



Quarterly Investment Performance Analysis

City of Jacksonville Employees' Retirement System

Period Ended: June 30, 2019



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Capital Markets Review

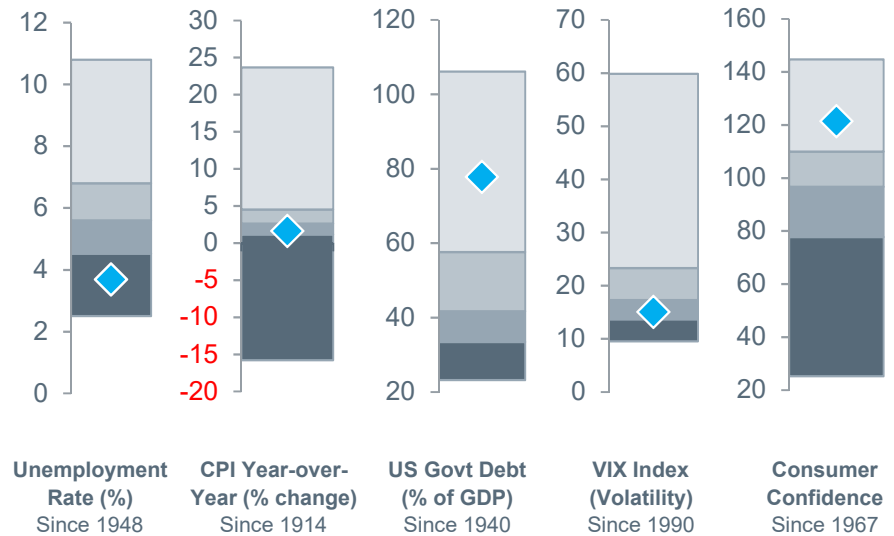


Second Quarter Economic Environment

Key Economic Indicators

The second quarter of 2019 saw global risk assets add to the gains realized during the first quarter, albeit with considerable bouts of volatility tied to heightened geopolitical tensions and the evolving China-US trade dispute. The strong equity returns realized in April were erased in May as confidence in the steady pace of global economic expansion waned and the US threatened to impose additional tariffs on \$300B worth of Chinese goods. The World Bank lowered its global GDP growth estimate for CY 2019 from 2.9% to 2.6%. Global central banks collectively reacted to the negative market sentiment with a flurry of dovish guidance that cooled the market's concern and brought about renewed optimism coming into June. The European Central Bank ("ECB") and Bank of Japan ("BoJ") both reaffirmed guidance to keep interest rates low into 2020. Yields on the 10-year Treasury note fell from 2.41% ending Q1, to 2.00% at the end of the second quarter, providing a strong pass-through to higher equity valuations via the lower discount rate. The economic data released during the quarter was largely consistent with a slowing economy, but one that doesn't necessarily appear on the verge of recession.

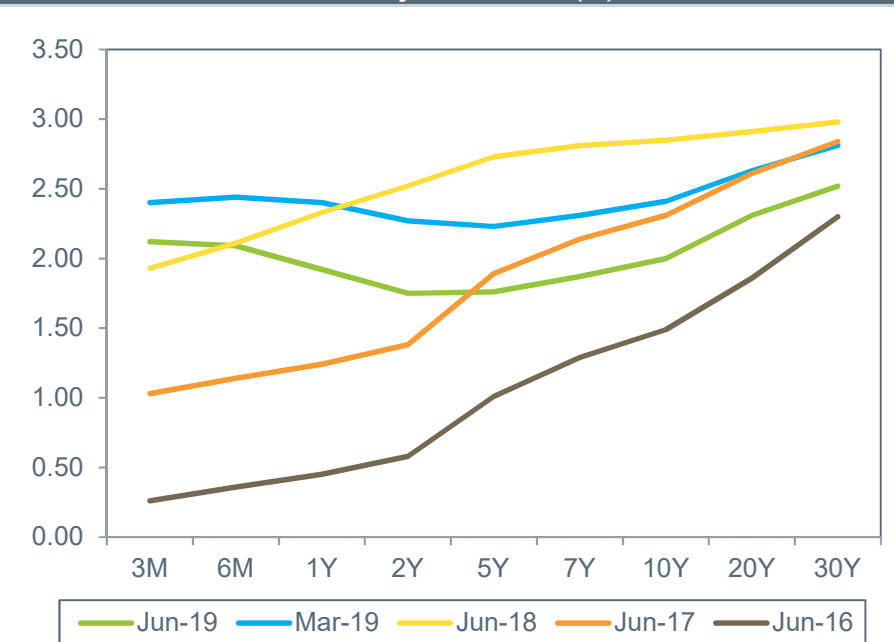
Key Economic Indicators



Economic Indicators

	Jun-19	Mar-19	Jun-18	Jun-16	20 Yr
Federal Funds Rate (%)	2.40 ▼	2.43	1.91	0.30	1.88
Breakeven Infl. - 5 Yr (%)	1.54 ▼	1.79	2.08	1.40	1.86
Breakeven Infl. - 10 Yr (%)	1.70 ▼	1.87	2.13	1.44	2.04
CPI YoY (Headline) (%)	1.6 ▼	1.9	2.9	1.0	2.2
Unemployment Rate (%)	3.7 ▼	3.8	4.0	4.9	5.9
Real GDP YoY (%)	2.3 ▼	2.7	3.2	1.3	2.2
PMI - Manufacturing	51.7 ▼	55.3	60.0	52.5	52.8
USD Total Wtd Idx	90.86 ▼	92.07	89.97	90.58	86.19
WTI Crude Oil per Barrel (\$)	58.5 ▼	60.1	74.2	48.3	61.1
Gold Spot per Oz (\$)	1,409 ▲	1,292	1,253	1,322	905

Treasury Yield Curve (%)



Market Performance (%)

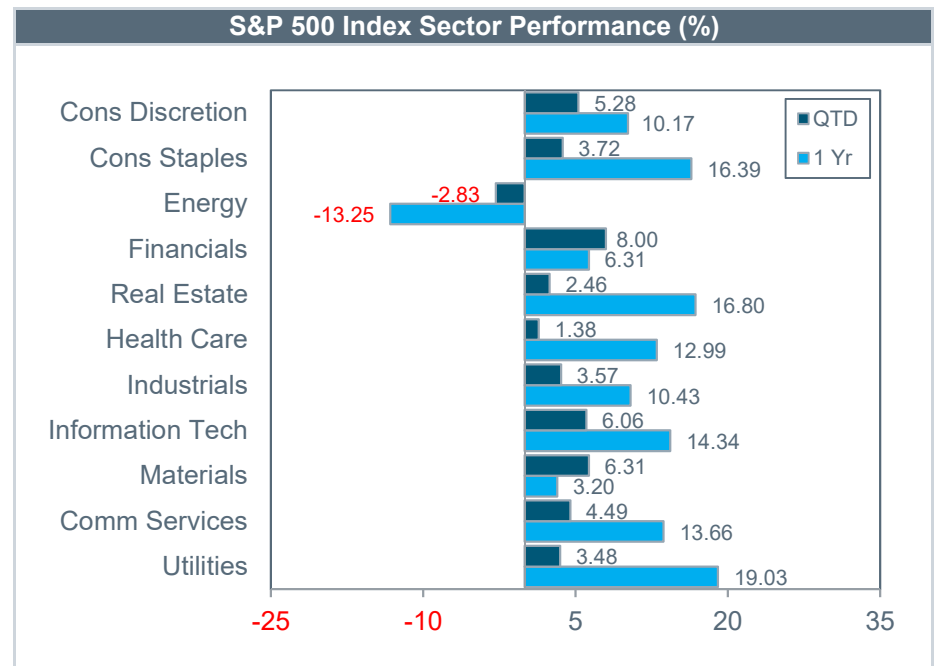
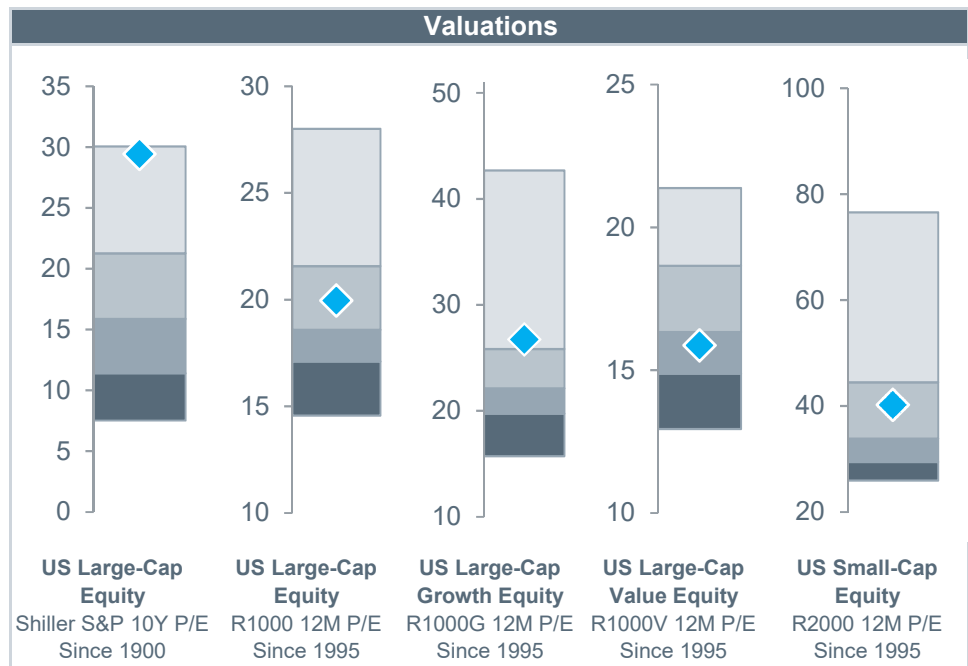
	QTD	CYTD	1 Yr	5 Yr	10 Yr
S&P 500 (Cap Wtd)	4.30	18.54	10.42	10.71	14.70
Russell 2000	2.10	16.98	-3.31	7.06	13.45
MSCI EAFE (Net)	3.68	14.03	1.08	2.25	6.90
MSCI EAFE SC (Net)	1.71	12.55	-6.35	4.40	9.67
MSCI Emg Mkts (Net)	0.61	10.59	1.21	2.49	5.81
Bloomberg US Agg Bond	3.08	6.11	7.87	2.95	3.90
ICE BofAML 3 Mo US T-Bill	0.64	1.24	2.31	0.87	0.49
NCREIF ODCE (Gross)	1.00	2.43	6.41	9.76	9.88
FTSE NAREIT Eq REIT (TR)	1.24	17.78	11.21	7.92	15.46
HFRI FOF Comp	1.48	6.15	1.14	2.19	3.21
Bloomberg Cmdbt (TR)	-1.19	5.06	-6.75	-9.15	-3.74

Second Quarter Review

Broad Market
 US equity markets sustained the strong performance trends from the first quarter into the second quarter, with all major indices finishing in positive territory, mostly buoyed by a dovish Federal Reserve and confidence surrounding a potential trade deal. The quarter finished strongly, with the strongest monthly S&P 500 return since 1955, at 7.0%, and finishing 4.3% for the quarter.

Market Cap
 Larger-capitalization names outperformed their small-cap counterparts, with the Russell 1000 Index outperforming the Russell 2000 Index by 2.2%.

Style and Sector
 All sectors, with the exception of energy, posted positive returns, with Financials taking the lead, as the S&P Financials returned 8.0% for the quarter. Both growth and value managers in the small and mid-cap segments experienced improved success rates during the quarter.



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.



Second Quarter Review

Developed Markets

Developed international markets lagged domestic equities, but did have positive returns during the quarter. Quarterly returns were positive across almost every country with only Israel ending the quarter in negative territory. However, economic growth has been disappointing across multiple developed international countries.

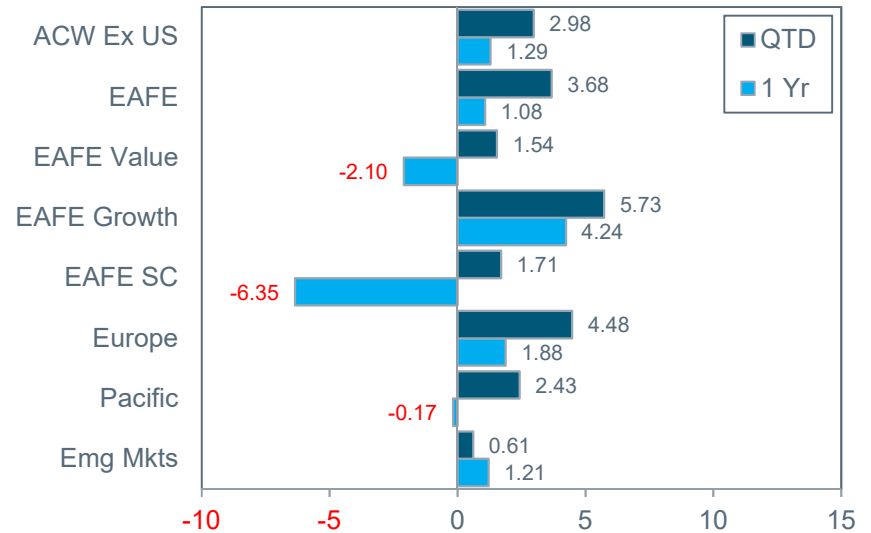
Emerging Markets

Emerging markets did not fare as well as developed markets, but broadly remained in positive territory despite emerging market small cap stocks having slightly negative returns. Yet again, headlines and actions related to trade negotiations dominated the emerging markets landscape.

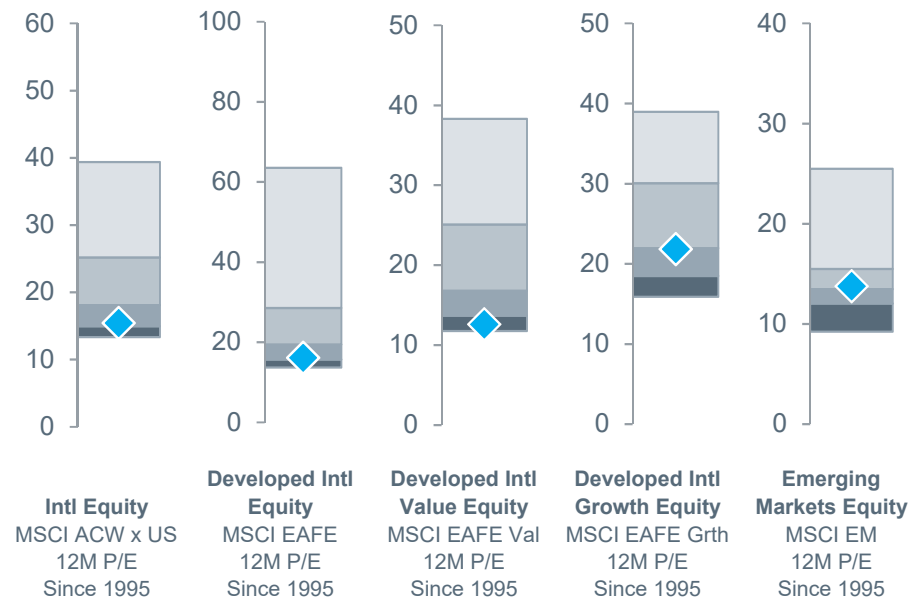
Market Cap & Style

Large cap stocks outperformed their smaller counterparts. Additionally, growth stocks continued to outperform value stocks in the developed international markets, but emerging markets value stocks outperformed growth stocks during the quarter.

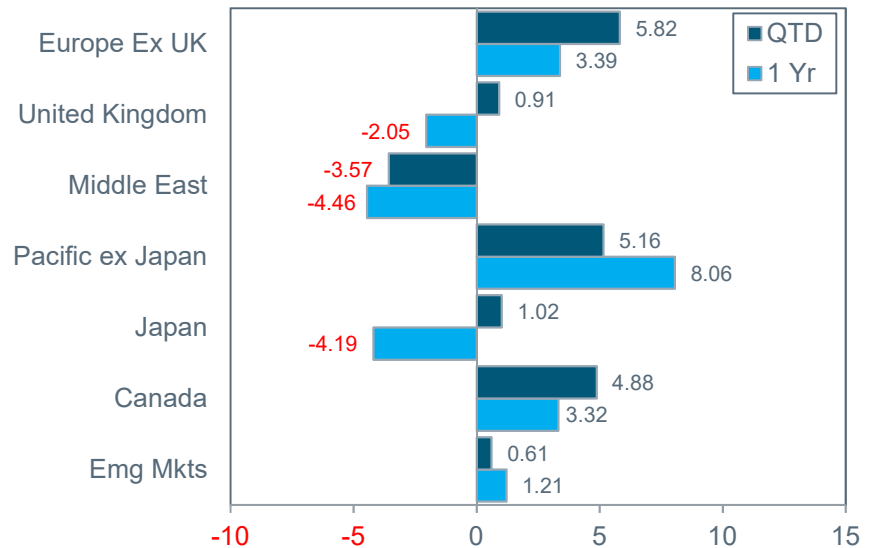
MSCI Style and Capitalization Market Performance (%)



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.



Second Quarter Review

Broad Market

US Treasury rates held relatively steady for the first half of the quarter, but weakened later in the quarter in response to trade war escalations, signs of moderating economic and job growth, and the potential for US interest rate cuts. US Treasury yields fell most in the belly of the curve, leading to a slight curve steepening with the spread between 2- and 10-year maturities increasing to 0.25%. Despite a sluggish start, the Bloomberg US Aggregate Index finished with another strong quarter, returning 3.1%.

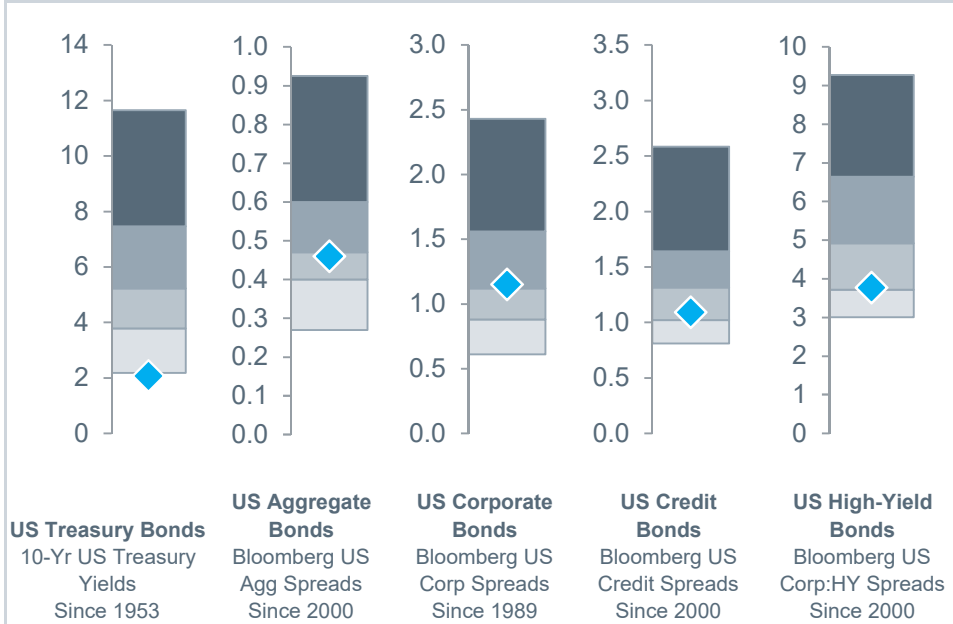
Credit Market

Though investment-grade corporate spreads widened for much of the quarter, they reversed course in June to finish slightly tighter, and the decline in US Treasury yields helped propel the Bloomberg US Corporate Bond Index to a 4.5% return.

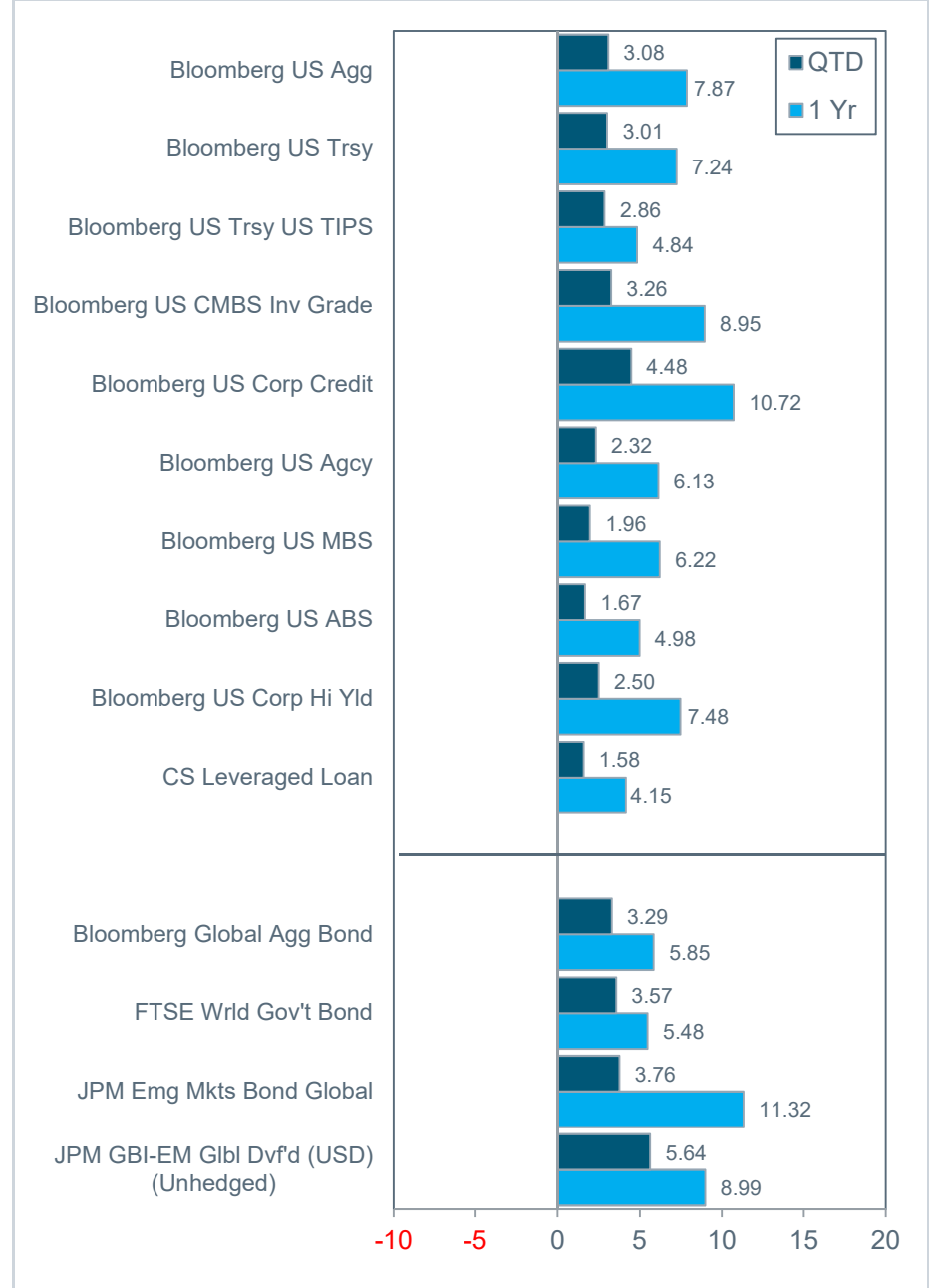
Emerging Market Debt

The JPM EMBI Global Diversified Index returned 4.1%, and has been one of the best performing areas of the bond market, returning 11.3% year to date.

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.



Second Quarter Review - Absolute Return

General Market - Hedge Funds

Hedge funds produced positive returns across all major strategy groups during the second quarter and are enjoying their best start to the year as an industry since 2009. The HFRI Equity Hedge Index reported YTD net returns of +9.4% through Q2, and remains the strongest performing broad hedge fund category.

General Market - Global Tactical Asset Allocation (GTAA)

GTAA managers posted positive absolute returns during the second quarter, however most still underperformed a blend of 60% US equity and 40% US fixed income given the positive US equity returns as well as positive relative performance of fixed income versus other asset classes. Similar to the first quarter, performance across managers varied. Those with a greater reliance on a benchmark-aware investment processes provided stronger peer relative performance in a quarter where US large cap equity, developed international equity, and US fixed income contributed to performance.

Second Quarter Review - Real Assets

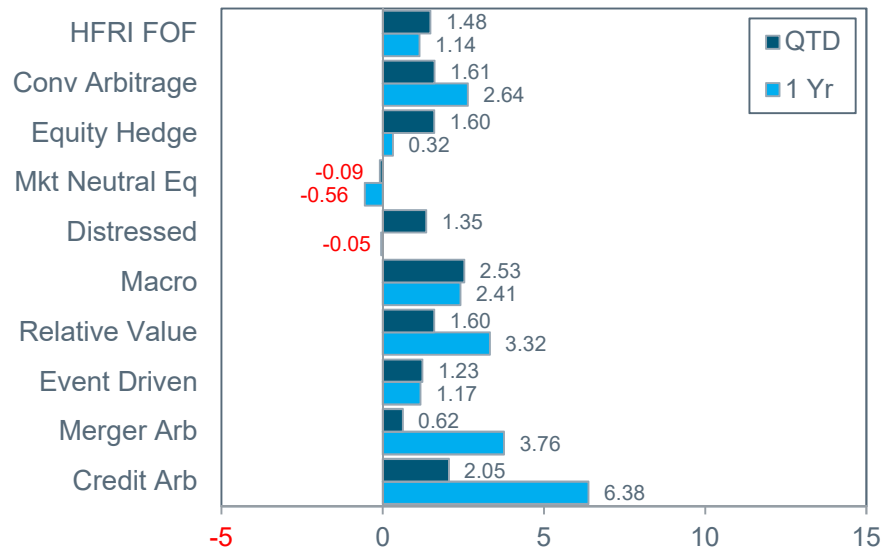
General Market - Diversified Inflation Strategies (DIS)

Despite low levels of inflation, most DIS managers posted moderately positive returns during the second quarter. Those who outperformed peers tended to deploy investment processes that do not explicitly track CPI-relative performance and generally held larger allocations to global listed infrastructure. DIS managers that trailed peers held larger exposures to commodities, natural resources equities, and, to a lesser extent, REITs.

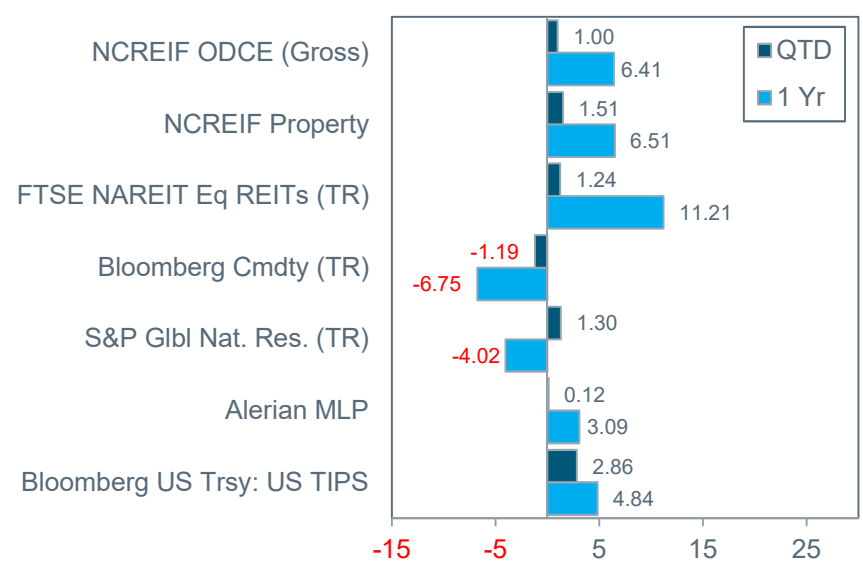
General Market - Real Estate

Core private real estate returned 1.0% during the second quarter, as reported by the NCREIF-ODCE Index, with the total return comprised of 1.01% income and -0.01% price appreciation. Investors in publicly traded real estate outperformed their private market counterparts during the second quarter. Publicly traded real estate experienced a more modest second quarter return of 1.8%, as measured by FTSE/NAREIT All REITs Index.

HFRI Hedge Fund Performance (%)



Real Asset Performance (%)



Annual Asset Class Performance

As of June 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	18.54
	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	17.78
	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	16.98
	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	14.03
	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	13.46
	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	12.55
	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	10.59
	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	9.94
	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	6.15
	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	6.15
	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	6.11
	2.84	2.72	1.45	-43.38	1.92	6.31	-13.32	4.21	-8.61	-4.90	-4.47	1.00	3.01	-13.79	5.06
	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	2.43
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	1.24
	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 June 30, 2019

	Allocation		Performance (%)		Allocation		Performance (%)
	Market Value (\$)	%	QTD		Market Value (\$)	%	QTD
US Equity	855,092,741	36.43	4.73	Real Estate	378,764,360	16.14	-0.12
Eagle Capital Large Cap Value (SA)	214,498,116	9.14	6.62	Harrison Street Core Property, LP	101,551,486	4.33	1.34
Mellon Large Cap Core Index (CF)	240,811,540	10.26	N/A	PGIM Real Estate PRISA II (CF)	55,912,995	2.38	1.18
Loomis Sayles Large Cap Growth (CF)	178,309,889	7.60	5.09	Principal US Property (CF)	119,977,475	5.11	1.34
William Blair Small Cap Value (SA)	111,584,579	4.75	2.77	UBS Trumbull Property (CF)	100,259,058	4.27	-3.89
Pinnacle Associates US SMID Cap Growth (SA)	109,888,617	4.68	1.72	Vanguard RE Idx;ETF (VNQ)	1,063,346	0.05	1.52
International Equity	507,476,036	21.62	2.08	Diversifying Assets	151,707,237	6.46	-2.02
Silchester International Value (CF)	252,109,929	10.74	2.08	Harvest Fund Advisors MLP (SA)	50,595,335	2.16	-0.62
Baillie Gifford EAFE Fund 4; (BGEFX)	131,148,459	5.59	3.51	Tortoise Capital Advisors MLP (SA)	49,691,915	2.12	-0.92
Acadian Emerging Markets (CF)	124,217,648	5.29	0.62	Hancock Timberland (SA)	51,419,988	2.19	-4.37
Fixed Income	447,815,526	19.08	2.47	Dreyfus Gvt Csh Mgt;Inst (DGCXX)	5,476,226	0.23	0.57
Richmond Capital Core (SA)	135,916,059	5.79	2.85	Transition Account	762,433	0.03	N/A
Taplin Canida & Habacht Intermediate Duration (SA)	134,886,577	5.75	2.35				
Franklin Templeton Global Multisector Plus (CF)	107,558,695	4.58	1.80				
Loomis Sayles Multisector Full Discretion (CF)	69,454,195	2.96	2.99				

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	596,961	238,919,495	2,347,094,559	11.32	111.32

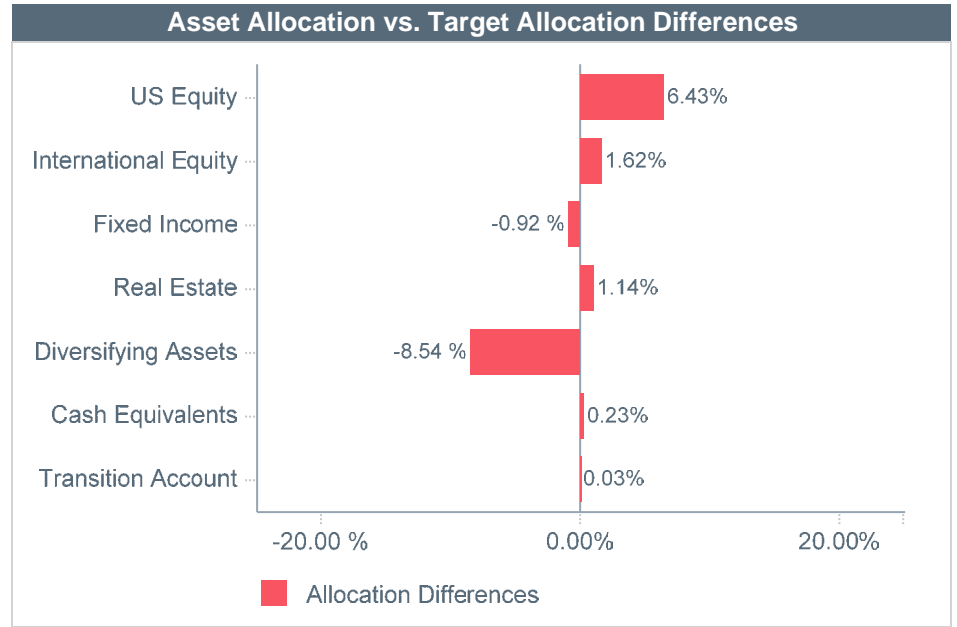
Performance shown is net of fees. Allocations shown may not sum up to 100% exactly due to rounding. In April, INTECH Enhanced (SA) and Mellon Large Cap Growth Index (CF) were terminated. The proceeds were used to fund Mellon Large Cap Core Index (CF) and rebalance the US equity portfolio to the structure approved in February.



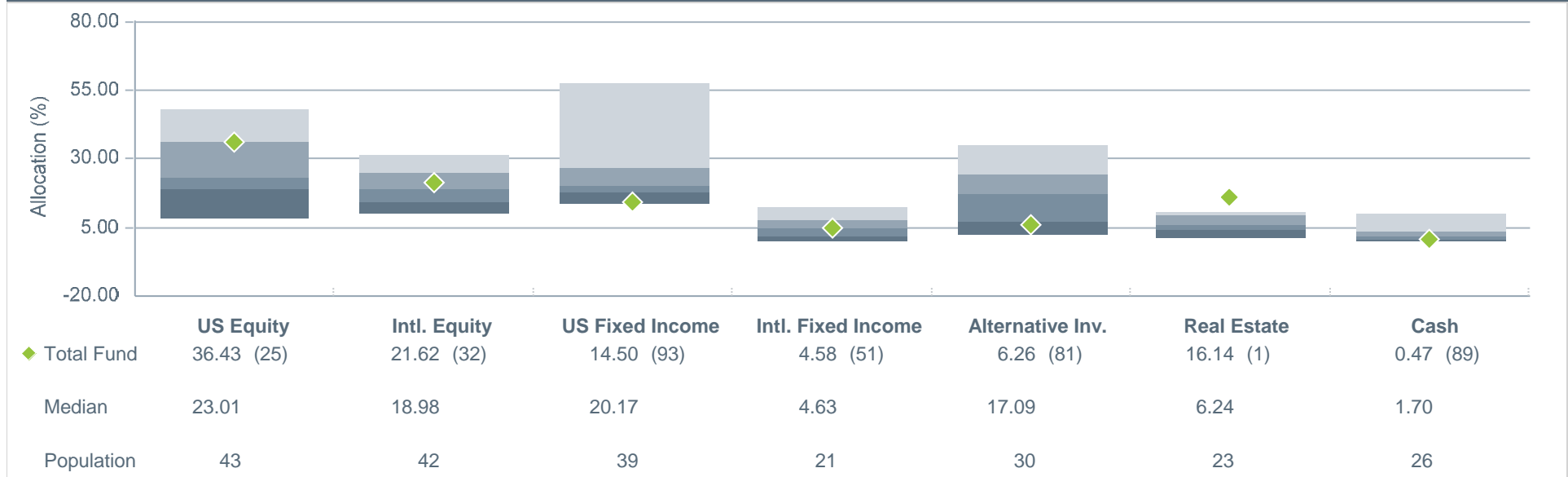
City of Jacksonville Employees' Retirement System
Total Fund vs. All Public Plans (\$1B to \$5B) (Custom PG)
Asset Allocation vs. Target and Plan Sponsor Peer Group

As of June 30, 2019

Asset Allocation vs. Target Allocation					
	Market Value (\$)	Allocation (%)	Min (%)	Target (%)	Max (%)
Total Fund	2,347,094,559	100.00	-	100.00	-
US Equity	855,092,741	36.43	20.00	30.00	40.00
International Equity	507,476,036	21.62	10.00	20.00	25.00
Fixed Income	447,815,526	19.08	10.00	20.00	30.00
Real Estate	378,764,360	16.14	0.00	15.00	20.00
Diversifying Assets	151,707,237	6.46	0.00	15.00	20.00
Cash Equivalents	5,476,226	0.23	0.00	0.00	10.00
Transition Account	762,433	0.03	0.00	0.00	0.00



Asset Allocation vs. All Public Plans (\$1B to \$5B) (Custom PG)

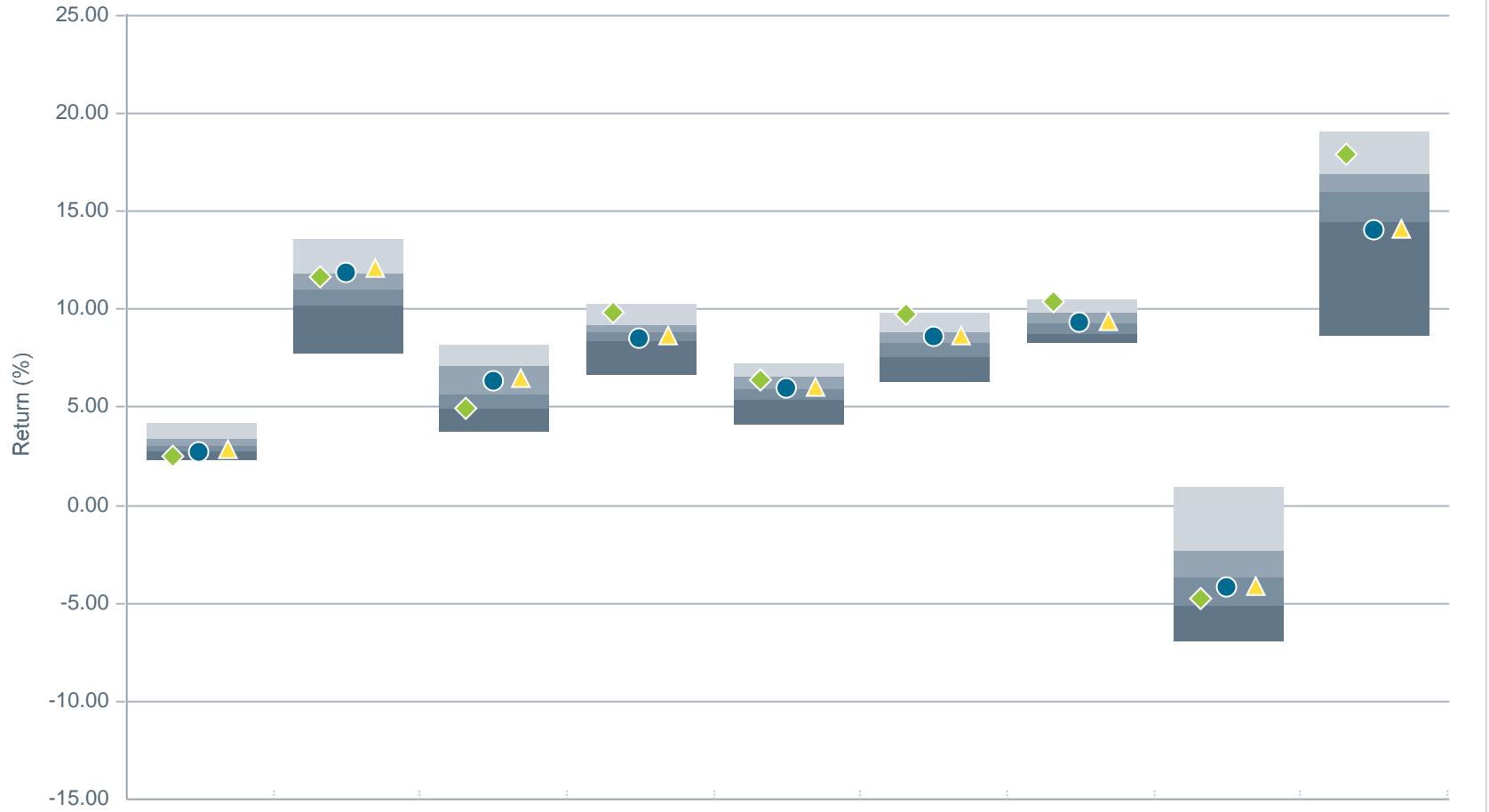


Allocations shown may not sum up to 100% exactly due to rounding. Parentheses contain percentile ranks.



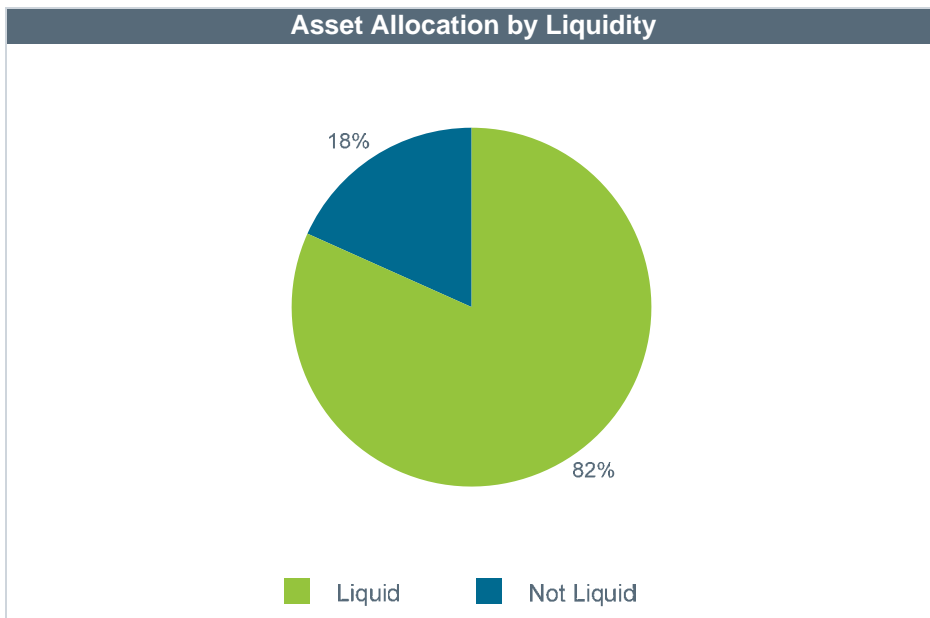
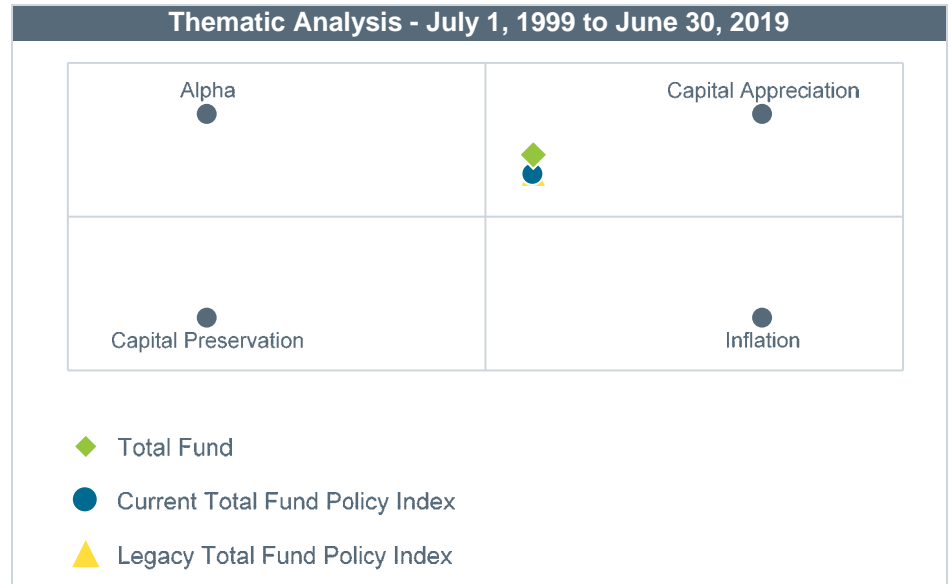
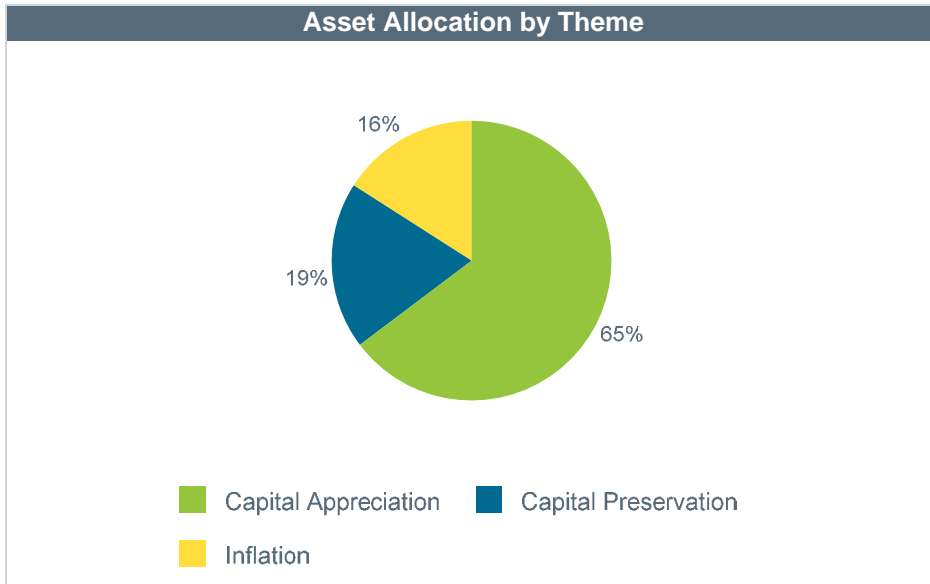
City of Jacksonville Employees' Retirement System
 Total Fund vs. All Public Plans (\$1B to \$5B) (Custom PG)
 Plan Sponsor Peer Group Analysis

As of June 30, 2019



	QTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017
◆ Total Fund	2.52 (87)	11.64 (34)	4.96 (76)	9.81 (12)	6.37 (30)	9.72 (8)	10.44 (7)	-4.72 (70)	17.95 (13)
● Current Total Fund Policy Index	2.65 (84)	11.84 (25)	6.29 (35)	8.52 (69)	5.93 (51)	8.57 (41)	9.34 (48)	-4.24 (65)	14.00 (83)
▲ Legacy Total Fund Policy Index	2.84 (69)	12.09 (19)	6.51 (32)	8.66 (62)	6.01 (47)	8.63 (38)	9.38 (45)	-4.16 (63)	14.07 (82)
5th Percentile	4.20	13.55	8.23	10.34	7.26	9.82	10.53	0.98	19.14
1st Quartile	3.45	11.82	7.15	9.19	6.55	8.82	9.85	-2.33	16.92
Median	3.09	11.00	5.68	8.88	5.95	8.32	9.32	-3.64	15.98
3rd Quartile	2.79	10.19	4.96	8.40	5.38	7.56	8.79	-5.12	14.52
95th Percentile	2.33	7.72	3.80	6.70	4.18	6.35	8.29	-6.96	8.63

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



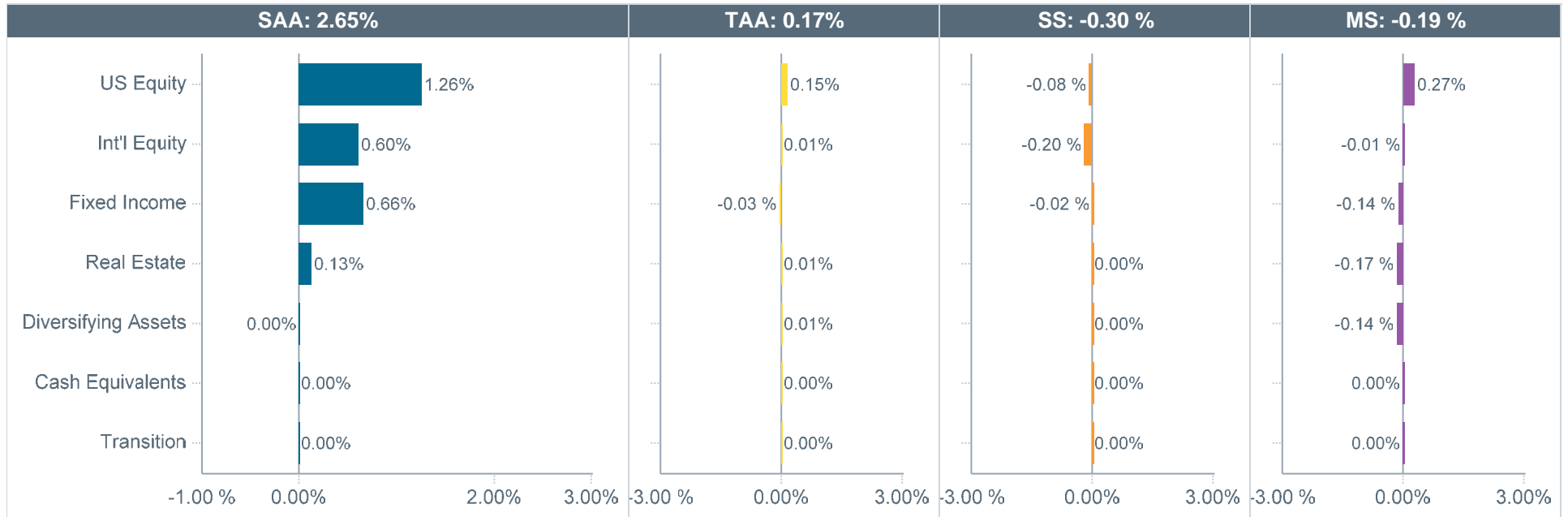
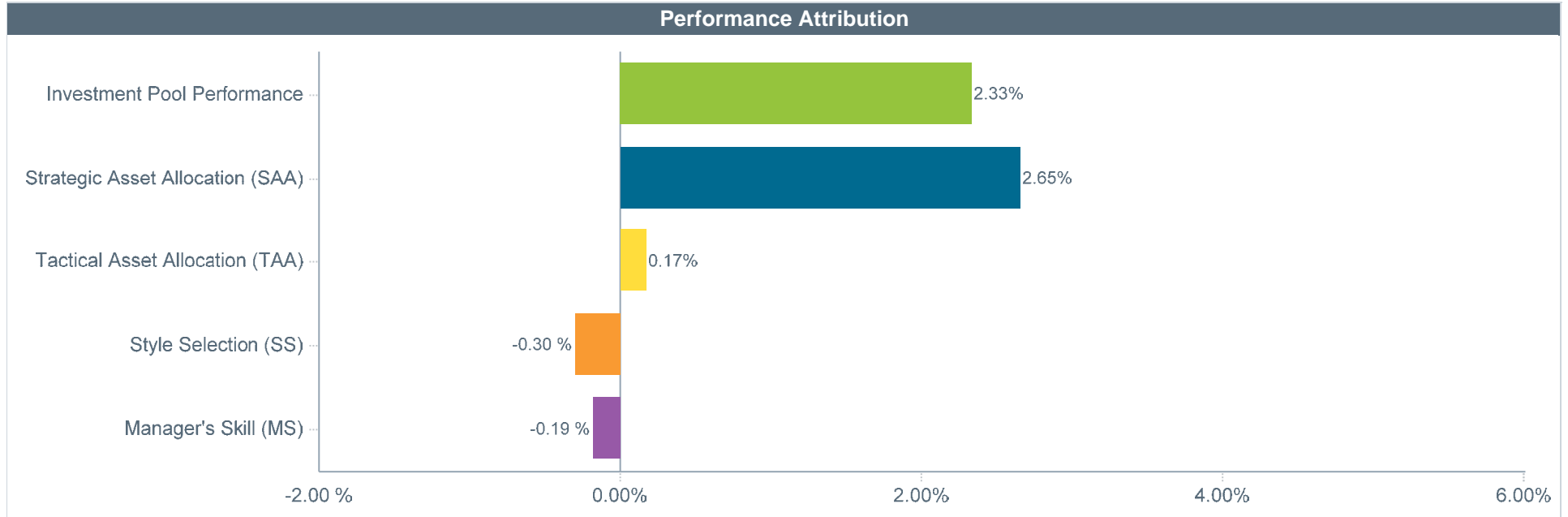
Correlation Matrix - 10 Years

	A	B	C	D
A	1.00			
B	0.68	1.00		
C	-0.31	-0.35	1.00	
D	0.53	0.78	0.00	1.00

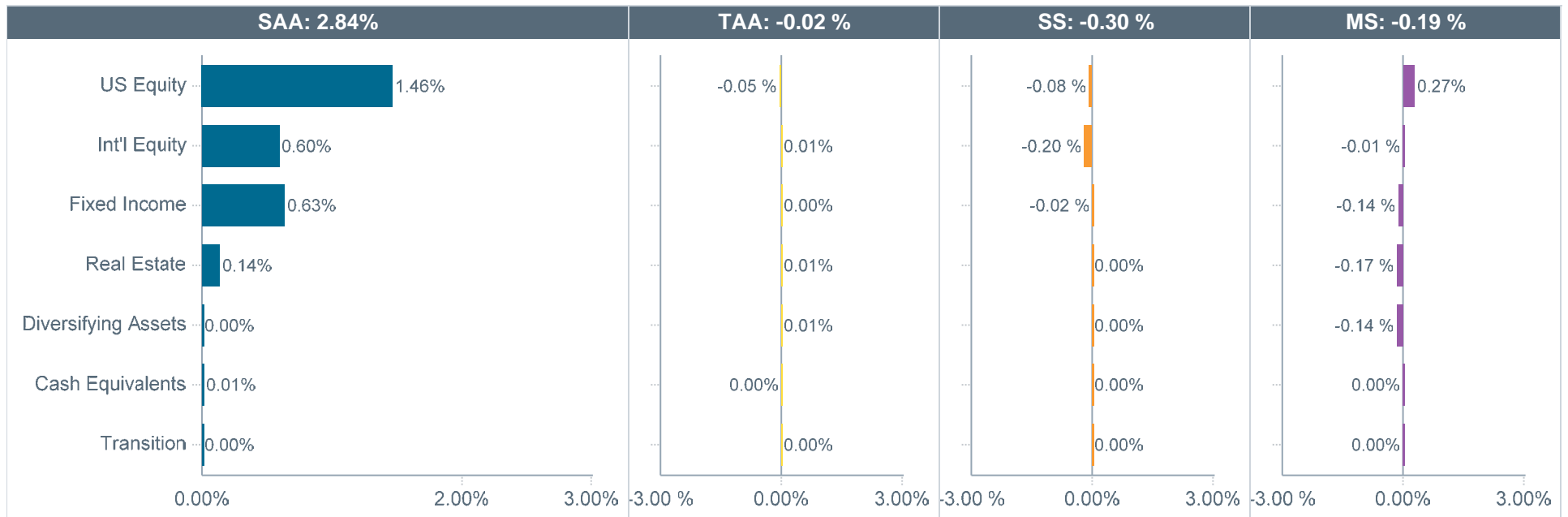
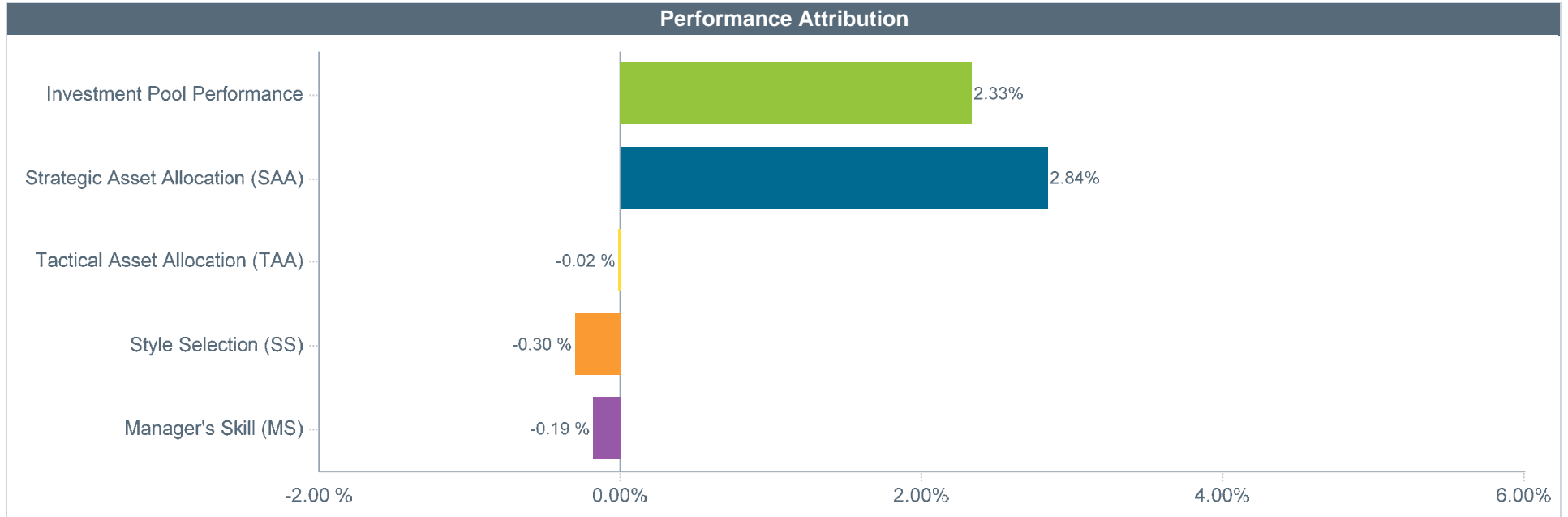
Legend:

- A = HFRI EH: Eq Mkt Net 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 June 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	2,347,094,559	100.00	2.52	11.64	1.84	4.96	9.81	6.37	9.72	10.44	6.54	07/01/1999
Current Total Fund Policy Index			2.65	11.84	2.89	6.29	8.52	5.93	8.57	9.34	5.82	
Difference			-0.13	-0.20	-1.05	-1.33	1.29	0.44	1.15	1.10	0.72	
Legacy Total Fund Policy Index			2.84	12.09	2.98	6.51	8.66	6.01	8.63	9.38	5.84	
Difference			-0.32	-0.45	-1.14	-1.55	1.15	0.36	1.09	1.06	0.70	
All Public Plans (\$1B to \$5B) (Custom PG) Median			3.09	11.00	3.00	5.68	8.88	5.95	8.32	9.32	6.14	
Rank			87	34	93	76	12	30	8	7	20	
Total Equity	1,362,568,777	58.05	3.87	17.50	0.74	4.47	13.40	8.00	12.22	12.87	6.32	07/01/1999
US Equity	855,092,741	36.43	4.94	20.47	1.99	8.72	14.51	10.00	13.95	14.70	6.74	07/01/1999
US Equity Index			4.10	18.71	1.74	8.98	14.02	10.19	13.79	14.67	6.37	
Difference			0.84	1.76	0.25	-0.26	0.49	-0.19	0.16	0.03	0.37	
IM U.S. Equity (SA+CF) Median			3.96	18.38	-0.15	6.18	13.07	8.97	13.38	14.66	8.57	
Rank			30	31	35	37	35	40	39	49	80	
International Equity	507,476,036	21.62	2.22	12.92	-1.21	-1.99	11.65	4.45	9.09	9.37	6.09	07/01/1999
International Equity Index			2.98	13.60	0.58	1.29	9.39	2.16	6.36	6.23	3.88	
Difference			-0.76	-0.68	-1.79	-3.28	2.26	2.29	2.73	3.14	2.21	
IM International Equity (SA+CF) Median			2.61	13.66	0.83	0.55	9.77	3.59	8.01	8.40	6.99	
Rank			57	58	66	68	25	36	30	31	65	
Fixed Income	447,815,526	19.08	2.59	5.59	6.73	7.26	4.08	2.72	3.40	5.35	5.52	07/01/1999
Fixed Income Index			3.11	6.54	7.78	8.07	2.34	2.97	2.64	3.91	4.94	
Difference			-0.52	-0.95	-1.05	-0.81	1.74	-0.25	0.76	1.44	0.58	
IM Global Fixed Income (SA+CF) Median			3.14	6.87	6.15	6.62	4.06	2.74	3.73	4.89	6.50	
Rank			70	79	40	39	50	51	55	45	65	
Real Estate	378,764,360	16.14	0.11	1.61	3.32	6.23	7.54	9.30	9.51	8.89	6.42	12/01/2005
NCREIF ODCE Index (AWA) (Gross)			1.00	2.43	4.23	6.41	7.57	9.76	10.52	9.88	7.20	
Difference			-0.89	-0.82	-0.91	-0.18	-0.03	-0.46	-1.01	-0.99	-0.78	
Diversifying Assets	151,707,237	6.46	-1.79	10.02	-3.67	0.97	3.15	-1.42	6.50	N/A	7.23	03/01/2011
Diversifying Assets Index			-0.04	12.40	-0.98	3.60	2.84	-0.56	4.51	6.89	4.39	
Difference			-1.75	-2.38	-2.69	-2.63	0.31	-0.86	1.99	N/A	2.84	

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

As of June 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)	214,498,116	9.14	7.04	20.76	4.45	11.24	17.60	11.94	15.59	17.06	11.04	02/01/2007
Russell 1000 Val Index			3.84	16.24	2.61	8.46	10.19	7.46	12.09	13.19	6.11	
Difference			3.20	4.52	1.84	2.78	7.41	4.48	3.50	3.87	4.93	
IM U.S. Large Cap Value Equity (SA+CF) Median			3.96	15.93	0.62	6.43	11.35	7.80	12.56	13.51	7.15	
Rank			5	8	16	16	3	2	2	1	1	
Mellon Large Cap Core Index (CF)	240,811,540	10.26	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.20	05/01/2019
Russell 1000 Index			4.25	18.84	2.42	10.02	14.15	10.45	13.97	14.77	0.20	
Difference			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.00	
IM U.S. Large Cap Core Equity (SA+CF) Median			4.23	18.14	1.89	8.85	13.70	10.31	13.97	14.55	0.19	
Rank			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	50	
Loomis Sayles Large Cap Growth (CF)	178,309,889	7.60	5.17	22.20	8.06	15.81	N/A	N/A	N/A	N/A	16.23	08/01/2017
Russell 1000 Grth Index			4.64	21.49	2.19	11.56	18.07	13.39	15.76	16.28	16.10	
Difference			0.53	0.71	5.87	4.25	N/A	N/A	N/A	N/A	0.13	
IM U.S. Large Cap Growth Equity (SA+CF) Median			5.11	21.69	3.67	11.89	17.73	12.85	15.58	15.87	15.62	
Rank			49	44	15	20	N/A	N/A	N/A	N/A	45	
William Blair Small Cap Value (SA)	111,584,579	4.75	3.22	17.17	-5.20	-1.87	8.97	N/A	N/A	N/A	6.72	11/01/2014
Russell 2000 Val Index			1.38	13.47	-7.72	-6.24	9.81	5.39	10.31	12.40	6.28	
Difference			1.84	3.70	2.52	4.37	-0.84	N/A	N/A	N/A	0.44	
IM U.S. Small Cap Value Equity (SA+CF) Median			2.32	15.80	-6.28	-4.69	9.93	6.19	11.83	14.17	7.01	
Rank			36	35	37	31	62	N/A	N/A	N/A	58	
Pinnacle Associates US SMID Cap Growth (SA)	109,888,617	4.68	1.99	21.16	-1.49	5.95	15.98	8.50	13.99	N/A	13.94	03/01/2010
Russell 2500 Grth Index			4.14	23.92	-0.97	6.13	16.14	9.98	14.12	15.67	14.15	
Difference			-2.15	-2.76	-0.52	-0.18	-0.16	-1.48	-0.13	N/A	-0.21	
IM U.S. SMID Cap Growth Equity (SA+CF) Median			5.66	25.01	1.28	9.09	17.41	10.83	14.30	16.38	14.84	
Rank			93	79	73	75	67	84	65	N/A	71	

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

As of June 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)	252,109,929	10.74	2.22	9.39	-2.43	-1.71	9.78	4.38	10.45	10.29	10.33	06/01/2009
MSCI EAFE Val Index (USD) (Net)			1.54	9.58	-3.24	-2.10	8.46	0.05	6.04	5.50	5.35	
Difference			0.68	-0.19	0.81	0.39	1.32	4.33	4.41	4.79	4.98	
IM EAFE Value (SA+CF) Median			1.91	11.48	-3.92	-2.86	8.05	1.93	7.40	7.57	7.50	
Rank			47	89	38	37	19	15	9	8	8	
Baillie Gifford EAFE Fund 4; (BGEFX)	131,148,459	5.59	3.64	24.00	0.37	-2.69	16.53	6.87	11.10	11.08	10.87	06/01/2009
Baillie Gifford Index			4.35	17.20	2.90	2.64	8.75	3.86	8.10	7.96	7.88	
Difference			-0.71	6.80	-2.53	-5.33	7.78	3.01	3.00	3.12	2.99	
IM ACWI Ex US Growth (SA+CF) Median			5.21	19.51	1.83	1.54	10.88	4.85	8.85	9.54	9.44	
Rank			78	5	71	91	4	18	13	11	12	
Acadian Emerging Markets (CF)	124,217,648	5.29	0.76	9.77	-0.35	-1.44	9.92	1.92	4.51	N/A	2.74	02/01/2011
MSCI Emg Mkts Index (USD) (Net)			0.61	10.59	2.33	1.21	10.66	2.49	4.15	5.81	1.77	
Difference			0.15	-0.82	-2.68	-2.65	-0.74	-0.57	0.36	N/A	0.97	
IM Emerging Markets Equity (SA+CF) Median			1.57	12.29	4.21	1.89	10.54	3.26	5.61	7.42	3.20	
Rank			75	79	93	80	58	78	77	N/A	66	
Fixed Income												
Richmond Capital Core (SA)	135,916,059	5.79	2.94	6.07	7.82	7.92	2.65	3.33	3.10	4.53	5.33	06/01/1999
Richmond Capital Index			3.08	6.11	7.85	7.87	2.31	2.95	2.62	3.85	4.93	
Difference			-0.14	-0.04	-0.03	0.05	0.34	0.38	0.48	0.68	0.40	
IM U.S. Broad Market Core Fixed Income (SA+CF) Median			3.14	6.43	7.92	8.11	2.80	3.29	3.10	4.61	5.29	
Rank			87	80	69	74	58	46	50	58	46	
Taplin Canida & Habacht Intermediate Duration (SA)	134,886,577	5.75	2.41	5.80	6.02	6.74	3.79	2.57	2.84	4.39	5.03	06/01/1999
ICE BofAML US Corp & Gov't 1-10 Yr Index			2.59	5.00	6.69	6.97	2.04	2.44	2.22	3.33	4.43	
Difference			-0.18	0.80	-0.67	-0.23	1.75	0.13	0.62	1.06	0.60	
IM U.S. Intermediate Duration (SA+CF) Median			2.51	5.01	6.48	6.88	2.33	2.67	2.53	3.66	4.76	
Rank			67	8	81	62	4	63	25	17	24	
Franklin Templeton Global Multisector Plus (CF)	107,558,695	4.58	2.01	3.71	6.03	6.43	5.00	N/A	N/A	N/A	5.97	03/01/2016
Frank. Temp. Global Multisector Index			3.31	5.78	6.86	6.01	1.95	1.35	1.79	4.71	3.54	
Difference			-1.30	-2.07	-0.83	0.42	3.05	N/A	N/A	N/A	2.43	
IM Global Fixed Income (SA+CF) Median			3.14	6.87	6.15	6.62	4.06	2.74	3.73	4.89	5.42	
Rank			79	91	53	51	38	N/A	N/A	N/A	42	
Loomis Sayles Multisector Full Discretion (CF)	69,454,195	2.96	3.18	7.22	7.07	8.31	6.33	4.30	6.36	8.79	7.01	10/01/2007
Bloomberg Gbl Agg Bond Index			3.29	5.57	6.83	5.85	1.63	1.20	1.57	2.89	3.28	
Difference			-0.11	1.65	0.24	2.46	4.70	3.10	4.79	5.90	3.73	
IM Global Fixed Income (SA+CF) Median			3.14	6.87	6.15	6.62	4.06	2.74	3.73	4.89	4.53	
Rank			49	46	34	21	22	26	13	8	8	

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

As of June 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	101,551,486	4.33	1.60	3.11	5.24	8.91	9.09	N/A	N/A	N/A	8.41	11/01/2015
NCREIF ODCE Index (AWA) (Gross)			1.00	2.43	4.23	6.41	7.57	9.76	10.52	9.88	8.37	
Difference			0.60	0.68	1.01	2.50	1.52	N/A	N/A	N/A	0.04	
PGIM Real Estate PRISA II (CF)	55,912,995	2.38	1.47	3.49	4.99	9.72	9.36	N/A	N/A	N/A	10.32	01/01/2015
NCREIF ODCE Index (AWA) (Gross)			1.00	2.43	4.23	6.41	7.57	9.76	10.52	9.88	9.33	
Difference			0.47	1.06	0.76	3.31	1.79	N/A	N/A	N/A	0.99	
Principal US Property (CF)	119,977,475	5.11	1.54	3.47	5.01	7.92	9.00	10.87	N/A	N/A	10.95	01/01/2014
NCREIF ODCE Index (AWA) (Gross)			1.00	2.43	4.23	6.41	7.57	9.76	10.52	9.88	9.90	
Difference			0.54	1.04	0.78	1.51	1.43	1.11	N/A	N/A	1.05	
UBS Trumbull Property (CF)	100,259,058	4.27	-3.69	-3.03	-1.35	0.04	4.37	7.23	8.04	8.27	6.27	12/01/2005
NCREIF ODCE Index (AWA) (Gross)			1.00	2.43	4.23	6.41	7.57	9.76	10.52	9.88	7.20	
Difference			-4.69	-5.46	-5.58	-6.37	-3.20	-2.53	-2.48	-1.61	-0.93	
Vanguard RE Idx;ETF (VNQ)	1,063,346	0.05	1.52	19.14	11.47	12.00	3.79	7.60	8.44	14.72	14.13	12/01/2008
Custom REITs Index			1.76	19.36	11.34	12.56	4.60	8.10	8.97	15.70	15.09	
Difference			-0.24	-0.22	0.13	-0.56	-0.81	-0.50	-0.53	-0.98	-0.96	
Diversifying Assets												
Harvest Fund Advisors MLP (SA)	50,595,335	2.16	-0.26	20.64	-4.26	1.64	2.00	-4.26	5.81	N/A	7.22	03/01/2011
S&P MLP Index (TR)			-0.59	18.05	-2.96	3.23	1.54	-6.65	1.97	8.88	2.47	
Difference			0.33	2.59	-1.30	-1.59	0.46	2.39	3.84	N/A	4.75	
Tortoise Capital Advisors MLP (SA)	49,691,915	2.12	-0.57	17.68	-1.43	1.59	1.85	-4.93	5.72	N/A	6.07	03/01/2011
S&P MLP Index (TR)			-0.59	18.05	-2.96	3.23	1.54	-6.65	1.97	8.88	2.47	
Difference			0.02	-0.37	1.53	-1.64	0.31	1.72	3.75	N/A	3.60	
Hancock Timberland (SA)	51,419,988	2.19	-4.37	-4.32	-5.13	-0.22	5.57	4.56	6.98	4.00	3.38	10/01/2006
NCREIF Timberland Index			1.04	1.15	1.91	2.95	3.29	4.62	6.03	3.98	5.71	
Difference			-5.41	-5.47	-7.04	-3.17	2.28	-0.06	0.95	0.02	-2.33	
Dreyfus Gvt Csh Mgt;Inst (DGCXX)	5,476,226	0.23	0.61	1.23	1.77	2.54	1.45	0.93	0.70	0.52	1.43	04/01/2001
FTSE 3 Mo T-Bill Index			0.61	1.21	1.79	2.30	1.36	0.84	0.62	0.46	1.40	
Difference			0.00	0.02	-0.02	0.24	0.09	0.09	0.08	0.06	0.03	

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

As of June 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	2,347,094,559	100.00	2.33	11.32	1.42	4.39	9.25	5.83	9.18	9.94	6.25	07/01/1999
Current Total Fund Policy Index			2.65	11.84	2.89	6.29	8.52	5.93	8.57	9.34	5.82	
Difference			-0.32	-0.52	-1.47	-1.90	0.73	-0.10	0.61	0.60	0.43	
Legacy Total Fund Policy Index			2.84	12.09	2.98	6.51	8.66	6.01	8.63	9.38	5.84	
Difference			-0.51	-0.77	-1.56	-2.12	0.59	-0.18	0.55	0.56	0.41	
Total Equity	1,362,568,777	58.05	3.68	17.21	0.34	3.93	12.78	7.41	11.61	12.33	6.03	07/01/1999
US Equity	855,092,741	36.43	4.73	20.21	1.61	8.18	13.90	9.42	13.35	14.16	6.46	07/01/1999
US Equity Index			4.10	18.71	1.74	8.98	14.02	10.19	13.79	14.67	6.37	
Difference			0.63	1.50	-0.13	-0.80	-0.12	-0.77	-0.44	-0.51	0.09	
International Equity	507,476,036	21.62	2.08	12.61	-1.62	-2.55	11.02	3.85	8.47	8.81	5.78	07/01/1999
International Equity Index			2.98	13.60	0.58	1.29	9.39	2.16	6.36	6.23	3.88	
Difference			-0.90	-0.99	-2.20	-3.84	1.63	1.69	2.11	2.58	1.90	
Fixed Income	447,815,526	19.08	2.47	5.33	6.45	6.96	3.83	2.50	3.20	5.14	5.37	07/01/1999
Fixed Income Index			3.11	6.54	7.78	8.07	2.34	2.97	2.64	3.91	4.94	
Difference			-0.64	-1.21	-1.33	-1.11	1.49	-0.47	0.56	1.23	0.43	
Real Estate	378,764,360	16.14	-0.12	1.15	2.62	5.23	6.75	8.50	8.67	8.10	5.76	12/01/2005
NCREIF ODCE Index (AWA) (Net)			0.77	1.98	3.53	5.46	6.61	8.76	9.51	8.87	6.12	
Difference			-0.89	-0.83	-0.91	-0.23	0.14	-0.26	-0.84	-0.77	-0.36	
Diversifying Assets	151,707,237	6.46	-2.02	9.61	-4.10	0.47	2.67	-1.90	5.98	N/A	6.71	03/01/2011
Diversifying Assets Index			-0.04	12.40	-0.98	3.60	2.84	-0.56	4.51	6.89	4.39	
Difference			-1.98	-2.79	-3.12	-3.13	-0.17	-1.34	1.47	N/A	2.32	

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City of Jacksonville Employees' Retirement System
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As of June 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)	214,498,116	9.14	6.62	20.30	3.81	10.37	16.71	11.11	14.72	16.29	10.36	02/01/2007
Russell 1000 Val Index			3.84	16.24	2.61	8.46	10.19	7.46	12.09	13.19	6.11	
Difference			2.78	4.06	1.20	1.91	6.52	3.65	2.63	3.10	4.25	
Mellon Large Cap Core Index (CF)	240,811,540	10.26	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.20	05/01/2019
Russell 1000 Index			4.25	18.84	2.42	10.02	14.15	10.45	13.97	14.77	0.20	
Difference			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.00	
Loomis Sayles Large Cap Growth (CF)	178,309,889	7.60	5.09	21.98	7.74	15.33	N/A	N/A	N/A	N/A	15.70	08/01/2017
Russell 1000 Grth Index			4.64	21.49	2.19	11.56	18.07	13.39	15.76	16.28	16.10	
Difference			0.45	0.49	5.55	3.77	N/A	N/A	N/A	N/A	-0.40	
William Blair Small Cap Value (SA)	111,584,579	4.75	2.77	16.65	-5.85	-2.71	8.13	N/A	N/A	N/A	5.92	11/01/2014
Russell 2000 Val Index			1.38	13.47	-7.72	-6.24	9.81	5.39	10.31	12.40	6.28	
Difference			1.39	3.18	1.87	3.53	-1.68	N/A	N/A	N/A	-0.36	
Pinnacle Associates US SMID Cap Growth (SA)	109,888,617	4.68	1.72	20.84	-1.93	5.33	15.25	7.75	13.18	N/A	13.16	03/01/2010
Russell 2500 Grth Index			4.14	23.92	-0.97	6.13	16.14	9.98	14.12	15.67	14.15	
Difference			-2.42	-3.08	-0.96	-0.80	-0.89	-2.23	-0.94	N/A	-0.99	
International Equity												
Silchester International Value (CF)	252,109,929	10.74	2.08	9.08	-2.85	-2.27	9.16	3.78	9.80	9.63	9.68	06/01/2009
MSCI EAFE Val Index (USD) (Net)			1.54	9.58	-3.24	-2.10	8.46	0.05	6.04	5.50	5.35	
Difference			0.54	-0.50	0.39	-0.17	0.70	3.73	3.76	4.13	4.33	
Baillie Gifford EAFE Fund 4; (BGEFX)	131,148,459	5.59	3.51	23.69	-0.02	-3.19	15.92	6.30	10.54	10.69	10.49	06/01/2009
Baillie Gifford Index			4.35	17.20	2.90	2.64	8.75	3.86	8.10	7.96	7.88	
Difference			-0.84	6.49	-2.92	-5.83	7.17	2.44	2.44	2.73	2.61	
Acadian Emerging Markets (CF)	124,217,648	5.29	0.62	9.46	-0.78	-2.02	9.29	1.30	3.87	N/A	2.15	02/01/2011
MSCI Emg Mkts Index (USD) (Net)			0.61	10.59	2.33	1.21	10.66	2.49	4.15	5.81	1.77	
Difference			0.01	-1.13	-3.11	-3.23	-1.37	-1.19	-0.28	N/A	0.38	

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As of June 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)	135,916,059	5.79	2.85	5.98	7.69	7.74	2.47	3.15	2.92	4.37	5.24	06/01/1999
Richmond Capital Index			3.08	6.11	7.85	7.87	2.31	2.95	2.62	3.85	4.93	
Difference			-0.23	-0.13	-0.16	-0.13	0.16	0.20	0.30	0.52	0.31	
Taplin Canada & Habacht Intermediate Duration (SA)	134,886,577	5.75	2.35	5.74	5.93	6.62	3.67	2.45	2.72	4.27	4.96	06/01/1999
ICE BofAML US Corp & Gov't 1-10 Yr Index			2.59	5.00	6.69	6.97	2.04	2.44	2.22	3.33	4.43	
Difference			-0.24	0.74	-0.76	-0.35	1.63	0.01	0.50	0.94	0.53	
Franklin Templeton Global Multisector Plus (CF)	107,558,695	4.58	1.80	3.19	5.50	5.89	4.57	N/A	N/A	N/A	5.57	03/01/2016
Frank. Temp. Global Multisector Index			3.31	5.78	6.86	6.01	1.95	1.35	1.79	4.71	3.54	
Difference			-1.51	-2.59	-1.36	-0.12	2.62	N/A	N/A	N/A	2.03	
Loomis Sayles Multisector Full Discretion (CF)	69,454,195	2.96	2.99	6.70	6.55	7.79	5.91	3.88	5.92	8.40	6.65	10/01/2007
Bloomberg Gbl Agg Bond Index			3.29	5.57	6.83	5.85	1.63	1.20	1.57	2.89	3.28	
Difference			-0.30	1.13	-0.28	1.94	4.28	2.68	4.35	5.51	3.37	
Real Estate												
Harrison Street Core Property, LP	101,551,486	4.33	1.34	2.59	4.45	7.81	8.72	N/A	N/A	N/A	8.11	11/01/2015
NCREIF ODCE Index (AWA) (Net)			0.77	1.98	3.53	5.46	6.61	8.76	9.51	8.87	7.20	
Difference			0.57	0.61	0.92	2.35	2.11	N/A	N/A	N/A	0.91	
PGIM Real Estate PRISA II (CF)	55,912,995	2.38	1.18	2.89	4.08	8.25	8.21	N/A	N/A	N/A	9.43	01/01/2015
NCREIF ODCE Index (AWA) (Net)			0.77	1.98	3.53	5.46	6.61	8.76	9.51	8.87	8.35	
Difference			0.41	0.91	0.55	2.79	1.60	N/A	N/A	N/A	1.08	
Principal US Property (CF)	119,977,475	5.11	1.34	3.06	4.38	7.03	8.10	9.98	N/A	N/A	10.05	01/01/2014
NCREIF ODCE Index (AWA) (Net)			0.77	1.98	3.53	5.46	6.61	8.76	9.51	8.87	8.91	
Difference			0.57	1.08	0.85	1.57	1.49	1.22	N/A	N/A	1.14	
UBS Trumbull Property (CF)	100,259,058	4.27	-3.89	-3.42	-1.95	-0.76	3.41	6.22	7.00	7.25	5.32	12/01/2005
NCREIF ODCE Index (AWA) (Net)			0.77	1.98	3.53	5.46	6.61	8.76	9.51	8.87	6.12	
Difference			-4.66	-5.40	-5.48	-6.22	-3.20	-2.54	-2.51	-1.62	-0.80	
Vanguard RE Idx;ETF (VNQ)	1,063,346	0.05	1.52	19.14	11.47	12.00	3.79	7.60	8.44	14.72	14.13	12/01/2008
Custom REITs Index			1.76	19.36	11.34	12.56	4.60	8.10	8.97	15.70	15.09	
Difference			-0.24	-0.22	0.13	-0.56	-0.81	-0.50	-0.53	-0.98	-0.96	

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 June 30, 2019

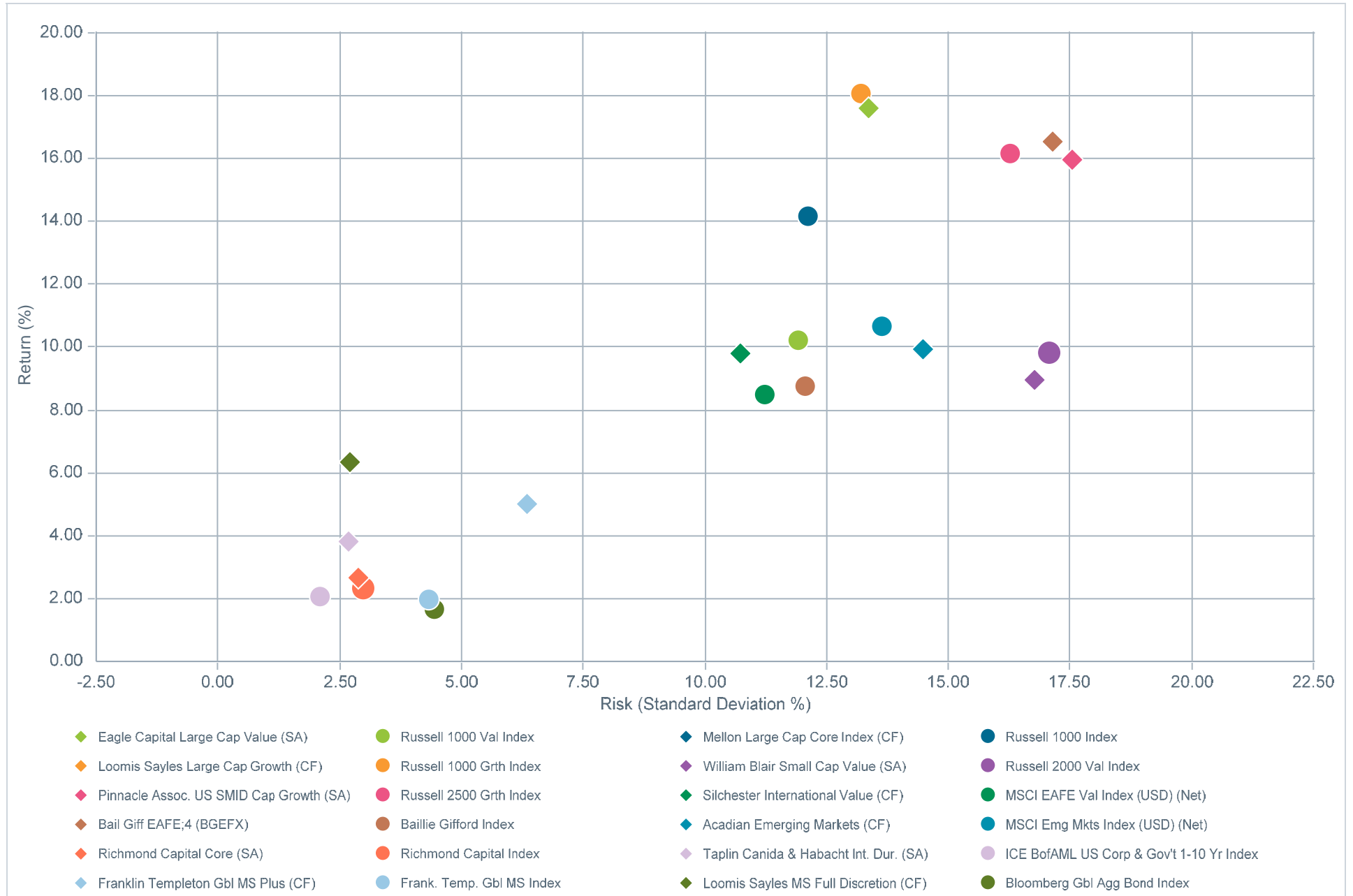
	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	CYTD	FYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
Diversifying Assets												
Harvest Fund Advisors MLP (SA)	50,595,335	2.16	-0.62	19.65	-5.05	0.81	1.23	-5.01	5.01	N/A	6.44	03/01/2011
S&P MLP Index (TR)			-0.59	18.05	-2.96	3.23	1.54	-6.65	1.97	8.88	2.47	
Difference			-0.03	1.60	-2.09	-2.42	-0.31	1.64	3.04	N/A	3.97	
Tortoise Capital Advisors MLP (SA)	49,691,915	2.12	-0.92	17.27	-2.00	0.82	1.09	-5.66	4.92	N/A	5.31	03/01/2011
S&P MLP Index (TR)			-0.59	18.05	-2.96	3.23	1.54	-6.65	1.97	8.88	2.47	
Difference			-0.33	-0.78	0.96	-2.41	-0.45	0.99	2.95	N/A	2.84	
Hancock Timberland (SA)	51,419,988	2.19	-4.37	-4.32	-5.13	-0.22	5.57	4.56	6.98	4.00	3.38	10/01/2006
NCREIF Timberland Index			1.04	1.15	1.91	2.95	3.29	4.62	6.03	3.98	5.71	
Difference			-5.41	-5.47	-7.04	-3.17	2.28	-0.06	0.95	0.02	-2.33	
Dreyfus Gvt Csh Mgt;Inst (DGCXX)	5,476,226	0.23	0.57	1.15	1.65	2.41	1.41	0.89	0.67	0.51	1.41	04/01/2001
FTSE 3 Mo T-Bill Index			0.61	1.21	1.79	2.30	1.36	0.84	0.62	0.46	1.40	
Difference			-0.04	-0.06	-0.14	0.11	0.05	0.05	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.



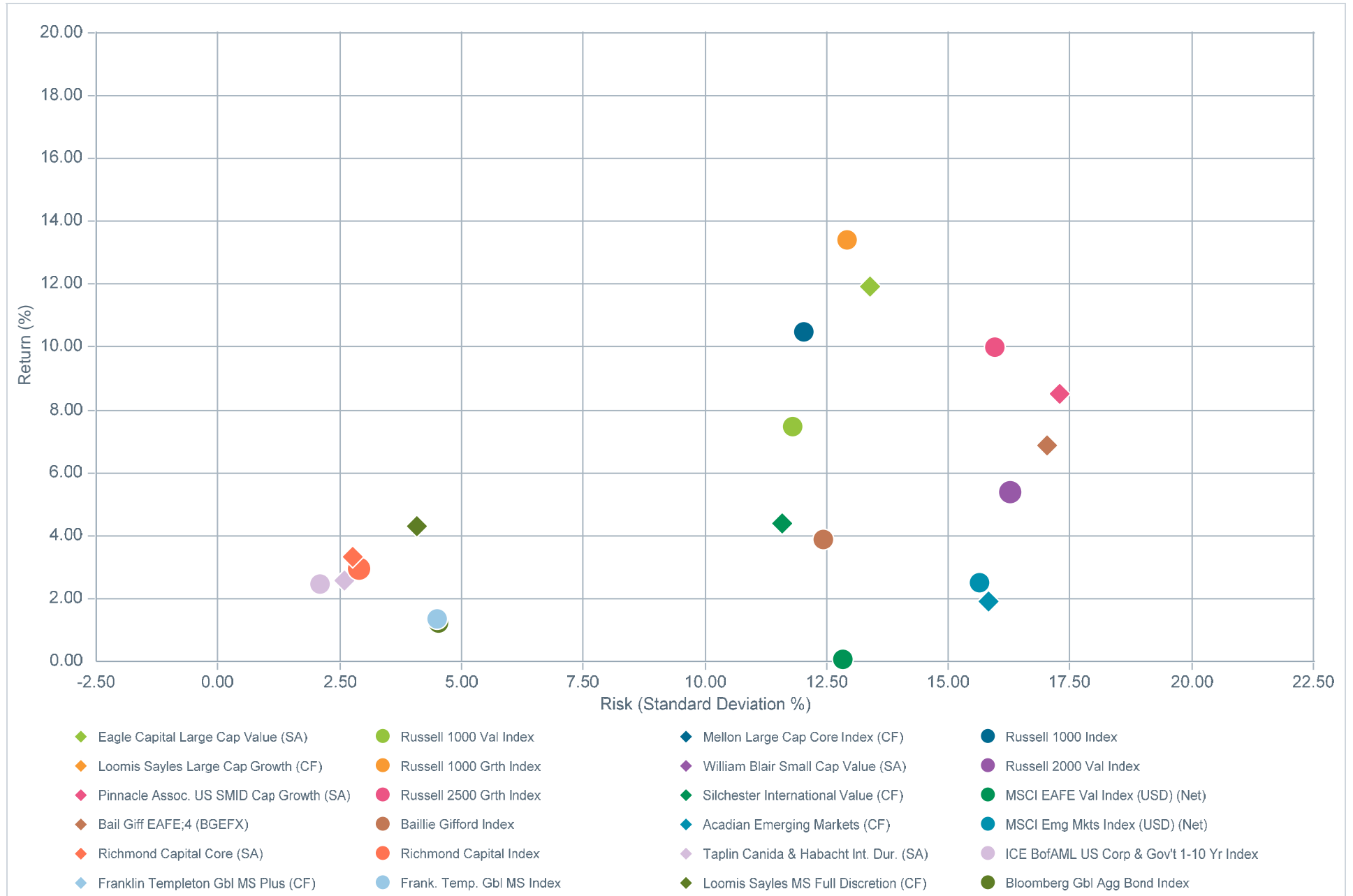
City of Jacksonville Employees' Retirement System
 Risk and Return
 Traditional Managers

3 Years Ending June 30, 2019

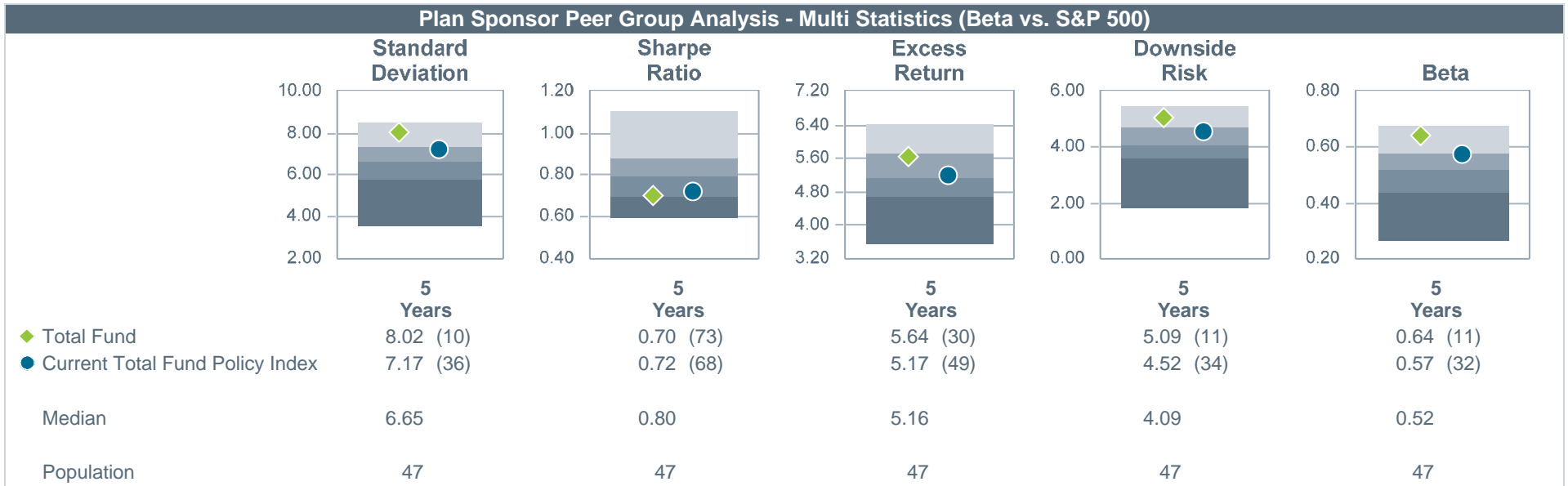
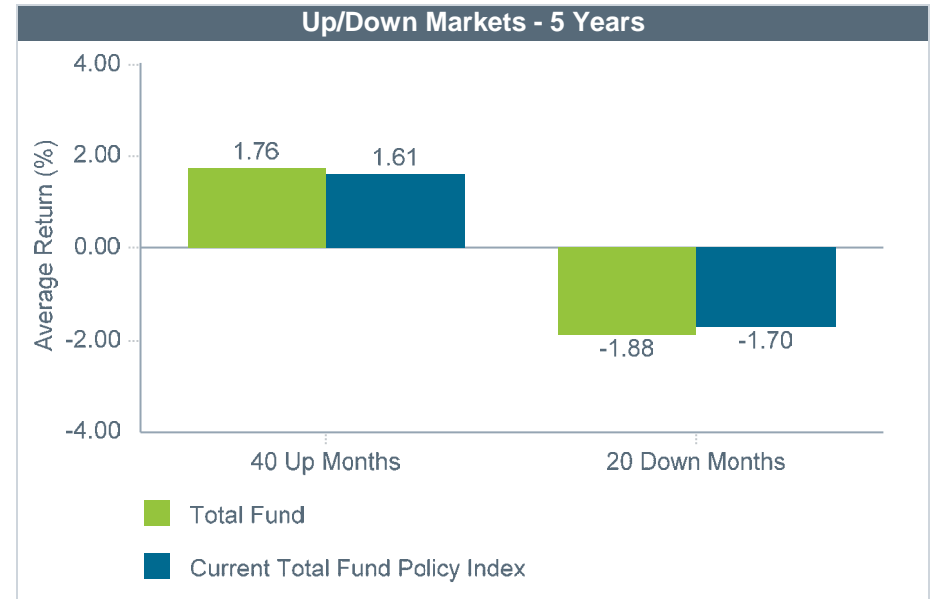
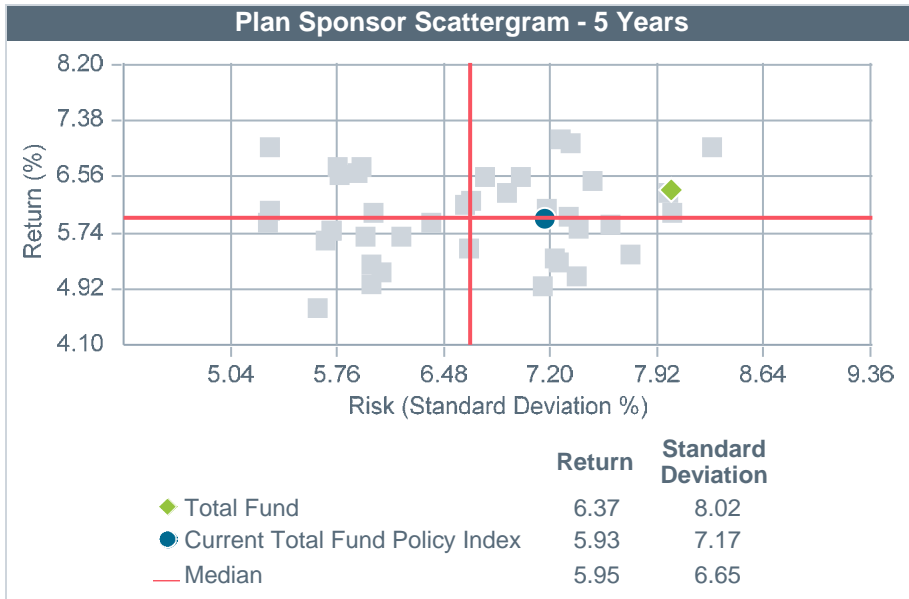


Performance shown is gross of fees and client specific. Calculation is based on monthly periodicity. Managers with less history than the specified time period will not appear. Please see the Addendum for custom index definitions.

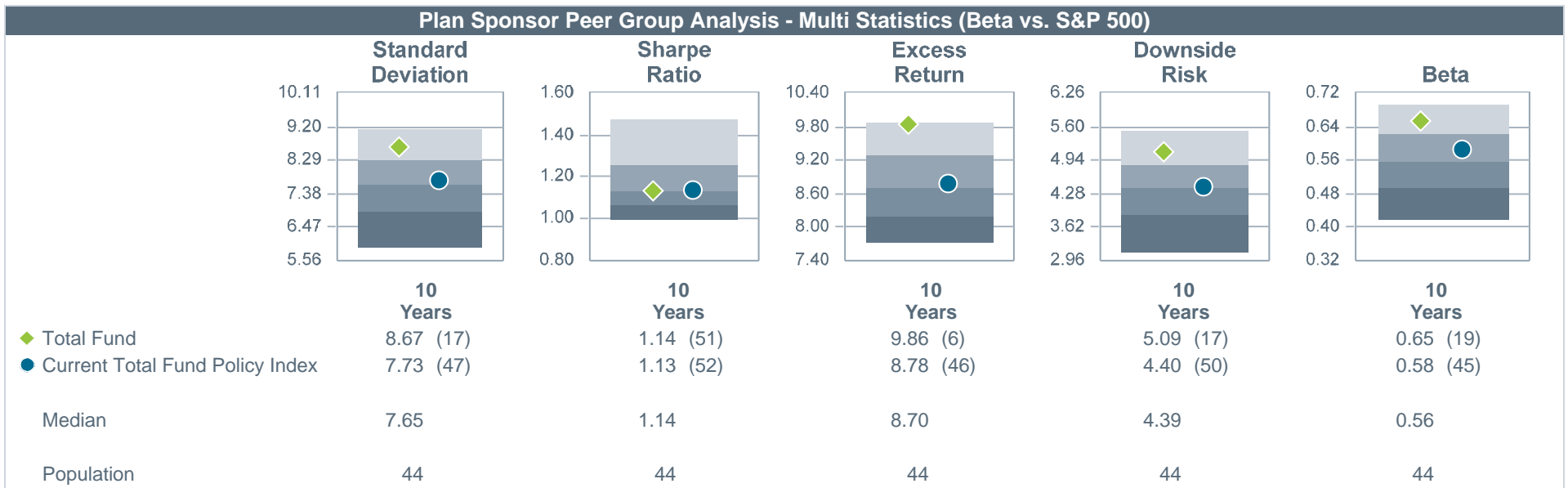
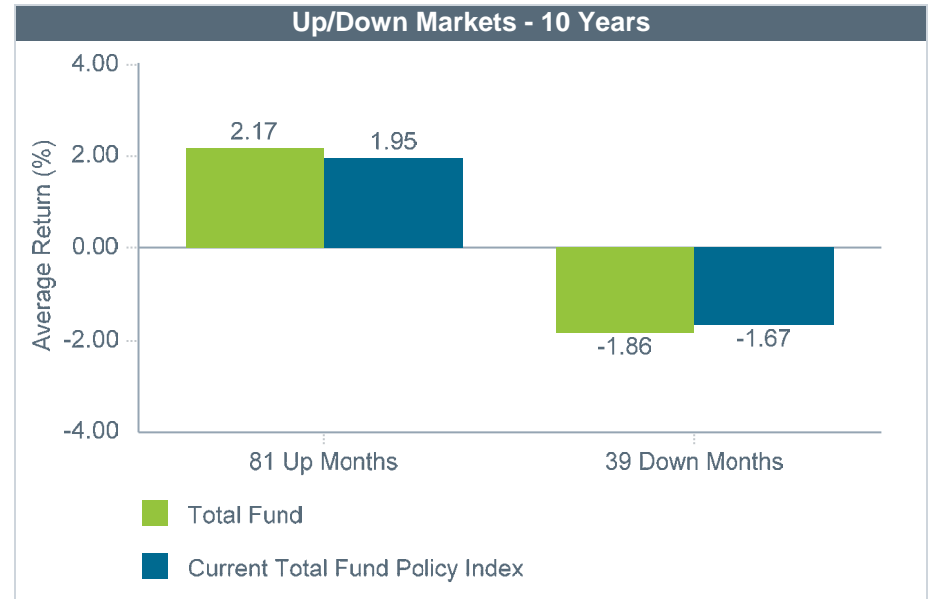
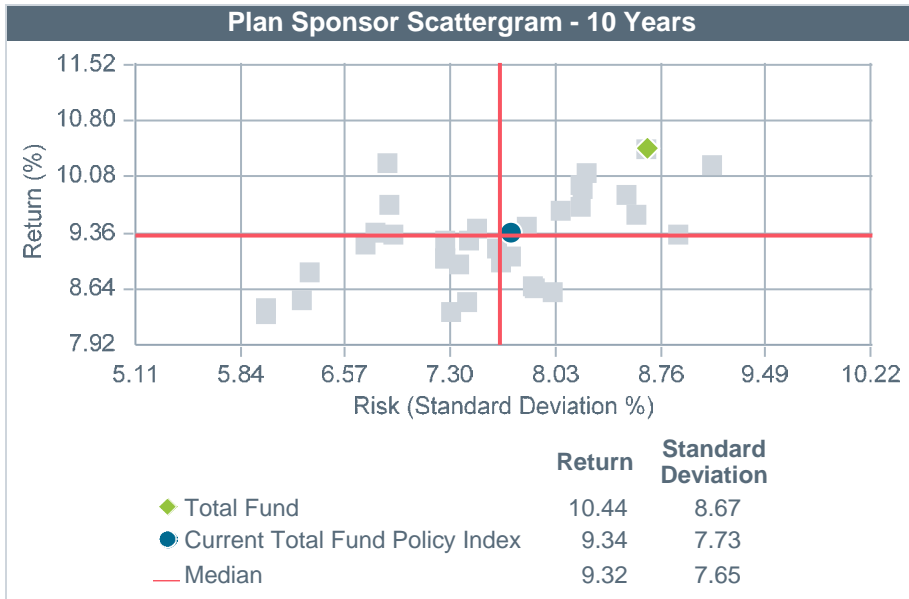




Performance shown is gross of fees and client specific. Calculation is based on monthly periodicity. Managers with less history than the specified time period will not appear. Please see the Addendum for custom index definitions.



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



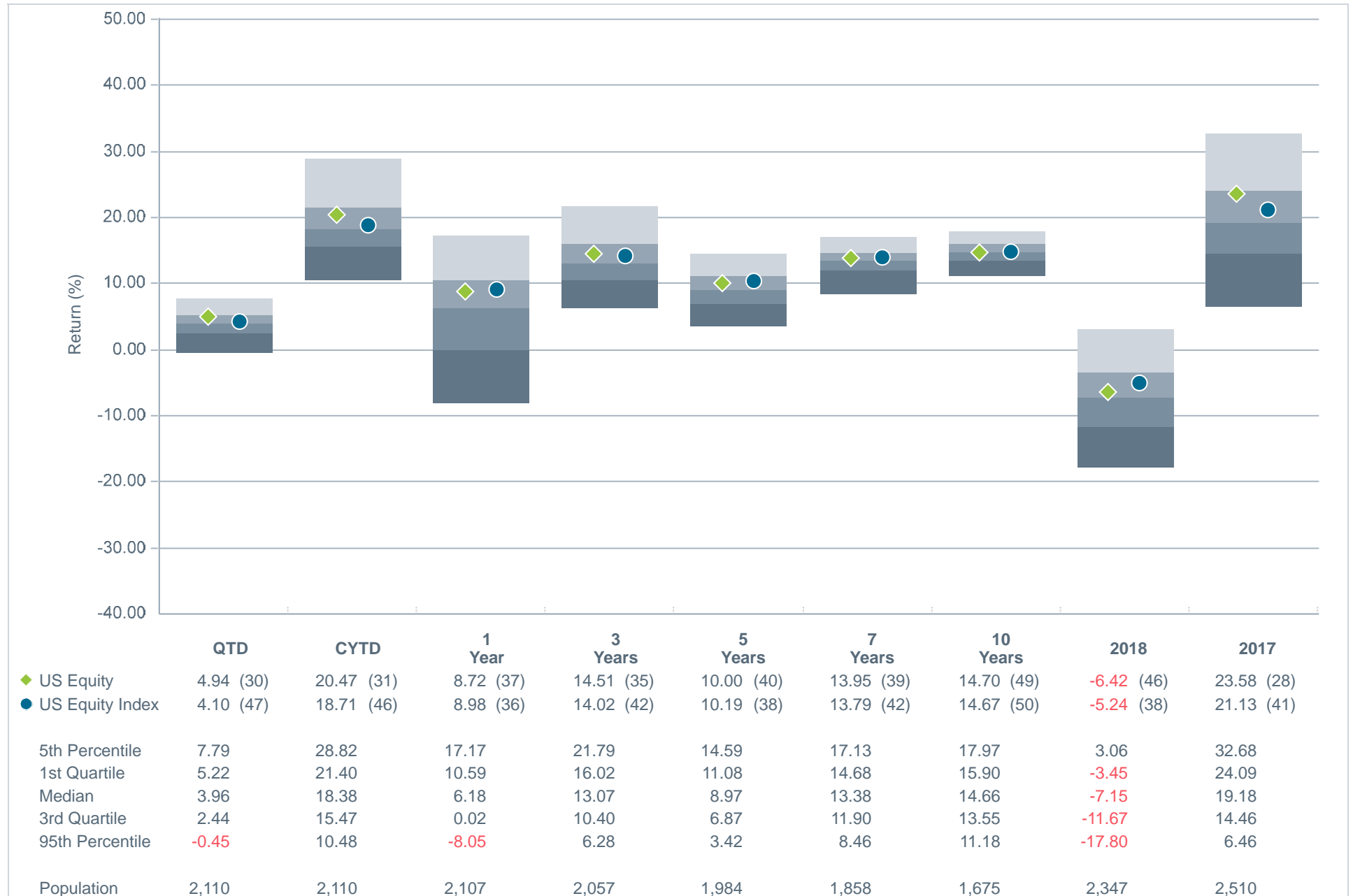
Performance shown is gross of fees. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.

Composite Profiles



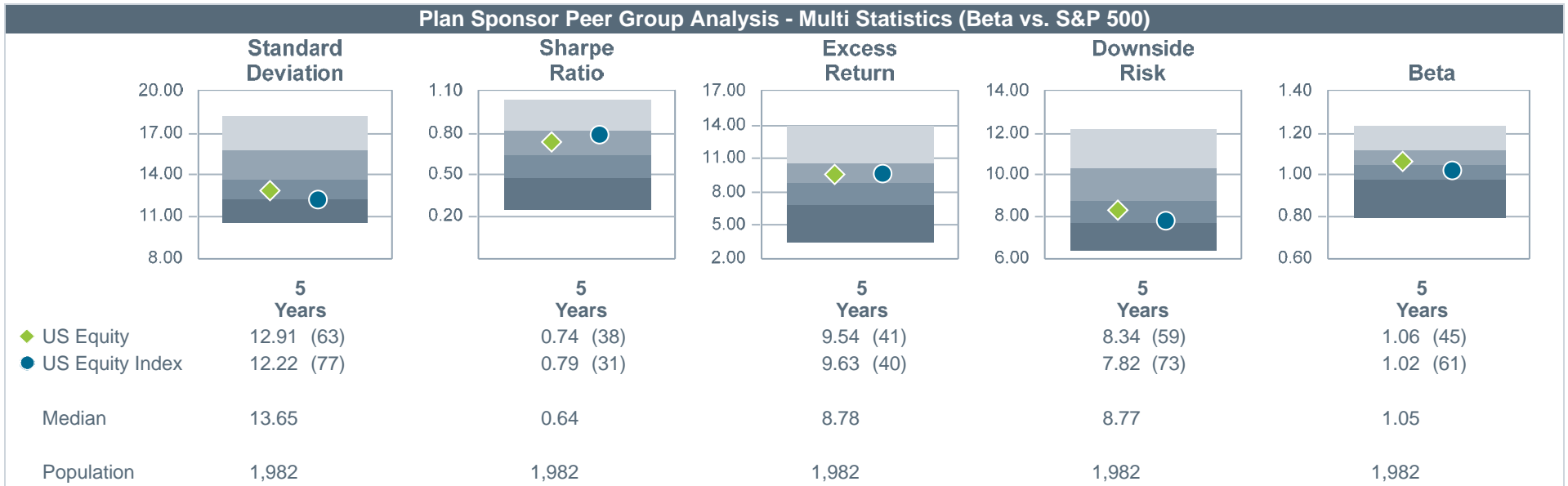
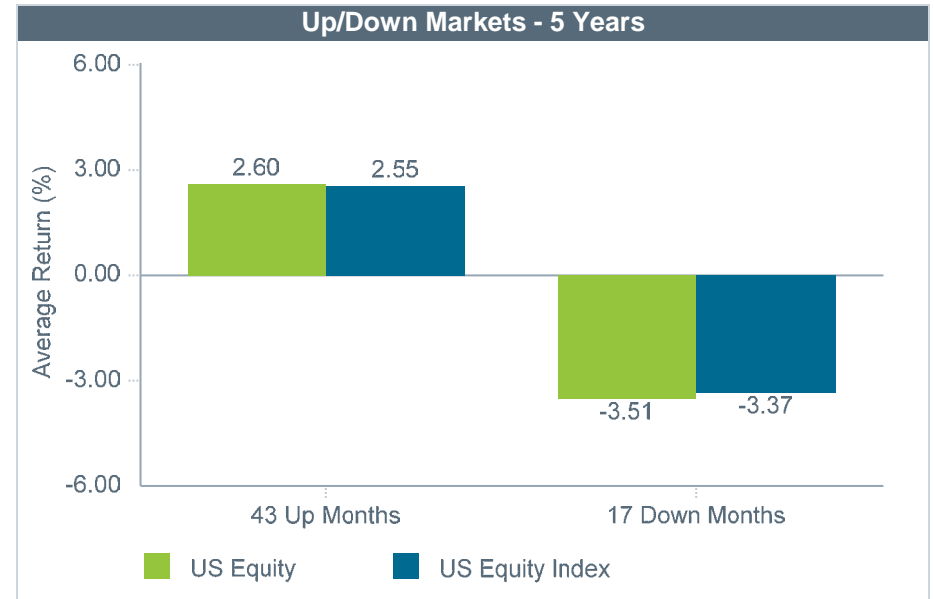
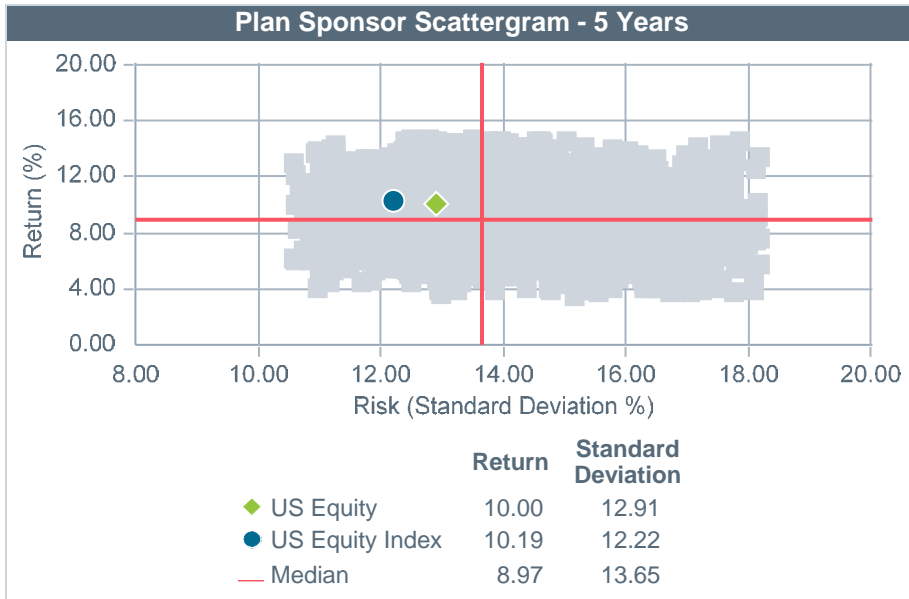
City of Jacksonville Employees' Retirement System
 US Equity vs. IM U.S. Equity (SA+CF)
 Peer Group Analysis

As of June 30, 2019



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

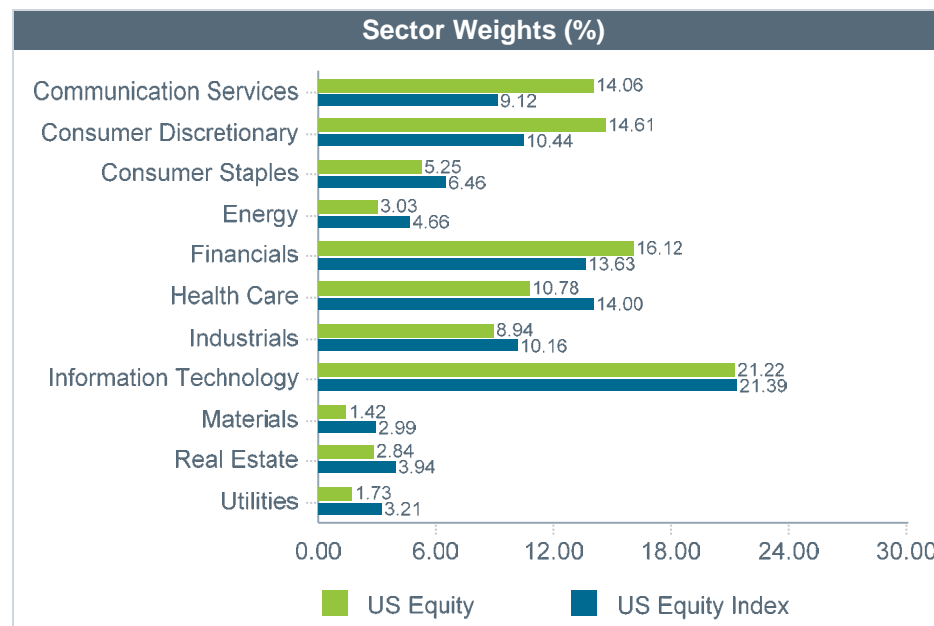
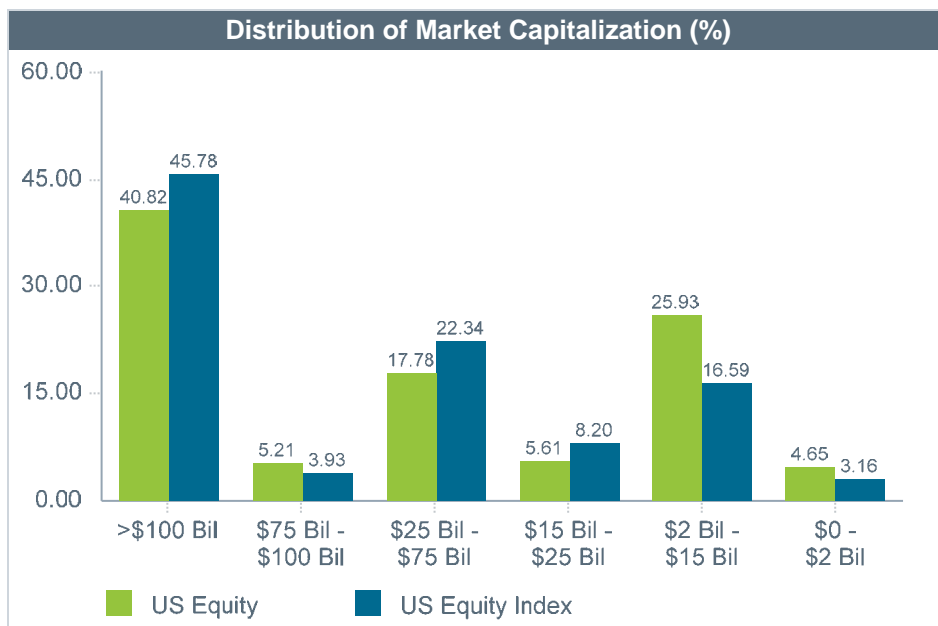




Performance shown is gross of fees. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.

Top Ten Equity Holdings				
	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)
Microsoft Corp	3.86	3.46	0.40	14.00
Amazon.com Inc	3.81	2.65	1.16	6.34
Facebook Inc	2.67	1.56	1.11	15.78
Alphabet Inc	2.61	1.12	1.49	-7.88
Oracle Corp	2.31	0.47	1.84	6.54
Berkshire Hathaway Inc	2.28	1.41	0.87	6.11
Visa Inc	1.82	1.04	0.78	11.28
Citigroup Inc	1.79	0.57	1.22	13.27
Comcast Corp	1.63	0.65	0.98	6.31
Wells Fargo & Co	1.44	0.67	0.77	-1.13
% of Portfolio	24.22	13.60	10.62	

Portfolio Characteristics		
	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	199,727	202,131
Median Mkt. Cap (\$M)	9,016	1,670
Price/Earnings Ratio	20.50	20.34
Price/Book Ratio	3.32	3.39
5 Yr. EPS Growth Rate (%)	18.68	15.35
Current Yield (%)	1.44	1.88
Beta (5 Years, Monthly)	1.05	1.00
Number of Securities	1,124	2,954



Style Map (12 Months Rolling)

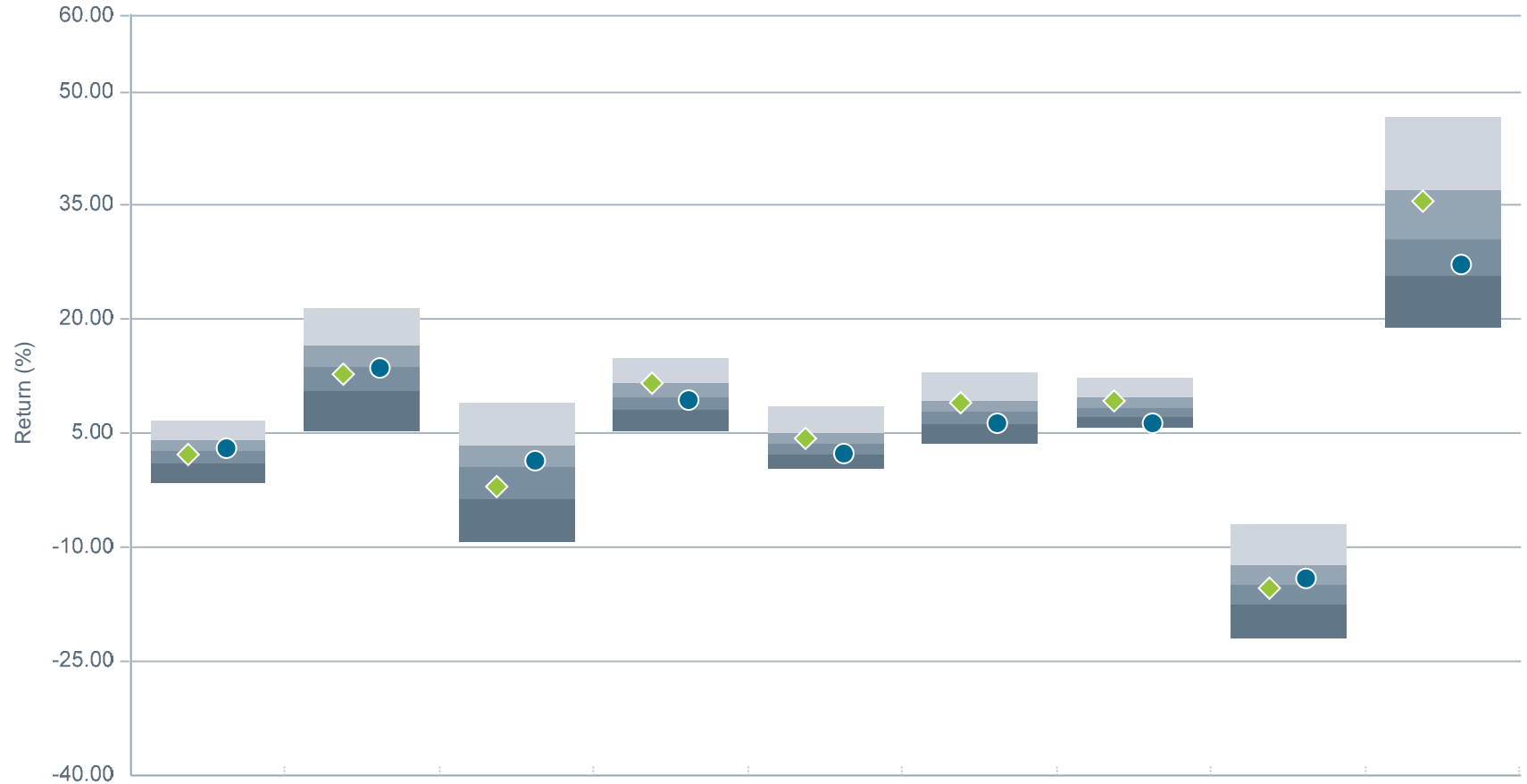


- ◆ US Equity
- Eagle Capital Large Cap Value (SA)
- ◆ Mellon Large Cap Core Index (CF)
- ▼ Loomis Sayles Large Cap Growth (CF)
- William Blair Small Cap Value (SA)
- Pinnacle Associates US SMID Cap Growth (SA)

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

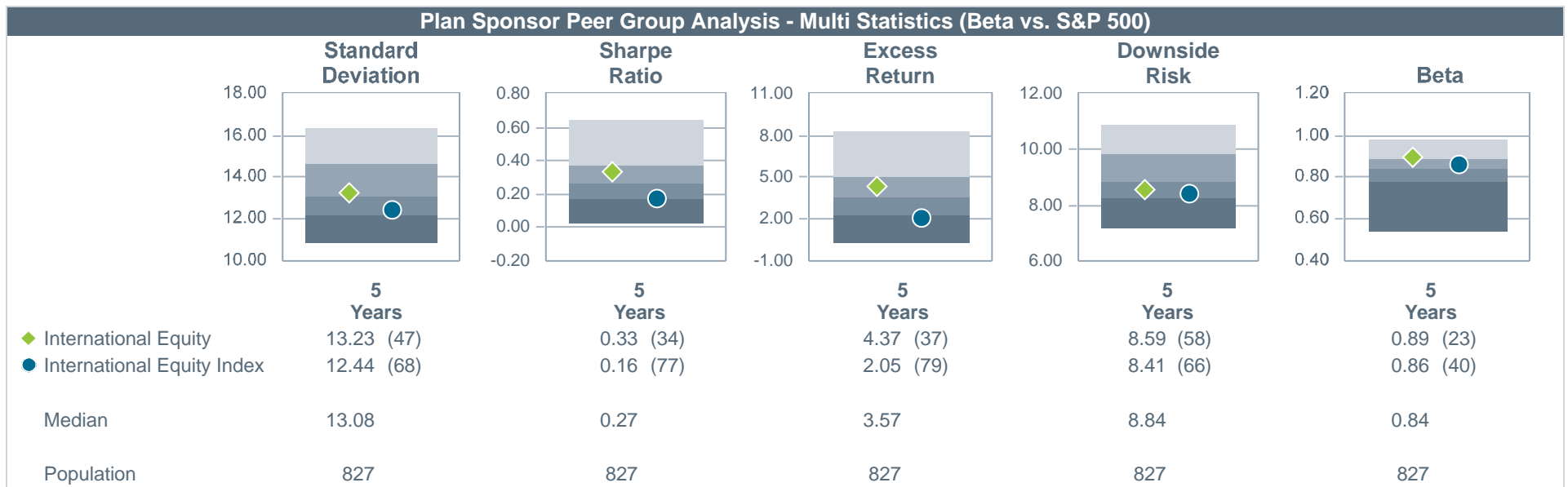
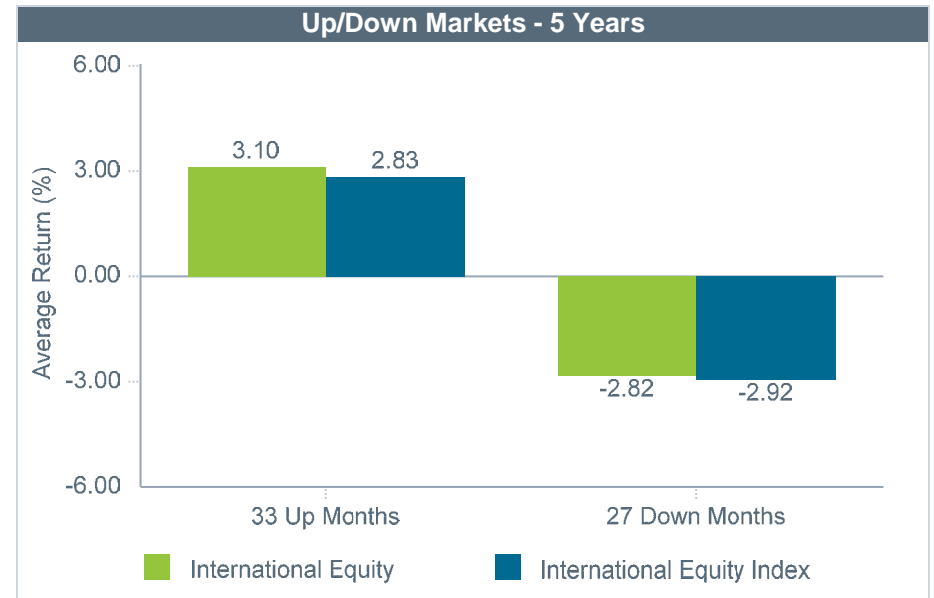
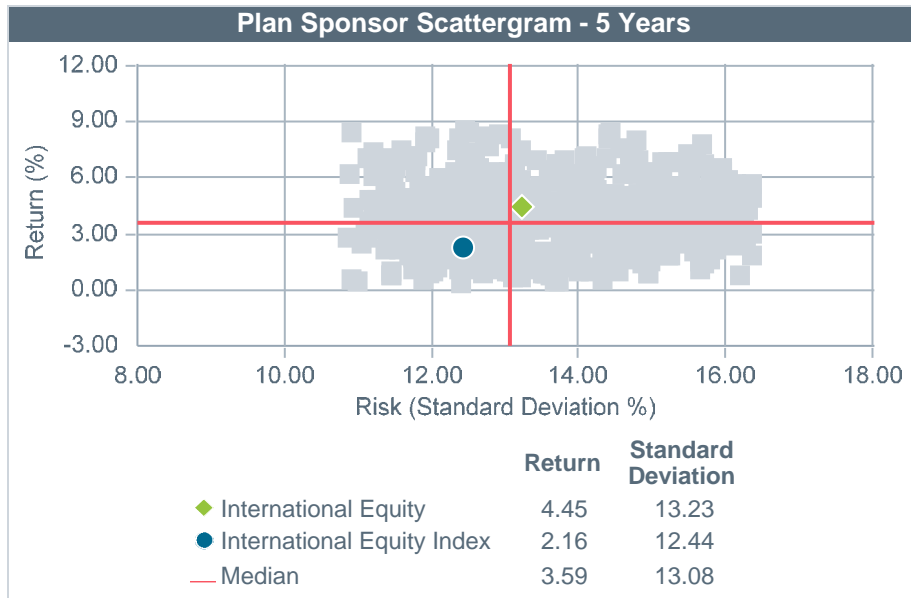
City of Jacksonville Employees' Retirement System
 International Equity vs. IM International Equity (SA+CF)
 Peer Group Analysis

As of June 30, 2019



	QTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017
◆ International Equity	2.22 (57)	12.92 (58)	-1.99 (67)	11.65 (25)	4.45 (35)	9.09 (30)	9.37 (30)	-15.42 (56)	35.68 (30)
● International Equity Index	2.98 (44)	13.60 (51)	1.29 (44)	9.39 (56)	2.16 (77)	6.36 (74)	6.23 (91)	-14.20 (43)	27.19 (68)
5th Percentile	6.71	21.41	9.13	14.90	8.62	13.02	12.27	-6.92	46.73
1st Quartile	4.06	16.67	3.38	11.63	4.98	9.36	9.74	-12.42	36.92
Median	2.61	13.66	0.54	9.77	3.59	7.99	8.40	-14.88	30.55
3rd Quartile	1.06	10.80	-3.54	8.05	2.25	6.26	7.30	-17.49	25.68
95th Percentile	-1.48	5.30	-9.25	5.29	0.27	3.74	5.84	-21.91	18.89
Population	945	945	940	912	827	738	609	1,060	1,117

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



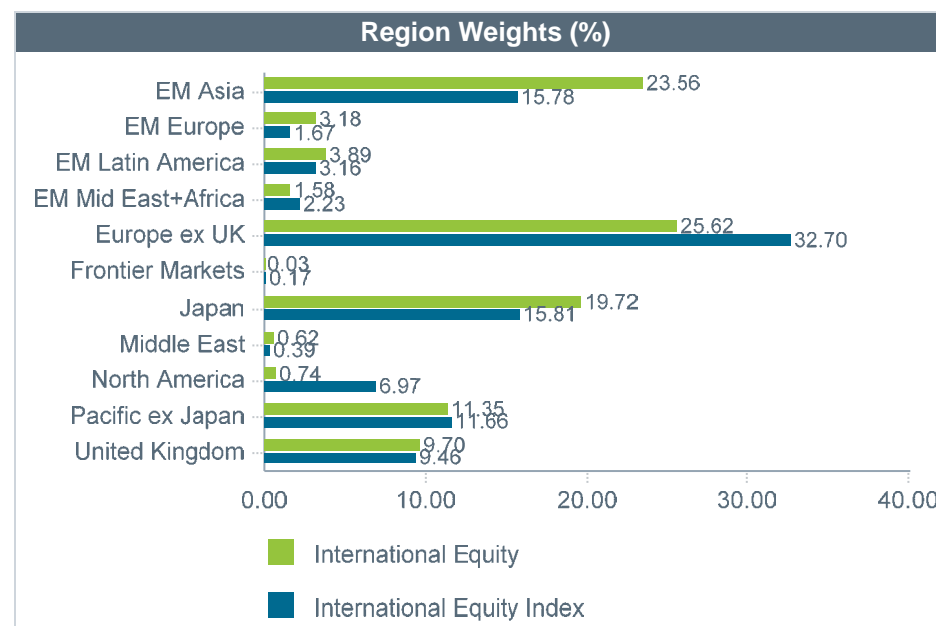
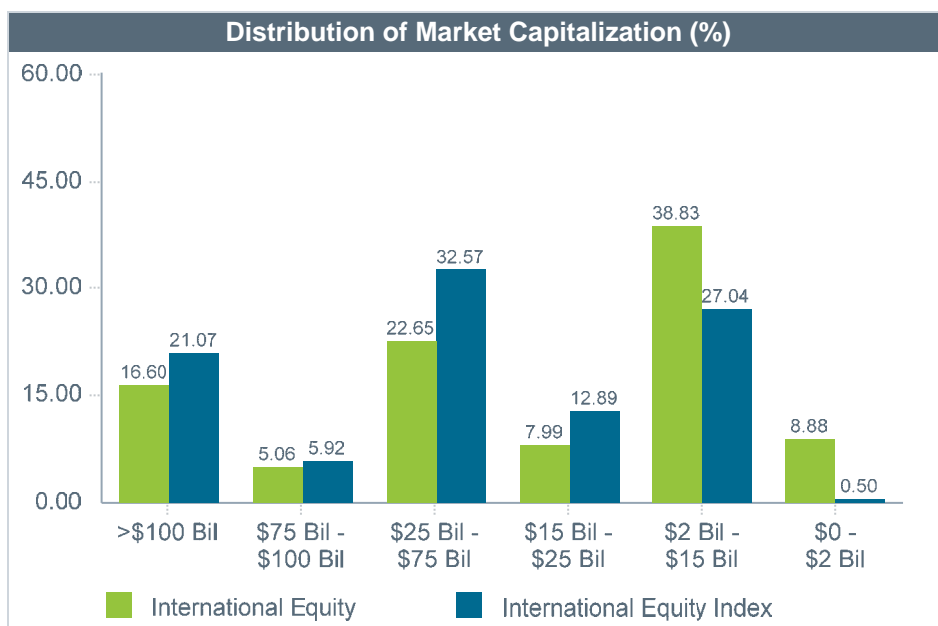
Performance shown is gross of fees. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.

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

As of June 30, 2019

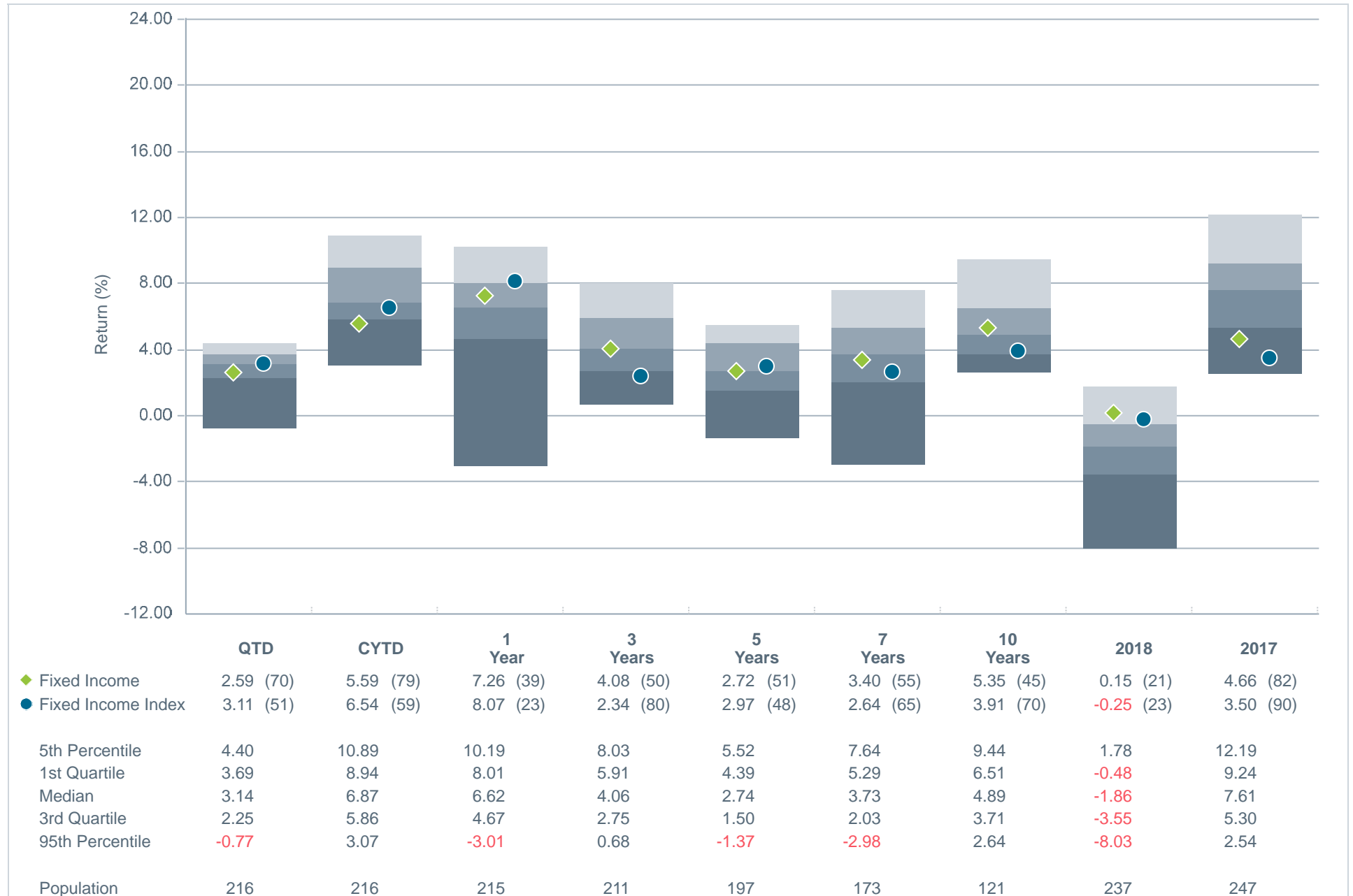
Top Ten Equity Holdings				
	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)
Sanofi	1.76	0.46	1.30	1.84
Samsung Electronics Co Ltd	1.73	0.93	0.80	4.24
Ferrari NV	1.73	0.09	1.64	22.17
ASML Holding NV	1.72	0.43	1.29	12.69
Alibaba Group Holding Ltd	1.67	1.15	0.52	-7.13
Honda Motor Co Ltd	1.45	0.20	1.25	-3.42
Tencent Holdings LTD	1.43	1.23	0.20	-1.56
Kering	1.27	0.21	1.06	4.54
Glaxosmithkline PLC	1.26	0.48	0.78	-2.47
Credit Suisse Group	1.25	0.15	1.10	4.95
% of Portfolio	15.27	5.33	9.94	

Portfolio Characteristics		
	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	53,994	67,766
Median Mkt. Cap (\$M)	2,270	7,982
Price/Earnings Ratio	12.46	13.96
Price/Book Ratio	2.43	2.23
5 Yr. EPS Growth Rate (%)	9.35	9.73
Current Yield (%)	3.30	3.40
Beta (5 Years, Monthly)	1.05	1.00
Number of Securities	752	2,206



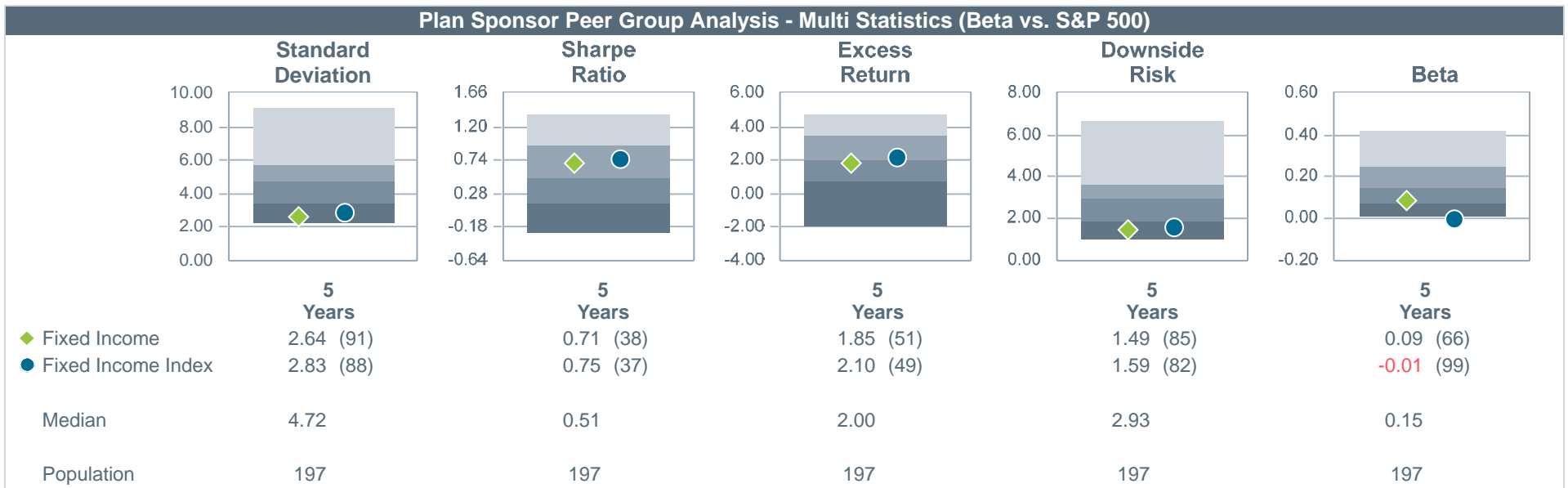
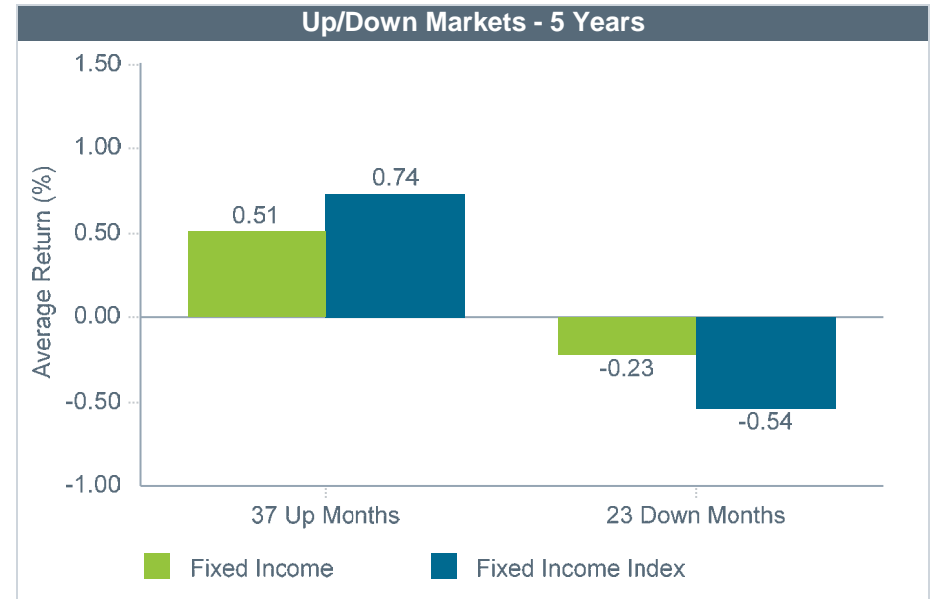
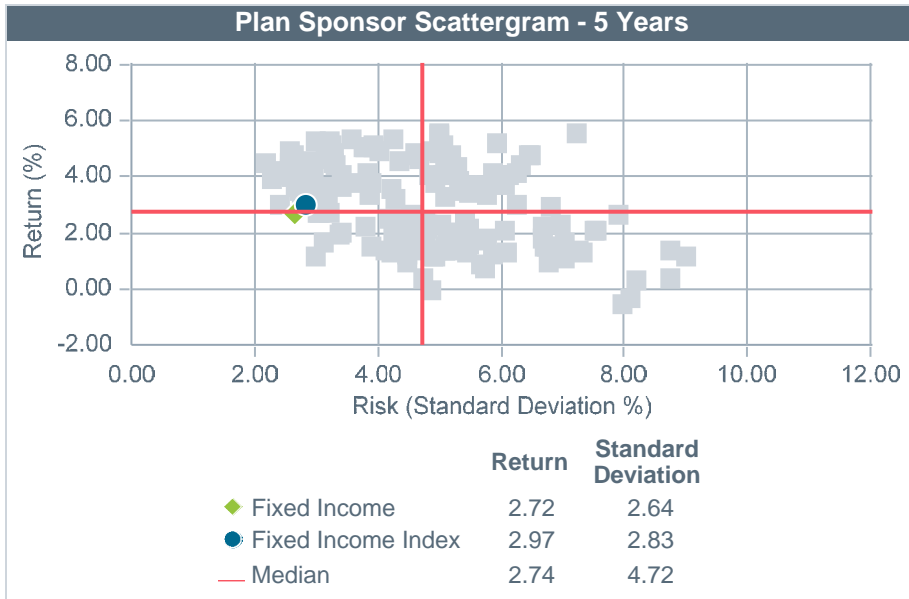
City of Jacksonville Employees' Retirement System
 Fixed Income vs. IM Global Fixed Income (SA+CF)
 Peer Group Analysis

As of June 30, 2019



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



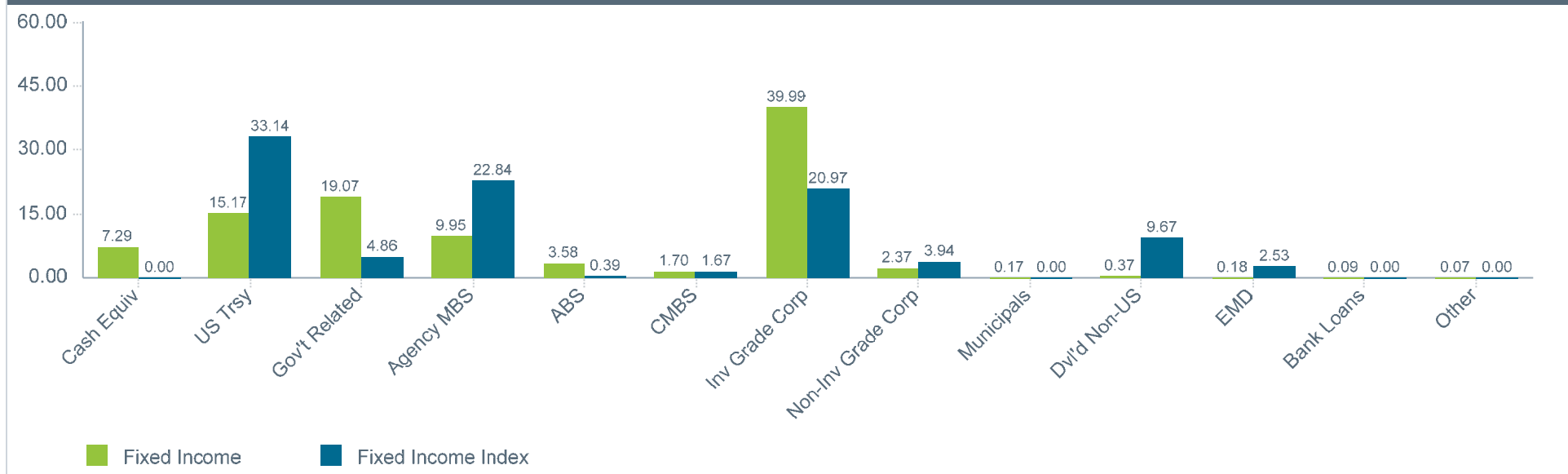


Performance shown is gross of fees. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.

Portfolio Characteristics

	Portfolio	Benchmark
Effective Duration	2.85	5.56
Avg. Maturity	4.75	7.76
Avg. Quality	A2	N/A
Yield To Maturity (%)	4.52	2.87
Coupon Rate (%)	3.63	3.55
Current Yield (%)	3.84	0.19

Sector Distribution (%)

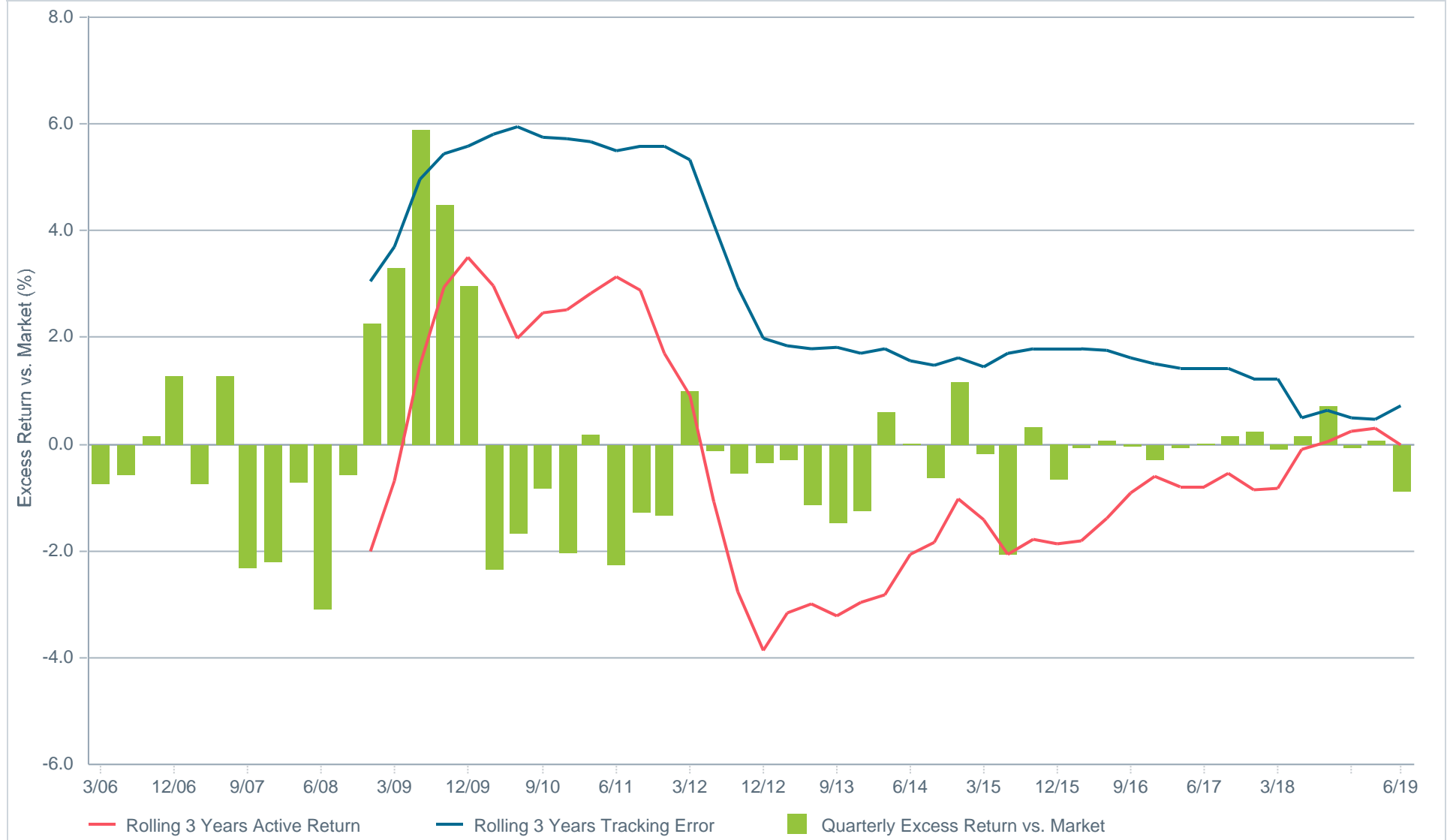


Cash equivalents are defined as any security with duration under one year. Allocation to "Other" consists of convertibles, derivatives, equity, and preferreds.

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

As of June 30, 2019

	QTD	CYTD	FYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017	2016	Since Incep.	Inception Date
Real Estate	0.11	1.61	3.32	6.23	7.54	9.30	9.51	8.89	9.11	7.99	8.42	6.42	12/01/2005
NCREIF ODCE Index (AWA) (Gross)	1.00	2.43	4.23	6.41	7.57	9.76	10.52	9.88	8.35	7.62	8.77	7.20	
Difference	-0.89	-0.82	-0.91	-0.18	-0.03	-0.46	-1.01	-0.99	0.76	0.37	-0.35	-0.78	



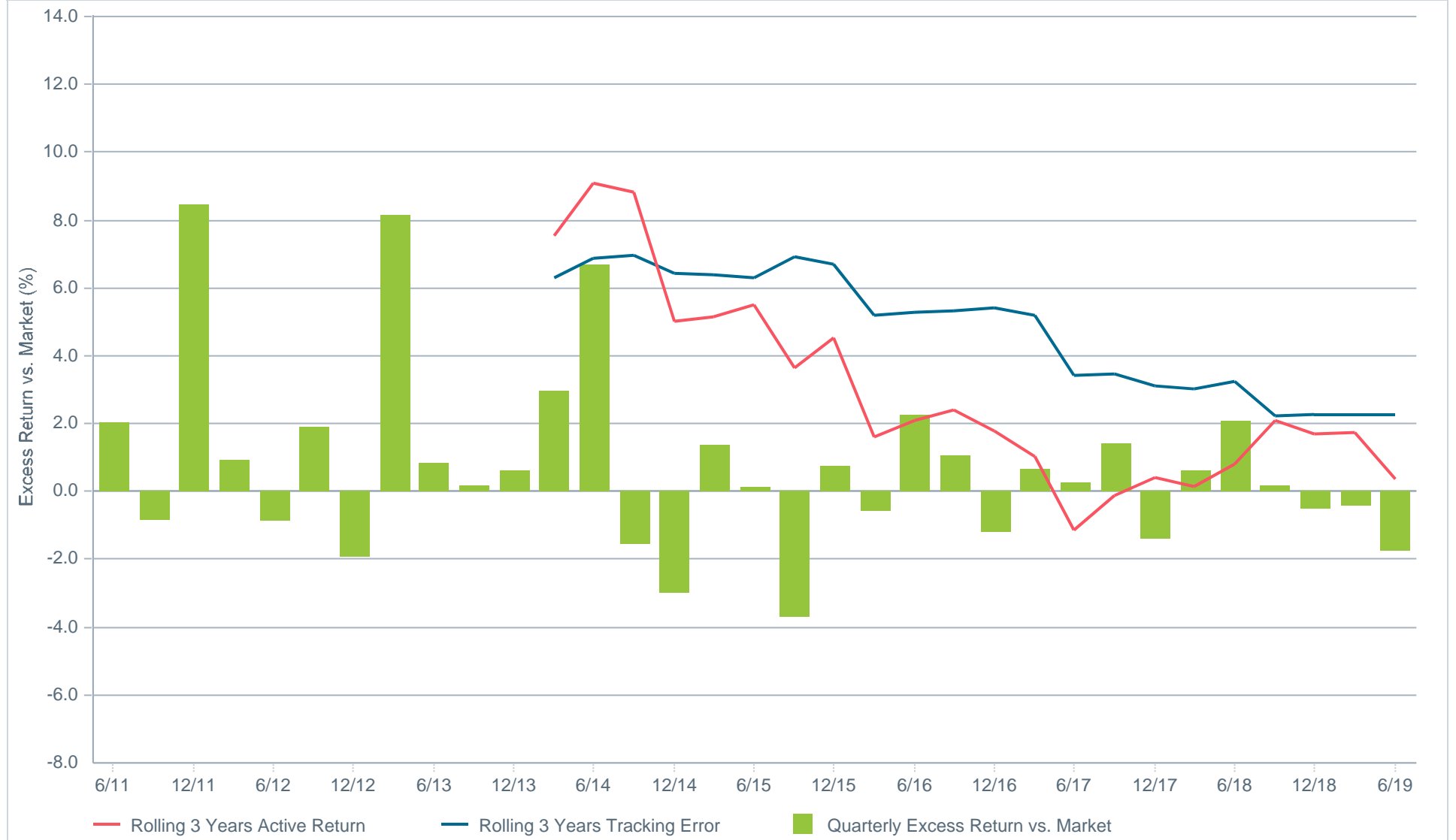
Performance shown is gross of fees. Calculation is based on quarterly periodicity.



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

As of June 30, 2019

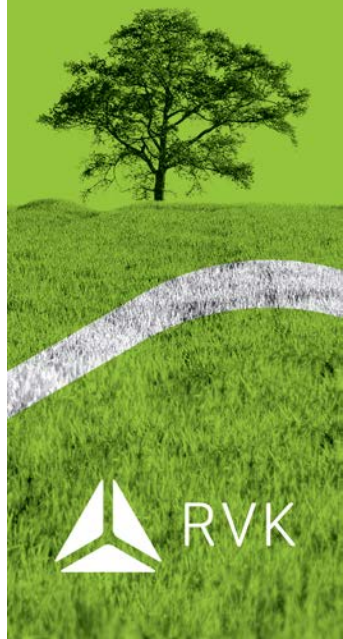
	QTD	CYTD	FYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017	2016	Since Incep.	Inception Date
Diversifying Assets	-1.79	10.02	-3.67	0.97	3.15	-1.42	6.50	N/A	-4.42	0.33	14.07	7.23	03/01/2011
Diversifying Assets Index	-0.04	12.40	-0.98	3.60	2.84	-0.56	4.51	6.89	-6.47	-0.66	12.53	4.39	
Difference	-1.75	-2.38	-2.69	-2.63	0.31	-0.86	1.99	N/A	2.05	0.99	1.54	2.84	



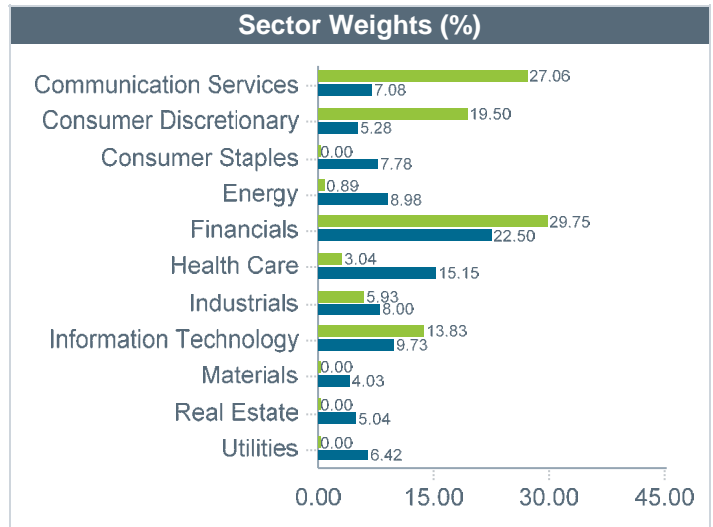
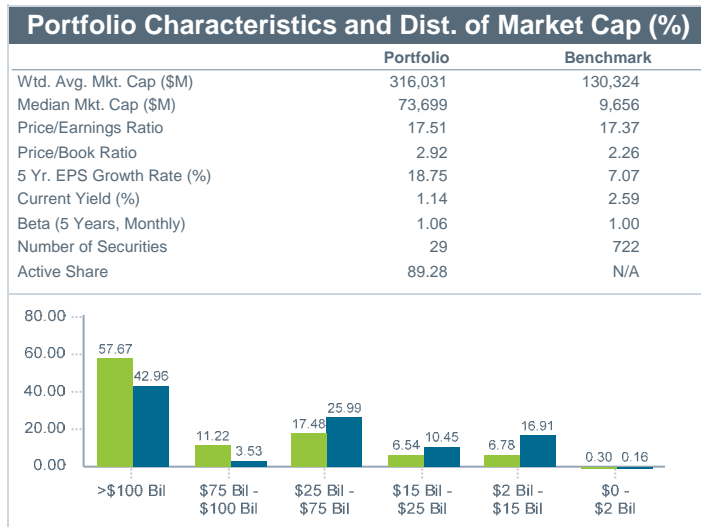
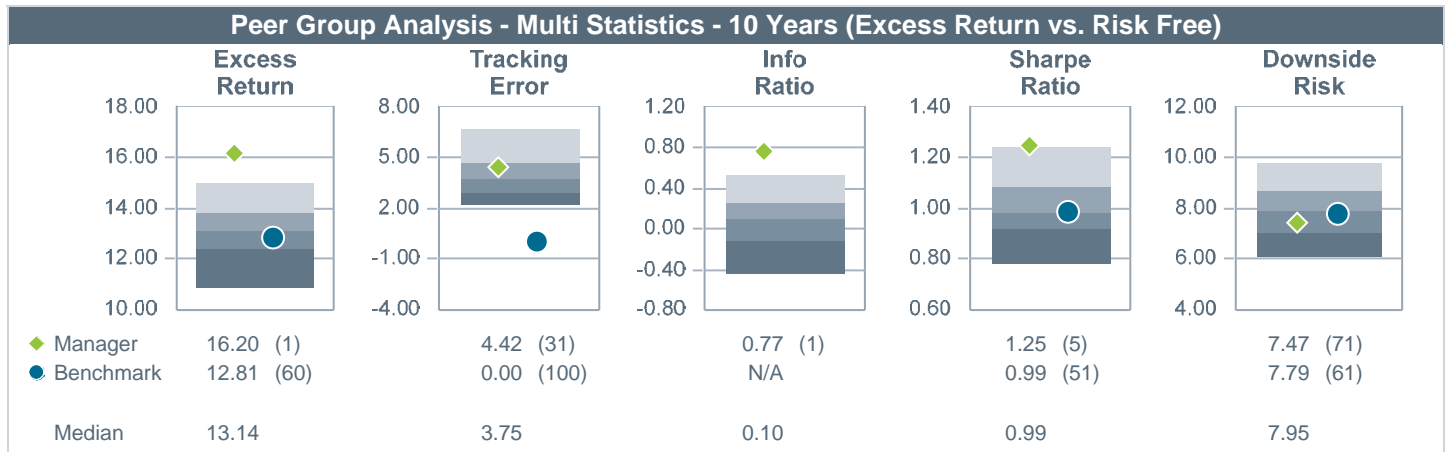
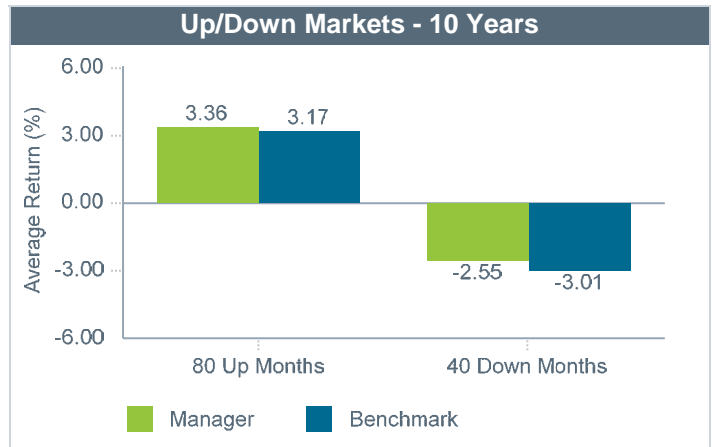
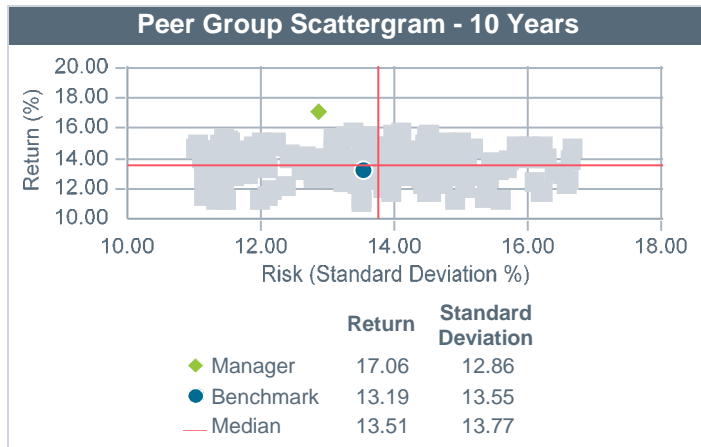
Performance shown is gross of fees. Calculation is based on quarterly periodicity.



Investment Manager Profiles



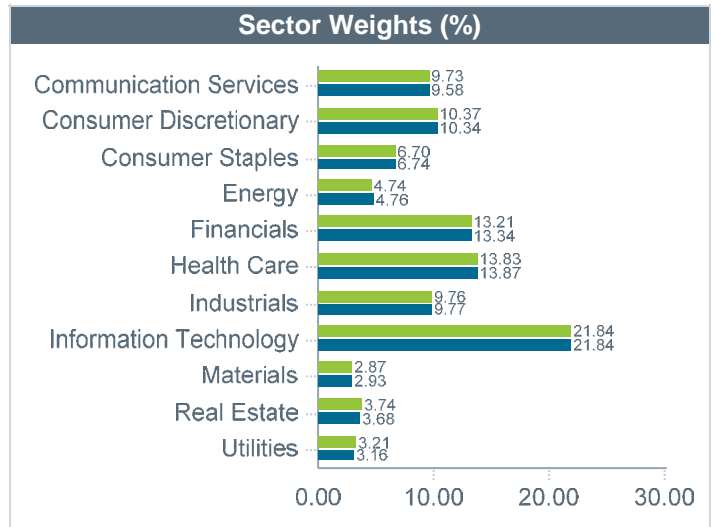
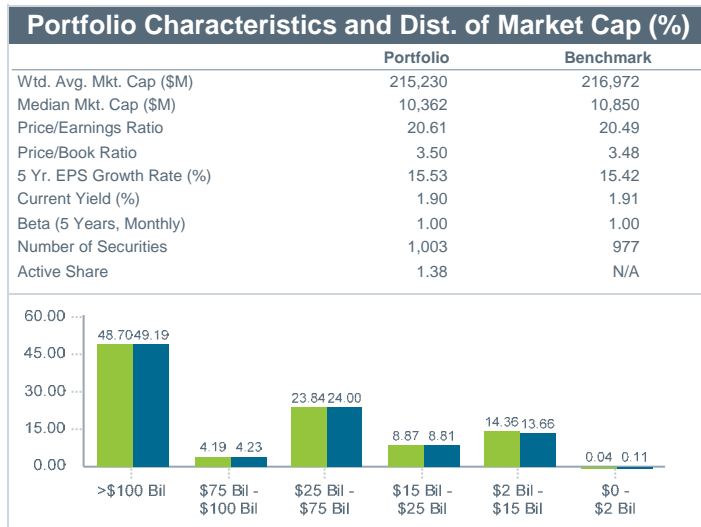
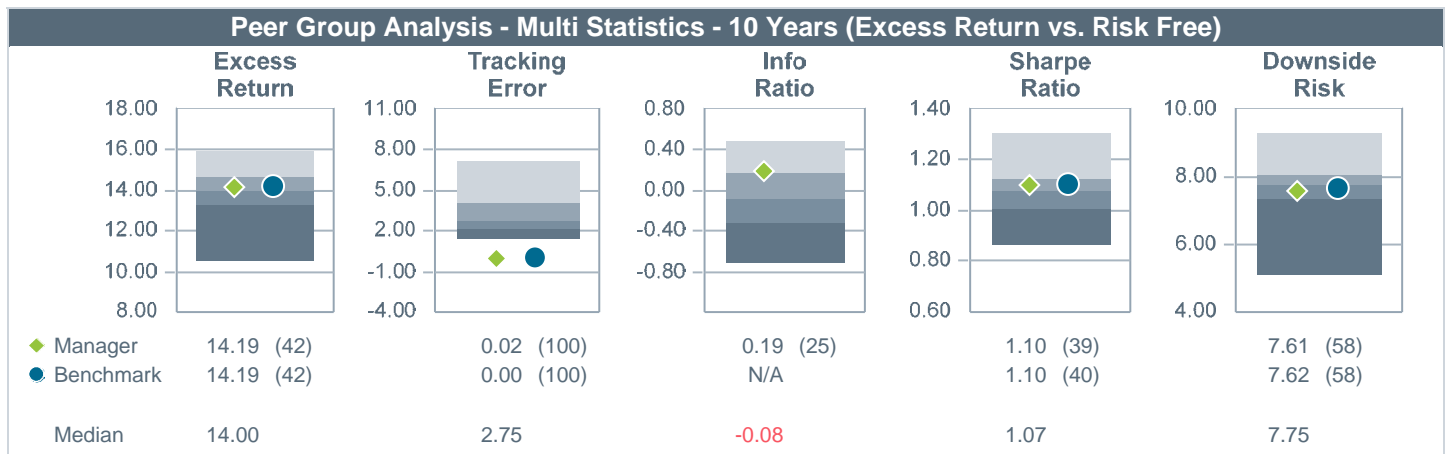
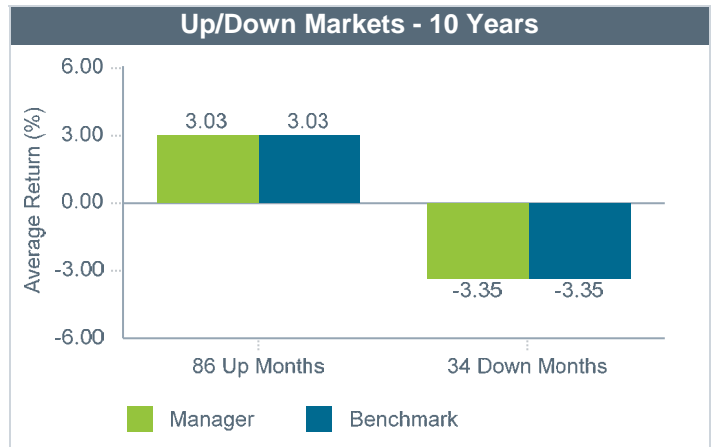
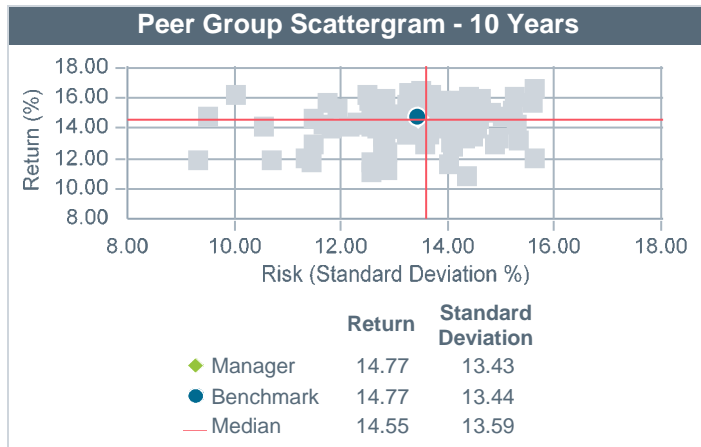
Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017	2016	2015	2014
Manager	7.04	11.24	17.60	11.94	15.59	17.06	-3.90	24.19	11.46	2.34	12.90
Benchmark	3.84	8.46	10.19	7.46	12.09	13.19	-8.27	13.66	17.34	-3.83	13.45
Difference	3.20	2.78	7.41	4.48	3.50	3.87	4.37	10.53	-5.88	6.17	-0.55
Peer Group Median	3.96	6.43	11.35	7.80	12.56	13.51	-8.39	17.21	14.52	-2.25	12.19
Rank	5	16	3	2	2	1	15	7	73	11	42
Population	289	289	285	278	269	247	315	342	370	387	411



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



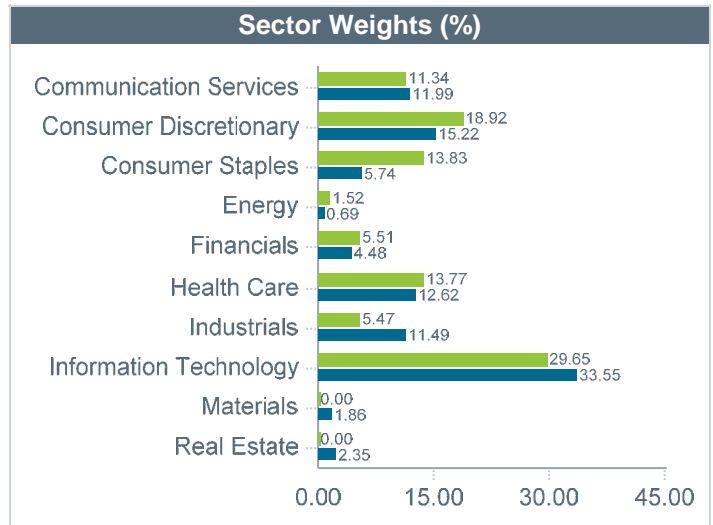
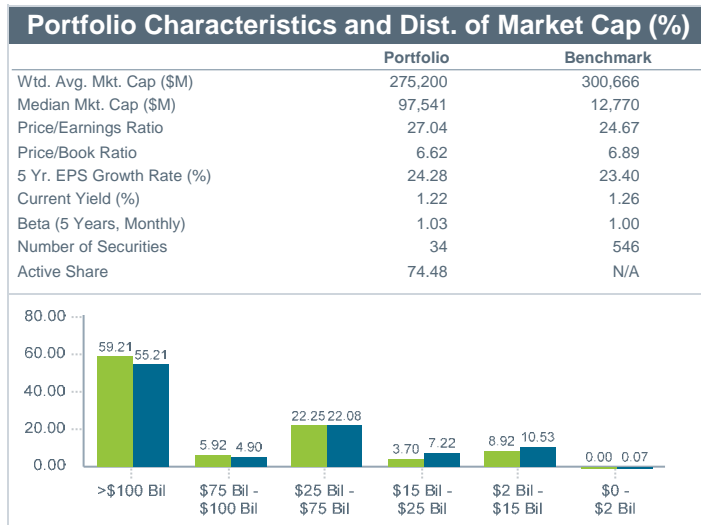
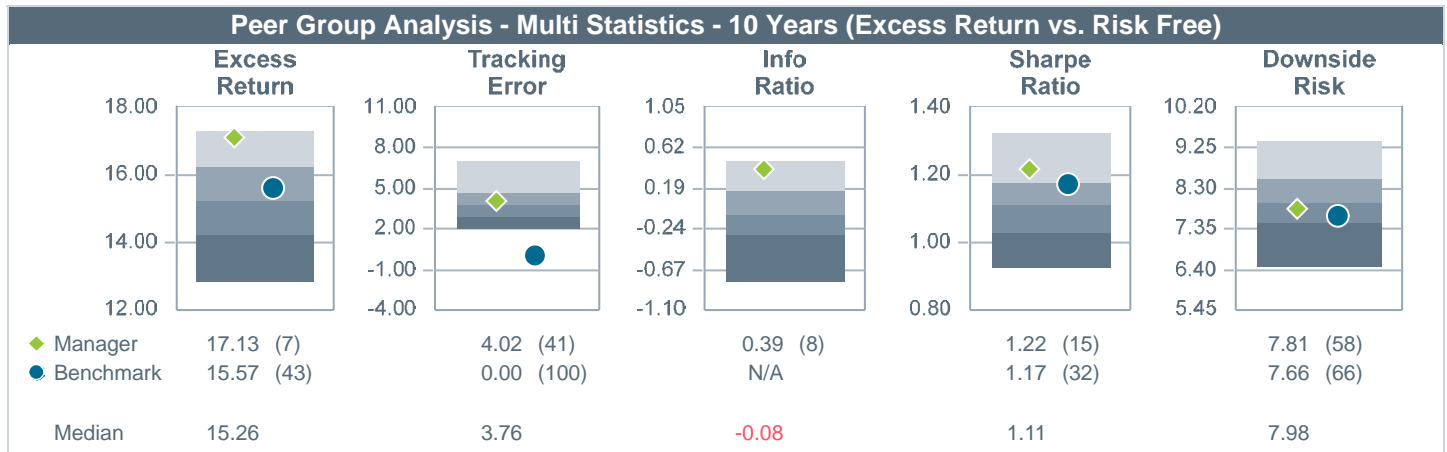
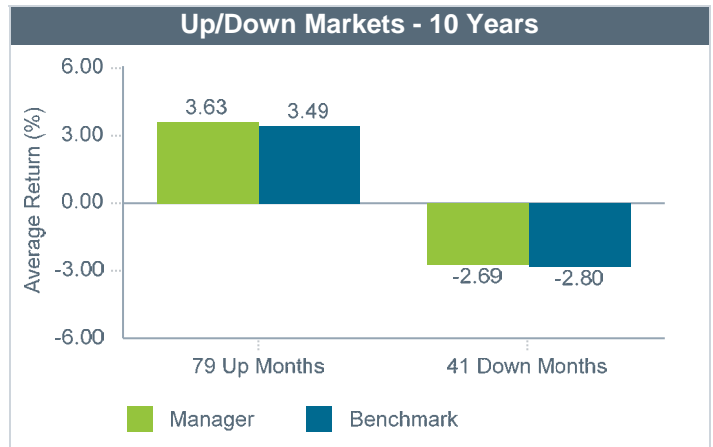
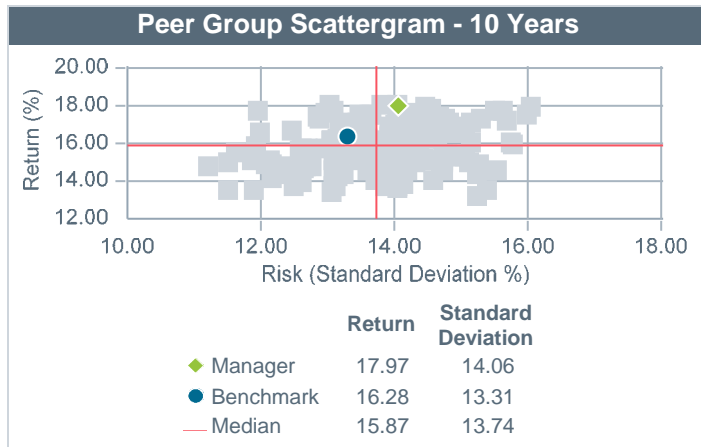
Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017	2016	2015	2014
Manager	4.25	10.03	14.15	10.45	13.97	14.77	-4.77	21.68	12.04	0.93	13.24
Benchmark	4.25	10.02	14.15	10.45	13.97	14.77	-4.78	21.69	12.05	0.92	13.24
Difference	0.00	0.01	0.00	0.00	0.00	0.00	0.01	-0.01	-0.01	0.01	0.00
Peer Group Median	4.23	8.85	13.70	10.31	13.97	14.55	-5.20	21.83	10.52	1.43	13.42
Rank	50	39	42	47	50	42	43	52	32	58	53
Population	221	221	216	209	194	178	254	285	308	326	345



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



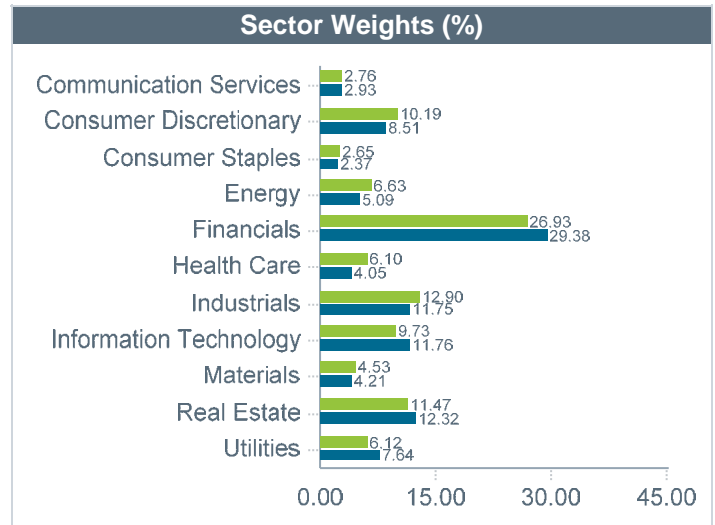
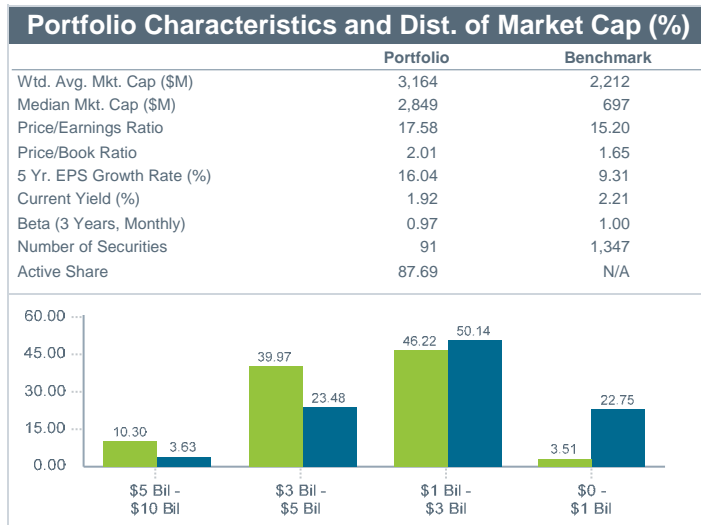
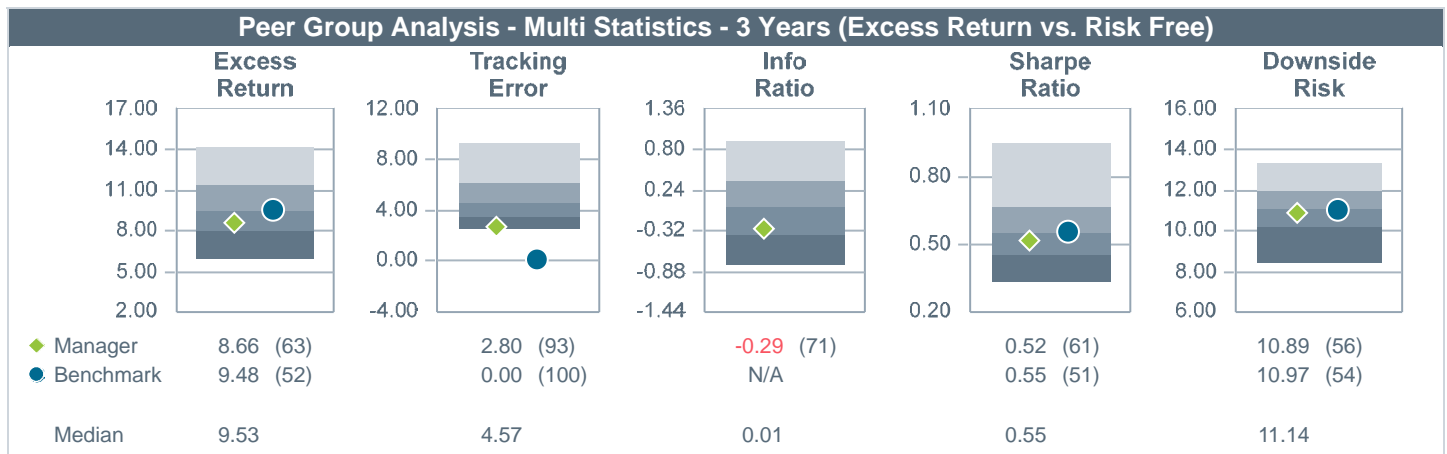
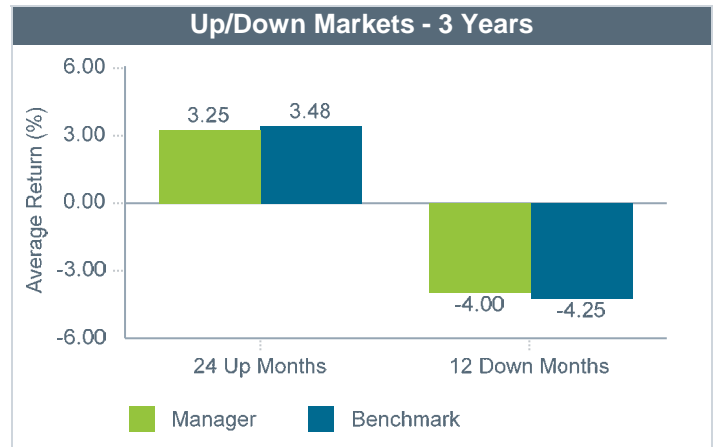
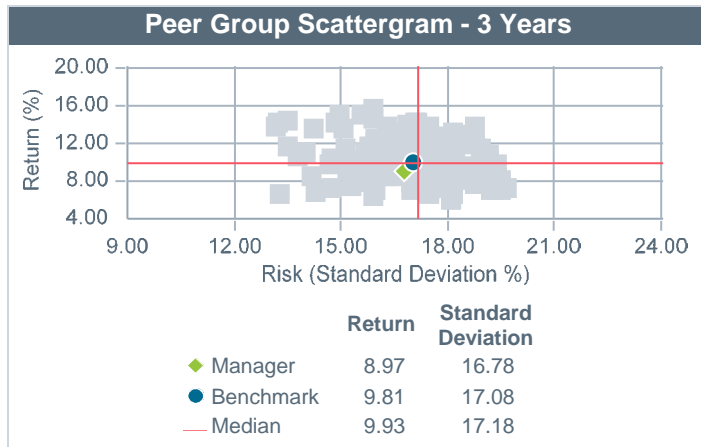
Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017	2016	2015	2014
Manager	5.33	15.98	18.70	15.28	18.27	17.97	-1.72	34.03	6.54	10.99	11.75
Benchmark	4.64	11.56	18.07	13.39	15.76	16.28	-1.51	30.21	7.08	5.67	13.05
Difference	0.69	4.42	0.63	1.89	2.51	1.69	-0.21	3.82	-0.54	5.32	-1.30
Peer Group Median	5.11	11.89	17.73	12.85	15.58	15.87	-1.17	28.16	4.66	5.02	11.99
Rank	47	19	36	14	7	6	55	15	34	11	55
Population	234	234	225	219	208	196	262	284	309	338	349



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

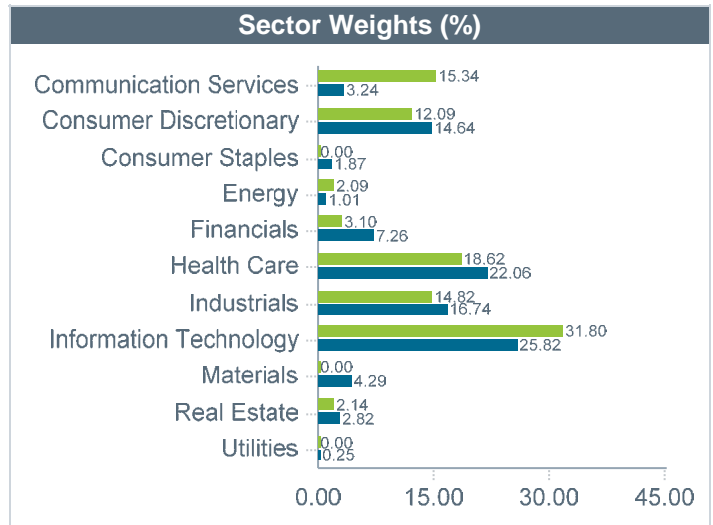
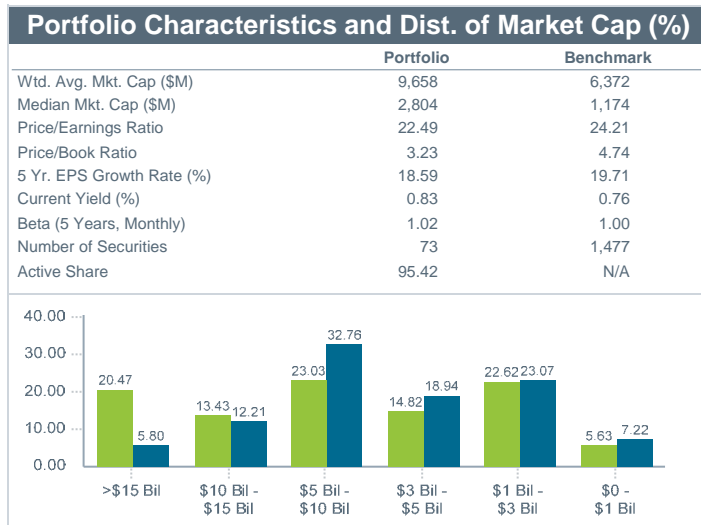
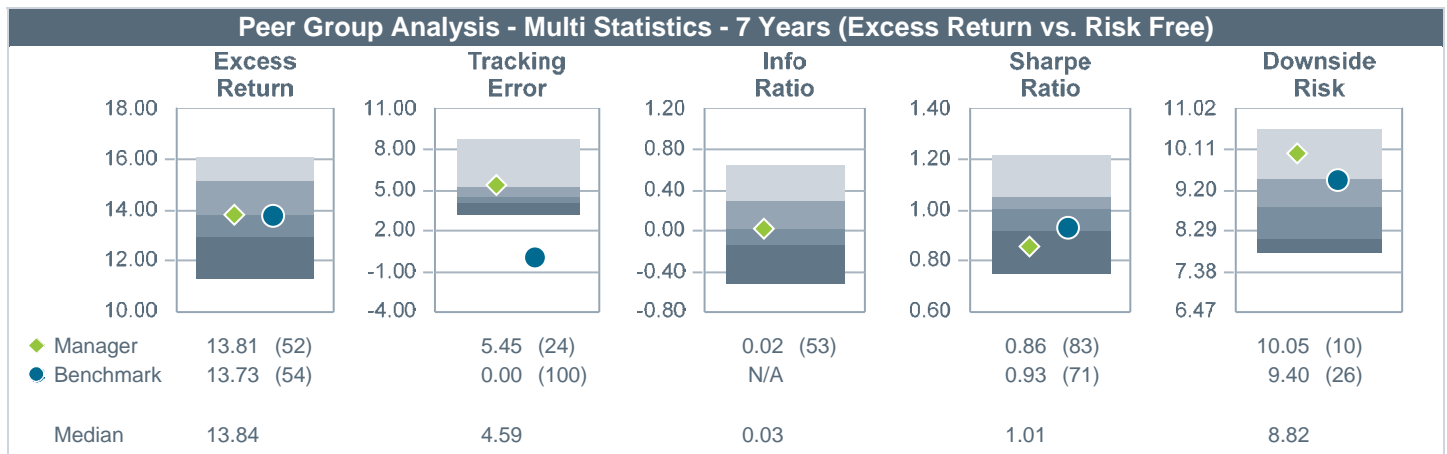
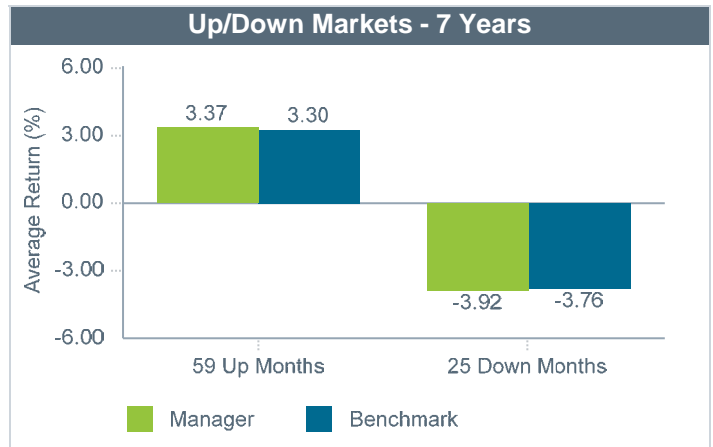
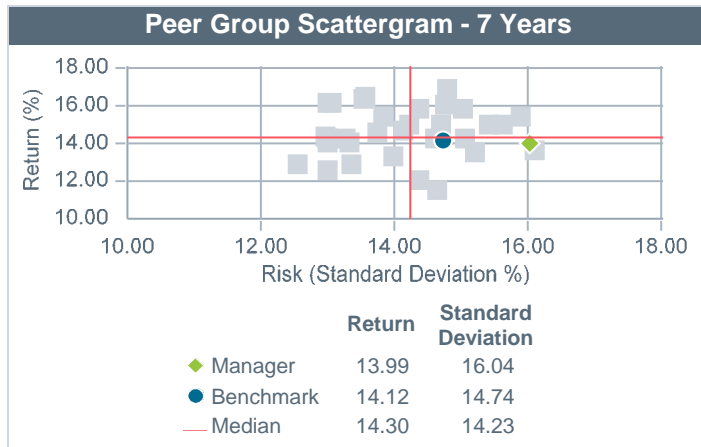


Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017	2016	2015	2014
Manager	3.22	-1.87	8.97	N/A	N/A	N/A	-14.72	8.97	27.58	-4.33	N/A
Benchmark	1.38	-6.24	9.81	5.39	10.31	12.40	-12.86	7.84	31.74	-7.47	4.22
Difference	1.84	4.37	-0.84	N/A	N/A	N/A	-1.86	1.13	-4.16	3.14	N/A
Peer Group Median	2.32	-4.69	9.93	6.19	11.83	14.17	-14.33	11.59	26.39	-4.29	5.71
Rank	36	31	62	N/A	N/A	N/A	54	68	43	52	N/A
Population	181	181	177	173	166	152	208	225	232	242	253



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

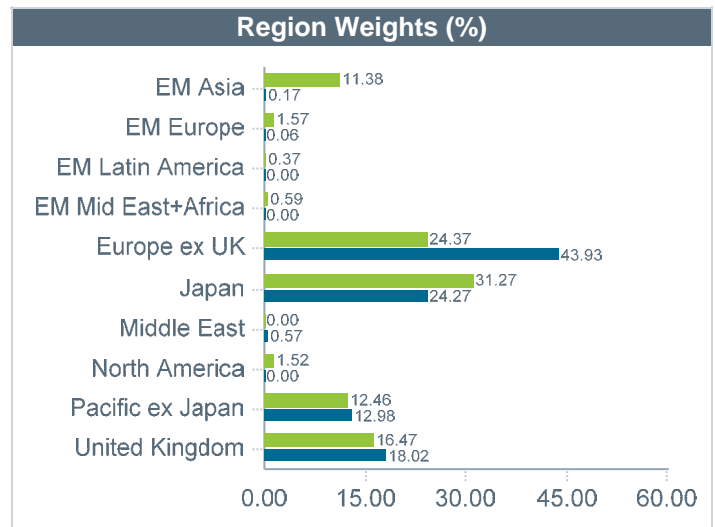
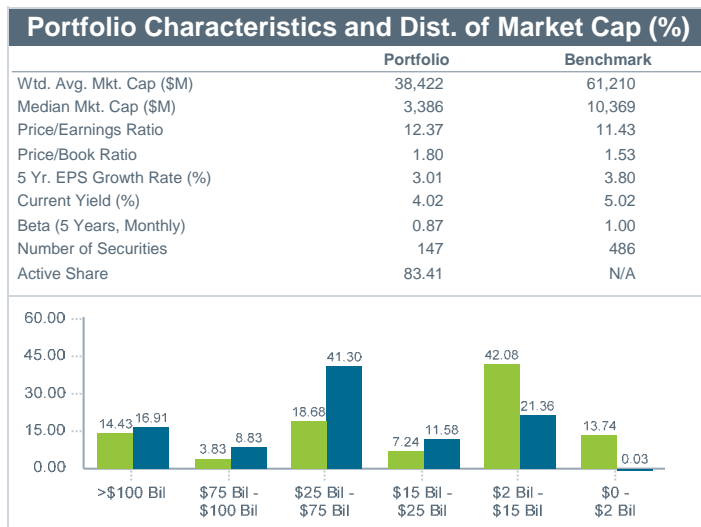
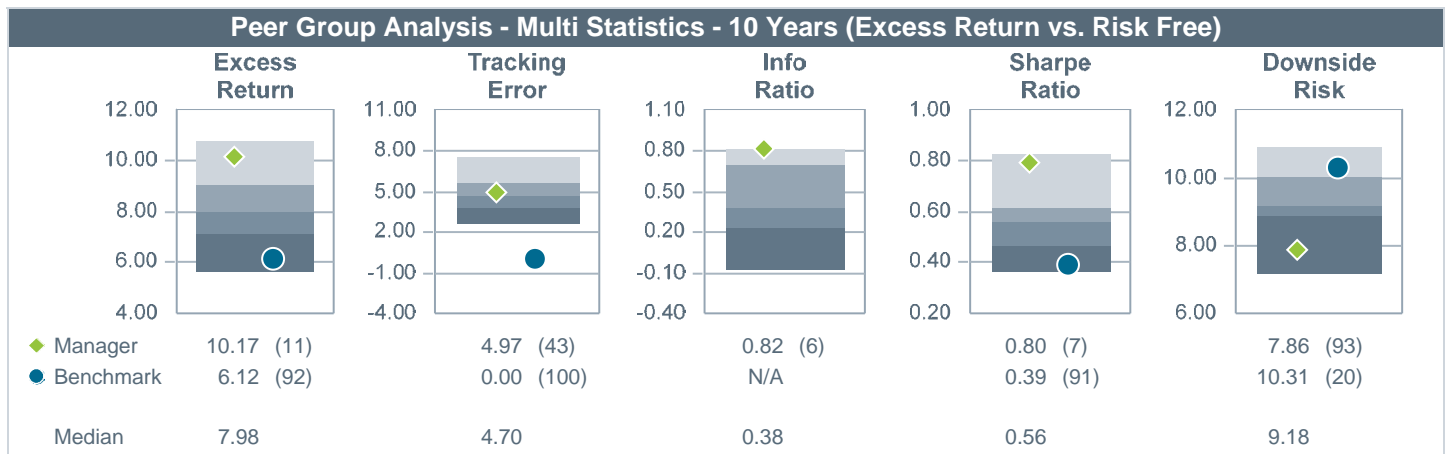
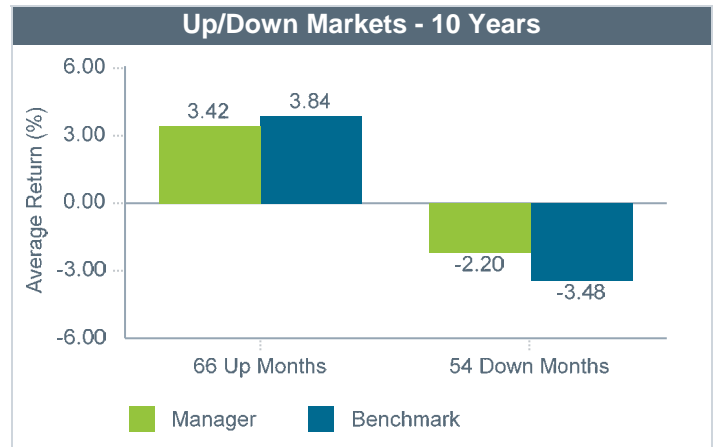
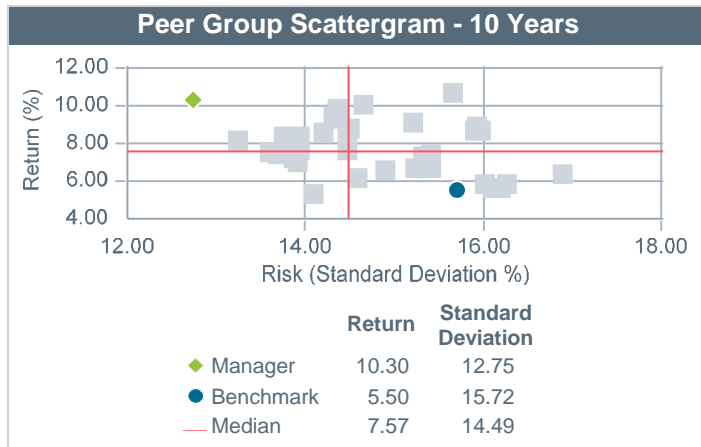
Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017	2016	2015	2014
Manager	1.99	5.95	15.98	8.50	13.99	N/A	-10.36	25.99	5.26	0.62	8.59
Benchmark	4.14	6.13	16.14	9.98	14.12	15.67	-7.47	24.46	9.73	-0.19	7.05
Difference	-2.15	-0.18	-0.16	-1.48	-0.13	N/A	-2.89	1.53	-4.47	0.81	1.54
Peer Group Median	5.66	9.09	17.41	10.83	14.30	16.38	-4.58	24.77	8.56	0.11	5.59
Rank	93	75	67	84	65	N/A	88	44	77	39	24
Population	56	55	51	45	39	35	61	62	69	70	73



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

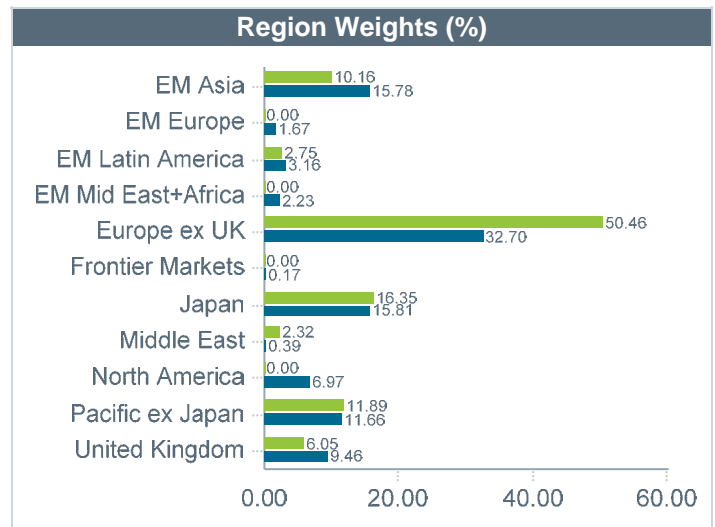
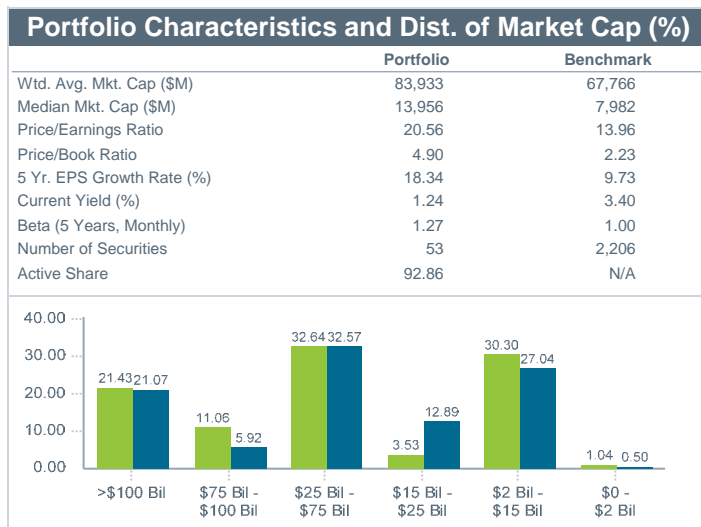
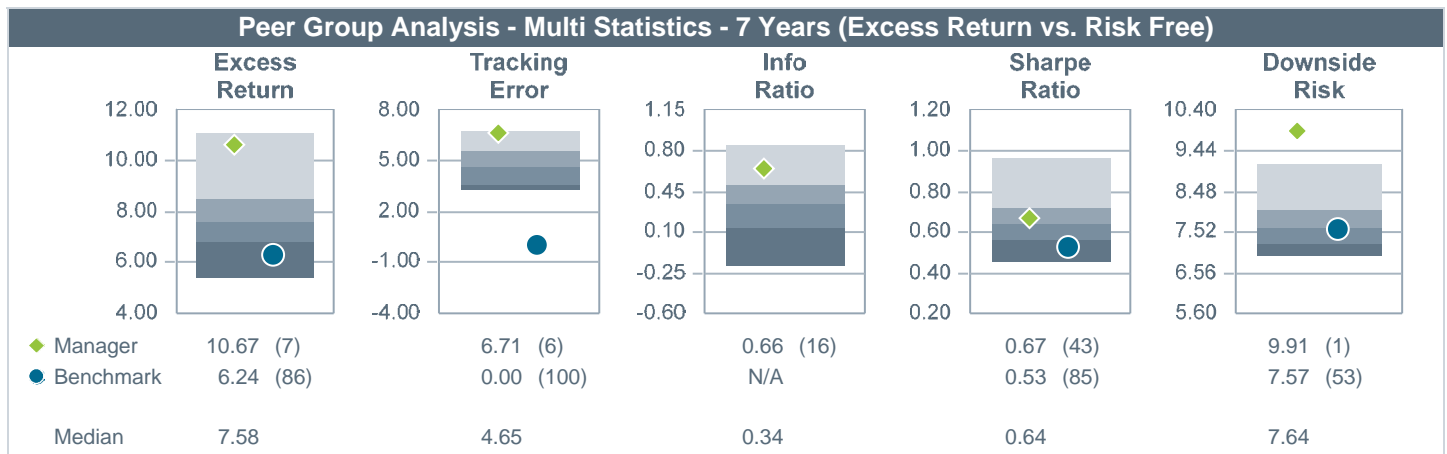
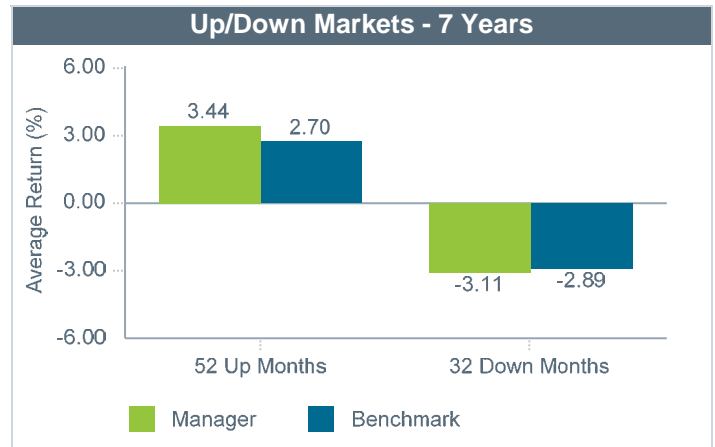
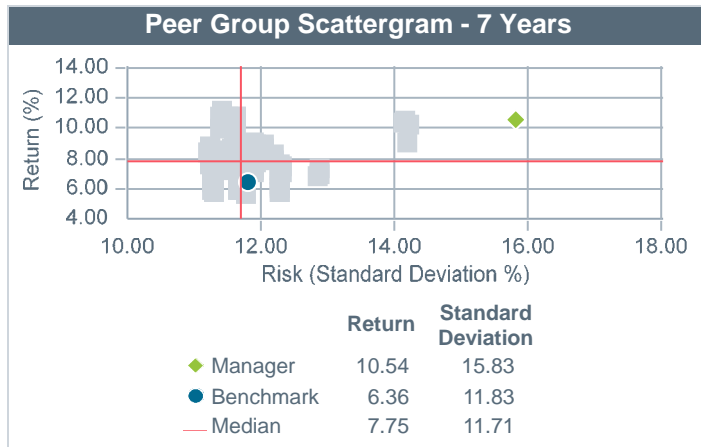


Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017	2016	2015	2014
Manager	2.21	-1.71	9.78	4.38	10.44	10.30	-13.74	28.10	8.27	2.35	-0.92
Benchmark	1.54	-2.10	8.46	0.05	6.04	5.50	-14.78	21.44	5.02	-5.68	-5.39
Difference	0.67	0.39	1.32	4.33	4.40	4.80	1.04	6.66	3.25	8.03	4.47
Peer Group Median	1.91	-2.86	8.05	1.93	7.40	7.57	-15.76	24.17	3.15	-1.05	-4.30
Rank	47	37	19	15	9	8	41	26	9	26	14
Population	50	50	50	50	48	47	59	61	65	76	77



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

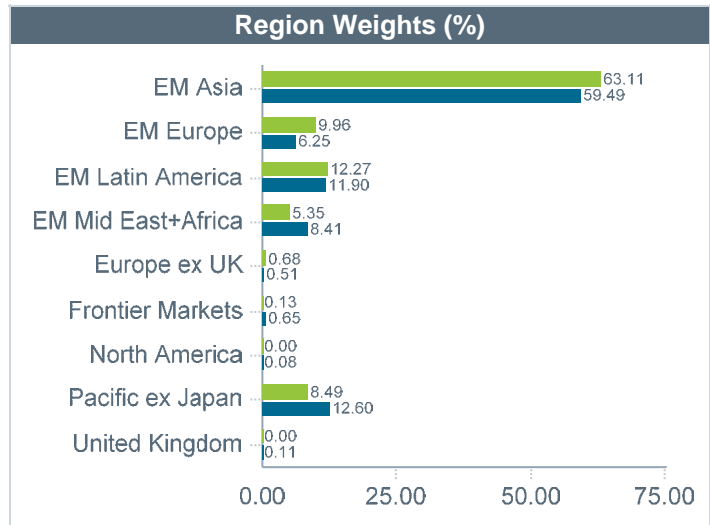
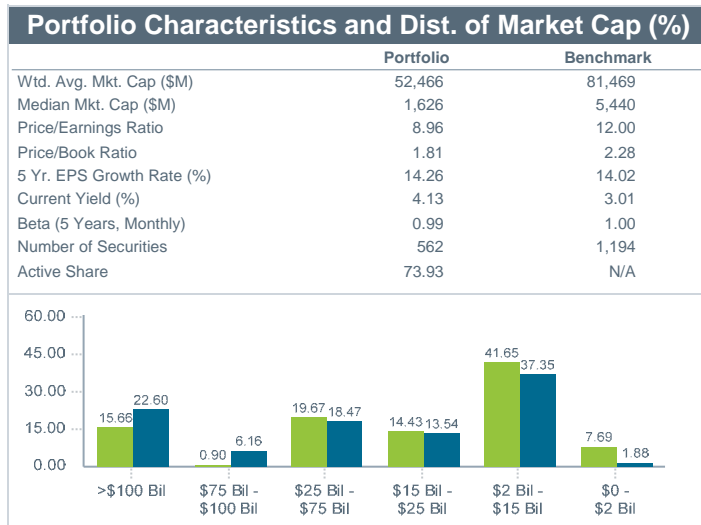
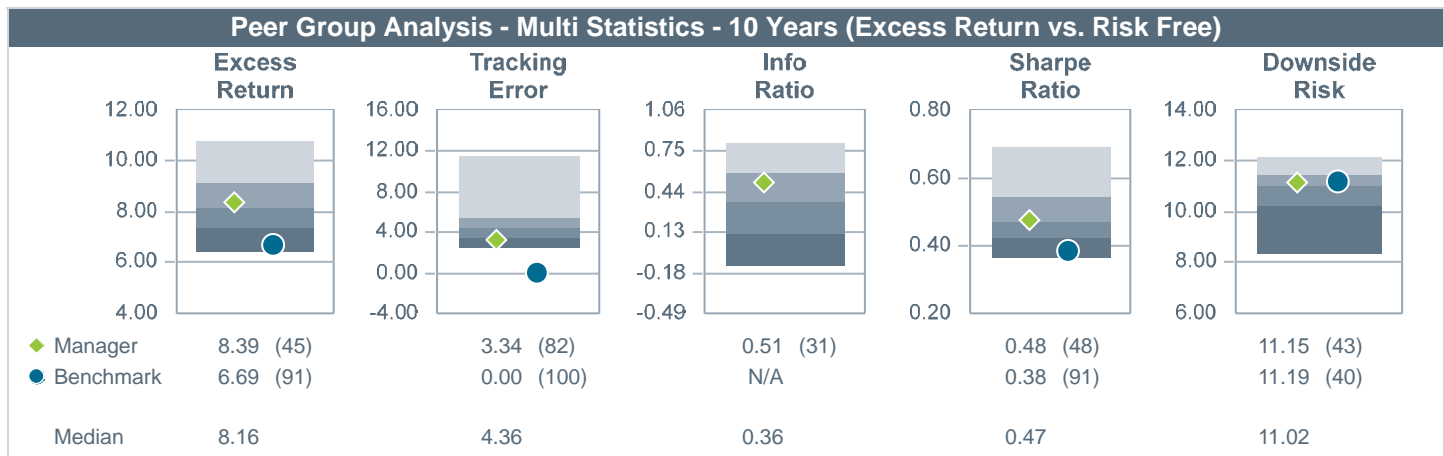
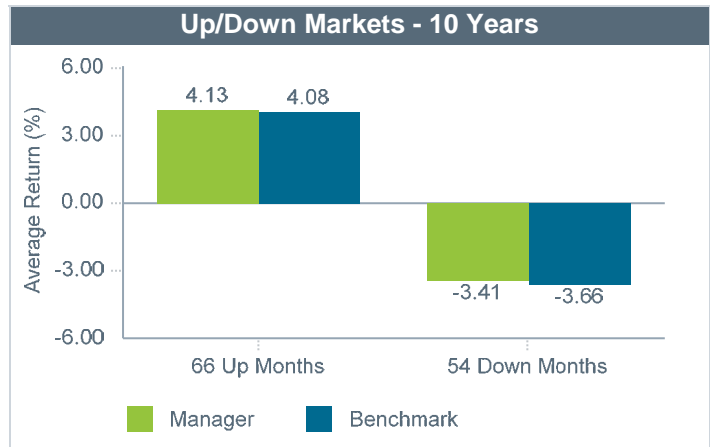
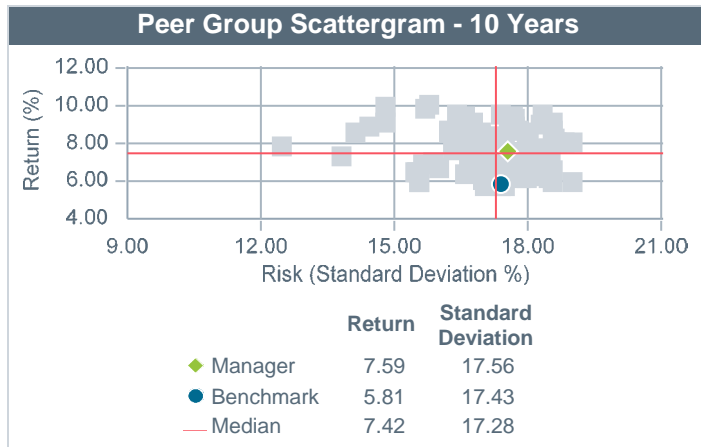
Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017	2016	2015	2014
Manager	3.51	-3.19	15.92	6.30	10.54	10.69	-17.23	46.37	1.43	-2.99	-6.88
Benchmark	2.98	1.29	9.39	2.16	6.36	6.54	-14.20	27.19	4.50	-5.66	-3.87
Difference	0.53	-4.48	6.53	4.14	4.18	4.15	-3.03	19.18	-3.07	2.67	-3.01
Peer Group Median	4.85	1.29	10.25	4.04	7.75	8.08	-14.32	32.37	-0.80	0.27	-3.22
Rank	85	93	8	20	12	3	79	5	17	100	85
Population	174	174	166	133	116	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.



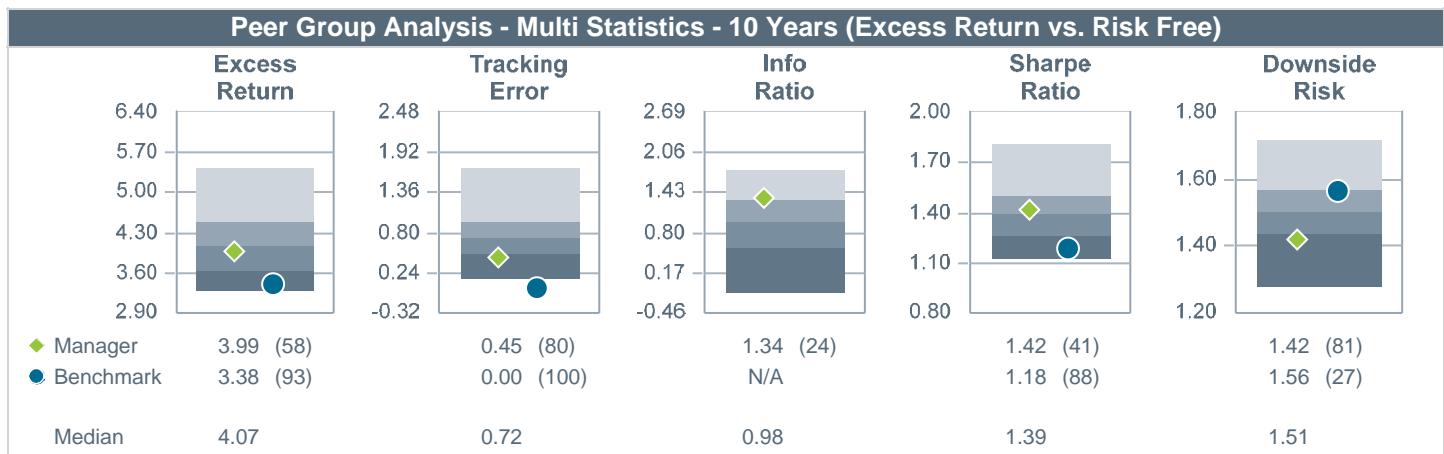
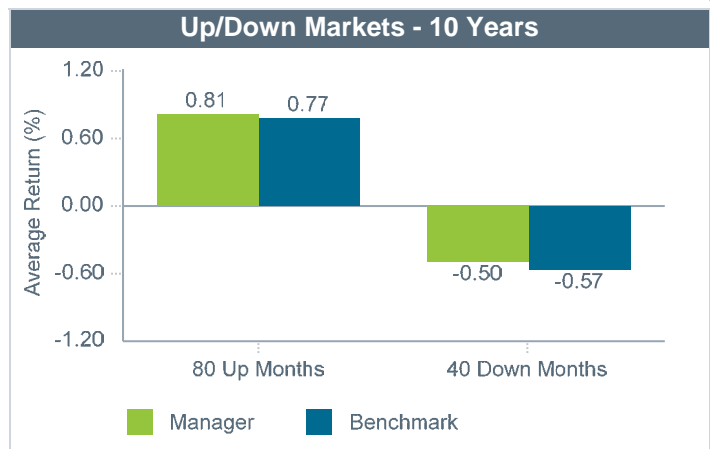
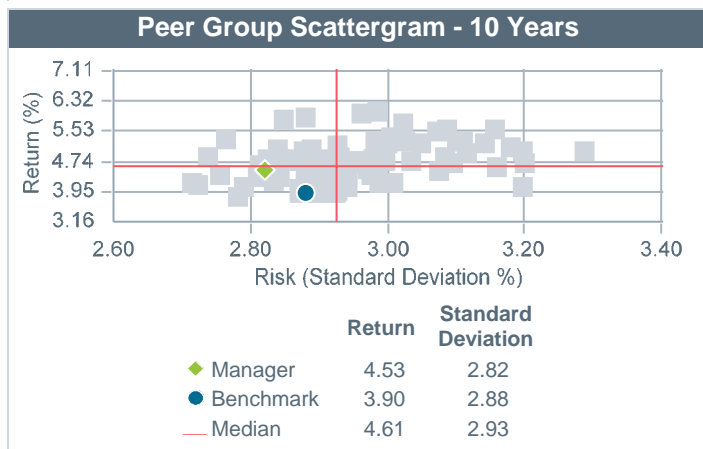
Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017	2016	2015	2014
Manager	0.79	-1.30	10.06	2.05	4.67	7.59	-18.30	38.94	14.08	-17.37	2.40
Benchmark	0.61	1.21	10.66	2.49	4.15	5.81	-14.58	37.28	11.19	-14.92	-2.19
Difference	0.18	-2.51	-0.60	-0.44	0.52	1.78	-3.72	1.66	2.89	-2.45	4.59
Peer Group Median	1.57	1.89	10.54	3.26	5.61	7.42	-15.24	36.81	10.27	-12.61	-0.10
Rank	74	79	56	76	74	46	80	37	22	90	31
Population	273	272	262	230	188	130	300	319	333	338	331



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

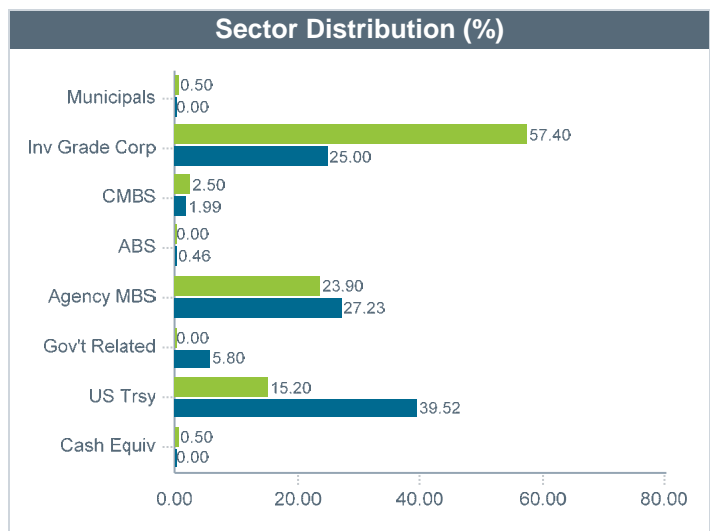


Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017	2016	2015	2014
Manager	2.94	7.92	2.65	3.33	3.10	4.53	0.26	3.84	3.08	1.21	6.63
Benchmark	3.08	7.87	2.31	2.95	2.62	3.90	0.01	3.54	2.65	0.55	5.97
Difference	-0.14	0.05	0.34	0.38	0.48	0.63	0.25	0.30	0.43	0.66	0.66
Peer Group Median	3.14	8.11	2.80	3.29	3.10	4.61	0.07	4.06	3.11	0.82	6.16
Rank	87	74	58	46	50	58	31	61	54	17	30
Population	132	132	129	126	121	116	146	153	162	167	181



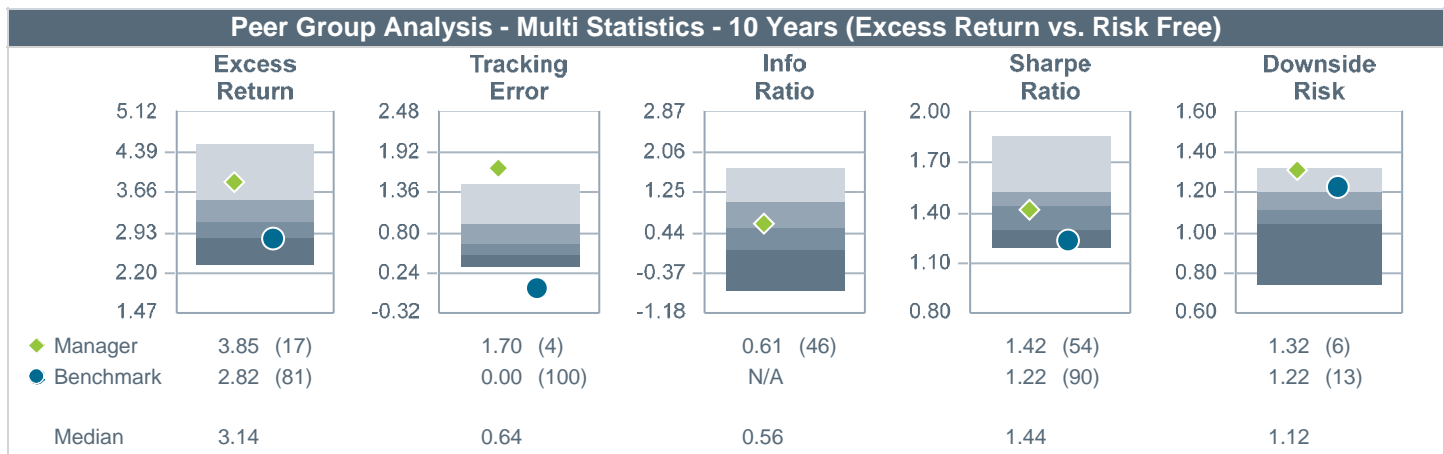
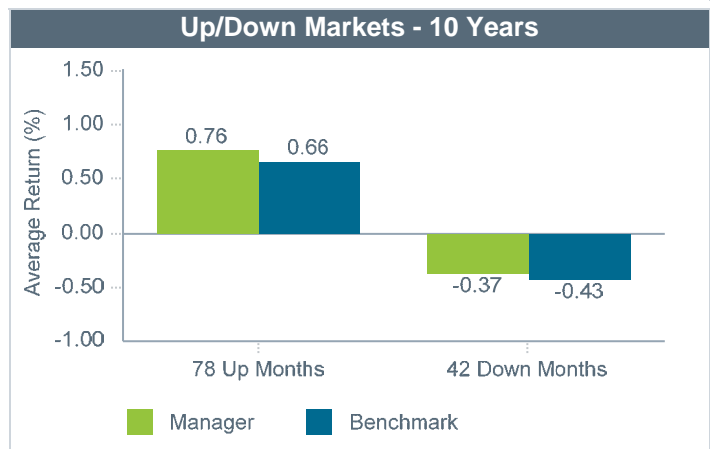
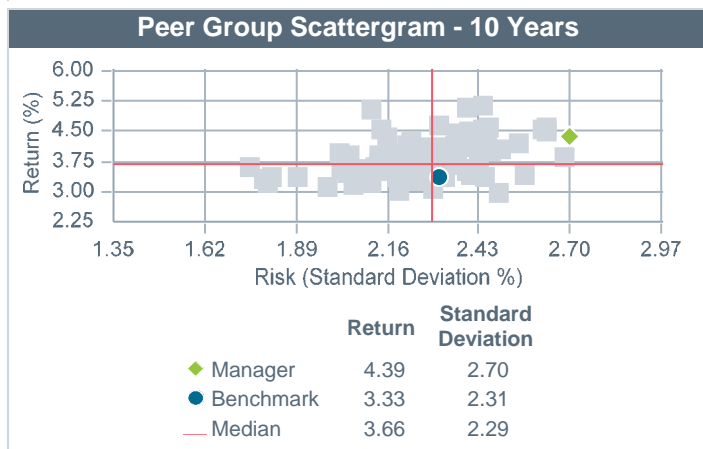
Portfolio Characteristics

	Portfolio	Benchmark
Effective Duration	5.16	5.73
Spread Duration	3.92	5.92
Avg. Maturity	6.88	7.87
Avg. Quality	Aa2	Aa1/Aa2
Yield To Maturity (%)	2.61	2.50
Coupon Rate (%)	3.96	3.23
Current Yield (%)	3.62	N/A
Holdings Count	191	10,610



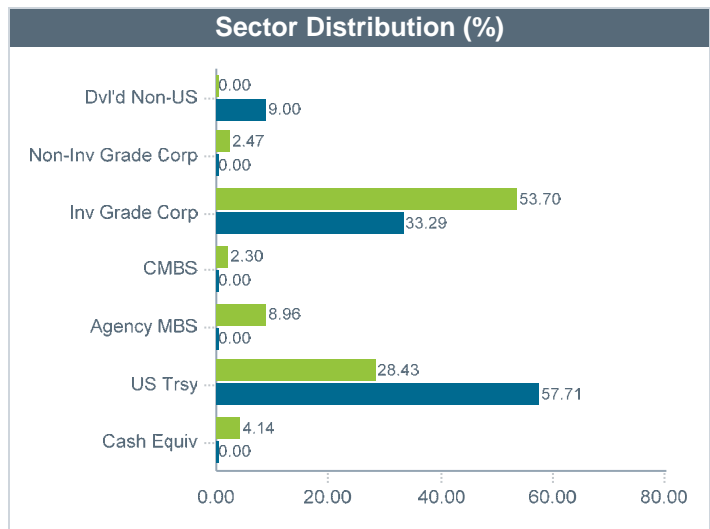
Performance shown is gross of fees and client specific. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017	2016	2015	2014
Manager	2.41	6.74	3.79	2.57	2.84	4.39	-0.10	3.38	4.66	-0.91	4.05
Benchmark	2.59	6.97	2.04	2.44	2.22	3.33	0.89	2.17	2.15	1.17	3.34
Difference	-0.18	-0.23	1.75	0.13	0.62	1.06	-0.99	1.21	2.51	-2.08	0.71
Peer Group Median	2.51	6.88	2.33	2.67	2.53	3.66	0.95	2.55	2.39	1.31	3.56
Rank	67	62	4	63	25	17	99	17	5	100	33
Population	143	143	141	137	134	123	158	167	178	177	179



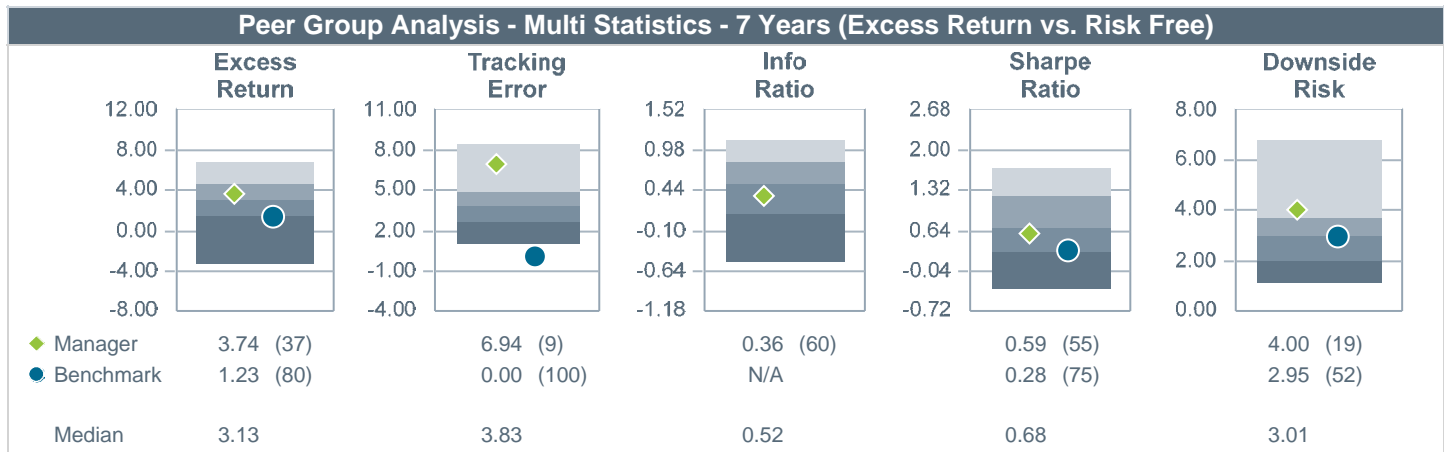
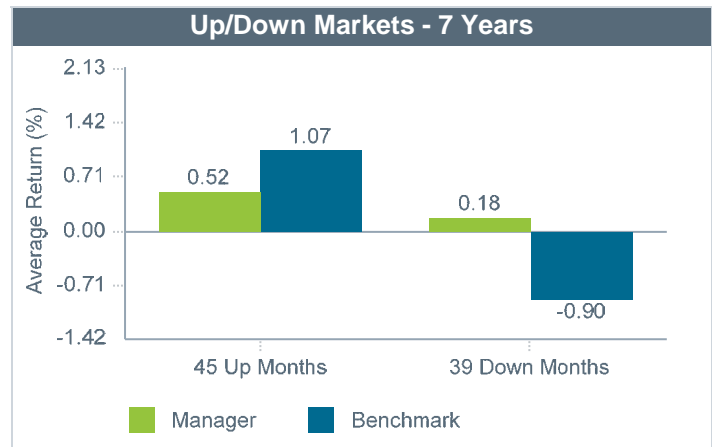
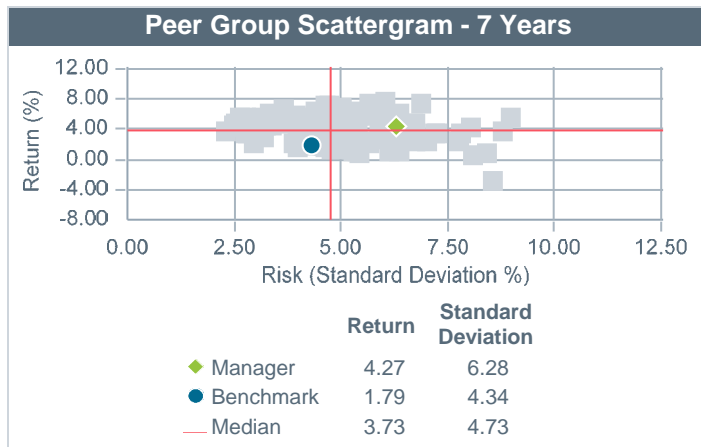
Portfolio Characteristics

	Portfolio	Benchmark
Effective Duration	3.48	3.87
Spread Duration	N/A	3.87
Avg. Maturity	4.09	4.28
Avg. Quality	A1	B1
Yield To Maturity (%)	2.85	2.20
Coupon Rate (%)	2.28	2.85
Current Yield (%)	3.20	2.90
Holdings Count	142	6,603



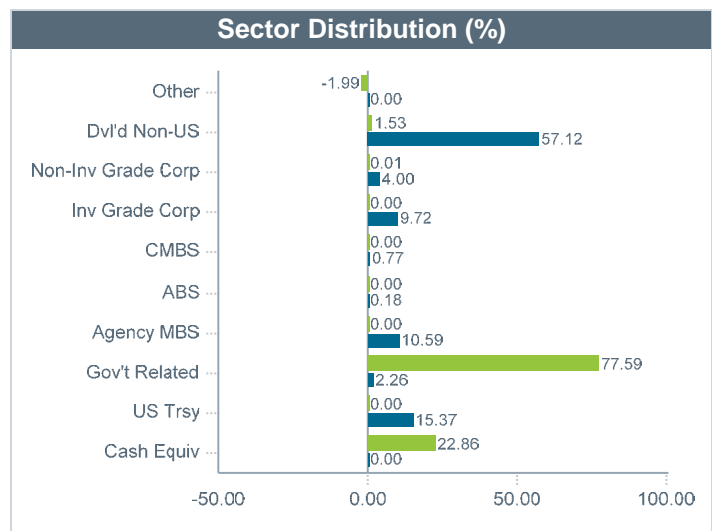
Performance shown is gross of fees and client specific. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017	2016	2015	2014
Manager	2.04	6.59	5.19	2.18	4.27	N/A	0.52	5.06	8.01	-3.43	0.81
Benchmark	3.31	6.01	1.95	1.35	1.79	3.13	-1.36	7.69	2.84	-3.29	0.48
Difference	-1.27	0.58	3.24	0.83	2.48	N/A	1.88	-2.63	5.17	-0.14	0.33
Peer Group Median	3.14	6.62	4.06	2.74	3.73	4.89	-1.86	7.61	5.77	-2.29	2.74
Rank	78	51	37	59	40	N/A	17	77	37	66	75
Population	216	215	211	197	173	121	237	247	263	274	273



Portfolio Characteristics

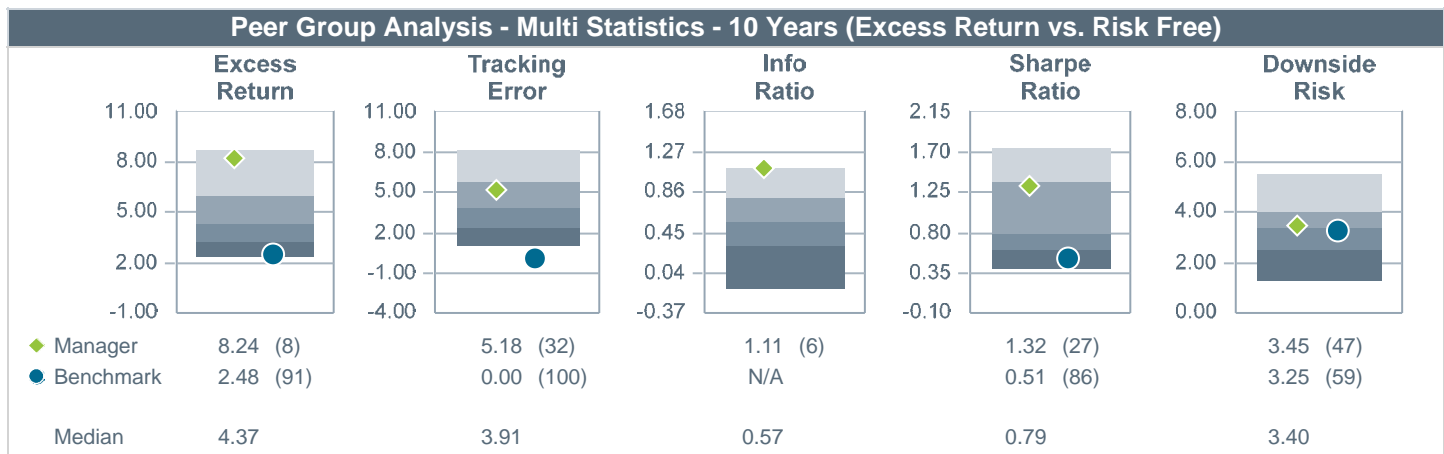
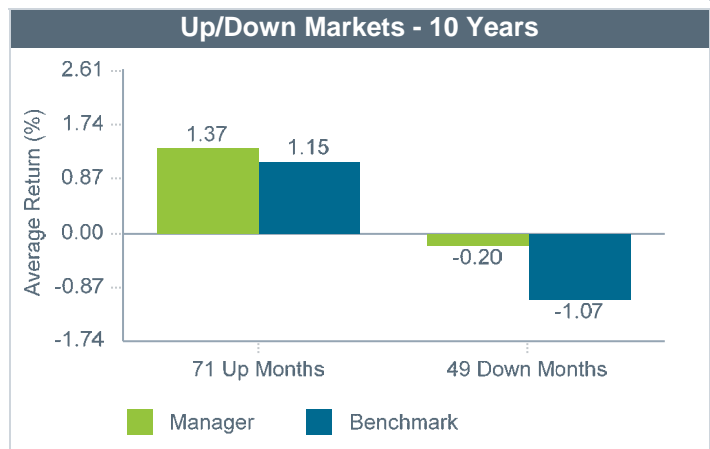
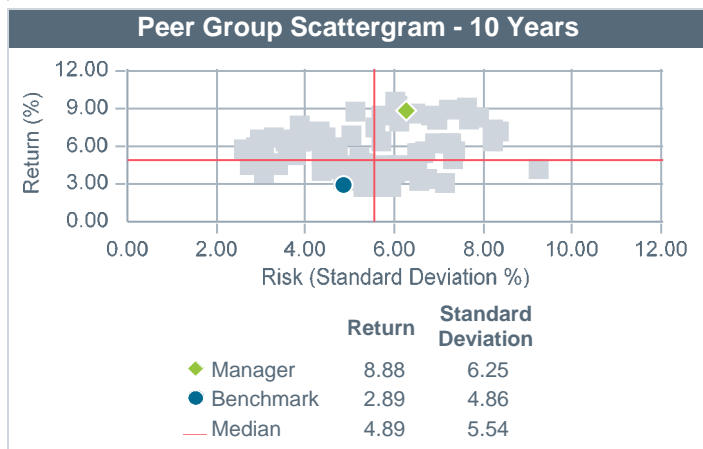
	Portfolio	Benchmark
Effective Duration	-2.31	6.92
Spread Duration	-2.30	N/A
Avg. Maturity	1.52	8.72
Avg. Quality	Baa1	N/A
Yield To Maturity (%)	9.33	1.71
Coupon Rate (%)	4.63	2.85
Current Yield (%)	4.68	0.11
Holdings Count	234	27,306



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.

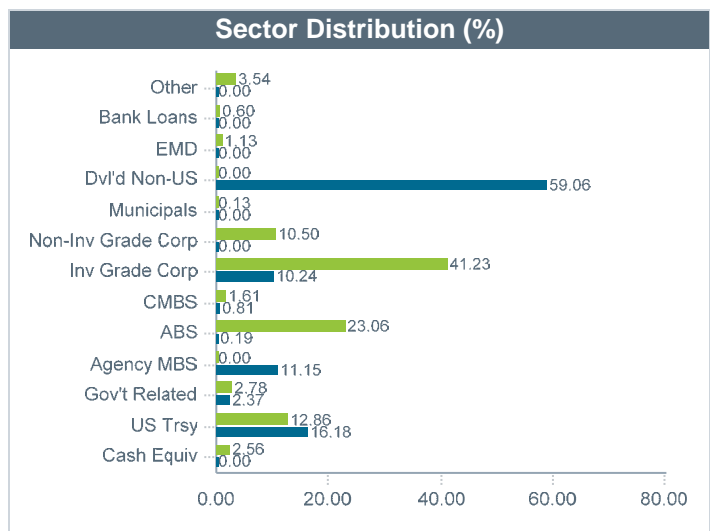


Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017	2016	2015	2014
Manager	3.19	8.33	6.32	4.30	6.35	8.88	0.09	8.74	10.44	-4.09	7.53
Benchmark	3.29	5.85	1.63	1.20	1.57	2.89	-1.19	7.39	2.09	-3.15	0.59
Difference	-0.10	2.48	4.69	3.10	4.78	5.99	1.28	1.35	8.35	-0.94	6.94
Peer Group Median	3.14	6.62	4.06	2.74	3.73	4.89	-1.86	7.61	5.77	-2.29	2.74
Rank	48	21	22	26	13	8	22	29	25	76	14
Population	216	215	211	197	173	121	237	247	263	274	273



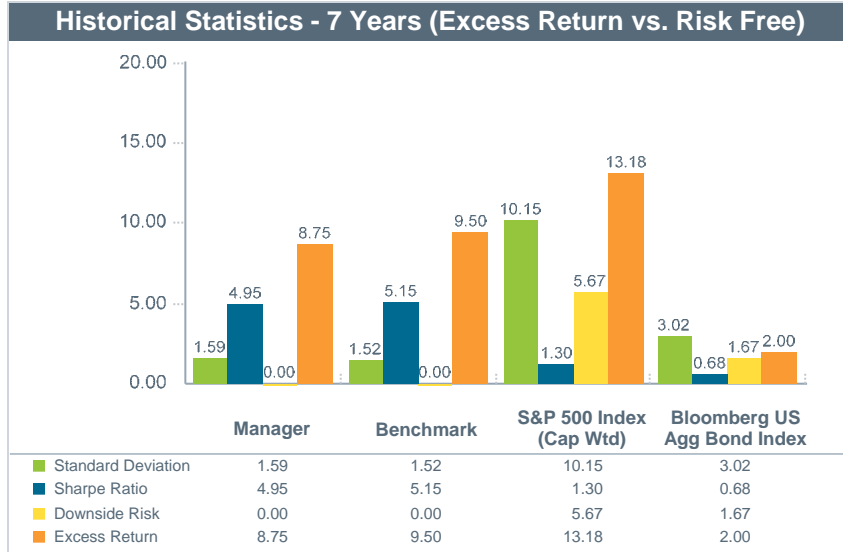
Portfolio Characteristics

	Portfolio	Benchmark
Effective Duration	5.07	7.08
Spread Duration	3.65	N/A
Avg. Maturity	6.89	8.84
Avg. Quality	Baa1	N/A
Yield To Maturity (%)	4.03	1.48
Coupon Rate (%)	4.04	2.67
Current Yield (%)	4.18	0.02
Holdings Count	556	23,896



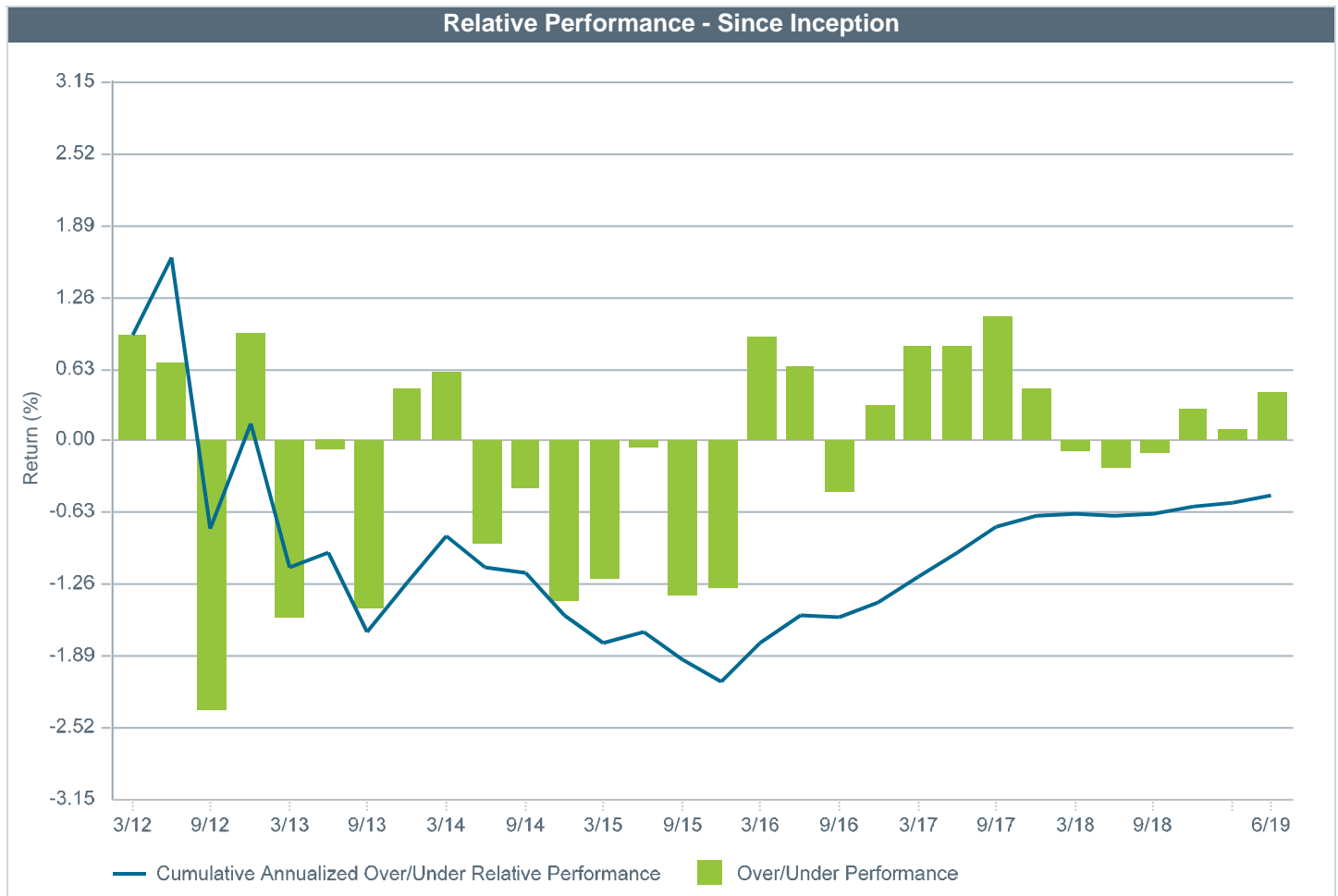
Performance shown is gross of fees and product specific. Calculation is based on monthly periodicity. Parentheses contain percentile ranks. Allocation to "Other" consists of preferred equity and convertibles.

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017	2016	2015	2014
Manager	1.43	7.15	8.81	9.59	9.72	N/A	8.18	11.11	10.34	10.60	10.11
Benchmark	1.00	6.41	7.57	9.76	10.52	9.88	8.35	7.62	8.77	15.02	12.50
Difference	0.43	0.74	1.24	-0.17	-0.80	N/A	-0.17	3.49	1.57	-4.42	-2.39



Actual Correlation - 7 Years

	Actual Correlation
NCREIF ODCE Index (AWA) (Gross)	0.28
S&P 500 Index (Cap Wtd)	-0.21
Russell 2000 Index	-0.22
MSCI EAFE Index (USD) (Net)	-0.18
MSCI Emg Mkts Index (USD) (Net)	-0.09
Bloomberg US Agg Bond Index	-0.32
Bloomberg US Trsy US TIPS Index	-0.38
Wilshire US REIT Index	-0.28
HFRI FOF Comp Index	-0.20
Bloomberg Cmnty Index (TR)	-0.07
ICE BofAML 3 Mo US T-Bill Index	-0.32
Cons Price Index (Unadjusted)	-0.12
NCREIF ODCE Index (AWA) (Gross)	0.28



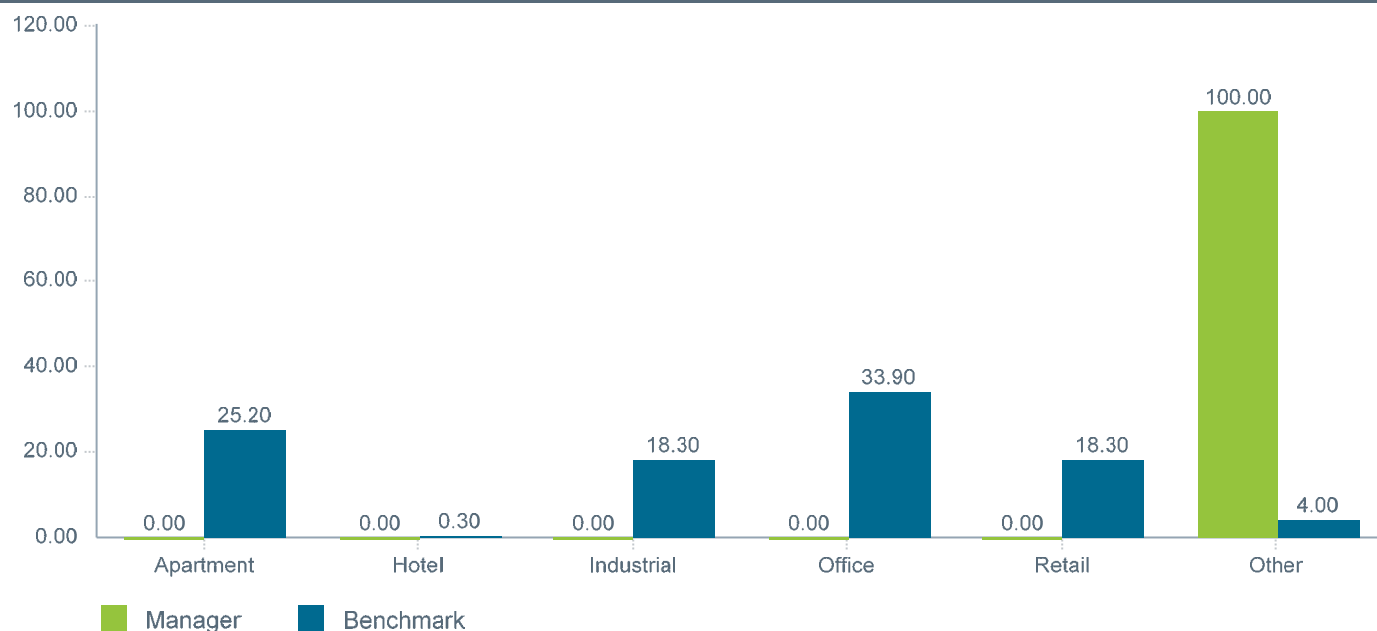
Investment Strategy

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.

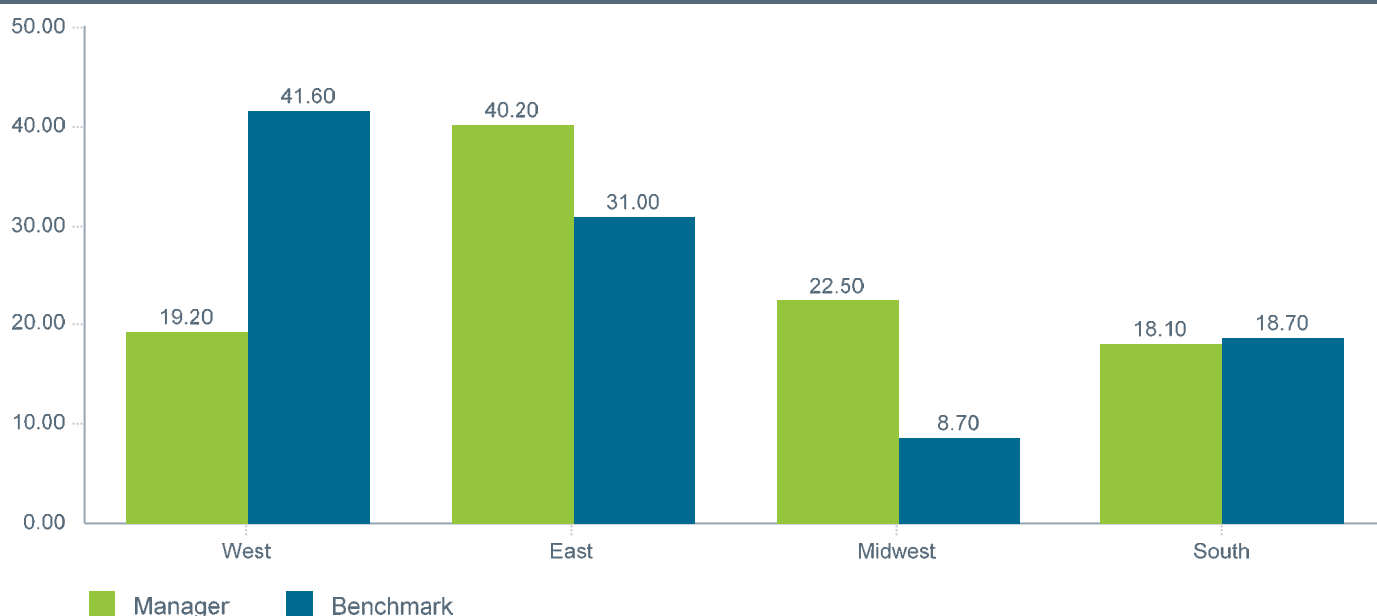
Investment Profile

Fund Inception	2011
Legal Structure	LP
Fund Structure	Open-End
Gross Real Estate Assets (\$M)	7,127
Fund Leverage %	23.66
Portfolio Occupancy %	90.10
Cash Reserve %	4.54
Number of Investments	266
Number of Limited Partners	166

Property Type Allocation (%)



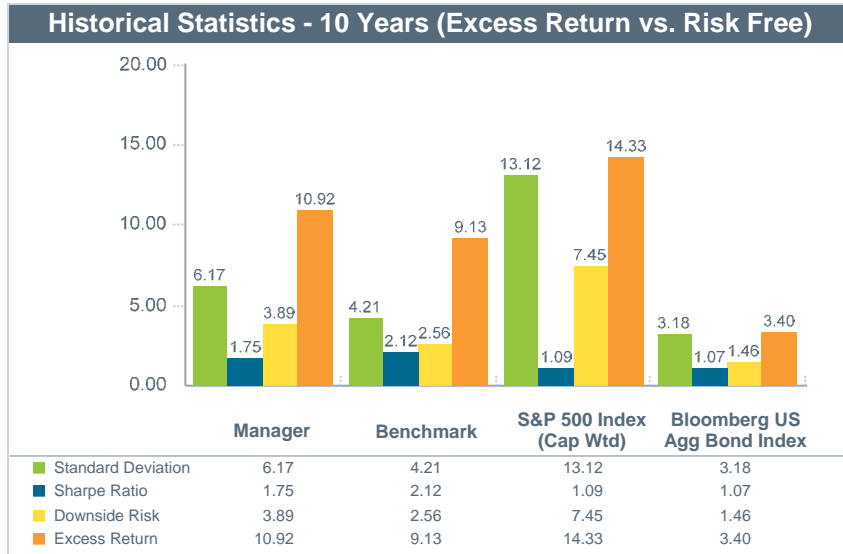
Geographic Allocation (%)



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.

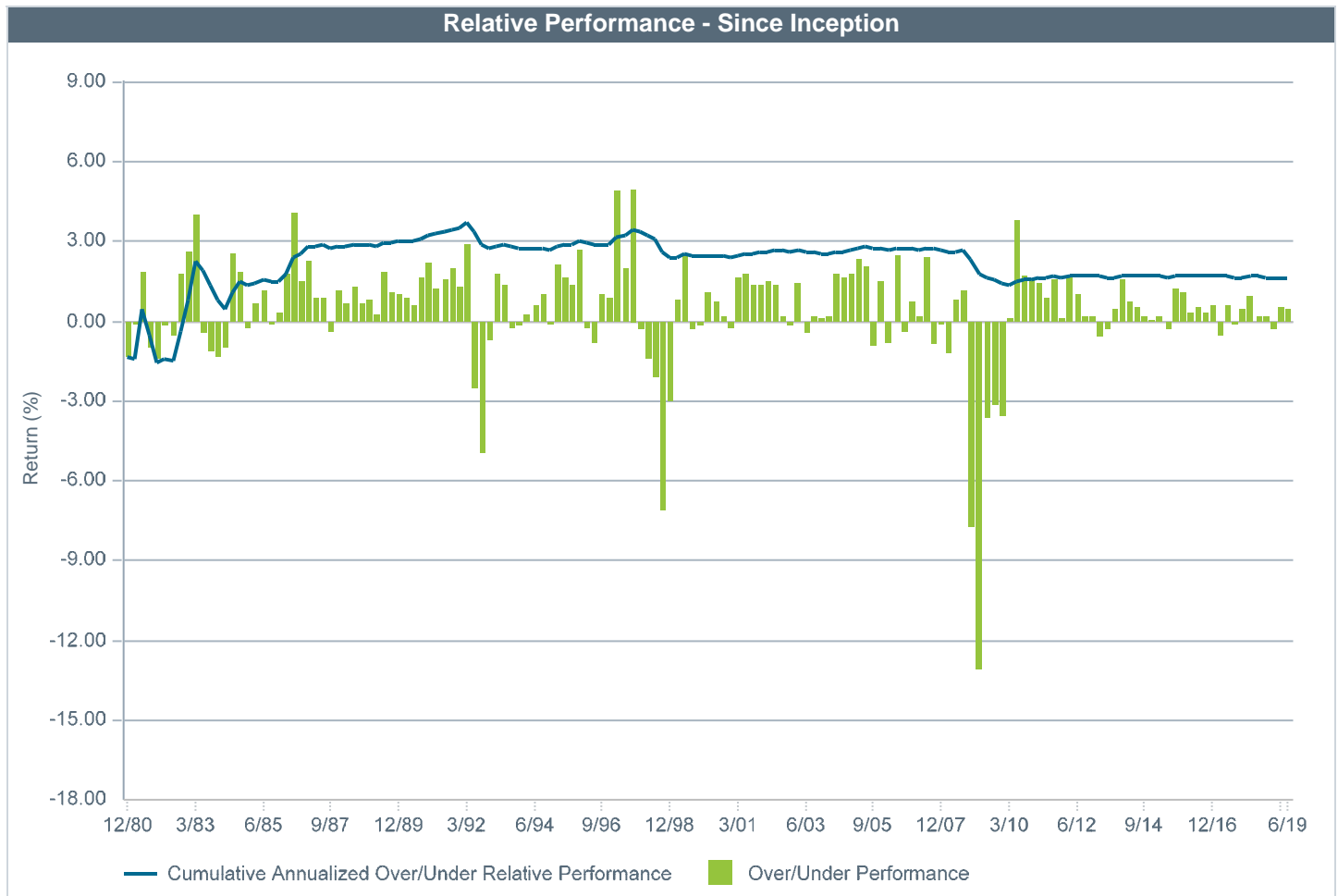


Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017	2016	2015	2014
Manager	1.47	7.42	8.80	11.22	12.01	11.69	9.48	8.06	10.70	17.53	14.22
Benchmark	1.00	6.41	7.57	9.76	10.52	9.88	8.35	7.62	8.77	15.02	12.50
Difference	0.47	1.01	1.23	1.46	1.49	1.81	1.13	0.44	1.93	2.51	1.72



Actual Correlation - 10 Years

	Actual Correlation
NCREIF ODCE Index (AWA) (Gross)	0.97
S&P 500 Index (Cap Wtd)	-0.30
Russell 2000 Index	-0.25
MSCI EAFE Index (USD) (Net)	-0.31
MSCI Emg Mkts Index (USD) (Net)	-0.37
Bloomberg US Agg Bond Index	-0.11
Bloomberg US Trsy US TIPS Index	-0.07
Wilshire US REIT Index	-0.47
HFRI FOF Comp Index	-0.26
Bloomberg Cmnty Index (TR)	-0.15
ICE BofAML 3 Mo US T-Bill Index	-0.17
Cons Price Index (Unadjusted)	0.07



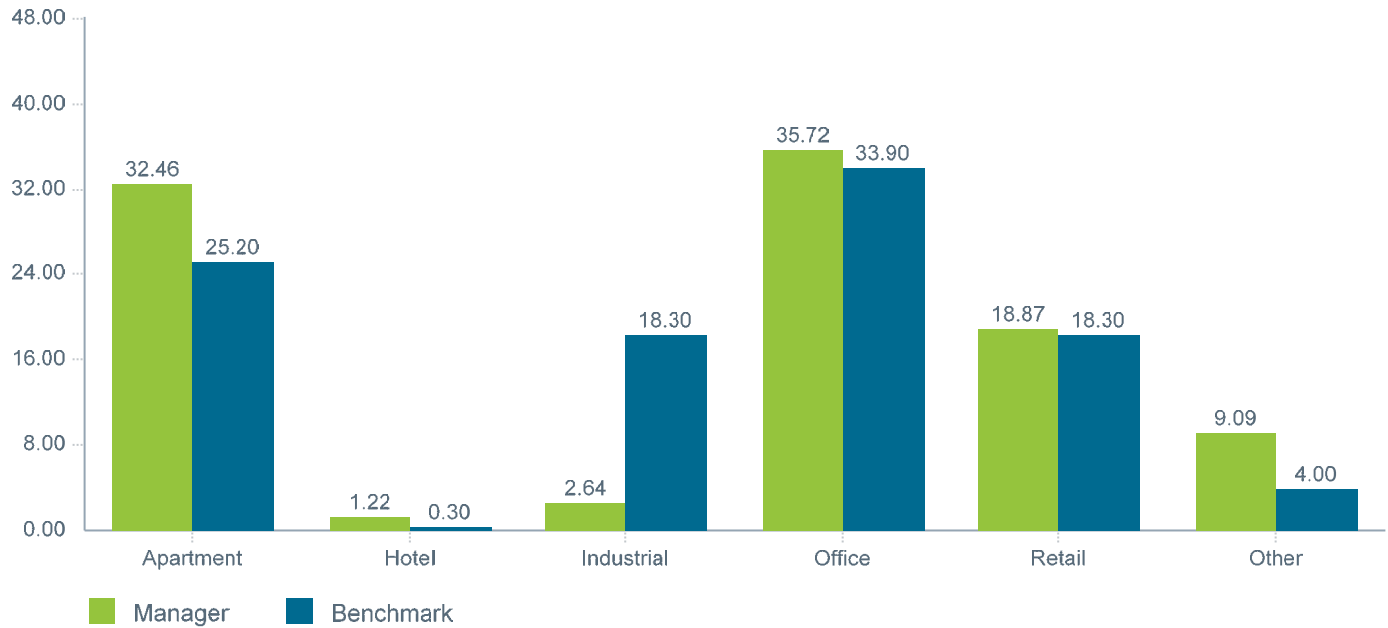
Investment Strategy

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.

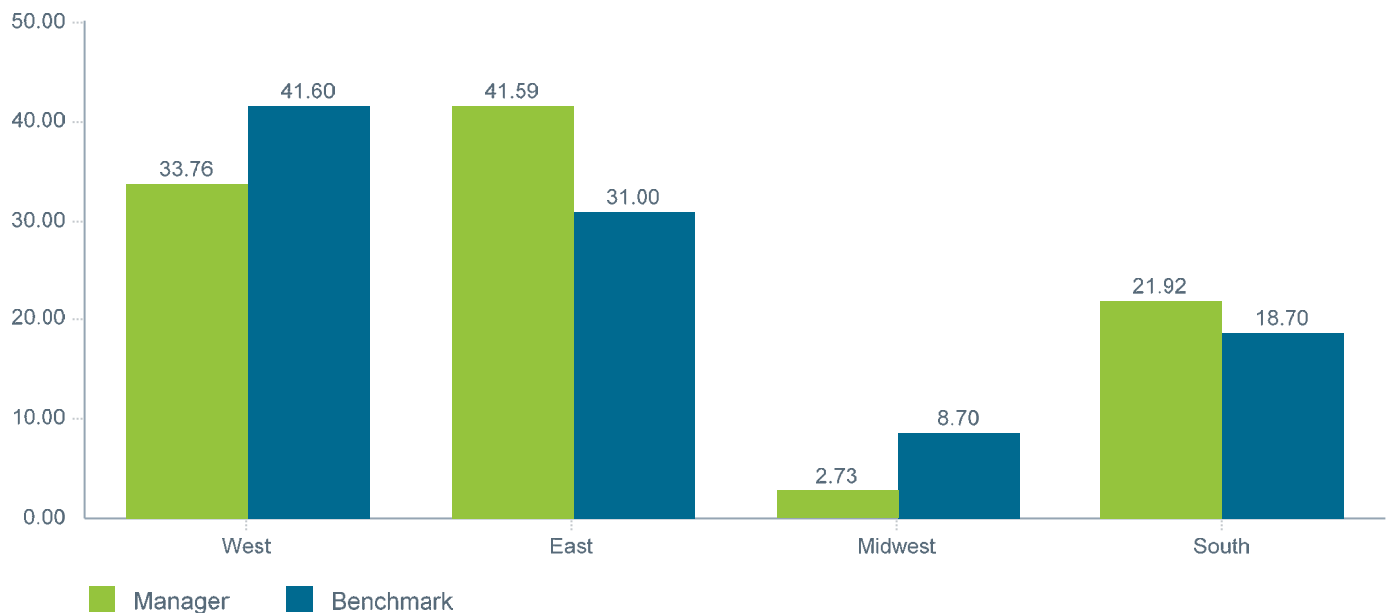
Investment Profile

Fund Inception	1980
Legal Structure	REIT
Fund Structure	Open-End
Gross Real Estate Assets (\$M)	13,784
Fund Leverage %	36.02
Portfolio Occupancy %	88.31
Cash Reserve %	1.06
Number of Investments	172
Number of Limited Partners	96

Property Type Allocation (%)



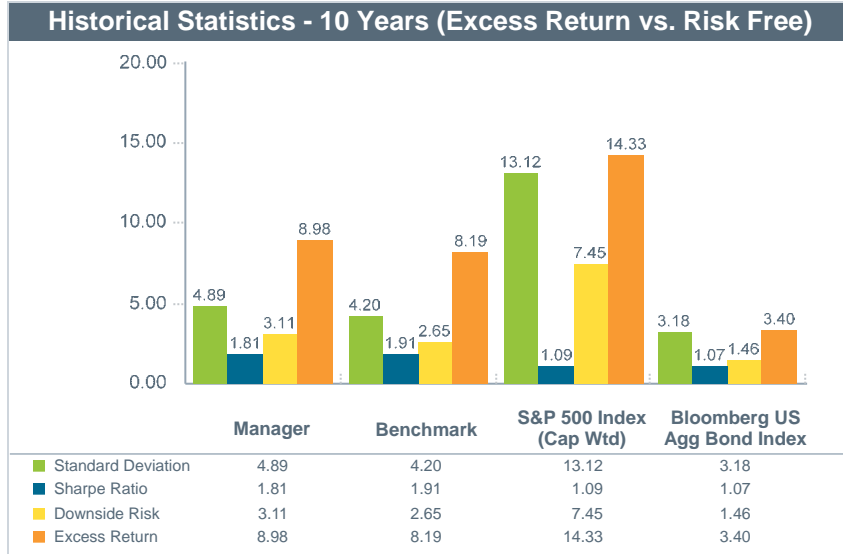
Geographic Allocation (%)



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.

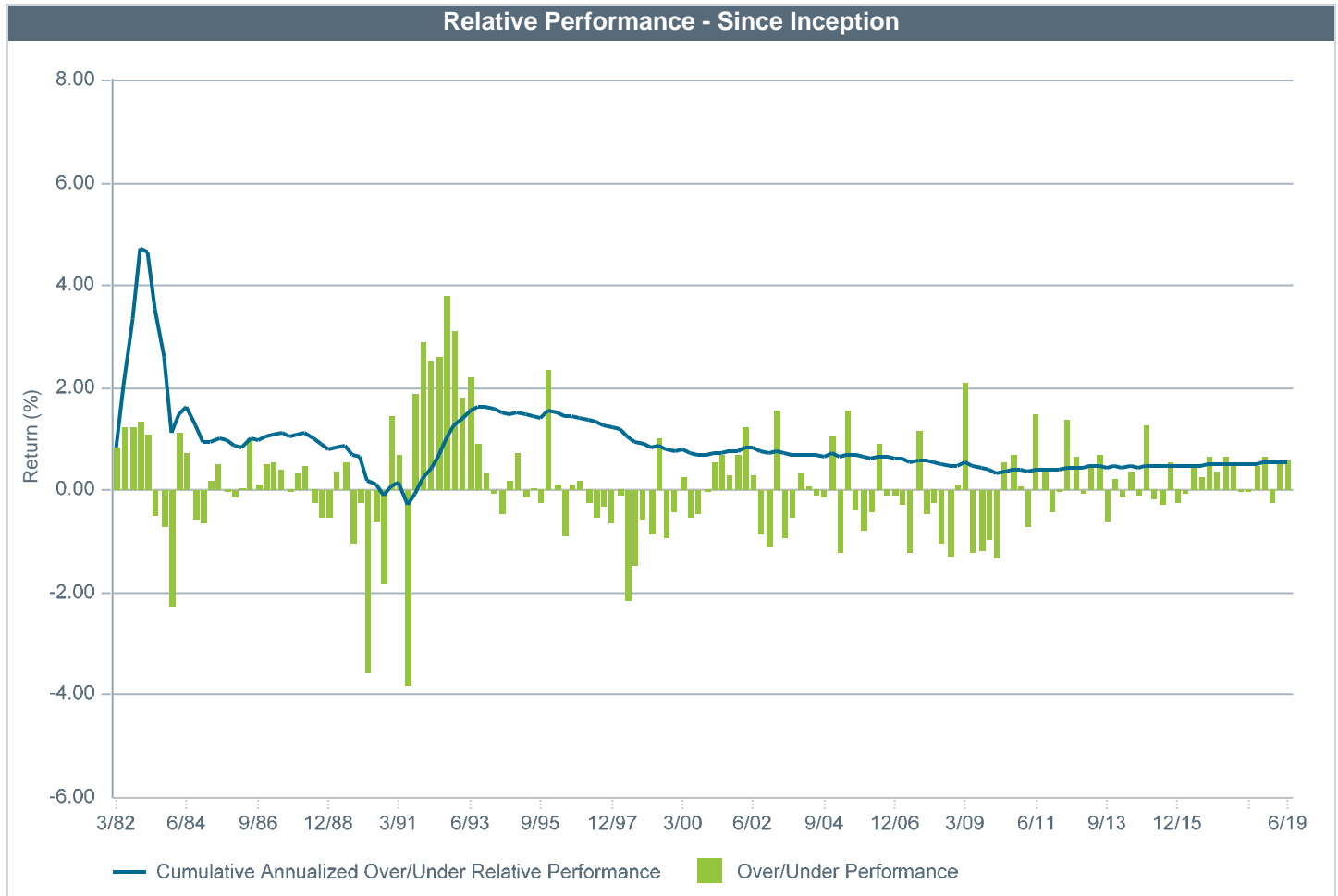


Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017	2016	2015	2014
Manager	1.36	7.08	8.18	10.05	10.69	9.68	8.32	8.29	9.21	13.81	13.04
Benchmark	0.77	5.46	6.61	8.76	9.51	8.87	7.36	6.66	7.79	13.95	11.46
Difference	0.59	1.62	1.57	1.29	1.18	0.81	0.96	1.63	1.42	-0.14	1.58



Actual Correlation - 10 Years

	Actual Correlation
NCREIF ODCE Index (AWA) (Net)	0.97
S&P 500 Index (Cap Wtd)	-0.28
Russell 2000 Index	-0.25
MSCI EAFE Index (USD) (Net)	-0.31
MSCI Emg Mkts Index (USD) (Net)	-0.41
Bloomberg US Agg Bond Index	-0.16
Bloomberg US Trsy US TIPS Index	-0.14
Wilshire US REIT Index	-0.48
HFRI FOF Comp Index	-0.25
Bloomberg Cmdty Index (TR)	-0.19
ICE BofAML 3 Mo US T-Bill Index	-0.14
Cons Price Index (Unadjusted)	0.03
NCREIF ODCE Index (AWA) (Gross)	0.97
NCREIF ODCE Index (AWA) (Gross)	0.97



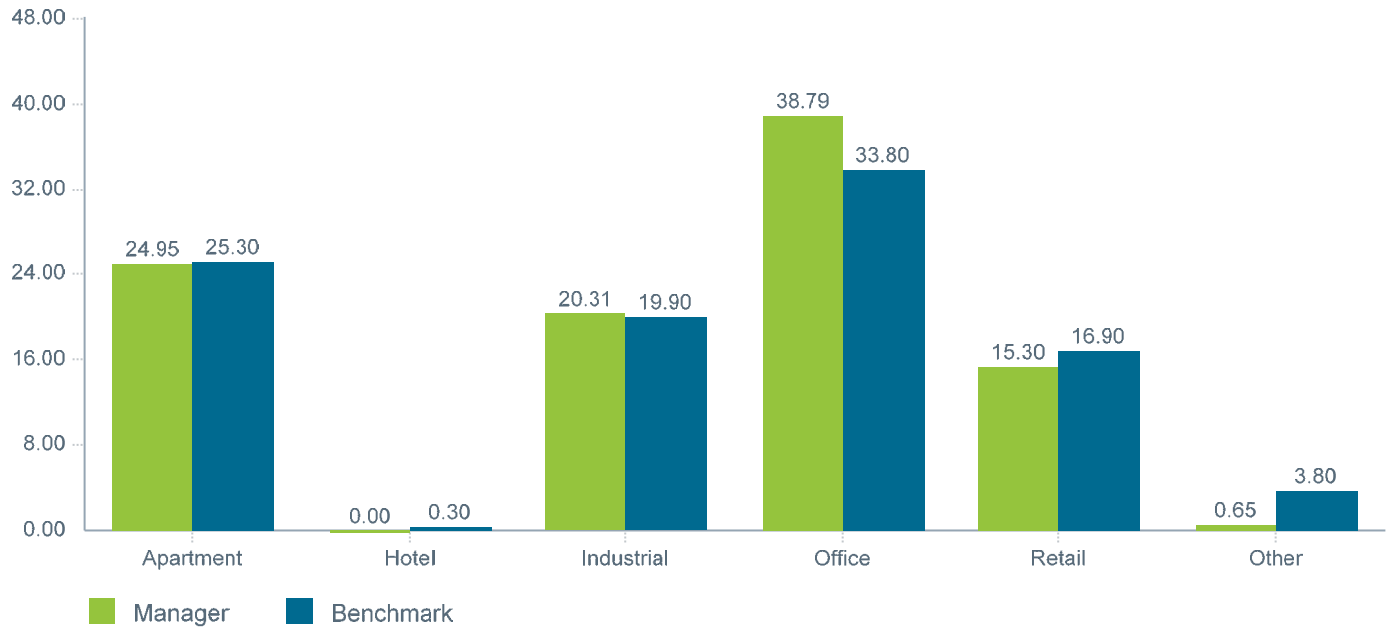
Investment Strategy

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.

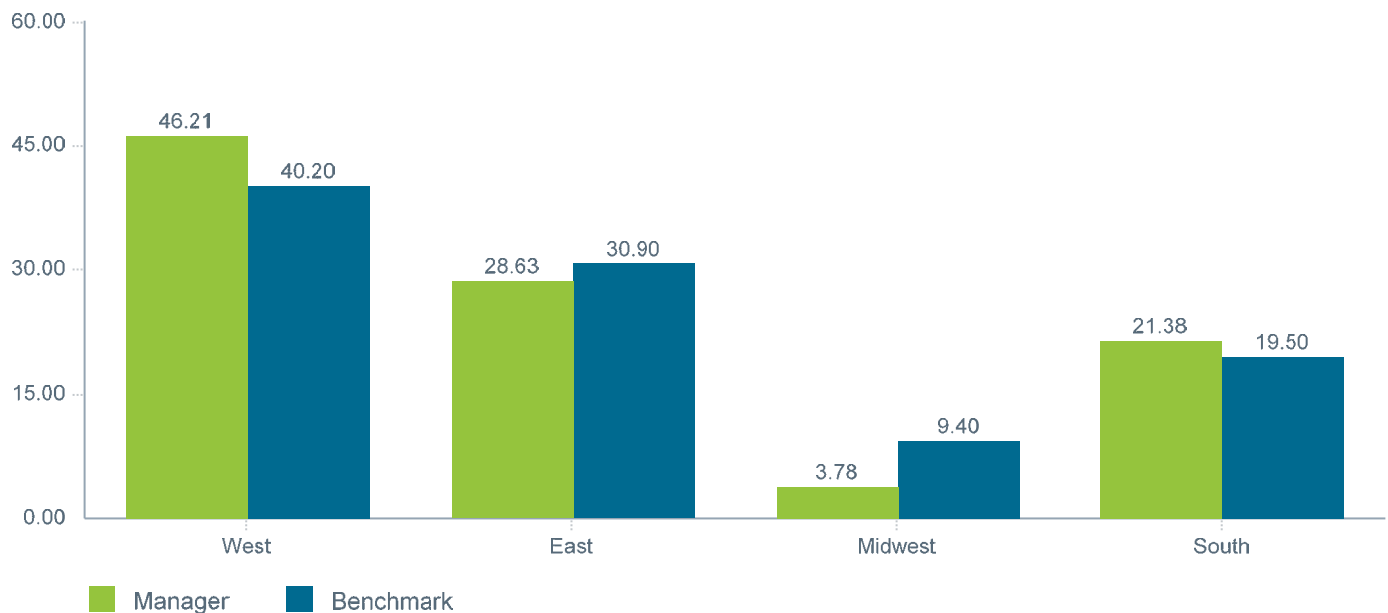
Investment Profile

Fund Inception	1982
Legal Structure	Insurance SA
Fund Structure	Open-End
Gross Real Estate Assets (\$M)	10,301
Fund Leverage %	18.61
Portfolio Occupancy %	92.08
Cash Reserve %	2.71
Number of Investments	135
Number of Limited Partners	6,346

Property Type Allocation (%)



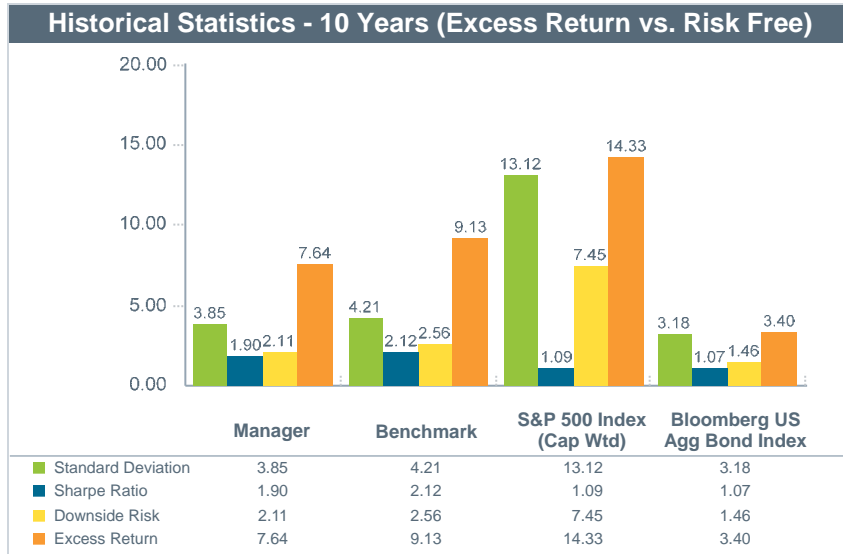
Geographic Allocation (%)



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.

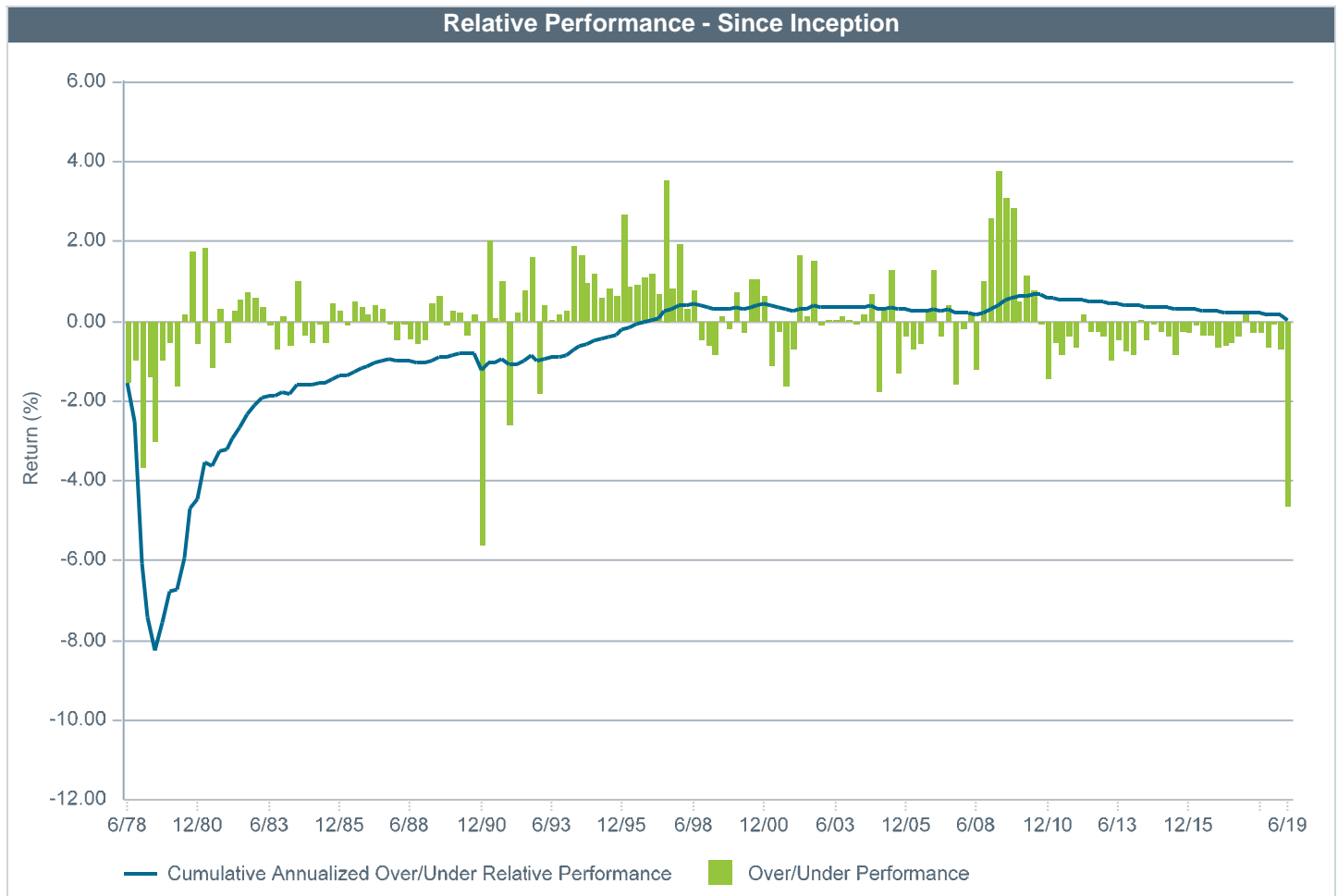


Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017	2016	2015	2014
Manager	-3.70	0.04	4.40	7.26	8.07	8.30	6.99	6.30	7.21	12.94	11.69
Benchmark	1.00	6.41	7.57	9.76	10.52	9.88	8.35	7.62	8.77	15.02	12.50
Difference	-4.70	-6.37	-3.17	-2.50	-2.45	-1.58	-1.36	-1.32	-1.56	-2.08	-0.81



Actual Correlation - 10 Years

	Actual Correlation
NCREIF ODCE Index (AWA) (Gross)	0.89
S&P 500 Index (Cap Wtd)	-0.29
Russell 2000 Index	-0.24
MSCI EAFE Index (USD) (Net)	-0.30
MSCI Emg Mkts Index (USD) (Net)	-0.32
Bloomberg US Agg Bond Index	-0.16
Bloomberg US Trsy US TIPS Index	-0.14
Wilshire US REIT Index	-0.36
HFRI FOF Comp Index	-0.28
Bloomberg Cmdty Index (TR)	-0.18
ICE BofAML 3 Mo US T-Bill Index	-0.40
Cons Price Index (Unadjusted)	-0.01



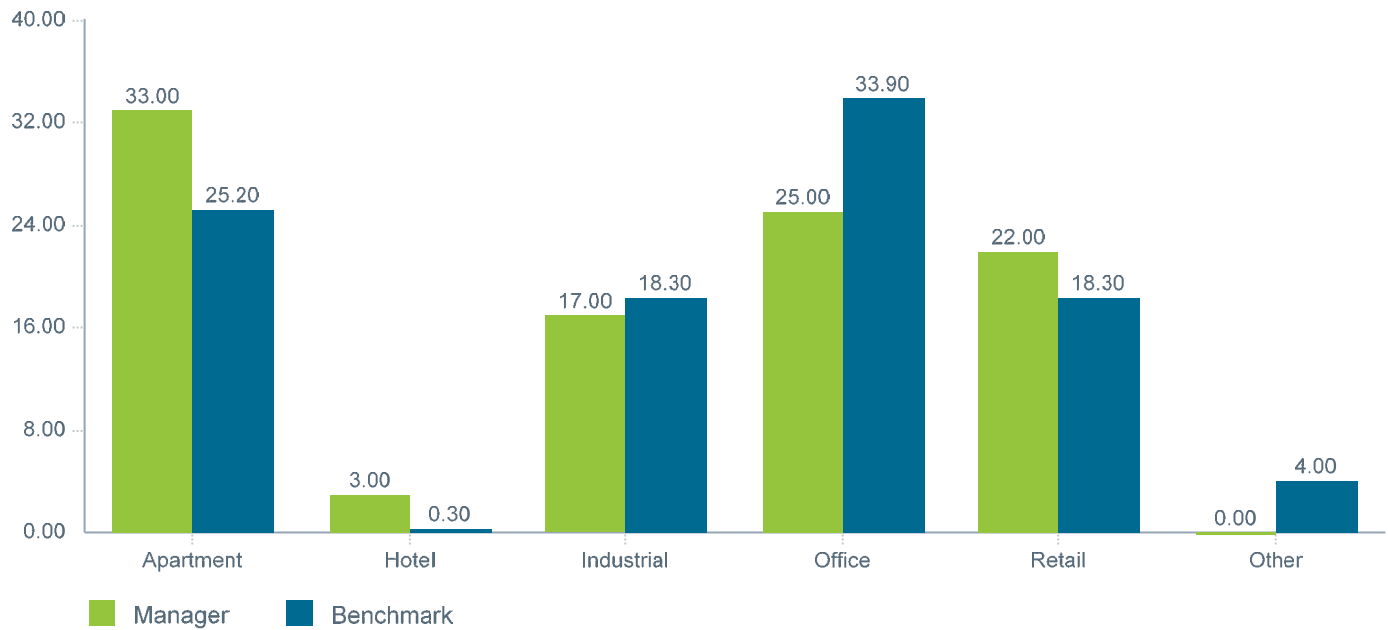
Investment Strategy

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.

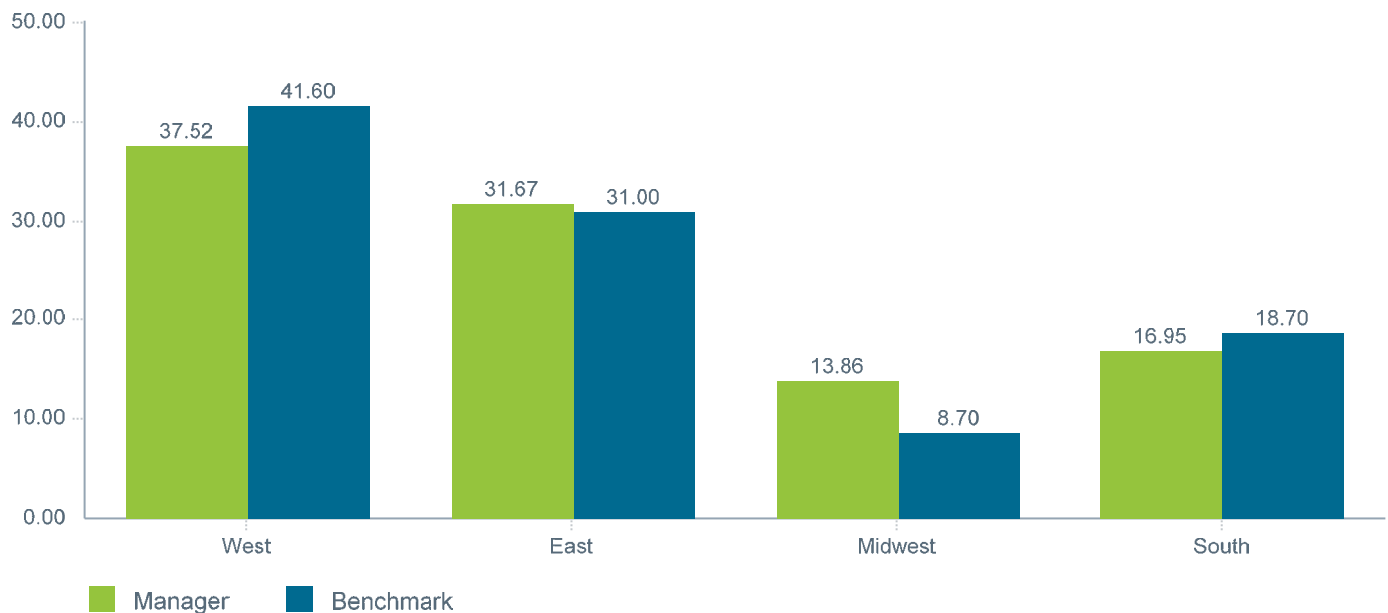
Investment Profile

Fund Inception	1978
Legal Structure	LP
Fund Structure	Open-End
Gross Real Estate Assets (\$M)	21,924
Fund Leverage %	18.10
Portfolio Occupancy %	93.10
Cash Reserve %	2.20
Number of Investments	196
Number of Limited Partners	444

Property Type Allocation (%)



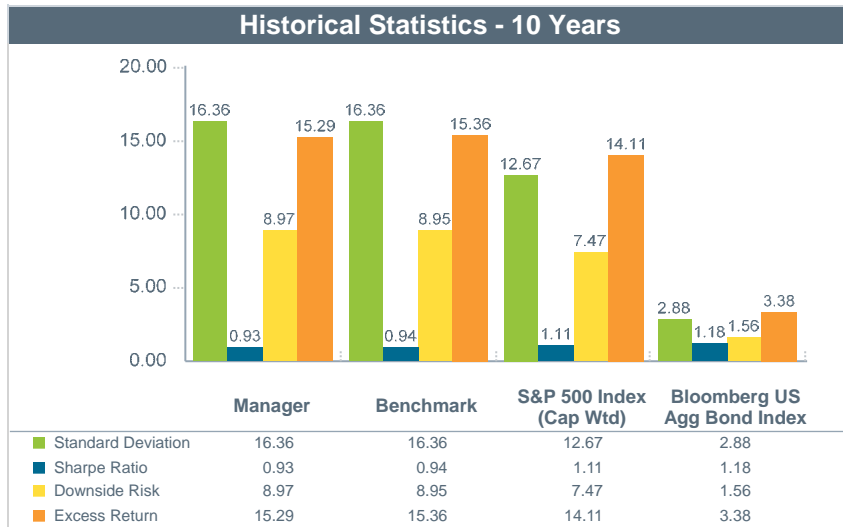
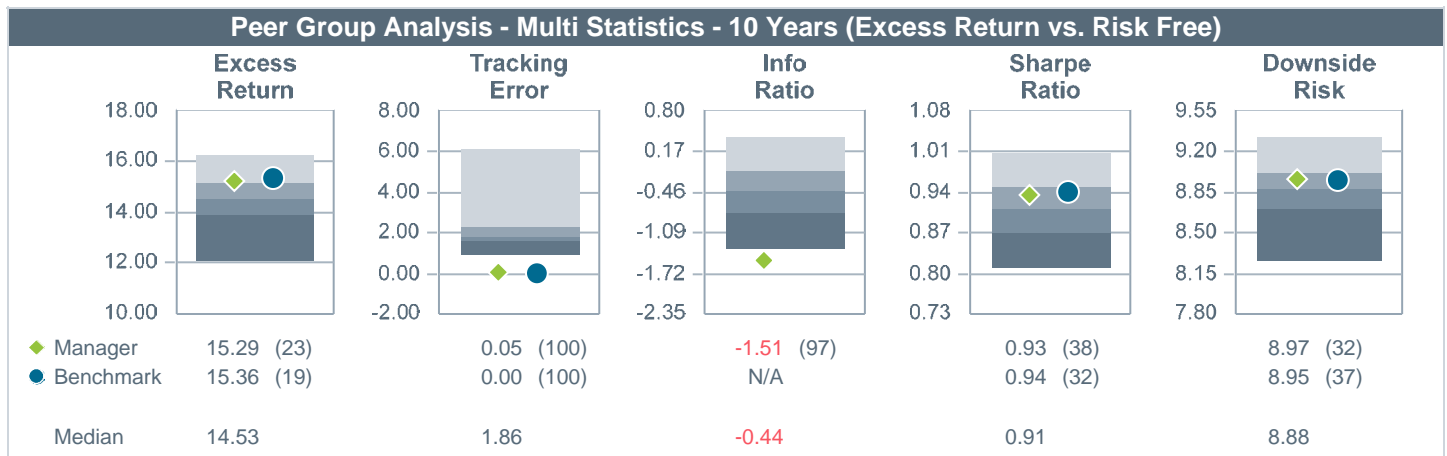
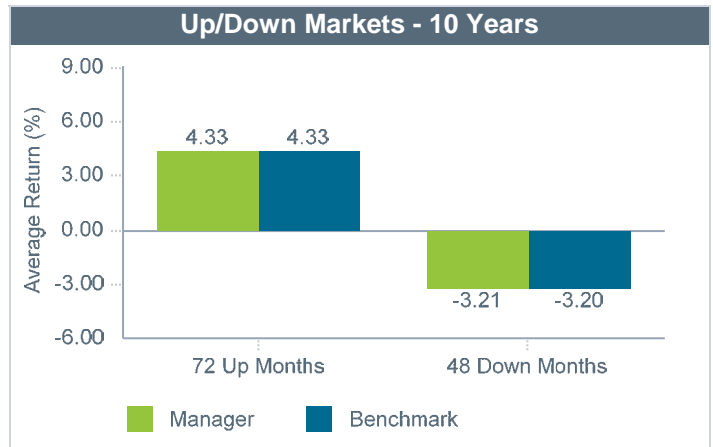
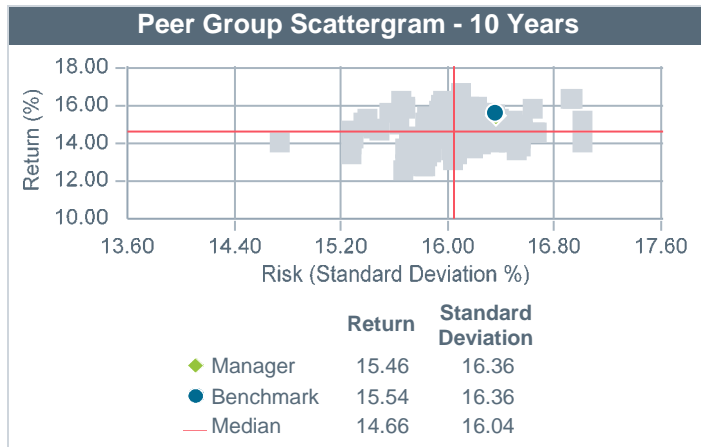
Geographic Allocation (%)



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	1.72	12.21	4.03	7.69	8.66	15.46	-5.95	4.95	8.53	2.37	30.29
Benchmark	1.76	12.20	4.12	7.80	8.76	15.54	-5.86	5.07	8.60	2.52	30.38
Difference	-0.04	0.01	-0.09	-0.11	-0.10	-0.08	-0.09	-0.12	-0.07	-0.15	-0.09
Peer Group Median	2.03	10.58	4.01	7.17	7.94	14.66	-5.67	5.14	6.18	2.94	29.43
Rank	62	31	49	35	24	24	55	55	18	65	33
Population	268	256	226	199	170	136	248	248	235	222	253



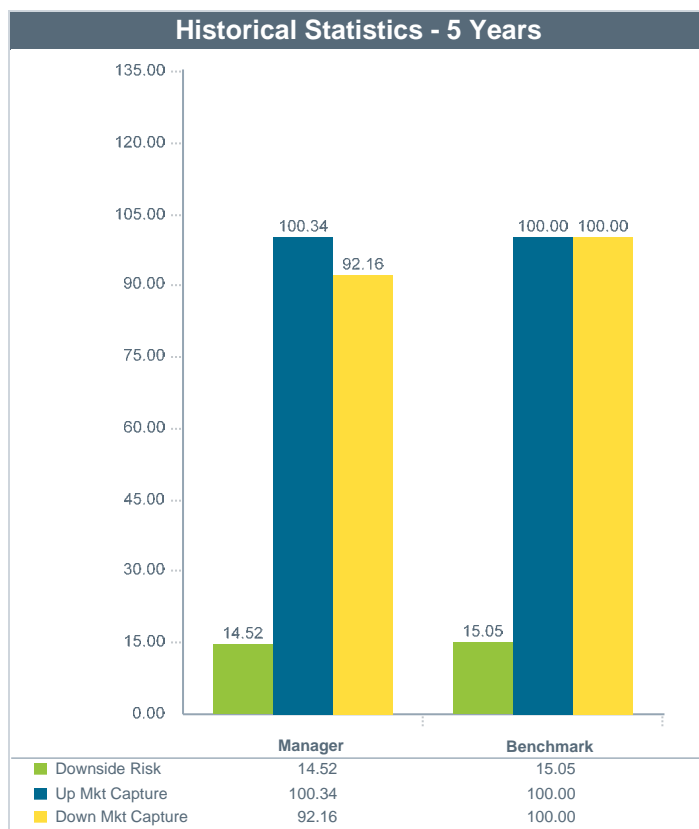
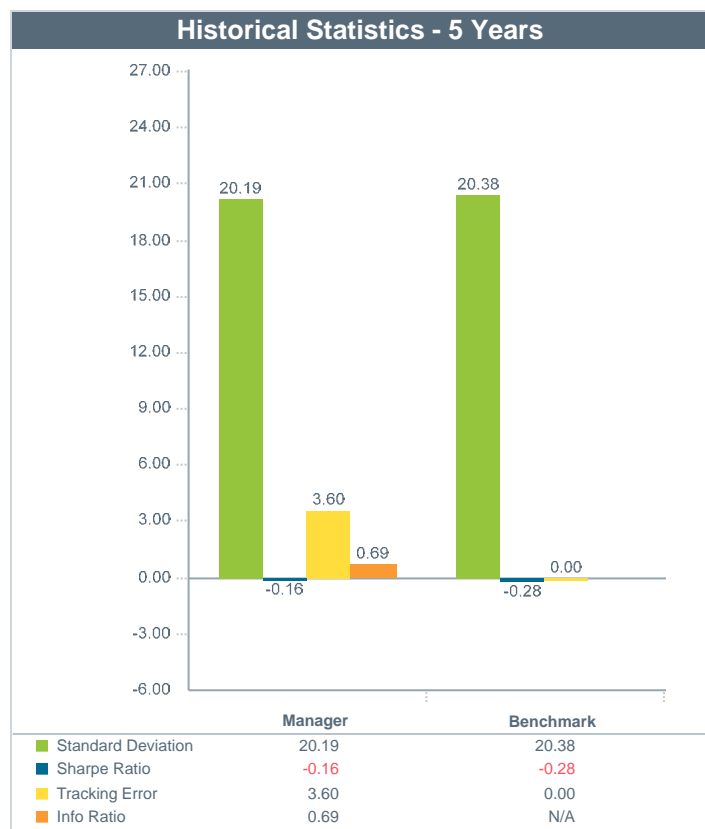
Actual Correlation - 10 Years

	Actual Correlation
Vanguard Spl Real Estate Index	1.00
S&P 500 Index (Cap Wtd)	0.64
Russell 2000 Index	0.63
MSCI EAFE Index (USD) (Net)	0.58
MSCI Emg Mkts Index (USD) (Net)	0.54
Bloomberg US Agg Bond Index	0.31
Bloomberg US Trsy US TIPS Index	0.34
Wilshire US REIT Index	1.00
HFRI FOF Comp Index	0.50
Bloomberg Cmnty Index (TR)	0.33
ICE BofAML 3 Mo US T-Bill Index	-0.02
Cons Price Index (Unadjusted)	-0.06

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.

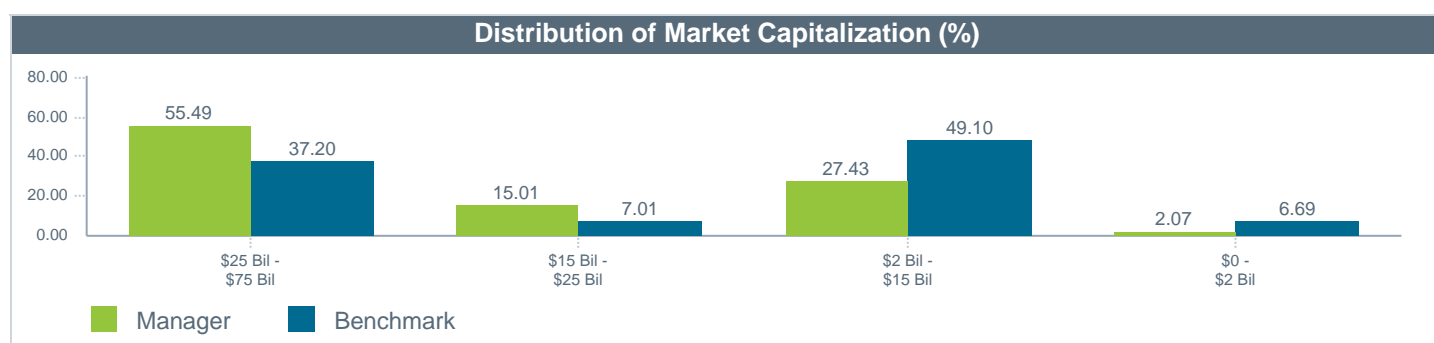


Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017	2016	2015	2014
Manager	-0.26	1.64	2.00	-4.26	5.81	N/A	-13.00	-4.80	20.17	-30.26	17.74
Benchmark	-0.59	3.23	1.54	-6.65	1.97	8.88	-11.67	-5.58	21.95	-35.07	7.66
Difference	0.33	-1.59	0.46	2.39	3.84	N/A	-1.33	0.78	-1.78	4.81	10.08



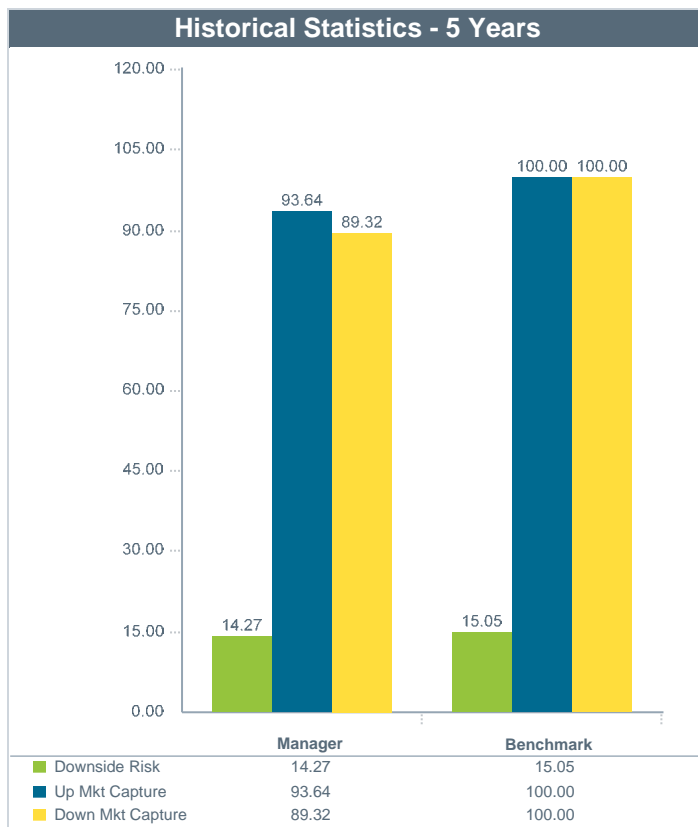
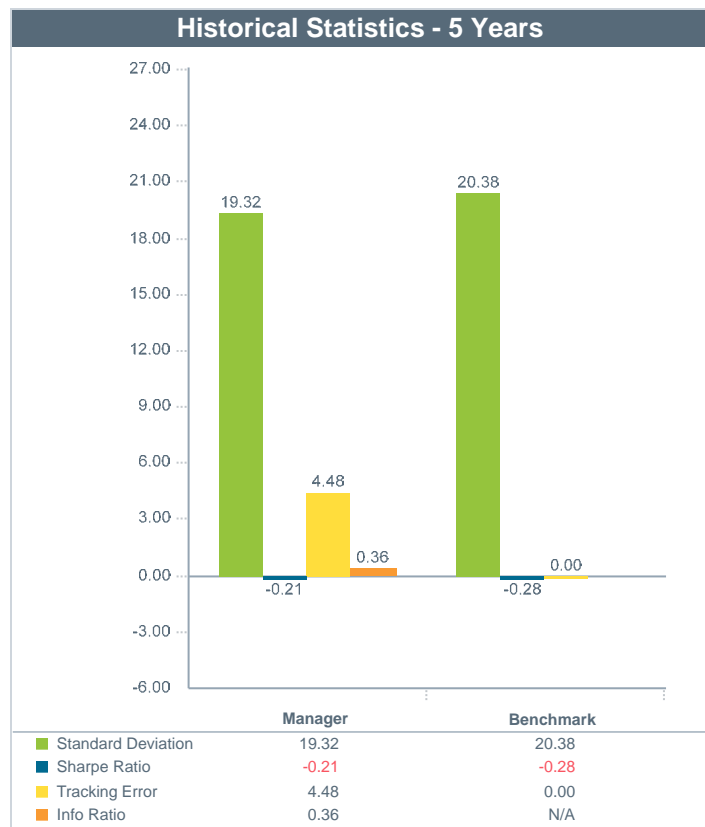
Portfolio Characteristics

	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	30,293	22,995
Median Mkt. Cap (\$M)	8,940	2,792
Price/Earnings Ratio	12.78	11.78
Price/Book Ratio	2.04	2.35
5 Yr. EPS Growth Rate (%)	16.96	16.69
Current Yield (%)	6.89	7.87
Beta (5 Years, Monthly)	0.98	1.00
Number of Securities	30	40



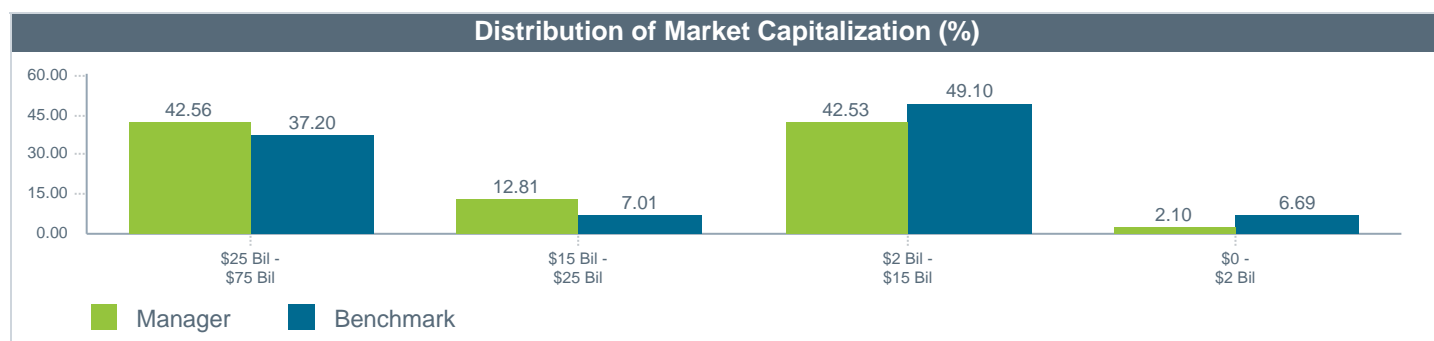
Performance shown is gross of fees and client specific. Calculations are based on monthly periodicity.

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017	2016	2015	2014
Manager	-0.57	1.59	1.85	-4.93	5.72	N/A	-12.73	-2.70	15.99	-26.79	16.14
Benchmark	-0.59	3.23	1.54	-6.65	1.97	8.88	-11.67	-5.58	21.95	-35.07	7.66
Difference	0.02	-1.64	0.31	1.72	3.75	N/A	-1.06	2.88	-5.96	8.28	8.48



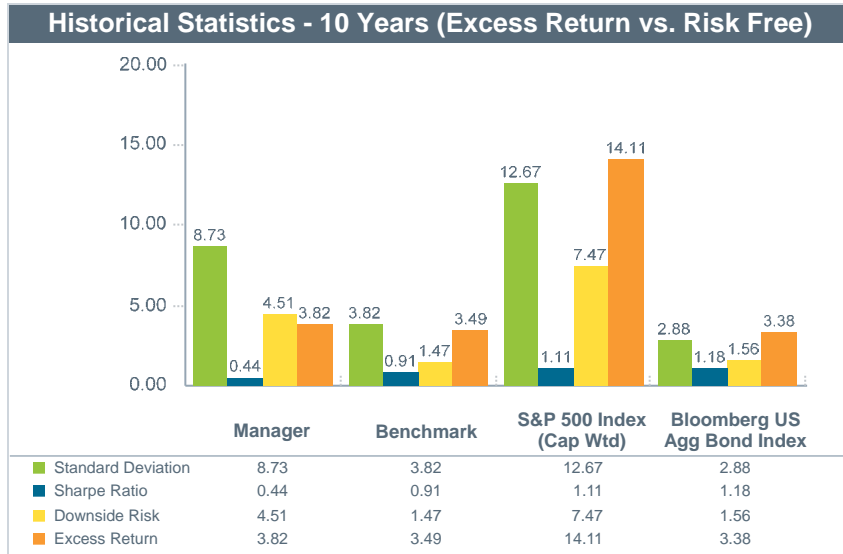
Portfolio Characteristics

	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	23,308	22,995
Median Mkt. Cap (\$M)	8,956	2,792
Price/Earnings Ratio	12.88	11.78
Price/Book Ratio	2.37	2.35
5 Yr. EPS Growth Rate (%)	16.50	16.69
Current Yield (%)	7.24	7.87
Beta (5 Years, Monthly)	0.93	1.00
Number of Securities	23	40



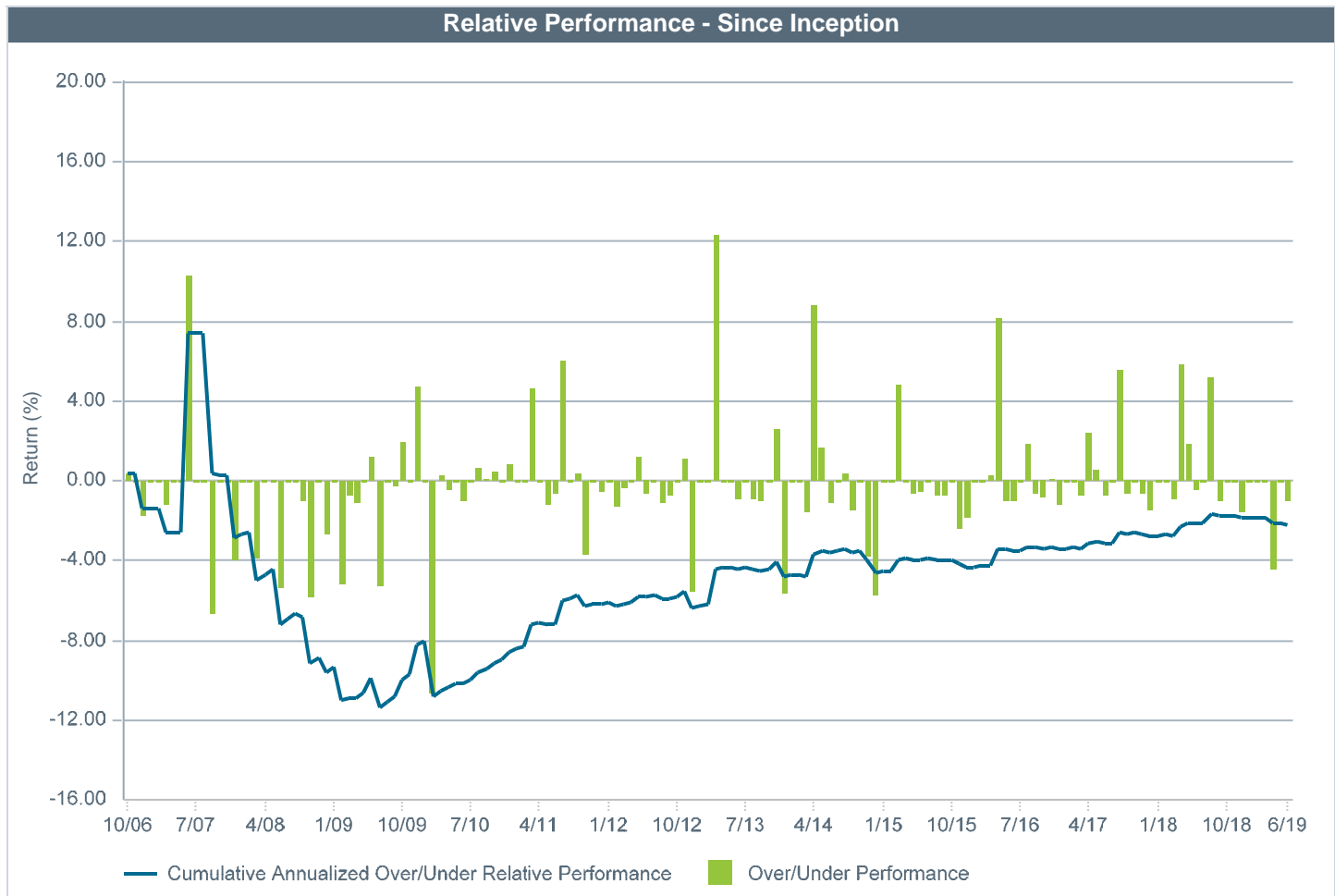
Performance shown is gross of fees and client specific. Calculations are based on monthly periodicity.

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017	2016	2015	2014
Manager	-4.37	-0.22	5.57	4.56	6.98	4.00	12.47	8.08	8.32	2.66	6.87
Benchmark	1.04	2.95	3.29	4.62	6.03	3.98	3.21	3.63	2.59	4.97	10.48
Difference	-5.41	-3.17	2.28	-0.06	0.95	0.02	9.26	4.45	5.73	-2.31	-3.61



Actual Correlation - 10 Years

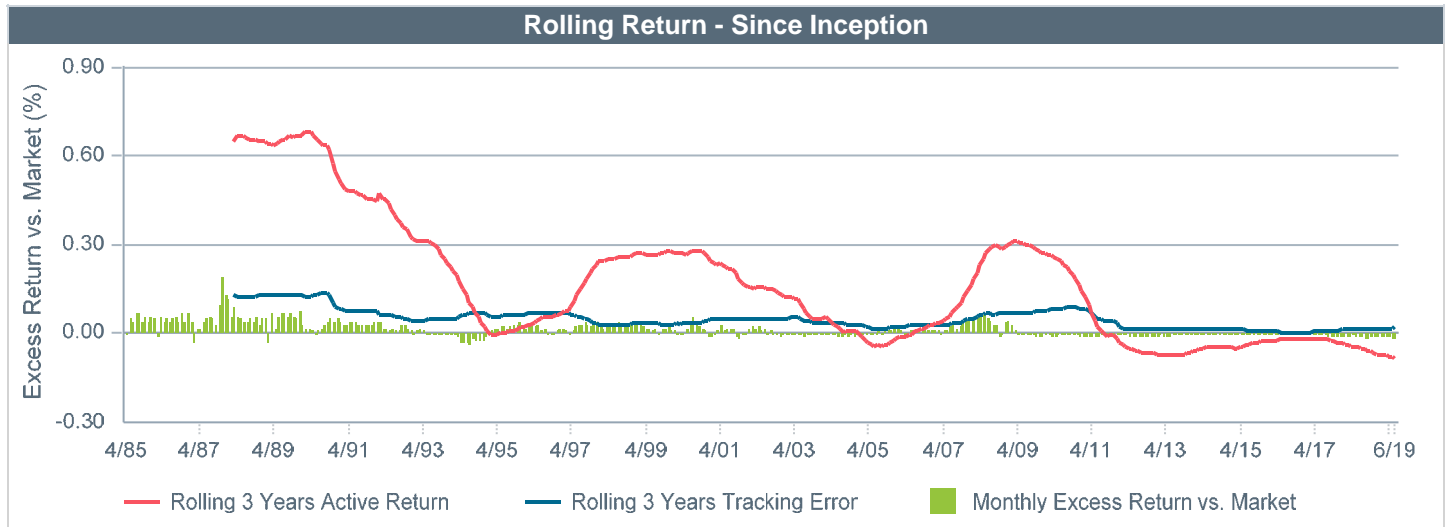
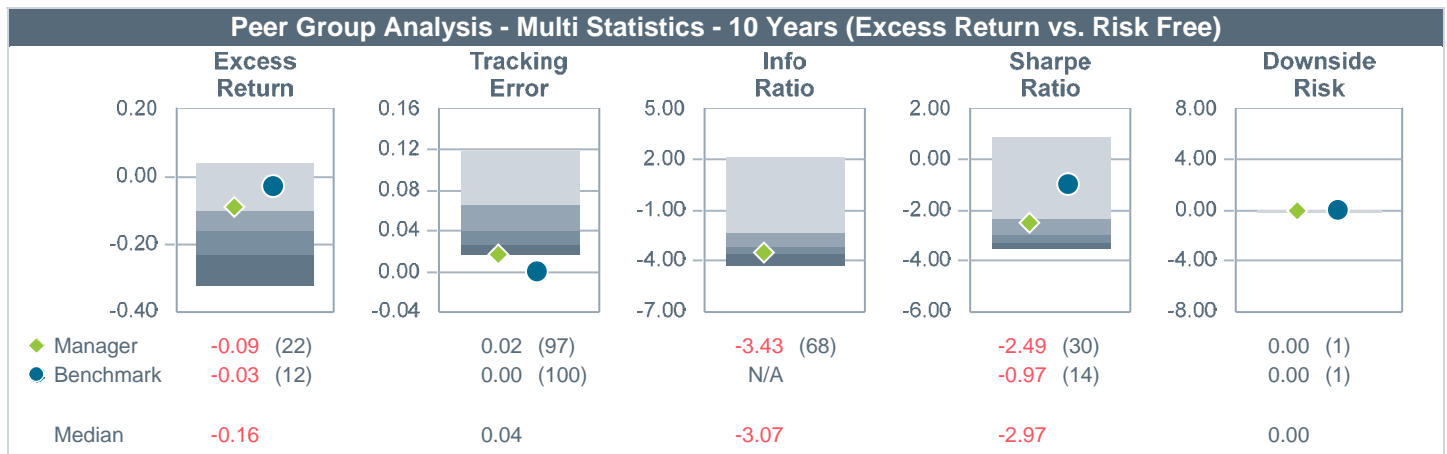
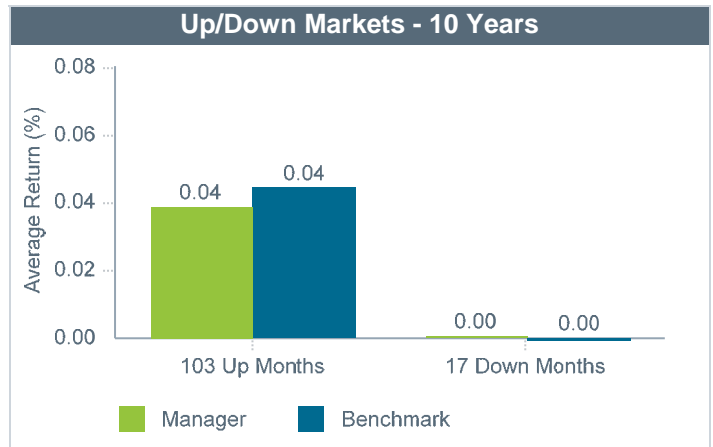
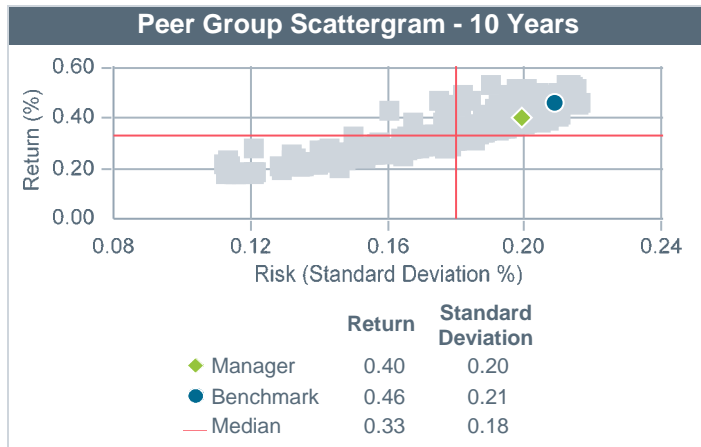
	Actual Correlation
NCREIF Timberland Index	0.07
S&P 500 Index (Cap Wtd)	-0.11
Russell 2000 Index	-0.09
MSCI EAFE Index (USD) (Net)	-0.08
MSCI Emg Mkts Index (USD) (Net)	-0.08
Bloomberg US Agg Bond Index	0.02
Bloomberg US Trsy US TIPS Index	0.14
Wilshire US REIT Index	-0.11
HFRI FOF Comp Index	-0.01
Bloomberg Cmdty Index (TR)	0.05
ICE BofAML 3 Mo US T-Bill Index	0.02
Cons Price Index (Unadjusted)	0.21



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

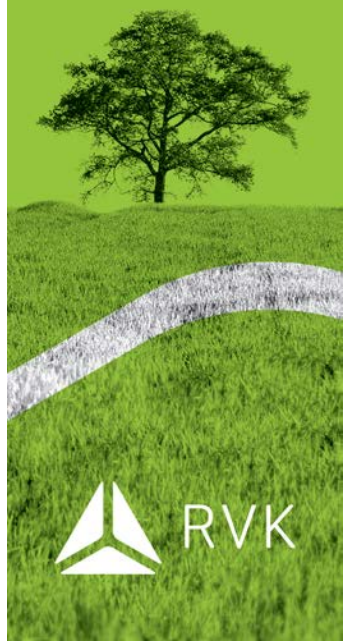


Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017	2016	2015	2014
Manager	0.57	2.15	1.27	0.78	0.56	0.40	1.73	0.79	0.25	0.01	0.01
Benchmark	0.61	2.30	1.36	0.84	0.62	0.46	1.86	0.84	0.27	0.03	0.02
Difference	-0.04	-0.15	-0.09	-0.06	-0.06	-0.06	-0.13	-0.05	-0.02	-0.02	-0.01
Peer Group Median	0.52	1.96	1.06	0.64	0.46	0.33	1.54	0.55	0.06	0.01	0.01
Rank	20	21	19	19	20	22	22	17	18	35	48
Population	819	806	743	641	626	579	815	830	742	696	989



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.

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

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