



Quarterly Investment Performance Analysis

City of Jacksonville Employees' Retirement System

Period Ended: December 31, 2021



Table of Contents

1	Capital Markets Review	Page 3
2	Total Fund	Page 10
3	Composite Profiles	Page 30
4	Investment Manager Profiles	Page 43
5	Addendum & Glossary	Page 66

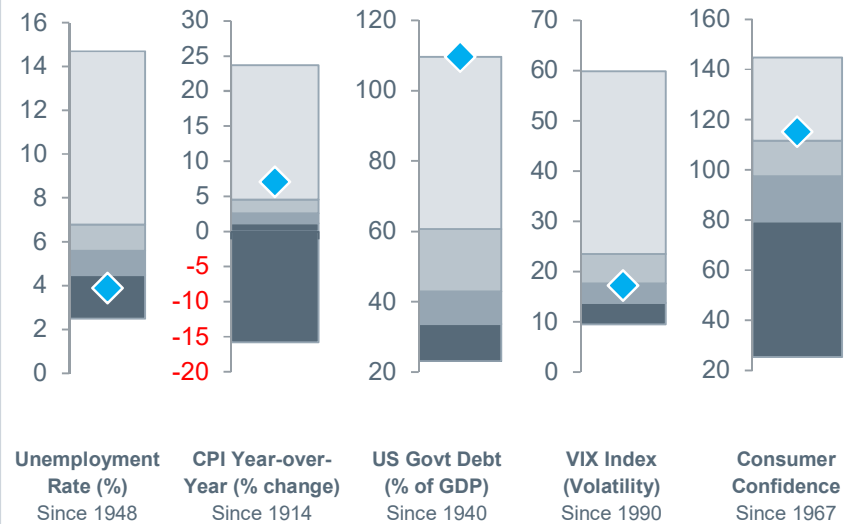
Capital Markets Review



Fourth Quarter Economic Environment

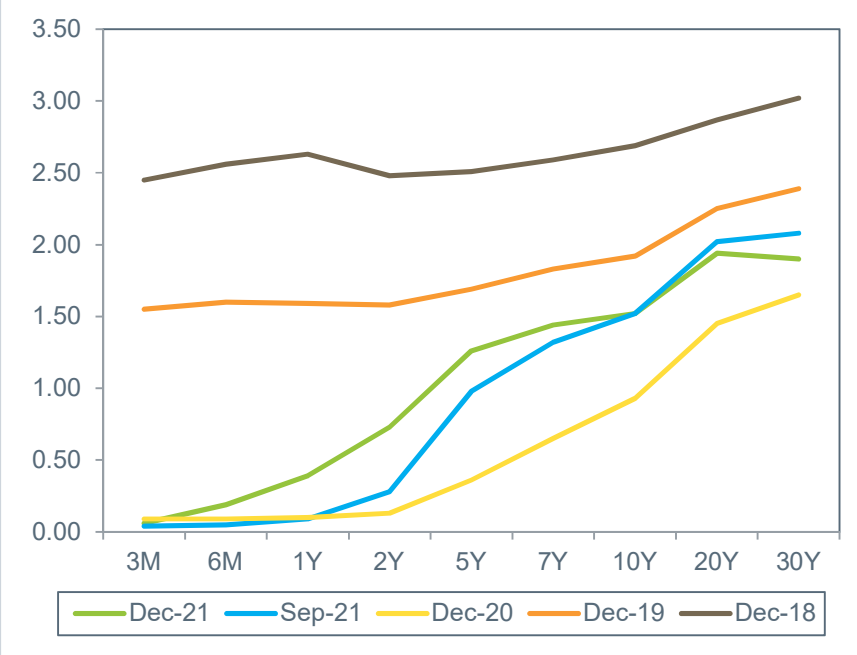
Inflation remained a top concern among investors as the year-over-year change in the CPI reached 7.0% according to the December reading, the highest level in 30 years. Nevertheless, consumer demand and the ability of companies to pass along increasing costs have buoyed corporate profits. Employment data has indicated mixed progress and has been complicated by releases missing expectations, only to be revised higher in subsequent reports. However, strong wage growth and a declining unemployment rate reflect incremental improvement in labor conditions. Headlines were dominated by the emergence of the omicron variant which early studies suggest spreads more quickly, but causes fewer hospitalizations. Continued vaccination efforts and the development of new treatments countered concerns regarding the increased spread of the virus. GDP growth estimates for 2022 were impacted with forecasts trending lower, but most continue to reflect healthy growth expected next year. For instance, the IMF released a 2022 GDP growth forecast of 4.9% in October representing a decline of 0.1% from its July estimate. In response to the current environment, the Federal Reserve has started to reduce measures taken during the pandemic. The tapering of bond purchases began in November and accelerated in December, a trend expected to continue in 2022. In response to these conditions, Treasury yields have trended upwards and credit spreads widened in the quarter.

Key Economic Indicators



Economic Indicators	Dec-21	Sep-21	Dec-20	Dec-18	20 Yr
Federal Funds Rate (%)	0.07 ▲	0.06	0.09	2.40	1.30
Breakeven Infl. - 5 Yr (%)	2.91 ▲	2.53	1.97	1.49	1.86
Breakeven Infl. - 10 Yr (%)	2.59 ▲	2.38	1.99	1.71	2.04
CPI YoY (Headline) (%)	7.0 ▲	5.4	1.4	1.9	2.2
Unemployment Rate (%)	3.9 ▼	4.7	6.7	3.9	6.1
Real GDP YoY (%)	5.5 ▲	4.9	-2.3	2.3	1.9
PMI - Manufacturing	58.8 ▼	60.5	60.5	54.9	53.5
USD Total Wtd Idx	115.32 ▲	114.67	111.33	115.57	103.10
WTI Crude Oil per Barrel (\$)	75.2 ▲	75.0	48.5	45.4	64.4
Gold Spot per Oz (\$)	1,829 ▲	1,757	1,898	1,282	1,086

Treasury Yield Curve (%)



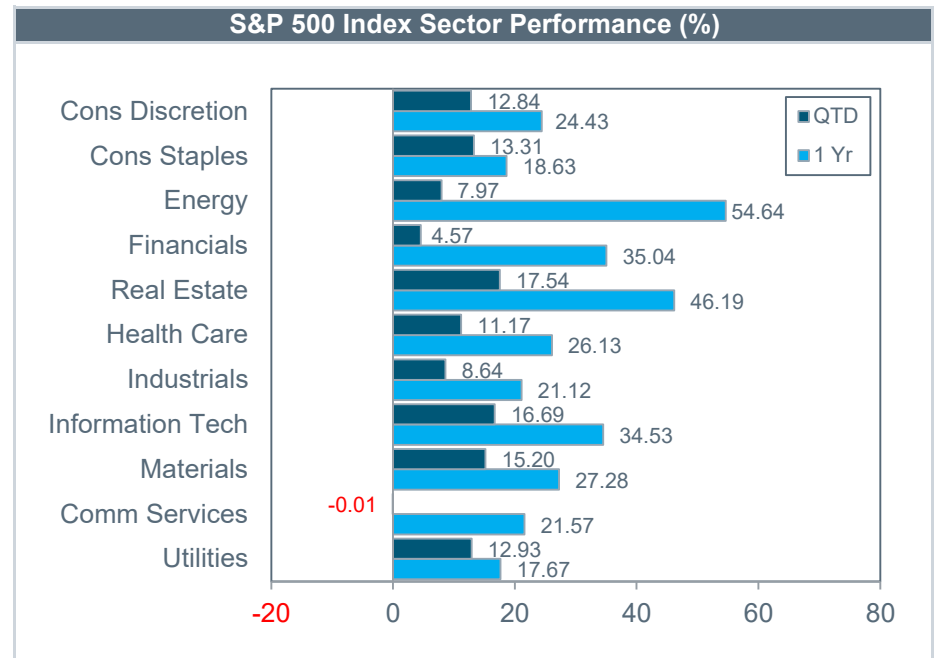
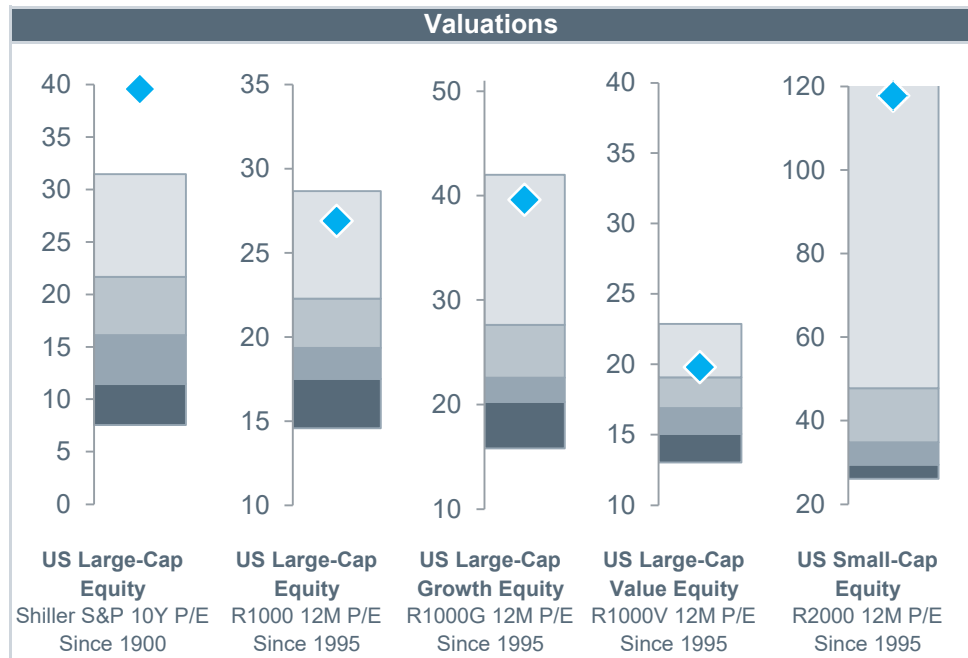
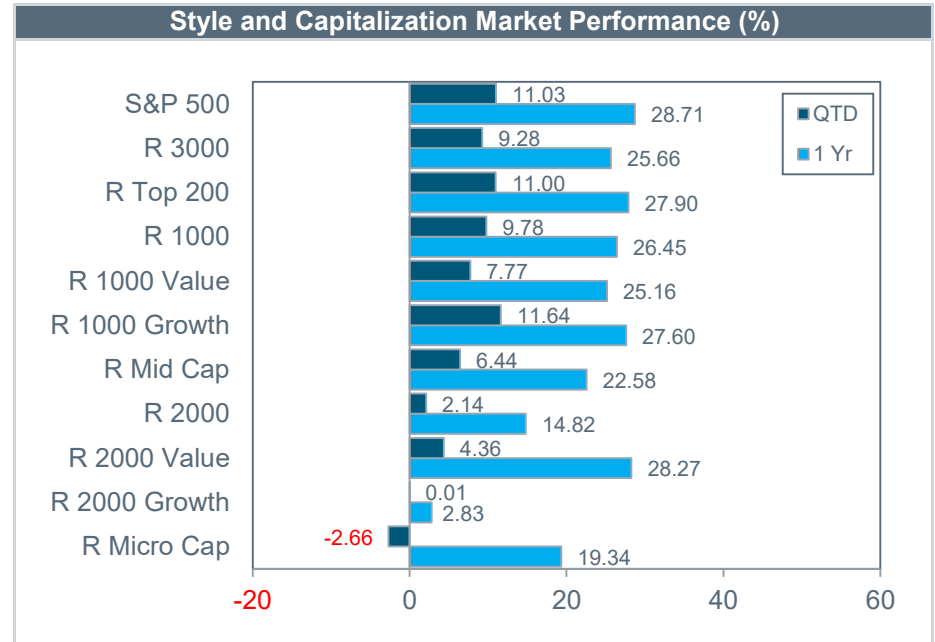
Market Performance (%)	QTD	CYTD	1 Yr	5 Yr	10 Yr
S&P 500 (Cap Wtd)	11.03	28.71	28.71	18.47	16.55
Russell 2000	2.14	14.82	14.82	12.02	13.23
MSCI EAFE (Net)	2.69	11.26	11.26	9.55	8.03
MSCI EAFE SC (Net)	0.07	10.10	10.10	11.04	10.80
MSCI Emg Mkts (Net)	-1.31	-2.54	-2.54	9.87	5.49
Bloomberg US Agg Bond	0.01	-1.55	-1.55	3.57	2.90
ICE BofAML 3 Mo US T-Bill	0.01	0.05	0.05	1.14	0.63
NCREIF ODCE (Gross)	7.97	22.17	22.17	8.71	10.45
FTSE NAREIT Eq REIT (TR)	16.31	43.24	43.24	10.75	11.38
HFRI FOF Comp	0.29	6.03	6.03	5.68	4.54
Bloomberg Cmdty (TR)	-1.56	27.11	27.11	3.66	-2.85

Fourth Quarter Review

Broad Market
 US equity markets finished the year with a strong Q4, providing low double digit returns despite heightened volatility due to the spread of the Omicron variant, inflation fears, and global growth concerns. Volatility expectations, as measured by the CBOE Volatility Index, jumped above 30 in early December. However, investor uncertainty subsided shortly thereafter. The S&P 500 return of 28.7% in 2021 was its third highest calendar year return since 2000.

Market Cap
 Large-cap stocks significantly outperformed their smaller-cap counterparts. The Russell 2000 Index returned 2.1% compared to 11.0% for the S&P 500.

Style and Sector
 At the beginning of Q4, growth stocks outperformed value stocks across all market capitalizations before a rotation into value stocks occurred later in the period. Active management performed well in Q4, except for large-cap growth managers, who struggled to keep up with their respective benchmarks.



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.



Fourth Quarter Review

Developed Markets

While international markets lagged behind the US equity market in Q4, developed international equities continued to participate in the recovery despite the COVID-19 surge led by the new Omicron variant. The MSCI EAFE Index saw a positive return of 2.7% for the quarter as growth stocks continued to outperform value from the prior quarter resulting in both growth and value performing in line for the calendar year. Large-cap stocks outperformed small-cap stocks.

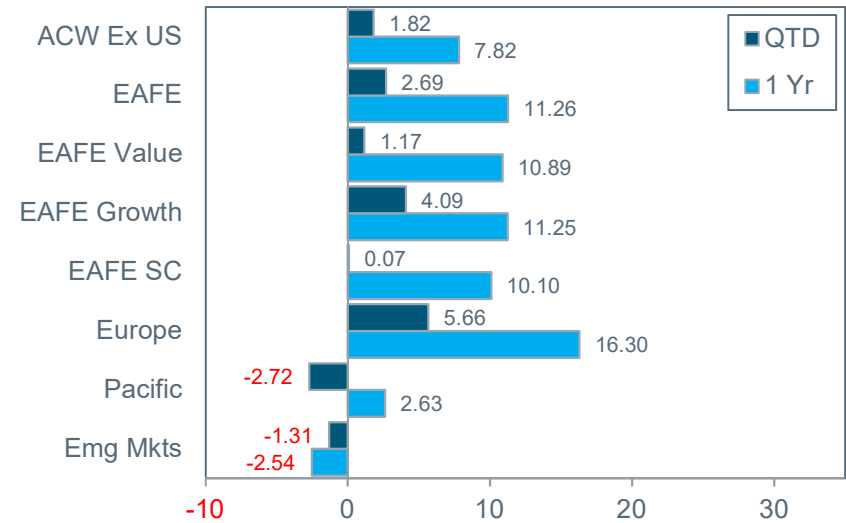
Emerging Markets

Emerging markets experienced moderately negative returns in Q4 with the MSCI EM Index returning -1.3% for the period. Value stocks continued their outperformance over growth while small-cap stocks outperformed large.

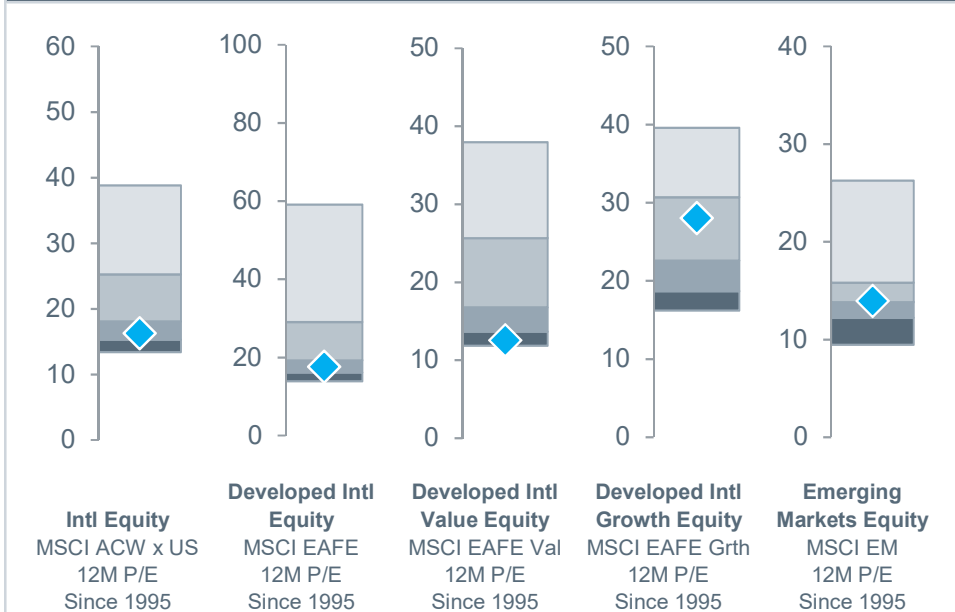
Market Cap & Style

In international markets, growth stocks outperformed value, while large-cap stocks outperformed small-cap. In emerging markets, value stocks outperformed growth, while small-cap stocks outperformed large-cap.

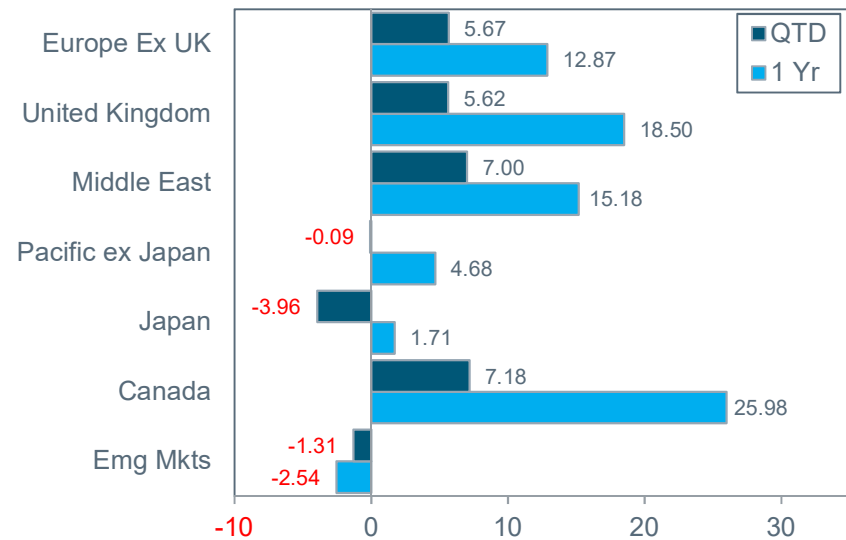
MSCI Style and Capitalization Market Performance (%)



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.



Fourth Quarter Review

Broad Market

The Bloomberg US Aggregate Index ended the quarter flat, capping off the third most negative calendar year on record for the index with an overall annual return of -1.5%. An abrupt rise in interest rates at the start of the year due to inflation concerns and an uncertain outlook, followed by interest rate volatility and an ongoing uncertain outlook drove returns and yields.

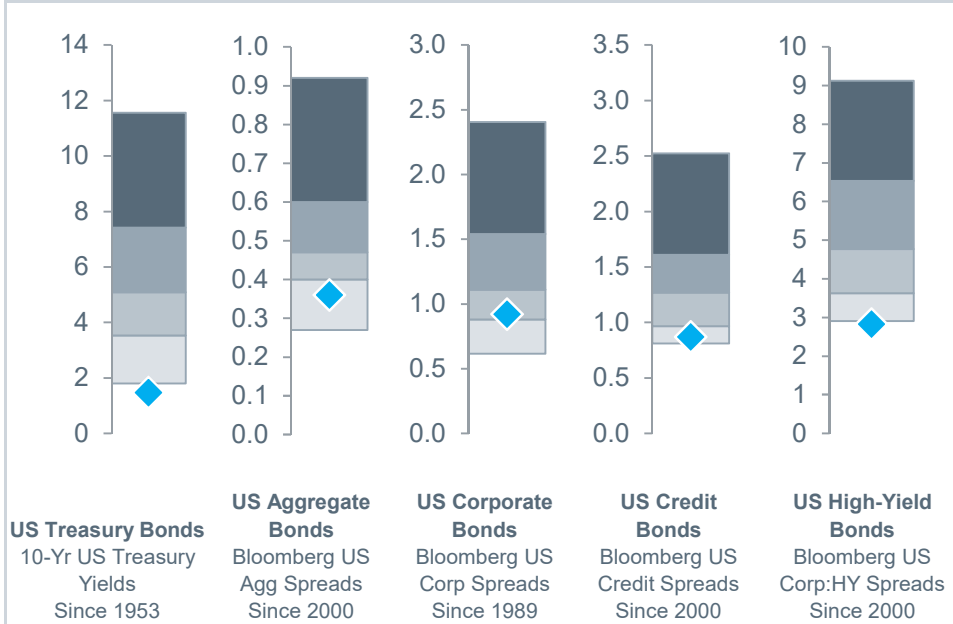
Credit Market

US investment grade credit detracted -1.1% YTD, while US High Yield returned 5.3%, as measured by the Bloomberg US Credit Index and Bloomberg US High Yield Index, respectively. The divergence in returns demonstrates low quality outperformance as investors sought yield in a low interest rate environment.

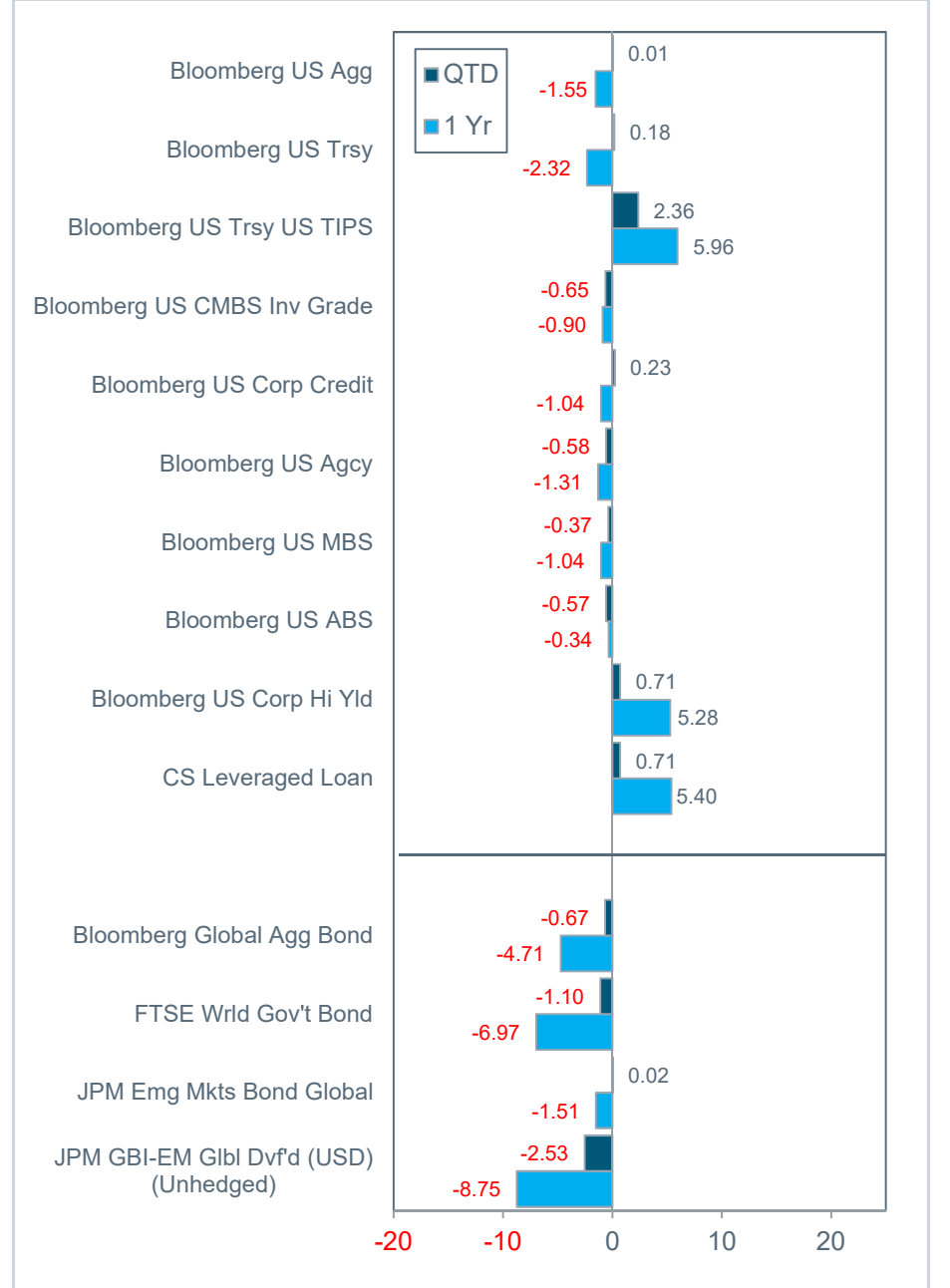
Emerging Market Debt

Despite a positive Q4, emerging market debt largely contracted over 2021, as each of the primary emerging market debt indices declined during the full year period.

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.



Fourth Quarter Review - Absolute Return

General Market - Hedge Funds

Hedge fund results were mixed in Q4. Many high-profile macro and relative value trading firms struggled as the yield curve flattened in October and November, while equity long/short (“ELS”) funds faced headwinds from underperforming crowded trades on the long side of their portfolios amid significant factor rotations. The industry still returned 0.4% during Q4 according to the HFRI Fund Weighted Index, bringing YTD returns to 10.2%, the industry’s third straight year of double-digit returns.

General Market - Global Tactical Asset Allocation (GTAA)

Global Tactical Asset Allocation strategies that RVK follows closely generated disparate performance in Q4. The top performing long-biased GTAA strategies either exclusively held US equity exposure or tended to hold larger proportion of US equities. In contrast, those who underperformed peers tended to hold larger foreign allocations, particularly within Japanese equity and emerging markets equity. Multi-asset managers who target lower correlations, volatility, and market sensitivity also produced disparate absolute returns, though generally with a narrower relative range compared to long-biased peers.

Fourth Quarter Review - Real Assets

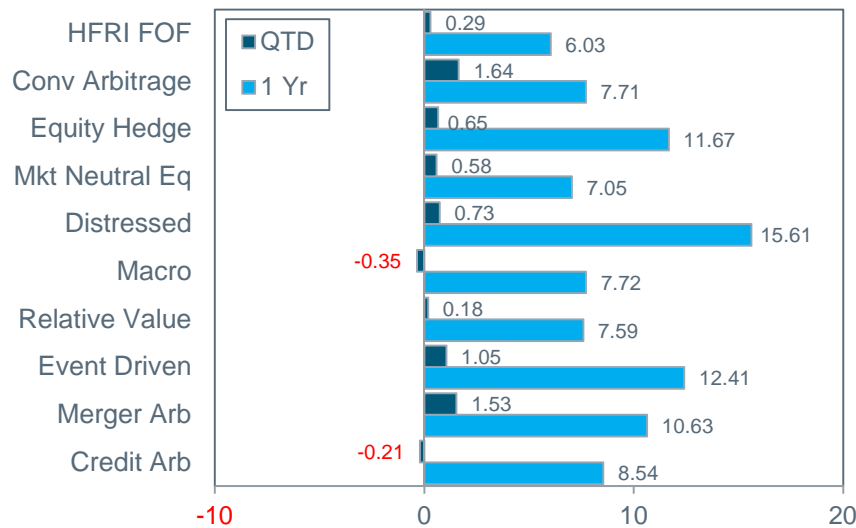
General Market - Diversified Inflation Strategies (DIS)

Diversified Inflation Strategies that RVK follows closely responded to increased inflationary measures with strong positive absolute performance. Managers with larger global listed infrastructure, natural resource equities and REIT exposures posted the strongest positive absolute returns. Whereas on a relative basis, those with larger commodities and TIPS allocations underperformed a strong peer group for the quarter. Inflation, as measured by the year-over-year change in Headline CPI, was reported as 7.0% for December.

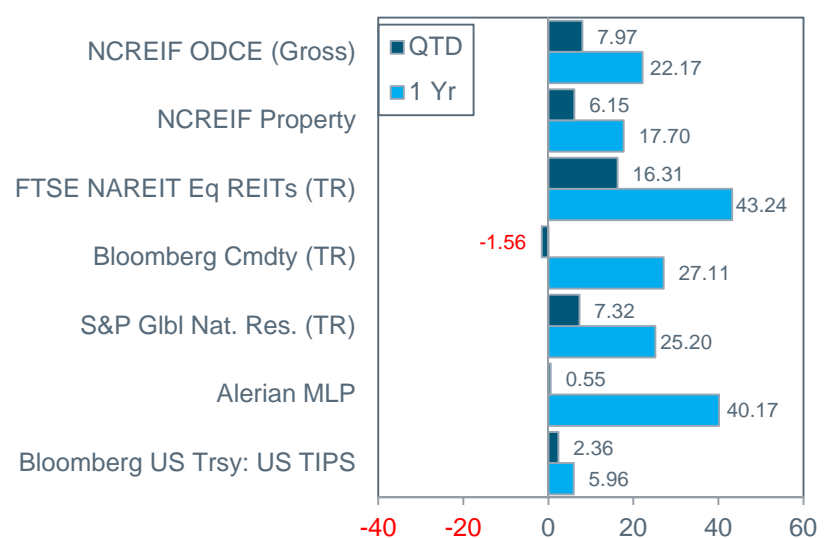
General Market - Real Estate

Core private real estate generated a positive 8.0% return in Q4, as reported by the NFI-ODCE Index, with the total return comprising of 1.0% income and 7.0% price appreciation. While the income return continues to trend in line with historical levels, price appreciation remains elevated. Investors of publicly traded real estate outperformed their private market counterparts by a meaningful margin.

HFRI Hedge Fund Performance (%)



Real Asset Performance (%)



Annual Asset Class Performance

As of December 31, 2021

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	CYTD
Best	39.38	8.44	78.51	27.94	22.49	20.00	38.82	30.14	15.02	21.31	37.28	8.35	31.49	19.96	43.24
	16.23	5.24	58.21	26.85	15.99	18.23	32.39	19.31	9.59	17.13	33.01	1.87	26.00	18.40	28.71
	15.97	2.06	46.78	22.04	13.56	18.06	29.30	13.69	3.20	11.96	25.03	0.01	25.53	18.31	27.11
	11.63	-2.35	31.78	18.88	8.29	17.32	22.78	12.50	1.38	11.77	21.83	-1.26	24.96	16.12	22.17
	11.17	-10.01	28.01	16.83	7.84	16.35	13.94	5.97	0.55	11.19	14.65	-2.08	22.01	12.34	14.82
	10.25	-21.37	27.17	16.36	4.98	16.00	8.96	4.89	0.05	8.77	10.71	-4.02	19.59	10.99	11.26
	6.97	-26.16	26.46	15.12	2.11	15.81	7.44	3.64	-0.27	8.52	7.77	-4.38	18.44	10.88	10.10
	6.60	-33.79	18.91	15.06	0.10	10.94	2.47	3.37	-0.81	6.67	7.62	-4.62	14.32	7.82	6.03
	5.49	-35.65	11.47	10.16	-4.18	8.78	0.07	2.45	-1.44	4.68	7.50	-4.68	8.72	7.51	5.96
	5.00	-37.00	11.41	7.75	-5.72	6.98	-2.02	0.04	-3.30	2.65	5.23	-11.01	8.43	7.11	5.28
	1.87	-37.74	5.93	6.54	-12.14	4.79	-2.60	-2.19	-4.41	2.18	3.54	-11.25	8.39	1.19	0.05
	1.45	-43.38	1.92	6.31	-13.32	4.21	-8.61	-4.30	-4.47	1.00	3.01	-13.79	7.69	0.67	-1.55
	-1.57	-47.01	0.21	5.70	-15.94	0.11	-8.83	-4.95	-14.92	0.51	1.70	-14.58	5.34	-3.12	-2.52
Worst	-15.70	-53.33	-29.76	0.13	-18.42	-1.06	-9.52	-17.01	-24.66	0.33	0.86	-17.89	2.28	-8.00	-2.54
	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



Watch List Managers	Date Added to Watch List	Benchmark	Peer Group	Inception Date	Quantitative Factors						Qualitative Factors	Last Meeting w/Staff or RVK	Rationale for Addition to Watch List	
					Rolling 5-Year Return (GoF) for three consecutive quarters vs. Benchmark			Rolling 5-Year Return (GoF) for three consecutive quarters vs. Peer Group universe			Meaningful Updates			
					5-Years Ending Dec-2021	5-Years Ending Sep-2021	5-Years Ending Jun-2021	5-Years Ending Dec-2021	5-Years Ending Sep-2021	5-Years Ending Jun-2021				
US Equity														
Pinnacle US SMID Cap Growth	Oct-20	R2500 Growth	IM US SMID Cap Growth Equity (SA+CF) Median	Mar-10	✓	✓	✓	✓	✓	✓	N/A	Nov-21	Rolling five-year return (gross of fees) has fallen below the rolling five-year benchmark return for three consecutive quarters, and; Rolling five-year return (gross of fees) has ranked in the bottom third of the peer group for three consecutive quarters.	
Fixed Income														
FT Global Multisector Plus	Oct-20	FT Global Multisector Index	IM Global FI (SA+CF) Median	Sep-07	✗	✗	✗	✗	✗	✗	N/A	Nov-21	Rolling five-year return (gross of fees) has fallen below the rolling five-year benchmark return for three consecutive quarters, and; Rolling five-year return (gross of fees) has ranked in the bottom third of the peer group for three consecutive quarters.	

✓ = strategy exceeds the benchmark / peer group over the stated trailing period.
✗ = strategy does not exceed the benchmark / peer group over the stated trailing period.

Organization, Team, Process, and AUM Developments

Pinnacle US SMID Cap Growth (please refer to page 19 for gross performance)

Firm and product assets have remained stable. There are no recent personnel changes to report nor indications of a change to the investment process. The strategy rebounded during calendar year 2021 after a short-term period of underperformance. The high quality and valuation sensitive approach used by the investment team has fared well as higher multiple and lower quality stocks have depreciated in recent quarters.

Recommendation: No recommended action at this time. RVK views Pinnacle to be in good standing qualitatively with strong recent performance. While we have no current concerns, we continue to recommend they remain on the Watch List and be closely monitored to ensure the long-term performance trend continues to improve.

Franklin Templeton Global Multisector Plus (please refer to page 20 for gross performance)

The Global MultiSector Plus team has remained stable and continues to follow a top-down research-led process with a multi-year investment horizon. Assets have continued to decline, from a peak of over \$54B in 2013 to \$7.6B in 2021 Q4. RVK continues to monitor the asset levels of the strategy across vehicles. Performance QTD lagged the benchmark. Trailing absolute and relative returns remain negative, excluding 10 years and since inception. RVK rates the strategy as neutral and views it as an institutional quality option.

Recommendation: No recommended action at this time. While continued outflows remain concerning, the team and investment process remain stable. Performance for the strategy continues to trail its benchmark and ranks in the bottom third of its peer group over the last three consecutive rolling five-year periods. As such, RVK recommends they remain on the Watch List.



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

As of December 31, 2021

	Allocation		Performance (%)		Allocation		Performance (%)
	Market Value (\$)	%	QTD		Market Value (\$)	%	QTD
US Equity	1,093,096,220	41.02	5.88	Real Estate	424,858,831	15.94	6.75
Eagle Capital Large Cap Value (SA)	282,545,740	10.60	3.18	Harrison Street Core Property, LP	118,026,289	4.43	2.79
Mellon Large Cap Core Index (CF)	319,554,668	11.99	9.77	PGIM Real Estate PRISA II LP (CF)	65,984,506	2.48	7.24
Loomis Sayles Large Cap Growth (CF)	211,270,307	7.93	6.73	Principal US Property (CF)	152,894,031	5.74	10.06
Mellon Small Cap Value Index (CF)	118,433,937	4.44	4.33	UBS Trumbull Property (CF)	86,414,008	3.24	6.04
Pinnacle Associates US SMID Cap Growth (SA)	161,291,566	6.05	3.36	Vanguard RE Idx;ETF (VNQ)	1,539,998	0.06	15.00
International Equity	620,631,028	23.29	-1.49	Diversifying Assets	52,546,796	1.97	13.51
Silchester International Value (CF)	263,649,843	9.89	-0.04	Hancock Timberland (SA)	11,978,744	0.45	3.88
Baillie Gifford International Growth (BGEFX)	215,622,804	8.09	-4.55	Adams Street Private Equity (SA)	29,555,699	1.11	23.62
Acadian Emerging Markets (CF)	141,358,381	5.30	0.70	Hamilton Lane Private Credit (SA)	10,963,390	0.41	1.61
Fixed Income	467,880,002	17.56	-0.66	Dreyfus Gvt Csh Mgt;Inst (DGCXX)	5,618,036	0.21	0.10
Baird Core Fixed Income (SA)	232,832,899	8.74	-0.24	Transition Account	5,229	0.00	N/A
Franklin Templeton Global Multisector Plus (CF)	92,528,025	3.47	-2.47				
Loomis Sayles Multisector Full Discretion (CF)	142,519,078	5.35	-0.16				

Schedule of Investable Assets (Total Assets)

Periods Ending	Beginning Market Value (\$)	Net Cash Flow (\$)	Gain/Loss (\$)	Ending Market Value (\$)	% Return
CYTD	2,469,519,078	-103,517,256	298,634,320	2,664,636,142	12.15

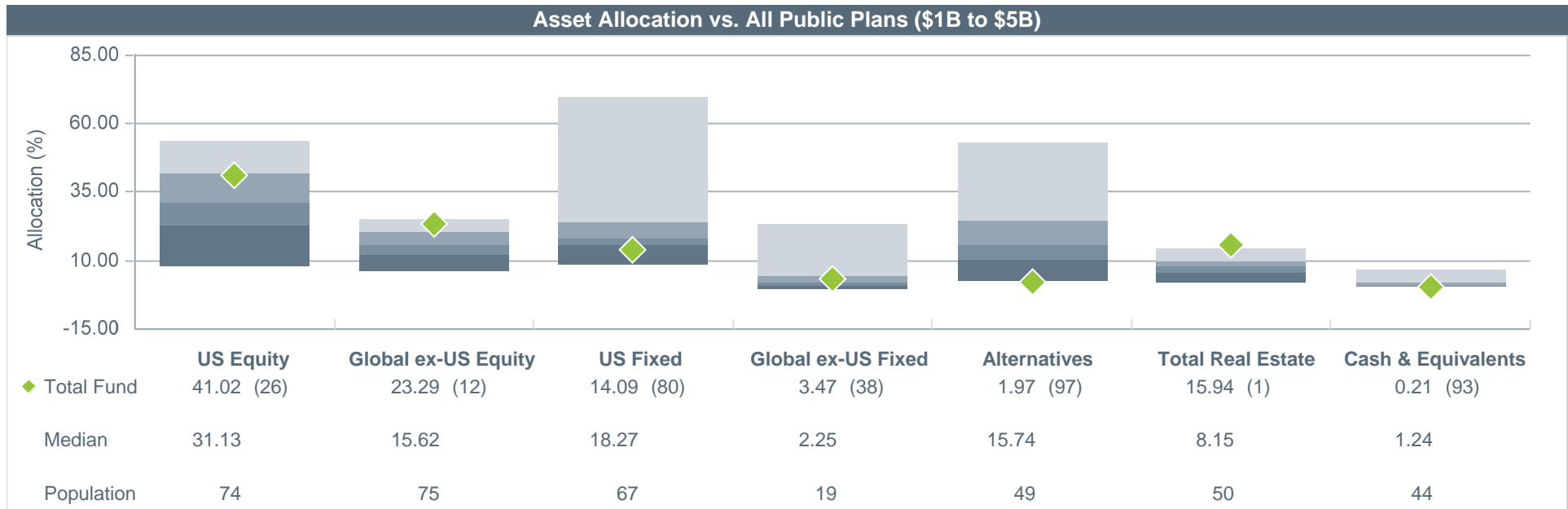
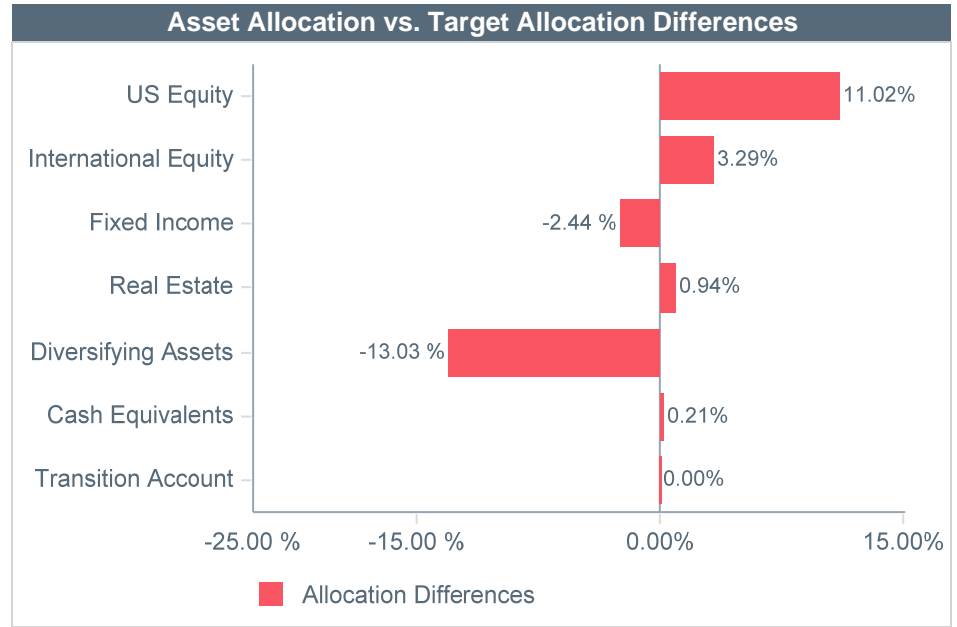
Performance shown is net of fees. Allocations shown may not sum up to 100% exactly due to rounding.



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

As of December 31, 2021

Asset Allocation vs. Target Allocation					
	Market Value (\$)	Allocation (%)	Min (%)	Target (%)	Max (%)
Total Fund	2,664,636,142	100.00	-	100.00	-
US Equity	1,093,096,220	41.02	20.00	30.00	40.00
International Equity	620,631,028	23.29	10.00	20.00	25.00
Fixed Income	467,880,002	17.56	10.00	20.00	30.00
Real Estate	424,858,831	15.94	0.00	15.00	20.00
Diversifying Assets	52,546,796	1.97	0.00	15.00	20.00
Cash Equivalents	5,618,036	0.21	0.00	0.00	10.00
Transition Account	5,229	0.00	0.00	0.00	0.00

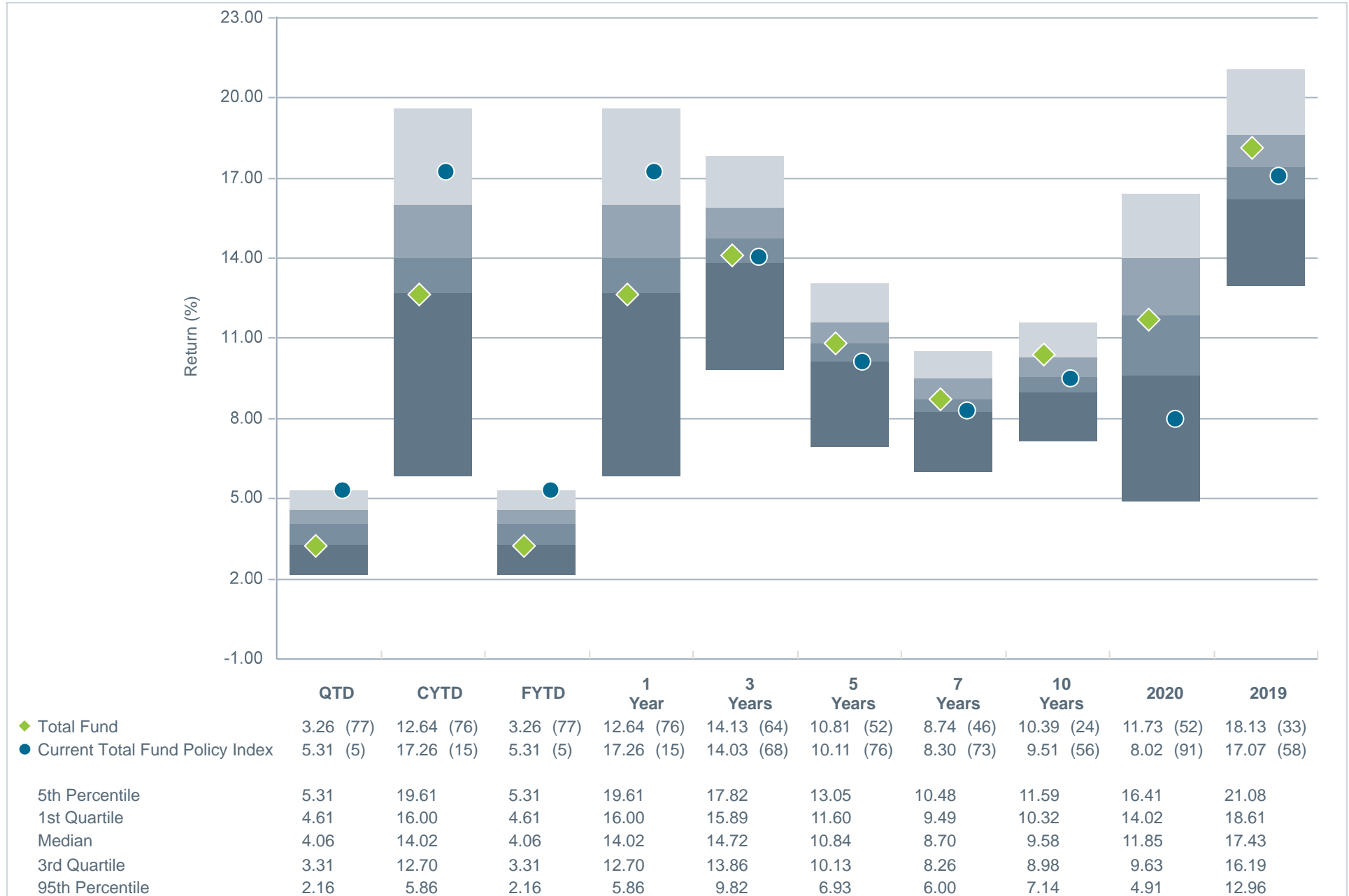


Allocations shown may not sum up to 100% exactly due to rounding. Parentheses contain percentile ranks.



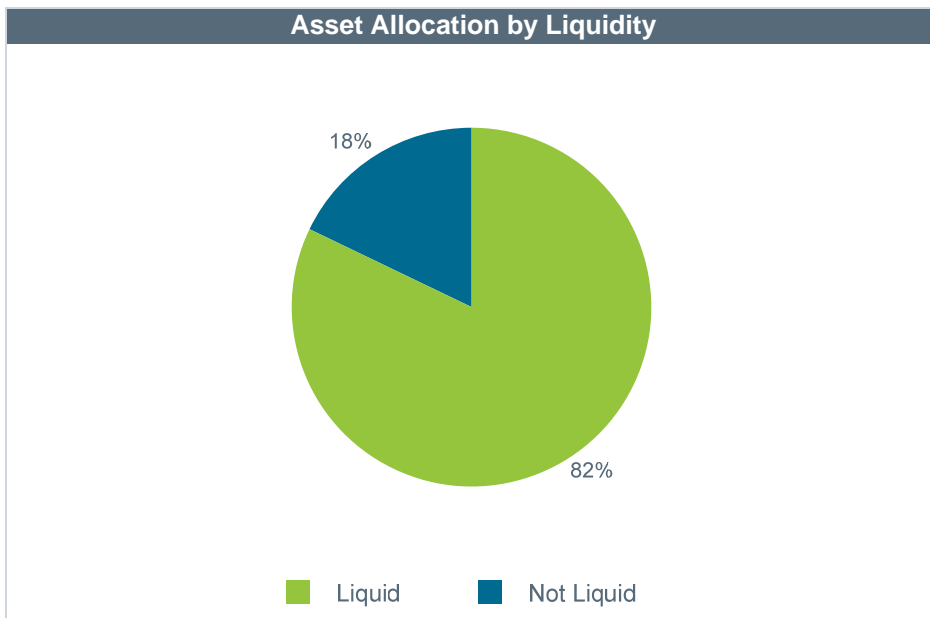
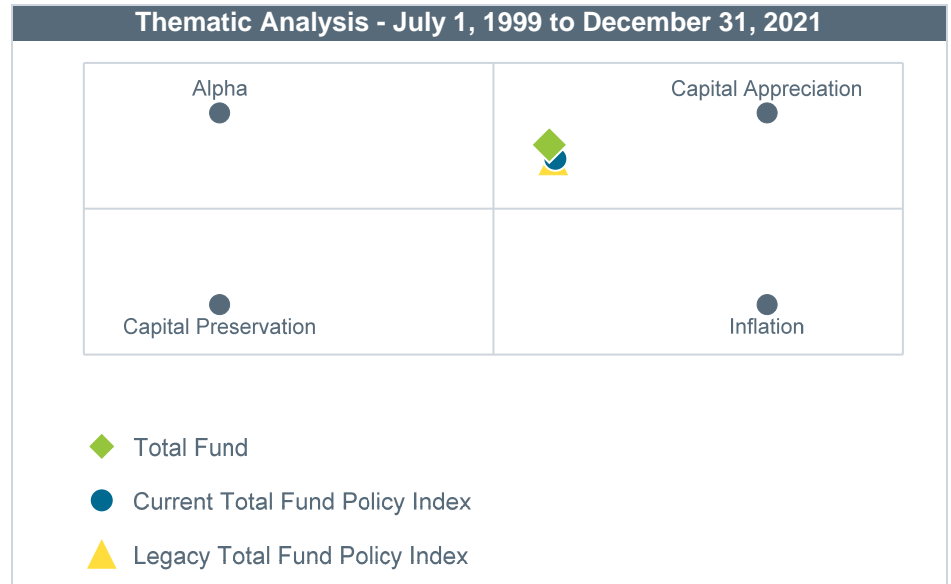
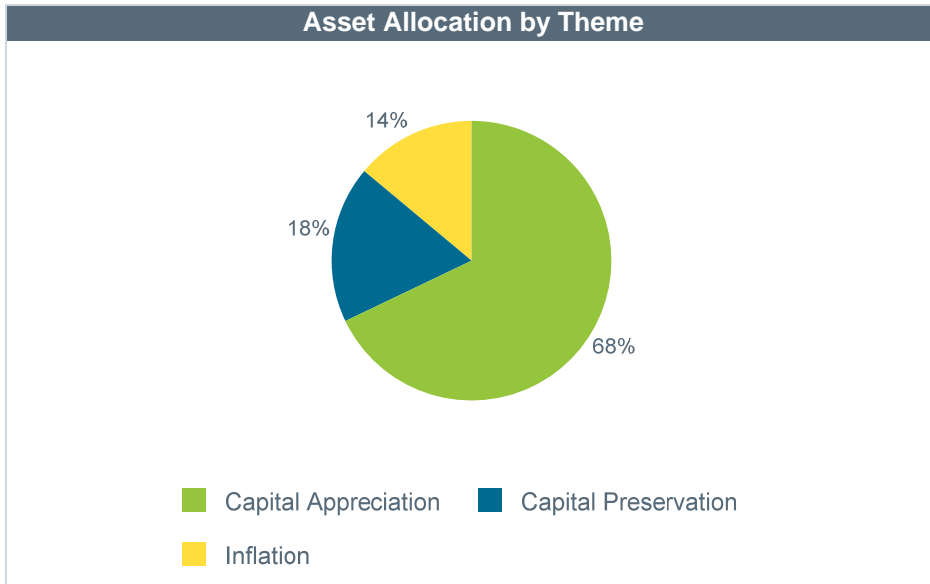
City of Jacksonville Employees' Retirement System
Total Fund vs. All Public Plans (\$1B to \$5B)
Plan Sponsor Peer Group Analysis

As of December 31, 2021



Performance shown is gross of fees. Parentheses contain percentile ranks. Fiscal year for the COJ ends 09/30.





Correlation Matrix - 10 Years

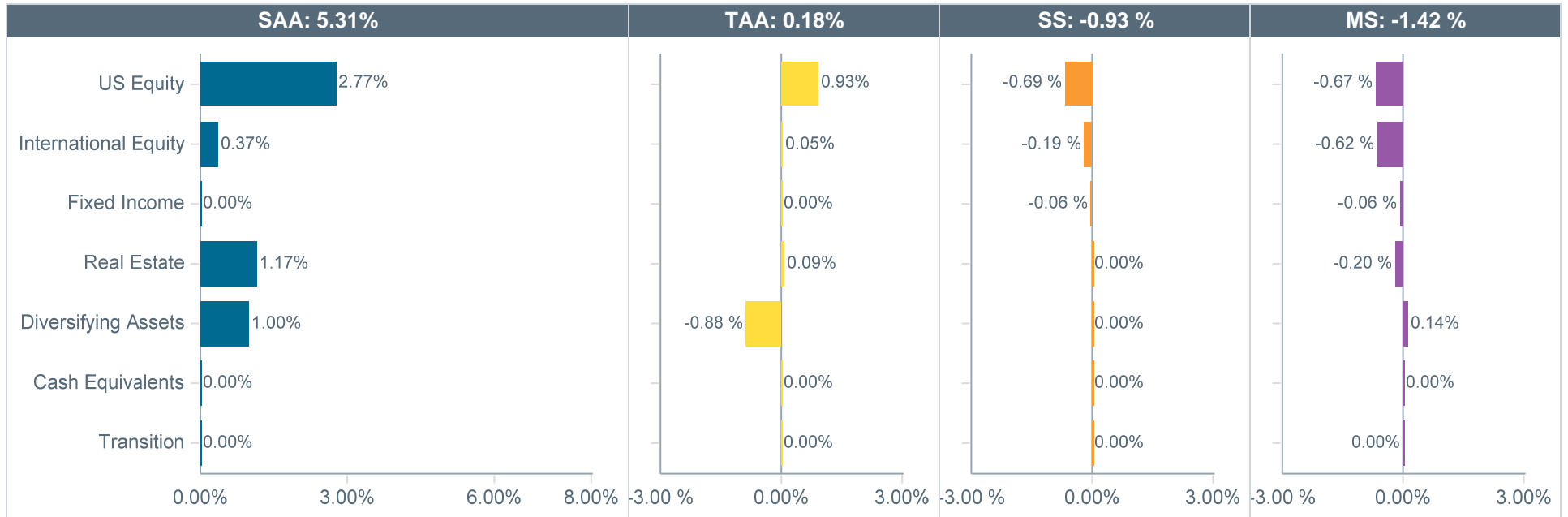
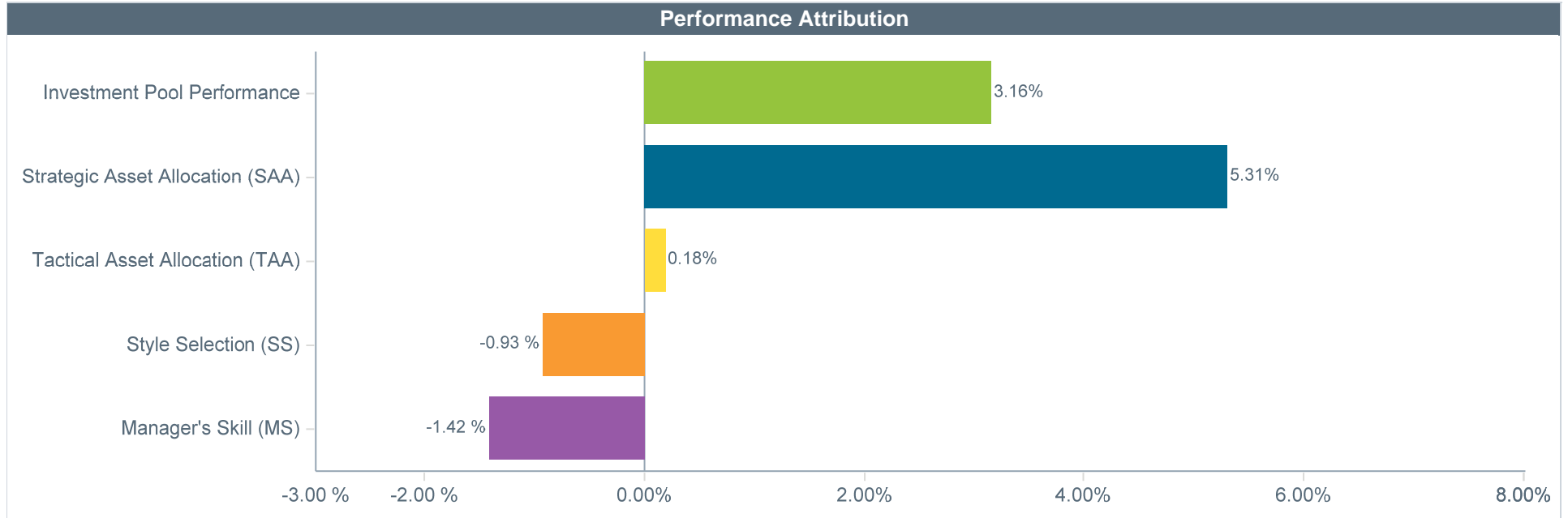
	A	B	C	D
A	1.00			
B	0.64	1.00		
C	-0.17	-0.32	1.00	
D	0.57	0.77	-0.05	1.00

Legend:

- A = HFRI EH: Equity Market Neutral 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.



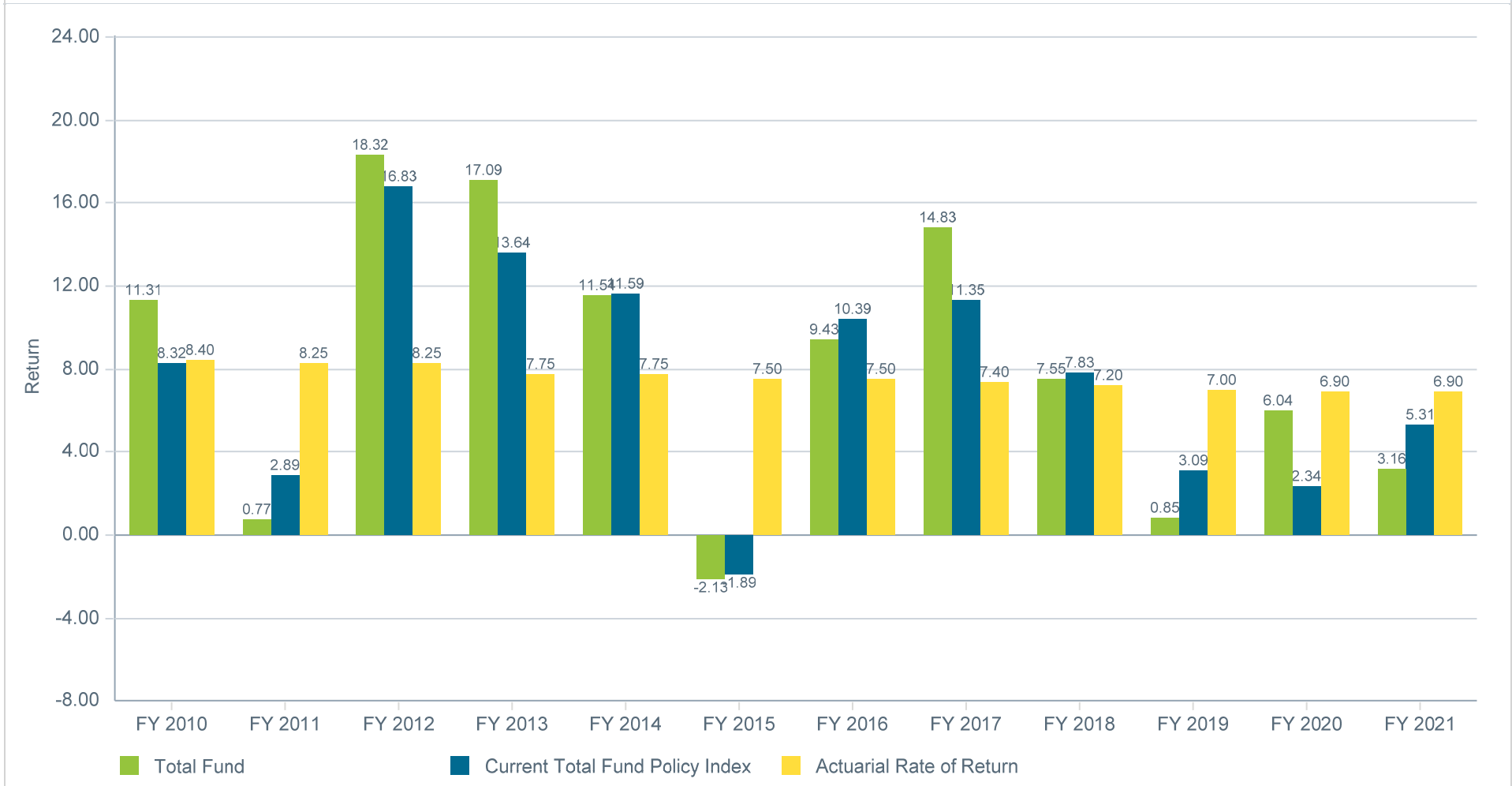


Performance shown is net of fees. Calculation is based on monthly periodicity. See Glossary for additional information regarding the Total Fund Attribution - IDP calculation.

City of Jacksonville Employees' Retirement System
Historical Fiscal Year Returns

As of December 31, 2021

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FYTD
Total Fund	11.31	0.77	18.32	17.09	11.54	-2.13	9.43	14.83	7.55	0.85	6.04	20.98	3.16
Current Total Fund Policy Index	8.32	2.89	16.83	13.64	11.59	-1.89	10.39	11.35	7.83	3.09	2.34	22.78	5.31
Difference	2.99	-2.12	1.49	3.45	-0.05	-0.24	-0.96	3.48	-0.28	-2.24	3.70	-1.80	-2.15
Actuarial Rate of Return	8.40	8.25	8.25	7.75	7.75	7.50	7.50	7.40	7.20	7.00	6.90	6.90	6.90
Difference	2.91	-7.48	10.07	9.34	3.79	-9.63	1.93	7.43	0.35	-6.15	-0.86	14.08	-3.74



Performance shown is net of fees. Fiscal year for the COJ ends 09/30. The Fiscal Year Actuarial Rate of Return changed from 8.40% to 8.25% effective 10/01/2010, changed to 7.75% effective 10/01/2012, changed to 7.50% effective 10/01/2014, changed to 7.40% effective 10/01/2016, changed to 7.20% effective 10/01/2017, changed to 7.00% effective 10/01/2018, changed to 6.90% effective 10/01/2019, and then changed to 6.80% effective 10/01/2021. Please see the Addendum for custom index definitions.



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

As of December 31, 2021

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
Total Fund	2,664,636,142	100.00	3.26	3.26	12.64	12.64	14.13	10.81	8.74	10.39	7.15	07/01/1999
Current Total Fund Policy Index			5.31	5.31	17.26	17.26	14.03	10.11	8.30	9.51	6.48	
Difference			-2.05	-2.05	-4.62	-4.62	0.10	0.70	0.44	0.88	0.67	
All Public Plans (\$1B to \$5B) (Custom PG) Median			4.06	4.06	14.02	14.02	14.72	10.84	8.70	9.58	6.75	
Rank			77	77	76	76	64	52	46	24	29	
Total Equity	1,713,727,248	64.31	3.18	3.18	15.11	15.11	21.29	15.53	12.02	13.72	7.58	07/01/1999
US Equity	1,093,096,220	41.02	5.95	5.95	23.20	23.20	25.30	17.87	13.99	15.94	8.31	07/01/1999
US Equity Index			9.28	9.28	25.66	25.66	25.79	17.97	14.55	16.30	8.10	
Difference			-3.33	-3.33	-2.46	-2.46	-0.49	-0.10	-0.56	-0.36	0.21	
IM U.S. Equity (SA+CF) Median			7.67	7.67	26.18	26.18	23.76	15.72	13.13	15.46	9.99	
Rank			68	68	66	66	41	40	44	44	81	
International Equity	620,631,028	23.29	-1.36	-1.36	3.25	3.25	15.06	11.82	8.81	9.87	6.80	07/01/1999
International Equity Index			1.82	1.82	7.82	7.82	13.18	9.61	6.56	7.28	4.57	
Difference			-3.18	-3.18	-4.57	-4.57	1.88	2.21	2.25	2.59	2.23	
IM International Equity (SA+CF) Median			1.03	1.04	10.08	10.08	14.94	11.07	8.03	9.24	7.72	
Rank			80	80	74	74	50	42	41	40	66	
Fixed Income	467,880,002	17.56	-0.59	-0.59	-1.07	-1.07	3.72	3.19	2.77	3.41	5.15	07/01/1999
Fixed Income Index			-0.03	-0.03	-1.10	-1.10	5.15	3.72	3.11	2.97	4.78	
Difference			-0.56	-0.56	0.03	0.03	-1.43	-0.53	-0.34	0.44	0.37	
IM Global Fixed Income (SA+CF) Median			-0.19	-0.19	0.17	0.17	6.15	4.83	3.83	3.87	6.39	
Rank			62	62	61	61	87	90	71	56	69	
Real Estate	424,858,831	15.94	6.90	6.90	15.43	15.43	6.68	7.42	8.23	9.15	6.57	12/01/2005
NCREIF ODCE Index (AWA) (Gross)			7.97	7.97	22.17	22.17	9.20	8.71	9.60	10.45	7.64	
Difference			-1.07	-1.07	-6.74	-6.74	-2.52	-1.29	-1.37	-1.30	-1.07	
Diversifying Assets	52,546,796	1.97	13.68	13.68	47.46	47.46	10.29	5.17	2.62	6.66	7.47	03/01/2011
Diversifying Assets Index			6.71	6.71	36.38	36.38	6.09	2.10	0.57	3.81	3.94	
Difference			6.97	6.97	11.08	11.08	4.20	3.07	2.05	2.85	3.53	

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



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

As of December 31, 2021

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
US Equity												
Eagle Capital Large Cap Value (SA)	282,545,740	10.60	3.36	3.36	28.01	28.01	24.96	18.42	14.98	17.14	12.67	02/01/2007
Russell 1000 Val Index			7.77	7.77	25.16	25.16	17.64	11.16	9.73	12.97	7.46	
Difference			-4.41	-4.41	2.85	2.85	7.32	7.26	5.25	4.17	5.21	
IM U.S. Large Cap Value Equity (SA+CF) Median			8.25	8.25	27.78	27.78	19.87	12.94	11.08	13.95	8.93	
Rank			98	98	48	48	12	8	8	3	1	
Mellon Large Cap Core Index (CF)	319,554,668	11.99	9.78	9.78	26.49	26.49	N/A	N/A	N/A	N/A	21.84	05/01/2019
Russell 1000 Index			9.78	9.78	26.45	26.45	26.21	18.43	14.84	16.54	21.88	
Difference			0.00	0.00	0.04	0.04	N/A	N/A	N/A	N/A	-0.04	
IM U.S. Large Cap Core Equity (SA+CF) Median			10.24	10.24	27.83	27.83	25.23	18.03	14.45	16.33	20.94	
Rank			58	58	59	59	N/A	N/A	N/A	N/A	38	
Loomis Sayles Large Cap Growth (CF)	211,270,307	7.93	6.84	6.84	19.51	19.51	28.18	N/A	N/A	N/A	20.74	08/01/2017
Russell 1000 Grth Index			11.64	11.64	27.60	27.60	34.08	25.32	19.58	19.79	24.60	
Difference			-4.80	-4.80	-8.09	-8.09	-5.90	N/A	N/A	N/A	-3.86	
IM U.S. Large Cap Growth Equity (SA+CF) Median			9.33	9.33	25.26	25.26	31.11	23.66	18.01	18.84	22.71	
Rank			74	74	81	81	77	N/A	N/A	N/A	72	
Mellon Small Cap Value Index (CF)	118,433,937	4.44	4.34	4.34	N/A	N/A	N/A	N/A	N/A	N/A	5.94	04/01/2021
Russell 2000 Val Index			4.36	4.36	28.27	28.27	17.99	9.07	9.45	12.03	5.86	
Difference			-0.02	-0.02	N/A	N/A	N/A	N/A	N/A	N/A	0.08	
IM U.S. Small Cap Value Equity (SA+CF) Median			6.86	6.86	29.43	29.43	20.14	10.85	10.73	13.42	9.62	
Rank			88	88	N/A	N/A	N/A	N/A	N/A	N/A	83	
Pinnacle Associates US SMID Cap Growth (SA)	161,291,566	6.05	3.36	3.36	12.71	12.71	28.61	19.16	14.27	17.01	16.24	03/01/2010
Russell 2500 Grth Index			0.20	0.20	5.04	5.04	25.09	17.65	13.78	15.75	15.38	
Difference			3.16	3.16	7.67	7.67	3.52	1.51	0.49	1.26	0.86	
IM U.S. SMID Cap Growth Equity (SA+CF) Median			4.64	4.64	17.19	17.19	29.43	21.51	16.16	17.46	17.04	
Rank			58	58	60	60	53	66	68	56	69	

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

As of December 31, 2021

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
International Equity												
Silchester International Value (CF)	263,649,843	9.89	0.10	0.10	12.52	12.52	9.99	8.01	7.22	9.44	9.90	06/01/2009
MSCI EAFE Val Index (USD) (Net)			1.17	1.17	10.89	10.89	7.82	5.34	3.65	5.81	5.38	
Difference			-1.07	-1.07	1.63	1.63	2.17	2.67	3.57	3.63	4.52	
IM EAFE Value (SA+CF) Median			1.64	1.64	11.36	11.36	11.42	7.92	6.12	7.88	8.13	
Rank			89	89	40	40	83	50	24	26	19	
Baillie Gifford International Growth (BGEFX)	215,622,804	8.09	-4.43	-4.43	-8.88	-8.88	27.31	20.36	14.07	13.73	13.11	06/01/2009
Baillie Gifford Index			2.37	2.37	5.09	5.09	17.82	12.60	8.99	9.60	9.11	
Difference			-6.80	-6.80	-13.97	-13.97	9.49	7.76	5.08	4.13	4.00	
Baillie Gifford Spliced Index			1.82	1.82	7.82	7.82	13.73	9.66	6.83	8.08	7.55	
Difference			-6.25	-6.25	-16.70	-16.70	13.58	10.70	7.24	5.65	5.56	
IM ACWI Ex US Growth (SA+CF) Median			1.94	1.94	8.80	8.80	19.45	14.10	10.44	11.01	10.91	
Rank			100	100	100	100	8	11	11	12	10	
Acadian Emerging Markets (CF)	141,358,381	5.30	0.85	0.85	8.59	8.59	12.90	10.27	6.28	6.63	4.67	02/01/2011
MSCI Emg Mkts Index (USD) (Net)			-1.31	-1.31	-2.54	-2.54	10.94	9.87	6.11	5.49	3.34	
Difference			2.16	2.16	11.13	11.13	1.96	0.40	0.17	1.14	1.33	
IM Emerging Markets Equity (SA+CF) Median			-0.67	-0.67	1.20	1.20	13.14	10.82	7.25	7.10	4.84	
Rank			22	22	27	27	53	60	69	65	54	
Fixed Income												
Baird Core Fixed Income (SA)	232,832,899	8.74	-0.18	-0.18	N/A	N/A	N/A	N/A	N/A	N/A	1.03	03/01/2021
Bloomberg US Agg Bond Index			0.01	0.01	-1.55	-1.55	4.79	3.57	3.00	2.90	0.62	
Difference			-0.19	-0.19	N/A	N/A	N/A	N/A	N/A	N/A	0.41	
IM U.S. Broad Market Core Fixed Income (SA+CF) Median			-0.04	-0.04	-1.23	-1.23	5.47	4.10	3.51	3.51	0.91	
Rank			82	82	N/A	N/A	N/A	N/A	N/A	N/A	37	
Franklin Templeton Global Multisector Plus (CF)	92,528,025	3.47	-2.37	-2.37	-5.78	-5.78	-3.39	-0.98	-0.55	2.18	5.18	09/01/2007
Frank. Temp. Global Multisector Index			-0.70	-0.70	-4.51	-4.51	3.70	3.45	2.37	1.96	3.41	
Difference			-1.67	-1.67	-1.27	-1.27	-7.09	-4.43	-2.92	0.22	1.77	
IM Global Fixed Income (SA+CF) Median			-0.19	-0.19	0.17	0.17	6.15	4.83	3.83	3.87	4.84	
Rank			99	99	88	88	100	100	100	76	39	
Loomis Sayles Multisector Full Discretion (CF)	142,519,078	5.35	-0.07	-0.07	0.45	0.45	8.27	6.68	5.59	7.07	7.00	10/01/2007
Bloomberg Gbl Agg Bond Index			-0.67	-0.67	-4.71	-4.71	3.59	3.36	2.22	1.77	3.07	
Difference			0.60	0.60	5.16	5.16	4.68	3.32	3.37	5.30	3.93	
IM Global Fixed Income (SA+CF) Median			-0.19	-0.19	0.17	0.17	6.15	4.83	3.83	3.87	4.40	
Rank			42	42	47	47	29	13	26	13	8	

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

As of December 31, 2021

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
Real Estate												
Harrison Street Core Property, LP	118,026,289	4.43	2.79	2.79	8.57	8.57	6.66	7.96	N/A	N/A	7.73	11/01/2015
NCREIF ODCE Index (AWA) (Gross)			7.97	7.97	22.17	22.17	9.20	8.71	9.60	10.45	9.06	
Difference			-5.18	-5.18	-13.60	-13.60	-2.54	-0.75	N/A	N/A	-1.33	
PGIM Real Estate PRISA II LP (CF)	65,984,506	2.48	7.40	7.40	16.62	16.62	7.58	8.53	9.37	N/A	9.37	01/01/2015
NCREIF ODCE Index (AWA) (Gross)			7.97	7.97	22.17	22.17	9.20	8.71	9.60	10.45	9.60	
Difference			-0.57	-0.57	-5.55	-5.55	-1.62	-0.18	-0.23	N/A	-0.23	
Principal US Property (CF)	152,894,031	5.74	10.27	10.27	23.75	23.75	10.38	9.87	10.57	N/A	10.98	01/01/2014
NCREIF ODCE Index (AWA) (Gross)			7.97	7.97	22.17	22.17	9.20	8.71	9.60	10.45	9.96	
Difference			2.30	2.30	1.58	1.58	1.18	1.16	0.97	N/A	1.02	
UBS Trumbull Property (CF)	86,414,008	3.24	6.25	6.25	10.88	10.88	1.36	3.42	5.27	6.88	5.74	12/01/2005
NCREIF ODCE Index (AWA) (Gross)			7.97	7.97	22.17	22.17	9.20	8.71	9.60	10.45	7.64	
Difference			-1.72	-1.72	-11.29	-11.29	-7.84	-5.29	-4.33	-3.57	-1.90	
Vanguard RE Idx;ETF (VNQ)	1,539,998	0.06	15.00	15.00	40.45	40.45	19.94	11.10	9.46	11.24	14.48	12/01/2008
Custom REITs Index			14.94	14.94	40.56	40.56	20.08	11.66	9.87	11.76	15.27	
Difference			0.06	0.06	-0.11	-0.11	-0.14	-0.56	-0.41	-0.52	-0.79	
Diversifying Assets												
Hancock Timberland (SA)	11,978,744	0.45	3.88	3.88	19.14	19.14	8.87	9.42	8.28	8.01	4.85	10/01/2006
NCREIF Timberland Index			4.56	4.56	9.17	9.17	3.69	3.58	3.64	5.30	5.42	
Difference			-0.68	-0.68	9.97	9.97	5.18	5.84	4.64	2.71	-0.57	
Adams Street Private Equity (SA)	29,555,699	1.11	23.62	23.62	43.71	43.71	N/A	N/A	N/A	N/A	36.45	11/01/2020
S&P 500 Index+3%			11.85	11.85	32.57	32.57	29.85	22.03	18.38	20.05	44.37	
Difference			11.77	11.77	11.14	11.14	N/A	N/A	N/A	N/A	-7.92	
Hamilton Lane Private Credit (SA)	10,963,390	0.41	2.32	2.32	N/A	N/A	N/A	N/A	N/A	N/A	3.60	04/01/2021
ICE BofAML Gbl Hi Yld Index +2%			-0.26	-0.26	3.38	3.38	9.74	7.93	7.65	8.61	2.95	
Difference			2.58	2.58	N/A	N/A	N/A	N/A	N/A	N/A	0.65	
Dreyfus Gvt Csh Mgt;Inst (DGCXX)	5,618,036	0.21	0.14	0.14	0.63	0.63	1.13	1.27	0.97	0.71	1.37	04/01/2001
FTSE 3 Mo T-Bill Index			0.01	0.01	0.05	0.05	0.96	1.11	0.84	0.60	1.31	
Difference			0.13	0.13	0.58	0.58	0.17	0.16	0.13	0.11	0.06	

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

As of December 31, 2021

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
Total Fund	2,664,636,142	100.00	3.16	3.16	12.15	12.15	13.57	10.27	8.20	9.85	6.83	07/01/1999
Current Total Fund Policy Index			5.31	5.31	17.26	17.26	14.03	10.11	8.30	9.51	6.48	
Difference			-2.15	-2.15	-5.11	-5.11	-0.46	0.16	-0.10	0.34	0.35	
Total Equity	1,713,727,248	64.31	3.08	3.08	14.60	14.60	20.71	14.95	11.43	13.13	7.26	07/01/1999
US Equity	1,093,096,220	41.02	5.88	5.88	22.72	22.72	24.75	17.31	13.42	15.36	8.00	07/01/1999
US Equity Index			9.28	9.28	25.66	25.66	25.79	17.97	14.55	16.30	8.10	
Difference			-3.40	-3.40	-2.94	-2.94	-1.04	-0.66	-1.13	-0.94	-0.10	
International Equity	620,631,028	23.29	-1.49	-1.49	2.70	2.70	14.43	11.20	8.20	9.26	6.47	07/01/1999
International Equity Index			1.82	1.82	7.82	7.82	13.18	9.61	6.56	7.28	4.57	
Difference			-3.31	-3.31	-5.12	-5.12	1.25	1.59	1.64	1.98	1.90	
Fixed Income	467,880,002	17.56	-0.66	-0.66	-1.33	-1.33	3.43	2.93	2.54	3.19	4.99	07/01/1999
Fixed Income Index			-0.03	-0.03	-1.10	-1.10	5.15	3.72	3.11	2.97	4.78	
Difference			-0.63	-0.63	-0.23	-0.23	-1.72	-0.79	-0.57	0.22	0.21	
Real Estate	424,858,831	15.94	6.75	6.75	14.89	14.89	5.91	6.66	7.46	8.33	5.89	12/01/2005
NCREIF ODCE Index (AWA) (Net)			7.69	7.69	21.06	21.06	8.24	7.75	8.62	9.44	6.65	
Difference			-0.94	-0.94	-6.17	-6.17	-2.33	-1.09	-1.16	-1.11	-0.76	
Diversifying Assets	52,546,796	1.97	13.51	13.51	46.30	46.30	9.62	4.61	2.08	6.11	6.92	03/01/2011
Diversifying Assets Index			6.71	6.71	36.38	36.38	6.09	2.10	0.57	3.81	3.94	
Difference			6.80	6.80	9.92	9.92	3.53	2.51	1.51	2.30	2.98	

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

As of December 31, 2021

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
US Equity												
Eagle Capital Large Cap Value (SA)	282,545,740	10.60	3.18	3.18	27.08	27.08	24.04	17.54	14.13	16.27	11.96	02/01/2007
Russell 1000 Val Index			7.77	7.77	25.16	25.16	17.64	11.16	9.73	12.97	7.46	
Difference			-4.59	-4.59	1.92	1.92	6.40	6.38	4.40	3.30	4.50	
Mellon Large Cap Core Index (CF)	319,554,668	11.99	9.77	9.77	26.47	26.47	N/A	N/A	N/A	N/A	21.81	05/01/2019
Russell 1000 Index			9.78	9.78	26.45	26.45	26.21	18.43	14.84	16.54	21.88	
Difference			-0.01	-0.01	0.02	0.02	N/A	N/A	N/A	N/A	-0.07	
Loomis Sayles Large Cap Growth (CF)	211,270,307	7.93	6.73	6.73	18.86	18.86	27.56	N/A	N/A	N/A	20.16	08/01/2017
Russell 1000 Grth Index			11.64	11.64	27.60	27.60	34.08	25.32	19.58	19.79	24.60	
Difference			-4.91	-4.91	-8.74	-8.74	-6.52	N/A	N/A	N/A	-4.44	
Mellon Small Cap Value Index (CF)	118,433,937	4.44	4.33	4.33	N/A	N/A	N/A	N/A	N/A	N/A	5.92	04/01/2021
Russell 2000 Val Index			4.36	4.36	28.27	28.27	17.99	9.07	9.45	12.03	5.86	
Difference			-0.03	-0.03	N/A	N/A	N/A	N/A	N/A	N/A	0.06	
Pinnacle Associates US SMID Cap Growth (SA)	161,291,566	6.05	3.36	3.36	12.25	12.25	27.95	18.53	13.57	16.24	15.49	03/01/2010
Russell 2500 Grth Index			0.20	0.20	5.04	5.04	25.09	17.65	13.78	15.75	15.38	
Difference			3.16	3.16	7.21	7.21	2.86	0.88	-0.21	0.49	0.11	
International Equity												
Silchester International Value (CF)	263,649,843	9.89	-0.04	-0.04	11.89	11.89	9.36	7.40	6.61	8.80	9.25	06/01/2009
MSCI EAFE Val Index (USD) (Net)			1.17	1.17	10.89	10.89	7.82	5.34	3.65	5.81	5.38	
Difference			-1.21	-1.21	1.00	1.00	1.54	2.06	2.96	2.99	3.87	
Baillie Gifford International Growth (BGEFX)	215,622,804	8.09	-4.55	-4.55	-9.32	-9.32	26.69	19.76	13.48	13.20	12.69	06/01/2009
Baillie Gifford Index			2.37	2.37	5.09	5.09	17.82	12.60	8.99	9.60	9.11	
Difference			-6.92	-6.92	-14.41	-14.41	8.87	7.16	4.49	3.60	3.58	
Baillie Gifford Spliced Index			1.82	1.82	7.82	7.82	13.73	9.66	6.83	8.08	7.55	
Difference			-6.37	-6.37	-17.14	-17.14	12.96	10.10	6.65	5.12	5.14	
Acadian Emerging Markets (CF)	141,358,381	5.30	0.70	0.70	8.00	8.00	12.26	9.64	5.66	5.99	4.07	02/01/2011
MSCI Emg Mkts Index (USD) (Net)			-1.31	-1.31	-2.54	-2.54	10.94	9.87	6.11	5.49	3.34	
Difference			2.01	2.01	10.54	10.54	1.32	-0.23	-0.45	0.50	0.73	

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 December 31, 2021

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
Fixed Income												
Baird Core Fixed Income (SA)	232,832,899	8.74	-0.24	-0.24	N/A	N/A	N/A	N/A	N/A	N/A	0.91	03/01/2021
Bloomberg US Agg Bond Index			0.01	0.01	-1.55	-1.55	4.79	3.57	3.00	2.90	0.62	
Difference			-0.25	-0.25	N/A	N/A	N/A	N/A	N/A	N/A	0.29	
Franklin Templeton Global Multisector Plus (CF)	92,528,025	3.47	-2.47	-2.47	-6.18	-6.18	-3.89	-1.44	-1.08	1.53	4.45	09/01/2007
Frank. Temp. Global Multisector Index			-0.70	-0.70	-4.51	-4.51	3.70	3.45	2.37	1.96	3.41	
Difference			-1.77	-1.77	-1.67	-1.67	-7.59	-4.89	-3.45	-0.43	1.04	
Loomis Sayles Multisector Full Discretion (CF)	142,519,078	5.35	-0.16	-0.16	0.11	0.11	7.77	6.28	5.18	6.64	6.64	10/01/2007
Bloomberg Gbl Agg Bond Index			-0.67	-0.67	-4.71	-4.71	3.59	3.36	2.22	1.77	3.07	
Difference			0.51	0.51	4.82	4.82	4.18	2.92	2.96	4.87	3.57	
Real Estate												
Harrison Street Core Property, LP	118,026,289	4.43	2.79	2.79	8.57	8.57	6.04	7.48	N/A	N/A	7.33	11/01/2015
NCREIF ODCE Index (AWA) (Net)			7.69	7.69	21.06	21.06	8.24	7.75	8.62	9.44	8.07	
Difference			-4.90	-4.90	-12.49	-12.49	-2.20	-0.27	N/A	N/A	-0.74	
PGIM Real Estate PRISA II LP (CF)	65,984,506	2.48	7.24	7.24	16.05	16.05	6.68	7.53	8.50	N/A	8.50	01/01/2015
NCREIF ODCE Index (AWA) (Net)			7.69	7.69	21.06	21.06	8.24	7.75	8.62	9.44	8.62	
Difference			-0.45	-0.45	-5.01	-5.01	-1.56	-0.22	-0.12	N/A	-0.12	
Principal US Property (CF)	152,894,031	5.74	10.06	10.06	22.78	22.78	9.51	8.99	9.68	N/A	10.09	01/01/2014
NCREIF ODCE Index (AWA) (Net)			7.69	7.69	21.06	21.06	8.24	7.75	8.62	9.44	8.97	
Difference			2.37	2.37	1.72	1.72	1.27	1.24	1.06	N/A	1.12	
UBS Trumbull Property (CF)	86,414,008	3.24	6.04	6.04	10.23	10.23	0.63	2.60	4.37	5.91	4.82	12/01/2005
NCREIF ODCE Index (AWA) (Net)			7.69	7.69	21.06	21.06	8.24	7.75	8.62	9.44	6.65	
Difference			-1.65	-1.65	-10.83	-10.83	-7.61	-5.15	-4.25	-3.53	-1.83	
Vanguard RE Idx;ETF (VNQ)	1,539,998	0.06	15.00	15.00	40.45	40.45	19.94	11.10	9.46	11.24	14.48	12/01/2008
Custom REITs Index			14.94	14.94	40.56	40.56	20.08	11.66	9.87	11.76	15.27	
Difference			0.06	0.06	-0.11	-0.11	-0.14	-0.56	-0.41	-0.52	-0.79	

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

As of December 31, 2021

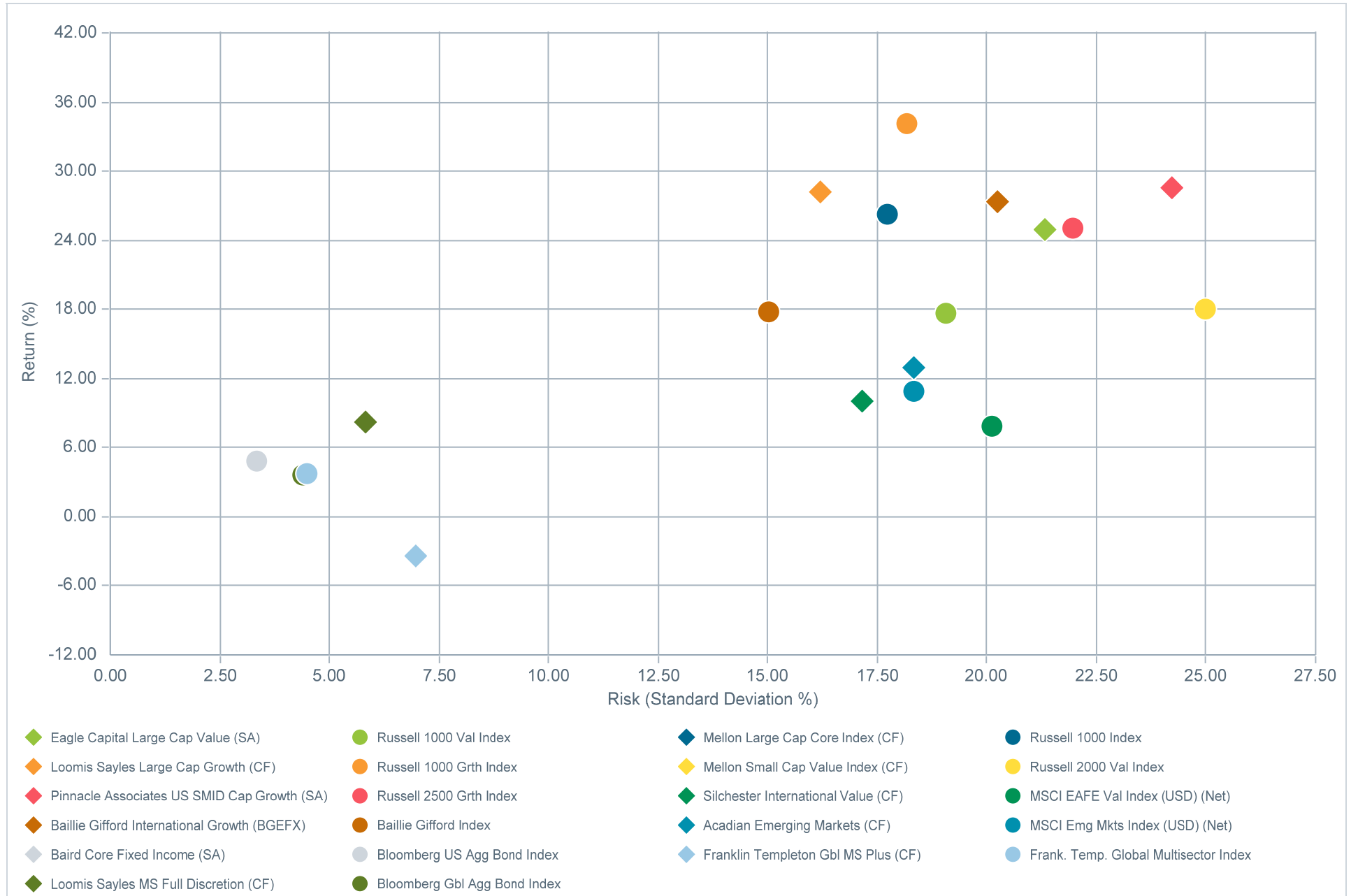
	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
Diversifying Assets												
Hancock Timberland (SA)	11,978,744	0.45	3.88	3.88	19.14	19.14	8.87	9.42	8.28	8.01	4.85	10/01/2006
NCREIF Timberland Index			4.56	4.56	9.17	9.17	3.69	3.58	3.64	5.30	5.42	
Difference			-0.68	-0.68	9.97	9.97	5.18	5.84	4.64	2.71	-0.57	
Adams Street Private Equity (SA)	29,555,699	1.11	23.62	23.62	43.71	43.71	N/A	N/A	N/A	N/A	36.45	11/01/2020
S&P 500 Index+3%			11.85	11.85	32.57	32.57	29.85	22.03	18.38	20.05	44.37	
Difference			11.77	11.77	11.14	11.14	N/A	N/A	N/A	N/A	-7.92	
Hamilton Lane Private Credit (SA)	10,963,390	0.41	1.61	1.61	N/A	N/A	N/A	N/A	N/A	N/A	-8.54	04/01/2021
ICE BofAML Gbl Hi Yld Index +2%			-0.26	-0.26	3.38	3.38	9.74	7.93	7.65	8.61	2.95	
Difference			1.87	1.87	N/A	N/A	N/A	N/A	N/A	N/A	-11.49	
Dreyfus Gvt Csh Mgt;Inst (DGCXX)	5,618,036	0.21	0.10	0.10	0.47	0.47	0.98	1.17	0.89	0.65	1.33	04/01/2001
FTSE 3 Mo T-Bill Index			0.01	0.01	0.05	0.05	0.96	1.11	0.84	0.60	1.31	
Difference			0.09	0.09	0.42	0.42	0.02	0.06	0.05	0.05	0.02	

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.



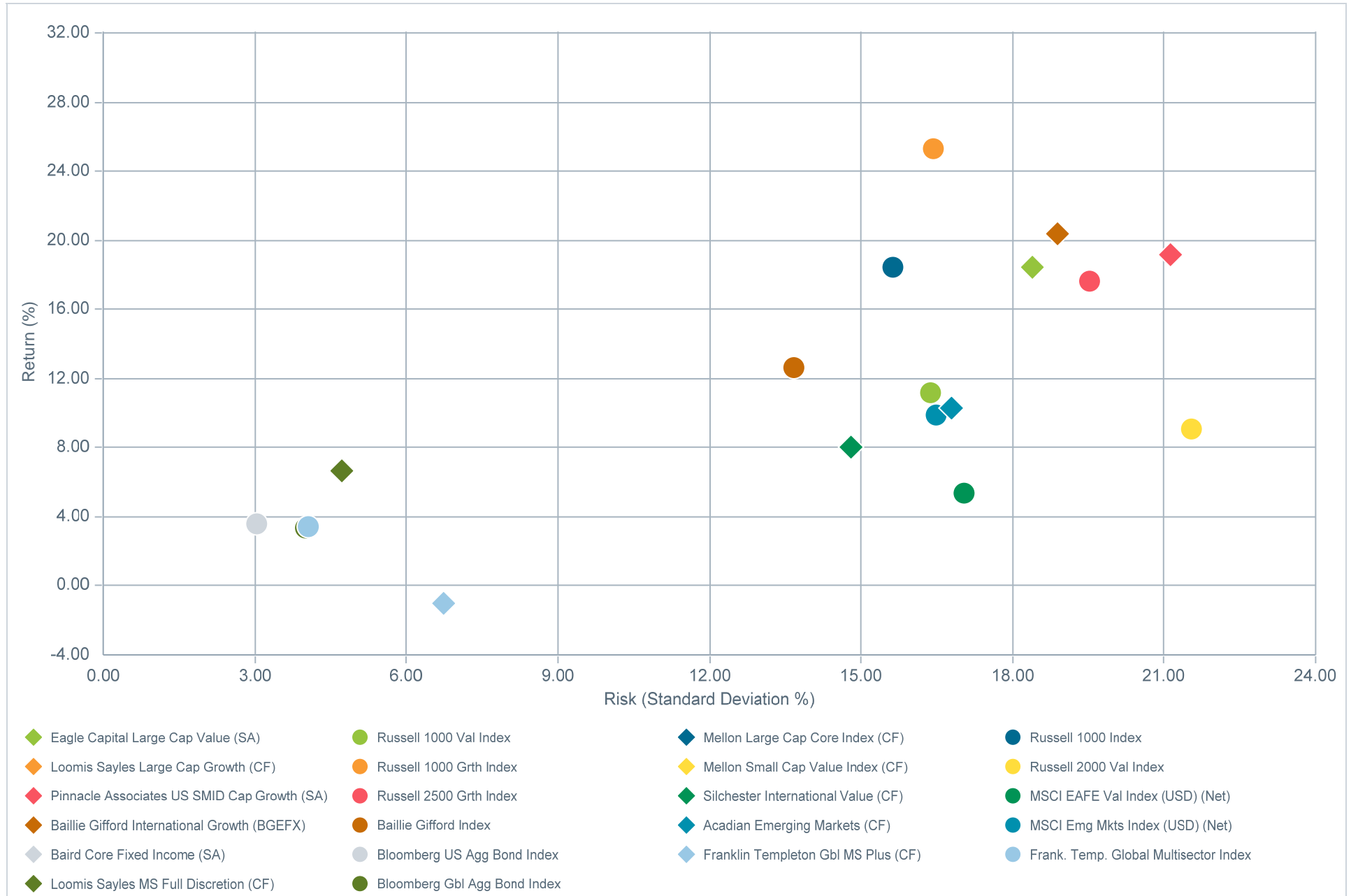
City of Jacksonville Employees' Retirement System
 Risk and Return
 Traditional Managers

3 Years Ending December 31, 2021

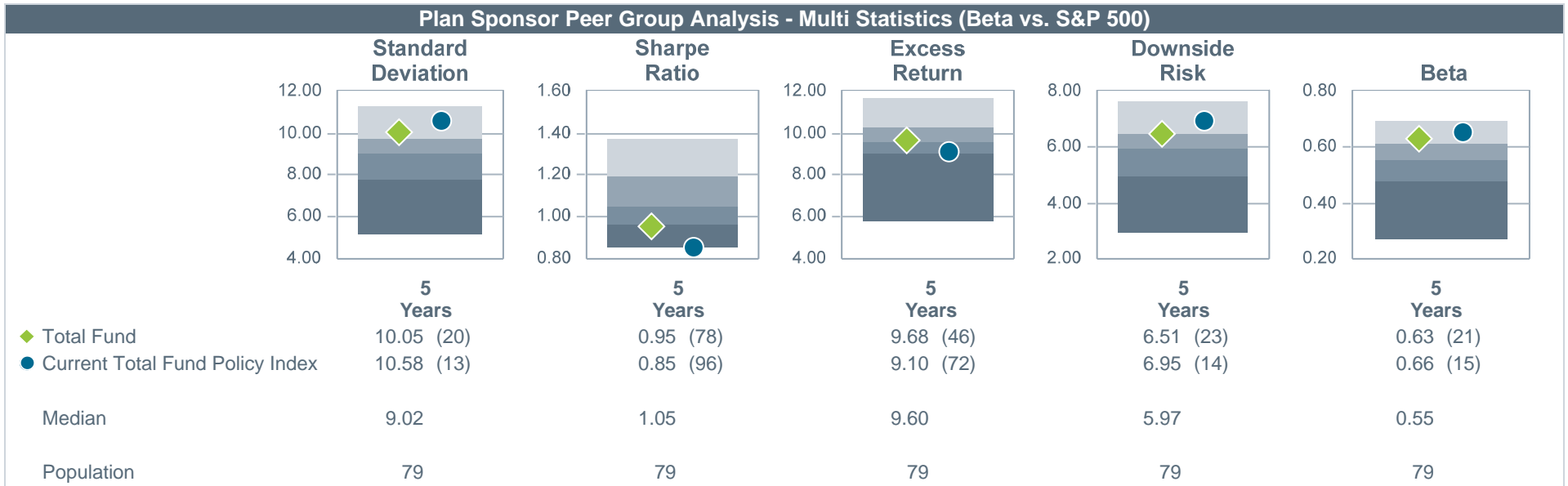
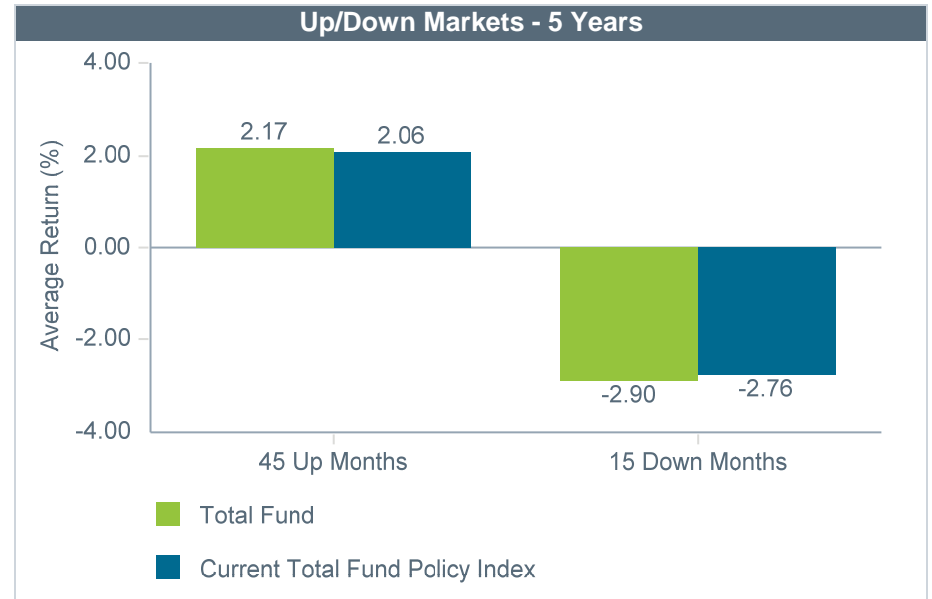
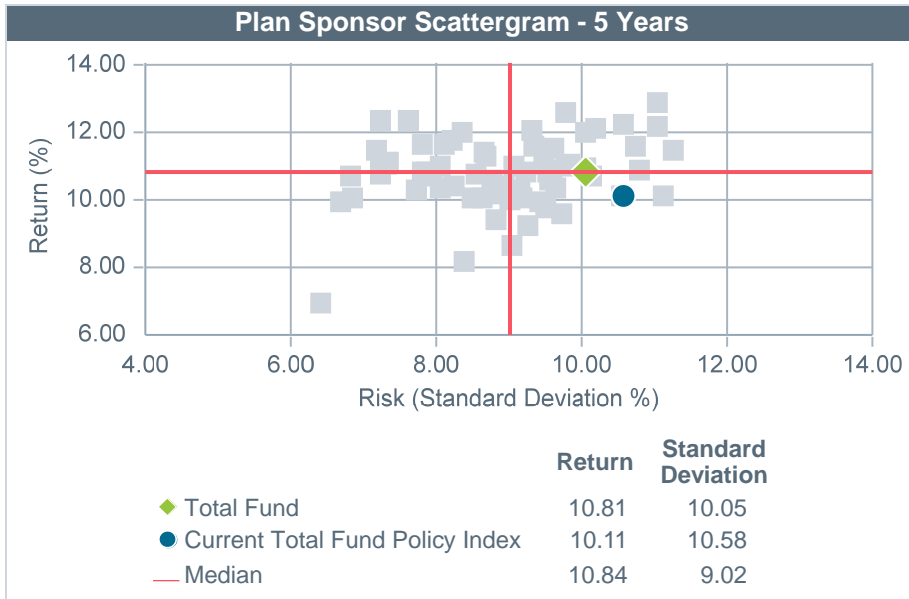


Performance shown is gross of fees and client specific. Calculation is based on monthly periodicity. Managers with less history than the specified time period will not appear. Please see the Addendum for custom index definitions.

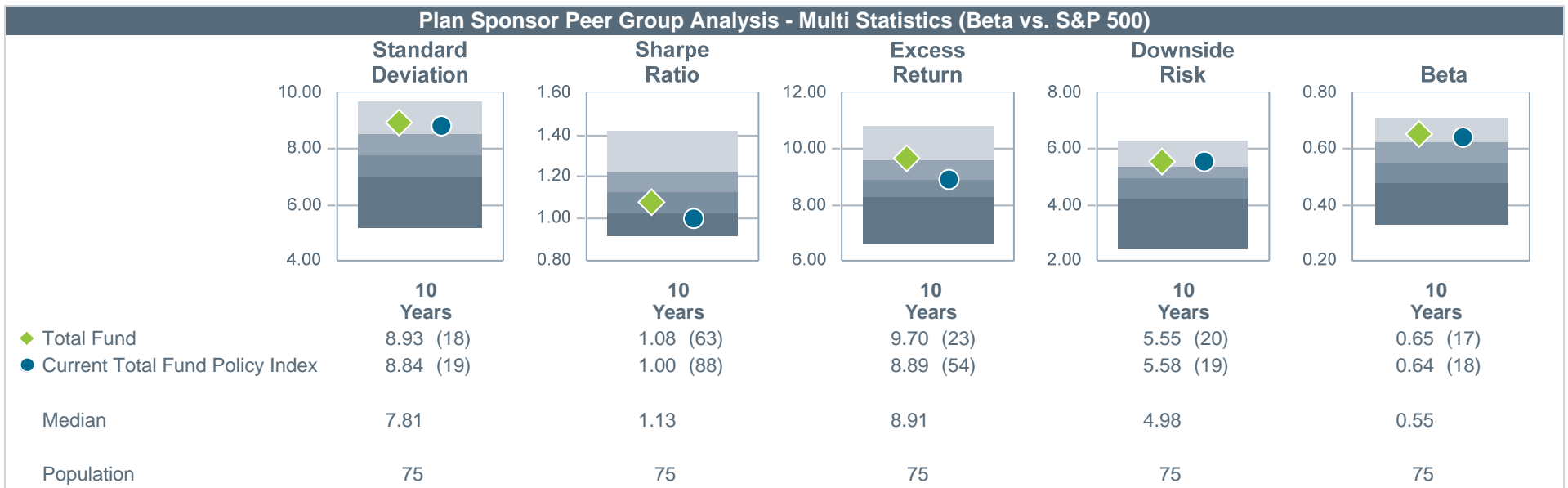
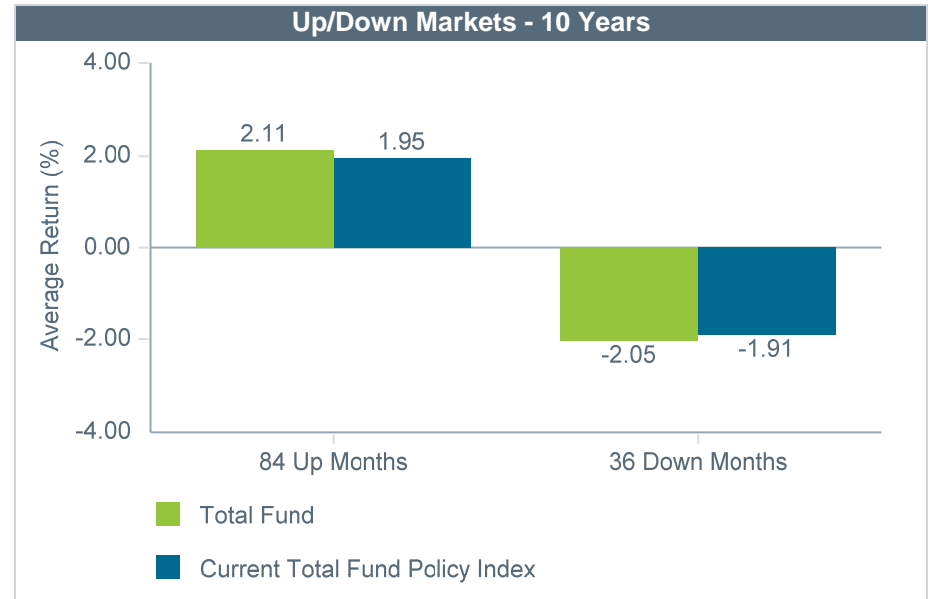
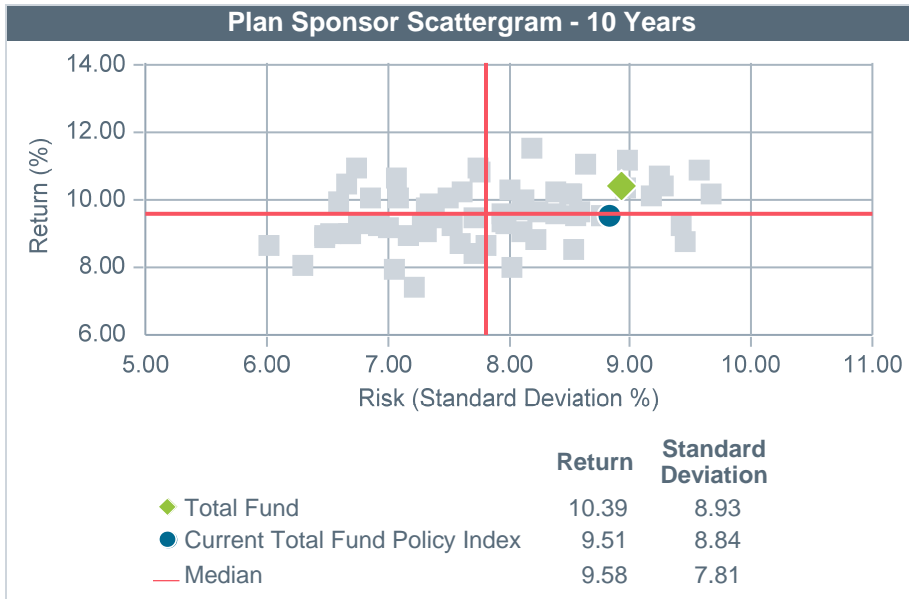




Performance shown is gross of fees and client specific. Calculation is based on monthly periodicity. Managers with less history than the specified time period will not appear. Please see the Addendum for custom index definitions.



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



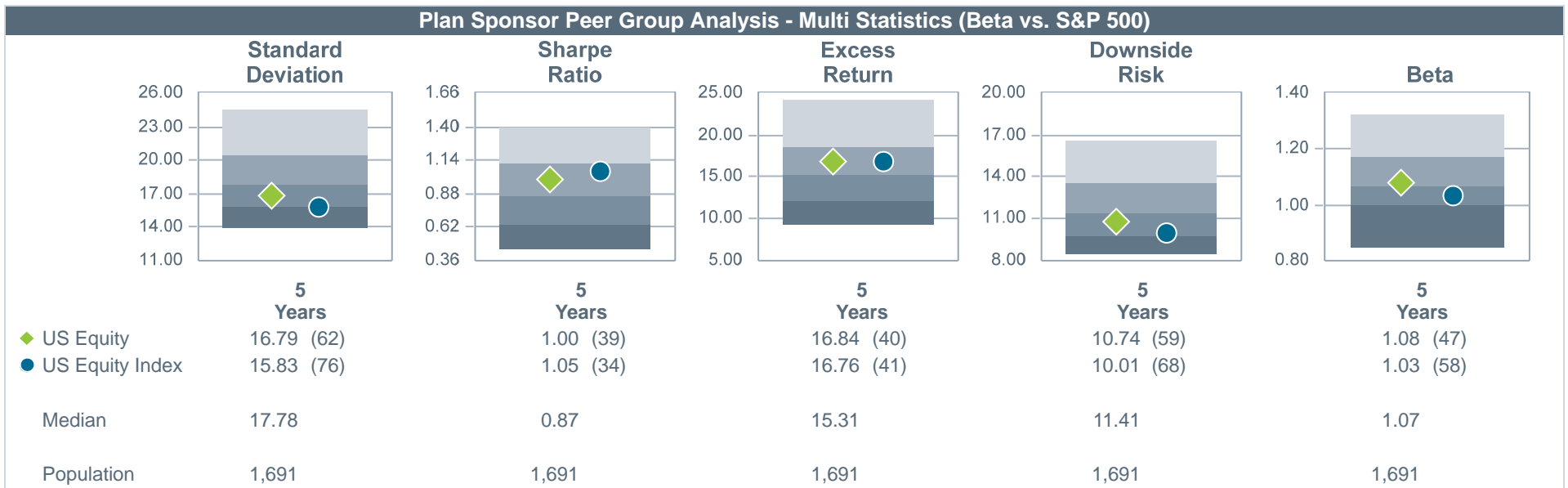
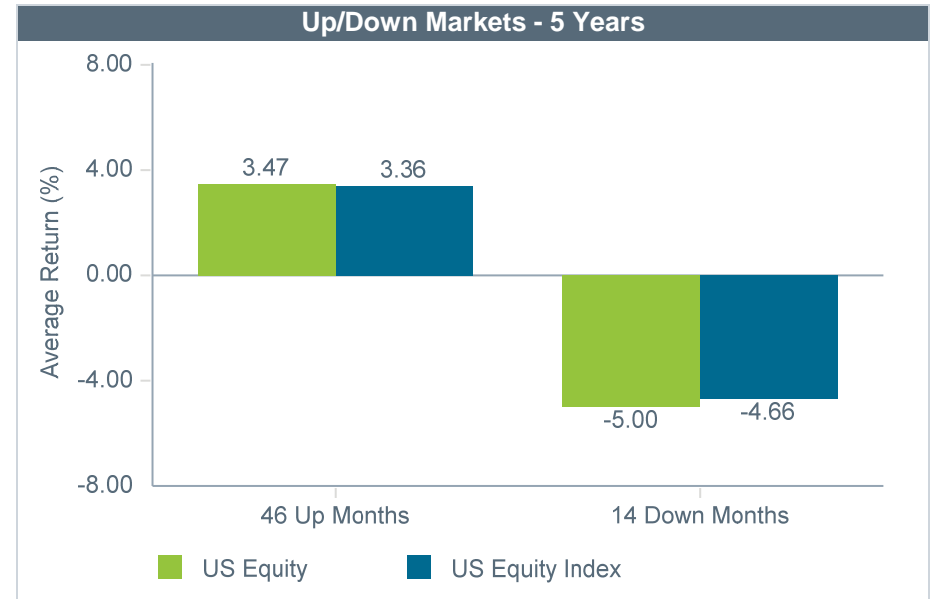
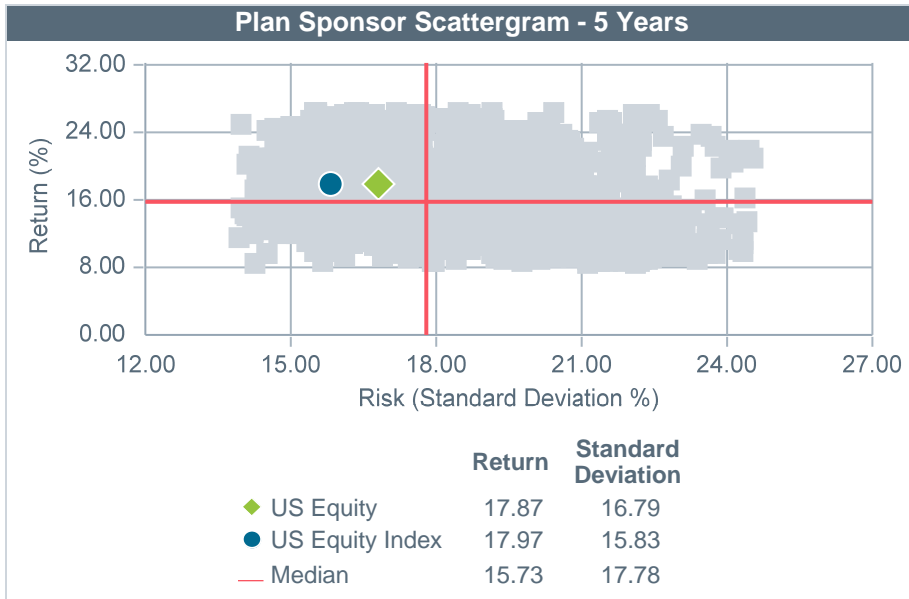
City of Jacksonville Employees' Retirement System
 US Equity vs. IM U.S. Equity (SA+CF)
 Peer Group Analysis

As of December 31, 2021



Performance shown is gross of fees. Parentheses contain percentile ranks. Fiscal year for the COJ ends 09/30.





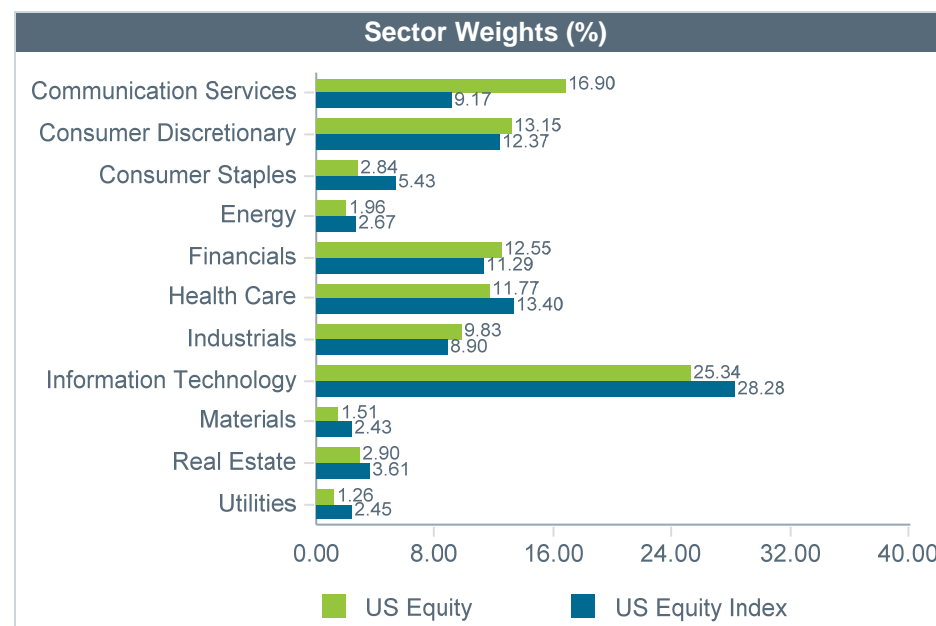
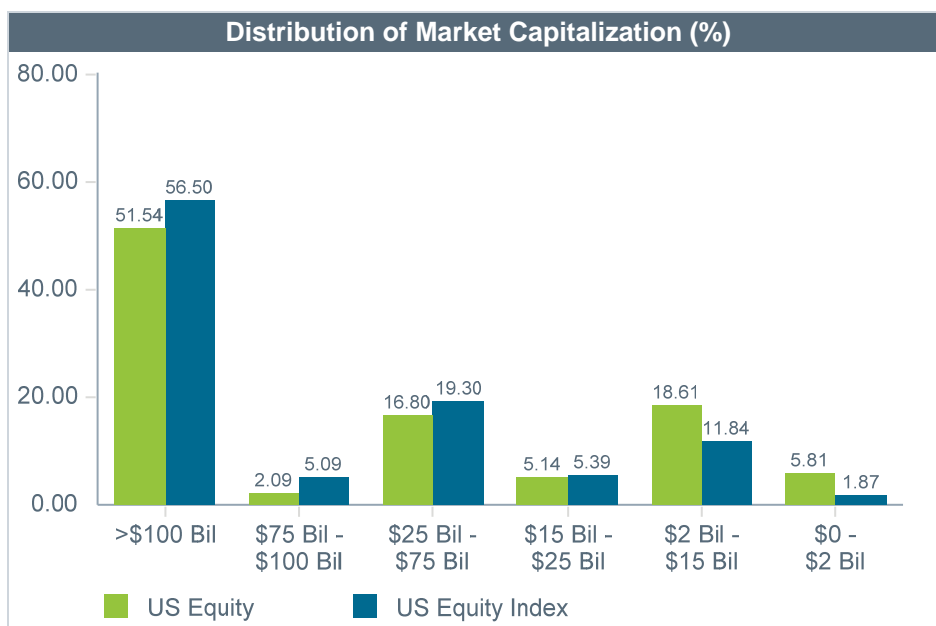
Performance shown is gross of fees. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.

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

As of December 31, 2021

Top Ten Equity Holdings				
	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)
Microsoft Corp	5.12	5.30	-0.18	19.51
Amazon.com Inc	3.88	3.03	0.85	1.50
Alphabet Inc	3.76	1.70	2.06	8.57
Meta Platforms Inc	3.44	1.66	1.78	-0.90
NVIDIA Corporation	1.84	1.47	0.37	41.99
Apple Inc	1.81	5.74	-3.93	25.67
Visa Inc	1.56	0.77	0.79	-2.54
Unitedhealth Group Inc	1.43	0.99	0.44	28.92
Netflix Inc	1.36	0.54	0.82	-1.29
Alphabet Inc	1.32	1.82	-0.50	8.36
% of Portfolio	25.52	23.02	2.50	

Portfolio Characteristics		
	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	466,774	562,093
Median Mkt. Cap (\$M)	2,950	2,476
Price/Earnings Ratio	21.97	24.56
Price/Book Ratio	4.06	4.60
5 Yr. EPS Growth Rate (%)	22.85	20.92
Current Yield (%)	0.91	1.25
Beta (5 Years, Monthly)	1.05	1.00
Number of Securities	2,505	3,067



Alphabet Inc. is shown twice in the Top Ten Equity Holdings but represents two different share classes: GOOGL (Class A) and GOOG (Class C).



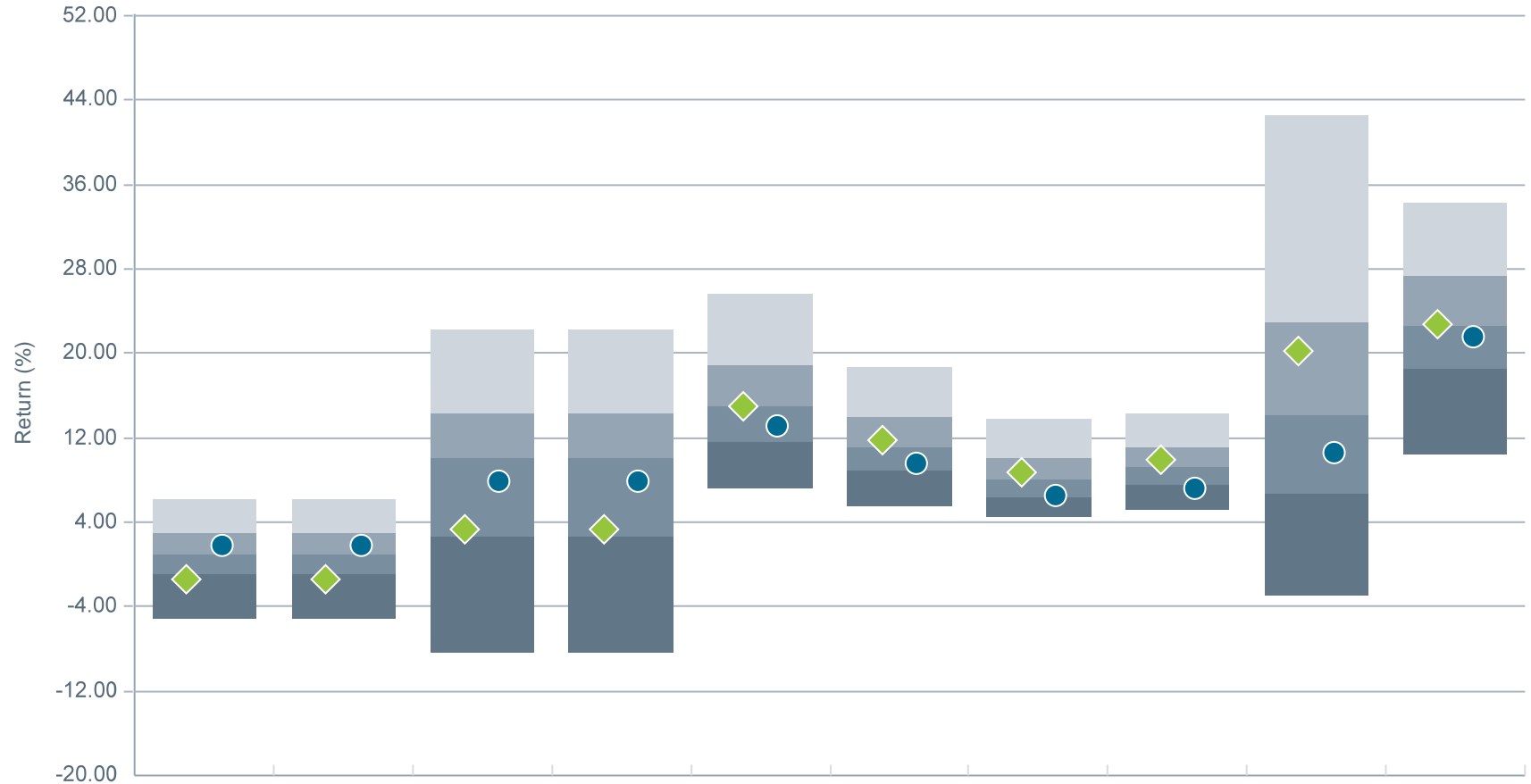
Style Map with History (12 Months)



Calculation is based on monthly periodicity. This is a return based calculation. Performance prior to manager inception date is backfilled with product specific returns.

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

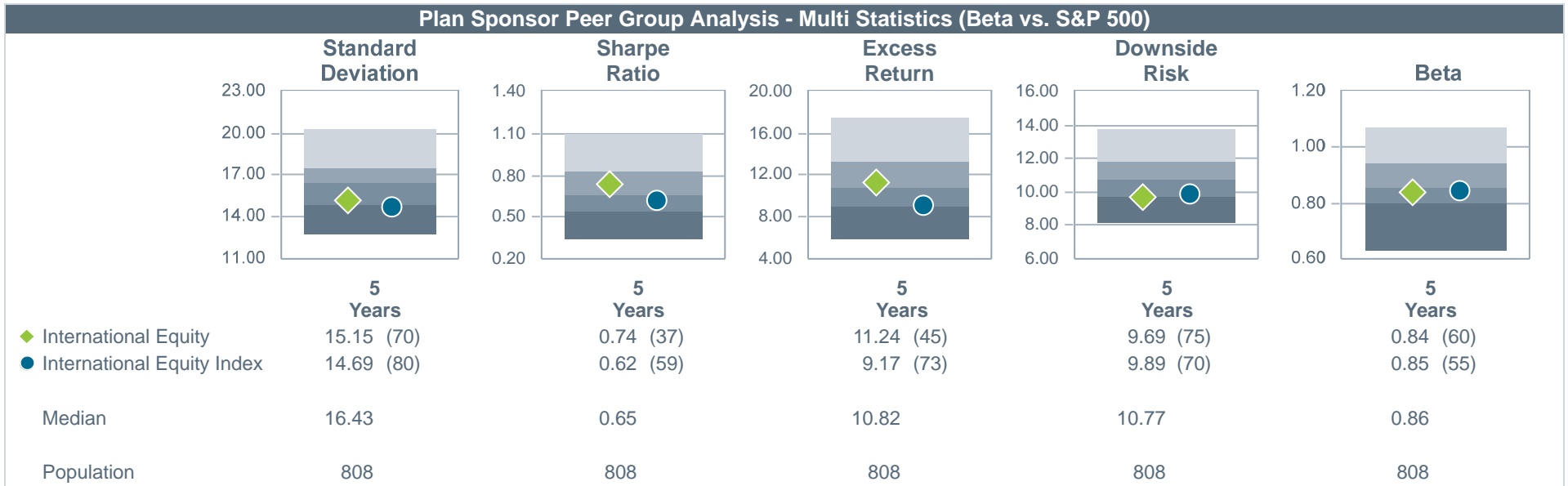
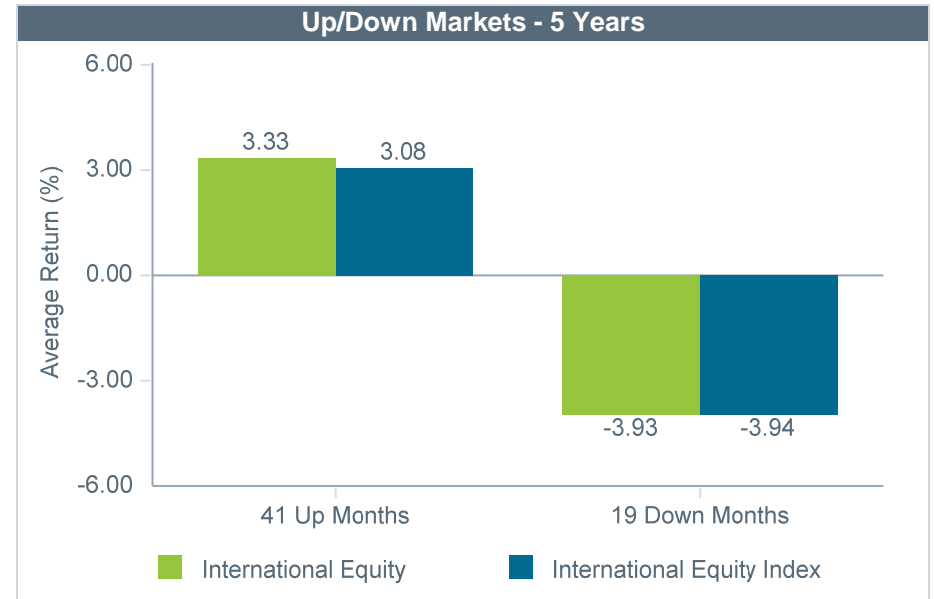
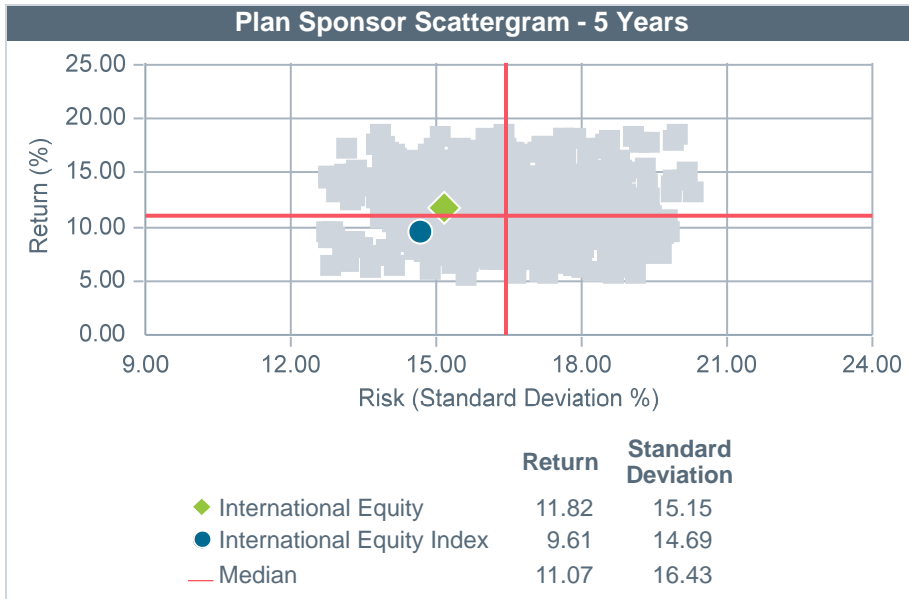
As of December 31, 2021



	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2020	2019
◆ International Equity	-1.36 (80)	-1.36 (80)	3.25 (74)	3.25 (74)	15.06 (50)	11.82 (42)	8.81 (41)	9.87 (39)	20.20 (32)	22.73 (50)
● International Equity Index	1.82 (41)	1.82 (41)	7.82 (60)	7.82 (60)	13.18 (64)	9.61 (69)	6.56 (75)	7.28 (79)	10.65 (62)	21.51 (60)
5th Percentile	6.13	6.13	22.31	22.31	25.62	18.65	13.74	14.35	42.51	34.30
1st Quartile	3.01	3.01	14.31	14.31	18.94	13.93	10.12	11.06	22.95	27.35
Median	1.03	1.03	10.03	10.03	14.94	11.07	8.03	9.22	14.17	22.65
3rd Quartile	-0.83	-0.83	2.63	2.63	11.59	8.87	6.45	7.54	6.68	18.49
95th Percentile	-5.19	-5.19	-8.39	-8.39	7.20	5.58	4.44	5.25	-2.86	10.39
Population	912	912	899	899	861	808	742	620	1,067	1,138

Performance shown is gross of fees. Parentheses contain percentile ranks. Fiscal year for the COJ ends 09/30.





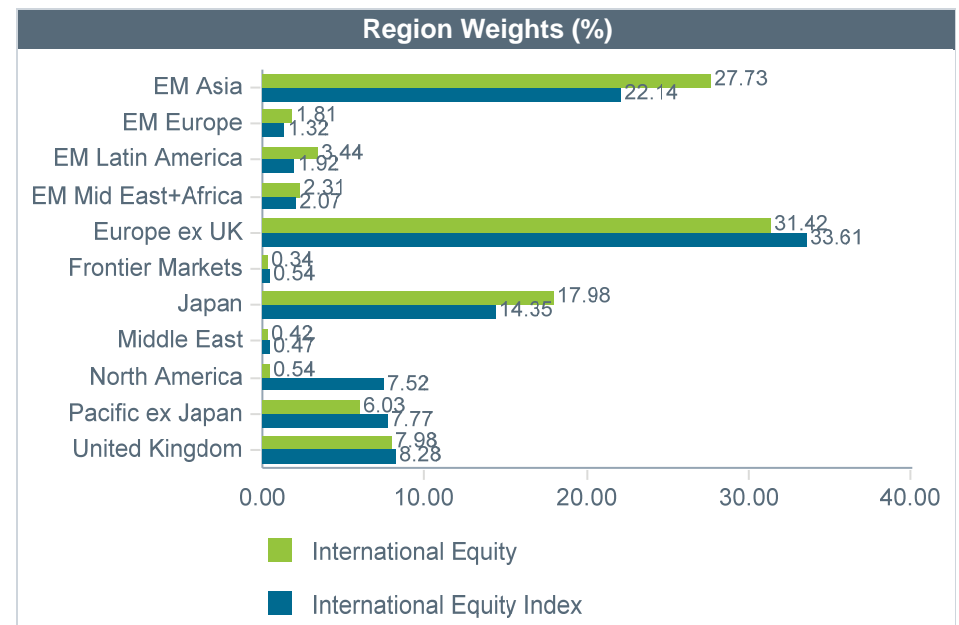
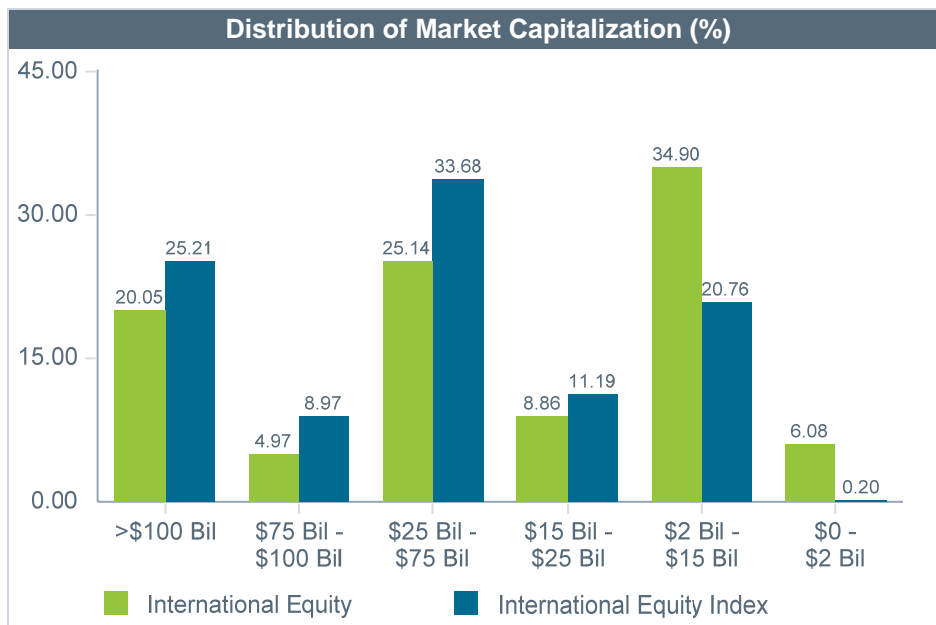
Performance shown is gross of fees. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.

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

As of December 31, 2021

Top Ten Equity Holdings				
	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)
ASML Holding NV	2.67	1.22	1.45	7.64
Tencent Holdings LTD	2.21	1.24	0.97	-1.16
Taiwan Semiconductor Mfg	2.13	2.01	0.12	7.00
Ferrari NV	1.87	0.12	1.75	23.37
MercadoLibre Inc	1.76	0.00	1.76	-19.71
Adyen N.V	1.72	0.19	1.53	-6.08
Kering	1.63	0.22	1.41	12.60
Sanofi	1.51	0.42	1.09	4.62
Honda Motor Co Ltd	1.42	0.17	1.25	-9.43
Meituan	1.38	0.44	0.94	-8.74
% of Portfolio	18.30	6.03	12.27	

Portfolio Characteristics		
	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	77,702	96,100
Median Mkt. Cap (\$M)	1,710	10,164
Price/Earnings Ratio	11.62	14.96
Price/Book Ratio	3.16	2.73
5 Yr. EPS Growth Rate (%)	17.17	14.92
Current Yield (%)	3.02	2.61
Beta (5 Years, Monthly)	1.00	1.00
Number of Securities	872	2,332



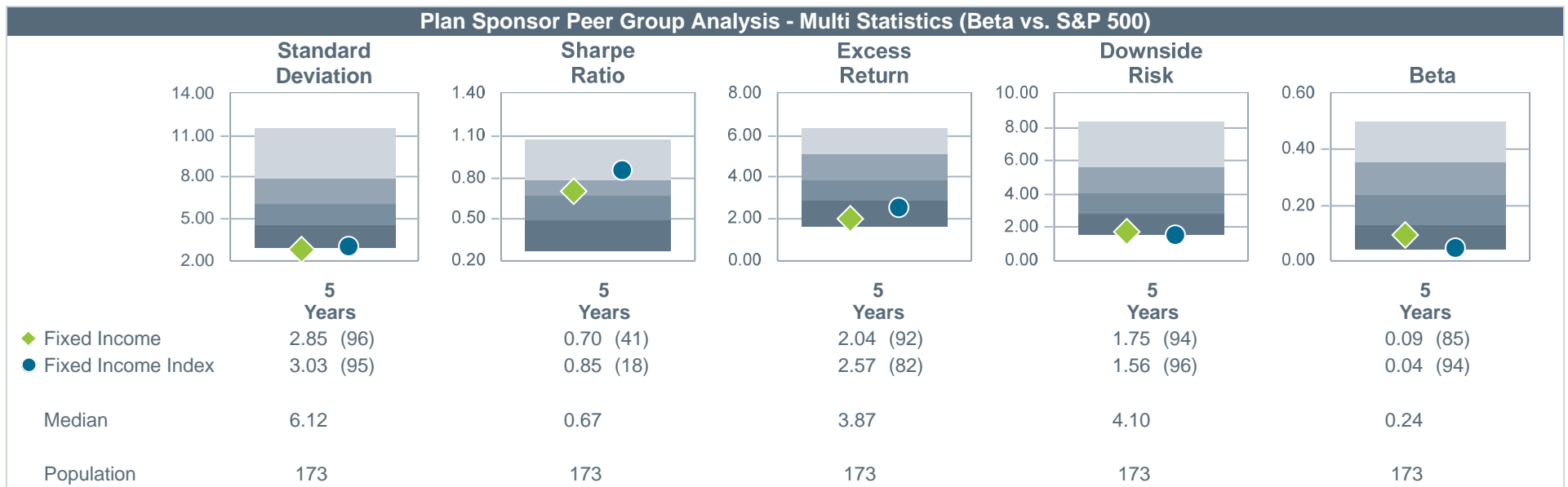
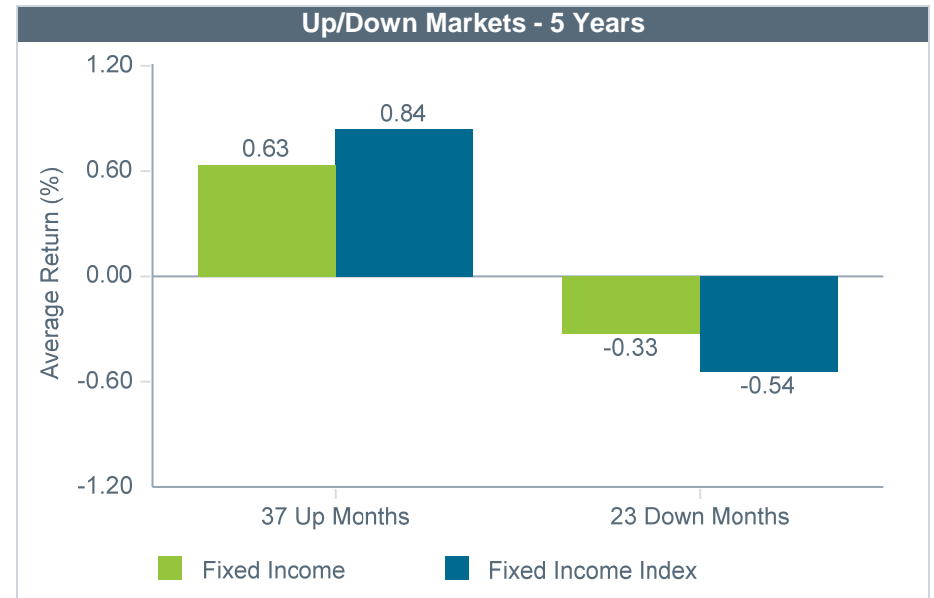
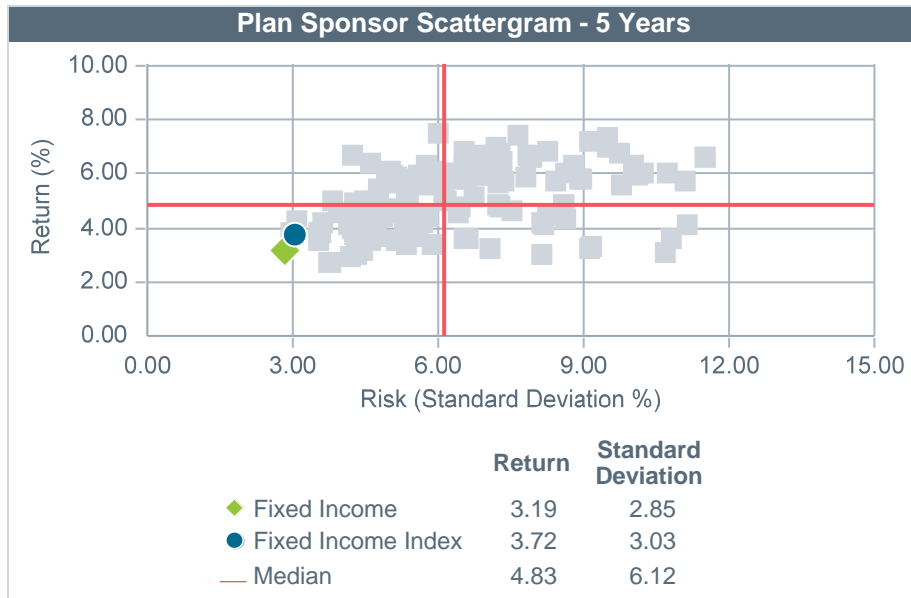
City of Jacksonville Employees' Retirement System
 Fixed Income vs. IM Global Fixed Income (SA+CF)
 Peer Group Analysis

As of December 31, 2021



Performance shown is gross of fees. Parentheses contain percentile ranks. Fiscal year for the COJ ends 09/30.



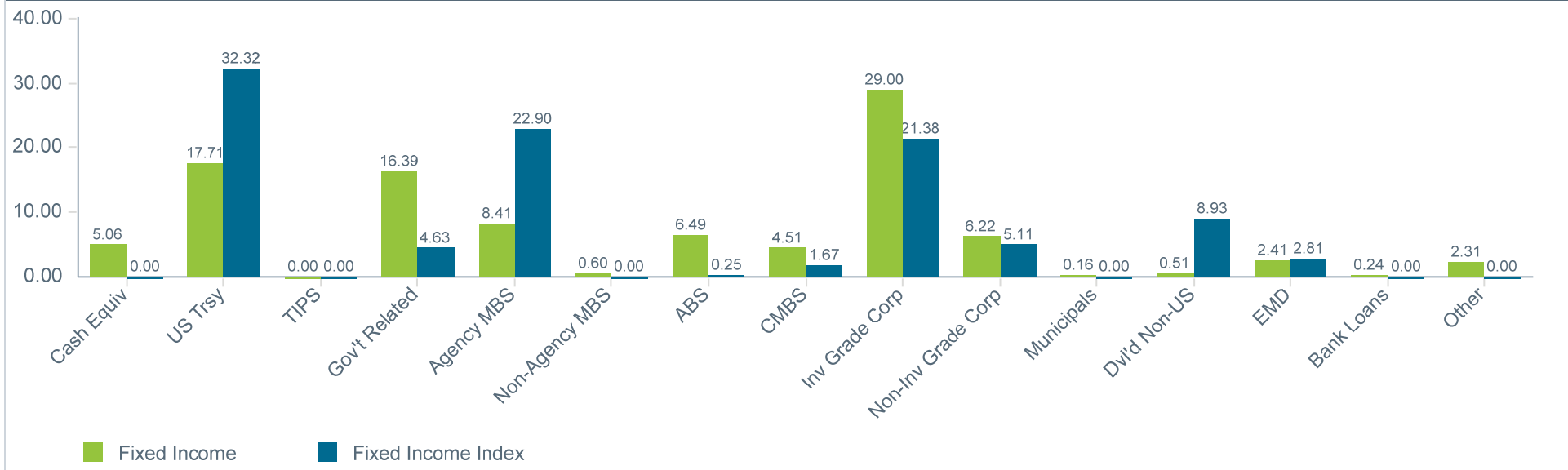


Performance shown is gross of fees. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.

Portfolio Characteristics

	Portfolio	Benchmark
Effective Duration	5.01	6.54
Avg. Maturity	6.64	8.60
Avg. Quality	A3	N/A
Yield To Maturity (%)	N/A	2.12
Coupon Rate (%)	3.35	2.77
Current Yield (%)	2.74	N/A

Sector Distribution (%)

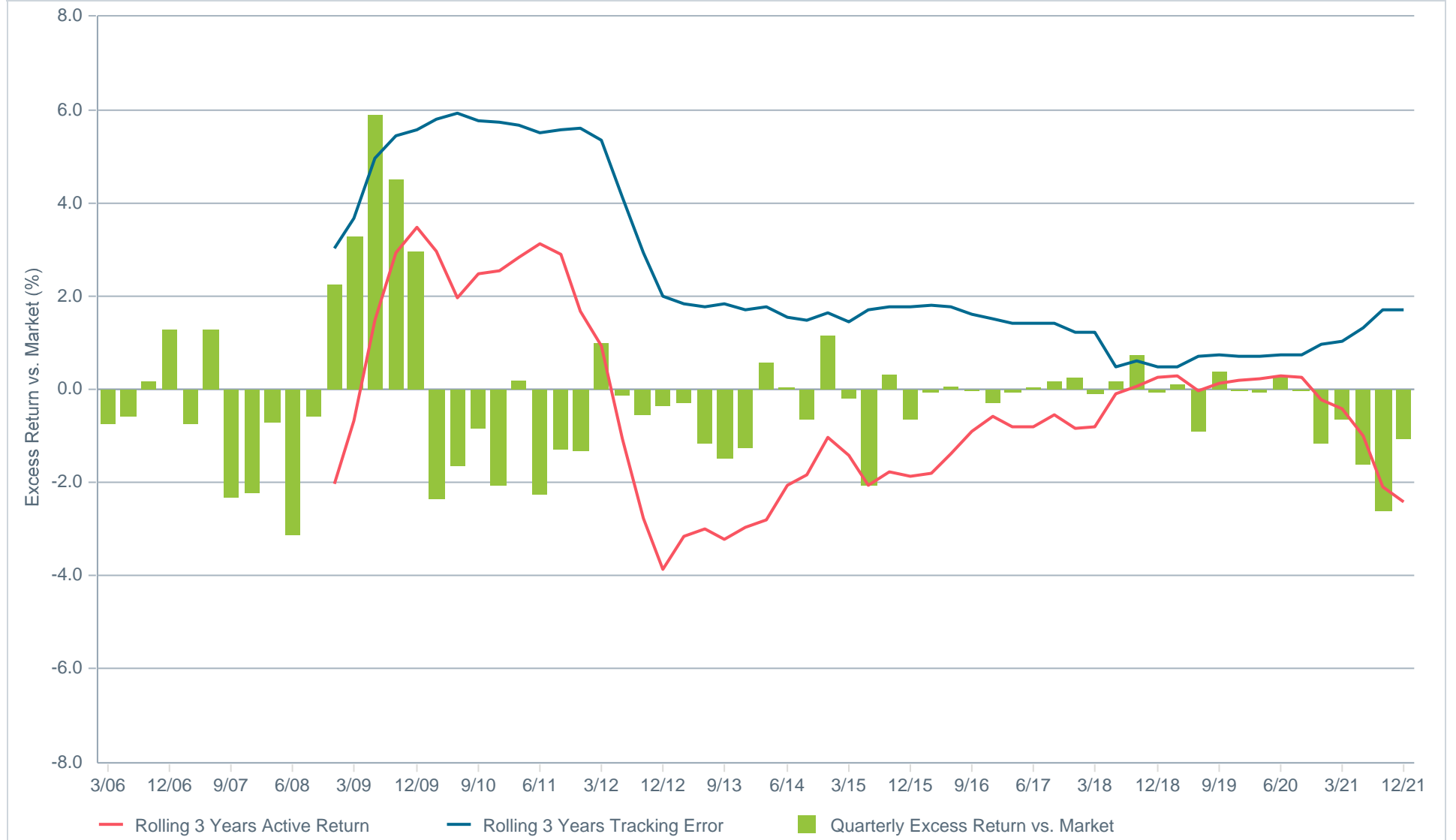


Cash equivalents are defined as any security with duration under one year. Allocation to "Other" consists of derivatives, preferred equity, and convertibles.

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

As of December 31, 2021

	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2020	2019	2018	Since Incep.	Inception Date
Real Estate	6.90	6.90	15.43	15.43	6.68	7.42	8.23	9.15	0.31	4.85	9.11	6.57	12/01/2005
NCREIF ODCE Index (AWA) (Gross)	7.97	7.97	22.17	22.17	9.20	8.71	9.60	10.45	1.19	5.34	8.35	7.64	
Difference	-1.07	-1.07	-6.74	-6.74	-2.52	-1.29	-1.37	-1.30	-0.88	-0.49	0.76	-1.07	



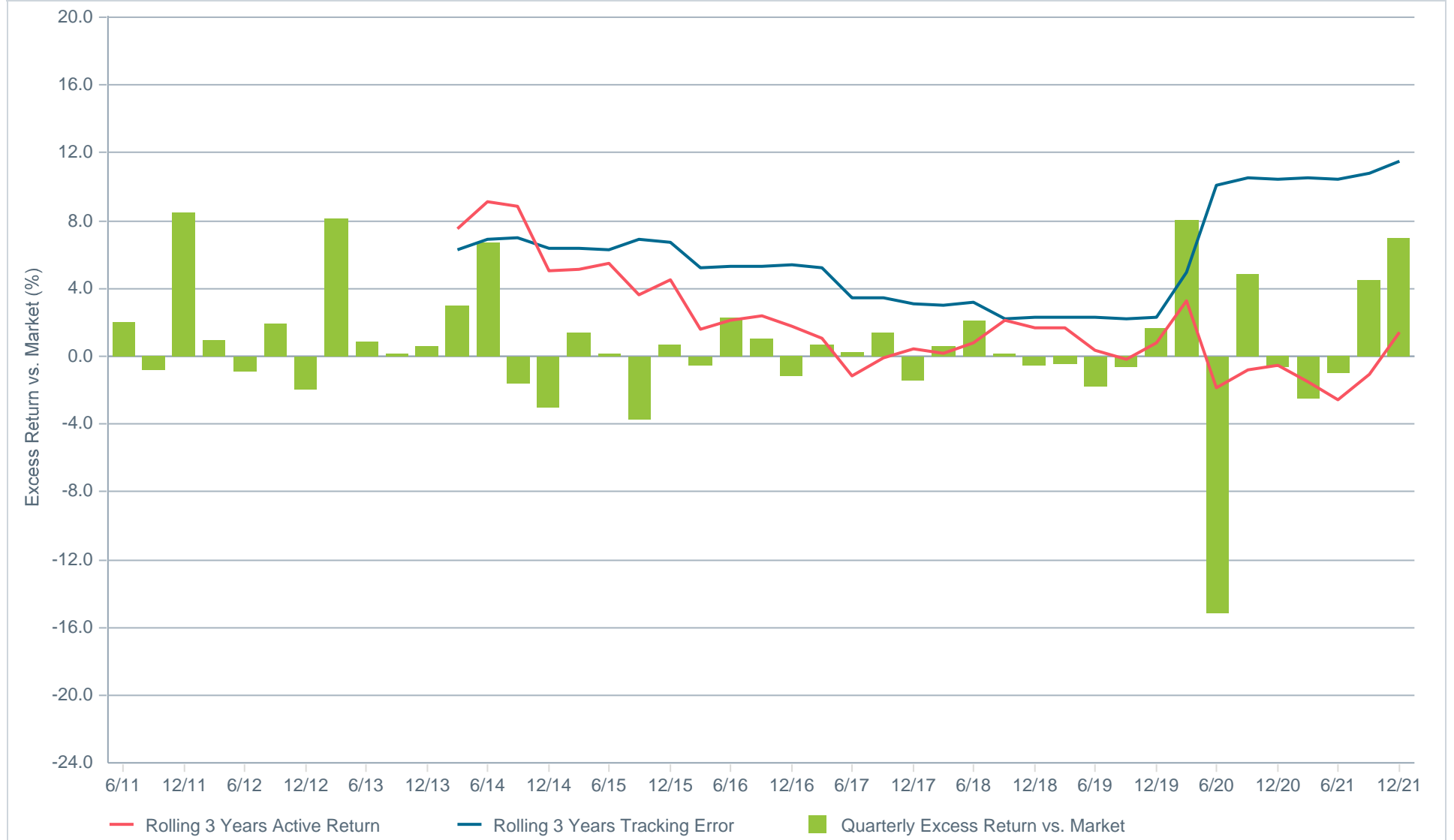
Performance shown is gross of fees. Calculation is based on quarterly periodicity.



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

As of December 31, 2021

	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2020	2019	2018	Since Incep.	Inception Date
Diversifying Assets	13.68	13.68	47.46	47.46	10.29	5.17	2.62	6.66	-14.35	6.21	-4.42	7.47	03/01/2011
Diversifying Assets Index	6.71	6.71	36.38	36.38	6.09	2.10	0.57	3.81	-18.40	7.29	-6.47	3.94	
Difference	6.97	6.97	11.08	11.08	4.20	3.07	2.05	2.85	4.05	-1.08	2.05	3.53	



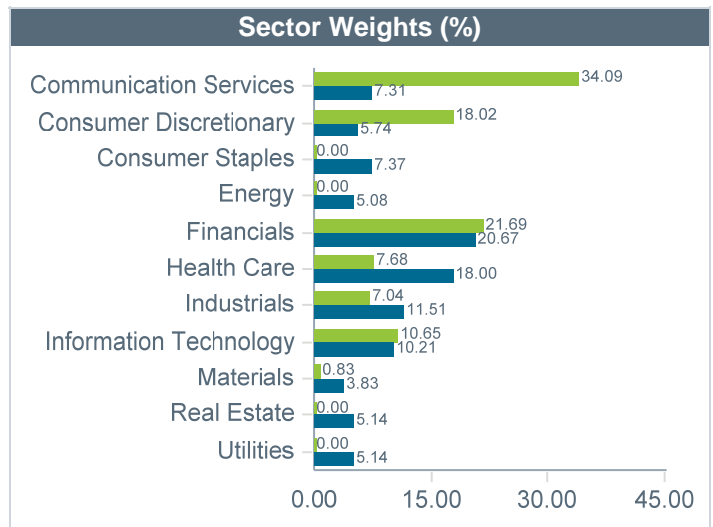
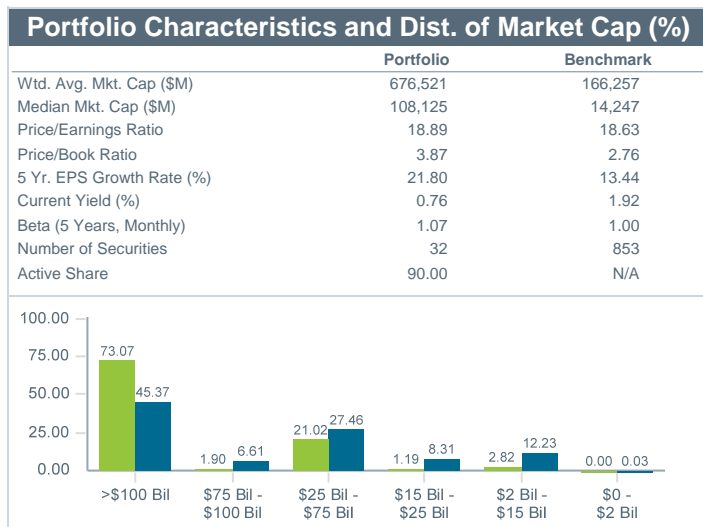
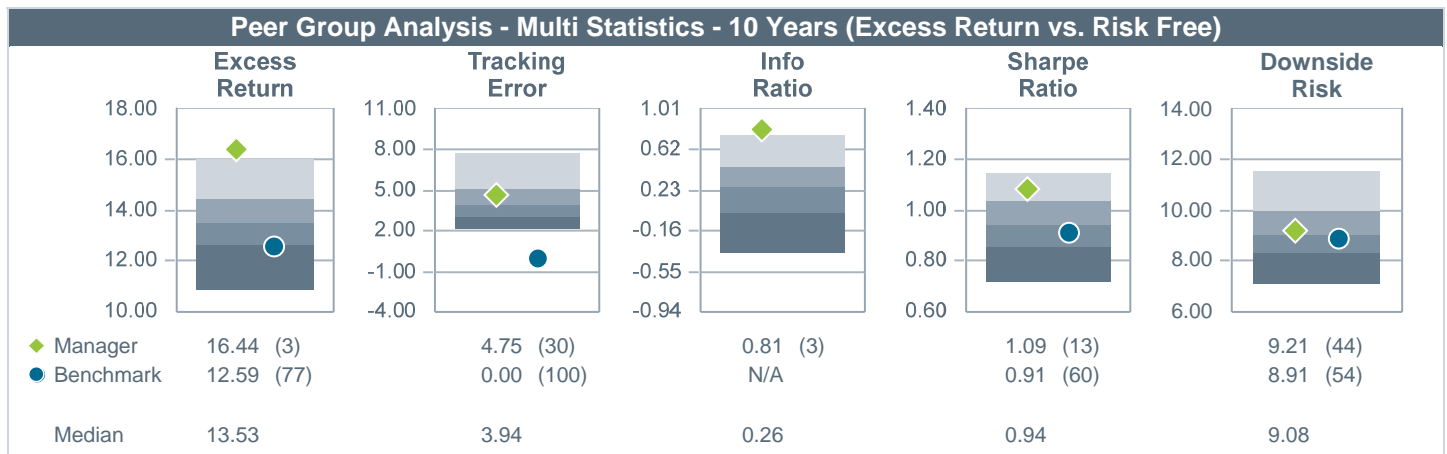
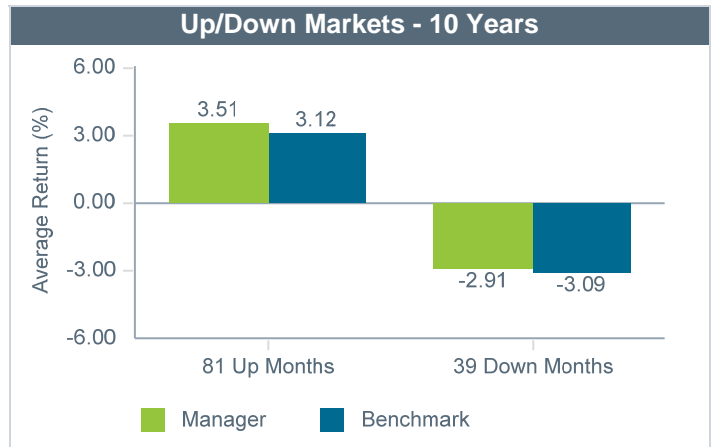
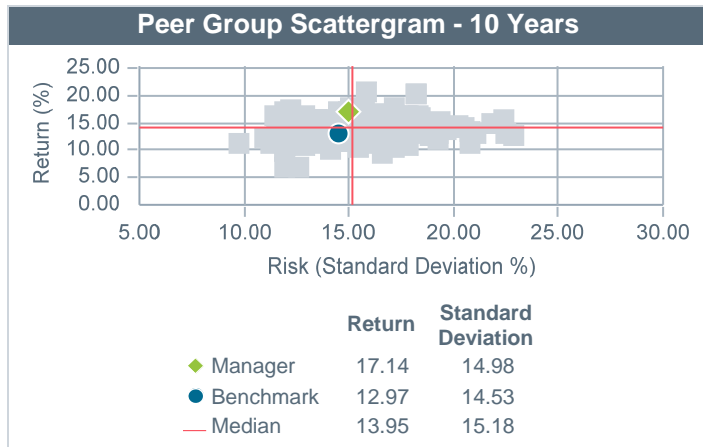
Performance shown is gross of fees. Calculation is based on quarterly periodicity.



Investment Manager Profiles



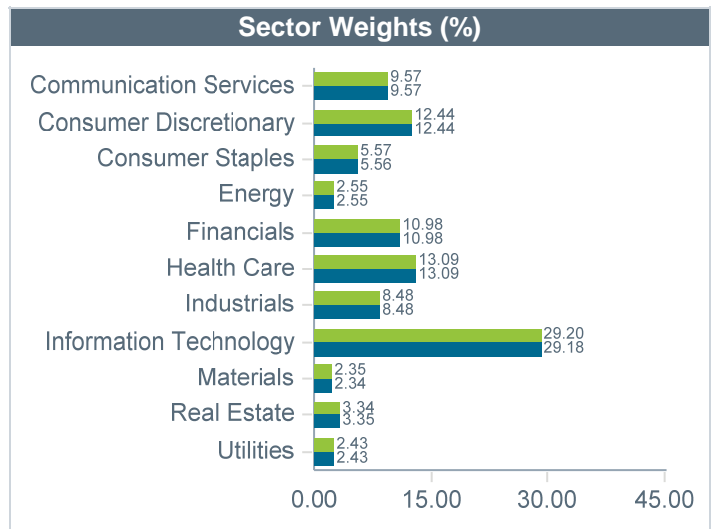
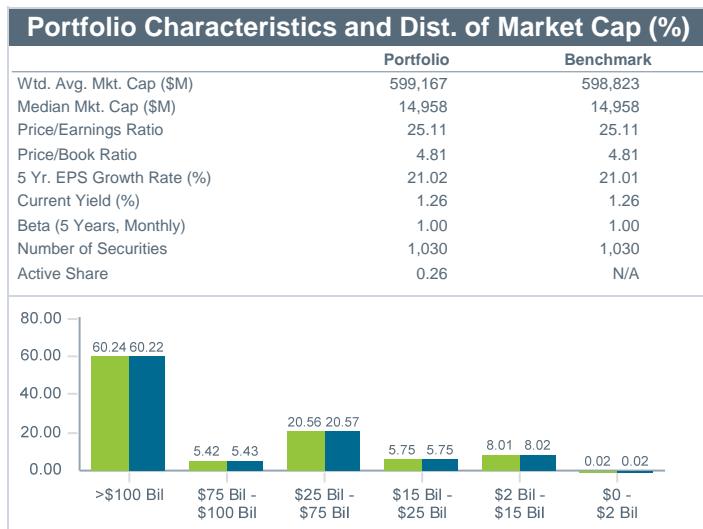
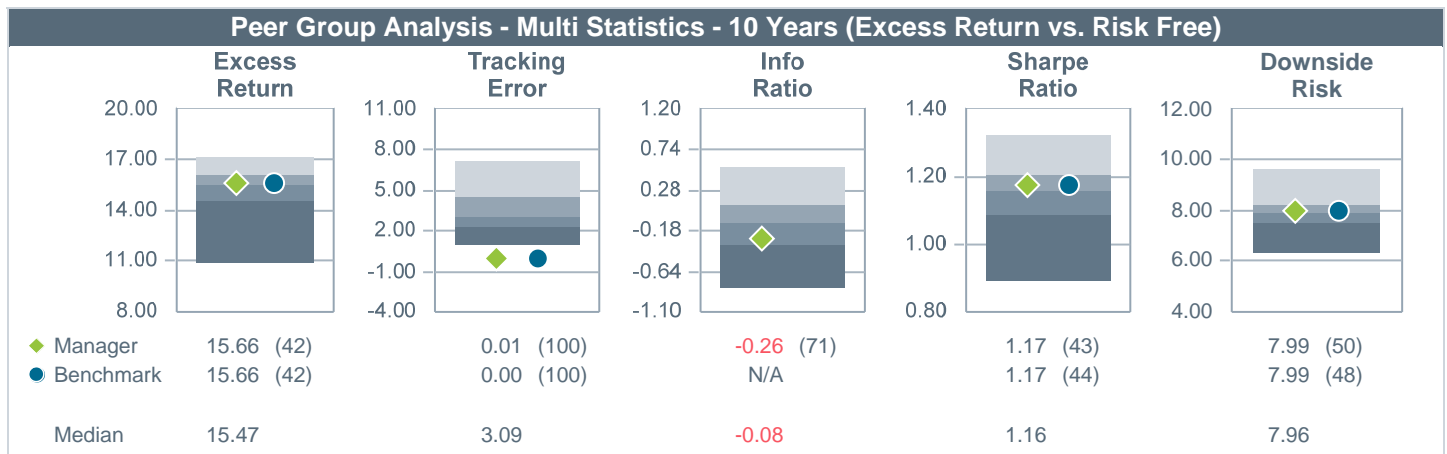
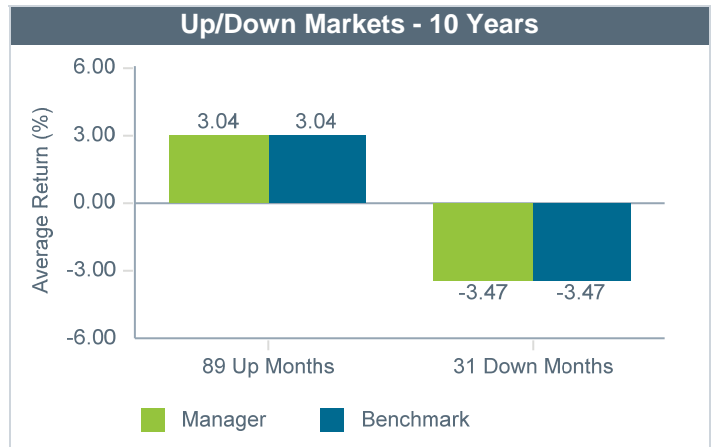
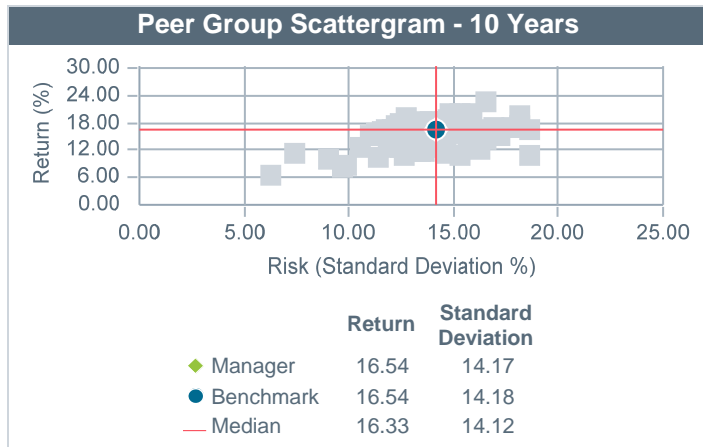
Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2020	2019	2018	2017	2016
Manager	3.36	28.01	24.96	18.42	14.98	17.14	15.54	31.94	-3.90	24.19	11.46
Benchmark	7.77	25.16	17.64	11.16	9.73	12.97	2.80	26.54	-8.27	13.66	17.34
Difference	-4.41	2.85	7.32	7.26	5.25	4.17	12.74	5.40	4.37	10.53	-5.88
Peer Group Median	8.25	27.78	19.87	12.94	11.08	13.95	5.46	27.44	-8.35	17.27	14.53
Rank	98	48	12	8	8	3	14	14	17	8	73
Population	241	241	237	234	229	215	287	317	334	353	382



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



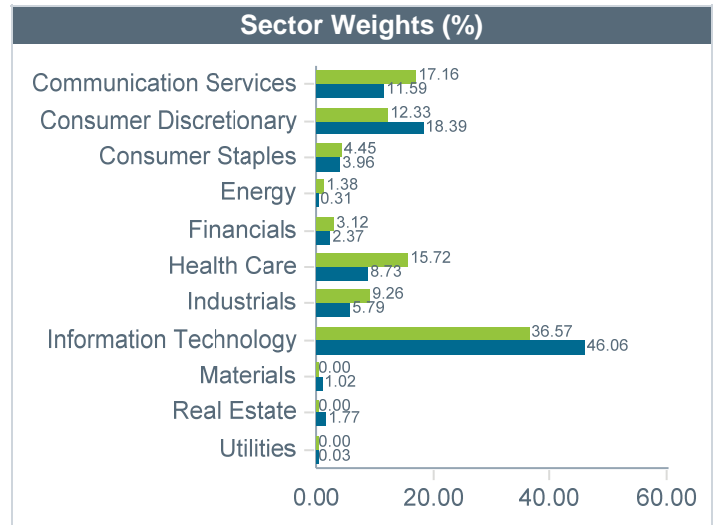
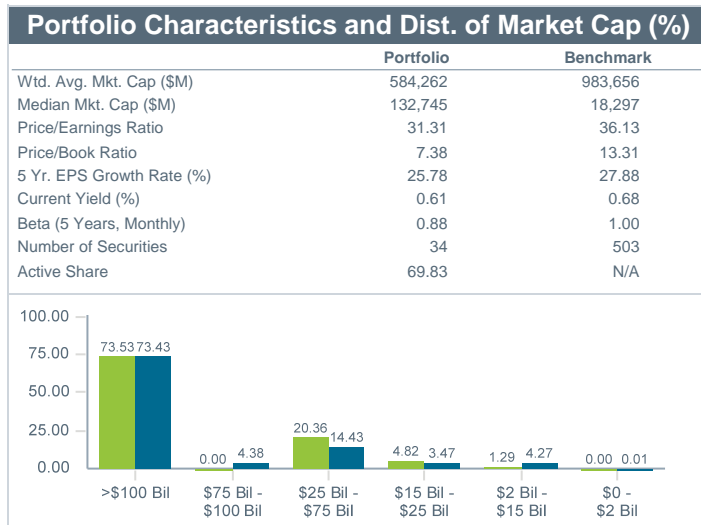
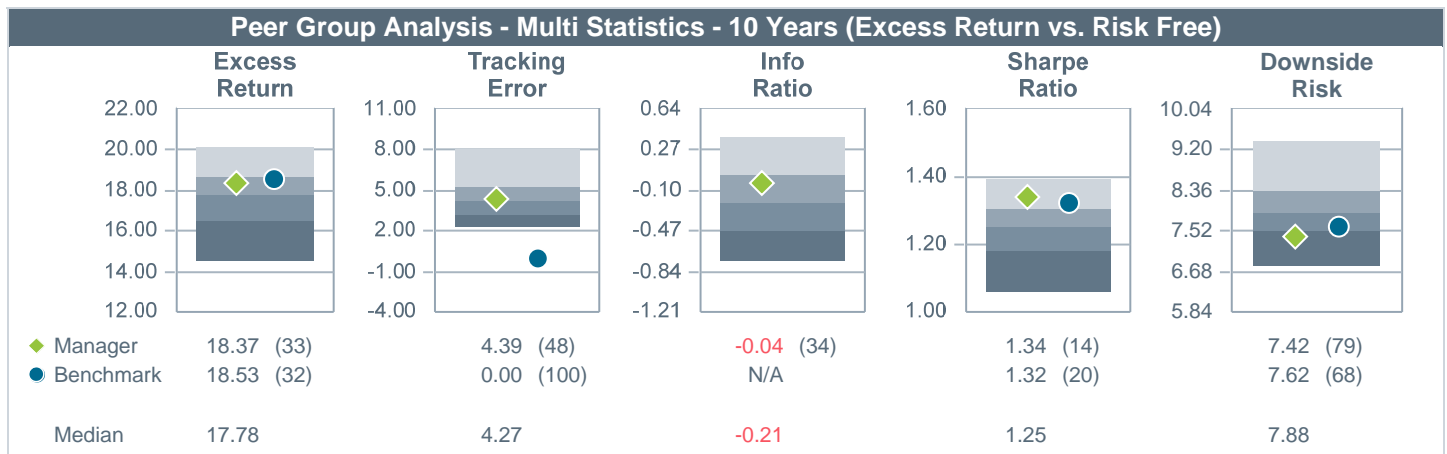
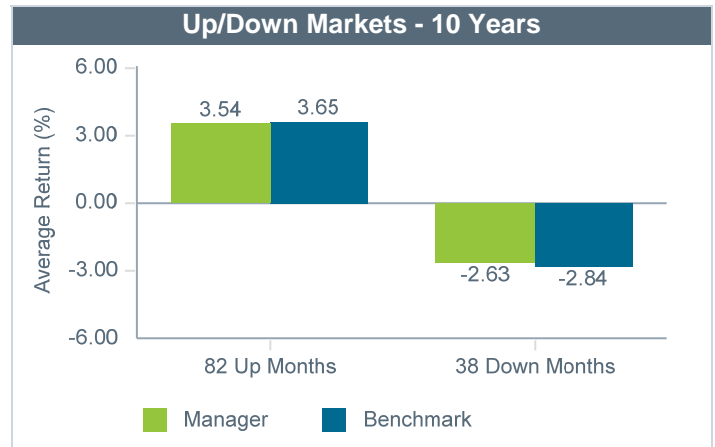
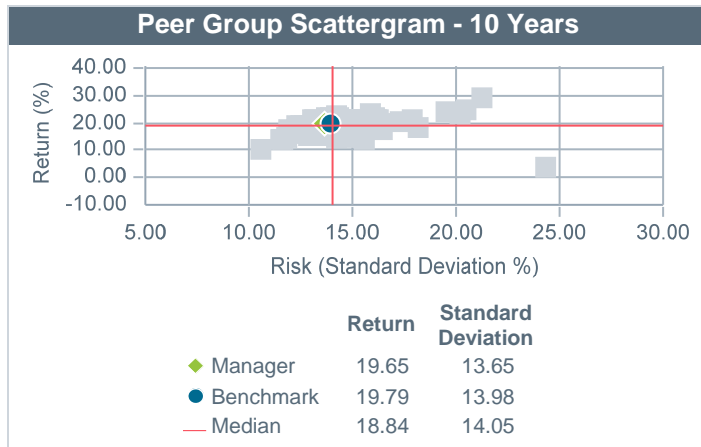
Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2020	2019	2018	2017	2016
Manager	9.77	26.46	26.19	18.42	14.83	16.54	20.91	31.42	-4.77	21.68	12.04
Benchmark	9.78	26.45	26.21	18.43	14.84	16.54	20.96	31.43	-4.78	21.69	12.05
Difference	-0.01	0.01	-0.02	-0.01	-0.01	0.00	-0.05	-0.01	0.01	-0.01	-0.01
Peer Group Median	10.24	27.83	25.23	18.03	14.45	16.33	17.25	30.00	-5.16	21.86	10.63
Rank	58	59	35	40	38	44	29	36	43	54	33
Population	193	193	188	182	175	159	225	253	276	299	319



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



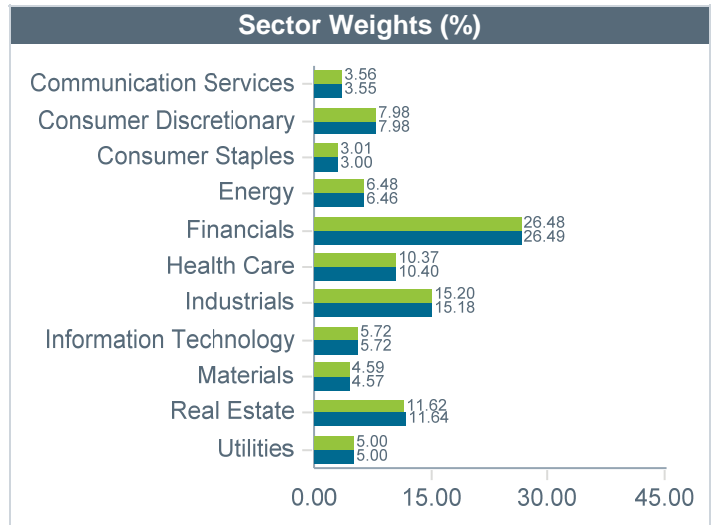
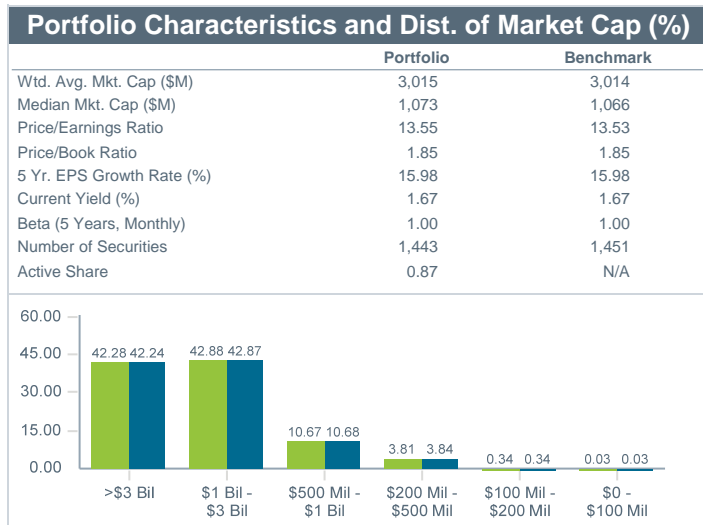
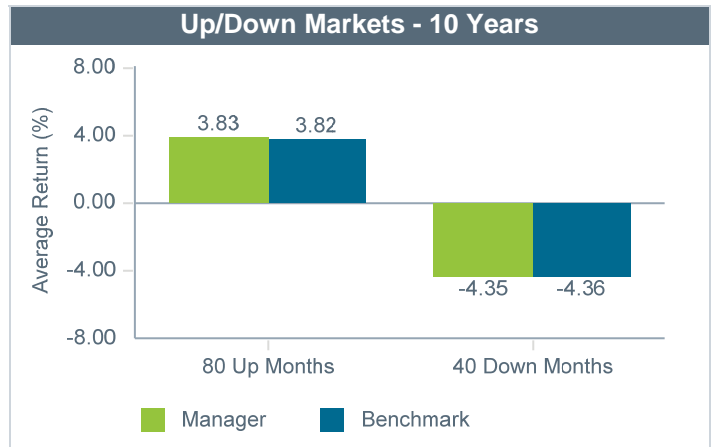
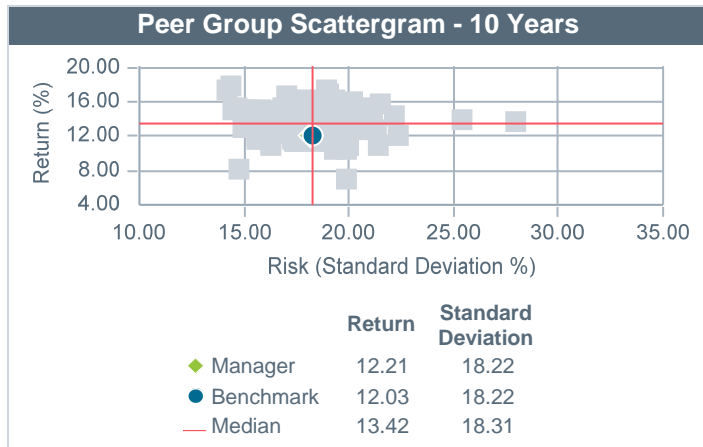
Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2020	2019	2018	2017	2016
Manager	6.81	19.45	28.21	22.66	18.51	19.65	32.95	32.71	-1.72	34.03	6.54
Benchmark	11.64	27.60	34.08	25.32	19.58	19.79	38.49	36.39	-1.51	30.21	7.08
Difference	-4.83	-8.15	-5.87	-2.66	-1.07	-0.14	-5.54	-3.68	-0.21	3.82	-0.54
Peer Group Median	9.33	25.26	31.11	23.66	18.01	18.84	34.79	33.81	-0.87	28.31	4.72
Rank	75	82	77	64	40	32	60	61	57	16	34
Population	193	193	192	188	184	175	241	255	279	289	308



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



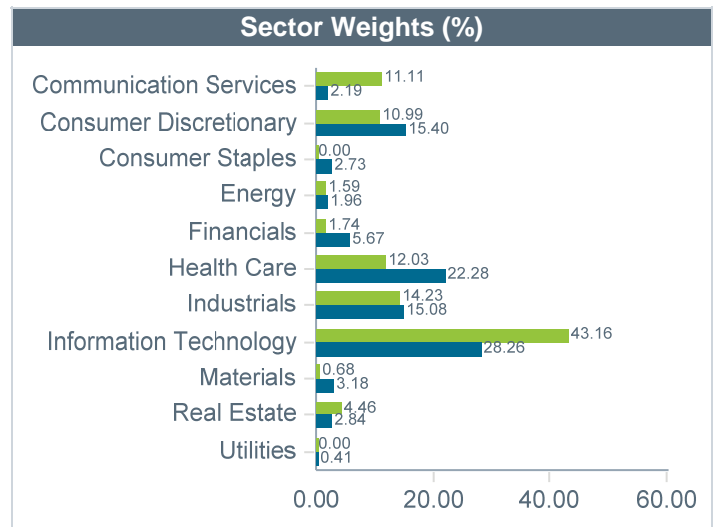
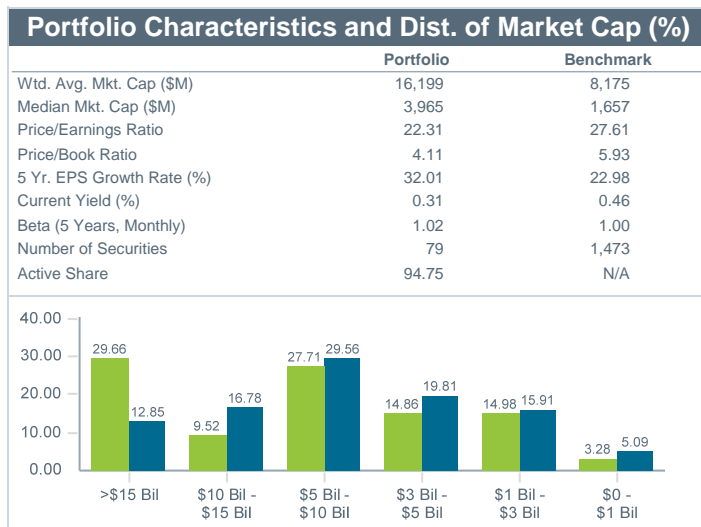
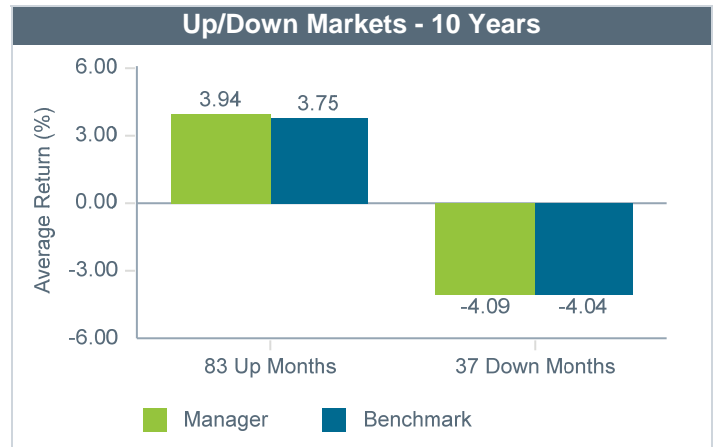
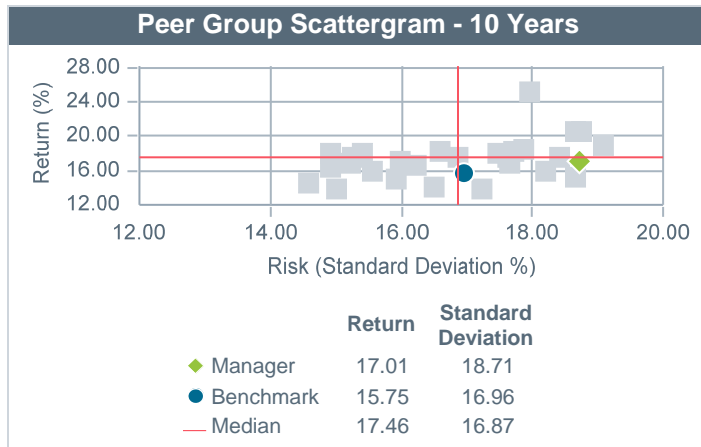
Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2020	2019	2018	2017	2016
Manager	4.34	28.39	18.20	9.25	9.63	12.21	4.90	22.62	-12.72	7.97	31.92
Benchmark	4.36	28.27	17.99	9.07	9.45	12.03	4.63	22.39	-12.86	7.84	31.74
Difference	-0.02	0.12	0.21	0.18	0.18	0.18	0.27	0.23	0.14	0.13	0.18
Peer Group Median	6.86	29.43	20.14	10.85	10.73	13.42	5.34	24.93	-14.16	11.61	26.81
Rank	88	54	79	74	73	80	52	72	36	74	16
Population	160	160	154	152	149	138	194	202	222	231	236



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



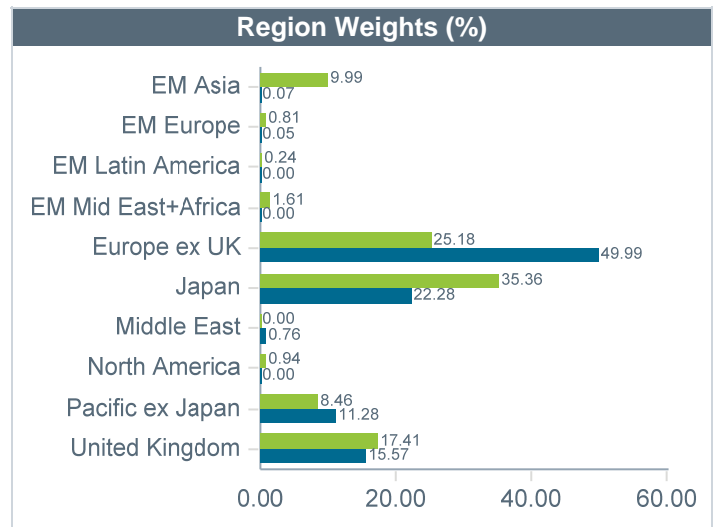
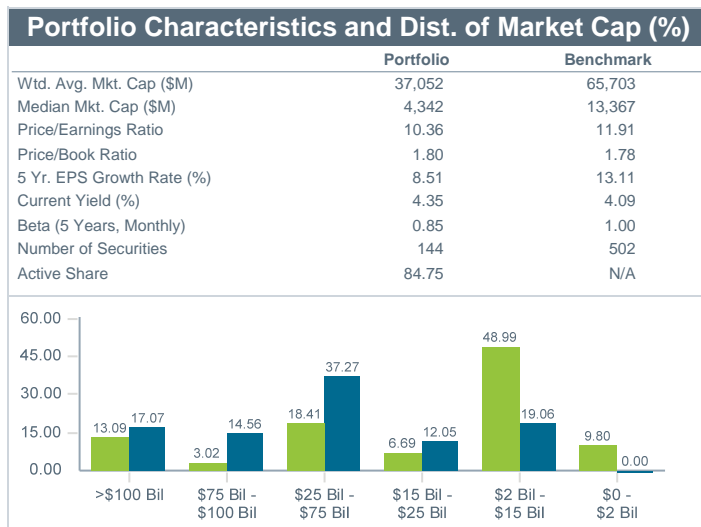
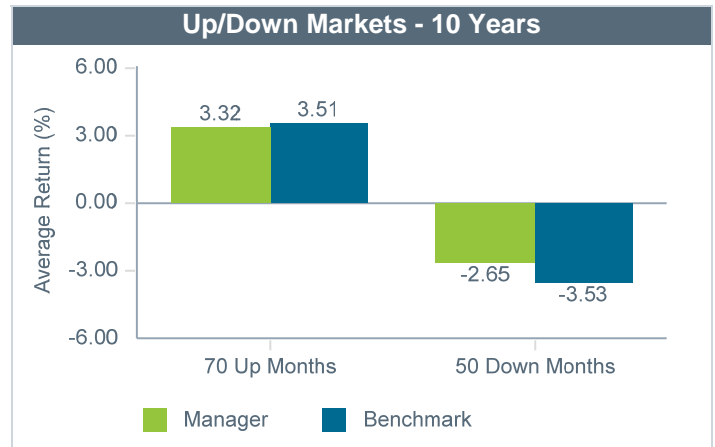
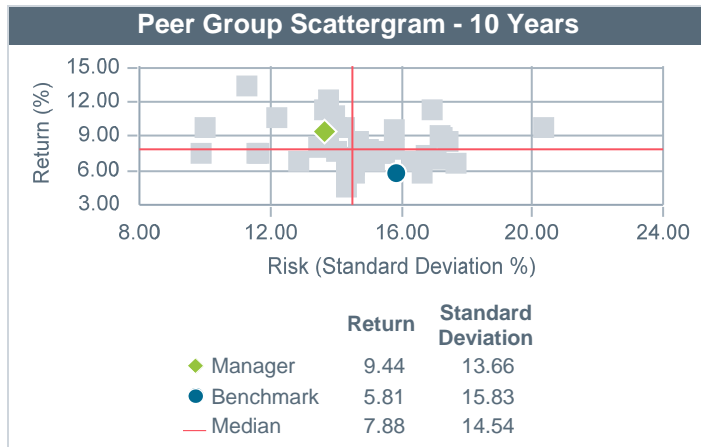
Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2020	2019	2018	2017	2016
Manager	3.36	12.71	28.61	19.16	14.27	17.01	33.32	41.57	-10.36	25.99	5.26
Benchmark	0.20	5.04	25.09	17.65	13.78	15.75	40.47	32.65	-7.47	24.46	9.73
Difference	3.16	7.67	3.52	1.51	0.49	1.26	-7.15	8.92	-2.89	1.53	-4.47
Peer Group Median	4.64	17.19	29.43	21.51	16.16	17.46	42.60	31.91	-4.67	24.93	8.58
Rank	58	60	53	66	68	56	71	3	86	43	79
Population	51	51	47	41	33	27	57	58	63	62	68



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



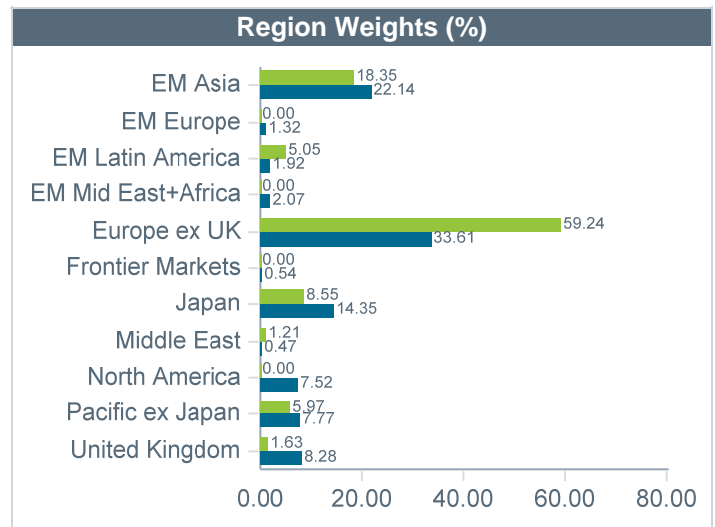
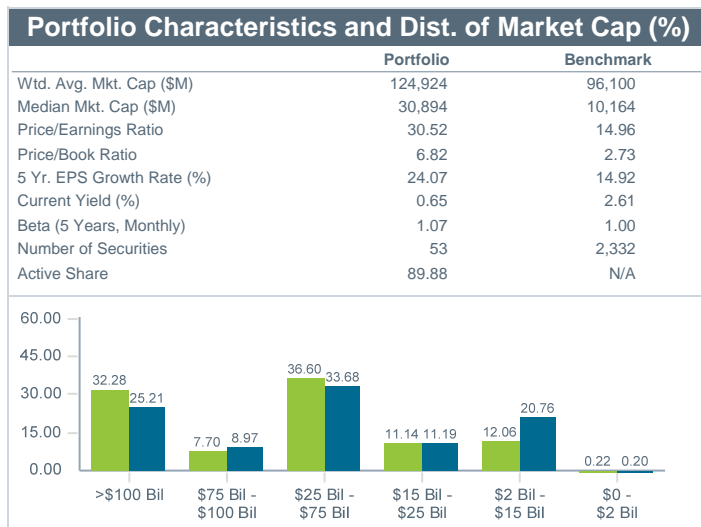
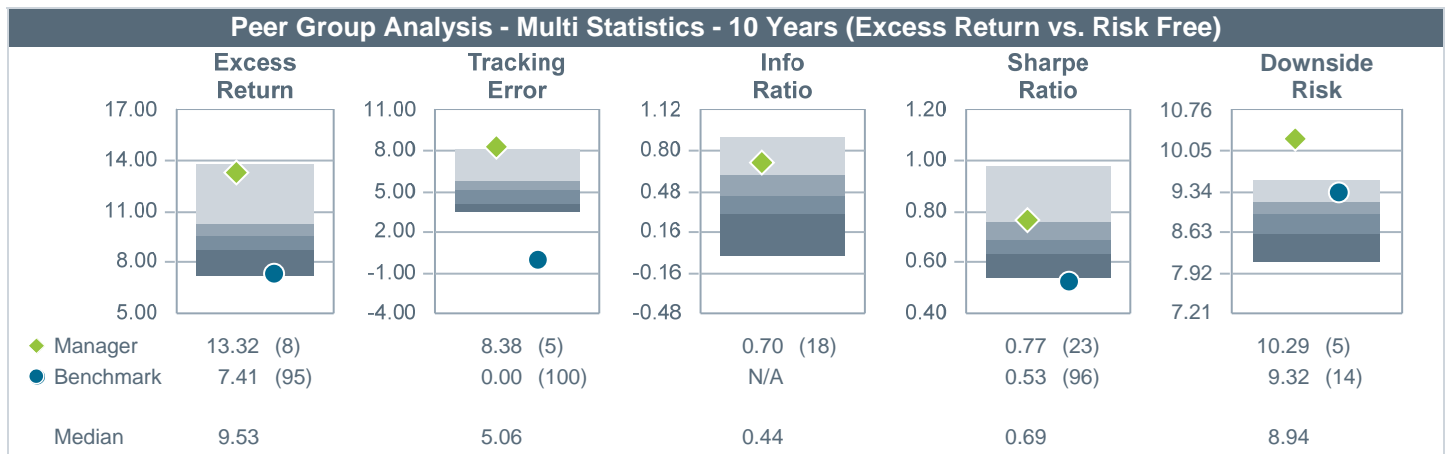
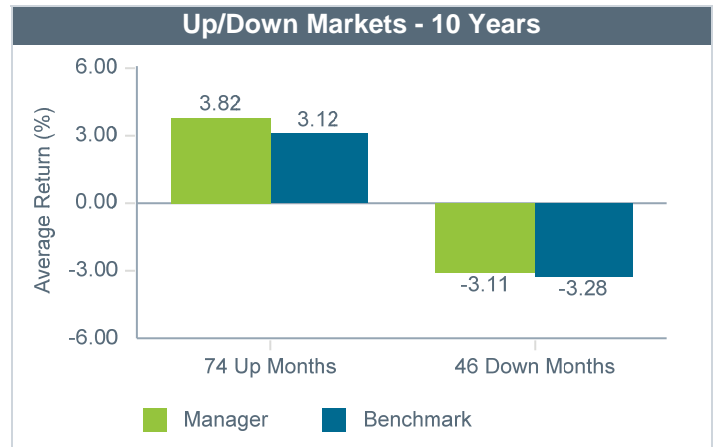
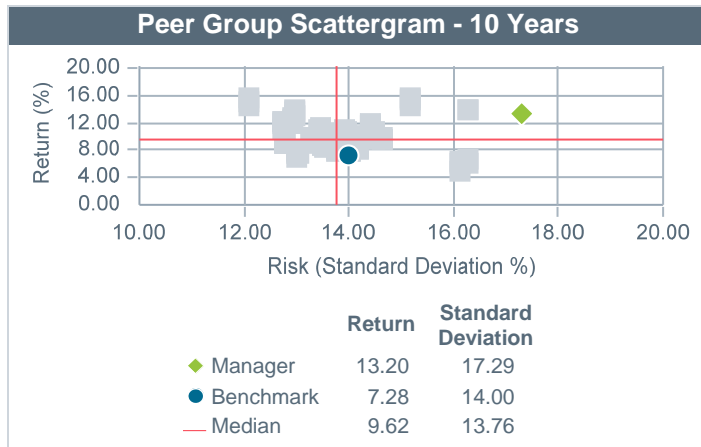
Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2020	2019	2018	2017	2016
Manager	0.16	12.58	10.01	8.03	7.23	9.44	0.17	18.05	-13.74	28.10	8.27
Benchmark	1.17	10.89	7.82	5.34	3.65	5.81	-2.63	16.09	-14.78	21.44	5.02
Difference	-1.01	1.69	2.19	2.69	3.58	3.63	2.80	1.96	1.04	6.66	3.25
Peer Group Median	1.64	11.36	11.42	7.92	6.12	7.88	4.45	21.10	-15.76	24.17	3.15
Rank	89	39	83	50	23	26	81	88	41	26	9
Population	42	42	42	42	42	42	50	56	59	61	65



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



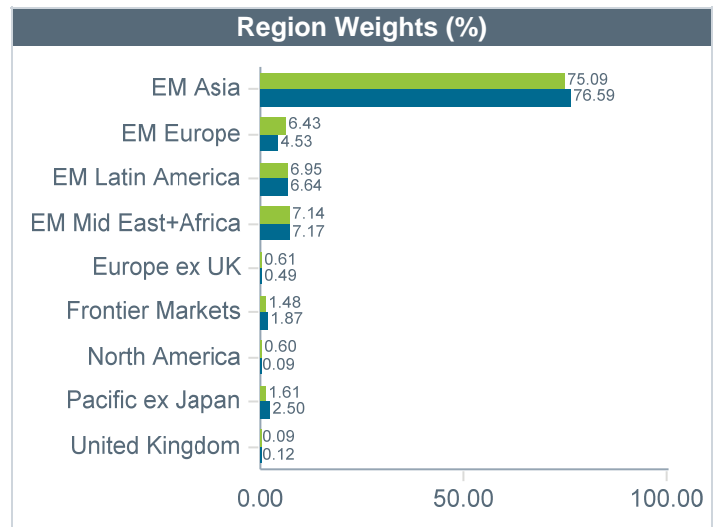
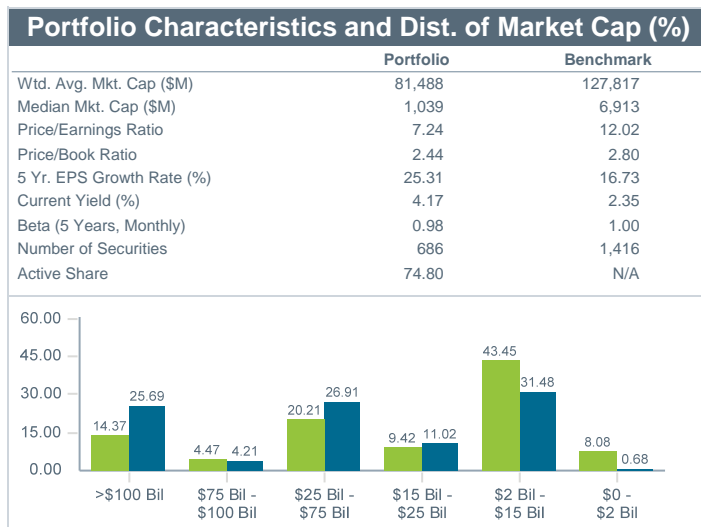
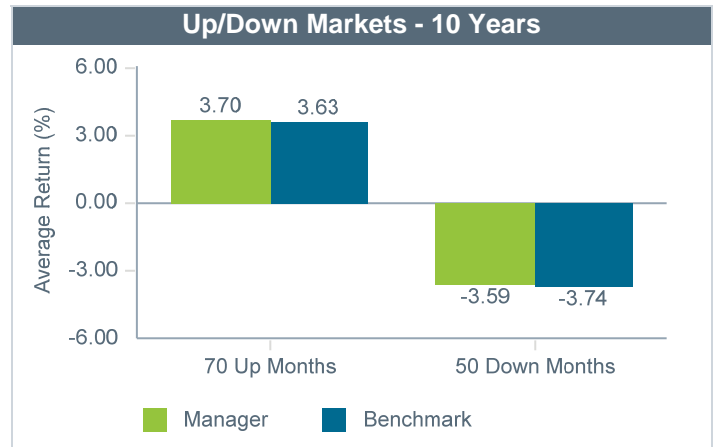
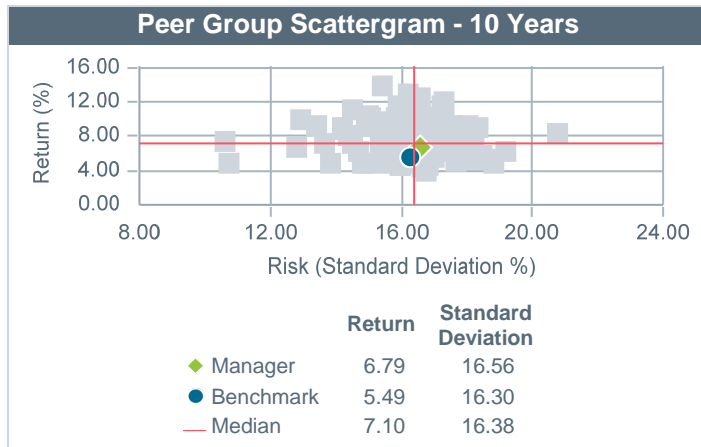
Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2020	2019	2018	2017	2016
Manager	-4.55	-9.32	26.69	19.76	13.48	13.20	63.13	37.48	-17.23	46.37	1.43
Benchmark	1.82	7.82	13.18	9.61	6.56	7.28	10.65	21.51	-14.20	27.19	4.50
Difference	-6.37	-17.14	13.51	10.15	6.92	5.92	52.48	15.97	-3.03	19.18	-3.07
Peer Group Median	1.96	7.93	19.21	14.24	9.19	9.62	22.75	27.84	-14.32	32.37	-0.80
Rank	100	98	5	10	11	10	1	2	79	5	17
Population	170	170	170	170	132	109	170	172	176	188	165



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	2020	2019	2018	2017	2016
Manager	0.91	8.75	13.04	10.39	6.42	6.79	12.55	18.00	-18.30	38.94	14.08
Benchmark	-1.31	-2.54	10.94	9.87	6.11	5.49	18.31	18.44	-14.58	37.28	11.19
Difference	2.22	11.29	2.10	0.52	0.31	1.30	-5.76	-0.44	-3.72	1.66	2.89
Peer Group Median	-0.67	1.20	13.14	10.82	7.25	7.10	18.01	19.43	-15.21	36.71	10.35
Rank	22	26	52	58	67	59	73	64	81	35	23
Population	259	255	243	225	203	156	298	328	332	343	353



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



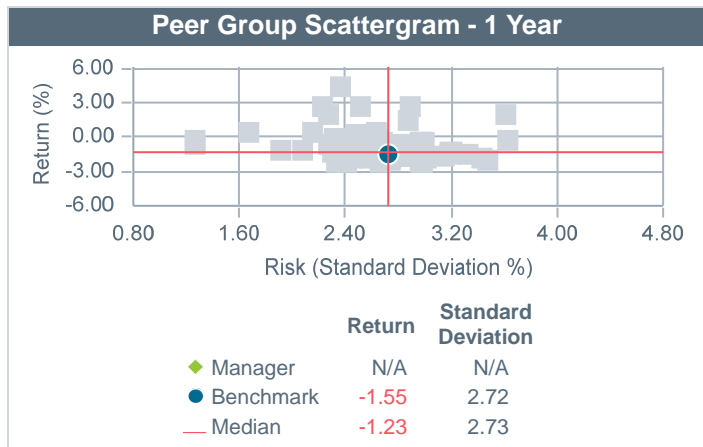
Manager: Baird Core Fixed Income (SA)

As of December 31, 2021

Benchmark: Bloomberg US Agg Bond Index

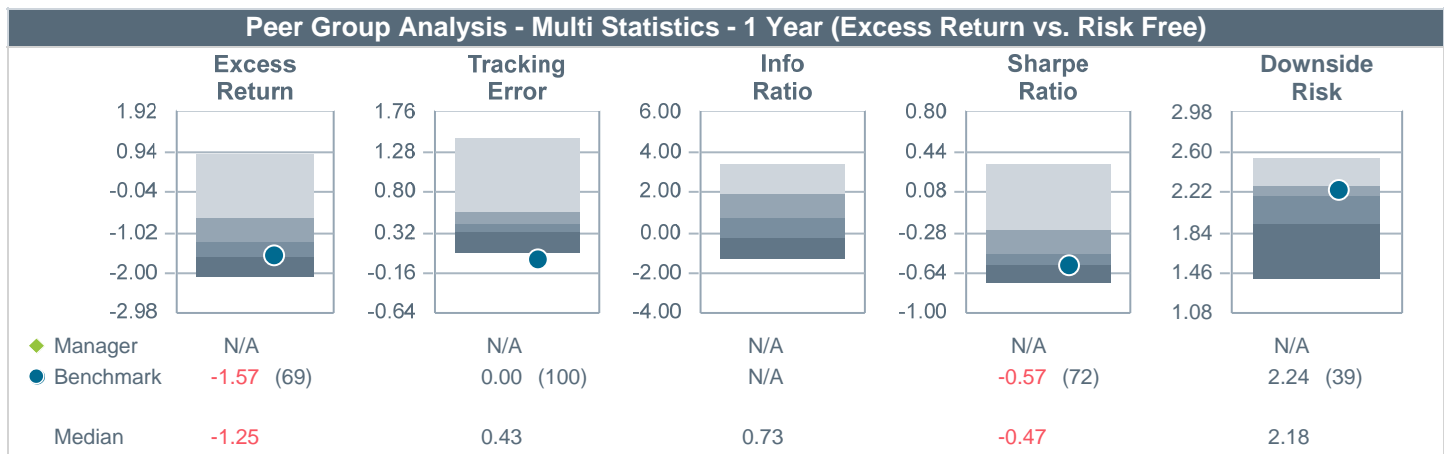
Peer Group: IM U.S. Broad Market Core Fixed Income (SA+CF)

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2020	2019	2018	2017	2016
Manager	-0.18	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Benchmark	0.01	-1.55	4.79	3.57	3.00	2.90	7.51	8.72	0.01	3.54	2.65
Difference	-0.19	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Peer Group Median	-0.04	-1.23	5.47	4.10	3.51	3.51	8.52	9.19	0.06	4.01	3.12
Rank	82	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Population	133	132	131	127	125	121	150	152	158	163	170



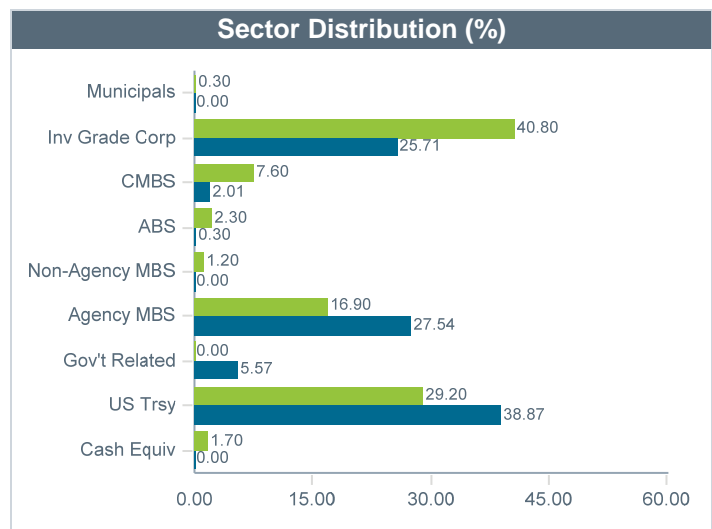
Up/Down Markets - 1 Year

Data is currently unavailable.



Portfolio Characteristics

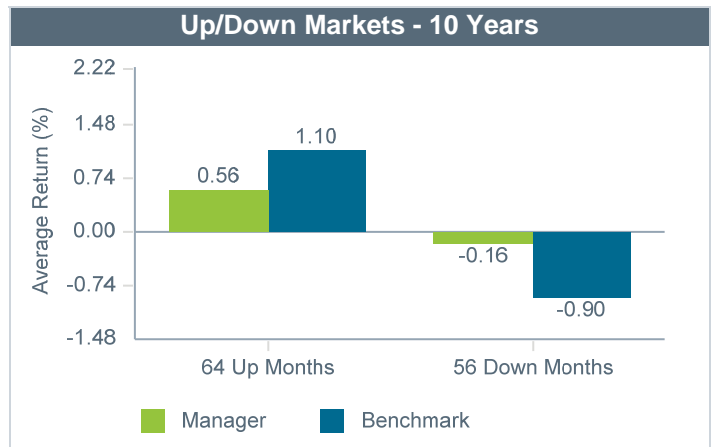
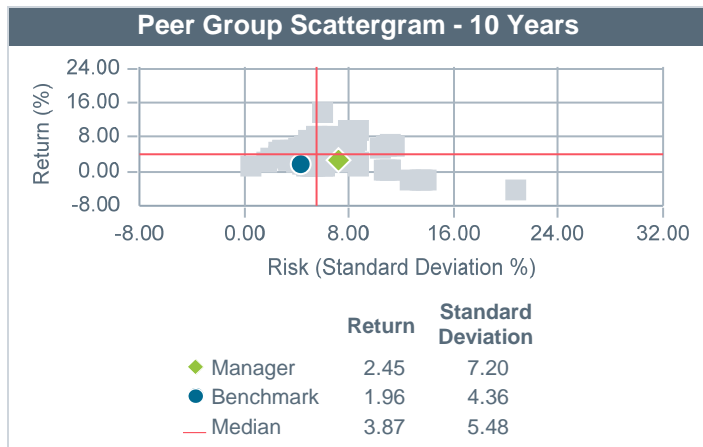
	Portfolio	Benchmark
Effective Duration	6.78	6.78
Spread Duration	3.78	N/A
Avg. Maturity	8.50	8.71
Avg. Quality	Aa3	Aa1/Aa2
Yield To Maturity (%)	N/A	1.76
Coupon Rate (%)	2.88	2.43
Current Yield (%)	N/A	N/A
Holdings Count	228	12,350



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

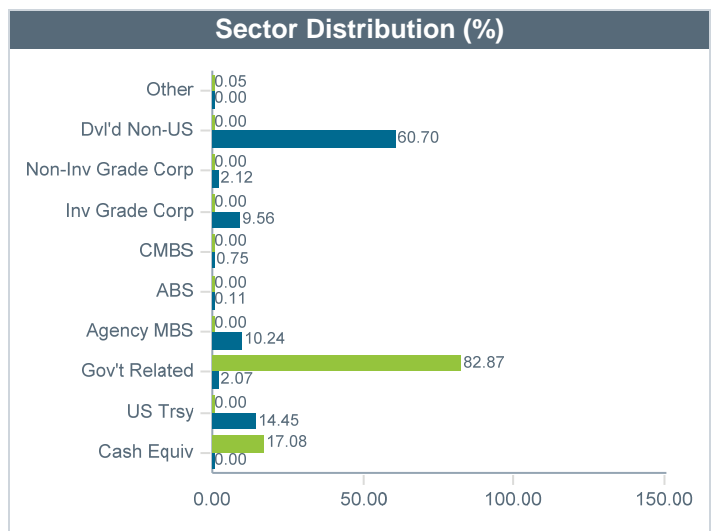


Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2020	2019	2018	2017	2016
Manager	-1.32	-4.72	-2.97	-0.72	0.09	2.45	-3.81	-0.33	0.52	5.06	8.01
Benchmark	-0.70	-4.51	3.70	3.45	2.37	1.96	9.02	7.13	-1.36	7.69	2.84
Difference	-0.62	-0.21	-6.67	-4.17	-2.28	0.49	-12.83	-7.46	1.88	-2.63	5.17
Peer Group Median	-0.19	0.17	6.15	4.83	3.83	3.87	8.69	9.43	-1.80	7.67	6.13
Rank	86	81	100	100	99	71	99	100	19	79	39
Population	182	182	177	173	165	132	220	236	253	261	275



Portfolio Characteristics

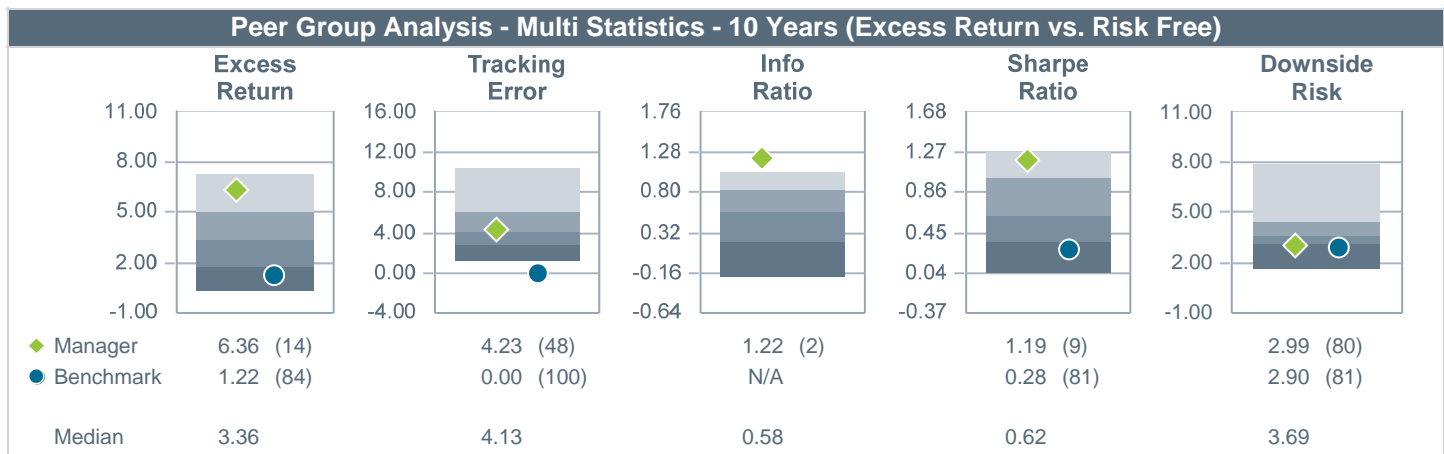
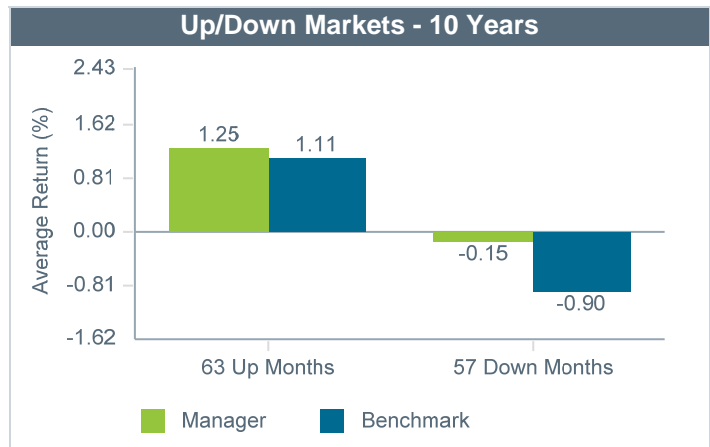
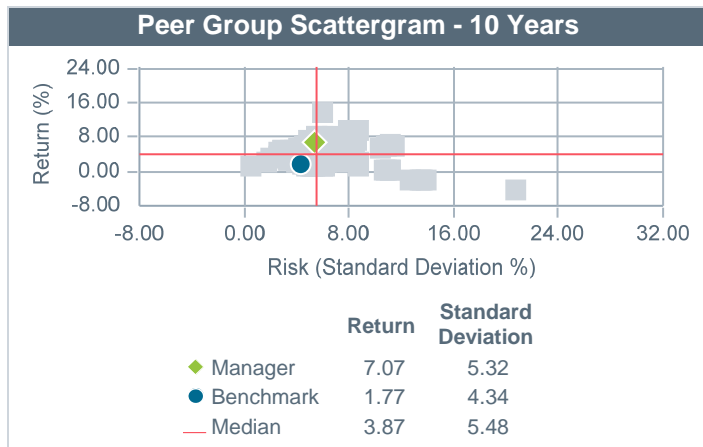
	Portfolio	Benchmark
Effective Duration	1.77	7.36
Spread Duration	1.82	N/A
Avg. Maturity	2.19	9.08
Avg. Quality	N/A	N/A
Yield To Maturity (%)	6.70	1.54
Coupon Rate (%)	4.50	2.36
Current Yield (%)	4.06	N/A
Holdings Count	99	31,867



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.

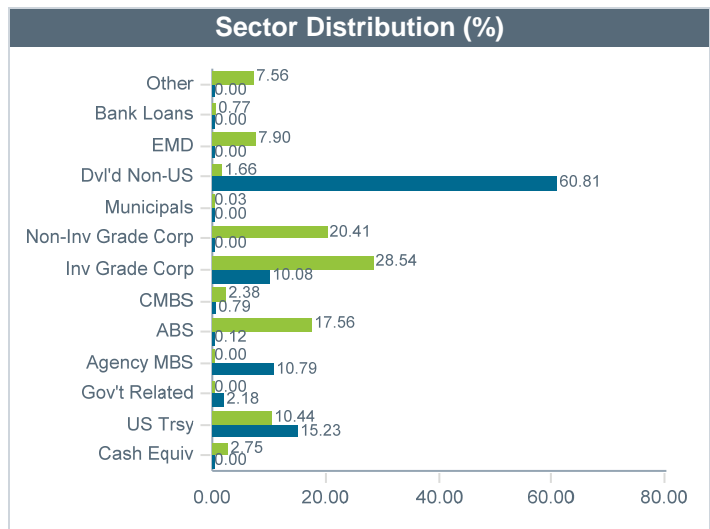


Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2020	2019	2018	2017	2016
Manager	-0.07	0.55	8.30	6.70	5.60	7.07	15.08	9.80	0.09	8.74	10.44
Benchmark	-0.67	-4.71	3.59	3.36	2.22	1.77	9.20	6.84	-1.19	7.39	2.09
Difference	0.60	5.26	4.71	3.34	3.38	5.30	5.88	2.96	1.28	1.35	8.35
Peer Group Median	-0.19	0.17	6.15	4.83	3.83	3.87	8.69	9.43	-1.80	7.67	6.13
Rank	42	44	28	12	25	13	7	47	23	31	27
Population	182	182	177	173	165	132	220	236	253	261	275



Portfolio Characteristics

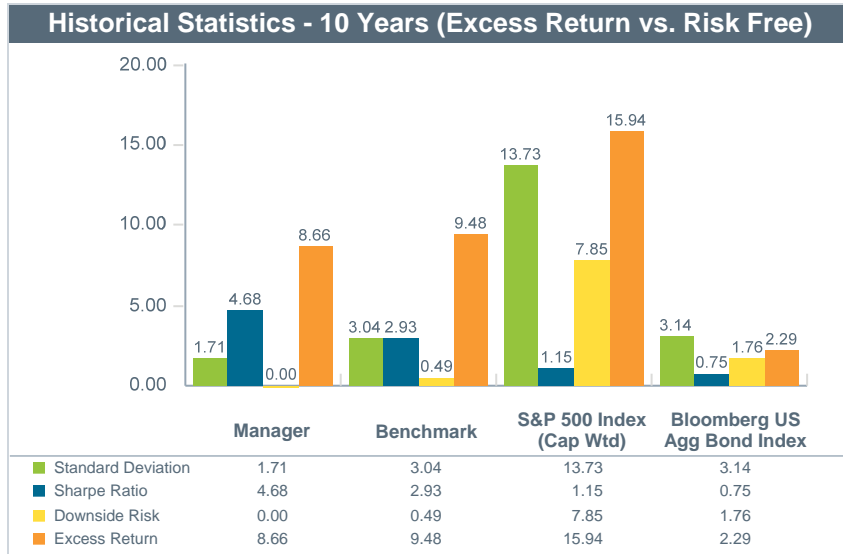
	Portfolio	Benchmark
Effective Duration	4.22	7.14
Spread Duration	4.76	N/A
Avg. Maturity	6.48	9.19
Avg. Quality	Baa2	N/A
Yield To Maturity (%)	2.99	1.32
Coupon Rate (%)	3.37	2.19
Current Yield (%)	3.27	N/A
Holdings Count	970	27,709



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, hedges, and convertibles.

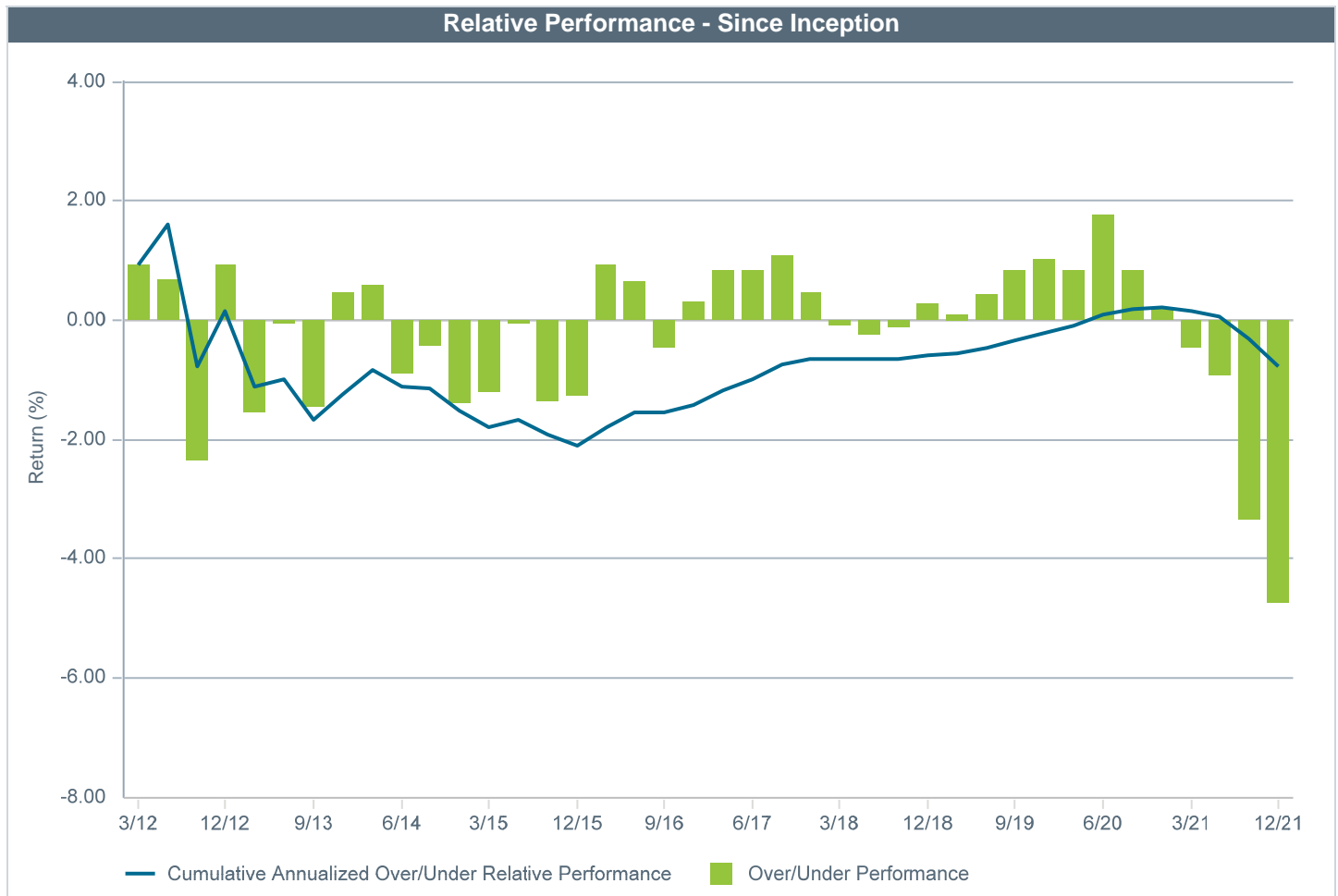


Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2020	2019	2018	2017	2016
Manager	2.87	10.94	7.88	8.58	9.11	9.60	4.91	7.87	8.18	11.11	10.34
Benchmark	7.97	22.17	9.20	8.71	9.60	10.45	1.19	5.34	8.35	7.62	8.77
Difference	-5.10	-11.23	-1.32	-0.13	-0.49	-0.85	3.72	2.53	-0.17	3.49	1.57



Actual Correlation - 10 Years

	Actual Correlation
NCREIF ODCE Index (AWA) (Gross)	0.48
S&P 500 Index (Cap Wtd)	-0.21
Russell 2000 Index	-0.26
MSCI EAFE Index (USD) (Net)	-0.18
MSCI Emg Mkts Index (USD) (Net)	-0.18
Bloomberg US Agg Bond Index	-0.25
Bloomberg US Trsy US TIPS Index	-0.32
Wilshire US REIT Index	-0.10
HFRI FOF Comp Index	-0.27
Bloomberg Cmdty Index (TR)	-0.08
ICE BofAML 3 Mo US T-Bill Index	-0.24
Cons Price Index (Unadjusted)	0.07
NCREIF ODCE Index (AWA) (Gross)	0.48



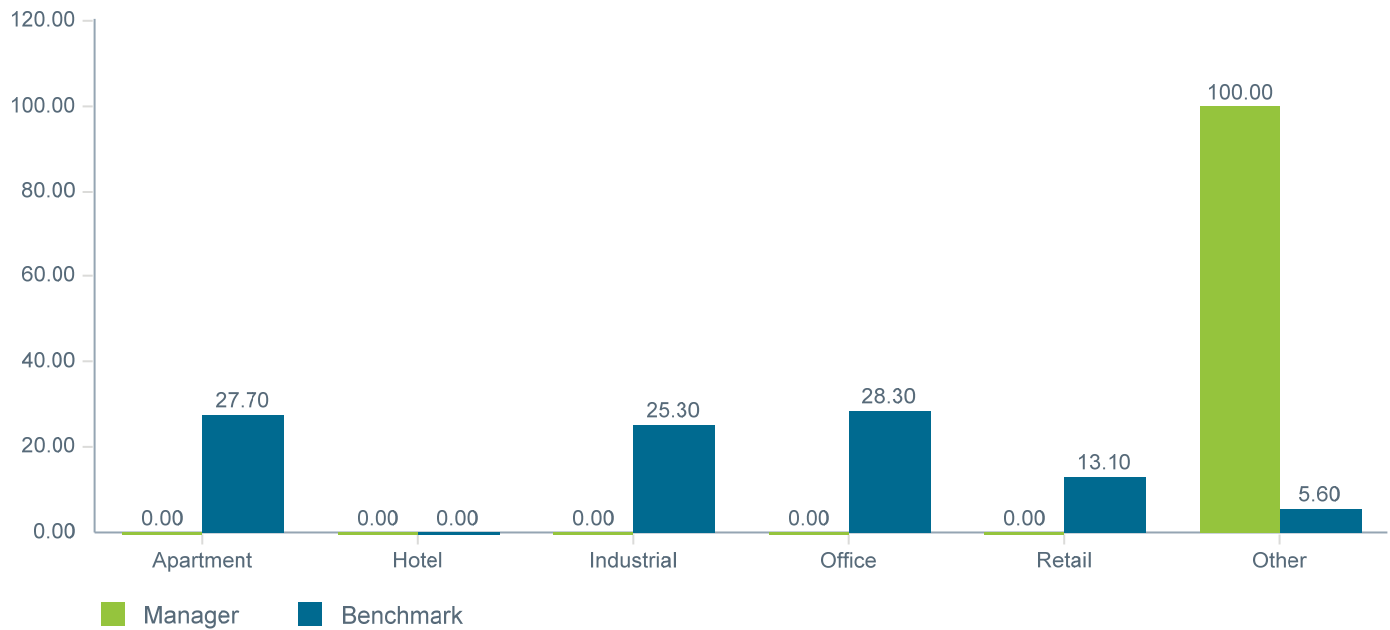
Investment Strategy

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.

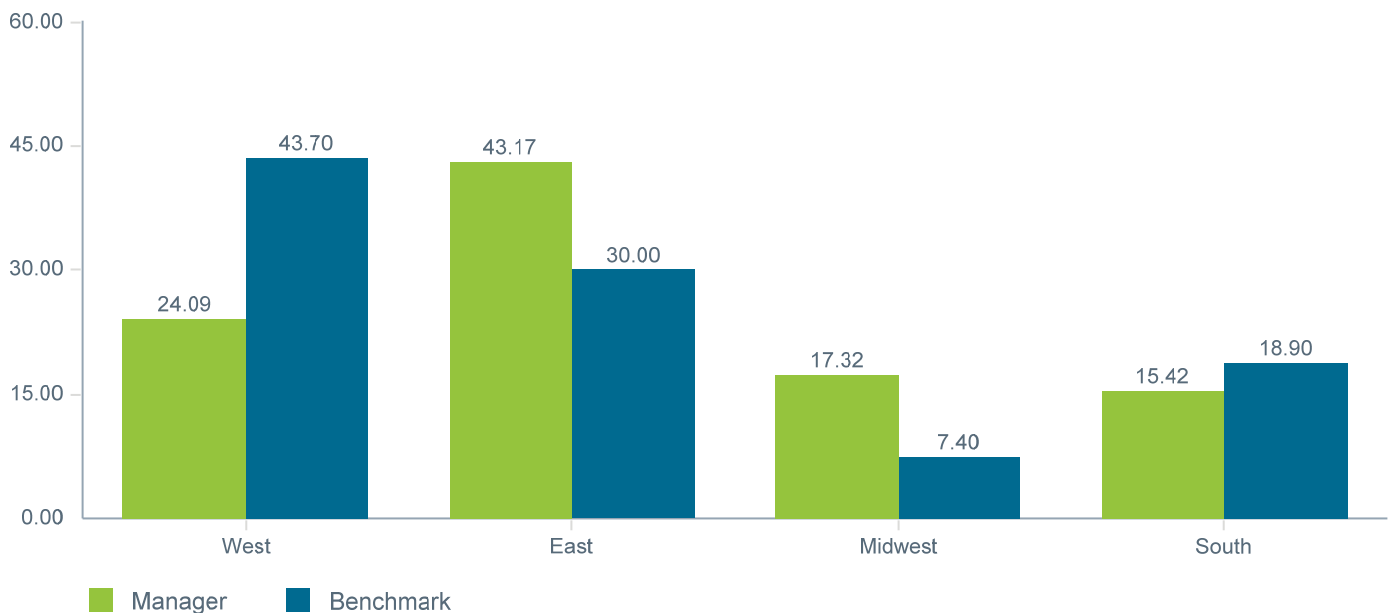
Investment Profile

Fund Inception	2011
Legal Structure	LP
Fund Structure	Open-End
Gross Real Estate Assets (\$M)	11,177
Fund Leverage %	25.92
Portfolio Occupancy %	88.30
Cash Reserve %	0.73
Number of Investments	350
Number of Limited Partners	213

Property Type Allocation (%)



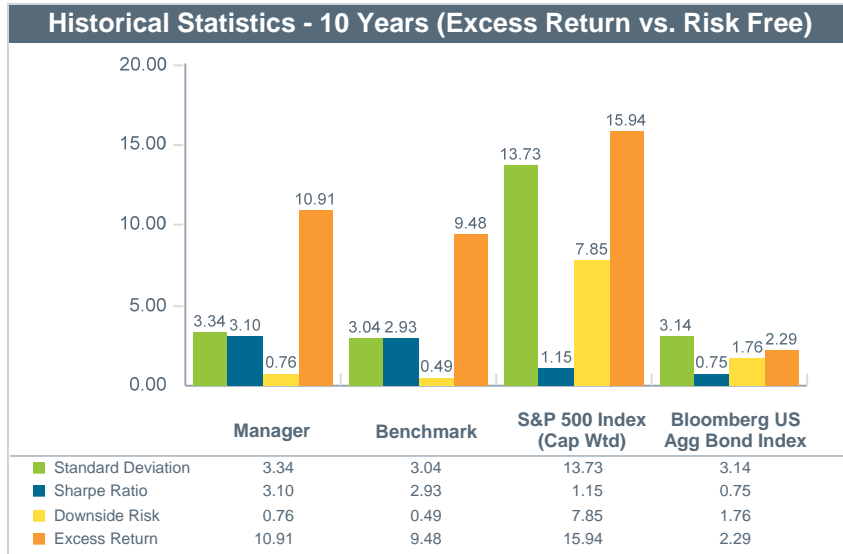
Geographic Allocation (%)



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 education, healthcare, senior housing, and storage real estate. 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.

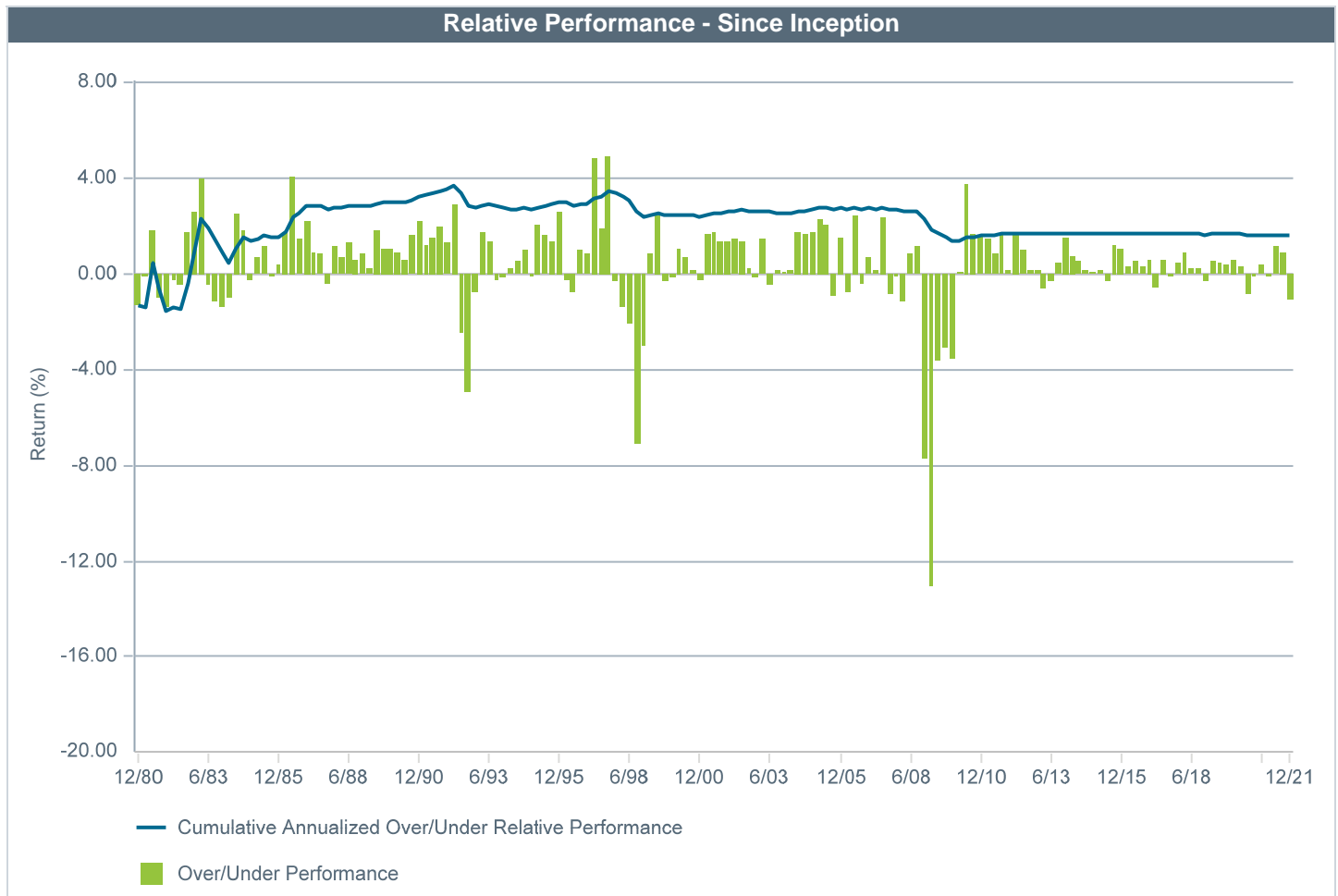


Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2020	2019	2018	2017	2016
Manager	6.77	23.30	10.23	9.64	10.89	11.99	1.03	7.52	9.48	8.06	10.70
Benchmark	7.97	22.17	9.20	8.71	9.60	10.45	1.19	5.34	8.35	7.62	8.77
Difference	-1.20	1.13	1.03	0.93	1.29	1.54	-0.16	2.18	1.13	0.44	1.93



Actual Correlation - 10 Years

	Actual Correlation
NCREIF ODCE Index (AWA) (Gross)	0.93
S&P 500 Index (Cap Wtd)	-0.10
Russell 2000 Index	-0.21
MSCI EAFE Index (USD) (Net)	-0.13
MSCI Emg Mkts Index (USD) (Net)	-0.32
Bloomberg US Agg Bond Index	-0.26
Bloomberg US Trsy US TIPS Index	-0.19
Wilshire US REIT Index	0.14
HFRI FOF Comp Index	-0.20
Bloomberg Cmnty Index (TR)	-0.05
ICE BofAML 3 Mo US T-Bill Index	-0.39
Cons Price Index (Unadjusted)	0.17



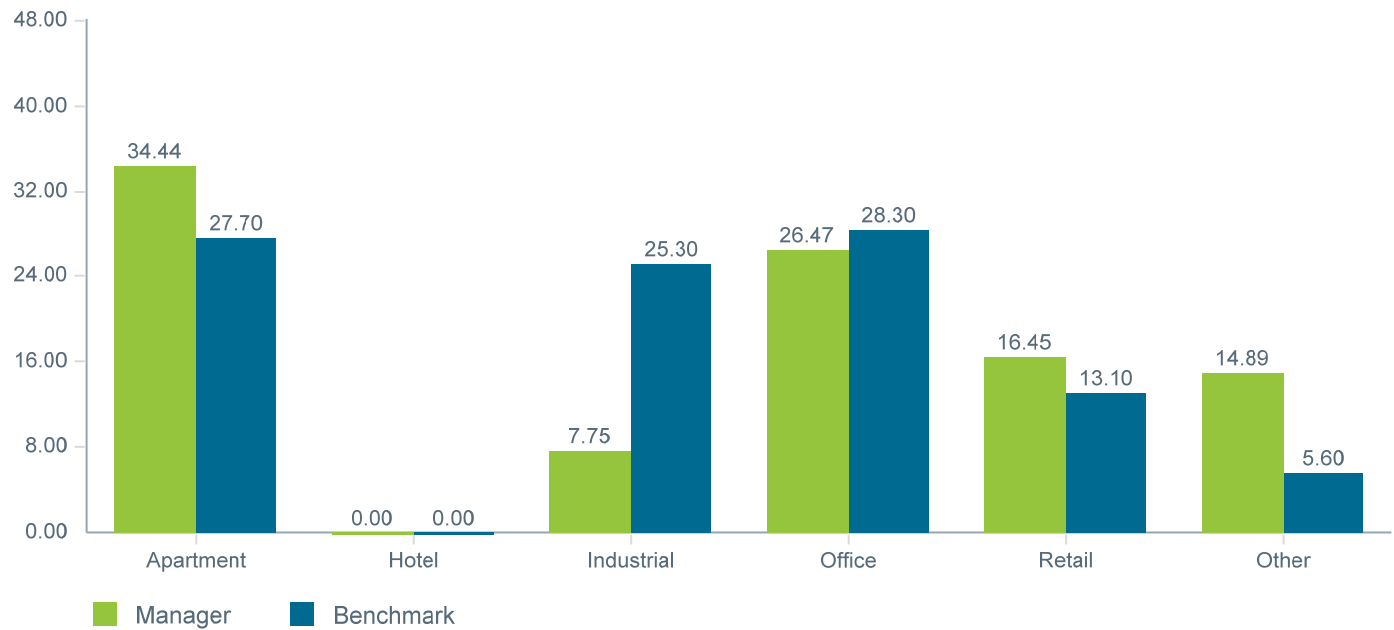
Investment Strategy

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.

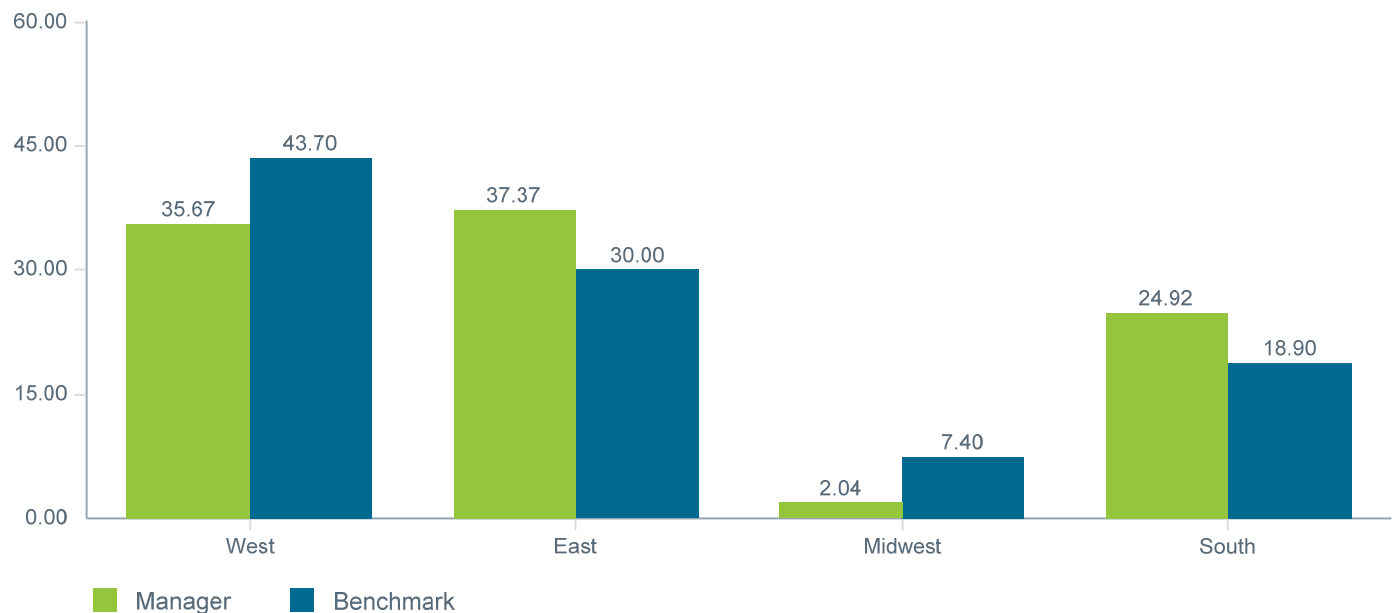
Investment Profile

Fund Inception	1980
Legal Structure	REIT
Fund Structure	Open-End
Gross Real Estate Assets (\$M)	15,116
Fund Leverage %	33.43
Portfolio Occupancy %	89.89
Cash Reserve %	2.52
Number of Investments	156
Number of Limited Partners	107

Property Type Allocation (%)



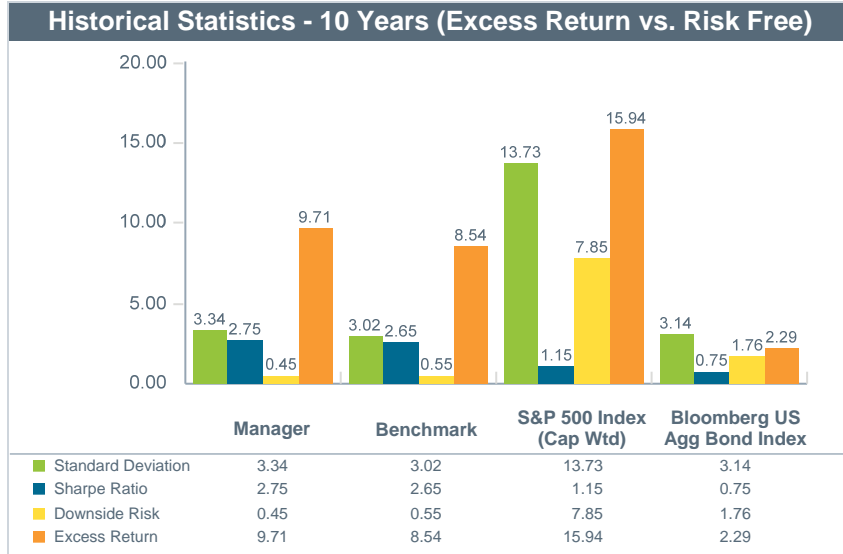
Geographic Allocation (%)



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 land and life science/lab space. 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.

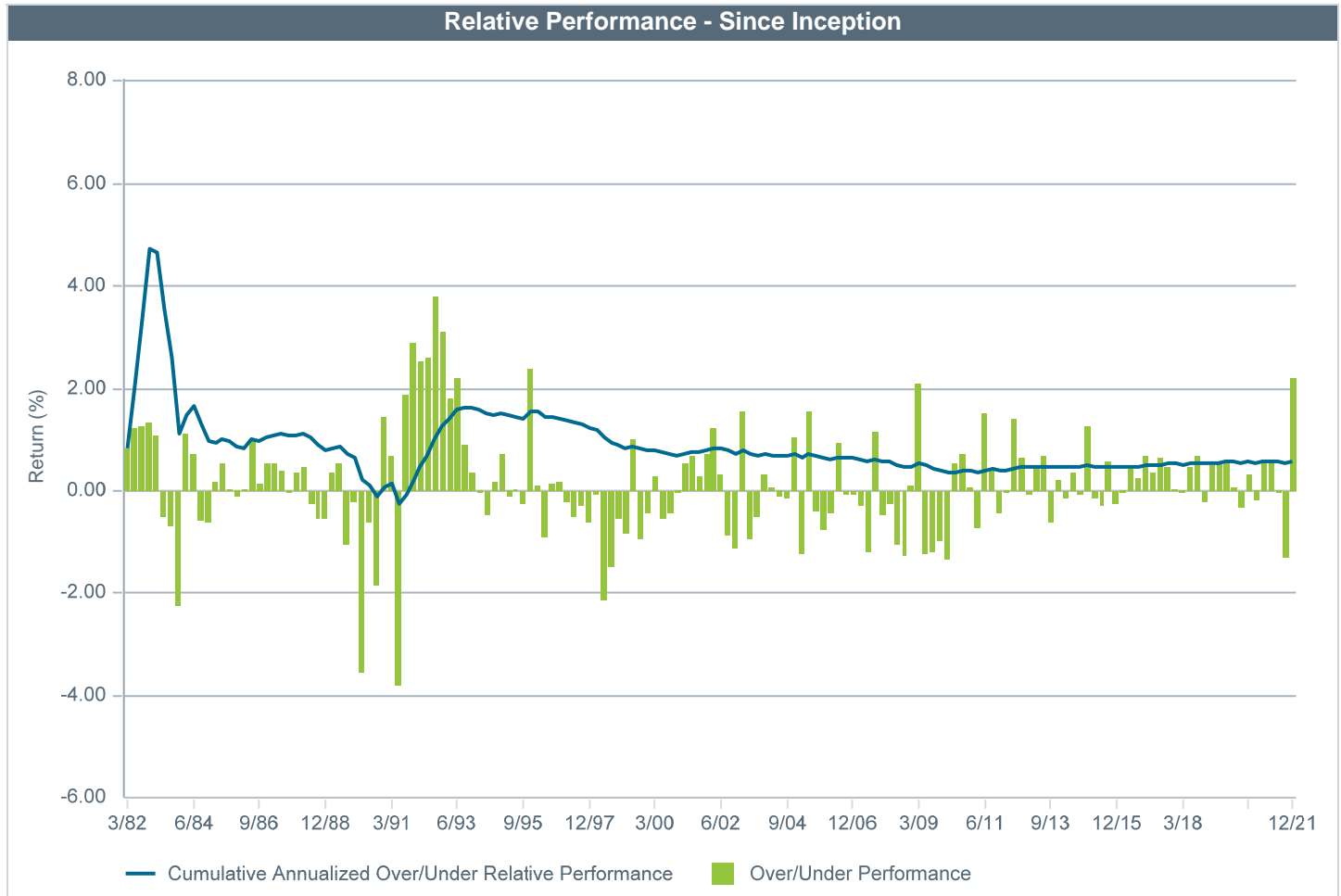


Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2020	2019	2018	2017	2016
Manager	10.08	22.83	9.56	9.06	9.75	10.69	0.81	6.22	8.32	8.29	9.21
Benchmark	7.69	21.06	8.24	7.75	8.62	9.44	0.34	4.39	7.36	6.66	7.79
Difference	2.39	1.77	1.32	1.31	1.13	1.25	0.47	1.83	0.96	1.63	1.42



Actual Correlation - 10 Years

	Actual Correlation
NCREIF ODCE Index (AWA) (Net)	0.93
S&P 500 Index (Cap Wtd)	0.02
Russell 2000 Index	-0.10
MSCI EAFE Index (USD) (Net)	-0.11
MSCI Emg Mkts Index (USD) (Net)	-0.30
Bloomberg US Agg Bond Index	-0.27
Bloomberg US Trsy US TIPS Index	-0.20
Wilshire US REIT Index	0.30
HFRI FOF Comp Index	-0.15
Bloomberg Cmdty Index (TR)	-0.09
ICE BofAML 3 Mo US T-Bill Index	-0.38
Cons Price Index (Unadjusted)	0.18
NCREIF ODCE Index (AWA) (Gross)	0.93



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.

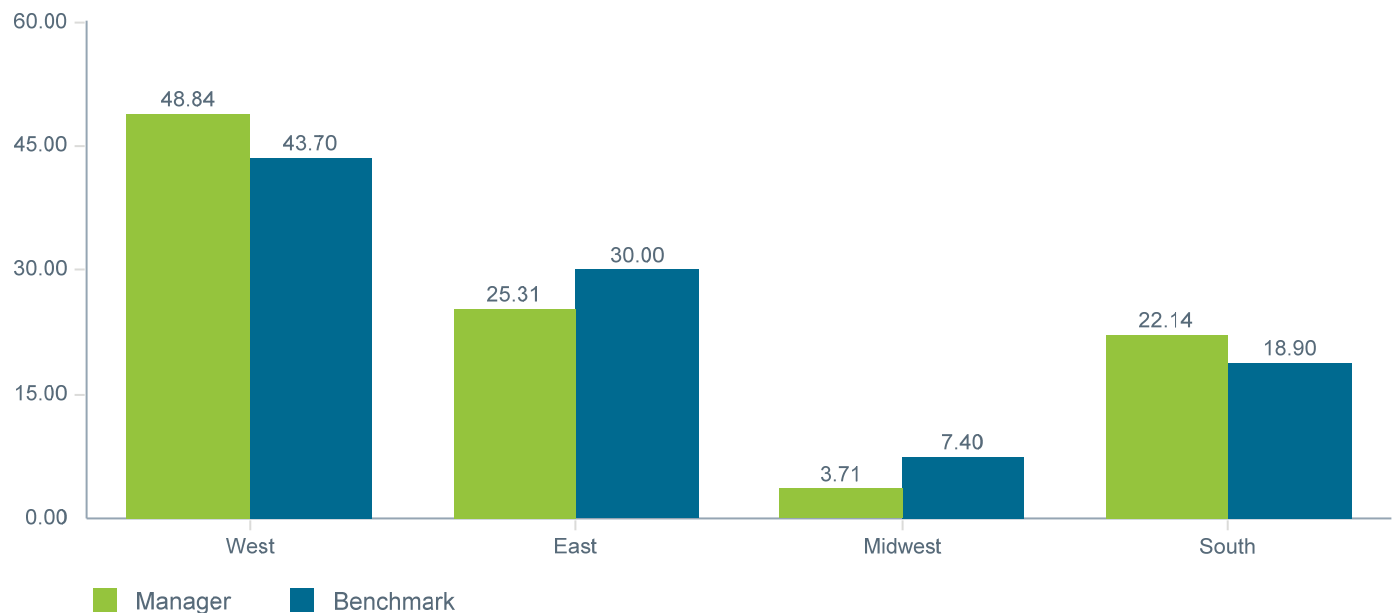
Investment Profile

Fund Inception	1982
Legal Structure	Insurance SA
Fund Structure	Open-End
Gross Real Estate Assets (\$M)	11,419
Fund Leverage %	22.19
Portfolio Occupancy %	91.34
Cash Reserve %	3.21
Number of Investments	134
Number of Limited Partners	4,971

Property Type Allocation (%)



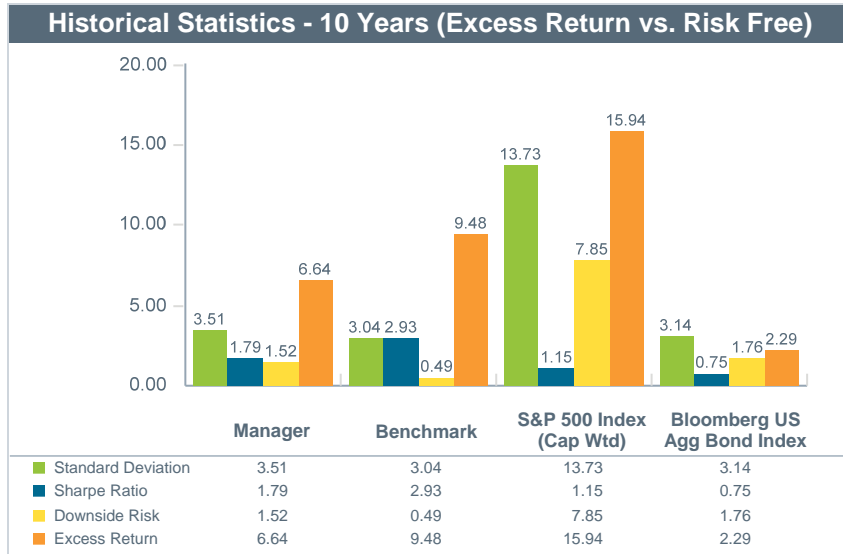
Geographic Allocation (%)



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.

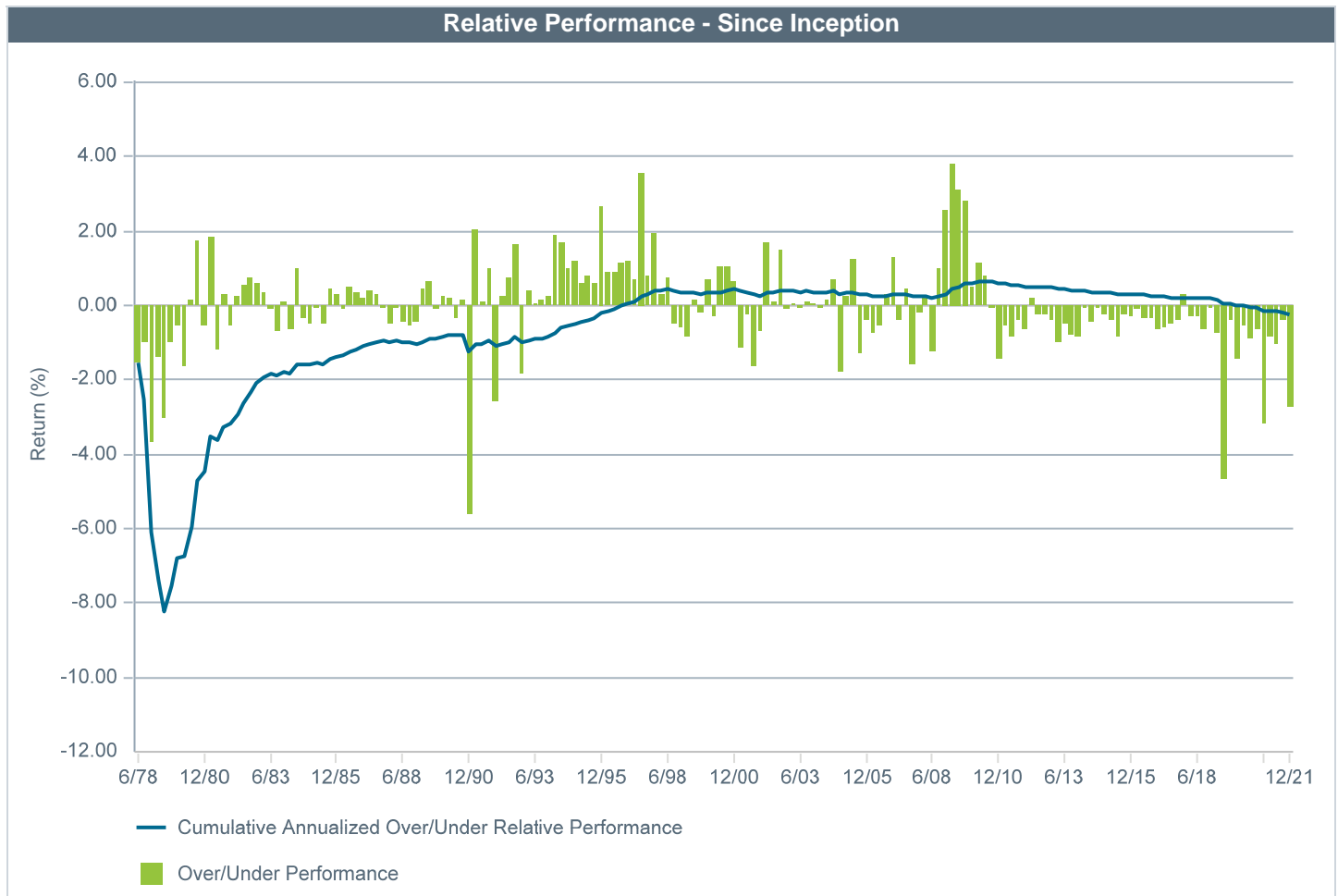


Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2020	2019	2018	2017	2016
Manager	5.05	16.24	2.98	4.43	6.00	7.41	-4.04	-2.10	6.99	6.30	7.21
Benchmark	7.97	22.17	9.20	8.71	9.60	10.45	1.19	5.34	8.35	7.62	8.77
Difference	-2.92	-5.93	-6.22	-4.28	-3.60	-3.04	-5.23	-7.44	-1.36	-1.32	-1.56



Actual Correlation - 10 Years

	Actual Correlation
NCREIF ODCE Index (AWA) (Gross)	0.85
S&P 500 Index (Cap Wtd)	-0.21
Russell 2000 Index	-0.32
MSCI EAFE Index (USD) (Net)	-0.26
MSCI Emg Mkts Index (USD) (Net)	-0.38
Bloomberg US Agg Bond Index	-0.30
Bloomberg US Trsy US TIPS Index	-0.27
Wilshire US REIT Index	0.06
HFRI FOF Comp Index	-0.32
Bloomberg Cmnty Index (TR)	-0.16
ICE BofAML 3 Mo US T-Bill Index	-0.46
Cons Price Index (Unadjusted)	0.09



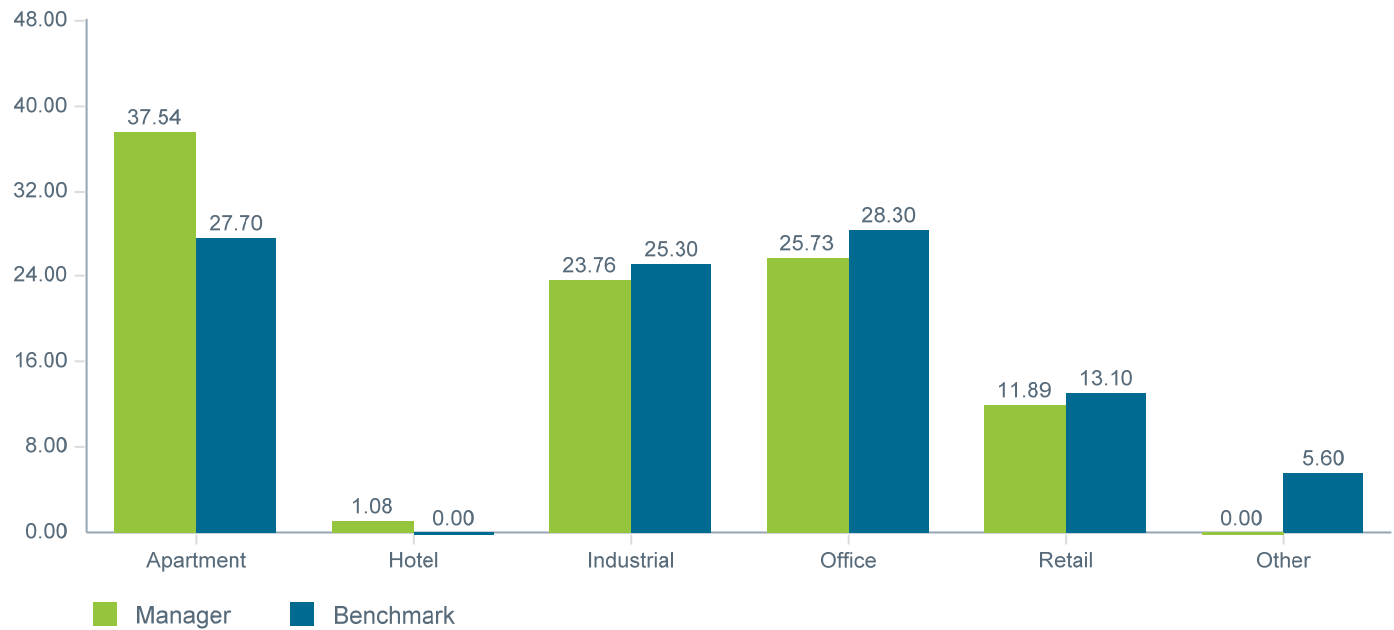
Investment Strategy

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.

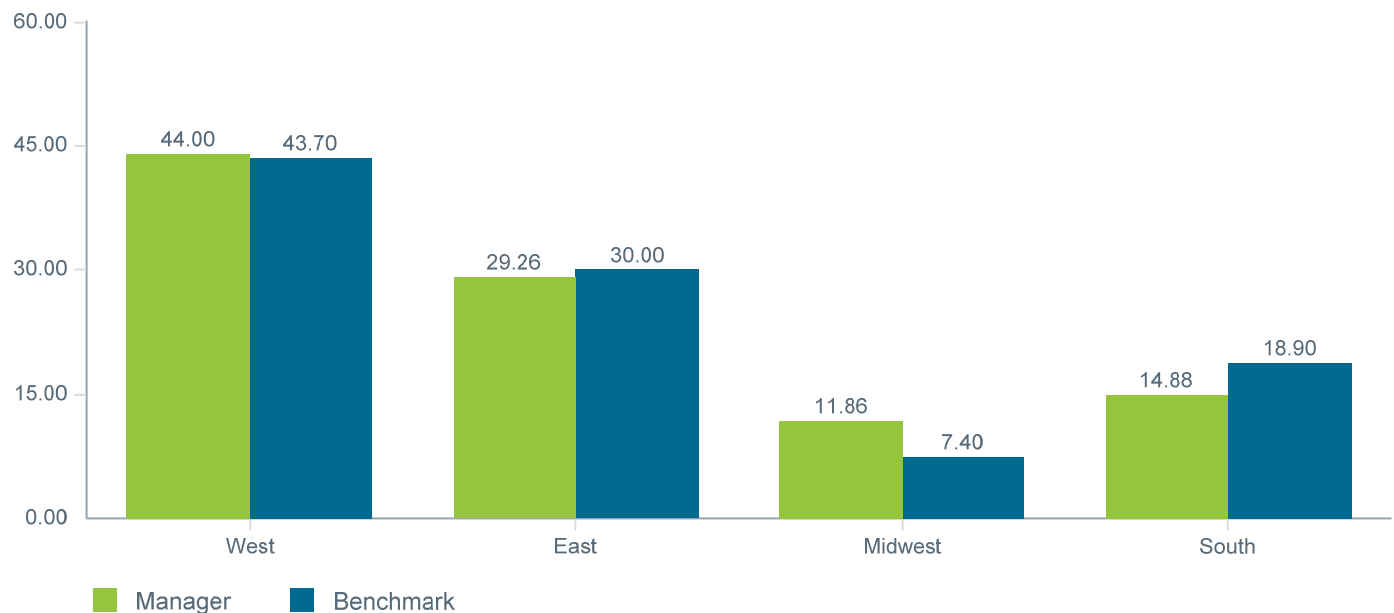
Investment Profile

Fund Inception	1978
Legal Structure	LP
Fund Structure	Open-End
Gross Real Estate Assets (\$M)	17,892
Fund Leverage %	17.00
Portfolio Occupancy %	93.20
Cash Reserve %	1.70
Number of Investments	167
Number of Limited Partners	445

Property Type Allocation (%)



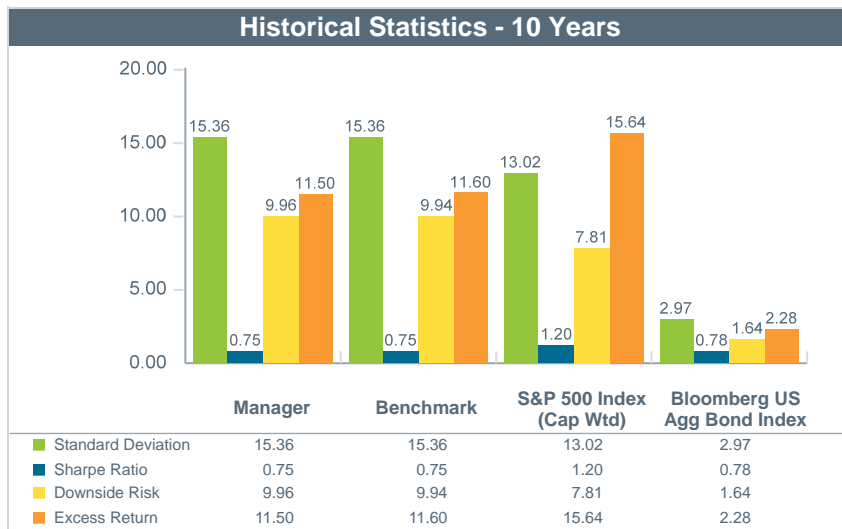
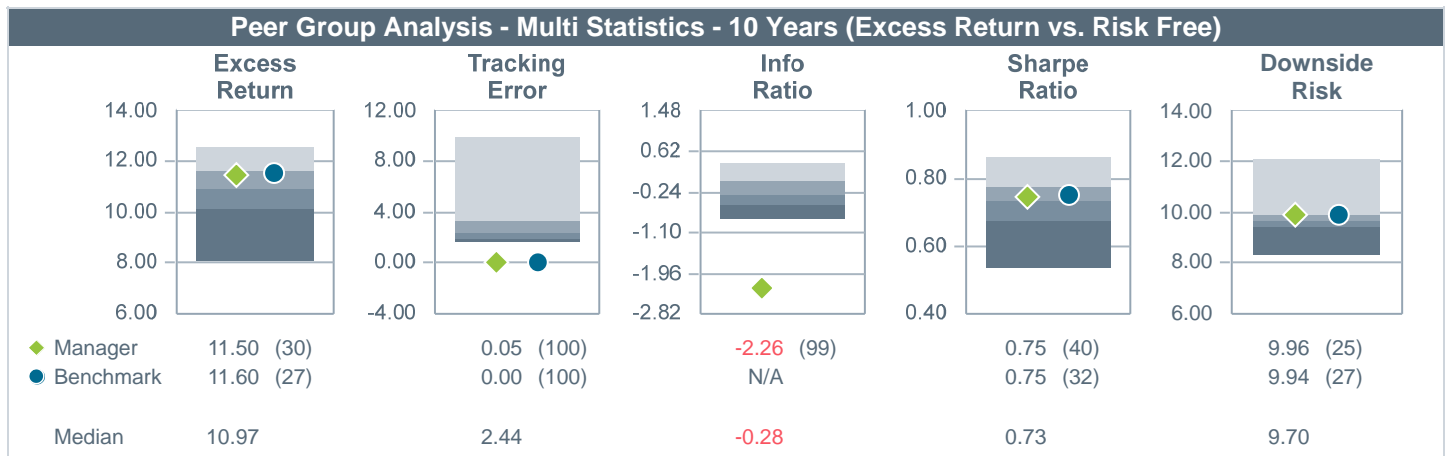
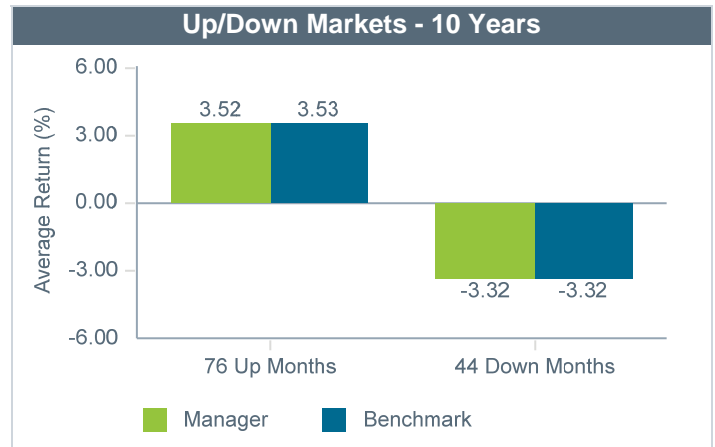
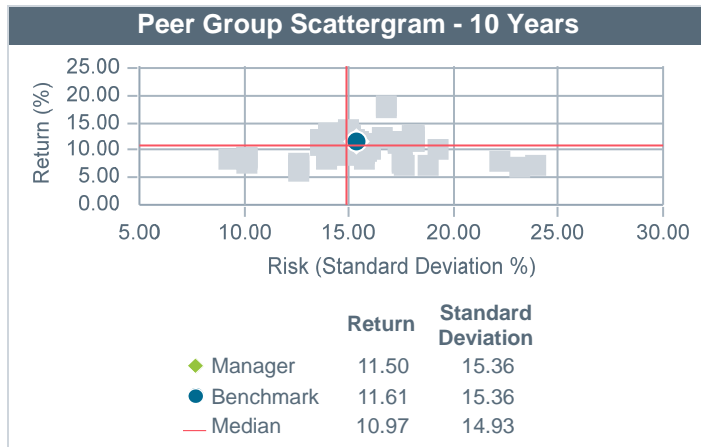
Geographic Allocation (%)



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	2020	2019	2018	2017	2016
Manager	14.89	40.38	19.91	11.22	9.53	11.50	-4.72	28.91	-5.95	4.95	8.53
Benchmark	14.94	40.56	20.07	11.35	9.65	11.61	-4.55	29.03	-5.86	5.07	8.60
Difference	-0.05	-0.18	-0.16	-0.13	-0.12	-0.11	-0.17	-0.12	-0.09	-0.12	-0.07
Peer Group Median	15.65	41.16	19.72	11.23	9.29	10.97	-4.24	27.44	-5.74	5.21	6.28
Rank	67	62	49	51	44	29	56	36	54	55	19
Population	258	250	231	202	179	151	246	255	243	243	230



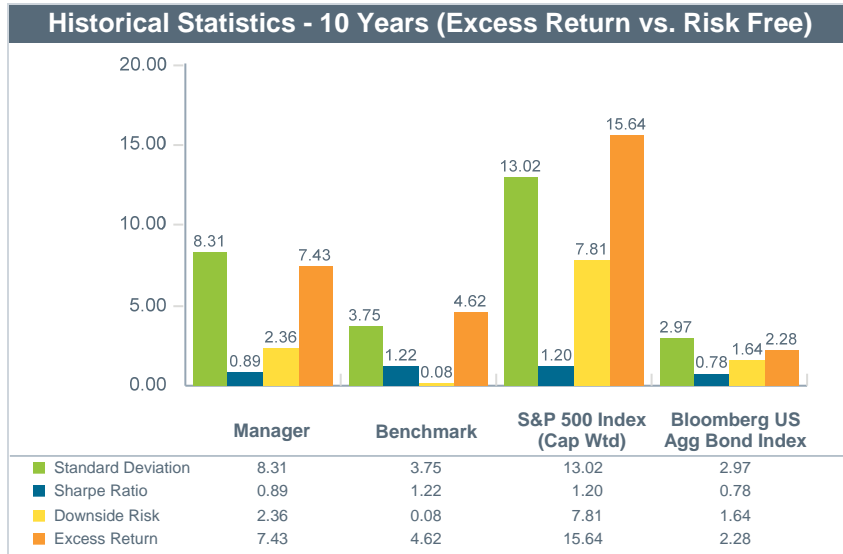
Actual Correlation - 10 Years

Index	Actual Correlation
Vanguard Spl Real Estate Index	1.00
S&P 500 Index (Cap Wtd)	0.65
Russell 2000 Index	0.59
MSCI EAFE Index (USD) (Net)	0.56
MSCI Emg Mkts Index (USD) (Net)	0.47
Bloomberg US Agg Bond Index	0.40
Bloomberg US Trsy US TIPS Index	0.48
Wilshire US REIT Index	0.99
HFRI FOF Comp Index	0.54
Bloomberg Cmnty Index (TR)	0.29
ICE BofAML 3 Mo US T-Bill Index	-0.16
Cons Price Index (Unadjusted)	0.05

Performance shown is net of fees and product specific. Calculation is based on monthly periodicity. Performance shown is calculated using Net Asset Values (NAV). Parentheses contain percentile ranks. Benchmark consists of MSCI US REIT Index (USD) (Gross) adjusted to include a 2% cash position (Lipper Money Market Average) through 04/30/09; MSCI US REIT Index (USD) (Gross) through 01/31/18; MSCI US IM Real Estate 25/50 Transition Index through 07/24/18; and MSCI US IM Real Estate 25/50 Index (Gross) thereafter.

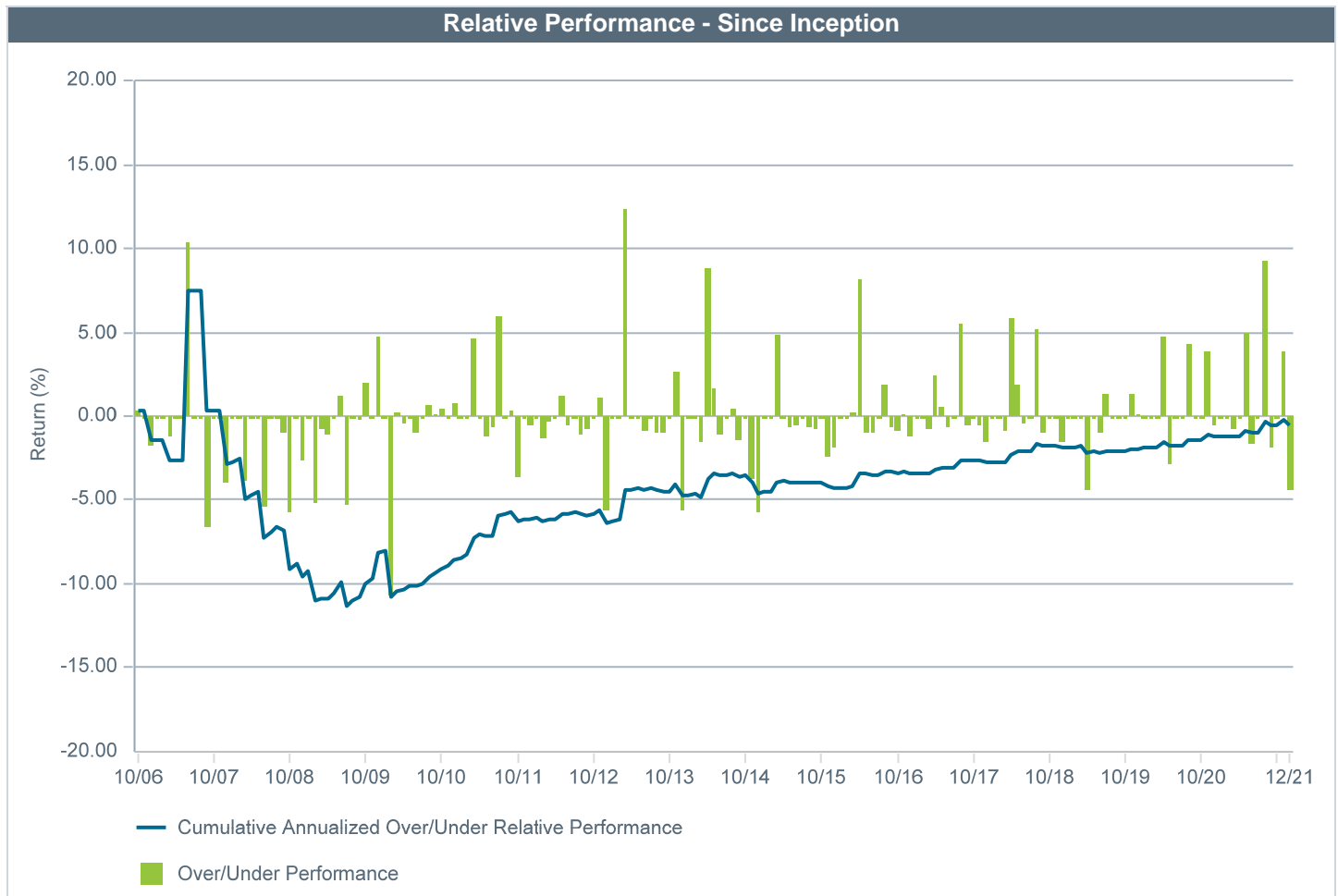


Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2020	2019	2018	2017	2016
Manager	3.88	19.14	8.87	9.42	8.28	8.01	10.18	-1.69	12.47	8.08	8.32
Benchmark	4.56	9.17	3.69	3.58	3.64	5.30	0.81	1.30	3.21	3.63	2.59
Difference	-0.68	9.97	5.18	5.84	4.64	2.71	9.37	-2.99	9.26	4.45	5.73



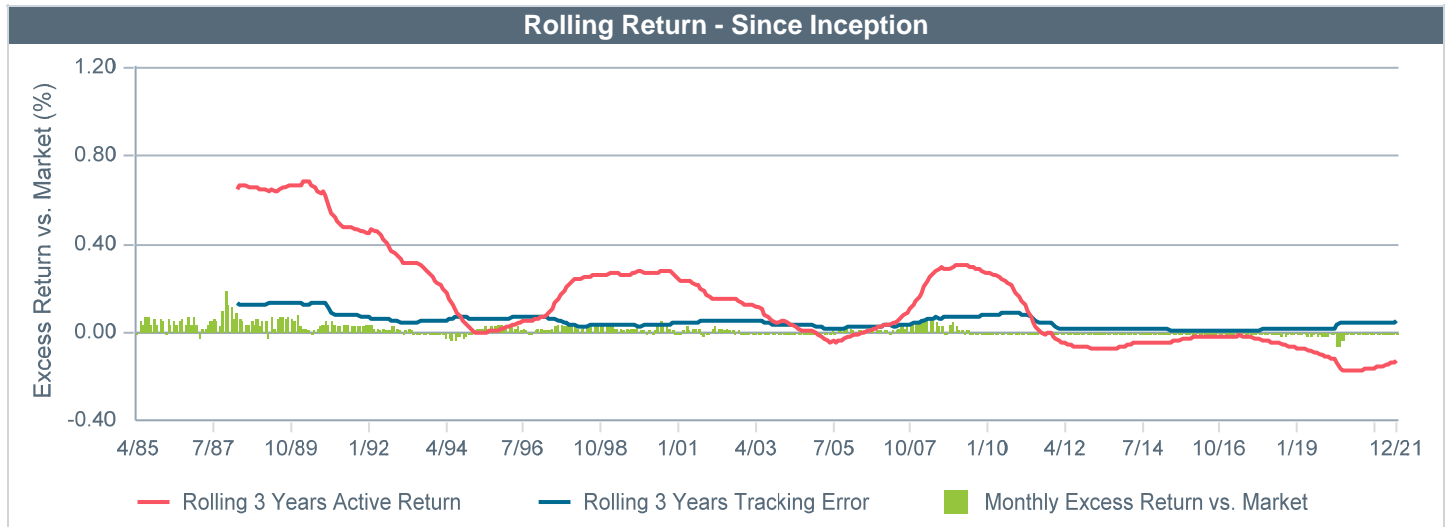
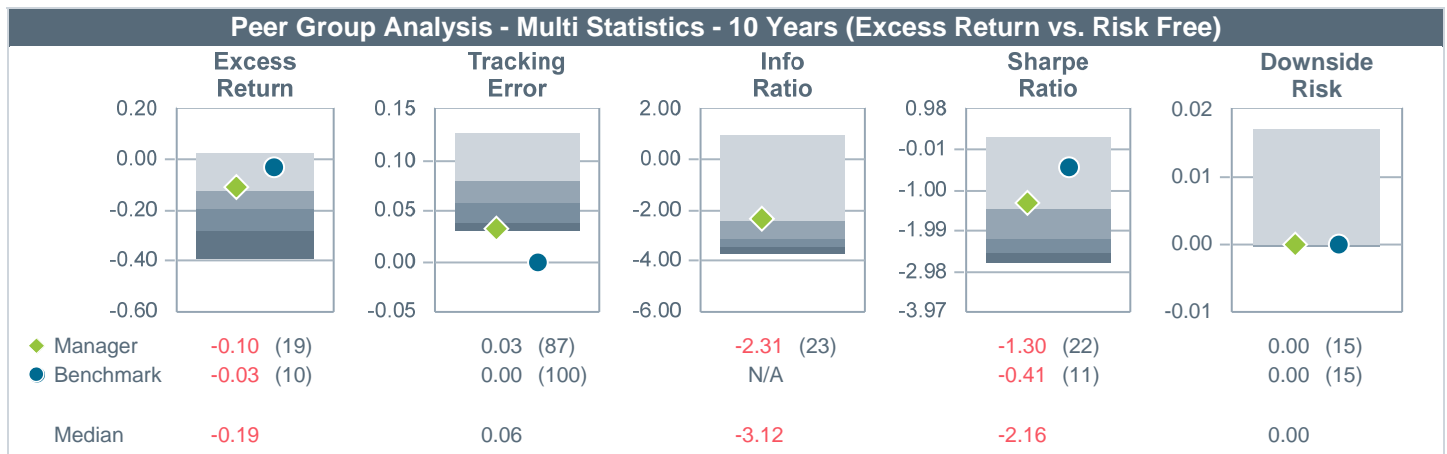
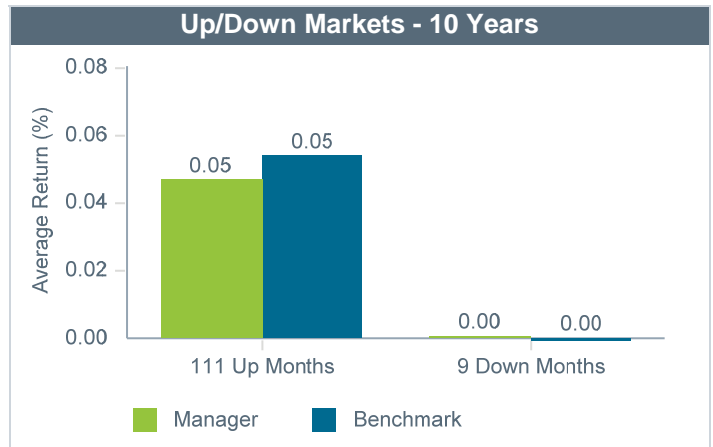
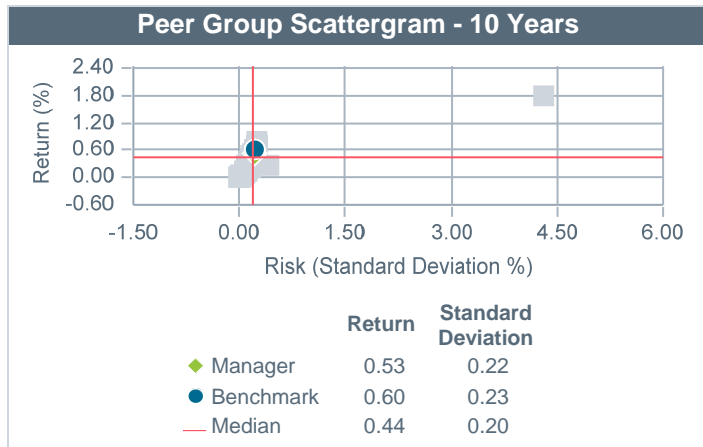
Actual Correlation - 10 Years

	Actual Correlation
NCREIF Timberland Index	-0.01
S&P 500 Index (Cap Wtd)	0.10
Russell 2000 Index	0.10
MSCI EAFE Index (USD) (Net)	0.07
MSCI Emg Mkts Index (USD) (Net)	0.03
Bloomberg US Agg Bond Index	0.05
Bloomberg US Trsy US TIPS Index	0.11
Wilshire US REIT Index	0.08
HFRI FOF Comp Index	0.08
Bloomberg Comdty Index (TR)	0.09
ICE BofAML 3 Mo US T-Bill Index	-0.07
Cons Price Index (Unadjusted)	0.11



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	2020	2019	2018	2017	2016
Manager	0.01	0.03	0.82	1.00	0.75	0.53	0.37	2.09	1.73	0.79	0.25
Benchmark	0.01	0.05	0.96	1.11	0.84	0.60	0.58	2.25	1.86	0.84	0.27
Difference	0.00	-0.02	-0.14	-0.11	-0.09	-0.07	-0.21	-0.16	-0.13	-0.05	-0.02
Peer Group Median	0.00	0.01	0.74	0.87	0.63	0.44	0.30	1.90	1.54	0.55	0.06
Rank	10	12	21	20	19	19	31	20	22	17	17
Population	785	769	708	667	559	535	789	793	817	832	744



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

Addendum & Glossary



City of Jacksonville Employees' Retirement System Addendum

Performance Related Comments:

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

Custom Composite Benchmark Comments:

- **Current Total Fund Policy Index:** The passive Current Total Fund Policy Index is calculated monthly and currently consists of 30% Russell 3000 Index, 20% MSCI ACW Ex US Index (USD) (Net), 20% Fixed Income Index, 15% NCREIF ODCE Index (AWA) (Net), and 15% Diversifying Assets Index.
- **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 Diversifying Assets Index is calculated monthly and consists of 50% S&P MLP Index (TR)/50% NCREIF Timberland Index through 10/2017, 67% S&P MLP Index (TR)/33% NCREIF Timberland Index through 09/2020, and calculated monthly using beginning of month investment weights applied to each corresponding primary benchmark return 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.
- **Baillie Gifford Spliced Index:** The passive Baillie Gifford Spliced Index consists of 100% MSCI EAFE Index (USD) (Net) through 11/2019 and 100% MSCI ACW Ex US Index (USD) (Net) 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 01/2019 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.
- **Tortoise Spliced Index:** The passive Tortoise Spliced Index consists of 100% S&P MLP Index (TR) through 07/2020 and 100% Alerian Midstream Energy Index 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	Upper-medium credit quality	BB-	Ba3	Highly speculative
AA-	Aa3				
A+	A1				
A	A2	Lower-medium credit quality	B	B2	Substantial credit/default risk
A-	A3				
BBB+	Baa1				
BBB	Baa2	Extremely speculative	CCC+	Caa1	
BBB-	Baa3				
			CCC-	Caa2	Vulnerable to default
			CC	Ca	
			C	Ca	In default
			D	C	

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, and thus may differ from the classification of the investment manager and/or index provider.

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, and 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. Stocks are unclassified when there is not enough data to determine a size and style metric.

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.

Glossary

- 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.
- 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.
- Unemployment Rate** - The percentage of the total labor force that is unemployed but actively seeking employment.
- 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.
- 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 that focuses only on the negative movements of the return series. It is calculated by taking the standard deviation of the negative returns for the selected periodicity. 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

Glossary

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.

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.

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 valuing a company's current share price relative to its trailing 12-month per-share earnings (EPS).

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.

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.

Return - Compounded rate of return for the period.

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

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	Stable Value (Plan Sponsor Directed)	50
TIPS	95	Hedge Funds of Funds	35
US Large Cap Equity	95		
Diversified Real Return	93		
Stable Value (Participant Directed)	91		
Global Equity	90	<u>Not Liquid Investments</u>	
Non-US Large Cap Equity	90	Core Real Estate	25
Global Tactical Asset Allocation	88	Core Plus Real Estate	15
MLPs	85	Non-Core Real Estate	5
US Mid Cap Equity	85	Private Equity Funds of Funds	5
US SMid Cap Equity	85		
US Small Cap Equity	85		
REITs	85		
Non-US Small Cap Equity	85		
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.

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		

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

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.

Glossary

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

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 portfolio's 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.

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