



# Quarterly Investment Performance Analysis

Santa Barbara County Employees' Retirement System

Period Ended: December 31, 2019



## Overview of RVK Performance Reports

	Monthly Investment Performance Analysis	Quarterly Investment Performance Analysis
<b>Frequency</b>	Typically available by the 15th business day following month end	Typically available 30-45 calendar days following quarter end
<b>Analytics Included</b>		
Capital Markets Review (abbreviated)	✓	
Capital Markets Review (with full asset class detail)		✓
Monthly Portfolio Highlights or Executive Summary	✓	✓
Manager Monitoring/Investment Manager Updates/Watch List		✓
Asset Allocation By Manager and Schedule of Investable Assets	✓	✓
Asset Allocation vs. Target Allocation	✓	✓
Plan Asset Overview	✓	✓
Total Fund Asset Allocation & Ranks vs. Peers		✓
Trailing Performance	✓	
Trailing & Fiscal Year Performance (including ranks)		✓
Total Fund IDP Attribution		✓
Composite Profile Pages (including ranks)		✓
Investment Manager Profile Pages (including ranks)		✓
Fee Schedule for Public Investment Managers	✓	✓
Underlying Indices of SBCERS Policy Index		✓
Work Plan		✓
Terminated Managers Trailing Performance		✓

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# Capital Markets Review

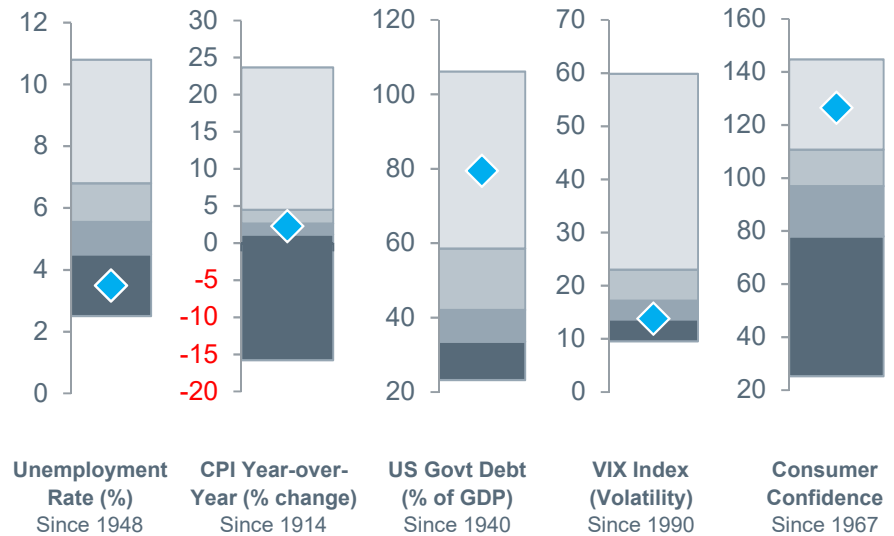


Fourth Quarter Economic Environment

Key Economic Indicators

The fourth quarter of 2019 was a strong quarter for global equity markets, with representative US, developed non-US, and emerging market indices each substantially adding to gains realized earlier in the year. Credit markets also finished in positive territory, as supportive financial conditions and a general risk-on market sentiment drove spreads to tighten across the quality spectrum. Falling discount rates drove valuations and performance for US equities during the first half of the year, but increases in Q4 appeared more directly tied to optimism around international trade. Bilateral negotiations between the US and China finally resulted in an announced “Phase One” trade agreement, including a partial rollback of tariffs, which de-escalated trade tensions to a degree. US economic data released during Q4 was generally positive—although softness remains in some key sectors, such as manufacturing. The ISM PMI value was below 50 in Q4, indicating contraction in the manufacturing sector. Global central banks remain accommodative, though the market expects little additional help from the Federal Reserve in 2020. During its most recent meeting, the FOMC did not forecast any additional rate cuts in 2020.

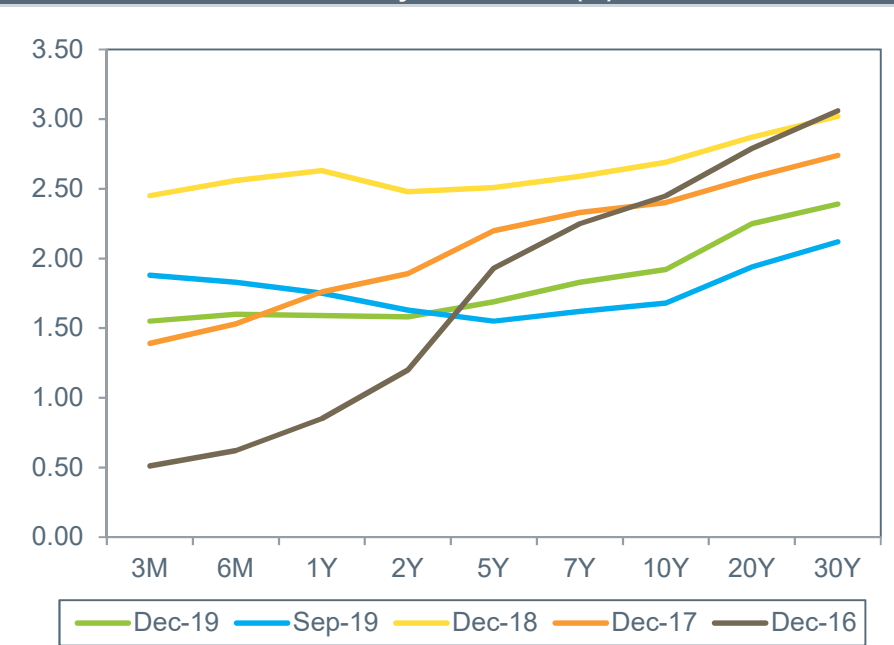
Key Economic Indicators



Economic Indicators

	Dec-19	Sep-19	Dec-18	Dec-16	20 Yr
Federal Funds Rate (%)	1.55 ▼	1.90	2.40	0.55	1.79
Breakeven Infl. - 5 Yr (%)	1.70 ▲	1.35	1.49	1.86	1.85
Breakeven Infl. - 10 Yr (%)	1.79 ▲	1.52	1.71	1.97	2.03
CPI YoY (Headline) (%)	2.3 ▲	1.7	1.9	2.1	2.2
Unemployment Rate (%)	3.5 -	3.5	3.9	4.7	5.9
Real GDP YoY (%)	2.3 ▲	2.1	2.5	2.0	2.1
PMI - Manufacturing	47.2 ▼	47.8	54.3	54.3	52.7
USD Total Wtd Idx	90.82 ▼	93.25	91.79	95.72	86.07
WTI Crude Oil per Barrel (\$)	61.1 ▲	54.1	45.4	53.7	61.9
Gold Spot per Oz (\$)	1,517 ▲	1,472	1,282	1,148	935

Treasury Yield Curve (%)



Market Performance (%)

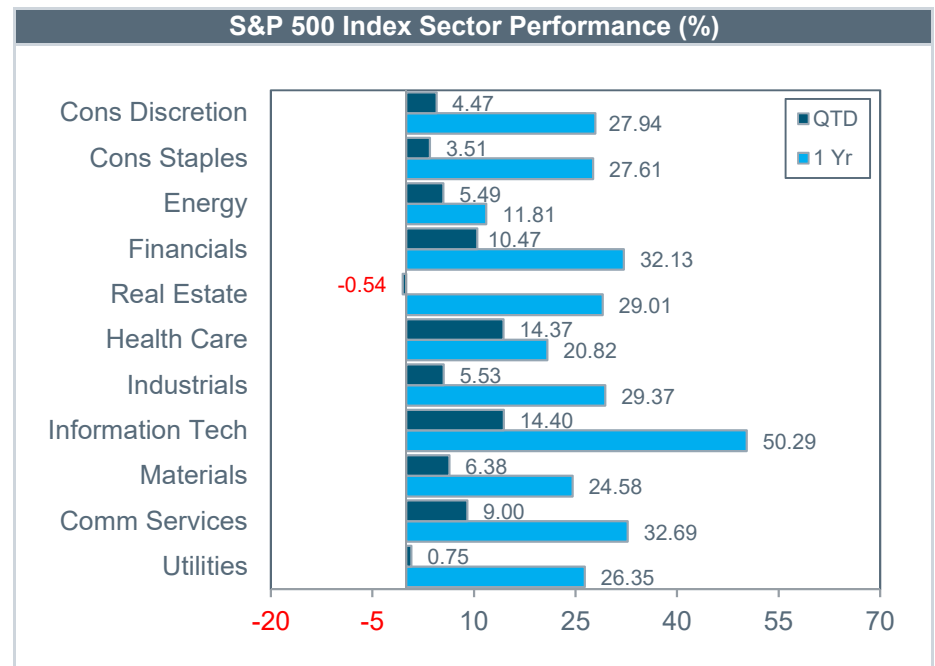
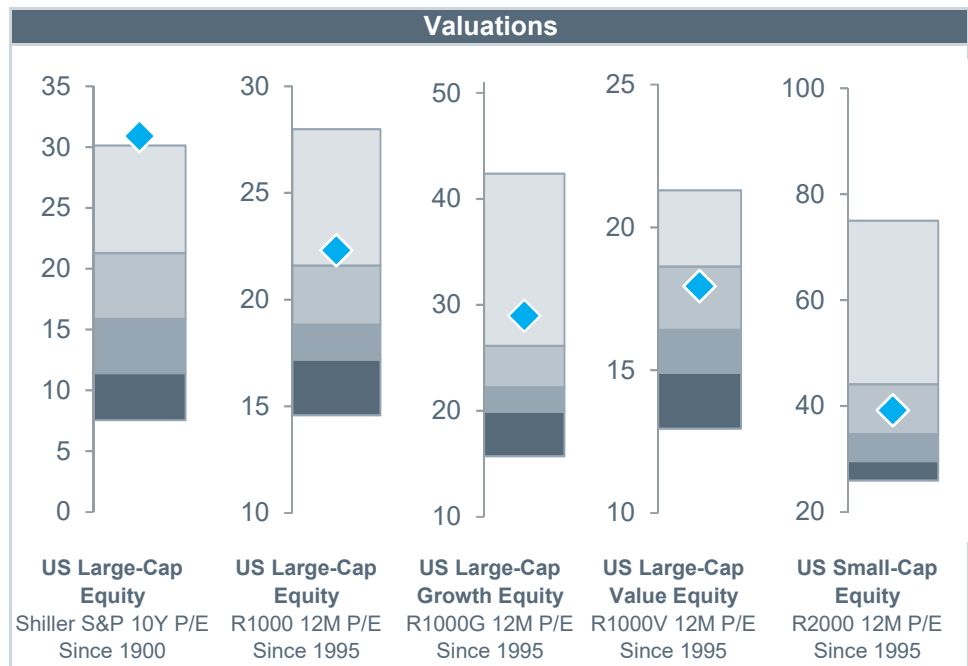
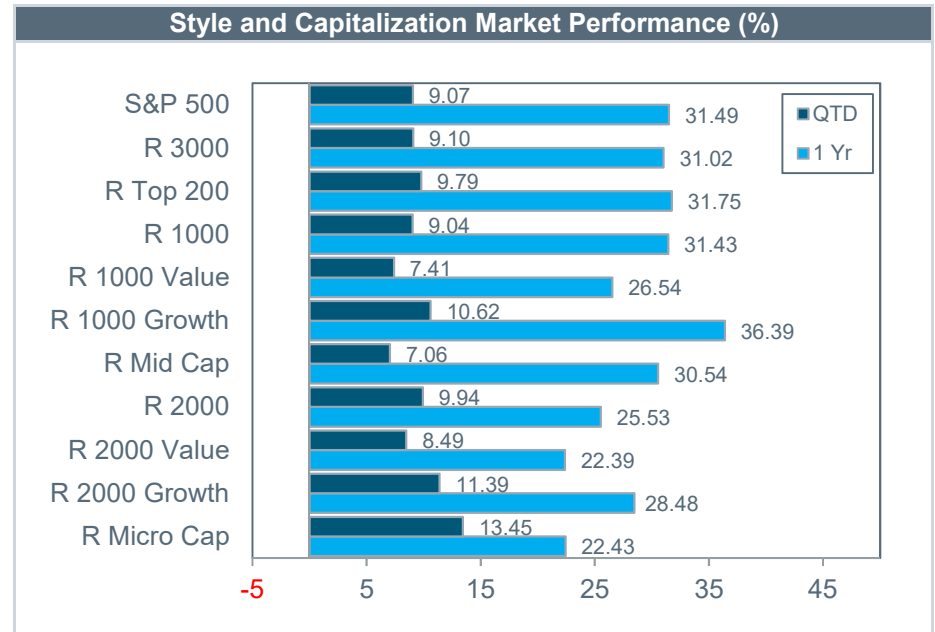
	QTD	CYTD	1 Yr	5 Yr	10 Yr
S&P 500 (Cap Wtd)	9.07	31.49	31.49	11.70	13.56
Russell 2000	9.94	25.53	25.53	8.23	11.83
MSCI EAFE (Net)	8.17	22.01	22.01	5.67	5.50
MSCI EAFE SC (Net)	11.52	24.96	24.96	8.85	8.74
MSCI Emg Mkts (Net)	11.84	18.44	18.44	5.61	3.68
Bloomberg US Agg Bond	0.18	8.72	8.72	3.05	3.75
ICE BofAML 3 Mo US T-Bill	0.46	2.28	2.28	1.07	0.58
NCREIF ODCE (Gross)	1.51	5.34	5.34	8.97	11.42
FTSE NAREIT Eq REIT (TR)	-0.76	26.00	26.00	7.21	11.94
HFRI FOF Comp	3.03	8.33	8.33	2.35	2.82
Bloomberg Cmdb (TR)	4.42	7.69	7.69	-3.92	-4.73

### Fourth Quarter Review

**Broad Market**  
 US markets enjoyed a strong finish to the year amid de-escalation of the US-China trade war and stimulative monetary policy from the Fed. The quarter saw high single and low double digit returns for major indexes across all size segments and styles. The strong quarter pushed the S&P 500 Index to a 31.5% return on the year.

**Market Cap**  
 Large and mid-cap stocks lagged slightly behind small-cap stocks in Q4, with the Russell 2000 Index returning 9.9% and the S&P 500 and Russell MidCap Indexes returning 9.1% and 7.1%, respectively.

**Style and Sector**  
 Active managers struggled to keep up with strong benchmark returns in Q4. In addition, value-tilted managers performed notably better than growth and core managers in the quarter.



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



**Fourth Quarter Review**

**Developed Markets**

Developed international markets delivered strong absolute returns in Q4, but they still lagged both domestic and emerging markets. By country, returns for the quarter were positive almost across the board, with only Belgium ending in slightly negative territory. However, Q4 returns were largely driven by multiple expansion, as growth continues to be weak in developed international markets.

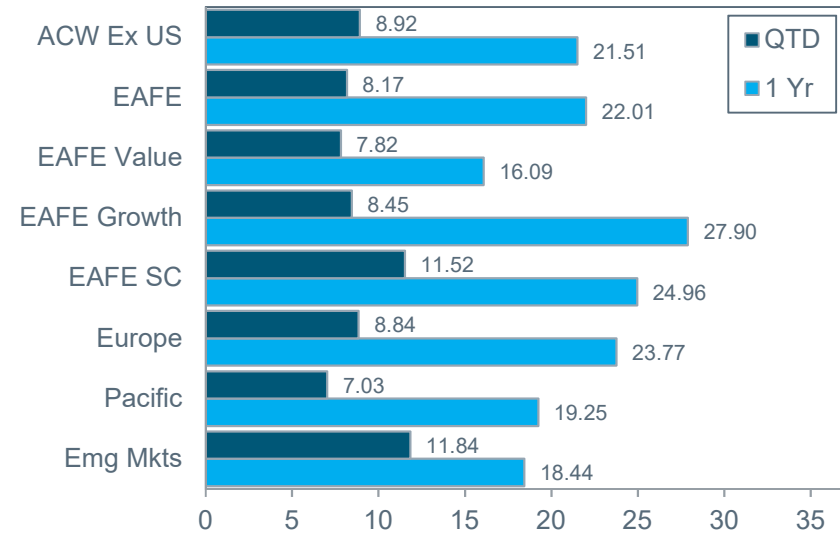
**Emerging Markets**

Emerging markets outperformed all other equity markets in Q4. Returns were largely lifted by the announcement of the initial phase of a trade deal between China and US, potentially indicating de-escalation in the ongoing trade war.

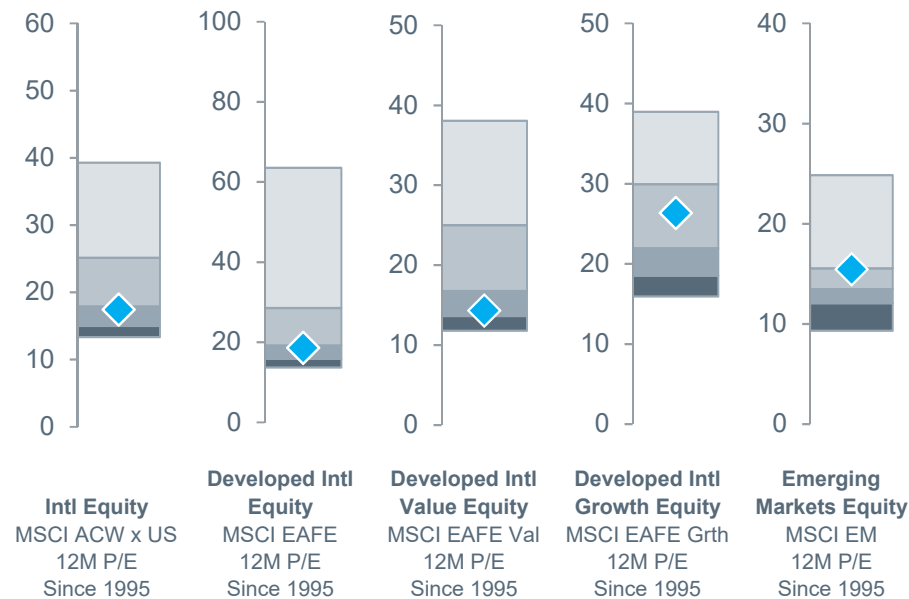
**Market Cap & Style**

In developed international markets, value stocks continued to underperform growth, while small-cap stocks outperformed large-cap for the quarter. In emerging markets, growth stocks outperformed value and large-cap outperformed small-cap.

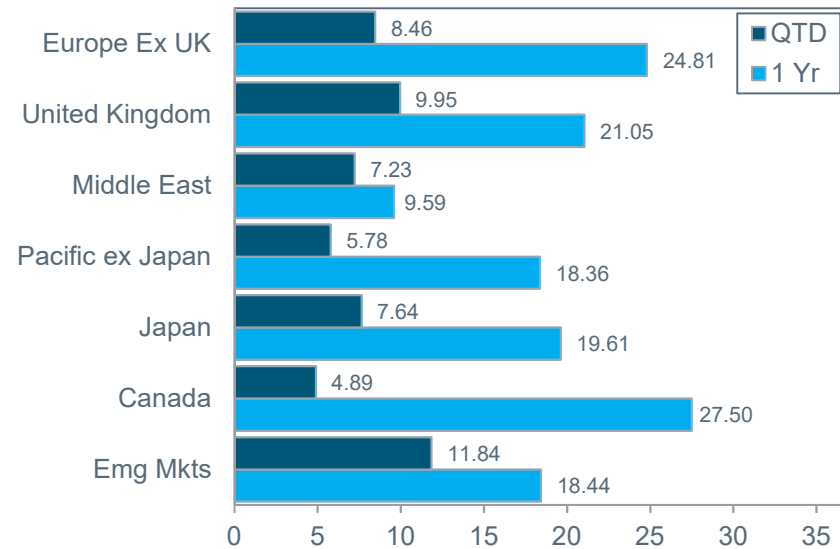
**MSCI Style and Capitalization Market Performance (%)**



**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**

After a solid first three quarters supported by declining rates, the Bloomberg US Aggregate Index finished the year more subdued, returning just 0.2% for the final quarter. The Bloomberg US Government Long Duration Index fell sharply, finishing the quarter with a -4.1% return, but the index still ended the year in positive territory with a return of 14.7%.

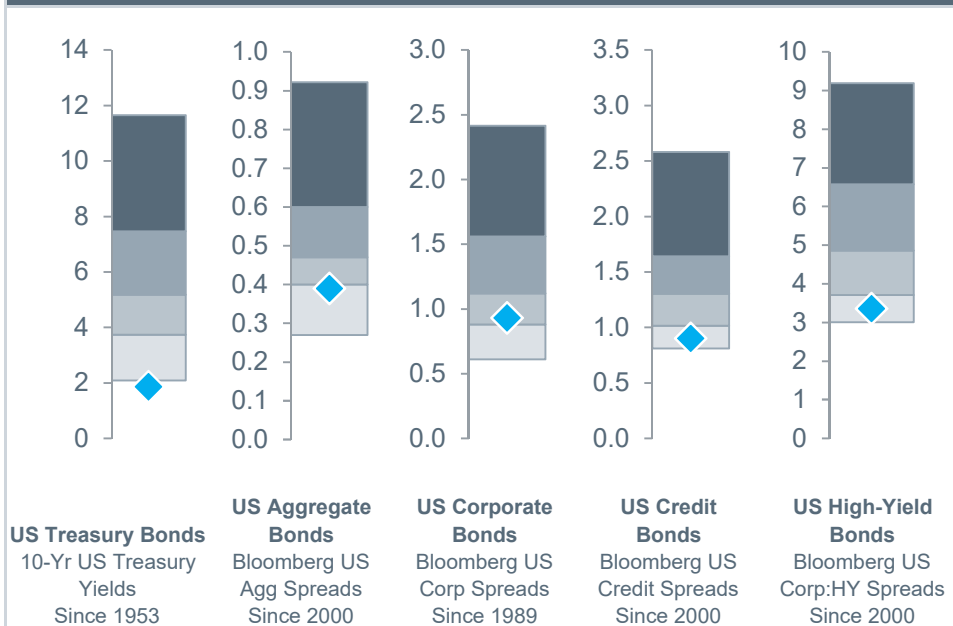
**Credit Market**

Corporate credit fared better than the broader index for the quarter, as strong economic data signaled optimism for the sector. Spreads tightened over the quarter, and the Bloomberg US Corporate Index returned 1.2%, contributing to an already-impressive annual return of 14.5%.

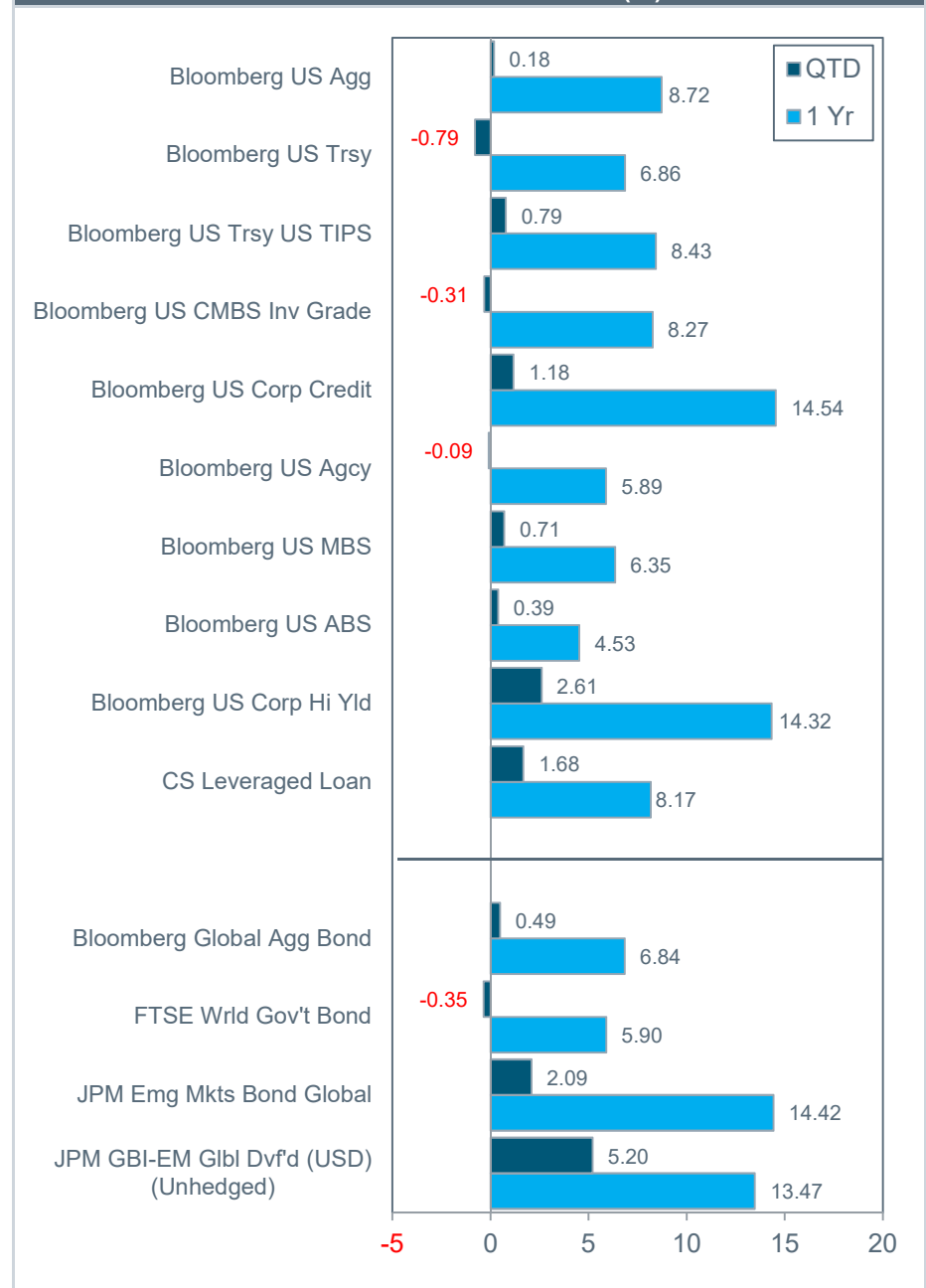
**Emerging Market Debt**

Hard currency emerging markets debt also added to a strong year. The JPM EMBI Global Diversified Index posted 1.8% in the final quarter to finish the year up 15.0%.

**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 funds finished the year on a positive note, as the vast majority of strategies in the space added to gains realized earlier in the year. The HFRI Equity Hedge Index return for 2019, at 13.7%, was the best returning year for the index since 2013. Fund of Hedge Funds that maintained significant strategic exposure to Long/Short Equity and Long/Short Credit outperformed funds that rotated towards diversifying, market neutral strategies.

**General Market - Global Tactical Asset Allocation (GTAA)**

Most GTAA managers showed positive absolute performance in 2019, though they generally underperformed a static and less diversified blend of 60% US equity and 40% US fixed income. Nearly all GTAA managers underperformed this measure due to the extraordinarily strong 2019 performance of US large-cap equities compared to most of the other diversifying global asset classes included within GTAA strategies. Generally, those with the strongest returns in 2019 held higher relative allocations to US equities as opposed to developed international or emerging market equities.

**Fourth Quarter Review - Real Assets**

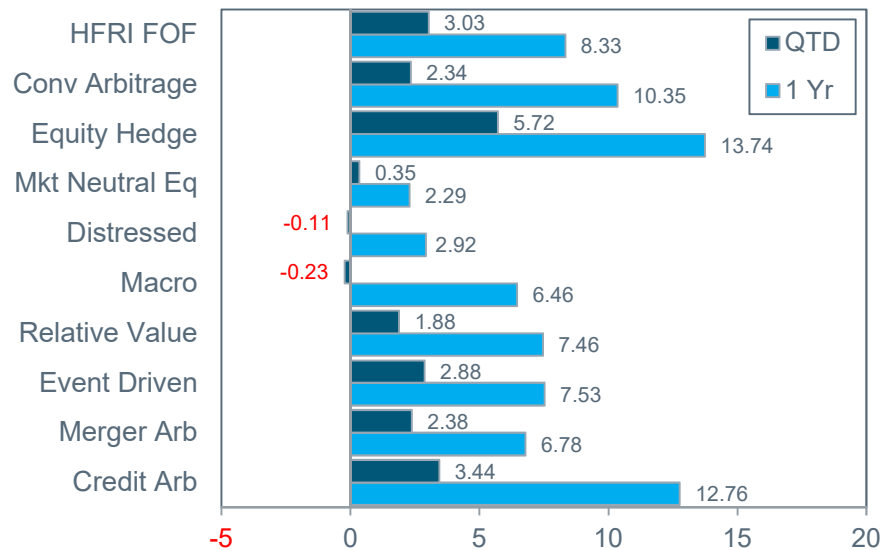
**General Market - Diversified Inflation Strategies (DIS)**

Performance of DIS managers ranged widely throughout both Q4 and the calendar year, though nearly all managers provided significantly stronger than typical positive absolute returns. Managers with larger TIPS allocations tended to underperform peers for the year, despite still achieving their own real return expectations. DIS managers that outperformed peers by the widest margins emphasized allocations to REITs, global listed infrastructure, and/or global natural resource equities.

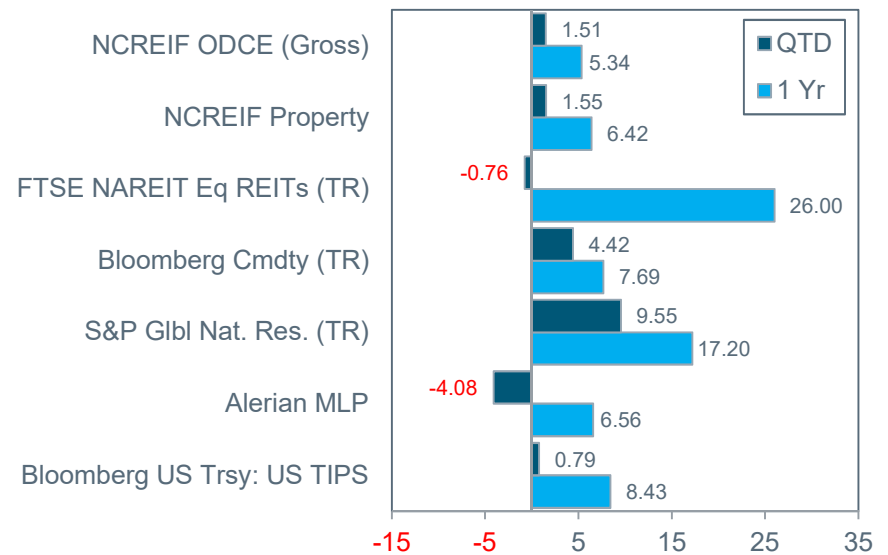
**General Market - Real Estate**

Core private real estate returned 1.5% during the quarter (on a preliminary basis), as reported by the NCREIF-ODCE Index, with the total return comprised of 1.0% income and 0.5% price appreciation. While the income component stayed in-line with historical levels, price appreciation experienced a modest increase of 0.2% compared to the relatively flat Q3 return. Investments in publicly traded real estate trailed their private market counterparts during Q4.

**HFRI Hedge Fund Performance (%)**



**Real Asset Performance (%)**



Annual Asset Class Performance

As of December 31, 2019

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	CYTD
Best	34.00	35.03	39.38	8.44	78.51	27.94	22.49	20.00	38.82	30.14	15.02	21.31	37.28	8.35	31.49
	26.19	32.18	16.23	5.24	58.21	26.85	15.99	18.23	32.39	19.31	9.59	17.13	33.01	1.87	26.00
	21.39	26.34	15.97	2.06	46.78	22.04	13.56	18.06	29.30	13.69	3.20	11.96	25.03	0.01	25.53
	21.36	19.31	11.63	-2.35	31.78	18.88	8.29	17.32	22.78	12.50	1.38	11.77	21.83	-1.26	24.96
	13.54	18.37	11.17	-10.01	28.01	16.83	7.84	16.35	13.94	5.97	0.55	11.19	14.65	-2.08	22.01
	12.17	16.32	10.25	-21.37	27.17	16.36	4.98	16.00	8.96	4.89	0.05	8.77	10.71	-4.02	19.59
	7.49	15.79	6.97	-26.16	26.46	15.12	2.11	15.81	7.44	3.64	-0.27	8.52	7.77	-4.38	18.44
	5.34	11.86	6.60	-33.79	18.91	15.06	0.10	10.94	2.47	3.37	-0.81	6.67	7.62	-4.62	14.32
	4.91	10.39	5.49	-35.65	11.47	10.16	-4.18	8.78	0.07	2.45	-1.44	4.68	7.50	-4.68	8.72
	4.55	4.85	5.00	-37.00	11.41	7.75	-5.72	6.98	-2.02	0.04	-3.30	2.65	5.23	-11.01	8.43
	3.07	4.34	1.87	-37.74	5.93	6.54	-12.14	4.79	-2.60	-2.19	-4.41	2.18	3.54	-11.25	8.33
	2.84	2.72	1.45	-43.33	1.92	6.31	-13.32	4.21	-8.61	-4.90	-4.47	1.00	3.01	-13.79	7.69
	2.74	2.07	-1.57	-47.01	0.21	5.70	-15.94	0.11	-8.83	-4.95	-14.92	0.51	1.70	-14.58	5.34
Worst	2.43	0.49	-15.70	-53.33	-29.76	0.13	-18.42	-1.06	-9.52	-17.01	-24.66	0.33	0.86	-17.89	2.28
	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





### Total Fund Summary

The Total Fund market value was \$3.34 billion as of December 31, 2019, an increase of approximately \$133.4 million from the previous quarter. The Total Fund returned 4.30% for the fourth quarter, net of fees, and ranked in the 82<sup>nd</sup> percentile among the Public Plans \$1B-\$5B peer group. The Total Fund outperformed the Policy Benchmark by 10 basis points but trailed the Dynamic Policy Benchmark 32 basis points.

All asset classes were within their respective target ranges as of December 31, 2019.

### Contributors to Total Fund Performance

Emerging Markets Equity, U.S. Equity, and Developed Non-U.S. Equity, had the highest absolute performance during the quarter, returning 9.90%, 8.07%, and 7.05%, respectively.

Performance versus the Policy Benchmark was aided by Real Return, Real Estate, and Non-Core's strong relative performance, which beat their benchmarks by 161, 114, and 51 basis points, respectively.

Performance versus the Dynamic Policy Benchmark was positively impacted by individual manager relative outperformance, including Private Infrastructure, ORG, and Stone Harbor, which beat their benchmarks by 195, 114, and 43 basis points, respectively.

### Detractors from Total Fund Performance

Core Fixed Income, Private Equity, and Real Estate had the lowest absolute performance during the quarter, returning 0.11%, 2.13%, and 2.22%, respectively.

Performance versus the Policy Benchmark was hurt by the weak relative performance of Emerging Market Equity, Developed Non-US Equity, and Domestic Equity, which lagged their benchmarks by 194, 112, and 103 basis points, respectively.

Performance versus the Dynamic Policy Benchmark was negatively impacted by individual manager underperformance, including First Eagle and Copper Rock which lagged their benchmarks by 384 and 306 basis points, respectively. BNY Mellon HEDI also underperformed its benchmark by 236 basis points, however, it tracked the Russell 1000 HED Index.

All performance referenced is net of fees.

Total Fund performance excludes 130 RHR and Treasury Cash.

Santa Barbara County Employees' Retirement System  
Manager Monitoring

As of December 31, 2019

	Significant Events (Yes/No)	Last Meeting with Board of Retirement	Last Meeting with RVK	Last RVK On-Site at Manager Office	Comments
<b>U.S. Equity</b>					
BNY Mellon HEDI	No		April 2019	April 2019	
BNY Mellon R1000 Index - NL	No		April 2019	April 2019	
Dimensional U.S. Small Cap Value	No	January 2016	October 2019	April 2018	
RHJ Small Cap Opportunities	No	April 2016	October 2019	October 2019	
<b>Developed Market Non-U.S. Equity</b>					
First Eagle International Value Equity	No		July 2019	May 2018	
PanAgora Dynamic International Equity	No		January 2019	June 2017	
Artisan Non-U.S. Growth	Yes		January 2020	May 2018	Michael Steib (Analyst since 2015) left the team in the third quarter.
Copper Rock International Small Cap	No		November 2018	November 2017	
<b>Emerging Market Equity</b>					
DFA Emg Mkts Value;l (DFEVX)	No		October 2019	April 2018	
RBC Emerging Markets Equity	Yes	June 2016	December 2019	February 2019	There were two recent additions to the team: James Bateson (Portfolio Engineer) and Angel Su (Analyst).
<b>Core Fixed Income</b>					
BNY Mellon US Aggregate Bond - NL	No		April 2019	April 2019	
Garcia Hamilton Core Fixed Income	No	June 2017	December 2019	December 2019	
PGIM Core Plus Fixed Income	No	March 2018	November 2019	June 2019	
<b>Non-Core Fixed Income</b>					
Stone Harbor Emerging Market Debt Blend	No		September 2019	April 2016	
Hotchkis & Wiley High Yield	No		April 2019	July 2016	
Beach Point Leveraged Loan	No		August 2019	August 2019	
AG Direct Lending Fund III, LP	No	July 2018	August 2019	August 2019	
THL Direct Lending Fund IV, LLC	Yes	February 2019	February 2020	October 2019	In December 2019, THL Credit announced that it has entered into an agreement to be acquired by First Eagle Investment Management, where it will be rebranded as part of First Eagle's alternative credit platform.
PIMCO Private Income Fund OnShore Feeder LLC	No	April 2019	August 2019	August 2019	
<b>Real Return</b>					
BNY Mellon TIPS	No				
Cohen & Steers Real Assets Fund	No	July 2017	October 2019	May 2019	
Nuveen Real Asset Income Fund	Yes	July 2017	February 2019	November 2018	Jose Minaya will be promoted from President of Nuveen to Chief Executive Officer of the firm, effective January 13, 2020. Mr. Minaya will replace Vijay Advani, who was appointed to the CEO role in April 2017.
Private Natural Resources	No	December 2019	-	-	
Private Infrastructure	No	December 2019	-	-	
<b>Private Equity</b>					
Hamilton Lane	No	December 2019	January 2020	-	
<b>Real Estate</b>					
ORG	No	December 2019	-	-	

## INVESTMENT MANAGER UPDATES

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### Artisan Non-U.S. Growth

Michael Steib (Analyst since 2015) left the team in the third quarter. They are currently looking to hire a replacement.

***Opinion: RVK currently does not have any concerns and recommends no action at this time.***

### RBC Emerging Markets Equity

There were two recent additions to the team: James Bateson (Portfolio Engineer) and Angel Su (Analyst). The fund announced in late June that it would be soft-closed to new institutional investors as they have reached capacity.

***Opinion: RVK currently does not have any concerns and recommends no action at this time.***

### THL Direct Lending Fund IV, LLC

In December 2019, THL Credit announced that it has entered into an agreement to be acquired by First Eagle Investment Management, where it will be rebranded as part of First Eagle's alternative credit platform. THL Credit will absorb the current First Eagle direct lending team and does not anticipate any major changes in senior management, investment team, philosophy, strategy, or process. The THL Credit Direct Lending team will primarily benefit from this acquisition by increasing the scope of the team's origination capabilities as well as leveraging the scale of First Eagle's platform to better compete for deals.

***Opinion: Following a meeting with the First Eagle alternative credit senior leadership team in February 2020, RVK currently has no major concerns due to the lack of material change to the fund's investment team and strategy. RVK will continue to monitor the acquisition process to ensure a smooth transition from THL Credit into First Eagle Investment Management.***

### Nuveen Real Asset Income Fund

Jose Minaya will be promoted from President of Nuveen to Chief Executive Officer of the firm, effective January 13, 2020. Mr. Minaya will replace Vijay Advani, who was appointed to the CEO role in April 2017. Nuveen has shared that this promotion is part of an existing succession plan in which Mr. Advani will assume a newly-created role of Executive Chairman where he will remain with Nuveen and focus on growth initiatives. Mr. Advani will continue to report to the President and CEO of Nuveen's parent company, TIAA. As the new CEO, Mr. Minaya will continue to report his predecessor, Mr. Advani.

***Opinion: Since there is no change to the team managing the strategy, RVK currently does not recommend any action.***

Asset Class	Investment Manager	Inception Date	✓ indicates failed test			Watch List Status	✓ indicates failed test			Watch List Status	Qualitative Factor(s) Resulting in Watch List Addition											Benchmark	Peer Group					
			2019 Q2	2019 Q3	2019 Q4		2019 Q2	2019 Q3	2019 Q4		A	B	C	D	E	F	G	H	I	J	Explanation							
U.S. Equity	Dimensional U.S. Small Cap Value (CF)	4/1/2005																								Russell 2000 Value Index	U.S. Small Cap Value Equity	
	RHJ Small Cap Opportunities (SA)	6/1/2016				N/A (Insufficient Performance History)				N/A (Insufficient Performance History)																	Russell 2000 Growth Index	U.S. Small Cap Growth Equity
Developed Market non-U.S. Equity	First Eagle International Value Equity (SA)	6/1/2014																									MSCI EAFE Index (USD) (Net)	EAFE Value
	PanAgora Dynamic International Equity (SA)	5/1/2009																									MSCI EAFE Index (USD) (Net)	EAFE Core
	Artisan Non-U.S. Growth (SA)	2/1/2014																									MSCI EAFE Index (USD) (Net)	EAFE Growth
	Copper Rock International Small Cap (CF)	3/1/2013																									MSCI EAFE Sm Cap Index (USD) (Net)	International SMID Cap Equity
Emerging Markets Equity	DFA Emg Mkts Value;l (DFEVX)	5/1/2013																									MSCI Emg Mkts Index (USD) (Net)	Emerging Markets Equity
	RBC Emerging Markets Equity (CF)	9/1/2016				N/A (Insufficient Performance History)				N/A (Insufficient Performance History)																	MSCI Emg Mkts Index (USD) (Net)	Emerging Markets Equity

Qualitative Factors Resulting in Watch List Additions:

- A. Violation of investment guidelines
- B. Deviation from stated investment style or shifts in the firm's philosophy or process
- C. Turnover of one or more key personnel
- D. Change in firm ownership or structure
- E. Significant loss of clients and/or assets under management
- F. Significant and persistent lack of responsiveness to client requests
- G. The initiation of significant litigation or regulatory action
- H. Failure to disclose significant information, including potential conflicts of interest
- I. Chronic violations of this Investment Policy Statement
- J. Any other issue or situation of which the General Investment Consultant and/or Board become aware that is deemed material



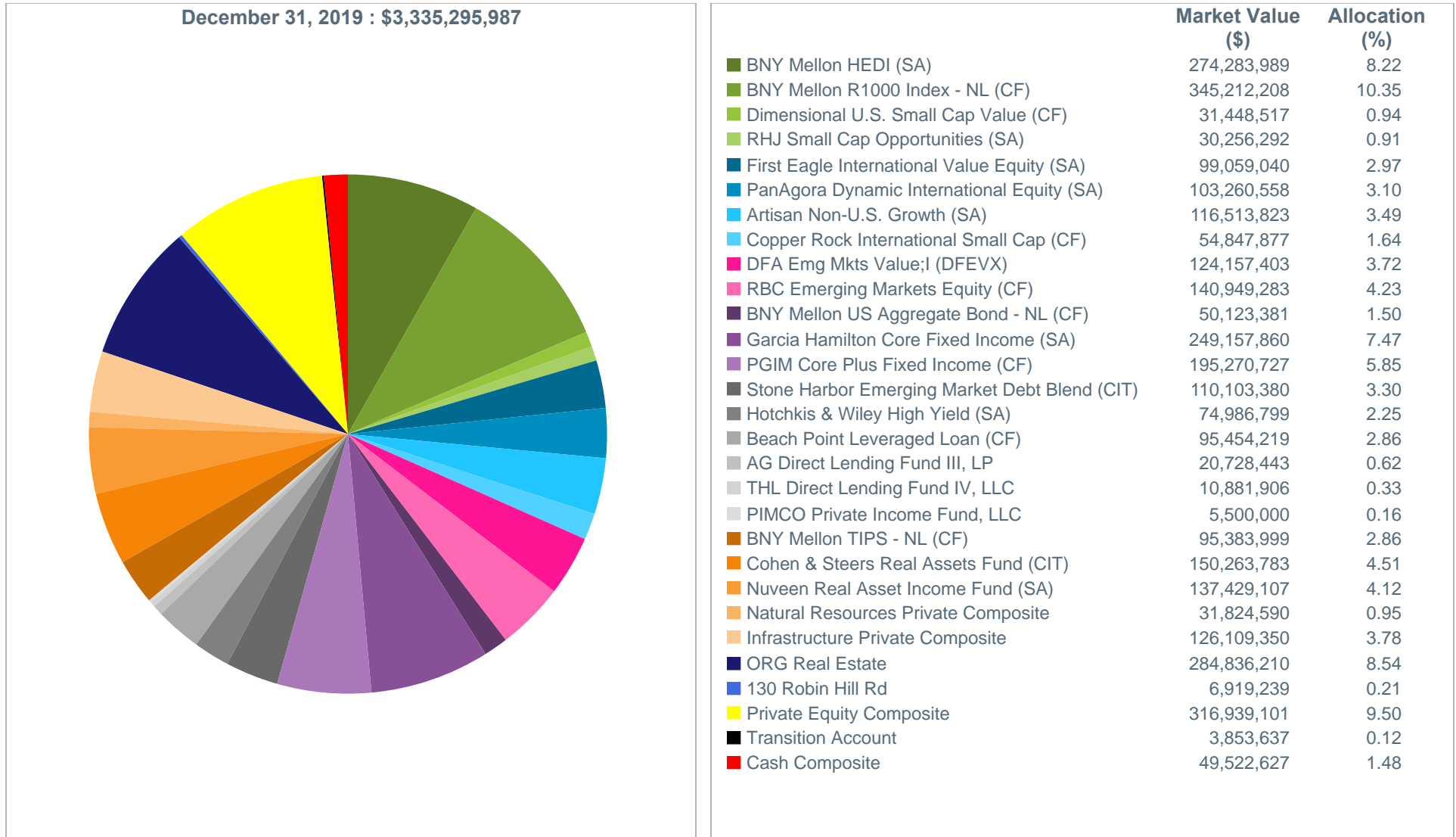
Asset Class	Investment Manager	Inception Date	✓ indicates failed test			Watch List Status	✓ indicates failed test			Watch List Status	Qualitative Factor(s) Resulting in Watch List Addition											Benchmark	Peer Group				
			2019 Q2	2019 Q3	2019 Q4		2019 Q2	2019 Q3	2019 Q4		A	B	C	D	E	F	G	H	I	J	Explanation						
Core Fixed Income	Garcia Hamilton Core Fixed Income (SA)	9/1/2017				N/A (Insufficient Performance History)				N/A (Insufficient Performance History)															Bloomberg US Agg Bond Index	U.S. Broad Market Core Fixed Income	
	PGIM Core Plus Fixed Income (CF)	6/1/2018				N/A (Insufficient Performance History)				N/A (Insufficient Performance History)																Bloomberg US Agg Bond Index	U.S. Broad Market Core+ Fixed Income
Non-Core Fixed Income	Stone Harbor Emerging Market Debt Blend (CIT)	8/1/2012				On Watch (2018 Q1)				On Watch (2018 Q1)																Stone Harbor Blended Benchmark	Emerging Markets Debt
	Hotchkis & Wiley High Yield (SA)	12/1/2013																								Bloomberg US Corp: Hi Yld Index	U.S. High Yield Bonds
	Beach Point Leveraged Loan (CF)	10/1/2012																								CS Lvg'd Loan Index	U.S. Bank Loans
Real Return	Cohen & Steers Real Assets Fund (CIT)	9/1/2017				N/A (Insufficient Performance History)				N/A (No Comparable Universe)																Cohen & Steers Real Assets Custom Index	N/A
	Nuveen Real Asset Income Fund (SA)	9/1/2017				N/A (Insufficient Performance History)				N/A (No Comparable Universe)																Nuveen Real Asset Blend Index	N/A

Qualitative Factors Resulting in Watch List Additions:

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- E. Significant loss of clients and/or assets under management
- F. Significant and persistent lack of responsiveness to client requests
- G. The initiation of significant litigation or regulatory action
- H. Failure to disclose significant information, including potential conflicts of interest
  - I. Chronic violations of this Investment Policy Statement
  - J. Any other issue or situation of which the General Investment Consultant and/or Board become aware that is deemed material

Santa Barbara County Employees' Retirement System  
 Asset Allocation By Manager and Schedule of Investable Assets

As of December 31, 2019



**Schedule of Investable Assets Ex Treasury Cash**

Periods Ending	Beginning Market Value (\$)	Net Cash Flow (\$)	Gain/Loss (\$)	Ending Market Value (\$)	% Return	Unit Value
<b>FYTD</b>	<b>3,169,183,621</b>	<b>-25,135,097</b>	<b>170,096,218</b>	<b>3,314,144,742</b>	<b>5.35</b>	<b>105.35</b>

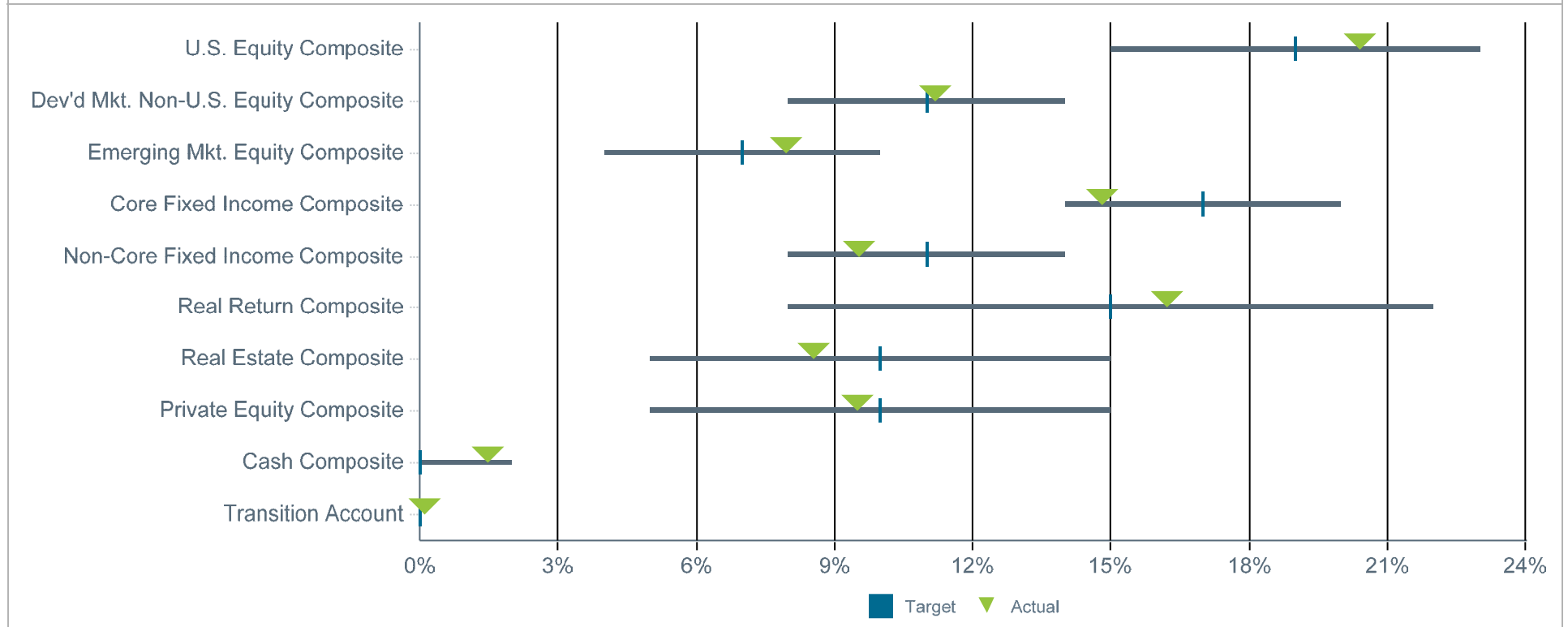
Performance shown is net of fees and provided by BNY Mellon. Allocations shown may not sum up to 100% exactly due to rounding. Schedule of Investable Assets excludes Treasury Cash. The fiscal year ends 06/30. The cash account contains \$10 of settlement fees gained from Lord Abbett, which was liquidated in 2013.



**Santa Barbara County Employees' Retirement System**  
**Asset Allocation vs Target Allocation**

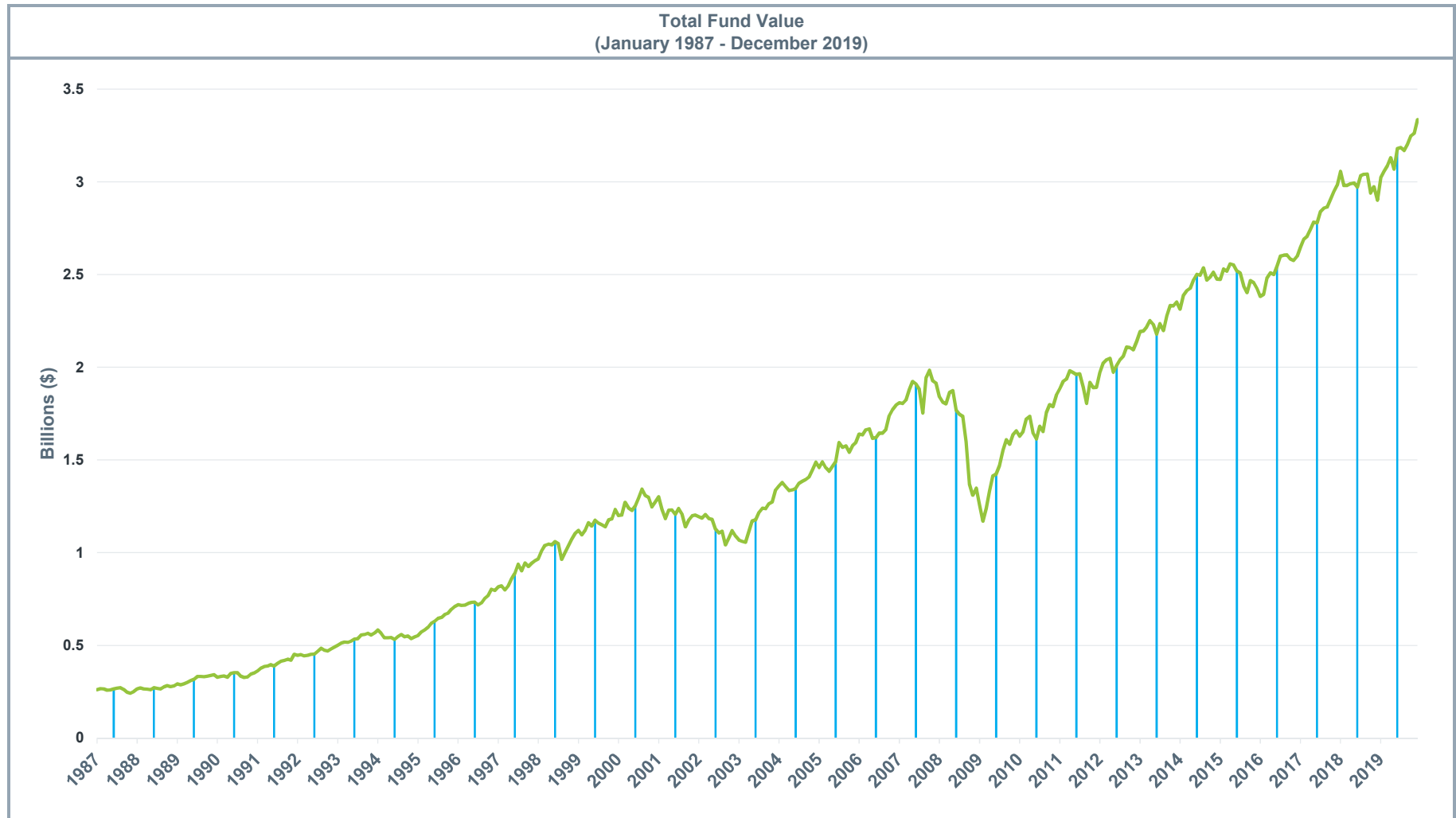
As of December 31, 2019

	Market Value (\$)	Allocation (%)	Lower Range (%)	Target (%)	Upper Range (%)
Total Fund Composite	3,335,295,987	100.0	-	100.0	-
U.S. Equity Composite	681,201,006	20.4	15.0	19.0	23.0
Dev'd Mkt. Non-U.S. Equity Composite	373,683,991	11.2	8.0	11.0	14.0
Emerging Mkt. Equity Composite	265,106,686	7.9	4.0	7.0	10.0
Core Fixed Income Composite	494,560,090	14.8	14.0	17.0	20.0
Non-Core Fixed Income Composite	317,654,787	9.5	8.0	11.0	14.0
Real Return Composite	541,013,095	16.2	8.0	15.0	22.0
Real Estate Composite	284,841,728	8.5	5.0	10.0	15.0
Private Equity Composite	316,939,101	9.5	5.0	10.0	15.0
Cash Composite	49,522,627	1.5	0.0	0.0	2.0
Transition Account	3,853,637	0.1	0.0	0.0	0.0

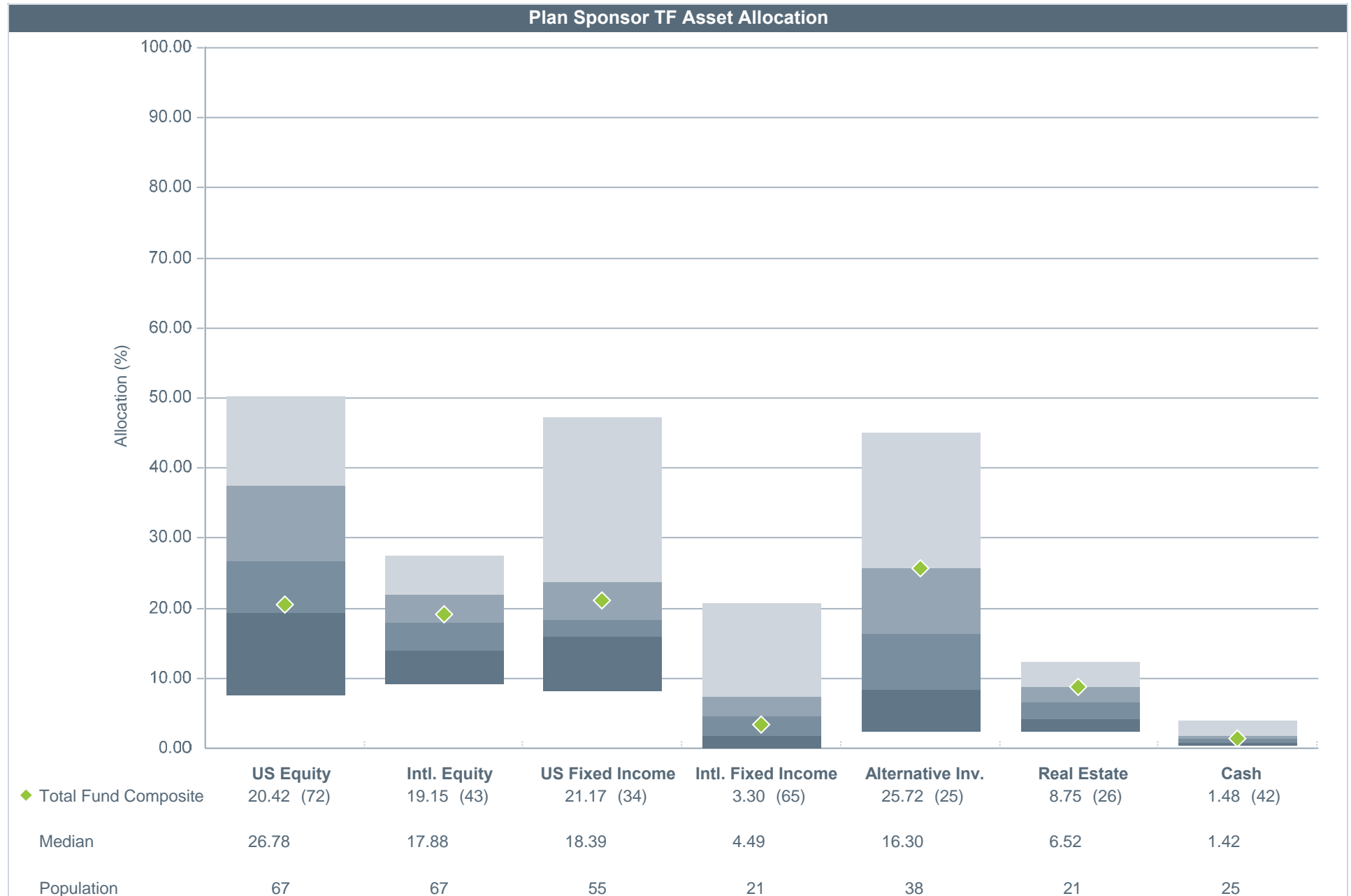


Allocations shown may not sum up to 100% exactly due to rounding. Market value for the Transition Account represents residual assets from portfolio restructuring.

	Market Value (\$)	Performance (%)											
		FYTD	FY 2019	FY 2018	FY 2017	FY 2016	FY 2015	FY 2014	FY 2013	FY 2012	FY 2011	FY 2010	Since Incep.
Total Fund	3,335,295,987	5.36	7.76	7.80	10.49	1.37	0.42	15.25	8.10	1.99	22.01	14.37	8.29



Performance shown is net of fees and is annualized for periods greater than one year. The fiscal year for Santa Barbara County Employees' Retirement System ends 06/30. Inception date for the Total Fund is 01/01/1987. Total Fund performance excludes 130 RHR and Treasury Cash.

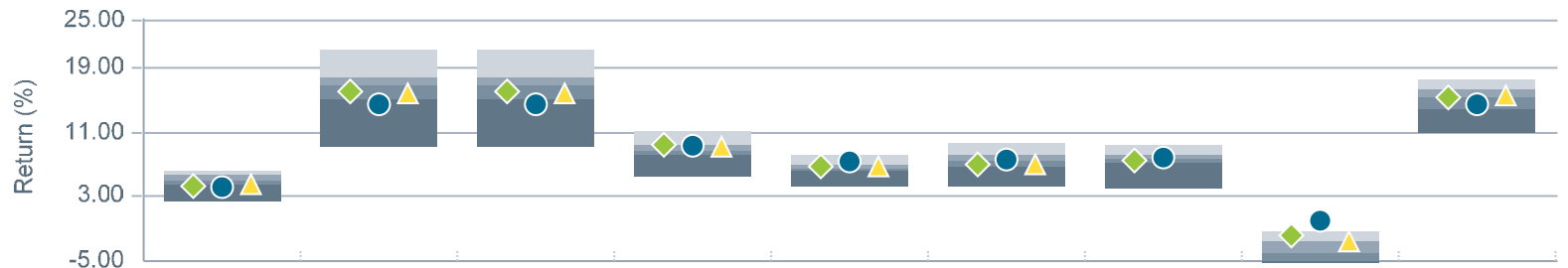


Parentheses contain percentile ranks. International Fixed Income consists of Stone Harbor Emerging Market Debt Blend (CIT). US Fixed Income includes the Transition Account.

Santa Barbara County Employees' Retirement System  
 All Public Plans \$1B-\$5B  
 Plan Sponsor Peer Group Analysis

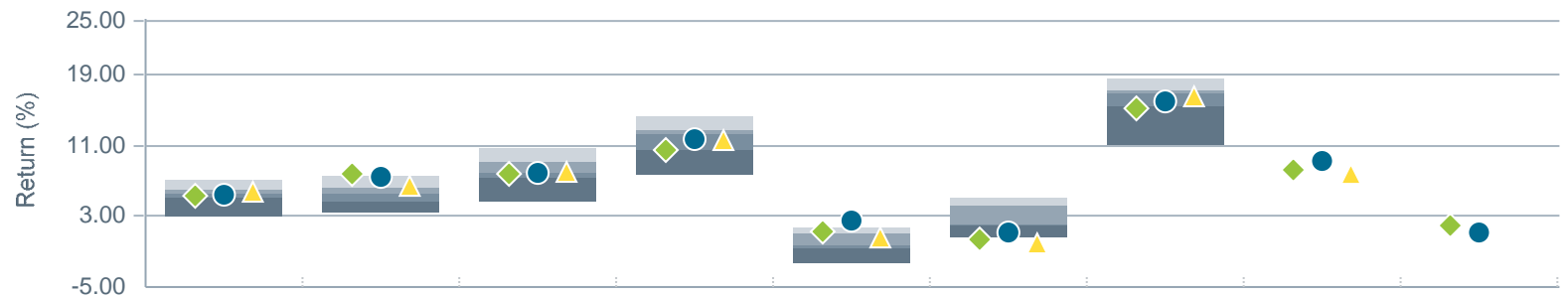
As of December 31, 2019

Trailing Performance



	QTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017
◆ Total Fund Composite	4.30 (82)	16.17 (63)	16.17 (63)	9.57 (24)	6.82 (38)	7.08 (71)	7.65 (59)	-1.87 (9)	15.39 (50)
● SBCERS Policy Benchmark	4.20 (86)	14.53 (92)	14.53 (92)	9.36 (27)	7.29 (21)	7.53 (52)	7.72 (54)	-0.09 (4)	14.31 (69)
▲ SBCERS Dynamic Policy Benchmark	4.62 (77)	15.81 (69)	15.81 (69)	9.29 (28)	6.81 (39)	7.05 (73)	N/A	-2.55 (22)	15.68 (44)
Median	5.10	16.97	16.97	8.66	6.60	7.57	7.85	-3.95	15.39
Population	52	52	52	52	52	52	47	41	15

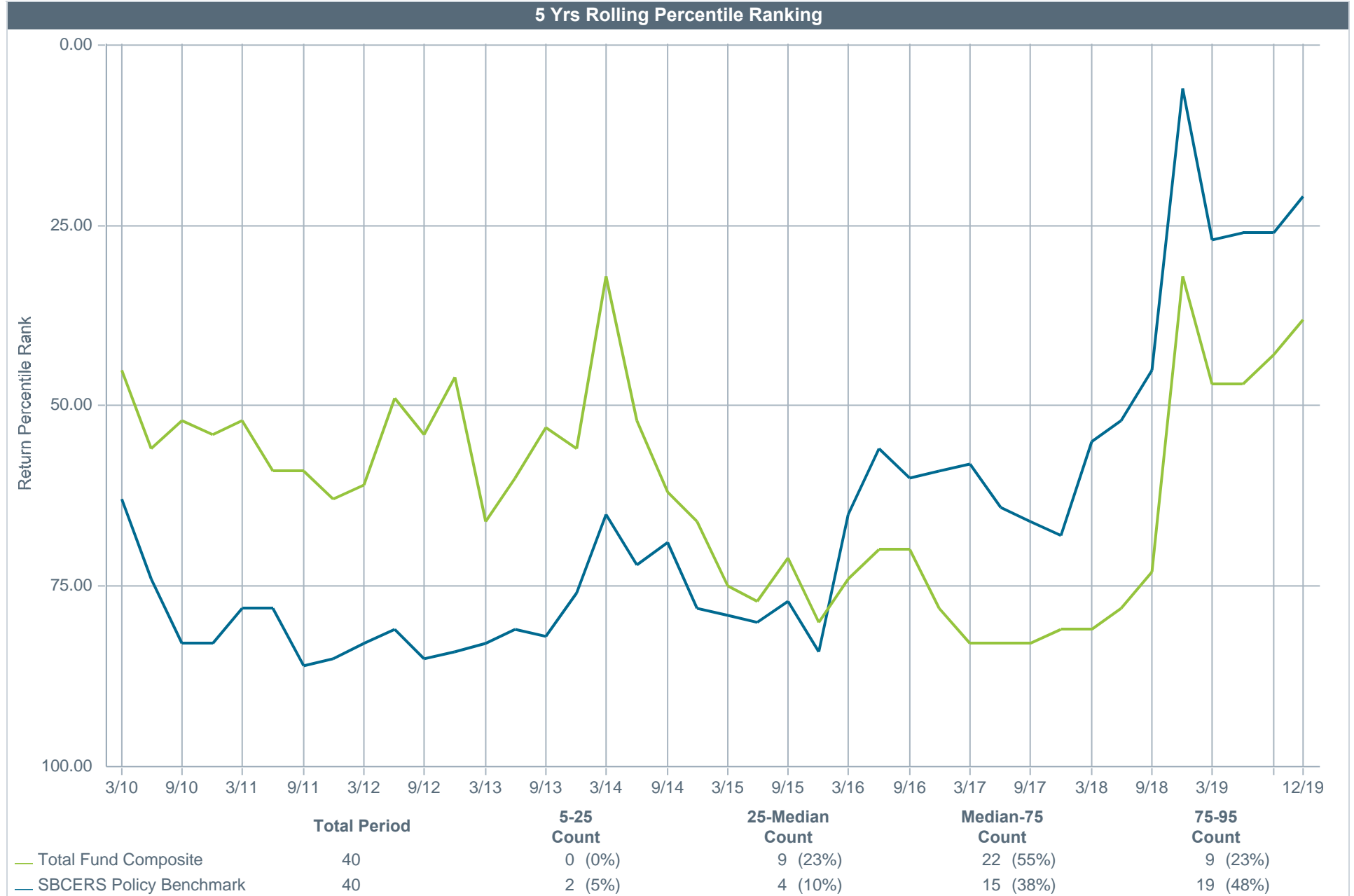
Fiscal Year Performance



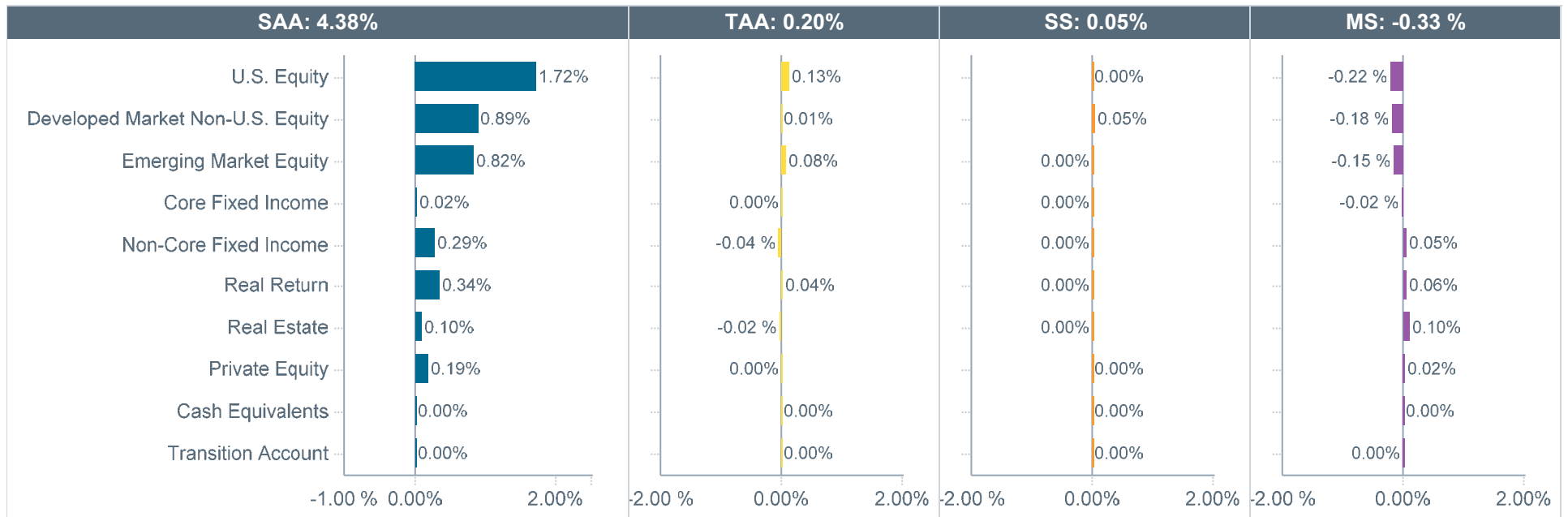
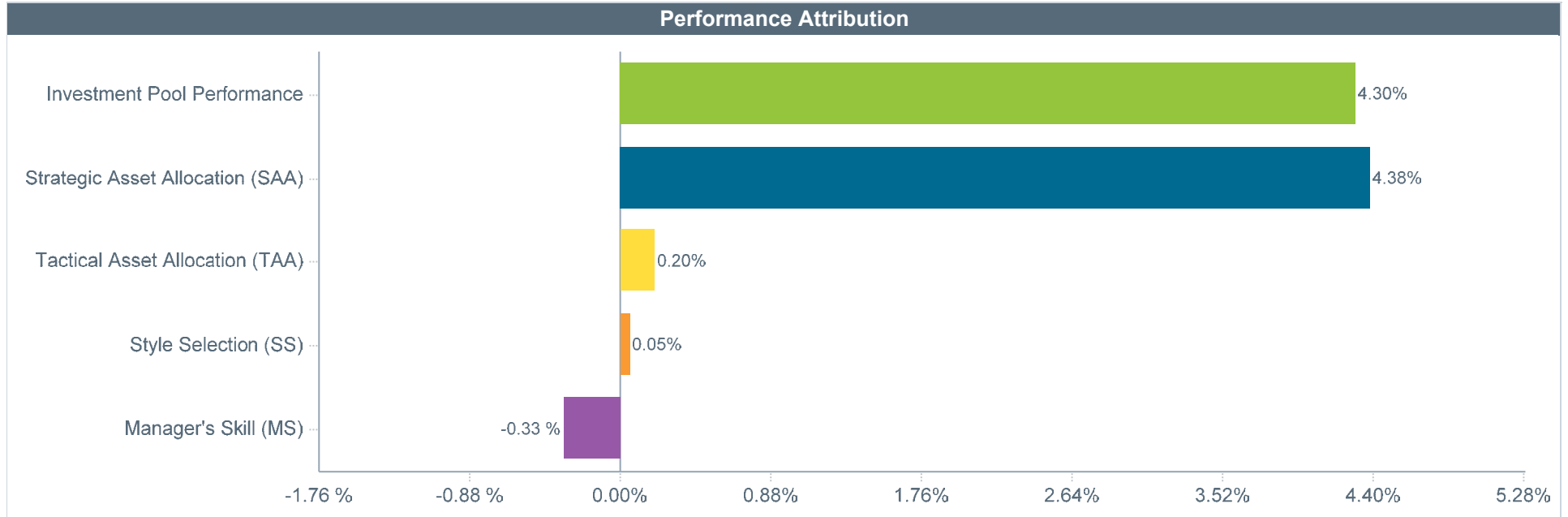
	FYTD	FY 2019	FY 2018	FY 2017	FY 2016	FY 2015	FY 2014	FY 2013	FY 2012
◆ Total Fund Composite	5.36 (60)	7.76 (1)	7.80 (58)	10.49 (72)	1.37 (8)	0.42 (99)	15.25 (76)	8.10 (N/A)	1.99 (N/A)
● SBCERS Policy Benchmark	5.33 (64)	7.29 (7)	7.77 (58)	11.47 (63)	2.28 (2)	0.97 (89)	15.72 (63)	9.21 (N/A)	1.06 (N/A)
▲ SBCERS Dynamic Policy Benchmark	5.66 (39)	6.35 (24)	7.92 (50)	11.58 (62)	0.65 (34)	0.01 (100)	16.50 (57)	7.84 (N/A)	N/A
Median	5.44	5.50	7.88	12.31	-0.22	2.25	16.85	N/A	N/A
Population	52	28	15	15	14	12	12	9	8

Performance shown is net of fees. Parentheses contain percentile ranks. The fiscal year ends 06/30. Total Fund performance excludes 130 RHR and Treasury Cash.



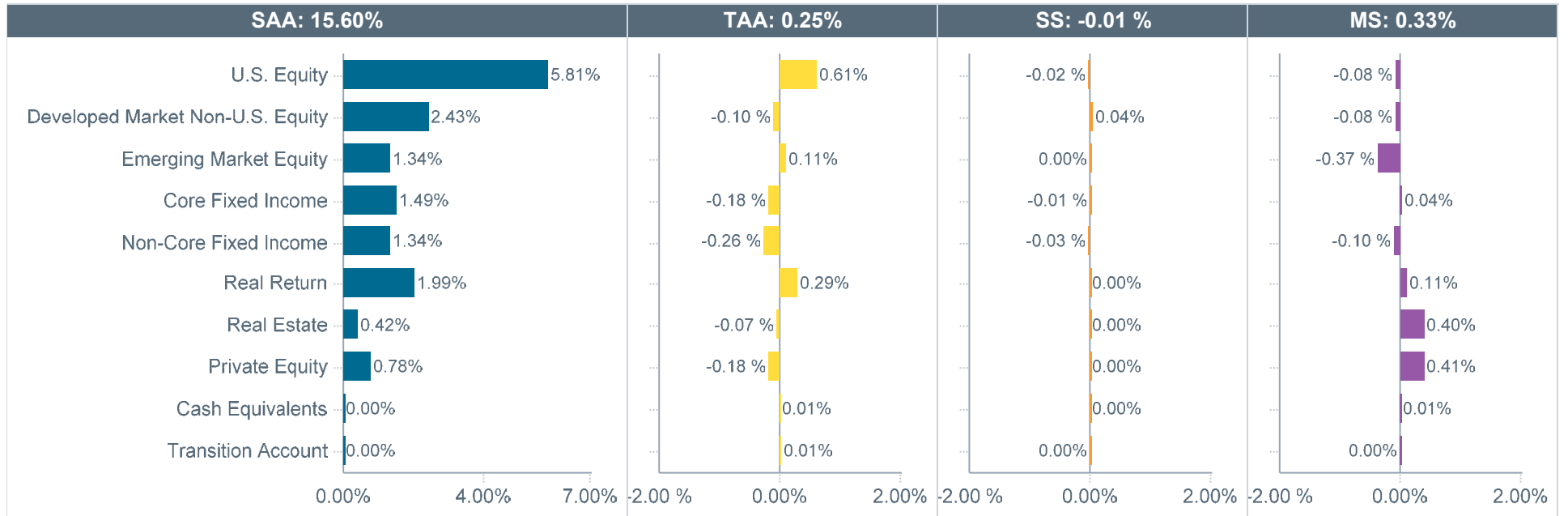
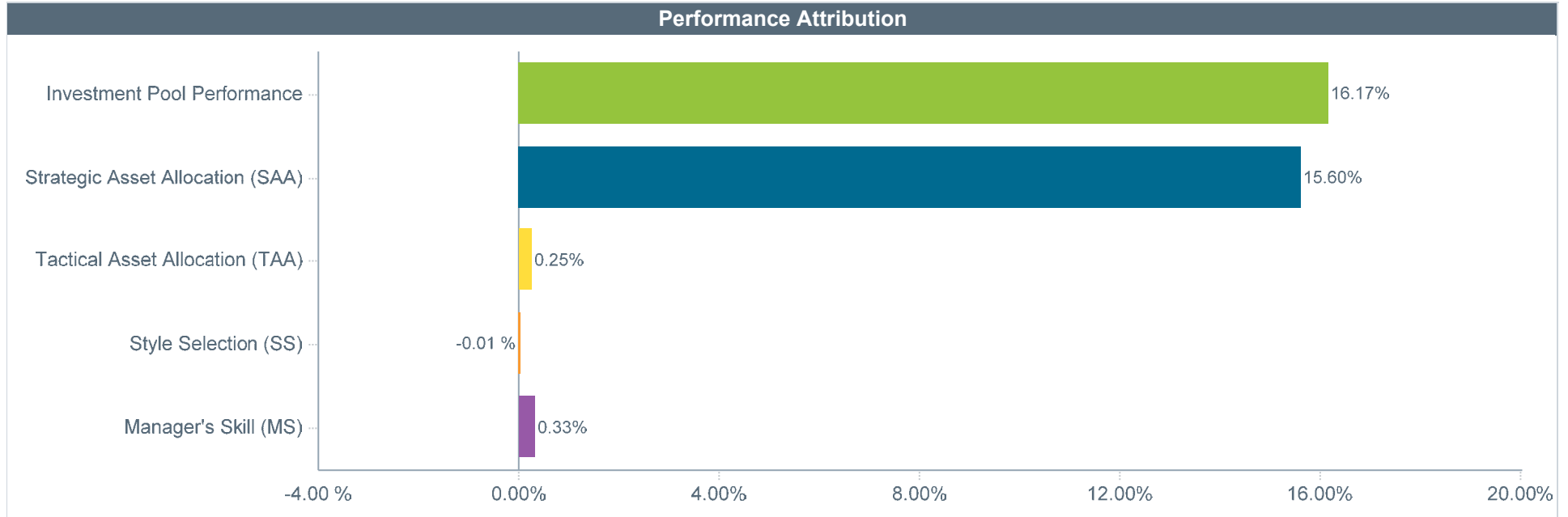


Ranks shown are based on net of fees performance. Total Fund performance excludes 130 RHR and Treasury Cash.



Performance shown is net of fees. Calculation is based on monthly periodicity. The Custom Real Return Benchmark is designated as the primary benchmark for the Real Return Composite in the Total Fund Attribution – IDP reports. See Glossary for additional information regarding the Total Fund Attribution - IDP calculation. Total Fund performance excludes 130 RHR and Treasury Cash.





Performance shown is net of fees. Calculation is based on monthly periodicity. The Custom Real Return Benchmark is designated as the primary benchmark for the Real Return Composite in the Total Fund Attribution – IDP reports. See Glossary for additional information regarding the Total Fund Attribution - IDP calculation. Total Fund performance excludes 130 RHR and Treasury Cash.

Santa Barbara County Employees' Retirement System  
Asset Allocation & Performance - Net of Fees

As of December 31, 2019

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
<b>Total Fund Composite</b>	<b>3,335,295,987</b>	<b>100.00</b>	<b>4.29</b>	<b>5.35</b>	<b>16.14</b>	<b>16.14</b>	<b>9.56</b>	<b>6.82</b>	<b>7.08</b>	<b>7.65</b>	<b>8.29</b>	<b>01/01/1987</b>
<b>Total Fund Composite ex 130 RHR</b>	<b>3,328,376,748</b>	<b>99.79</b>	<b>4.30</b>	<b>5.36</b>	<b>16.17</b>	<b>16.17</b>	<b>9.57</b>	<b>6.82</b>	<b>7.08</b>	<b>7.65</b>	<b>8.29</b>	<b>01/01/1987</b>
SBCERS Policy Benchmark			4.20	5.33	14.53	14.53	9.36	7.29	7.53	7.72	N/A	
Difference			0.10	0.03	1.64	1.64	0.21	-0.47	-0.45	-0.07	N/A	
SBCERS Dynamic Policy Benchmark			4.62	5.66	15.81	15.81	9.29	6.81	7.05	N/A	N/A	
Difference			-0.32	-0.30	0.36	0.36	0.28	0.01	0.03	N/A	N/A	
<b>U.S. Equity Composite</b>	<b>681,201,006</b>	<b>20.42</b>	<b>8.07</b>	<b>9.89</b>	<b>30.70</b>	<b>30.70</b>	<b>15.26</b>	<b>11.18</b>	<b>14.09</b>	<b>12.97</b>	<b>10.79</b>	<b>01/01/1987</b>
Russell 3000 Index			9.10	10.37	31.02	31.02	14.57	11.24	14.38	13.42	10.54	
Difference			-1.03	-0.48	-0.32	-0.32	0.69	-0.06	-0.29	-0.45	0.25	
<b>Dev'd Mkt. Non-U.S. Equity Composite</b>	<b>373,683,991</b>	<b>11.20</b>	<b>7.05</b>	<b>6.24</b>	<b>21.81</b>	<b>21.81</b>	<b>9.52</b>	<b>5.87</b>	<b>7.09</b>	<b>N/A</b>	<b>8.44</b>	<b>07/01/2012</b>
MSCI EAFE Index (USD) (Net)			8.17	7.01	22.01	22.01	9.56	5.67	6.35	5.50	7.77	
Difference			-1.12	-0.77	-0.20	-0.20	-0.04	0.20	0.74	N/A	0.67	
<b>Emerging Mkt. Equity Composite</b>	<b>265,106,686</b>	<b>7.95</b>	<b>9.90</b>	<b>3.36</b>	<b>14.03</b>	<b>14.03</b>	<b>10.83</b>	<b>5.32</b>	<b>3.16</b>	<b>N/A</b>	<b>4.60</b>	<b>07/01/2012</b>
MSCI Emg Mkts Index (USD) (Net)			11.84	7.09	18.44	18.44	11.57	5.61	3.26	3.68	4.82	
Difference			-1.94	-3.73	-4.41	-4.41	-0.74	-0.29	-0.10	N/A	-0.22	
<b>Core Fixed Income Composite</b>	<b>494,560,090</b>	<b>14.83</b>	<b>0.11</b>	<b>2.65</b>	<b>9.01</b>	<b>9.01</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>4.62</b>	<b>07/01/2017</b>
Bloomberg US Agg Bond Index			0.18	2.45	8.72	8.72	4.03	3.05	2.72	3.75	3.92	
Difference			-0.07	0.20	0.29	0.29	N/A	N/A	N/A	N/A	0.70	
<b>Non-Core Fixed Income Composite</b>	<b>317,654,787</b>	<b>9.52</b>	<b>3.13</b>	<b>2.89</b>	<b>10.94</b>	<b>10.94</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>3.47</b>	<b>07/01/2017</b>
Custom Non-Core Fixed Income Benchmark			2.62	3.52	12.21	12.21	5.95	5.12	4.21	5.91	5.12	
Difference			0.51	-0.63	-1.27	-1.27	N/A	N/A	N/A	N/A	-1.65	
<b>Real Return Composite</b>	<b>541,013,095</b>	<b>16.22</b>	<b>2.68</b>	<b>4.33</b>	<b>14.06</b>	<b>14.06</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>5.83</b>	<b>07/01/2017</b>
Consumer Price Index+4%			1.07	2.31	6.38	6.38	6.19	5.89	5.69	5.82	6.01	
Difference			1.61	2.02	7.68	7.68	N/A	N/A	N/A	N/A	-0.18	
Custom Real Return Benchmark			2.29	3.63	13.24	13.24	N/A	N/A	N/A	N/A	6.28	
Difference			0.39	0.70	0.82	0.82	N/A	N/A	N/A	N/A	-0.45	
<b>Real Estate Composite</b>	<b>284,841,728</b>	<b>8.54</b>	<b>2.22</b>	<b>4.73</b>	<b>8.97</b>	<b>8.97</b>	<b>10.50</b>	<b>10.75</b>	<b>11.03</b>	<b>10.64</b>	<b>6.28</b>	<b>04/01/2006</b>
NCREIF ODCE Index (AWA) (Net) (1 Qtr Lag)			1.08	1.86	4.64	4.64	6.34	8.36	9.29	9.84	5.84	
Difference			1.14	2.87	4.33	4.33	4.16	2.39	1.74	0.80	0.44	
<b>Private Equity Composite</b>	<b>316,939,101</b>	<b>9.50</b>	<b>2.13</b>	<b>6.23</b>	<b>10.90</b>	<b>10.90</b>	<b>15.54</b>	<b>12.27</b>	<b>14.00</b>	<b>14.12</b>	<b>9.42</b>	<b>06/01/2006</b>
Russell 3000+3% Index (1 Qtr Lag)			1.91	6.87	6.01	6.01	16.22	13.76	16.39	16.47	11.82	
Difference			0.22	-0.64	4.89	4.89	-0.68	-1.49	-2.39	-2.35	-2.40	

Performance shown is net of fees and provided by BNY Mellon. Performance is annualized for periods greater than one year. Total Fund performance excludes Treasury Cash. Indices show N/A for since inception returns when the fund contains more history than the corresponding benchmark. The fiscal year ends 06/30.



Santa Barbara County Employees' Retirement System  
Asset Allocation & Performance - Fiscal Year

As of December 31, 2019

	Allocation		Performance (%)									
	Market Value (\$)	%	FYTD	FY 2019	FY 2018	FY 2017	FY 2016	FY 2015	FY 2014	FY 2013	FY 2012	FY 2011
<b>Total Fund Composite</b>	<b>3,335,295,987</b>	<b>100.00</b>	<b>5.35</b>	<b>7.74</b>	<b>7.80</b>	<b>10.49</b>	<b>1.37</b>	<b>0.42</b>	<b>15.25</b>	<b>8.10</b>	<b>1.99</b>	<b>22.01</b>
<b>Total Fund Composite ex 130 RHR</b>	<b>3,328,376,748</b>	<b>99.79</b>	<b>5.36</b>	<b>7.76</b>	<b>7.80</b>	<b>10.49</b>	<b>1.37</b>	<b>0.42</b>	<b>15.25</b>	<b>8.10</b>	<b>1.99</b>	<b>22.01</b>
SBCERS Policy Benchmark			5.33	7.29	7.77	11.47	2.28	0.97	15.72	9.21	1.06	20.07
Difference			0.03	0.47	0.03	-0.98	-0.91	-0.55	-0.47	-1.11	0.93	1.94
SBCERS Dynamic Policy Benchmark			5.66	6.35	7.92	11.58	0.65	0.01	16.50	7.84	N/A	N/A
Difference			-0.30	1.41	-0.12	-1.09	0.72	0.41	-1.25	0.26	N/A	N/A
<b>U.S. Equity Composite</b>	<b>681,201,006</b>	<b>20.42</b>	<b>9.89</b>	<b>11.05</b>	<b>15.53</b>	<b>14.82</b>	<b>3.22</b>	<b>6.31</b>	<b>25.01</b>	<b>19.58</b>	<b>0.95</b>	<b>32.69</b>
Russell 3000 Index			10.37	8.98	14.78	18.51	2.14	7.29	25.22	21.46	3.84	32.37
Difference			-0.48	2.07	0.75	-3.69	1.08	-0.98	-0.21	-1.88	-2.89	0.32
<b>Dev'd Mkt. Non-U.S. Equity Composite</b>	<b>373,683,991</b>	<b>11.20</b>	<b>6.24</b>	<b>1.78</b>	<b>6.23</b>	<b>16.86</b>	<b>-6.62</b>	<b>-0.92</b>	<b>23.53</b>	<b>19.66</b>	<b>N/A</b>	<b>N/A</b>
MSCI EAFE Index (USD) (Net)			7.01	1.08	6.84	20.27	-10.16	-4.22	23.57	18.62	-13.83	30.36
Difference			-0.77	0.70	-0.61	-3.41	3.54	3.30	-0.04	1.04	N/A	N/A
<b>Emerging Mkt. Equity Composite</b>	<b>265,106,686</b>	<b>7.95</b>	<b>3.36</b>	<b>5.80</b>	<b>5.86</b>	<b>22.55</b>	<b>-9.97</b>	<b>-6.02</b>	<b>12.12</b>	<b>4.09</b>	<b>N/A</b>	<b>N/A</b>
MSCI Emg Mkts Index (USD) (Net)			7.09	1.21	8.20	23.75	-12.05	-5.12	14.31	2.87	-15.94	27.80
Difference			-3.73	4.59	-2.34	-1.20	2.08	-0.90	-2.19	1.22	N/A	N/A
<b>Core Fixed Income Composite</b>	<b>494,560,090</b>	<b>14.83</b>	<b>2.65</b>	<b>7.62</b>	<b>1.34</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>
Bloomberg US Agg Bond Index			2.45	7.87	-0.40	-0.31	6.00	1.86	4.37	-0.69	7.47	3.90
Difference			0.20	-0.25	1.74	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Non-Core Fixed Income Composite</b>	<b>317,654,787</b>	<b>9.52</b>	<b>2.89</b>	<b>5.47</b>	<b>0.37</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>
Custom Non-Core Fixed Income Benchmark			3.52	7.44	1.85	8.86	2.75	-1.98	8.51	6.22	4.87	13.59
Difference			-0.63	-1.97	-1.48	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Real Return Composite</b>	<b>541,013,095</b>	<b>16.22</b>	<b>4.33</b>	<b>6.27</b>	<b>3.90</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>
Consumer Price Index+4%			2.31	5.71	6.99	5.70	5.04	4.13	6.15	5.82	5.73	7.70
Difference			2.02	0.56	-3.09	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Custom Real Return Benchmark			3.63	5.21	6.80	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Difference			0.70	1.06	-2.90	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Real Estate Composite</b>	<b>284,841,728</b>	<b>8.54</b>	<b>4.73</b>	<b>9.50</b>	<b>12.27</b>	<b>9.20</b>	<b>13.75</b>	<b>10.31</b>	<b>12.26</b>	<b>10.37</b>	<b>10.20</b>	<b>18.21</b>
NCREIF ODCE Index (AWA) (Net) (1 Qtr Lag)			1.86	6.55	7.11	7.36	12.62	12.40	12.74	9.68	13.59	19.01
Difference			2.87	2.95	5.16	1.84	1.13	-2.09	-0.48	0.69	-3.39	-0.80
<b>Private Equity Composite</b>	<b>316,939,101</b>	<b>9.50</b>	<b>6.23</b>	<b>13.64</b>	<b>15.69</b>	<b>18.96</b>	<b>4.69</b>	<b>11.12</b>	<b>20.27</b>	<b>12.21</b>	<b>9.29</b>	<b>20.14</b>
Russell 3000+3% Index (1 Qtr Lag)			6.87	12.03	17.23	21.61	2.65	15.74	26.29	18.00	10.40	20.93
Difference			-0.64	1.61	-1.54	-2.65	2.04	-4.62	-6.02	-5.79	-1.11	-0.79

Performance shown is net of fees and provided by BNY Mellon. Total Fund performance excludes Treasury Cash. Indices show N/A for since inception returns when the fund contains more history than the corresponding benchmark. The fiscal year ends 06/30.



Santa Barbara County Employees' Retirement System  
Asset Allocation & Performance - Net of Fees

As of December 31, 2019

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
<b>U.S. Equity Composite</b>	<b>681,201,006</b>	<b>20.42</b>	<b>8.07</b>	<b>9.89</b>	<b>30.70</b>	<b>30.70</b>	<b>15.26</b>	<b>11.18</b>	<b>14.09</b>	<b>12.97</b>	<b>10.79</b>	<b>01/01/1987</b>
Russell 3000 Index			9.10	10.37	31.02	31.02	14.57	11.24	14.38	13.42	10.54	
Difference			-1.03	-0.48	-0.32	-0.32	0.69	-0.06	-0.29	-0.45	0.25	
<b>BNY Mellon HEDI (SA)</b>	<b>274,283,989</b>	<b>8.22</b>	<b>6.68</b>	<b>9.79</b>	<b>32.58</b>	<b>32.58</b>	<b>17.70</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>11.93</b>	<b>05/01/2019</b>
Russell 1000 Index			9.04	10.59	31.43	31.43	15.05	11.48	14.60	13.54	10.81	
Difference			-2.36	-0.80	1.15	1.15	2.65	N/A	N/A	N/A	1.12	
IM U.S. Large Cap Core Equity (MF) Median			8.71	10.16	29.62	29.62	13.95	10.30	13.31	12.21	10.04	
Rank			85	57	17	17	4	N/A	N/A	N/A	13	
<b>BNY Mellon R1000 Index - NL (CF)</b>	<b>345,212,208</b>	<b>10.35</b>	<b>9.04</b>	<b>10.58</b>	<b>31.46</b>	<b>31.46</b>	<b>15.15</b>	<b>11.55</b>	<b>14.64</b>	<b>N/A</b>	<b>10.83</b>	<b>05/01/2019</b>
Russell 1000 Index			9.04	10.59	31.43	31.43	15.05	11.48	14.60	13.54	10.81	
Difference			0.00	-0.01	0.03	0.03	0.10	0.07	0.04	N/A	0.02	
IM U.S. Large Cap Core Equity (MF) Median			8.71	10.16	29.62	29.62	13.95	10.30	13.31	12.21	10.04	
Rank			39	36	29	29	26	17	14	N/A	30	
<b>Dimensional U.S. Small Cap Value (CF)</b>	<b>31,448,517</b>	<b>0.94</b>	<b>8.92</b>	<b>7.58</b>	<b>18.65</b>	<b>18.65</b>	<b>2.51</b>	<b>5.28</b>	<b>9.76</b>	<b>11.10</b>	<b>7.83</b>	<b>04/01/2005</b>
Russell 2000 Val Index			8.49	7.87	22.39	22.39	4.77	6.99	10.13	10.56	7.34	
Difference			0.43	-0.29	-3.74	-3.74	-2.26	-1.71	-0.37	0.54	0.49	
IM U.S. Small Cap Value Equity (MF) Median			8.11	7.32	21.36	21.36	3.32	5.24	9.18	9.97	6.90	
Rank			31	46	78	78	65	49	39	16	20	
<b>RHJ Small Cap Opportunities (SA)</b>	<b>30,256,292</b>	<b>0.91</b>	<b>9.57</b>	<b>4.45</b>	<b>17.89</b>	<b>17.89</b>	<b>11.88</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>13.12</b>	<b>06/01/2016</b>
Russell 2000 Grth Index			11.39	6.75	28.48	28.48	12.49	9.34	13.08	13.01	14.07	
Difference			-1.82	-2.30	-10.59	-10.59	-0.61	N/A	N/A	N/A	-0.95	
IM U.S. Small Cap Growth Equity (MF) Median			9.99	4.88	27.70	27.70	13.82	9.81	13.09	12.96	15.19	
Rank			60	56	93	93	67	N/A	N/A	N/A	71	
<b>Dev'd Mkt. Non-U.S. Equity Composite</b>	<b>373,683,991</b>	<b>11.20</b>	<b>7.05</b>	<b>6.24</b>	<b>21.81</b>	<b>21.81</b>	<b>9.52</b>	<b>5.87</b>	<b>7.09</b>	<b>N/A</b>	<b>8.44</b>	<b>07/01/2012</b>
MSCI EAFE Index (USD) (Net)			8.17	7.01	22.01	22.01	9.56	5.67	6.35	5.50	7.77	
Difference			-1.12	-0.77	-0.20	-0.20	-0.04	0.20	0.74	N/A	0.67	
<b>First Eagle International Value Equity (SA)</b>	<b>99,059,040</b>	<b>2.97</b>	<b>4.33</b>	<b>5.26</b>	<b>18.05</b>	<b>18.05</b>	<b>6.88</b>	<b>5.65</b>	<b>N/A</b>	<b>N/A</b>	<b>4.12</b>	<b>06/01/2014</b>
MSCI EAFE Index (USD) (Net)			8.17	7.01	22.01	22.01	9.56	5.67	6.35	5.50	3.43	
Difference			-3.84	-1.75	-3.96	-3.96	-2.68	-0.02	N/A	N/A	0.69	
IM EAFE Value (MF) Median			8.60	6.82	17.99	17.99	6.43	3.72	4.40	4.06	1.45	
Rank			99	79	49	49	42	12	N/A	N/A	6	

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	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
<b>PanAgora Dynamic International Equity (SA)</b>	<b>103,260,558</b>	<b>3.10</b>	<b>7.90</b>	<b>5.81</b>	<b>17.19</b>	<b>17.19</b>	<b>7.03</b>	<b>5.68</b>	<b>6.64</b>	<b>6.52</b>	<b>9.06</b>	<b>05/01/2009</b>
MSCI EAFE Index (USD) (Net)			8.17	7.01	22.01	22.01	9.56	5.67	6.35	5.50	8.21	
Difference			-0.27	-1.20	-4.82	-4.82	-2.53	0.01	0.29	1.02	0.85	
IM EAFE Core (MF) Median			8.53	6.96	21.94	21.94	9.16	5.38	5.74	5.14	7.74	
Rank			64	82	95	95	88	39	15	10	15	
<b>Artisan Non-U.S. Growth (SA)</b>	<b>116,513,823</b>	<b>3.49</b>	<b>8.03</b>	<b>8.39</b>	<b>29.79</b>	<b>29.79</b>	<b>15.31</b>	<b>6.06</b>	<b>N/A</b>	<b>N/A</b>	<b>6.25</b>	<b>02/01/2014</b>
MSCI EAFE Index (USD) (Net)			8.17	7.01	22.01	22.01	9.56	5.67	6.35	5.50	4.61	
Difference			-0.14	1.38	7.78	7.78	5.75	0.39	N/A	N/A	1.64	
IM EAFE Growth (MF) Median			9.30	7.90	27.87	27.87	11.97	6.44	6.68	6.56	5.37	
Rank			75	43	26	26	15	62	N/A	N/A	32	
<b>Copper Rock International Small Cap (CF)</b>	<b>54,847,877</b>	<b>1.64</b>	<b>8.46</b>	<b>4.39</b>	<b>21.95</b>	<b>21.95</b>	<b>7.35</b>	<b>4.47</b>	<b>N/A</b>	<b>N/A</b>	<b>6.08</b>	<b>03/01/2013</b>
MSCI EAFE Sm Cap Index (USD) (Net)			11.52	11.03	24.96	24.96	10.92	8.85	9.42	8.74	8.67	
Difference			-3.06	-6.64	-3.01	-3.01	-3.57	-4.38	N/A	N/A	-2.59	
IM International SMID Cap Equity (MF) Median			10.97	8.88	23.48	23.48	10.33	7.26	7.75	8.10	7.26	
Rank			88	92	62	62	86	90	N/A	N/A	76	
<b>Emerging Mkt. Equity Composite</b>	<b>265,106,686</b>	<b>7.95</b>	<b>9.90</b>	<b>3.36</b>	<b>14.03</b>	<b>14.03</b>	<b>10.83</b>	<b>5.32</b>	<b>3.16</b>	<b>N/A</b>	<b>4.60</b>	<b>07/01/2012</b>
MSCI Emg Mkts Index (USD) (Net)			11.84	7.09	18.44	18.44	11.57	5.61	3.26	3.68	4.82	
Difference			-1.94	-3.73	-4.41	-4.41	-0.74	-0.29	-0.10	N/A	-0.22	
<b>DFA Emg Mkts Value;I (DFEVX)</b>	<b>124,157,403</b>	<b>3.72</b>	<b>9.69</b>	<b>2.04</b>	<b>9.67</b>	<b>9.67</b>	<b>8.97</b>	<b>4.72</b>	<b>N/A</b>	<b>N/A</b>	<b>2.24</b>	<b>05/01/2013</b>
MSCI Emg Mkts Index (USD) (Net)			11.84	7.09	18.44	18.44	11.57	5.61	3.26	3.68	3.56	
Difference			-2.15	-5.05	-8.77	-8.77	-2.60	-0.89	N/A	N/A	-1.32	
IM Emerging Markets Equity (MF) Median			11.03	7.01	20.06	20.06	10.63	5.13	3.18	3.67	3.28	
Rank			71	90	91	91	75	60	N/A	N/A	73	
<b>RBC Emerging Markets Equity (CF)</b>	<b>140,949,283</b>	<b>4.23</b>	<b>10.09</b>	<b>4.56</b>	<b>18.17</b>	<b>18.17</b>	<b>12.64</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>9.35</b>	<b>09/01/2016</b>
MSCI Emg Mkts Index (USD) (Net)			11.84	7.09	18.44	18.44	11.57	5.61	3.26	3.68	9.38	
Difference			-1.75	-2.53	-0.27	-0.27	1.07	N/A	N/A	N/A	-0.03	
IM Emerging Markets Equity (MF) Median			11.03	7.01	20.06	20.06	10.63	5.13	3.18	3.67	8.46	
Rank			67	78	64	64	28	N/A	N/A	N/A	38	

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	Allocation		Performance (%)									
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<b>Core Fixed Income Composite</b>	<b>494,560,090</b>	<b>14.83</b>	<b>0.11</b>	<b>2.65</b>	<b>9.01</b>	<b>9.01</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>4.62</b>	<b>07/01/2017</b>
Bloomberg US Agg Bond Index			0.18	2.45	8.72	8.72	4.03	3.05	2.72	3.75	3.92	
Difference			<b>-0.07</b>	0.20	0.29	0.29	N/A	N/A	N/A	N/A	0.70	
<b>BNY Mellon US Aggregate Bond - NL (CF)</b>	<b>50,123,381</b>	<b>1.50</b>	<b>0.17</b>	<b>2.43</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>5.55</b>	<b>05/01/2019</b>
Bloomberg US Agg Bond Index			0.18	2.45	8.72	8.72	4.03	3.05	2.72	3.75	5.58	
Difference			<b>-0.01</b>	<b>-0.02</b>	N/A	N/A	N/A	N/A	N/A	N/A	<b>-0.03</b>	
IM U.S. Broad Market Core Fixed Income (MF) Median			0.18	2.30	8.75	8.75	3.88	2.89	2.57	3.83	5.30	
Rank			53	35	N/A	N/A	N/A	N/A	N/A	N/A	29	
<b>Garcia Hamilton Core Fixed Income (SA)</b>	<b>249,157,860</b>	<b>7.47</b>	<b>-0.16</b>	<b>2.30</b>	<b>7.39</b>	<b>7.39</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>3.70</b>	<b>09/01/2017</b>
Bloomberg US Agg Bond Index			0.18	2.45	8.72	8.72	4.03	3.05	2.72	3.75	3.61	
Difference			<b>-0.34</b>	<b>-0.15</b>	<b>-1.33</b>	<b>-1.33</b>	N/A	N/A	N/A	N/A	0.09	
IM U.S. Broad Market Core Fixed Income (MF) Median			0.18	2.30	8.75	8.75	3.88	2.89	2.57	3.83	3.39	
Rank			88	51	88	88	N/A	N/A	N/A	N/A	25	
<b>PGIM Core Plus Fixed Income (CF)</b>	<b>195,270,727</b>	<b>5.85</b>	<b>0.45</b>	<b>3.18</b>	<b>11.37</b>	<b>11.37</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>7.96</b>	<b>06/01/2018</b>
Bloomberg US Agg Bond Index			0.18	2.45	8.72	8.72	4.03	3.05	2.72	3.75	6.44	
Difference			0.27	0.73	2.65	2.65	N/A	N/A	N/A	N/A	1.52	
IM U.S. Broad Market Core+ Fixed Income (MF) Median			0.37	2.37	9.33	9.33	4.15	3.22	2.90	4.29	6.27	
Rank			45	11	9	9	N/A	N/A	N/A	N/A	4	
<b>Non-Core Fixed Income Composite</b>	<b>317,654,787</b>	<b>9.52</b>	<b>3.13</b>	<b>2.89</b>	<b>10.94</b>	<b>10.94</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>3.47</b>	<b>07/01/2017</b>
Custom Non-Core Fixed Income Benchmark			2.62	3.52	12.21	12.21	5.95	5.12	4.21	5.91	5.12	
Difference			0.51	<b>-0.63</b>	<b>-1.27</b>	<b>-1.27</b>	N/A	N/A	N/A	N/A	<b>-1.65</b>	
<b>Stone Harbor Emerging Market Debt Blend (CIT)</b>	<b>110,103,380</b>	<b>3.30</b>	<b>3.98</b>	<b>3.22</b>	<b>14.09</b>	<b>14.09</b>	<b>5.73</b>	<b>3.90</b>	<b>0.89</b>	<b>N/A</b>	<b>1.58</b>	<b>08/01/2012</b>
Stone Harbor Blended Benchmark			3.55	3.95	14.12	14.12	6.89	4.54	2.29	4.81	2.99	
Difference			0.43	<b>-0.73</b>	<b>-0.03</b>	<b>-0.03</b>	<b>-1.16</b>	<b>-0.64</b>	<b>-1.40</b>	N/A	<b>-1.41</b>	
IM Emerging Markets Debt (MF) Median			2.68	3.13	13.62	13.62	5.90	5.03	2.96	5.54	3.67	
Rank			20	43	34	34	56	78	86	N/A	87	
<b>Hotchkis &amp; Wiley High Yield (SA)</b>	<b>74,986,799</b>	<b>2.25</b>	<b>2.41</b>	<b>1.92</b>	<b>10.41</b>	<b>10.41</b>	<b>4.68</b>	<b>4.70</b>	<b>N/A</b>	<b>N/A</b>	<b>4.17</b>	<b>12/01/2013</b>
Bloomberg US Corp Hi Yld Index			2.61	3.98	14.32	14.32	6.37	6.13	5.78	7.57	5.53	
Difference			<b>-0.20</b>	<b>-2.06</b>	<b>-3.91</b>	<b>-3.91</b>	<b>-1.69</b>	<b>-1.43</b>	N/A	N/A	<b>-1.36</b>	
IM U.S. High Yield Bonds (MF) Median			2.46	3.65	13.50	13.50	5.50	4.93	4.74	6.55	4.37	
Rank			54	96	84	84	79	62	N/A	N/A	59	

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<b>Beach Point Leveraged Loan (CF)</b>	<b>95,454,219</b>	<b>2.86</b>	<b>1.64</b>	<b>3.00</b>	<b>8.64</b>	<b>8.64</b>	<b>3.62</b>	<b>3.84</b>	<b>4.07</b>	<b>N/A</b>	<b>4.22</b>	<b>10/01/2012</b>
CS Lvg'd Loan Index			1.68	2.61	8.17	8.17	4.48	4.54	4.41	5.18	4.47	
Difference			-0.04	0.39	0.47	0.47	-0.86	-0.70	-0.34	N/A	-0.25	
IM U.S. Bank Loans (MF) Median			1.51	2.35	7.60	7.60	3.54	3.67	3.46	4.33	3.53	
Rank			33	18	21	21	47	41	13	N/A	11	
<b>AG Direct Lending Fund III, LP</b>	<b>20,728,443</b>	<b>0.62</b>										<b>11/01/2018</b>
<b>THL Direct Lending Fund IV, LLC</b>	<b>10,881,906</b>	<b>0.33</b>										<b>06/01/2019</b>
<b>PIMCO Private Income Fund, LLC</b>	<b>5,500,000</b>	<b>0.16</b>										<b>11/01/2019</b>
<b>Real Return Composite</b>	<b>541,013,095</b>	<b>16.22</b>	<b>2.68</b>	<b>4.33</b>	<b>14.06</b>	<b>14.06</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>5.83</b>	<b>07/01/2017</b>
Consumer Price Index+4%			1.07	2.31	6.38	6.38	6.19	5.89	5.69	5.82	6.01	
Difference			1.61	2.02	7.68	7.68	N/A	N/A	N/A	N/A	-0.18	
Custom Real Return Benchmark			2.29	3.63	13.24	13.24	N/A	N/A	N/A	N/A	6.28	
Difference			0.39	0.70	0.82	0.82	N/A	N/A	N/A	N/A	-0.45	
<b>Public Real Return Composite</b>	<b>383,079,155</b>	<b>11.49</b>										
<b>BNY Mellon TIPS - NL (CF)</b>	<b>95,383,999</b>	<b>2.86</b>	<b>0.79</b>	<b>2.14</b>	<b>8.42</b>	<b>8.42</b>	<b>3.31</b>	<b>2.63</b>	<b>1.06</b>	<b>N/A</b>	<b>4.72</b>	<b>05/01/2019</b>
Bloomberg US Trsy US TIPS Index			0.79	2.14	8.43	8.43	3.32	2.62	1.08	3.36	4.72	
Difference			0.00	0.00	-0.01	-0.01	-0.01	0.01	-0.02	N/A	0.00	
IM U.S. TIPS (MF) Median			0.97	1.76	7.53	7.53	2.65	2.05	0.61	2.65	3.82	
Rank			64	16	19	19	15	13	16	N/A	9	
<b>Cohen &amp; Steers Real Assets Fund (CIT)</b>	<b>150,263,783</b>	<b>4.51</b>	<b>3.93</b>	<b>4.75</b>	<b>17.62</b>	<b>17.62</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>5.00</b>	<b>09/01/2017</b>
Cohen & Steers Real Assets Custom Index			3.95	4.52	16.40	16.40	5.69	2.72	1.51	N/A	4.81	
Difference			-0.02	0.23	1.22	1.22	N/A	N/A	N/A	N/A	0.19	
<b>Nuveen Real Asset Income Fund (SA)</b>	<b>137,429,107</b>	<b>4.12</b>	<b>2.98</b>	<b>6.97</b>	<b>23.06</b>	<b>23.06</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>7.28</b>	<b>09/01/2017</b>
Nuveen Real Asset Income Blend Index			2.87	5.00	20.00	20.00	8.28	5.78	6.56	N/A	5.73	
Difference			0.11	1.97	3.06	3.06	N/A	N/A	N/A	N/A	1.55	

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 Asset Allocation & Performance - Net of Fees

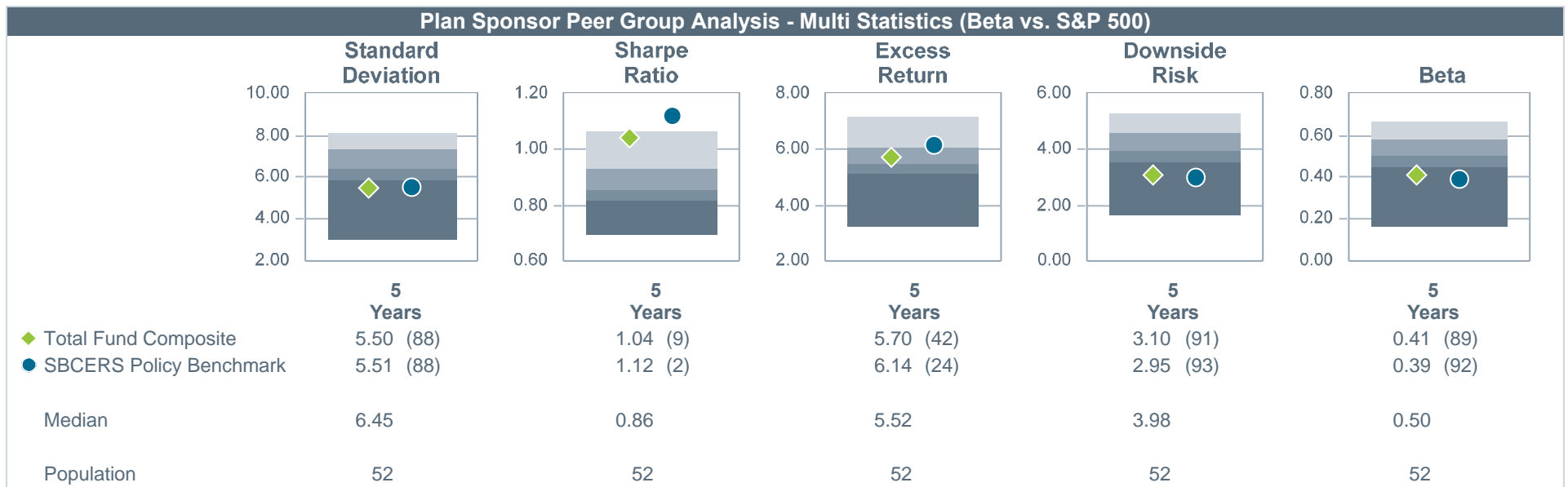
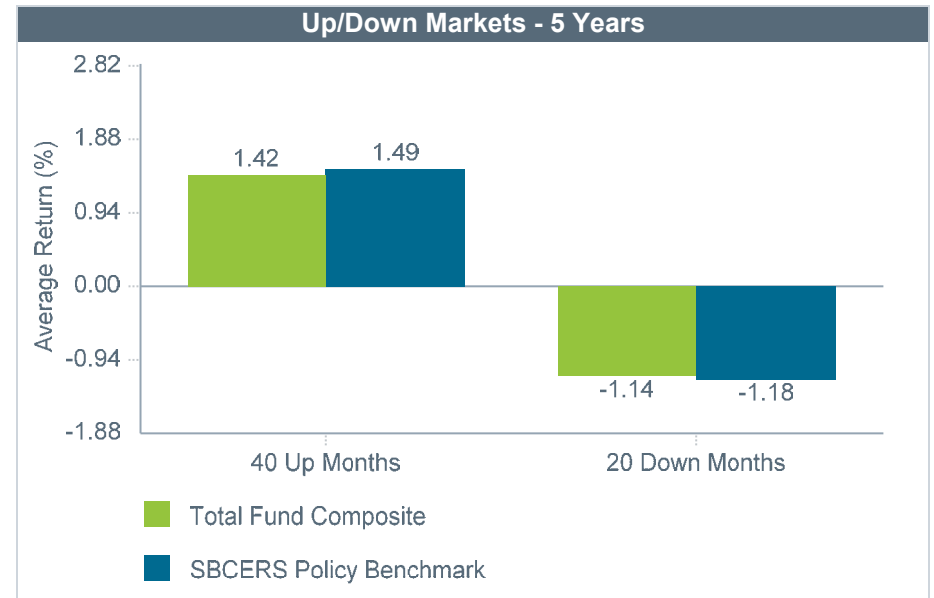
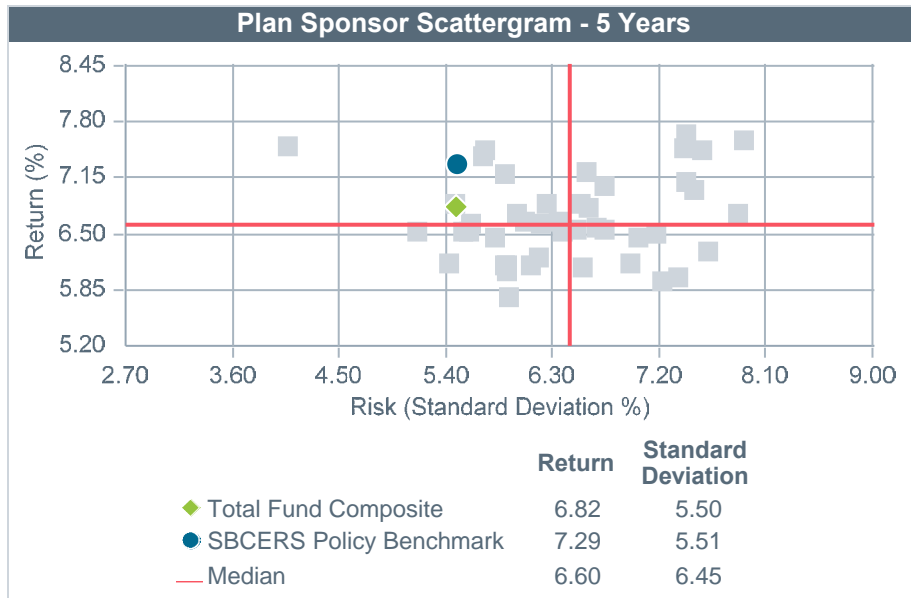
As of December 31, 2019

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
<b>Private Real Return Composite</b>	<b>157,933,940</b>	<b>4.74</b>										
<b>Natural Resources Private Composite</b>	<b>31,824,590</b>	<b>0.95</b>	<b>-0.14</b>	<b>0.13</b>	<b>1.95</b>	<b>1.95</b>	<b>5.49</b>	<b>5.29</b>	<b>N/A</b>	<b>N/A</b>	<b>4.43</b>	<b>10/01/2013</b>
Consumer Price Index+4% (1 Qtr Lag)			1.23	3.01	5.78	5.78	6.16	5.59	5.56	5.81	5.59	
Difference			<b>-1.37</b>	<b>-2.88</b>	<b>-3.83</b>	<b>-3.83</b>	<b>-0.67</b>	<b>-0.30</b>	N/A	N/A	<b>-1.16</b>	
<b>Infrastructure Private Composite</b>	<b>126,109,350</b>	<b>3.78</b>	<b>3.02</b>	<b>3.39</b>	<b>5.81</b>	<b>5.81</b>	<b>8.65</b>	<b>0.08</b>	<b>N/A</b>	<b>N/A</b>	<b>-9.97</b>	<b>01/01/2014</b>
Consumer Price Index+4%			1.07	2.31	6.38	6.38	6.19	5.89	5.69	5.82	5.71	
Difference			1.95	1.08	<b>-0.57</b>	<b>-0.57</b>	2.46	<b>-5.81</b>	N/A	N/A	<b>-15.68</b>	
<b>Real Estate Composite</b>	<b>284,841,728</b>	<b>8.54</b>	<b>2.22</b>	<b>4.73</b>	<b>8.97</b>	<b>8.97</b>	<b>10.50</b>	<b>10.75</b>	<b>11.03</b>	<b>10.64</b>	<b>6.28</b>	<b>04/01/2006</b>
NCREIF ODCE Index (AWA) (Net) (1 Qtr Lag)			1.08	1.86	4.64	4.64	6.34	8.36	9.29	9.84	5.84	
Difference			1.14	2.87	4.33	4.33	4.16	2.39	1.74	0.80	0.44	
<b>ORG Real Estate</b>	<b>284,836,210</b>	<b>8.54</b>	<b>2.22</b>	<b>4.73</b>	<b>8.97</b>	<b>8.97</b>	<b>10.48</b>	<b>10.93</b>	<b>11.20</b>	<b>10.63</b>	<b>6.27</b>	<b>04/01/2006</b>
NCREIF ODCE Index (AWA) (Net) (1 Qtr Lag)			1.08	1.86	4.64	4.64	6.34	8.36	9.29	9.84	5.84	
Difference			1.14	2.87	4.33	4.33	4.14	2.57	1.91	0.79	0.43	
<b>Private Equity Composite</b>	<b>316,939,101</b>	<b>9.50</b>	<b>2.13</b>	<b>6.23</b>	<b>10.90</b>	<b>10.90</b>	<b>15.54</b>	<b>12.27</b>	<b>14.00</b>	<b>14.12</b>	<b>9.42</b>	<b>06/01/2006</b>
Russell 3000+3% Index (1 Qtr Lag)			1.91	6.87	6.01	6.01	16.22	13.76	16.39	16.47	11.82	
Difference			0.22	<b>-0.64</b>	4.89	4.89	<b>-0.68</b>	<b>-1.49</b>	<b>-2.39</b>	<b>-2.35</b>	<b>-2.40</b>	

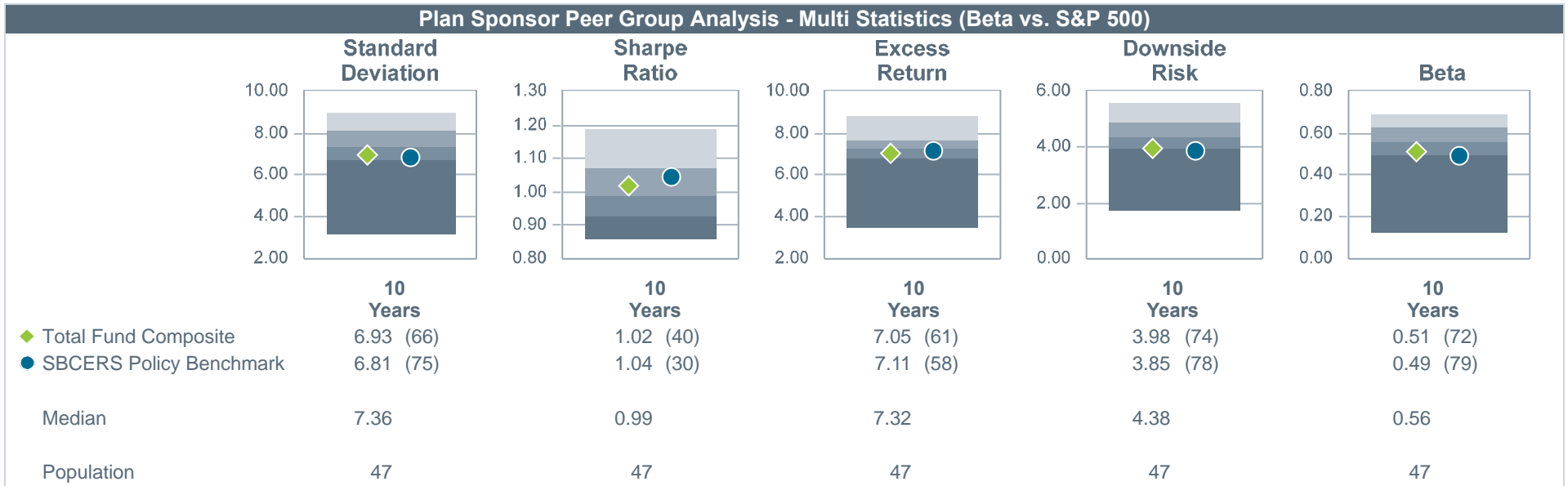
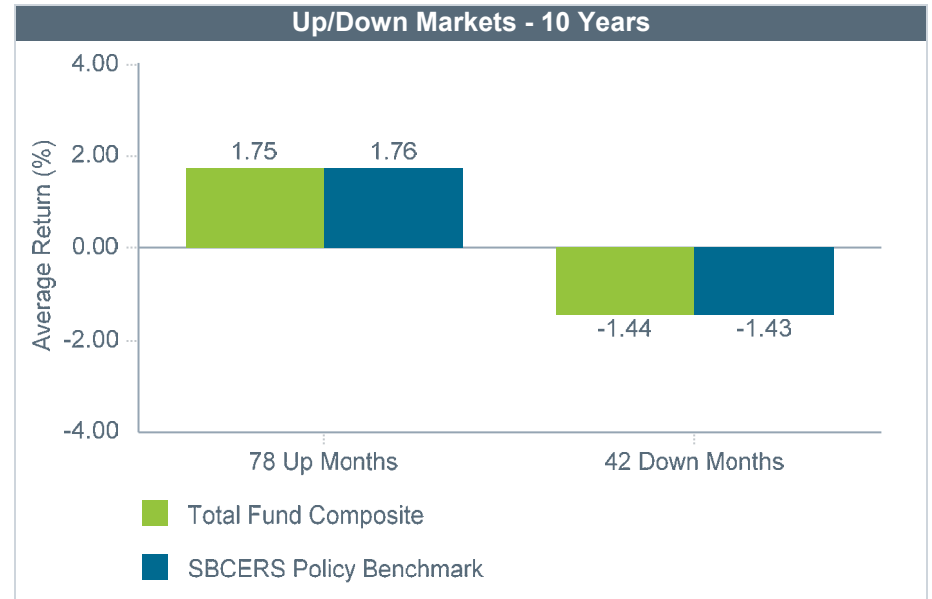
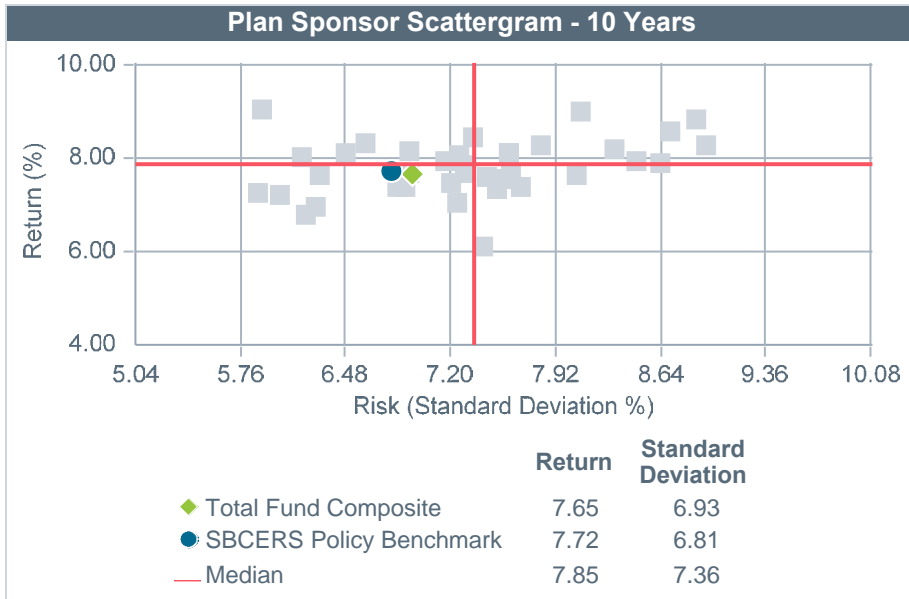
Performance shown is net of fees and provided by BNY Mellon. Performance is annualized for periods greater than one year. Total Fund performance excludes Treasury Cash. Indices show N/A for since inception returns when the fund contains more history than the corresponding benchmark. The fiscal year ends 06/30.







Performance shown is net of fees. Calculation is based on monthly periodicity. Parentheses contain percentile ranks. Total Fund performance excludes 130 RHR and Treasury Cash.



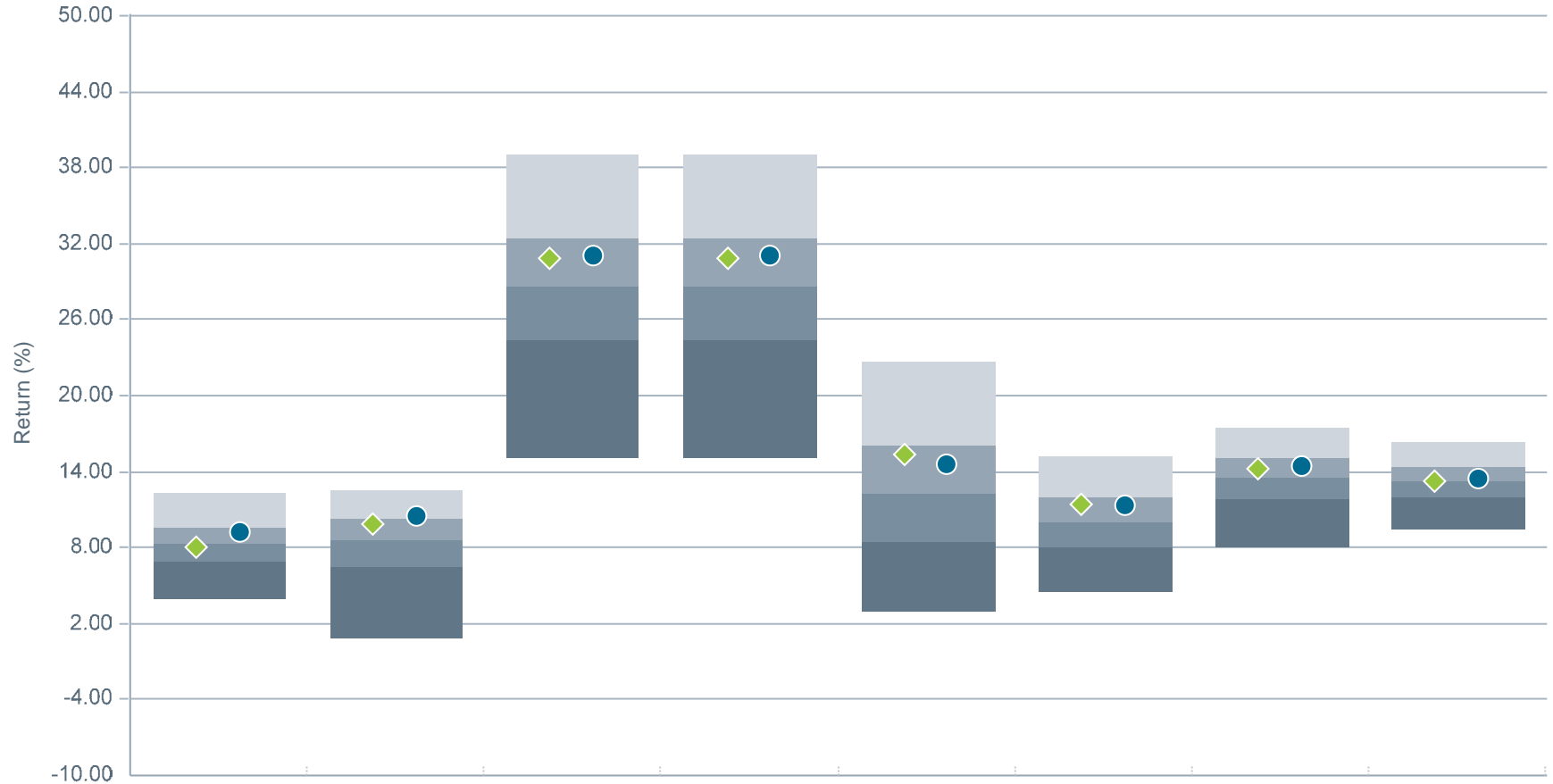
Performance shown is net of fees. Calculation is based on monthly periodicity. Parentheses contain percentile ranks. Total Fund performance excludes 130 RHR and Treasury Cash.

# Composite Profiles



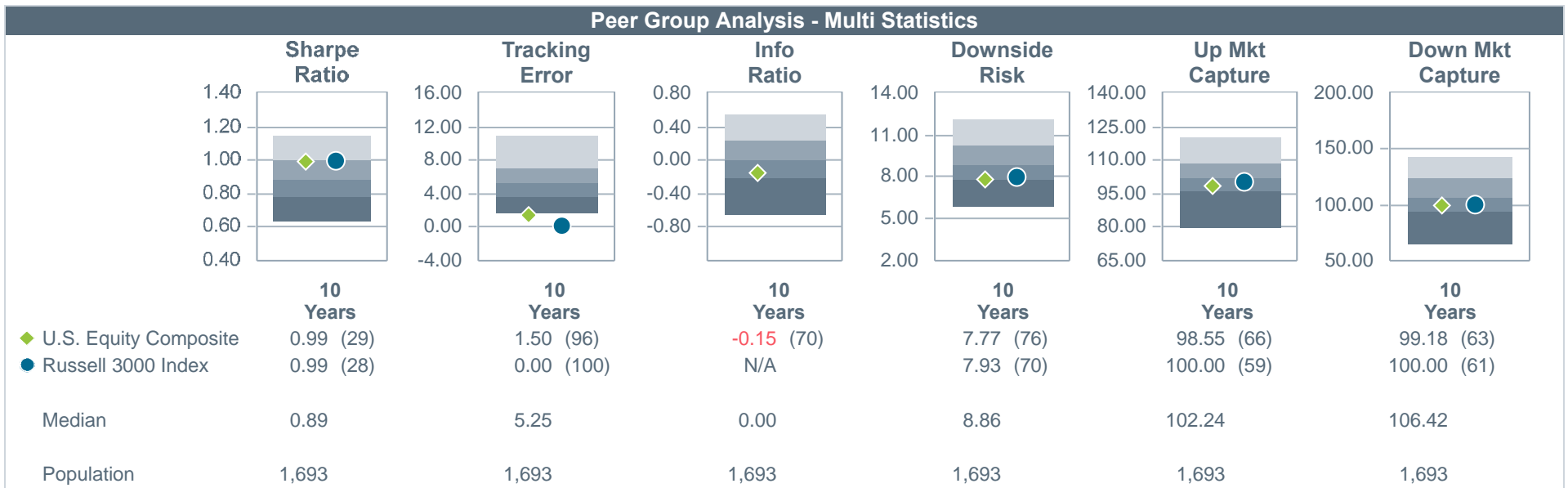
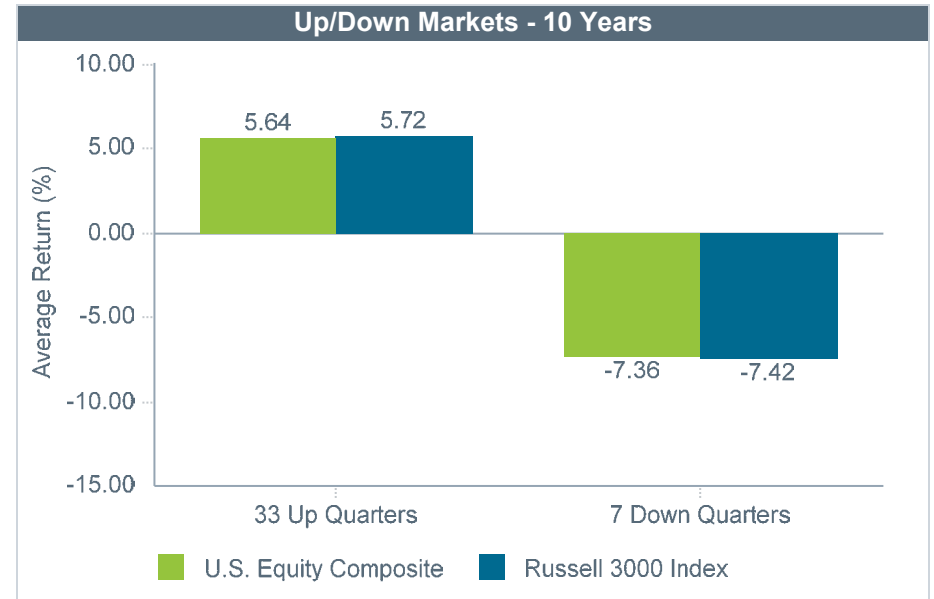
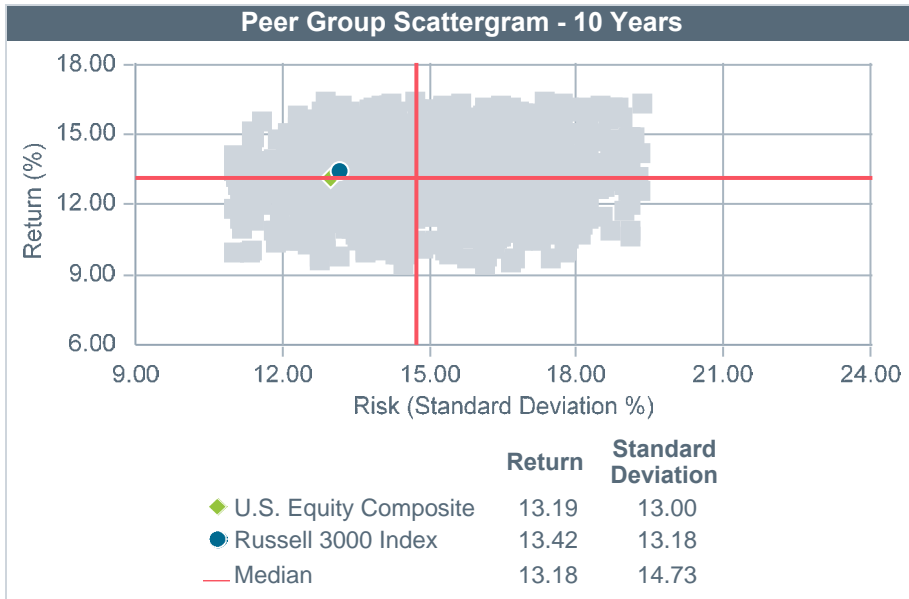
Santa Barbara County Employees' Retirement System  
 U.S. Equity Composite vs. IM U.S. Equity (SA+CF)  
 Peer Group Analysis

As of December 31, 2019



	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years
◆ U.S. Equity Composite	8.09 (55)	9.92 (32)	30.80 (37)	30.80 (37)	15.41 (29)	11.38 (33)	14.29 (39)	13.19 (50)
● Russell 3000 Index	9.10 (33)	10.37 (25)	31.02 (35)	31.02 (35)	14.57 (37)	11.24 (36)	14.38 (37)	13.42 (45)
5th Percentile	12.27	12.55	39.01	39.01	22.65	15.17	17.43	16.36
1st Quartile	9.63	10.35	32.40	32.40	16.01	11.92	15.03	14.38
Median	8.26	8.55	28.53	28.53	12.32	10.02	13.49	13.18
3rd Quartile	6.84	6.43	24.42	24.42	8.51	8.00	11.81	11.94
95th Percentile	4.00	0.86	15.00	15.00	2.96	4.48	8.07	9.42
Population	2,133	2,132	2,128	2,128	2,076	1,993	1,878	1,693

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



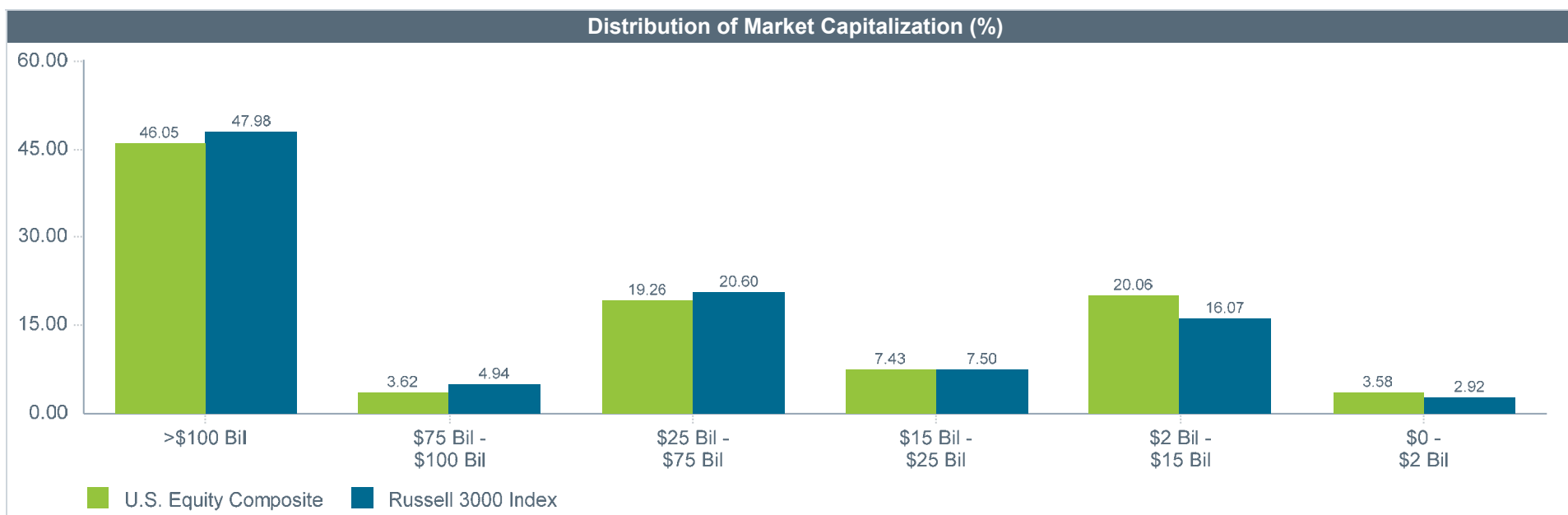
Performance shown is gross of fees. Calculation is based on quarterly periodicity. Parentheses contain percentile ranks.

Santa Barbara County Employees' Retirement System  
 U.S. Equity Composite vs. Russell 3000 Index  
 Portfolio Characteristics

As of December 31, 2019

Top Ten Equity Holdings				
	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)
Apple Inc	3.84	4.11	-0.27	31.50
Microsoft Corp	3.74	3.75	-0.01	13.82
Amazon.com Inc	1.81	2.41	-0.60	6.45
Berkshire Hathaway Inc	1.49	1.39	0.10	8.88
Facebook Inc	1.39	1.54	-0.15	15.26
Alphabet Inc	1.37	1.26	0.11	9.68
Johnson & Johnson	1.35	1.22	0.13	13.53
Alphabet Inc	1.33	1.26	0.07	9.68
Visa Inc	1.11	1.01	0.10	9.42
Procter & Gamble Co (The)	1.07	0.97	0.10	1.06
% of Portfolio	18.50	18.92	-0.42	

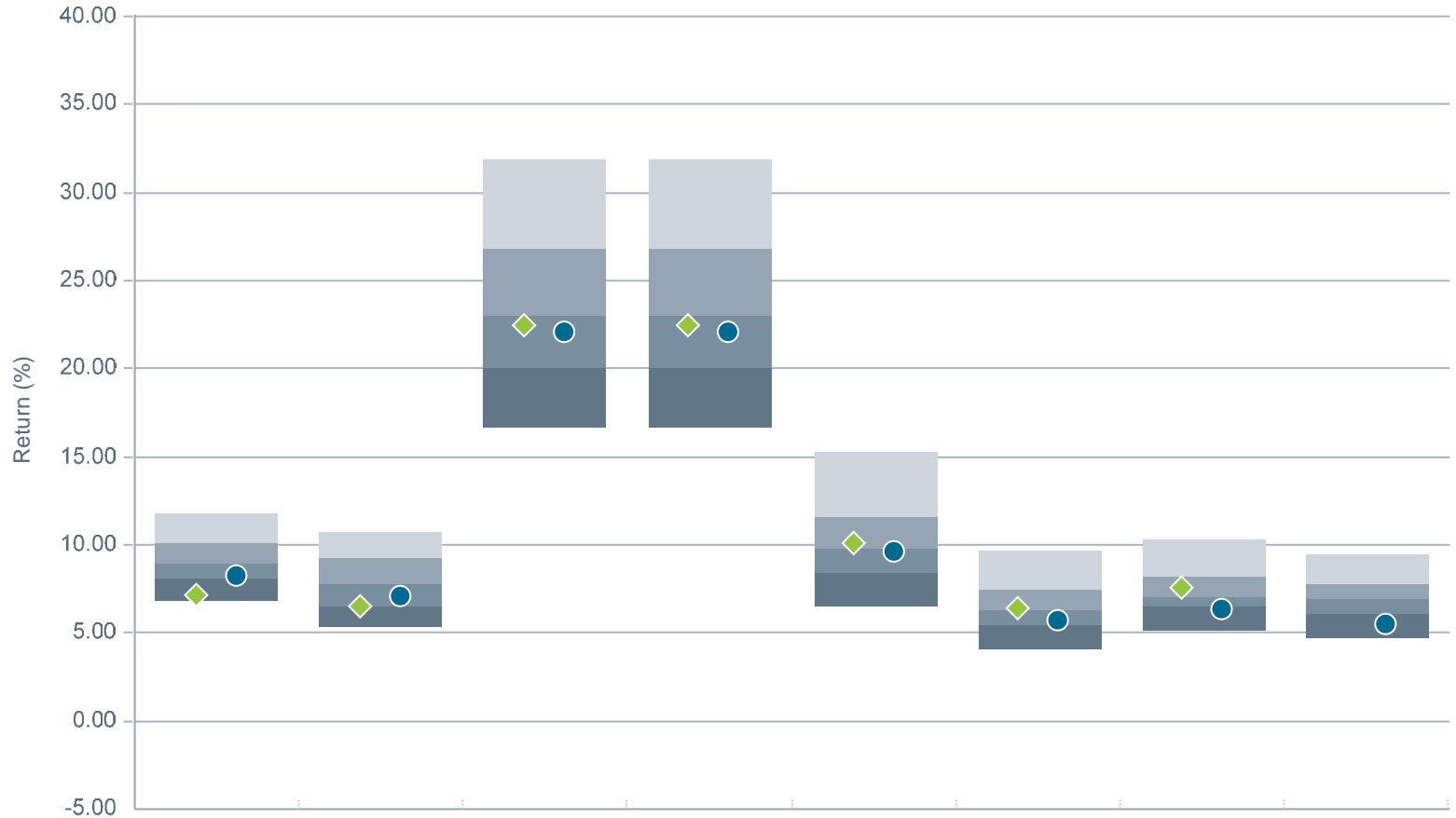
Portfolio Characteristics		
	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	234,047	245,926
Median Mkt. Cap (\$M)	3,646	1,775
Price/Earnings Ratio	22.79	22.63
Price/Book Ratio	3.67	3.50
5 Yr. EPS Growth Rate (%)	13.49	14.19
Current Yield (%)	1.68	1.79
Beta (5 Years, Monthly)	0.92	1.00
Number of Securities	1,866	2,991



Alphabet's Class A and Class C shares are both recognized as "Alphabet Inc."

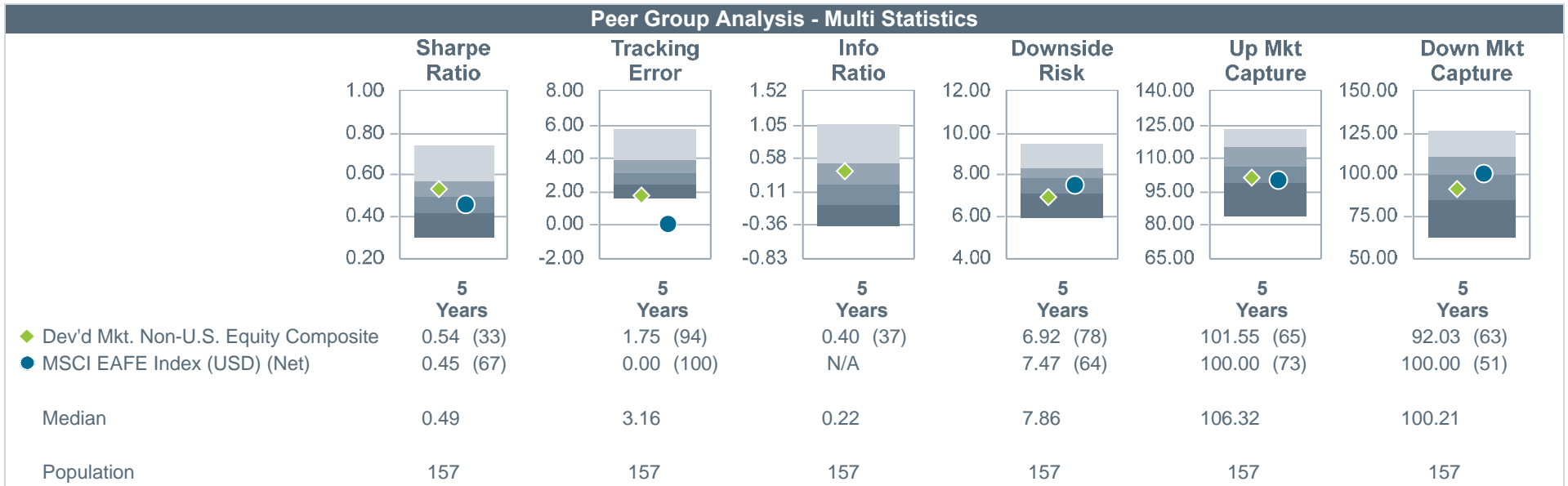
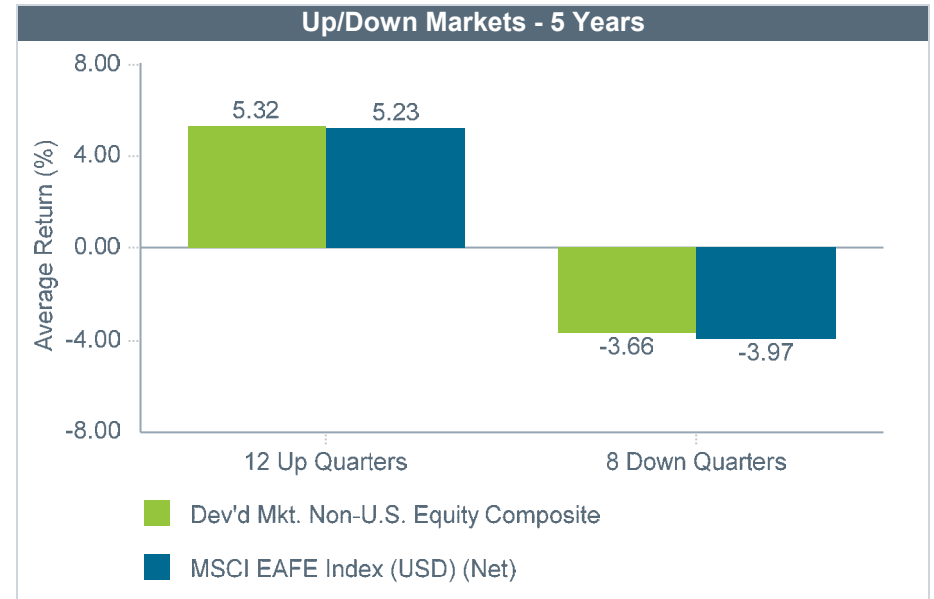
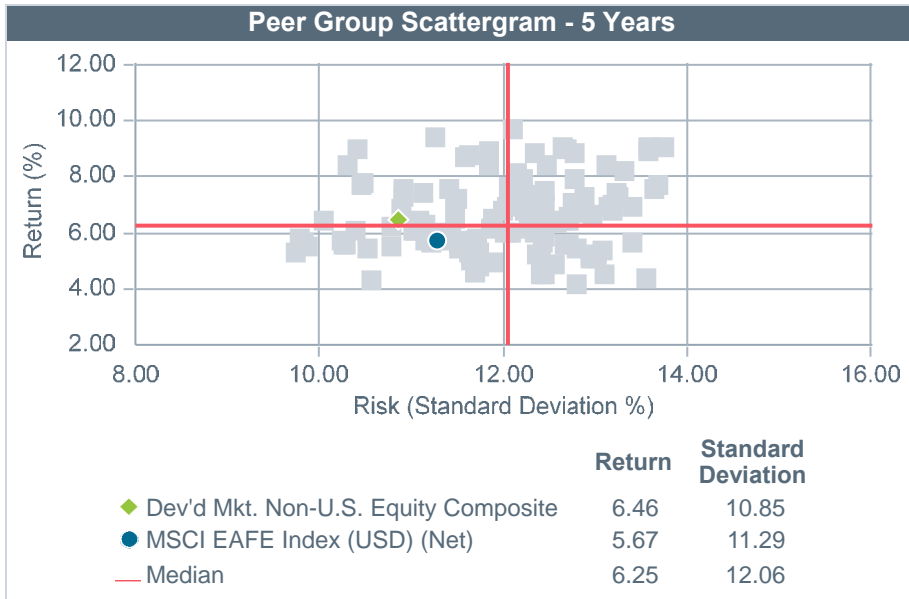
Santa Barbara County Employees' Retirement System  
 Dev'd Mkt. Non-U.S. Equity Composite vs. IM All EAFE (SA+CF)  
 Peer Group Analysis

As of December 31, 2019



	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years
◆ Dev'd Mkt. Non-U.S. Equity Composite	7.15 (93)	6.50 (77)	22.50 (53)	22.50 (53)	10.11 (44)	6.46 (44)	7.62 (35)	N/A
● MSCI EAFE Index (USD) (Net)	8.17 (75)	7.01 (70)	22.01 (59)	22.01 (59)	9.56 (56)	5.67 (66)	6.35 (80)	5.50 (86)
5th Percentile	11.83	10.73	31.89	31.89	15.33	9.67	10.31	9.43
1st Quartile	10.09	9.23	26.79	26.79	11.56	7.49	8.19	7.79
Median	8.97	7.73	23.00	23.00	9.74	6.25	7.02	6.89
3rd Quartile	8.14	6.55	20.00	20.00	8.45	5.41	6.47	6.11
95th Percentile	6.88	5.34	16.68	16.68	6.51	4.11	5.12	4.70
Population	159	159	159	159	158	157	150	141

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



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

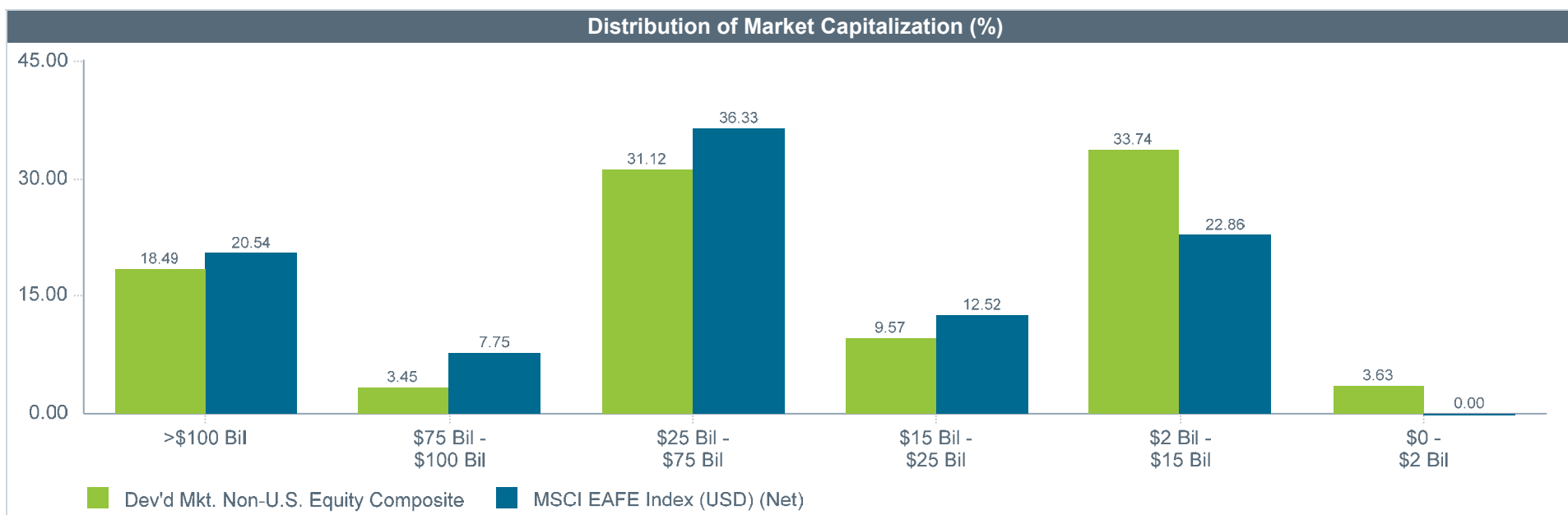


Santa Barbara County Employees' Retirement System  
 Dev'd Mkt. Non-U.S. Equity Composite vs. MSCI EAFE Index (USD) (Net)  
 Portfolio Characteristics

As of December 31, 2019

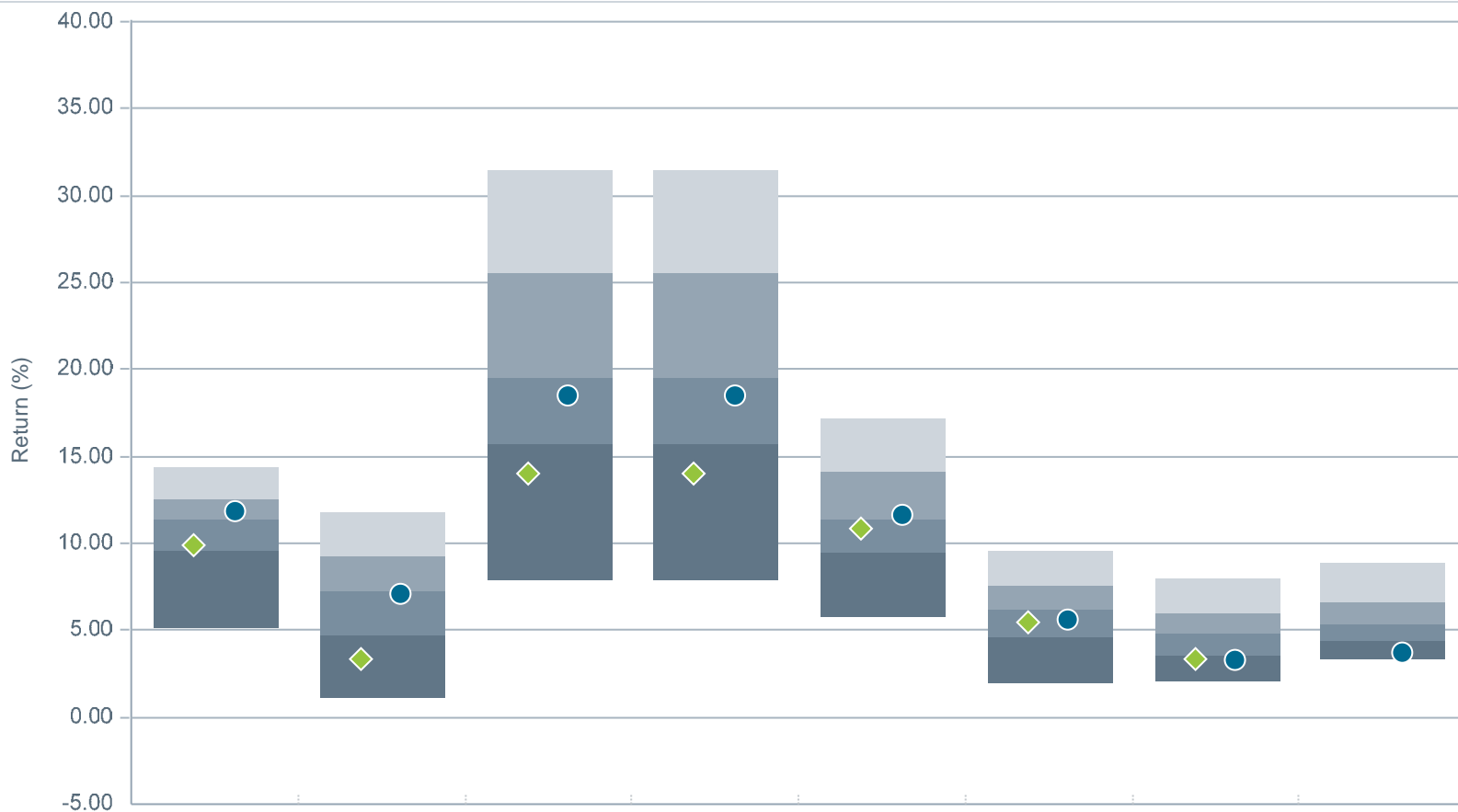
Top Ten Equity Holdings				
	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)
SPDR Gold Trust	2.46	0.00	2.46	2.90
Nestle SA, Cham Und Vevey	2.40	2.17	0.23	-0.31
Linde Plc	2.35	0.00	2.35	10.80
Deutsche Boerse AG Frankfurt	2.12	0.20	1.92	0.58
AIA Group Ltd	1.39	0.85	0.54	11.20
L'Air Liquide SA	1.39	0.45	0.94	9.39
Airbus SE	1.33	0.57	0.76	12.65
Aon plc	1.07	0.00	1.07	7.85
Deutsche Post AG	1.03	0.25	0.78	14.21
BNP Paribas	1.00	0.45	0.55	21.71
% of Portfolio	16.54	4.94	11.60	

Portfolio Characteristics		
	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	64,453	66,590
Median Mkt. Cap (\$M)	9,959	11,162
Price/Earnings Ratio	17.87	17.24
Price/Book Ratio	2.60	2.34
5 Yr. EPS Growth Rate (%)	10.25	6.00
Current Yield (%)	2.64	3.38
Beta (5 Years, Monthly)	0.87	1.00
Number of Securities	433	918



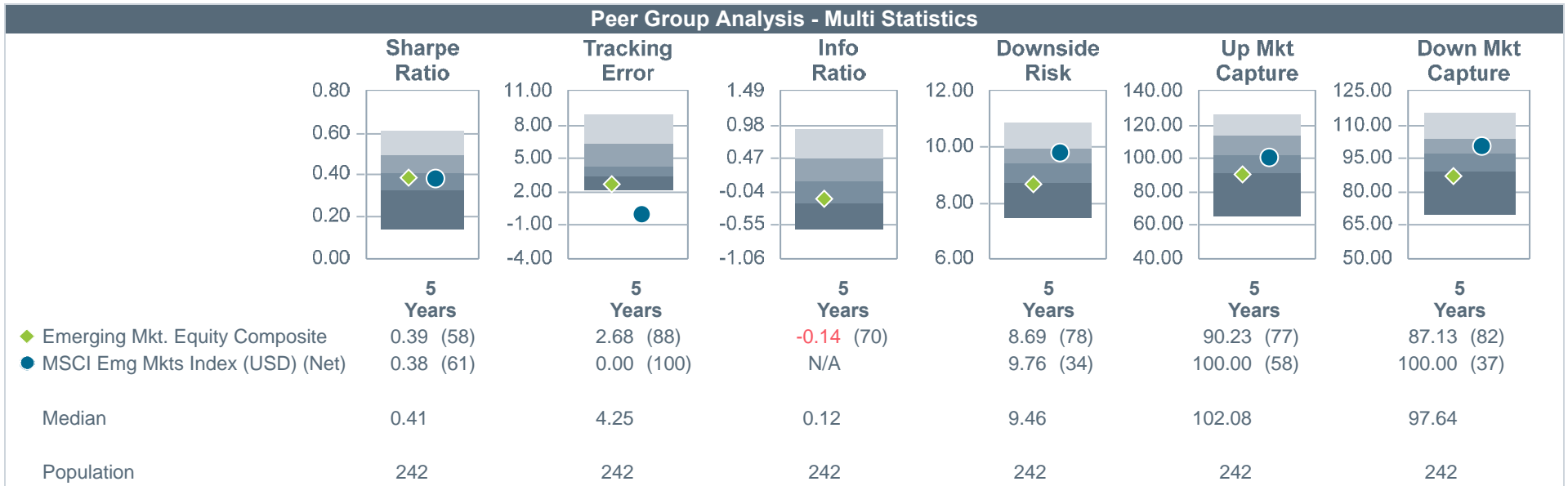
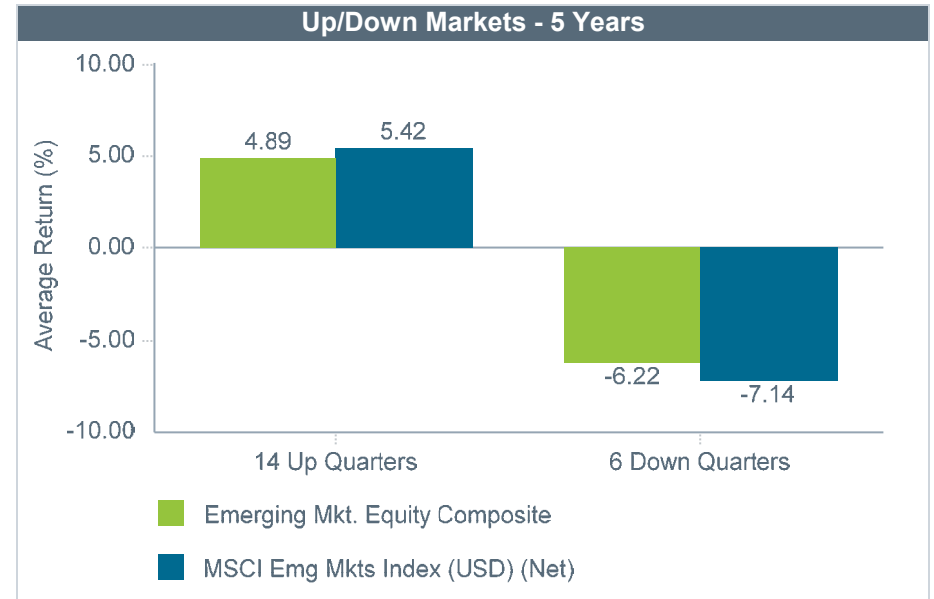
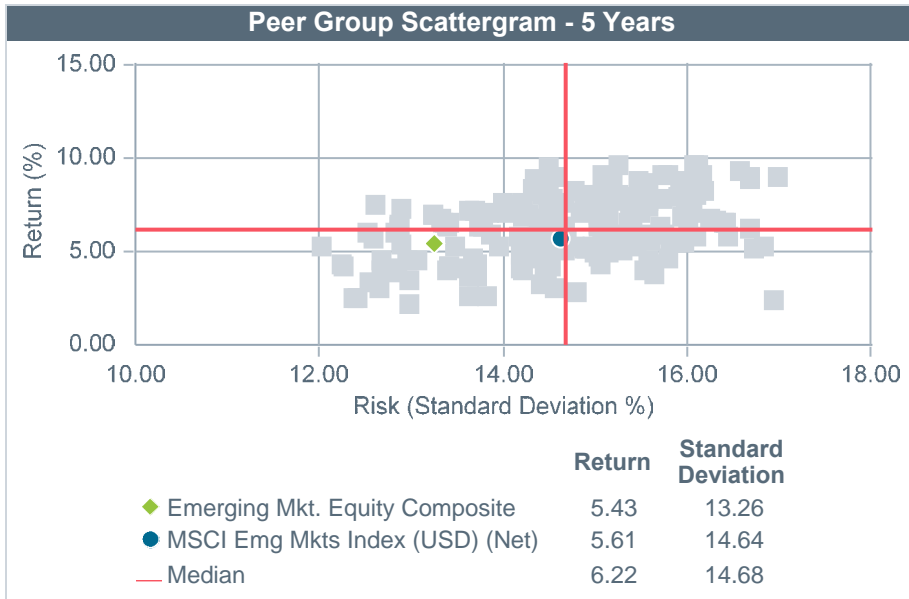
Santa Barbara County Employees' Retirement System  
 Emerging Mkt. Equity Composite vs. IM Emerging Markets Equity (SA+CF)  
 Peer Group Analysis

As of December 31, 2019



	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years
◆ Emerging Mkt. Equity Composite	9.90 (71)	3.36 (85)	14.03 (82)	14.03 (82)	10.83 (57)	5.43 (65)	3.34 (77)	N/A
● MSCI Emg Mkts Index (USD) (Net)	11.84 (40)	7.09 (53)	18.44 (61)	18.44 (61)	11.57 (46)	5.61 (60)	3.26 (77)	3.68 (90)
5th Percentile	14.35	11.83	31.42	31.42	17.16	9.62	7.95	8.85
1st Quartile	12.57	9.22	25.51	25.51	14.09	7.59	6.00	6.58
Median	11.36	7.27	19.49	19.49	11.39	6.22	4.82	5.32
3rd Quartile	9.56	4.70	15.72	15.72	9.47	4.65	3.60	4.36
95th Percentile	5.13	1.09	7.84	7.84	5.80	1.94	2.13	3.39
Population	283	283	282	282	271	242	202	137

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



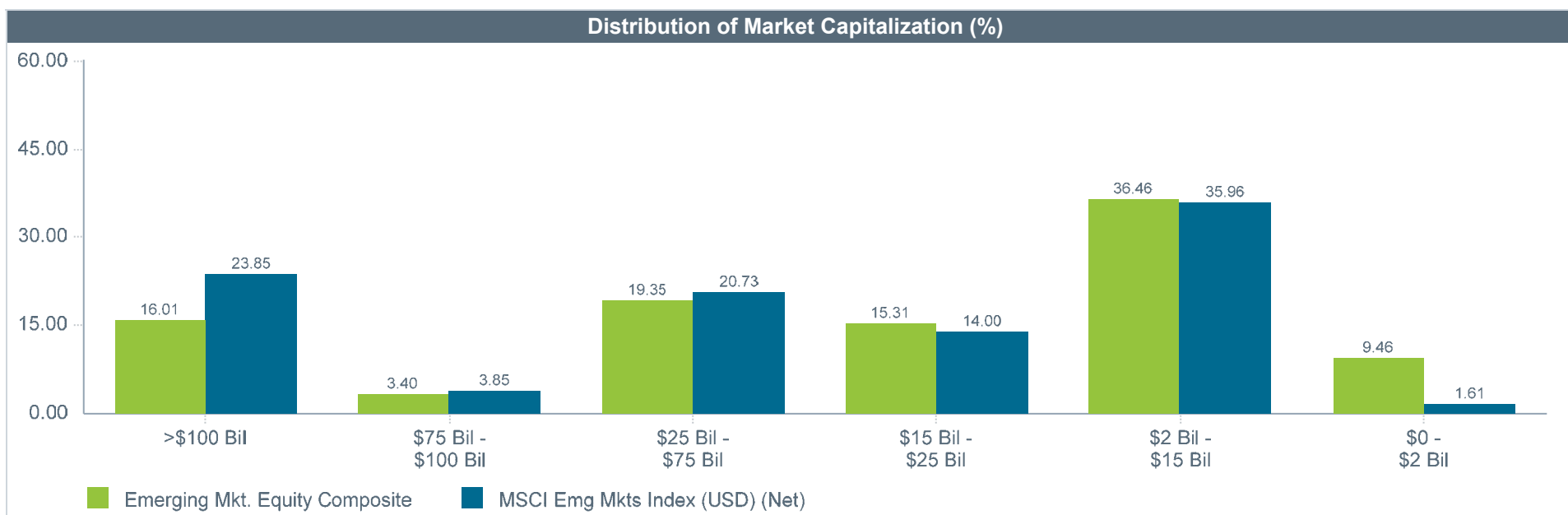
Performance shown is gross of fees. Calculation is based on quarterly periodicity. Parentheses contain percentile ranks.

Santa Barbara County Employees' Retirement System  
Emerging Mkt. Equity Composite vs. MSCI Emg Mkts Index (USD) (Net)  
Portfolio Characteristics

As of December 31, 2019

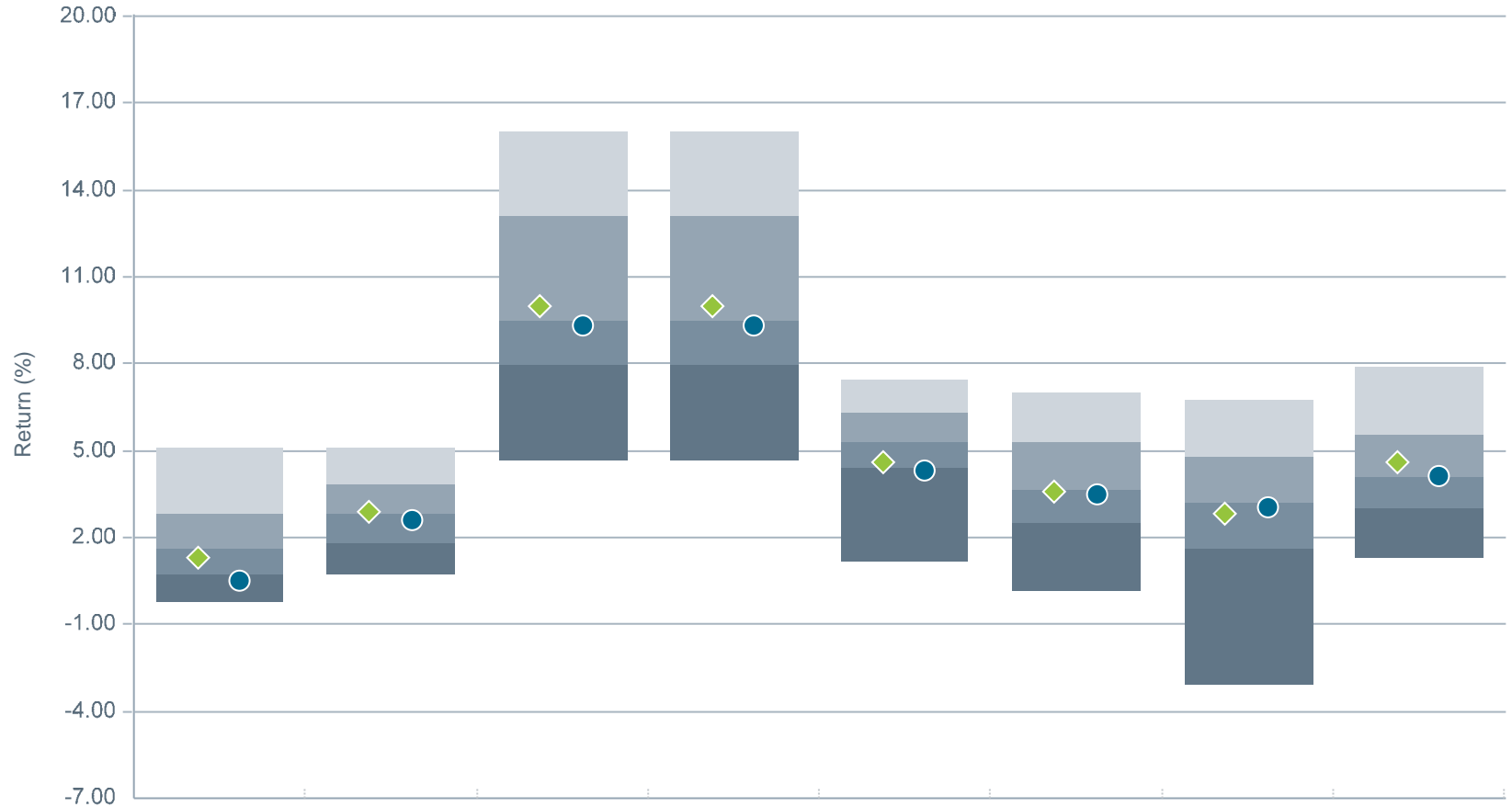
Top Ten Equity Holdings				
	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)
Taiwan Semiconductor Mfg	3.74	4.38	-0.64	27.33
AIA Group Ltd	2.56	0.00	2.56	11.20
Naspers Ltd	2.41	1.15	1.26	8.14
Housing Development Fin Corp Ltd	2.38	0.89	1.49	21.13
Ping An Insurance Group	2.11	1.06	1.05	2.95
Tata Consultancy Services Ltd	2.03	0.44	1.59	4.48
The Unilever Group	1.85	0.00	1.85	-3.46
Tencent Holdings LTD	1.77	4.44	-2.67	14.50
Reliance Industries Ltd	1.72	0.97	0.75	12.81
Antofagasta PLC	1.68	0.00	1.68	9.81
% of Portfolio	22.25	13.33	8.92	

Portfolio Characteristics		
	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	51,430	104,152
Median Mkt. Cap (\$M)	399	5,792
Price/Earnings Ratio	13.46	14.34
Price/Book Ratio	2.15	2.47
5 Yr. EPS Growth Rate (%)	8.79	13.04
Current Yield (%)	2.82	2.76
Beta (5 Years, Monthly)	0.89	1.00
Number of Securities	2,401	1,404



Santa Barbara County Employees' Retirement System  
 Fixed Income Composite vs. IM Global Fixed Income (SA+CF)  
 Peer Group Analysis

As of December 31, 2019



	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years
◆ Fixed Income Composite	1.32 (58)	2.89 (48)	10.01 (45)	10.01 (45)	4.63 (68)	3.60 (53)	2.84 (54)	4.57 (43)
● Bloomberg US Unv Bond Index	0.45 (82)	2.58 (53)	9.29 (53)	9.29 (53)	4.30 (80)	3.44 (57)	3.04 (53)	4.12 (50)
5th Percentile	5.13	5.10	16.02	16.02	7.47	7.02	6.76	7.88
1st Quartile	2.84	3.83	13.12	13.12	6.31	5.32	4.80	5.54
Median	1.62	2.80	9.46	9.46	5.30	3.67	3.23	4.11
3rd Quartile	0.71	1.80	7.97	7.97	4.43	2.52	1.60	2.98
95th Percentile	-0.21	0.73	4.66	4.66	1.16	0.15	-3.08	1.29
Population	209	209	207	207	203	192	168	118

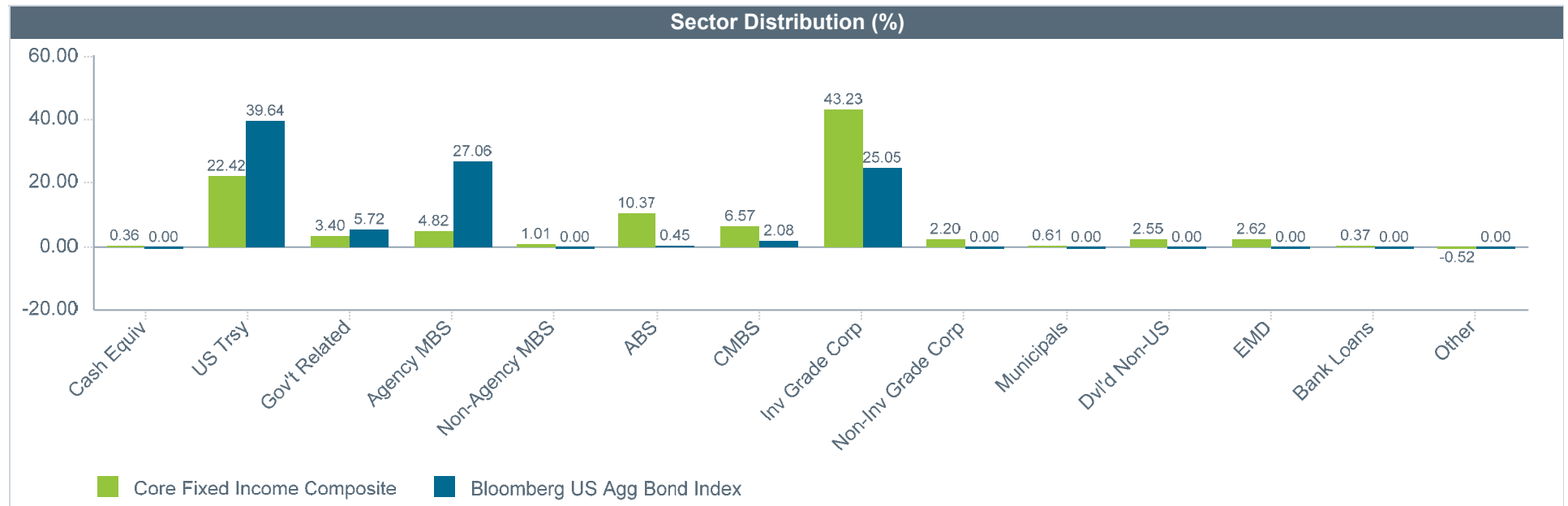
Performance shown is gross of fees. Parentheses contain percentile ranks.



Santa Barbara County Employees' Retirement System  
 Core Fixed Income Composite vs. Bloomberg US Agg Bond Index  
 Portfolio Characteristics

As of December 31, 2019

Portfolio Characteristics		
	Portfolio	Benchmark
Avg. Maturity	7.75	8.06
Avg. Quality	A1	Aa1/Aa2
Convexity	0.69	0.20
Coupon Rate (%)	3.33	3.17
Current Yield (%)	3.17	N/A
Effective Duration	5.56	5.87
Spread Duration	3.14	6.08
Yield To Maturity (%)	2.70	2.32
Yield To Worst (%)	2.67	2.31



Allocation to "Other" consists of equity and swaps.

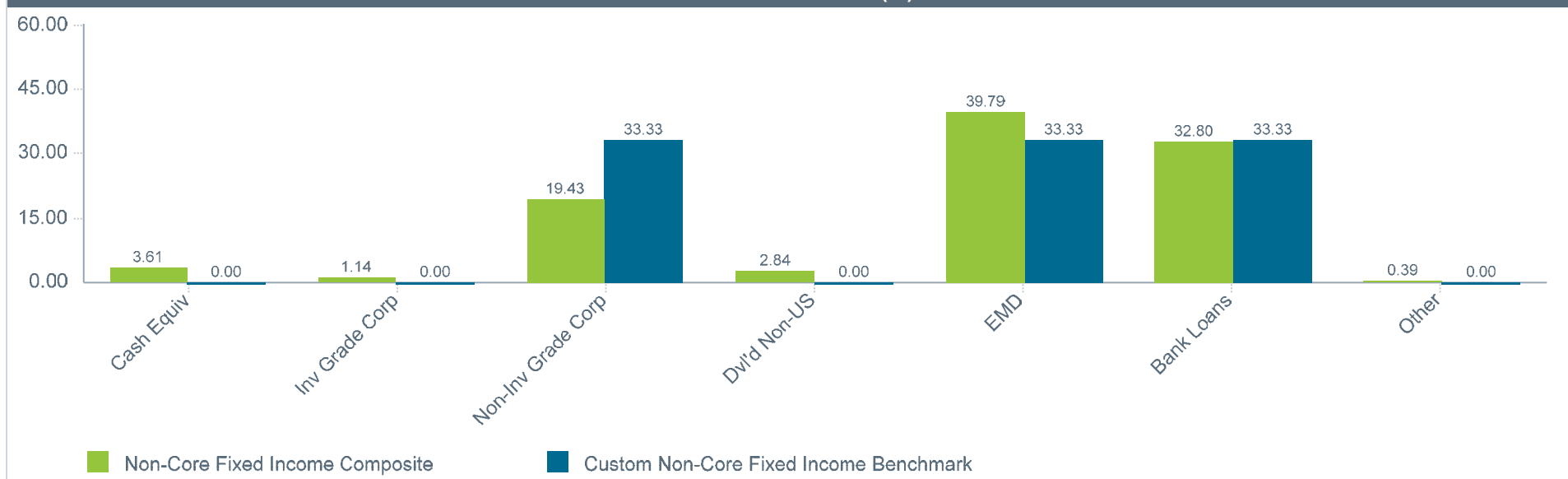
**Santa Barbara County Employees' Retirement System**  
**Non-Core Fixed Income Composite vs. Custom Non-Core Fixed Income Benchmark**  
**Portfolio Characteristics**

As of December 31, 2019

**Portfolio Characteristics**

	Portfolio	Benchmark
Avg. Maturity	7.71	6.78
Avg. Quality	Ba3	Ba3
Coupon Rate (%)	6.35	6.11
Current Yield (%)	6.09	N/A
Modified Duration	3.34	N/A
Yield To Maturity (%)	6.35	5.81

**Sector Distribution (%)**



Allocation to "Other" consists of Common Stock, Convertible Bonds, and Preferreds. Please see the Addendum for custom index definitions. Non-Core Fixed Income Composite portfolio characteristics and sector distribution exclude AG Direct Lending Fund III, LP and THL Direct Lending Fund IV, LLC.



Santa Barbara County Employees' Retirement System  
 Alternative Investment Private Credit Fund Performance Listing

As of September 30, 2019

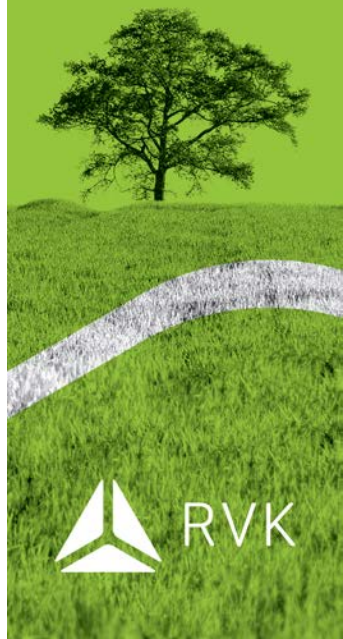
Fund Name	Vintage	Asset Class	Commitment (\$)	Paid In Capital (\$)	Distributions (\$)	Valuation (\$)	Fund IRR (%)	Index IRR (%)	Fund Multiple
AG Direct Lending Fund III, LP	2018	Private Credit - Direct Lending	25,000,000	14,160,117	321,123	14,709,856	N/M	N/M	1.06
THL Credit Direct Lending Fund IV	2018	Private Credit - Direct Lending	20,000,000	9,966,615	0	10,312,588	N/M	N/M	1.03
PIMCO Private Income Fund Onshore Feeder LLC	2019	Private Credit - Direct Lending	20,000,000	0	0	0	N/M	N/M	
			<b>65,000,000</b>	<b>24,126,732</b>	<b>321,123</b>	<b>25,022,444</b>			<b>1.05</b>

Certain valuations (marked with a "\*\*") are preliminary estimates of valuation as of the date of reporting and reflect the estimated impact of subsequent net cash contributions/distributions. These figures may be used in calculations contained in this report. Index IRR represents the dollar-weighted returns calculated using the CS Lvg'd Loan Index assuming an index investment with the same cash flow timing. IRRs are shown only for investments with one year or more of cash flows and for which an accurate IRR could be calculated. Applicable IRRs are marked with 'N/M' for not material. Fund IRR is the annualized since-inception net internal rate for the indicated fund or composite. Fund Multiple is the since inception sum of distributions and valuation divided by paid in capital.

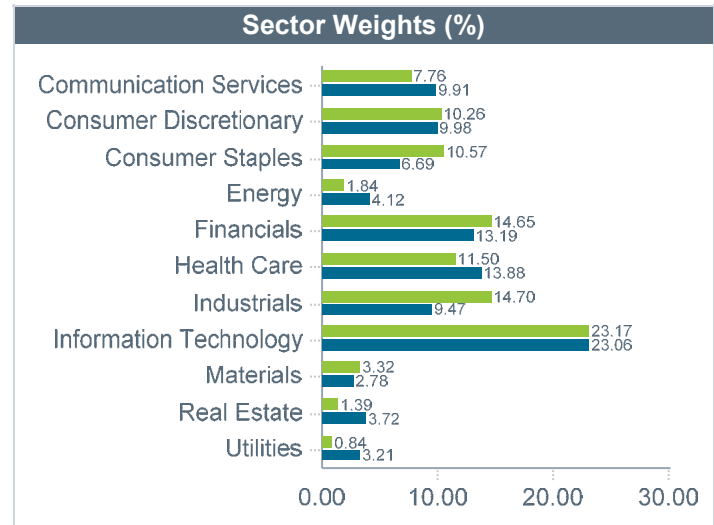
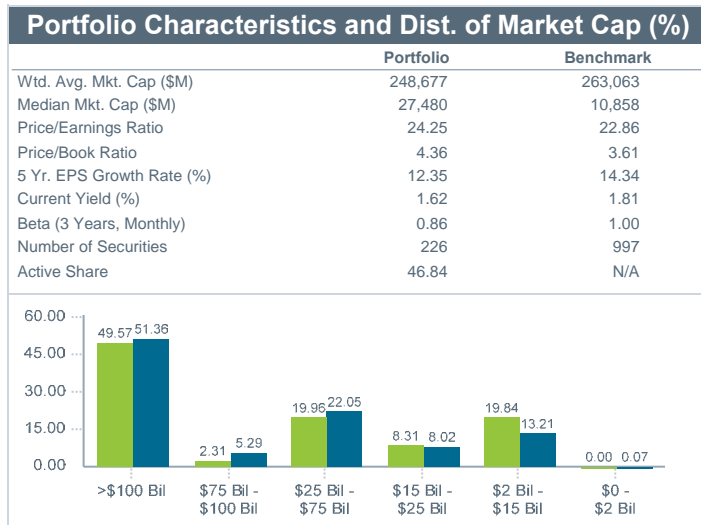
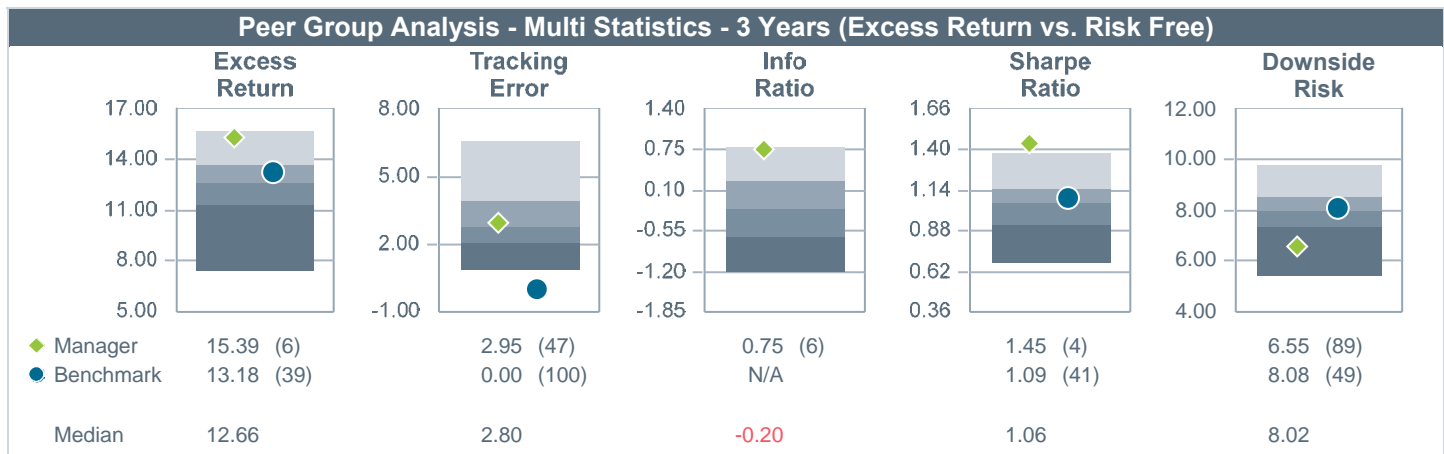
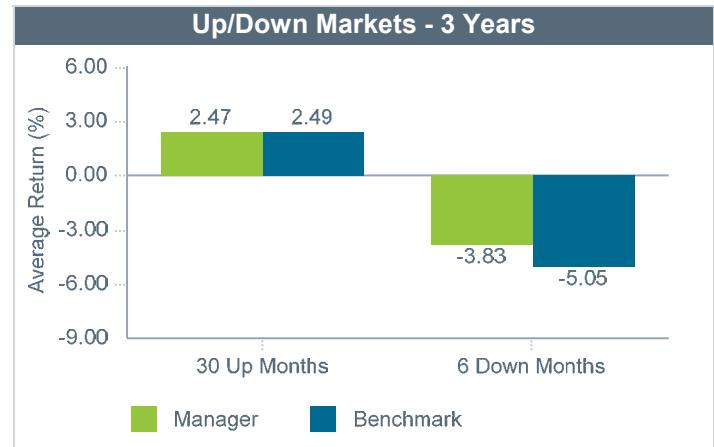
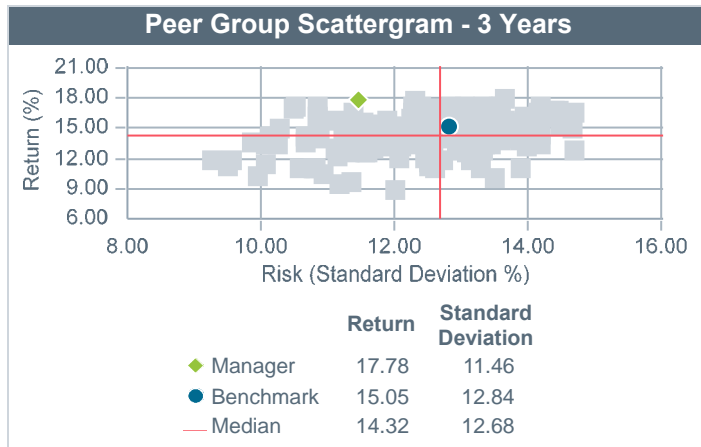




# Investment Manager Profiles



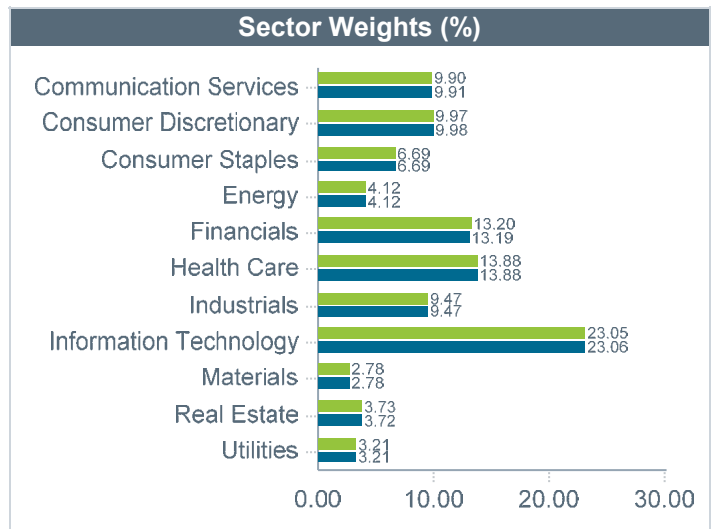
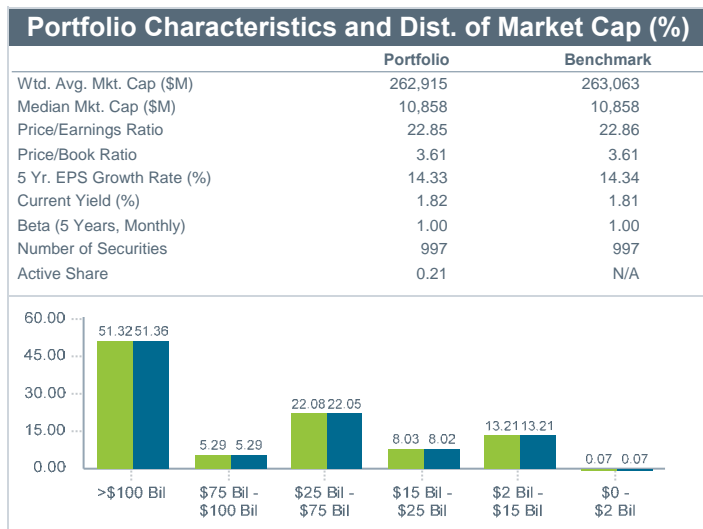
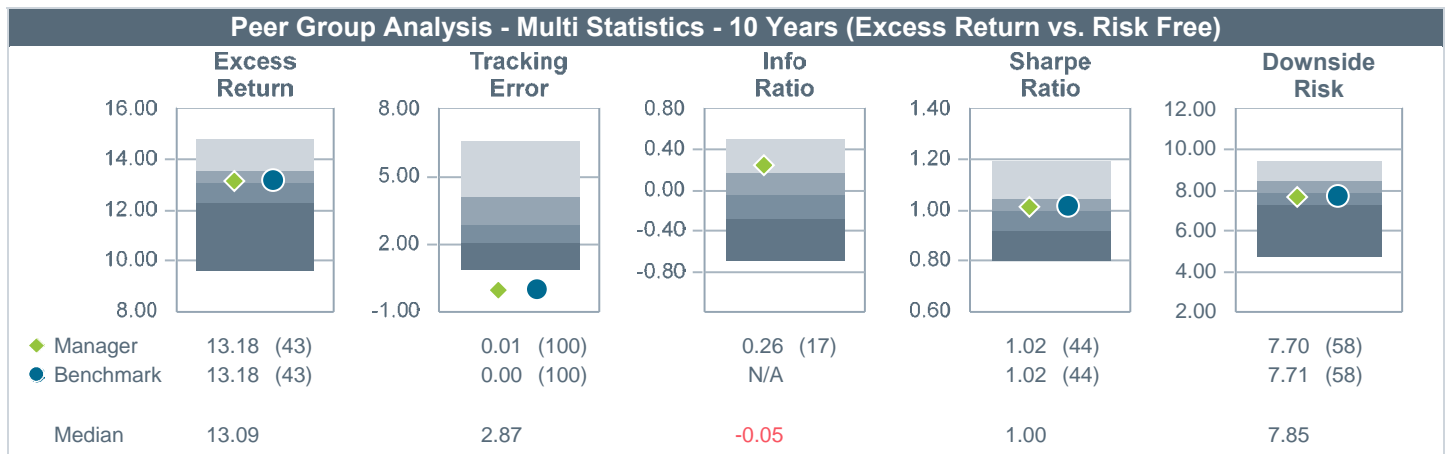
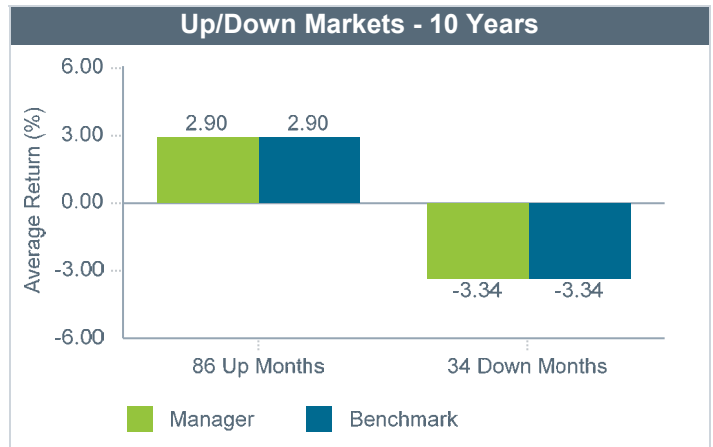
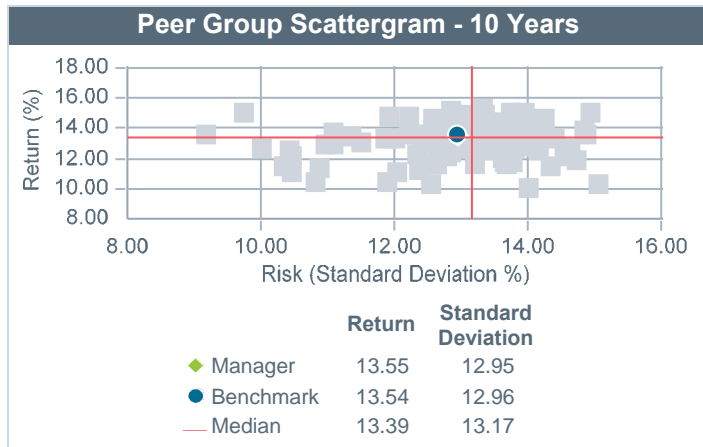
Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017	2016	2015	2014
Manager	6.68	32.61	17.78	N/A	N/A	N/A	-0.05	23.27	11.40	N/A	N/A
Benchmark	9.04	31.43	15.05	11.48	14.60	13.54	-4.78	21.69	12.05	0.92	13.24
Difference	-2.36	1.18	2.73	N/A	N/A	N/A	4.73	1.58	-0.65	N/A	N/A
Peer Group Median	8.20	29.96	14.32	11.17	14.59	13.39	-5.17	21.83	10.52	1.43	13.42
Rank	81	19	6	N/A	N/A	N/A	6	32	42	N/A	N/A
Population	223	222	219	211	200	177	265	290	311	327	349



Performance shown is gross of fees and client specific. Calculation is based on monthly periodicity. Parentheses contain percentile ranks. Performance prior to 04/11/2019 is represented by Rhumblin HEDI (SA).



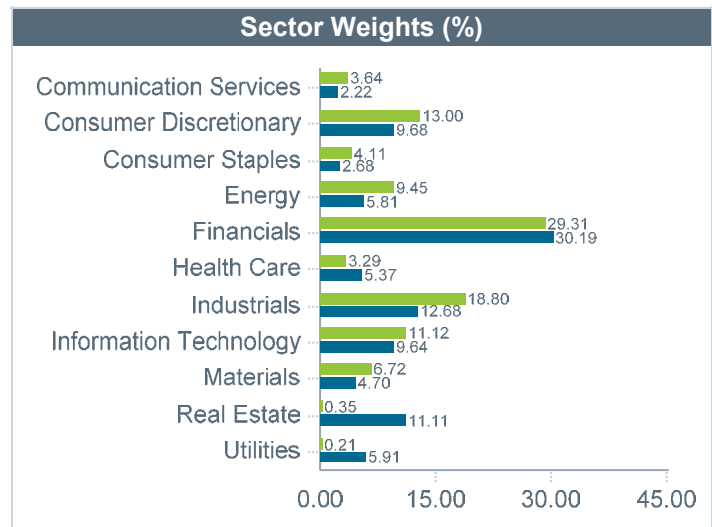
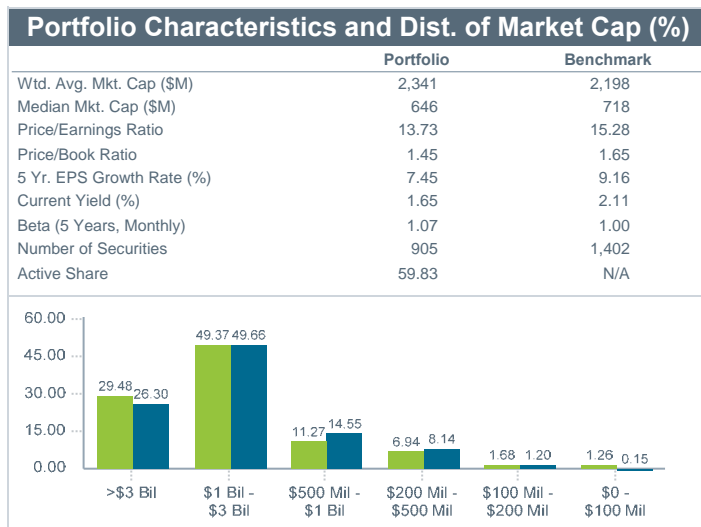
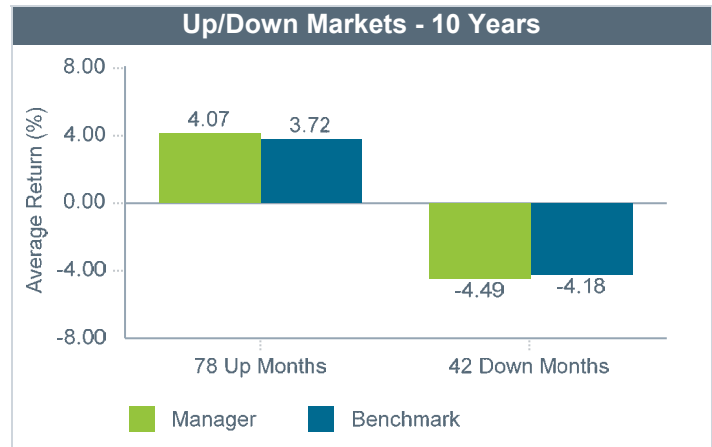
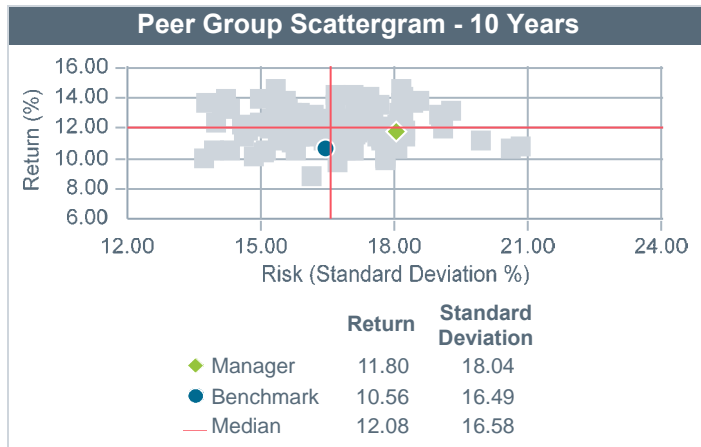
Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017	2016	2015	2014
Manager	9.04	31.42	15.05	11.48	14.60	13.55	-4.77	21.68	12.04	0.93	13.24
Benchmark	9.04	31.43	15.05	11.48	14.60	13.54	-4.78	21.69	12.05	0.92	13.24
Difference	0.00	-0.01	0.00	0.00	0.00	0.01	0.01	-0.01	-0.01	0.01	0.00
Peer Group Median	8.20	29.96	14.32	11.17	14.59	13.39	-5.17	21.83	10.52	1.43	13.42
Rank	33	36	38	40	50	43	43	53	32	57	53
Population	223	222	219	211	200	177	265	290	311	327	349



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

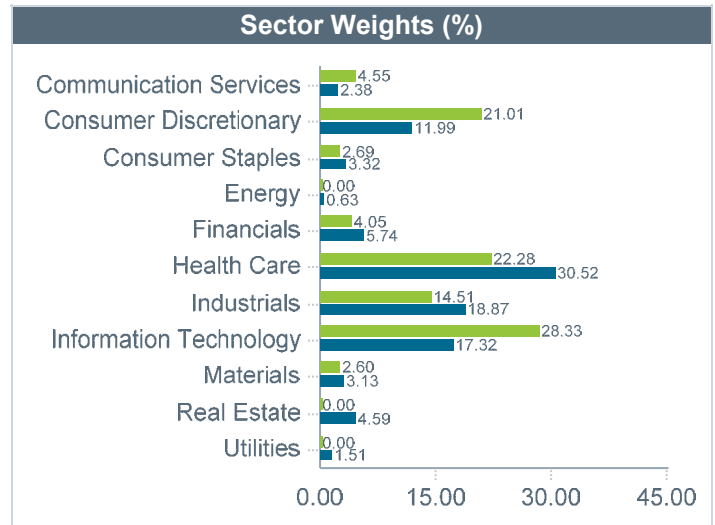
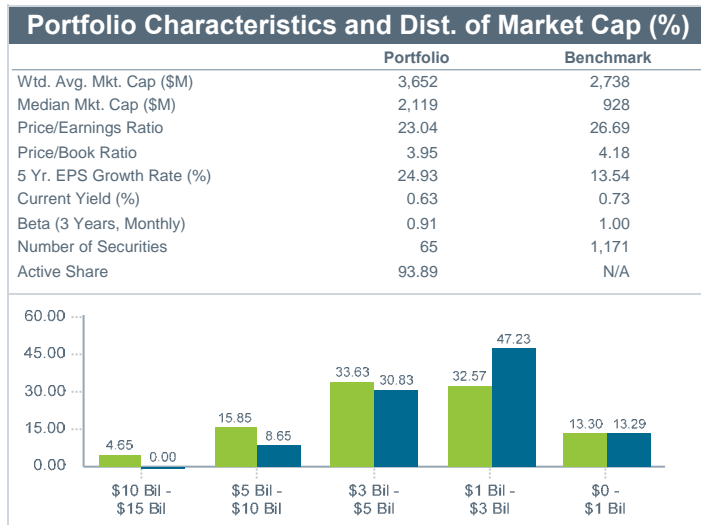
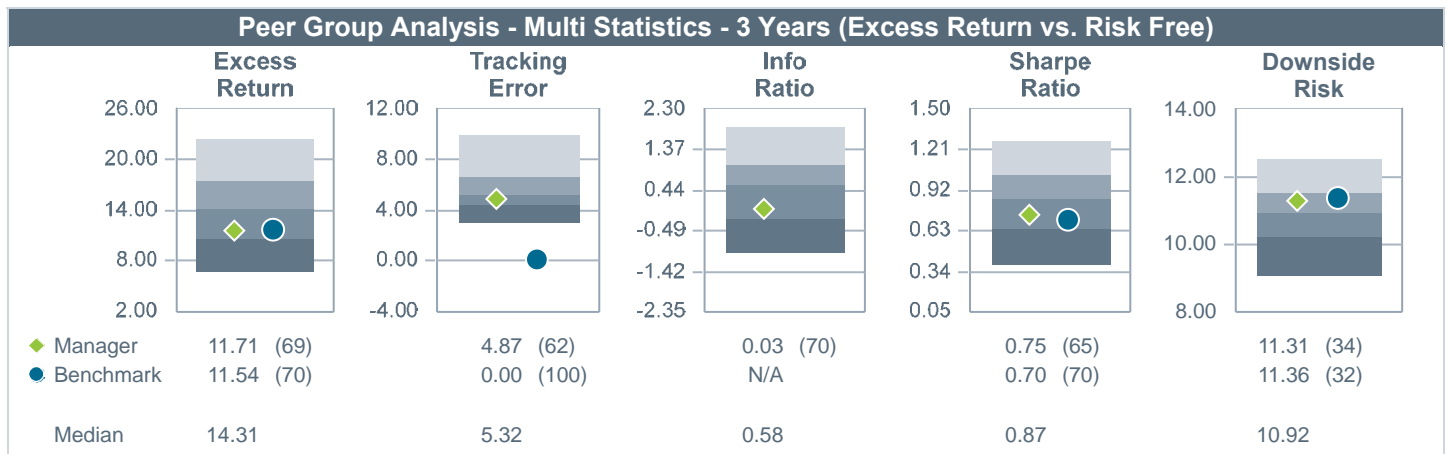
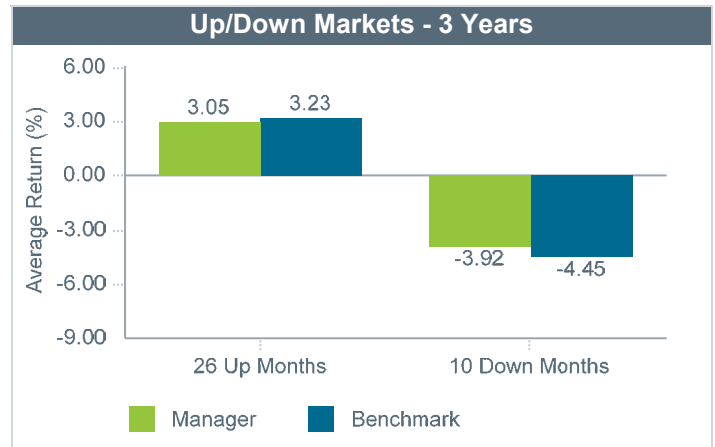
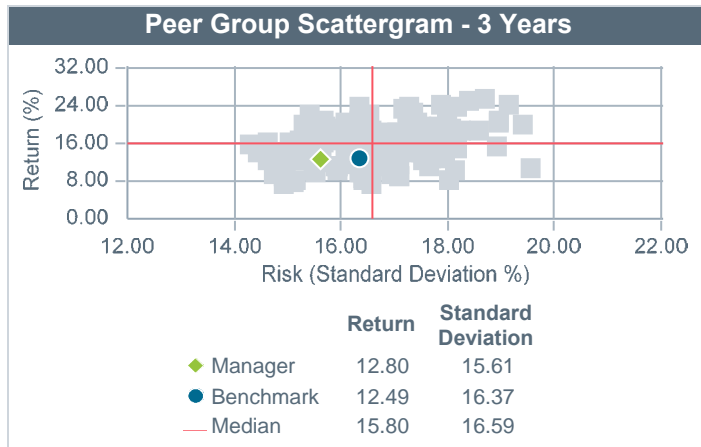


Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017	2016	2015	2014
Manager	9.04	19.22	3.02	5.80	10.31	11.80	-14.84	7.68	29.11	-6.06	5.04
Benchmark	8.49	22.39	4.77	6.99	10.13	10.56	-12.86	7.84	31.74	-7.47	4.22
Difference	0.55	-3.17	-1.75	-1.19	0.18	1.24	-1.98	-0.16	-2.63	1.41	0.82
Peer Group Median	7.96	25.07	5.48	7.66	11.49	12.08	-14.30	11.58	26.11	-4.30	5.71
Rank	27	86	84	84	75	60	56	76	30	70	57
Population	191	190	185	182	175	161	215	224	231	241	252



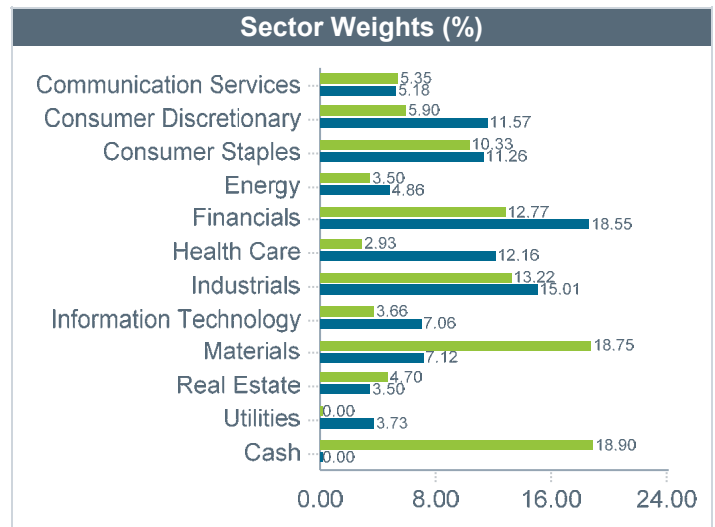
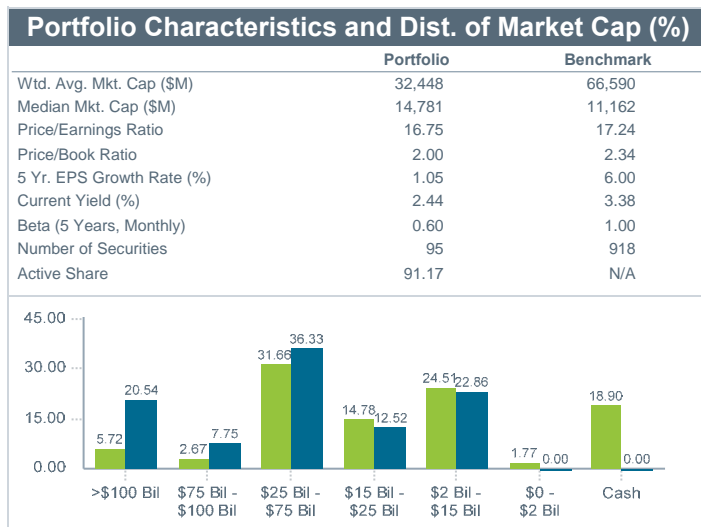
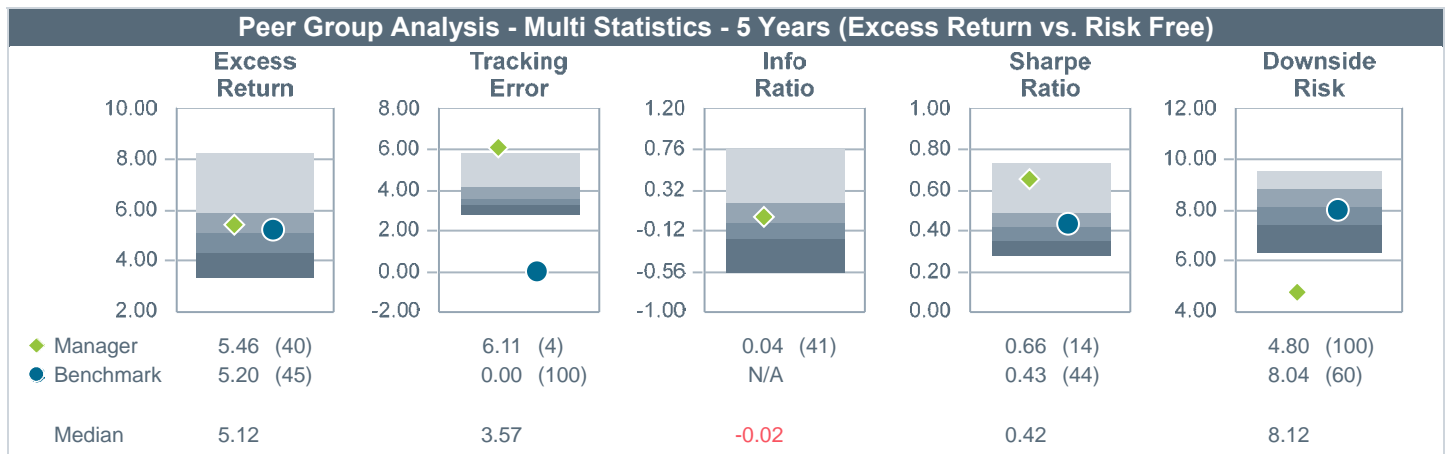
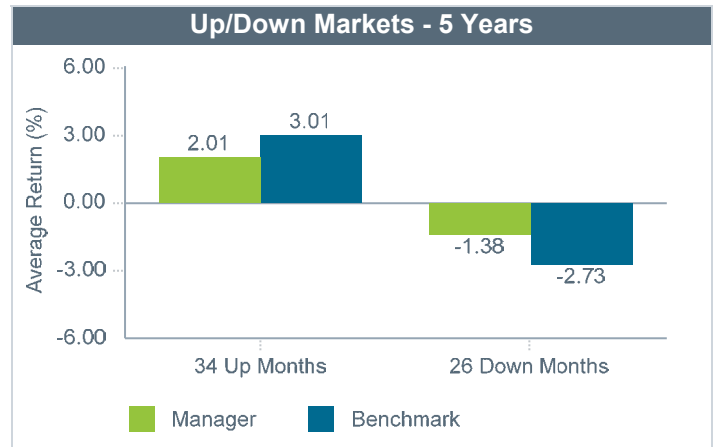
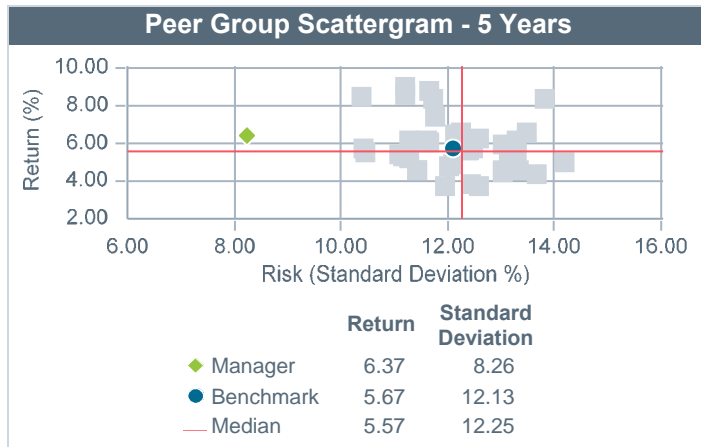
Performance shown is gross of fees and product specific. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017	2016	2015	2014
<b>Manager</b>	<b>9.79</b>	<b>18.89</b>	<b>12.80</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>-6.24</b>	<b>28.77</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>
Benchmark	11.39	28.48	12.49	9.34	13.08	13.01	-9.31	22.17	11.32	-1.38	5.60
Difference	-1.60	-9.59	0.31	N/A	N/A	N/A	3.07	6.60	N/A	N/A	N/A
Peer Group Median	9.36	28.42	15.80	11.48	14.67	14.43	-4.24	23.81	11.40	-0.77	4.27
Rank	47	91	68	N/A	N/A	N/A	63	24	N/A	N/A	N/A
Population	158	158	153	146	143	137	178	180	187	204	214



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

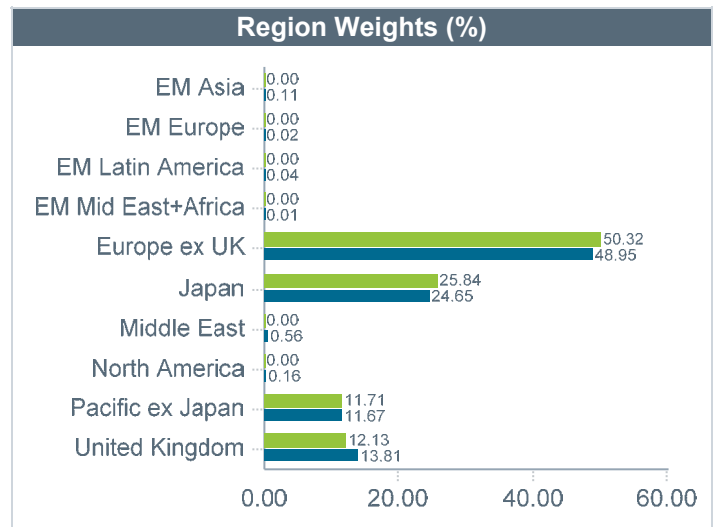
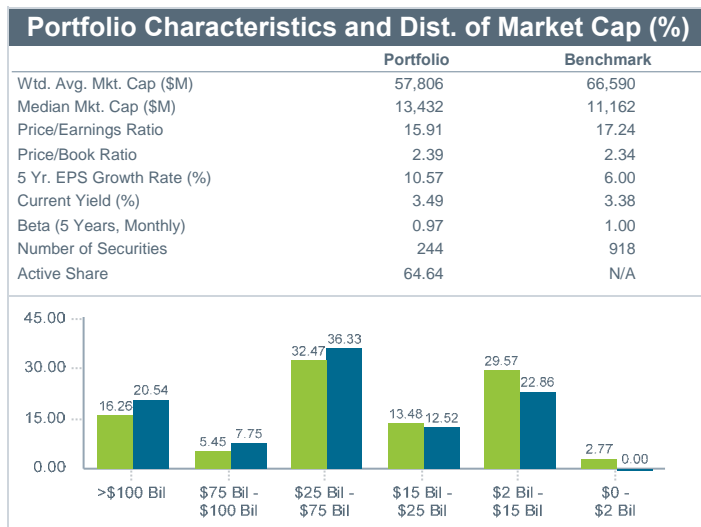
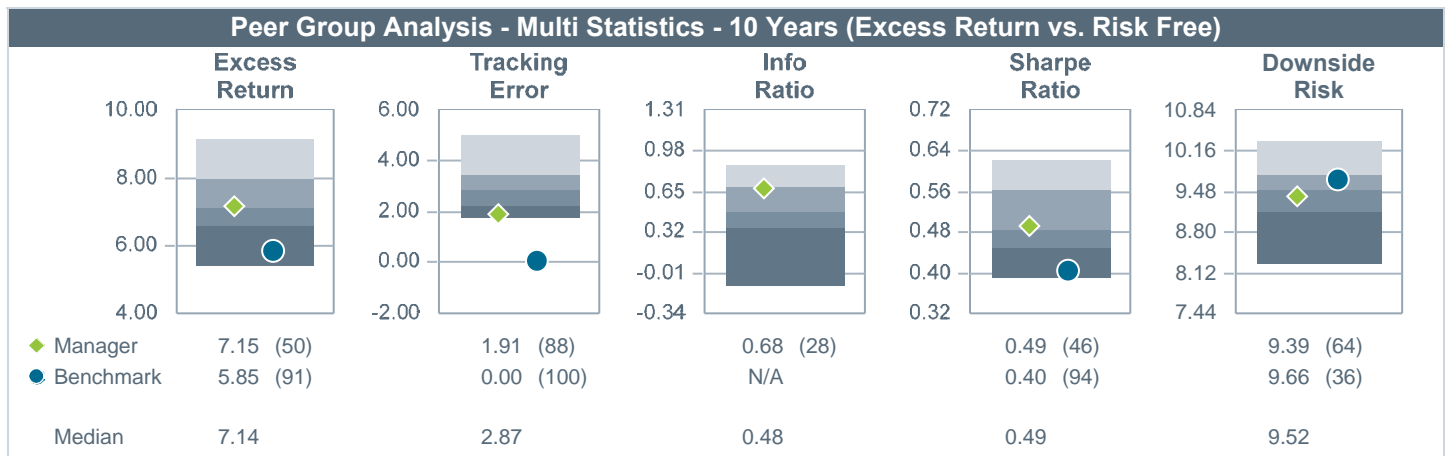
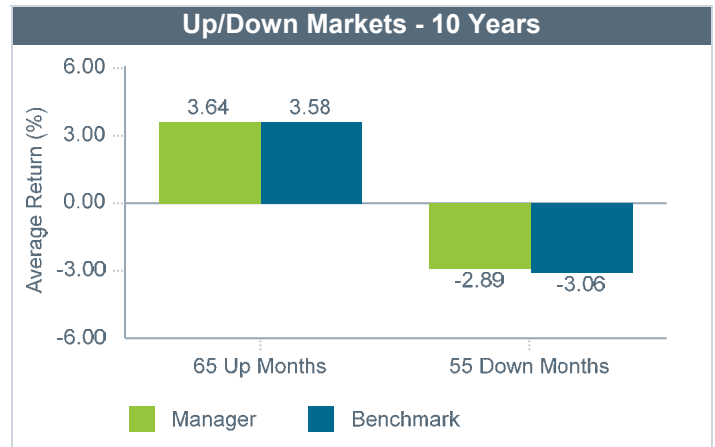
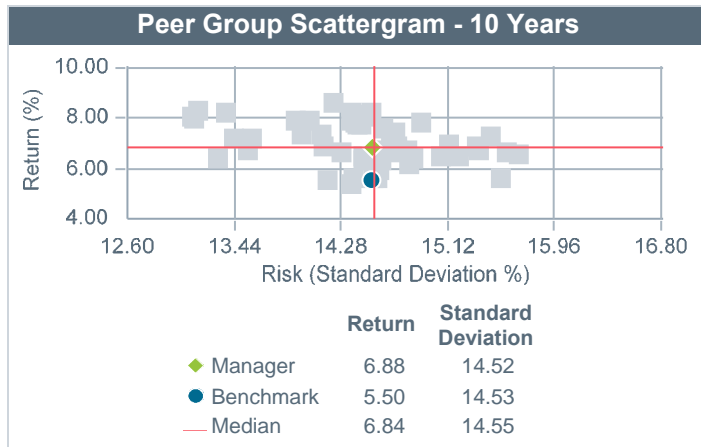
Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017	2016	2015	2014
Manager	4.33	18.69	7.56	6.37	N/A	N/A	-9.17	15.42	6.37	2.87	N/A
Benchmark	8.17	22.01	9.56	5.67	6.35	5.50	-13.79	25.03	1.00	-0.81	-4.90
Difference	-3.84	-3.32	-2.00	0.70	N/A	N/A	4.62	-9.61	5.37	3.68	N/A
Peer Group Median	8.90	21.17	8.65	5.57	6.67	6.51	-15.76	24.17	3.15	-1.05	-4.30
Rank	100	74	73	27	N/A	N/A	5	100	16	22	N/A
Population	55	55	55	55	52	50	59	61	65	76	77



Performance shown is gross of fees and client specific. Calculation is based on monthly periodicity. Parentheses contain percentile ranks. Approximately 65% of the allocations to "materials" represents allocations to gold.



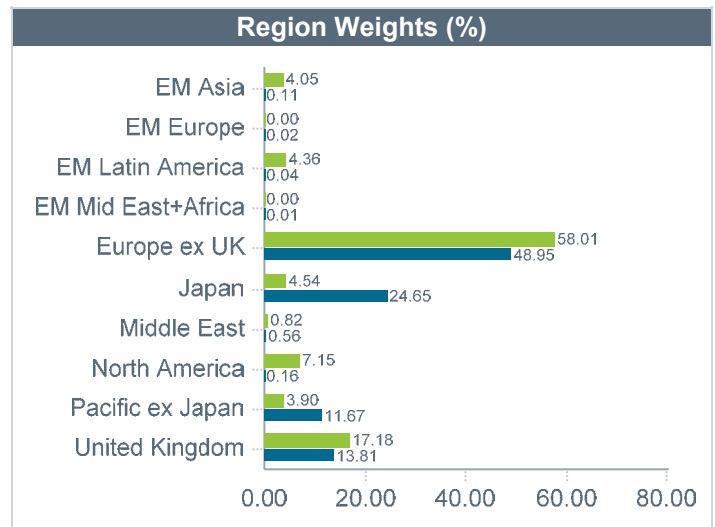
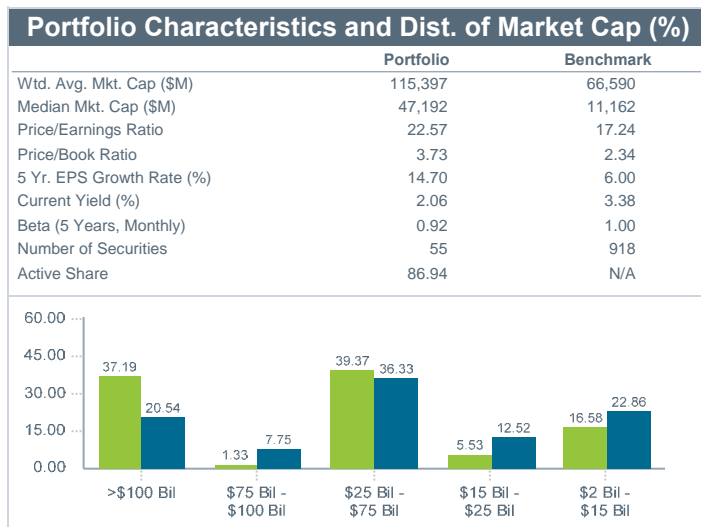
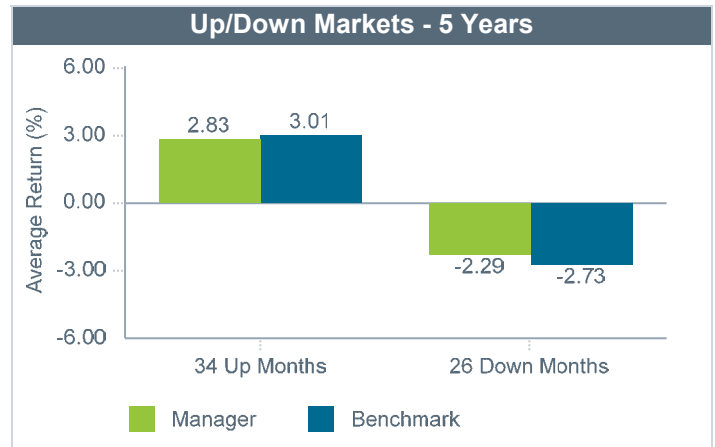
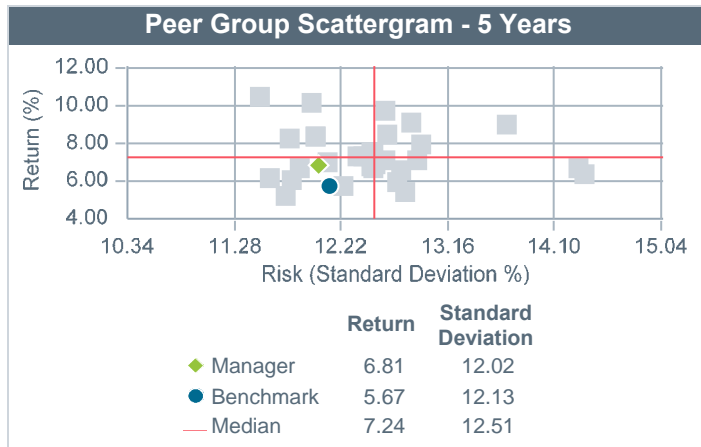
Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017	2016	2015	2014
Manager	7.99	17.67	7.37	6.04	6.99	6.88	-15.30	24.20	3.31	4.81	-4.05
Benchmark	8.17	22.01	9.56	5.67	6.35	5.50	-13.79	25.03	1.00	-0.81	-4.90
Difference	-0.18	-4.34	-2.19	0.37	0.64	1.38	-1.51	-0.83	2.31	5.62	0.85
Peer Group Median	8.53	23.23	9.86	6.30	7.24	6.84	-14.42	25.86	0.80	1.24	-3.92
Rank	70	94	92	57	64	48	71	77	17	15	53
Population	83	83	82	81	77	69	91	99	103	107	104



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



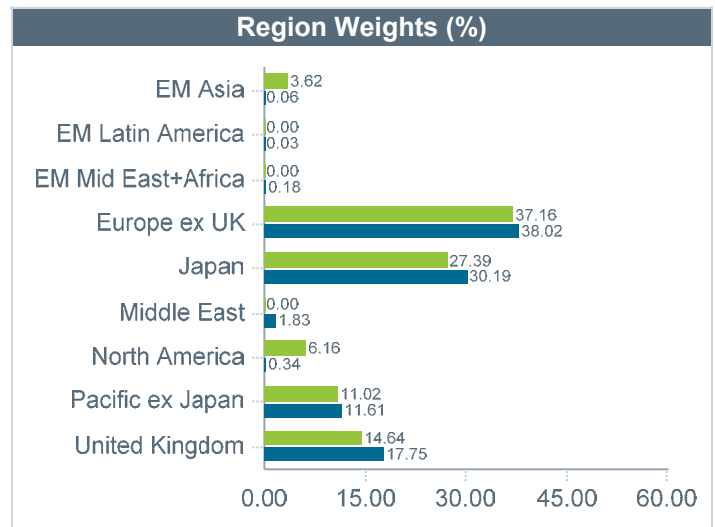
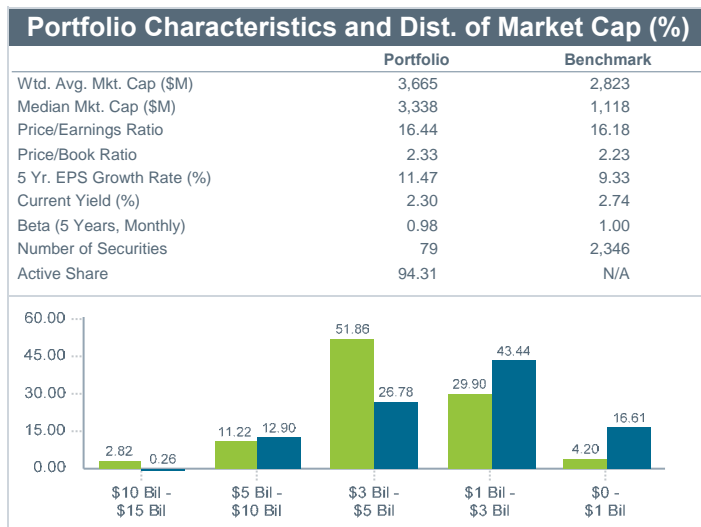
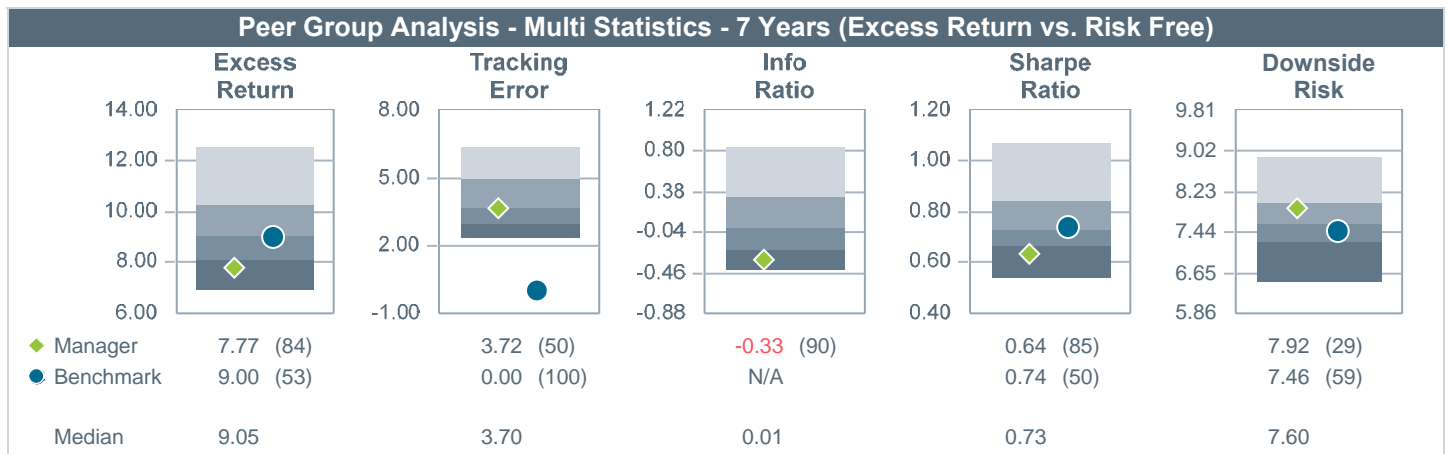
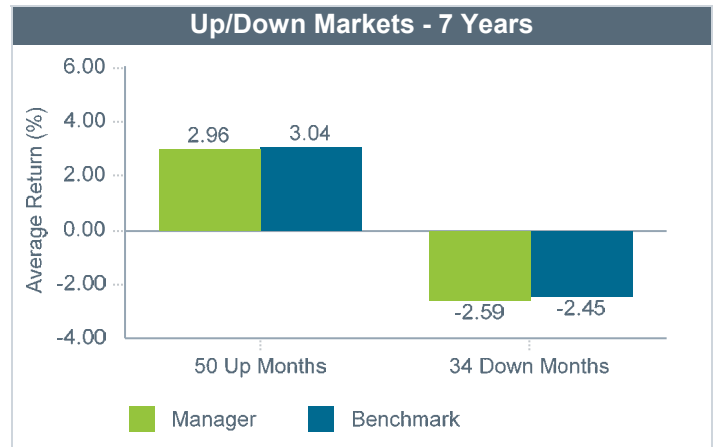
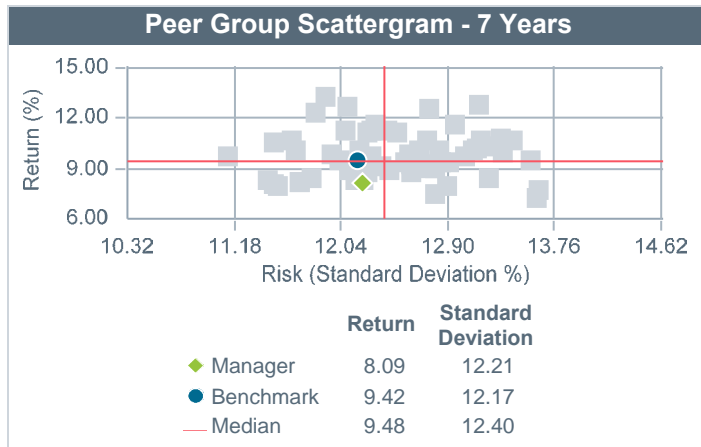
Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017	2016	2015	2014
<b>Manager</b>	<b>8.20</b>	<b>30.66</b>	<b>16.06</b>	<b>6.81</b>	<b>N/A</b>	<b>N/A</b>	<b>-9.79</b>	<b>32.63</b>	<b>-8.50</b>	<b>-2.80</b>	<b>N/A</b>
Benchmark	8.17	22.01	9.56	5.67	6.35	5.50	-13.79	25.03	1.00	-0.81	-4.90
Difference	0.03	8.65	6.50	1.14	N/A	N/A	4.00	7.60	-9.50	-1.99	N/A
Peer Group Median	9.70	26.96	11.75	7.24	7.26	7.33	-14.13	29.19	-0.12	2.58	-4.77
Rank	94	19	11	64	N/A	N/A	14	19	99	93	N/A
Population	38	38	38	38	37	36	40	42	46	52	52



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

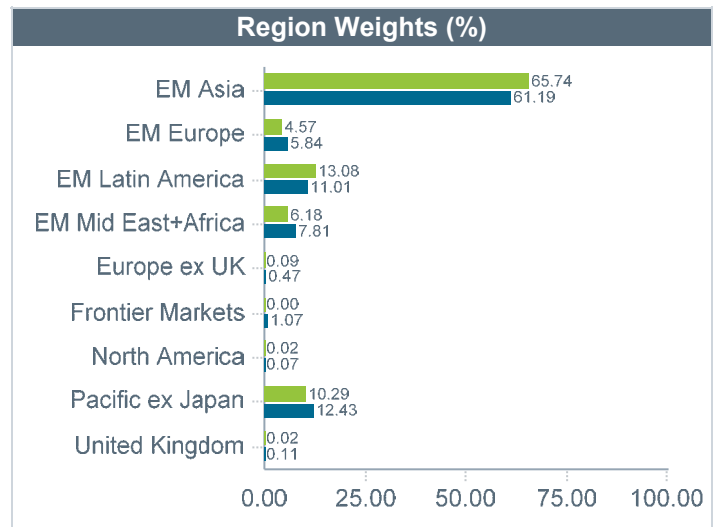
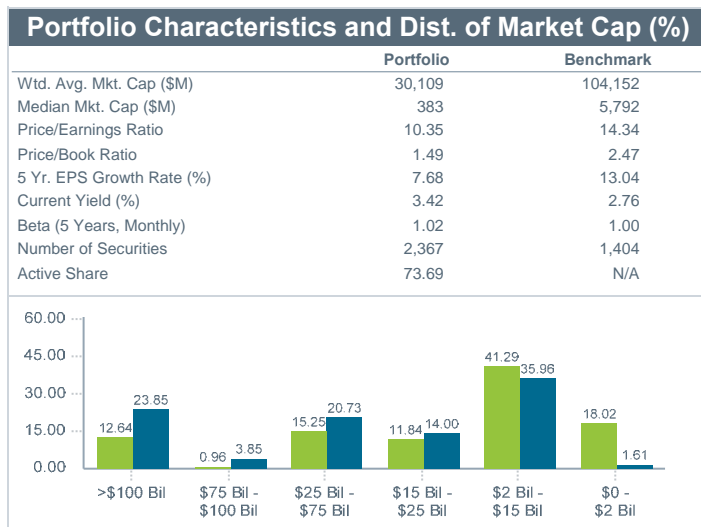
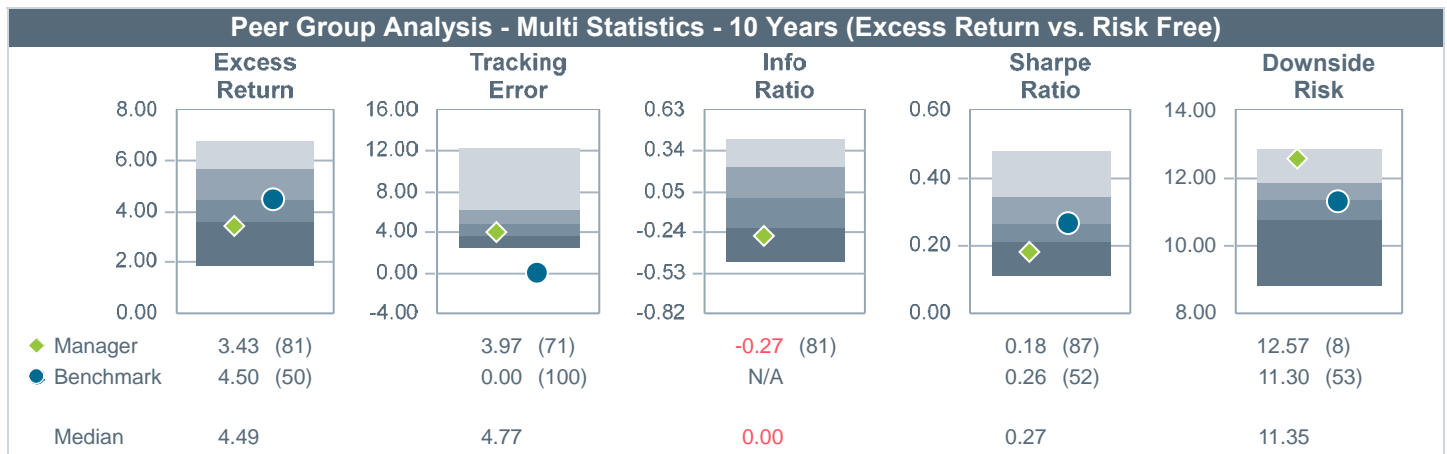
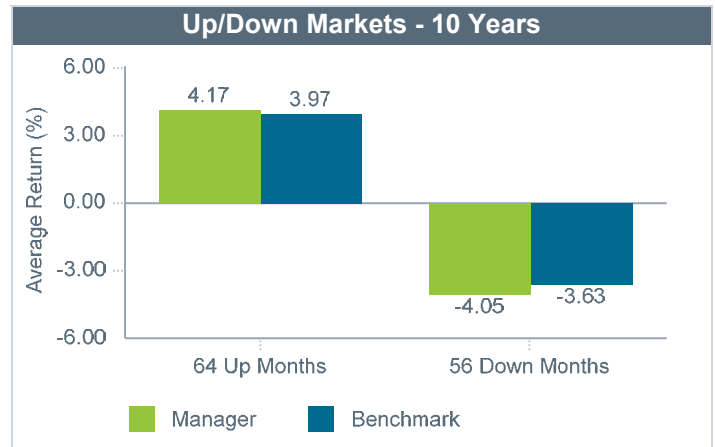
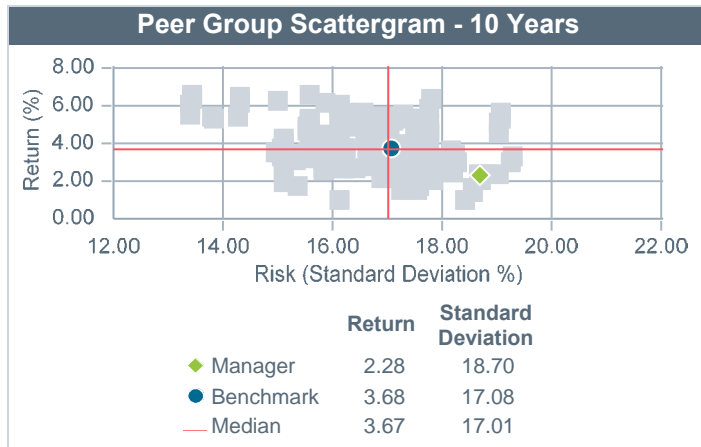


Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017	2016	2015	2014
Manager	8.60	22.86	8.32	5.46	8.09	N/A	-22.11	32.81	-7.19	10.61	1.69
Benchmark	11.52	24.96	10.92	8.85	9.42	8.74	-17.89	33.01	2.18	9.59	-4.95
Difference	-2.92	-2.10	-2.60	-3.39	-1.33	N/A	-4.22	-0.20	-9.37	1.02	6.64
Peer Group Median	12.11	24.86	11.39	8.77	9.48	9.90	-18.70	34.89	1.13	10.04	-3.38
Rank	98	68	84	94	85	N/A	82	70	100	46	11
Population	108	107	101	87	76	60	117	120	117	118	110



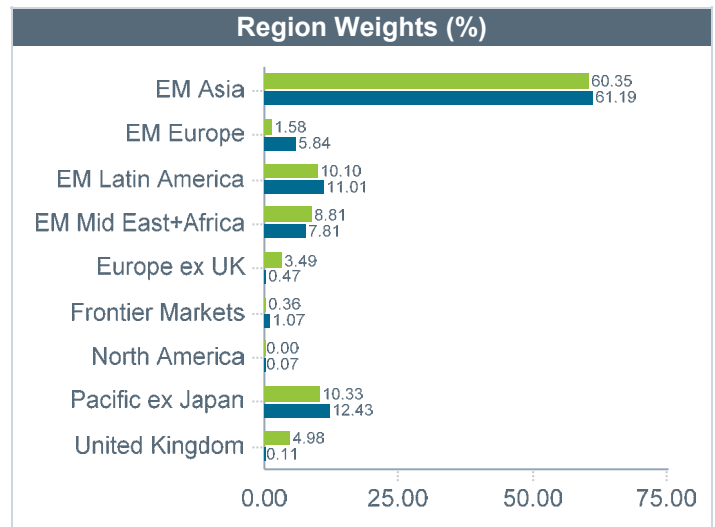
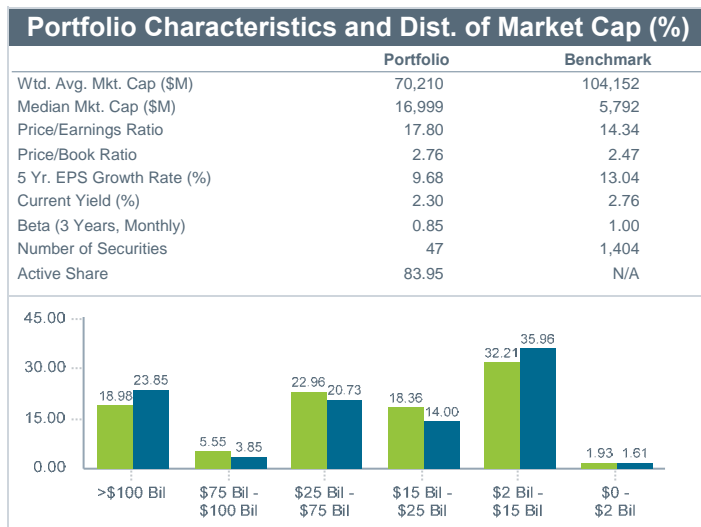
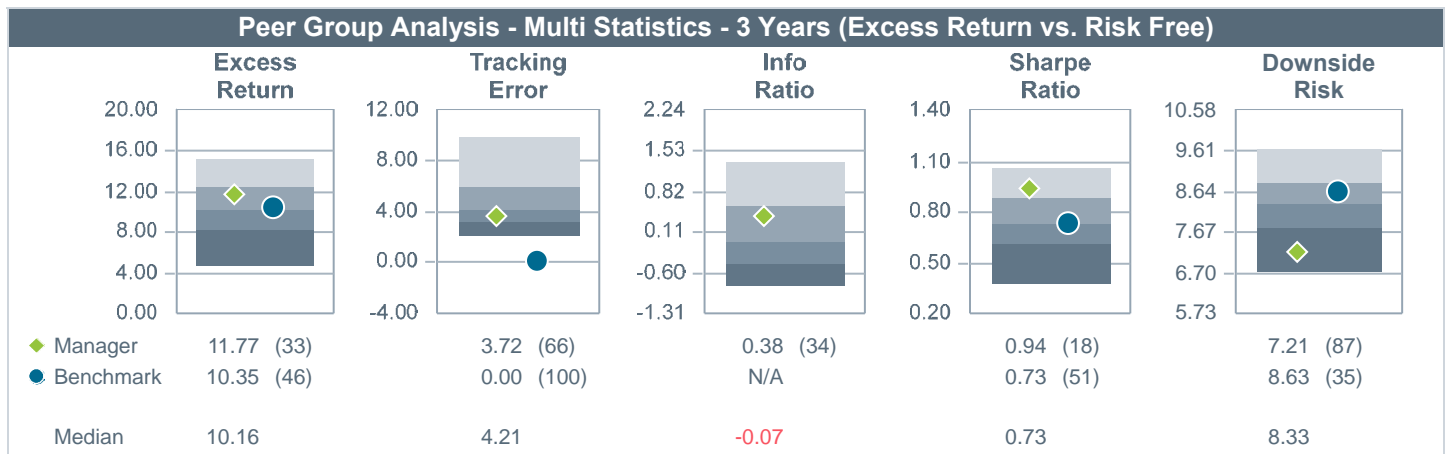
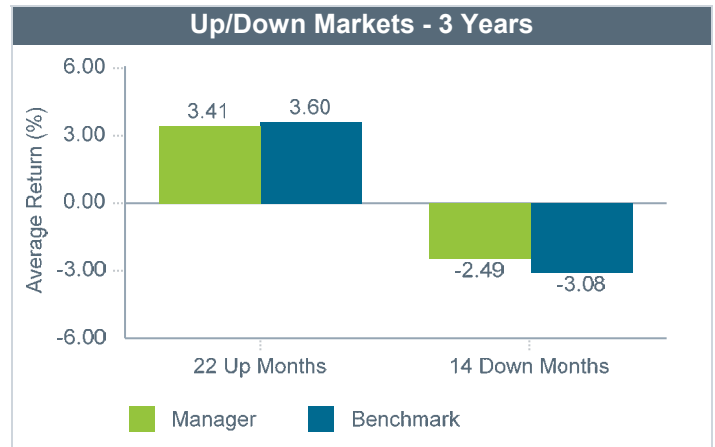
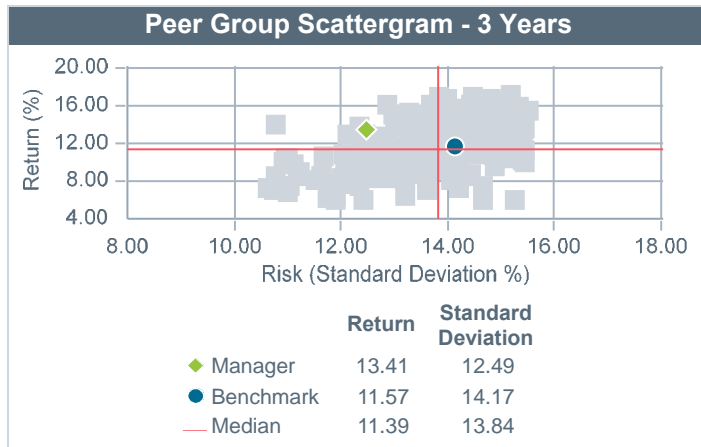
Performance shown is gross of fees and product specific. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017	2016	2015	2014
<b>Manager</b>	<b>9.69</b>	<b>9.64</b>	<b>8.90</b>	<b>4.69</b>	<b>2.09</b>	<b>2.28</b>	<b>-11.93</b>	<b>33.76</b>	<b>19.84</b>	<b>-18.77</b>	<b>-4.41</b>
Benchmark	11.84	18.44	11.57	5.61	3.26	3.68	-14.58	37.28	11.19	-14.92	-2.19
Difference	-2.15	-8.80	-2.67	-0.92	-1.17	-1.40	2.65	-3.52	8.65	-3.85	-2.22
Peer Group Median	11.03	20.06	10.63	5.13	3.18	3.67	-16.40	35.37	8.35	-13.66	-2.92
Rank	71	91	76	60	78	86	12	59	6	88	69
Population	863	846	722	590	432	252	843	813	750	656	724



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

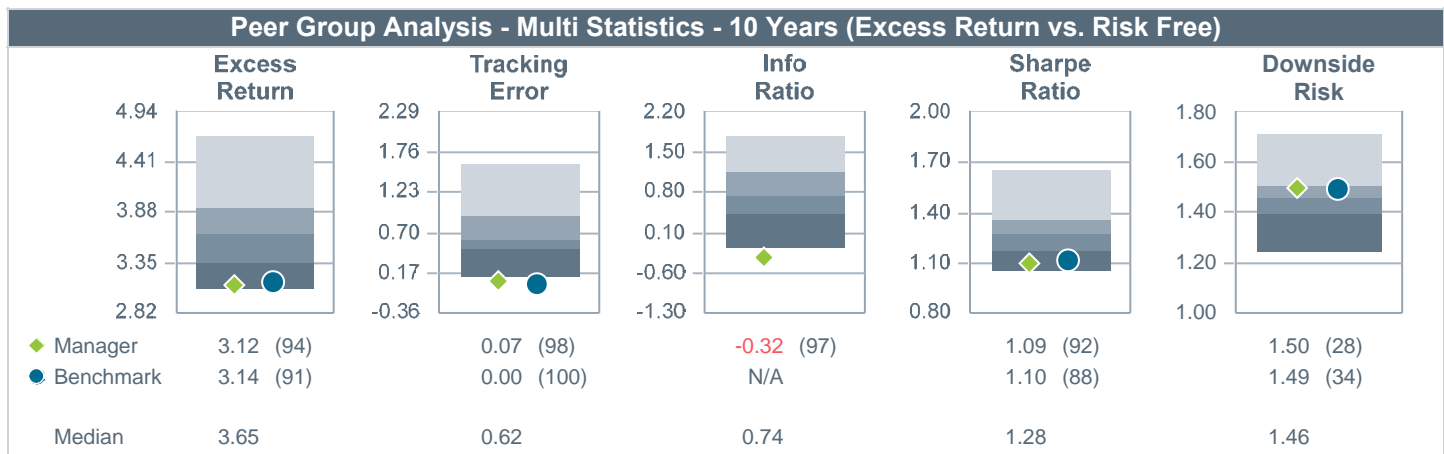
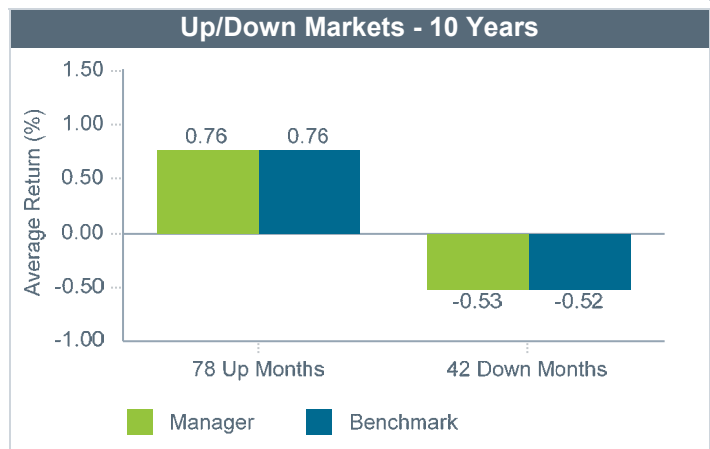
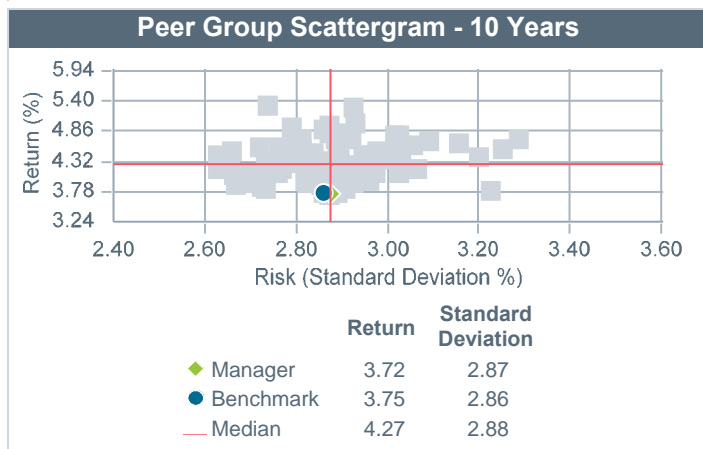
Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017	2016	2015	2014
<b>Manager</b>	<b>10.27</b>	<b>18.93</b>	<b>13.41</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>-9.52</b>	<b>35.55</b>	<b>5.77</b>	<b>N/A</b>	<b>N/A</b>
Benchmark	11.84	18.44	11.57	5.61	3.26	3.68	-14.58	37.28	11.19	-14.92	-2.19
Difference	-1.57	0.49	1.84	N/A	N/A	N/A	5.06	-1.73	-5.42	N/A	N/A
Peer Group Median	11.36	19.49	11.39	6.22	4.82	5.32	-15.23	36.81	10.36	-12.66	-0.09
Rank	66	57	30	N/A	N/A	N/A	9	58	78	N/A	N/A
Population	283	282	271	242	202	137	311	326	336	340	334



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

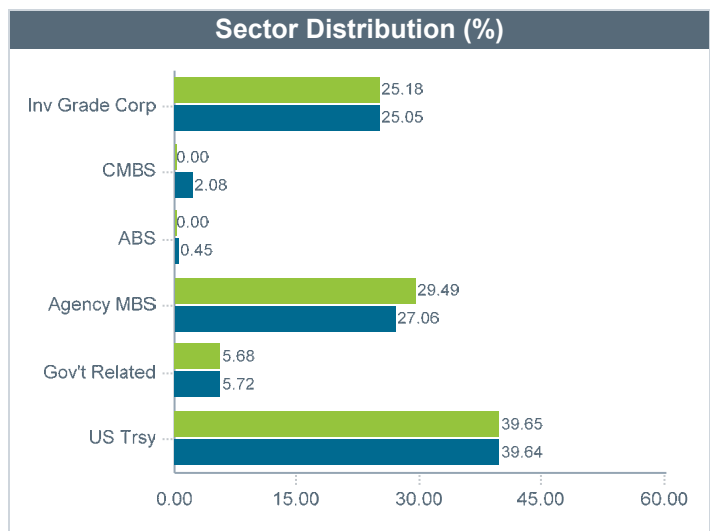


Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017	2016	2015	2014
Manager	0.17	8.68	4.01	3.01	2.68	3.72	0.00	3.53	2.58	0.50	6.06
Benchmark	0.18	8.72	4.03	3.05	2.72	3.75	0.01	3.54	2.65	0.55	5.97
Difference	-0.01	-0.04	-0.02	-0.04	-0.04	-0.03	-0.01	-0.01	-0.07	-0.05	0.09
Peer Group Median	0.22	9.20	4.40	3.46	3.07	4.27	0.07	4.04	3.10	0.82	6.16
Rank	62	80	86	93	92	94	63	86	83	80	59
Population	143	143	142	138	133	129	154	159	167	172	185



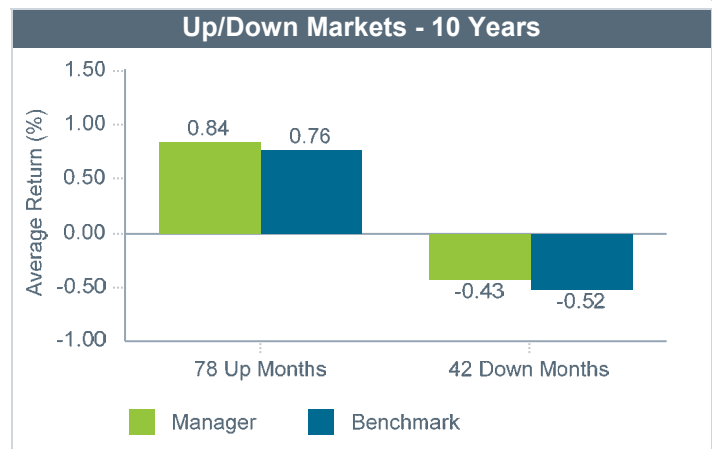
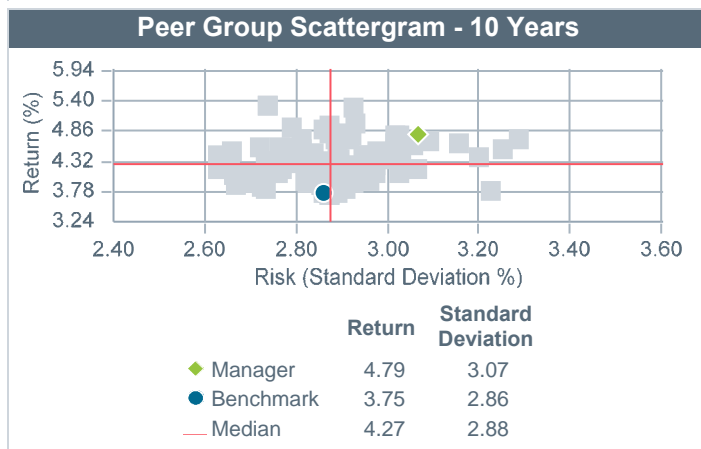
### Portfolio Characteristics

	Portfolio	Benchmark
Effective Duration	5.87	5.87
Spread Duration	6.08	6.08
Avg. Maturity	8.02	8.06
Avg. Quality	Aa1/Aa2	Aa1/Aa2
Yield To Maturity (%)	2.31	2.32
Coupon Rate (%)	3.17	3.17
Current Yield (%)	2.96	N/A
Holdings Count	4,949	11,037



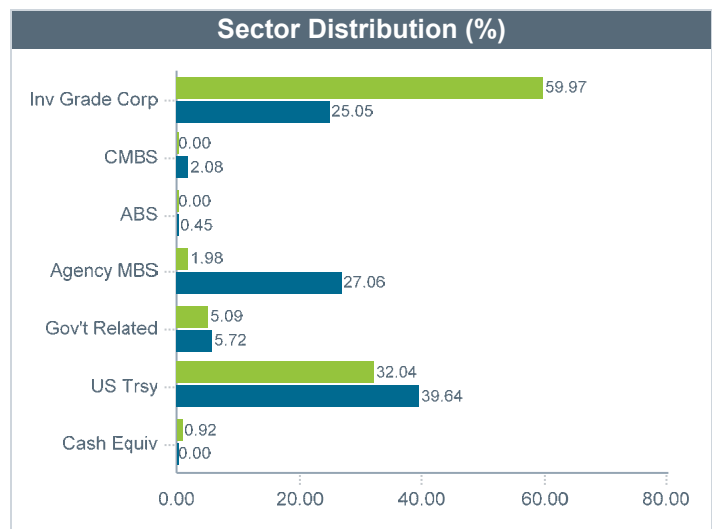
Performance shown is gross of fees and product specific. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017	2016	2015	2014
Manager	-0.12	7.56	4.10	3.25	3.45	4.79	1.00	3.83	3.16	0.83	8.01
Benchmark	0.18	8.72	4.03	3.05	2.72	3.75	0.01	3.54	2.65	0.55	5.97
Difference	-0.30	-1.16	0.07	0.20	0.73	1.04	0.99	0.29	0.51	0.28	2.04
Peer Group Median	0.22	9.20	4.40	3.46	3.07	4.27	0.07	4.04	3.10	0.82	6.16
Rank	93	95	78	67	20	15	8	61	47	50	4
Population	143	143	142	138	133	129	154	159	167	172	185



### Portfolio Characteristics

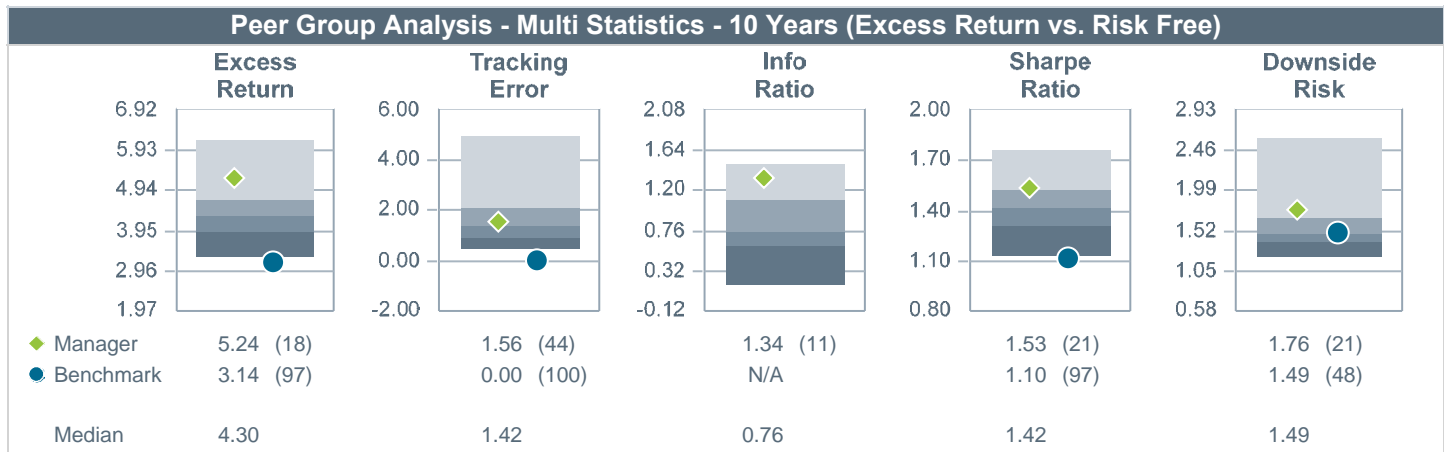
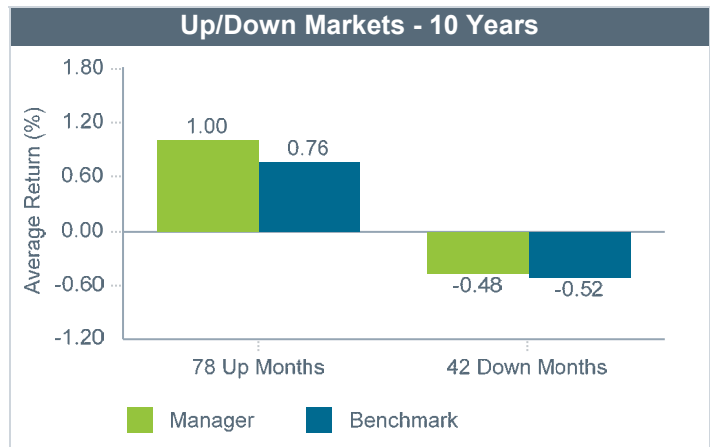
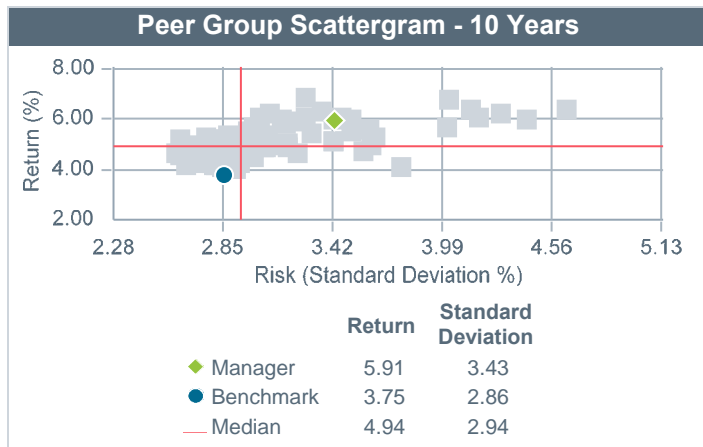
	Portfolio	Benchmark
Effective Duration	4.67	5.87
Spread Duration	1.35	6.08
Avg. Maturity	7.32	8.06
Avg. Quality	Aa3	Aa1/Aa2
Yield To Maturity (%)	2.25	2.32
Coupon Rate (%)	2.96	3.17
Current Yield (%)	2.74	N/A
Holdings Count	34	11,037



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

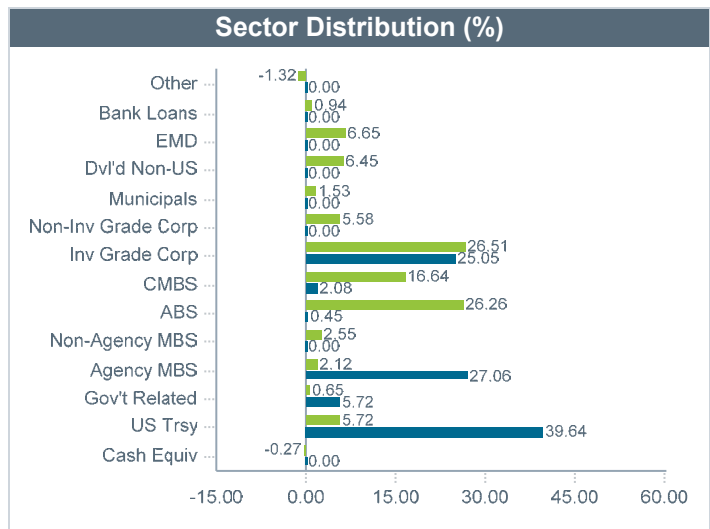


Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017	2016	2015	2014
Manager	0.52	11.66	6.04	4.85	4.39	5.91	-0.11	6.91	6.06	0.21	7.39
Benchmark	0.18	8.72	4.03	3.05	2.72	3.75	0.01	3.54	2.65	0.55	5.97
Difference	0.34	2.94	2.01	1.80	1.67	2.16	-0.12	3.37	3.41	-0.34	1.42
Peer Group Median	0.51	9.92	4.72	3.83	3.48	4.94	-0.36	4.81	4.68	0.31	6.19
Rank	48	15	7	10	13	18	41	11	26	54	12
Population	147	147	144	142	140	128	161	166	169	175	182



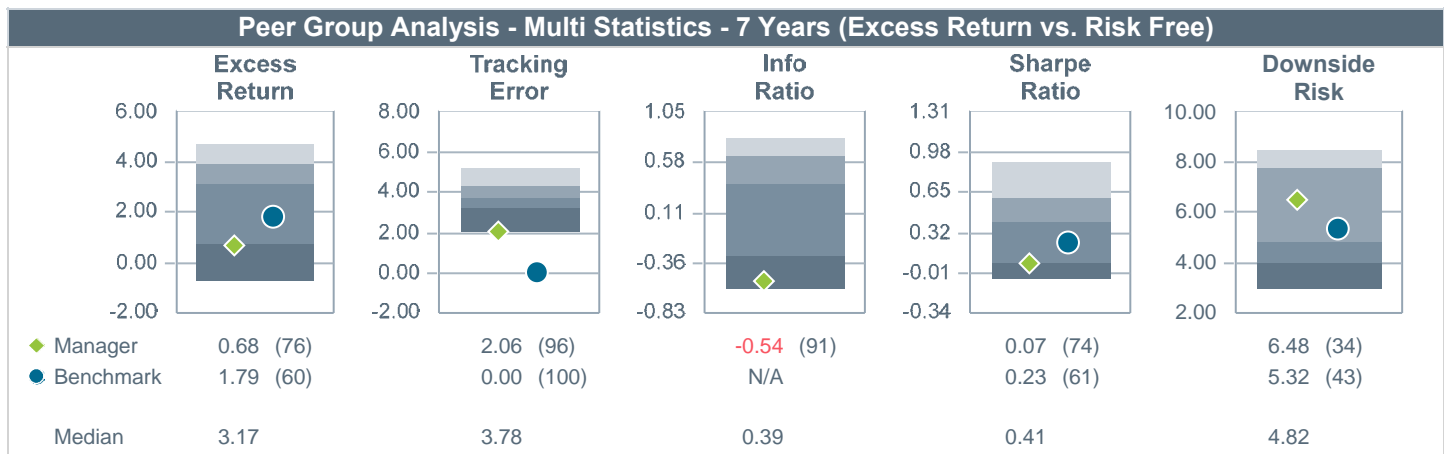
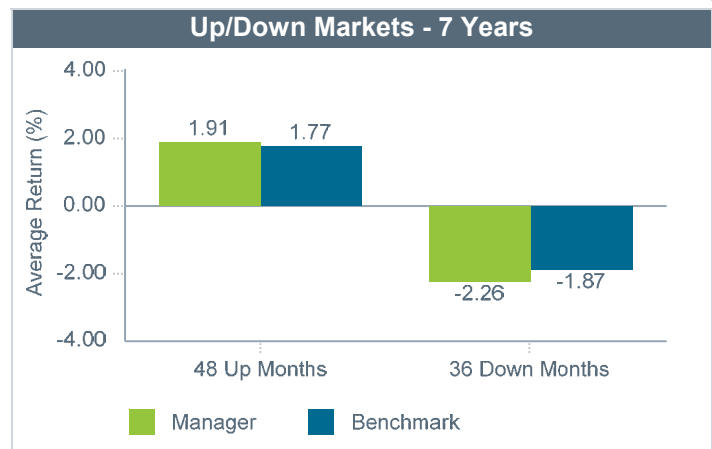
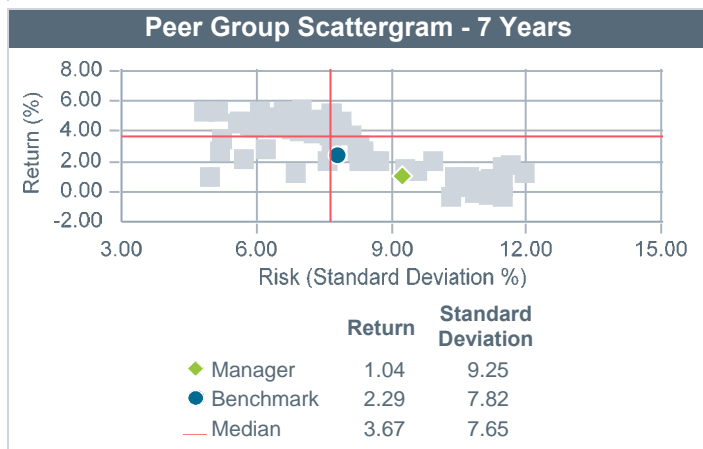
### Portfolio Characteristics

	Portfolio	Benchmark
Effective Duration	6.62	5.87
Spread Duration	4.67	6.08
Avg. Maturity	8.24	8.06
Avg. Quality	A2	Aa1/Aa2
Yield To Maturity (%)	3.38	2.32
Coupon Rate (%)	3.85	3.17
Current Yield (%)	3.78	N/A
Holdings Count	2,542	11,037



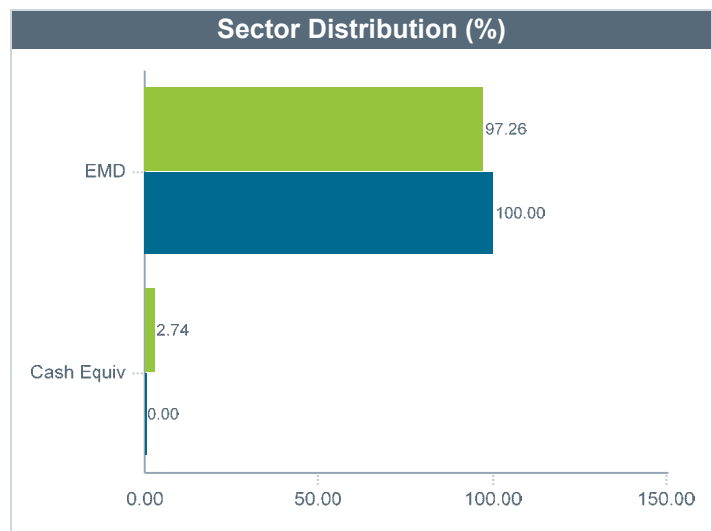
Performance shown is gross of fees and product specific. Calculation is based on monthly periodicity. Parentheses contain percentile ranks. Allocation to "Other" consists of equity and swaps.

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017	2016	2015	2014
Manager	4.08	14.65	6.09	4.11	1.04	N/A	-8.50	13.82	11.08	-7.78	-2.51
Benchmark	3.55	14.12	6.89	4.54	2.29	4.81	-4.89	12.50	10.12	-7.13	0.48
Difference	0.53	0.53	-0.80	-0.43	-1.25	N/A	-3.61	1.32	0.96	-0.65	-2.99
Peer Group Median	3.68	14.29	6.93	5.72	3.67	6.57	-5.34	12.43	11.09	-2.53	1.62
Rank	44	42	80	73	73	N/A	91	34	51	70	70
Population	125	125	120	113	93	64	156	162	171	176	176



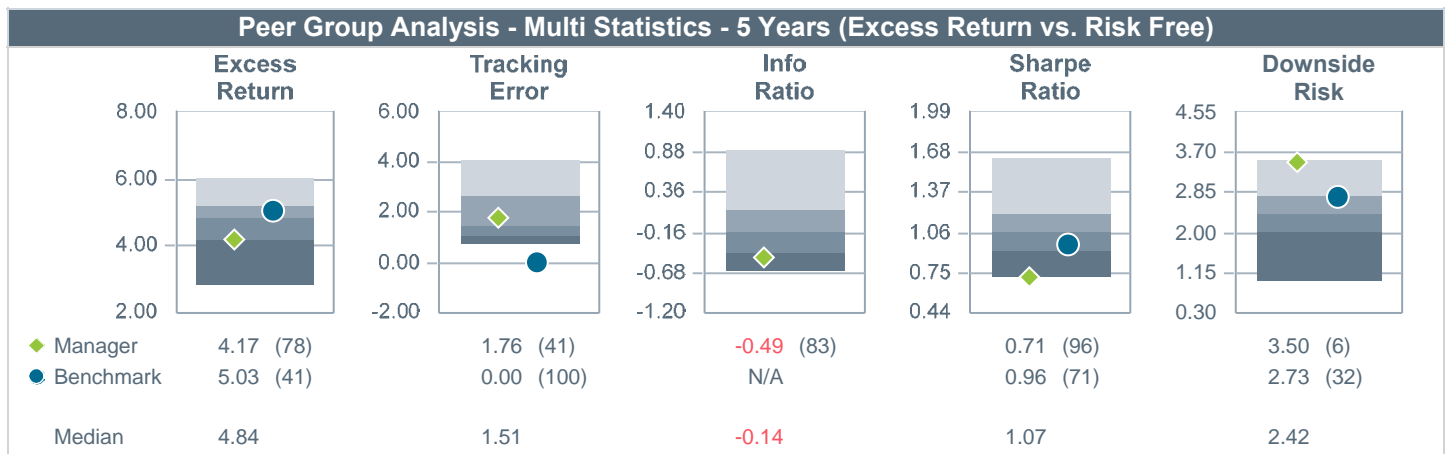
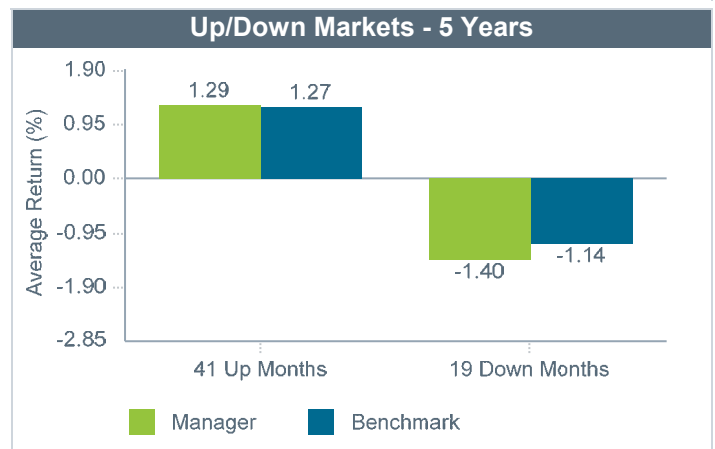
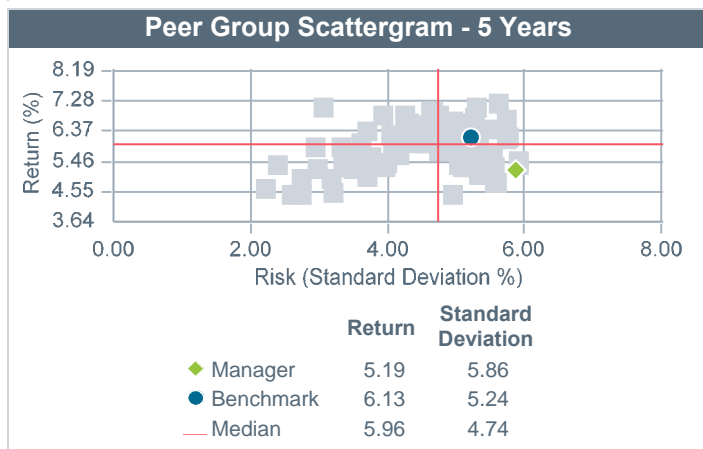
### Portfolio Characteristics

	Portfolio	Benchmark
Effective Duration	6.33	6.20
Spread Duration	6.22	3.43
Avg. Maturity	11.35	9.65
Avg. Quality	Baa3	Ba1
Yield To Maturity (%)	6.11	5.02
Coupon Rate (%)	6.40	6.00
Current Yield (%)	6.20	5.54
Holdings Count	502	2,553



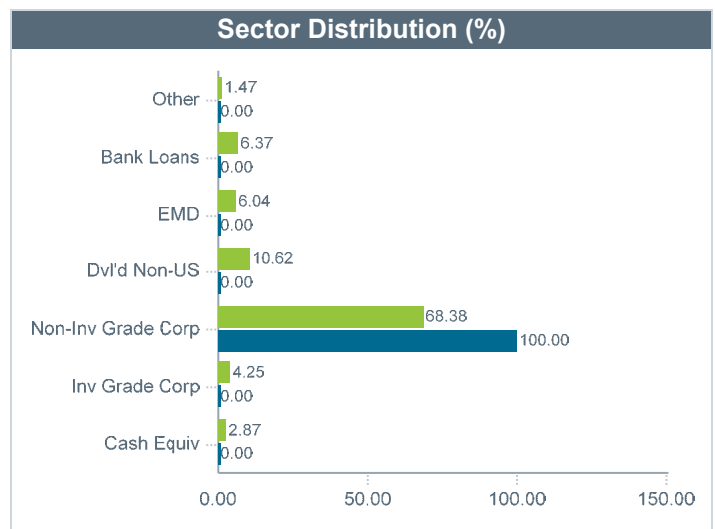
Performance shown is gross of fees and client specific. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017	2016	2015	2014
<b>Manager</b>	<b>2.54</b>	<b>10.93</b>	<b>5.18</b>	<b>5.19</b>	<b>N/A</b>	<b>N/A</b>	<b>-3.08</b>	<b>8.22</b>	<b>17.25</b>	<b>-5.60</b>	<b>1.49</b>
Benchmark	2.61	14.32	6.37	6.13	5.78	7.57	-2.08	7.50	17.13	-4.47	2.45
Difference	-0.07	-3.39	-1.19	-0.94	N/A	N/A	-1.00	0.72	0.12	-1.13	-0.96
Peer Group Median	2.51	14.01	6.33	5.96	5.82	7.61	-1.69	7.50	14.07	-2.11	2.61
Rank	50	76	83	81	N/A	N/A	86	27	17	88	74
Population	159	158	153	142	126	103	186	193	201	205	209



### Portfolio Characteristics

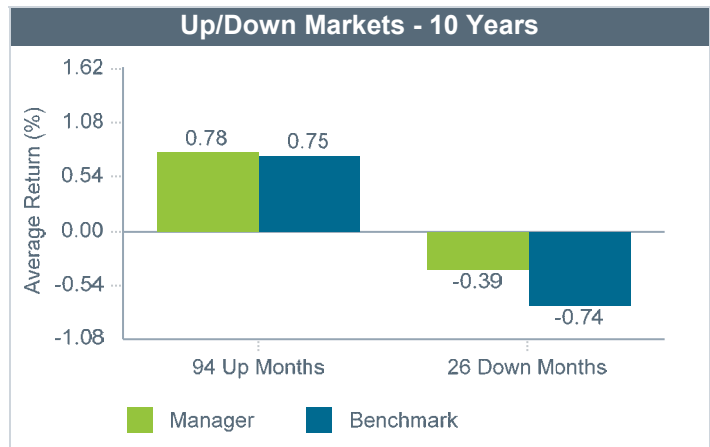
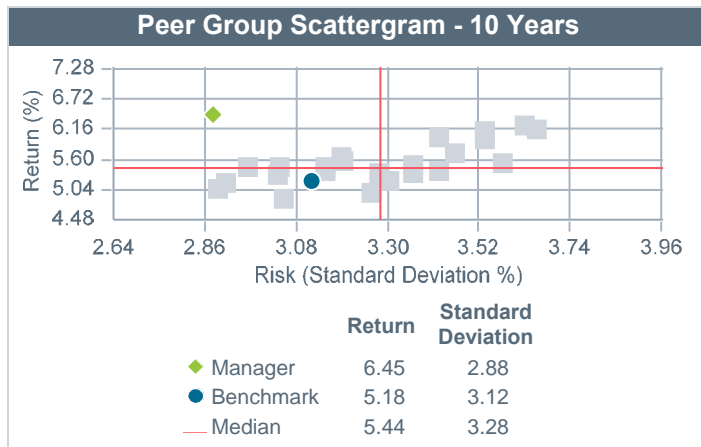
	Portfolio	Benchmark
Effective Duration	3.13	3.05
Spread Duration	N/A	3.05
Avg. Maturity	5.69	5.86
Avg. Quality	B1	B1/B2
Yield To Maturity (%)	6.89	5.98
Coupon Rate (%)	6.34	6.32
Current Yield (%)	6.44	N/A
Holdings Count	N/A	1,878



Performance shown is gross of fees and client specific. Calculation is based on monthly periodicity. Parentheses contain percentile ranks. Allocation to "Other" consists of Preferreds, Convertible Bonds, and Common Stock.

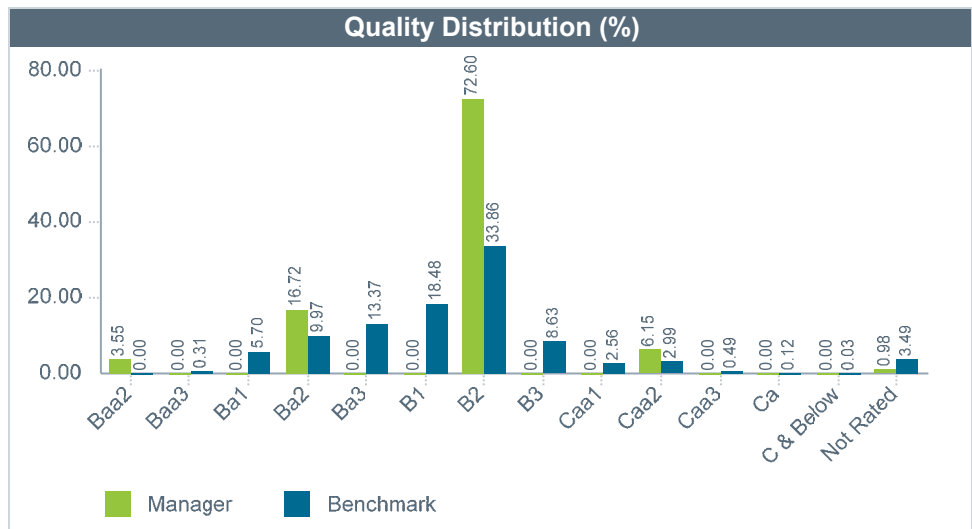


Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017	2016	2015	2014
Manager	1.77	9.28	4.35	4.60	4.87	6.45	0.64	3.32	6.55	3.42	3.25
Benchmark	1.68	8.17	4.48	4.54	4.41	5.18	1.14	4.25	9.88	-0.38	2.06
Difference	0.09	1.11	-0.13	0.06	0.46	1.27	-0.50	-0.93	-3.33	3.80	1.19
Peer Group Median	1.79	8.69	4.48	4.64	4.49	5.44	0.80	4.46	9.52	0.65	2.00
Rank	53	30	62	53	19	3	66	95	99	2	5
Population	45	45	44	44	40	31	63	65	66	69	72



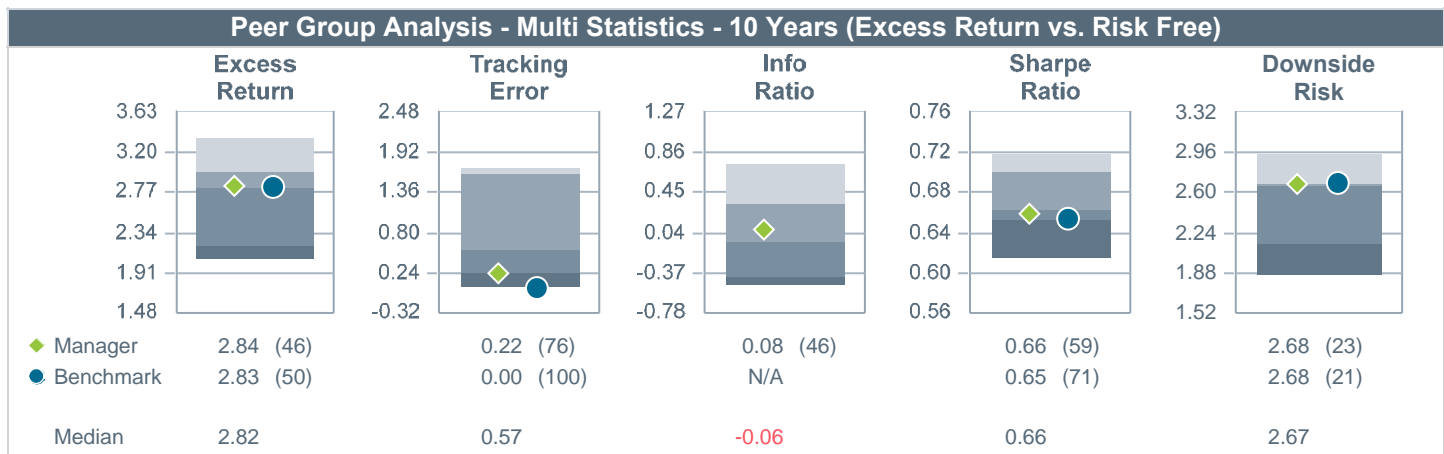
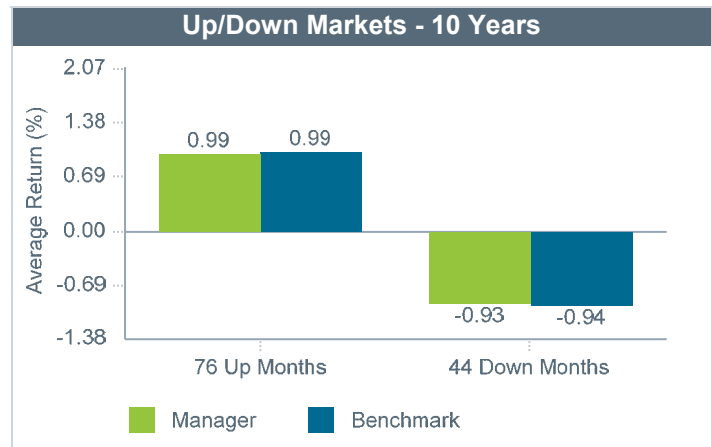
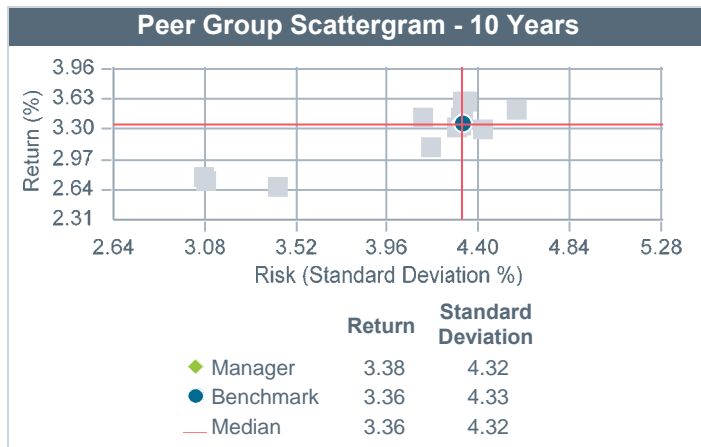
### Portfolio Characteristics

	Portfolio	Benchmark
Effective Duration	N/A	N/A
Spread Duration	N/A	N/A
Avg. Maturity	5.10	4.83
Avg. Quality	B2	Ba2
Yield To Maturity (%)	6.20	6.43
Coupon Rate (%)	6.30	5.51
Current Yield (%)	5.70	5.74
Holdings Count	119	1,688



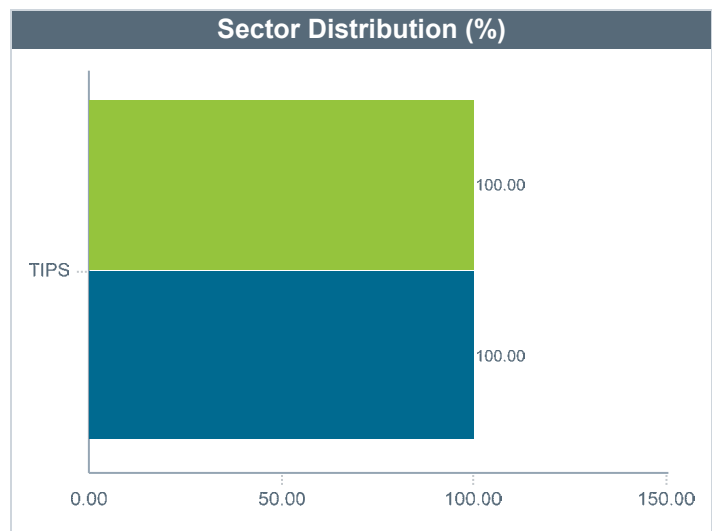
Performance shown is gross of fees and product specific. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017	2016	2015	2014
Manager	0.79	8.43	3.35	2.65	1.08	3.38	-1.26	3.09	4.74	-1.41	3.59
Benchmark	0.79	8.43	3.32	2.62	1.08	3.36	-1.26	3.01	4.68	-1.44	3.64
Difference	0.00	0.00	0.03	0.03	0.00	0.02	0.00	0.08	0.06	0.03	-0.05
Peer Group Median	0.80	8.43	3.34	2.62	1.10	3.36	-1.25	3.09	4.66	-1.41	3.61
Rank	59	52	46	39	60	46	56	51	41	50	54
Population	30	30	30	30	28	25	35	36	38	39	44



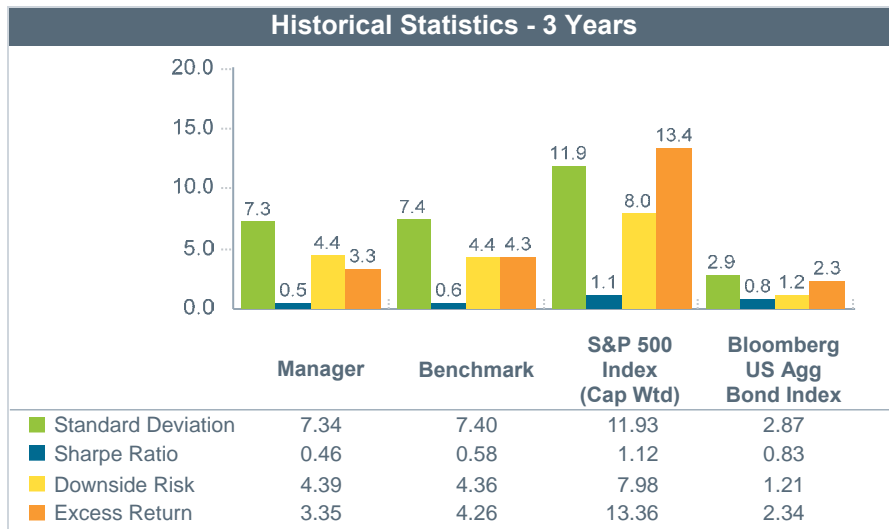
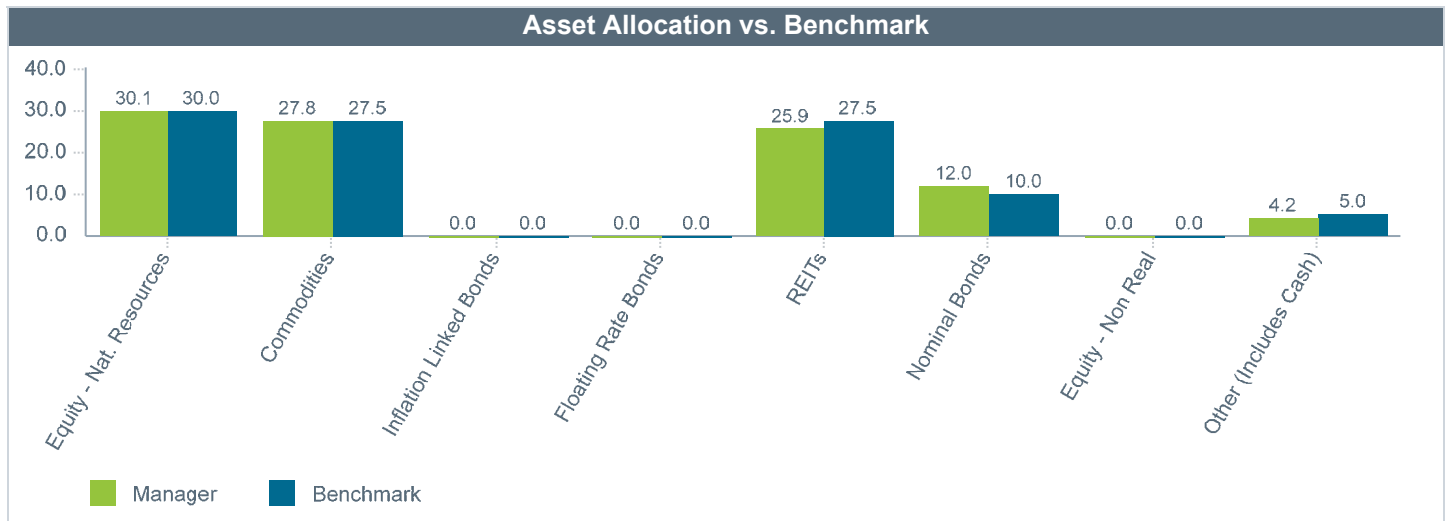
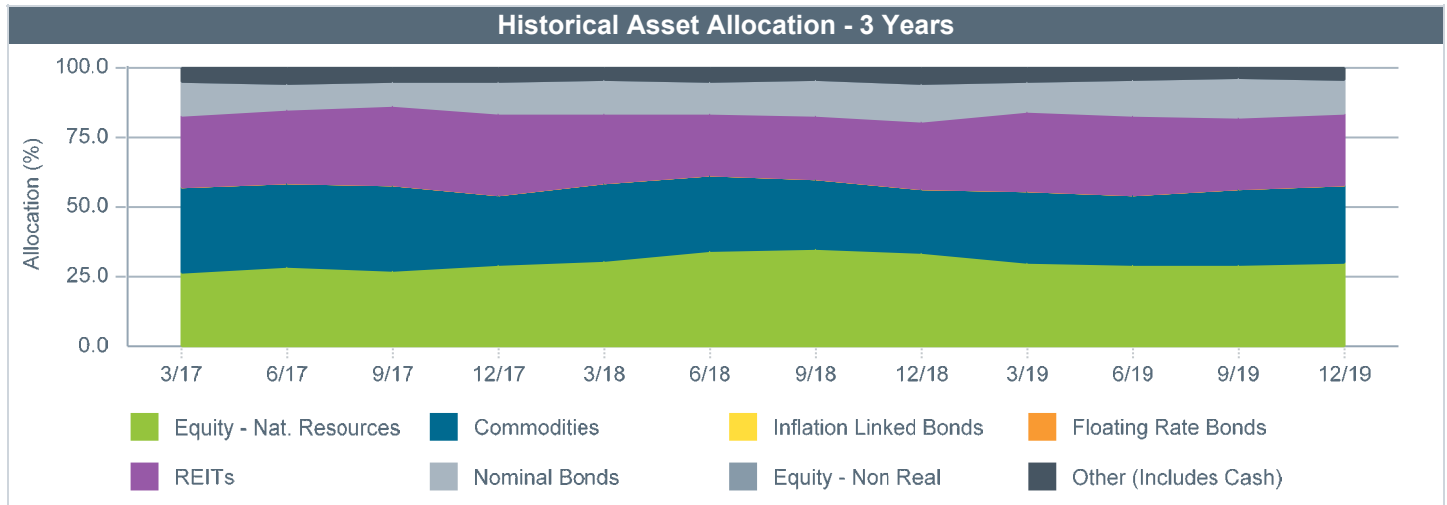
### Portfolio Characteristics

	Portfolio	Benchmark
Effective Duration	7.49	4.67
Spread Duration	N/A	4.67
Avg. Maturity	7.98	7.98
Avg. Quality	Aaa/Aaa	Aaa
Yield To Maturity (%)	1.98	1.99
Coupon Rate (%)	0.73	0.73
Current Yield (%)	0.70	N/A
Holdings Count	41	41



Performance shown is gross of fees and product specific. Calculation is based on monthly periodicity. Parentheses contain percentile ranks. Performance prior to 05/2019 is represented by BNY Mellon TIPS - SL (CF).

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017	2016	2015	2014
Manager	3.91	17.62	4.84	N/A	N/A	N/A	-8.05	6.56	N/A	N/A	N/A
Benchmark	3.97	16.53	5.79	2.82	1.66	N/A	-7.48	9.82	11.90	-13.27	-0.20
Difference	-0.06	1.09	-0.95	N/A	N/A	N/A	-0.57	-3.26	N/A	N/A	N/A



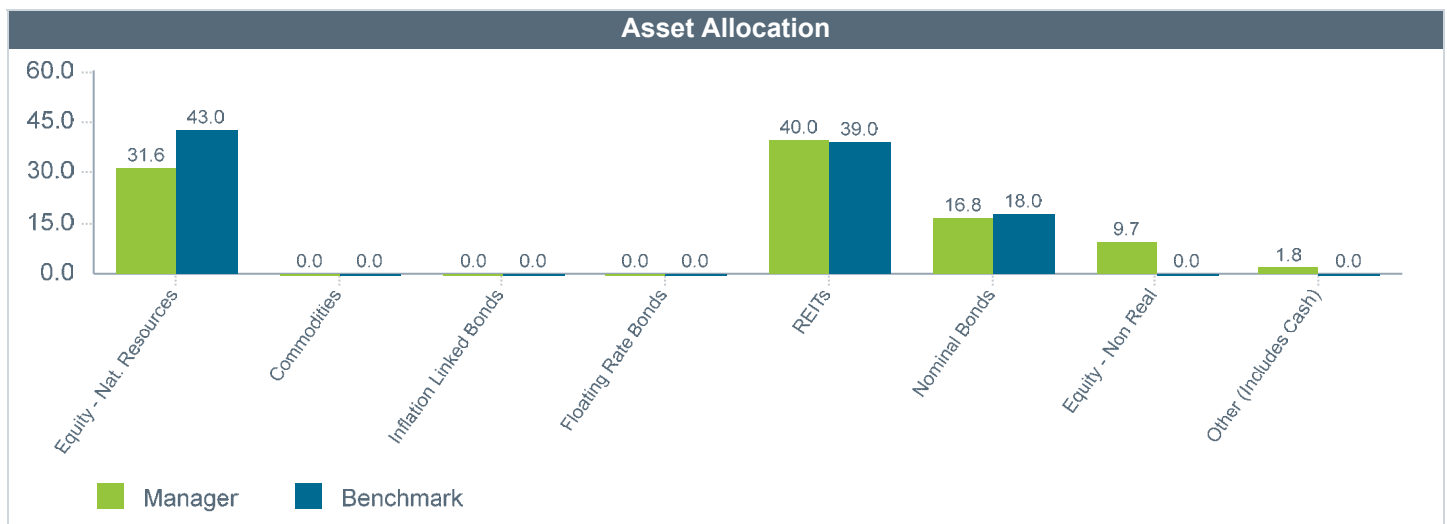
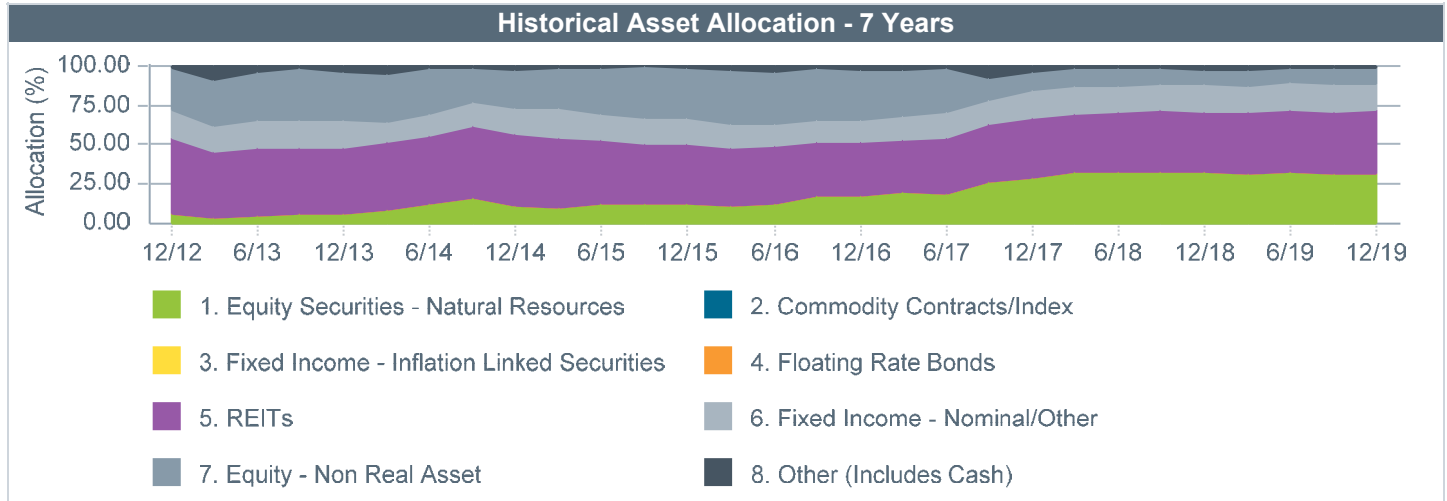
### Actual Correlation - 3 Years

Index	Actual Correlation
Cohen & Steers Real Assets Custom Index	0.99
S&P 500 Index (Cap Wtd)	0.76
Russell 2000 Index	0.68
MSCI EAFE Index (USD) (Net)	0.77
MSCI Emg Mkts Index (USD) (Net)	0.73
Bloomberg US Agg Bond Index	0.08
Bloomberg US Trsy US TIPS Index	0.29
Wilshire US REIT Index	0.65
HFRI FOF Comp Index	0.79
Bloomberg Cmnty Index (TR)	0.85
ICE BofAML 3 Mo US T-Bill Index	0.10
Cons Price Index (Unadjusted)	0.06

Performance shown is net of fees and product specific. Calculation is based on monthly periodicity. Primary Real Return strategies and asset classes are represented by the colored shades. Allocation to Equity - Natural Resources includes infrastructure. Allocation to "Other" includes gold and cash equivalents. Please see the Addendum for custom index definitions.



Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017	2016	2015	2014
Manager	3.58	24.25	10.03	7.66	8.88	N/A	-5.41	13.35	10.82	-2.02	16.76
Benchmark	2.87	20.00	8.28	5.78	6.56	N/A	-6.59	13.26	8.34	-3.69	11.12
Difference	0.71	4.25	1.75	1.88	2.32	N/A	1.18	0.09	2.48	1.67	5.64



### Historical Statistics - 7 Years

Statistic	Manager	Benchmark	S&P 500 Index (Cap Wtd)	Bloomberg US Agg Bond Index
Standard Deviation	7.0	1.2	3.7	8.0
Sharpe Ratio	7.0	0.8	4.0	5.8
Downside Risk	11.0	1.2	6.6	13.7
Excess Return	3.0	0.7	1.7	1.9

Standard Deviation	6.95	7.03	11.05	3.00
Sharpe Ratio	1.15	0.83	1.24	0.66
Downside Risk	3.72	4.03	6.61	1.71
Excess Return	7.99	5.83	13.65	1.95

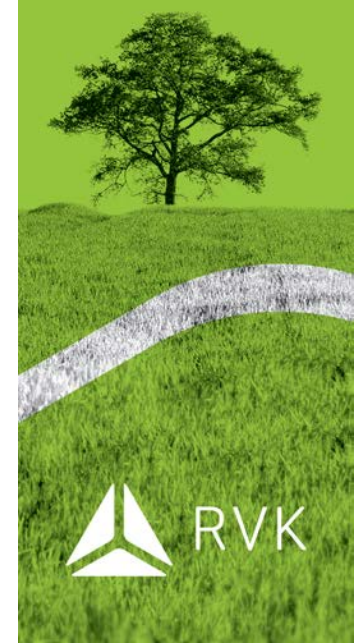
### Actual Correlation - 7 Years

	Actual Correlation
Benchmark	0.97
S&P 500 Index (Cap Wtd)	0.64
Russell 2000 Index	0.49
MSCI EAFE Index (USD) (Net)	0.71
MSCI Emg Mkts Index (USD) (Net)	0.70
Bloomberg US Agg Bond Index	0.51
Bloomberg US Trsy US TIPS Index	0.60
Wilshire US REIT Index	0.77
HFRI FOF Comp Index	0.59
Bloomberg Cmnty Index (TR)	0.36
ICE BofAML 3 Mo US T-Bill Index	0.07
Cons Price Index (Unadjusted)	0.11

Performance shown is gross of fees and product specific prior to client inception. Calculation is based on monthly periodicity. Primary Real Return strategies and asset classes are represented by the colored shades and are denoted by categories 1 through 5. Historical asset allocation prior to client inception is represented by Nuveen Real Asset Inc.;I (NR1IX). Please see the Addendum for custom index definitions.



# Addendum & Glossary



### Performance Related Comments

- RVK, Inc. began monitoring the assets of the Santa Barbara County Employees' Retirement System in 06/2016. Prior historical data was provided by the previous investment consultant.
- Inception dates shown represent the first full month following initial funding.
- Performance is annualized for periods greater than one year.
- Total Fund performance excludes Treasury Cash.
- Performance shown is provided by BNY Mellon.
- AG Direct Lending Fund III, LP received its initial capital call in 10/2018.
- THL Direct Lending Fund IV, LLC received its initial capital call in 05/2019.
- Historical performance prior to 04/11/2019 for BNY Mellon HEDI (SA), BNY Mellon R1000 Index - NL (CF), and BNY Mellon TIPS - NL (CF) is represented by RhumbLine HEDI (SA), SSgA Russell 1000 Index - NL (CF), and BlackRock TIPS (CF), respectively.

### Custom Index Comments

- RVK began calculating the SBCERS Policy Benchmark on 04/01/2016. Historical performance was provided by the previous consultant. The passive **Policy Benchmark** currently consists of 19% Russell 3000 Index, 11% MSCI EAFE Index (USD) (Net), 7% MSCI Emg Mkts Index (USD) (Net), 17% Bloomberg US Agg Bond Index, 11% Custom Non-Core Fixed Income Benchmark, 15% Consumer Price Index+4%, 10% NCREIF ODCE Index (AWA) (Net) (Monthly) (1 Qtr Lag), and 10% Russell 3000 Index+3% (1 Qtr Lag).
- The active **SBCERS Dynamic Policy Benchmark** is calculated monthly using beginning of month manager weights applied to each corresponding primary benchmark return.
- The passive **Custom Non-Core Fixed Income Benchmark** currently consists of 33.3% Bloomberg US Corp Hi Yld Index, 33.3% Stone Harbor Blended Benchmark, and 33.3% CS Lvg'd Loan Index.
- The passive **Stone Harbor Blended Benchmark** currently consists of 50% JPM GBI-EM Gbl Dvf'd Index (USD) (TR) (Unhedged), 40% JPM Emg Mkts Bond Gbl Dvf'd Index (TR), and 10% JPM CEMBI Brd Dvf'd Index.
- The active **Custom Real Return Benchmark** is calculated monthly using beginning of month manager weights within the Real Return Composite applied to each corresponding primary benchmark return.
- The passive **Cohen & Steers Real Assets Custom Index** is a custom benchmark created by the manager and currently consists of 27.5% FTSE EPRA/NAREIT Dvld Index (USD) (Net), 27.5% Bloomberg Cmdty Index (TR), 15% S&P Gbl Natural Res Sect Index (TR), 15% DJ Brookfield Gbl Infrastructure Index, 10% ICE BofAML 1-3 Yr US Corp Index, and 5% Gold Spot Per Ounce Index. Prior to 9/30/2013 benchmark consisted of 30% FTSE EPRA/NAREIT Dvld Index (USD) (Net), 30% Bloomberg Cmdty Index (TR), 20% S&P Gbl Natural Res Sect Index (TR), 12.5% ICE BofAML 1-3 Yr Corp Index, and 7.5% Gold Spot Per Ounce Index.
- The passive **Nuveen Real Asset Income Blend Index** is a custom benchmark created by the manager and currently consists of 28% S&P Gbl Infrastructure Index, 21% FTSE EPRA/NAREIT Dvl'd Index (USD) (Net), 18% Wells Fargo Hybrid & Preferred Securities REIT Index, 15% Bloomberg Global Capital Securities Index and 18% Bloomberg US Corp Hi Yld Index.

**Santa Barbara County Employees' Retirement System  
Fee Schedule for Public Investment Managers**

**As of December 31, 2019**

	<b>Fee Schedule</b>	<b>Market Value As of 12/31/2019 (\$)</b>	<b>Estimated Annual Fee (\$)</b>	<b>Estimated Annual Fee (%)</b>
<b>Total Fund Composite - Public Assets</b>		<b>2,531,557,148</b>	<b>8,543,031</b>	<b>0.34</b>
<b>U.S. Equity Composite</b>				
BNY Mellon HEDI (SA)	0.02 % of Assets	274,283,989	54,857	0.02
BNY Mellon R1000 Index - NL (CF)	0.01 % of Assets	345,212,208	34,521	0.01
Dimensional U.S. Small Cap Value (CF)	0.50 % of Assets	31,448,517	157,243	0.50
RHJ Small Cap Opportunities (SA)	0.85 % of Assets	30,256,292	257,178	0.85
<b>Dev'd Mkt. Non-U.S. Equity Composite</b>				
First Eagle International Value Equity (SA)	0.75 % of Assets	99,059,040	742,943	0.75
PanAgora Dynamic International Equity (SA)	0.33 % of First \$100 M 0.30 % of Next \$100 M 0.25 % Thereafter	103,260,558	339,782	0.33
Artisan Non-U.S. Growth (SA)	0.80 % of First \$50 M 0.60 % Thereafter	116,513,823	799,083	0.69
Copper Rock International Small Cap (CF)	0.64 % of Assets	54,847,877	349,655	0.64
<b>Emerging Mkt. Equity Composite</b>				
DFA Emg Mkts Value;I (DFEVX)	0.56 % of Assets	124,157,403	695,281	0.56
RBC Emerging Markets Equity (CF)	0.50 % of Assets	140,949,283	704,746	0.50
<b>Core Fixed Income Composite</b>				
BNY Mellon US Aggregate Bond - NL (CF)	0.01 % of Assets	50,123,381	5,012	0.01
Garcia Hamilton Core Fixed Income (SA)	0.30 % of First \$10 M 0.25 % Thereafter	249,157,860	627,895	0.25
PGIM Core Plus Fixed Income (CF)	0.26 % of Assets	195,270,727	507,704	0.26
<b>Non-Core Fixed Income Composite</b>				
Stone Harbor Emerging Market Debt Blend (CIT)	0.40 % of First \$75 M 0.35 % Thereafter	110,103,380	422,862	0.38
Hotchkis & Wiley High Yield (SA)	0.50 % of First \$50 M 0.45 % of Next \$50 M 0.40 % Thereafter	74,986,799	362,441	0.48
Beach Point Leveraged Loan (CF)	0.50 % of Assets	95,454,219	477,271	0.50

**Santa Barbara County Employees' Retirement System  
Fee Schedule for Public Investment Managers**

**As of December 31, 2019**

	<b>Fee Schedule</b>	<b>Market Value As of 12/31/2019 (\$)</b>	<b>Estimated Annual Fee (\$)</b>	<b>Estimated Annual Fee (%)</b>
<b>Public Real Return Composite</b>				
BNY Mellon TIPS - NL (CF)	0.01 % of Assets	95,383,999	9,538	0.01
Cohen & Steers Real Assets Fund (CIT)	0.65 % of Assets	150,263,783	976,715	0.65
Nuveen Real Asset Income Fund (SA)	0.80 % of First \$50 M 0.75 % of Next \$50 M 0.65 % Thereafter	137,429,107	1,018,289	0.74

- Mutual Fund fees are sourced from Morningstar and/or the investment manager.
- The Investment Manager Fee for Copper Rock International Small Cap (CF) is 0.6375% of all assets.



**Santa Barbara County Employees' Retirement System  
Addendum  
Underlying Indices of SBCERS Policy Index**

**As of December 31, 2019**

Time Period	Composition	Time Period	Composition	Time Period	Composition
11/01/1999-12/31/2001	45.0% Russell 3000 Index 20.0% MSCI EAFE 28.5% Lehman Aggregate 4.5% SB World Gov Bond 2.0% CG 3-Month U.S. T-Bill	06/01/2012-04/30/2013	21.0% Russell 3000 Index 2.0% HFRI Composite 9.0% MSCI EAFE 10.0% MSCI Emerging Markets 1.0% MSCI Frontier Markets 10.0% Barclays Capital Aggregate 4.0% JPM GBI Global ex. U.S. 3.0% JPM GBI - Emerging Global Diversified 7.0% Barclays Capital U.S. Tips 4.0% Barclays High Yield 2.0% CSFB Leveraged Loan Index 3.0% Dow Jones-UBS Commodity Index 2.0% S&P Global Large Mid Comm and NR 3.0% CPI+4% Lagged 2.0% Dow Jones Brookfield Global Infra. 2.0% CPI+4% Lagged 7.0% Russell 3000+3% Lagged 6.0% NCREIF ODCE Lagged 2.0% NAREIT Equity REITs Lagged 0.0% 90 Day T-Bills	04/01/2016-06/30/2017	23.0% Russell 3000 Index 9.0% MSCI EAFE Index (USD) (Net) 10.0% MSCI Emerging Markets Index (USD) (Net) 1.0% MSCI Frontier Markets Index (USD) (Net) 10.0% Bloomberg US Aggregate Bond Index 4.0% JP Morgan Global Government Bond Excluding US Index 3.0% Stone Harbor Blended Benchmark 7.0% Bloomberg US Treasury: US TIPS Index 4.0% Bloomberg US Corporate: High Yield Index 2.0% Credit Suisse Leveraged Loan Index 3.0% Bloomberg Commodity Index (Total Return) 2.0% S&P Gbl Lg Mid Cap Commodity & Resources Index (USD) (Gross) 3.0% Consumer Price Index+4% (1 Qtr Lag) 2.0% Dow Jones Brookfield Global Infrastructure Composite Index (Net) 2.0% Consumer Price Index+4% 7.0% Russell 3000 Index+3% (1 Qtr Lag) 6.0% NCREIF ODCE Index (AWA) (Net) (1 Qtr Lag) 2.0% FTSE NAREIT All Equity REITs Total Return Index (1 Qtr Lag) 0.0% ICE BofA Merrill Lynch 3 Month US Treasury Bill Index
01/01/2002-12/31/2006	49.0% Russell 3000 Index 19.0% MSCI AC Wid ex U.S. 27.0% Lehman Universal 4.0% DJ Wilshire REIT Full Cap 1.0% CG 3-Month U.S. T-Bill	05/01/2013-03/31/2016	23.0% Russell 3000 Index 9.0% MSCI EAFE 10.0% MSCI Emerging Markets 1.0% MSCI Frontier Markets 10.0% Barclays Capital Aggregate 4.0% JPM GBI Global ex. U.S. 3.0% JPM GBI - Emerging Global Diversified 7.0% Barclays Capital U.S. Tips 4.0% Barclays High Yield 2.0% CSFB Leveraged Loan Index 3.0% Dow Jones-UBS Commodity Index 2.0% S&P Global Large Mid Comm and NR 3.0% CPI+4% Lagged 2.0% Dow Jones Brookfield Global Infra. 2.0% CPI+4% Lagged 7.0% Russell 3000+3% Lagged 6.0% NCREIF ODCE Lagged 2.0% NAREIT Equity REITs Lagged 0.0% 90 Day T-Bills	07/01/2017-Present	19.0% Russell 3000 Index 11.0% MSCI EAFE Index (USD) (Net) 7.0% MSCI Emerging Markets Index (USD) (Net) 17.0% Bloomberg US Aggregate Bond Index 11.0% Custom Non-Core Fixed Income Benchmark 15.0% Consumer Price Index+4% 10.0% NCREIF ODCE Index (AWA) (Net) (1 Qtr Lag) 10.0% Russell 3000 Index+3% (1 Qtr Lag)
01/01/2007-12/31/2008	48.0% Russell 3000 Index 19.0% MSCI ACWI ex U.S. 26.0% Lehman Universal 2.0% Russell 3000+3% 4.0% NCREIF / T-Bill+3% (50/50) 1.0% CG 3-Month U.S. T-Bill				
01/01/2009-02/28/2009	47.0% Russell 3000 Index 18.0% MSCI ACWI ex U.S. 25.0% BC U.S. Universal 4.0% Russell 3000+3% Index 5.0% NCREIF / T-Bill+3% (50/50) 1.0% CG 3-Month U.S. T-Bill				
03/01/2009-06/30/2010	37.0% Russell 3000 Index 18.0% MSCI ACWI ex U.S. 32.0% BC U.S. Universal 4.0% T-Bill Lag 1 Qtr Lag 4.0% NCREIF Index Lag 1 QTR 3.0% Russell 3000 Lag 1 QTR 2.0% CG 3-Month U.S. T-Bill				
07/01/2010-02/28/2011	37.0% Russell 3000 Index (includes 2% Covered Calls) 18.0% MSCI ACW ex U.S. 32.0% BC U.S. Universal 4.0% T-Bill Lag 1 QTR (Real Return) 4.0% NCREIF Index Lag 1 QTR 3.0% Russell 3000 Lag 1 QTR (Private Equity) 2.0% CG 3-Month U.S. Bill				
03/01/2011-05/31/2012	37.0% Russell 3000 Index (includes 2% Covered Calls) 18.0% MSCI ACW ex U.S. 30.0% BC U.S. Universal 4.0% T-Bill Lag 1 QTR (Real Return) 4.0% NCREIF Index Lag 1 QTR 5.0% Russell 3000 Lag 1 QTR (Private Equity) 2.0% CG 3-Month U.S. Bill				

RVK, Inc. began calculating performance for the SBCERS Policy Index in 06/2016. Prior performance data was provided by the previous investment consultant.



The following work plan outlines RVK's proposed action items for Santa Barbara County Employees' Retirement System. The proposed timing for future meetings is intended to correspond with anticipated meeting dates for the Board.

Action Item	Anticipated Presentation	Status	Comments
Q2 Performance Report	September 2019 Board Meeting	Completed	
Asset/Liability Study	September 2019	Completed	
Asset Allocation Study	October 2019	Completed	
Emerging Market Debt RFP	December 2019	Completed	
Q3 Performance Report	December 2019 Board Meeting	Completed	
Rebalancing Education	January 2020	Completed	
EMD Manager Transition	February 2020	In Progress	
Q4 Performance Report	February 2020	In Progress	
2020 Board Retreat Planning	March 2020	In Progress	
Private Credit Pricing Study	March 2020	In Progress	
Equity Structure Studies	TBD		

Santa Barbara County Employees' Retirement System  
Comparative Performance

As of December 31, 2019

	QTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years
<b>Analytic U.S. Low Volatility Equity Composite</b>	<b>4.20</b>	<b>28.56</b>	<b>28.56</b>	<b>11.65</b>	<b>10.00</b>	<b>12.85</b>	<b>13.59</b>
Russell 1000 Index	9.04	31.43	31.43	15.05	11.48	14.60	13.54
Difference	-4.84	-2.87	-2.87	-3.40	-1.48	-1.75	0.05
IM U.S. Large Cap Core Equity (SA+CF) Median	8.20	29.96	29.96	14.32	11.17	14.59	13.39
Rank	96	63	63	86	74	83	40
<b>London Company Income Equity Composite</b>	<b>8.11</b>	<b>28.47</b>	<b>28.47</b>	<b>12.91</b>	<b>9.92</b>	<b>13.48</b>	<b>13.67</b>
Russell 1000 Index	9.04	31.43	31.43	15.05	11.48	14.60	13.54
Difference	-0.93	-2.96	-2.96	-2.14	-1.56	-1.12	0.13
IM U.S. Large Cap Core Equity (SA+CF) Median	8.20	29.96	29.96	14.32	11.17	14.59	13.39
Rank	54	63	63	76	75	76	35
<b>RBC Mid Cap Value Composite</b>	<b>8.52</b>	<b>28.11</b>	<b>28.11</b>	<b>3.35</b>	<b>3.99</b>	<b>9.80</b>	<b>10.78</b>
Russell Mid Cap Val Index	6.36	27.06	27.06	8.10	7.62	12.00	12.41
Difference	2.16	1.05	1.05	-4.75	-3.63	-2.20	-1.63
IM U.S. Mid Cap Value Equity (SA+CF) Median	7.06	28.71	28.71	8.69	8.35	12.79	12.42
Rank	19	56	56	99	100	98	95
<b>Artisan U.S. Mid-Cap Growth Composite</b>	<b>7.47</b>	<b>39.78</b>	<b>39.78</b>	<b>18.36</b>	<b>11.45</b>	<b>14.36</b>	<b>15.12</b>
Russell Mid Cap Grth Index	8.17	35.47	35.47	17.36	11.60	14.81	14.24
Difference	-0.70	4.31	4.31	1.00	-0.15	-0.45	0.88
IM U.S. Mid Cap Growth Equity (SA+CF) Median	7.57	35.72	35.72	17.60	11.80	14.80	14.28
Rank	55	24	24	45	60	58	31
<b>State Street MSCI Wrld Ex US Index NL (CF)</b>	<b>7.85</b>	<b>22.87</b>	<b>22.87</b>	<b>9.74</b>	<b>5.82</b>	<b>6.43</b>	<b>5.69</b>
MSCI Wrld Ex US Index (USD) (Gross)	7.91	23.16	23.16	9.91	5.96	6.57	5.84
Difference	-0.06	-0.29	-0.29	-0.17	-0.14	-0.14	-0.15
IM EAFE Core (SA+CF) Median	8.53	23.23	23.23	9.86	6.30	7.24	6.84
Rank	73	54	54	52	65	86	85
<b>BlackRock MSCI Emg Mkts Index (CF)</b>	<b>11.77</b>	<b>18.24</b>	<b>18.24</b>	<b>11.47</b>	<b>5.52</b>	<b>3.18</b>	<b>3.59</b>
MSCI Emg Mkts Index (USD) (Gross)	11.93	18.90	18.90	11.99	6.01	3.64	4.04
Difference	-0.16	-0.66	-0.66	-0.52	-0.49	-0.46	-0.45
IM Emerging Markets Equity (SA+CF) Median	11.36	19.49	19.49	11.39	6.22	4.82	5.32
Rank	42	62	62	49	62	79	91

Performance shown is gross of fees and product specific. Performance is annualized for periods greater than one year.

Santa Barbara County Employees' Retirement System  
Comparative Performance

As of December 31, 2019

	QTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years
<b>Aberdeen Frontier Markets Equity (CF)</b>	<b>3.22</b>	<b>5.30</b>	<b>5.30</b>	<b>-1.29</b>	<b>-2.75</b>	<b>0.80</b>	<b>5.08</b>
MSCI Frontier Mkts Index (USD) (Gross)	6.64	18.34	18.34	9.13	2.36	3.40	5.04
Difference	-3.42	-13.04	-13.04	-10.42	-5.11	-2.60	0.04
IM Emerging Markets Equity (SA+CF) Median	11.36	19.49	19.49	11.39	6.22	4.82	5.32
Rank	98	98	98	100	100	100	57
<b>Schroder STW Core Fixed Income Composite</b>	<b>0.31</b>	<b>9.96</b>	<b>9.96</b>	<b>4.67</b>	<b>3.63</b>	<b>3.07</b>	<b>4.14</b>
Bloomberg US Agg Bond Index	0.18	8.72	8.72	4.03	3.05	2.72	3.75
Difference	0.13	1.24	1.24	0.64	0.58	0.35	0.39
IM U.S. Broad Market Core Fixed Income (SA+CF) Median	0.22	9.20	9.20	4.40	3.46	3.07	4.27
Rank	31	11	11	25	33	49	60
<b>Guggenheim Core Plus Fixed Income Composite</b>	<b>-0.52</b>	<b>5.32</b>	<b>5.32</b>	<b>4.63</b>	<b>4.52</b>	<b>4.91</b>	<b>7.07</b>
Bloomberg US Agg Bond Index	0.18	8.72	8.72	4.03	3.05	2.72	3.75
Difference	-0.70	-3.40	-3.40	0.60	1.47	2.19	3.32
IM U.S. Broad Market Core+ Fixed Income (SA+CF) Median	0.51	9.92	9.92	4.72	3.83	3.48	4.94
Rank	100	100	100	56	16	7	3
<b>Reams Core Plus Fixed Income Composite</b>	<b>0.07</b>	<b>8.70</b>	<b>8.70</b>	<b>4.54</b>	<b>3.67</b>	<b>3.10</b>	<b>4.85</b>
Bloomberg US Agg Bond Index	0.18	8.72	8.72	4.03	3.05	2.72	3.75
Difference	-0.11	-0.02	-0.02	0.51	0.62	0.38	1.10
IM U.S. Broad Market Core+ Fixed Income (SA+CF) Median	0.51	9.92	9.92	4.72	3.83	3.48	4.94
Rank	94	90	90	68	61	81	57
<b>BlackRock Gbl Agg ex USD Idx NL (Hedged) (CF)</b>	<b>-1.11</b>	<b>7.45</b>	<b>7.45</b>	<b>4.28</b>	<b>3.79</b>	<b>4.08</b>	<b>4.20</b>
Bloomberg Gbl Agg Ex Index (USD) (Hedged)	-1.11	7.57	7.57	4.39	3.87	4.17	4.29
Difference	0.00	-0.12	-0.12	-0.11	-0.08	-0.09	-0.09
IM International Fixed Income (SA+CF) Median	3.15	13.65	13.65	6.48	4.59	2.89	5.00
Rank	99	81	81	87	63	38	57
<b>Brandywine International Fixed Income (CF)</b>	<b>4.97</b>	<b>6.21</b>	<b>6.21</b>	<b>4.70</b>	<b>1.29</b>	<b>1.12</b>	<b>3.36</b>
FTSE Non-US Wrld Gov't Bond Index	-0.07	5.32	5.32	4.49	1.87	0.27	1.36
Difference	5.04	0.89	0.89	0.21	-0.58	0.85	2.00
IM International Fixed Income (SA+CF) Median	3.15	13.65	13.65	6.48	4.59	2.89	5.00
Rank	26	87	87	82	97	71	71
<b>Mount Lucas Commodity Long/Neutral (CF)</b>	<b>2.49</b>	<b>-3.79</b>	<b>-3.79</b>	<b>-4.24</b>	<b>-4.31</b>	<b>-4.04</b>	<b>-2.92</b>
Bloomberg Cmdty Index (TR)	4.42	7.69	7.69	-0.94	-3.92	-6.72	-4.73
Difference	-1.93	-11.48	-11.48	-3.30	-0.39	2.68	1.81

Performance shown is gross of fees and product specific. Performance is annualized for periods greater than one year.

**Santa Barbara County Employees' Retirement System  
Comparative Performance**

**As of December 31, 2019**

	<b>QTD</b>	<b>CYTD</b>	<b>1 Year</b>	<b>3 Years</b>	<b>5 Years</b>	<b>7 Years</b>	<b>10 Years</b>
<b>BlackRock Dow Jones UBS Commodities Index (CF)</b>	<b>4.48</b>	<b>7.80</b>	<b>7.80</b>	<b>-0.84</b>	<b>-3.87</b>	<b>-6.65</b>	<b>-4.65</b>
Bloomberg Cmdty Index (TR)	4.42	7.69	7.69	-0.94	-3.92	-6.72	-4.73
Difference	0.06	0.11	0.11	0.10	0.05	0.07	0.08
<b>State Street Gbl LargeMidCap Natural Resources Stock Idx NL (CF)</b>	<b>8.14</b>	<b>16.17</b>	<b>16.17</b>	<b>7.91</b>	<b>3.68</b>	<b>0.79</b>	<b>N/A</b>
S&P Gbl Lg Mid Cap Cmdty & Res Index (USD) (Gross)	8.15	16.55	16.55	8.00	3.84	0.92	1.71
Difference	-0.01	-0.38	-0.38	-0.09	-0.16	-0.13	N/A
<b>RARE Infrastructure Global Value (CF)</b>	<b>7.58</b>	<b>28.19</b>	<b>28.19</b>	<b>12.28</b>	<b>6.89</b>	<b>8.28</b>	<b>9.28</b>
DJ Brookfield Gbl Infrastructure Comp Idx	3.52	27.17	27.17	9.45	4.59	8.04	9.99
Difference	4.06	1.02	1.02	2.83	2.30	0.24	-0.71

The Aberdeen Global High Income (CF) was discontinued in 11/2016.

Performance shown is gross of fees and product specific. Performance is annualized for periods greater than one year.

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

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

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

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

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

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

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

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

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

### Capital Markets Review -

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

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

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

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

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



## Glossary

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

## Glossary

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

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

### Peer Groups -

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

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

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

1 - Highest Statistical Value

100 - Lowest Statistical Value

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

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

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

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

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

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

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

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

**Return** - Compounded rate of return for the period.

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

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

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



## Glossary

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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



## Glossary

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

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

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

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

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

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