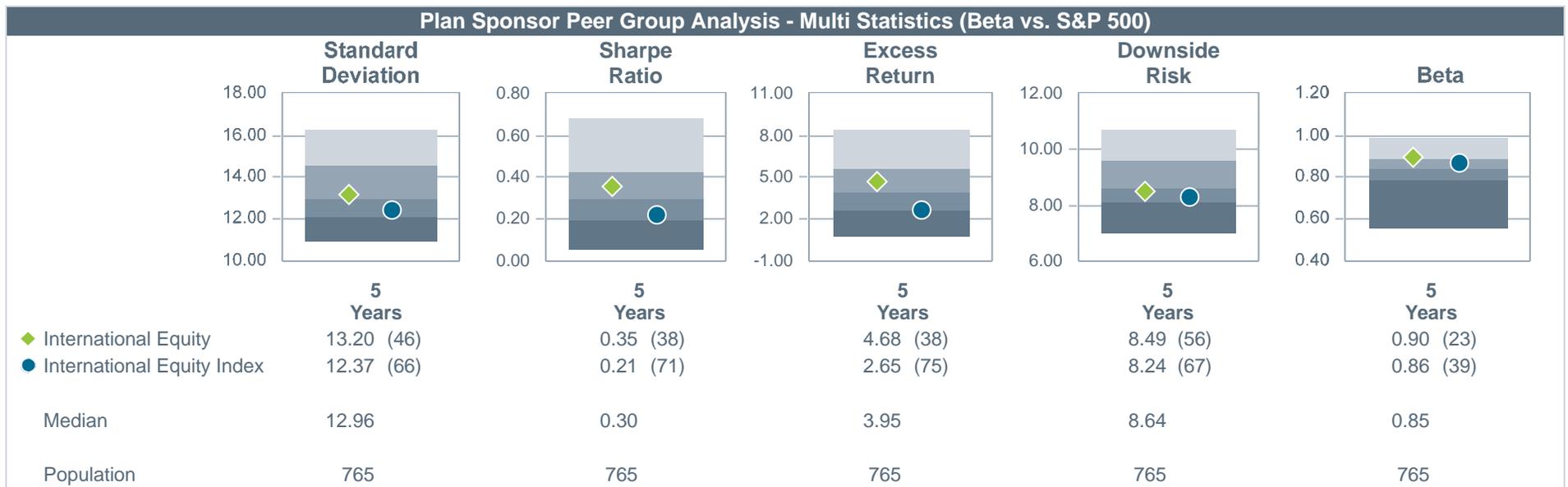
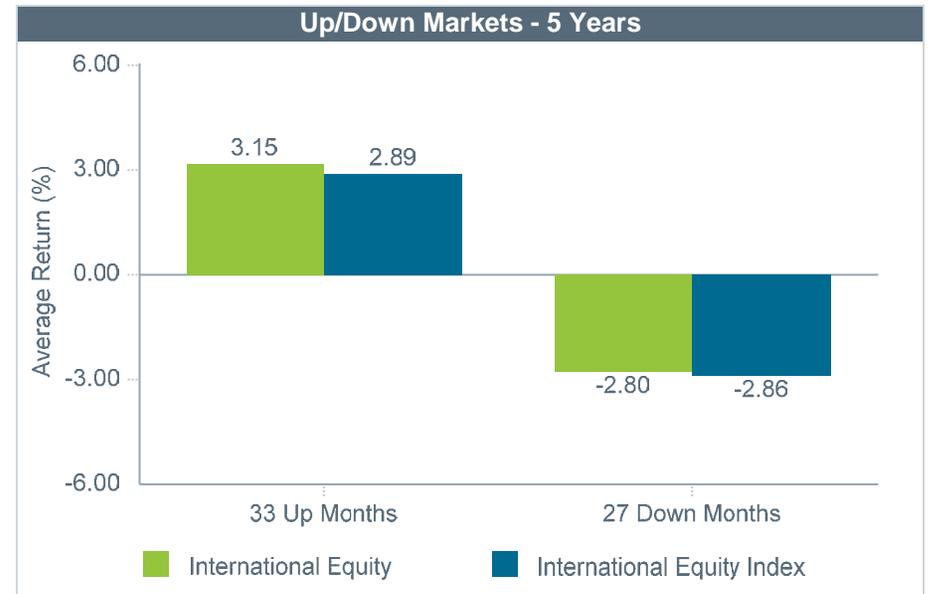
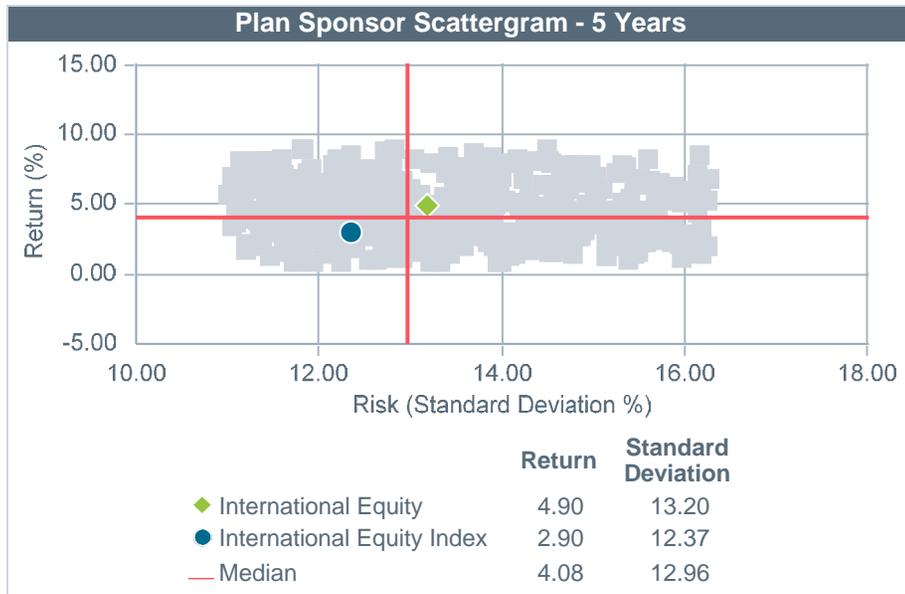
City of Jacksonville Employees' Retirement System
 International Equity vs. IM International Equity (SA+CF)
 Peer Group Analysis

As of September 30, 2019



	QTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017
◆ International Equity	-2.26 (61)	10.37 (59)	-3.44 (67)	7.73 (32)	4.90 (38)	7.53 (33)	7.30 (32)	-15.42 (56)	35.68 (30)
● International Equity Index	-1.80 (49)	11.56 (52)	-1.23 (48)	6.33 (53)	2.90 (72)	5.01 (75)	4.16 (88)	-14.20 (44)	27.19 (68)
5th Percentile	1.43	21.02	8.05	11.21	8.99	11.28	9.89	-6.80	46.81
1st Quartile	-0.72	15.14	1.66	8.20	5.98	8.09	7.60	-12.40	36.90
Median	-1.84	11.88	-1.57	6.53	4.08	6.54	6.33	-14.86	30.57
3rd Quartile	-3.27	8.05	-4.90	4.97	2.72	4.96	5.05	-17.47	25.67
95th Percentile	-5.44	2.77	-9.99	2.59	0.77	2.14	3.34	-21.87	18.80
Population	875	873	868	841	765	681	551	1,081	1,128

Performance shown is gross of fees. Parentheses contain percentile ranks.



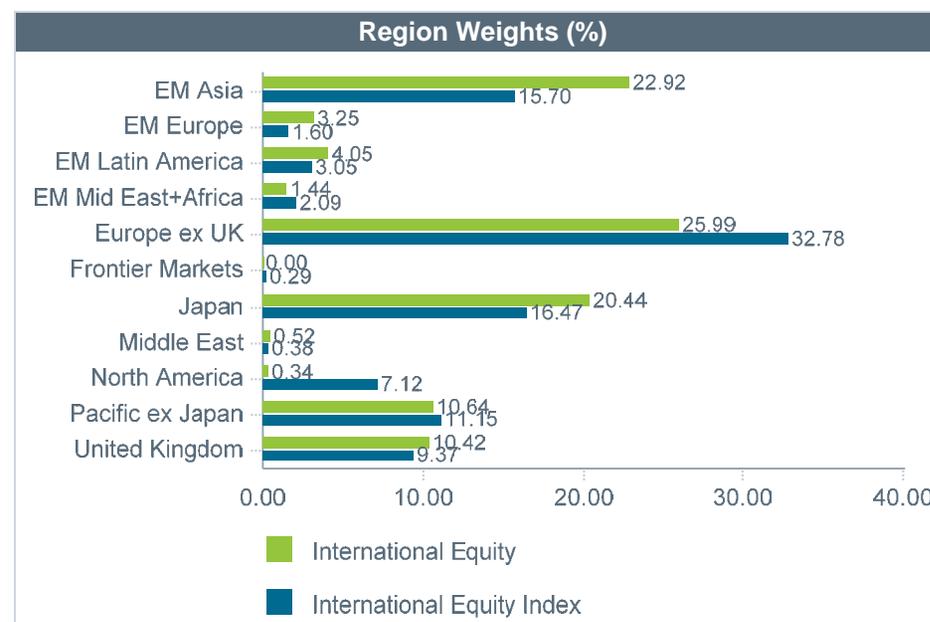
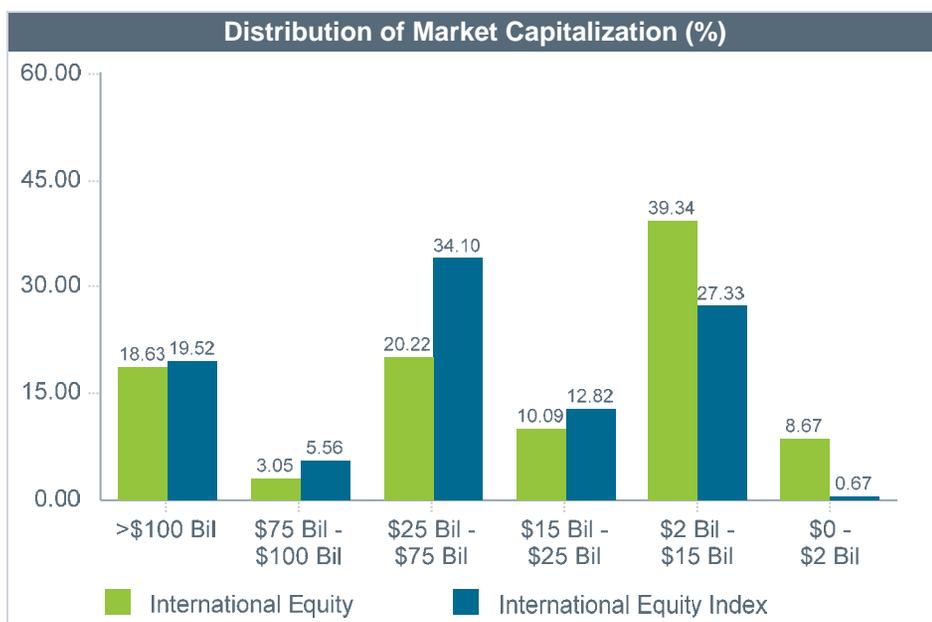
Performance shown is gross of fees. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.

City of Jacksonville Employees' Retirement System
International Equity vs. International Equity Index
Portfolio Characteristics

As of September 30, 2019

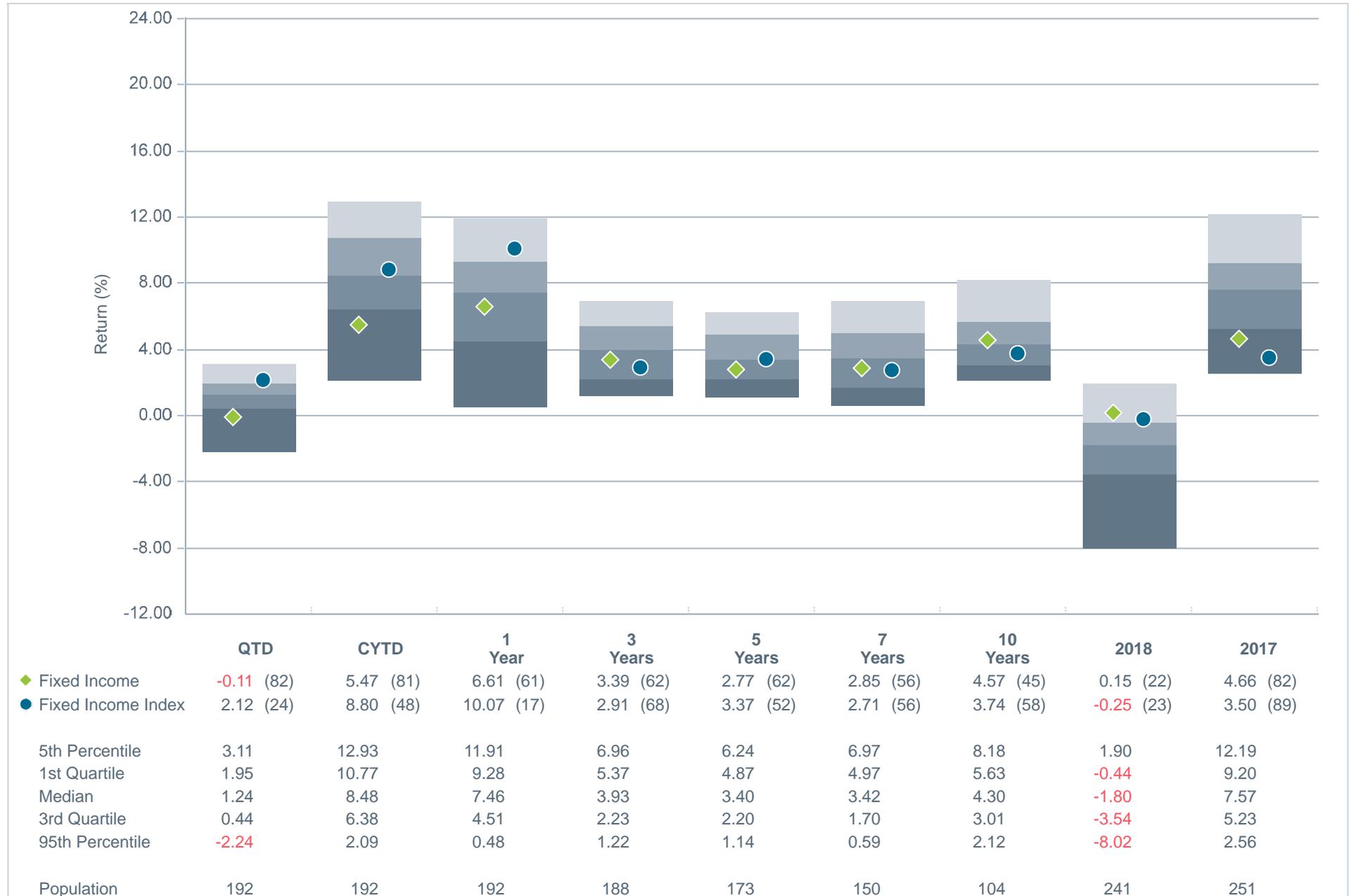
Top Ten Equity Holdings				
	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)
ASML Holding NV	2.06	0.51	1.55	18.51
Sanofi	1.89	0.51	1.38	7.37
Samsung Electronics Co Ltd	1.68	0.95	0.73	1.48
Alibaba Group Holding Ltd	1.66	1.16	0.50	-1.31
Ferrari NV	1.66	0.09	1.57	-5.02
Honda Motor Co Ltd	1.57	0.21	1.36	1.19
Tencent Holdings LTD	1.34	1.17	0.17	-6.71
Credit Suisse Group	1.32	0.15	1.17	2.23
Glaxosmithkline PLC	1.32	0.52	0.80	8.32
China Mobile Ltd	1.11	0.25	0.86	-7.07
% of Portfolio	15.61	5.52	10.09	

Portfolio Characteristics		
	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	51,929	66,278
Median Mkt. Cap (\$M)	2,208	7,597
Price/Earnings Ratio	12.24	14.41
Price/Book Ratio	2.44	2.27
5 Yr. EPS Growth Rate (%)	9.10	8.53
Current Yield (%)	3.26	3.36
Beta (5 Years, Monthly)	1.05	1.00
Number of Securities	638	2,215

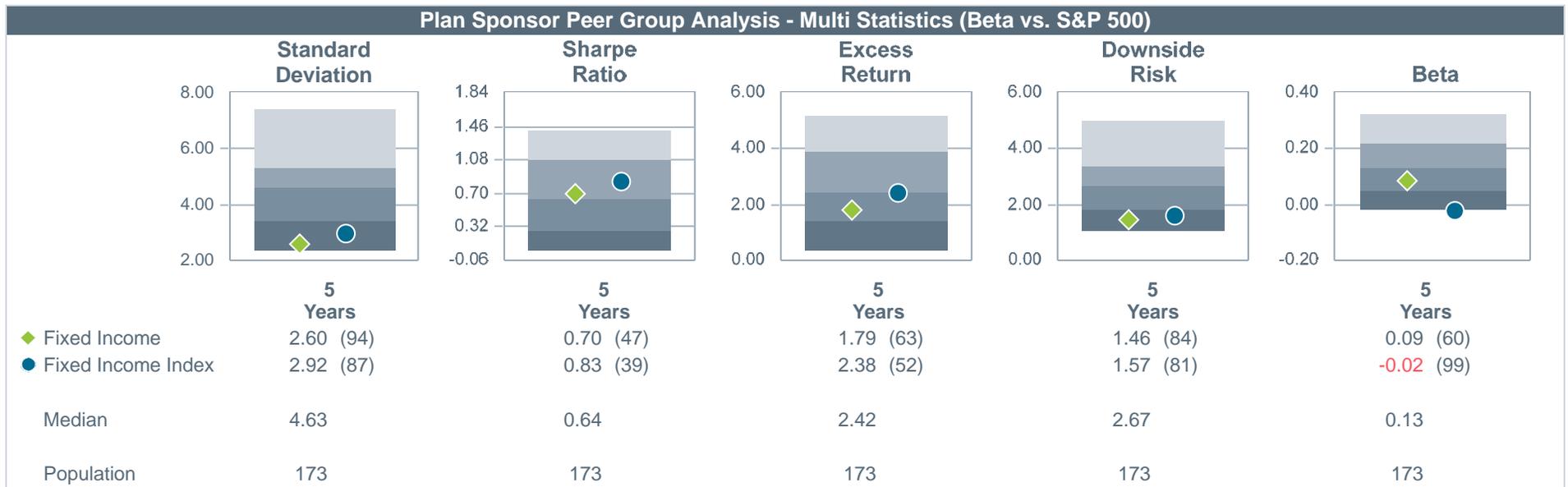
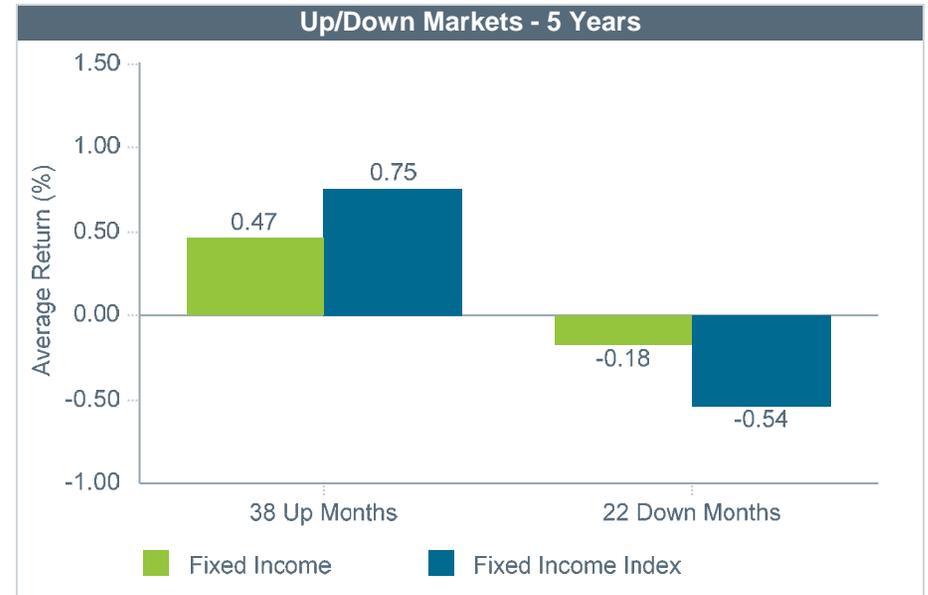
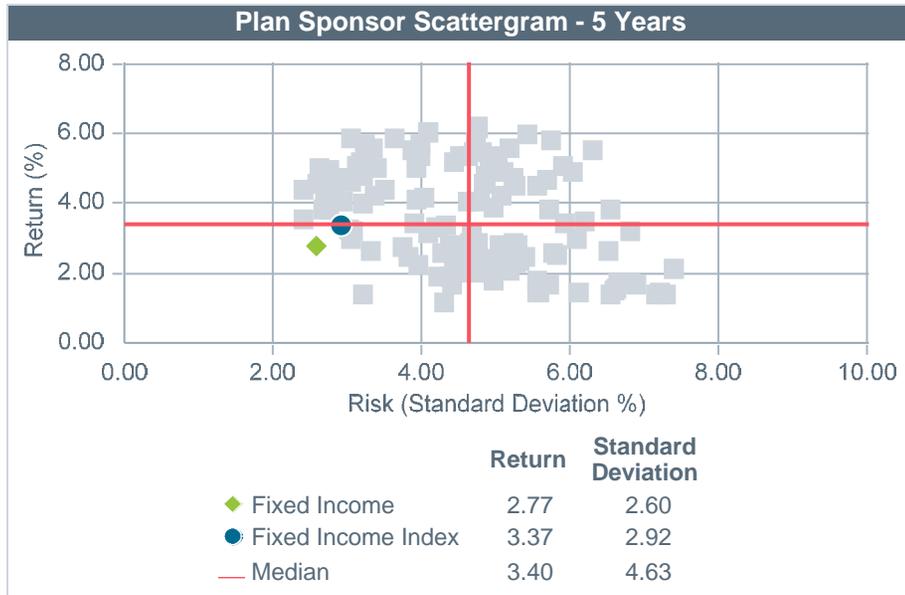


City of Jacksonville Employees' Retirement System
 Fixed Income vs. IM Global Fixed Income (SA+CF)
 Peer Group Analysis

As of September 30, 2019



Performance shown is gross of fees. Parentheses contain percentile ranks.

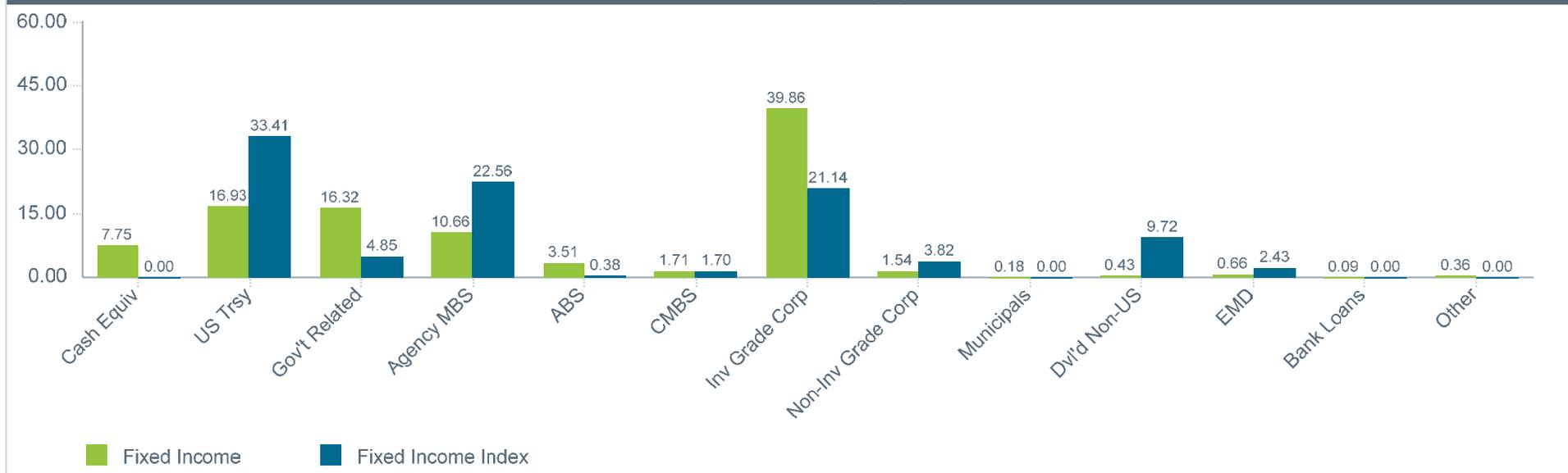


Performance shown is gross of fees. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.

Portfolio Characteristics

	Portfolio	Benchmark
Effective Duration	3.37	5.61
Avg. Maturity	4.96	7.82
Avg. Quality	A1	N/A
Yield To Maturity (%)	3.38	2.67
Coupon Rate (%)	3.77	3.52
Current Yield (%)	3.64	0.20

Sector Distribution (%)

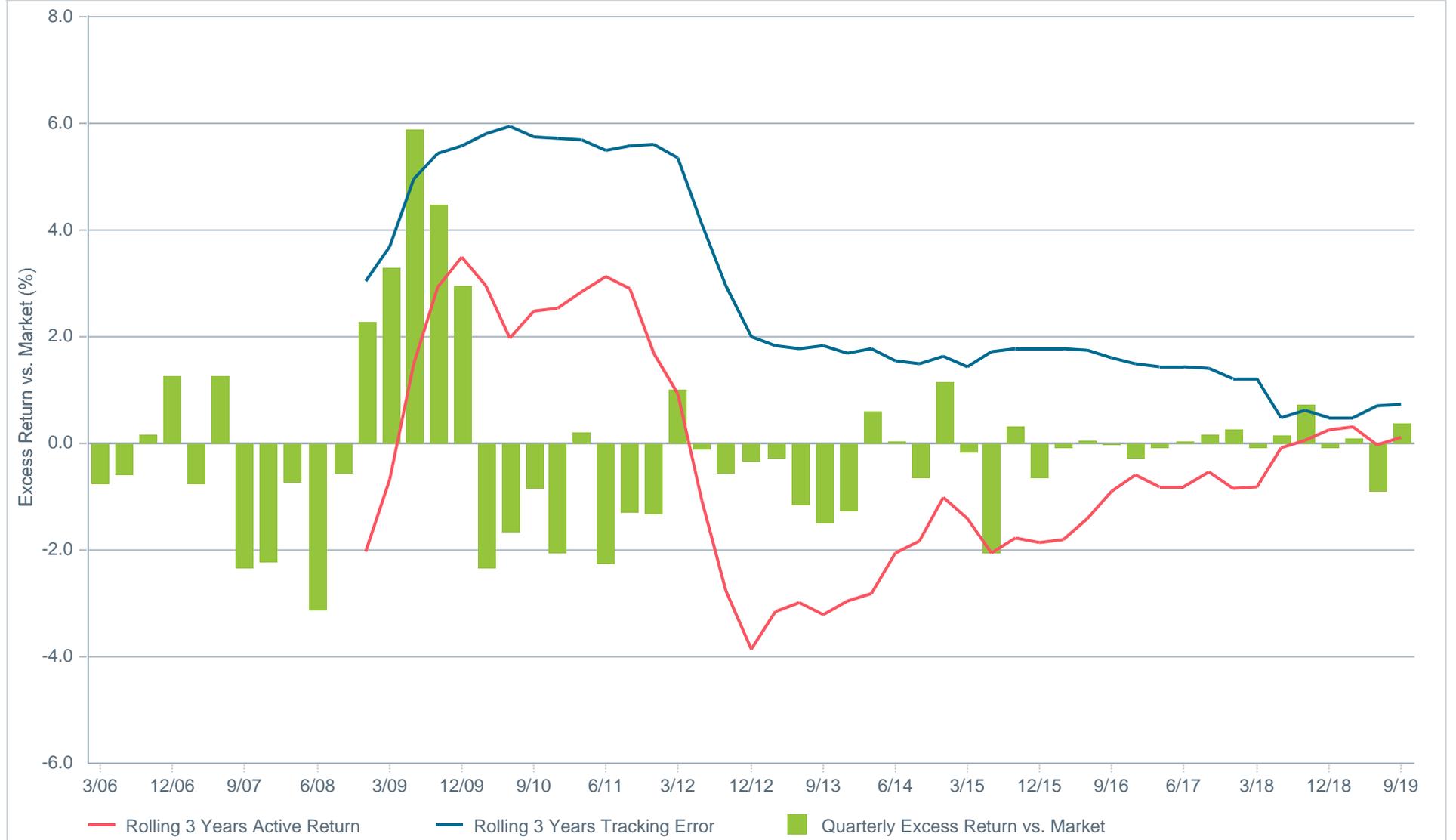


Cash equivalents are defined as any security with duration under one year. Allocation to "Other" consists of convertibles, derivatives, equity, hedges, and preferreds.

City of Jacksonville Employees' Retirement System
 Real Estate vs. NCREIF ODCE Index (AWA) (Gross)
 Comparative Performance & Rolling Return

As of September 30, 2019

	QTD	CYTD	FYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017	2016	Since Incep.	Inception Date
Real Estate	1.68	3.32	5.05	5.05	7.42	9.10	9.43	9.38	9.11	7.99	8.42	6.43	12/01/2005
NCREIF ODCE Index (AWA) (Gross)	1.31	3.77	5.60	5.60	7.31	9.35	10.30	10.86	8.35	7.62	8.77	7.16	
Difference	0.37	-0.45	-0.55	-0.55	0.11	-0.25	-0.87	-1.48	0.76	0.37	-0.35	-0.73	



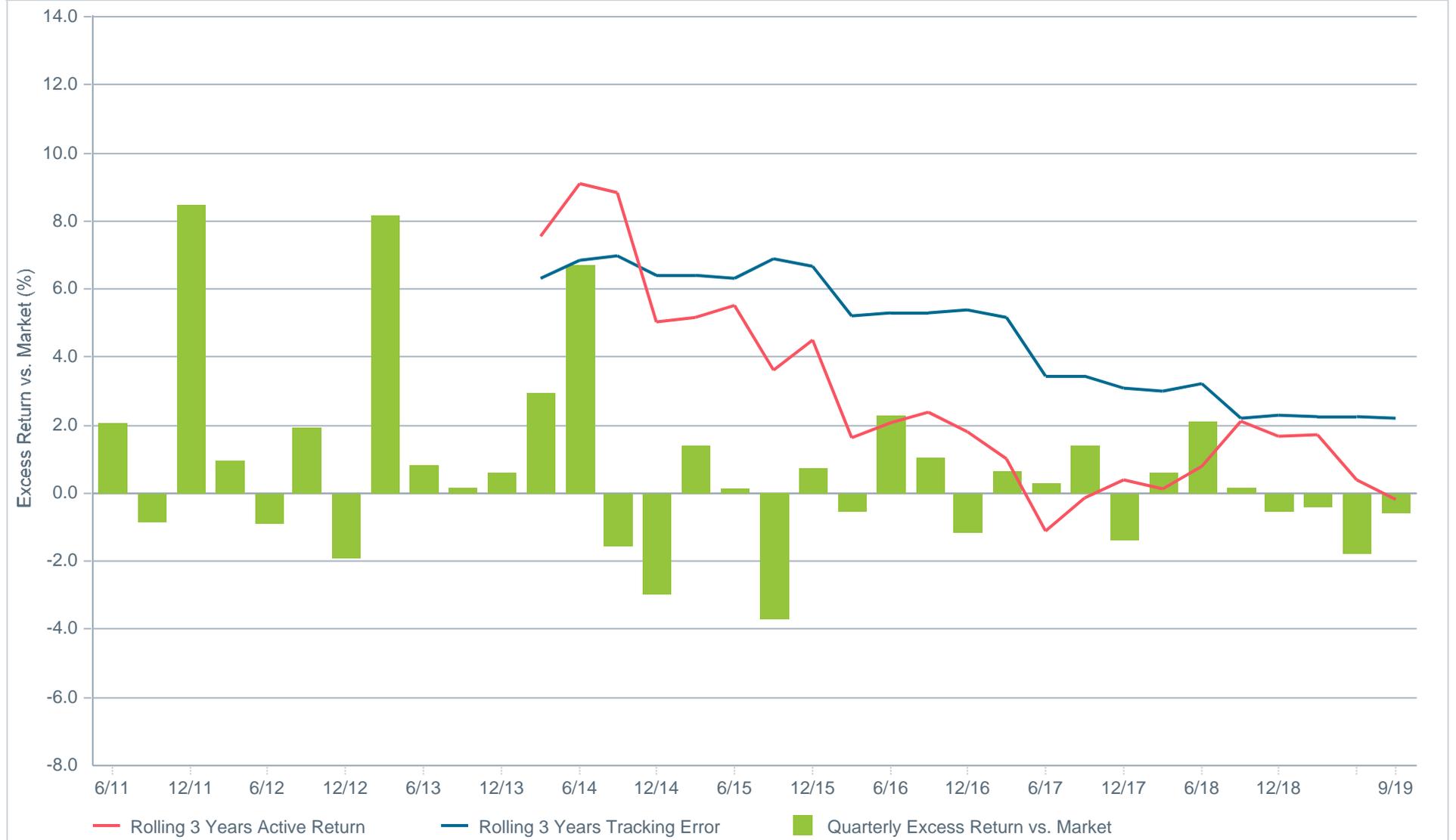
Performance shown is gross of fees. Calculation is based on quarterly periodicity.



City of Jacksonville Employees' Retirement System
 Diversifying Assets vs. Diversifying Assets Index
 Comparative Performance & Rolling Return

As of September 30, 2019

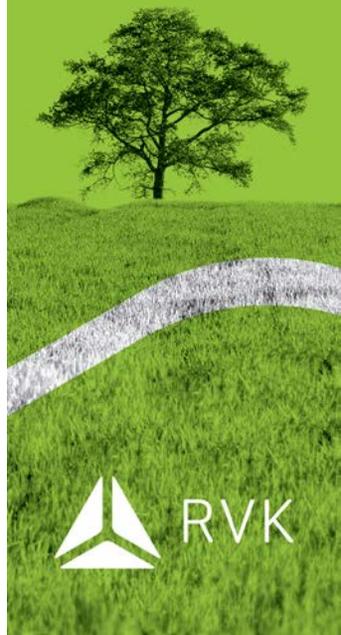
	QTD	CYTD	FYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017	2016	Since Incep.	Inception Date
Diversifying Assets	-3.22	6.48	-6.77	-6.77	1.08	-2.25	5.03	N/A	-4.42	0.33	14.07	6.61	03/01/2011
Diversifying Assets Index	-2.63	9.45	-3.59	-3.59	1.33	-1.58	3.42	5.90	-6.47	-0.66	12.53	3.94	
Difference	-0.59	-2.97	-3.18	-3.18	-0.25	-0.67	1.61	N/A	2.05	0.99	1.54	2.67	



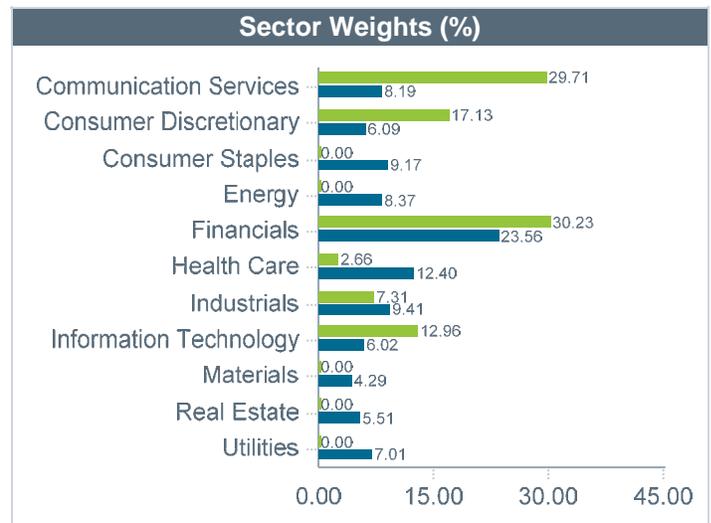
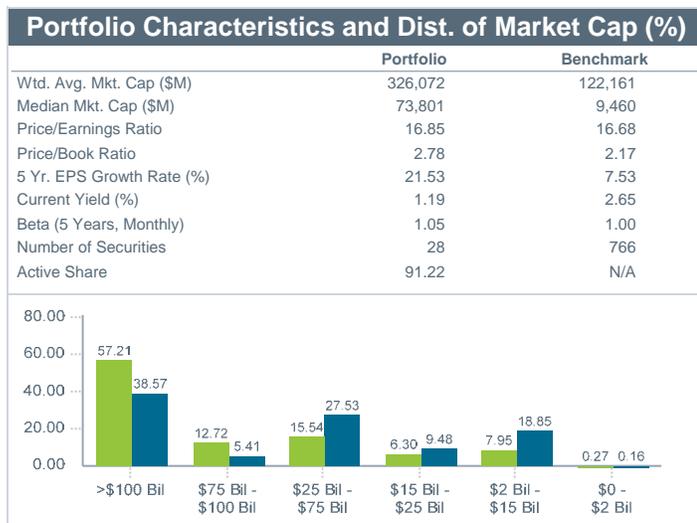
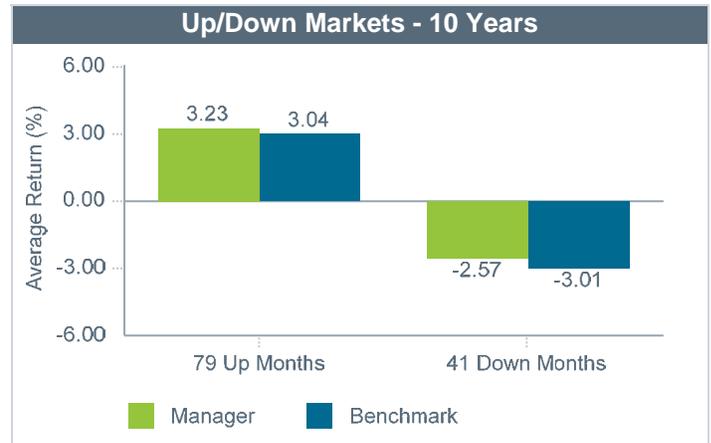
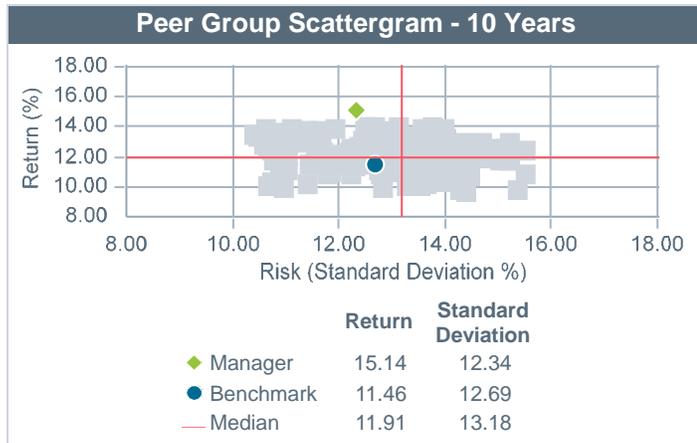
Performance shown is gross of fees. Calculation is based on quarterly periodicity.



Investment Manager Profiles



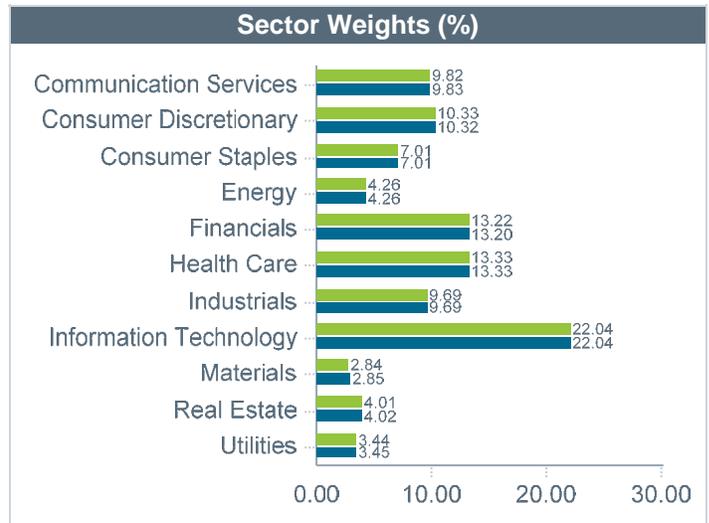
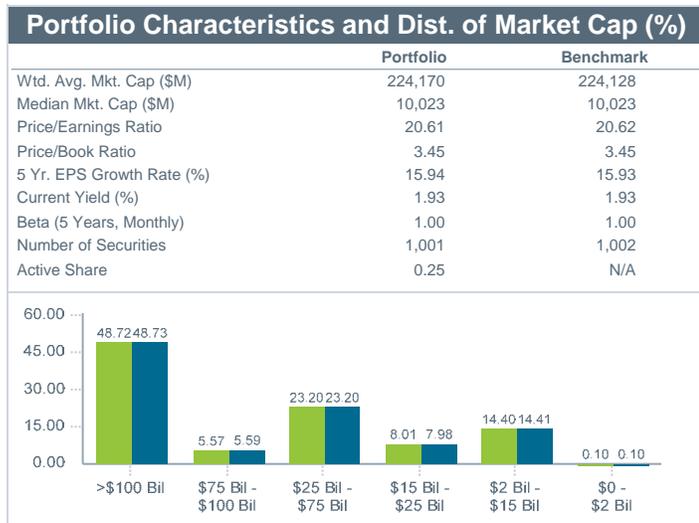
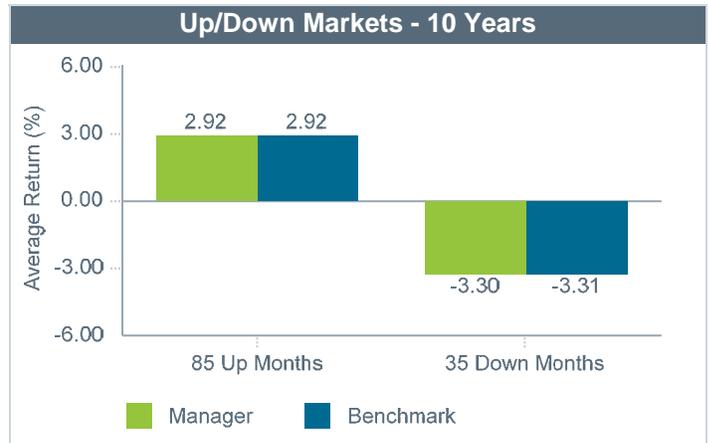
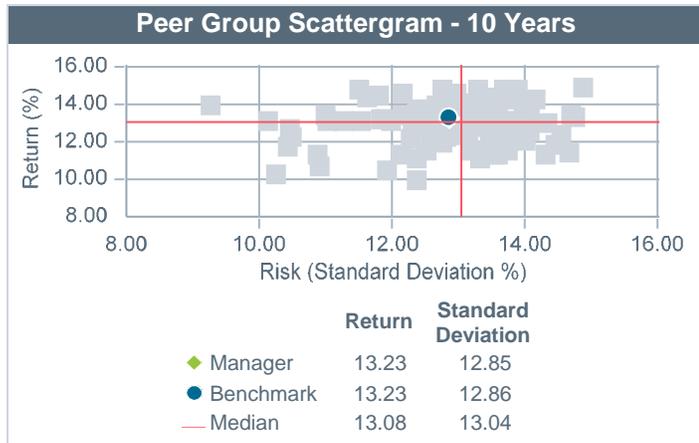
Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017	2016	2015	2014
Manager	-1.19	3.21	15.32	11.29	14.54	15.14	-3.90	24.19	11.46	2.34	12.90
Benchmark	1.36	4.00	9.43	7.79	11.30	11.46	-8.27	13.66	17.34	-3.83	13.45
Difference	-2.55	-0.79	5.89	3.50	3.24	3.68	4.37	10.53	-5.88	6.17	-0.55
Peer Group Median	1.66	2.21	10.45	8.11	11.88	11.91	-8.39	17.22	14.53	-2.25	12.17
Rank	96	42	4	8	3	2	15	7	73	11	42
Population	275	275	272	265	256	233	322	345	372	388	412



Performance shown is gross of fees and client specific. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.

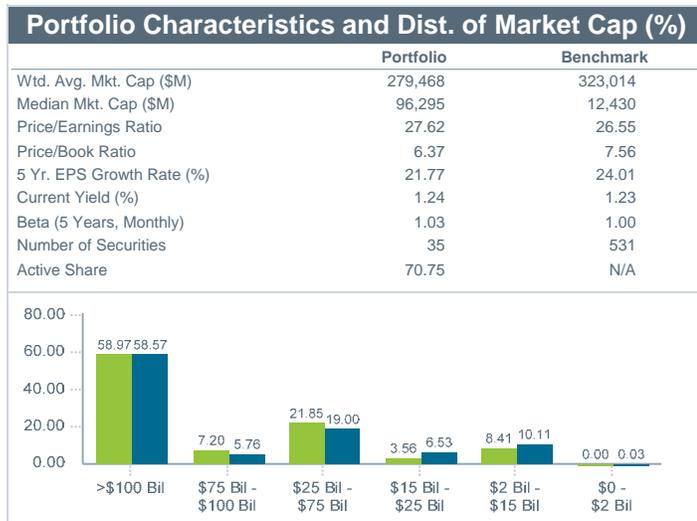
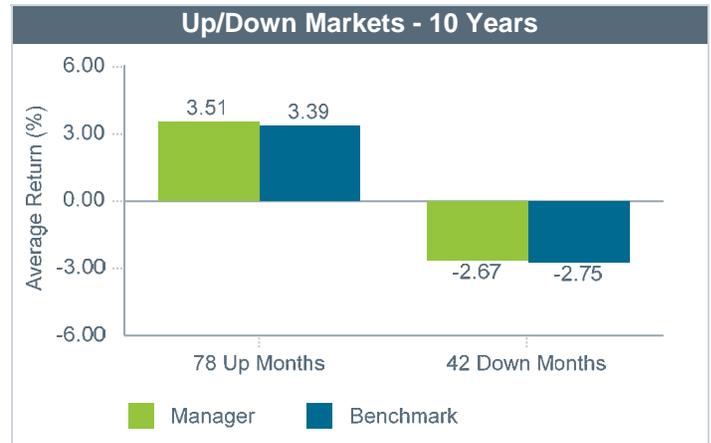
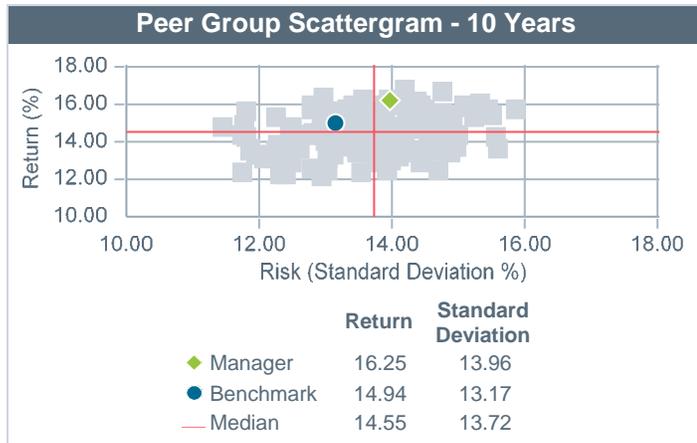


Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017	2016	2015	2014
Manager	1.41	3.89	13.18	10.62	13.21	13.23	-4.77	21.68	12.04	0.93	13.24
Benchmark	1.42	3.87	13.19	10.62	13.21	13.23	-4.78	21.69	12.05	0.92	13.24
Difference	-0.01	0.02	-0.01	0.00	0.00	0.00	0.01	-0.01	-0.01	0.01	0.00
Peer Group Median	1.58	3.38	12.56	10.29	13.16	13.08	-5.20	21.83	10.52	1.43	13.42
Rank	59	46	36	41	48	43	43	53	32	57	53
Population	200	200	195	188	177	162	264	290	311	327	349



Performance shown is gross of fees and product specific. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.

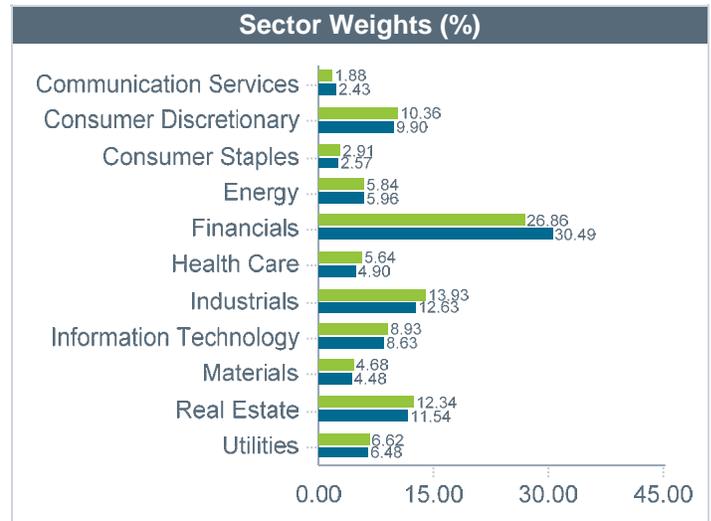
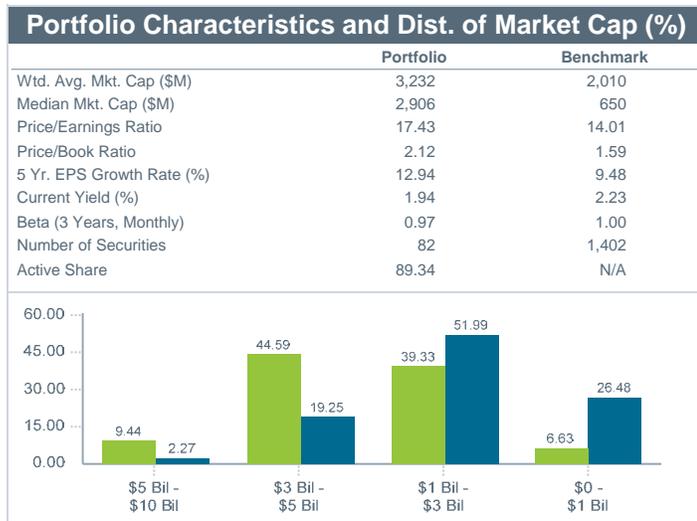
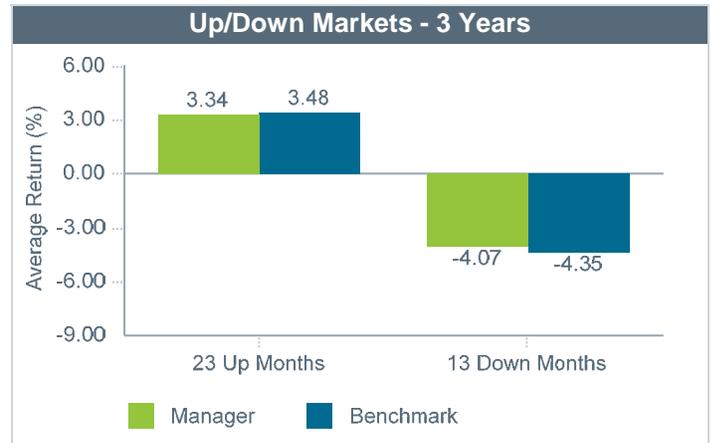
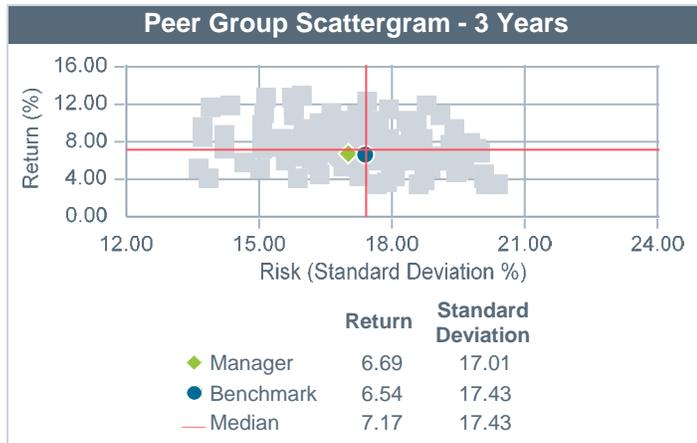
Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017	2016	2015	2014
Manager	-1.38	6.72	14.99	14.69	16.82	16.25	-1.72	34.03	6.54	10.99	11.75
Benchmark	1.49	3.71	16.89	13.39	15.02	14.94	-1.51	30.21	7.08	5.67	13.05
Difference	-2.87	3.01	-1.90	1.30	1.80	1.31	-0.21	3.82	-0.54	5.32	-1.30
Peer Group Median	0.83	4.30	16.23	12.83	14.67	14.56	-1.01	28.16	4.66	4.97	12.02
Rank	85	30	66	18	10	9	56	15	34	11	55
Population	220	220	211	207	196	185	272	286	309	339	350



Performance shown is gross of fees and product specific. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.

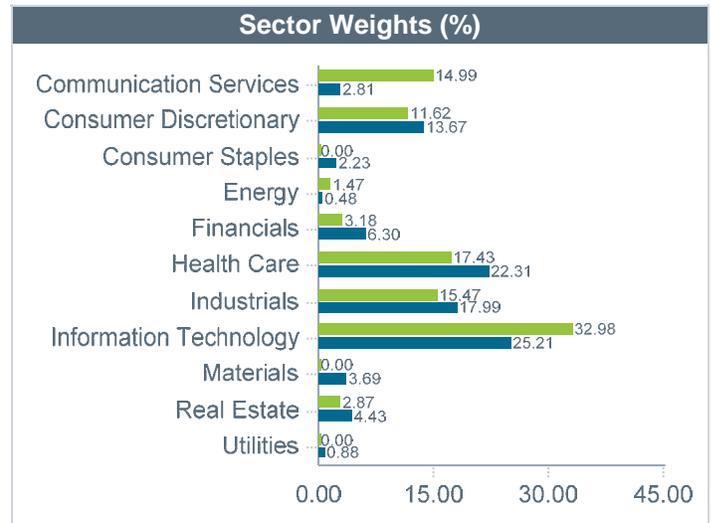
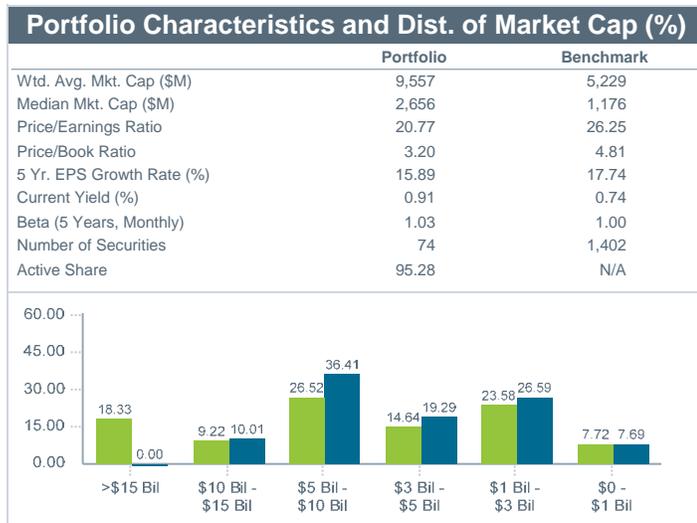
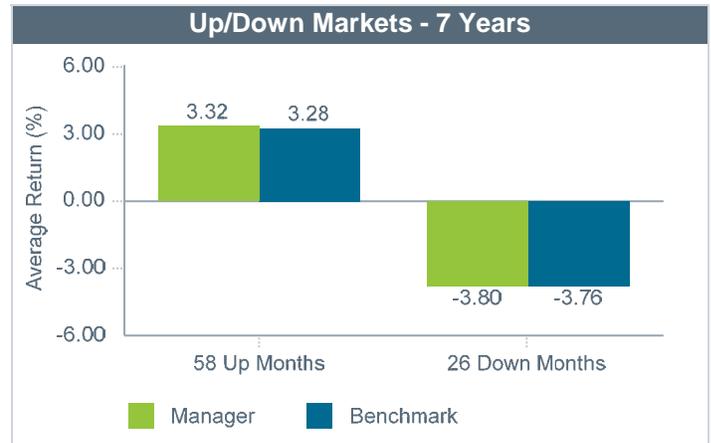
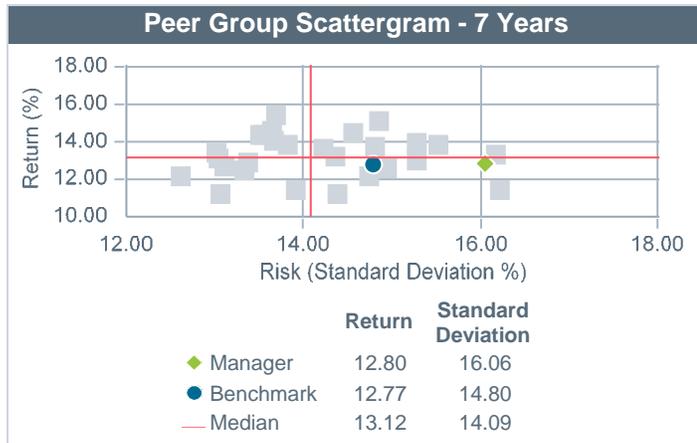


Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017	2016	2015	2014
Manager	-0.86	-6.02	6.69	N/A	N/A	N/A	-14.72	8.97	27.58	-4.33	N/A
Benchmark	-0.57	-8.24	6.54	7.17	9.35	10.06	-12.86	7.84	31.74	-7.47	4.22
Difference	-0.29	2.22	0.15	N/A	N/A	N/A	-1.86	1.13	-4.16	3.14	N/A
Peer Group Median	-0.20	-6.34	7.17	7.64	10.97	11.72	-14.26	11.56	26.14	-4.29	5.71
Rank	65	48	60	N/A	N/A	N/A	55	67	43	52	N/A
Population	187	186	182	180	173	158	215	225	232	242	253



Performance shown is gross of fees and client specific. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.

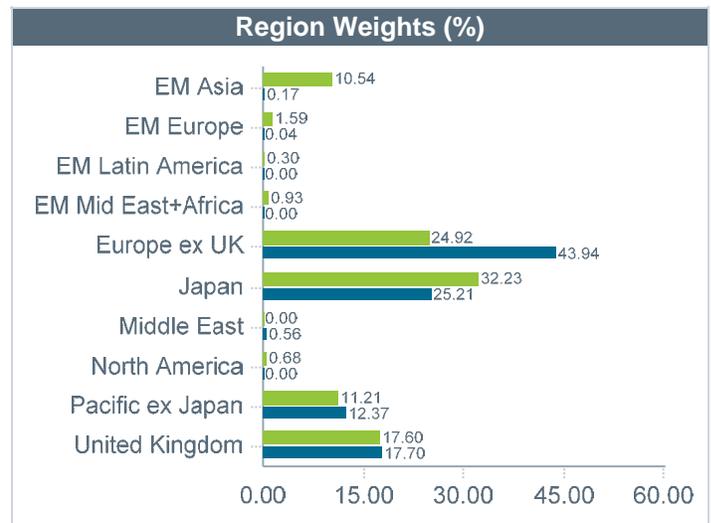
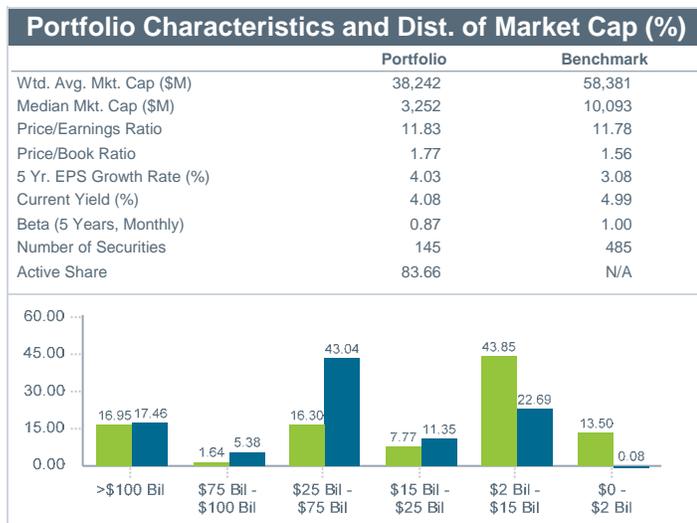
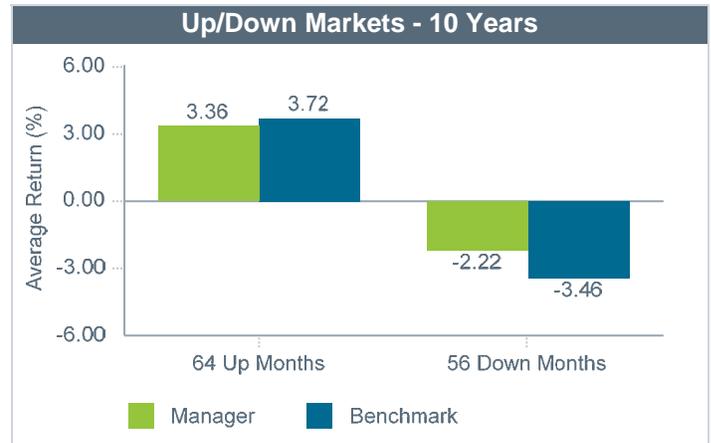
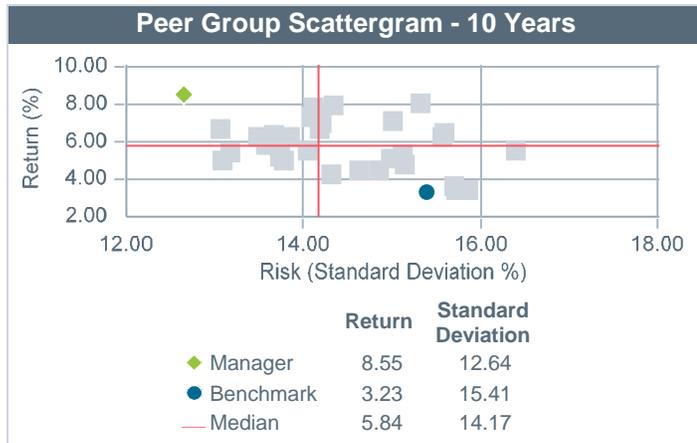
Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017	2016	2015	2014
Manager	0.34	-1.16	12.38	9.14	12.80	N/A	-10.36	25.99	5.26	0.62	8.59
Benchmark	-3.18	-4.11	12.33	10.22	12.77	13.48	-7.47	24.46	9.73	-0.19	7.05
Difference	3.52	2.95	0.05	-1.08	0.03	N/A	-2.89	1.53	-4.47	0.81	1.54
Peer Group Median	-2.99	-2.36	14.47	11.14	13.12	14.35	-4.60	24.95	8.56	0.14	5.54
Rank	13	40	79	80	59	N/A	87	45	77	40	24
Population	50	49	47	39	34	30	60	61	68	69	72



Performance shown is gross of fees and client specific. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.

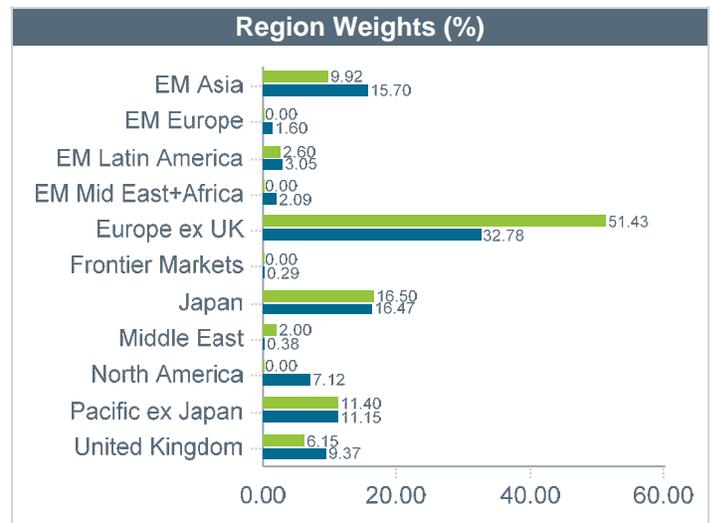
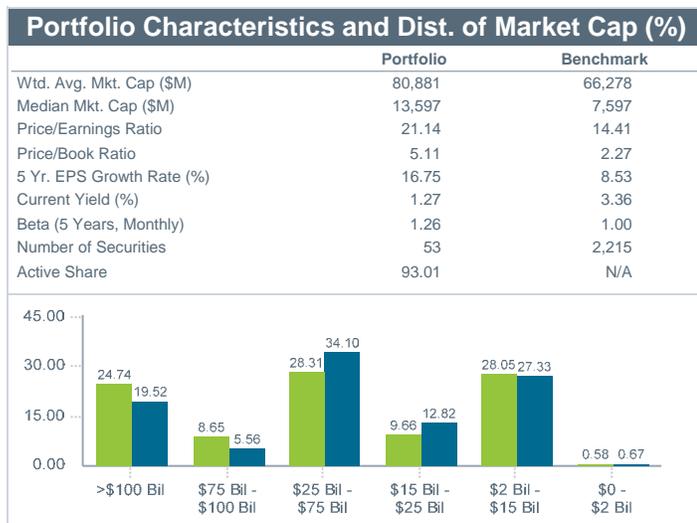
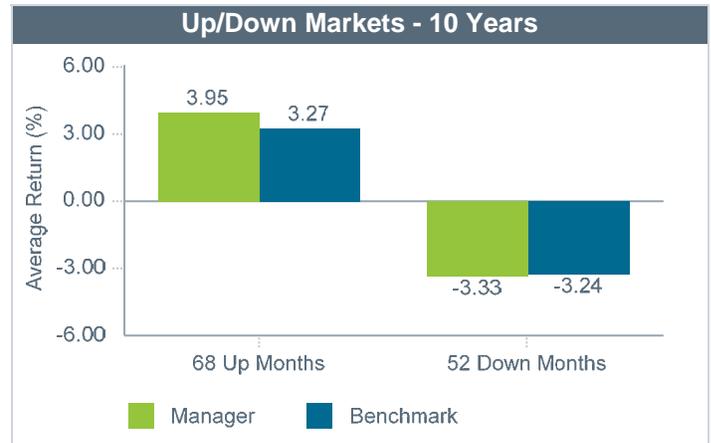
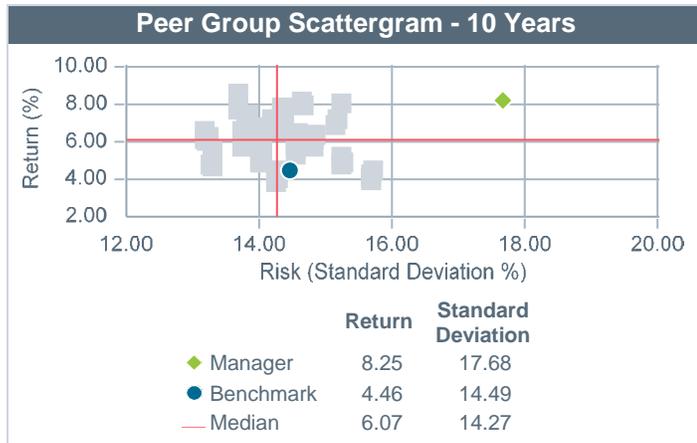


Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017	2016	2015	2014
Manager	-1.24	-3.65	6.97	4.93	8.84	8.55	-13.74	28.10	8.27	2.35	-0.92
Benchmark	-1.74	-4.92	5.10	0.99	4.70	3.23	-14.78	21.44	5.02	-5.68	-5.39
Difference	0.50	1.27	1.87	3.94	4.14	5.32	1.04	6.66	3.25	8.03	4.47
Peer Group Median	-1.18	-4.74	5.52	2.99	6.29	5.84	-15.76	24.17	3.15	-1.05	-4.30
Rank	58	46	16	20	13	5	41	26	9	26	14
Population	47	47	47	46	44	43	59	61	65	76	77



Performance shown is gross of fees and product specific. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.

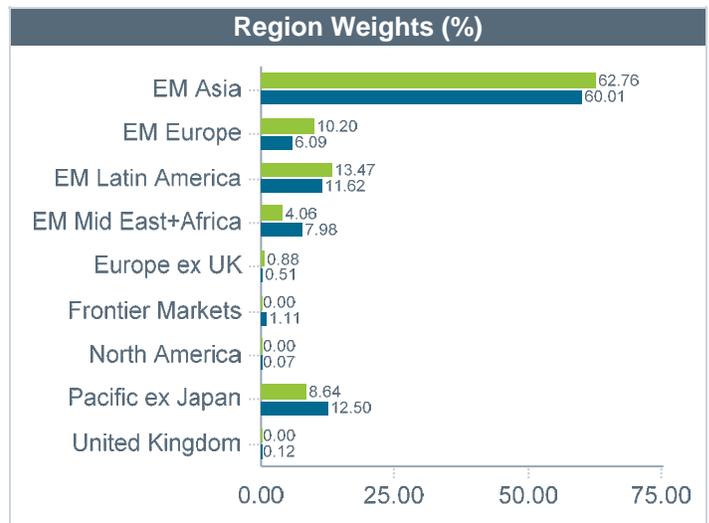
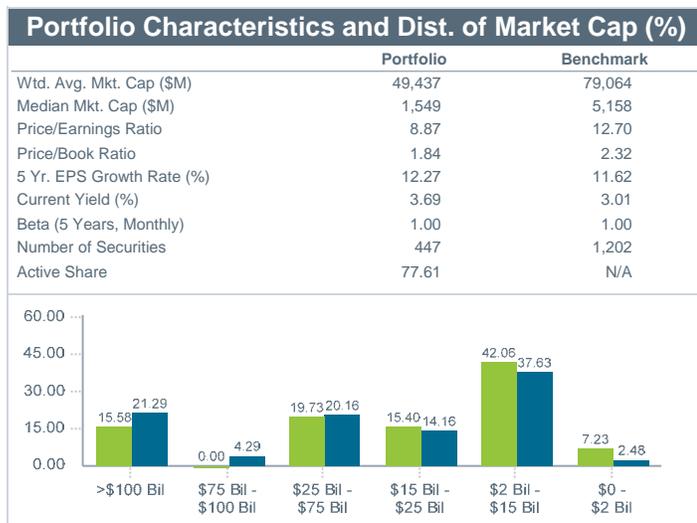
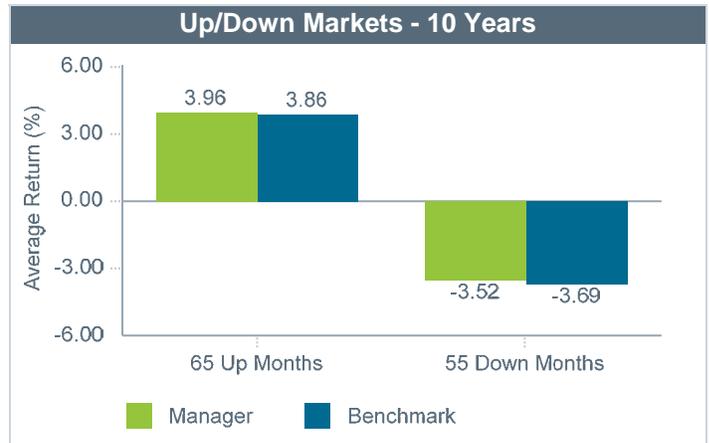
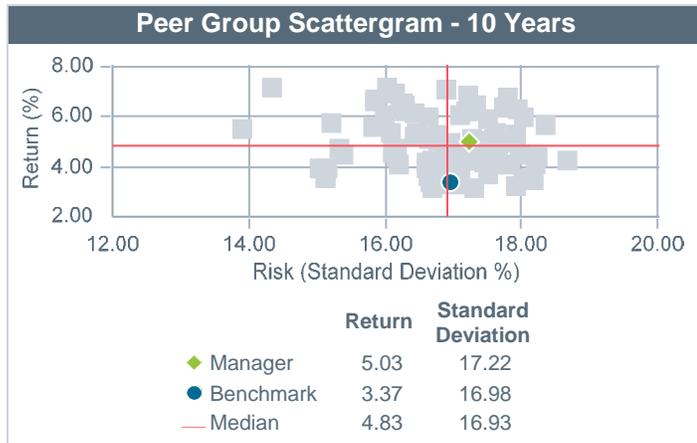
Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017	2016	2015	2014
Manager	-2.58	-2.59	10.82	7.12	9.13	8.25	-17.23	46.37	1.43	-2.99	-6.88
Benchmark	-1.80	-1.23	6.33	2.90	5.01	4.46	-14.20	27.19	4.50	-5.66	-3.87
Difference	-0.78	-1.36	4.49	4.22	4.12	3.79	-3.03	19.18	-3.07	2.67	-3.01
Peer Group Median	-1.40	0.75	7.20	4.90	6.42	6.07	-14.32	32.37	-0.80	0.27	-3.22
Rank	76	83	10	21	13	7	79	5	17	100	85
Population	174	174	167	134	120	102	176	188	165	143	146



Performance shown is net of fees and client specific. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.

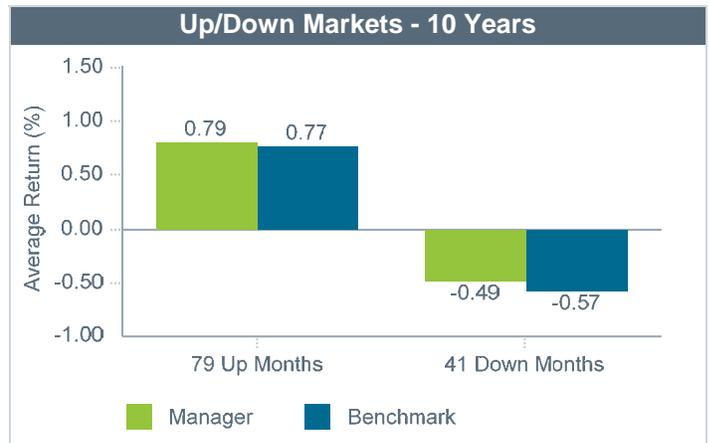
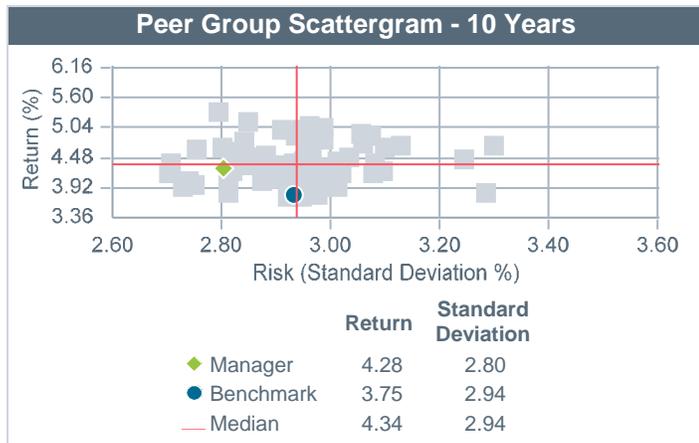


Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017	2016	2015	2014
Manager	-4.11	-4.33	5.20	1.91	2.95	5.03	-18.30	38.94	14.08	-17.37	2.40
Benchmark	-4.25	-2.02	5.97	2.33	2.41	3.37	-14.58	37.28	11.19	-14.92	-2.19
Difference	0.14	-2.31	-0.77	-0.42	0.54	1.66	-3.72	1.66	2.89	-2.45	4.59
Peer Group Median	-3.62	0.07	5.97	3.09	4.00	4.83	-15.24	36.81	10.32	-12.64	-0.09
Rank	61	88	64	76	77	45	81	37	22	90	31
Population	248	247	242	217	175	113	303	321	333	338	332



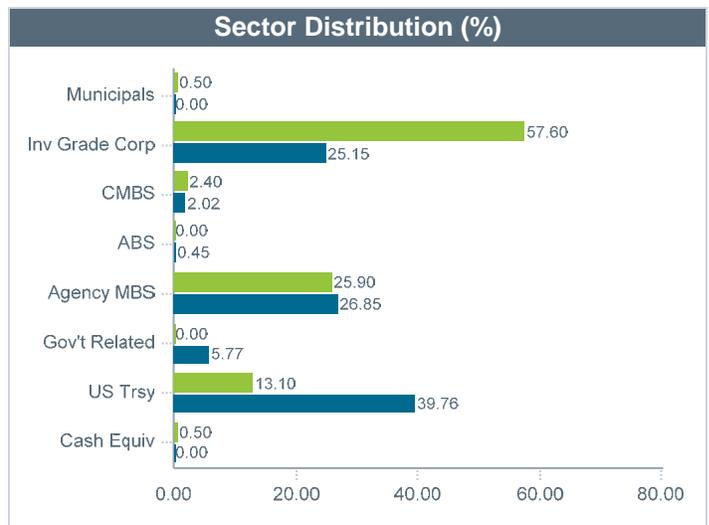
Performance shown is gross of fees and product specific. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017	2016	2015	2014
Manager	2.16	10.15	3.19	3.69	3.13	4.28	0.26	3.84	3.08	1.21	6.63
Benchmark	2.27	10.30	2.92	3.38	2.72	3.75	0.01	3.54	2.65	0.55	5.97
Difference	-0.11	-0.15	0.27	0.31	0.41	0.53	0.25	0.30	0.43	0.66	0.66
Peer Group Median	2.33	10.47	3.35	3.72	3.13	4.34	0.07	4.06	3.12	0.83	6.17
Rank	85	79	65	58	50	58	31	62	54	18	30
Population	118	118	116	112	107	103	148	155	163	168	182



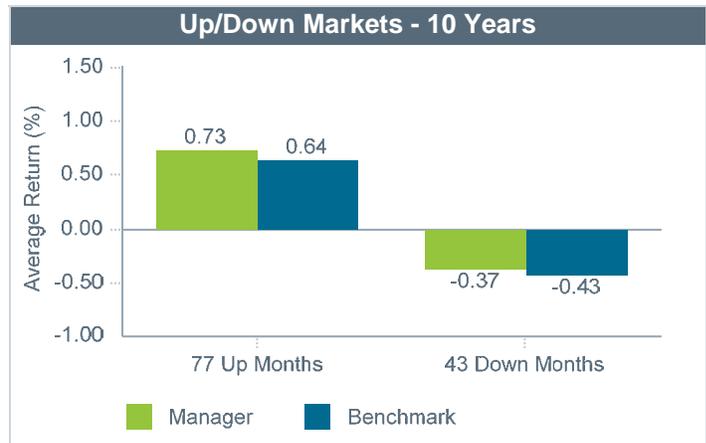
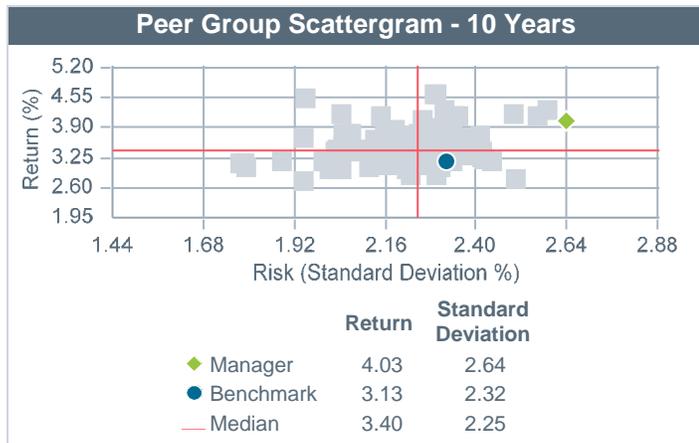
Portfolio Characteristics

	Portfolio	Benchmark
Effective Duration	5.02	5.78
Spread Duration	4.06	6.04
Avg. Maturity	6.71	7.92
Avg. Quality	Aa2	Aa1/Aa2
Yield To Maturity (%)	2.42	2.27
Coupon Rate (%)	3.95	3.20
Current Yield (%)	3.56	N/A
Holdings Count	194	10,904



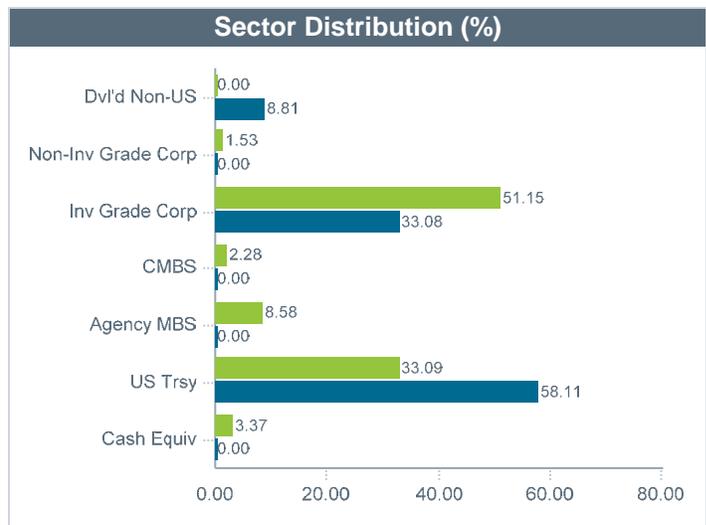
Performance shown is gross of fees and client specific. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017	2016	2015	2014
Manager	1.21	7.30	2.91	2.87	2.70	4.03	-0.10	3.38	4.66	-0.91	4.05
Benchmark	1.39	8.18	2.45	2.73	2.20	3.13	0.89	2.17	2.15	1.17	3.34
Difference	-0.18	-0.88	0.46	0.14	0.50	0.90	-0.99	1.21	2.51	-2.08	0.71
Peer Group Median	1.42	8.04	2.63	2.92	2.42	3.40	0.95	2.55	2.39	1.31	3.56
Rank	86	82	24	57	25	16	98	17	5	100	33
Population	132	132	129	126	123	111	159	167	178	177	179



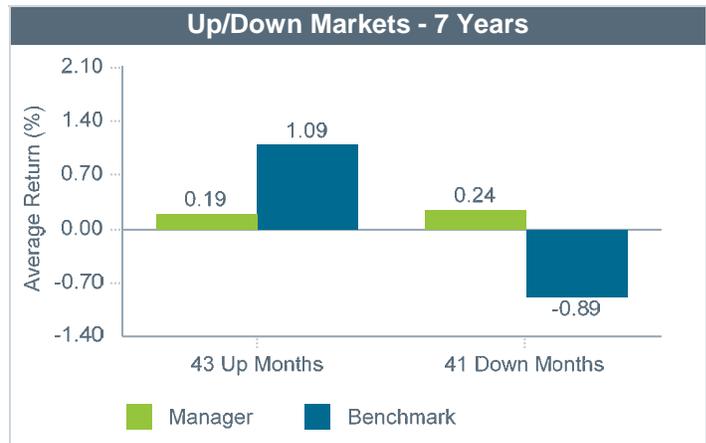
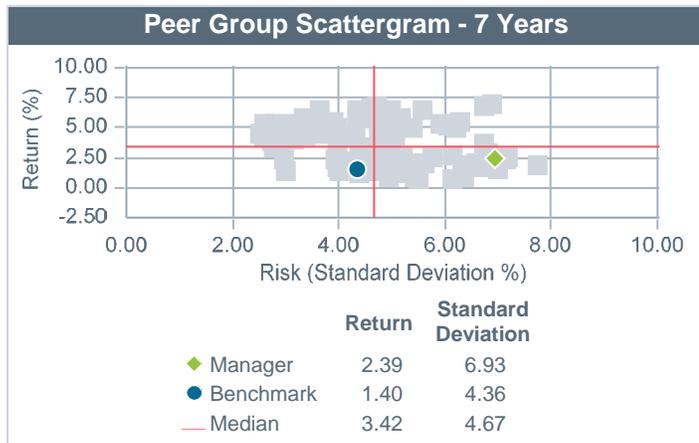
Portfolio Characteristics

	Portfolio	Benchmark
Effective Duration	3.77	3.88
Spread Duration	N/A	3.89
Avg. Maturity	4.46	4.29
Avg. Quality	Aa3	Aa2
Yield To Maturity (%)	2.50	2.00
Coupon Rate (%)	3.13	2.80
Current Yield (%)	3.00	2.85
Holdings Count	137	6,668



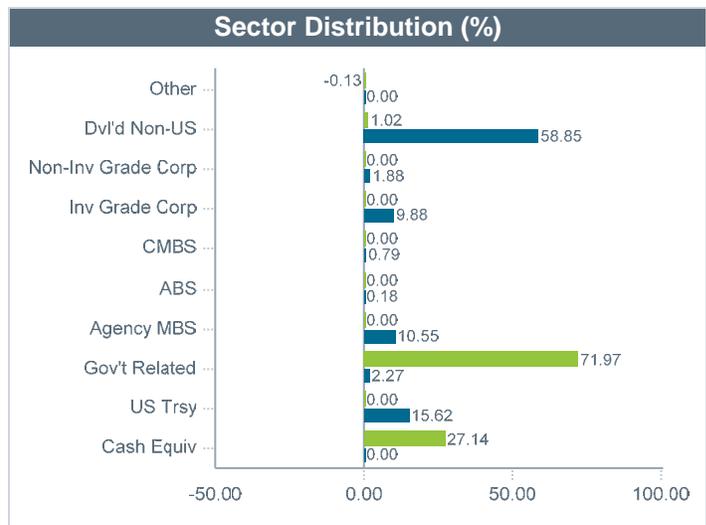
Performance shown is gross of fees and client specific. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017	2016	2015	2014
Manager	-5.60	0.20	3.20	1.17	2.39	N/A	0.52	5.06	8.01	-3.43	0.81
Benchmark	0.63	7.54	1.81	2.14	1.40	2.55	-1.36	7.69	2.84	-3.29	0.48
Difference	-6.23	-7.34	1.39	-0.97	0.99	N/A	1.88	-2.63	5.17	-0.14	0.33
Peer Group Median	1.24	7.46	3.93	3.40	3.42	4.30	-1.80	7.57	5.83	-2.30	2.78
Rank	100	96	64	95	61	N/A	18	77	38	65	75
Population	192	192	188	173	150	104	241	251	265	275	274



Portfolio Characteristics

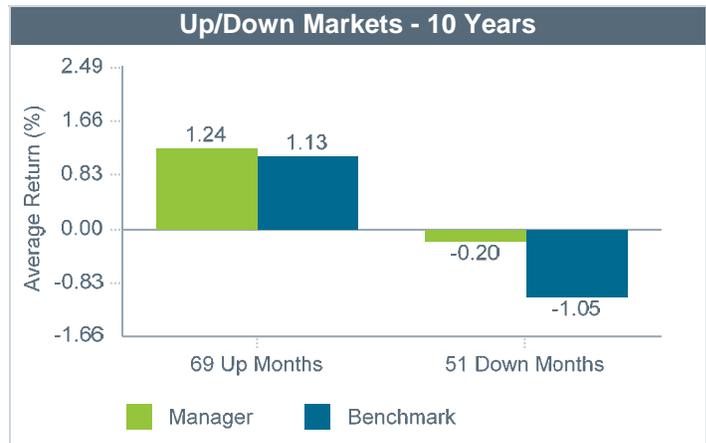
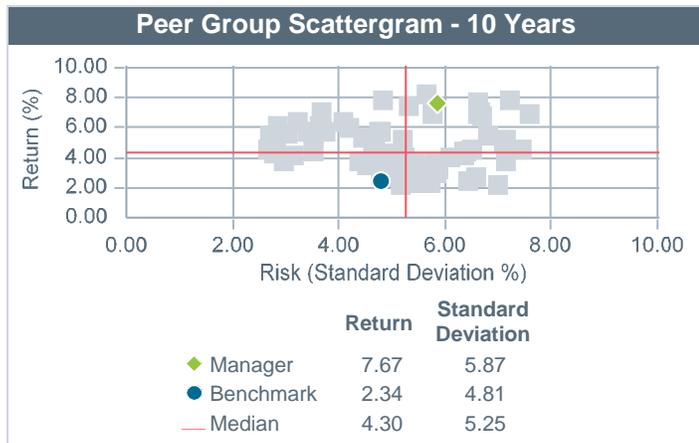
	Portfolio	Benchmark
Effective Duration	-1.23	7.02
Spread Duration	-1.22	N/A
Avg. Maturity	1.15	8.84
Avg. Quality	A3	N/A
Yield To Maturity (%)	5.32	1.54
Coupon Rate (%)	4.22	2.84
Current Yield (%)	4.31	0.11
Holdings Count	256	27,899



Performance shown is gross of fees and product specific. Calculation is based on monthly periodicity. Parentheses contain percentile ranks. Allocation to "Other" consists of derivatives and equity.

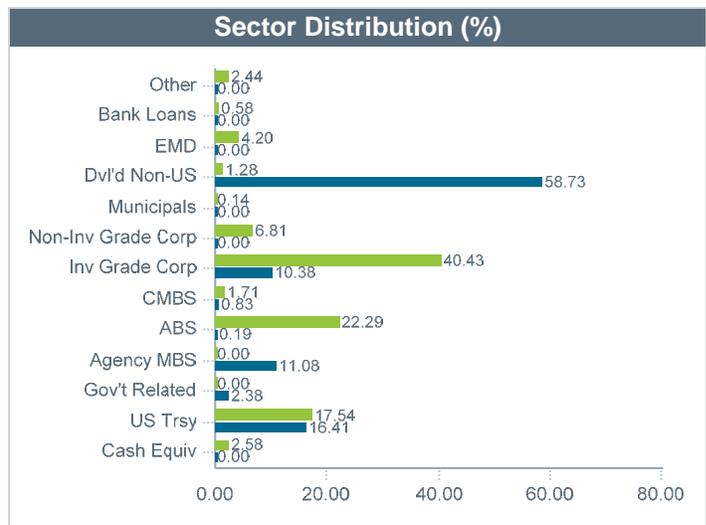


Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017	2016	2015	2014
Manager	1.41	8.59	5.44	4.76	5.57	7.67	0.09	8.74	10.44	-4.09	7.53
Benchmark	0.71	7.60	1.59	2.00	1.21	2.34	-1.19	7.39	2.09	-3.15	0.59
Difference	0.70	0.99	3.85	2.76	4.36	5.33	1.28	1.35	8.35	-0.94	6.94
Peer Group Median	1.24	7.46	3.93	3.40	3.42	4.30	-1.80	7.57	5.83	-2.30	2.78
Rank	43	34	25	27	18	9	23	28	25	76	14
Population	192	192	188	173	150	104	241	251	265	275	274



Portfolio Characteristics

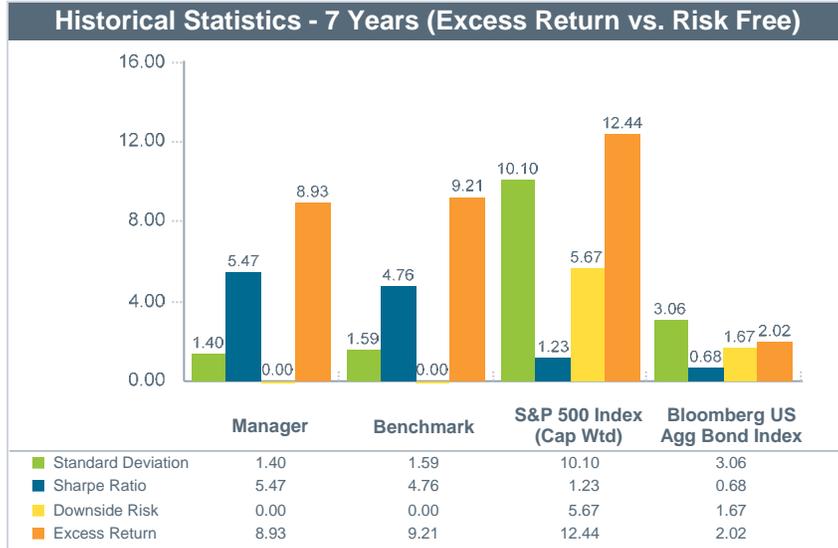
	Portfolio	Benchmark
Effective Duration	5.97	7.18
Spread Duration	3.49	N/A
Avg. Maturity	7.98	8.96
Avg. Quality	A3	N/A
Yield To Maturity (%)	4.16	1.30
Coupon Rate (%)	4.00	2.66
Current Yield (%)	4.05	0.02
Holdings Count	536	24,484



Performance shown is gross of fees and product specific. Calculation is based on monthly periodicity. Parentheses contain percentile ranks. Allocation to "Other" consists of preferred equity, convertibles, and hedges.

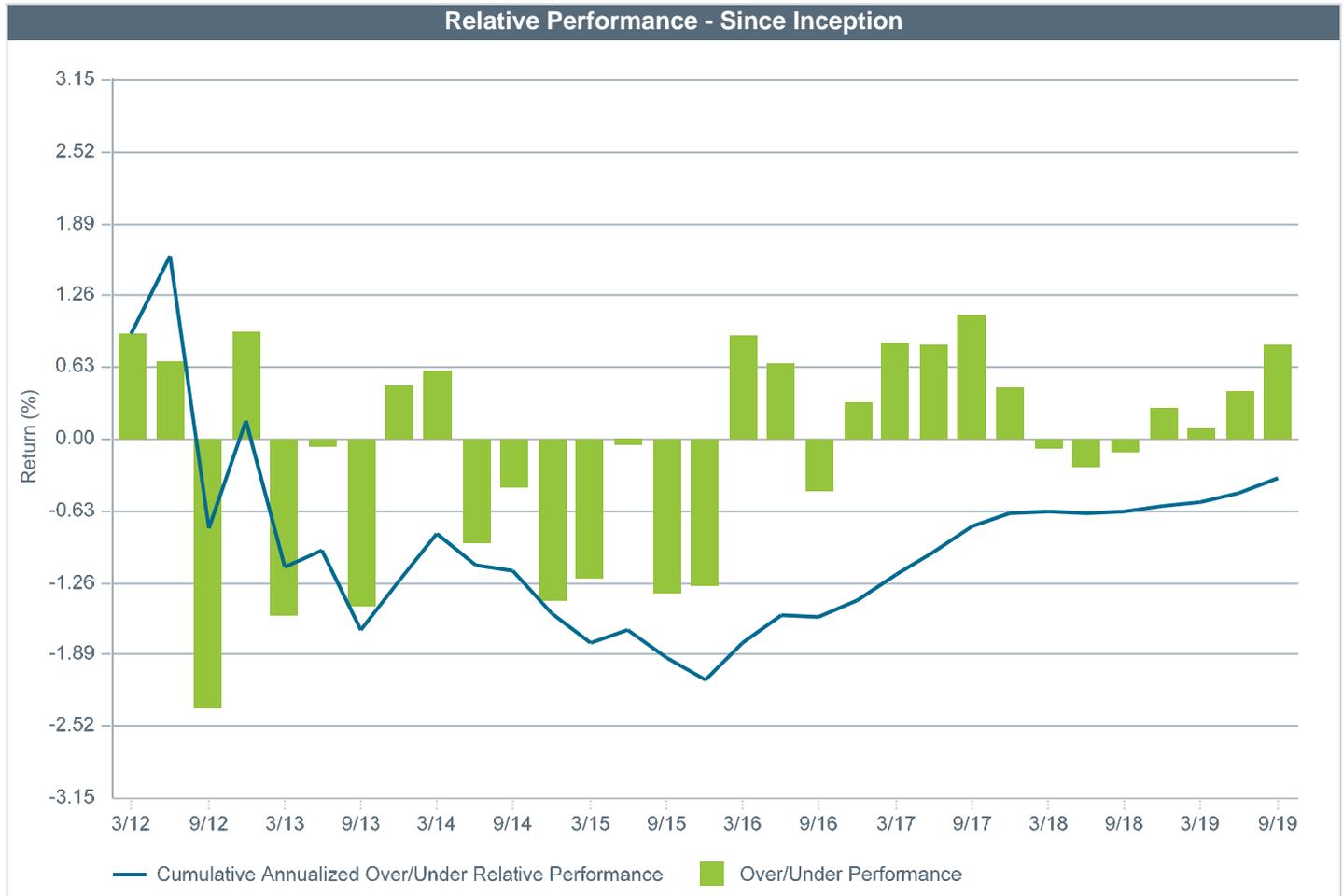


Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017	2016	2015	2014
Manager	2.16	7.34	9.01	9.45	9.99	N/A	8.18	11.11	10.34	10.60	10.11
Benchmark	1.31	5.60	7.31	9.35	10.30	10.86	8.35	7.62	8.77	15.02	12.50
Difference	0.84	1.74	1.70	0.10	-0.31	N/A	-0.17	3.49	1.57	-4.42	-2.39



Actual Correlation - 7 Years

	Actual Correlation
NCREIF ODCE Index (AWA) (Gross)	0.36
S&P 500 Index (Cap Wtd)	-0.18
Russell 2000 Index	-0.20
MSCI EAFE Index (USD) (Net)	-0.10
MSCI Emg Mkts Index (USD) (Net)	0.01
Bloomberg US Agg Bond Index	-0.31
Bloomberg US Trsy US TIPS Index	-0.36
Wilshire US REIT Index	-0.37
HFRI FOF Comp Index	-0.14
Bloomberg Cmdb Index (TR)	0.10
ICE BofAML 3 Mo US T-Bill Index	-0.43
Cons Price Index (Unadjusted)	-0.07
NCREIF ODCE Index (AWA) (Gross)	0.36



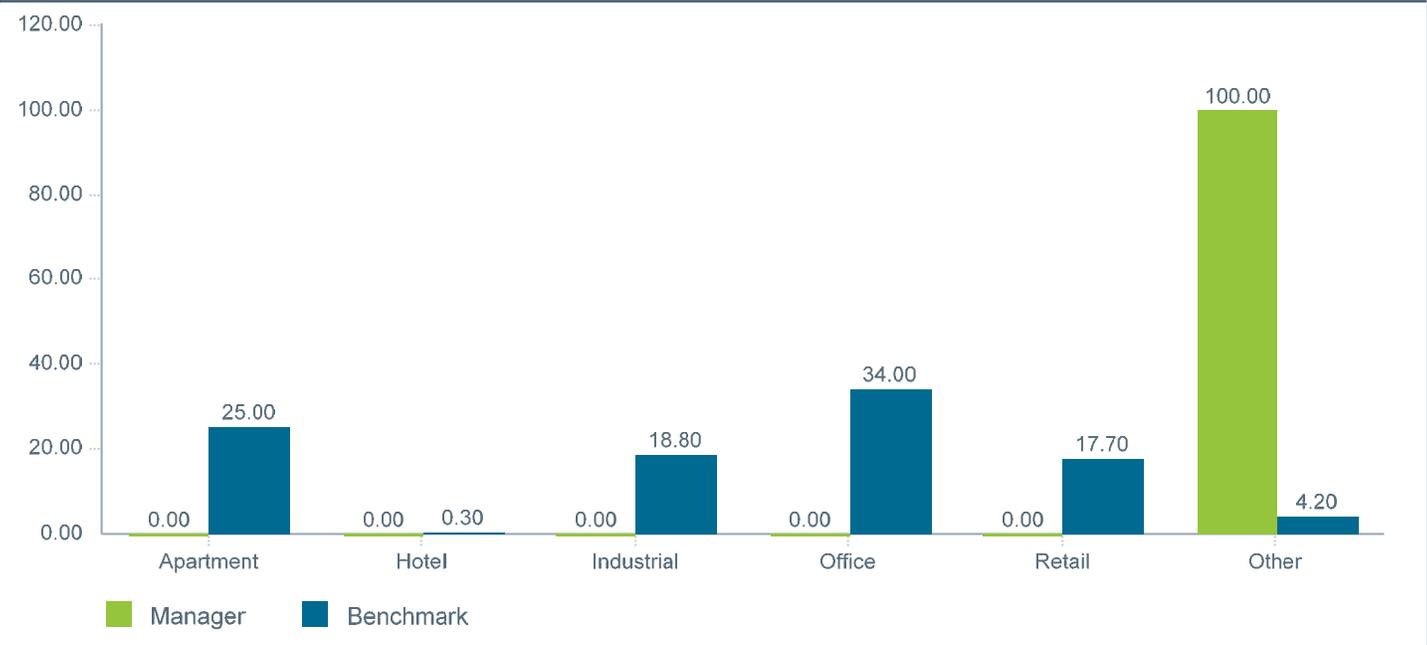
Investment Strategy

The Fund's strategy is on primarily stabilized income-producing investments in niche sectors; Education, Health, and Storage. Within these sectors the fund invests in student housing, seniors housing, medical office buildings, life science buildings, and self-storage. The majority of the return from the Fund is expected to be realized from current income, with a modest portion of the return to be derived from asset appreciation. Harrison Street believes that the primary property types it targets will provide better risk/return profiles than properties in traditional core portfolios across all economic cycles.

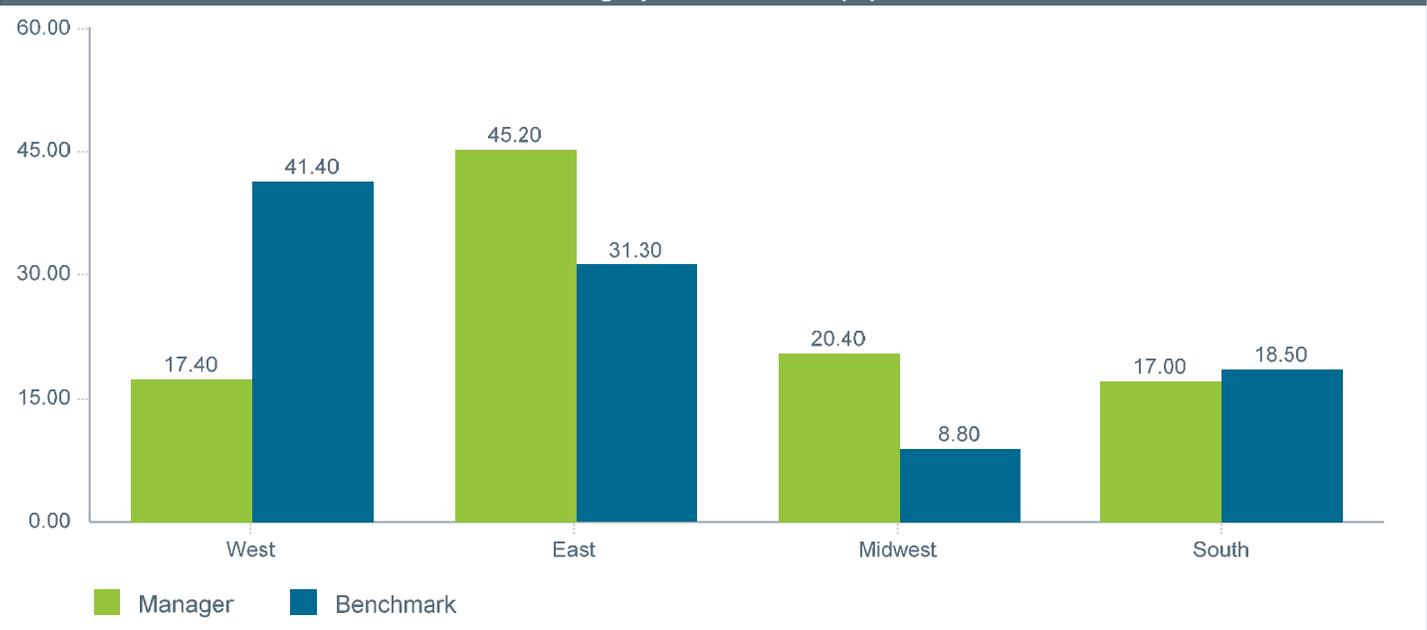
Investment Profile

Fund Inception	2011
Legal Structure	LP
Fund Structure	Open-End
Gross Real Estate Assets (\$M)	8,029
Fund Leverage %	25.63
Portfolio Occupancy %	91.40
Cash Reserve %	4.63
Number of Investments	273
Number of Limited Partners	159

Property Type Allocation (%)



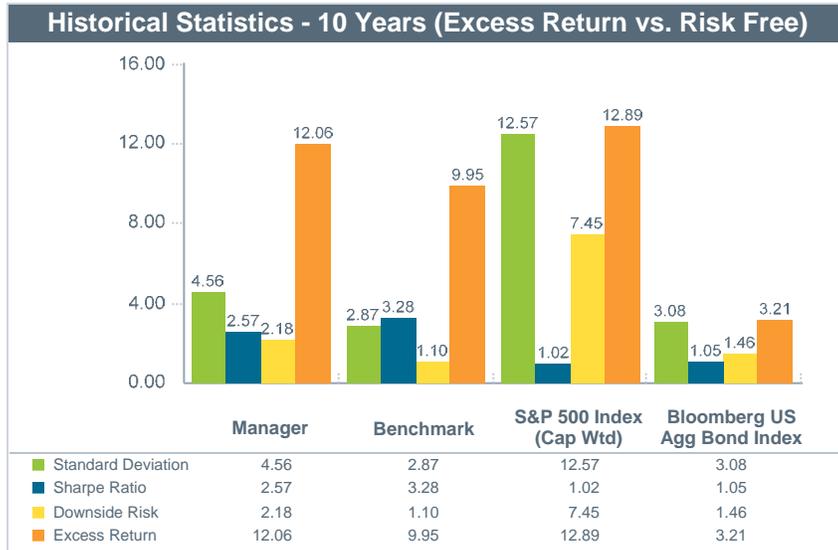
Geographic Allocation (%)



Performance shown is gross of fees and product specific. Calculation is based on quarterly periodicity. Investment profile data shown is provided by the investment manager and is as of the most recently available quarter end. Allocation data shown is based on NAV. Manager allocation to "Other" consists of student housing, senior housing, medical office buildings, self-storage, marinas, boat storage, and life science buildings. Benchmark allocation to "Other" consists of entertainment (theaters, golf courses, bowling alleys), healthcare (hospitals, clinics), manufactured homes, parking lots, self-storage units, senior living, and undeveloped land.

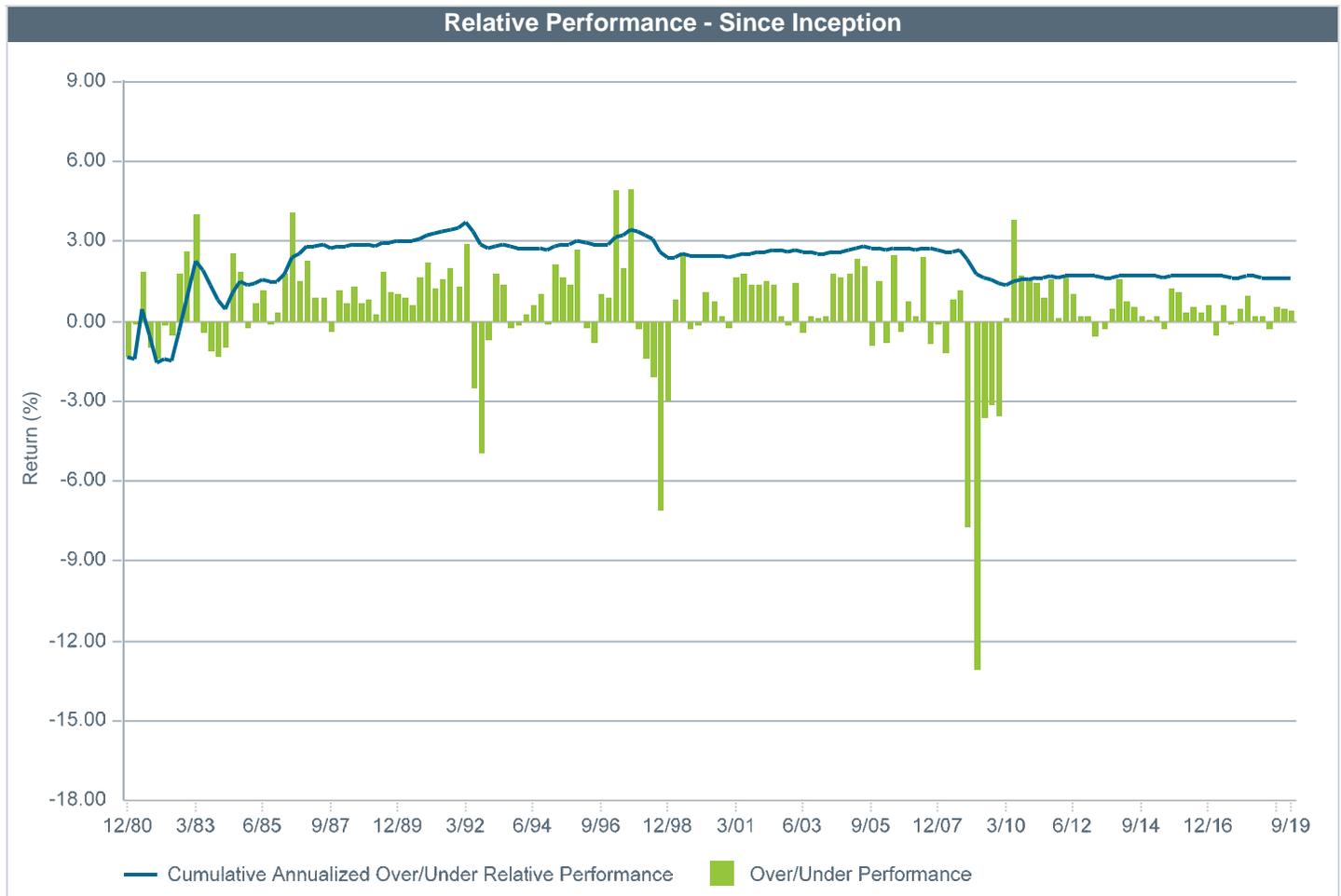


Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017	2016	2015	2014
Manager	1.71	6.80	8.57	10.85	11.81	13.09	9.48	8.06	10.70	17.53	14.22
Benchmark	1.31	5.60	7.31	9.35	10.30	10.86	8.35	7.62	8.77	15.02	12.50
Difference	0.40	1.20	1.26	1.50	1.51	2.23	1.13	0.44	1.93	2.51	1.72



Actual Correlation - 10 Years

	Actual Correlation
NCREIF ODCE Index (AWA) (Gross)	0.95
S&P 500 Index (Cap Wtd)	-0.13
Russell 2000 Index	-0.06
MSCI EAFE Index (USD) (Net)	-0.08
MSCI Emg Mkts Index (USD) (Net)	-0.18
Bloomberg US Agg Bond Index	0.10
Bloomberg US Trsy US TIPS Index	0.04
Wilshire US REIT Index	-0.12
HFRI FOF Comp Index	-0.11
Bloomberg Cmnty Index (TR)	-0.10
ICE BofAML 3 Mo US T-Bill Index	-0.29
Cons Price Index (Unadjusted)	0.03



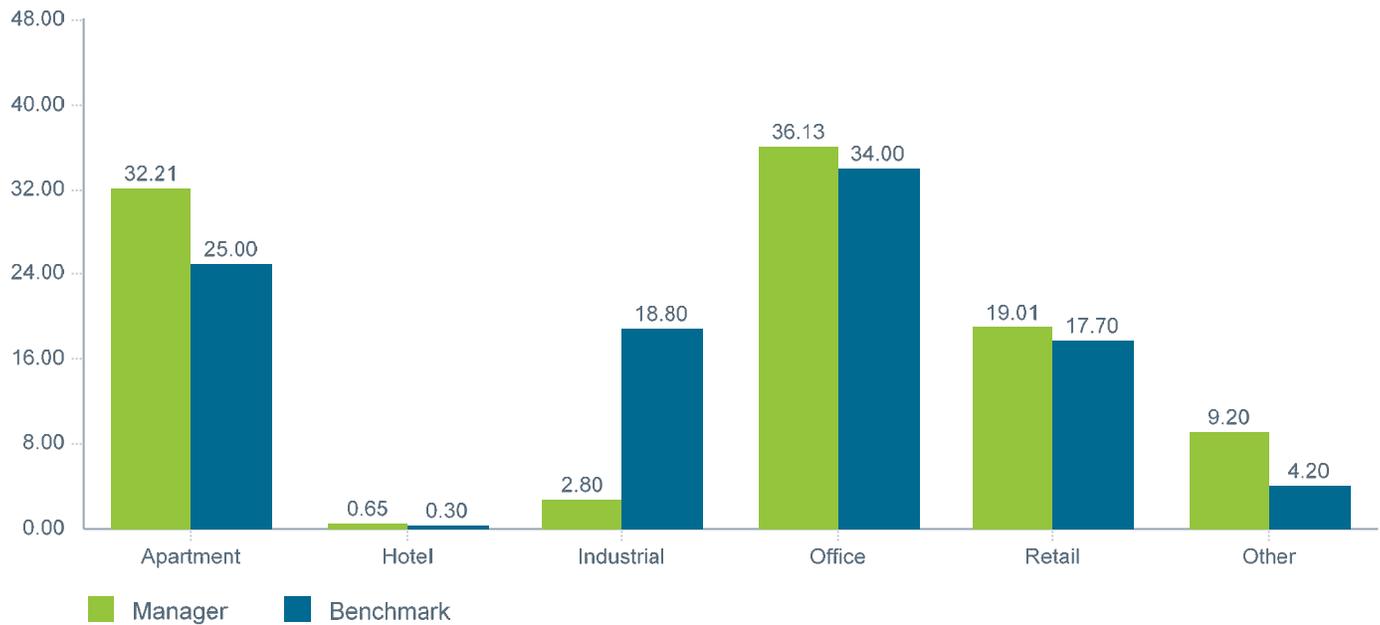
Investment Strategy

The Fund pursues a diversified core-plus real estate strategy that seeks to outperform the NCREIF ODCE Index by 100 basis points over a complete market cycle by structuring investments to enhance risk-adjusted returns. Investments may be made through direct property ownership or indirectly through such vehicles as joint ventures, general or limited partnerships, limited liability companies, mortgage loans and other loan types, including mezzanine debt, and debt secured by an interest in the borrowing entity or interests in companies or entities that directly or indirectly hold real estate or real estate interests. It operates with a leverage limit of 40% and may invest up to 35% of its gross assets in higher-risk, non-core real estate investment opportunities.

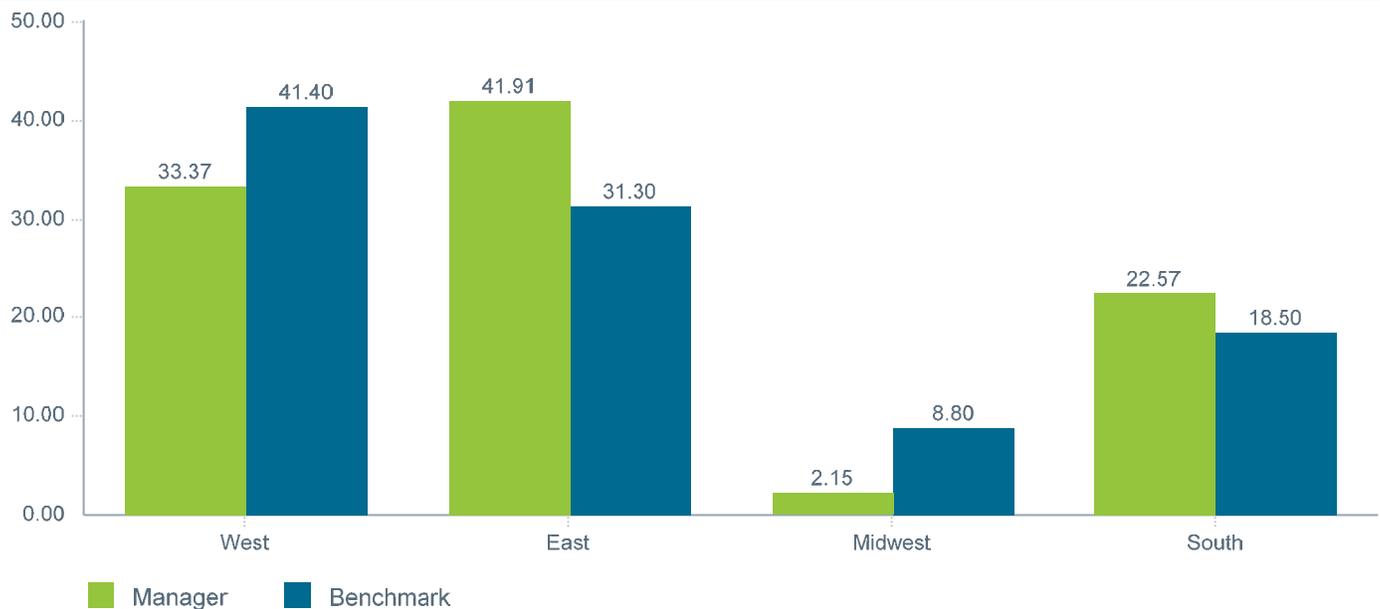
Investment Profile

Fund Inception	1980
Legal Structure	REIT
Fund Structure	Open-End
Gross Real Estate Assets (\$M)	13,784
Fund Leverage %	36.83
Portfolio Occupancy %	91.53
Cash Reserve %	1.05
Number of Investments	172
Number of Limited Partners	98

Property Type Allocation (%)



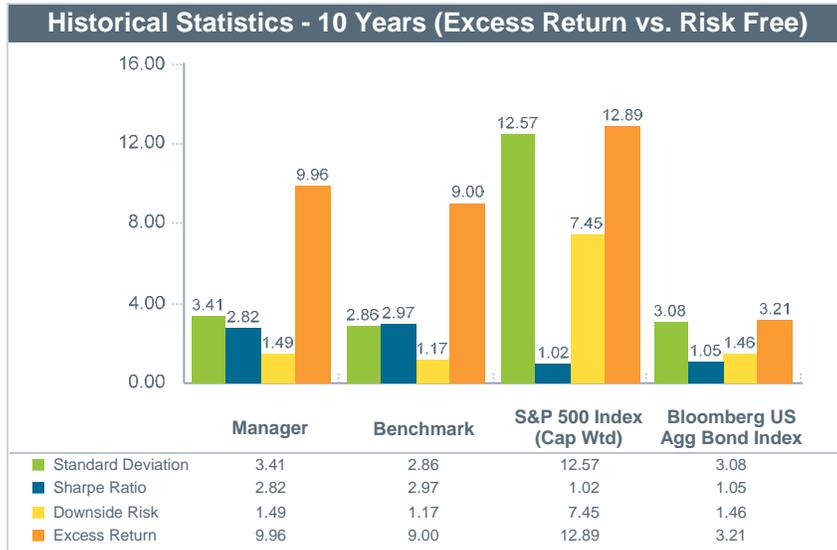
Geographic Allocation (%)



Performance shown is gross of fees and product specific. Calculation is based on quarterly periodicity. Investment profile data shown is provided by the investment manager and is as of the most recently available quarter end. Allocation data shown is based on NAV. Manager allocation to "Other" consists of self-storage and land. Benchmark allocation to "Other" consists of entertainment (theaters, golf courses, bowling alleys), healthcare (hospitals, clinics), manufactured homes, parking lots, self-storage units, senior living, and undeveloped land.

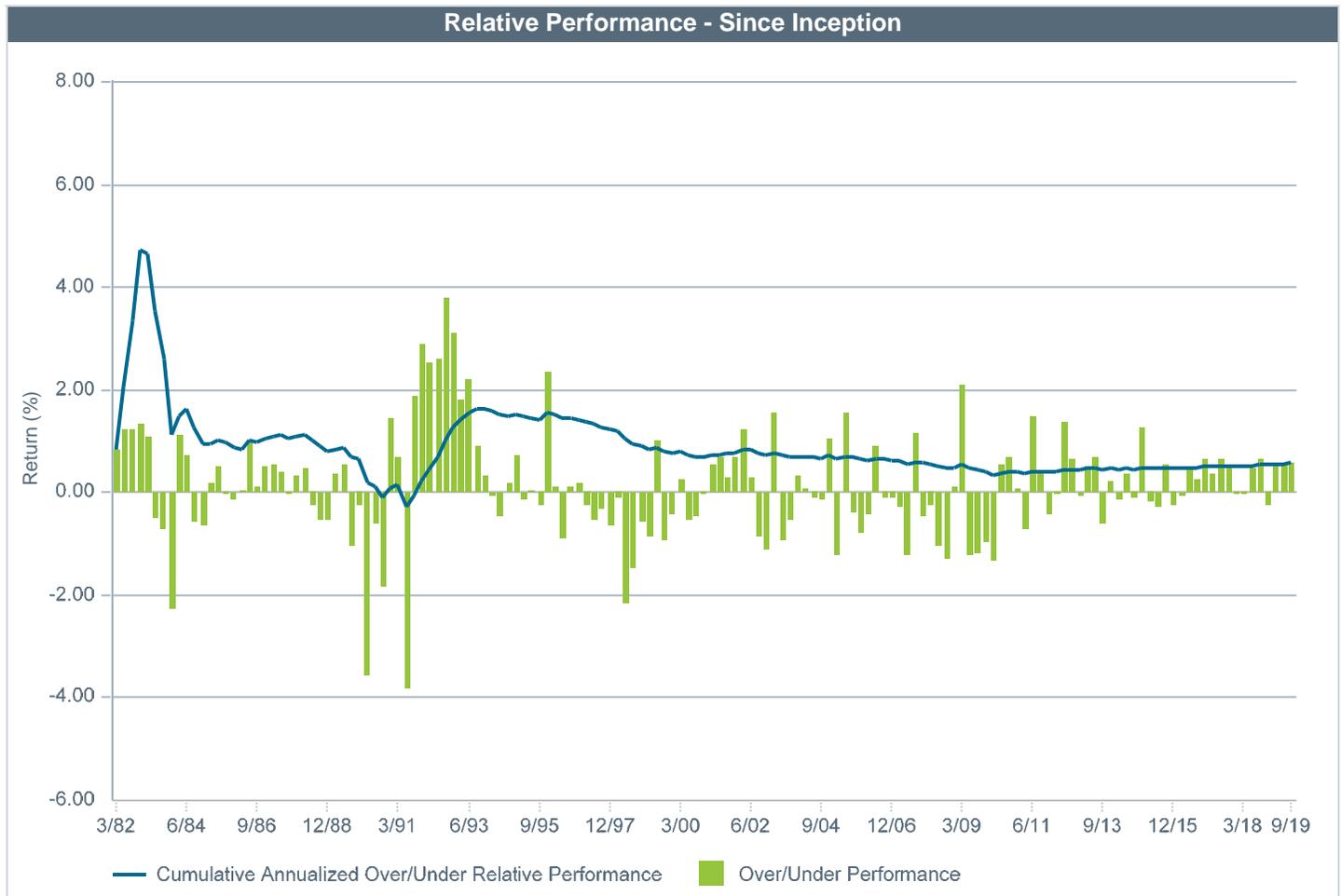


Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017	2016	2015	2014
Manager	1.68	6.17	8.03	9.78	10.45	10.85	8.32	8.29	9.21	13.81	13.04
Benchmark	1.08	4.65	6.34	8.36	9.29	9.84	7.36	6.66	7.79	13.95	11.46
Difference	0.60	1.52	1.69	1.42	1.16	1.01	0.96	1.63	1.42	-0.14	1.58



Actual Correlation - 10 Years

	Actual Correlation
NCREIF ODCE Index (AWA) (Net)	0.94
S&P 500 Index (Cap Wtd)	-0.10
Russell 2000 Index	-0.05
MSCI EAFE Index (USD) (Net)	-0.05
MSCI Emg Mkts Index (USD) (Net)	-0.21
Bloomberg US Agg Bond Index	0.05
Bloomberg US Trsy US TIPS Index	-0.04
Wilshire US REIT Index	-0.10
HFRI FOF Comp Index	-0.10
Bloomberg Cmdty Index (TR)	-0.15
ICE BofAML 3 Mo US T-Bill Index	-0.27
Cons Price Index (Unadjusted)	-0.03
NCREIF ODCE Index (AWA) (Gross)	0.94



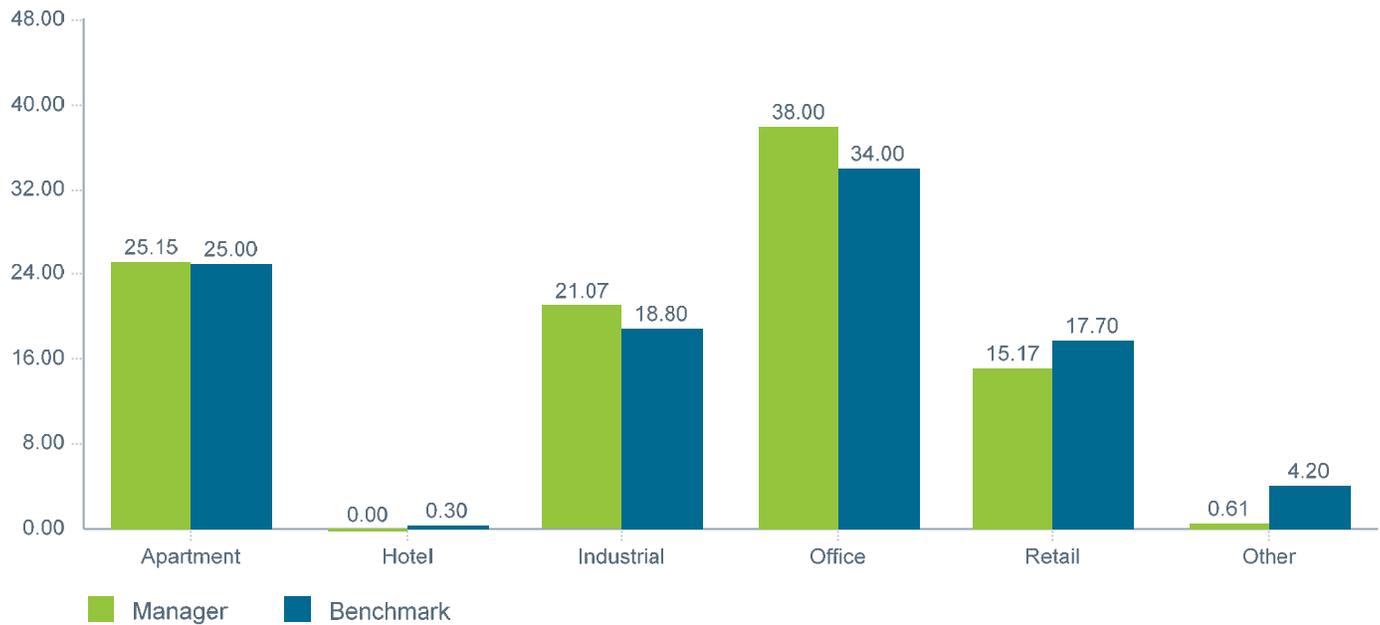
Investment Strategy

The Principal U.S. Property Account is a core real estate account designed to have a low to moderate risk profile consistent with other open-end real estate funds comprising the NFI-ODCE. This risk profile has two components: 1) a low to moderate real estate property risk profile; and 2) a low to moderate risk portfolio level operating profile. Low to moderate real estate property risk is accomplished by investing primarily in well-leased properties on an unleveraged basis. Low to moderate portfolio level risk is accomplished by operating with limited portfolio level obligations and a well-diversified portfolio. The Account invests in the traditional real estate property types; multifamily, office, industrial, and retail.

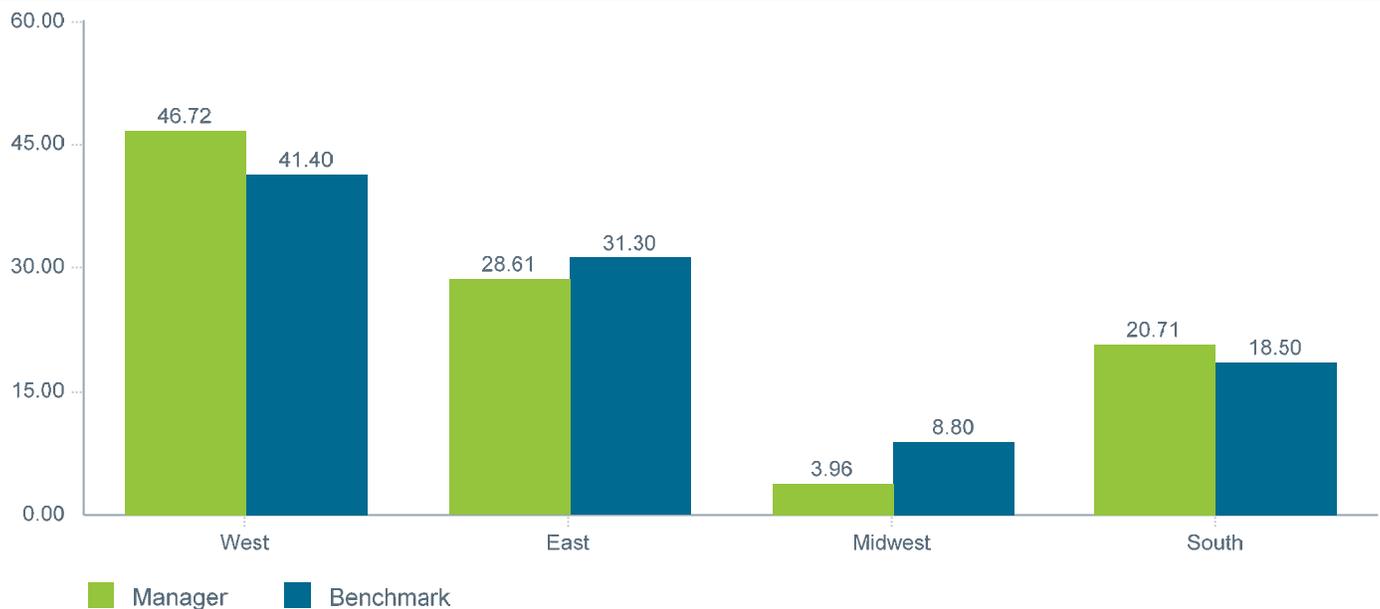
Investment Profile

Fund Inception	1982
Legal Structure	Insurance SA
Fund Structure	Open-End
Gross Real Estate Assets (\$M)	10,344
Fund Leverage %	17.56
Portfolio Occupancy %	93.15
Cash Reserve %	2.42
Number of Investments	134
Number of Limited Partners	6,224

Property Type Allocation (%)



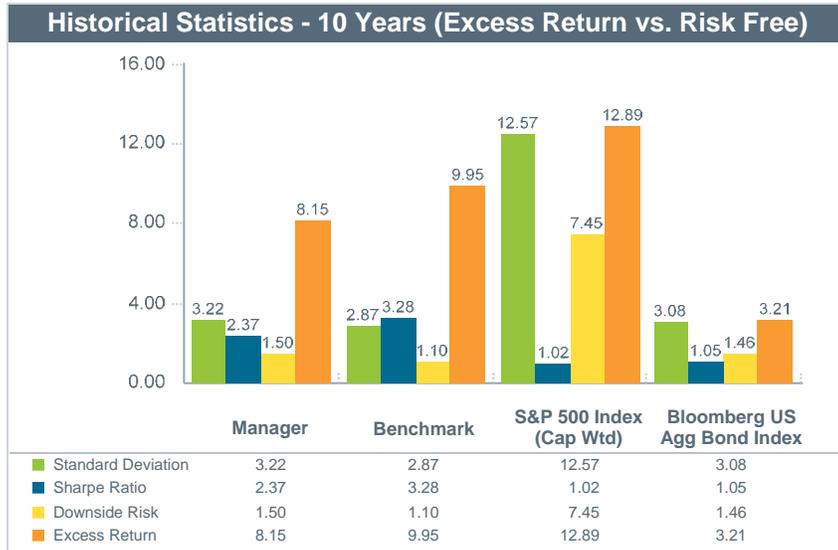
Geographic Allocation (%)



Performance shown is net of fees and product specific. Calculation is based on quarterly periodicity. Investment profile data shown is provided by the investment manager and is as of the most recently available quarter end. Allocation data shown is based on NAV. Manager allocation to "Other" consists of land. Benchmark allocation to "Other" consists of entertainment (theaters, golf courses, bowling alleys), healthcare (hospitals, clinics), manufactured homes, parking lots, self-storage units, senior living, and undeveloped land.

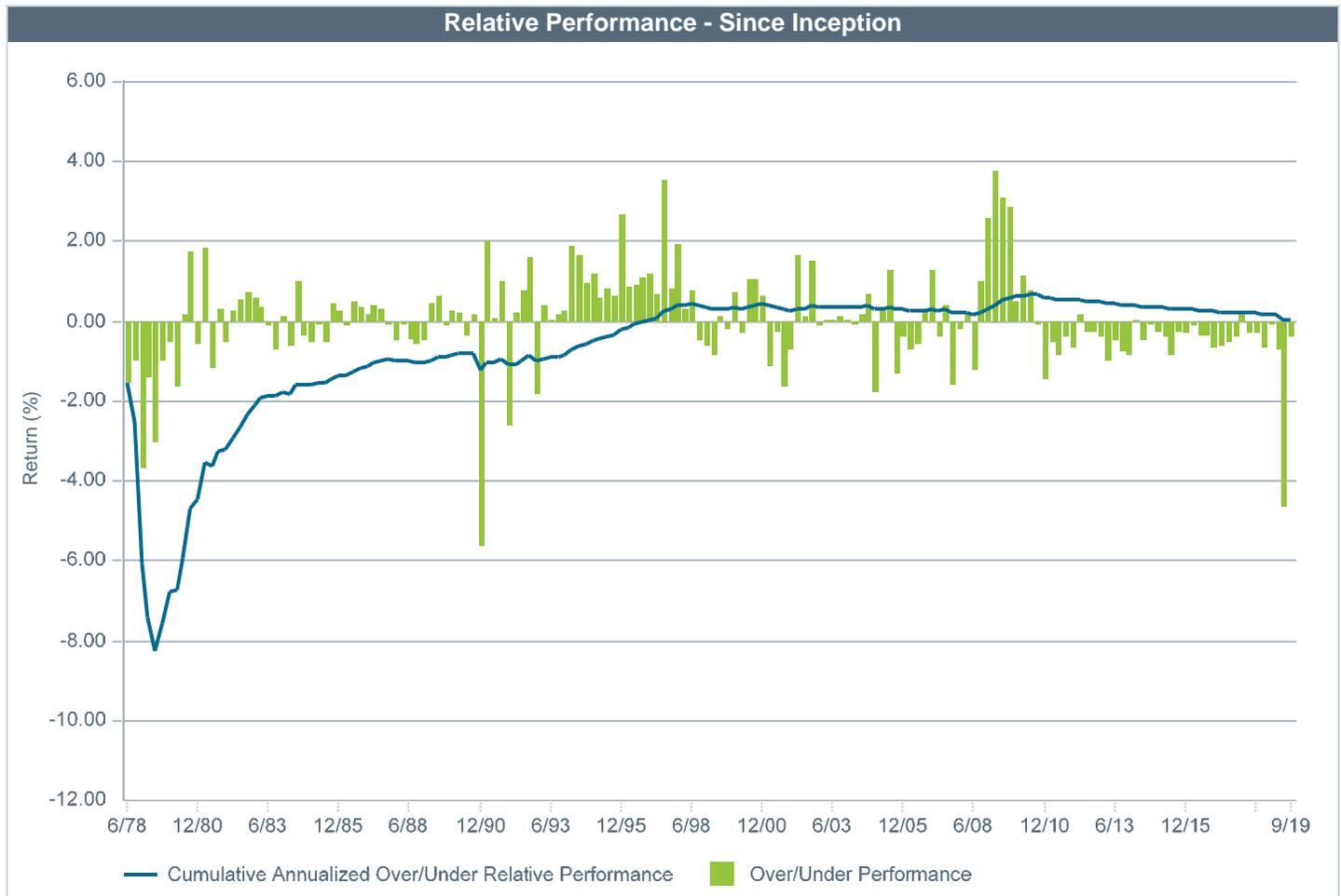


Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017	2016	2015	2014
Manager	0.91	-0.46	4.13	6.78	7.82	8.92	6.99	6.30	7.21	12.94	11.69
Benchmark	1.31	5.60	7.31	9.35	10.30	10.86	8.35	7.62	8.77	15.02	12.50
Difference	-0.40	-6.06	-3.18	-2.57	-2.48	-1.94	-1.36	-1.32	-1.56	-2.08	-0.81



Actual Correlation - 10 Years

	Actual Correlation
NCREIF ODCE Index (AWA) (Gross)	0.86
S&P 500 Index (Cap Wtd)	-0.16
Russell 2000 Index	-0.08
MSCI EAFE Index (USD) (Net)	-0.11
MSCI Emg Mkts Index (USD) (Net)	-0.14
Bloomberg US Agg Bond Index	-0.02
Bloomberg US Trsy US TIPS Index	-0.07
Wilshire US REIT Index	-0.06
HFRI FOF Comp Index	-0.15
Bloomberg Cmdb Index (TR)	-0.14
ICE BofAML 3 Mo US T-Bill Index	-0.52
Cons Price Index (Unadjusted)	-0.05



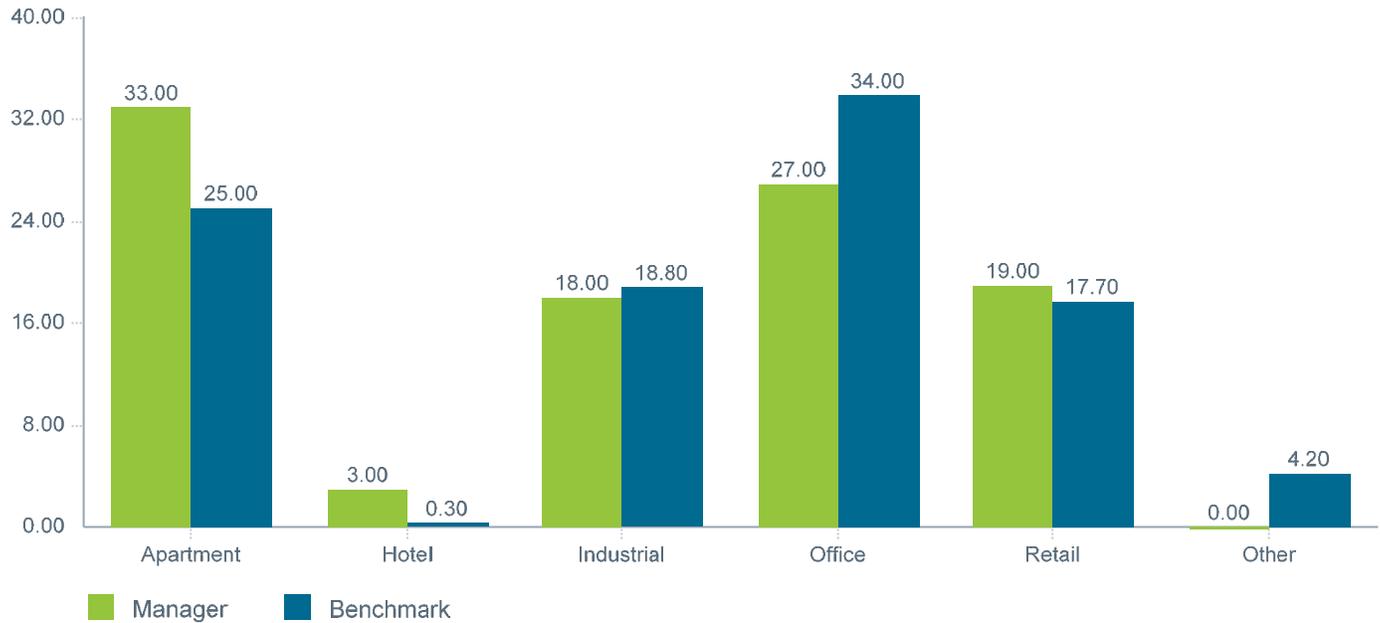
Investment Strategy

The Fund pursues a diversified core real estate strategy that seeks to produce attractive risk-adjusted returns by focusing on selective acquisitions, diversification, active portfolio management, and asset management. The Fund invests in well-leased, stabilized assets in major US metropolitan markets and receives the majority of its return from the income component. Diversification for the Fund is consistently pursued on many levels, including geographic region, property type, and economic sector. The Fund has historically maintained a leverage ratio significantly lower than the NCREIF ODCE Index and invests 5-15% of its gross assets in value-added type real estate investment opportunities.

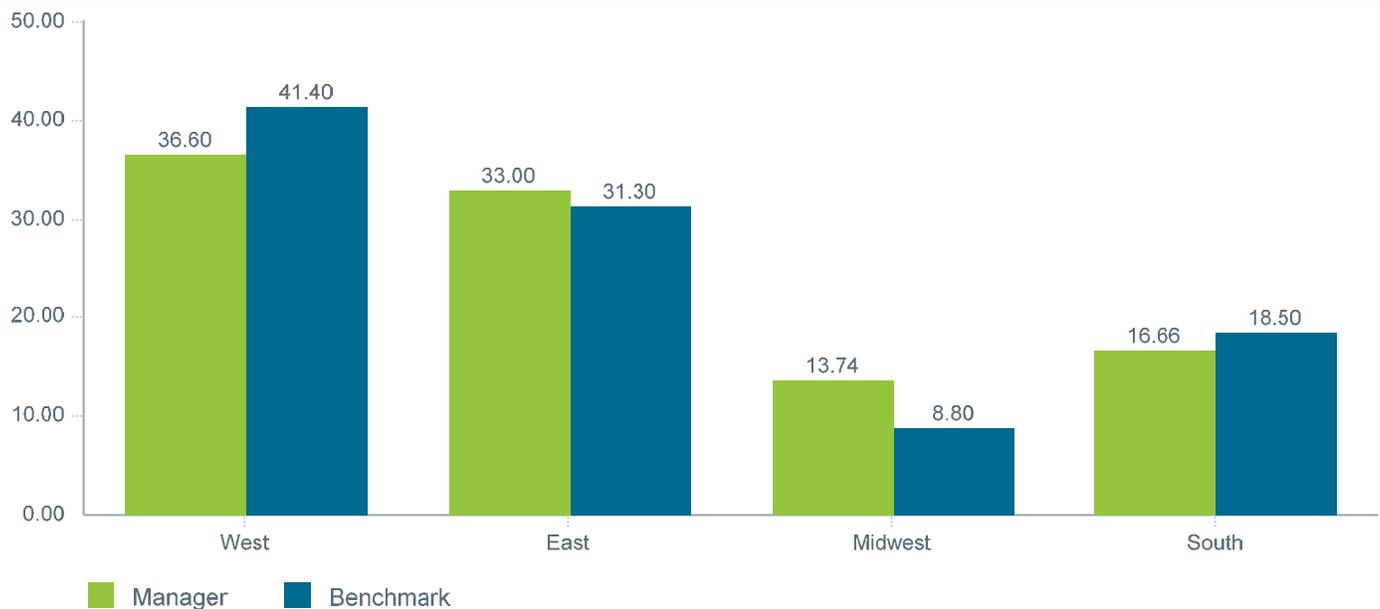
Investment Profile

Fund Inception	1978
Legal Structure	LP
Fund Structure	Open-End
Gross Real Estate Assets (\$M)	20,888
Fund Leverage %	18.50
Portfolio Occupancy %	93.60
Cash Reserve %	2.70
Number of Investments	190
Number of Limited Partners	444

Property Type Allocation (%)



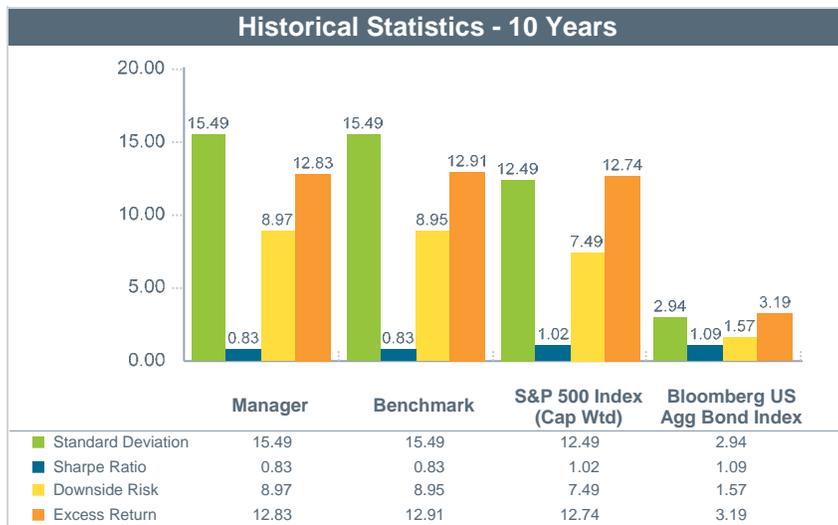
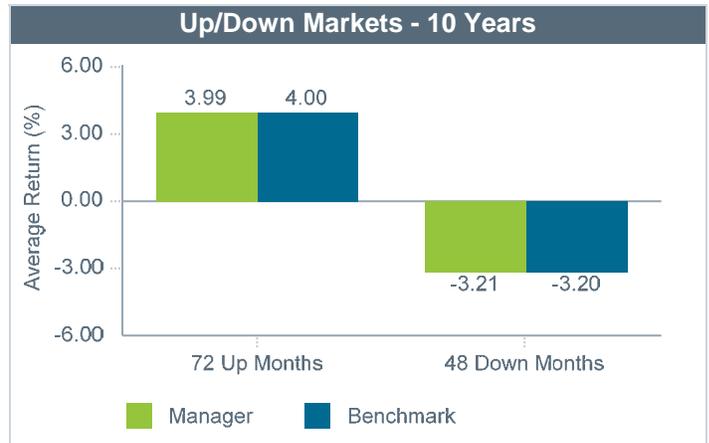
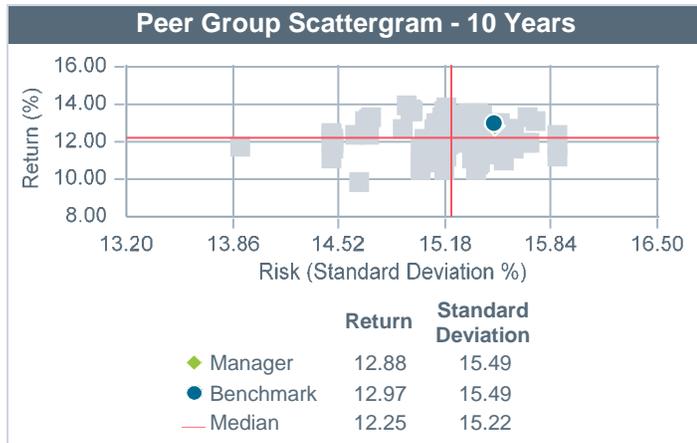
Geographic Allocation (%)



Performance shown is gross of fees and product specific. Calculation is based on quarterly periodicity. Investment profile data shown is provided by the investment manager and is as of the most recently available quarter end. Allocation data shown is based on NAV. Benchmark allocation to "Other" consists of entertainment (theaters, golf courses, bowling alleys), healthcare (hospitals, clinics), manufactured homes, parking lots, self-storage units, senior living, and undeveloped land.



Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017	2016	2015	2014
Manager	7.40	19.85	7.06	9.93	9.78	12.88	-5.95	4.95	8.53	2.37	30.29
Benchmark	7.43	19.94	7.16	10.05	9.88	12.97	-5.86	5.07	8.60	2.52	30.38
Difference	-0.03	-0.09	-0.10	-0.12	-0.10	-0.09	-0.09	-0.12	-0.07	-0.15	-0.09
Peer Group Median	7.38	18.08	6.85	9.44	9.11	12.25	-5.75	5.20	6.28	2.91	29.43
Rank	48	31	46	36	27	31	54	56	19	64	32
Population	266	257	223	198	173	134	244	244	231	218	249



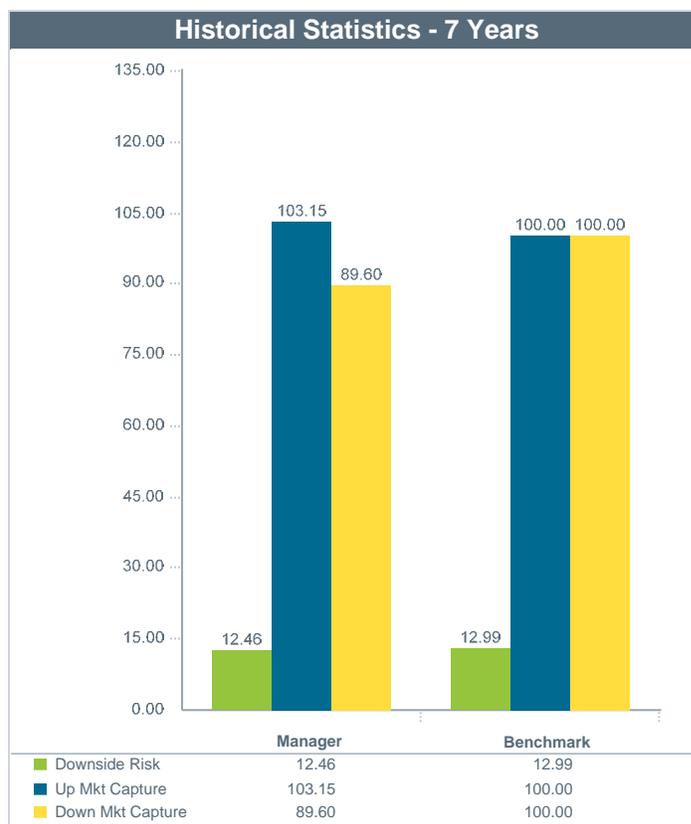
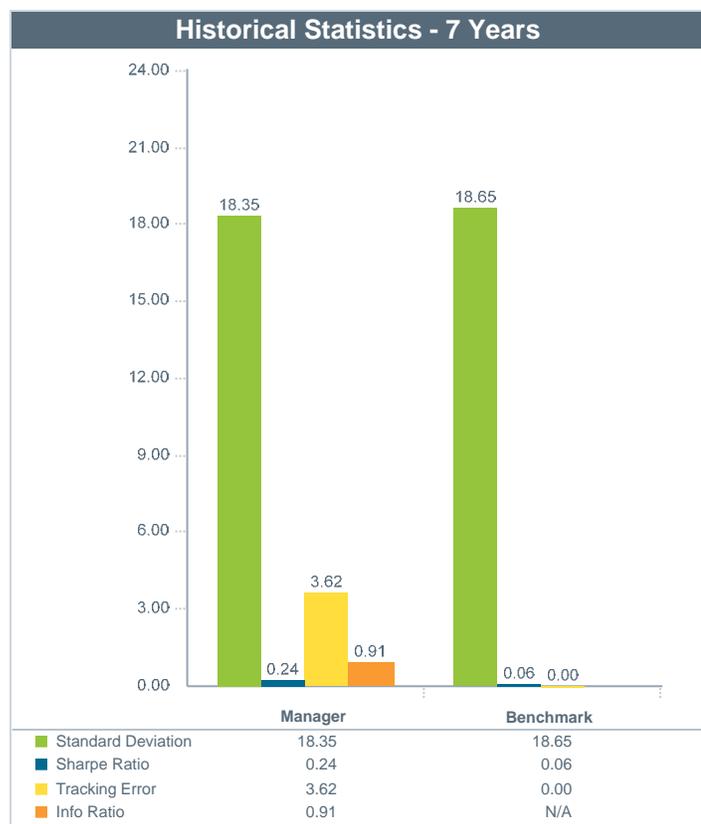
Actual Correlation - 10 Years

	Actual Correlation
Vanguard Spl Real Estate Index	1.00
S&P 500 Index (Cap Wtd)	0.63
Russell 2000 Index	0.61
MSCI EAFE Index (USD) (Net)	0.55
MSCI Emg Mkts Index (USD) (Net)	0.53
Bloomberg US Agg Bond Index	0.27
Bloomberg US Trsy US TIPS Index	0.34
Wilshire US REIT Index	1.00
HFRI FOF Comp Index	0.48
Bloomberg Cmnty Index (TR)	0.33
ICE BofAML 3 Mo US T-Bill Index	0.01
Cons Price Index (Unadjusted)	-0.05

Performance shown is net of fees and product specific. Calculation is based on monthly periodicity. Performance shown is calculated using Net Asset Values (NAV). Parentheses contain percentile ranks. Benchmark consists of MSCI US REIT Index (USD) (Gross) adjusted to include a 2% cash position (Lipper Money Market Average) through 04/30/2009; MSCI US REIT Index (USD) (Gross) through 02/01/2018; MSCI US IM Real Estate 25/50 Transition Index through 07/24/2018; and MSCI US IM Real Estate 25/50 Index (Gross) thereafter.

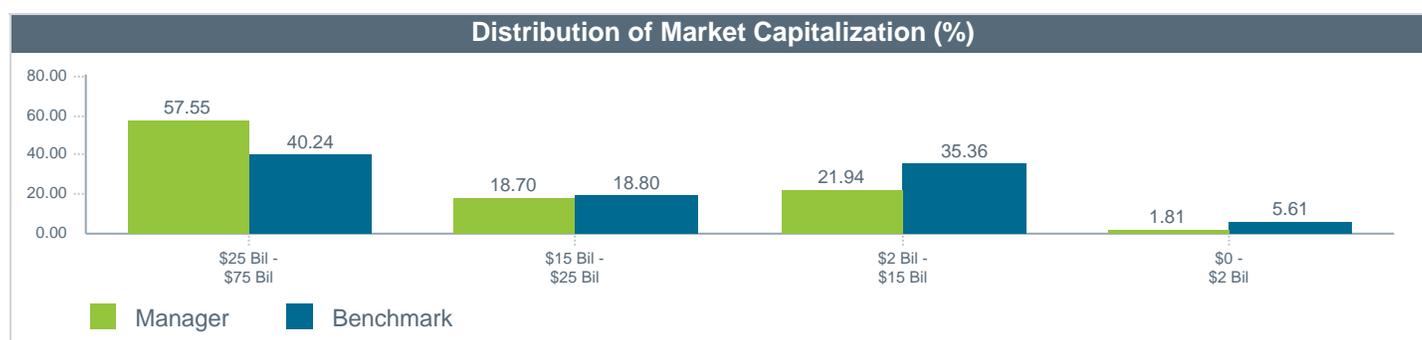


Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017	2016	2015	2014
Manager	-5.04	-9.09	-1.17	-5.75	3.54	N/A	-13.00	-4.80	20.17	-30.26	17.74
Benchmark	-4.04	-6.88	-0.80	-8.02	0.15	7.08	-11.67	-5.58	21.95	-35.07	7.66
Difference	-1.00	-2.21	-0.37	2.27	3.39	N/A	-1.33	0.78	-1.78	4.81	10.08



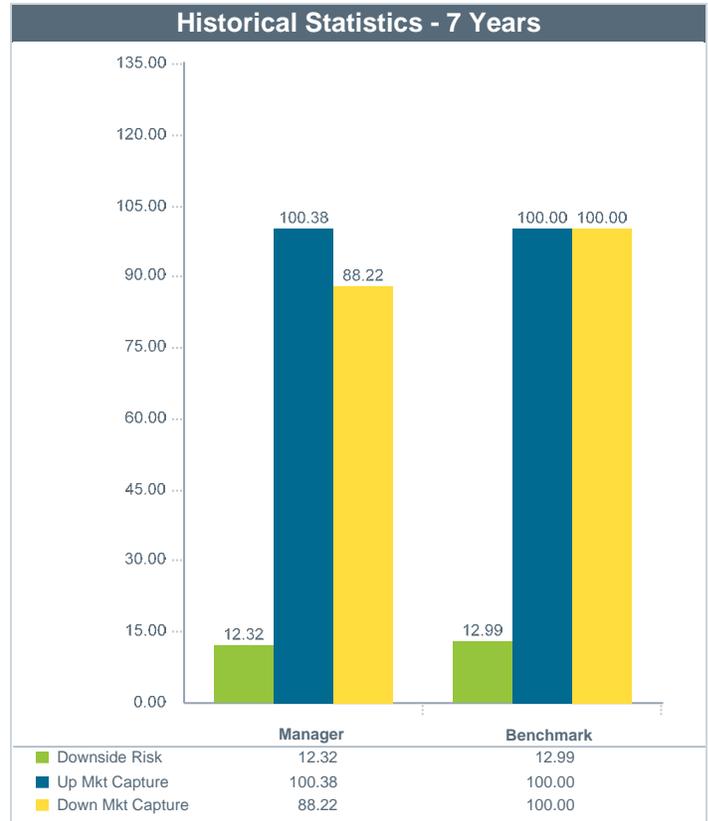
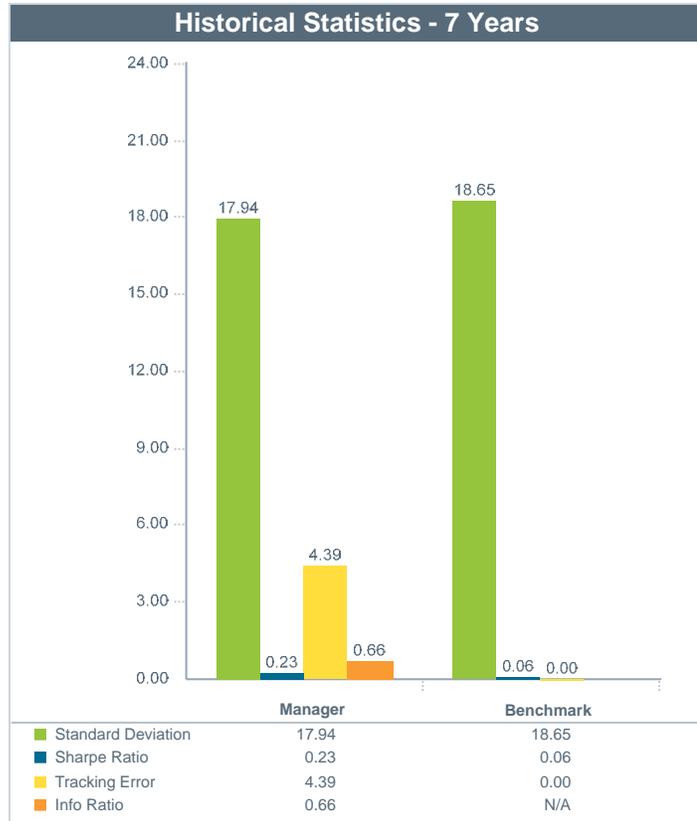
Portfolio Characteristics

	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	30,230	23,689
Median Mkt. Cap (\$M)	12,034	2,916
Price/Earnings Ratio	11.52	10.41
Price/Book Ratio	1.97	2.25
5 Yr. EPS Growth Rate (%)	14.81	19.66
Current Yield (%)	7.39	8.30
Beta (5 Years, Monthly)	0.97	1.00
Number of Securities	28	38



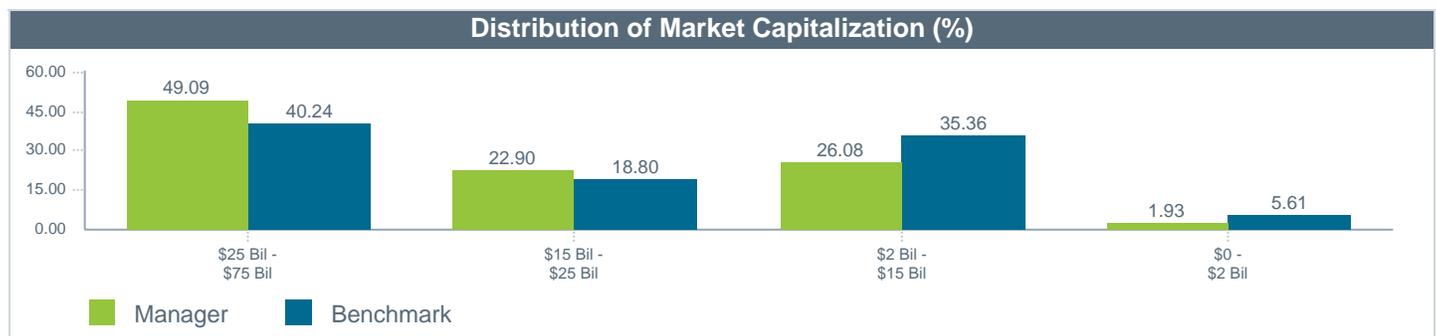
Performance shown is gross of fees and client specific. Calculations are based on monthly periodicity.

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017	2016	2015	2014
Manager	-6.12	-7.46	-1.14	-6.08	3.21	N/A	-12.73	-2.70	15.99	-26.79	16.14
Benchmark	-4.04	-6.88	-0.80	-8.02	0.15	7.08	-11.67	-5.58	21.95	-35.07	7.66
Difference	-2.08	-0.58	-0.34	1.94	3.06	N/A	-1.06	2.88	-5.96	8.28	8.48



Portfolio Characteristics

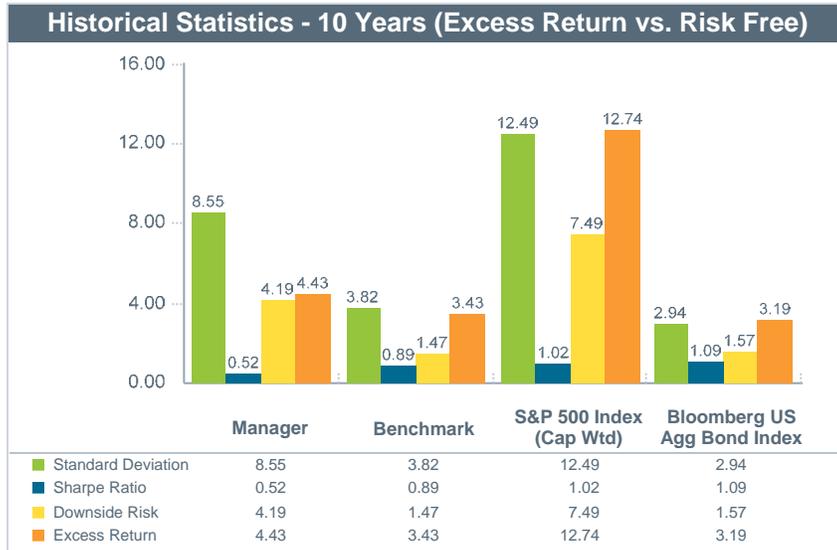
	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	25,120	23,689
Median Mkt. Cap (\$M)	12,793	2,916
Price/Earnings Ratio	12.18	10.41
Price/Book Ratio	2.39	2.25
5 Yr. EPS Growth Rate (%)	14.53	19.66
Current Yield (%)	7.52	8.30
Beta (5 Years, Monthly)	0.92	1.00
Number of Securities	23	38



Performance shown is gross of fees and client specific. Calculations are based on monthly periodicity.

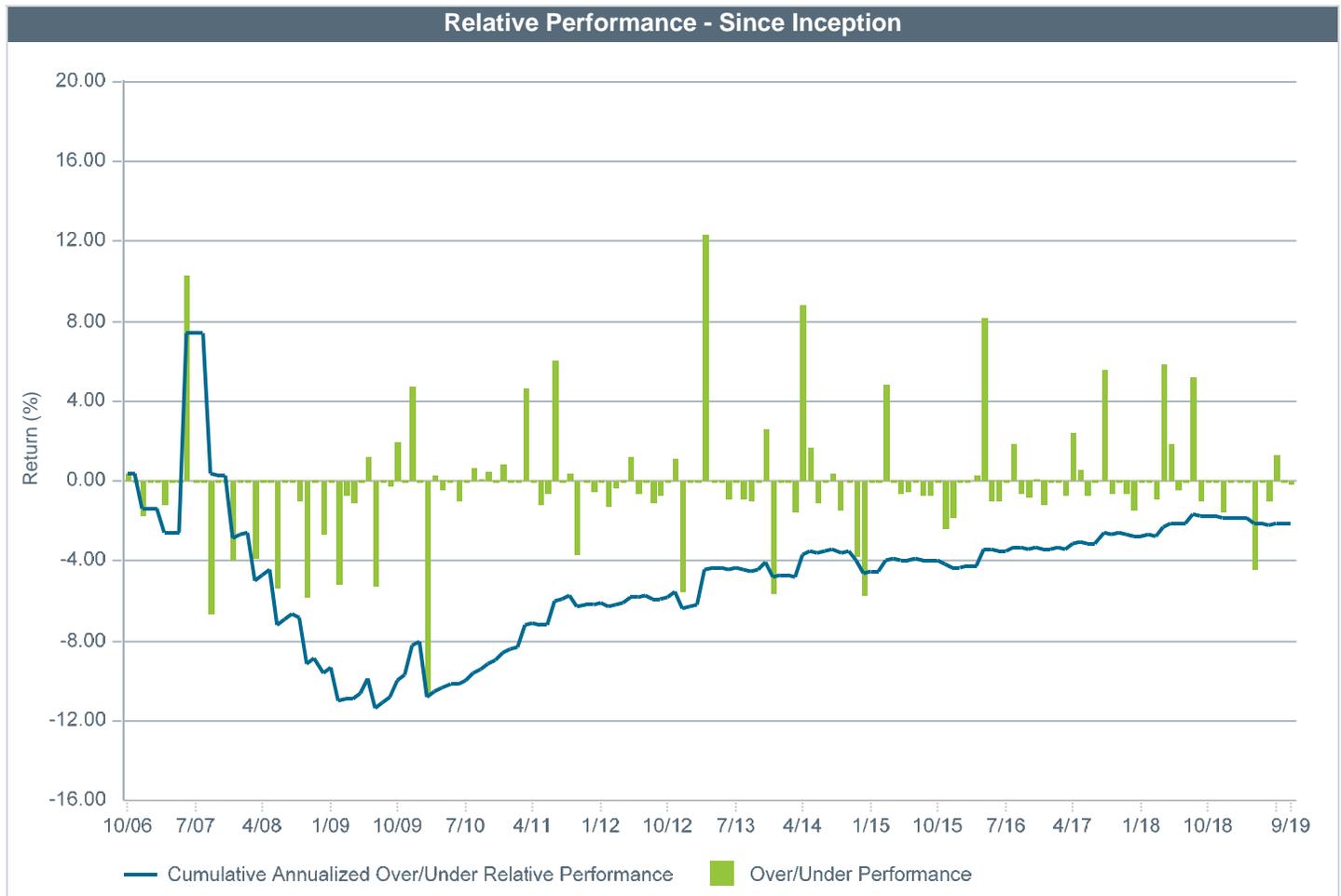


Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017	2016	2015	2014
Manager	1.36	-3.83	5.40	4.76	7.36	4.72	12.47	8.08	8.32	2.66	6.87
Benchmark	0.18	2.10	3.12	4.36	5.95	3.97	3.21	3.63	2.59	4.97	10.48
Difference	1.18	-5.93	2.28	0.40	1.41	0.75	9.26	4.45	5.73	-2.31	-3.61



Actual Correlation - 10 Years

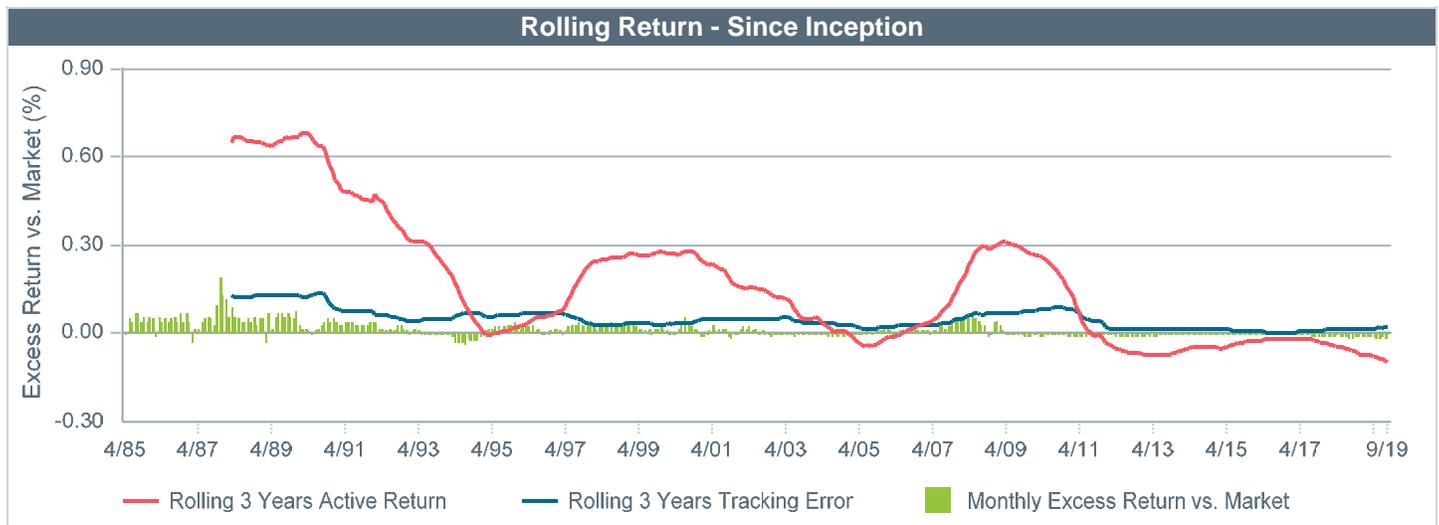
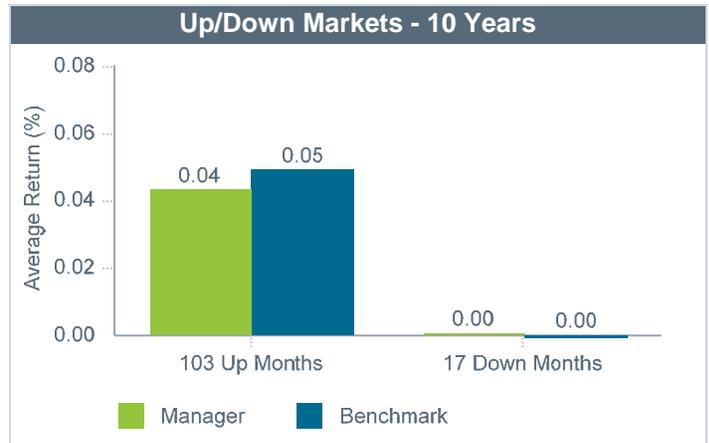
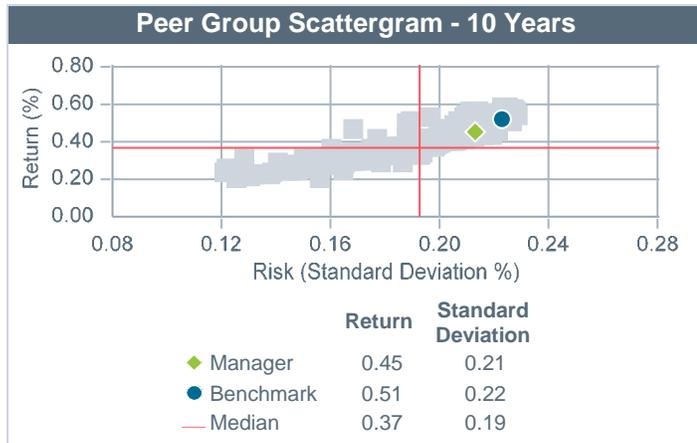
	Actual Correlation
NCREIF Timberland Index	0.06
S&P 500 Index (Cap Wtd)	-0.07
Russell 2000 Index	-0.06
MSCI EAFE Index (USD) (Net)	-0.04
MSCI Emg Mkts Index (USD) (Net)	-0.04
Bloomberg US Agg Bond Index	0.05
Bloomberg US Trsy US TIPS Index	0.14
Wilshire US REIT Index	-0.07
HFRI FOF Comp Index	0.02
Bloomberg Comdty Index (TR)	0.07
ICE BofAML 3 Mo US T-Bill Index	0.02
Cons Price Index (Unadjusted)	0.20



Performance shown is gross of fees and client specific. Calculation is based on monthly periodicity.



Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017	2016	2015	2014
Manager	0.53	2.21	1.43	0.89	0.64	0.45	1.73	0.79	0.25	0.01	0.01
Benchmark	0.56	2.36	1.52	0.96	0.70	0.51	1.86	0.84	0.27	0.03	0.02
Difference	-0.03	-0.15	-0.09	-0.07	-0.06	-0.06	-0.13	-0.05	-0.02	-0.02	-0.01
Peer Group Median	0.47	2.02	1.22	0.73	0.52	0.37	1.54	0.55	0.06	0.01	0.01
Rank	17	20	19	19	19	21	22	17	18	35	48
Population	826	809	763	638	622	581	815	830	741	695	987



Performance shown is net of fees and product specific. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.

Addendum & Glossary



City of Jacksonville Employees' Retirement System Addendum

Performance Related Comments:

- Performance is annualized for periods greater than one year.
- The inception date shown indicates the first full month of performance following initial funding.
- The market value shown for the Transition Account includes residual assets from terminated managers.
- RVK began monitoring the assets of the City of Jacksonville Retirement System on 01/01/2019. Prior historical data was provided by the custodian and previous consultant.
- Franklin Templeton Global Multisector Plus (CF) performance prior to 03/2016 is represented by Templeton Global Total Return (SICAV).

Custom Composite Benchmark Comments:

- **Current Total Fund Policy Index:** The passive Current Total Fund Policy Index is calculated monthly and currently consists of 30% Russell 3000 Index, 20% MSCI ACW Ex US Index (USD) (Net), 20% Fixed Income Index, 15% NCREIF ODCE Index (AWA) (Net), and 15% Diversifying Assets Index. The Current Total Fund Policy Index is representative of the target asset allocation approved 10/26/2017. Prior to 11/1/2017, the Current Total Fund Policy Index consists of the Legacy Total Fund Policy Index.
- **Legacy Total Fund Policy Index:** The passive Legacy Total Fund Policy Index is calculated monthly and currently consists of 35% Russell 3000 Index, 20% MSCI ACW Ex US Index (USD) (Net), 19% Fixed Income Index, 15% NCREIF ODCE Index (AWA) (Net), 10% Diversifying Assets Index, and 1% FTSE 3 Mo US T-Bill Index.
- **US Equity Index:** The passive US Equity Index consists of 100% DJ US TSM Index through 06/2009 and 100% Russell 3000 Index thereafter.
- **International Equity Index:** The passive International Equity Index consists of 100% MSCI EAFE Index (USD) (Gross) through 01/2011 and 100% MSCI ACW Ex US Index (USD) (Net) thereafter.
- **Fixed Income Index:** The passive Fixed Income Index consists of 100% Bloomberg US Agg Bond Index through 10/2017 and 100% Bloomberg US Universal Bond Index thereafter.
- **Diversifying Assets Index:** The passive Diversifying Assets Index is calculated monthly and consists of 50% S&P MLP Index (TR)/50% NCREIF Timberland Index through 10/2017 and 67% S&P MLP Index (TR)/33% NCREIF Timberland Index thereafter.

Custom Manager Benchmark Comments:

- **Baillie Gifford Index:** The passive Baillie Gifford Index consists of 100% MSCI EAFE Grth Index (USD) (Net) through 10/2017 and 100% MSCI ACW Ex US Grth Index (USD) (Net) thereafter.
- **Richmond Capital Index:** The passive Richmond Capital Index consists of 100% ICE BofAML US Domestic Master through 06/2011 and 100% Bbrg Barc US Aggregate Index thereafter.
- **Frank. Temp. Global Multisector Index:** The passive Frank. Temp. Global Multisector Index consists of 100% ICE BofAML Gbl Hi Yld Index through 12/2009 and 100% Bloomberg Multiverse Index thereafter.
- **Custom REITs Index:** The passive Custom REITs Index consists of 100% MSCI US REIT Index (USD) (Gross) through 01/31/2019 and 100% Vanguard Spl Real Estate Index thereafter.
- **Vanguard Spliced Real Estate Index:** The Vanguard Spl Real Estate Index consists of MSCI US REIT Index (USD) (Gross) adjusted to include a 2% cash position (Lipper Money Market Average) through 04/30/2009, MSCI US REIT Index (USD) (Gross) through 01/31/2018, MSCI US IM Real Estate 25/50 Transition Index through 07/24/2018, and MSCI US IM Real Estate 25/50 Index (Gross) thereafter.

Glossary

Active Return - The difference between the investment manager/composite performance relative to the performance of an appropriate market benchmark.

Active Share - Measures the degree to which the holdings of a fund differ from the holdings of the benchmark. Active share is calculated by taking the sum of the absolute value of the differences of the weight of each holding in the fund versus the weight of each holding in the benchmark and dividing by two.

Alpha - A measure of the difference between a portfolio's actual returns and its expected performance, given its level of risk as measured by beta. It is a measure of the portfolio's historical performance not explained by movements of the market or a portfolio's non-systematic return.

Alpha Ratio - A measure of a portfolio's non-systematic return per unit of downside risk. It is measured by dividing the alpha of a portfolio by the downside risk. The non-systematic return is a measure of a portfolio's historical performance not explained by movements of the market.

Average Quality - Bond quality ratings are reported using the investment managers' and the index providers' preferred rating agency. *Average Quality for managers unable to provide this statistic is instead provided by Morningstar; if unavailable on Morningstar, it has been estimated using a credit quality distribution provided by the manager.* There are two primary rating agencies in the US. *Moody's* assigns ratings on a system that employs up to four symbols (consisting of letters and numbers) such as, Aaa, Aa2, etc., with Aaa being the highest or safest rating. *Standard & Poor's (S&P)* employs a system that uses + and - along with letters such as AAA, AA+, etc. The two rating agencies' systems are summarized below:

<u>S&P</u>	<u>Moody's</u>	<u>Explanation</u>	<u>S&P</u>	<u>Moody's</u>	<u>Explanation</u>
Higher Credit Quality – Investment Grade			Lower Credit Quality – Below Investment Grade		
AAA	Aaa	Prime/Highest credit quality	BB+	Ba1	Speculative/Low credit quality
AA+	Aa1	High credit quality	BB	Ba2	
AA	Aa2		BB-	Ba3	
AA-	Aa3		B+	B1	Highly speculative
A+	A1	Upper-medium credit quality	B	B2	
A	A2		B-	B3	
A-	A3		CCC+	Caa1	Substantial credit/default risk
BBB+	Baa1	Lower-medium credit quality	CCC	Caa2	Extremely speculative
BBB	Baa2		CCC-	Caa3	
BBB-	Baa3		CC	Ca	Vulnerable to default
			C	Ca	
			D	C	In default

Benchmark Effect - The difference between the blended return of each respective managers' benchmark within a composite and the composite's benchmark return.

Beta - A measure of the sensitivity of a portfolio to the movements in the market. It is a measure of a portfolio's non-diversifiable or systematic risk.

Box Plots - A graphical representation of the distribution of observations. From top to bottom, the four boxes represent the spread between the maximum value and the minimum value in each quartile. A quartile represents the values that divide the observations into four quarters (i.e., 1st quartile, 2nd quartile, 3rd quartile, and 4th quartile). The median observation is where the 2nd quartile and 3rd quartile meet.

Buy and Hold Attribution - At the beginning of the time period under analysis, the manager and benchmark portfolios are broken down into segments (i.e., styles, sectors, countries, and regions) based on the desired type of attribution. The formula assumes zero turn-over to the manager and benchmark portfolios throughout the period and calculates the segment returns ("buy and hold returns") to arrive at performance attribution. Due to portfolio turnover, buy and hold attribution may not accurately represent quarterly performance relative to the benchmark. Country, region, sector, and style allocations are as of the date one quarter prior to the reporting date, and the returns shown are for those segments throughout the quarter reported. Due to disclosure guidelines set by each investment manager, equity characteristics shown are as of the most recent date available. The following is the methodology for segment classification:

Sector - Attribution is calculated using the Global Industry Classification Standard (GICS) which is a detailed and comprehensive structure for sector and industry analysis. Stocks are classified by their primary sector, as defined by S&P Capital IQ data.

Country/Region - Attribution is calculated using the Morgan Stanley Capital International (MSCI) region standards. Stocks are classified by their domicile country/region, as defined by S&P Capital IQ data.

Style - Stocks are classified into the following style boxes: large/mid/small vs. growth/neutral/value. Stocks are classified along large/mid/small categories at the time of the Russell index rebalancing, using the index market cap boundaries as cutoff points. Stocks are classified along growth/neutral/value categories at the time of the Russell index rebalancing, using the price/book ratio as supplied by S&P Capital IQ. Stocks in the Russell 3000 Index portfolio are sorted by price/book ratio; names with the highest price/book ratio that make up 1/3 of the total market capitalization are assigned to the growth category, names that make up the subsequent 1/3 of the total market capitalization are assigned to the neutral category, while the balance of the names are assigned to the value category.

Portfolio Characteristics and Buy and Hold Attribution reports utilize product-specific data for all mutual funds and commingled funds.

Capital Markets Review -

Breakeven Inflation - Measures the expected inflation rate at each stated maturity by taking the difference between the real yield of the inflation-linked maturity curve and the yield of the closest nominal Treasury maturity.

Consumer Confidence - Measures domestic consumer confidence as defined by the degree of optimism on the state of the economy that consumers express through saving and spending.

Consumer Price Index (CPI) - Measures the change in the price level of consumer goods and services.

Federal Funds Rate - The interest rate at which a depository institution lends funds maintained at the Federal Reserve to another depository institution overnight. It is one of the most influential interest rates in the US economy, since it affects monetary and financial conditions, which in turn have a bearing on key aspects of the broad economy including employment, growth and inflation.

Option-Adjusted Spread - Measures the flat spread of an index or bond to the Treasury yield curve after removing the effect of any embedded options.

Glossary

- Purchasing Managers Index (PMI)** - Measures economic activity by surveying purchasing managers on a monthly basis as to whether business conditions have improved, worsened, or stayed the same.
- Real Gross Domestic Product (Real GDP)** - An inflation-adjusted measure that reflects the value of all goods and services produced by an economy in a given year.
- US Dollar Total Weighted Index** - Measures the value of the US Dollar relative to a basket of other world currencies. It is calculated as the weighted geometric mean of the dollar's value versus the EUR, GBP, CAD, SEK, CHF, and JPY.
- Unemployment Rate** - The percentage of the total labor force that is unemployed but actively seeking employment.
- VIX** - Measures the implied volatility of S&P 500 Index options by looking at the market's expectation of the S&P 500 Index volatility over the next 30 day period. Commonly referred to as the "fear index" or the "fear gauge."
- Cash Flow Effect** - The composite's active return minus the sum of each managers' active return minus the benchmark effect.
- Consistency** - The percentage of quarters that a product achieved a rate of return higher than that of its benchmark. The higher the consistency figure, the more value a manager has contributed to the product's performance.
- Convexity** - A measure of the shape of the curve that describes the relationship between bond prices and bond yields.
- Correlation** - A statistical measure of the relationship between asset class returns. A value of 1.00 is a perfect correlation; that is, the asset classes always move in the same direction. A value of -1.00 indicates a perfect negative correlation, in which the asset classes always move in opposite directions of each other. A value of 0 indicates there is no relationship between the direction of returns of the two asset classes. Correlation calculations only consider the direction of changes relative to two variables and not the magnitude of those changes.
- Coupon Rate** - The percentage rate of interest paid on a bond or fixed income security; it is typically paid twice per year.
- Current Yield** - The annual income of a security divided by the security's current price.
- Down Market Capture** - Down market by definition is negative benchmark return and down market capture represents the ratio in % terms of the average portfolios return over the benchmark during the down market period. The lower the value of the down market capture the better the product's performance.
- Downside Risk** - A measure similar to standard deviation, but focuses only on the negative movements of the return series. It is calculated by taking the standard deviation of the negative monthly returns. The higher the factor, the riskier the product.
- Earnings Per Share** - It is backward looking, calculated using the one year current EPS divided by the one year EPS five years ago.
- Effective Duration** - The approximate percentage change in a bond's price for a 100 basis point change in yield.
- Excess Return vs. Market** - Average of the monthly arithmetic difference between the manager's return and the benchmark return over a specified time period, shown on an annualized basis.
- Excess Return vs. Risk Free** - Average of the monthly arithmetic difference between the manager's return and the risk-free return (i.e., ICE BofAML 3 Mo US T-Bill Index unless specified otherwise) over a specified time period, shown on an annualized basis.
- Excess Risk** - A measure of the standard deviation of a portfolio's performance relative to the risk free return.
- Expense Ratios** - Morningstar is the source for mutual fund expense ratios.
- Gain/Loss** - The net increase or decrease in the market value of a portfolio excluding its Net Cash Flow for a given period.
- Indices** - All indices and related information are considered intellectual property and are licensed by each index provider. The indices may not be copied, used or distributed without the index provider's prior written approval. Index providers make no warranties and bear no liability with respect to the indices, any related data, their quality, accuracy, suitability and/or completeness.
- Information Ratio** - Measured by dividing the active rate of return by the tracking error. The higher the information ratio, the more value-added contribution by the manager.
- Liability Driven Investing (LDI)** - A method to optimally structure asset investments relative to liabilities. The change in liabilities is estimated by the Ryan Labs Generic PPA Index of appropriate duration for that Plan. This benchmark is based on generic data and is therefore an approximation. RVK is not an actuarial firm, and does not have actuarial expertise.
- Estimated Funded Status** - The estimated ratio of a Plan's assets relative to its future liabilities. This is calculated by dividing the Plan's asset market value by the estimated present value of its liabilities. The higher the estimated funded status, the better the Plan's ability to cover its projected benefit obligations. An estimated funded status of 100% indicates a Plan that is fully funded.
- Estimated PV of Liabilities** - An estimate of a Plan's future liabilities in present value terms. The beginning of the period liability is provided by the Plan's actuary. The period-end present value liability estimate provided in this report is derived by applying the estimated percentage change generated using the Ryan Labs Generic PPA Index with duration similar to that reported on the most recent actuarial valuation report.
- Duration of Liabilities** - The sensitivity of the value of a Plan's liabilities to changes in interest rates, as calculated by the Plan's actuary.
- Duration of Assets** - The dollar-weighted average duration of all the individual Plan assets.
- Estimated Plan Hedge Ratio** - The estimate of how well a Plan's investment portfolio is hedged against changes in interest rates - a primary driver of funded status movements. This is calculated by dividing the dollar-weighted values of both the Plan asset duration by the liability duration and multiplying by the estimated funded status. An estimated plan hedge ratio of zero indicates that the Plan's liabilities have not been hedged, whereas a value of one indicates fully hedged.
- Modified Duration** - The approximate percentage change in a bond's price for a 100 basis point change in yield, assuming the bonds' expected cash flows do not change.

Glossary

Mutual Fund Performance - Whenever possible, manager performance is extended for any share class that does not have 10 years of history. Using Morningstar's methodology, a single ticker within the same fund family (often the oldest share class) is chosen to append historical performance.

Net Cash Flow - The sum, in dollars, of a portfolio's contributions and withdrawals. This includes all management fees and expenses only when performance shown is gross of fees.

Peer Groups -

Plan Sponsor Peer Groups - RVK utilizes the Mellon Analytical Solutions Trust Universe along with the Investment Metrics Plan Sponsor Universe. The combined Mellon Analytical Solutions Trust Universe and Investment Metrics Plan Sponsor Universe is used for comparison of total fund composite results and utilizes actual client performance compiled from consultant and custodian data. The Plan Sponsor Peer Group database includes performance and other quantitative data for over 2,100 plans which include corporate, endowment, foundation, public, and Taft Hartley plans. Plan Sponsor Peer Groups are gross of fees.

Investment Manager Peer Groups - RVK utilizes Investment Metrics' Peer Groups for investment manager peer comparison and ranking. The Investment Metrics Peer Group database includes performance and other quantitative data for over 840 investment management firms and 29,000 investments products, across more than 160 standard peer groups. Mutual Fund Peer Groups are net of fees.

Percentile Rankings - Percentile rank compares an individual fund's performance with those of other funds within a defined peer group of managers possessing a similar investment style. Percentile rank identifies the percentage of a fund's peer group that has a higher return (or other comparative measurement) than the fund being ranked. Conversely, 100 minus the individual fund's ranking will identify the percentage of funds within the peer group that have a lower return than the fund being ranked.

1 - Highest Statistical Value

100 - Lowest Statistical Value

Example: American Funds AMCP;R-4 (RAFEX) is ranked in the 4th percentile within the IM US Equity Large-Cap Growth Funds (MF) Peer Group for the Sharpe Ratio. Within the IM US Equity Large-Cap Growth Funds peer group, 4% of the other funds performed better than American Funds AMCP;R-4 (RAFEX), while 96% of the funds performed worse.

Performance Methodology - RVK calculates performance for investment managers and composites using different methodologies.

Investment Managers - Performance is calculated for interim periods between all large external cash flows for a given month and geometrically linked to calculate period returns. An external cash flow is defined as cash, securities, or assets that enter or exit a portfolio. RVK defines a "large cash flow" as a net aggregate cash flow of $\geq 10\%$ of the beginning-period portfolio market value or any cash flow that causes RVK calculated performance to deviate from manager/custodian reported performance in excess of 5 basis points for a given month.

Composites - The Modified Dietz methodology is utilized to calculate asset class, sub-asset class, and total fund composite performance. The Modified Dietz method calculates a time-weighted total rate of return that considers the timing of external cash flows; however, it does not utilize interim period performance to mitigate the impact of significant cash in- and outflows to the composite.

RVK calculates performance beginning with the first full month following inception. Since inception performance may vary from manager reported performance due to RVK using the first full month of returns as the inception date. Performance for both managers and composites is annualized for periods greater than one year.

Portfolio Characteristics - Due to disclosure guidelines set by each investment manager, portfolio characteristics shown are as of the most recent date available.

Price to Earnings Ratio - The ratio of a company's share price to its per-share earnings

Private Equity Quartile Ranks - Private Equity quartile ranks are generated using vintage year peer group data provided by Thomson Reuters, and are based on each fund's annualized, since inception internal rate of return (IRR). Three Private Equity peer groups are available via Thomson Reuters: Buyout, Venture, and All Private Equity. Ranks are available quarterly, at a one-quarter lag.

Return - Compounded rate of return for the period.

% Return - The time-weighted rate of return of a portfolio for a given period.

R-Squared - The percentage of a portfolio's performance explained by the behavior of the appropriate benchmark. High R-Squared means a higher correlation of the portfolio's performance to the appropriate benchmark.

Risk Free Benchmark - ICE BofAML 3 Mo US T-Bill Index unless specified otherwise.

Glossary

RVK Liquidity Rating - A qualitative method for determining the relative amount of liquidity in a portfolio. The characteristics considered when determining relative liquidity include trading volume, gates for redemption, leverage, nature of transactions, and pricing mechanisms. The RVK Liquidity Rating is calculated using beginning of month investment weights applied to each corresponding asset class liquidity rating.

<u>Asset Class</u>	<u>RVK Liquidity Rating</u>	<u>Asset Class</u>	<u>RVK Liquidity Rating</u>
<u>Liquid Investments</u>		<u>Less Liquid Investments</u>	
T-Bills and Treasuries	100	Fixed Income Plus Sector	50
Cash Equivalents	98	Bank Loans	50
TIPS	95	Stable Value (Plan Sponsor Directed)	50
US Large Cap Equity	95	Absolute Return Strategies	35
Diversified Real Return	93		
Stable Value (Participant Directed)	91		
Non-US Large Cap Equity	90	<u>Not Liquid Investments</u>	
Global Tactical Asset Allocation	88	Core Real Estate	25
US Small Cap Equity	85	Core Plus Real Estate	15
REITS	85	Non-Core Real Estate	5
Non-US Small Cap Equity	85	Private Equity Funds of Funds	5
Emerging Markets Equity	85		
Core Fixed Income	85		
Core Plus Fixed Income	80		

Sector Allocation - Negative fixed income sector allocation reflects manager's use of derivatives, short selling, or interest rate swaps.

Sharpe Ratio - Represents the excess rate of return over the risk-free return (i.e., ICE BofAML 3 Mo US T-Bill Index unless specified otherwise), divided by the standard deviation of the excess return to the risk free asset. The result is the absolute rate of return per unit of risk. The higher the value, the better the product's historical risk-adjusted performance.

Simple Alpha - The difference between the manager's return and the benchmark's return.

Spread Duration - The approximate percentage change in a bond's price for a 100 basis point change in its spread over a Treasury of the same maturity.

Standard Deviation - A statistical measure of the range of a portfolio's performance. The variability of a return around its average return over a specified time period.

Time Period Abbreviations - **QTD** - Quarter-to-Date. **CYTD** - Calendar Year-to-Date. **FYTD** - Fiscal Year-to-Date. **YOY** - Year Over Year.

Thematic Classification - Represents dedicated manager allocations; as such, thematic allocations are approximations. RVK categorizes the following asset classes as Alpha, Capital Appreciation, Capital Preservation, and Inflation:

<u>Alpha</u>	<u>Capital Appreciation</u>	<u>Capital Preservation</u>	<u>Inflation</u>
Absolute Return Strategies	Public Equity	Core Fixed Income	TIPS
Currency Overlay	Private Equity	CMBS Fixed Income	Bank Loans
	Preferred Securities	Asset Backed Fixed Income	Core Real Estate
	High Yield	Domestic Core Plus Fixed Income	Real Return
	Convertible Fixed Income	Mortgage Backed Fixed Income	Inflation Hedges
	TALF Funds	International Developed Fixed Income	REITS
	Distressed Debt	Cash Equivalents	Commodities
	Emerging Market Fixed Income	Stable Value	
	Value Added Real Estate		
	Opportunistic Real Estate		

Total Fund Attribution – The Investment Decision Process (IDP) model provides an approach to evaluating investment performance that applies to all asset classes and investment styles. The IDP model is based on a top-down hierarchy framework of investment decisions, with each decision contributing to the overall profit or loss. The IDP approach starts from the strategic asset allocation and follows the flow of the investments down to the manager's skill.

Strategic Asset Allocation (SAA) – The percentage return gained or lost from the long-term strategic asset allocation decision, the most significant determinant of long-term performance. SAA is the product of the target asset allocation multiplied by the corresponding benchmark returns.

Tactical Asset Allocation (TAA) – The percentage return gained or lost from not having been precisely allocated at the target asset allocation mix, whether by deviations that are tactical in nature or a by-product of moving towards the target mix. TAA is the product of the actual asset allocation multiplied by the broad asset class benchmarks, less the SAA.

Style Selection (SS) – The percentage return gained or lost from intentional style biases within each asset class (e.g. value rather than core or overweight to emerging markets relative to benchmark). SS is the product of the actual manager allocation within each asset class multiplied by their specific benchmark, less TAA.

Manager's Skill (MS) – The percentage return gained or lost from manager value added relative to their specific benchmark. MS is the product of the actual manager allocation multiplied by their achieved excess return.

Total Fund Beta - Total Fund Beta is calculated using the S&P 500 as the benchmark. It represents a measure of the sensitivity of the total fund to movements in the S&P 500 and is a measure of the Total Fund's non-diversifiable or systematic risk.

Tracking Error - A measure of the standard deviation of a portfolio's performance relative to the performance of an appropriate market benchmark.

Glossary

Treynor Ratio - Similar to Sharpe ratio, but focuses on beta rather than excess risk (standard deviation). Treynor ratio represents the excess rate of return over the risk-free rate (i.e., ICE BofAML 3 Mo US T-Bill Index unless specified otherwise) divided by the beta. The result is the absolute rate of return per unit of risk. The higher the value, the better historical risk-adjusted performance.

Unit Value - The dollar value of a portfolio, assuming an initial nominal investment of \$100, growing at the compounded rate of %Return for a given period.

Up Market Capture - Up market by definition is positive benchmark return and up market capture represents the ratio in % terms of the average portfolios return over the benchmark during the up market period. The higher the value of the up market capture the better the product's performance.

Yield to Maturity - The rate of return achieved on a bond or other fixed income security assuming the security is bought and held to maturity and that the coupon interest paid over the life of the bond will be reinvested at the same rate of return. The 30-Day SEC Yield is similar to the Yield to Maturity and is reported for mutual funds.

Yield to Worst - The bond yield calculated by using the worst possible yield taking into consideration all call, put, and optional sink dates.

PORTLAND

BOISE

CHICAGO

NEW YORK

Disclaimer of Warranties and Limitation of Liability - This document was prepared by RVK, Inc. (RVK) and may include information and data from some or all of the following sources: client staff; custodian banks; investment managers; specialty investment consultants; actuaries; plan administrators/record-keepers; index providers; as well as other third-party sources as directed by the client or as we believe necessary or appropriate. RVK has taken reasonable care to ensure the accuracy of the information or data, but makes no warranties and disclaims responsibility for the accuracy or completeness of information or data provided or methodologies employed by any external source. This document is provided for the client's internal use only and does not constitute a recommendation by RVK or an offer of, or a solicitation for, any particular security and it is not intended to convey any guarantees as to the future performance of the investment products, asset classes, or capital markets.

