

QUARTERLY PERFORMANCE REPORT

VENTURA COUNTY EMPLOYEES' RETIREMENT ASSOCIATION

September 23, 2019

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VCERA
VENTURA COUNTY EMPLOYEES'
RETIREMENT ASSOCIATION



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MARKET ENVIRONMENT UPDATE AND OUTLOOK

NEPC, LLC

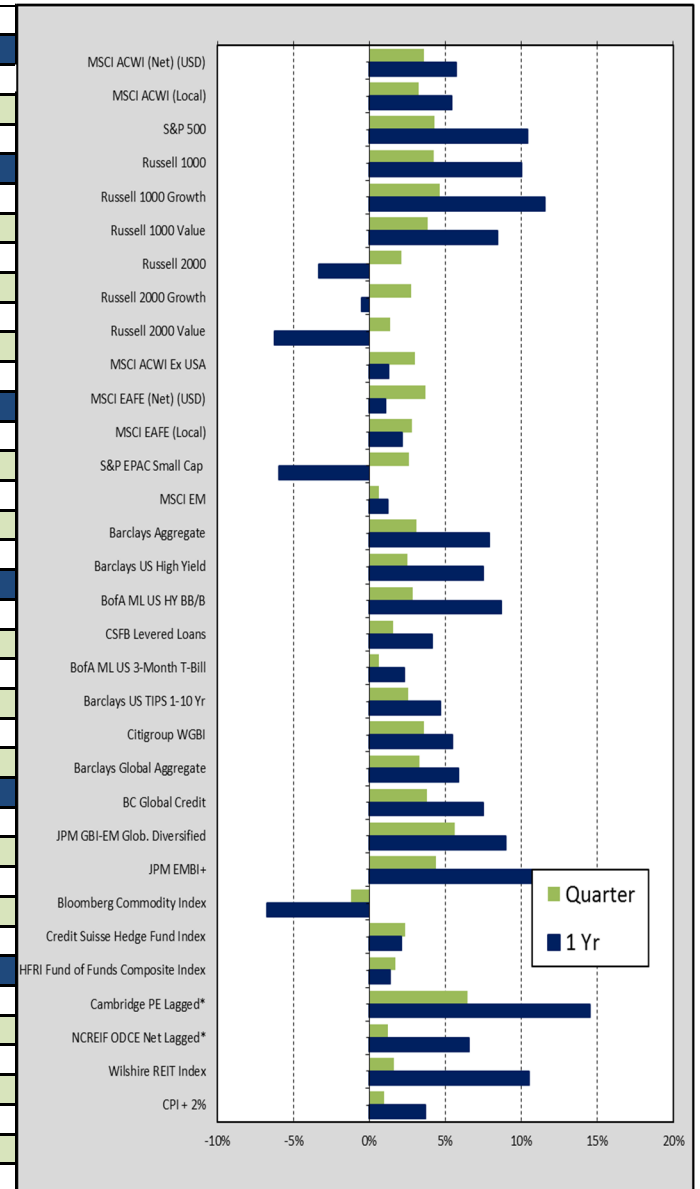
ECONOMIC ENVIRONMENT

- **Q2 Real GDP (advance estimate) increased at an annual rate of 2.1%.**
 - Retail sales ended May at +2.9% on a YoY basis. In the same period last year the YoY growth rate was 5.9%.
 - Corporate profits (ended January) as a percent of GDP decreased to 9.2% from 9.3% (in October) and remain elevated relative to historical levels.
 - The inventory-to-sales ratio ended May flat at 1.4 from March levels and has remained relatively constant since early 2010.
 - The U.S. trade deficit increased 8.4% ended May as imports increased to their highest level in 2019.
- **The unemployment rate decreased to 3.7% in Q2 from 3.8% in Q1; U-6, a broader measure of unemployment, decreased to 7.2% from 7.3% during the second quarter.**
- **The Case-Shiller Home Price Index (ended April) increased to 207.9 from 204.5 and remains at levels higher than that of pre-financial crisis levels of 150.9.**
- **Rolling 12-month seasonally-adjusted CPI saw a down-tick to 1.78% from 1.87% ended Q2; Capacity Utilization decreased to 77.9% from 78.4% in Q2.**
- **Fed Funds rate was unchanged in Q2 at a targeted range of 2.25%-to-2.50%. The 10-year Treasury Yield (constant maturity) finished Q2 down to 2.1% from 2.6%.**
 - The Fed lowered the Fed Funds rate by 0.25% to a targeted range of 2.00% -to- 2.25% on July 31, 2019.
- **The Fed continues its planned reduction in balance sheet size, while the European Central Bank balance sheet continues to grow.**
 - The Fed voted to end (as of July 31), two months earlier than planned, the reduction of bonds held on its balance sheet.
 - ECB held its benchmark refinance rate at 0%, deposit rates -0.4%.
- **S&P valuations decreased in Q2, remaining above the 10-year and long-term averages.**
 - Cyclically adjusted Shiller PE ratio (27.99x) is above the long-term average of 16.6x and above the 10-year average of 25.1x.



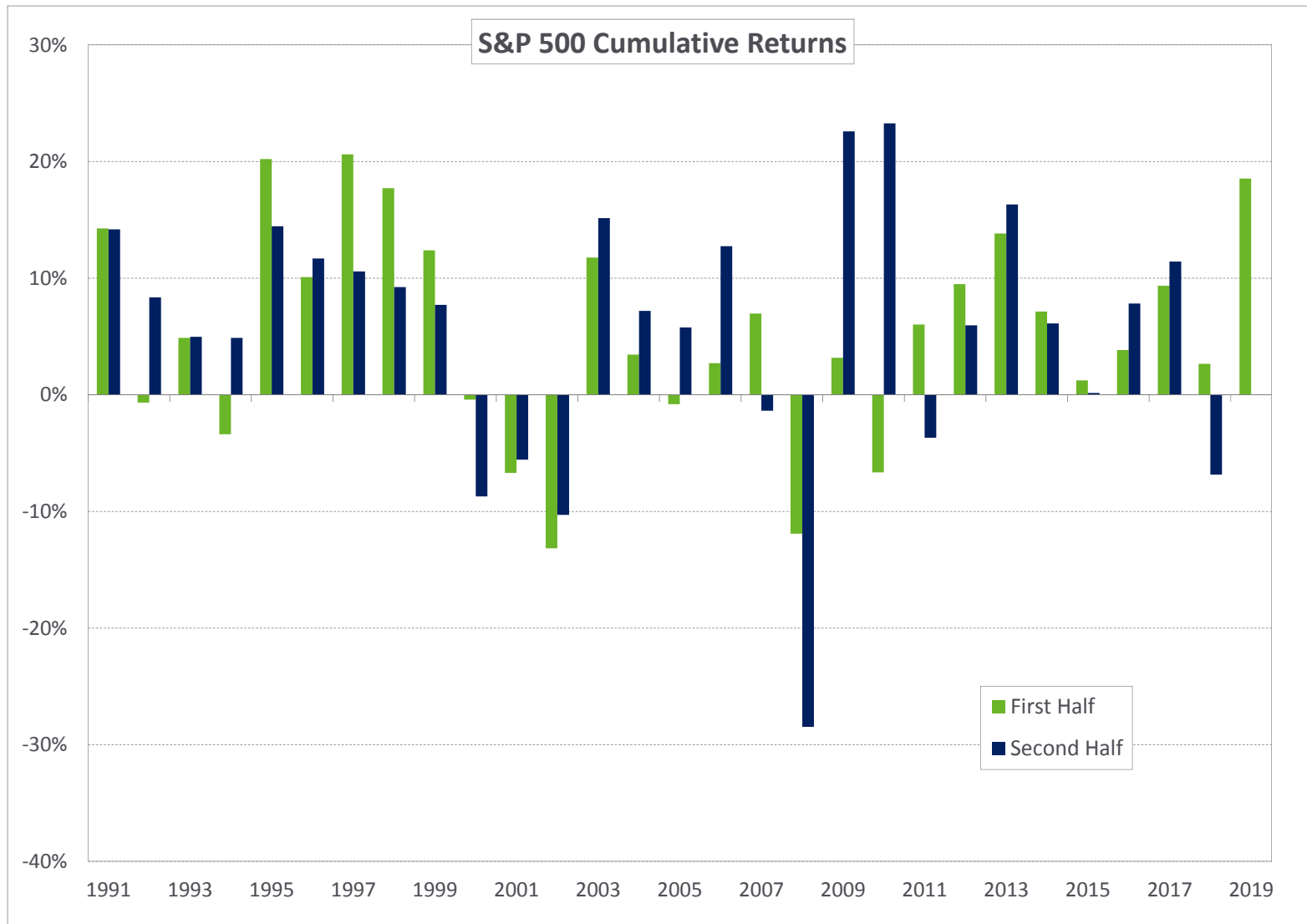
MARKET ENVIRONMENT – Q2 2019 OVERVIEW

		Qtr.	1 Yr.	3 Yr.	5 Yr.	10 Yr.
World Equity Benchmarks						
MSCI ACWI (Net) (USD)	World w/o Small Cap	3.61%	5.74%	11.62%	6.16%	10.15%
MSCI ACWI (Local)	World (Local Currency)	3.23%	5.41%	11.65%	7.78%	10.77%
MSCI ACWI IMI (Net)	World with Small Cap	3.37%	4.56%	11.42%	6.03%	10.32%
Domestic Equity Benchmarks						
S&P 500	Large Core	4.30%	10.42%	14.19%	10.71%	14.70%
Russell 1000	Large Core	4.25%	10.02%	14.15%	10.45%	14.77%
Russell 1000 Growth	Large Growth	4.64%	11.56%	18.07%	13.39%	16.28%
Russell 1000 Value	Large Value	3.84%	8.46%	10.19%	7.46%	13.19%
Russell 2000	Small Core	2.10%	-3.31%	12.30%	7.06%	13.45%
Russell 2000 Growth	Small Growth	2.75%	-0.49%	14.69%	8.63%	14.41%
Russell 2000 Value	Small Value	1.38%	-6.24%	9.81%	5.39%	12.40%
International Equity Benchmarks						
MSCI ACWI Ex USA	World ex-US	2.98%	1.29%	9.39%	2.16%	6.54%
MSCI EAFE (Net) (USD)	Int'l Developed	3.68%	1.08%	9.11%	2.25%	6.90%
MSCI EAFE (Local)	Int'l Developed (Local Currency)	2.80%	2.17%	9.80%	5.85%	8.35%
S&P EPAC Small Cap	Small Cap Int'l	2.60%	-5.97%	9.04%	4.53%	9.73%
MSCI EM	Emerging Equity	0.61%	1.21%	10.66%	2.49%	5.81%
Domestic Fixed Income Benchmarks						
Barclays Aggregate	Core Bonds	3.08%	7.87%	2.31%	2.95%	3.90%
Barclays US High Yield	High Yield	2.50%	7.48%	7.52%	4.70%	9.24%
BofA ML US HY BB/B	High Yield	2.84%	8.67%	7.16%	4.80%	8.62%
CSFB Levered Loans	Bank Loans	1.58%	4.15%	5.43%	3.85%	6.30%
BofA ML US 3-Month T-Bill	Cash	0.64%	2.31%	1.38%	0.87%	0.49%
Barclays US TIPS 1-10 Yr	Inflation	2.53%	4.67%	1.93%	1.42%	2.93%
Global Fixed Income Benchmarks						
Citigroup WGBI	World Gov. Bonds	3.57%	5.48%	1.00%	0.85%	2.21%
Barclays Global Aggregate	Global Core Bonds	3.30%	5.85%	1.62%	1.20%	2.89%
BC Global Credit	Global Bonds	3.79%	7.49%	3.41%	2.12%	4.54%
JPM GBI-EM Glob. Diversified	Em. Mkt. Bonds (Local Currency)	5.64%	8.99%	4.24%	-0.45%	3.41%
JPM EMBI+	Em. Mkt. Bonds	4.36%	11.68%	3.50%	4.21%	7.11%
Alternative Benchmarks						
Bloomberg Commodity Index	Commodities	-1.19%	-6.75%	-2.18%	-9.15%	-3.74%
Credit Suisse Hedge Fund Index	Hedge Fund	2.35%	2.09%	4.22%	2.31%	5.01%
HFRI Fund of Funds Composite Index	Fund of Hedge Funds	1.69%	1.36%	4.32%	2.23%	3.23%
Cambridge PE Lagged*	Private Equity	6.47%	14.52%	16.00%	12.21%	14.84%
NCREIF ODCE Net Lagged*	Real Estate	1.20%	6.55%	7.01%	9.18%	7.73%
Wilshire REIT Index	RET	1.63%	10.52%	4.11%	7.84%	15.66%
CPI + 2%	Inflation/Real Assets	0.95%	3.69%	4.11%	3.51%	3.78%



* As of 3/31/2019

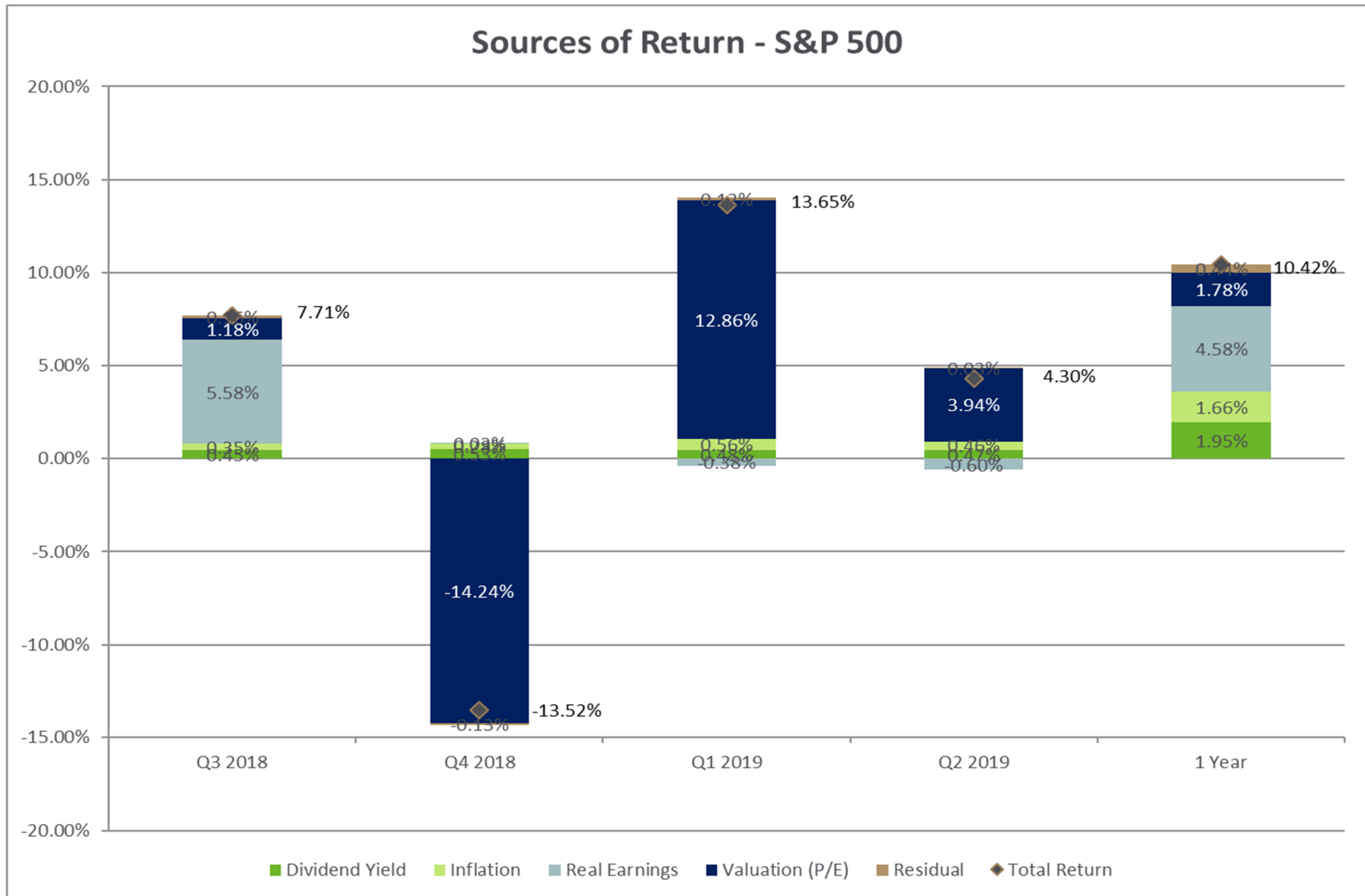
BEST FIRST HALF SINCE 1997 FOR US STOCKS



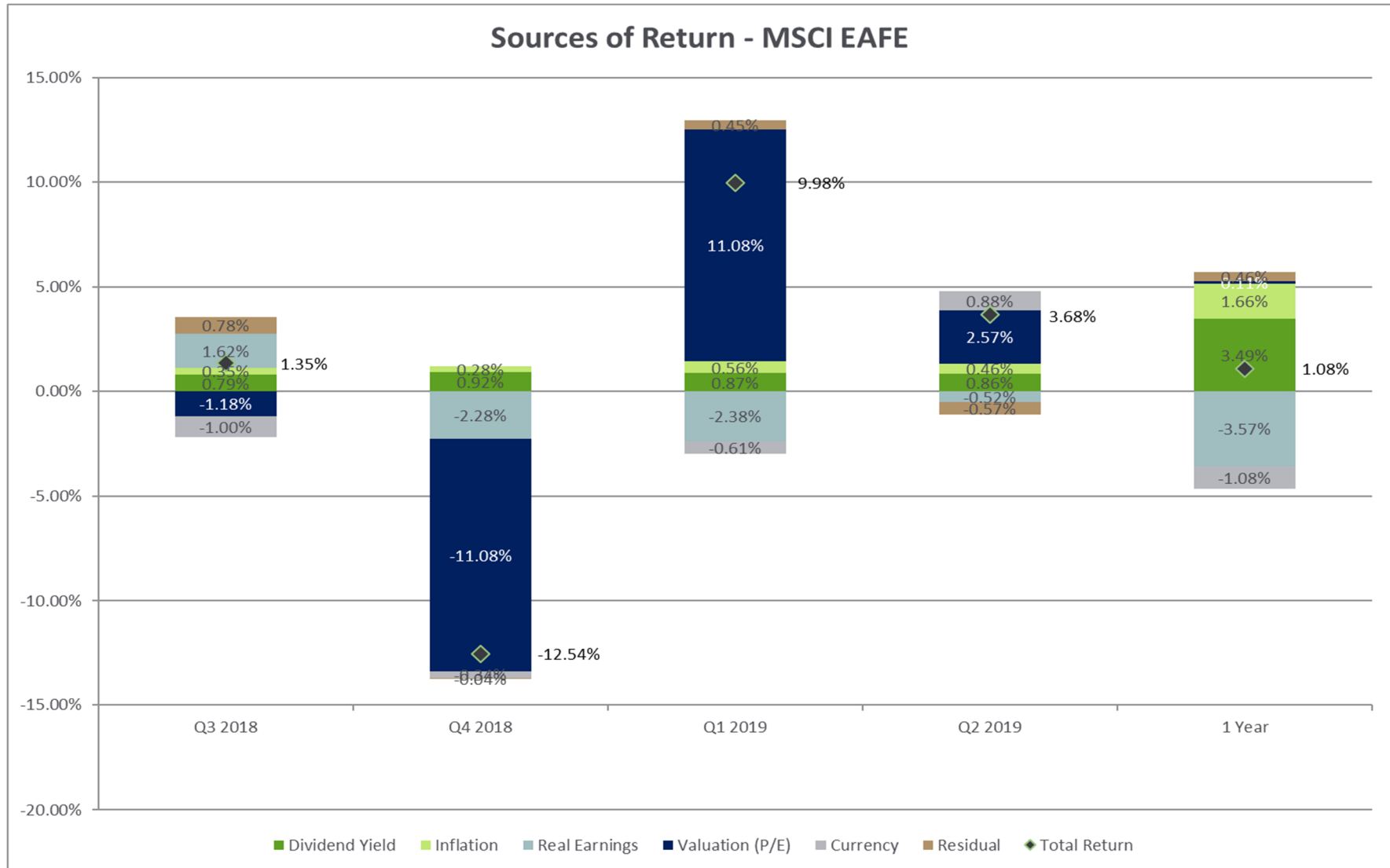
Source: FactSet



1 YEAR ATTRIBUTION OF S&P 500 RETURNS



1 YEAR ATTRIBUTION OF MSCI EAFE RETURNS



Spot Rates

1 USD = 0.861 Euro

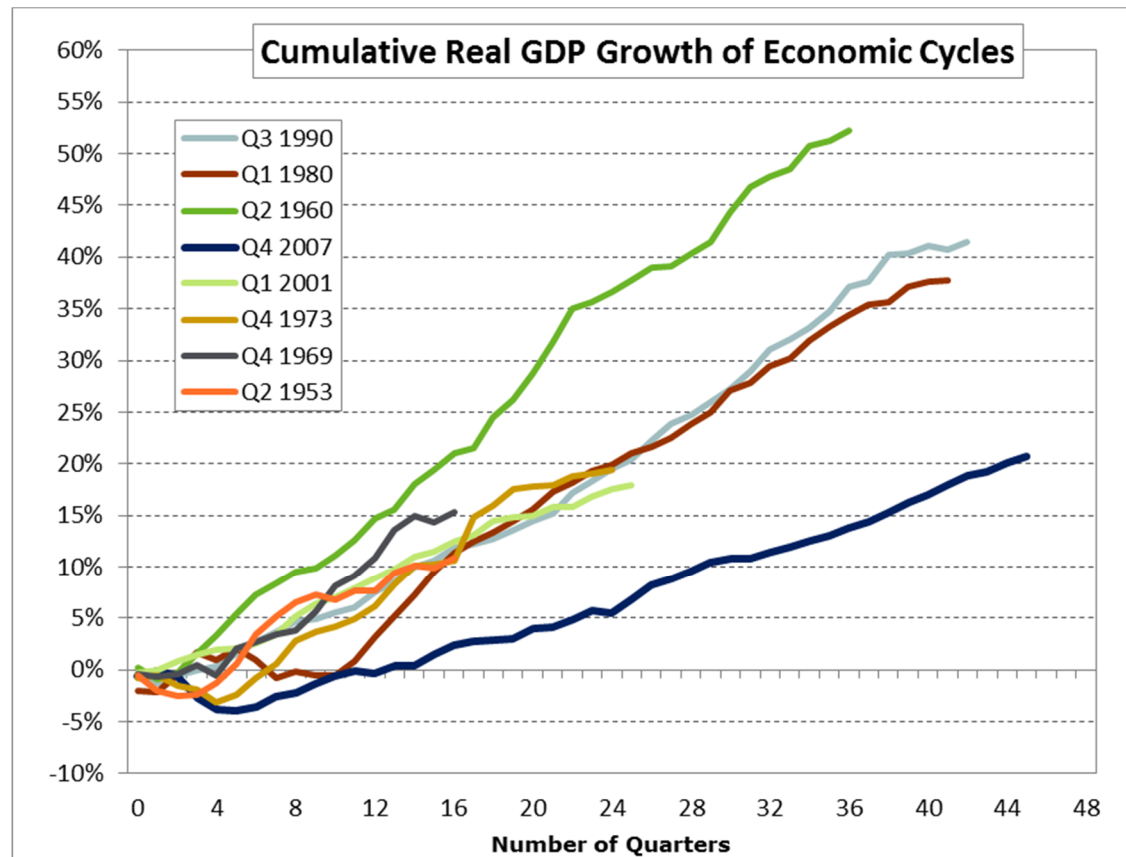
1 USD = 0.874 Euro

1 USD = 0.891 Euro

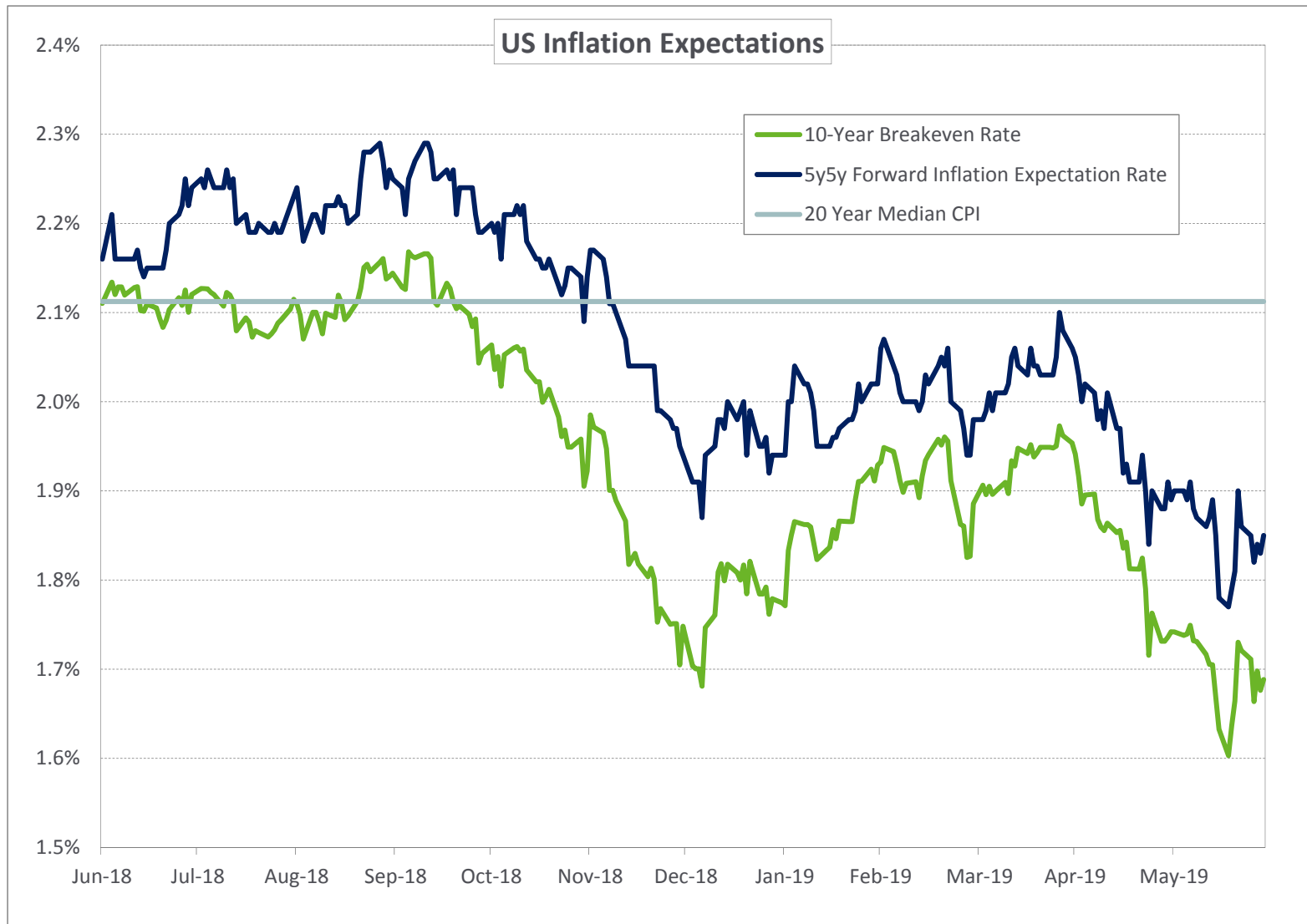
1 USD = 0.880 Euro



CURRENT CYCLE A RECORD FOR LENGTH



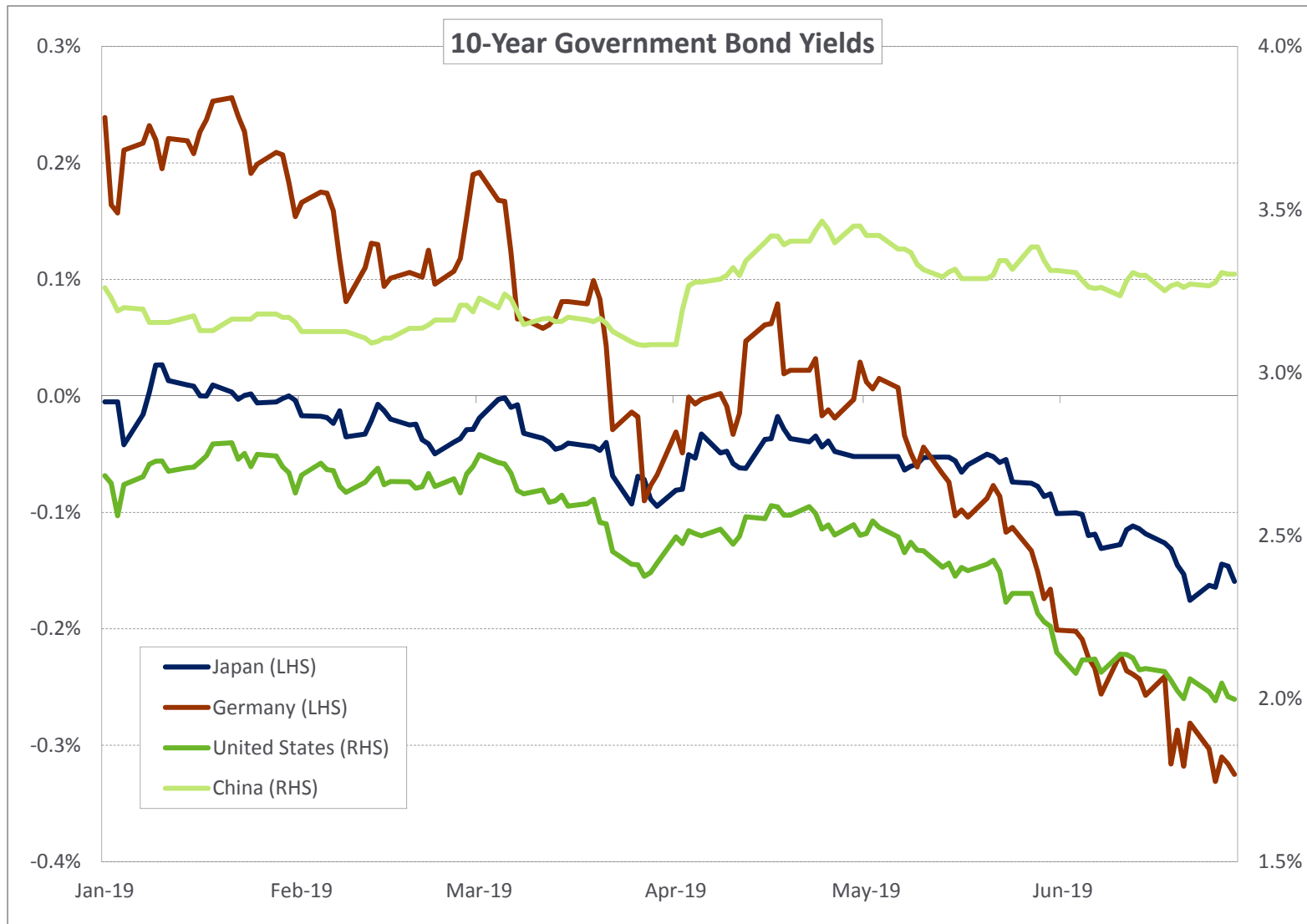
INFLATION EXPECTATIONS CONTINUE TO FALL



Source: FactSet



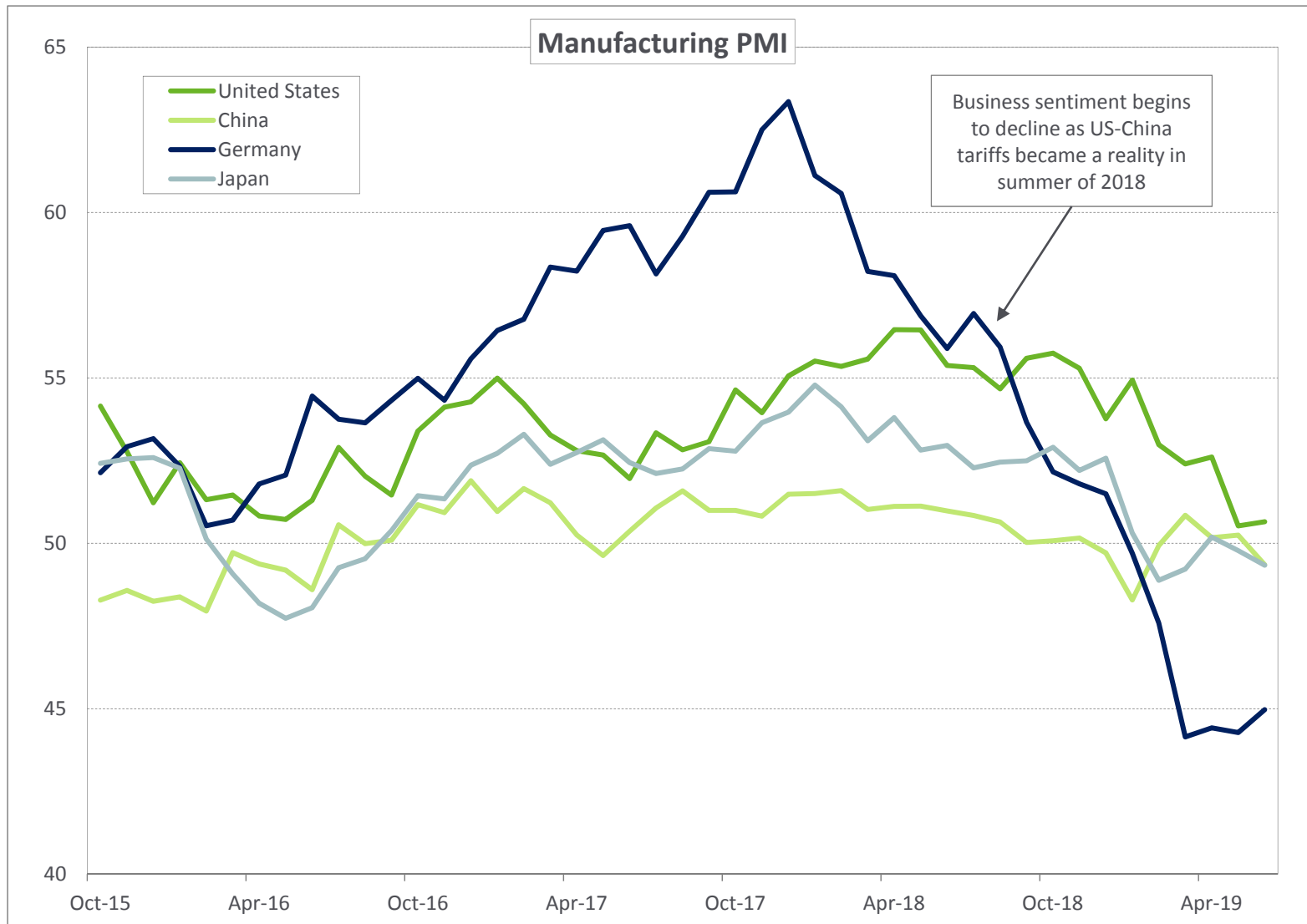
GLOBAL BOND YIELDS ARE FALLING



Source: FactSet



TARIFFS WEIGH ON GLOBAL SENTIMENT



Source: FactSet



TOTAL FUND PERFORMANCE SUMMARY

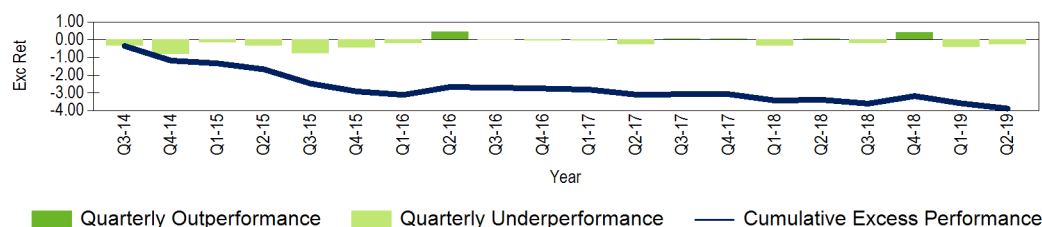
NEPC, LLC

Ventura County Employees' Retirement Association

TOTAL FUND PERFORMANCE SUMMARY (NET)

	Market Value	3 Mo	Rank	YTD	Rank	1 Yr	Rank	3 Yrs	Rank	5 Yrs	Rank	10 Yrs	Rank	Inception	Inception Date
Total Fund	\$5,716,158,441	3.1%	36	12.0%	19	7.0%	15	9.5%	22	6.1%	32	10.1%	13	8.0%	Apr-94
<i>Policy Index</i>		3.4%	20	12.7%	16	7.4%	7	9.9%	10	6.9%	8	9.9%	16	8.1%	Apr-94
<i>60% MSCI ACWI (Net) / 40% FTSE WGBI</i>		3.7%	6	12.0%	19	6.0%	31	7.4%	99	4.2%	99	7.1%	98	6.4%	Apr-94
<i>60% S&P 500 / 40% BBgBarc Aggregate</i>		4.0%	4	13.6%	9	9.9%	1	9.5%	22	7.7%	2	10.5%	3	8.4%	Apr-94
<i>InvMetrics Public DB > \$1B Net Median</i>		2.9%		10.3%		5.4%		8.7%		5.6%		9.0%		7.5%	Apr-94

Quarterly and Cumulative Excess Performance



- For the five year period ending June 30, 2019, the Fund returned 6.1% trailing the policy index by 0.8% and ranking in the 32nd percentile of its peers and underperforming the actuarial assumed rate of 7.25%. The Fund's volatility, as measured by standard deviation, ranked in the 75th percentile of its peers, and the risk-adjusted return, or Sharpe Ratio, ranks in the 52nd percentile. This means that the Fund has earned more return per unit of volatility taken than 48% of its peers.

- For the three-year period, the Fund returned 9.5%, underperforming the policy index and ranking in the 22nd percentile of its peers. The Fund's volatility ranks in the 74th percentile of its peers over this period, with the Fund's Sharpe Ratio ranking in the 58th percentile.

- For the one-year period, the Fund returned 7.0%, underperforming the policy index by 0.4% and ranking in the 15th percentile of the Investment Metrics Public Funds > \$1 Billion Universe (Net of fees).

- For the one-year period, the Fund experienced a net investment gain of \$386.4 million which includes a net investment gain of \$176.8 million in the quarter. Assets increased from \$5.37 billion one year ago to \$5.72 billion.

3 Years Ending June 30, 2019								
	Anlzd Ret	Rank	Anlzd Std Dev	Rank	Sharpe Ratio	Rank	Sortino Ratio RF	Rank
Total Fund	9.5%	22	7.0%	74	1.2	58	1.3	53
Policy Index	9.9%	10	7.3%	82	1.2	57	1.3	59
InvMetrics Public DB > \$1B Net Median	8.7%	--	6.0%	--	1.2	--	1.3	--

5 Years Ending June 30, 2019								
	Anlzd Ret	Rank	Anlzd Std Dev	Rank	Sharpe Ratio	Rank	Sortino Ratio RF	Rank
Total Fund	6.1%	32	7.3%	75	0.7	52	1.0	44
Policy Index	6.9%	8	7.3%	77	0.8	31	1.1	37
InvMetrics Public DB > \$1B Net Median	5.6%	--	6.6%	--	0.7	--	1.0	--

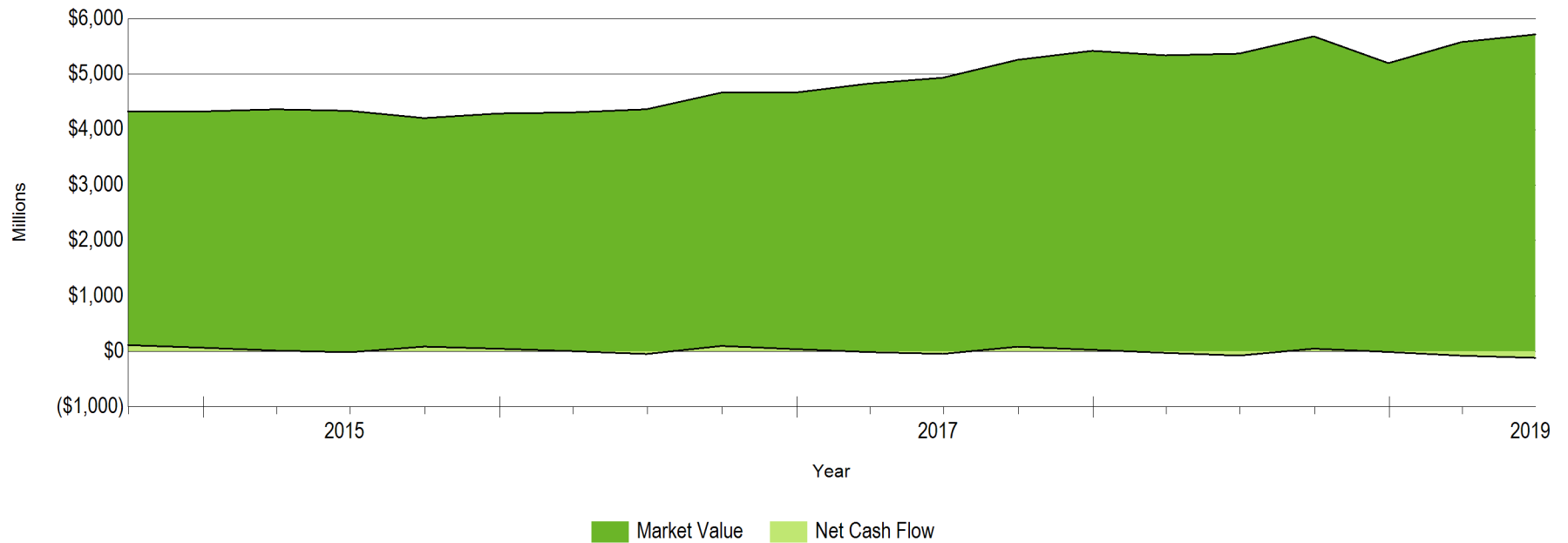
Policy Index as of January 2016: 28% Russell 3000 Index, 20% Barclays Aggregate, 15% MSCI ACWI ex U.S., 10% MSCI ACWI, 10% Russell 3000 Index + 3%, 10% CPI+4% Index, and 7% NCREIF ODCE Real Estate Index.



Ventura County Employees' Retirement Association

TOTAL FUND ASSET GROWTH SUMMARY

Market Value History
5 Years Ending June 30, 2019

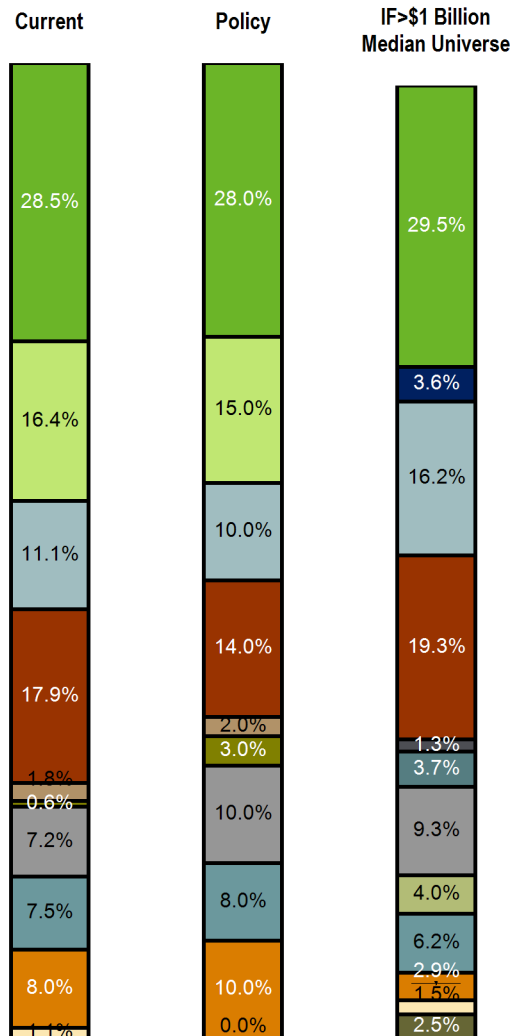


Summary of Cash Flows				
	Last Three Months	One Year	Three Years	Five Years
Beginning Market Value	\$5,578,640,723	\$5,370,442,517	\$4,367,190,644	\$4,258,489,574
Net Cash Flow	-\$39,263,920	-\$40,722,177	-\$69,560,222	-\$116,018,970
Net Investment Change	\$176,781,638	\$386,438,101	\$1,418,528,018	\$1,573,687,837
Ending Market Value	\$5,716,158,441	\$5,716,158,441	\$5,716,158,441	\$5,716,158,441



Ventura County Employees' Retirement Association

TOTAL FUND ASSET ALLOCATION VS. POLICY TARGETS



Asset Allocation vs. Target						
	Current	Current	Policy	Difference*	Policy Range	Within Range
U.S. Equity	\$1,627,707,553	28.5%	28.0%	0.5%	24.0% - 32.0%	Yes
Non-US Equity	\$936,336,297	16.4%	15.0%	1.4%	12.0% - 18.0%	Yes
Emerging Markets Equity	--	--	--	0.0%		
Global Equity	\$635,506,007	11.1%	10.0%	1.1%	7.0% - 13.0%	Yes
U.S. Fixed Income	\$1,020,483,662	17.9%	14.0%	3.9%	10.0% - 24.0%	Yes
Treasury	\$103,502,120	1.8%	2.0%	-0.2%	0.0% - 10.0%	Yes
Fixed Income - Emerging	--	--	--	0.0%		
GAA/Risk Parity	--	--	--	0.0%		
Private Debt	\$35,064,913	0.6%	3.0%	-2.4%	0.0% - 10.0%	Yes
Private Equity	\$409,958,618	7.2%	10.0%	-2.8%	0.0% - 12.0%	Yes
Hedge Funds	--	--	--	0.0%		
Real Estate	\$428,649,569	7.5%	8.0%	-0.5%	4.0% - 10.0%	Yes
Real Assets	\$456,514,784	8.0%	10.0%	-2.0%	5.0% - 15.0%	Yes
Cash	\$62,434,919	1.1%	0.0%	1.1%	0.0% - 3.0%	Yes
Global Fixed Income	--	--	--	0.0%		
Total	\$5,716,158,441	100.0%	100.0%			

*Difference between Policy and Current Allocation

Cash represents assets in Parametric Overlay.

Policy Index as of January 2016: , 28% Russell 3000 Index, 20% Barclays Aggregate, 15% MSCI ACWI ex U.S., 10% MSCI ACWI, 10% Russell 3000 Index + 3%, 10% CPI+4% Index, and 7% NCREIF ODCE Real Estate Index.

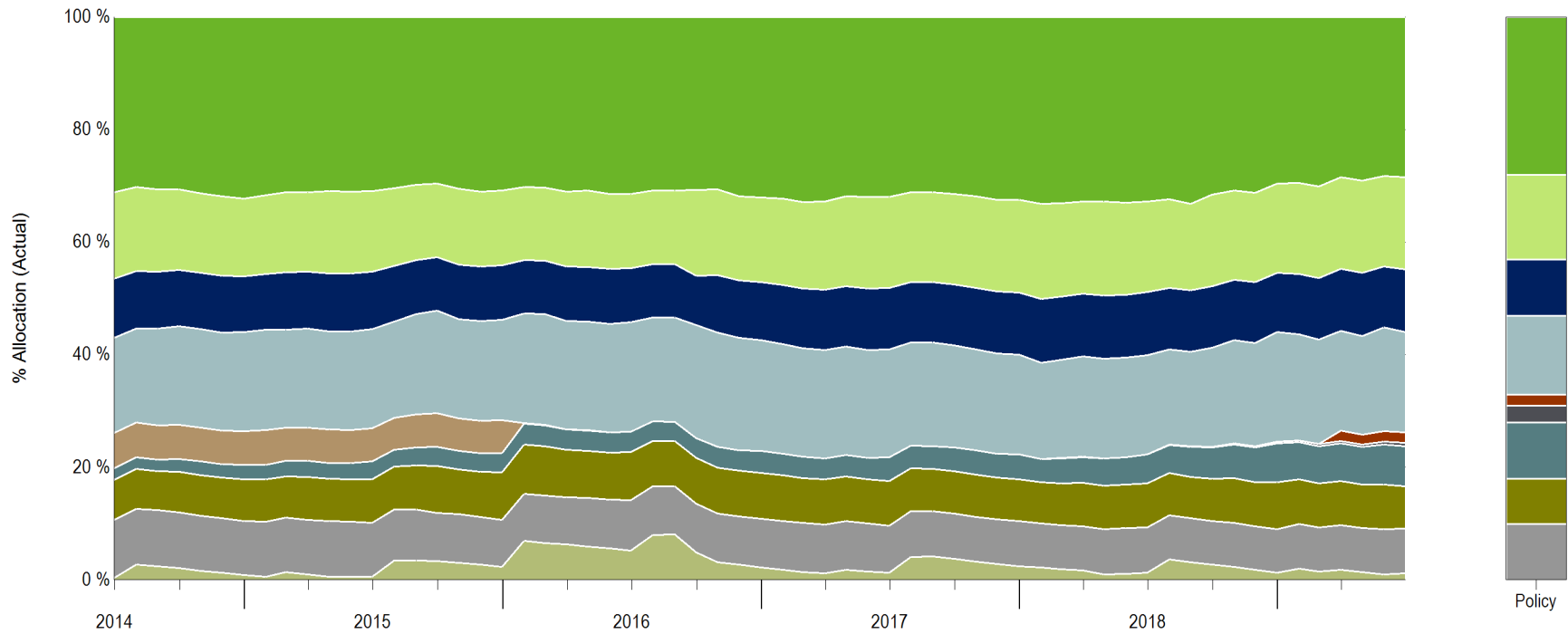
Asset Allocation vs. Policy Targets chart does not reflect Overlay adjusted weights.



Ventura County Employees' Retirement Association

TOTAL FUND ALLOCATION HISTORY

Asset Allocation History
5 Years Ending June 30, 2019



- U.S. Equity
- Global Equity
- Treasury
- Private Debt
- Real Estate
- Real Assets
- Cash
- Non-US Equity
- U.S. Fixed Income
- Global Bonds
- Private Equity

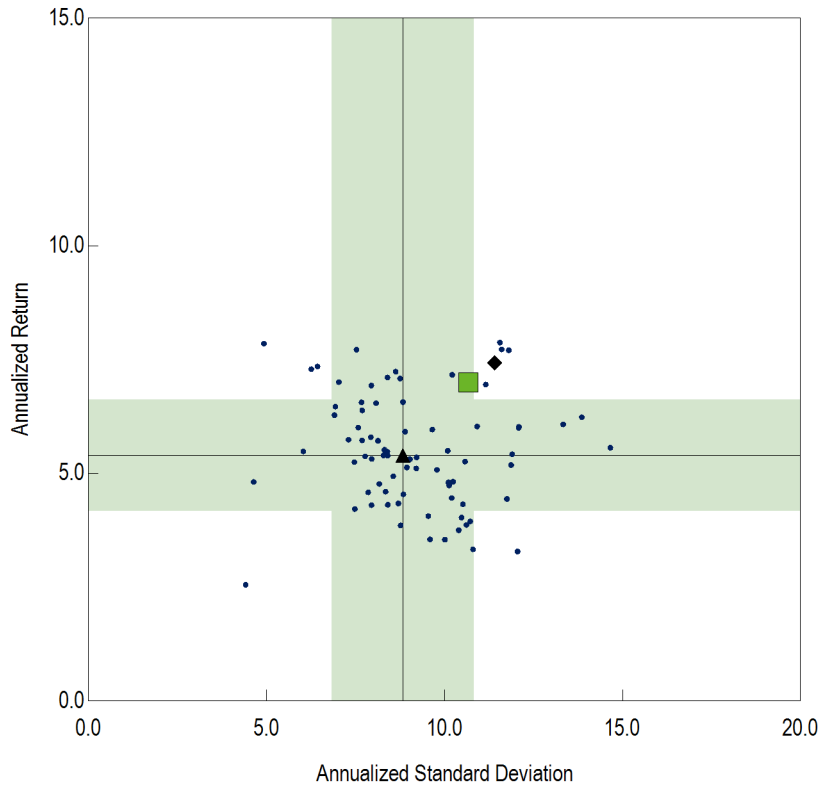
Policy Index shown is most recently approved index



Ventura County Employees' Retirement Association

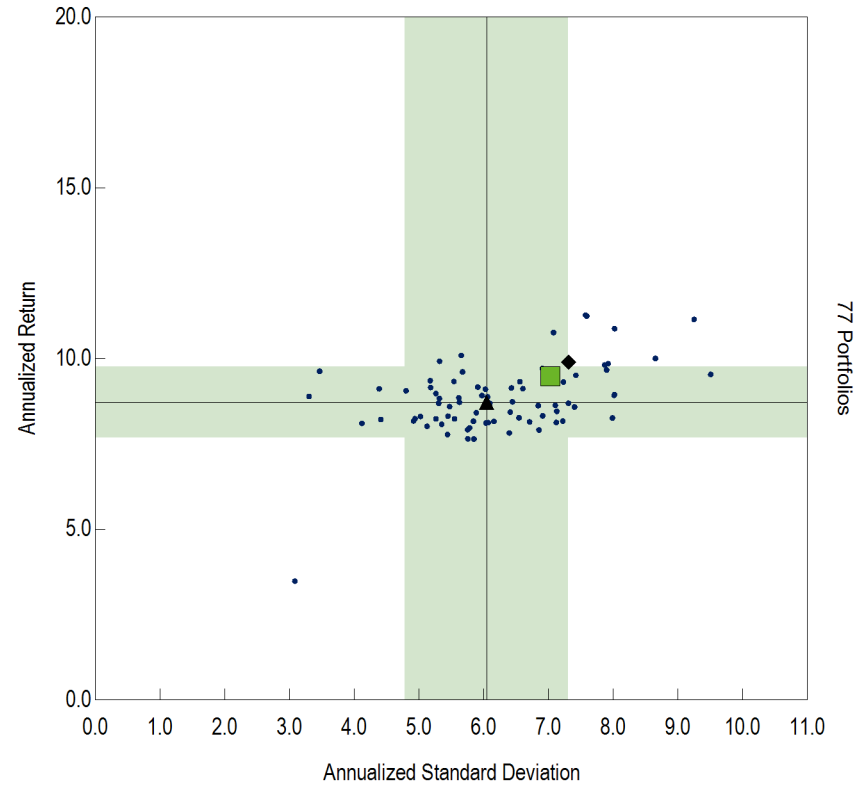
TOTAL FUND RISK/RETURN

1 Years Ending June 30, 2019



- Total Fund
- ◆ Policy Index
- ▲ Universe Median
- 68% Confidence Interval
- InvMetrics Public DB > \$1B Net

3 Years Ending June 30, 2019



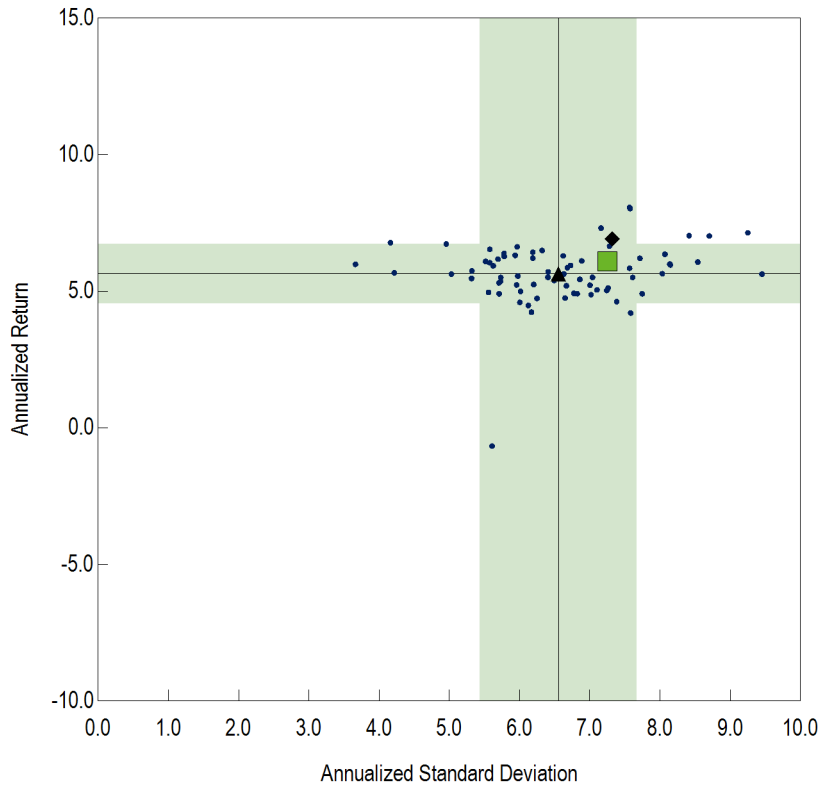
- Total Fund
- ◆ Policy Index
- ▲ Universe Median
- 68% Confidence Interval
- InvMetrics Public DB > \$1B Net



Ventura County Employees' Retirement Association

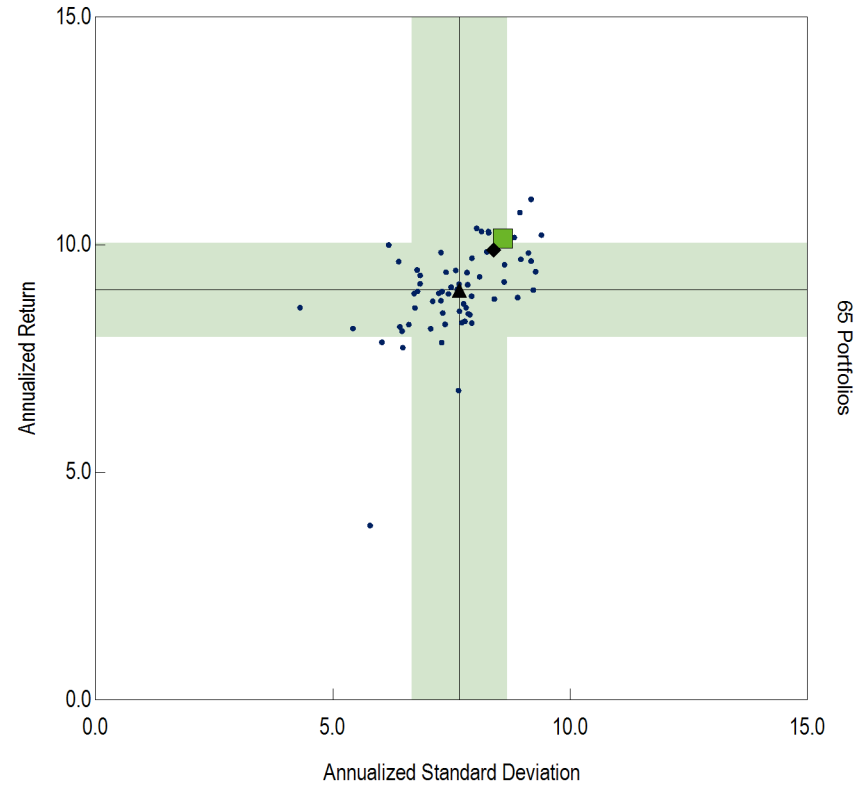
TOTAL FUND RISK/RETURN

5 Years Ending June 30, 2019



- Total Fund
- ◆ Policy Index
- ▲ Universe Median
- 68% Confidence Interval
- InvMetrics Public DB > \$1B Net

10 Years Ending June 30, 2019



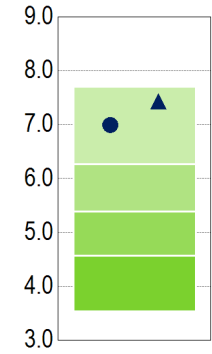
- Total Fund
- ◆ Policy Index
- ▲ Universe Median
- 68% Confidence Interval
- InvMetrics Public DB > \$1B Net



TOTAL FUND RISK STATISTICS VS. PEER UNIVERSE

Total Fund vs. InvMetrics Public DB > \$1B Net 1 Year

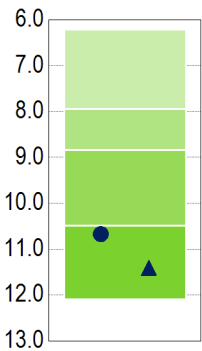
Anlzd Return



● Total Fund
Value 7.0
Rank 15
▲ Policy Index
Value 7.4
Rank 7

Universe
5th %tile 7.7
25th %tile 6.3
Median 5.4
75th %tile 4.6
95th %tile 3.5

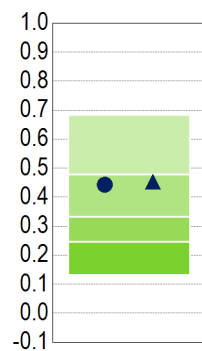
Anlzd Standard Deviation



● Total Fund
Value 10.7
Rank 80
▲ Policy Index
Value 11.4
Rank 86

Universe
5th %tile 6.2
25th %tile 7.9
Median 8.8
75th %tile 10.5
95th %tile 12.1

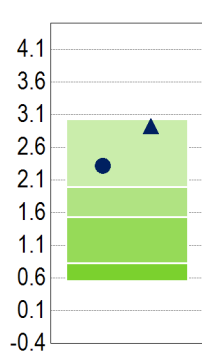
Sharpe Ratio



● Total Fund
Value 0.4
Rank 32
▲ Policy Index
Value 0.5
Rank 30

Universe
5th %tile 0.7
25th %tile 0.5
Median 0.3
75th %tile 0.2
95th %tile 0.1

Sortino Ratio



● Total Fund
Value 2.3
Rank 14
▲ Policy Index
Value 2.9
Rank 6

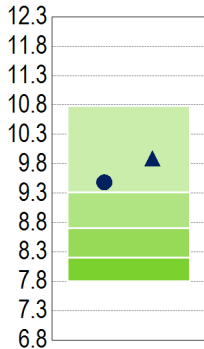
Universe
5th %tile 3.0
25th %tile 2.0
Median 1.5
75th %tile 0.8
95th %tile 0.6



TOTAL FUND RISK STATISTICS VS. PEER UNIVERSE

Total Fund vs. InvMetrics Public DB > \$1B Net
3 Years

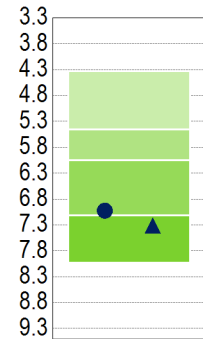
Anlzd Return



● Total Fund
Value 9.5
Rank 22
▲ Policy Index
Value 9.9
Rank 10

Universe
5th %tile 10.8
25th %tile 9.3
Median 8.7
75th %tile 8.2
95th %tile 7.8

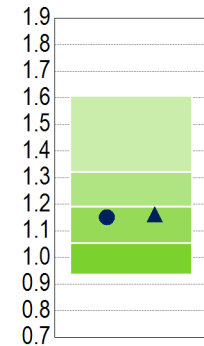
Anlzd Standard Deviation



● Total Fund
Value 7.0
Rank 74
▲ Policy Index
Value 7.3
Rank 82

Universe
5th %tile 4.3
25th %tile 5.4
Median 6.0
75th %tile 7.1
95th %tile 8.0

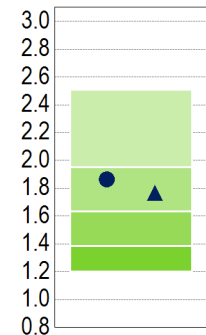
Sharpe Ratio



● Total Fund
Value 1.2
Rank 58
▲ Policy Index
Value 1.2
Rank 57

Universe
5th %tile 1.6
25th %tile 1.3
Median 1.2
75th %tile 1.1
95th %tile 0.9

Sortino Ratio



● Total Fund
Value 1.9
Rank 30
▲ Policy Index
Value 1.8
Rank 38

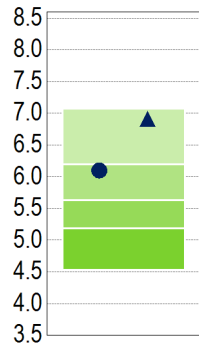
Universe
5th %tile 2.5
25th %tile 2.0
Median 1.6
75th %tile 1.4
95th %tile 1.2



TOTAL FUND RISK STATISTICS VS. PEER UNIVERSE

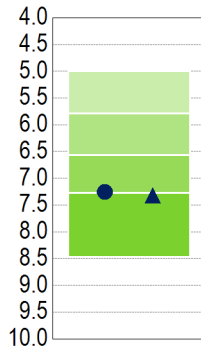
Total Fund vs. InvMetrics Public DB > \$1B Net 5 Years

Anlzd Return



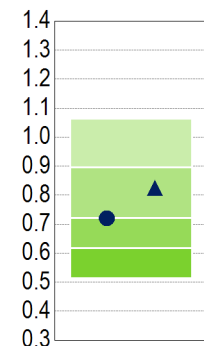
● Total Fund	
Value	6.1
Rank	32
▲ Policy Index	
Value	6.9
Rank	8
Universe	
5th %tile	7.1
25th %tile	6.2
Median	5.6
75th %tile	5.2
95th %tile	4.5

Anlzd Standard Deviation



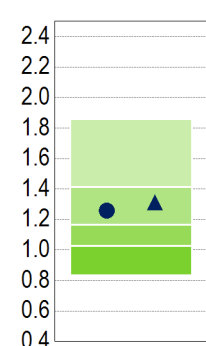
● Total Fund	
Value	7.3
Rank	75
▲ Policy Index	
Value	7.3
Rank	77
Universe	
5th %tile	5.0
25th %tile	5.8
Median	6.6
75th %tile	7.3
95th %tile	8.5

Sharpe Ratio



● Total Fund	
Value	0.7
Rank	52
▲ Policy Index	
Value	0.8
Rank	31
Universe	
5th %tile	1.1
25th %tile	0.9
Median	0.7
75th %tile	0.6
95th %tile	0.5

Sortino Ratio



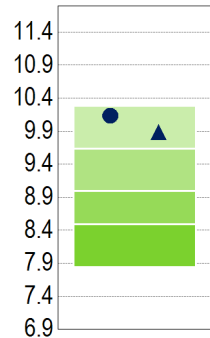
● Total Fund	
Value	1.3
Rank	44
▲ Policy Index	
Value	1.3
Rank	40
Universe	
5th %tile	1.9
25th %tile	1.4
Median	1.2
75th %tile	1.0
95th %tile	0.8



TOTAL FUND RISK STATISTICS VS. PEER UNIVERSE

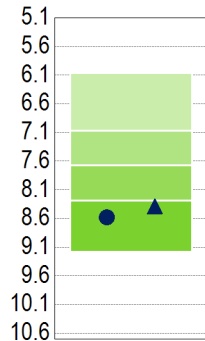
Total Fund vs. InvMetrics Public DB > \$1B Net 10 Years

Anlzd Return



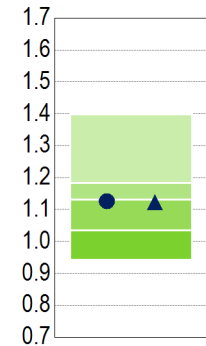
● Total Fund	
Value	10.1
Rank	13
▲ Policy Index	
Value	9.9
Rank	16
Universe	
5th %tile	10.3
25th %tile	9.6
Median	9.0
75th %tile	8.5
95th %tile	7.9

Anlzd Standard Deviation



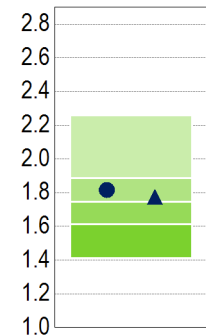
● Total Fund	
Value	8.6
Rank	83
▲ Policy Index	
Value	8.4
Rank	80
Universe	
5th %tile	6.1
25th %tile	7.1
Median	7.7
75th %tile	8.3
95th %tile	9.2

Sharpe Ratio



● Total Fund	
Value	1.1
Rank	55
▲ Policy Index	
Value	1.1
Rank	55
Universe	
5th %tile	1.4
25th %tile	1.2
Median	1.1
75th %tile	1.0
95th %tile	0.9

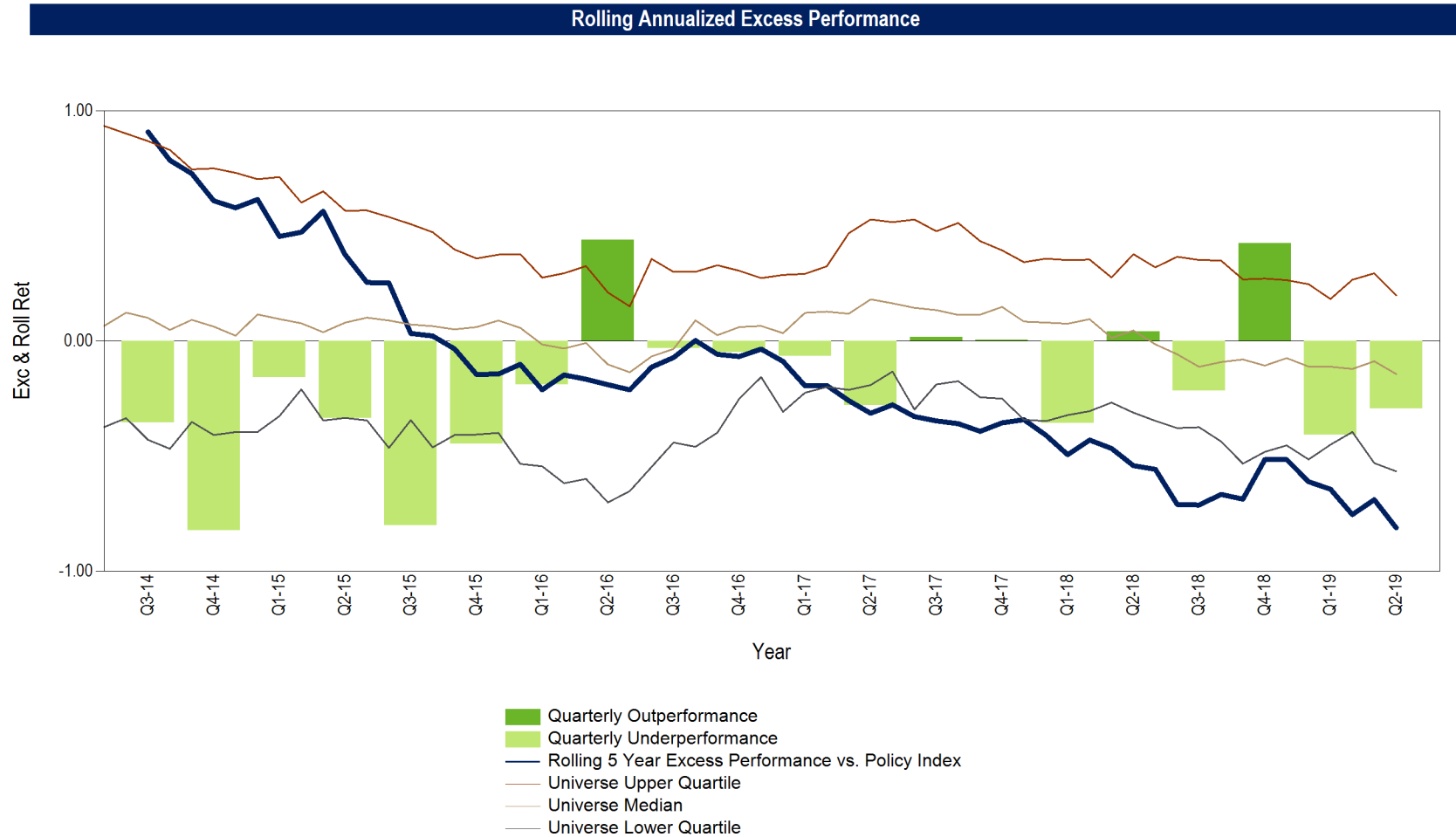
Sortino Ratio



● Total Fund	
Value	1.8
Rank	37
▲ Policy Index	
Value	1.8
Rank	43
Universe	
5th %tile	2.3
25th %tile	1.9
Median	1.7
75th %tile	1.6
95th %tile	1.4

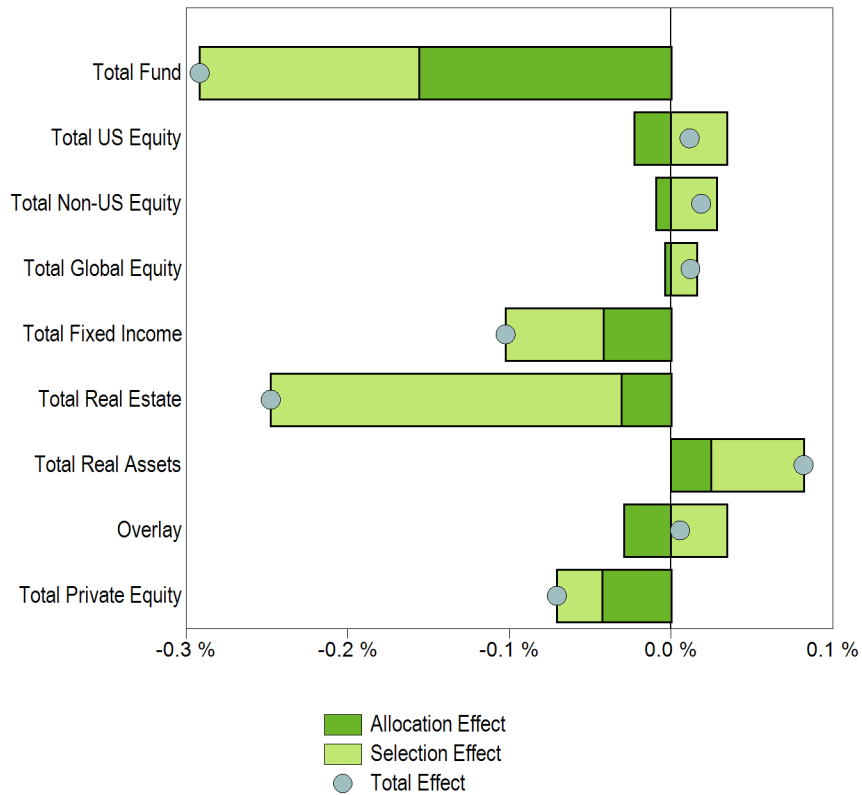


ROLLING 5 YEAR EXCESS RETURNS- NET OF FEES



TOTAL FUND ATTRIBUTION ANALYSIS

Attribution Effects
3 Months Ending June 30, 2019



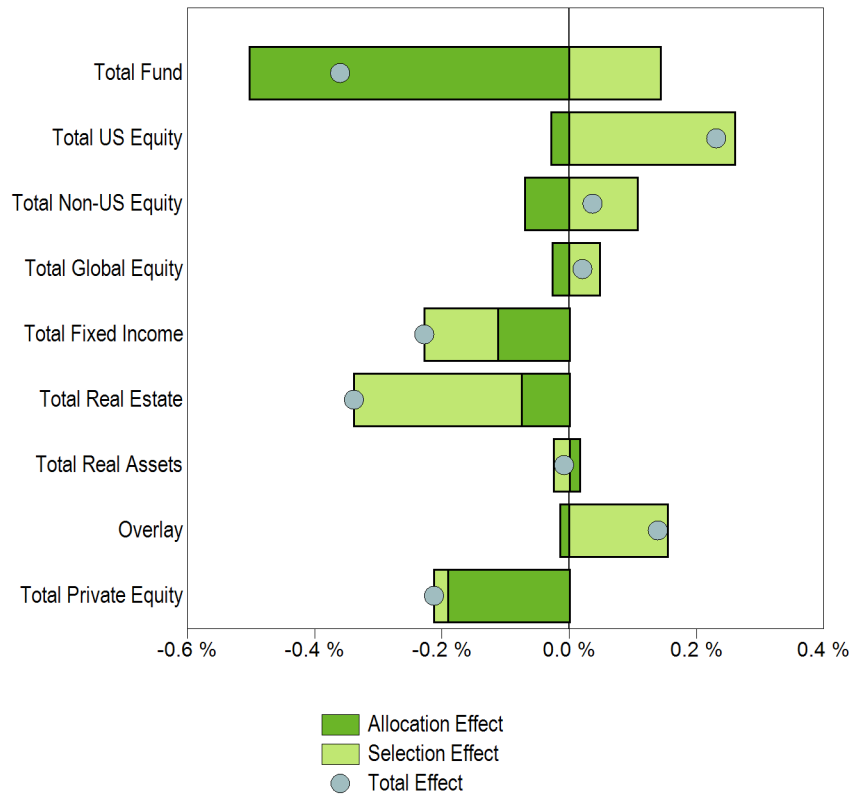
Attribution Summary						
3 Months Ending June 30, 2019						
	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Total Effects
Total US Equity	4.2%	4.1%	0.1%	0.0%	0.0%	0.0%
Total Non-US Equity	3.2%	3.0%	0.2%	0.0%	0.0%	0.0%
Total Global Equity	3.8%	3.6%	0.1%	0.0%	0.0%	0.0%
Total Fixed Income	2.8%	3.1%	-0.3%	-0.1%	0.0%	-0.1%
Total Real Estate	-2.0%	0.8%	-2.7%	-0.2%	0.0%	-0.2%
Total Real Assets	2.5%	1.8%	0.7%	0.1%	0.0%	0.1%
Overlay	3.7%	0.6%	3.2%	0.0%	0.0%	0.0%
Total Private Equity	4.7%	4.9%	-0.1%	0.0%	0.0%	-0.1%
Total	3.1%	3.4%	-0.3%	-0.1%	-0.2%	-0.3%



Ventura County Employees' Retirement Association

TOTAL FUND ATTRIBUTION ANALYSIS

Attribution Effects
1 Year Ending June 30, 2019



Attribution Summary
1 Year Ending June 30, 2019

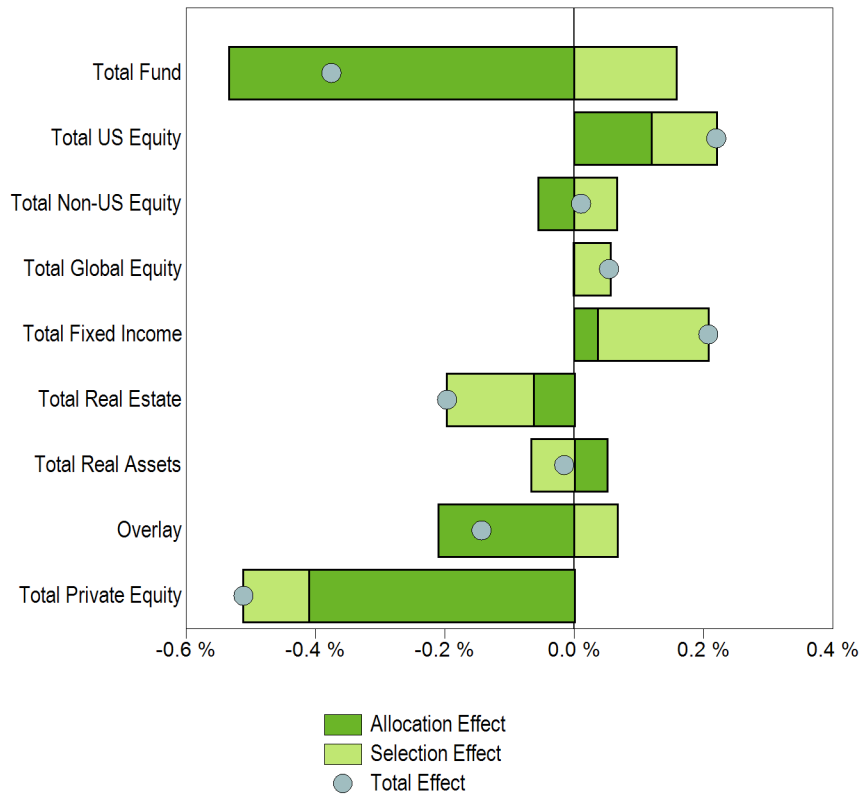
	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Total Effects
Total US Equity	9.8%	9.0%	0.9%	0.3%	0.0%	0.2%
Total Non-US Equity	2.0%	1.3%	0.7%	0.1%	-0.1%	0.0%
Total Global Equity	6.2%	5.7%	0.4%	0.0%	0.0%	0.0%
Total Fixed Income	7.3%	7.9%	-0.6%	-0.1%	-0.1%	-0.2%
Total Real Estate	2.2%	5.5%	-3.3%	-0.3%	-0.1%	-0.3%
Total Real Assets	5.0%	5.7%	-0.7%	0.0%	0.0%	0.0%
Overlay	20.1%	2.3%	17.8%	0.2%	0.0%	0.1%
Total Private Equity	14.3%	12.2%	2.1%	0.0%	-0.2%	-0.2%
Total	7.1%	7.4%	-0.4%	0.1%	-0.5%	-0.4%



Ventura County Employees' Retirement Association

TOTAL FUND ATTRIBUTION ANALYSIS

Attribution Effects
3 Years Ending June 30, 2019



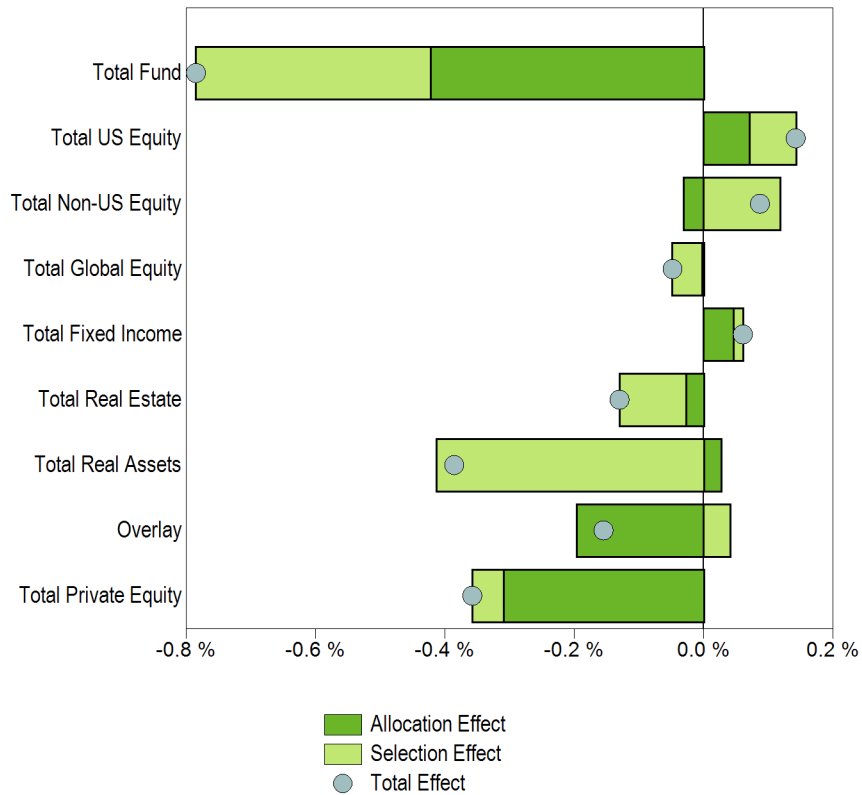
Attribution Summary						
3 Years Ending June 30, 2019						
	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Total Effects
Total US Equity	14.4%	14.0%	0.3%	0.1%	0.1%	0.2%
Total Non-US Equity	9.9%	9.4%	0.5%	0.1%	-0.1%	0.0%
Total Global Equity	12.2%	11.6%	0.5%	0.1%	0.0%	0.1%
Total Fixed Income	3.2%	2.3%	0.8%	0.2%	0.0%	0.2%
Total Real Estate	5.0%	6.6%	-1.6%	-0.1%	-0.1%	-0.2%
Total Real Assets	4.9%	6.1%	-1.2%	-0.1%	0.1%	0.0%
Overlay	8.0%	1.4%	6.6%	0.1%	-0.2%	-0.1%
Total Private Equity	16.1%	17.4%	-1.3%	-0.1%	-0.4%	-0.5%
Total	9.5%	9.9%	-0.4%	0.2%	-0.5%	-0.4%



Ventura County Employees' Retirement Association

TOTAL FUND ATTRIBUTION ANALYSIS

Attribution Effects
5 Years Ending June 30, 2019



Attribution Summary						
5 Years Ending June 30, 2019						
	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Total Effects
Total US Equity	10.4%	10.1%	0.2%	0.1%	0.1%	0.1%
Total Non-US Equity	3.1%	2.2%	0.9%	0.1%	0.0%	0.1%
Total Global Equity	5.7%	6.2%	-0.5%	0.0%	0.0%	0.0%
Total Fixed Income	2.7%	2.5%	0.2%	0.0%	0.0%	0.1%
Total Real Estate	7.5%	8.8%	-1.3%	-0.1%	0.0%	-0.1%
Total Real Assets	0.8%	5.5%	-4.7%	-0.4%	0.0%	-0.4%
Overlay	4.8%	0.9%	4.0%	0.0%	-0.2%	-0.2%
Total Private Equity	14.1%	13.4%	0.7%	0.0%	-0.3%	-0.4%
Total	6.1%	6.9%	-0.8%	-0.4%	-0.4%	-0.8%



Ventura County Employees' Retirement Association

TOTAL FUND RISK STATISTICS

1 Year Ending June 30, 2019												
	% of Tot	Anlzd Ret	Rank	Anlzd Std Dev	Rank	Anlzd AJ	Rank	Tracking Error	Rank	Info Ratio	Rank	Beta
Total Equity	56.0%	7.0%	22	17.6%	58	1.2%	20	0.9%	19	1.4	7	1.0
MSCI ACWI	--	5.7%	47	17.3%	49	0.0%	41	0.0%	1	--	--	1.0
Total US Equity	28.5%	9.8%	2	19.5%	99	0.9%	26	0.4%	1	2.4	1	1.0
Russell 3000	--	9.0%	5	19.7%	99	0.0%	55	0.0%	1	--	--	1.0
Total Non-US Equity	16.4%	2.0%	18	15.1%	26	0.7%	20	1.0%	16	0.7	15	1.0
MSCI ACWI ex USA	--	1.3%	34	15.9%	65	0.0%	34	0.0%	1	--	--	1.0
Total Global Equity	11.1%	6.2%	53	17.3%	91	0.4%	54	0.0%	1	8.7	1	1.0
MSCI ACWI	--	5.7%	58	17.3%	91	0.0%	64	0.0%	1	--	--	1.0
Total Fixed Income	20.3%	7.3%	35	2.9%	64	0.1%	60	0.6%	39	-1.0	77	0.9
Total Fixed Income Policy Index	--	7.9%	16	3.3%	88	0.0%	72	0.0%	1	--	--	1.0
Total US Fixed Income	17.9%	7.3%	36	2.9%	64	0.2%	59	0.7%	40	-0.9	74	0.9
BBgBarc US Aggregate TR	--	7.9%	16	3.3%	88	0.0%	72	0.0%	1	--	--	1.0
Total Real Assets	8.0%	5.0%	--	10.6%	--	-7.5%	--	10.4%	--	-0.1	--	3.0
CPI + 4% (Unadjusted)	--	5.7%	--	1.0%	--	0.0%	--	0.0%	--	--	--	1.0

	% of Tot	Anlzd Ret	Rank	Anlzd Std Dev	Rank
Total Real Estate	7.5%	2.2%	83	3.2%	72
NCREIF ODCE Net	--	5.5%	69	2.4%	49
Total Private Equity	7.2%	14.3%	37	5.3%	49
Russell 3000 + 3%	--	12.2%	46	19.7%	99

Total U.S. Equity Benchmark: Russell 3000 Index. Prior to January 2016, the Benchmark is a dynamic hybrid using the respective managers' market value weights within the U.S. Equity component toward their benchmark. Prior to May 2013, the Dow Jones U.S. Total Stock Market Index. Prior to May 2007, the Russell 3000 Index.

Total Non-U.S. Equity Benchmark: MSCI ACWI ex US Free, prior to May 2002, the MSCI EAFE.

Composite rankings are used for Total Equity (InvMetrics Public DB Total Eq consists of 89 portfolios), Total US Equity (InvMetrics Public DB US Eq consists of 174 portfolios), Total Non-US Equity (InvMetrics Public DB ex-US Eq consists of 120 portfolios), Total Global Equity (InvMetrics Public DB Gbl Eq consists of 43 portfolios), Total Fixed Income (InvMetrics Public DB Total Fix Inc consists of 84 portfolios), Total US Fixed Income (InvMetrics Public DB US Fix Inc consists of 111 portfolios), Total Real Estate (InvMetrics Public DB Real Estate Pub+Priv consists of 60 portfolios) and Total Private Equity (InvMetrics Public DB Private Eq consists of 47 portfolios).



Ventura County Employees' Retirement Association

TOTAL FUND RISK STATISTICS

3 Years Ending June 30, 2019												
	% of Tot	Anlzd Ret	Rank	Anlzd Std Dev	Rank	Anlzd AJ	Rank	Tracking Error	Rank	Info Ratio	Rank	Beta
Total Equity	56.0%	12.7%	22	11.4%	43	1.1%	16	1.1%	32	1.0	7	1.0
MSCI ACWI	--	11.6%	64	11.3%	40	0.0%	42	0.0%	1	--	--	1.0
Total US Equity	28.5%	14.4%	1	12.5%	97	0.4%	18	0.4%	2	0.8	4	1.0
Russell 3000	--	14.0%	2	12.5%	98	0.0%	40	0.0%	1	--	--	1.0
Total Non-US Equity	16.4%	9.9%	25	11.0%	13	0.8%	14	0.9%	8	0.5	13	1.0
MSCI ACWI ex USA	--	9.4%	34	11.4%	39	0.0%	32	0.0%	1	--	--	1.0
Total Global Equity	11.1%	12.2%	9	11.3%	79	0.6%	64	0.2%	1	2.5	1	1.0
MSCI ACWI	--	11.6%	39	11.3%	81	0.0%	68	0.0%	1	--	--	1.0
Total Fixed Income	20.3%	3.2%	48	2.5%	54	1.0%	42	0.8%	48	1.1	13	0.8
Total Fixed Income Policy Index	--	2.3%	65	3.0%	89	0.0%	80	0.0%	1	--	--	1.0
Total US Fixed Income	17.9%	3.1%	50	2.5%	54	1.0%	42	0.8%	48	1.0	17	0.8
BBgBarc US Aggregate TR	--	2.3%	65	3.0%	89	0.0%	80	0.0%	1	--	--	1.0
Total Real Assets	8.0%	4.9%	--	7.7%	--	-3.2%	--	7.6%	--	-0.2	--	1.4
CPI + 4% (Unadjusted)	--	6.1%	--	0.8%	--	0.0%	--	0.0%	--	--	--	1.0

	% of Tot	Anlzd Ret	Rank	Anlzd Std Dev	Rank
Total Real Estate	7.5%	5.0%	60	2.9%	50
NCREIF ODCE Net	--	6.6%	40	2.8%	48
Total Private Equity	7.2%	16.1%	23	5.3%	34
Russell 3000 + 3%	--	17.4%	12	12.5%	89

Total U.S. Equity Benchmark: Russell 3000 Index. Prior to January 2016, the Benchmark is a dynamic hybrid using the respective managers' market value weights within the U.S. Equity component toward their benchmark. Prior to May 2013, the Dow Jones U.S. Total Stock Market Index. Prior to May 2007, the Russell 3000 Index.

Total Non-U.S. Equity Benchmark: MSCI ACWI ex US Free, prior to May 2002, the MSCI EAFE.

Composite rankings are used for Total Equity (InvMetrics Public DB Total Eq consists of 83 portfolios), Total US Equity (InvMetrics Public DB US Eq consists of 162 portfolios), Total Non-US Equity (InvMetrics Public DB ex-US Eq consists of 112 portfolios), Total Global Equity (InvMetrics Public DB Gbl Eq consists of 36 portfolios), Total Fixed Income (InvMetrics Public DB Total Fix Inc consists of 77 portfolios), Total US Fixed Income (InvMetrics Public DB US Fix Inc consists of 109 portfolios), Total Real Estate (InvMetrics Public DB Real Estate Pub+Priv consists of 60 portfolios) and Total Private Equity (InvMetrics Public DB Private Eq consists of 46 portfolios).



Ventura County Employees' Retirement Association

TOTAL FUND RISK STATISTICS

5 Years Ending June 30, 2019												
	% of Tot	Anlzd Ret	Rank	Anlzd Std Dev	Rank	Anlzd AJ	Rank	Tracking Error	Rank	Info Ratio	Rank	Beta
Total Equity	56.0%	7.6%	32	11.7%	47	1.5%	15	1.2%	28	1.2	2	1.0
MSCI ACWI	--	6.2%	79	11.8%	58	0.0%	53	0.0%	1	--	--	1.0
Total US Equity	28.5%	10.4%	1	12.3%	94	0.3%	49	0.3%	1	0.8	2	1.0
Russell 3000	--	10.1%	1	12.3%	95	0.0%	59	0.0%	1	--	--	1.0
Total Non-US Equity	16.4%	3.1%	30	12.0%	24	1.0%	27	1.1%	7	0.8	5	0.9
MSCI ACWI ex USA	--	2.2%	68	12.5%	72	0.0%	61	0.0%	1	--	--	1.0
Total Global Equity	11.1%	5.7%	66	11.9%	73	-0.5%	78	0.9%	1	-0.5	93	1.0
MSCI ACWI	--	6.2%	60	11.8%	69	0.0%	74	0.0%	1	--	--	1.0
Total Fixed Income	20.3%	2.7%	53	2.5%	43	0.6%	26	1.5%	59	0.1	32	0.7
Total Fixed Income Policy Index	--	2.5%	68	2.9%	67	0.0%	79	0.0%	1	--	--	1.0
Total US Fixed Income	17.9%	3.0%	30	2.5%	39	0.8%	18	1.7%	64	0.1	43	0.7
BBgBarc US Aggregate TR	--	2.9%	39	2.9%	69	0.0%	79	0.0%	1	--	--	1.0
Total Real Assets	8.0%	0.8%	--	9.4%	--	-9.8%	--	9.2%	--	-0.5	--	2.1
CPI + 4% (Unadjusted)	--	5.5%	--	1.0%	--	0.0%	--	0.0%	--	--	--	1.0

	% of Tot	Anlzd Ret	Rank	Anlzd Std Dev	Rank
Total Real Estate	7.5%	7.5%	75	3.8%	39
NCREIF ODCE Net	--	8.8%	48	3.8%	40
Total Private Equity	7.2%	14.1%	28	5.9%	59
Russell 3000 + 3%	--	13.5%	31	12.3%	90

Total U.S. Equity Benchmark: Russell 3000 Index. Prior to January 2016, the Benchmark is a dynamic hybrid using the respective managers' market value weights within the U.S. Equity component toward their benchmark. Prior to May 2013, the Dow Jones U.S. Total Stock Market Index. Prior to May 2007, the Russell 3000 Index.

Total Non-U.S. Equity Benchmark: MSCI ACWI ex US Free, prior to May 2002, the MSCI EAFE.

Composite rankings are used for Total Equity (InvMetrics Public DB Total Eq consists of 72 portfolios), Total US Equity (InvMetrics Public DB US Eq consists of 149 portfolios), Total Non-US Equity (InvMetrics Public DB ex-US Eq consists of 106 portfolios), Total Global Equity (InvMetrics Public DB Gbl Eq consists of 30 portfolios), Total Fixed Income (InvMetrics Public DB Total Fix Inc consists of 69 portfolios), Total US Fixed Income (InvMetrics Public DB US Fix Inc consists of 103 portfolios), Total Real Estate (InvMetrics Public DB Real Estate Pub+Priv consists of 56 portfolios) and Total Private Equity (InvMetrics Public DB Private Eq consists of 44 portfolios).



Ventura County Employees' Retirement Association

TOTAL FUND PERFORMANCE DETAIL (NET)

	Market Value (\$)	% of Portfolio	Policy %	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Total Fund	5,716,158,441	100.0	100.0	3.1	36	12.0	19	7.0	15	9.5	22	6.1	32	10.1	13	8.0	Apr-94
Policy Index				3.4	20	12.7	16	7.4	7	9.9	10	6.9	8	9.9	16	8.1	Apr-94
Over/Under				-0.3		-0.7		-0.4		-0.4		-0.8		0.2		-0.1	
60% MSCI ACWI (Net) / 40% FTSE WGBI				3.7	6	12.0	19	6.0	31	7.4	99	4.2	99	7.1	98	6.4	Apr-94
60% S&P 500 / 40% BBgBarc Aggregate				4.0	4	13.6	9	9.9	1	9.5	22	7.7	2	10.5	3	8.4	Apr-94
InvMetrics Public DB > \$1B Net Median				2.9		10.3		5.4		8.7		5.6		9.0		7.5	Apr-94
Total Fund ex Parametric*	5,690,725,920	99.6	--	3.1	--	11.9	--	6.8	--	9.4	--	6.0	--	9.9	--	8.0	Apr-94
Total Fund ex Private Equity	5,306,199,823	92.8	--	3.0	45	12.5	17	6.6	19	9.2	29	5.8	46	--	--	8.6	Jan-12
Policy Index				3.4	20	12.7	16	7.4	7	9.9	10	6.9	8	9.9	16	9.3	Jan-12
Over/Under				-0.4		-0.2		-0.8		-0.7		-1.1				-0.7	
InvMetrics Public DB > \$1B Net Median				2.9		10.3		5.4		8.7		5.6		9.0		8.3	Jan-12
Total US Equity	1,627,707,553	28.5	28.0	4.2	15	19.0	5	9.8	2	14.4	1	10.4	1	15.1	1	9.4	Dec-93
Russell 3000				4.1	21	18.7	5	9.0	5	14.0	2	10.1	1	14.7	1	9.6	Dec-93
Over/Under				0.1		0.3		0.8		0.4		0.3		0.4		-0.2	
InvMetrics Public DB Total Eq Net Median				3.8		16.8		6.2		11.9		7.2		11.3		8.1	Dec-93
Western U.S. Index Plus	225,239,315	3.9		4.4	43	19.9	33	11.1	32	14.8	31	11.2	25	17.5	3	6.3	May-07
S&P 500				4.3	46	18.5	43	10.4	38	14.2	36	10.7	29	14.7	28	7.8	May-07
Over/Under				0.1		1.4		0.7		0.6		0.5		2.8		-1.5	
eV US Large Cap Equity Net Median				4.1		17.5		8.2		12.7		9.1		13.8		7.5	May-07
Blackrock Russell 1000 Index	1,336,612,247	23.4		4.2	48	18.8	40	10.0	39	--	--	--	--	--	--	12.3	May-17
Russell 1000				4.2	48	18.8	40	10.0	39	14.1	36	10.5	31	14.8	26	12.3	May-17
Over/Under				0.0		0.0		0.0								0.0	
eV US Large Cap Equity Net Median				4.1		17.5		8.2		12.7		9.1		13.8		10.9	May-17
Blackrock Russell 2500 Index	65,855,990	1.2		3.0	65	19.2	52	1.8	52	--	--	--	--	--	--	8.8	May-17
Russell 2500				3.0	65	19.2	52	1.8	52	12.3	46	7.7	44	14.4	38	8.7	May-17
Over/Under				0.0		0.0		0.0								0.1	
eV US Small-Mid Cap Equity Net Median				4.0		20.1		2.3		11.9		7.2		13.8		8.5	May-17

Color Coding: PERFORMANCE: Green-Over performance, Red-Under performance / Color Coding: RANKS: 1 - 25 Green - Positive Result, 26 - 50 Yellow, 50 - 75 Orange, 76 - 100 Red - Negative Result.

Policy Index: Currently, 28% Russell 3000 Index, 20% Barclays Aggregate, 15% MSCI ACWI ex U.S., 10% MSCI ACWI, 10% Russell 3000 Index + 3%, 10% CPI+4% Index, and 7% NCREIF ODCE Real Estate Index.

Total U.S. Equity Benchmark: Russell 3000 Index. Prior to January 2016, the Benchmark is a dynamic hybrid using the respective managers' market value weights within the U.S. Equity component toward their benchmark. Prior to May 2013, the Dow Jones U.S. Total Stock Market Index. Prior to May 2007, the Russell 3000 Index.



Ventura County Employees' Retirement Association

TOTAL FUND PERFORMANCE DETAIL (NET)

	Market Value (\$)	% of Portfolio	Policy %	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Total Non-US Equity	936,336,297	16.4	15.0	3.2	32	13.6	56	2.0	18	9.9	25	3.1	30	7.4	42	6.3	Mar-94
MSCI ACWI ex USA				3.0	47	13.6	55	1.3	34	9.4	34	2.2	68	6.5	75	5.1	Mar-94
Over/Under				0.2		0.0		0.7		0.5		0.9		0.9		1.2	
MSCI EAFE				3.7	15	14.0	42	1.1	37	9.1	45	2.2	66	6.9	62	4.8	Mar-94
MSCI ACWI ex USA NR LCL				2.1	83	13.2	66	2.4	15	10.1	17	5.8	4	8.1	16	--	Mar-94
MSCI EAFE NR LCL				2.8	62	13.7	54	2.2	16	9.8	25	5.9	4	8.3	9	4.8	Mar-94
InvMetrics Public DB ex-US Eq Net Median				2.9		13.8		0.3		9.0		2.5		7.2		5.4	Mar-94
BlackRock ACWI ex-U.S. Index	475,336,111	8.3		2.9	65	13.5	66	0.5	45	9.4	52	2.5	72	6.9	79	2.7	Mar-07
MSCI ACWI ex USA IMI				2.7	66	13.3	66	0.3	46	9.2	59	2.2	72	6.8	81	2.4	Mar-07
Over/Under				0.2		0.2		0.2		0.2		0.3		0.1		0.3	
MSCI ACWI ex USA NR LCL				2.1	75	13.2	67	2.4	28	10.1	37	5.8	16	8.1	62	3.3	Mar-07
eV ACWI ex-US All Cap Equity Net Median				3.7		15.3		-0.1		9.5		3.4		8.5		3.2	Mar-07
Sprucegrove	231,397,345	4.0		3.0	65	12.9	70	1.1	38	11.5	22	2.9	60	8.2	59	7.3	Mar-02
MSCI ACWI ex USA				3.0	65	13.6	66	1.3	33	9.4	52	2.2	73	6.5	83	6.3	Mar-02
Over/Under				0.0		-0.7		-0.2		2.1		0.7		1.7		1.0	
MSCI EAFE				3.7	53	14.0	65	1.1	38	9.1	60	2.2	72	6.9	80	5.8	Mar-02
MSCI ACWI ex USA NR LCL				2.1	75	13.2	67	2.4	28	10.1	37	5.8	16	8.1	62	5.3	Mar-02
MSCI EAFE NR LCL				2.8	66	13.7	65	2.2	28	9.8	39	5.9	16	8.3	55	4.5	Mar-02
eV ACWI ex-US All Cap Equity Net Median				3.7		15.3		-0.1		9.5		3.4		8.5		6.9	Mar-02
Hexavest	92,547,403	1.6		1.6	81	9.9	88	1.5	37	5.8	83	1.6	71	--	--	3.9	Dec-10
MSCI EAFE				3.7	42	14.0	46	1.1	38	9.1	40	2.2	64	6.9	66	4.7	Dec-10
Over/Under				-2.1		-4.1		0.4		-3.3		-0.6				-0.8	
MSCI EAFE NR LCL				2.8	54	13.7	49	2.2	30	9.8	33	5.9	8	8.3	39	7.1	Dec-10
eV EAFE All Cap Equity Net Median				2.9		13.1		-0.4		8.5		3.1		7.8		5.5	Dec-10
Walter Scott	137,055,438	2.4		5.5	20	17.5	33	9.6	2	11.7	21	6.4	13	--	--	6.5	Dec-10
MSCI ACWI ex USA				3.0	65	13.6	66	1.3	33	9.4	52	2.2	73	6.5	83	3.7	Dec-10
Over/Under				2.5		3.9		8.3		2.3		4.2				2.8	
MSCI ACWI ex USA NR LCL				2.1	75	13.2	67	2.4	28	10.1	37	5.8	16	8.1	62	6.4	Dec-10
MSCI EAFE				3.7	53	14.0	65	1.1	38	9.1	60	2.2	72	6.9	80	4.7	Dec-10
eV ACWI ex-US All Cap Equity Net Median				3.7		15.3		-0.1		9.5		3.4		8.5		5.4	Dec-10



Ventura County Employees' Retirement Association

TOTAL FUND PERFORMANCE DETAIL (NET)

	Market Value (\$)	% of Portfolio	Policy %	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Total Global Equity	635,506,007	11.1	10.0	3.8	45	16.5	5	6.2	53	12.2	9	5.7	66	9.7	26	6.2	May-05
MSCI ACWI				3.6	61	16.2	9	5.7	58	11.6	39	6.2	60	10.1	21	6.9	May-05
Over/Under				0.2		0.3		0.5		0.6		-0.5		-0.4		-0.7	
InvMetrics Public DB Gbl Eq Net Median				3.7		15.1		6.2		11.2		6.7		7.5		4.8	May-05
BlackRock MSCI ACWI Equity Index	635,506,007	11.1		3.8	45	16.5	47	6.2	43	12.1	34	6.6	43	--	--	10.2	Aug-12
MSCI ACWI				3.6	48	16.2	49	5.7	47	11.6	38	6.2	50	10.1	59	9.8	Aug-12
Over/Under				0.2		0.3		0.5		0.5		0.4				0.4	
eV All Global Equity Net Median				3.4		16.1		5.2		10.4		6.1		10.7		9.9	Aug-12



Ventura County Employees' Retirement Association

TOTAL FUND PERFORMANCE DETAIL (NET)

	Market Value (\$)	% of Portfolio	Policy %	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Total Private Equity	409,958,618	7.2	10.0	4.7	24	5.3	24	14.3	37	16.1	23	14.1	28	--	--	14.6	Jan-12
<i>Russell 3000 + 3%</i>				<u>4.9</u>	21	<u>20.4</u>	1	<u>12.2</u>	46	<u>17.4</u>	12	<u>13.5</u>	31	<u>18.1</u>	1	<u>17.6</u>	Jan-12
Over/Under				-0.2		-15.1		2.1		-1.3		0.6				-3.0	
<i>Cambridge Associates Global All PE (Qtr Lag)</i>				4.8	22	3.6	50	11.8	48	14.1	36	11.2	49	14.1	33	12.8	Jan-12
<i>InvMetrics Public DB Private Eq Net Median</i>				2.9		3.5		11.5		12.0		11.1		11.5		13.0	Jan-12
Adams Street Global Fund Series	184,262,152	3.2		3.5	--	5.0	--	14.8	--	14.9	--	12.5	--	--	--	13.5	Jan-12
<i>Russell 3000 + 3%</i>				<u>4.9</u>	--	<u>20.4</u>	--	<u>12.2</u>	--	<u>17.4</u>	--	<u>13.5</u>	--	<u>18.1</u>	--	<u>17.6</u>	Jan-12
Over/Under				-1.4		-15.4		2.6		-2.5		-1.0				-4.1	
Harbourvest	93,110,552	1.6		7.2	--	6.4	--	17.2	--	19.3	--	19.4	--	--	--	19.3	Aug-13
<i>Russell 3000 + 3%</i>				<u>4.9</u>	--	<u>20.4</u>	--	<u>12.2</u>	--	<u>17.4</u>	--	<u>13.5</u>	--	<u>18.1</u>	--	<u>15.1</u>	Aug-13
Over/Under				2.3		-14.0		5.0		1.9		5.9				4.2	
Pantheon Global Secondary Funds	37,050,855	0.6		-2.0	--	-4.4	--	4.0	--	17.9	--	12.1	--	--	--	11.8	Jan-12
<i>Russell 3000 + 3%</i>				<u>4.9</u>	--	<u>20.4</u>	--	<u>12.2</u>	--	<u>17.4</u>	--	<u>13.5</u>	--	<u>18.1</u>	--	<u>17.6</u>	Jan-12
Over/Under				-6.9		-24.8		-8.2		0.5		-1.4				-5.8	
Drive Capital Fund II	11,081,827	0.2		35.3	--	33.7	--	35.8	--	--	--	--	--	--	--	-15.9	Sep-16
<i>Russell 3000 + 3%</i>				<u>4.9</u>	--	<u>20.4</u>	--	<u>12.2</u>	--	<u>17.4</u>	--	<u>13.5</u>	--	<u>18.1</u>	--	<u>16.6</u>	Sep-16
Over/Under				30.4		13.3		23.6								-32.5	
Abbott Secondary Opportunities	16,024,589	0.3		8.9	--	8.1	--	36.3	--	--	--	--	--	--	--	22.9	Jan-18
<i>Russell 3000 + 3%</i>				<u>4.9</u>	--	<u>20.4</u>	--	<u>12.2</u>	--	<u>17.4</u>	--	<u>13.5</u>	--	<u>18.1</u>	--	<u>11.4</u>	Jan-18
Over/Under				4.0		-12.3		24.1								11.5	
Clearlake Capital Partners V	6,517,668	0.1		21.8	--	21.8	--	61.8	--	--	--	--	--	--	--	40.8	Mar-18
<i>Russell 3000 + 3%</i>				<u>4.9</u>	--	<u>20.4</u>	--	<u>12.2</u>	--	<u>17.4</u>	--	<u>13.5</u>	--	<u>18.1</u>	--	<u>11.3</u>	Mar-18
Over/Under				16.9		1.4		49.6								29.5	

Private equity performance shown above is calculated using a time-weighted return methodology. Market values shown are cash-adjusted based on the current period's cash flows.

Adams Street Global Fund Series includes Adams Street 2010 U.S. Fund, 2010 Non-U.S. Developed Markets Fund, 2010 Non-U.S. Emerging Markets Fund, 2010 Direct Fund, 2013, and 2016 Global Fund.

Pantheon Global Secondary Funds includes Pantheon Global Secondary Fund IV and Global Secondary Fund V.



Ventura County Employees' Retirement Association

TOTAL FUND PERFORMANCE DETAIL (NET)

	Market Value (\$)	% of Portfolio	Policy %	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Battery Ventures XII	6,802,317	0.1		0.1	--	-1.8	--	-9.7	--	--	--	--	--	--	--	-7.9	Apr-18
Russell 3000 + 3%				4.9	--	20.4	--	12.2	--	17.4	--	13.5	--	18.1	--	13.7	Apr-18
Over/Under				-4.8		-22.2		-21.9								-21.6	
Insight Venture Partners X	18,521,281	0.3		4.3	--	7.7	--	1.6	--	--	--	--	--	--	--	1.4	May-18
Russell 3000 + 3%				4.9	--	20.4	--	12.2	--	17.4	--	13.5	--	18.1	--	14.2	May-18
Over/Under				-0.6		-12.7		-10.6								-12.8	
GTCR Fund XII	6,108,073	0.1		-2.7	--	-5.8	--	-45.5	--	--	--	--	--	--	--	-42.9	Jun-18
Russell 3000 + 3%				4.9	--	20.4	--	12.2	--	17.4	--	13.5	--	18.1	--	12.2	Jun-18
Over/Under				-7.6		-26.2		-57.7								-55.1	
Buenaventure One, LLC	21,585,629	0.4		3.3	--	6.8	--	5.9	--	--	--	--	--	--	--	5.9	Jul-18
Russell 3000 + 3%				4.9	--	20.4	--	12.2	--	17.4	--	13.5	--	18.1	--	12.2	Jul-18
Over/Under				-1.6		-13.6		-6.3								-6.3	
ECI 11	1,356,595	0.0		-13.0	--	9.2	--	--	--	--	--	--	--	--	--	6.5	Dec-18
Russell 3000 + 3%				4.9	--	20.4	--	12.2	--	17.4	--	13.5	--	18.1	--	9.5	Dec-18
Over/Under				-17.9		-11.2										-3.0	
The Resolute Fund IV L.P.	3,228,361	0.1		14.4	--	42.0	--	--	--	--	--	--	--	--	--	42.0	Jan-19
Russell 3000 + 3%				4.9	--	20.4	--	12.2	--	17.4	--	13.5	--	18.1	--	20.4	Jan-19
Over/Under				9.5		21.6										21.6	
GGV Capital VII L.P.	1,625,600	0.0		0.0	--	--	--	--	--	--	--	--	--	--	--	0.0	Feb-19
Russell 3000 + 3%				4.9	--	20.4	--	12.2	--	17.4	--	13.5	--	18.1	--	10.7	Feb-19
Over/Under				-4.9												-10.7	
GGV Discovery II, L.P.	241,500	0.0		0.0	--	--	--	--	--	--	--	--	--	--	--	0.0	Feb-19
Russell 3000 + 3%				4.9	--	20.4	--	12.2	--	17.4	--	13.5	--	18.1	--	10.7	Feb-19
Over/Under				-4.9												-10.7	
Drive Capital Overdrive Fund I	351,951	0.0		--	--	--	--	--	--	--	--	--	--	--	--	0.0	May-19
Russell 3000 + 3%				4.9	--	20.4	--	12.2	--	17.4	--	13.5	--	18.1	--	0.6	May-19
Over/Under																-0.6	

Private equity performance shown above is calculated using a time-weighted return methodology. Market values shown are cash-adjusted based on the current period's cash flows.

Adams Street Global Fund Series includes Adams Street 2010 U.S. Fund, 2010 Non-U.S. Developed Markets Fund, 2010 Non-U.S. Emerging Markets Fund, 2010 Direct Fund, 2013, and 2016 Global Fund.

Pantheon Global Secondary Funds includes Pantheon Global Secondary Fund IV and Global Secondary Fund V.

Private equity composite includes an additional \$218,037 from custodian pass through value.



Ventura County Employees' Retirement Association

TOTAL FUND PERFORMANCE DETAIL (NET)

	Market Value (\$)	% of Portfolio	Policy %	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Riverside Micro Cap Fund V, LP	506,855	0.0		--		--		--		--		--		--		-41.7	May-19
<i>Russell 3000 + 3%</i>				<u>4.9</u>	--	<u>20.4</u>	--	<u>12.2</u>	--	<u>17.4</u>	--	<u>13.5</u>	--	<u>18.1</u>	--	<u>0.6</u>	<i>May-19</i>
Over/Under																-42.3	
GGV Capital VII Plus, LP	457,200	0.0		--		--		--		--		--		--		0.0	Jun-19
<i>Russell 3000 + 3%</i>				<u>4.9</u>	--	<u>20.4</u>	--	<u>12.2</u>	--	<u>17.4</u>	--	<u>13.5</u>	--	<u>18.1</u>	--	<u>7.3</u>	<i>Jun-19</i>
Over/Under																-7.3	
Astorg VII L.P.	498,360	0.0		--		--		--		--		--		--		--	Jul-19
<i>Russell 3000 + 3%</i>				<u>4.9</u>	--	<u>20.4</u>	--	<u>12.2</u>	--	<u>17.4</u>	--	<u>13.5</u>	--	<u>18.1</u>	--	--	<i>Jul-19</i>
Over/Under																--	
M/C Partners Fund VIII LP. Limited Partnership	409,217	0.0		--		--		--		--		--		--		--	Jul-19
<i>Russell 3000 + 3%</i>				<u>4.9</u>	--	<u>20.4</u>	--	<u>12.2</u>	--	<u>17.4</u>	--	<u>13.5</u>	--	<u>18.1</u>	--	--	<i>Jul-19</i>
Over/Under																--	



VENTURA COUNTY EMPLOYEES' RETIREMENT ASSOCIATION PRIVATE EQUITY LIMITED PARTNERSHIP PERFORMANCE

Fund Name	Vintage Year	Initial Investment Date	Commitment	Capital Called to Date ¹	Outstanding Commitment ¹	Call Ratio	Add'l Fees ²	Distributions to Date	Valuation	Total Value	Net Benefit	IRR	Since Inception	
													Distributions to Paid In Multiple (DPI)	Total Value to Paid In Multiple (TVPI)
Abbott Secondary Opportunities, LP.	2017	12/21/2017	\$25,000,000	\$15,937,843	\$9,424,874	64%	--	\$2,625,000	\$16,024,586	\$18,649,586	\$2,711,743	21.3%	0.16x	1.17x
ABRY Partners IX	2019	12/6/2018	\$10,600,000	--	\$10,600,000	0%	--	--	(\$100,766)	(\$100,766)	--	--	--	--
Adams Street 2010 U.S. Fund	2010	5/21/2010	\$42,500,000	\$37,442,500	\$5,057,500	88%	\$15,213	\$27,801,095	\$38,208,870	\$66,009,965	\$28,552,252	14.4%	0.74x	1.76x
Adams Street 2010 Non-U.S. Dev. Mkts Fund	2010	5/21/2010	\$25,500,000	\$22,325,249	\$3,174,751	88%	\$1,589	\$17,994,687	\$16,410,381	\$34,405,068	\$12,078,230	11.6%	0.81x	1.54x
Adams Street 2010 Non-U.S. Emg Mkts Fund	2010	1/3/2011	\$8,500,000	\$7,633,000	\$867,000	90%	--	\$2,212,616	\$10,275,840	\$12,488,456	\$4,855,456	11.2%	0.29x	1.64x
Adams Street 2010 Direct Fund	2010	5/21/2010	\$8,500,000	\$8,066,500	\$433,500	95%	\$6,697	\$9,546,815	\$4,706,893	\$14,253,708	\$6,180,511	12.7%	1.18x	1.77x
Adams Street 2013 Global Fund	2013	6/27/2013	\$75,000,000	\$61,350,000	\$13,650,000	82%	\$10,728	\$11,799,337	\$75,403,038	\$87,202,375	\$25,841,647	11.5%	0.19x	1.42x
Adams Street 2016 Global Fund	2016	12/22/2016	\$60,000,000	\$31,620,000	\$28,380,000	53%	--	\$3,621,043	\$32,702,016	\$36,323,059	\$4,703,059	14.3%	0.11x	1.15x
Adams Street Co-Investment Fund IV A	2018	9/24/2018	\$30,000,000	\$6,967,808	\$23,100,000	23%	\$67,808	\$0	\$6,766,285	\$6,766,285	-\$269,331	-5.4%	--	0.97x
Advent International GPE IX	2019	5/23/2019	\$10,000,000	--	\$10,000,000	--	--	--	--	--	--	--	--	--
Astorg VII	2019	12/17/2018	\$8,752,740	\$437,999	\$8,314,741	0%	--	--	\$437,618	\$437,618	--	--	--	1x
Battery Ventures XII	2018	2/1/2018	\$9,050,000	\$4,129,515	\$4,920,485	46%	--	\$0	\$3,952,565	\$3,952,565	-\$176,950	-7.5%	0x	0.96x
Battery Ventures XII Side Fund	2018	2/1/2018	\$5,050,000	\$2,909,305	\$2,140,695	58%	--	\$0	\$2,849,752	\$2,849,752	-\$59,553	-4.1%	0x	0.98x
Blue Bay Direct Lending Fund III	2019	2/12/2019	\$25,000,000	\$3,793,138	\$21,206,862	15%	--	\$30,646	\$3,762,491	\$3,793,137	-\$1	0.0%	0.01x	1x
Buenaventure One, LLC	2018	1/5/2018	\$67,072,500	\$20,830,590	\$46,241,910	31%	--	\$403,156	\$21,585,632	\$21,988,788	\$1,158,198	8.0%	0.02x	1.06x
CapVest Equity Partners IV	2019	7/11/2018	\$12,531,787	--	\$12,531,787	0%	--	--	(\$53,112)	--	--	--	--	--
Clearlake Capital Partners V	2017	12/22/2017	\$9,950,000	\$4,781,476	\$5,258,013	48%	\$46,158	\$150,190	\$6,517,670	\$6,667,860	\$1,840,226	48.7%	0.03x	1.39x
CVI Credit Value Fund IV	2017	12/31/2017	\$30,000,000	\$15,000,000	\$15,000,000	50%	--	\$6,147	\$15,717,755	\$15,723,902	\$723,902	6.5%	0x	1.05x
Drive Capital Fund II	2016	9/1/2016	\$15,000,000	\$8,817,135	\$6,186,075	59%	\$3,210	\$0	\$11,081,824	\$11,081,824	\$2,261,479	19.3%	0x	1.26x
Drive Capital Fund III	2019	4/5/2019	\$7,500,000	--	\$7,500,000	--	--	--	--	--	--	--	--	--
Drive Capital Overdrive Fund I	2019	4/5/2019	\$7,500,000	\$351,951	\$7,148,049	5%	--	\$0	\$351,951	\$351,951	\$0	--	0x	1x
ECI 11	2018	7/5/2018	\$9,532,625	\$1,252,530	\$8,280,095	13%	--	\$0	\$1,065,919	\$1,065,919	-\$186,611	-25.0%	--	0.85x
Genstar Capital Partners IX	2019	2/21/2019	\$7,500,000	--	\$7,500,000	0%	--	--	--	--	--	--	--	--
Genstar Capital Partners IX Opportunities Program	2019	2/21/2019	\$2,500,000	--	\$2,500,000	0%	--	--	--	--	--	--	--	--
GGV Capital VII	2019	8/15/2018	\$10,160,000	\$1,625,600	\$8,534,400	16%	--	\$0	\$1,625,600	\$1,625,600	--	--	--	1x
GGV Capital VII Plus	2019	8/15/2018	\$2,540,000	\$457,200	\$2,082,800	18%	--	--	\$457,200	\$457,200	--	--	--	1x
GGV Discovery II	2019	8/15/2018	\$2,100,000	\$241,500	\$1,858,500	12%	--	\$0	\$241,500	\$241,500	--	--	--	1x
Great Hill Equity Partners VII	2019	6/28/2019	\$8,900,000	--	\$8,900,000	--	--	--	--	--	--	--	--	--
GTCR Fund XII	2017	9/29/2017	\$30,000,000	\$7,428,000	\$22,667,792	25%	--	\$264,502	\$5,335,795	\$5,600,297	-\$1,827,703	-37.1%	0.04x	0.75x
HarbourVest - Dover Street VIII	2013	5/30/2013	\$67,500,000	\$60,834,954	\$6,750,000	90%	\$84,954	\$69,159,275	\$26,610,278	\$95,769,553	\$34,849,645	21.1%	1.14x	1.57x
HarbourVest - Dover Street IX	2016	12/16/2016	\$60,000,000	\$37,800,000	\$22,200,000	63%	--	\$11,992,086	\$36,687,525	\$48,679,611	\$10,879,611	30.5%	0.32x	1.29x
HarbourVest - Dover Street X	2019	5/31/2019	\$40,000,000	--	\$40,000,000	--	--	--	--	--	--	--	--	--
HarbourVest - PRTNS CO INVEST IV L.P.	2017	6/2/2017	\$30,000,000	\$24,464,388	\$5,732,352	82%	--	\$2,641,347	\$26,805,051	\$29,446,398	\$4,982,010	12.9%	0.11x	1.2x
HarbourVest - PRTNS CO INVEST V L.P.	2019	7/31/2018	\$35,000,000	--	\$35,000,000	--	--	\$0	\$2,799,677	\$2,799,677	--	--	--	--
Hellman & Friedman Capital Partners IX	2019	9/28/2018	\$19,800,000	--	\$19,800,000	0%	--	--	(\$35,474)	(\$35,474)	--	--	--	--
Insight Venture Partners X	2017	10/13/2017	\$25,000,000	\$17,750,000	\$7,250,000	71%	--	\$8,561	\$18,521,286	\$18,529,847	\$779,847	7.7%	0x	1.04x
M/C Partners VIII	2019	4/2/2018	\$10,000,000	\$504,514	\$9,495,486	0%	--	--	\$409,217	\$409,217	-\$95,297	-100.0%	--	0.81x
Monroe Capital Private Credit Fund III	2018	9/5/2018	\$25,000,000	\$10,000,000	\$15,000,000	40%	--	\$355,219	\$9,961,703	\$10,316,922	\$316,922	7.1%	0.04x	1.03x
Pantheon Global Secondary Fund III	2010	8/20/2010	\$15,000,000	\$9,960,000	\$5,040,000	66%	--	\$12,681,543	\$3,091,607	\$15,773,150	\$5,813,150	13.7%	1.27x	1.58x
Pantheon Global Secondary Fund V	2015	2/26/2015	\$50,000,000	\$33,566,509	\$16,433,491	67%	(\$162,514)	\$10,437,534	\$33,959,250	\$44,396,784	\$10,992,789	14.6%	0.31x	1.32x
The Resolute Fund IV	2018	5/2/2018	\$20,000,000	\$4,198,918	\$16,918,300	21%	--	\$1,937,960	\$3,228,360	\$5,166,320	\$967,402	97.2%	0.46x	1.23x
Riverside Micro-Cap Fund V	2018	8/21/2018	\$10,000,000	\$869,109	\$9,130,891	9%	--	--	\$506,855	\$506,855	-\$362,254	-96.2%	--	0.58x
TA XIII	2019	5/2/2019	\$10,000,000	--	\$10,000,000	--	--	--	--	--	--	--	--	--
Total VCERA Private Equity Program	--	5/21/2010	\$983,539,652	\$463,347,231	\$522,210,349	47%	\$73,843	\$185,668,759	\$437,872,638	\$623,541,397	\$157,510,379	14.6%	0.4x	1.35x

1. Includes recycled/recallable distributions received to date.

2. Add'l Fees represents notional interest paid/(received).

3. Add'l Fees for Pantheon Global Secondary Fund V includes notional interest paid/(received) and management fee rebates paid to VCERA.

Note: Private equity performance data is reported net of fees.

Performance shown is based on 6/30/2019 statement of investments produced by Abbott Capital.



Ventura County Employees' Retirement Association

TOTAL FUND PERFORMANCE DETAIL (NET)

	Market Value (\$)	% of Portfolio	Policy %	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Total US Fixed Income	1,020,483,662	17.9	20.0	2.7	53	5.8	59	7.3	36	3.1	50	3.0	30	5.6	30	5.8	Feb-94
BBgBarc US Aggregate TR				3.1	29	6.1	52	7.9	16	2.3	65	2.9	39	3.9	78	5.3	Feb-94
Over/Under				-0.4		-0.3		-0.6		0.8		0.1		1.7		0.5	
InvMetrics Public DB Total Fix Inc Net Median				2.8		6.2		6.8		3.1		2.8		4.7		5.3	Feb-94
BlackRock U.S. Debt Fund	239,055,720	4.2		3.1	30	6.1	45	7.9	29	2.4	58	3.0	50	4.0	57	5.2	Nov-95
BBgBarc US Aggregate TR				3.1	30	6.1	46	7.9	29	2.3	60	2.9	51	3.9	59	5.1	Nov-95
Over/Under				0.0		0.0		0.0		0.1		0.1		0.1		0.1	
eV All US Fixed Inc Net Median				2.4		5.7		6.5		2.7		3.0		4.4		4.9	Nov-95
Western	318,920,827	5.6		3.4	18	7.2	31	8.9	16	3.5	38	3.8	29	6.2	30	6.1	Dec-96
BBgBarc US Aggregate TR				3.1	30	6.1	46	7.9	29	2.3	60	2.9	51	3.9	59	5.1	Dec-96
Over/Under				0.3		1.1		1.0		1.2		0.9		2.3		1.0	
eV All US Fixed Inc Net Median				2.4		5.7		6.5		2.7		3.0		4.4		5.0	Dec-96
Reams	325,557,060	5.7		1.9	65	4.3	70	5.7	62	2.7	50	2.2	71	5.1	41	5.2	Sep-01
Reams Custom Index				0.6	97	1.3	98	2.6	95	1.8	80	1.2	93	2.8	78	3.8	Sep-01
Over/Under				1.3		3.0		3.1		0.9		1.0		2.3		1.4	
BBgBarc US Aggregate TR				3.1	30	6.1	46	7.9	29	2.3	60	2.9	51	3.9	59	4.4	Sep-01
3-Month LIBOR + 3%				1.4	83	2.8	84	5.7	62	4.9	22	4.3	21	3.8	61	4.8	Sep-01
eV All US Fixed Inc Net Median				2.4		5.7		6.5		2.7		3.0		4.4		4.4	Sep-01
Loomis Strategic Alpha	48,323,810	0.8		1.6	76	3.6	78	3.2	90	3.7	36	2.6	62	--	--	2.7	Jul-13
BBgBarc US Aggregate TR				3.1	30	6.1	46	7.9	29	2.3	60	2.9	51	3.9	59	3.2	Jul-13
Over/Under				-1.5		-2.5		-4.7		1.4		-0.3				-0.5	
3-Month LIBOR + 3%				1.4	83	2.8	84	5.7	62	4.9	22	4.3	21	3.8	61	4.1	Jul-13
eV All US Fixed Inc Net Median				2.4		5.7		6.5		2.7		3.0		4.4		3.3	Jul-13
Loomis Sayles Multi Strategy	88,626,246	1.6		2.9	36	6.8	34	7.8	31	5.2	19	3.8	29	7.8	18	6.3	Jul-05
Loomis Custom Index				2.8	38	7.2	31	7.7	33	3.8	35	3.4	38	5.4	38	5.1	Jul-05
Over/Under				0.1		-0.4		0.1		1.4		0.4		2.4		1.2	
BBgBarc US Govt/Credit TR				3.5	17	6.9	33	8.5	18	2.4	57	3.1	47	4.1	56	4.2	Jul-05
eV All US Fixed Inc Net Median				2.4		5.7		6.5		2.7		3.0		4.4		4.2	Jul-05

Reams Custom Index: Merrill Lynch 3 Month Libor Constant Maturity Index, prior to February 2013 the Barclays Aggregate

Loomis Custom Index: 65% Barclays Aggregate, 30% Citigroup High Yield Market Index and 5% JPM Non-US Hedged Bond Index

As of January 2016, Loomis Strategic Alpha was moved from the Total Global Fixed Income composite to the Total US Fixed Income composite.



Ventura County Employees' Retirement Association

TOTAL FUND PERFORMANCE DETAIL (NET)

	Market Value (\$)	% of Portfolio	Policy %	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Private Debt	35,064,913	0.6	0.0	2.3	--	4.3	--	6.7	--	--	--	--	--	--	--	6.0	Jan-18
50% BofA ML US HY BB-B Constrained Index/ 50% Credit Suisse Leveraged Loan Index +150bps				2.6	--	8.7	--	8.0	--	--	--	--	--	--	--	6.4	Jan-18
Over/Under				-0.3		-4.4		-1.3								-0.4	
CVI Credit Value Fund	15,717,757	0.3		2.2	--	3.6	--	6.0	--	--	--	--	--	--	--	5.5	Jan-18
50% BofA ML US HY BB-B Constrained Index/ 50% Credit Suisse Leveraged Loan Index +150bps				2.6	--	8.7	--	8.0	--	--	--	--	--	--	--	6.4	Jan-18
Over/Under				-0.4		-5.1		-2.0								-0.9	
Monroe Capital Private Credit Fund III	13,571,177	0.2		2.6	--	5.9	--	--	--	--	--	--	--	--	--	5.9	Dec-18
50% BofA ML US HY BB-B Constrained Index/ 50% Credit Suisse Leveraged Loan Index +150bps				2.6	--	8.7	--	8.0	--	--	--	--	--	--	--	6.5	Dec-18
Over/Under				0.0		-2.8										-0.6	
Bluebay Direct Lending Fund III	5,775,979	0.1		1.7	--	--	--	--	--	--	--	--	--	--	--	1.7	Apr-19
50% BofA ML US HY BB-B Constrained Index/ 50% Credit Suisse Leveraged Loan Index +150bps				2.6	--	8.7	--	8.0	--	--	--	--	--	--	--	2.6	Apr-19
Over/Under				-0.9												-0.9	
Treasuries	103,502,120	1.8	0.0	3.5	--	--	--	--	--	--	--	--	--	--	--	3.5	Apr-19
Reams 10-Year Treasuries	103,502,120	1.8		3.5	--	--	--	--	--	--	--	--	--	--	--	3.5	Apr-19
BBgBarc US Treasury 7-10 Yr TR				4.0	--	6.9	--	10.1	--	1.3	--	3.3	--	4.4	--	4.0	Apr-19
Over/Under				-0.5												-0.5	

Total Real Estate Benchmark: NCREIF ODCE; prior to January 2006, the NCREIF Property Index
 Bluebay Direct Lending Fund III funded 3/8/2019.
 Reams 10-Year Treasuries funded 3/31/2019.



Ventura County Employees' Retirement Association

TOTAL FUND PERFORMANCE DETAIL (NET)

	Market Value (\$)	% of Portfolio	Policy %	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Total Real Estate	428,649,569	7.5	7.0	-2.0	85	-1.0	84	2.2	83	5.0	60	7.5	75	8.1	40	7.6	Mar-94
<i>NCREIF ODCE Net</i>				<u>0.8</u>	73	<u>2.0</u>	73	<u>5.5</u>	69	<u>6.6</u>	40	<u>8.8</u>	48	<u>8.9</u>	31	<u>8.0</u>	<i>Mar-94</i>
Over/Under				-2.8		-3.0		-3.3		-1.6		-1.3		-0.8		-0.4	
<i>InvMetrics Corp DB Real Estate Pub+Priv Net Median</i>				1.1		2.8		6.5		6.1		8.5		7.1		9.2	<i>Mar-94</i>
Prudential Real Estate	161,263,535	2.8		1.4	--	3.1	--	7.3	--	7.5	--	9.6	--	9.8	--	6.3	Jun-04
<i>NCREIF ODCE Net</i>				<u>0.8</u>	--	<u>2.0</u>	--	<u>5.5</u>	--	<u>6.6</u>	--	<u>8.8</u>	--	<u>8.9</u>	--	<u>7.0</u>	<i>Jun-04</i>
Over/Under				0.6		1.1		1.8		0.9		0.8		0.9		-0.7	
<i>NCREIF ODCE</i>				1.0	--	2.4	--	6.4	--	7.6	--	9.8	--	9.9	--	8.0	<i>Jun-04</i>
UBS Real Estate	267,386,034	4.7		-3.9	--	-3.4	--	-0.7	--	3.6	--	6.3	--	7.3	--	6.9	Mar-03
<i>NCREIF ODCE Net</i>				<u>0.8</u>	--	<u>2.0</u>	--	<u>5.5</u>	--	<u>6.6</u>	--	<u>8.8</u>	--	<u>8.9</u>	--	<u>7.2</u>	<i>Mar-03</i>
Over/Under				-4.7		-5.4		-6.2		-3.0		-2.5		-1.6		-0.3	
<i>NCREIF ODCE</i>				1.0	--	2.4	--	6.4	--	7.6	--	9.8	--	9.9	--	8.2	<i>Mar-03</i>

Total Real Estate Benchmark: NCREIF ODCE; prior to January 2006, the NCREIF Property Index.



Ventura County Employees' Retirement Association

TOTAL FUND PERFORMANCE DETAIL (NET)

	Market Value (\$)	% of Portfolio	Policy %	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Total Real Assets	456,514,784	8.0	10.0	2.5	--	13.3	--	5.0	--	4.9	--	0.8	--	--	--	4.7	Apr-13
<i>CPI + 4% (Unadjusted)</i>				<i>1.8</i>	--	<i>4.0</i>	--	<i>5.7</i>	--	<i>6.1</i>	--	<i>5.5</i>	--	--	--	<i>6.3</i>	<i>Apr-13</i>
Over/Under				0.7		9.3		-0.7		-1.2		-4.7				-1.6	
Bridgewater All Weather Fund	334,510,717	5.9		3.7	--	12.0	--	6.6	--	6.5	--	3.7	--	--	--	5.4	Aug-13
<i>CPI + 5% (Unadjusted)</i>				<i>2.0</i>	--	<i>4.5</i>	--	<i>6.7</i>	--	<i>7.1</i>	--	<i>6.5</i>	--	--	--	<i>6.6</i>	<i>Aug-13</i>
Over/Under				1.7		7.5		-0.1		-0.6		-2.8				-1.2	
Tortoise Energy Infrastructure	122,004,067	2.1		-0.8	--	17.2	--	0.8	--	1.1	--	-5.4	--	--	--	1.2	Apr-13
<i>Tortoise MLP Index</i>				<i>1.4</i>	--	<i>19.3</i>	--	<i>4.6</i>	--	<i>1.2</i>	--	<i>-6.7</i>	--	--	--	<i>-1.8</i>	<i>Apr-13</i>
Over/Under				-2.2		-2.1		-3.8		-0.1		1.3				3.0	
Overlay	62,434,919	1.1	0.0														
Parametric	34,000,794	0.6															
Abbott Capital Cash	28,434,124	0.5															

Overlay performance is not applicable on an individual account level.

Color Coding: PERFORMANCE: Green-Over performance, Red-Under performance

Color Coding: RANKS: 1 - 25 Green - Positive Result, 26 - 50 Yellow, 50 - 75 Orange, 76 - 100 Red - Negative Result



MANAGER DUE DILIGENCE

NEPC, LLC

DUE DILIGENCE MONITOR

The items below summarize the recent quarter's performance and any changes or announcements from the Plan's managers/products. A "-" indicates there were no material announcements. A "Yes" indicates there was an announcement and a brief summary is provided on the following pages. NEPC's Due Diligence Committee meets every two weeks to review events as they relate to investment managers and determine if any action should be taken (by NEPC and/or by our clients). Events are rated: No Action, Watch, Hold, Client Review or Terminate. NEPC's recommendation in view of the recent quarter's developments (performance, manager events, and any of the longer-term trending data) is refreshed quarterly.

Investment Options	Performance (Recent Quarter)	Changes/Announcements (Recent Quarter)	NEPC DD Committee Rec.	Plan Rec.	Comments	Last Onsite Conducted
BlackRock Russell 1000 Index	-	-	-	-		10/2013
Western U.S. Index Plus	-	-	-	-		6/2014
BlackRock Russell 2500 Index	-	-	-	-		10/2013
BlackRock MSCI ACWI ex-U.S. Index	-	-	-	-		10/2013
Sprucegrove	-	-	-	-		N/A
Hexavest	Bottom Quartile	-	-	Watch (Board Driven)	On Watch for Performance Issues	1/2013
Walter Scott	Top Quartile	-	-	-		10/2012
BlackRock MSCI ACWI Index	-	-	-	-		10/2013
Adams Street	N/A	-	-	-		11/2013
HarbourVest	N/A	-	-	-		3/2014
Pantheon	N/A	-	-	-		1/2015
Drive	N/A	-	-	-		
Abbott Secondary Opps.	N/A	-	-	-		
Carval Credit Value	N/A	-	-	-		
Battery Ventures	N/A	-	-	-		
Buenaventure One	N/A	-	-	-		
Clearlake Capital	N/A	-	-	-		
BlackRock U.S. Debt Fund	-	-	-	-		10/2013
Western	Top Quartile	-	-	-		6/2014
Reams	-	-	-	-		11/2013



DUE DILIGENCE MONITOR

	Performance (Recent Quarter)	Changes/Announcements (Recent Quarter)	NEPC DD Committee Rec.	Plan Rec.	Comments	Last Onsite Conducted
Loomis Sayles Strategic Alpha	Bottom Quartile	-	-	-		11/2013
Loomis Sayles Multi-Sector Full Discretion	-	-	-	-		11/2013
Prudential	N/A	-	-	-		7/2014
RREEF	N/A	-	-	-		7/2013
UBS	N/A	No	No Action	Watch	NEPC Downgrade to 3-rating	8/2011
Bridgewater	N/A	-	-	-		9/2012
Tortoise	N/A	-	-	-		8/2013
Parametric/Clifton	N/A	-	-	-		7/2013

NEPC Due Diligence Committee Recommendation Key

No Action	Informational items have surfaced; no action is recommended.
Watch	Issues have surfaced to be concerned over; manager can participate in future searches, but current and prospective clients must be made aware of the issues.
Hold	Serious issues have surfaced to be concerned over; manager cannot participate in future searches unless a client specifically requests, but current and prospective clients must be made aware of the issues.
Client Review	Very serious issues have surfaced with an Investment Manager; manager cannot participate in future searches unless a client specifically requests. Current clients must be advised to review the manager.
Terminate	We have lost all confidence in the product; manager would not be recommended for searches and clients would be discouraged from using. The manager cannot participate in future searches unless a client specifically requests. Current clients must be advised to replace the manager.



DUE DILIGENCE MONITOR

The items below summarize any changes or announcements from your Plan managers/funds. A “Yes” indicates there was an announcement and a brief summary is provided separately. NEPC’s Due Diligence Committee meets every two weeks to review events as they relate to investment managers and determines if any action should be taken by NEPC and/or by our clients. They rate events: No Action, Watch, Hold, Client Review or Terminate. NEPC considers ourselves to be a fiduciary, as ERISA defines the term in Section 3(21).

Investment Manager	Manager Changes/ Announcements (Recent Quarter)	NEPC Due Diligence Committee Recommendations
UBS Asset Management – Trumbull Property Fund	No	Fund Downgrade, No Action Necessary at this time

Manager Changes/Announcements

Below is a summary of manager changes, announcements and due diligence events since the issuance of our last quarterly report.

On July 22, 2019, NEPC’s Alternative Asset Committee (AAC) voted to approve a “3” rating for the UBS Trumbull Property Fund (“TPF” or the “Fund”). NEPC has downgraded the UBS Trumbull Property Fund to a 3 rating. The Fund previously had a 1 rating (formerly “preferred”) from NEPC, with the original rating dating back to 2010.. TPF has consistently underperformed its peer benchmark, the NFI-ODCE Index, for the past several years. Over the trailing 5-year time period ending December 31, 2018, the Fund has lagged the benchmark by approximately 142 basis points annualized (net of fees). Based on an analysis of the Fund’s historical allocations and returns, NEPC believes that the underperformance has been due to several factors, including leverage, top-down allocations, and a combination of asset selection/asset management.

No client action is necessary at this time; however, clients may elect to request a redemption from the Fund. NEPC will continue to monitor the Fund’s performance.

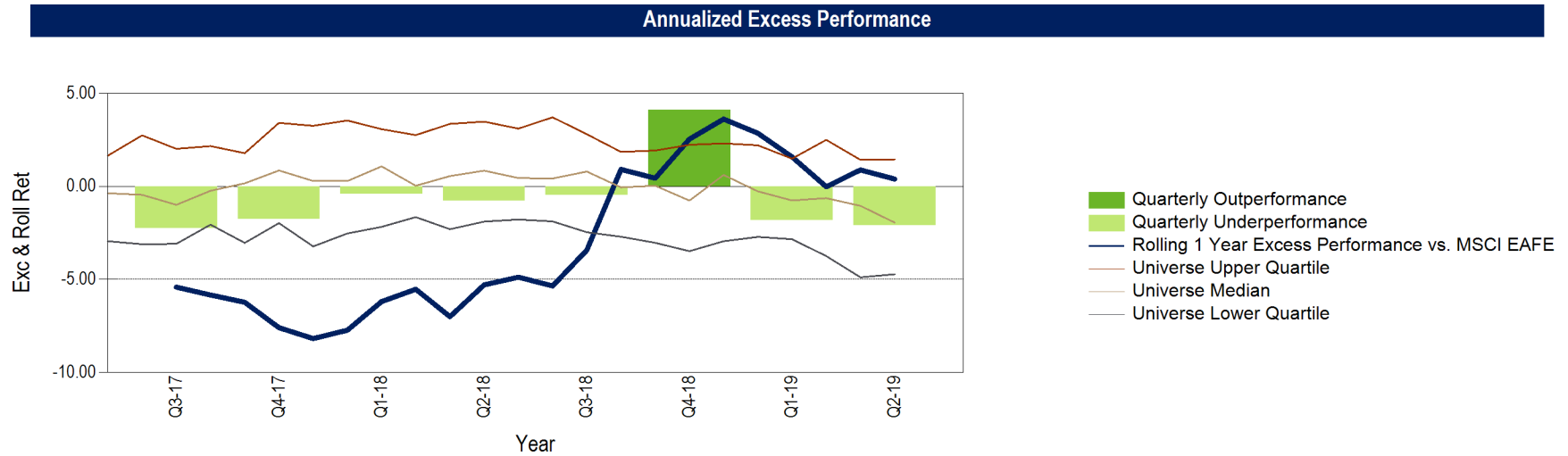
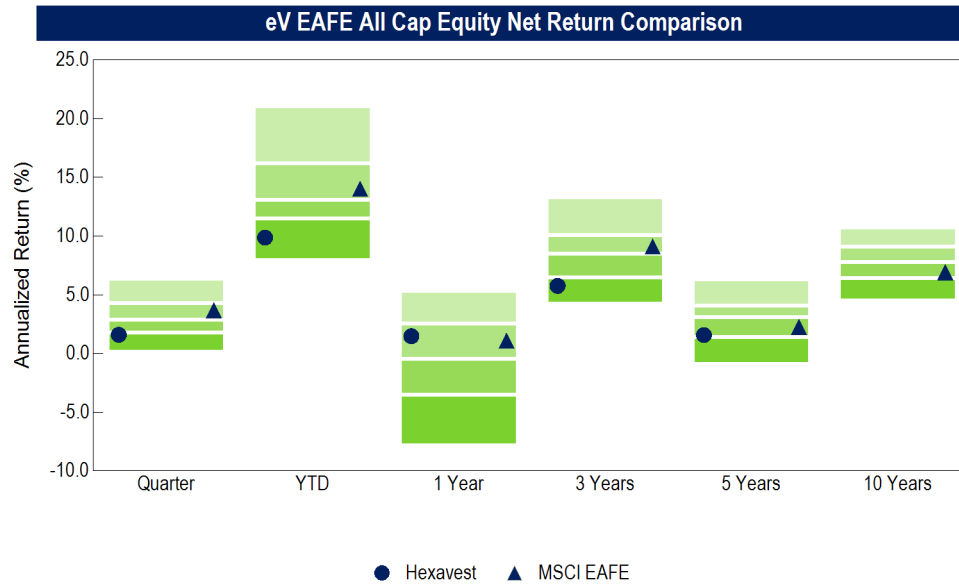
A legend key to our recommendations is provided below.

NEPC Due Diligence Committee Recommendation Key	
No Action	Informational items have surfaced; no action is recommended.
Watch	Issues have surfaced to be concerned over; manager can participate in future searches, but current and prospective clients must be made aware of the issues.
Hold	Serious issues have surfaced to be concerned over; manager cannot be in future searches unless a client specifically requests, but current and prospective clients must be made aware of the issues.
Client Review	Very serious issues have surfaced with a manager; manager cannot be in future searches unless a client specifically requests. Current clients must be advised to review the manager.
Terminate	We have lost all confidence in the product; manager would not be recommended for searches and clients would be discouraged from using. The manager cannot be in future searches unless a client specifically requests. Current clients must be advised to replace the manager.



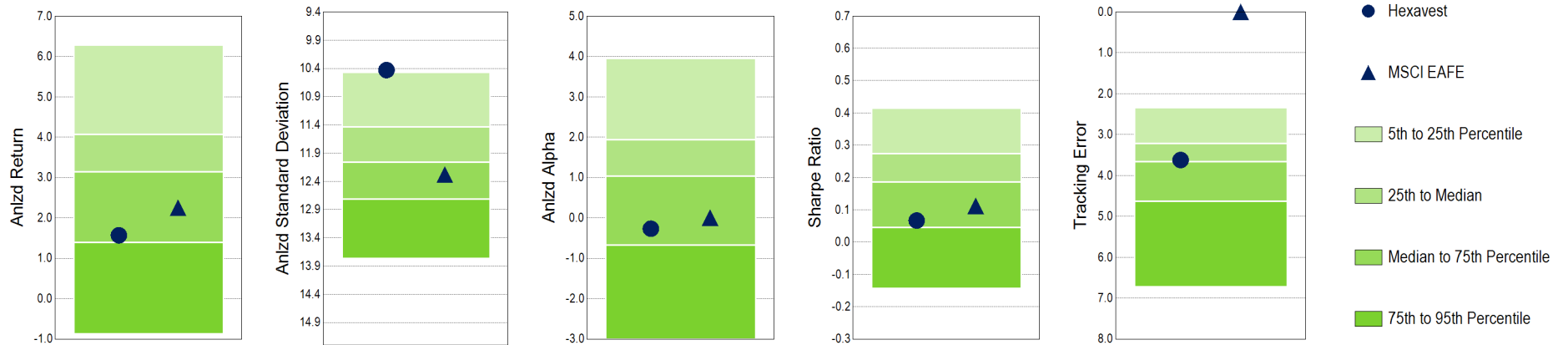
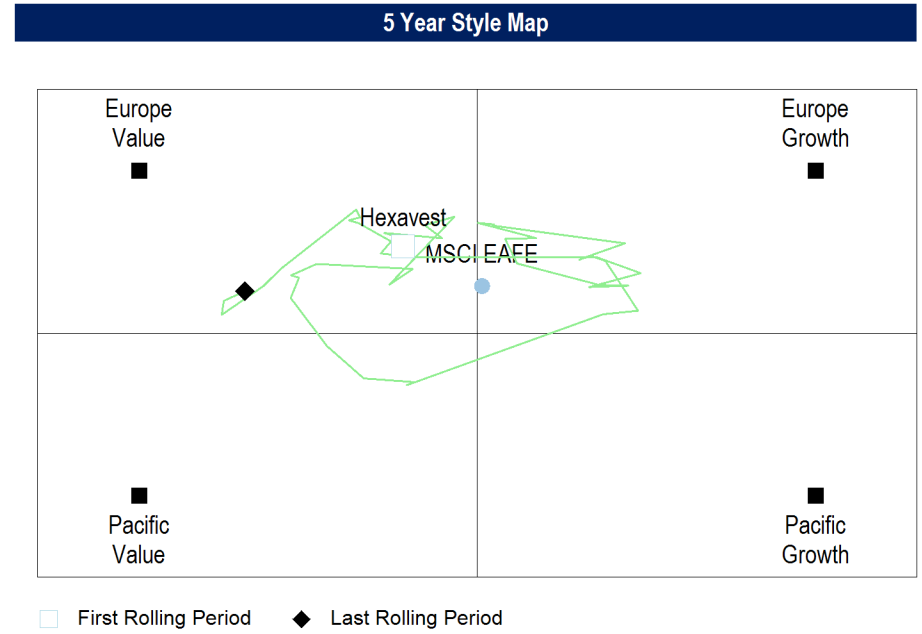
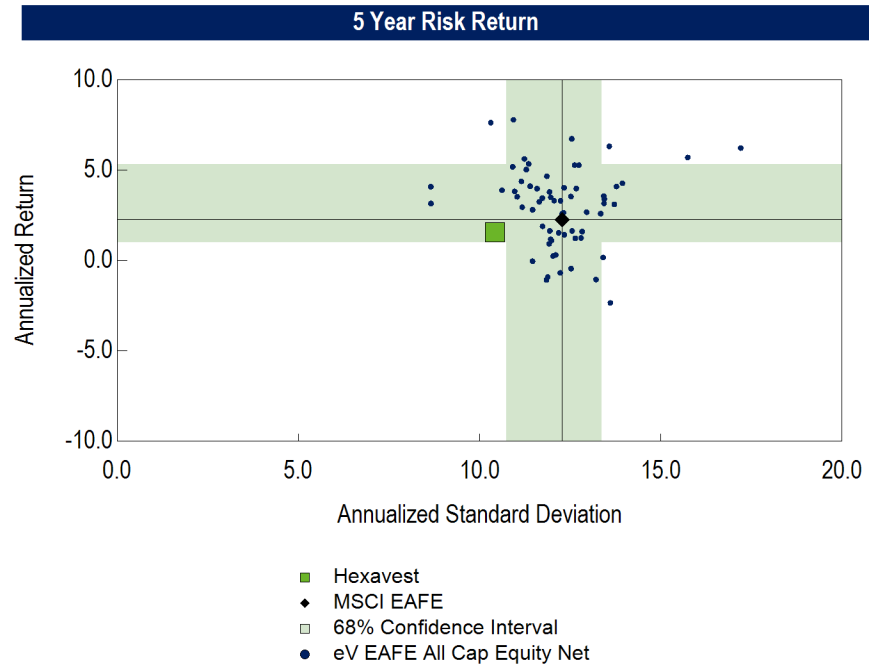
Ventura County Employees' Retirement Association

HEXAVEST



Ventura County Employees' Retirement Association

HEXAVEST



Ventura County Employees' Retirement Association

TOTAL FUND CALENDAR YEAR RETURN SUMMARY

	2018 (%)	2017 (%)	2016 (%)	2015 (%)	2014 (%)	2013 (%)	2012 (%)	2011 (%)	2010 (%)	2009 (%)	2008 (%)
Total Fund	-3.6	16.0	8.6	-0.9	6.3	18.1	14.0	0.3	15.1	24.2	-30.9
Policy Index	-3.6	16.3	8.4	0.8	6.8	17.2	12.9	0.5	13.2	21.0	-27.1
Over/Under	0.0	-0.3	0.2	-1.7	-0.5	0.9	1.1	-0.2	1.9	3.2	-3.8
60% MSCI ACWI (Net) / 40% FTSE WGBI	-5.8	17.1	5.5	-2.6	2.3	11.4	10.3	-1.8	10.0	21.3	-24.1
60% S&P 500 / 40% BBgBarc Aggregate	-2.3	14.2	8.3	1.3	10.6	17.6	11.3	4.7	12.1	18.4	-22.1
Total Fund ex Parametric*	-3.7	15.9	8.6	-0.9	6.3	17.8	13.7	0.6	14.5	23.3	-30.3
Total Fund ex Private Equity	-4.8	15.9	8.6	-1.4	6.1	16.2	13.3	--	--	--	--
Policy Index	-3.6	16.3	8.4	0.8	6.8	17.2	12.9	0.5	13.2	21.0	-27.1
Over/Under	-1.2	-0.4	0.2	-2.2	-0.7	-1.0	0.4	--	--	--	--
Total US Equity	-5.0	21.4	13.0	0.5	12.5	34.0	16.9	0.9	18.5	29.2	-40.0
Russell 3000	-5.2	21.1	12.7	0.4	12.4	33.5	16.4	1.1	17.5	28.6	-37.2
Over/Under	0.2	0.3	0.3	0.1	0.1	0.5	0.5	-0.2	1.0	0.6	-2.8
Western U.S. Index Plus	-5.3	22.7	13.8	1.1	14.2	32.9	20.7	1.0	24.7	42.6	-56.3
S&P 500	-4.4	21.8	12.0	1.4	13.7	32.4	16.0	2.1	15.1	26.5	-37.0
Over/Under	-0.9	0.9	1.8	-0.3	0.5	0.5	4.7	-1.1	9.6	16.1	-19.3
Blackrock Russell 1000 Index	-4.7	--	--	--	--	--	--	--	--	--	--
Russell 1000	-4.8	21.7	12.1	0.9	13.2	33.1	16.4	1.5	16.1	28.4	-37.6
Over/Under	0.1	--	--	--	--	--	--	--	--	--	--
Blackrock Russell 2500 Index	-9.9	--	--	--	--	--	--	--	--	--	--
Russell 2500	-10.0	16.8	17.6	-2.9	7.1	36.8	17.9	-2.5	26.7	34.4	-36.8
Over/Under	0.1	--	--	--	--	--	--	--	--	--	--



Ventura County Employees' Retirement Association

TOTAL FUND CALENDAR YEAR RETURN SUMMARY

	2018 (%)	2017 (%)	2016 (%)	2015 (%)	2014 (%)	2013 (%)	2012 (%)	2011 (%)	2010 (%)	2009 (%)	2008 (%)
Total Non-US Equity	-13.0	26.5	6.6	-4.8	-3.6	16.3	17.9	-13.6	13.5	37.4	-44.1
<i>MSCI ACWI ex USA</i>	<i>-14.2</i>	<i>27.2</i>	<i>4.5</i>	<i>-5.7</i>	<i>-3.9</i>	<i>15.3</i>	<i>16.8</i>	<i>-13.7</i>	<i>11.2</i>	<i>41.4</i>	<i>-45.5</i>
Over/Under	1.2	-0.7	2.1	0.9	0.3	1.0	1.1	0.1	2.3	-4.0	1.4
<i>MSCI EAFE</i>	<i>-13.8</i>	<i>25.0</i>	<i>1.0</i>	<i>-0.8</i>	<i>-4.9</i>	<i>22.8</i>	<i>17.3</i>	<i>-12.1</i>	<i>7.8</i>	<i>31.8</i>	<i>-43.4</i>
<i>MSCI ACWI ex USA NR LCL</i>	<i>-10.6</i>	<i>18.2</i>	<i>7.0</i>	<i>1.9</i>	<i>6.0</i>	<i>20.1</i>	<i>16.3</i>	<i>-12.2</i>	<i>7.6</i>	<i>31.7</i>	<i>-40.9</i>
<i>MSCI EAFE NR LCL</i>	<i>-11.0</i>	<i>15.2</i>	<i>5.3</i>	<i>5.3</i>	<i>5.9</i>	<i>26.9</i>	<i>17.3</i>	<i>-12.2</i>	<i>4.8</i>	<i>24.7</i>	<i>-40.3</i>
BlackRock ACWI ex-U.S. Index	-14.6	28.1	4.7	-4.5	-3.8	16.0	17.2	-14.1	12.8	43.1	-45.6
<i>MSCI ACWI ex USA IMI</i>	<i>-14.8</i>	<i>27.8</i>	<i>4.4</i>	<i>-4.6</i>	<i>-3.9</i>	<i>15.8</i>	<i>17.0</i>	<i>-14.3</i>	<i>12.7</i>	<i>43.6</i>	<i>-46.0</i>
Over/Under	0.2	0.3	0.3	0.1	0.1	0.2	0.2	0.2	0.1	-0.5	0.4
<i>MSCI ACWI ex USA NR LCL</i>	<i>-10.6</i>	<i>18.2</i>	<i>7.0</i>	<i>1.9</i>	<i>6.0</i>	<i>20.1</i>	<i>16.3</i>	<i>-12.2</i>	<i>7.6</i>	<i>31.7</i>	<i>-40.9</i>
Sprucegrove	-13.8	27.5	11.9	-9.1	-3.2	17.1	17.2	-10.7	18.8	36.2	-42.4
<i>MSCI ACWI ex USA</i>	<i>-14.2</i>	<i>27.2</i>	<i>4.5</i>	<i>-5.7</i>	<i>-3.9</i>	<i>15.3</i>	<i>16.8</i>	<i>-13.7</i>	<i>11.2</i>	<i>41.4</i>	<i>-45.5</i>
Over/Under	0.4	0.3	7.4	-3.4	0.7	1.8	0.4	3.0	7.6	-5.2	3.1
<i>MSCI EAFE</i>	<i>-13.8</i>	<i>25.0</i>	<i>1.0</i>	<i>-0.8</i>	<i>-4.9</i>	<i>22.8</i>	<i>17.3</i>	<i>-12.1</i>	<i>7.8</i>	<i>31.8</i>	<i>-43.4</i>
<i>MSCI ACWI ex USA NR LCL</i>	<i>-10.6</i>	<i>18.2</i>	<i>7.0</i>	<i>1.9</i>	<i>6.0</i>	<i>20.1</i>	<i>16.3</i>	<i>-12.2</i>	<i>7.6</i>	<i>31.7</i>	<i>-40.9</i>
<i>MSCI EAFE NR LCL</i>	<i>-11.0</i>	<i>15.2</i>	<i>5.3</i>	<i>5.3</i>	<i>5.9</i>	<i>26.9</i>	<i>17.3</i>	<i>-12.2</i>	<i>4.8</i>	<i>24.7</i>	<i>-40.3</i>
Hexavest	-11.3	17.4	3.8	-1.4	-4.3	20.2	13.7	-9.6	--	--	--
<i>MSCI EAFE</i>	<i>-13.8</i>	<i>25.0</i>	<i>1.0</i>	<i>-0.8</i>	<i>-4.9</i>	<i>22.8</i>	<i>17.3</i>	<i>-12.1</i>	<i>7.8</i>	<i>31.8</i>	<i>-43.4</i>
Over/Under	2.5	-7.6	2.8	-0.6	0.6	-2.6	-3.6	2.5	--	--	--
<i>MSCI EAFE NR LCL</i>	<i>-11.0</i>	<i>15.2</i>	<i>5.3</i>	<i>5.3</i>	<i>5.9</i>	<i>26.9</i>	<i>17.3</i>	<i>-12.2</i>	<i>4.8</i>	<i>24.7</i>	<i>-40.3</i>
Walter Scott	-7.1	26.6	5.1	-0.4	-3.5	11.8	20.4	-9.3	--	--	--
<i>MSCI ACWI ex USA</i>	<i>-14.2</i>	<i>27.2</i>	<i>4.5</i>	<i>-5.7</i>	<i>-3.9</i>	<i>15.3</i>	<i>16.8</i>	<i>-13.7</i>	<i>11.2</i>	<i>41.4</i>	<i>-45.5</i>
Over/Under	7.1	-0.6	0.6	5.3	0.4	-3.5	3.6	4.4	--	--	--
<i>MSCI ACWI ex USA NR LCL</i>	<i>-10.6</i>	<i>18.2</i>	<i>7.0</i>	<i>1.9</i>	<i>6.0</i>	<i>20.1</i>	<i>16.3</i>	<i>-12.2</i>	<i>7.6</i>	<i>31.7</i>	<i>-40.9</i>
<i>MSCI EAFE</i>	<i>-13.8</i>	<i>25.0</i>	<i>1.0</i>	<i>-0.8</i>	<i>-4.9</i>	<i>22.8</i>	<i>17.3</i>	<i>-12.1</i>	<i>7.8</i>	<i>31.8</i>	<i>-43.4</i>
Total Global Equity	-9.0	24.5	9.0	-3.8	1.9	22.0	14.4	-3.9	11.4	17.8	-37.3
<i>MSCI ACWI</i>	<i>-9.4</i>	<i>24.0</i>	<i>7.9</i>	<i>-2.4</i>	<i>4.2</i>	<i>22.8</i>	<i>16.1</i>	<i>-7.3</i>	<i>12.7</i>	<i>34.6</i>	<i>-42.2</i>
Over/Under	0.4	0.5	1.1	-1.4	-2.3	-0.8	-1.7	3.4	-1.3	-16.8	4.9
BlackRock MSCI ACWI Equity Index	-9.0	24.5	8.4	-2.0	4.6	23.2	--	--	--	--	--
<i>MSCI ACWI</i>	<i>-9.4</i>	<i>24.0</i>	<i>7.9</i>	<i>-2.4</i>	<i>4.2</i>	<i>22.8</i>	<i>16.1</i>	<i>-7.3</i>	<i>12.7</i>	<i>34.6</i>	<i>-42.2</i>
Over/Under	0.4	0.5	0.5	0.4	0.4	0.4	--	--	--	--	--



Ventura County Employees' Retirement Association

TOTAL FUND CALENDAR YEAR RETURN SUMMARY

	2018 (%)	2017 (%)	2016 (%)	2015 (%)	2014 (%)	2013 (%)	2012 (%)	2011 (%)	2010 (%)	2009 (%)	2008 (%)
Total Private Equity	18.7	16.9	7.6	14.7	19.0	17.9	10.3	--	--	--	--
Russell 3000 + 3%	-2.4	24.7	16.1	3.5	15.9	37.5	19.9	4.1	20.4	32.1	-35.3
Over/Under	21.1	-7.8	-8.5	11.2	3.1	-19.6	-9.6				
Cambridge Associates Global All PE (Qtr Lag)	16.4	15.9	8.5	7.0	16.3	15.9	13.0	12.6	17.1	-9.3	-7.2
Adams Street Global Fund Series	19.6	13.4	7.1	10.3	19.6	15.7	10.8	--	--	--	--
Russell 3000 + 3%	-2.4	24.7	16.1	3.5	15.9	37.5	19.9	4.1	20.4	32.1	-35.3
Over/Under	22.0	-11.3	-9.0	6.8	3.7	-21.8	-9.1				
Harbourvest	22.7	23.2	6.7	28.5	18.5	--	--	--	--	--	--
Russell 3000 + 3%	-2.4	24.7	16.1	3.5	15.9	37.5	19.9	4.1	20.4	32.1	-35.3
Over/Under	25.1	-1.5	-9.4	25.0	2.6						
Pantheon Global Secondary Funds	17.3	24.1	15.5	6.4	16.7	14.9	0.9	--	--	--	--
Russell 3000 + 3%	-2.4	24.7	16.1	3.5	15.9	37.5	19.9	4.1	20.4	32.1	-35.3
Over/Under	19.7	-0.6	-0.6	2.9	0.8	-22.6	-19.0				
Drive Capital Fund II	-2.5	-33.7	--	--	--	--	--	--	--	--	--
Russell 3000 + 3%	-2.4	24.7	16.1	3.5	15.9	37.5	19.9	4.1	20.4	32.1	-35.3
Over/Under	-0.1	-58.4									
Abbott Secondary Opportunities	26.0	--	--	--	--	--	--	--	--	--	--
Russell 3000 + 3%	-2.4	24.7	16.1	3.5	15.9	37.5	19.9	4.1	20.4	32.1	-35.3
Over/Under	28.4										
Clearlake Capital Partners V	--	--	--	--	--	--	--	--	--	--	--
Russell 3000 + 3%	-2.4	24.7	16.1	3.5	15.9	37.5	19.9	4.1	20.4	32.1	-35.3
Over/Under											
Battery Ventures XII	--	--	--	--	--	--	--	--	--	--	--
Russell 3000 + 3%	-2.4	24.7	16.1	3.5	15.9	37.5	19.9	4.1	20.4	32.1	-35.3
Over/Under											
Insight Venture Partners X	--	--	--	--	--	--	--	--	--	--	--
Russell 3000 + 3%	-2.4	24.7	16.1	3.5	15.9	37.5	19.9	4.1	20.4	32.1	-35.3
Over/Under											
GTCR Fund XII	--	--	--	--	--	--	--	--	--	--	--
Russell 3000 + 3%	-2.4	24.7	16.1	3.5	15.9	37.5	19.9	4.1	20.4	32.1	-35.3
Over/Under											



Ventura County Employees' Retirement Association

TOTAL FUND CALENDAR YEAR RETURN SUMMARY

	2018 (%)	2017 (%)	2016 (%)	2015 (%)	2014 (%)	2013 (%)	2012 (%)	2011 (%)	2010 (%)	2009 (%)	2008 (%)
Buenaventure One, LLC	--	--	--	--	--	--	--	--	--	--	--
Russell 3000 + 3%	<u>-2.4</u>	<u>24.7</u>	<u>16.1</u>	<u>3.5</u>	<u>15.9</u>	<u>37.5</u>	<u>19.9</u>	<u>4.1</u>	<u>20.4</u>	<u>32.1</u>	<u>-35.3</u>
Over/Under											
ECI 11	--	--	--	--	--	--	--	--	--	--	--
Russell 3000 + 3%	<u>-2.4</u>	<u>24.7</u>	<u>16.1</u>	<u>3.5</u>	<u>15.9</u>	<u>37.5</u>	<u>19.9</u>	<u>4.1</u>	<u>20.4</u>	<u>32.1</u>	<u>-35.3</u>
Over/Under											
The Resolute Fund IV L.P.	--	--	--	--	--	--	--	--	--	--	--
Russell 3000 + 3%	<u>-2.4</u>	<u>24.7</u>	<u>16.1</u>	<u>3.5</u>	<u>15.9</u>	<u>37.5</u>	<u>19.9</u>	<u>4.1</u>	<u>20.4</u>	<u>32.1</u>	<u>-35.3</u>
Over/Under											
GGV Capital VII L.P.	--	--	--	--	--	--	--	--	--	--	--
Russell 3000 + 3%	<u>-2.4</u>	<u>24.7</u>	<u>16.1</u>	<u>3.5</u>	<u>15.9</u>	<u>37.5</u>	<u>19.9</u>	<u>4.1</u>	<u>20.4</u>	<u>32.1</u>	<u>-35.3</u>
Over/Under											
GGV Discovery II, L.P.	--	--	--	--	--	--	--	--	--	--	--
Russell 3000 + 3%	<u>-2.4</u>	<u>24.7</u>	<u>16.1</u>	<u>3.5</u>	<u>15.9</u>	<u>37.5</u>	<u>19.9</u>	<u>4.1</u>	<u>20.4</u>	<u>32.1</u>	<u>-35.3</u>
Over/Under											
Drive Capital Overdrive Fund I	--	--	--	--	--	--	--	--	--	--	--
Russell 3000 + 3%	<u>-2.4</u>	<u>24.7</u>	<u>16.1</u>	<u>3.5</u>	<u>15.9</u>	<u>37.5</u>	<u>19.9</u>	<u>4.1</u>	<u>20.4</u>	<u>32.1</u>	<u>-35.3</u>
Over/Under											
Riverside Micro Cap Fund V, LP	--	--	--	--	--	--	--	--	--	--	--
Russell 3000 + 3%	<u>-2.4</u>	<u>24.7</u>	<u>16.1</u>	<u>3.5</u>	<u>15.9</u>	<u>37.5</u>	<u>19.9</u>	<u>4.1</u>	<u>20.4</u>	<u>32.1</u>	<u>-35.3</u>
Over/Under											
GGV Capital VII Plus, LP	--	--	--	--	--	--	--	--	--	--	--
Russell 3000 + 3%	<u>-2.4</u>	<u>24.7</u>	<u>16.1</u>	<u>3.5</u>	<u>15.9</u>	<u>37.5</u>	<u>19.9</u>	<u>4.1</u>	<u>20.4</u>	<u>32.1</u>	<u>-35.3</u>
Over/Under											
Astorg VII L.P.	--	--	--	--	--	--	--	--	--	--	--
Russell 3000 + 3%	<u>-2.4</u>	<u>24.7</u>	<u>16.1</u>	<u>3.5</u>	<u>15.9</u>	<u>37.5</u>	<u>19.9</u>	<u>4.1</u>	<u>20.4</u>	<u>32.1</u>	<u>-35.3</u>
Over/Under											
M/C Partners Fund VIII LP, Limited Partnership	--	--	--	--	--	--	--	--	--	--	--
Russell 3000 + 3%	<u>-2.4</u>	<u>24.7</u>	<u>16.1</u>	<u>3.5</u>	<u>15.9</u>	<u>37.5</u>	<u>19.9</u>	<u>4.1</u>	<u>20.4</u>	<u>32.1</u>	<u>-35.3</u>
Over/Under											

*One or more accounts have been excluded from the composite for the purposes of performance calculations and market value.



Ventura County Employees' Retirement Association

TOTAL FUND CALENDAR YEAR RETURN SUMMARY

	2018 (%)	2017 (%)	2016 (%)	2015 (%)	2014 (%)	2013 (%)	2012 (%)	2011 (%)	2010 (%)	2009 (%)	2008 (%)
Total US Fixed Income	0.0	4.4	4.9	0.3	3.0	-0.1	9.6	7.3	10.6	25.6	-8.7
<i>BBgBarc US Aggregate TR</i>	<i>0.0</i>	<i>3.5</i>	<i>2.6</i>	<i>0.5</i>	<i>6.0</i>	<i>-2.0</i>	<i>4.2</i>	<i>7.8</i>	<i>6.5</i>	<i>5.9</i>	<i>5.2</i>
Over/Under	0.0	0.9	2.3	-0.2	-3.0	1.9	5.4	-0.5	4.1	19.7	-13.9
BlackRock U.S. Debt Fund	0.0	3.6	2.7	0.6	6.2	-2.0	4.3	7.9	6.7	6.0	5.4
<i>BBgBarc US Aggregate TR</i>	<i>0.0</i>	<i>3.5</i>	<i>2.6</i>	<i>0.5</i>	<i>6.0</i>	<i>-2.0</i>	<i>4.2</i>	<i>7.8</i>	<i>6.5</i>	<i>5.9</i>	<i>5.2</i>
Over/Under	0.0	0.1	0.1	0.1	0.2	0.0	0.1	0.1	0.2	0.1	0.2
Western	-0.6	6.0	4.1	0.9	7.4	-1.2	9.7	7.3	11.3	18.9	-8.9
<i>BBgBarc US Aggregate TR</i>	<i>0.0</i>	<i>3.5</i>	<i>2.6</i>	<i>0.5</i>	<i>6.0</i>	<i>-2.0</i>	<i>4.2</i>	<i>7.8</i>	<i>6.5</i>	<i>5.9</i>	<i>5.2</i>
Over/Under	-0.6	2.5	1.5	0.4	1.4	0.8	5.5	-0.5	4.8	13.0	-14.1
Reams	0.7	2.5	6.0	0.3	-3.6	2.5	10.0	8.4	10.0	33.6	-11.0
<i>Reams Custom Index</i>	<i>2.4</i>	<i>1.3</i>	<i>0.7</i>	<i>0.3</i>	<i>0.2</i>	<i>-0.5</i>	<i>4.2</i>	<i>7.8</i>	<i>6.5</i>	<i>5.9</i>	<i>5.2</i>
Over/Under	-1.7	1.2	5.3	0.0	-3.8	3.0	5.8	0.6	3.5	27.7	-16.2
<i>BBgBarc US Aggregate TR</i>	<i>0.0</i>	<i>3.5</i>	<i>2.6</i>	<i>0.5</i>	<i>6.0</i>	<i>-2.0</i>	<i>4.2</i>	<i>7.8</i>	<i>6.5</i>	<i>5.9</i>	<i>5.2</i>
3-Month LIBOR + 3%	5.4	4.4	3.8	3.3	3.2	3.3	3.5	3.3	3.4	3.8	6.2
Loomis Strategic Alpha	0.6	3.3	6.1	-1.0	2.4	--	--	--	--	--	--
<i>BBgBarc US Aggregate TR</i>	<i>0.0</i>	<i>3.5</i>	<i>2.6</i>	<i>0.5</i>	<i>6.0</i>	<i>-2.0</i>	<i>4.2</i>	<i>7.8</i>	<i>6.5</i>	<i>5.9</i>	<i>5.2</i>
Over/Under	0.6	-0.2	3.5	-1.5	-3.6	--	--	--	--	--	--
3-Month LIBOR + 3%	5.4	4.4	3.8	3.3	3.2	3.3	3.5	3.3	3.4	3.8	6.2
Loomis Sayles Multi Strategy	-0.8	8.4	8.2	-2.3	6.8	1.4	16.7	4.2	13.6	37.6	-19.7
<i>Loomis Custom Index</i>	<i>-0.6</i>	<i>4.5</i>	<i>7.0</i>	<i>-1.2</i>	<i>4.6</i>	<i>0.8</i>	<i>7.5</i>	<i>7.1</i>	<i>8.7</i>	<i>18.8</i>	<i>-4.6</i>
Over/Under	-0.2	3.9	1.2	-1.1	2.2	0.6	9.2	-2.9	4.9	18.8	-15.1
<i>BBgBarc US Govt/Credit TR</i>	<i>-0.4</i>	<i>4.0</i>	<i>3.0</i>	<i>0.1</i>	<i>6.0</i>	<i>-2.4</i>	<i>4.8</i>	<i>8.7</i>	<i>6.6</i>	<i>4.5</i>	<i>5.7</i>



Ventura County Employees' Retirement Association

TOTAL FUND CALENDAR YEAR RETURN SUMMARY

	2018 (%)	2017 (%)	2016 (%)	2015 (%)	2014 (%)	2013 (%)	2012 (%)	2011 (%)	2010 (%)	2009 (%)	2008 (%)
Private Debt	4.7	--	--	--	--	--	--	--	--	--	--
50% BofA ML US HY BB-B Constrained Index/ 50% Credit Suisse Leveraged Loan Index +150bps	<u>1.1</u>	--	--	--	--	--	--	--	--	--	--
Over/Under	3.6										
CVI Credit Value Fund	4.6	--	--	--	--	--	--	--	--	--	--
50% BofA ML US HY BB-B Constrained Index/ 50% Credit Suisse Leveraged Loan Index +150bps	<u>1.1</u>	--	--	--	--	--	--	--	--	--	--
Over/Under	3.5										
Monroe Capital Private Credit Fund III	--	--	--	--	--	--	--	--	--	--	--
50% BofA ML US HY BB-B Constrained Index/ 50% Credit Suisse Leveraged Loan Index +150bps	<u>1.1</u>	--	--	--	--	--	--	--	--	--	--
Over/Under											
Bluebay Direct Lending Fund III	--	--	--	--	--	--	--	--	--	--	--
50% BofA ML US HY BB-B Constrained Index/ 50% Credit Suisse Leveraged Loan Index +150bps	<u>1.1</u>	--	--	--	--	--	--	--	--	--	--
Over/Under											
Treasuries	--	--	--	--	--	--	--	--	--	--	--
Reams 10-Year Treasuries	--	--	--	--	--	--	--	--	--	--	--
BBgBarc US Treasury 7-10 Yr TR	<u>0.9</u>	<u>2.6</u>	<u>1.1</u>	<u>1.6</u>	<u>9.0</u>	<u>-6.0</u>	<u>4.2</u>	<u>15.6</u>	<u>9.4</u>	<u>-6.0</u>	<u>18.0</u>
Over/Under											



Ventura County Employees' Retirement Association

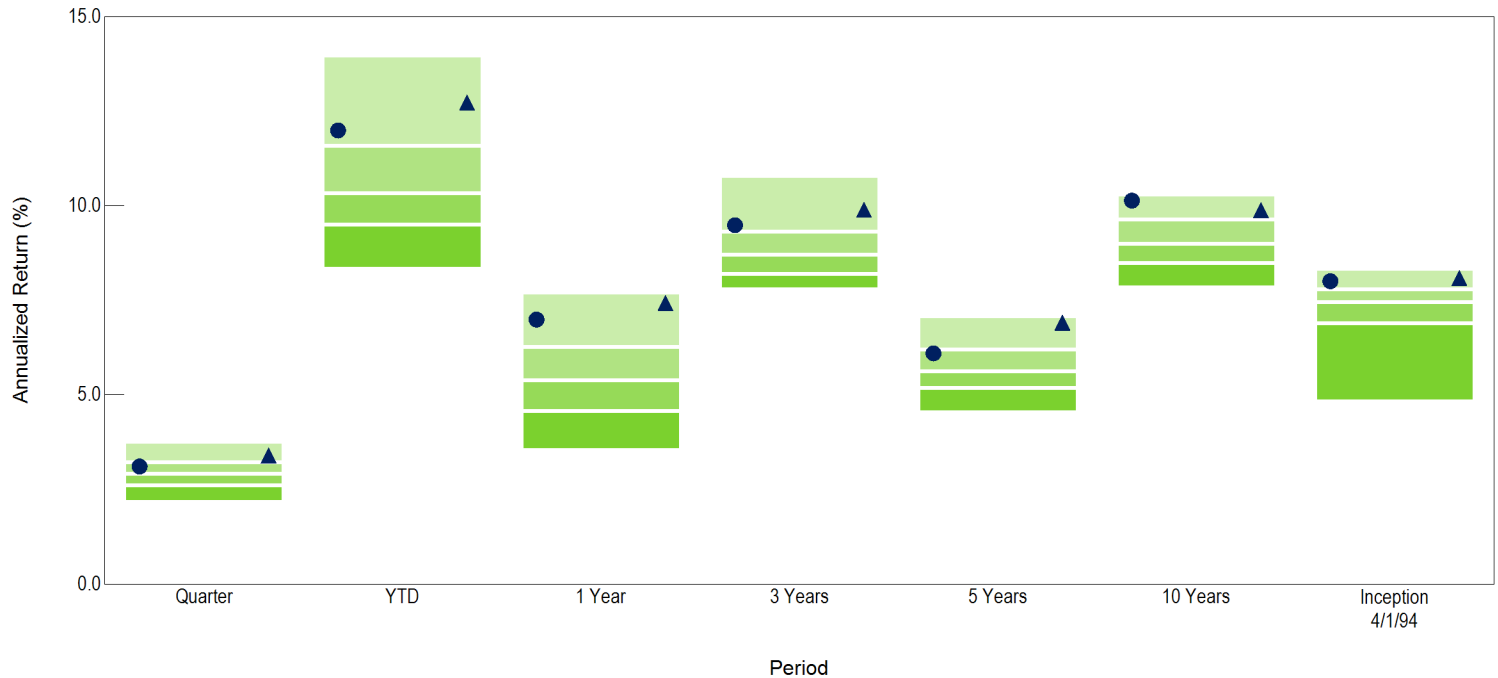
TOTAL FUND CALENDAR YEAR RETURN SUMMARY

	2018 (%)	2017 (%)	2016 (%)	2015 (%)	2014 (%)	2013 (%)	2012 (%)	2011 (%)	2010 (%)	2009 (%)	2008 (%)
Total Real Estate	6.9	5.9	6.8	12.8	11.6	10.6	9.1	14.4	15.4	-31.2	-16.0
NCREIF ODCE Net	<u>7.4</u>	<u>6.7</u>	<u>7.8</u>	<u>14.0</u>	<u>11.5</u>	<u>12.9</u>	<u>9.8</u>	<u>15.0</u>	<u>15.3</u>	<u>-30.4</u>	<u>-10.7</u>
Over/Under	-0.5	-0.8	-1.0	-1.2	0.1	-2.3	-0.7	-0.6	0.1	-0.8	-5.3
Prudential Real Estate	8.2	7.0	8.2	14.5	12.5	13.8	8.8	18.0	17.2	-34.8	-13.6
NCREIF ODCE Net	<u>7.4</u>	<u>6.7</u>	<u>7.8</u>	<u>14.0</u>	<u>11.5</u>	<u>12.9</u>	<u>9.8</u>	<u>15.0</u>	<u>15.3</u>	<u>-30.4</u>	<u>-10.7</u>
Over/Under	0.8	0.3	0.4	0.5	1.0	0.9	-1.0	3.0	1.9	-4.4	-2.9
NCREIF ODCE	8.3	7.6	8.8	15.0	12.5	13.9	10.9	16.0	16.4	-29.8	-10.0
UBS Real Estate	6.2	5.4	6.2	11.9	10.6	9.3	9.0	12.1	15.9	-22.9	-8.3
NCREIF ODCE Net	<u>7.4</u>	<u>6.7</u>	<u>7.8</u>	<u>14.0</u>	<u>11.5</u>	<u>12.9</u>	<u>9.8</u>	<u>15.0</u>	<u>15.3</u>	<u>-30.4</u>	<u>-10.7</u>
Over/Under	-1.2	-1.3	-1.6	-2.1	-0.9	-3.6	-0.8	-2.9	0.6	7.5	2.4
NCREIF ODCE	8.3	7.6	8.8	15.0	12.5	13.9	10.9	16.0	16.4	-29.8	-10.0
Total Real Assets	-7.3	7.2	11.7	-13.8	10.2	--	--	--	--	--	--
CPI + 4% (Unadjusted)	<u>6.0</u>	<u>6.2</u>	<u>6.2</u>	<u>4.8</u>	<u>4.8</u>	<u>28.8</u>	<u>5.4</u>	<u>13.5</u>	--	--	--
Over/Under	-13.3	1.0	5.5	-18.6	5.4	--	--	--	--	--	--
Bridgewater All Weather Fund	-5.0	11.9	10.0	-6.8	7.6	--	--	--	--	--	--
CPI + 5% (Unadjusted)	<u>7.0</u>	<u>7.2</u>	<u>7.2</u>	<u>5.8</u>	<u>5.8</u>	--	--	--	--	--	--
Over/Under	-12.0	4.7	2.8	-12.6	1.8	--	--	--	--	--	--
Tortoise Energy Infrastructure	-13.3	-3.5	15.9	-27.1	15.7	--	--	--	--	--	--
Tortoise MLP Index	<u>-13.7</u>	<u>-5.7</u>	<u>21.0</u>	<u>-34.1</u>	<u>8.0</u>	<u>28.8</u>	<u>5.4</u>	<u>13.5</u>	--	--	--
Over/Under	0.4	2.2	-5.1	7.0	7.7	--	--	--	--	--	--
Overlay											
Parametric											
Abbott Capital Cash											



TOTAL FUND RETURN SUMMARY VS. PEER UNIVERSE

Total Fund vs. InvMetrics Public DB > \$1B Net

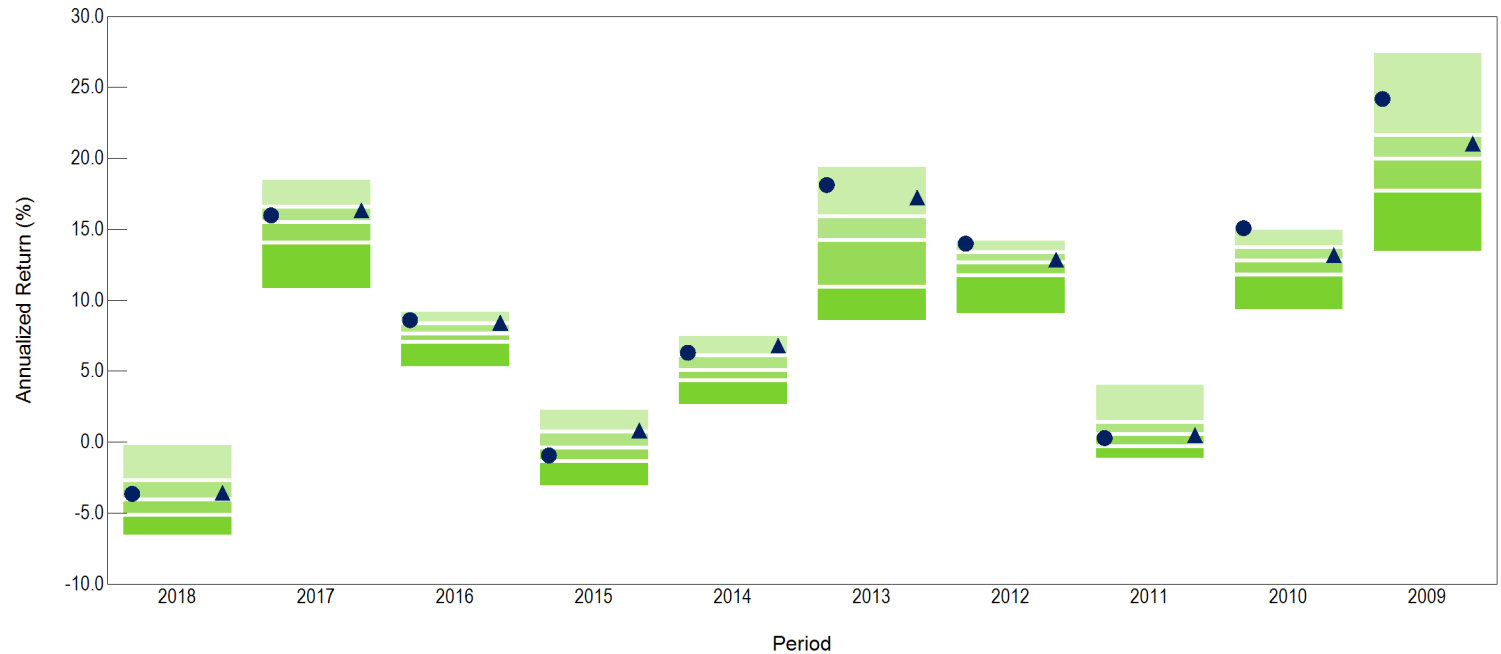


	Return (Rank)													
5th Percentile	3.8	14.0	7.7	10.8	7.1	10.3	8.3							
25th Percentile	3.2	11.6	6.3	9.3	6.2	9.6	7.8							
Median	2.9	10.3	5.4	8.7	5.6	9.0	7.5							
75th Percentile	2.6	9.5	4.6	8.2	5.2	8.5	6.9							
95th Percentile	2.2	8.3	3.5	7.8	4.5	7.9	4.8							
# of Portfolios	78	78	77	77	73	65	38							
● Total Fund	3.1	(36)	12.0	(19)	7.0	(15)	9.5	(22)	6.1	(32)	10.1	(13)	8.0	(17)
▲ Policy Index	3.4	(20)	12.7	(16)	7.4	(7)	9.9	(10)	6.9	(8)	9.9	(16)	8.1	(11)



TOTAL FUND RETURN SUMMARY VS. PEER UNIVERSE

Total Fund vs. InvMetrics Public DB > \$1B Net

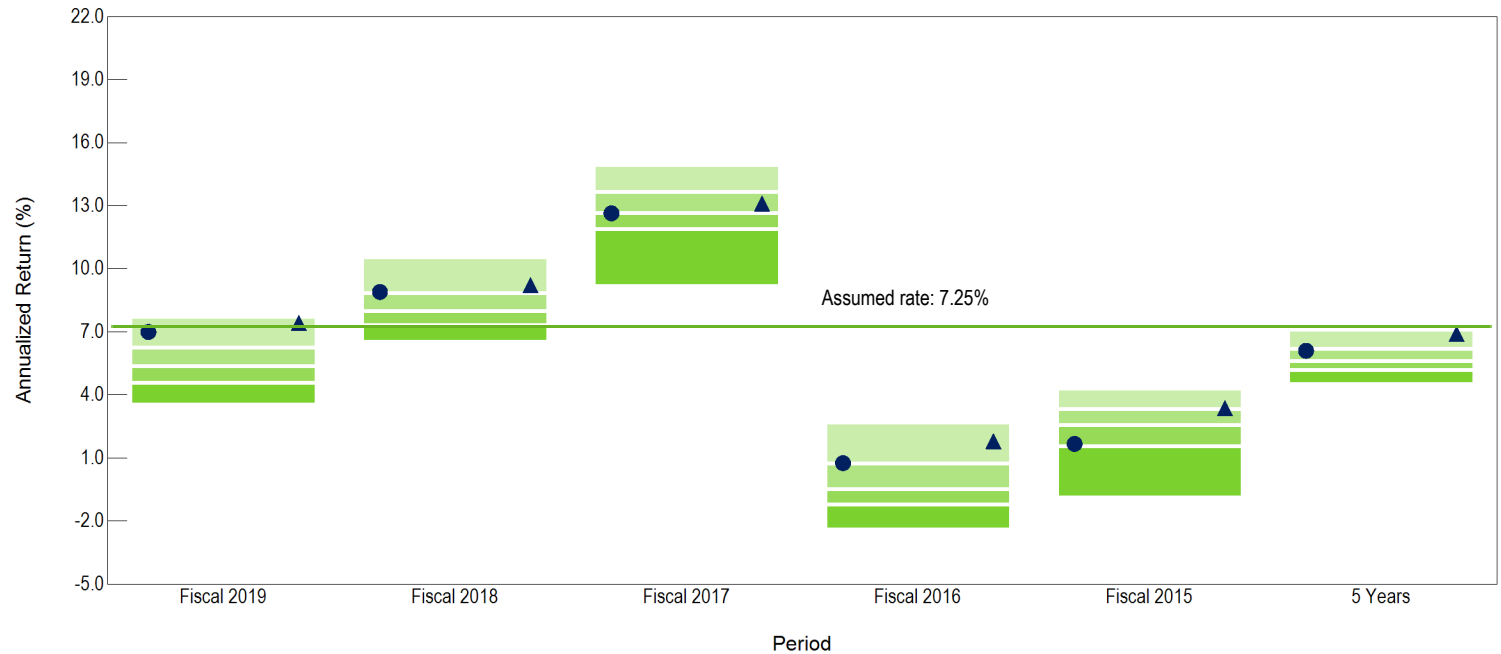


	Return (Rank)																					
5th Percentile	-0.1	18.6	9.3	2.4	7.6	19.5	14.3	4.2	15.1	27.5												
25th Percentile	-2.7	16.6	8.4	0.8	6.1	16.0	13.4	1.5	13.8	21.7												
Median	-4.0	15.6	7.7	-0.4	5.1	14.3	12.7	0.6	12.8	20.0												
75th Percentile	-5.1	14.1	7.1	-1.3	4.4	11.0	11.8	-0.3	11.8	17.7												
95th Percentile	-6.6	10.7	5.3	-3.2	2.6	8.5	9.0	-1.2	9.3	13.4												
# of Portfolios	63	61	62	57	55	48	44	42	41	40												
● Total Fund	-3.6	(42)	16.0	(37)	8.6	(15)	-0.9	(65)	6.3	(20)	18.1	(10)	14.0	(15)	0.3	(61)	15.1	(6)	24.2	(16)		
▲ Policy Index	-3.6	(41)	16.3	(29)	8.4	(25)	0.8	(25)	6.8	(12)	17.2	(14)	12.9	(41)	0.5	(55)	13.2	(44)	21.0	(33)		



TOTAL FUND RETURN SUMMARY VS. PEER UNIVERSE

Total Fund vs. InvMetrics Public DB > \$1B Net

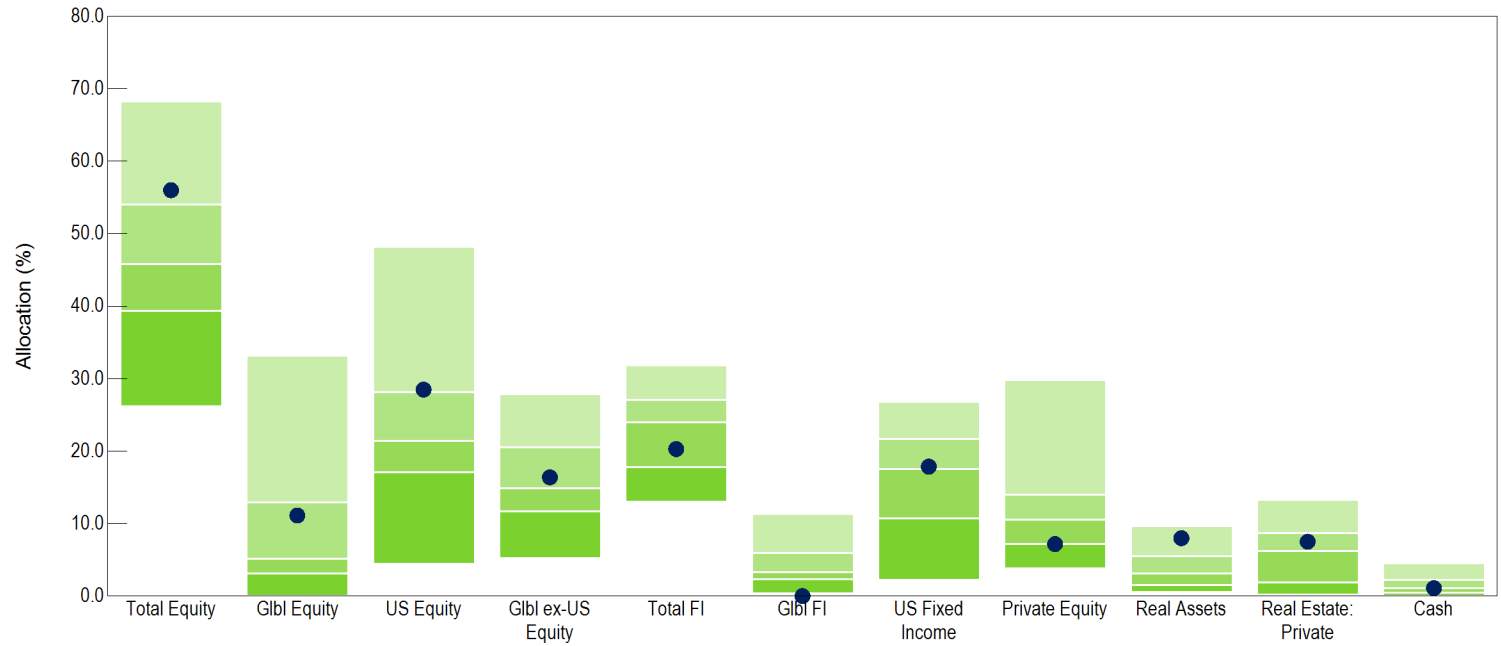


	Fiscal 2019		Fiscal 2018		Fiscal 2017		Fiscal 2016		Fiscal 2015		5 Years	
	Return	(Rank)	Return	(Rank)	Return	(Rank)	Return	(Rank)	Return	(Rank)	Return	(Rank)
5th Percentile	7.7		10.5		14.9		2.7		4.3		7.1	
25th Percentile	6.3		8.8		13.7		0.8		3.3		6.2	
Median	5.4		8.0		12.7		-0.5		2.6		5.6	
75th Percentile	4.6		7.3		11.9		-1.2		1.6		5.2	
95th Percentile	3.5		6.5		9.2		-2.4		-0.9		4.5	
# of Portfolios	77		51		65		55		53		73	
● Total Fund	7.0	(15)	8.9	(23)	12.6	(53)	0.8	(26)	1.7	(71)	6.1	(32)
▲ Policy Index	7.4	(7)	9.2	(13)	13.1	(37)	1.8	(9)	3.4	(25)	6.9	(8)



TOTAL FUND ALLOCATIONS VS. PEER UNIVERSE

Total Plan Allocation vs. InvMetrics Public DB > \$1B Net



	Allocation (Rank)																						
5th Percentile	68.2	33.2	48.2	27.9	31.8	11.3	26.8	29.8	9.7	13.3	4.6	--											
25th Percentile	54.1	13.0	28.2	20.6	27.2	6.0	21.8	14.1	5.6	8.8	2.3	--											
Median	45.9	5.2	21.5	15.0	24.1	3.4	17.6	10.7	3.2	6.3	1.2	--											
75th Percentile	39.4	3.2	17.2	11.8	17.9	2.4	10.8	7.3	1.6	2.0	0.6	--											
95th Percentile	26.2	0.1	4.5	5.4	13.1	0.4	2.3	3.9	0.7	0.3	0.1	--											
# of Portfolios	61	27	52	57	60	27	51	52	31	51	60	--											
• Total Fund	56.0	(20)	11.1	(27)	28.5	(24)	16.4	(47)	20.3	(64)	0.0	(99)	17.9	(46)	7.2	(77)	8.0	(9)	7.5	(43)	1.1	(53)	--



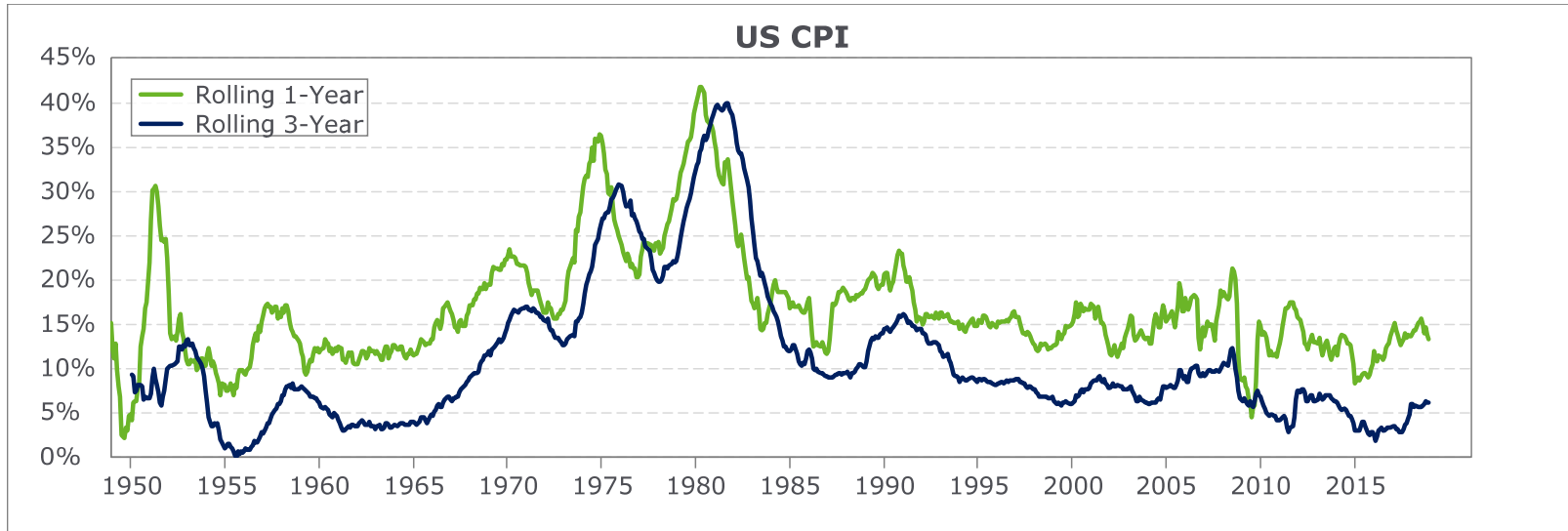
APPENDIX

NEPC, LLC

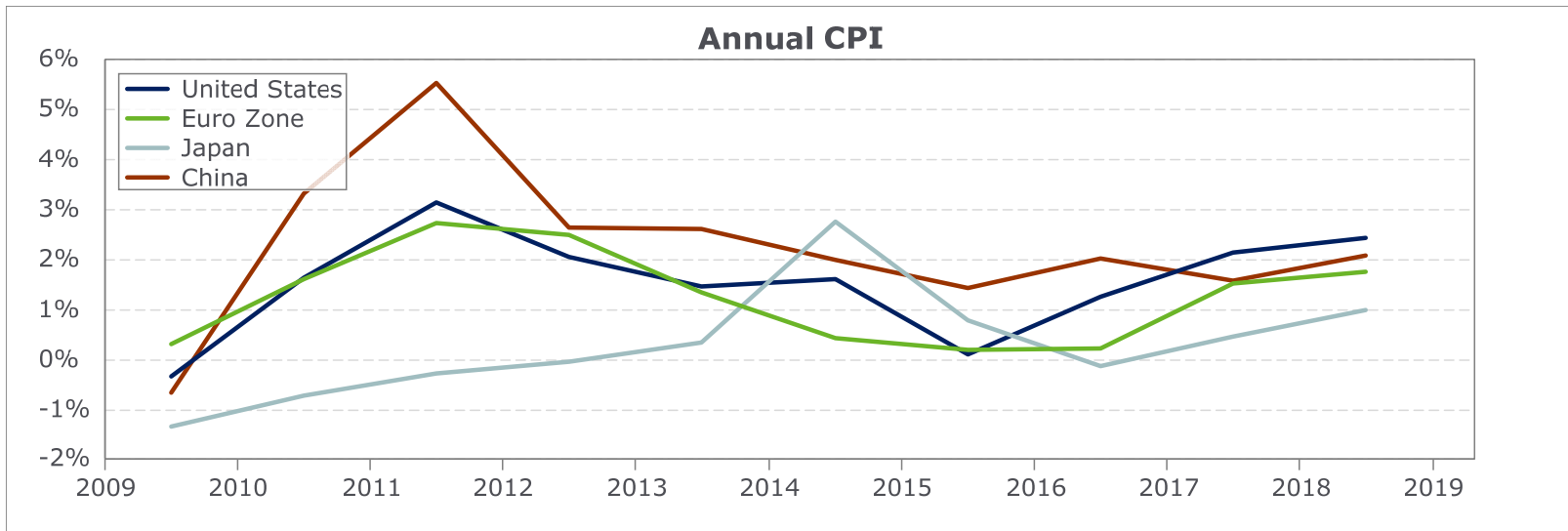
MACRO

NEPC, LLC

INFLATION



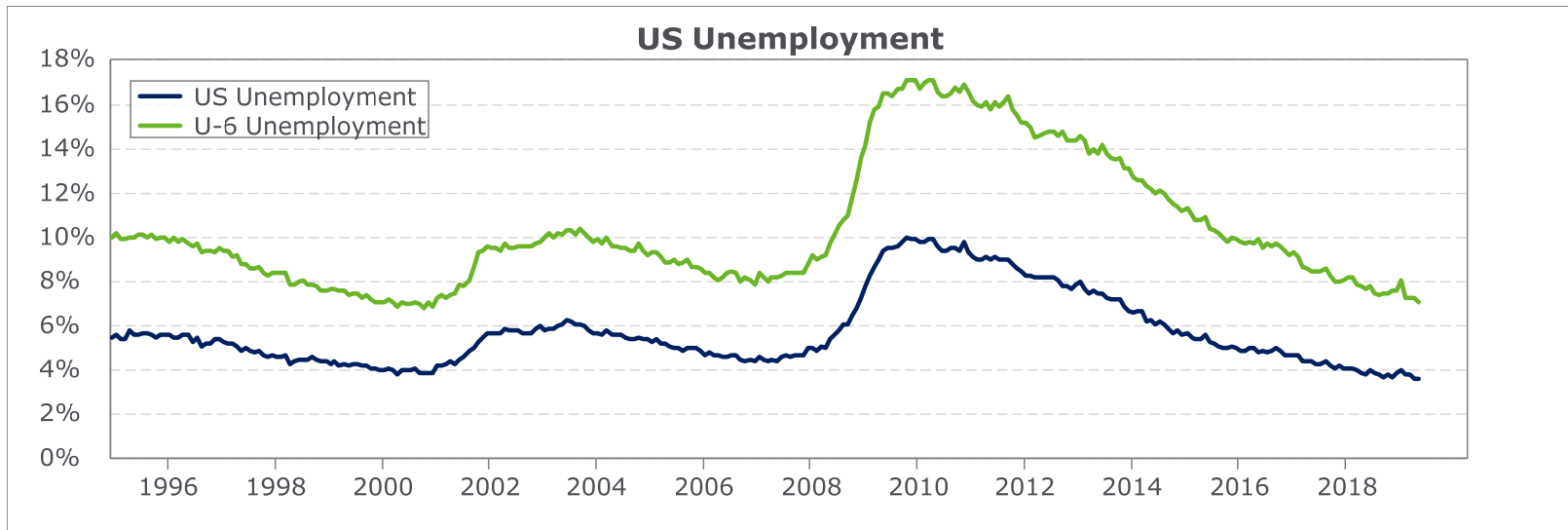
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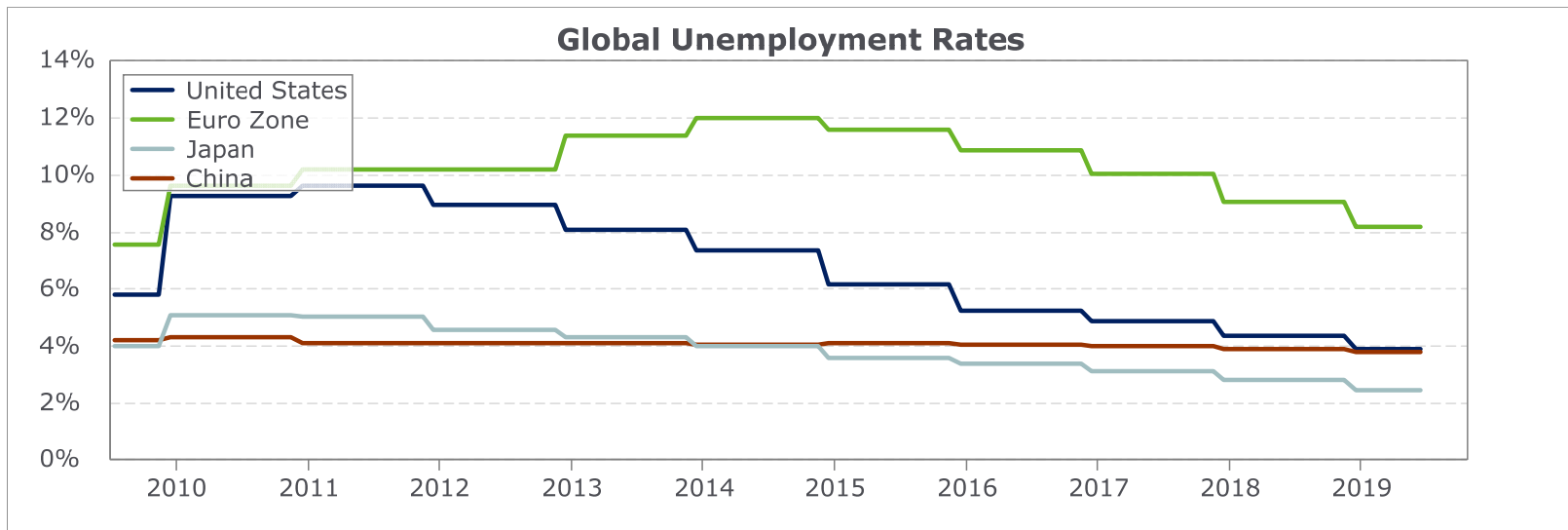
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UNEMPLOYMENT



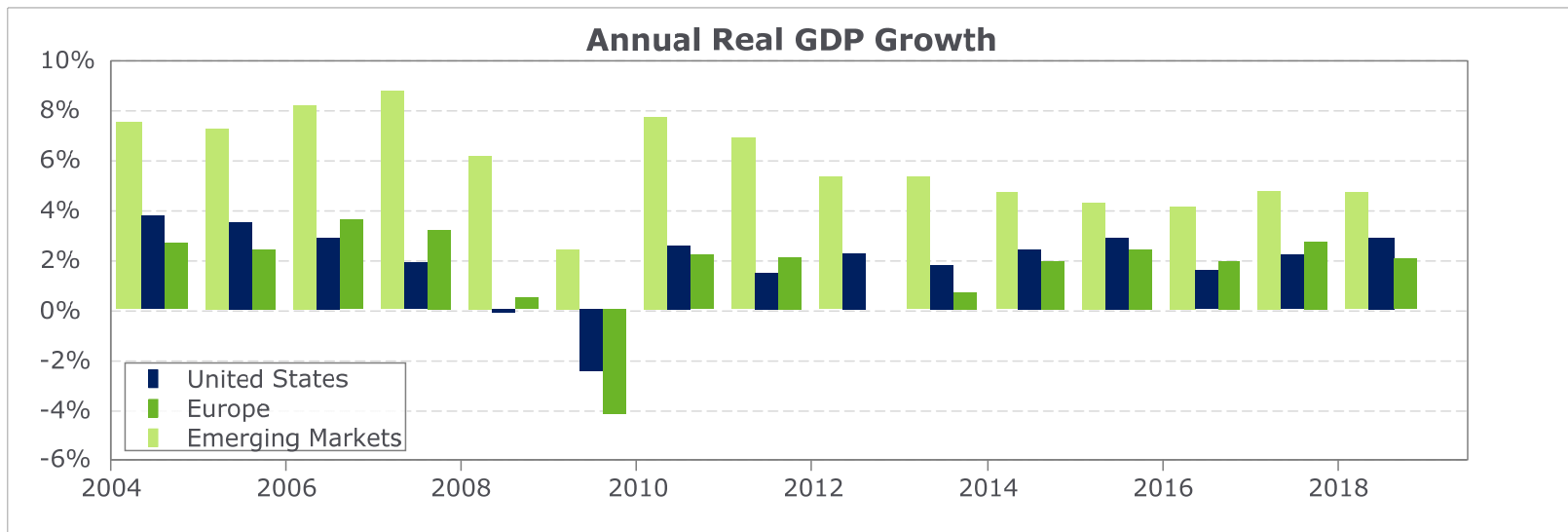
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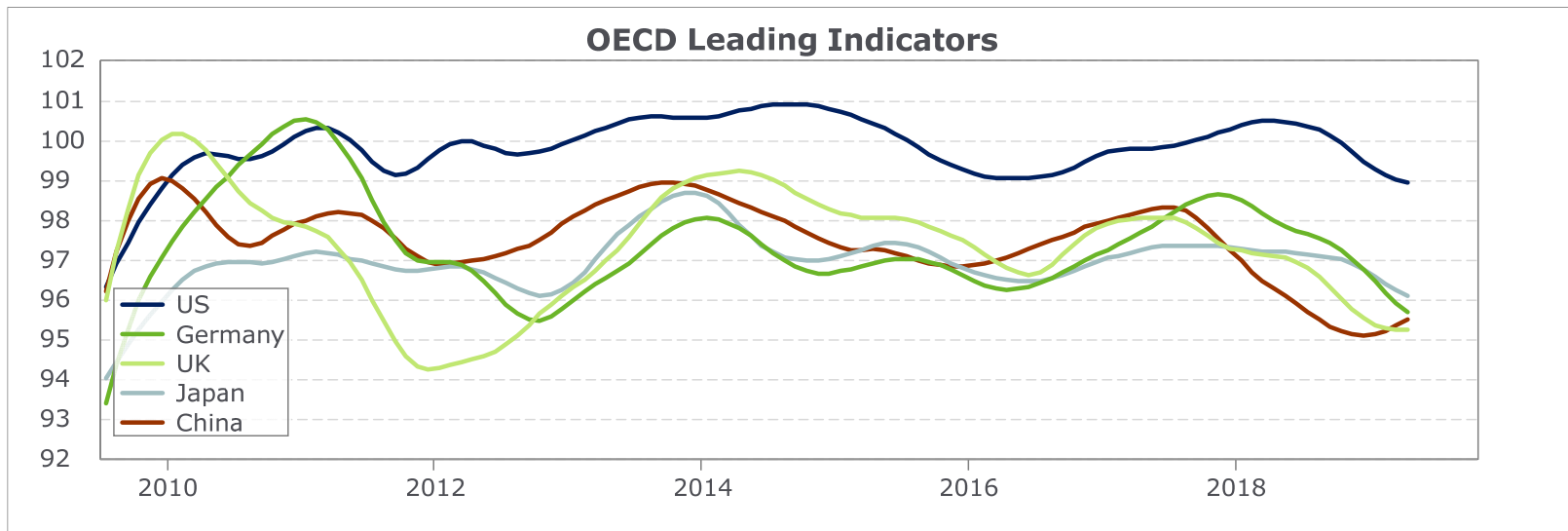
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ECONOMIC INDICATORS



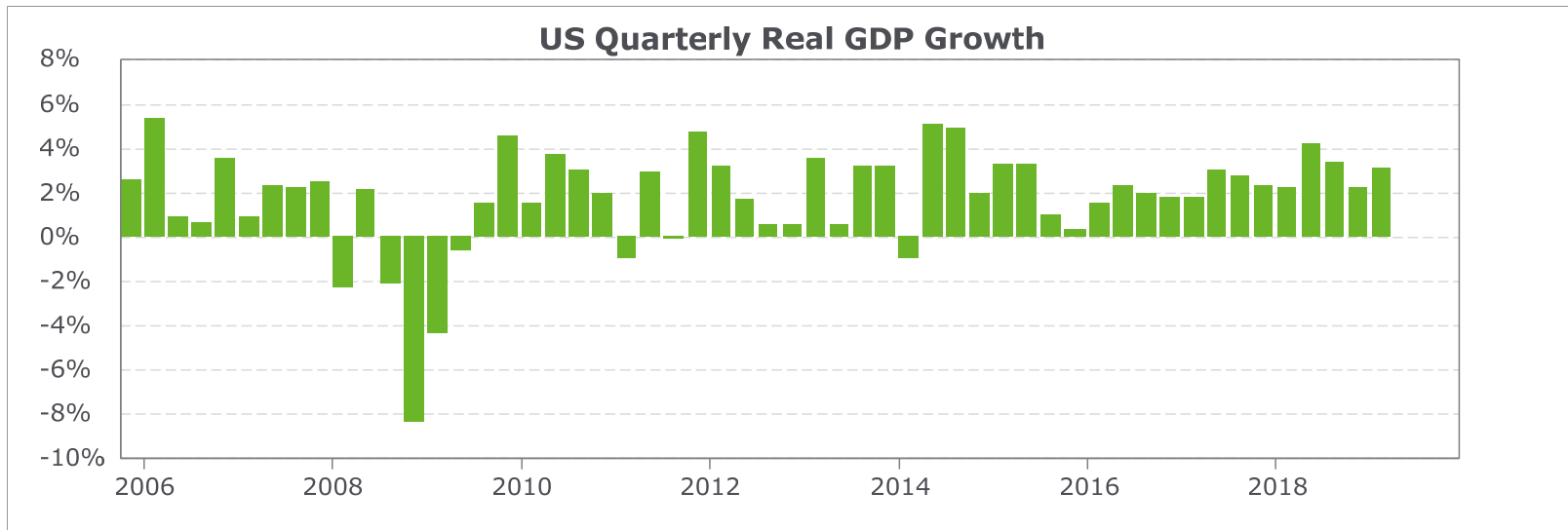
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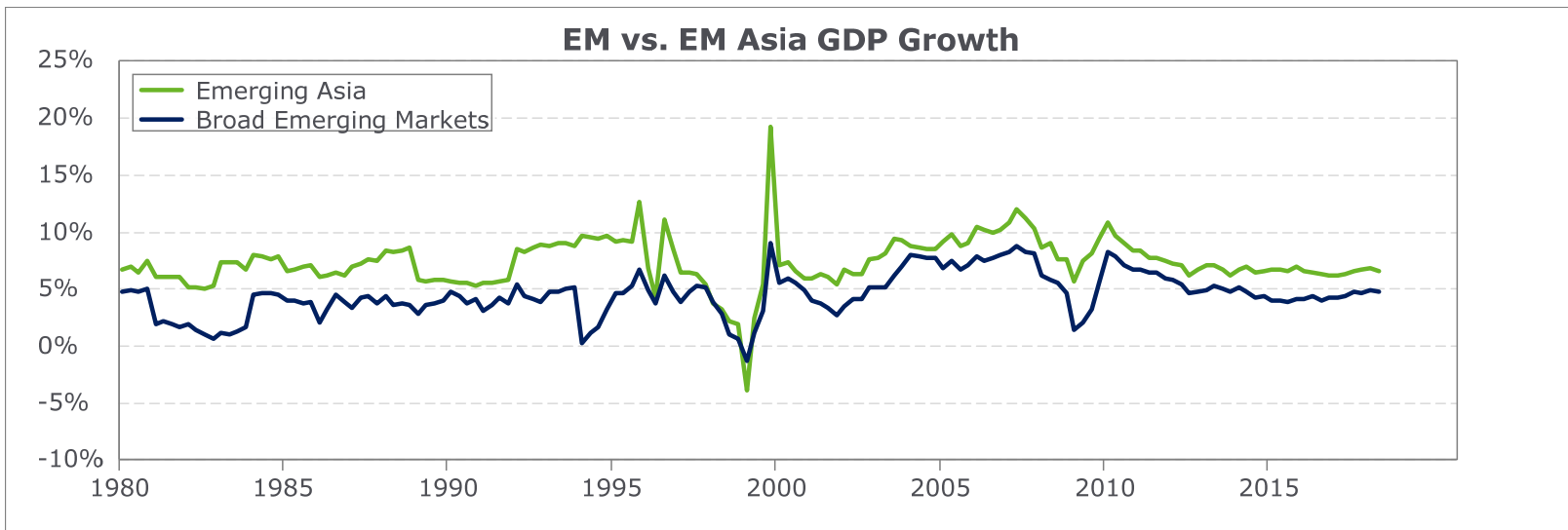
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GROSS DOMESTIC PRODUCT



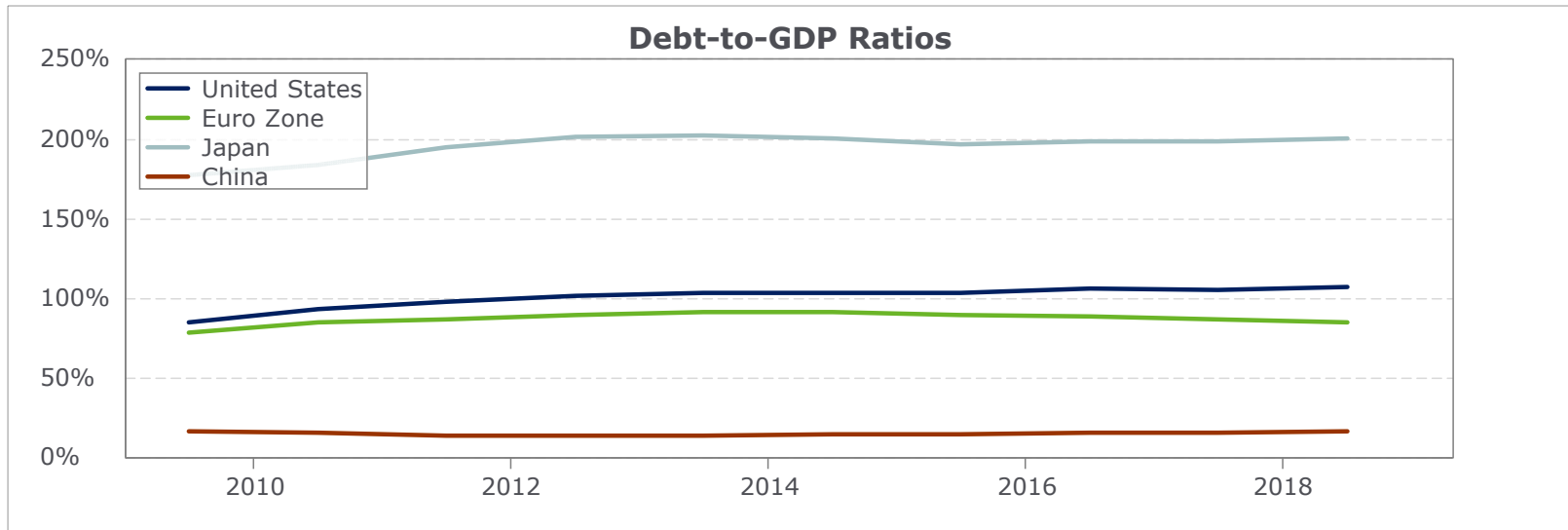
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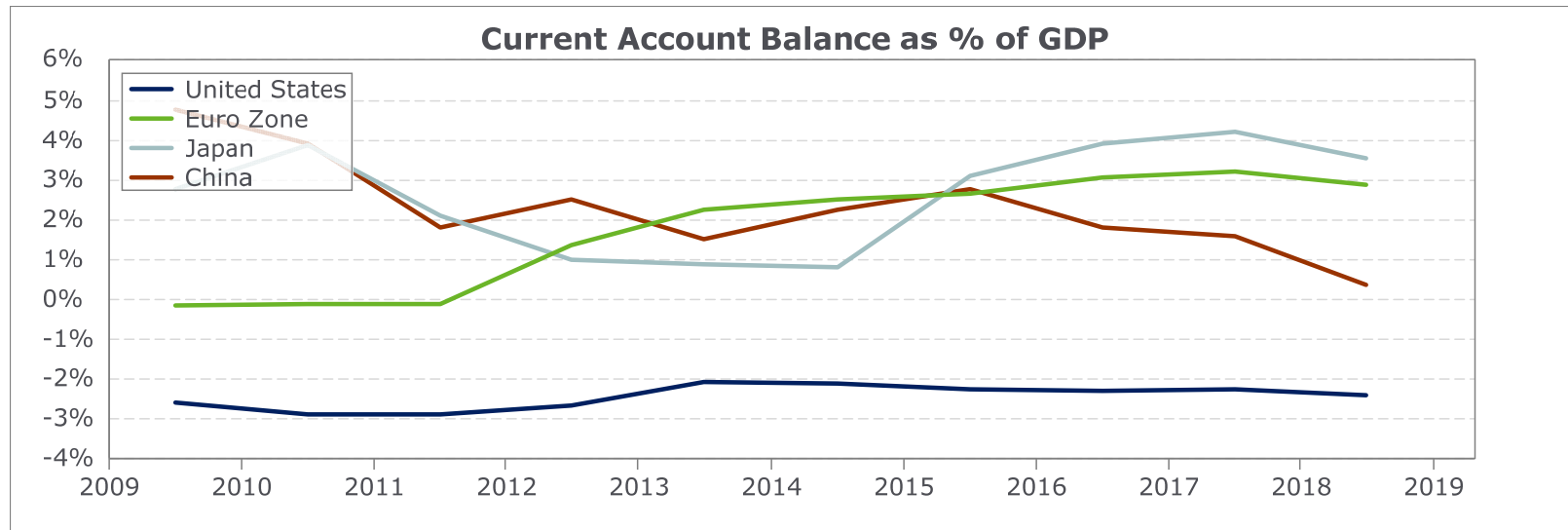
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GROSS DOMESTIC PRODUCT METRICS



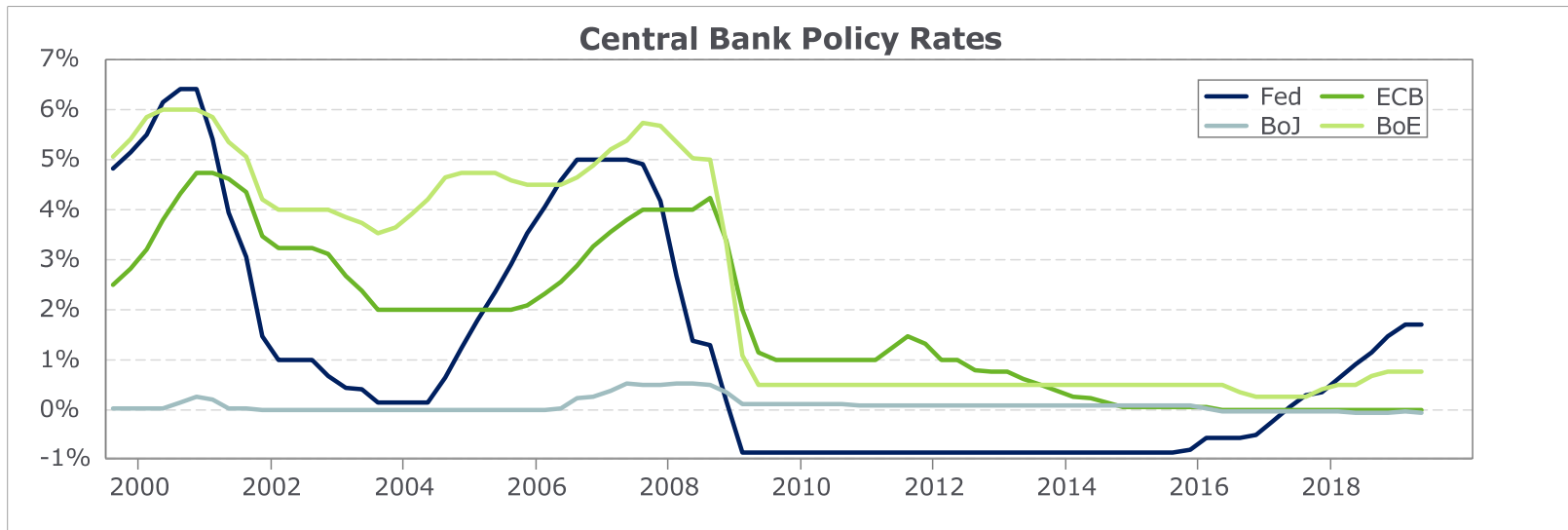
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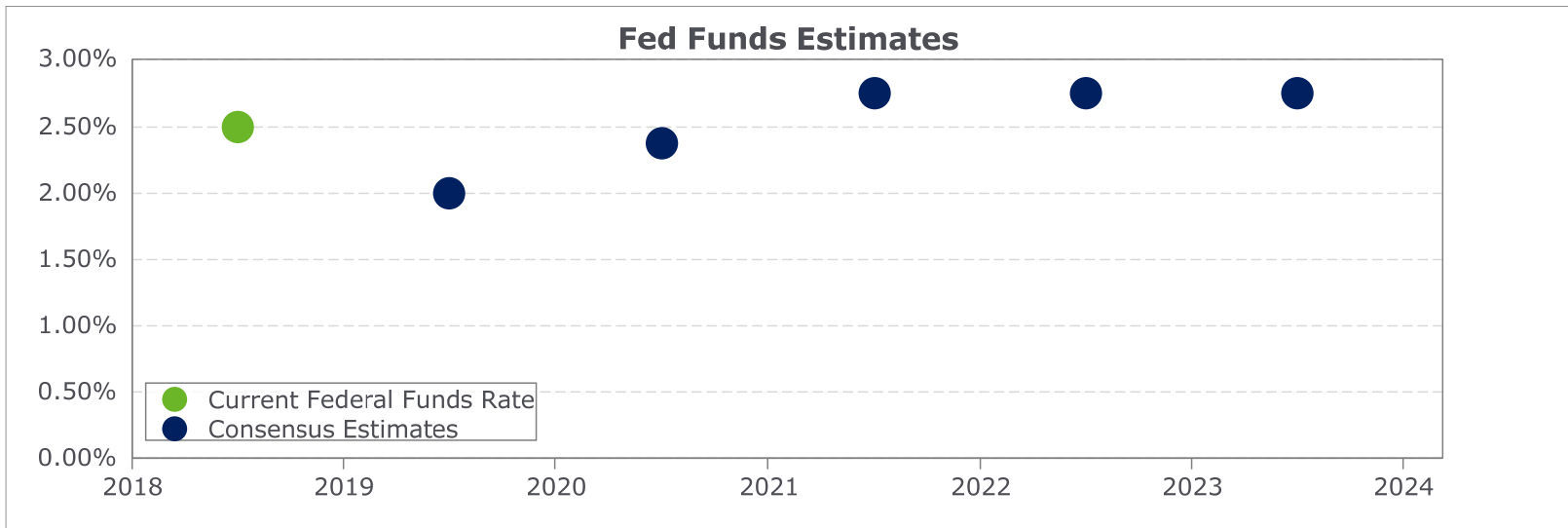
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CENTRAL BANK RATES



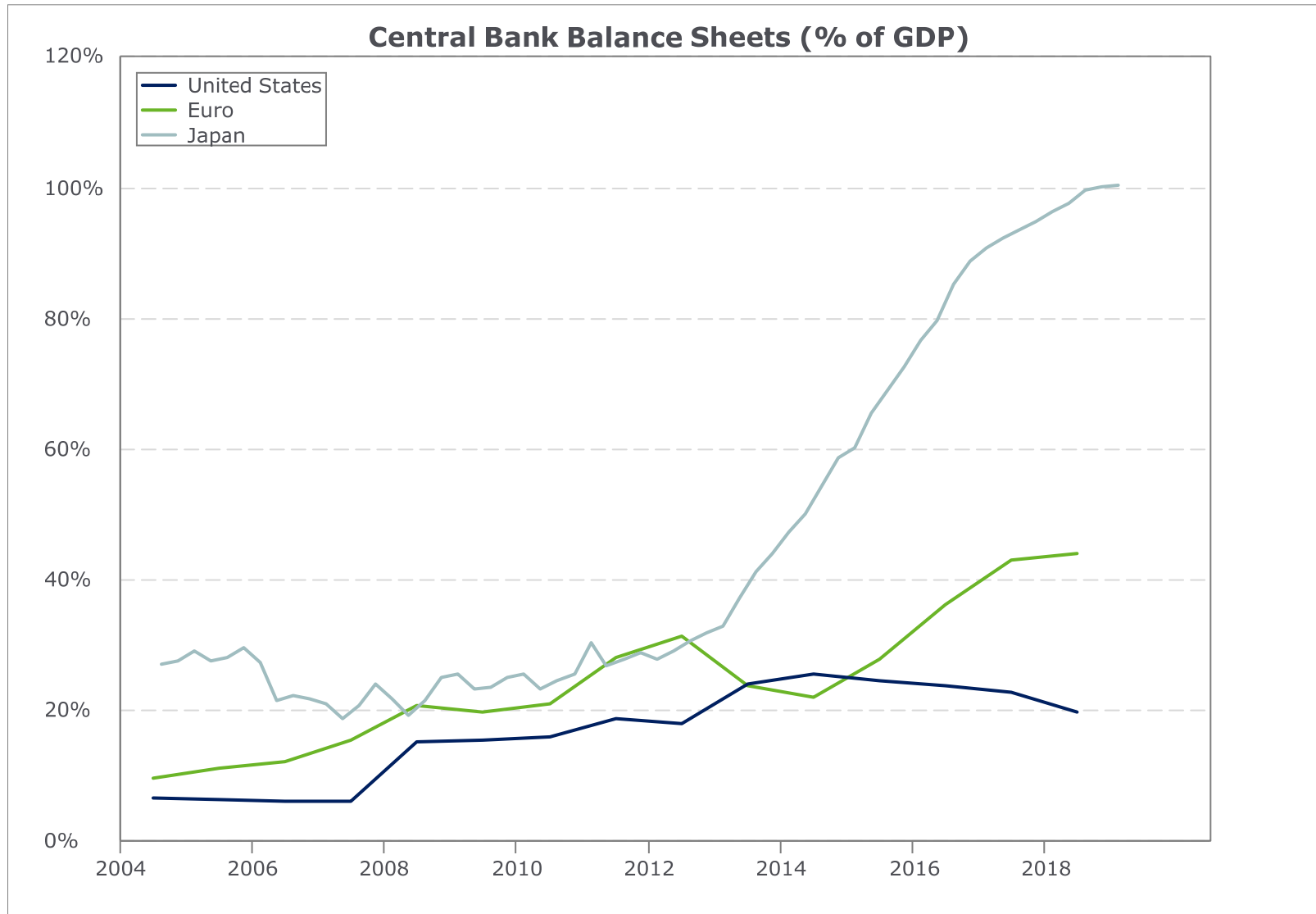
Source: FactSet



Source: FactSet



CENTRAL BANK BALANCE SHEETS



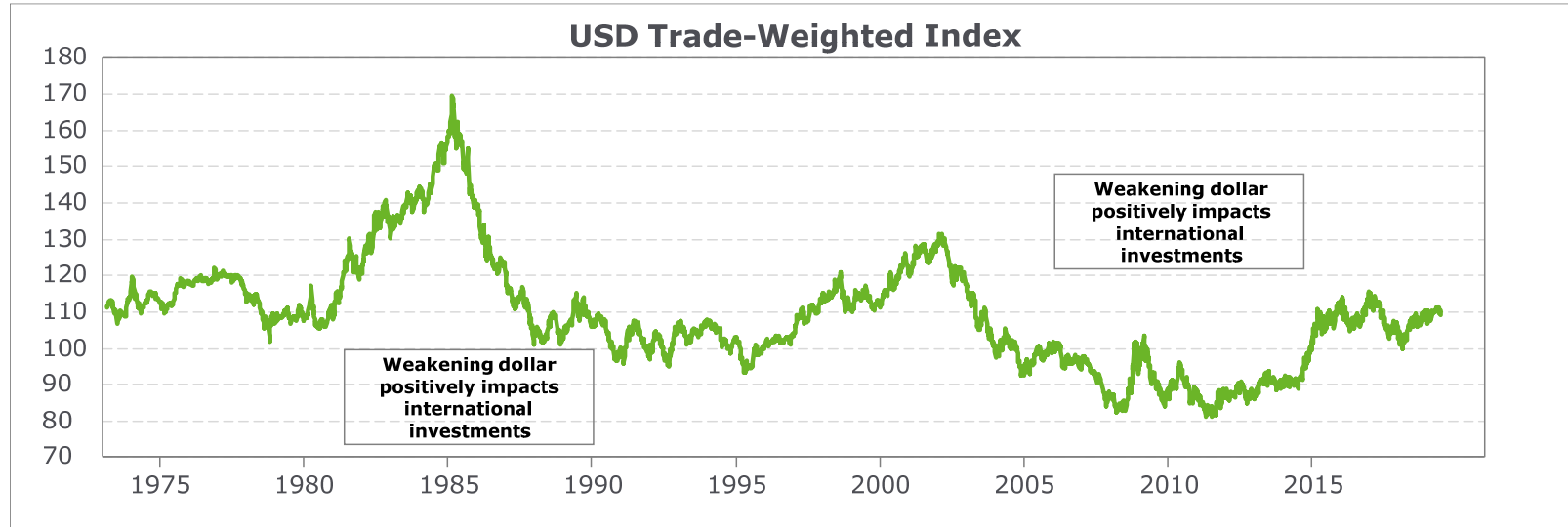
Source: FactSet



CURRENCIES

Currencies	Spot	% Change Relative to USD		
		1 Month	YTD	1 Year
Euro	1.14	1.92%	-0.38%	-1.64%
British Pound	1.27	0.41%	-0.07%	-2.80%
Japanese Yen	107.74	-1.63%	-1.80%	-2.39%
Swiss Franc	0.98	-3.35%	-1.10%	-2.30%
Australian Dollar	1.43	-1.25%	0.32%	4.69%
Chinese Yuan	6.87	-0.65%	0.04%	3.65%
Brazilian Real	3.83	-4.81%	-1.11%	-0.23%
Russian Ruble	63.08	-2.56%	-9.08%	-0.01%
Indian Rupee	69.03	-0.94%	-1.13%	0.43%
Mexican Peso	19.21	0.16%	-2.45%	-3.53%
South African Rand	14.10	-4.32%	-1.97%	1.65%

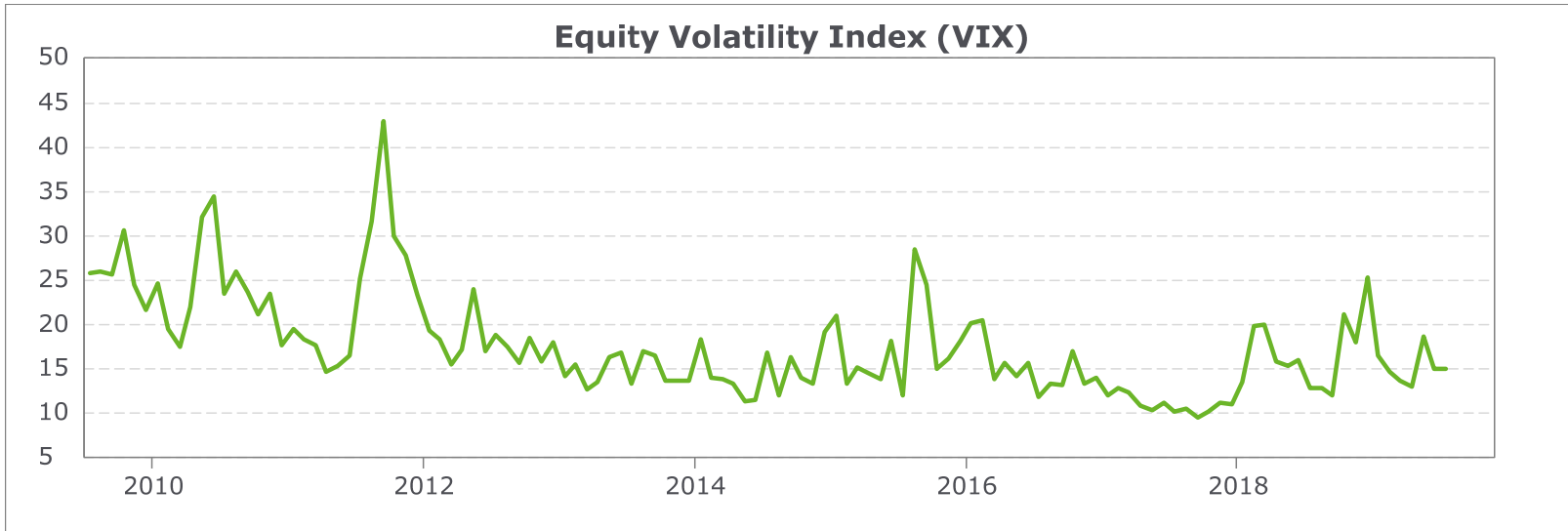
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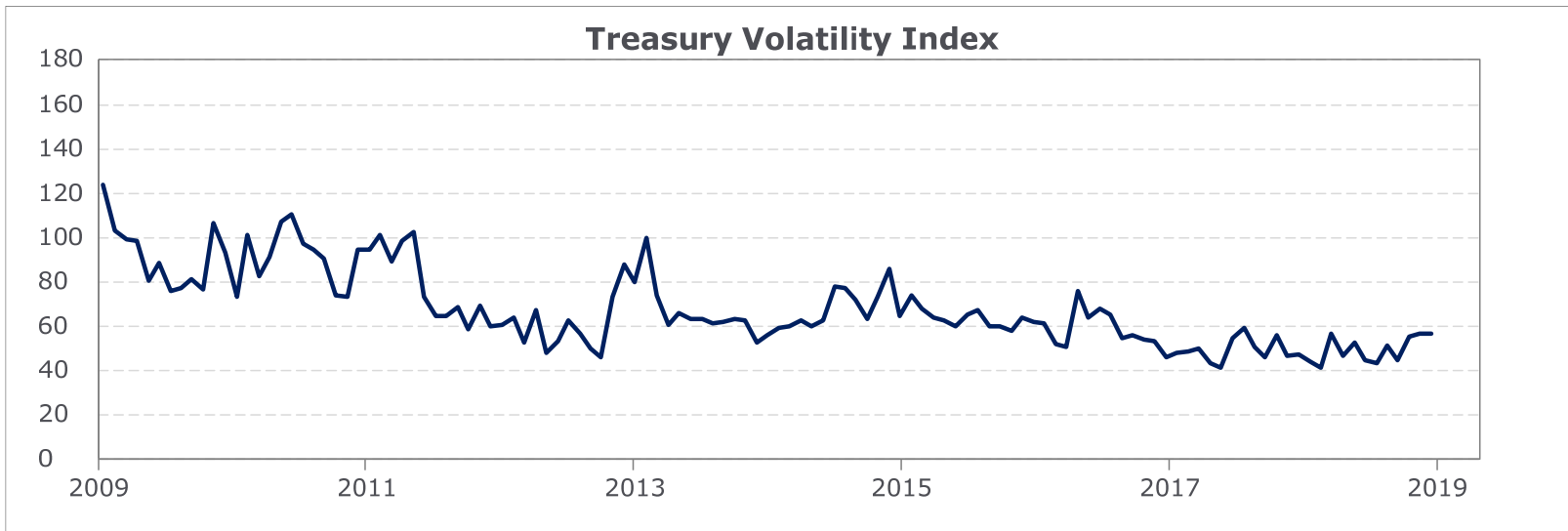
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VOLATILITY



Source: FactSet



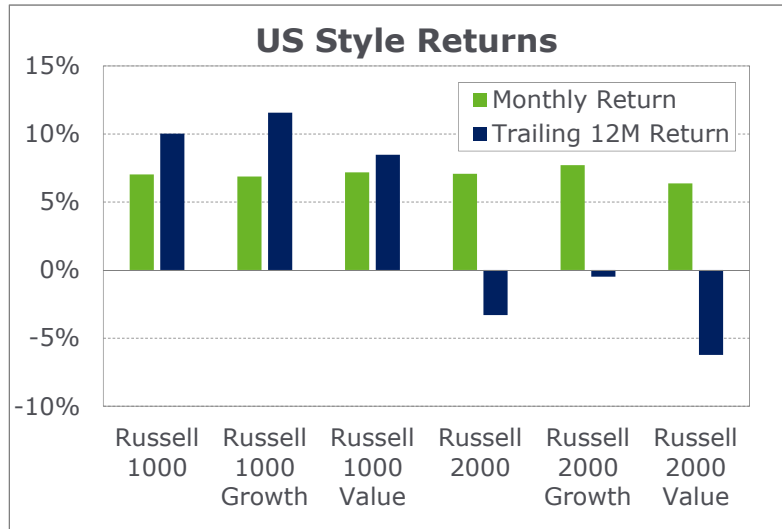
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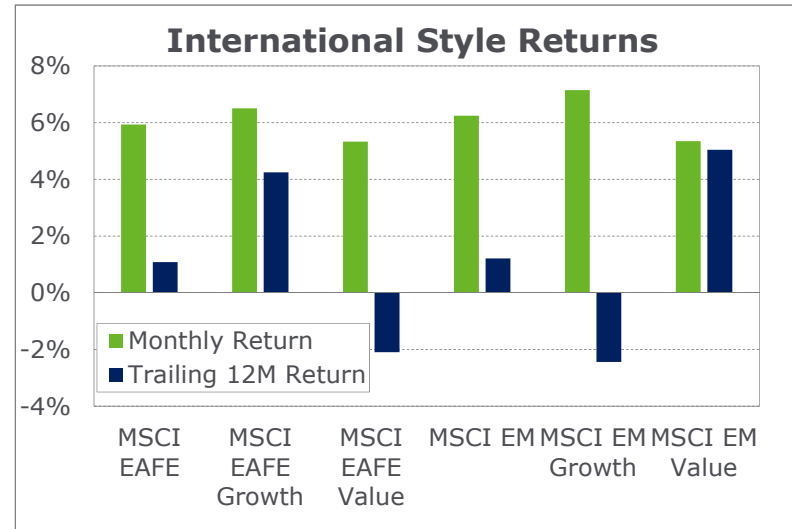
EQUITY

NEPC, LLC

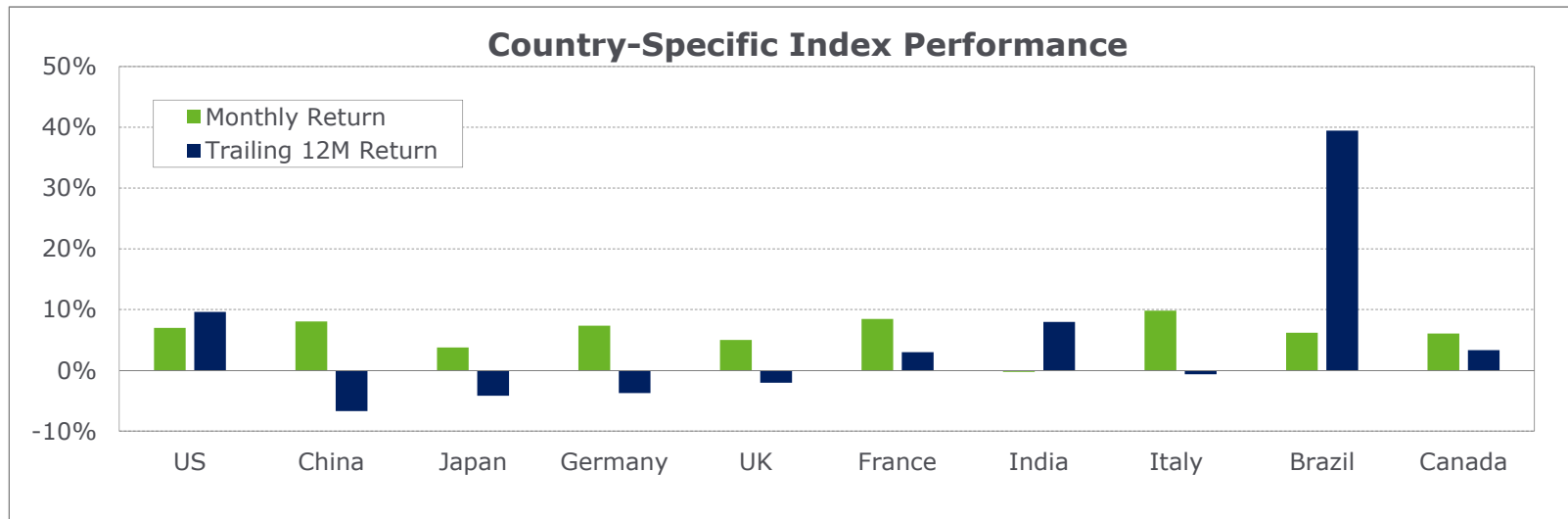
EQUITY INDEX PERFORMANCE



Source: FactSet



Source: FactSet



Source: FactSet



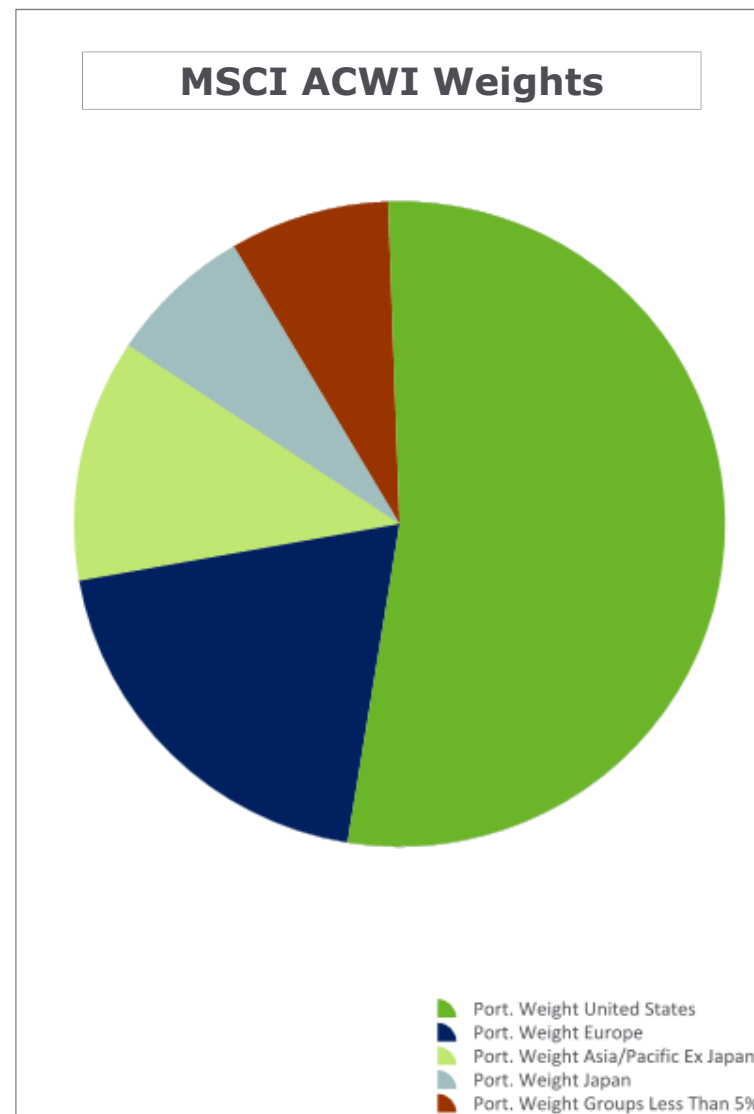
INDEX COMPOSITION

Return Contribution	MTD	QTD	YTD	Index Weight
S&P 500	7.0%	4.3%	18.5%	100.0%
Communication Services	0.4%	0.4%	1.9%	10.2%
Consumer Discretionary	0.8%	0.5%	2.2%	10.2%
Consumer Staples	0.4%	0.3%	1.2%	7.3%
Energy	0.5%	-0.2%	0.8%	5.0%
Financials	0.9%	1.0%	2.3%	13.1%
Health Care	0.9%	0.2%	1.3%	14.2%
Industrials	0.7%	0.3%	2.0%	9.4%
Information Technology	1.9%	1.3%	5.3%	21.5%
Materials	0.3%	0.2%	0.5%	2.8%
Real Estate	0.1%	0.1%	0.6%	3.1%
Utilities	0.1%	0.1%	0.5%	3.3%

Source: FactSet

Return Contribution	MTD	QTD	YTD	Index Weight
MSCI ACWI	6.5%	3.6%	16.2%	100.0%
Communication Services	0.4%	0.3%	1.3%	8.7%
Consumer Discretionary	0.9%	0.5%	1.9%	10.8%
Consumer Staples	0.4%	0.2%	1.2%	8.3%
Energy	0.4%	-0.1%	0.9%	5.9%
Financials	1.0%	1.0%	2.5%	16.9%
Health Care	0.8%	0.2%	1.2%	11.4%
Industrials	0.8%	0.5%	2.0%	10.5%
Information Technology	1.3%	0.8%	3.6%	16.0%
Materials	0.5%	0.2%	0.8%	4.9%
Real Estate	0.1%	0.0%	0.5%	3.2%
Utilities	0.1%	0.1%	0.4%	3.3%

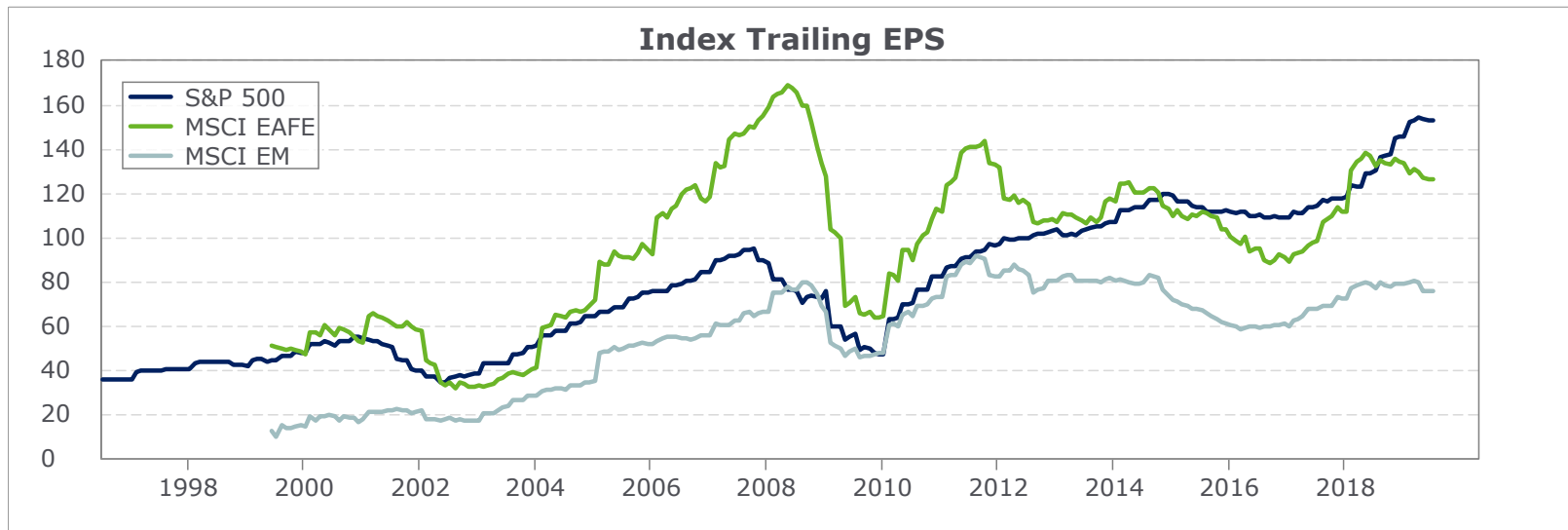
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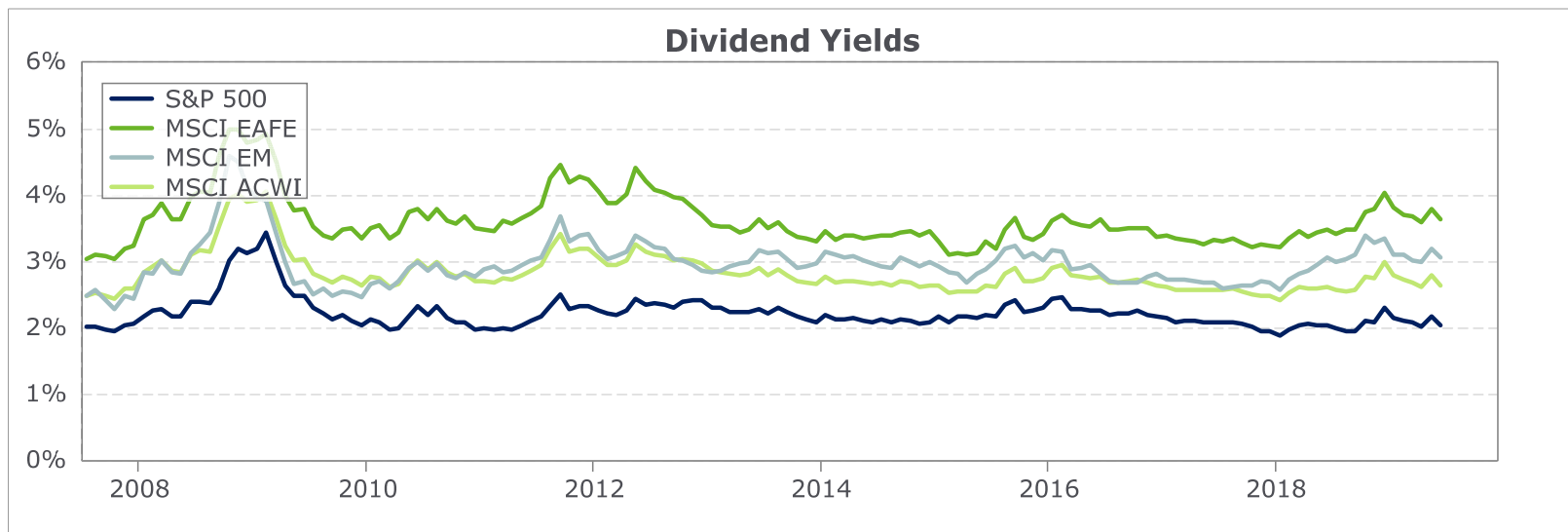
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EARNINGS & YIELDS



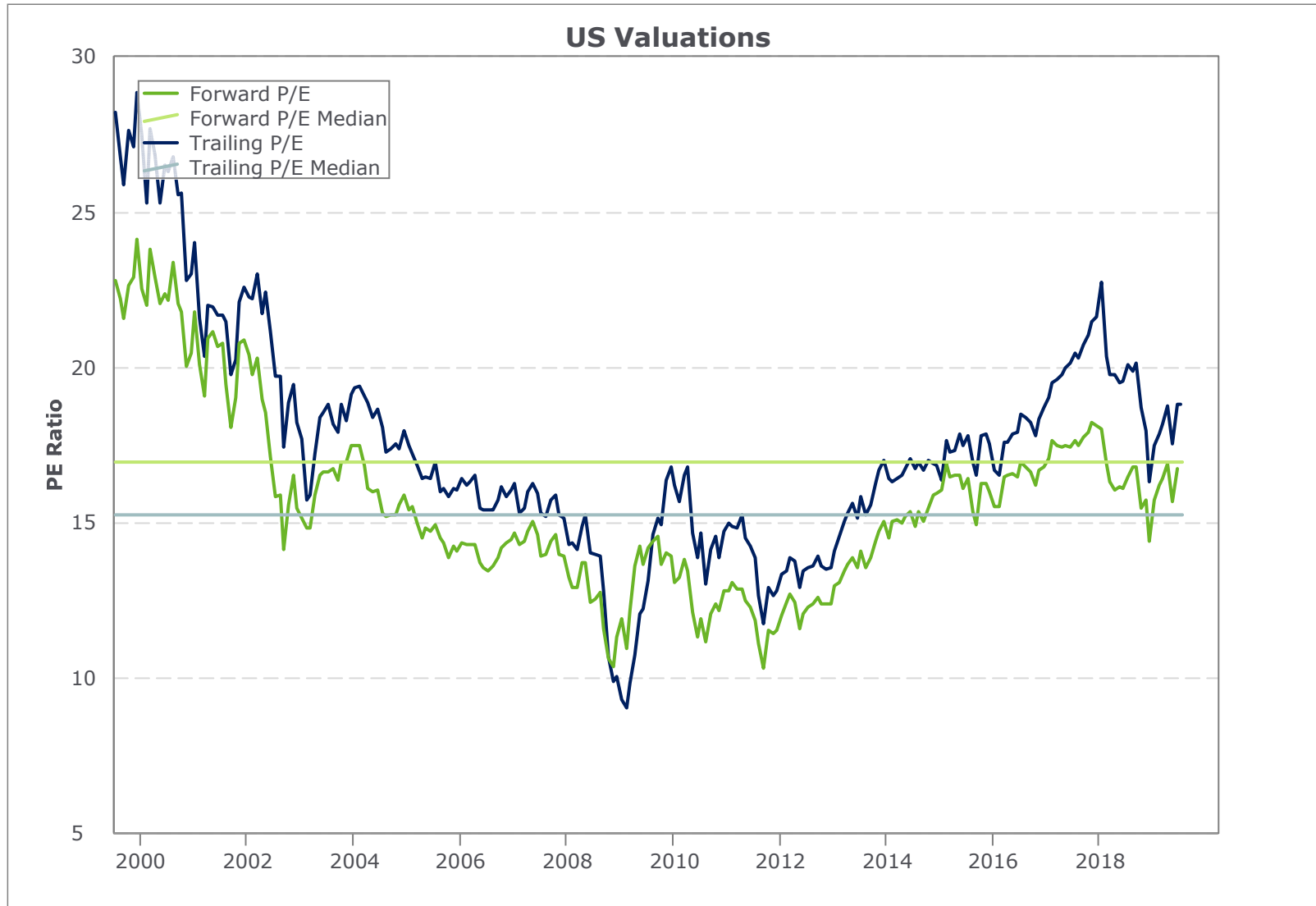
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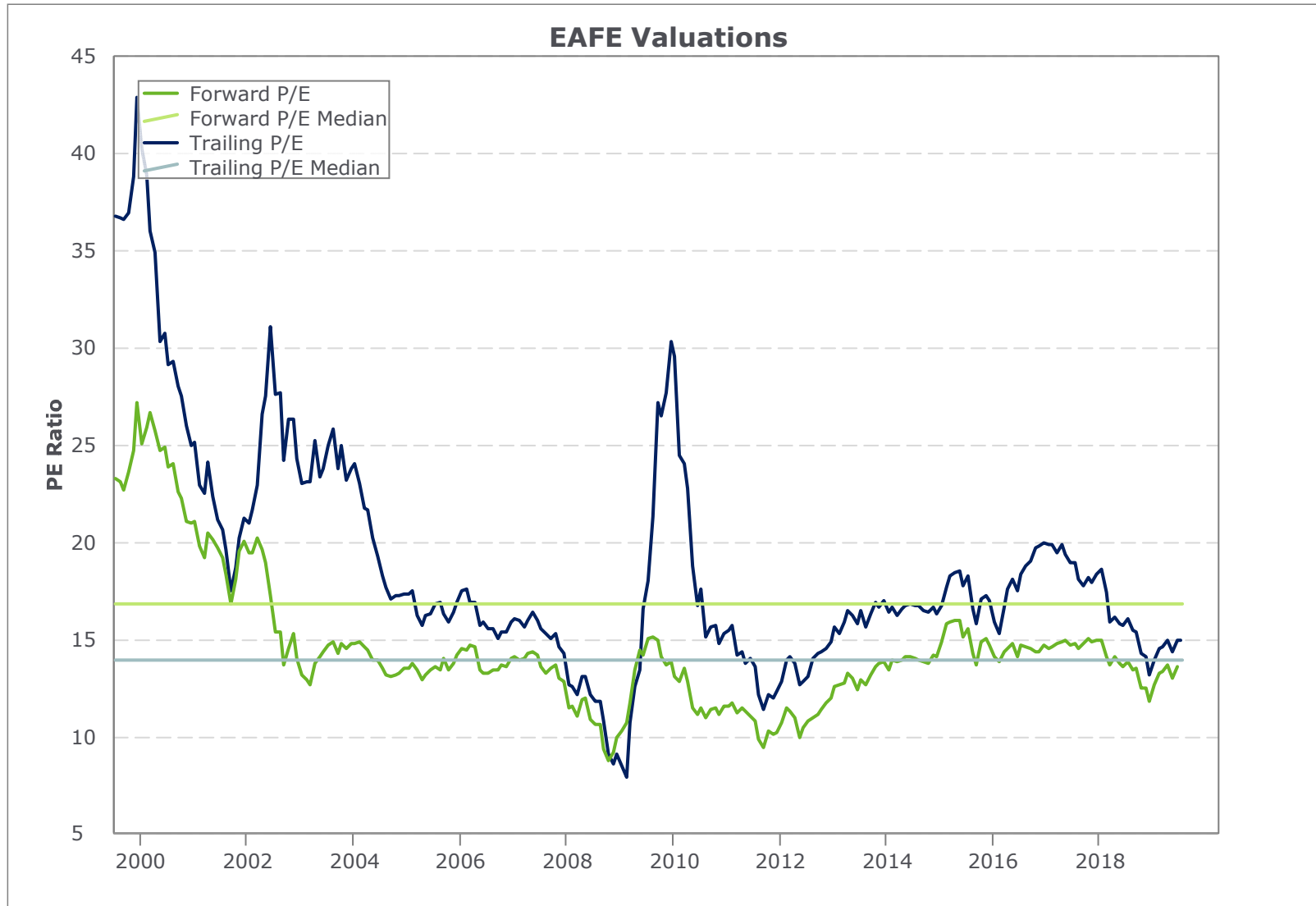
US EQUITY VALUATIONS



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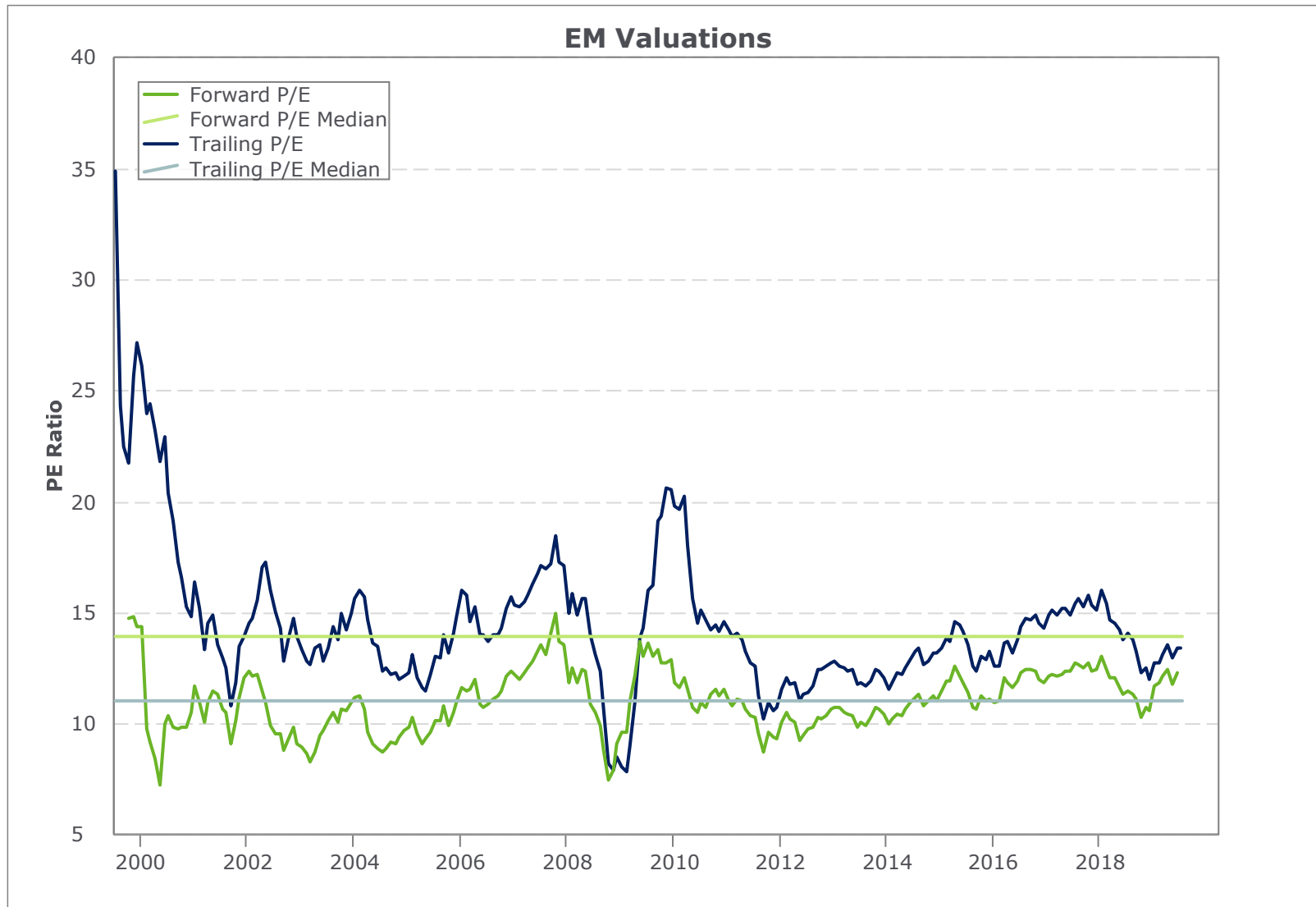
EAFE EQUITY VALUATIONS



Source: FactSet



EM EQUITY VALUATIONS



Source: FactSet



CREDIT

NEPC, LLC

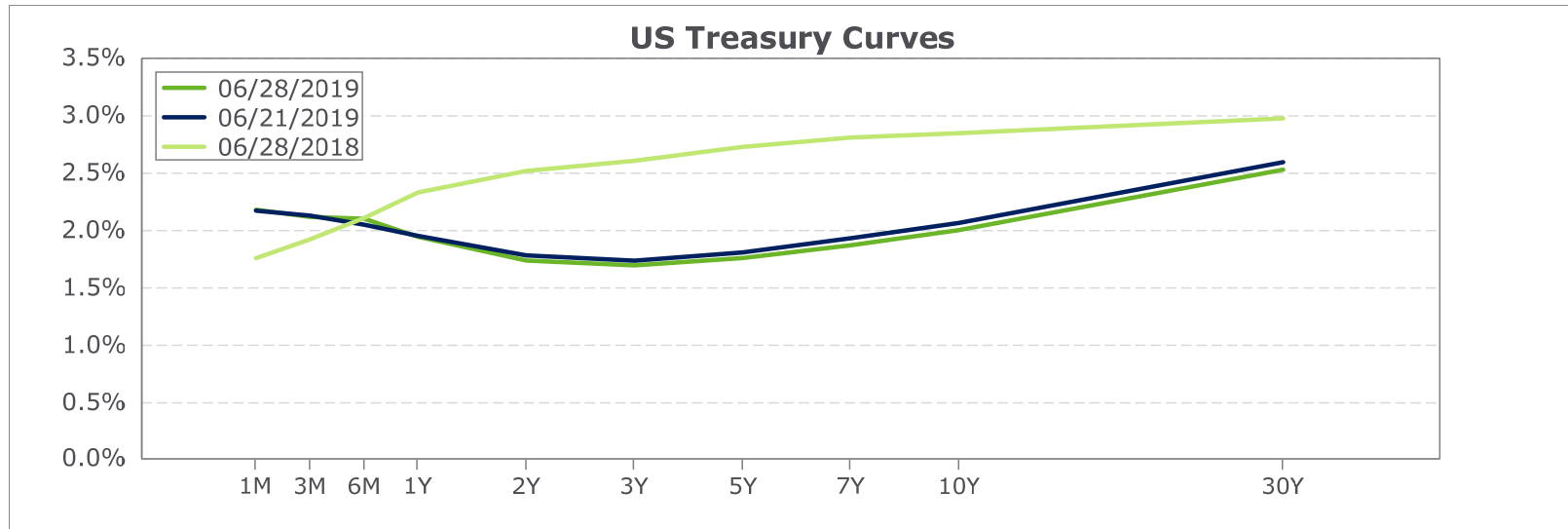
FIXED INCOME CHARACTERISTICS

	Averages			Total Returns (%)		
	Yield to Worst	Spread (bps)	Duration (Years)	1-Month	YTD	1-Year
Barclays Aggregate	2.49%	46	5.7	1.3%	6.1%	7.9%
Barclays Treasury	1.92%	-	6.4	0.9%	5.2%	7.2%
Barclays Agency	2.07%	14	4.0	0.7%	4.2%	6.1%
Barclays MBS	2.70%	46	3.2	0.7%	4.2%	6.2%
Barclays ABS	2.21%	41	2.2	0.4%	3.2%	5.0%
Barclays CMBS	2.38%	52	5.4	1.0%	6.1%	8.6%
Barclays Corp IG	3.16%	115	7.6	2.4%	9.9%	10.7%
Barclays Muni	2.02%	-	5.5	0.4%	5.1%	6.7%
Barclays HY Muni	4.41%	-	8.0	0.5%	6.7%	7.8%
Barclays TIPS	2.11%	-	1.1	0.9%	6.2%	4.8%
Barclays HY	5.87%	377	3.2	2.3%	9.9%	7.5%
Barclays Global Agg	1.48%	46	7.1	2.2%	5.6%	5.8%
JPM EMBI Glob Div	-	345	7.1	3.4%	11.3%	12.4%
JPM GBI - EM	5.23%	-	5.3	5.5%	8.7%	9.0%

Source: FactSet



TREASURIES



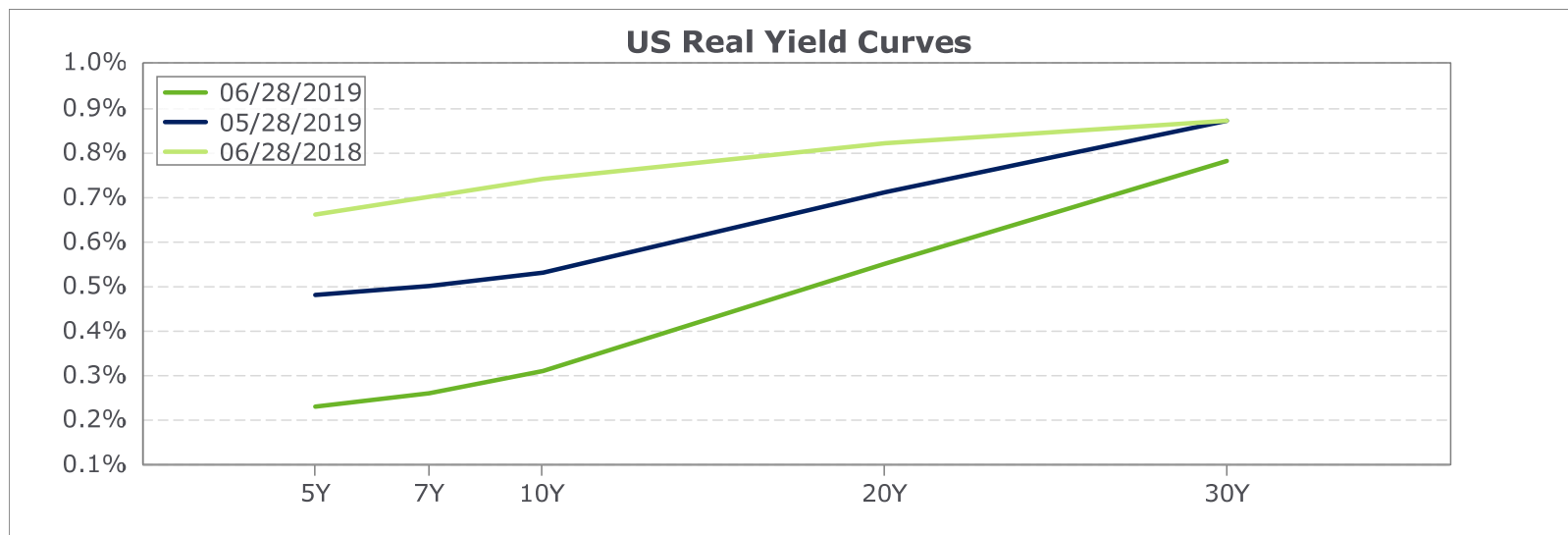
Source: FactSet

	Yield (%)			Total Return (%)	
	Current	1 Month Ago	12 Months Ago	1 Month	12 Months
3M Treasury	2.12%	2.35%	1.91%	0.23%	2.26%
6M Treasury	2.10%	2.36%	2.11%	0.24%	2.40%
2Y Treasury	1.73%	1.95%	2.52%	0.77%	3.40%
5Y Treasury	1.75%	1.93%	2.73%	1.79%	6.30%
10Y Treasury	2.00%	2.14%	2.85%	3.35%	8.81%
30Y Treasury	2.53%	2.58%	2.99%	7.52%	11.65%

Source: FactSet



REAL YIELDS



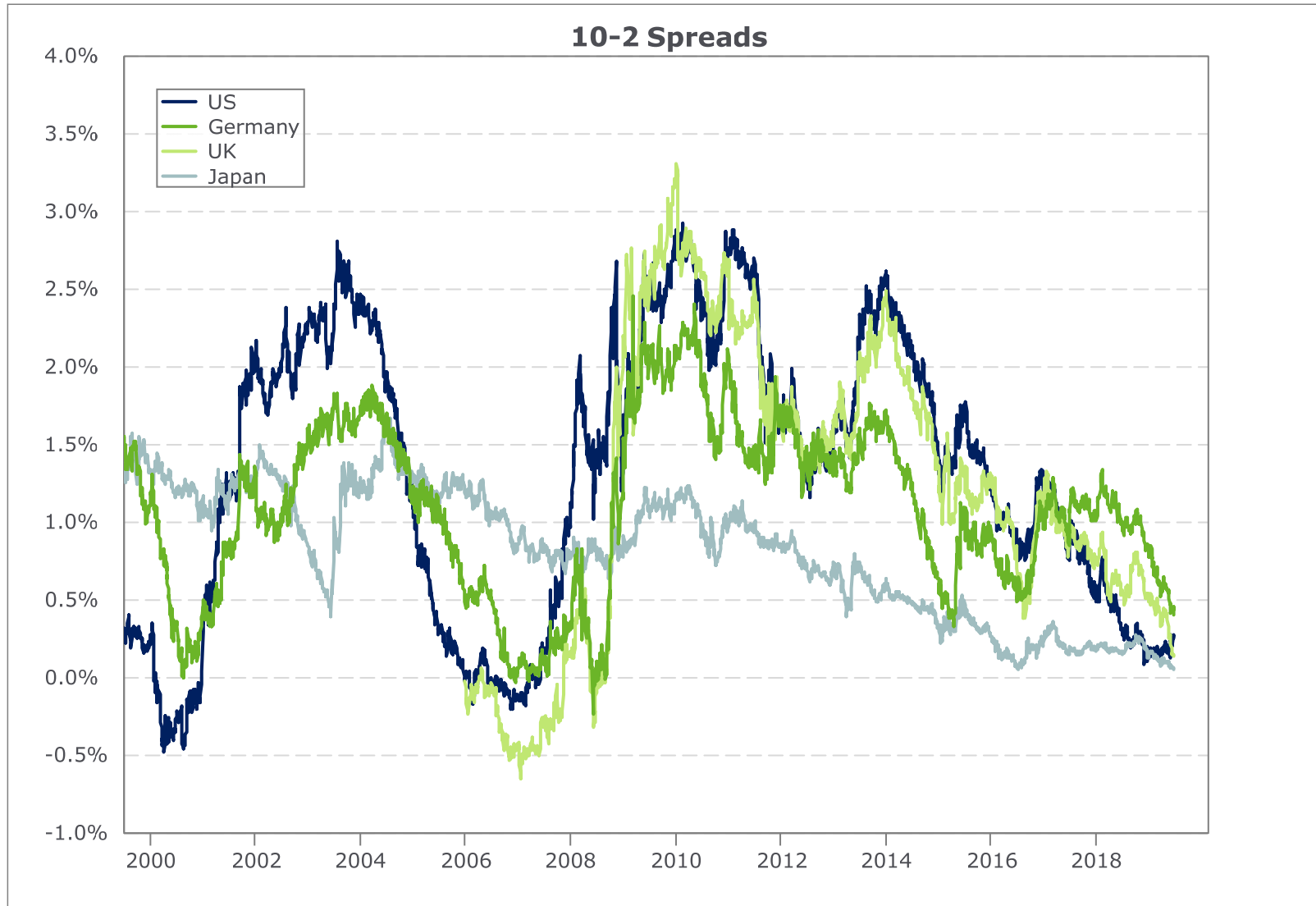
Source: FactSet

	Real Rates			Breakeven Rates	
	Current	1 Month Ago	12 Months Ago	Current	12 Months Ago
2-Year	-0.35%	0.04%	-0.42%	1.39%	2.09%
5-Year	-0.39%	-0.02%	-0.33%	1.30%	2.27%
10-Year	-0.33%	0.00%	-0.21%	1.43%	2.51%
20-Year	-0.21%	0.08%	-0.13%	1.65%	2.68%
30-Year	-0.08%	0.18%	-0.09%	1.92%	2.75%

Source: FactSet



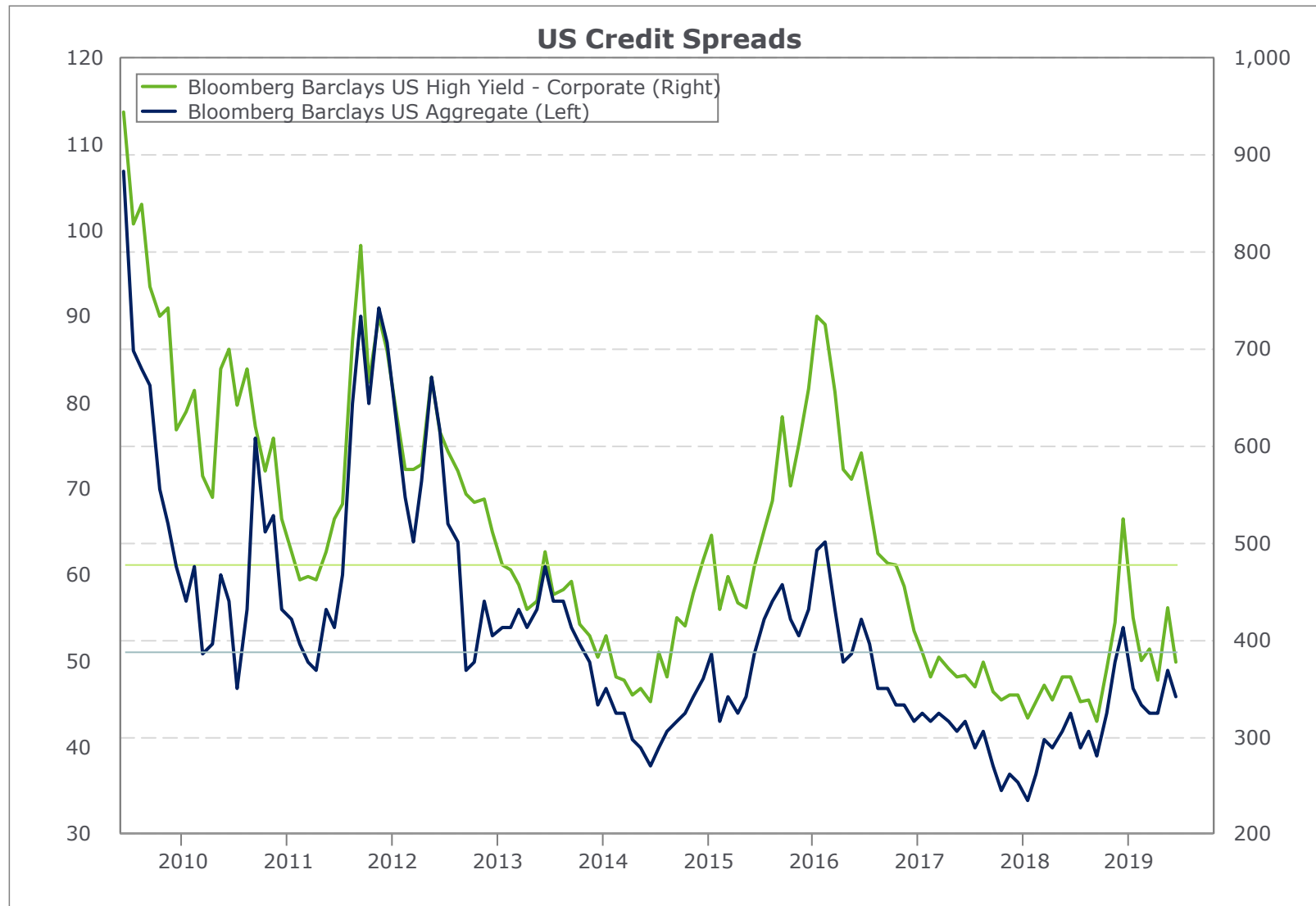
NOMINAL YIELDS



Source: FactSet



CREDIT SPREADS



Source: FactSet



REAL ASSETS

NEPC, LLC

REAL ASSETS INDEX PERFORMANCE

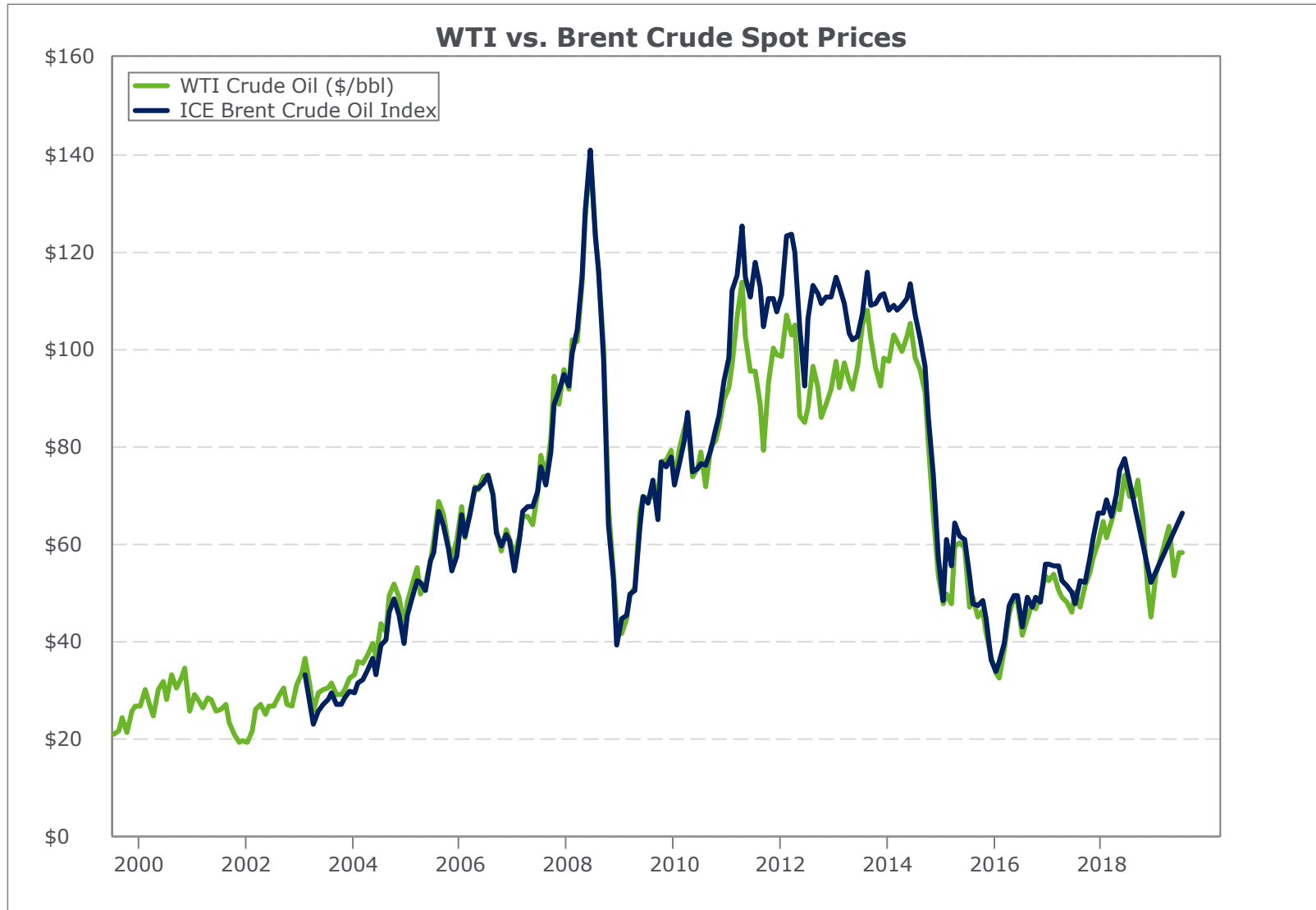
Index	1 Month	3 Month	YTD	1 Year	3 Year	5 Year
Bloomberg Commodity Index	2.7%	-1.2%	5.1%	-6.8%	-2.2%	-9.1%
Bloomberg Agriculture Index	0.5%	4.5%	1.2%	-4.2%	-10.3%	-9.7%
Coffee	2.2%	10.6%	0.2%	-15.6%	-17.8%	-17.6%
Corn	-2.2%	14.9%	7.6%	6.1%	-6.3%	-10.1%
Cotton	-2.0%	-14.2%	-8.9%	-22.4%	1.3%	-1.9%
Soybean	2.1%	0.3%	-1.8%	-2.0%	-12.0%	-7.4%
Soybean Oil	2.3%	-1.2%	0.1%	-6.7%	-7.1%	-9.6%
Sugar	2.4%	-1.7%	4.0%	-3.4%	-18.8%	-14.1%
Wheat	4.2%	14.0%	3.8%	-0.6%	-7.7%	-11.4%
Bloomberg Energy	4.0%	-4.6%	10.6%	-14.3%	-0.5%	-18.1%
Brent Crude	6.0%	-0.9%	24.1%	-14.2%	8.3%	-16.1%
Heating Oil	5.1%	-1.8%	17.2%	-10.4%	6.9%	-11.7%
Natural Gas	-6.1%	-16.2%	-22.8%	-20.6%	-19.2%	-27.5%
Unleaded Gas	8.5%	5.2%	33.2%	-12.0%	4.8%	-13.5%
WTI Crude Oil	8.8%	-2.8%	26.5%	-18.4%	2.5%	-19.8%
Bloomberg Industrial Metals	2.0%	-7.2%	4.7%	-11.0%	6.4%	-3.0%
Aluminum	0.0%	-6.8%	-3.8%	-16.5%	2.1%	-3.2%
Copper	2.9%	-7.3%	3.8%	-8.1%	6.1%	-4.2%
Nickel	5.7%	-2.2%	18.8%	-14.9%	9.5%	-8.8%
Zinc	-0.6%	-11.9%	6.2%	-4.2%	9.5%	3.6%
Bloomberg Precious Metals	7.3%	7.1%	7.2%	7.6%	-0.8%	-1.3%
Gold	8.0%	9.0%	10.0%	12.1%	1.5%	0.7%
Silver	5.0%	1.0%	-1.8%	-6.2%	-7.4%	-7.3%
Bloomberg Livestock	-3.5%	-11.0%	-6.8%	-3.5%	-2.5%	-7.1%
Lean Hogs	-10.0%	-13.9%	-8.0%	-10.9%	-9.1%	-14.6%
Live Cattle	1.4%	-8.9%	-6.8%	-0.1%	1.3%	-2.8%

Source: FactSet

Bloomberg subindex total return indices reflects the return of the underlying one month commodity futures price movements



OIL MARKETS



Source: FactSet



INVESTMENT GUIDELINES

- **Blackrock Russell 1000 Index Fund**
 - The Blackrock Russell 1000 Index Fund shall be invested and reinvested primarily in a portfolio of Equity Securities with the objective of approximating as closely as practicable the capitalization weighted total rate of return of the Russell 1000 Index (large cap companies).
- **Blackrock Russell 2500 Index Fund**
 - The Blackrock Russell 2500 Index Fund shall be invested and reinvested primarily in a portfolio of Equity Securities with the objective of approximating as closely as practicable the capitalization weighted total rate of return of the Russell 2500 Index (mid and small cap companies).
- **Western Asset Management Index Plus Separate Account**
 - The objective of the Portfolio is to maximize the long term total return in the Portfolio while providing a core domestic equity exposure to the Standard & Poor's ("S&P") 500 Index and managing Portfolio risk. The Manager shall aim to exceed the total return of the S&P 500 index with all dividends reinvested in the index by 75 basis points on an annualized basis over a full market cycle.
- **Blackrock MSCI ACWI ex-U.S. IMI Index Fund**
 - The BlackRock MSCI ACWI ex-U.S. IMI Index Fund shall be invested and reinvested in a portfolio of International Equity Securities whose total rates of return will approximate as closely as practicable the capitalization-weighted total rates of return of the equity markets of selected non-U.S. developed and emerging countries.
- **Blackrock MSCI ACWI Equity Index Fund**
 - The BlackRock MSCI ACWI Equity Index Fund shall be invested and reinvested primarily in a portfolio of U.S. Equity Securities and International Equity Securities with the objective of approximating as closely as practicable the capitalization-weighted total rates of return of the equity markets of the U.S, non-U.S. developed and emerging countries.
- **Hexavest EAFE Equity Fund**
 - The Fund seeks to provide investors with capital appreciation and income generation by using a top-down approach and investing primarily in equity and quasi equity securities located in Europe, Australasia and the Far East ("EAFE") and which form part of the MSCI EAFE Index. The Fund seeks to achieve a rate of return that will exceed that of the index net of fees, and achieve a high ranking relative to similar funds over a full market cycle.



INVESTMENT GUIDELINES

- **Sprucegrove U.S. International Pooled Fund**
 - The Fund seeks to maximize the long-term rate of return while seeking to preserve investment capital by investing primarily in equity and quasi-equity securities of companies with more value characteristics located in developed markets in the Europe, Australasia and the Far East ("EAFE") Index and to outperform the index, net of fees and achieve a high ranking relative to similar funds over a full market cycle.
- **Walter Scott & Partners International Fund**
 - The Fund will invest in equity securities that meet certain quantitative and qualitative investment criteria and will seek long-term capital appreciation. The Fund will tend to focus on those industries or sectors with more growth characteristics and experiencing upper quartile economic growth and may avoid industries which are in secular economic decline. The Fund seeks to outperform the MSCI Europe, Australasia and the Far East ("EAFE") Index net of fees, and achieve a high ranking relative to similar funds over a full market cycle.
- **Blackrock U.S. Debt Index Fund**
 - The U.S. Debt Index Fund shall be invested and reinvested primarily in a portfolio of Debt Securities with the objective of approximating as closely as practicable the total rate of return of the market for Debt Securities as defined by the Bloomberg Barclays U.S. Aggregate Bond Index.
- **Western Asset Management Core Plus Fixed Income Separate Account**
 - The objective of the Portfolio is to provide above-average total return in a manner that is consistent with the typical rate-of-return volatility exhibited by broad market fixed income portfolios. The Fund will seek to outperform the Bloomberg Barclays U.S. Aggregate Index, net of fees, over a full market cycle.
- **Reams Unconstrained Fixed Income Separate Account**
 - The Portfolio will be broadly diversified across markets, sectors, securities, and maturities in a manner consistent with accepted standards of prudence. The objective of the Portfolio is to maximize risk-adjusted total return by systematically pursuing relative value opportunities throughout all sectors of the fixed income market. The Portfolio will seek returns in excess of the Bloomberg/Barclays U.S. Aggregate Bond Index and/or the three month London Interbank Offered Rate ("LIBOR") in U.S. dollars plus 3% net of fees with an expected risk volatility goal of approximately 4 to 6% over a full market cycle.



INVESTMENT GUIDELINES

- **Loomis, Sayles & Company Multisector Full Discretion Separate Account**
 - The fixed income portfolio should be broadly diversified across markets, sectors, securities, and maturities in a manner consistent with accepted standards of prudence. The objective of the Portfolio is to provide above-average total return in a manner that is consistent with the typical rate-of-return volatility exhibited by broad market fixed income portfolios. The return of the Manager should exceed that of the custom benchmark (30% of the rate of return of the Citigroup High-Yield Index, 5% of the rate of return of the J.P. Morgan Non-U.S. Hedged Bond Index and 65% of the rate of return of the Bloomberg Barclays U.S. Aggregate Bond Index), net of fees, over a full market cycle.
- **Loomis, Sayles & Company Strategic Alpha Fund**
 - The objective of the Fund is to provide absolute returns in excess of the Bloomberg/Barclays U.S. Aggregate Bond Index and/or the three month London Interbank Offered Rate (“LIBOR”) in U.S. dollars plus 3% net of fees with an expected risk volatility goal of approximately 4 to 6% over a full market cycle.
- **Reams 10-Year Treasuries**
 - The portfolio shall be invested in 10-Year U.S. Treasury Debt Securities with the objective of returning the rate of return on a 10-Year U.S. Treasury Debt Security.
- **Bridgewater Associates All Weather Portfolio**
 - The investment objective of the Fund is to seek to provide attractive returns with relatively limited risks, with no material bias to perform better or worse in any particular type of economic environment. In other words, the portfolio seeks to perform approximately as well in rising or falling inflation periods, or in periods of strong or weak economic growth. To achieve this objective, the Fund holds investments in different asset classes that have different biases to economic conditions. The Manager will seek to outperform the CPI + 4% (Unadjusted) benchmark net of fees over a full market cycle.
- **Tortoise Energy Infrastructure Master Limited Partnership**
 - The Manager will invest in master limited partnerships with an investment approach that emphasizes a long-term, buy-and-hold philosophy with low turnover in an effort to achieve a portfolio characterized by high current income, high growth and low volatility. The Manager invests primarily in long-haul pipelines and gathering & processing pipelines. The Manager will seek to outperform the Wells Fargo MLP Index net of fees over a full market cycle.



INVESTMENT GUIDELINES

- **PGIM Real Estate Property Investment Separate Account**
 - PRISA is a broadly diversified equity real estate portfolio that invests primarily in existing, income-producing properties with strong cash flow that is expected to increase over time and thereby provide the potential for capital appreciation. The Fund’s performance objective is to produce a total return each year that meets or exceeds the National Council of Real Estate Investment Fiduciaries Fund Index – Open-End Diversified Core Equity (“NCREIF-ODCE”) net of fees, while maintaining the benefits of a broadly diversified, core real estate portfolio.
- **UBS Realty Investors Trumbull Property Fund**
 - The Fund seeks to provide investors with strategic market access to high-quality private commercial real estate with the financial objective of providing superior risk-adjusted returns across the real estate cycles. Maximize the quality and growth of the Fund’s income by acquiring and aggressively managing high quality assets in major US metropolitan markets to minimize risk through diversification by property type, geographic location and economic sector. The Fund’s performance objective is to outperform the National Council of Real Estate Investment Fiduciaries Fund Index – Open-End Diversified Core Equity (“NCREIF-ODCE”) index net of fees, and a 5% real rate of return (inflation-adjusted return) over a full market cycle.



GLOSSARY OF INVESTMENT TERMINOLOGY

Alpha - Measures the relationship between the fund performance and the performance of another fund or benchmark index and equals the excess return while the other fund or benchmark index is zero.

Alpha Jensen - The average return on a portfolio over and above that predicted by the capital asset pricing model (CAPM), given the portfolio's beta and the average market return. Also known as the abnormal return or the risk adjusted excess return.

Annualized Excess Return over Benchmark - Annualized fund return minus the annualized benchmark return for the calculated return.

Annualized Return - A statistical technique whereby returns covering periods greater than one year are converted to cover a 12 month time span.

Beta - Measures the volatility or systematic risk and is equal to the change in the fund's performance in relation to the change in the assigned index's performance.

Information Ratio - A measure of the risk adjusted return of a financial security, asset, or portfolio.

Formula:
 $(\text{Annualized Return of Portfolio} - \text{Annualized Return of Benchmark}) / \text{Annualized Standard Deviation}(\text{Period Portfolio Return} - \text{Period Benchmark Return})$. To annualize standard deviation, multiply the deviation by the square root of the number of periods per year where monthly returns per year equals 12 and quarterly returns is four periods per year.

R-Squared - Represents the percentage of a fund's movements that can be explained by movements in an index. R-Squared values range from 0 to 100. An R-Squared of 100 denotes that all movements of a fund are completely explained by movements in the index.

Sharpe Ratio - A measure of the excess return or risk premium per unit of risk in an investment asset or trading strategy.

Sortino Ratio - A method to differentiate between good and bad volatility in the Sharpe Ratio. The differentiation of up and down volatility allows the calculation to provide a risk adjusted measure of a security or fund's performance without upward price change penalties.

Formula:
 $\text{Calculation Average } (X-Y) / \text{Downside Deviation } (X-Y) * 2$
Where X=Return Series Y = Return Series Y which is the risk free return (91 day T-bills)

Standard Deviation - The standard deviation is a statistical term that describes the distribution of results. It is a commonly used measure of volatility of returns of a portfolio, asset class, or security. The higher the standard deviation the more volatile the returns are.

Formula:
 $(\text{Annualized Return of Portfolio} - \text{Annualized Return of Risk Free}) / \text{Annualized Standard Deviation (Portfolio Returns)}$

Tracking Error - Tracking error, also known as residual risk, is a measure of the degree to which a portfolio tracks its benchmark. It is also a measure of consistency of excess returns. Tracking error is computed as the annualized standard deviation of the difference between a portfolio's return and that of its benchmark.

Formula:
 $\text{Tracking Error} = \text{Standard Deviation } (X-Y) * \sqrt{\text{\# of periods per year}}$
Where X = periods portfolio return and Y = the period's benchmark return
For monthly returns, the periods per year = 12
For quarterly returns, the periods per year = 4

Treynor Ratio - A risk-adjusted measure of return based on systematic risk. Similar to the Sharpe ratio with the difference being the Treynor ratio uses beta as the measurement of volatility.

Formula:
 $(\text{Portfolio Average Return} - \text{Average Return of Risk-Free Rate}) / \text{Portfolio Beta}$

Up/Down Capture Ratio - A measure of what percentage of a market's returns is "captured" by a portfolio. For example, if the market declines 10% over some period, and the manager declines only 9%, then his or her capture ratio is 90%. In down markets, it is advantageous for a manager to have as low a capture ratio as possible. For up markets, the higher the capture ratio the better. Looking at capture ratios can provide insight into how a manager achieves excess returns. A value manager might typically have a lower capture ratio in both up and down markets, achieving excess returns by protecting on the downside, whereas a growth manager might fall more than the overall market in down markets, but achieve above-market returns in a rising market.

$\text{Upside Capture} = \text{Total Return}(\text{Fund Returns}) / \text{Total Returns}(\text{BM Return})$ when Period Benchmark Return is $> = 0$

$\text{Downside Capture} = \text{Total Return}(\text{Fund Returns}) / \text{Total Returns}(\text{BM Return})$ when Benchmark < 0

Data Source: InvestorForce



GLOSSARY OF INVESTMENT TERMINOLOGY

Of Portfolios/Observations¹ – The total number of data points that make up a specified universe

Allocation Index³ - The allocation index measures the value added (or subtracted) to each portfolio by active management. It is calculated monthly: The portfolio asset allocation to each category from the prior month-end is multiplied by a specified market index.

Asset Allocation Effect² - Measures an investment manager's ability to effectively allocate their portfolio's assets to various sectors. The allocation effect determines whether the overweighting or underweighting of sectors relative to a benchmark contributes positively or negatively to the overall portfolio return. Positive allocation occurs when the portfolio is over weighted in a sector that outperforms the benchmark and underweighted in a sector that underperforms the benchmark. Negative allocation occurs when the portfolio is over weighted in a sector that underperforms the benchmark and under weighted in a sector that outperforms the benchmark.

Agency Bonds (Agencies)³ - The full faith and credit of the United States government is normally not pledged to payment of principal and interest on the majority of government agencies issuing these bonds, with maturities of up to ten years. Their yields, therefore, are normally higher than government and their marketability is good, thereby qualifying them as a low risk-high liquidity type of investment. They are eligible as security for advances to the member banks by the Federal Reserve, which attests to their standing.

Asset Backed Securities (ABS)³ - Bonds which are similar to mortgage-backed securities but are collateralized by assets other than mortgages; commonly backed by credit card receivables, auto loans, or other types of consumer financing.

Attribution³ - Attribution is an analytical technique that allows us to evaluate the performance of the portfolio relative to the benchmark. A proper attribution tells us where value was added or subtracted as a result of the manager's decisions.

Average Effective Maturity⁴ - For a single bond, it is a measure of maturity that takes into account the possibility that a bond might be called back to the issuer.

For a portfolio of bonds, average effective maturity is the weighted average of the maturities of the underlying bonds. The measure is computed by weighing each bond's maturity by its market value with respect to the portfolio and the likelihood of any of the bonds being called. In a pool of mortgages, this would also account for the likelihood of prepayments on the mortgages.

Batting Average¹ - A measurement representing an investment manager's ability to meet or beat an index.

Formula: Divide the number of days (or months, quarters, etc.) in which the manager beats or matches the index by the total number of days (or months, quarters, etc.) in the period of question and multiply that factor by 100.

Brinson Fachler (BF) Attribution¹ - The BF methodology is a highly accepted industry standard for calculating the allocation, selection, and interaction effects within a portfolio that collectively explains a portfolio's underlying performance. The main advantage of the BF methodology is that rather than using the overall return of the benchmark, it goes a level deeper than BHB and measures whether the benchmark sector, country, etc. outperformed/or underperformed the overall benchmark.

Brinson Hood Beebower (BHB) Attribution¹ - The BHB methodology shows that excess return must be equal to the sum of all other factors (i.e., allocation effect, selection effect, interaction effect, etc.). The advantage to using the BHB methodology is that it is a highly accepted industry standard for calculating the allocation, selection, and interaction effects within a portfolio that collectively explains a portfolio's underlying performance.

Corporate Bond (Corp)⁴ - A debt security issued by a corporation and sold to investors. The backing for the bond is usually the payment ability of the company, which is typically money to be earned from future operations. In some cases, the company's physical assets may be used as collateral for bonds.

Correlation¹ - A range of statistical relationships between two or more random variables or observed data values. A correlation is a single number that describes the degree of relationship between variables.

Data Source: ¹InvestorForce, ²Interaction Effect Performance Attribution, ³NEPC, LLC, ⁴Investopedia, ⁵Hedgeco.net



GLOSSARY OF INVESTMENT TERMINOLOGY

Coupon⁴ – The interest rate stated on a bond when it is issued. The coupon is typically paid semiannually. This is also referred to as the "coupon rate" or "coupon percent rate."

Currency Effect¹ - Is the effect that changes in currency exchange rates over time affect excess performance.

Derivative Instrument³ - A financial obligation that derives its precise value from the value of one or more other instruments (or assets) at the same point of time. For example, the relationship between the value of an S&P 500 futures contract (the derivative instrument in this case) is determined by the value of the S&P 500 Index and the value of a U.S. Treasury bill that matures at the expiration of the futures contract.

Downside Deviation¹ - Equals the standard deviation of negative return or the measure of downside risk focusing on the standard deviation of negative returns.

Formula:

Annualized Standard Deviation (Fund Return - Average Fund Return) where average fund return is greater than individual fund returns, monthly or quarterly.

Duration³ - Duration is a measure of interest rate risk. The greater the duration of a bond, or a portfolio of bonds, the greater its price volatility will be in response to a change in interest rates. A bond's duration is inversely related to interest rates and directly related to time to maturity.

Equity/Debt/Cash Ratio¹ – The percentage of an investment or portfolio that is in Equity, Debt, and/or Cash (i.e. A 7/89/4 ratio represents an investment that is made up of 7% Equity, 89% Debt, and 4% Cash).

Foreign Bond³ - A bond that is issued in a domestic market by a foreign entity, in the domestic market's currency. A foreign bond is most often issued by a foreign firm to raise capital in a domestic market that would be most interested in purchasing the firm's debt. For foreign firms doing a large amount of business in the domestic market, issuing foreign bonds is a common practice.

Hard Hurdle⁵ – is a hurdle rate that once beaten allows a fund manager to charge a performance fee on only the funds above the specified hurdle rate.

High-Water Mark⁴ - The highest peak in value that an investment fund/account has reached. This term is often used in the context of fund manager compensation, which is performance based. Some performance-based fees only get paid when fund performance exceeds the high-water mark. The high-water mark ensures that the manager does not get paid large sums for poor performance.

Hurdle Rate⁴ - The minimum rate of return on an investment required, in order for a manager to collect incentive fees from the investor, which is usually tied to a benchmark.

Interaction Effects² - The interaction effect measures the combined impact of an investment manager's selection and allocation decisions within a sector. For example, if an investment manager had superior selection and over weighted that particular sector, the interaction effect is positive. If an investment manager had superior selection, but underweighted that sector, the interaction effect is negative. In this case, the investment manager did not take advantage of the superior selection by allocating more assets to that sector. Since many investment managers consider the interaction effect to be part of the selection or the allocation, it is often combined with the either effect.

Median³ - The value (rate of return, market sensitivity, etc.) that exceeds one-half of the values in the population and that is exceeded by one-half of the values. The median has a percentile rank of 50.

Modified Duration³ - The percentage change in the price of a fixed income security that results from a change in yield.

Mortgage Backed Securities (MBS)³ - Bonds which are a general obligation of the issuing institution but are also collateralized by a pool of mortgages.

Municipal Bond (Muni)⁴ - A debt security issued by a state, municipality or county to finance its capital expenditures.

Net Investment Change¹ – Is the change in an investment after accounting for all Net Cash Flows.

Performance Fee⁴ - A payment made to a fund manager for generating positive returns. The performance fee is generally calculated as a percentage of investment profits, often both realized and unrealized.

Data Source: ¹InvestorForce, ²Interaction Effect Performance Attribution, ³NEPC, LLC, ⁴Investopedia, ⁵Hedgeco.net



GLOSSARY OF INVESTMENT TERMINOLOGY

Policy Index³ - A custom benchmark designed to indicate the returns that a passive investor would earn by consistently following the asset allocation targets set forth in this investment policy statement.

Price to Book (P/B)⁴ - A ratio used to compare a stock's market value to its book value. It is calculated by dividing the current closing price of the stock by the latest quarter's book value per share, also known as the "price-equity ratio".

Price to Earnings (P/E)³ - The weighted equity P/E is based on current price and trailing 12 months earnings per share (EPS).

Price to Sales (P/S)⁴ - A ratio for valuing a stock relative to its own past performance, other companies, or the market itself. Price to sales is calculated by dividing a stock's current price by its revenue per share for the trailing 12 months.

Return on Equity (ROE)⁴ - The amount of net income returned as a percentage of shareholders equity. Return on equity measures a corporation's profitability by revealing how much profit a company generates with the money shareholders have invested.

Selection (or Manager) Effect² - Measures the investment manager's ability to select securities within a given sector relative to a benchmark. The over or underperformance of the portfolio is weighted by the benchmark weight, therefore, selection is not affected by the manager's allocation to the sector. The weight of the sector in the portfolio determines the size of the effect—the larger the sector, the larger the effect is, positive or negative.

Soft Hurdle rate⁵ - is a hurdle rate that once beaten allows a fund manager to charge a performance fee based on the entire annualized return.

Tiered Fee¹ - A fee structure that is paid to fund managers based on the size of the investment (i.e. 1.00% fee on the first \$10M invested, 0.90% on the next \$10M, and 0.80% on the remaining balance).

Total Effects² - The active management (total) effect is the sum of the selection, allocation, and interaction effects. It is also the difference between the total portfolio return and the total benchmark return. You can use the active management effect to determine the amount the investment manager has added to a portfolio's return.

Total Return¹ - The actual rate of return of an investment over a specified time period. Total return includes interest, capital gains, dividends, and distributions realized over a defined time period.

Universe³ - The list of all assets eligible for inclusion in a portfolio.

Upside Deviation¹ - Standard Deviation of Positive Returns

Weighted Avg. Market Cap.⁴ - A stock market index weighted by the market capitalization of each stock in the index. In such a weighting scheme, larger companies account for a greater portion of the index. Most indexes are constructed in this manner, with the best example being the S&P 500.

Yield (%)³ - The current yield of a security is the current indicated annual dividend rate divided by current price.

Yield to Maturity³ - The discount rate that equates the present value of cash flows, both principal and interest, to market price.

Data Source: ¹InvestorForce, ²Interaction Effect Performance Attribution, ³NEPC, LLC, ⁴Investopedia, ⁵Hedgeco.net



Information Disclaimer

- Past performance is no guarantee of future results.
- All investments carry some level of risk. Diversification and other asset allocation techniques are not guaranteed to ensure profit or protect against losses.
- NEPC's source for portfolio pricing, calculation of accruals, and transaction information is the plan's custodian bank. Information on market indices and security characteristics is received from other sources external to NEPC. While NEPC has exercised reasonable professional care in preparing this report, we cannot guarantee the accuracy of all source information contained within.
- Some index returns displayed in this report or used in calculation of a policy, allocation or custom benchmark may be preliminary and subject to change.
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Reporting Methodology

- The client's custodian bank is NEPC's preferred data source unless otherwise directed. NEPC generally reconciles custodian data to manager data. If the custodian cannot provide accurate data, manager data may be used.
- Trailing time period returns are determined by geometrically linking the holding period returns, from the first full month after inception to the report date. Rates of return are annualized when the time period is longer than a year. Performance is presented gross and/or net of manager fees as indicated on each page.
- For managers funded in the middle of a month, the "since inception" return will start with the first full month, although actual inception dates and cash flows are taken into account in all Composite calculations.
- This report may contain forward-looking statements that are based on NEPC's estimates, opinions and beliefs, but NEPC cannot guarantee that any plan will achieve its targeted return or meet other goals.

