

QUARTERLY PERFORMANCE REPORT

Ventura County Employees' Retirement Association

March 31, 2018

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VCERA
VENTURA COUNTY EMPLOYEES'
RETIREMENT ASSOCIATION



BOSTON | ATLANTA | CHARLOTTE | CHICAGO | DETROIT | LAS VEGAS | PORTLAND | SAN FRANCISCO

MARKET ENVIRONMENT UPDATE AND OUTLOOK

NEPC, LLC

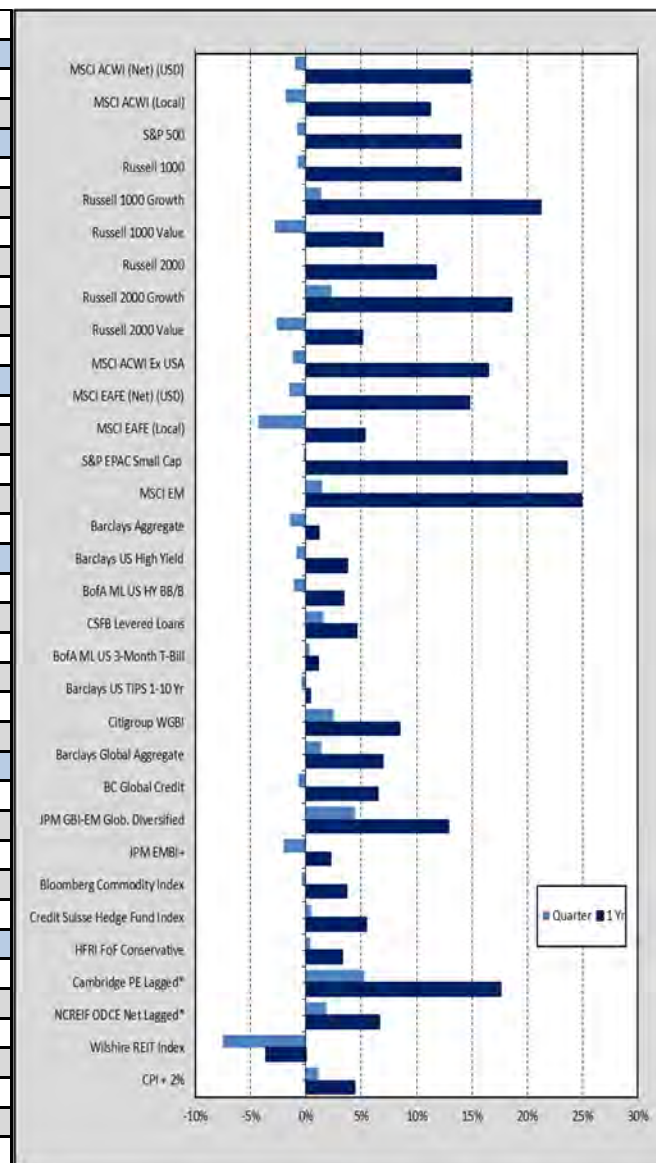
ECONOMIC ENVIRONMENT

- **First quarter GDP growth rate (advance estimate) increased at a moderate 2.3%.**
 - Retail sales ended February at +4.2% on a YoY basis. In the same period last year the YoY growth rate was 4.9%.
 - Corporate profits (ended October) as a percent of GDP decreased to 8.5% from 9.5% (in July) and remain elevated relative to historical levels.
 - The inventory-to-sales ratio ended February up at 1.4 from 1.3 and has remained relatively flat since early 2010.
 - The U.S. trade deficit widened by 1.6% ended February and is at its highest level in nearly 10 years.
- **The unemployment rate remained flat at 4.1% Q1; U-6, a broader measure of unemployment, decreased to 8.0% from 8.1% during the first quarter.**
- **The Case-Shiller Home Price Index (ended January) increased to 196.3 from 195.6 and remains at levels higher than that of pre-financial crisis levels of 150.9.**
- **Rolling 12-month seasonally-adjusted CPI saw an up-tick to 2.4% from 2.1% at the end of March; Capacity Utilization marginally increased to 78.0% from 77.9% in Q1.**
- **Fed Funds rate was increased 0.25% to a targeted range of 1.50% - to – 1.75%. The 10-year Treasury Yield (constant maturity) finished Q1 at 2.8% up from 2.4% in December.**
- **The Fed balance sheet decreased slightly during Q1 2018, while the European Central Bank balance sheet continues to increase.**
 - ECB held its benchmark refinance rate at 0%, deposit rates -0.4% and asset purchases would slow from €60 billion per month to €30 billion per month.
- **S&P valuations increased slightly in Q1, remaining above the 10-year and long-term averages.**
 - Cyclically adjusted Shiller PE ratio (32.6x) is above the long-term average of 16.9x and above the 10-year average of 23.5x.



MARKET ENVIRONMENT – Q1 2018 OVERVIEW

		Qtr.	1 Yr.	3 Yr.	5 Yr.	10 Yr.
World Equity Benchmarks						
MSCI ACWI (Net) (USD)	World	-1.0%	14.8%	8.1%	9.2%	5.6%
MSCI ACWI (Local)	World (Local Currency)	-1.9%	11.2%	7.3%	10.4%	6.6%
Domestic Equity Benchmarks						
S&P 500	Large Core	-0.8%	14.0%	10.8%	13.3%	9.5%
Russell 1000	Large Core	-0.7%	14.0%	10.4%	13.2%	9.6%
Russell 1000 Growth	Large Growth	1.4%	21.3%	12.9%	15.5%	11.3%
Russell 1000 Value	Large Value	-2.8%	6.9%	7.9%	10.8%	7.8%
Russell 2000	Small Core	-0.1%	11.8%	8.4%	11.5%	9.8%
Russell 2000 Growth	Small Growth	2.3%	18.6%	8.8%	12.9%	11.0%
Russell 2000 Value	Small Value	-2.6%	5.1%	7.9%	10.0%	8.6%
International Equity Benchmarks						
MSCI ACWI Ex USA	World ex-US	-1.2%	16.5%	6.2%	5.9%	2.7%
MSCI EAFE (Net) (USD)	Int'l Developed	-1.5%	14.8%	5.6%	6.5%	2.7%
MSCI EAFE (Local)	Int'l Developed (Local Currency)	-4.3%	5.3%	3.4%	8.5%	4.5%
S&P EPAC Small Cap	Small Cap Int'l	-0.2%	23.6%	12.0%	11.4%	6.3%
MSCI EM	Emerging Equity	1.4%	24.9%	8.8%	5.0%	3.0%
Domestic Fixed Income Benchmarks						
Barclays Aggregate	Core Bonds	-1.5%	1.2%	1.2%	1.8%	3.6%
Barclays US High Yield	High Yield	-0.9%	3.8%	5.2%	5.0%	8.3%
BofA ML US HY BB/B	High Yield	-1.1%	3.4%	4.7%	4.8%	7.4%
CSFB Levered Loans	Bank Loans	1.6%	4.6%	4.3%	4.2%	5.4%
BofA ML US 3-Month T-Bill	Cash	0.4%	1.1%	0.5%	0.3%	0.3%
Barclays US TIPS 1-10 Yr	Inflation	-0.4%	0.4%	1.2%	-0.1%	2.2%
Global Fixed Income Benchmarks						
Citigroup WGBI	World Gov. Bonds	2.5%	8.5%	3.5%	1.2%	2.0%
Barclays Global Aggregate	Global Core Bonds	1.4%	7.0%	3.1%	1.5%	2.6%
BC Global Credit	Global Bonds	-0.6%	6.5%	3.1%	2.4%	3.7%
JPM GBI-EM Glob. Diversified	Em. Mkt. Bonds (Local Currency)	4.4%	12.9%	5.4%	-0.7%	3.8%
JPM EMBI+	Em. Mkt. Bonds	-2.0%	2.2%	5.1%	3.6%	6.5%
Alternative Benchmarks						
Bloomberg Commodity Index	Commodities	-0.4%	3.7%	-3.2%	-8.3%	-7.7%
Credit Suisse Hedge Fund Index	Hedge Fund	0.5%	5.4%	1.8%	3.6%	3.5%
HFRI FoF Conservative	Fund of Hedge Funds	0.4%	3.3%	1.6%	2.9%	1.3%
Cambridge PE Lagged*	Private Equity	5.3%	17.6%	12.0%	13.6%	9.8%
NCREIF ODCE Net Lagged*	Real Estate	1.9%	6.7%	9.4%	10.5%	4.1%
Wilshire REIT Index	REIT	-7.5%	-3.6%	1.0%	6.1%	6.2%
CPI + 2%	Inflation/Real Assets	1.1%	4.4%	3.9%	3.5%	3.6%



* As of 12/31/2017



MARKET ENVIRONMENT

Global Equity

- U.S. equities as measured by the S&P 500 posted a loss in the first quarter (-0.8%).
- Small cap stocks outperformed large cap stocks during the quarter, with the Russell 2000 Index returning -0.1% and the Russell 1000 Index returning -0.7%.
- International equities underperformed U.S. markets during the quarter, returning -1.2%, as measured by the MSCI ACWI ex-U.S. Index. Emerging markets returned 1.4% as measured by the MSCI Emerging Markets Index in U.S. dollar terms.
 - Developed international markets returned -1.5% in USD terms, while in local currency terms returned -4.3% as measured by the MSCI EAFE Index.

Private Equity

- Capital commitment momentum slowed to a level not seen since 2015 in Q1 2018.
- Private equity fundraising totaled \$80 billion in Q1 2018.
 - North America focused private equity funds raised \$31.7 billion.
 - Asia focused private equity funds raised \$4.8 billion.
 - Europe focused private equity raised \$42.9 billion.
- Private equity dry powder continued its increase to record levels and stands at \$1.09 trillion.



MARKET ENVIRONMENT

Fixed Income

- The nominal yield curve continued to flatten in Q1. Long term yields decreased 27 –to- 23 basis points across 20 to 30 year treasury bonds while short term yields increased 35 basis points for the 3 month and 33 basis points in the one year.
- The spread between two and 10 year rates decreased to 47 basis points from 51 basis points in Q1.
- Treasury Inflation-Protected Securities, or TIPS, returned -0.4% during the quarter, as measured by the BBg Barclays US TIPS 1-10 Yr Index.
- The BBg Barclays Long Duration Credit Index lost -3.8%.
- Long Treasuries lost -3.29% and investment-grade US corporate debt lost -1.5%.
- The BBg Barclays 1-3 year US Government/ Credit Index returned -0.20%. US high yield bonds lost -0.9% as spreads widened.
- **Emerging markets debt had mixed results.**
 - US dollar-denominated debt, as measured by the JP Morgan EMBI Index, returned -2.0%; local currency debt gained 4.4%, according to the JP Morgan GBI-EM BD Index.



MARKET ENVIRONMENT

Real Assets/Inflation-Linked Assets

- **Energy remains attractive despite volatile oil prices.**
 - Private equity and debt opportunities are attractive.
 - Fire sale prices never materialized but focusing on assets outside of the hottest zip codes provides potential for strong returns as market normalizes.
- **Infrastructure – select opportunities to access growth markets.**
 - High quality assets are receiving premium bids from direct investors (Pension Funds and Sovereigns) with low costs of capital and long hold horizons; focus on mismanaged or niche opportunities.
- **Metals & Mining – have commodity prices bottomed?**
 - Improving Metals & Mining fundamentals but limited to assets near production
- **Timber – low return potential and limited opportunity for outperformance.**
- **Agriculture – near-term slowdown in price appreciation creates opportunity to invest in a strong (very) long term outlook supported by demographic trends.**



MARKET ENVIRONMENT

Commodities

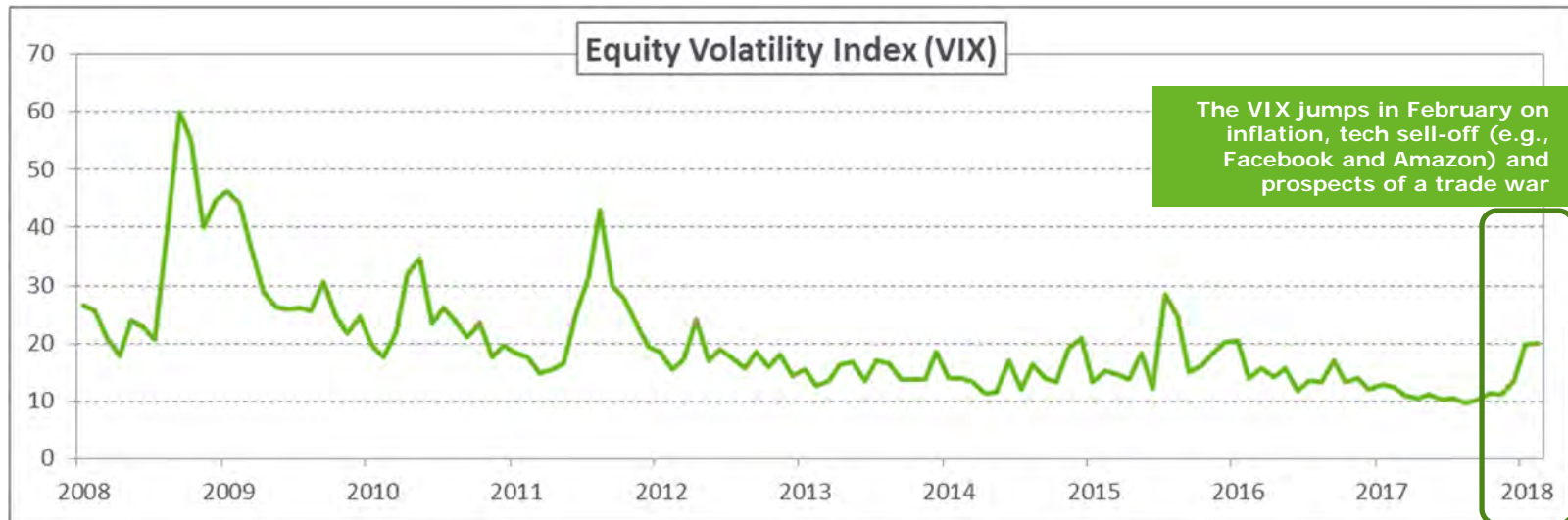
- **Commodities returned -0.4% as measured by the Bloomberg Commodity Index.**
 - Industrial metals led to the index's decline. US Dollar weakness led to increased oil prices.

Real Estate

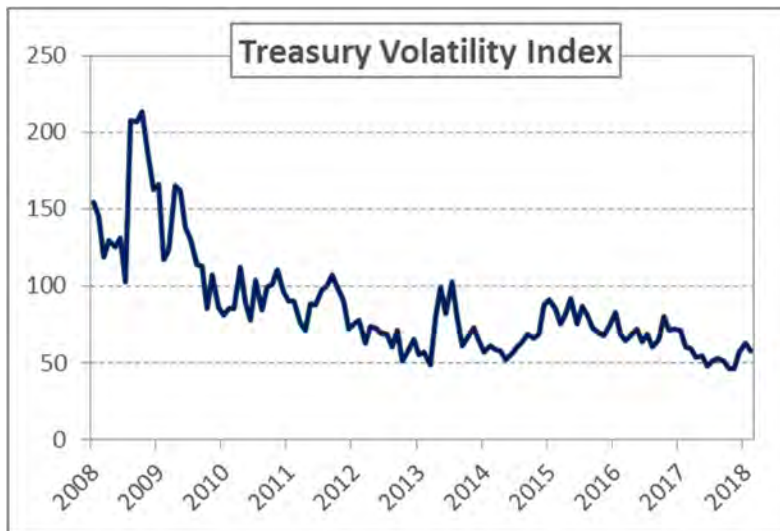
- **NEPC continues to be neutral on core real estate in the US and remains positive on non-core real estate, that is, value-add and opportunistic strategies.**
- **Real estate fundamentals (rent growth, occupancy, net absorption) remain strong; however, valuations are high on an absolute and relative basis.**
 - Rising interest rates have been baked into existing valuations but excess cap rate expansion (beyond general expectations) will reset valuations.
 - REIT sector has been volatile and remain at the high end of historical FFO multiple ranges
- **Overall, the non-core real estate investment environment in the U.S. is normalizing; however, select areas remain attractive.**
- **Europe is viewed as the best place for a marginal dollar of non-core real estate investment.**
- **Emerging markets in Latin America (Brazil) and Asia (China, India) may have strengthening opportunities.**



VOLATILITY



Source: CBOE, Bloomberg



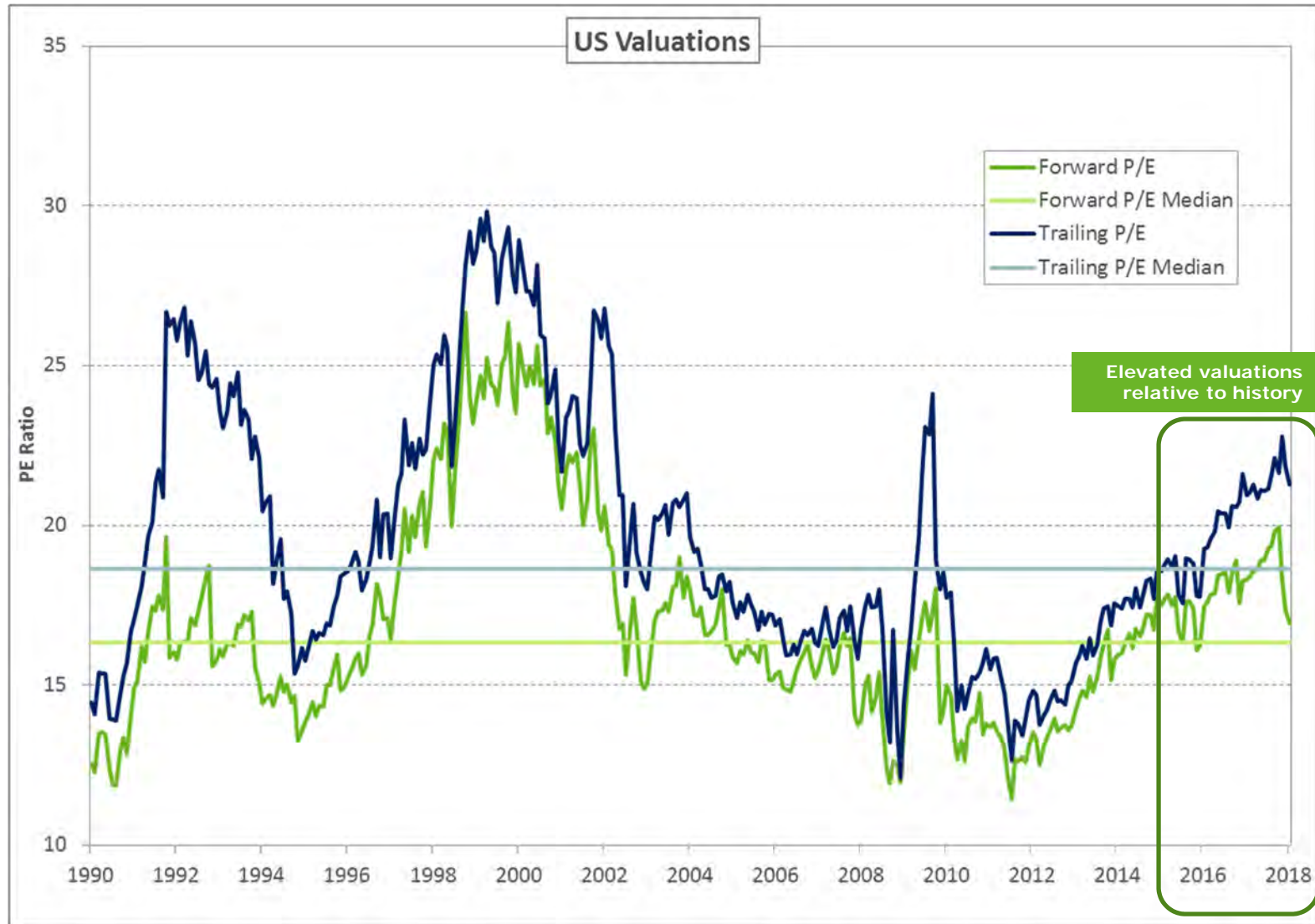
Source: Merrill Lynch, Bloomberg



Source: Deutsche Bank, Bloomberg



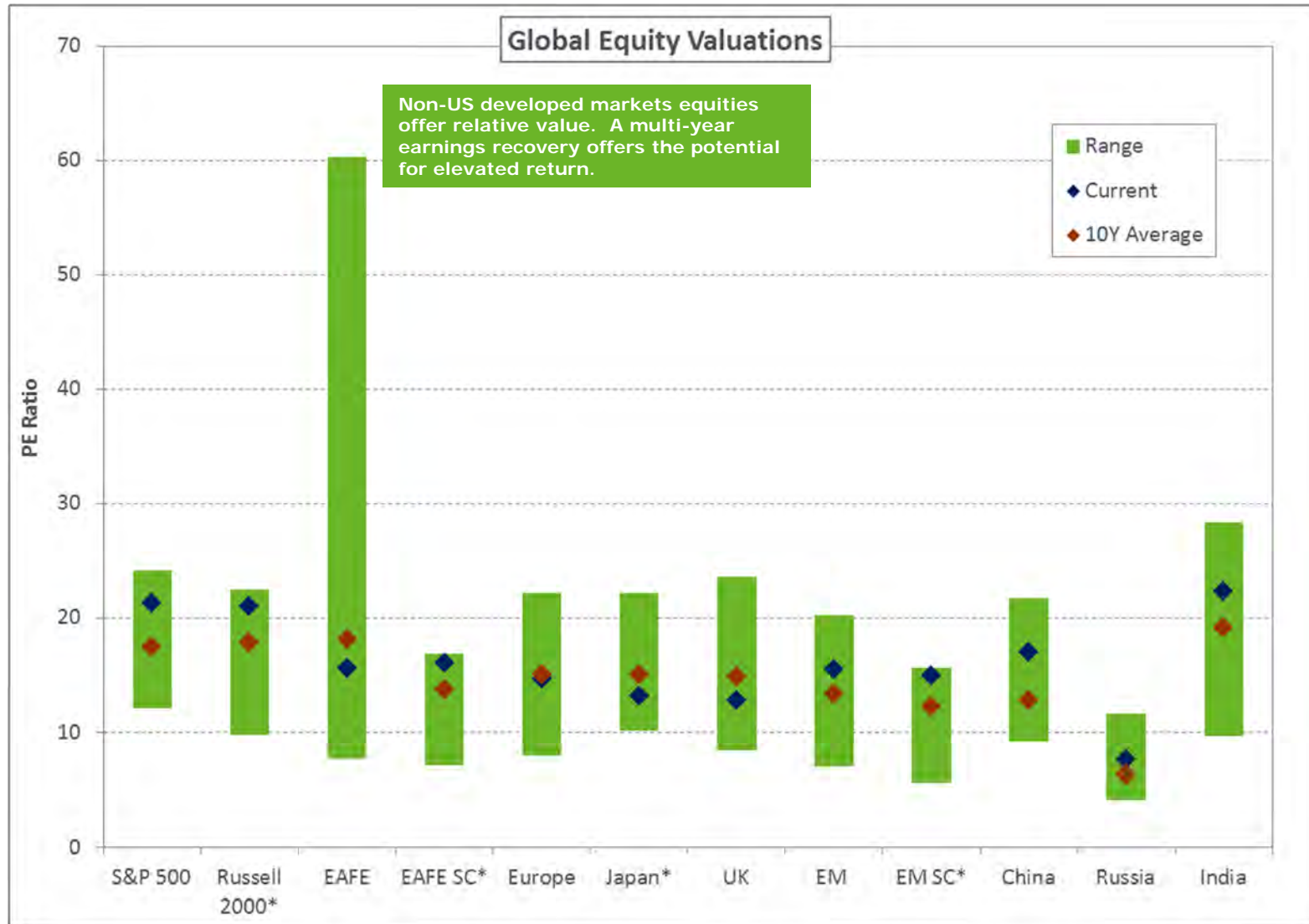
US EQUITY VALUATIONS



Source: S&P, Bloomberg
Medians calculated as of 01/31/1990



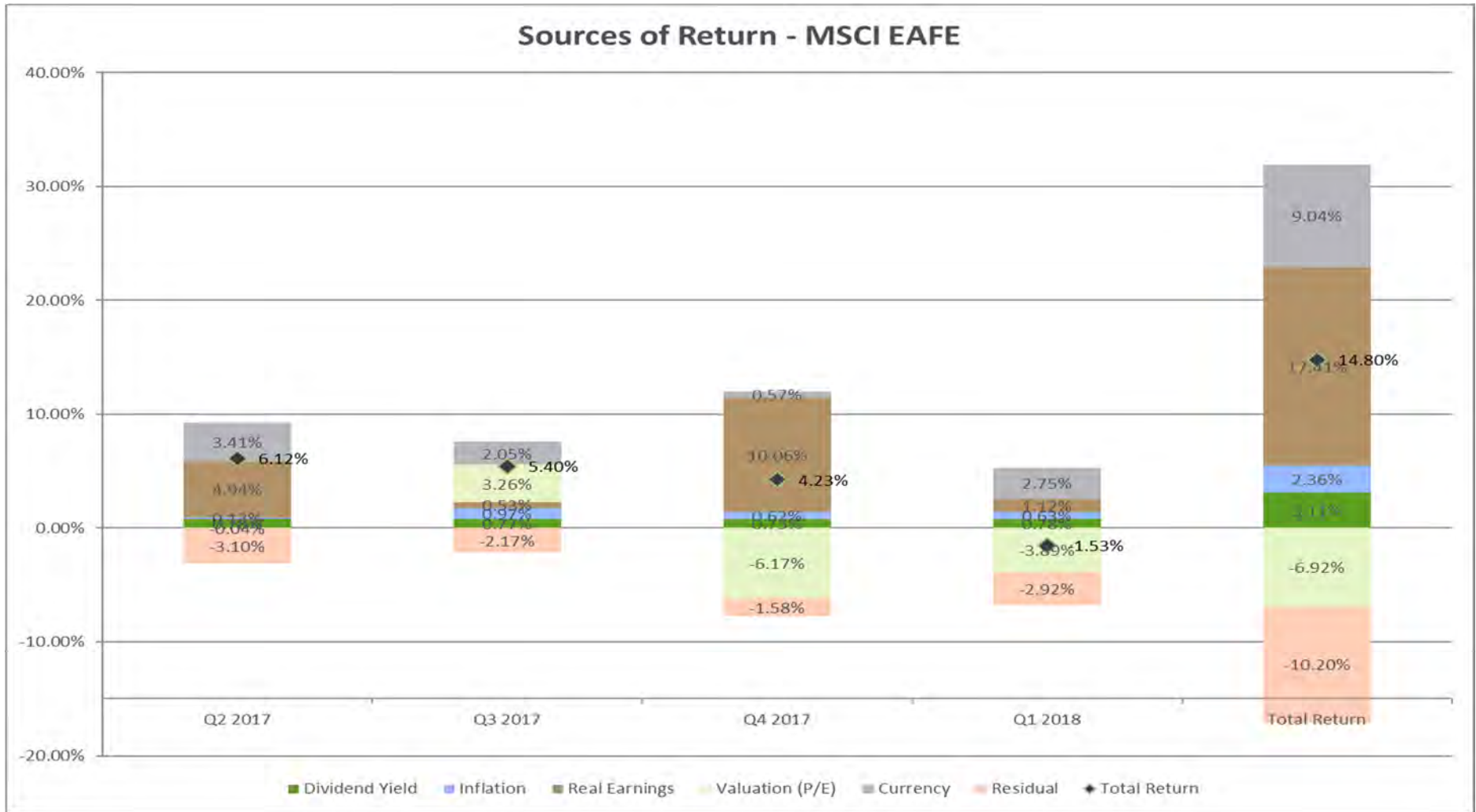
GLOBAL EQUITY VALUATIONS



Source: S&P, Russell, MSCI, Bloomberg, NEPC
 *Denotes the use of index-adjusted positive PE ratio
 Ranges calculated using trailing 10-year figures



TRAILING 1 YEAR – ATTRIBUTION OF MSCI EAFE RETURNS



Spot Rates

1 USD = 0.876 Euro

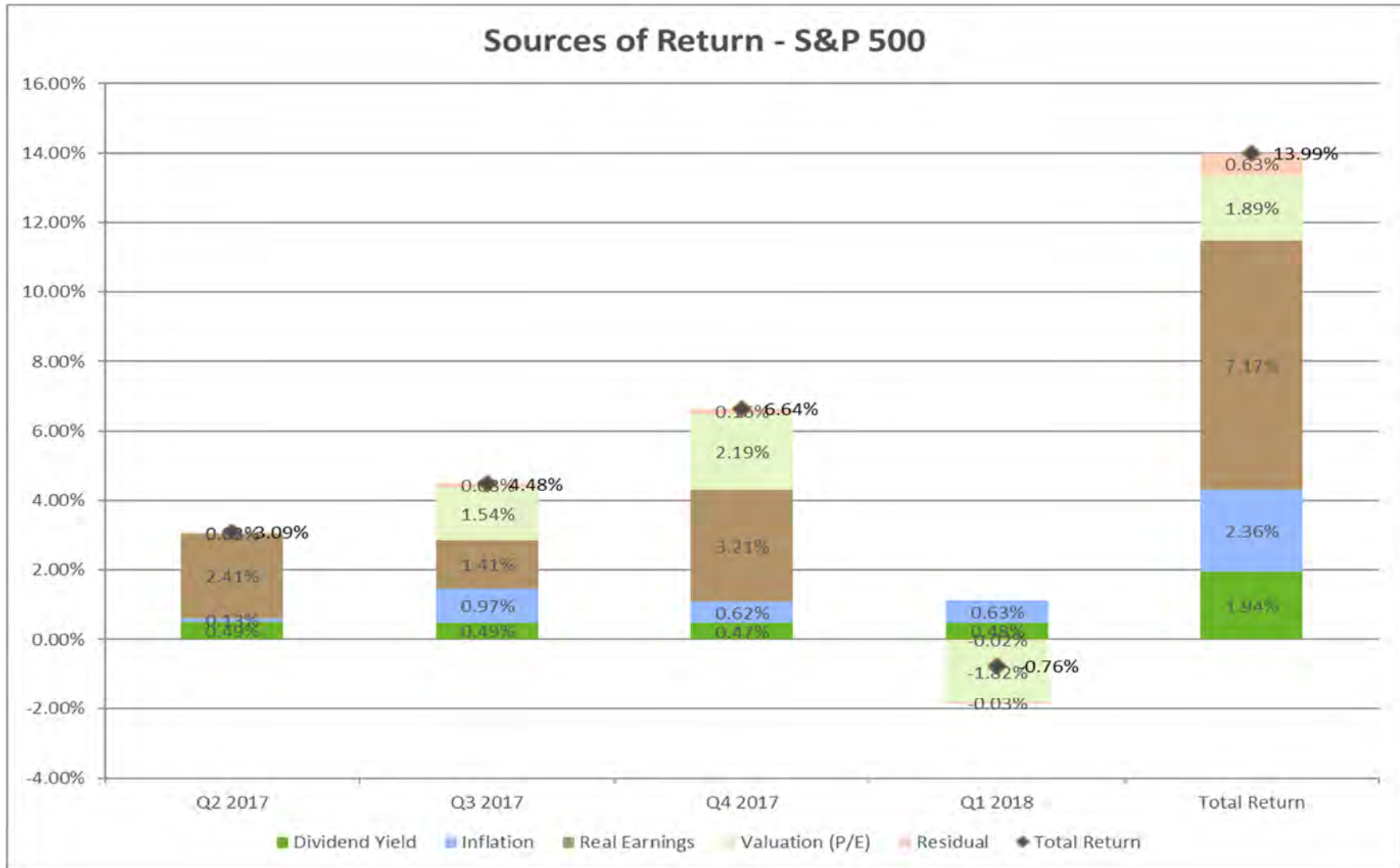
1 USD = 0.846 Euro

1 USD = 0.833 Euro

1 USD = 0.811 Euro



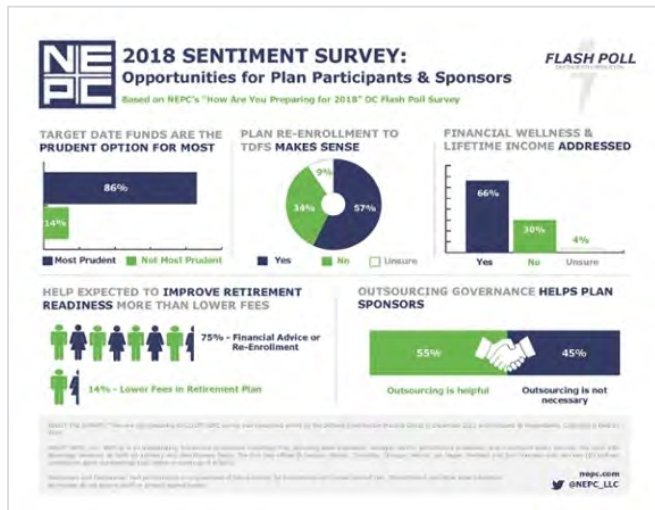
TRAILING 1 YEAR – ATTRIBUTION OF S&P 500 RETURNS



HIGHLIGHTS OF FIRST QUARTER HAPPENINGS AT NEPC

NEPC INSIGHTS

- Taking Stock: Corporate Pension Plans: Is it Time to Play Defense?
- White Paper: The Curse of Greed
- Taking Stock: Solar Tariffs: Too Much Shade for Solar?
- 2018 Annual Asset Allocation Letter
- Fourth Quarter Market Thoughts
- Defined Contribution Infographic: How Are You Preparing for 2018?
- Taking Stock: Are CTAs Positioned to Protect Portfolios?
- Taking Stock: Last Week's Market Correction: A Short-Term Blip or a Long-Term Trend?
- Taking Stock: Corporate Pension Plans: Navigating Tax Reform and Q4 Liability Performance
- Taking Stock: Instability and Indecision Fuel Political Uncertainty
- Taking Stock: Italy's Instability and Indecision Fuel Political Uncertainty, Part Due
- March 2018 Endowment & Foundation Survey Results & Infographic
- Taking Stock: What's the Deal with the High Turnover at the Fed?
- Taking Stock: The Fed Sticks to Script; Ups 2019 Projections
- Taking Stock: Ten Years Since the Global Financial Crisis, Part 2: The Ides of March



WEBINAR REPLAYS

- 2018 Market Outlook Webinar Replay

To download NEPC's recent insights and webinar replays, visit: www.NEPC.com/insights

RECENT UPDATES

- Our team continues to grow: Please join us in welcoming back Kristen Colvin, Principal and Member of the Defined Contribution team.
- We have updated our manager rating system! NEPC clients will see these changes in 2018 materials. We transitioned from a qualitatively-named rating system to a numerically-named system.



HIGHLIGHTS OF FIRST QUARTER HAPPENINGS AT NEPC



REGISTER NOW!

We are looking forward to seeing you at NEPC's 23rd Annual Investment Conference next month in Boston. For those who have yet to register for the event, we hope that you will join us as we explore this year's theme of "Disruption" through many lenses.

Our accomplished external speakers and informational breakout sessions are a great opportunity to tune up your knowledge on the latest thinking and approaches to investing across the equity spectrum.

At the end of Day One we invite you to join us for dinner at some of Boston's finer restaurants, where you will have a great opportunity to meet and mingle with other NEPC clients. Please reach out to your NEPC representative with any questions.

To register, visit:

www.NEPC.com/insights/save-the-date-nepcs-23rd-annual-investment-conference



TOTAL FUND PERFORMANCE SUMMARY

NEPC, LLC

Ventura County Employees' Retirement Association

TOTAL FUND PERFORMANCE SUMMARY (NET)

	Market Value	3 Mo	Rank	Fiscal YTD	Rank	1 Yr	Rank	3 Yrs	Rank	5 Yrs	Rank	10 Yrs	Rank	Inception	Inception Date
Total Fund	\$5,337,941,269	-0.6%	92	7.4%	45	10.3%	56	6.8%	41	8.1%	24	6.5%	28	8.1%	Apr-94
<i>Policy Index</i>		-0.3%	76	7.6%	32	10.9%	37	7.5%	15	8.6%	12	6.6%	15	8.1%	Apr-94
<i>60% MSCI ACWI (Net) / 40% CITI WGBI</i>		0.5%	33	8.3%	15	12.3%	11	6.4%	65	6.1%	89	4.4%	94	--	Apr-94
<i>60% S&P 500 / 40% BBgBarc Aggregate</i>		-1.0%	99	6.2%	90	8.8%	95	7.0%	32	8.7%	10	7.4%	2	8.3%	Apr-94
<i>InvestorForce Public DB > \$1B Net Median</i>		0.1%		7.2%		10.4%		6.6%		7.5%		5.9%		7.5%	Apr-94

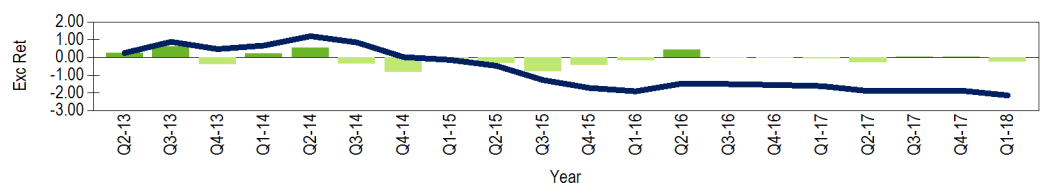
- For the five year period ending March 31, 2018, the Fund returned 8.1% trailing the policy index by 0.5% and ranking in the 24th percentile of its peers and outperforming the actuarial assumed rate of 7.5%. The Fund's volatility, as measured by standard deviation, ranked in the 81st percentile of its 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 6.8%, trailing the policy index by 0.7% and ranking in the 41st percentile of its peers. The Fund's volatility ranks in the 86th percentile of its peers over this period, with the Fund's Sharpe Ratio ranking in the 70th percentile.

- For the one-year period, the Fund returned 10.3%, underperforming the policy index by 0.6% and ranking in the 56th percentile of the InvestorForce Public Funds > \$1 Billion Universe (Net of fees).

- For the one-year period, the Fund experienced a net investment gain of \$523 million which includes a net investment loss of \$27 million in the quarter. Assets increased from \$4.83 billion one year ago to \$5.34 billion.

Quarterly and Cumulative Excess Performance



■ Quarterly Outperformance ■ Quarterly Underperformance — Cumulative Excess Performance

3 Years Ending March 31, 2018

	Anlzd Ret	Rank	Anlzd Std Dev	Rank	Sharpe Ratio	Rank	Sortino Ratio RF	Rank
Total Fund	6.8%	41	6.7%	86	0.9	70	1.4	58
Policy Index	7.5%	15	6.5%	79	1.1	40	1.6	35
InvestorForce Public DB > \$1B Net Median	6.6%	--	5.8%	--	1.0	--	1.4	--

5 Years Ending March 31, 2018

	Anlzd Ret	Rank	Anlzd Std Dev	Rank	Sharpe Ratio	Rank	Sortino Ratio RF	Rank
Total Fund	8.1%	24	6.4%	81	1.2	52	2.1	38
Policy Index	8.6%	12	6.3%	76	1.3	36	2.2	31
InvestorForce Public DB > \$1B Net Median	7.5%	--	5.7%	--	1.2	--	2.0	--

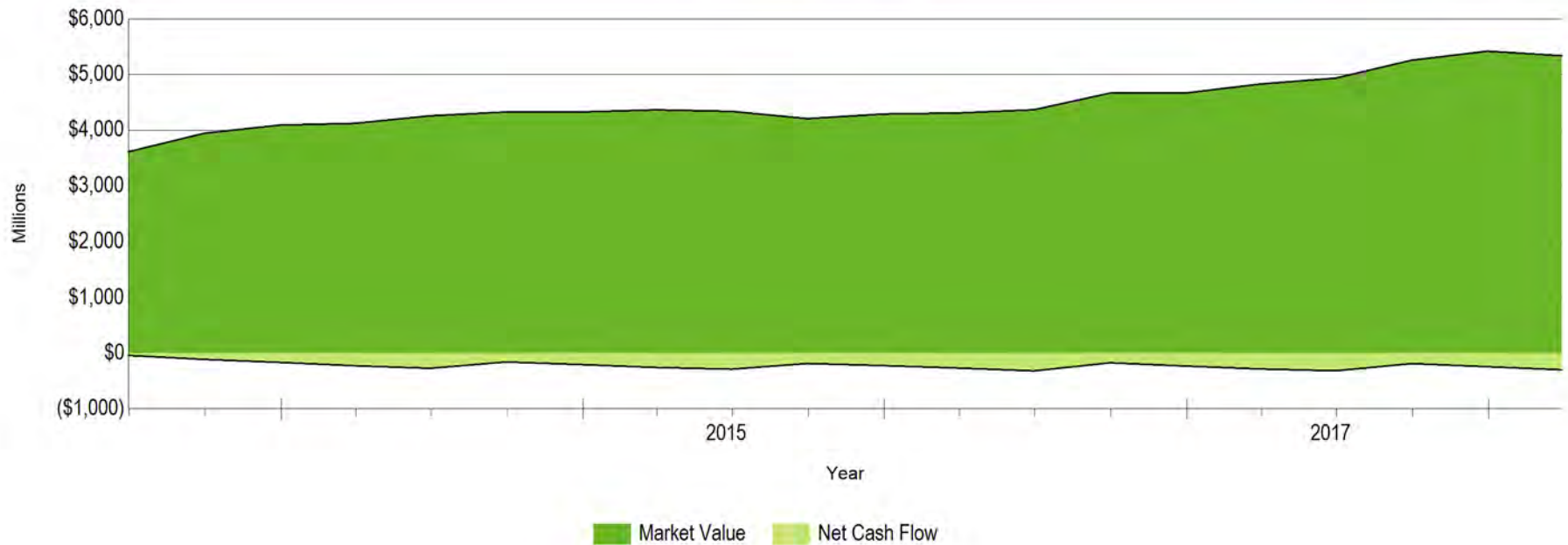
Policy Index as of January 2016: 28% Russell 3000, 20% Barclays Aggregate, 15% MSCI ACWI ex U.S., 10% MSCI ACWI, 10% Russell 3000 Index + 3%, 10% CPI+4%Index, and 7% NCREIF ODCE Real Estate Index.



Ventura County Employees' Retirement Association

TOTAL FUND ASSET GROWTH SUMMARY

Market Value History
5 Years Ending March 31, 2018



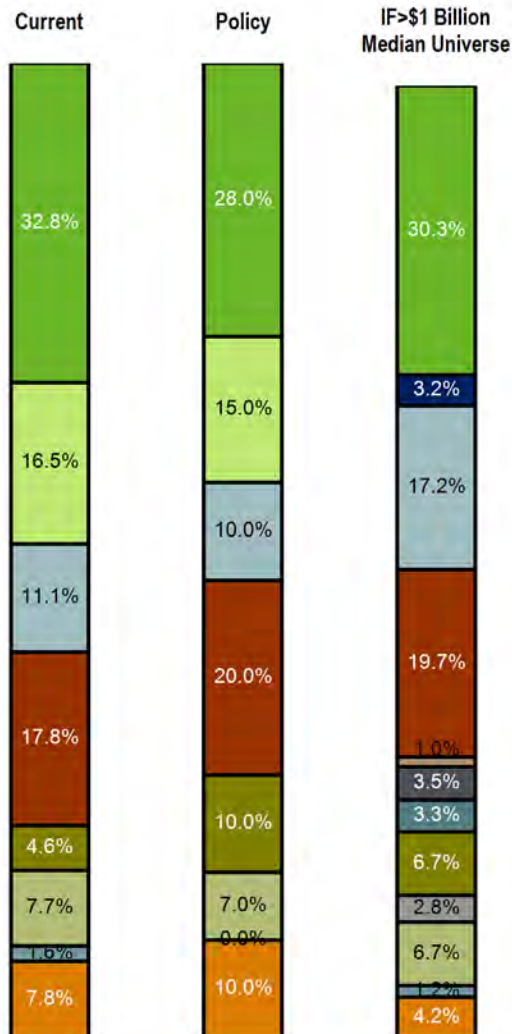
Summary of Cash Flows

	Last Three Months	Fiscal Year-To-Date	One Year	Three Years	Five Years
Beginning Market Value	\$5,420,490,945	\$4,935,381,791	\$4,829,813,958	\$4,365,835,058	\$3,648,861,350
Net Cash Flow	-\$55,700,795	\$18,151,429	-\$14,588,251	-\$41,920,682	-\$298,561,551
Net Investment Change	-\$26,848,881	\$384,408,049	\$522,715,562	\$1,014,026,893	\$1,987,641,470
Ending Market Value	\$5,337,941,269	\$5,337,941,269	\$5,337,941,269	\$5,337,941,269	\$5,337,941,269



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	\$1,748,314,838	32.8%	28.0%	4.8%	24.0% - 32.0%	--	
Non-US Equity	\$880,117,051	16.5%	15.0%	1.5%	12.0% - 18.0%	Yes	
Emerging Markets Equity	--	--	--	0.0%	--	--	
Global Equity	\$593,793,720	11.1%	10.0%	1.1%	7.0% - 13.0%	Yes	
U.S. Fixed Income	\$951,806,212	17.8%	20.0%	-2.2%	16.0% - 24.0%	Yes	
Fixed Income - Emerging	--	--	--	0.0%	--	--	
Fixed Income - Global	--	--	--	0.0%	--	--	
Global Asset Allocation	--	--	--	0.0%	--	--	
Private Equity	\$246,603,431	4.6%	10.0%	-5.4%	0.0% - 12.0%	Yes	
Hedge Funds	--	--	--	0.0%	--	--	
Real Estate	\$412,852,882	7.7%	7.0%	0.7%	4.0% - 10.0%	Yes	
Cash	\$86,635,280	1.6%	0.0%	1.6%	0.0% - 3.0%	Yes	
Liquid Alternatives	\$417,817,854	7.8%	10.0%	-2.2%	5.0% - 15.0%	Yes	
Total	\$5,337,941,269	100.0%	100.0%				

*Difference between Policy and Current Allocation

Cash represents assets in Parametric Overlay.

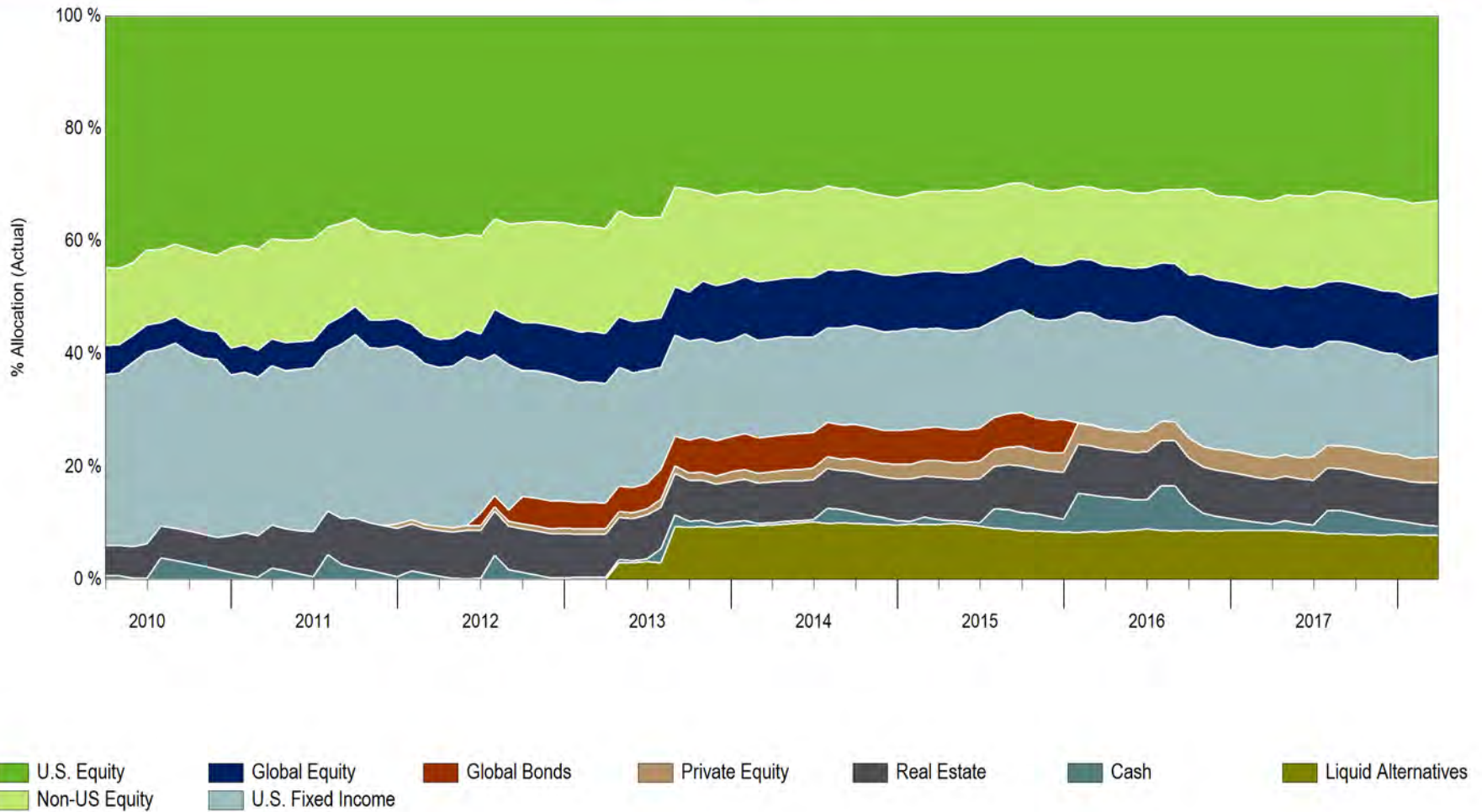
Policy Index as of January 2016: 28% Russell 3000, 20% Barclays Aggregate, 15% MSCI ACWI ex U.S., 10% MSCI ACWI, 10% Russell 3000 + 3%, 10% CPI+4% Index, and 7% NCREIF ODCE Real Estate Index.



Ventura County Employees' Retirement Association

ASSET ALLOCATION HISTORY

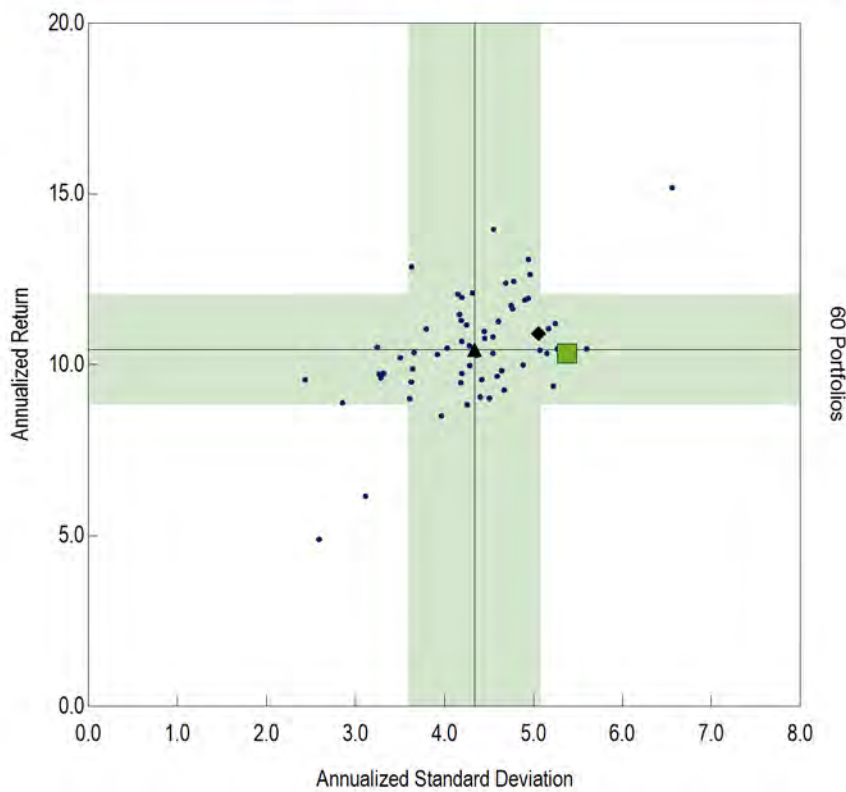
Asset Allocation History
8 Years Ending March 31, 2018



Ventura County Employees' Retirement Association

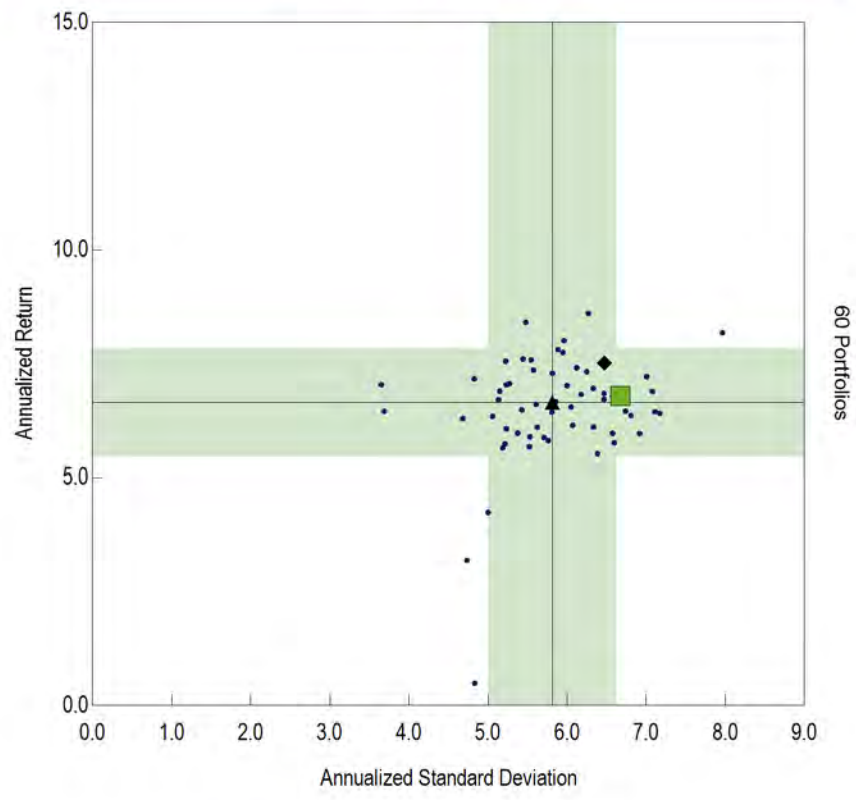
TOTAL FUND RISK/RETURN

1 Years Ending March 31, 2018



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

3 Years Ending March 31, 2018



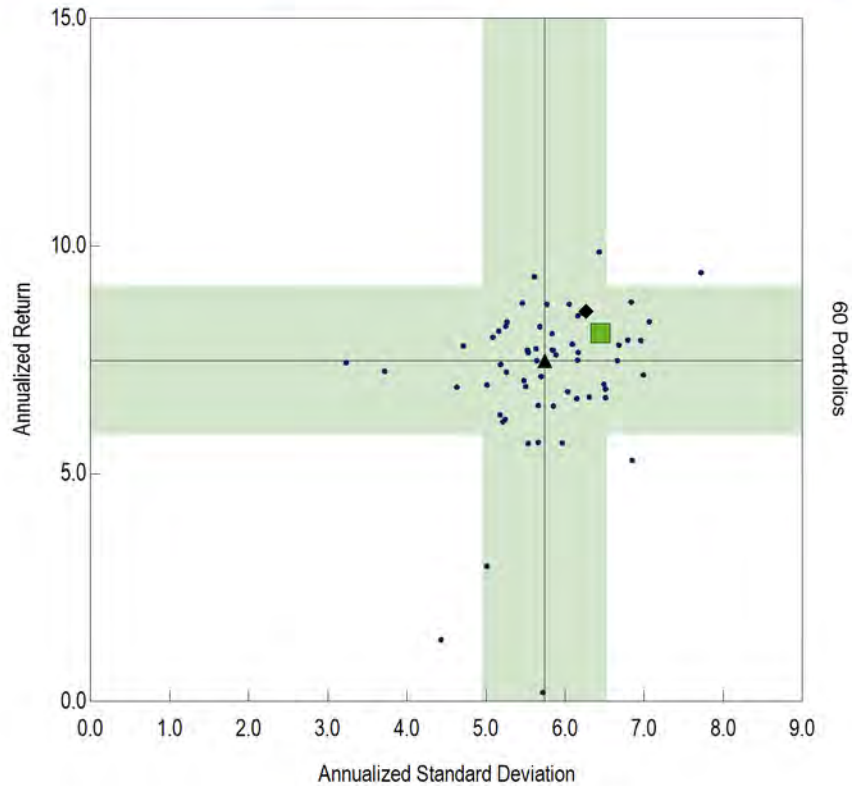
- Total Fund
- ◆ Policy Index
- ▲ Universe Median
- 68% Confidence Interval
- InvestorForce Public DB > \$1B Net



Ventura County Employees' Retirement Association

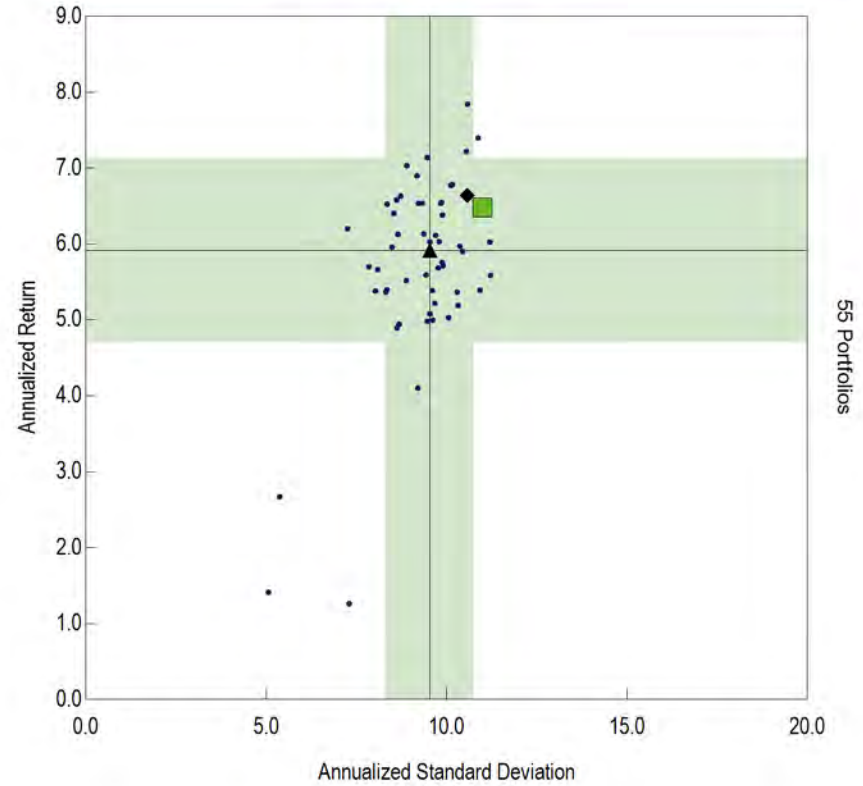
TOTAL FUND RISK/RETURN

5 Years Ending March 31, 2018



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

10 Years Ending March 31, 2018



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



TOTAL FUND RISK STATISTICS VS. PEER UNIVERSE

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



TOTAL FUND RISK STATISTICS VS. PEER UNIVERSE

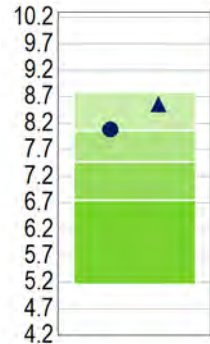
Total Fund vs. InvestorForce Public DB > \$1B Net
3 Years



TOTAL FUND RISK STATISTICS VS. PEER UNIVERSE

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

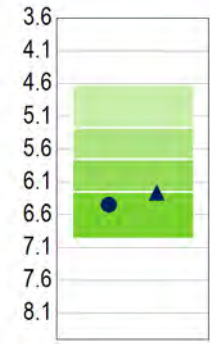
Anlzd Return



● Total Fund
Value 8.1
Rank 24
▲ Policy Index
Value 8.6
Rank 12

Universe
5th %tile 8.8
25th %tile 8.1
Median 7.5
75th %tile 6.8
95th %tile 5.2

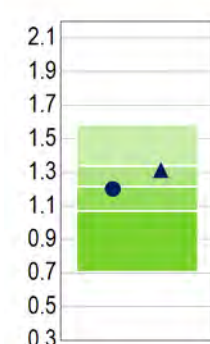
Anlzd Standard Deviation



● Total Fund
Value 6.4
Rank 81
▲ Policy Index
Value 6.3
Rank 76

Universe
5th %tile 4.6
25th %tile 5.3
Median 5.7
75th %tile 6.2
95th %tile 7.0

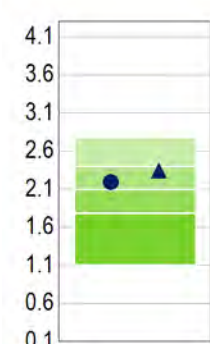
Sharpe Ratio



● Total Fund
Value 1.2
Rank 52
▲ Policy Index
Value 1.3
Rank 36

Universe
5th %tile 1.6
25th %tile 1.3
Median 1.2
75th %tile 1.1
95th %tile 0.7

Sortino Ratio



● Total Fund
Value 2.2
Rank 41
▲ Policy Index
Value 2.3
Rank 31

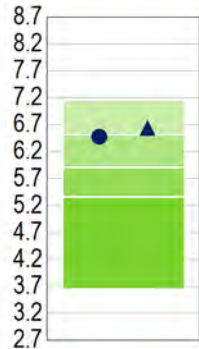
Universe
5th %tile 2.8
25th %tile 2.4
Median 2.1
75th %tile 1.8
95th %tile 1.1



TOTAL FUND RISK STATISTICS VS. PEER UNIVERSE

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

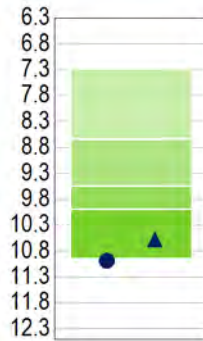
Anlzd Return



● Total Fund
Value 6.5
Rank 28
▲ Policy Index
Value 6.6
Rank 15

Universe
5th %tile 7.2
25th %tile 6.5
Median 5.9
75th %tile 5.4
95th %tile 3.7

Anlzd Standard Deviation



● Total Fund
Value 11.0
Rank 97
▲ Policy Index
Value 10.6
Rank 91

Universe
5th %tile 7.3
25th %tile 8.6
Median 9.5
75th %tile 10.0
95th %tile 10.9

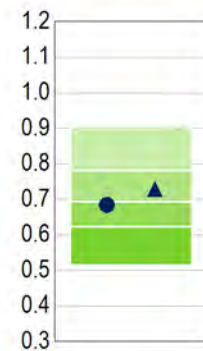
Sharpe Ratio



● Total Fund
Value 0.6
Rank 59
▲ Policy Index
Value 0.6
Rank 51

Universe
5th %tile 0.7
25th %tile 0.7
Median 0.6
75th %tile 0.5
95th %tile 0.4

Sortino Ratio

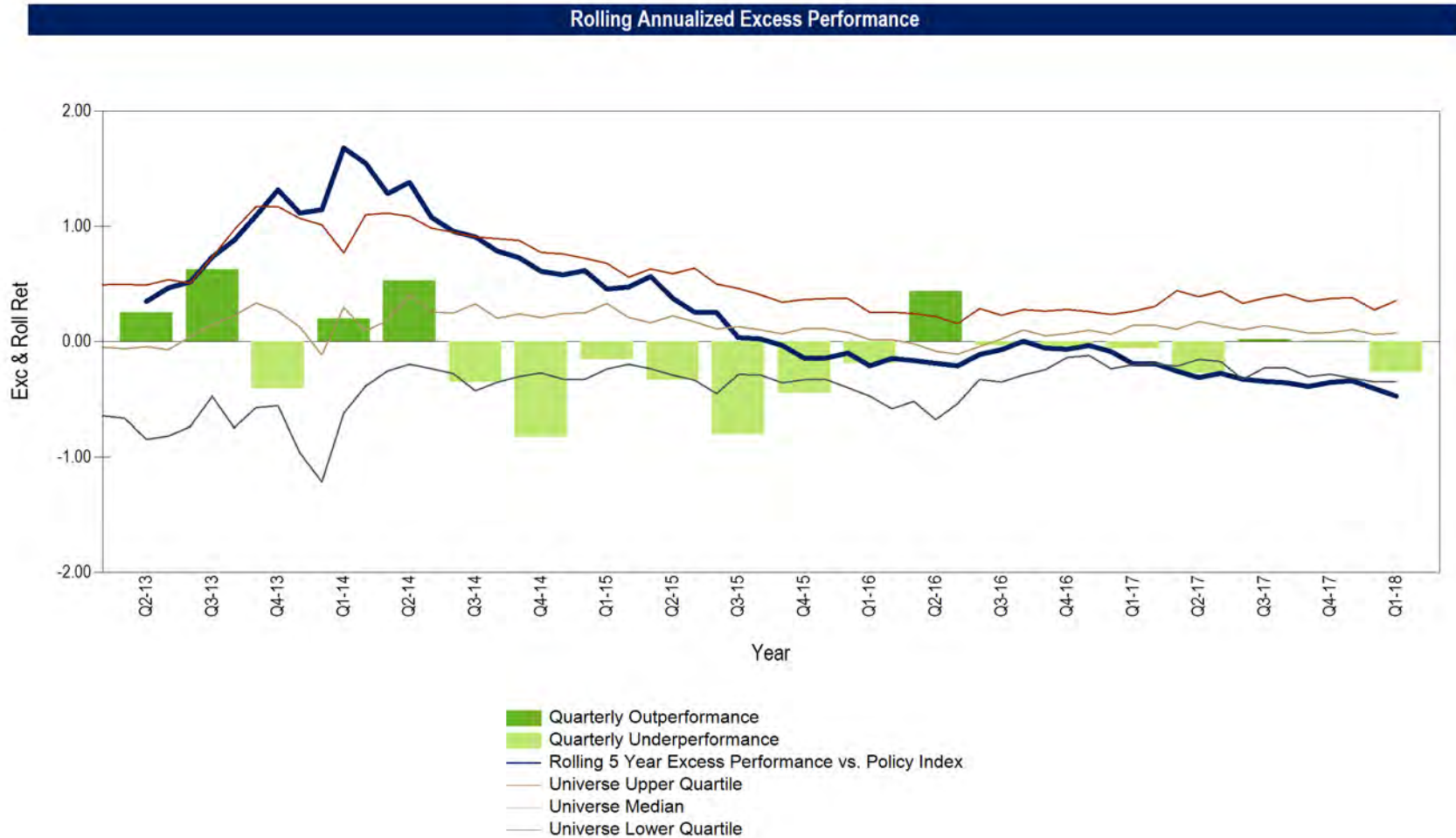


● Total Fund
Value 0.7
Rank 54
▲ Policy Index
Value 0.7
Rank 42

Universe
5th %tile 0.9
25th %tile 0.8
Median 0.7
75th %tile 0.6
95th %tile 0.5

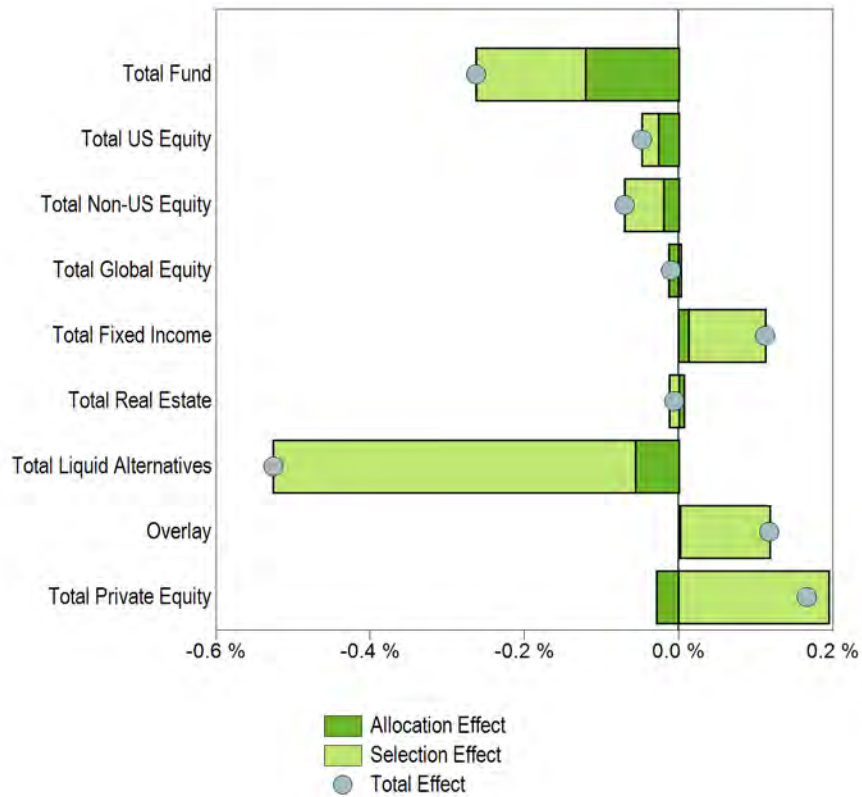


ROLLING 5 YEAR EXCESS RETURNS- NET OF FEES



TOTAL FUND ATTRIBUTION ANALYSIS

Attribution Effects
3 Months Ending March 31, 2018

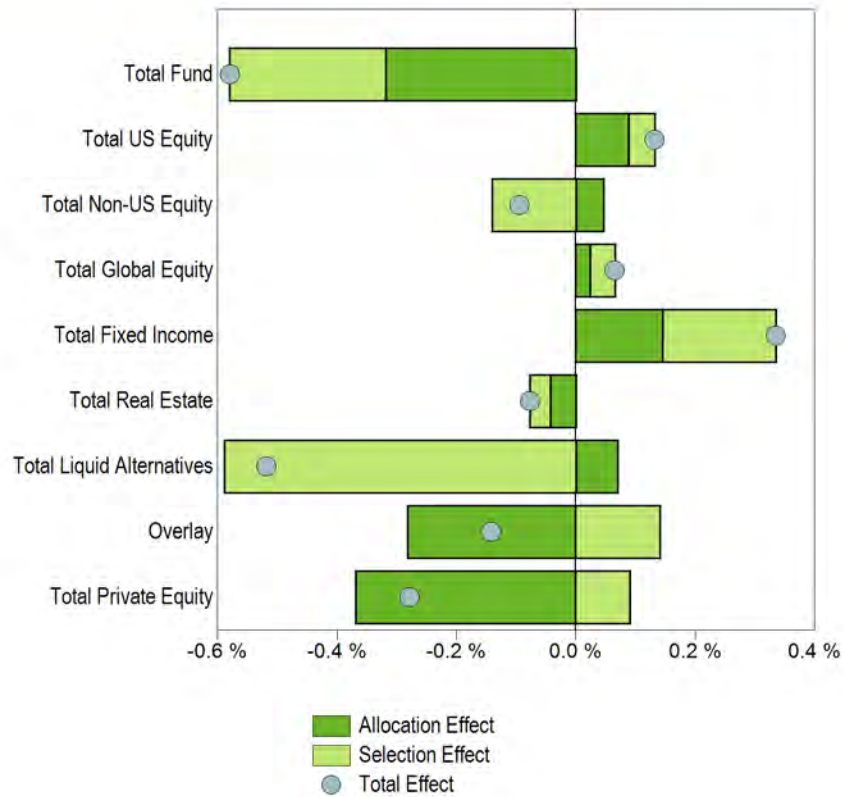


Attribution Summary						
3 Months Ending March 31, 2018						
	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Total Effects
Total US Equity	-0.7%	-0.6%	-0.1%	0.0%	0.0%	0.0%
Total Non-US Equity	-1.5%	-1.2%	-0.3%	-0.1%	0.0%	-0.1%
Total Global Equity	-0.9%	-1.0%	0.0%	0.0%	0.0%	0.0%
Total Fixed Income	-0.9%	-1.5%	0.6%	0.1%	0.0%	0.1%
Total Real Estate	1.9%	2.1%	-0.2%	0.0%	0.0%	0.0%
Total Liquid Alternatives	-3.7%	2.2%	-5.9%	-0.5%	-0.1%	-0.5%
Overlay	6.8%	0.4%	6.4%	0.1%	0.0%	0.1%
Total Private Equity	4.8%	0.1%	4.7%	0.2%	0.0%	0.2%
Total	-0.6%	-0.3%	-0.3%	-0.1%	-0.1%	-0.3%



TOTAL FUND ATTRIBUTION ANALYSIS

Attribution Effects
1 Year Ending March 31, 2018

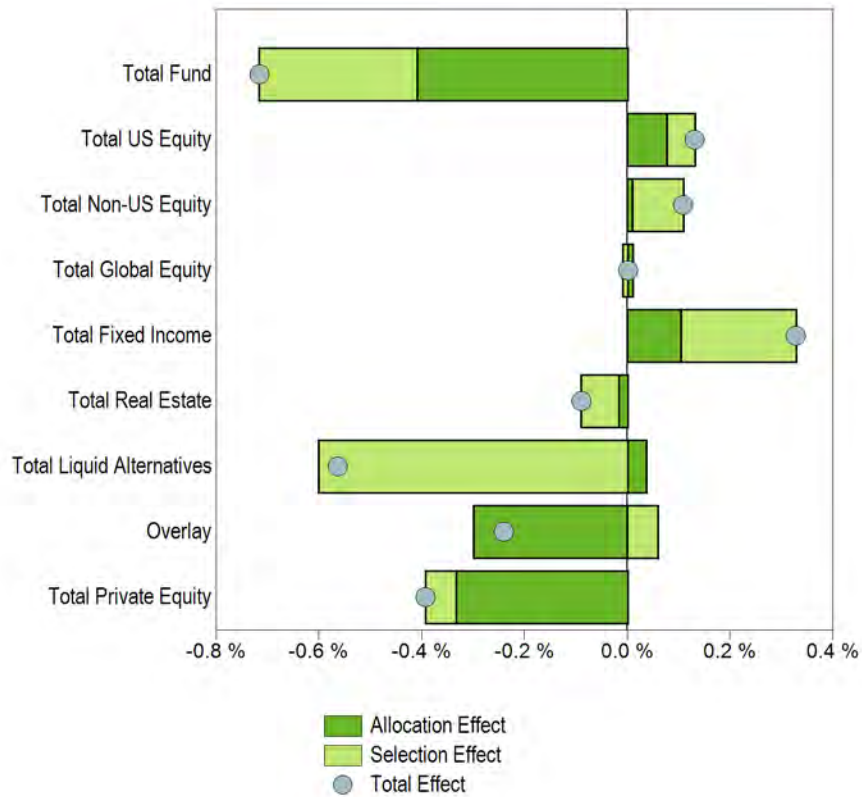


Attribution Summary						
1 Year Ending March 31, 2018						
	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Total Effects
Total US Equity	13.9%	13.8%	0.1%	0.0%	0.1%	0.1%
Total Non-US Equity	15.7%	16.5%	-0.9%	-0.1%	0.0%	-0.1%
Total Global Equity	15.2%	14.8%	0.4%	0.0%	0.0%	0.1%
Total Fixed Income	2.2%	1.2%	1.0%	0.2%	0.1%	0.3%
Total Real Estate	6.8%	7.2%	-0.4%	0.0%	0.0%	-0.1%
Total Liquid Alternatives	-0.4%	6.4%	-6.8%	-0.6%	0.1%	-0.5%
Overlay	9.0%	1.2%	7.9%	0.1%	-0.3%	-0.1%
Total Private Equity	19.9%	17.2%	2.7%	0.1%	-0.4%	-0.3%
Total	10.3%	10.9%	-0.6%	-0.3%	-0.3%	-0.6%



TOTAL FUND ATTRIBUTION ANALYSIS

Attribution Effects
3 Years Ending March 31, 2018

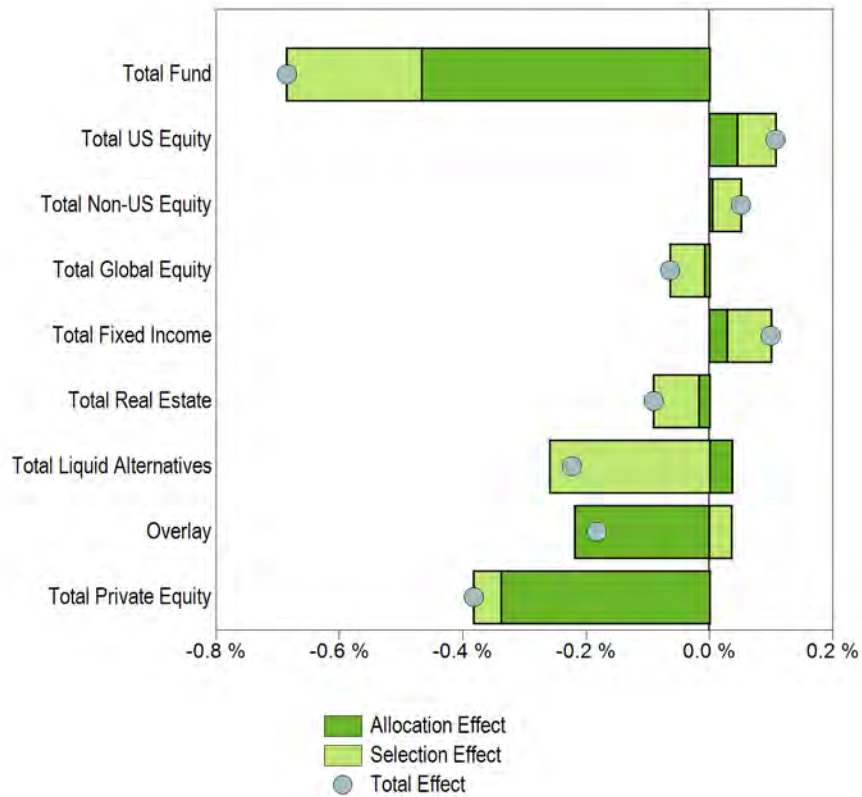


Attribution Summary						
3 Years Ending March 31, 2018						
	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Total Effects
Total US Equity	10.4%	10.2%	0.2%	0.1%	0.1%	0.1%
Total Non-US Equity	7.0%	6.2%	0.9%	0.1%	0.0%	0.1%
Total Global Equity	8.0%	8.1%	-0.1%	0.0%	0.0%	0.0%
Total Fixed Income	2.4%	1.2%	1.2%	0.2%	0.1%	0.3%
Total Real Estate	8.1%	9.0%	-0.9%	-0.1%	0.0%	-0.1%
Total Liquid Alternatives	-0.7%	5.9%	-6.7%	-0.6%	0.0%	-0.6%
Overlay	3.7%	0.5%	3.1%	0.1%	-0.3%	-0.2%
Total Private Equity	13.1%	13.5%	-0.4%	-0.1%	-0.3%	-0.4%
Total	6.8%	7.5%	-0.7%	-0.3%	-0.4%	-0.7%



TOTAL FUND ATTRIBUTION ANALYSIS

Attribution Effects
5 Years Ending March 31, 2018



Attribution Summary						
5 Years Ending March 31, 2018						
	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Total Effects
Total US Equity	13.2%	13.0%	0.2%	0.1%	0.0%	0.1%
Total Non-US Equity	6.4%	5.9%	0.5%	0.0%	0.0%	0.1%
Total Global Equity	8.6%	9.2%	-0.6%	-0.1%	0.0%	-0.1%
Total Fixed Income	1.9%	1.5%	0.4%	0.1%	0.0%	0.1%
Total Real Estate	9.5%	10.4%	-1.0%	-0.1%	0.0%	-0.1%
Total Liquid Alternatives	--	6.2%	--	-0.2%	0.0%	-0.2%
Overlay	--	0.3%	--	0.0%	-0.2%	-0.2%
Total Private Equity	15.0%	16.3%	-1.3%	0.0%	-0.3%	-0.4%
Total	7.9%	8.6%	-0.6%	-0.2%	-0.5%	-0.6%



Ventura County Employees' Retirement Association

TOTAL FUND RISK STATISTICS

1 Year Ending March 31, 2018												
	% of Tot	Anlzd Ret	Rank	Anlzd Std Dev	Rank	Anlzd AJ	Rank	Tracking Error	Rank	Info Ratio	Rank	Beta
Total Equity	60.4%	14.6%	52	8.3%	94	0.2%	56	0.6%	6	-0.3	--	1.0
MSCI ACWI	--	14.8%	49	8.5%	99	0.0%	71	0.0%	1	--	--	1.0
Total US Equity	32.8%	13.9%	32	8.2%	96	-0.2%	60	0.5%	6	0.2	28	1.0
Russell 3000	--	13.8%	39	8.0%	92	0.0%	50	0.0%	1	--	--	1.0
Total Non-US Equity	16.5%	15.7%	83	9.0%	78	-0.5%	87	0.9%	7	-1.0	--	1.0
MSCI ACWI ex USA	--	16.5%	71	9.2%	86	0.0%	77	0.0%	1	--	--	1.0
Total Global Equity	11.1%	15.2%	52	8.6%	78	0.4%	77	0.1%	1	4.9	1	1.0
MSCI ACWI	--	14.8%	53	8.5%	78	0.0%	79	0.0%	1	--	--	1.0
Total Fixed Income	17.8%	2.2%	58	1.9%	67	1.0%	55	0.8%	42	1.3	40	0.8
Total Fixed Income Policy Index	--	1.2%	72	2.4%	95	0.0%	80	0.0%	1	--	--	1.0
Total US Fixed Income	17.8%	2.2%	32	1.9%	73	1.0%	30	0.8%	70	1.3	32	0.8
BBgBarc US Aggregate TR	--	1.2%	57	2.4%	94	0.0%	83	0.0%	1	--	--	1.0
Total Liquid Alternatives	7.8%	-0.4%	--	6.2%	--	10.0%	--	6.5%	--	-1.1	--	-2.2
CPI + 4% (Unadjusted)	--	6.4%	--	0.8%	--	0.0%	--	0.0%	--	--	--	1.0

	% of Tot	Anlzd Ret	Rank	Anlzd Std Dev	Rank
Total Real Estate	7.7%	6.8%	54	2.9%	63
NCREIF ODCE Net	--	7.2%	44	3.0%	66
Total Private Equity	4.7%	19.9%	17	5.9%	62
Russell 3000 + 3%	--	17.2%	42	8.0%	81

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 (InvestorForce Public DB Total Eq consists of 73 portfolios), Total US Equity (InvestorForce Public DB US Eq consists of 143 portfolios), Total Non-US Equity (InvestorForce Public DB ex-US Eq consists of 95 portfolios), Total Global Equity (InvestorForce Public DB Gbl Eq consists of 40 portfolios), Total Fixed Income (InvestorForce Public DB Total Fix Inc consists of 72 portfolios), Total US Fixed Income (InvestorForce Public DB US Fix Inc consists of 88 portfolios), Total Real Estate (InvestorForce Public DB Real Estate Pub+Priv consists of 46 portfolios) and Total Private Equity (InvestorForce Public DB Private Eq consists of 26 portfolios).



Ventura County Employees' Retirement Association

TOTAL FUND RISK STATISTICS

3 Years Ending March 31, 2018

	% of Tot	Anlzd Ret	Rank	Anlzd Std Dev	Rank	Anlzd AJ	Rank	Tracking Error	Rank	Info Ratio	Rank	Beta
Total Equity	60.4%	9.1%	25	10.5%	72	1.3%	17	1.2%	30	0.8	5	1.0
MSCI ACWI	--	8.1%	84	10.9%	93	0.0%	75	0.0%	1	--	--	1.0
Total US Equity	32.8%	10.4%	22	10.4%	70	0.1%	26	0.3%	2	0.5	5	1.0
Russell 3000	--	10.2%	29	10.3%	64	0.0%	32	0.0%	1	--	--	1.0
Total Non-US Equity	16.5%	7.0%	52	11.9%	52	1.1%	51	1.1%	5	0.7	26	1.0
MSCI ACWI ex USA	--	6.2%	81	12.5%	83	0.0%	84	0.0%	1	--	--	1.0
Total Global Equity	11.1%	8.0%	24	10.9%	69	-0.1%	72	0.9%	1	-0.1	--	1.0
MSCI ACWI	--	8.1%	18	10.9%	69	0.0%	70	0.0%	1	--	--	1.0
Total Fixed Income	17.8%	2.4%	46	2.5%	47	1.3%	41	1.6%	58	0.8	23	0.8
Total Fixed Income Policy Index	--	1.2%	71	2.7%	54	0.0%	83	0.0%	1	--	--	1.0
Total US Fixed Income	17.8%	2.5%	23	2.5%	60	1.5%	19	1.7%	74	0.8	29	0.8
BBgBarc US Aggregate TR	--	1.2%	57	2.7%	71	0.0%	77	0.0%	1	--	--	1.0
Total Liquid Alternatives	7.8%	-0.7%	--	9.6%	--	-16.4%	--	9.4%	--	-0.7	--	2.8
CPI + 4% (Unadjusted)	--	5.9%	--	0.9%	--	0.0%	--	0.0%	--	--	--	1.0

	% of Tot	Anlzd Ret	Rank	Anlzd Std Dev	Rank
Total Real Estate	7.7%	8.1%	64	3.6%	43
NCREIF ODCE Net	--	9.0%	45	3.9%	47
Total Private Equity	4.7%	13.1%	32	6.1%	61
Russell 3000 + 3%	--	13.5%	21	10.4%	87

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 (InvestorForce Public DB Total Eq consists of 70 portfolios), Total US Equity (InvestorForce Public DB US Eq consists of 133 portfolios), Total Non-US Equity (InvestorForce Public DB ex-US Eq consists of 90 portfolios), Total Global Equity (InvestorForce Public DB Gbl Eq consists of 34 portfolios), Total Fixed Income (InvestorForce Public DB Total Fix Inc consists of 67 portfolios), Total US Fixed Income (InvestorForce Public DB US Fix Inc consists of 86 portfolios), Total Real Estate (InvestorForce Public DB Real Estate Pub+Priv consists of 44 portfolios) and Total Private Equity (InvestorForce Public DB Private Eq consists of 25 portfolios).



Ventura County Employees' Retirement Association

TOTAL FUND RISK STATISTICS

5 Years Ending March 31, 2018

	% of Tot	Anlzd Ret	Rank	Anlzd Std Dev	Rank	Anlzd AJ	Rank	Tracking Error	Rank	Info Ratio	Rank	Beta
Total Equity	60.4%	10.5%	45	10.0%	57	1.7%	9	1.2%	27	1.1	2	1.0
MSCI ACWI	--	9.2%	92	10.3%	91	0.0%	78	0.0%	1	--	--	1.0
Total US Equity	32.8%	13.2%	13	10.1%	52	0.1%	18	0.4%	2	0.6	1	1.0
Russell 3000	--	13.0%	24	10.0%	41	0.0%	23	0.0%	1	--	--	1.0
Total Non-US Equity	16.5%	6.4%	60	11.3%	32	0.8%	47	1.1%	5	0.4	32	0.9
MSCI ACWI ex USA	--	5.9%	75	11.9%	78	0.0%	74	0.0%	1	--	--	1.0
Total Global Equity	11.1%	8.6%	67	10.5%	50	-0.6%	91	1.0%	1	-0.5	--	1.0
MSCI ACWI	--	9.2%	64	10.3%	48	0.0%	84	0.0%	1	--	--	1.0
Total Fixed Income	17.8%	1.9%	59	2.5%	29	0.8%	32	1.6%	54	0.3	44	0.7
Total Fixed Income Policy Index	--	1.5%	74	2.9%	44	0.0%	76	0.0%	1	--	--	1.0
Total US Fixed Income	17.8%	2.2%	35	2.5%	44	0.9%	26	1.8%	82	0.2	54	0.7
BBgBarc US Aggregate TR	--	1.8%	53	2.9%	69	0.0%	75	0.0%	1	--	--	1.0
Total Liquid Alternatives	7.8%	--	--	--	--	--	--	--	--	--	--	--
CPI + 4% (Unadjusted)	--	6.5%	--	2.8%	--	0.0%	--	0.0%	--	--	--	1.0

	% of Tot	Anlzd Ret	Rank	Anlzd Std Dev	Rank
Total Real Estate	7.7%	9.5%	69	4.0%	43
NCREIF ODCE Net	--	10.4%	42	4.4%	52
Total Private Equity	4.7%	15.0%	25	6.5%	60
Russell 3000 + 3%	--	16.4%	14	10.0%	85

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 (InvestorForce Public DB Total Eq consists of 54 portfolios), Total US Equity (InvestorForce Public DB US Eq consists of 112 portfolios), Total Non-US Equity (InvestorForce Public DB ex-US Eq consists of 83 portfolios), Total Global Equity (InvestorForce Public DB Gbl Eq consists of 21 portfolios), Total Fixed Income (InvestorForce Public DB Total Fix Inc consists of 57 portfolios), Total US Fixed Income (InvestorForce Public DB US Fix Inc consists of 75 portfolios), Total Real Estate (InvestorForce Public DB Real Estate Pub+Priv consists of 41 portfolios) and Total Private Equity (InvestorForce Public DB Private Eq consists of 24 portfolios).



Ventura County Employees' Retirement Association

TOTAL FUND PERFORMANCE DETAIL (NET)

	Market Value (\$)	% of Portfolio	Policy %	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Total Fund	5,337,941,269	100.0	100.0	-0.6	92	7.4	45	10.3	56	6.8	41	8.1	24	6.5	28	8.1	Apr-94
Policy Index				-0.3	76	7.6	32	10.9	37	7.5	15	8.6	12	6.6	15	8.1	Apr-94
Over/Under				-0.3		-0.2		-0.6		-0.7		-0.5		-0.1		0.0	
60% MSCI ACWI (Net) / 40% CITI WGBI				0.5	33	8.3	15	12.3	11	6.4	65	6.1	89	4.4	94	--	Apr-94
60% S&P 500 / 40% BBgBarc Aggregate				-1.0	99	6.2	90	8.8	95	7.0	32	8.7	10	7.4	2	8.3	Apr-94
InvestorForce Public DB > \$1B Net Median				0.1		7.2		10.4		6.6		7.5		5.9		7.5	Apr-94
Total Fund ex Parametric*	5,251,633,235	98.4	--	-0.8	--	6.9	--	9.8	--	6.6	--	7.9	--	6.3	--	8.0	Apr-94
Total Fund ex Private Equity	5,089,635,792	95.3	--	-0.8	97	7.1	60	9.9	66	6.6	55	7.6	49	--	--	9.1	Jan-12
Policy Index				-0.3	76	7.6	32	10.9	37	7.5	15	8.6	12	6.6	15	9.8	Jan-12
Over/Under				-0.5		-0.5		-1.0		-0.9		-1.0				-0.7	
InvestorForce Public DB > \$1B Net Median				0.1		7.2		10.4		6.6		7.5		5.9		8.9	Jan-12
Total US Equity	1,748,314,838	32.8	28.0	-0.7	68	10.7	32	13.9	32	10.4	22	13.2	13	9.5	40	9.3	Dec-93
Russell 3000				-0.6	61	10.5	42	13.8	39	10.2	29	13.0	24	9.7	29	9.6	Dec-93
Over/Under				-0.1		0.2		0.1		0.2		0.2		-0.2		-0.3	
InvestorForce Public DB US Eq Net Median				-0.5		10.3		13.5		9.8		12.5		9.4		9.3	Dec-93
Western U.S. Index Plus	195,822,774	3.7		-1.0	57	11.6	34	14.6	39	11.4	16	13.8	20	9.4	57	5.7	May-07
S&P 500				-0.8	51	10.6	43	14.0	42	10.8	21	13.3	26	9.5	53	7.4	May-07
Over/Under				-0.2		1.0		0.6		0.6		0.5		-0.1		-1.7	
eV All US Equity Net Median				-0.8		9.7		12.5		8.6		11.9		9.6		7.4	May-07
Blackrock Russell 1000 Index	1,491,321,398	27.9		-0.7	46	10.6	49	--	--	--	--	--	--	--	--	12.8	May-17
Russell 1000				-0.7	46	10.6	49	14.0	47	10.4	29	13.2	34	9.6	40	12.8	May-17
Over/Under				0.0		0.0										0.0	
eV US Large Cap Equity Net Median				-0.9		10.4		13.3		9.1		12.3		9.1		12.5	May-17
Blackrock Russell 2500 Index	61,170,667	1.1		-0.2	54	10.0	51	--	--	--	--	--	--	--	--	11.5	May-17
Russell 2500				-0.2	54	10.0	51	12.3	52	8.2	44	11.5	43	10.3	47	11.5	May-17
Over/Under				0.0		0.0										0.0	
eV US Small-Mid Cap Equity Net Median				0.0		10.0		12.7		7.8		11.2		10.2		11.7	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	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Total Non-US Equity	880,117,051	16.5	15.0	-1.5	92	10.0	66	15.7	83	7.0	52	6.4	60	3.2	51	6.7	Mar-94
MSCI ACWI ex USA				-1.2	83	10.2	64	16.5	71	6.2	81	5.9	75	2.7	70	5.5	Mar-94
Over/Under				-0.3		-0.2		-0.8		0.8		0.5		0.5		1.2	
MSCI EAFE				-1.5	93	8.2	95	14.8	87	5.6	92	6.5	54	2.7	68	5.0	Mar-94
MSCI ACWI ex USA Local Currency				-3.1	99	5.5	99	8.9	99	4.7	96	8.3	10	4.6	14	--	Mar-94
MSCI EAFE Local Currency				-4.3	99	2.6	99	5.3	99	3.4	99	8.5	8	4.5	17	4.8	Mar-94
InvestorForce Public DB ex-US Eq Net Median				-0.4		10.6		17.8		7.1		6.6		3.2		6.0	Mar-94
BlackRock ACWI ex-U.S. Index	432,724,547	8.1		-1.2	78	10.6	59	17.2	67	6.9	60	6.4	76	3.2	72	3.1	Mar-07
MSCI ACWI ex USA IMI				-1.1	77	10.6	58	17.1	68	6.7	62	6.2	77	3.1	74	2.9	Mar-07
Over/Under				-0.1		0.0		0.1		0.2		0.2		0.1		0.2	
MSCI ACWI ex USA Local Currency				-3.1	99	5.5	99	8.9	99	4.7	88	8.3	46	4.6	46	3.3	Mar-07
eV ACWI ex-US All Cap Equity Net Median				-0.1		11.6		19.2		7.6		7.9		4.3		4.0	Mar-07
Sprucegrove	232,117,674	4.3		-1.9	90	12.5	40	15.6	76	7.6	51	6.7	72	4.1	51	7.9	Mar-02
MSCI ACWI ex USA				-1.2	78	10.2	67	16.5	71	6.2	68	5.9	80	2.7	82	6.9	Mar-02
Over/Under				-0.7		2.3		-0.9		1.4		0.8		1.4		1.0	
MSCI EAFE				-1.5	82	8.2	82	14.8	82	5.6	75	6.5	75	2.7	80	6.3	Mar-02
MSCI ACWI ex USA Local Currency				-3.1	99	5.5	99	8.9	99	4.7	88	8.3	46	4.6	46	5.4	Mar-02
MSCI EAFE Local Currency				-4.3	99	2.6	99	5.3	99	3.4	96	8.5	43	4.5	48	4.5	Mar-02
eV ACWI ex-US All Cap Equity Net Median				-0.1		11.6		19.2		7.6		7.9		4.3		7.6	Mar-02
Hexavest	92,562,716	1.7		-1.9	73	3.6	97	8.6	96	4.3	89	5.0	96	--	--	4.7	Dec-10
MSCI EAFE				-1.5	52	8.2	57	14.8	57	5.6	69	6.5	75	2.7	75	5.6	Dec-10
Over/Under				-0.4		-4.6		-6.2		-1.3		-1.5		--		-0.9	
MSCI EAFE Local Currency				-4.3	99	2.6	99	5.3	99	3.4	97	8.5	28	4.5	30	7.6	Dec-10
eV EAFE All Cap Equity Net Median				-1.4		8.6		15.8		6.6		7.5		3.4		6.5	Dec-10
Walter Scott	122,712,114	2.3		-1.3	79	8.5	79	16.2	72	8.2	43	6.2	78	--	--	6.2	Dec-10
MSCI ACWI ex USA				-1.2	78	10.2	67	16.5	71	6.2	68	5.9	80	2.7	82	4.6	Dec-10
Over/Under				-0.1		-1.7		-0.3		2.0		0.3		--		1.6	
MSCI ACWI ex USA Local Currency				-3.1	99	5.5	99	8.9	99	4.7	88	8.3	46	4.6	46	6.9	Dec-10
MSCI EAFE				-1.5	82	8.2	82	14.8	82	5.6	75	6.5	75	2.7	80	5.6	Dec-10
eV ACWI ex-US All Cap Equity Net Median				-0.1		11.6		19.2		7.6		7.9		4.3		6.7	Dec-10



Ventura County Employees' Retirement Association

TOTAL FUND PERFORMANCE DETAIL (NET)

	Market Value (\$)	% of Portfolio	Policy %	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Total Global Equity	593,793,720	11.1	10.0	-0.9	74	10.4	20	15.2	52	8.0	24	8.6	67	5.0	17	6.2	May-05
MSCI ACWI				-1.0	74	10.1	22	14.8	53	8.1	18	9.2	64	5.6	13	7.1	May-05
Over/Under				0.1		0.3		0.4		-0.1		-0.6		-0.6		-0.9	
InvestorForce Public DB Gbl Eq Net Median				-0.3		8.5		15.3		7.3		10.5		3.3		6.3	May-05
BlackRock MSCI ACWI Equity Index	593,793,720	11.1		-0.9	49	10.4	43	15.2	44	8.6	36	9.6	46	--	--	11.3	Aug-12
MSCI ACWI				-1.0	50	10.1	44	14.8	46	8.1	44	9.2	54	5.6	63	10.9	Aug-12
Over/Under				0.1		0.3		0.4		0.5		0.4				0.4	
eV All Global Equity Net Median				-1.0		9.4		14.2		7.7		9.4		6.3		11.1	Aug-12



Ventura County Employees' Retirement Association

TOTAL FUND PERFORMANCE DETAIL (NET)

	Market Value (\$)	% of Portfolio	Policy %	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Total Private Equity	248,305,476	4.7	10.0	4.8	23	13.4	17	19.9	17	13.1	32	15.0	25	--	--	14.6	Jan-12
<i>Russell 3000 + 3%</i>				<u>0.1</u>	92	<u>12.9</u>	21	<u>17.2</u>	42	<u>13.5</u>	21	<u>16.4</u>	14	<u>12.9</u>	1	<u>18.3</u>	<i>Jan-12</i>
Over/Under				4.7		0.5		2.7		-0.4		-1.4				-3.7	
<i>Cambridge Associates Global All PE (Qtr Lag)</i>				5.0	21	14.1	15	18.4	27	11.4	54	12.9	51	8.7	45	13.0	<i>Jan-12</i>
<i>InvestorForce Public DB Private Eq Net Median</i>				3.3		10.6		15.7		12.4		12.9		8.4		13.0	<i>Jan-12</i>
Adams Street Global Fund Series	140,805,398	2.6		5.2	--	13.2	--	17.3	--	10.9	--	13.8	--	--	--	13.1	Jan-12
<i>Russell 3000 + 3%</i>				<u>0.1</u>	--	<u>12.9</u>	--	<u>17.2</u>	--	<u>13.5</u>	--	<u>16.4</u>	--	<u>12.9</u>	--	<u>18.3</u>	<i>Jan-12</i>
Over/Under				5.1		0.3		0.1		-2.6		-2.6				-5.2	
Harbourvest	62,644,907	1.2		6.8	--	17.2	--	26.0	--	18.6	--	--	--	--	--	19.8	Aug-13
<i>Russell 3000 + 3%</i>				<u>0.1</u>	--	<u>12.9</u>	--	<u>17.2</u>	--	<u>13.5</u>	--	<u>16.4</u>	--	<u>12.9</u>	--	<u>15.4</u>	<i>Aug-13</i>
Over/Under				6.7		4.3		8.8		5.1		--				4.4	
Pantheon Global Secondary Funds	32,033,047	0.6		0.0	--	9.1	--	24.2	--	14.3	--	13.5	--	--	--	12.3	Jan-12
<i>Russell 3000 + 3%</i>				<u>0.1</u>	--	<u>12.9</u>	--	<u>17.2</u>	--	<u>13.5</u>	--	<u>16.4</u>	--	<u>12.9</u>	--	<u>18.3</u>	<i>Jan-12</i>
Over/Under				-0.1		-3.8		7.0		0.8		-2.9				-6.0	
Drive Capital Fund	3,947,269	0.1		0.0	--	-7.2	--	-18.5	--	--	--	--	--	--	--	-38.0	Sep-16
<i>Russell 3000 + 3%</i>				<u>0.1</u>	--	<u>12.9</u>	--	<u>17.2</u>	--	<u>13.5</u>	--	<u>16.4</u>	--	<u>12.9</u>	--	<u>18.9</u>	<i>Sep-16</i>
Over/Under				-0.1		-20.1		-35.7		--		--				-56.9	
Abbott Secondary Opportunities	4,048,252	0.1		0.0	--	--	--	--	--	--	--	--	--	--	--	0.0	Jan-18
<i>Russell 3000 + 3%</i>				<u>0.1</u>	--	<u>12.9</u>	--	<u>17.2</u>	--	<u>13.5</u>	--	<u>16.4</u>	--	<u>12.9</u>	--	<u>0.1</u>	<i>Jan-18</i>
Over/Under				-0.1		--		--		--		--				-0.1	
CVI Credit Value Fund	1,500,000	0.0		0.0	--	--	--	--	--	--	--	--	--	--	--	0.0	Jan-18
<i>Russell 3000 + 3%</i>				<u>0.1</u>	--	<u>12.9</u>	--	<u>17.2</u>	--	<u>13.5</u>	--	<u>16.4</u>	--	<u>12.9</u>	--	<u>0.1</u>	<i>Jan-18</i>
Over/Under				-0.1		--		--		--		--				-0.1	
Clearlake Capital Partners V	1,438,308	0.0		--	--	--	--	--	--	--	--	--	--	--	--	0.0	Mar-18
<i>Russell 3000 + 3%</i>				<u>0.1</u>	--	<u>12.9</u>	--	<u>17.2</u>	--	<u>13.5</u>	--	<u>16.4</u>	--	<u>12.9</u>	--	<u>-1.8</u>	<i>Mar-18</i>
Over/Under				--		--		--		--		--				1.8	
Battery Ventures XII	186,250	0.0		--	--	--	--	--	--	--	--	--	--	--	--	--	Apr-18
<i>Russell 3000 + 3%</i>				<u>0.1</u>	--	<u>12.9</u>	--	<u>17.2</u>	--	<u>13.5</u>	--	<u>16.4</u>	--	<u>12.9</u>	--	--	<i>Apr-18</i>
Over/Under				--		--		--		--		--				--	
Abbott Capital Cash	1,702,046	0.0															

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 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	\$5,548,252	\$19,814,464	22%	--	\$1,500,000	\$3,625,000	\$5,125,000	-\$423,252	-37.8%	0.27x	0.92x
Adams Street 2010 U.S. Fund	2010	5/21/2010	\$42,500,000	\$37,442,500	\$5,057,500	88%	\$15,213	\$21,732,250	\$34,426,599	\$56,158,849	\$18,701,136	12.7%	0.58x	1.50x
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	\$13,174,585	\$17,209,343	\$30,383,928	\$8,057,090	10.1%	0.59x	1.36x
Adams Street 2010 Non-U.S. Emg Mkts Fund	2010	1/3/2011	\$8,500,000	\$7,378,000	\$1,122,000	87%	\$0	\$1,859,844	\$8,465,989	\$10,325,833	\$2,947,833	9.6%	0.25x	1.4x
Adams Street 2010 Direct Fund	2010	5/21/2010	\$8,500,000	\$8,046,100	\$453,900	95%	\$6,697	\$8,141,277	\$4,975,392	\$13,116,669	\$5,063,872	12.1%	1.01x	1.63x
Adams Street 2013 Global Fund	2013	6/27/2013	\$75,000,000	\$53,250,000	\$21,750,000	71%	\$10,728	\$6,236,204	\$59,575,341	\$65,811,545	\$12,550,817	9.0%	0.12x	1.24x
Adams Street 2016 Global Fund	2016	12/22/2016	\$60,000,000	\$10,770,000	\$49,230,000	18%	\$0	\$0	\$12,565,467	\$12,565,467	\$1,795,467	26.9%	0x	1.17x
Battery Ventures XII	2018	2/1/2018	\$9,050,000	\$135,750	\$8,914,250	2%	\$0	\$0	\$135,750	\$135,750	--	0.0%	0x	1x
Battery Ventures XII Side Fund	2018	2/1/2018	\$5,050,000	\$50,500	\$4,999,500	1%	\$0	\$0	\$50,500	\$50,500	--	0.0%	0x	1x
Buenaventure One, LLC	2018	1/5/2018	\$7,700,000	--	\$7,700,000	0%	--	--	--	--	--	--	--	--
Clearlake Capital Partners	2017	12/22/2017	\$9,950,000	\$1,438,308	\$8,511,692	14%	\$46,158	--	\$1,349,499	\$1,349,499	-\$134,967	-84.8%	--	0.94x
CVI Credit Value Fund IV	2017	12/31/2017	\$30,000,000	\$1,500,000	\$28,500,000	5%	--	--	\$1,500,000	\$1,500,000	--	--	0x	1x
Drive Capital Fund II	2016	9/1/2016	\$15,000,000	\$4,392,200	\$10,611,010	29%	\$3,210	\$0	\$3,947,268	\$3,947,268	-\$448,142	-15.4%	0x	0.9x
GTCR Fund XII	2017	9/29/2017	\$30,000,000	--	\$30,000,000	0%	--	--	(\$171,029)	(\$171,029)	--	-100.0%	--	--
Insight Venture Partners X	2017	10/13/2017	\$25,000,000	--	\$25,000,000	0%	--	--	(\$223,358)	(\$223,458)	--	-100.0%	--	--
HarbourVest - Dover Street VIII	2013	5/30/2013	\$67,500,000	\$59,147,454	\$8,437,500	88%	\$84,954	\$59,744,800	\$28,732,832	\$88,477,632	\$29,245,224	21.7%	1.01x	1.5x
HarbourVest - Dover Street IX	2016	12/16/2016	\$60,000,000	\$15,600,000	\$44,400,000	26%	\$0	\$4,079,170	\$15,145,465	\$19,224,635	\$3,624,635	45.2%	0.26x	1.23x
HarbourVest - PRNS CO INVEST IV L.P.	2017	6/2/2017	\$30,000,000	\$17,446,740	\$12,750,000	58%	\$0	\$0	\$18,875,777	\$18,875,777	\$1,429,037	14.0%	0x	1.08x
Pantheon Global Secondary Fund IV	2010	8/20/2010	\$15,000,000	\$9,960,000	\$5,040,000	66%	\$0	\$12,270,001	\$3,127,210	\$15,397,211	\$5,437,211	13.9%	1.23x	1.55x
Pantheon Global Secondary Fund V	2015	2/26/2015	\$50,000,000	\$27,641,509	\$22,358,491	55%	(\$162,514)	\$5,987,534	\$28,880,899	\$34,868,433	\$7,389,438	18.6%	0.22x	1.26x
Total VCERA Private Equity Program	--	5/21/2010	\$599,250,000	\$282,072,562	\$317,825,058	47%	\$6,035	\$134,725,665	\$242,193,944	\$376,919,509	\$95,235,399	13.8%	0.48x	1.34x

1. Includes recycled/recallable distributions received to date.

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

2. 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 3/31/2018 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	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Total US Fixed Income	951,806,212	17.8	20.0	-0.9	52	0.5	39	2.2	32	2.5	23	2.2	35	5.2	17	5.8	Feb-94
BBgBarc US Aggregate TR				-1.5	92	-0.2	60	1.2	57	1.2	57	1.8	53	3.6	56	5.2	Feb-94
Over/Under				0.6		0.7		1.0		1.3		0.4		1.6		0.6	
InvestorForce Public DB US Fix Inc Net Median				-0.9		0.0		1.5		1.5		2.0		3.9		5.8	Feb-94
BlackRock U.S. Debt Fund	219,869,939	4.1		-1.5	77	-0.2	79	1.3	62	1.2	63	1.9	56	3.7	56	5.1	Nov-95
BBgBarc US Aggregate TR				-1.5	76	-0.2	80	1.2	64	1.2	65	1.8	57	3.6	59	5.0	Nov-95
Over/Under				0.0		0.0		0.1		0.0		0.1		0.1		0.1	
eV All US Fixed Inc Net Median				-0.9		0.4		1.7		1.7		2.1		4.0		5.0	Nov-95
Western	294,697,469	5.5		-1.3	68	0.6	44	3.0	32	2.5	34	3.0	35	5.2	31	6.0	Dec-96
BBgBarc US Aggregate TR				-1.5	76	-0.2	80	1.2	64	1.2	65	1.8	57	3.6	59	5.1	Dec-96
Over/Under				0.2		0.8		1.8		1.3		1.2		1.6		0.9	
eV All US Fixed Inc Net Median				-0.9		0.4		1.7		1.7		2.1		4.0		5.0	Dec-96
Reams	307,962,773	5.8		-0.4	36	0.2	58	1.2	63	3.0	26	1.4	70	5.1	32	5.3	Sep-01
Reams Custom Index				0.5	11	1.2	26	1.5	55	0.9	78	0.7	90	3.0	71	3.9	Sep-01
Over/Under				-0.9		-1.0		-0.3		2.1		0.7		2.1		1.4	
BBgBarc US Aggregate TR				-1.5	76	-0.2	80	1.2	64	1.2	65	1.8	57	3.6	59	4.3	Sep-01
3-Month LIBOR + 3%				1.2	5	3.5	7	4.6	17	4.0	16	3.7	27	3.8	55	4.8	Sep-01
eV All US Fixed Inc Net Median				-0.9		0.4		1.7		1.7		2.1		4.0		4.4	Sep-01
Loomis Strategic Alpha	46,585,815	0.9		1.0	7	3.1	9	3.2	31	2.5	32	--	--	--	--	2.8	Jul-13
BBgBarc US Aggregate TR				-1.5	76	-0.2	80	1.2	64	1.2	65	1.8	57	3.6	59	2.4	Jul-13
Over/Under				2.5		3.3		2.0		1.3				0.4			
3-Month LIBOR + 3%				1.2	5	3.5	7	4.6	17	4.0	16	3.7	27	3.8	55	3.7	Jul-13
eV All US Fixed Inc Net Median				-0.9		0.4		1.7		1.7		2.1		4.0		2.7	Jul-13
Loomis Sayles Multi Strategy	82,690,216	1.5		-0.7	42	2.0	16	4.7	16	3.7	19	3.7	26	6.7	17	6.4	Jul-05
Loomis Custom Index				-1.2	65	0.3	54	1.9	48	2.3	37	2.7	39	5.0	34	4.9	Jul-05
Over/Under				0.5		1.7		2.8		1.4		1.0		1.7		1.5	
BBgBarc US Govt/Credit TR				-1.6	81	-0.3	83	1.4	58	1.2	64	1.8	57	3.7	58	4.0	Jul-05
eV All US Fixed Inc Net Median				-0.9		0.4		1.7		1.7		2.1		4.0		4.1	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	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Total Real Estate	412,852,882	7.7	7.0	1.9	40	5.6	41	6.8	54	8.1	64	9.5	69	2.9	83	7.8	Mar-94
<i>NCREIF ODCE Net</i>				<u>2.1</u>	24	<u>5.7</u>	40	<u>7.2</u>	44	<u>9.0</u>	45	<u>10.4</u>	42	<u>4.2</u>	57	<u>8.1</u>	<i>Mar-94</i>
Over/Under				-0.2		-0.1		-0.4		-0.9		-0.9		-1.3		-0.3	
<i>InvestorForce Public DB Real Estate Pub+Priv Net Median</i>				1.9		5.4		7.0		8.7		10.2		4.5		7.2	<i>Mar-94</i>
Prudential Real Estate	147,826,435	2.8		2.3	--	6.3	--	7.9	--	9.6	--	11.0	--	3.9	--	6.2	Jun-04
<i>NCREIF ODCE Net</i>				<u>2.1</u>	--	<u>5.7</u>	--	<u>7.2</u>	--	<u>9.0</u>	--	<u>10.4</u>	--	<u>4.2</u>	--	<u>7.1</u>	<i>Jun-04</i>
Over/Under				0.2		0.6		0.7		0.6		0.6		-0.3		-0.9	
<i>NCREIF ODCE</i>				2.2	--	6.3	--	8.1	--	10.0	--	11.4	--	5.1	--	8.1	<i>Jun-04</i>
UBS Real Estate	265,026,448	5.0		1.7	--	5.2	--	6.2	--	7.4	--	8.7	--	4.3	--	7.4	Mar-03
<i>NCREIF ODCE Net</i>				<u>2.1</u>	--	<u>5.7</u>	--	<u>7.2</u>	--	<u>9.0</u>	--	<u>10.4</u>	--	<u>4.2</u>	--	<u>7.3</u>	<i>Mar-03</i>
Over/Under				-0.4		-0.5		-1.0		-1.6		-1.7		0.1		0.1	
<i>NCREIF ODCE</i>				2.2	--	6.3	--	8.1	--	10.0	--	11.4	--	5.1	--	8.3	<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	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Total Liquid Alternatives	417,817,854	7.8	10.0	-3.7	--	0.9	--	-0.4	--	-0.7	--	--	--	--	--	4.1	Apr-13
CPI + 4% (Unadjusted)				2.2	--	4.9	--	6.4	--	5.9	--	6.5	--	--	--	6.3	Apr-13
Over/Under				-5.9		-4.0		-6.8		-6.6						-2.2	
Bridgewater All Weather Fund	310,358,510	5.8		-1.3	--	6.4	--	7.1	--	2.9	--	--	--	--	--	5.2	Aug-13
CPI + 5% (Unadjusted)				2.5	--	5.7	--	7.5	--	6.9	--	--	--	--	--	6.5	Aug-13
Over/Under				-3.8		0.7		-0.4		-4.0						-1.3	
Tortoise Energy Infrastructure	107,459,344	2.0		-9.8	--	-12.2	--	-17.1	--	-9.1	--	--	--	--	--	-0.9	Apr-13
Wells Fargo MLP Index				-11.4	--	-13.8	--	-19.4	--	-12.0	--	-4.9	--	--	--	-5.2	Apr-13
Over/Under				1.6		1.6		2.3		2.9						4.3	
Overlay	84,933,234	1.6	0.0														
Parametric	84,933,234	1.6															

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	Bottom Quartile	-	-	-		10/2013
Sprucegrove	Bottom Quartile	-	-	-		N/A
Hexavest	-	Yes	No Action	Watch (Board Driven)	Announced retirement and recent hire.	1/2013
Walter Scott	Bottom 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	-	-	-		
BlackRock U.S. Debt Fund	Bottom Quartile	-	-	-		10/2013
Western	-	-	-	-		6/2014
Reams	-	-	-	-		11/2013
Loomis Sayles Multi-Sector Full Discretion	-	-	-	-		11/2013
Loomis Sayles Strategic Alpha	Top Quartile	-	-	-		11/2013



DUE DILIGENCE MONITOR

	Performance (Recent Quarter)	Changes/ Announcements (Recent Quarter)	NEPC DD Committee Rec.	Plan Rec.	Comments	Last Onsite Conducted
Prudential	N/A	-	-	-		7/2014
RREEF	N/A	-	-	-		7/2013
UBS	N/A	Yes	No Action	-	Announced retirements and team changes.	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 COMMENTARY

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

Manager Changes/Announcements

Hexavest

Hexavest management notified NEPC that Jean-Rene Adams, one of the Co-CIOs would be leaving Hexavest to pursue other opportunities. The other CIO remaining is Hexavest founder Vital Proulx. He remains in place driving the Hexavest macro investment process that he initiated in the early 1990s. The Hexavest investment process is top down, macro driven by their 'ranking' framework. It's quite systematic and is further vetted at a committee level. This eliminates the 'key man' risk many stock picking shops have. Not a thing is changing at the process level. All other players at Hexavest remain in place.

Hexavest also announced Vincent Delisle is joining the firm as co-Chief Investment Officer on May 22, 2018. Mr. Delisle previously led the Portfolio Strategy team at Scotiabank since 2004, and has more than 20 years of industry experience. Mr. Delisle will work closely with Vital Proulx, co-Chief Investment Officer, and Jean-Pierre Couture, Chief Economist developing the global equity outlook of the firm and overall portfolio strategy.

In addition, Christian Crête, portfolio manager, and Jean-François Bérubé, Vice President of Quant. Analysis and IT, will be joining the Strategy team. Mr. Crête and Mr. Bérubé joined the firm many years ago and are both members of the investment committee.

NEPC recommends No Action at this time. We will continue to monitor the situation and provide updates as necessary.

UBS

UBS Trumbull Property Fund ("TPF") notified investors of several recent senior portfolio management changes in their flagship real estate core fund. Kevin Crean, Senior Portfolio Manager, and Stephen Olstein, Portfolio Manager, will be retiring after 33 and 15 years with UBS, respectively. Timothy Walsh, Portfolio Manager, has been promoted within UBS to become the Senior Portfolio Manager of Trumbull Property Growth and Income Fund ("TPG"). Mr. Olstein and Mr. Walsh will depart during Q2 2018 and Mr. Crean will remain with the team through 2018 to ensure a smooth transition.

Paul Canning, Senior Portfolio Manager for TPG, who has been with UBS for 26 years will assume the lead portfolio manager role for TPF. Additionally, Peter Shaplin and Mario Maturo will join the TPF team as Portfolio Managers. Mr. Canning has been with UBS since 1991, initially as an asset manager with a focus on retail and then as head of Dispositions. Mr. Canning helped establish TPG in 2006 and has been its Senior Portfolio Manager since inception. Mr. Shaplin has been with UBS since 2013 as an asset manager on the Commercial Asset Management Team- East Region focused on the Industrial Portfolio. Mr. Maturo joined UBS in 2005 and was responsible for acquisitions and development activities in Northern California, Pacific Northwest and Southwest.

Pam Thompson has been a Portfolio Manager of TPF for 11 years and will remain in her role, focusing on acquisitions, financing, and portfolio analysis and reporting.

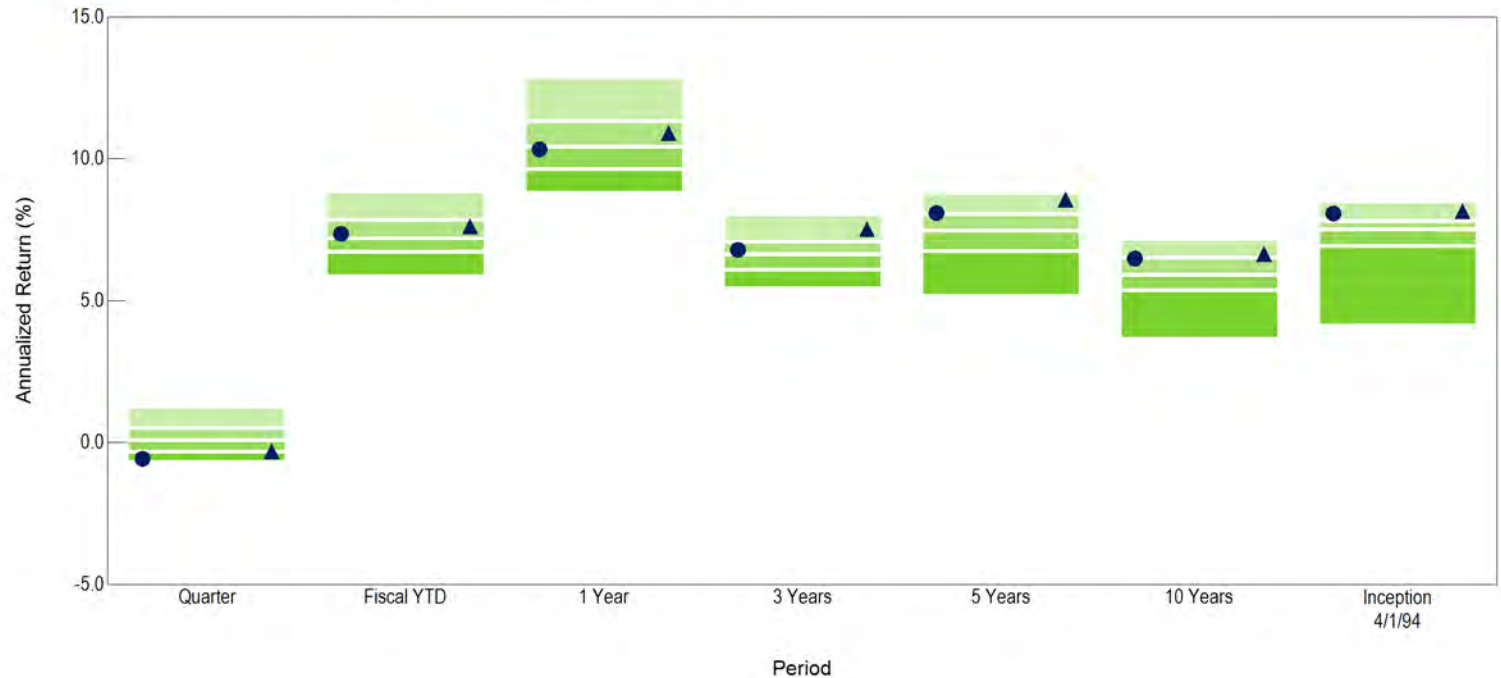
NEPC is comfortable with the announced natural succession of TPF's senior portfolio managers which will give way to new talent on their deep bench.

NEPC recommends No Action at this time. We will continue to monitor the situation and provide updates as necessary.



TOTAL FUND RETURN SUMMARY VS. PEER UNIVERSE

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



	Return (Rank)													
5th Percentile	1.2		8.8		12.9		8.0		8.8		7.2	8.5		
25th Percentile	0.5		7.9		11.3		7.1		8.1		6.5	7.8		
Median	0.1		7.2		10.4		6.6		7.5		5.9	7.5		
75th Percentile	-0.3		6.7		9.6		6.1		6.8		5.4	6.9		
95th Percentile	-0.7		5.9		8.8		5.5		5.2		3.7	4.1		
# of Portfolios	60		60		60		60		60		55	31		
● Total Fund	-0.6	(92)	7.4	(45)	10.3	(56)	6.8	(41)	8.1	(24)	6.5	(28)	8.1	(17)
▲ Policy Index	-0.3	(76)	7.6	(32)	10.9	(37)	7.5	(15)	8.6	(12)	6.6	(15)	8.1	(13)



TOTAL FUND RETURN SUMMARY VS. PEER UNIVERSE

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

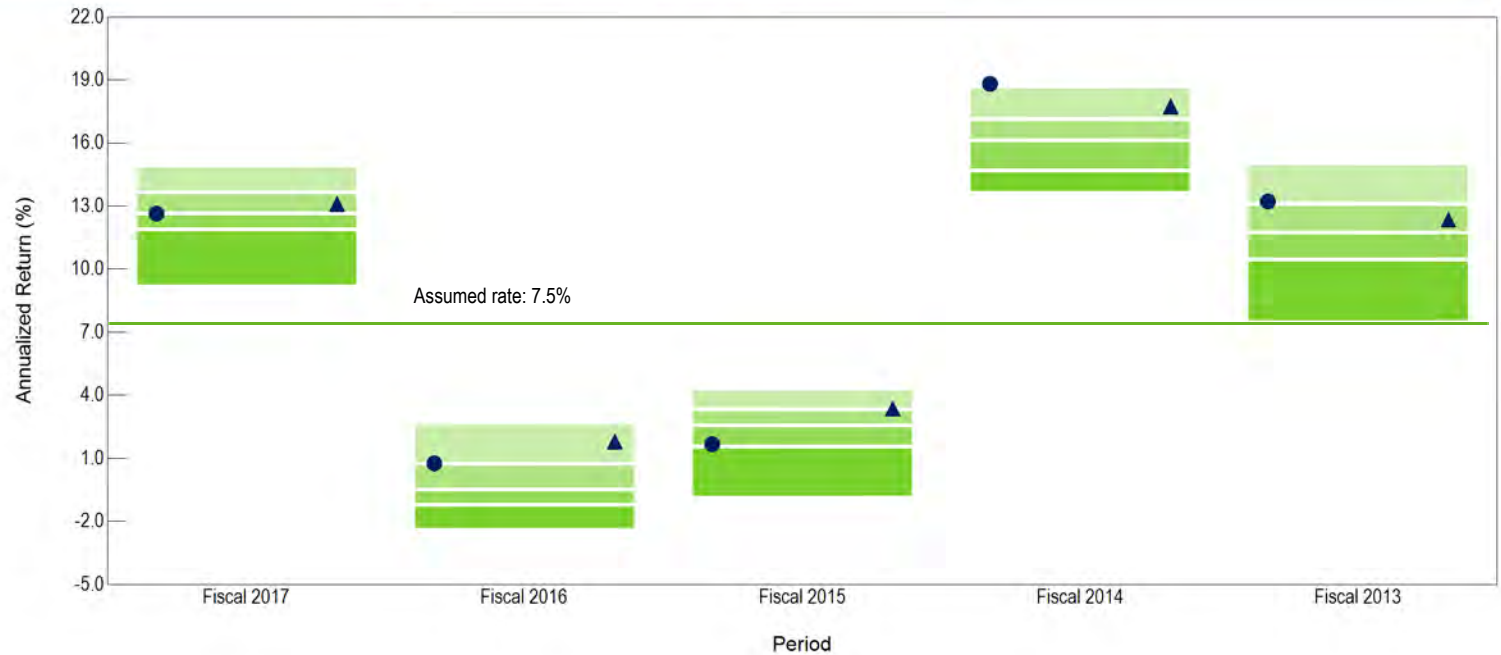


	Return (Rank)																			
5th Percentile	18.6	9.3	2.4	7.6	19.5	14.3	4.2	15.1	27.5	-20.9	18.6	9.3	2.4	7.6	19.5	14.3	4.2	15.1	27.5	-20.9
25th Percentile	16.6	8.4	0.8	6.1	16.0	13.4	1.5	13.8	21.7	-25.7	16.6	8.4	0.8	6.1	16.0	13.4	1.5	13.8	21.7	-25.7
Median	15.6	7.7	-0.4	5.1	14.3	12.7	0.6	12.8	20.0	-26.9	15.6	7.7	-0.4	5.1	14.3	12.7	0.6	12.8	20.0	-26.9
75th Percentile	14.1	7.1	-1.3	4.4	11.0	11.8	-0.3	11.8	17.7	-28.3	14.1	7.1	-1.3	4.4	11.0	11.8	-0.3	11.8	17.7	-28.3
95th Percentile	10.7	5.3	-3.2	2.6	8.5	9.0	-1.2	9.3	13.4	-30.5	10.7	5.3	-3.2	2.6	8.5	9.0	-1.2	9.3	13.4	-30.5
# of Portfolios	61	62	57	55	48	44	42	41	40	39	61	62	57	55	48	44	42	41	40	39
● Total Fund	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)	-30.9	(98)
▲ Policy Index	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)	-27.1	(54)



TOTAL FUND RETURN SUMMARY VS. PEER UNIVERSE

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

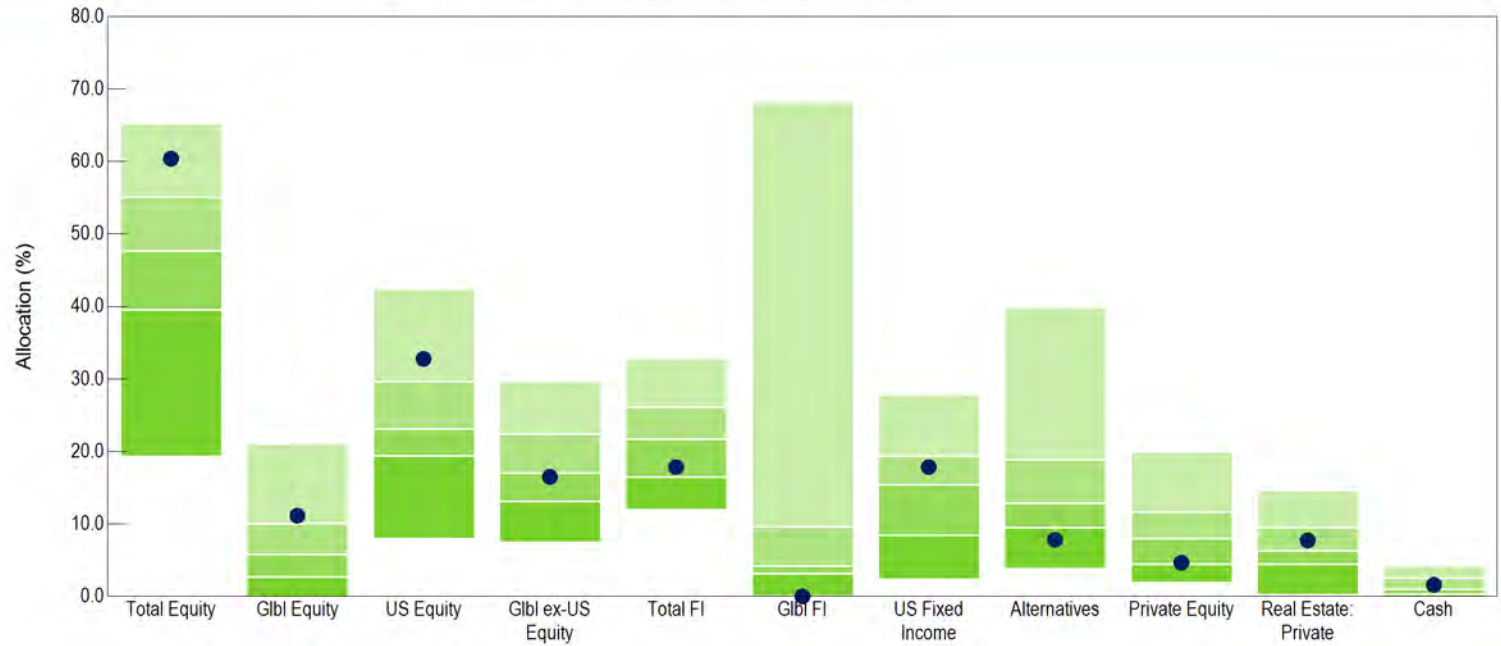


	Return (Rank)		Return (Rank)		Return (Rank)		Return (Rank)		Return (Rank)	
5th Percentile	14.9	(53)	2.7	(26)	4.3	(71)	18.7	(4)	15.0	(22)
25th Percentile	13.7	(37)	0.8	(9)	3.3	(25)	17.2	(19)	13.1	(39)
Median	12.7		-0.5		2.6		16.1		11.8	
75th Percentile	11.9		-1.2		1.6		14.7		10.5	
95th Percentile	9.2		-2.4		-0.9		13.6		7.5	
# of Portfolios	65		55		53		43		56	
● Total Fund	12.6	(53)	0.8	(26)	1.7	(71)	18.8	(4)	13.2	(22)
▲ Policy Index	13.1	(37)	1.8	(9)	3.4	(25)	17.7	(19)	12.4	(39)



TOTAL FUND ALLOCATIONS VS. PEER UNIVERSE

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



	Allocation (Rank)																						
5th Percentile	65.2	21.0	42.4	29.7	32.8	68.2	27.8	39.9	19.9	14.6	4.3	--											
25th Percentile	55.2	10.1	29.7	22.4	26.1	9.6	19.5	18.9	11.7	9.6	2.6	--											
Median	47.7	5.9	23.1	17.1	21.8	4.3	15.5	12.9	8.1	6.4	1.1	--											
75th Percentile	39.6	2.8	19.4	13.2	16.5	3.2	8.5	9.6	4.6	4.5	0.4	--											
95th Percentile	19.4	0.0	8.0	7.6	12.1	0.1	2.4	3.9	2.0	0.3	0.0	--											
# of Portfolios	55	21	47	50	56	26	50	51	48	43	53	--											
• Total Fund	60.4	(13)	11.1	(23)	32.8	(17)	16.5	(51)	17.8	(70)	0.0	(96)	17.8	(29)	7.8	(84)	4.7	(75)	7.7	(41)	1.6	(37)	--



Ventura County Employees' Retirement Association

TOTAL FUND CALENDAR YEAR RETURN SUMMARY

	2017 (%)	2016 (%)	2015 (%)	2014 (%)	2013 (%)	2012 (%)	2011 (%)	2010 (%)	2009 (%)	2008 (%)	2007 (%)
Total Fund	16.0	8.6	-0.9	6.3	18.1	14.0	0.3	15.1	24.2	-30.9	7.0
Policy Index	16.3	8.4	0.8	6.8	17.2	12.9	0.5	13.2	21.0	-27.1	8.5
Over/Under	-0.3	0.2	-1.7	-0.5	0.9	1.1	-0.2	1.9	3.2	-3.8	-1.5
60% MSCI ACWI (Net) / 40% CITI WGBI	17.1	5.5	-2.6	2.3	11.4	10.3	-1.8	10.0	21.3	-24.1	11.6
60% S&P 500 / 40% BBgBarc Aggregate	14.2	8.3	1.3	10.6	17.6	11.3	4.7	12.1	18.4	-22.1	6.2
Total Fund ex Parametric*	15.7	8.6	-0.9	6.3	17.8	13.7	0.6	14.5	23.3	-30.3	6.9
Total Fund ex Private Equity	15.9	8.6	-1.4	6.1	16.2	13.3	--	--	--	--	--
Policy Index	16.3	8.4	0.8	6.8	17.2	12.9	0.5	13.2	21.0	-27.1	8.5
Over/Under	-0.4	0.2	-2.2	-0.7	-1.0	0.4					
Total US Equity	21.4	13.0	0.5	12.5	34.0	16.9	0.9	18.5	29.2	-40.0	4.3
Russell 3000	21.1	12.7	0.4	12.4	33.5	16.4	1.1	17.5	28.6	-37.2	5.5
Over/Under	0.3	0.3	0.1	0.1	0.5	0.5	-0.2	1.0	0.6	-2.8	-1.2
Western U.S. Index Plus	22.7	13.8	1.1	14.2	32.9	20.7	1.0	24.7	42.6	-56.3	--
S&P 500	21.8	12.0	1.4	13.7	32.4	16.0	2.1	15.1	26.5	-37.0	5.5
Over/Under	0.9	1.8	-0.3	0.5	0.5	4.7	-1.1	9.6	16.1	-19.3	
Blackrock Russell 1000 Index	--	--	--	--	--	--	--	--	--	--	--
Russell 1000	21.7	12.1	0.9	13.2	33.1	16.4	1.5	16.1	28.4	-37.6	5.8
Over/Under											
Blackrock Russell 2500 Index	--	--	--	--	--	--	--	--	--	--	--
Russell 2500	16.8	17.6	-2.9	7.1	36.8	17.9	-2.5	26.7	34.4	-36.8	1.4
Over/Under											



Ventura County Employees' Retirement Association

TOTAL FUND CALENDAR YEAR RETURN SUMMARY

	2017 (%)	2016 (%)	2015 (%)	2014 (%)	2013 (%)	2012 (%)	2011 (%)	2010 (%)	2009 (%)	2008 (%)	2007 (%)
Total Non-US Equity	26.5	6.6	-4.8	-3.6	16.3	17.9	-13.6	13.5	37.4	-44.1	11.7
<i>MSCI ACWI ex USA</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>	<i>16.7</i>
Over/Under	<i>-0.7</i>	<i>2.1</i>	<i>0.9</i>	<i>0.3</i>	<i>1.0</i>	<i>1.1</i>	<i>0.1</i>	<i>2.3</i>	<i>-4.0</i>	<i>1.4</i>	<i>-5.0</i>
<i>MSCI EAFE</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>11.2</i>
<i>MSCI ACWI ex USA Local Currency</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>8.5</i>
<i>MSCI EAFE Local Currency</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>	<i>3.5</i>
BlackRock ACWI ex-U.S. Index	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>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>	<i>16.1</i>
Over/Under	<i>0.3</i>	<i>0.3</i>	<i>0.1</i>	<i>0.1</i>	<i>0.2</i>	<i>0.2</i>	<i>0.2</i>	<i>0.1</i>	<i>-0.5</i>	<i>0.4</i>	
<i>MSCI ACWI ex USA Local Currency</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>8.5</i>
Sprucegrove	27.5	11.9	-9.1	-3.2	17.1	17.2	-10.7	18.8	36.2	-42.4	5.8
<i>MSCI ACWI ex USA</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>	<i>16.7</i>
Over/Under	<i>0.3</i>	<i>7.4</i>	<i>-3.4</i>	<i>0.7</i>	<i>1.8</i>	<i>0.4</i>	<i>3.0</i>	<i>7.6</i>	<i>-5.2</i>	<i>3.1</i>	<i>-10.9</i>
<i>MSCI EAFE</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>11.2</i>
<i>MSCI ACWI ex USA Local Currency</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>8.5</i>
<i>MSCI EAFE Local Currency</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>	<i>3.5</i>
Hexavest	17.4	3.8	-1.4	-4.3	20.2	13.7	-9.6	--	--	--	--
<i>MSCI EAFE</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>11.2</i>
Over/Under	<i>-7.6</i>	<i>2.8</i>	<i>-0.6</i>	<i>0.6</i>	<i>-2.6</i>	<i>-3.6</i>	<i>2.5</i>				
<i>MSCI EAFE Local Currency</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>	<i>3.5</i>
Walter Scott	26.6	5.1	-0.4	-3.5	11.8	20.4	-9.3	--	--	--	--
<i>MSCI ACWI ex USA</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>	<i>16.7</i>
Over/Under	<i>-0.6</i>	<i>0.6</i>	<i>5.3</i>	<i>0.4</i>	<i>-3.5</i>	<i>3.6</i>	<i>4.4</i>				
<i>MSCI ACWI ex USA Local Currency</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>8.5</i>
<i>MSCI EAFE</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>11.2</i>
Total Global Equity	24.5	9.0	-3.8	1.9	22.0	14.4	-3.9	11.4	17.8	-37.3	11.3
<i>MSCI ACWI</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>	<i>11.7</i>
Over/Under	<i>0.5</i>	<i>1.1</i>	<i>-1.4</i>	<i>-2.3</i>	<i>-0.8</i>	<i>-1.7</i>	<i>3.4</i>	<i>-1.3</i>	<i>-16.8</i>	<i>4.9</i>	<i>-0.4</i>
BlackRock MSCI ACWI Equity Index	24.5	8.4	-2.0	4.6	23.2	--	--	--	--	--	--
<i>MSCI ACWI</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>	<i>11.7</i>
Over/Under	<i>0.5</i>	<i>0.5</i>	<i>0.4</i>	<i>0.4</i>	<i>0.4</i>						



Ventura County Employees' Retirement Association

TOTAL FUND CALENDAR YEAR RETURN SUMMARY

	2017 (%)	2016 (%)	2015 (%)	2014 (%)	2013 (%)	2012 (%)	2011 (%)	2010 (%)	2009 (%)	2008 (%)	2007 (%)
Total Private Equity	16.9	7.6	14.7	19.0	17.9	10.3	--	--	--	--	--
Russell 3000 + 3%	24.7	16.1	3.5	15.9	37.5	19.9	4.1	20.4	32.1	-35.3	8.3
Over/Under	-7.8	-8.5	11.2	3.1	-19.6	-9.6					
Cambridge Associates Global All PE (Qtr Lag)	15.8	8.5	7.0	16.3	15.9	13.0	12.6	17.1	-9.3	-7.2	34.8
Adams Street Global Fund Series	13.4	7.1	10.3	19.6	15.7	10.8	--	--	--	--	--
Russell 3000 + 3%	24.7	16.1	3.5	15.9	37.5	19.9	4.1	20.4	32.1	-35.3	8.3
Over/Under	-11.3	-9.0	6.8	3.7	-21.8	-9.1					
Harbourvest	23.2	6.7	28.5	18.5	--	--	--	--	--	--	--
Russell 3000 + 3%	24.7	16.1	3.5	15.9	37.5	19.9	4.1	20.4	32.1	-35.3	8.3
Over/Under	-1.5	-9.4	25.0	2.6							
Pantheon Global Secondary Funds	24.1	15.5	6.4	16.7	14.9	0.9	--	--	--	--	--
Russell 3000 + 3%	24.7	16.1	3.5	15.9	37.5	19.9	4.1	20.4	32.1	-35.3	8.3
Over/Under	-0.6	-0.6	2.9	0.8	-22.6	-19.0					
Drive Capital Fund	-33.7	--	--	--	--	--	--	--	--	--	--
Russell 3000 + 3%	24.7	16.1	3.5	15.9	37.5	19.9	4.1	20.4	32.1	-35.3	8.3
Over/Under	-58.4										
Abbott Secondary Opportunities	--	--	--	--	--	--	--	--	--	--	--
Russell 3000 + 3%	24.7	16.1	3.5	15.9	37.5	19.9	4.1	20.4	32.1	-35.3	8.3
Over/Under											
CVI Credit Value Fund	--	--	--	--	--	--	--	--	--	--	--
Russell 3000 + 3%	24.7	16.1	3.5	15.9	37.5	19.9	4.1	20.4	32.1	-35.3	8.3
Over/Under											
Clearlake Capital Partners V	--	--	--	--	--	--	--	--	--	--	--
Russell 3000 + 3%	24.7	16.1	3.5	15.9	37.5	19.9	4.1	20.4	32.1	-35.3	8.3
Over/Under											
Battery Ventures XII	--	--	--	--	--	--	--	--	--	--	--
Russell 3000 + 3%	24.7	16.1	3.5	15.9	37.5	19.9	4.1	20.4	32.1	-35.3	8.3
Over/Under											
Abbott Capital Cash											



Ventura County Employees' Retirement Association

TOTAL FUND CALENDAR YEAR RETURN SUMMARY

	2017 (%)	2016 (%)	2015 (%)	2014 (%)	2013 (%)	2012 (%)	2011 (%)	2010 (%)	2009 (%)	2008 (%)	2007 (%)
Total US Fixed Income	4.4	4.9	0.3	3.0	-0.1	9.6	7.3	10.6	25.6	-8.7	6.3
BBgBarc US Aggregate TR	3.5	2.6	0.5	6.0	-2.0	4.2	7.8	6.5	5.9	5.2	7.0
Over/Under	0.9	2.3	-0.2	-3.0	1.9	5.4	-0.5	4.1	19.7	-13.9	-0.7
BlackRock U.S. Debt Fund	3.6	2.7	0.6	6.2	-2.0	4.3	7.9	6.7	6.0	5.4	7.0
BBgBarc US Aggregate TR	3.5	2.6	0.5	6.0	-2.0	4.2	7.8	6.5	5.9	5.2	7.0
Over/Under	0.1	0.1	0.1	0.2	0.0	0.1	0.1	0.2	0.1	0.2	0.0
Western	6.0	4.1	0.9	7.4	-1.2	9.7	7.3	11.3	18.9	-8.9	4.8
BBgBarc US Aggregate TR	3.5	2.6	0.5	6.0	-2.0	4.2	7.8	6.5	5.9	5.2	7.0
Over/Under	2.5	1.5	0.4	1.4	0.8	5.5	-0.5	4.8	13.0	-14.1	-2.2
Reams	2.5	6.0	0.3	-3.6	2.5	10.0	8.4	10.0	33.6	-11.0	7.4
Reams Custom Index	1.3	0.7	0.3	0.2	-0.5	4.2	7.8	6.5	5.9	5.2	7.0
Over/Under	1.2	5.3	0.0	-3.8	3.0	5.8	0.6	3.5	27.7	-16.2	0.4
BBgBarc US Aggregate TR	3.5	2.6	0.5	6.0	-2.0	4.2	7.8	6.5	5.9	5.2	7.0
3-Month LIBOR + 3%	4.4	3.8	3.3	3.2	3.3	3.5	3.3	3.4	3.8	6.2	8.7
Loomis Strategic Alpha	3.3	6.1	-1.0	2.4	--	--	--	--	--	--	--
BBgBarc US Aggregate TR	3.5	2.6	0.5	6.0	-2.0	4.2	7.8	6.5	5.9	5.2	7.0
Over/Under	-0.2	3.5	-1.5	-3.6							
3-Month LIBOR + 3%	4.4	3.8	3.3	3.2	3.3	3.5	3.3	3.4	3.8	6.2	8.7
Loomis Sayles Multi Strategy	8.4	8.2	-2.3	6.8	1.4	16.7	4.2	13.6	37.6	-19.7	6.4
Loomis Custom Index	4.5	7.0	-1.2	4.6	0.8	7.5	7.1	8.7	18.8	-4.6	5.1
Over/Under	3.9	1.2	-1.1	2.2	0.6	9.2	-2.9	4.9	18.8	-15.1	1.3
BBgBarc US Govt/Credit TR	4.0	3.0	0.1	6.0	-2.4	4.8	8.7	6.6	4.5	5.7	7.2
Total Real Estate	5.9	6.8	12.8	11.6	10.6	9.1	14.4	15.4	-31.2	-16.0	12.8
NCREIF ODCE Net	6.7	7.8	14.0	11.5	12.9	9.8	15.0	15.3	-30.4	-10.7	14.8
Over/Under	-0.8	-1.0	-1.2	0.1	-2.3	-0.7	-0.6	0.1	-0.8	-5.3	-2.0
Prudential Real Estate	7.0	8.2	14.5	12.5	13.8	8.8	18.0	17.2	-34.8	-13.6	16.7
NCREIF ODCE Net	6.7	7.8	14.0	11.5	12.9	9.8	15.0	15.3	-30.4	-10.7	14.8
Over/Under	0.3	0.4	0.5	1.0	0.9	-1.0	3.0	1.9	-4.4	-2.9	1.9
NCREIF ODCE	7.6	8.8	15.0	12.5	13.9	10.9	16.0	16.4	-29.8	-10.0	16.0
UBS Real Estate	5.4	6.2	11.9	10.6	9.3	9.0	12.1	15.9	-22.9	-8.3	12.8
NCREIF ODCE Net	6.7	7.8	14.0	11.5	12.9	9.8	15.0	15.3	-30.4	-10.7	14.8
Over/Under	-1.3	-1.6	-2.1	-0.9	-3.6	-0.8	-2.9	0.6	7.5	2.4	-2.0
NCREIF ODCE	7.6	8.8	15.0	12.5	13.9	10.9	16.0	16.4	-29.8	-10.0	16.0



Ventura County Employees' Retirement Association

TOTAL FUND CALENDAR YEAR RETURN SUMMARY

	2017 (%)	2016 (%)	2015 (%)	2014 (%)	2013 (%)	2012 (%)	2011 (%)	2010 (%)	2009 (%)	2008 (%)	2007 (%)
Total Liquid Alternatives	7.2	11.7	-13.8	10.2	--	--	--	--	--	--	--
CPI + 4% (Unadjusted)	6.2	6.2	4.8	4.8	28.8	5.4	13.5	--	--	--	--
Over/Under	1.0	5.5	-18.6	5.4							
Bridgewater All Weather Fund	11.9	10.0	-6.8	7.6	--	--	--	--	--	--	--
CPI + 5% (Unadjusted)	7.2	7.2	5.8	5.8	--	--	--	--	--	--	--
Over/Under	4.7	2.8	-12.6	1.8							
Tortoise Energy Infrastructure	-3.5	15.9	-27.1	15.7	--	--	--	--	--	--	--
Wells Fargo MLP Index	-5.7	21.0	-34.1	8.0	28.8	5.4	13.5	--	--	--	--
Over/Under	2.2	-5.1	7.0	7.7							
Overlay											
Parametric											



APPENDIX: MARKET ENVIRONMENT

NEPC, LLC

CALENDAR YEAR INDEX PERFORMANCE

	2010	2011	2012	2013	2014	2015	2016	2017	Jan	Feb	Mar	Q1	YTD
US Large Cap	15.1%	2.1%	16.0%	32.4%	13.7%	1.4%	12.0%	21.8%	5.7%	-3.7%	-2.5%	-0.8%	-0.8%
US Small/Mid Cap	26.7%	-2.5%	17.9%	36.8%	7.1%	-2.9%	17.6%	16.8%	3.0%	-4.1%	1.0%	-0.2%	-0.2%
Int'l Developed Equity	7.8%	-12.1%	17.3%	22.8%	-4.9%	-0.8%	1.0%	25.0%	5.0%	-4.5%	-1.8%	-1.5%	-1.5%
Emerging Market Equity	18.9%	-18.4%	18.2%	-2.6%	-2.2%	-14.9%	11.2%	37.3%	8.3%	-4.6%	-1.9%	1.4%	1.4%
US Aggregate	6.5%	7.8%	4.2%	-2.0%	6.0%	0.5%	2.6%	3.5%	-1.2%	-0.9%	0.6%	-1.5%	-1.5%
US High Yield	15.1%	5.0%	15.8%	7.4%	2.5%	-4.5%	17.1%	7.5%	0.6%	-0.8%	-0.6%	-0.9%	-0.9%
US Long Treasuries	9.4%	29.9%	3.6%	-12.7%	25.1%	-1.2%	1.3%	8.5%	-3.2%	-3.0%	3.0%	-3.3%	-3.3%
EM Local Credit	15.7%	-1.8%	16.8%	-9.0%	-5.7%	-14.9%	9.9%	15.2%	4.5%	-1.0%	1.0%	4.4%	4.4%
Global Credit	-5.3%	-5.3%	-4.1%	2.7%	-0.6%	3.3%	2.1%	7.4%	1.2%	-0.9%	1.1%	1.4%	1.4%
Commodities	16.8%	-13.3%	-1.1%	-9.5%	-17.0%	-24.7%	11.8%	1.7%	2.0%	-1.7%	-0.6%	-0.4%	-0.4%

Source: Bloomberg, Barclays, S&P, Russell, MSCI, JP Morgan, Credit Suisse

S&P 500 = US Large Cap
 Russell 2500 = US Small/Mid Cap
 MSCI EAFE = International Developed Equity
 MSCI EM = Emerging Market Equity
 Barclays Aggregate = US Aggregate
 Barclays Long Treasury = US Long Treasuries
 Barclays High Yield = US HY
 Barclays Global Aggregate = Global Credit
 GBI-EM Global Diversified = EM Local Credit
 Bloomberg Commodity = Commodities



CALENDAR YEAR INDEX PERFORMANCE

	2009	2010	2011	2012	2013	2014	2015	2016	2017	Jan	Feb	Mar	Q1	YTD
S&P 500	26.5%	15.1%	2.1%	16.0%	32.4%	13.7%	1.4%	12.0%	21.8%	5.7%	-3.7%	-2.5%	-0.8%	-0.8%
Russell 1000	28.4%	16.1%	1.5%	16.4%	33.1%	13.2%	0.9%	12.1%	21.7%	5.5%	-3.7%	-2.3%	-0.7%	-0.7%
Russell 2000	27.2%	26.9%	-4.2%	16.3%	38.8%	4.9%	-4.4%	21.3%	14.6%	2.6%	-3.9%	1.3%	-0.1%	-0.1%
Russell 2500	34.4%	26.7%	-2.5%	17.9%	36.8%	7.1%	-2.9%	17.6%	16.8%	3.0%	-4.1%	1.0%	-0.2%	-0.2%
MSCI EAFE	31.8%	7.8%	-12.1%	17.3%	22.8%	-4.9%	-0.8%	1.0%	25.0%	5.0%	-4.5%	-1.8%	-1.5%	-1.5%
MSCI EM	78.5%	18.9%	-18.4%	18.2%	-2.6%	-2.2%	-14.9%	11.2%	37.3%	8.3%	-4.6%	-1.9%	1.4%	1.4%
MSCI ACWI	34.6%	12.7%	-7.3%	16.1%	22.8%	4.2%	-2.4%	7.9%	24.0%	5.6%	-4.2%	-2.1%	-1.0%	-1.0%
Private Equity*	13.7%	19.7%	7.9%	12.5%	20.6%	12.7%	9.6%	8.3%	13.7%*	-	-	-	-	-
BC TIPS	11.4%	6.3%	13.6%	7.0%	-8.6%	3.6%	-1.4%	4.7%	3.0%	-0.9%	-1.0%	1.1%	-0.8%	-0.8%
BC Municipal Bond	12.9%	2.4%	10.7%	6.8%	-2.6%	9.1%	3.3%	0.2%	6.2%	-1.2%	-0.3%	0.4%	-1.1%	-1.1%
BC Muni High Yield	32.7%	7.8%	9.2%	18.1%	-5.5%	13.8%	1.8%	3.0%	9.7%	-0.9%	0.1%	1.5%	0.6%	0.6%
BC US Corp High Yield	58.2%	15.1%	5.0%	15.8%	7.4%	2.5%	-4.5%	17.1%	7.5%	0.6%	-0.8%	-0.6%	-0.9%	-0.9%
BC US Aggregate	5.9%	6.5%	7.8%	4.2%	-2.0%	6.0%	0.5%	2.6%	4.2%	-1.2%	-0.9%	0.6%	-1.5%	-1.5%
BC Global Aggregate	-6.5%	-5.3%	-5.3%	-4.1%	2.7%	-0.6%	3.3%	2.1%	7.4%	1.2%	-0.9%	1.1%	1.4%	1.4%
BC Long Treasuries	-12.9%	9.4%	29.9%	3.6%	-12.7%	25.1%	-1.2%	1.3%	8.5%	-3.2%	-3.0%	3.0%	-3.3%	-3.3%
BC US Long Credit	16.8%	10.7%	17.1%	12.7%	-6.6%	16.4%	-4.6%	10.2%	13.7%	-1.3%	-3.3%	0.7%	-3.8%	-3.8%
BC US STRIPS 20+ Yr	-36.0%	10.9%	58.5%	3.0%	-21.0%	46.4%	-3.7%	1.4%	10.7%	-4.2%	-4.6%	4.4%	-4.6%	-4.6%
JPM GBI-EM Glob Div	22.0%	15.7%	-1.8%	16.8%	-9.0%	-5.7%	-14.9%	9.9%	14.6%	4.5%	-1.0%	1.0%	4.4%	4.4%
JPM EMBI Glob Div	29.8%	12.2%	7.3%	17.4%	-5.3%	7.4%	1.2%	10.2%	12.2%	0.0%	-2.0%	0.3%	-1.7%	-1.7%
CS Leveraged Loan	44.9%	10.0%	1.8%	9.4%	6.2%	2.1%	-0.4%	9.9%	5.2%	1.1%	0.2%	0.3%	1.6%	1.6%
CS Hedge Fund	18.6%	10.9%	-2.5%	7.7%	9.7%	4.1%	-0.7%	1.2%	7.1%	2.7%	-2.1%	-	0.5%	0.5%
BBG Commodity	18.9%	16.8%	-13.3%	-1.1%	-9.5%	-17.0%	-24.7%	11.8%	0.8%	2.0%	-1.7%	-0.6%	-0.4%	-0.4%
Alerian MLP	76.4%	35.9%	13.9%	4.8%	27.6%	4.8%	-32.6%	18.3%	-6.5%	5.8%	-9.7%	-6.9%	-11.1%	-11.1%
FTSE NAREIT Eqy REITs	28.0%	28.0%	8.3%	18.1%	2.5%	30.1%	3.2%	8.5%	3.5%	-4.2%	-7.7%	3.8%	-8.2%	-8.2%

Source: Bloomberg, Barclays, Alerian, Nareit, MSCI, JP Morgan, Credit Suisse, Thomson One
 *Private Equity return represents calendar year pooled IRR and is subject to a one quarter lag



TRAILING ANNUAL INDEX PERFORMANCE

Equity						
	Mar-18	YTD	1 YR	3 YR	5 YR	10 YR
Global Equity	-2.1%	-1.0%	14.8%	8.1%	9.2%	5.6%
US Large Cap	-2.5%	-0.8%	14.0%	10.8%	13.3%	9.5%
US Small/Mid Cap	1.0%	-0.2%	12.3%	8.1%	11.6%	10.3%
Int'l Developed Equity	-1.8%	-1.5%	14.8%	5.6%	6.5%	2.7%
Emerging Market Equity	-1.9%	1.4%	24.9%	8.8%	5.0%	3.0%

Rates/Credit						
	Mar-18	YTD	1 YR	3 YR	5 YR	10 YR
Global Aggregate	1.1%	1.4%	7.0%	3.1%	1.5%	2.6%
US Aggregate	0.6%	-1.5%	1.2%	1.2%	1.8%	3.6%
US Credit	0.3%	-2.1%	2.6%	2.2%	2.8%	5.1%
US High Yield	-0.6%	-0.9%	3.8%	5.2%	5.0%	8.3%
EM Local Debt	1.0%	4.4%	13.0%	5.4%	-0.7%	3.8%

Real Assets						
	Mar-18	YTD	1 YR	3 YR	5 YR	10 YR
Commodities	-0.6%	-0.4%	3.7%	-3.2%	-8.3%	-7.7%
MLPs	-6.9%	-11.1%	-20.1%	-11.2%	-5.8%	5.5%

Source: Bloomberg, Barclays, MSCI, S&P, Russell, JP Morgan, Alerian



TRAILING ANNUAL INDEX PERFORMANCE

Equity						
	Mar-18	YTD	1 YR	3 YR	5 YR	10 YR
MSCI ACWI	-2.1%	-1.0%	14.8%	8.1%	9.2%	5.6%
S&P 500	-2.5%	-0.8%	14.0%	10.8%	13.3%	9.5%
Russell 1000	-2.3%	-0.7%	14.0%	10.4%	13.2%	9.6%
Russell 2000	1.3%	-0.1%	11.8%	8.4%	11.5%	9.8%
Russell 2500	1.0%	-0.2%	12.3%	8.1%	11.6%	10.3%
MSCI EAFE	-1.8%	-1.5%	14.8%	5.6%	6.5%	2.7%
MSCI Emerging Markets	-1.9%	1.4%	24.9%	8.8%	5.0%	3.0%

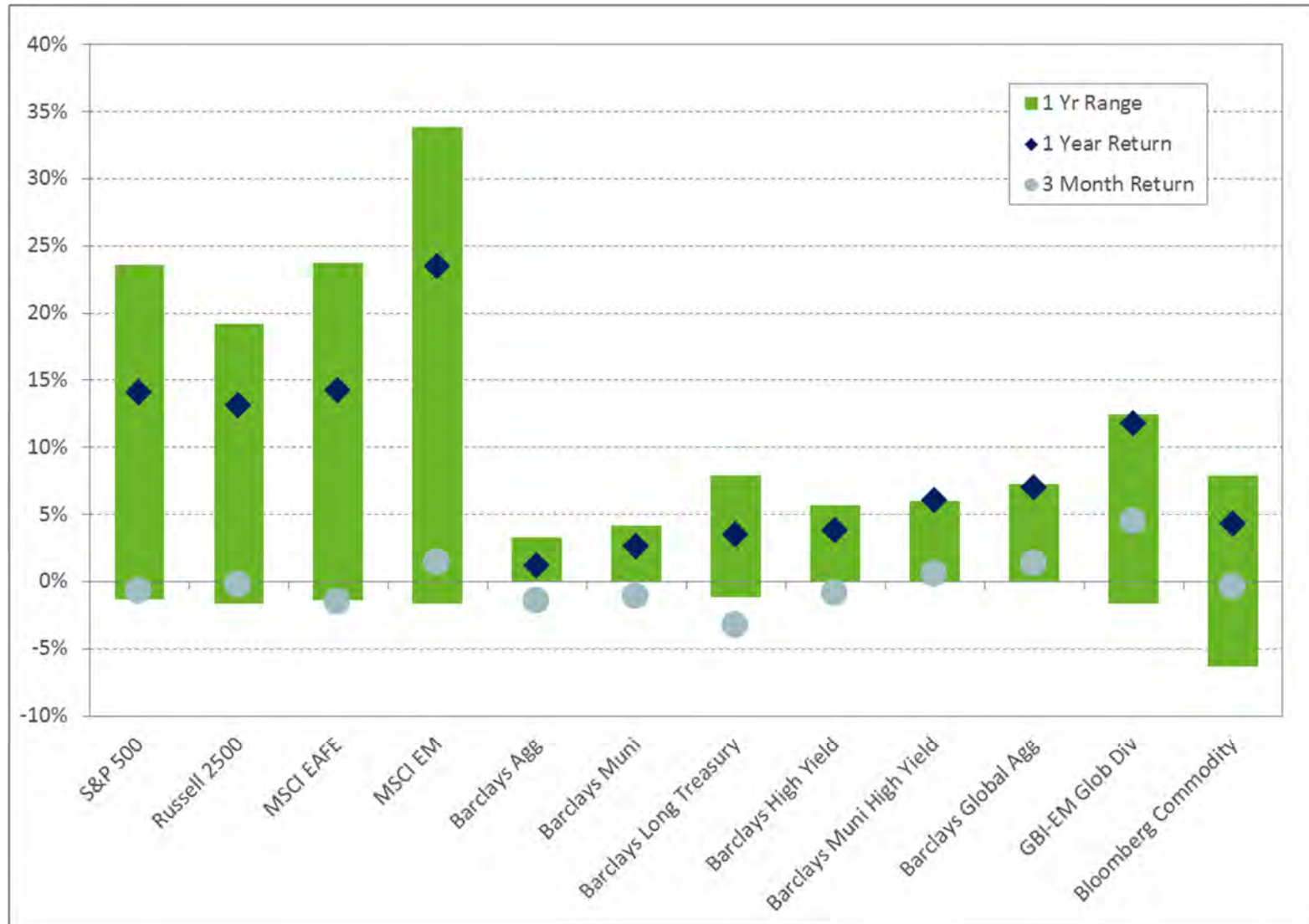
Rates/Credit						
	Mar-18	YTD	1 YR	3 YR	5 YR	10 YR
BC Global Aggregate	1.1%	1.4%	7.0%	3.1%	1.5%	2.6%
BC US Aggregate	0.6%	-1.5%	1.2%	1.2%	1.8%	3.6%
BC Credit	0.3%	-2.1%	2.6%	2.2%	2.8%	5.1%
BC US High Yield	-0.6%	-0.9%	3.8%	5.2%	5.0%	8.3%
BC Municipal Bond	0.4%	-1.1%	2.7%	2.3%	2.7%	4.4%
BC Municipal High Yield	1.5%	0.6%	6.0%	4.6%	4.1%	5.6%
BC TIPS	1.1%	-0.8%	0.9%	1.3%	0.0%	2.9%
BC 20+ STRIPS	4.4%	-4.6%	6.6%	0.1%	5.3%	8.2%
BC Long Treasuries	3.0%	-3.3%	3.5%	0.4%	3.3%	5.8%
BC Long Credit	0.7%	-3.8%	6.2%	3.3%	4.7%	7.5%
BC Gov/Credit 1-3 Yr	0.2%	-0.2%	0.2%	0.7%	0.8%	1.6%
CS Lev Loan	0.3%	1.6%	4.6%	4.3%	4.2%	5.4%
JPM EMBI Glob Div	0.3%	-1.7%	4.3%	5.8%	4.7%	7.0%
JPM GBI-EM Glob Div	1.0%	4.4%	13.0%	5.4%	-0.7%	3.8%

Real Assets						
	Mar-18	YTD	1 YR	3 YR	5 YR	10 YR
BBG Commodity	-0.6%	-0.4%	3.7%	-3.2%	-8.3%	-7.7%
Alerian MLP	-6.9%	-11.1%	-20.1%	-11.2%	-5.8%	5.5%
FTSE NAREIT Equity REITs	3.7%	-6.7%	-1.1%	2.9%	6.7%	6.9%

Source: Bloomberg, Barclays, S&P, Russell, MSCI, JP Morgan, Credit Suisse, Alerian, NAREIT



SHORT-TERM PERFORMANCE SUMMARY



Source: Bloomberg, Standard and Poors, Russell, MSCI, Barclays, JP Morgan
 *1 Yr Range: Represents range of cumulative high/low daily index returns for an investment made one year ago



LONG-TERM PERFORMANCE SUMMARY



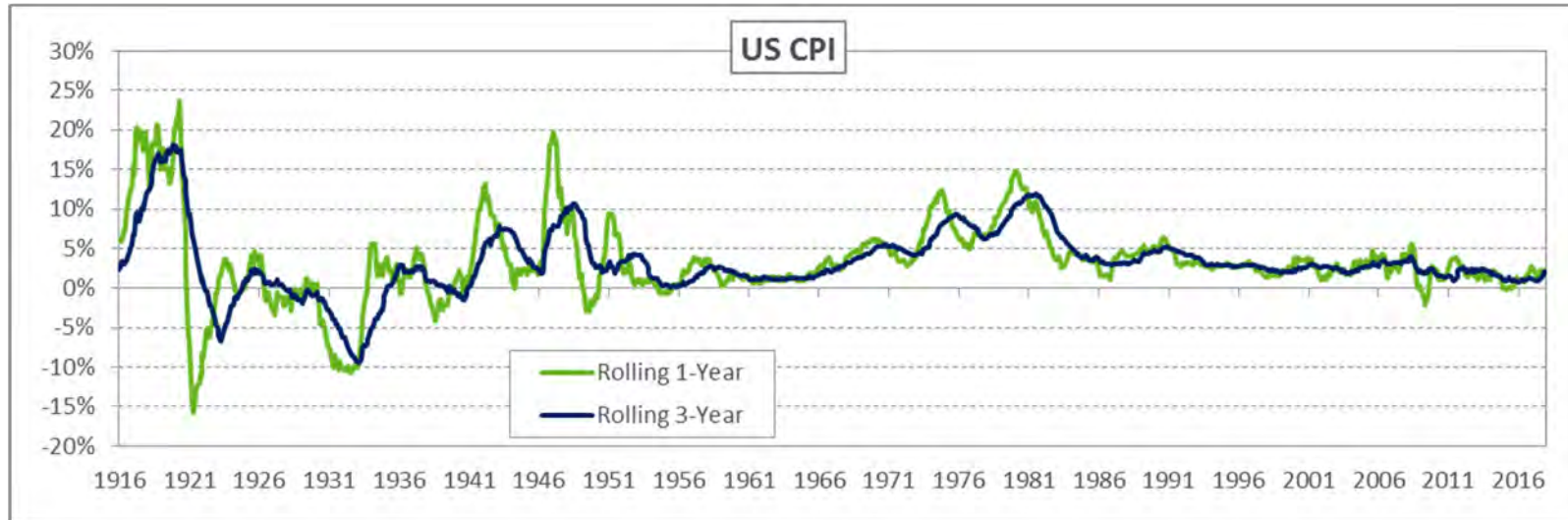
Source: Bloomberg, Standard and Poors, Russell, MSCI, Barclays, JP Morgan



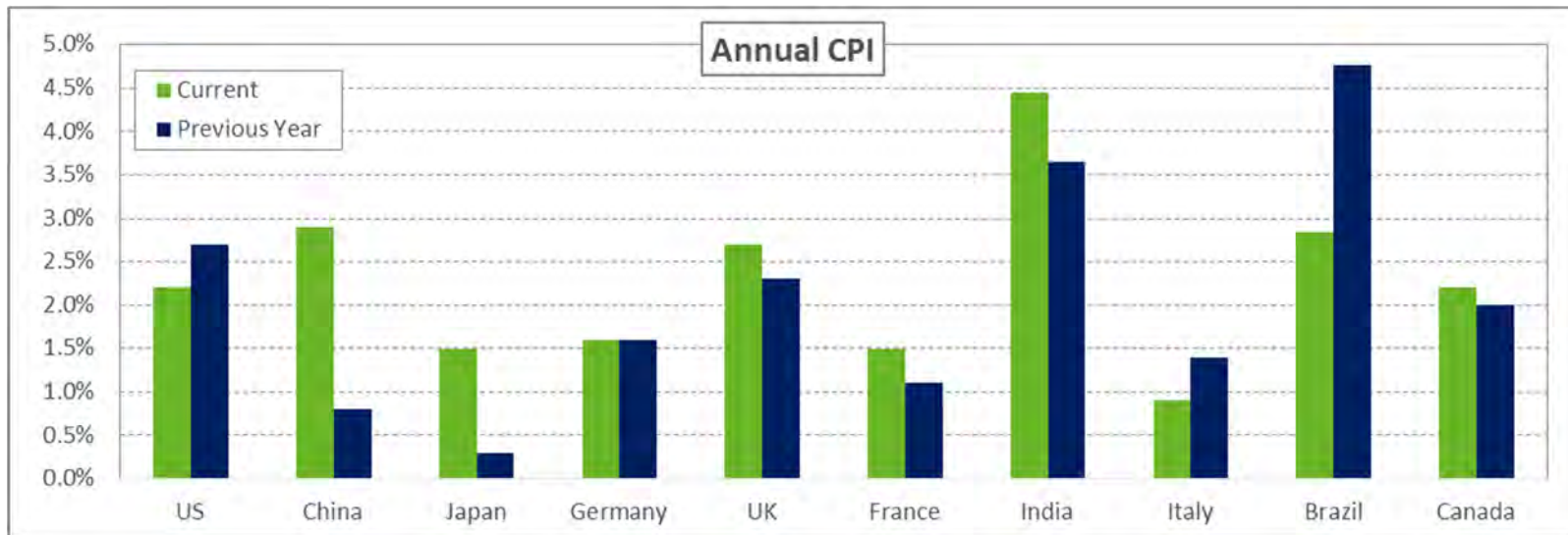
MACRO

NEPC, LLC

INFLATION



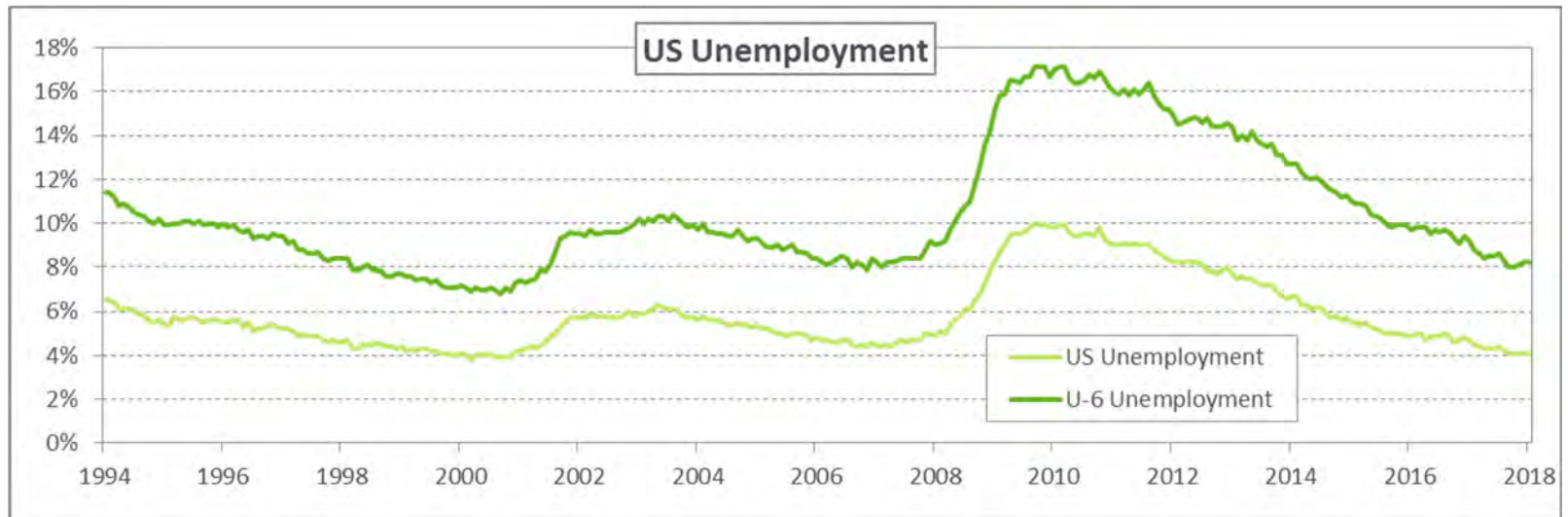
Source: Bureau of Labor Statistics, Bloomberg, NEPC



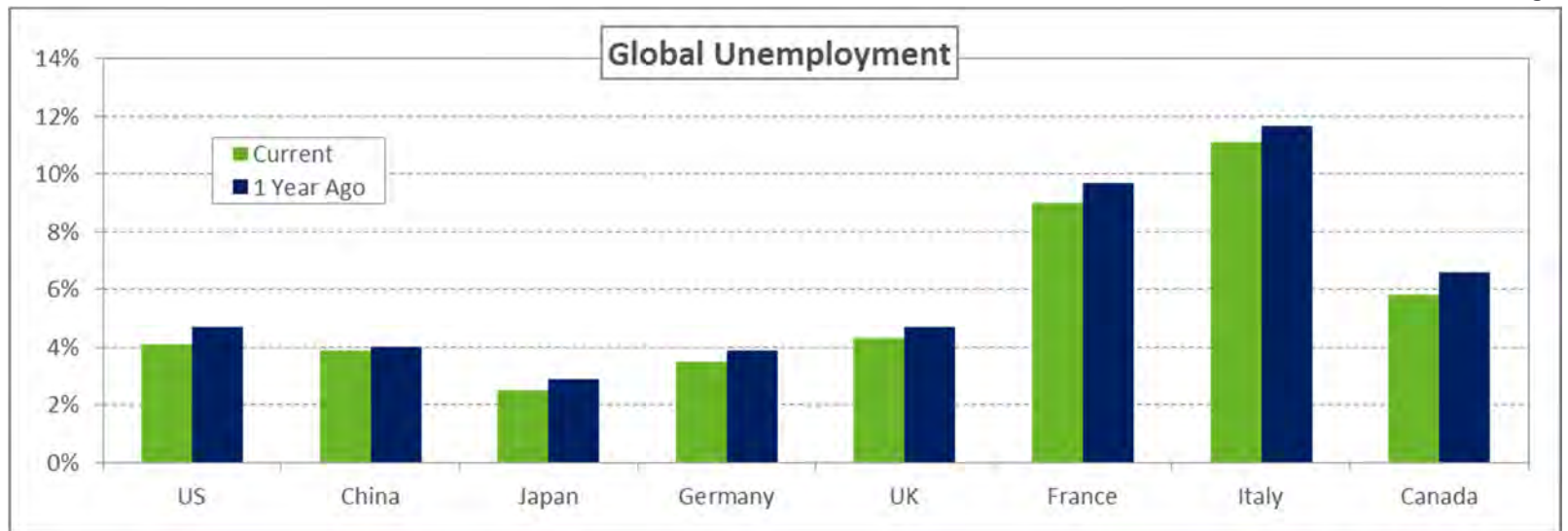
Source: Bureau of Labor Statistics, National Bureau of Statistics of China, Ministry of Internal Affairs and Communications (Japan), German Federal Statistics Office, UK Office for National Statistics, National Statistics Office of France, India Central Statistical Organization, ISTAT, IBGE, STCA, Bloomberg



UNEMPLOYMENT



Source: Bureau of Labor Statistics, Bloomberg



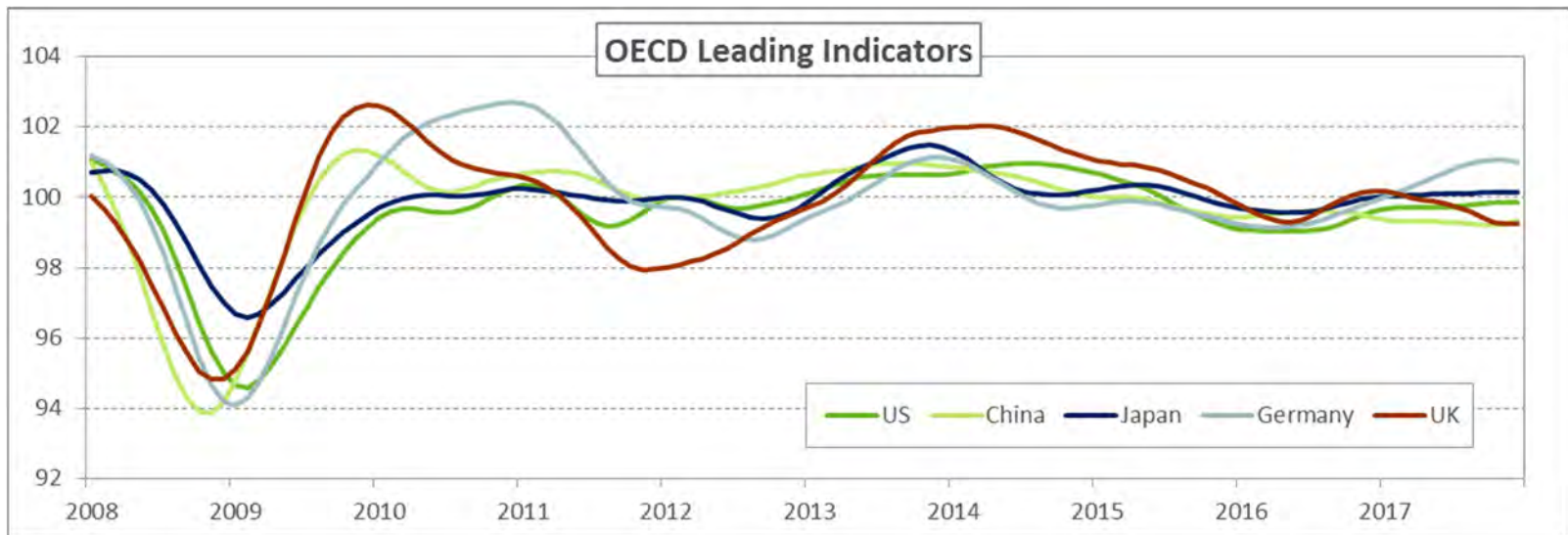
Source: Bureau of Labor Statistics, STA, National Bureau of Statistics of China, Ministry of Internal Affairs and Communications (Japan), German Federal Statistics Office, UK Office for National Statistics, National Statistics Office of France, ISTAT, IBGE, Bloomberg



ECONOMIC INDICATORS



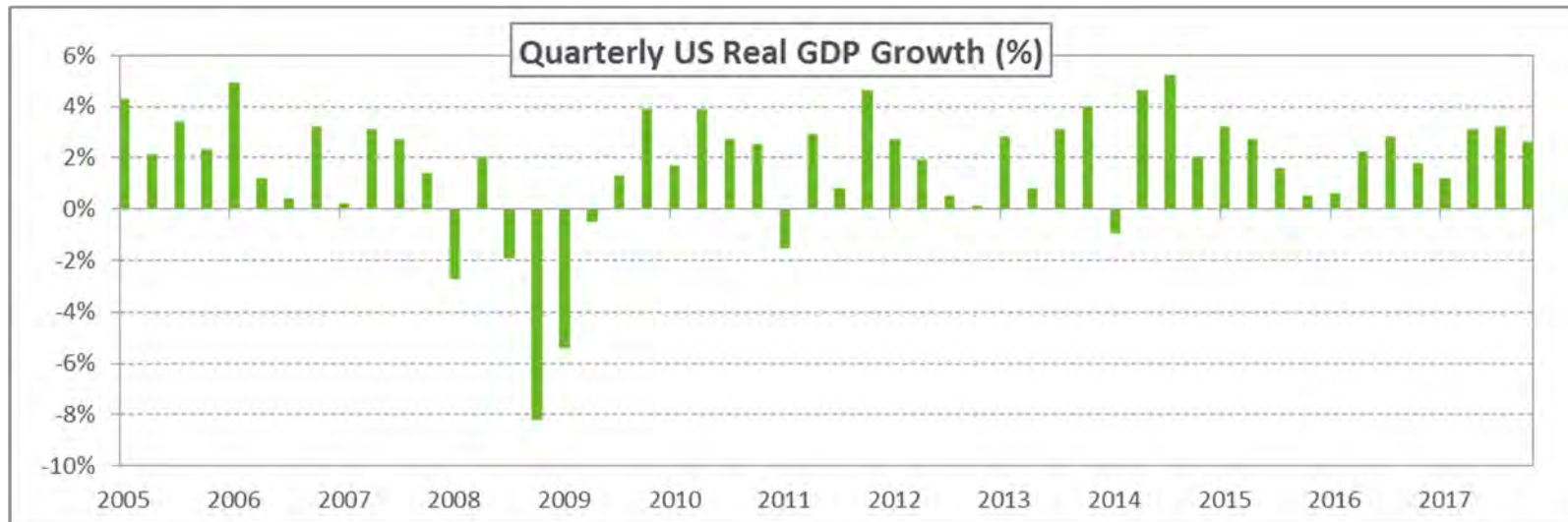
Source: IMF



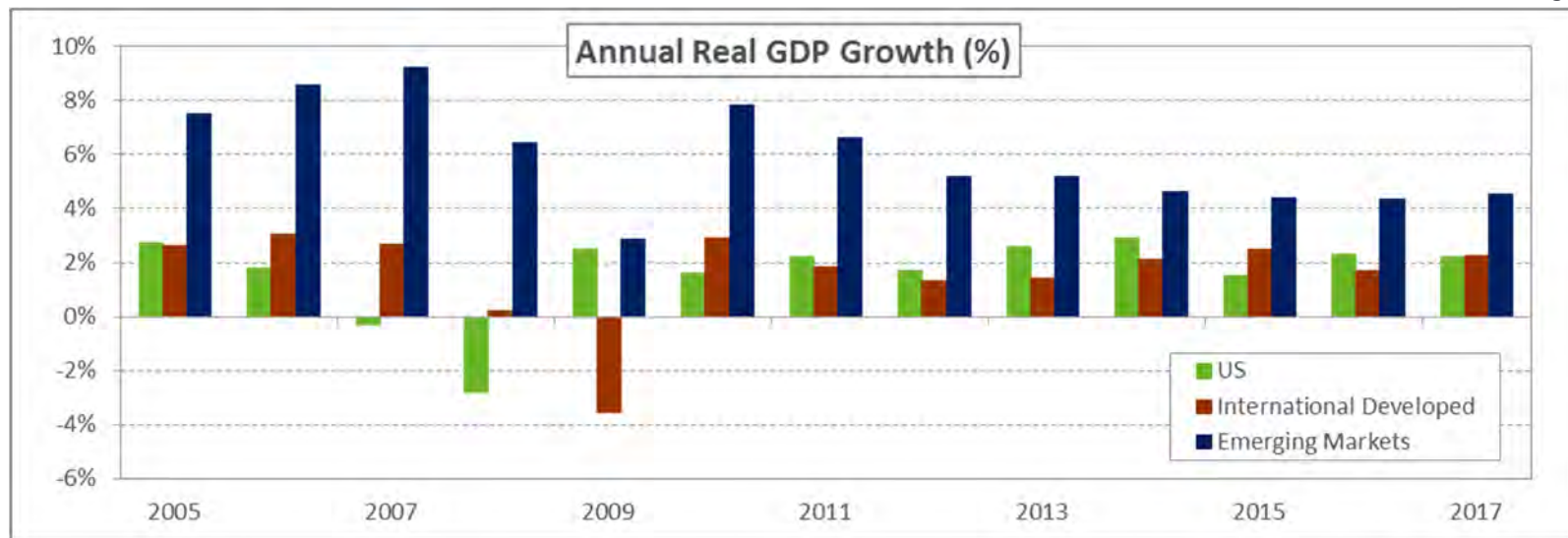
Source: OECD, Bloomberg



GROSS DOMESTIC PRODUCT



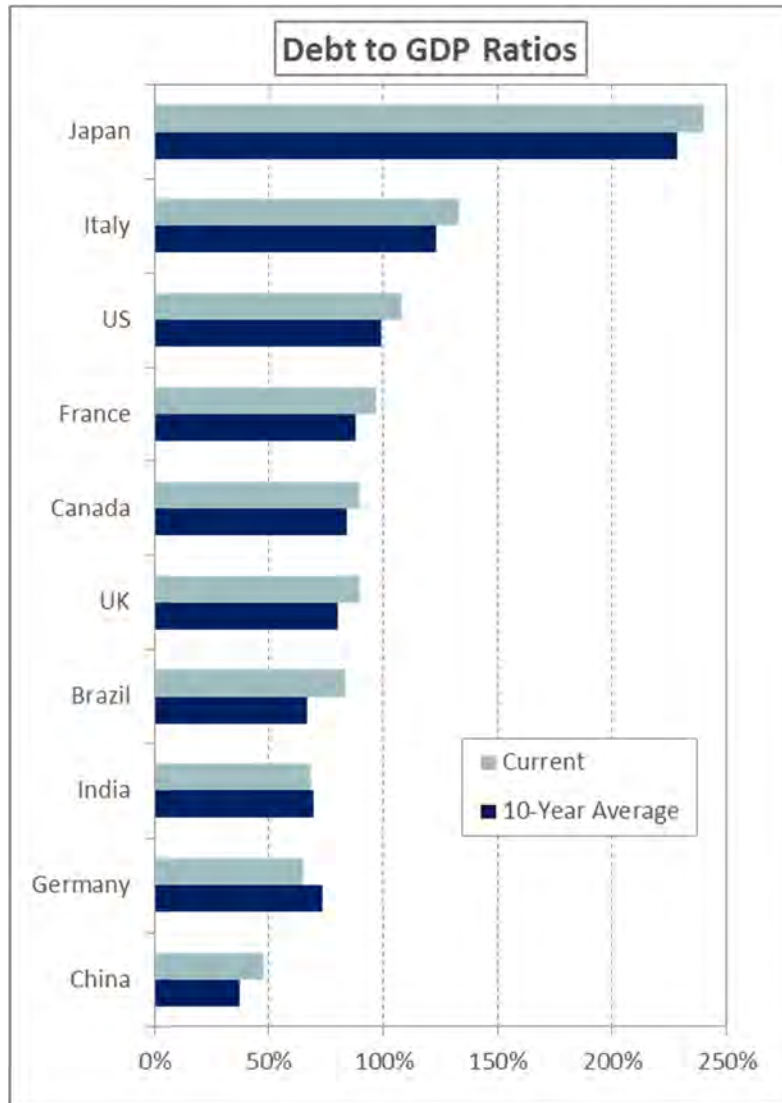
Source: Bloomberg



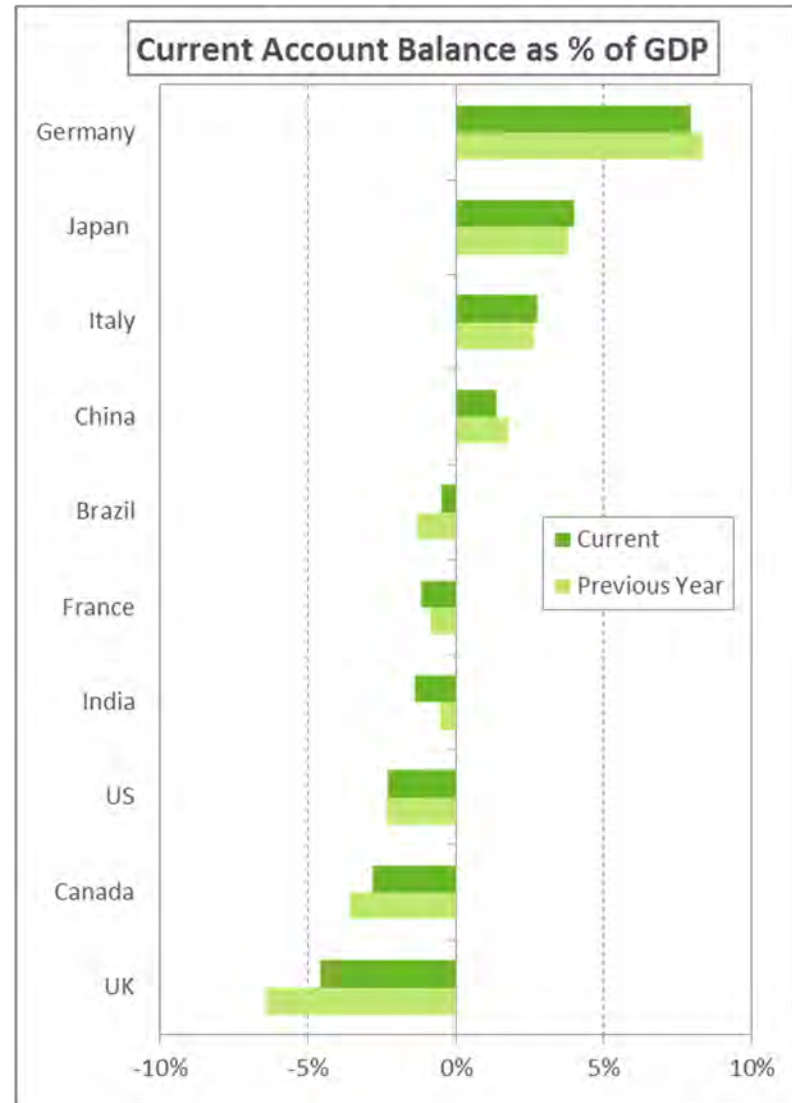
Source: Bloomberg



GROSS DOMESTIC PRODUCT METRICS



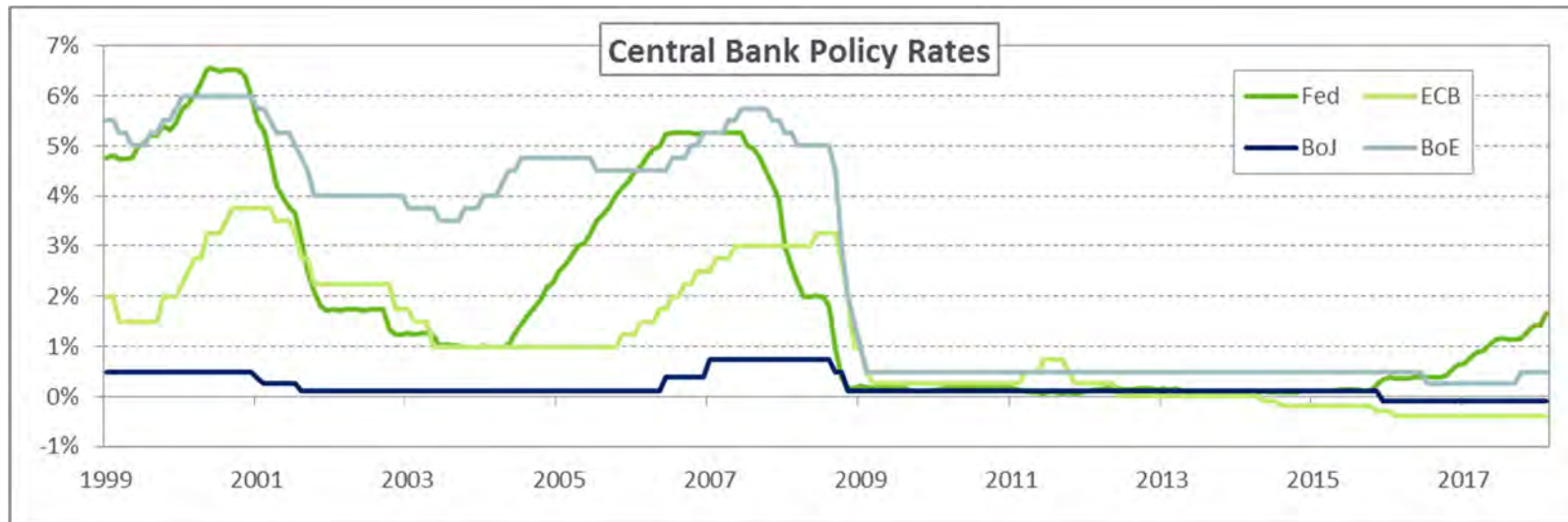
Source: IMF, Bloomberg



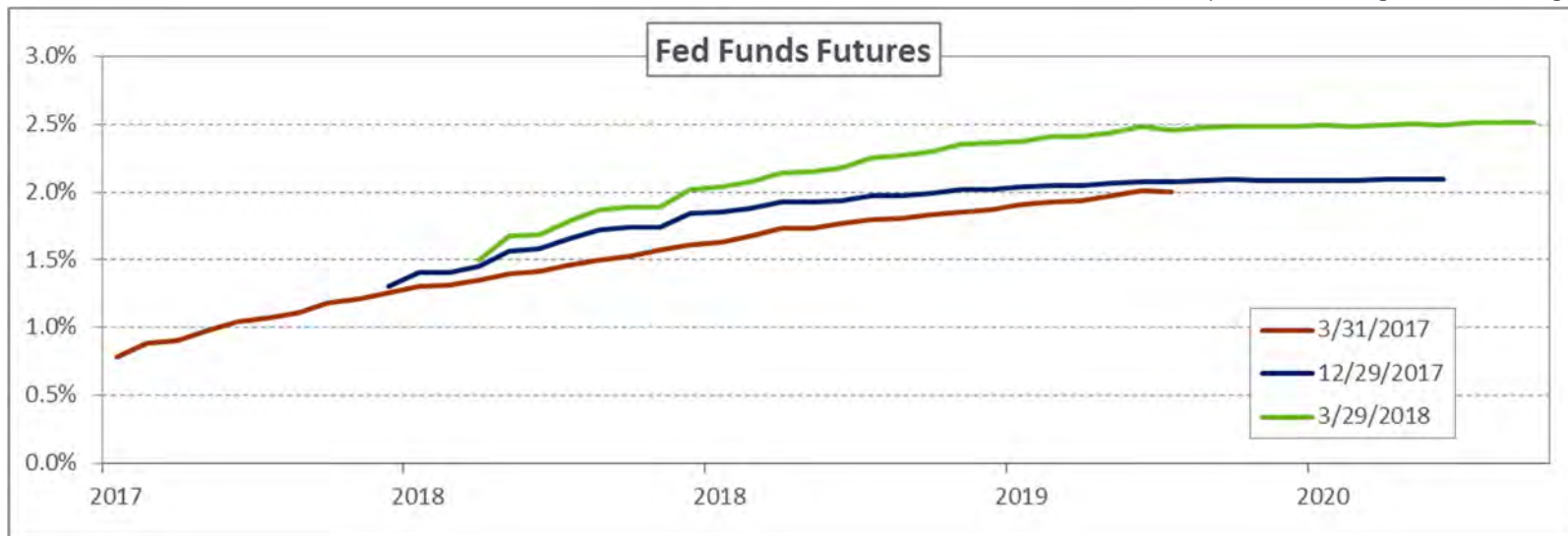
Source: Bloomberg



CENTRAL BANK RATES



Source: Federal Reserve, ECB, Bank of Japan, Bank of England, Bloomberg



Source: Bloomberg



CENTRAL BANK BALANCE SHEETS



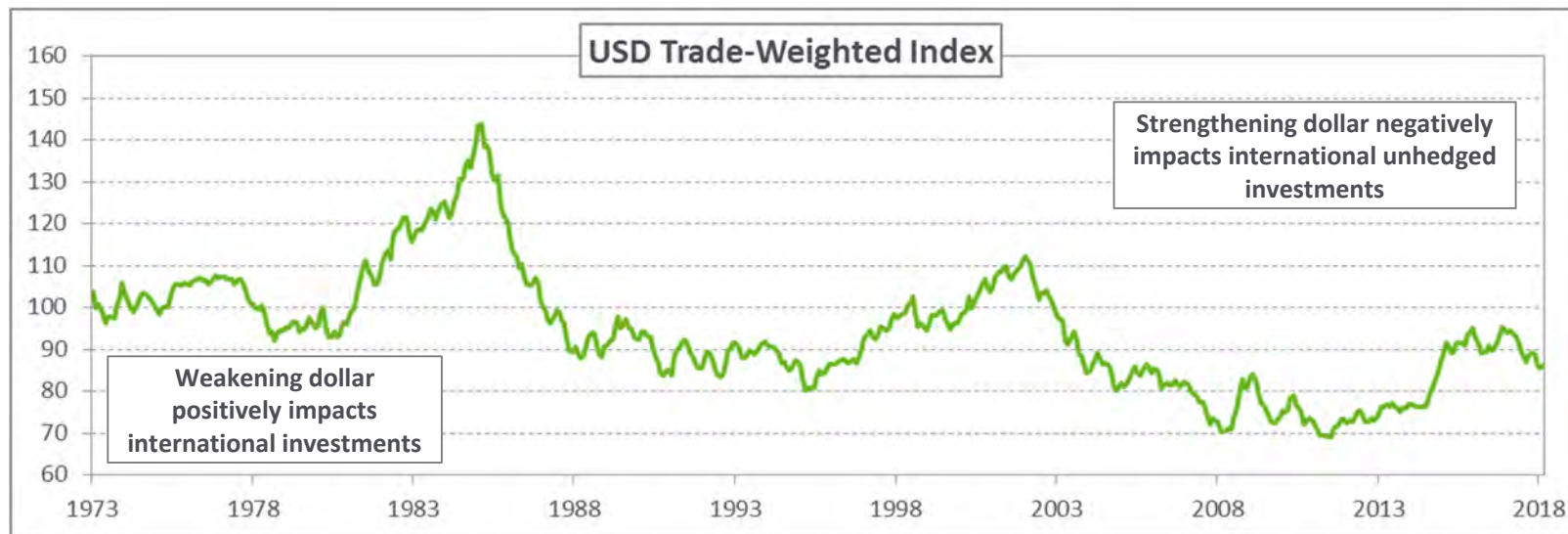
Source: Federal Reserve, Bank of Japan, ECB, Bloomberg, NEPC



CURRENCIES

Currencies	% Change Relative to USD			
	Spot	1 Month	YTD	1 Year
Euro	1.23	1.1%	2.7%	15.7%
British Pound	1.40	1.9%	3.7%	11.7%
Japanese Yen	106.28	0.4%	6.0%	4.8%
Swiss Franc	0.95	-1.0%	2.1%	5.1%
Australian Dollar	0.77	-1.1%	-1.7%	0.7%
Chinese Yuan	6.29	0.6%	3.4%	9.3%
Brazilian Real	3.31	-2.0%	0.2%	-5.6%
Russian Ruble	57.34	-1.7%	0.6%	-1.9%
Indian Rupee	65.08	0.3%	-1.9%	-0.4%
Mexican Peso	18.18	3.6%	8.1%	3.0%
South African Rand	11.84	-0.4%	4.5%	13.4%

Source: Bloomberg



Source: Bloomberg



EQUITY

NEPC, LLC

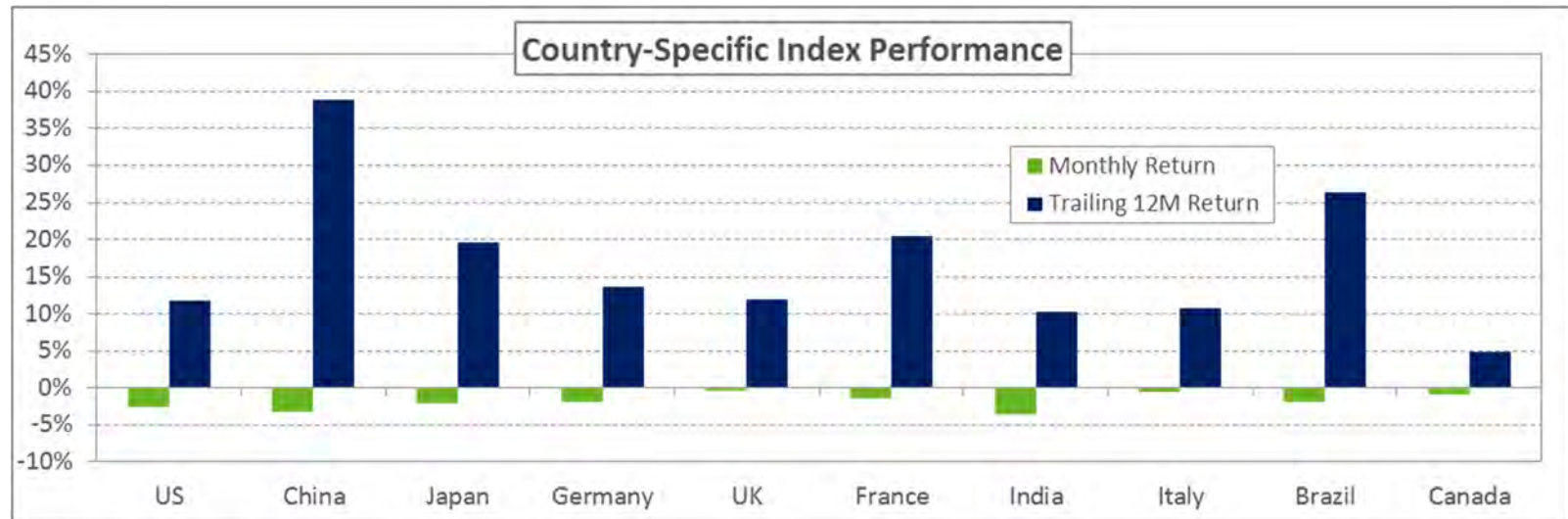
EQUITY INDEX PERFORMANCE



Source: Russell, Bloomberg



Source: MSCI, Bloomberg



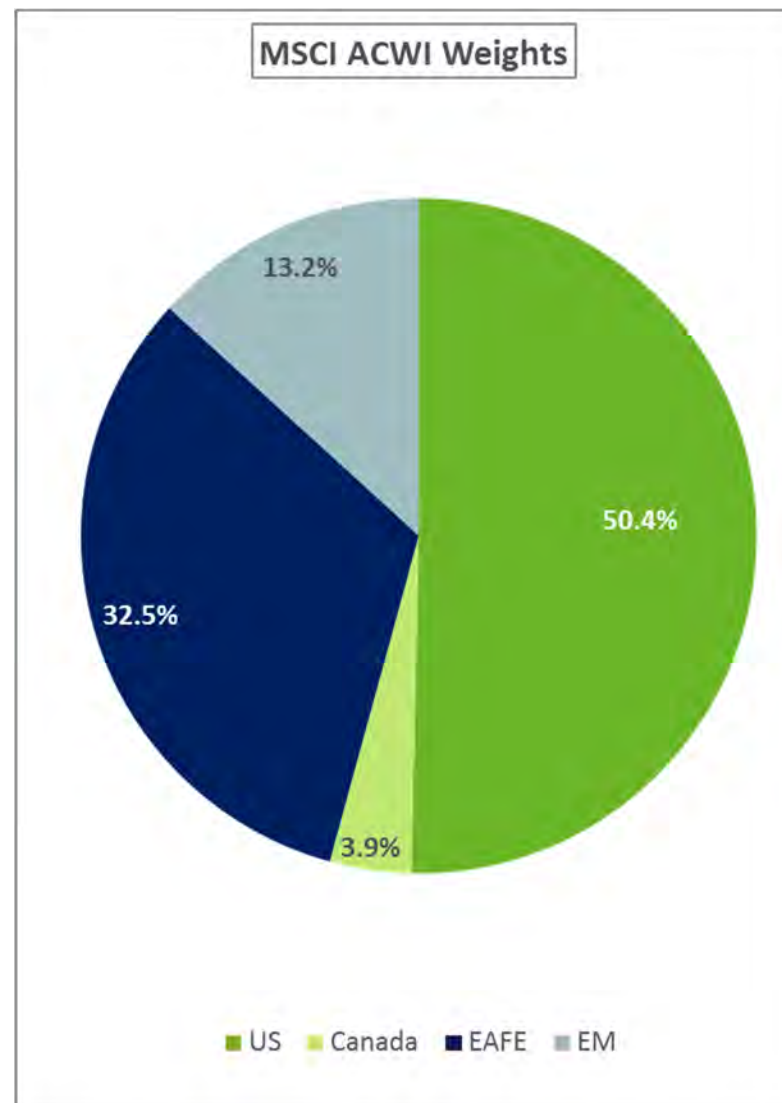
Source: MSCI, Bloomberg
Represents returns in USD



INDEX COMPOSITION

	MTD	QTD	YTD	Index Weight
S&P 500	-2.5%	-0.8%	-0.8%	100%
Cons Disc	-2.4%	3.0%	3.0%	12.7%
Cons Staples	-1.0%	-7.3%	-7.3%	7.7%
Energy	1.6%	-6.1%	-6.1%	5.8%
Financials	-4.4%	-1.1%	-1.1%	14.2%
Health Care	-3.1%	-1.3%	-1.3%	13.9%
Industrials	-2.7%	-1.7%	-1.7%	10.3%
Info Tech	-3.9%	3.4%	3.4%	24.8%
Materials	-4.3%	-5.7%	-5.7%	2.9%
Real Estate	3.6%	-5.3%	-5.3%	2.8%
Telecom	-1.0%	-7.8%	-7.8%	2.0%
Utilities	3.7%	-3.6%	-3.6%	2.9%

	MTD	QTD	YTD	Index Weight
MSCI ACWI	-2.1%	-0.9%	-0.9%	100%
Cons Disc	-2.7%	1.0%	1.0%	12.0%
Cons Staples	0.1%	-4.9%	-4.9%	8.0%
Energy	0.7%	-3.8%	-3.8%	6.3%
Financials	-3.8%	-1.0%	-1.0%	18.5%
Health Care	-2.0%	-1.0%	-1.0%	10.6%
Industrials	-2.4%	-1.6%	-1.6%	11.1%
Info Tech	-3.0%	3.2%	3.2%	18.9%
Materials	-3.6%	-3.7%	-3.7%	5.4%
Real Estate	2.1%	-3.6%	-3.6%	3.2%
Telecom	-1.5%	-5.4%	-5.4%	3.1%
Utilities	3.8%	-1.3%	-1.3%	2.9%

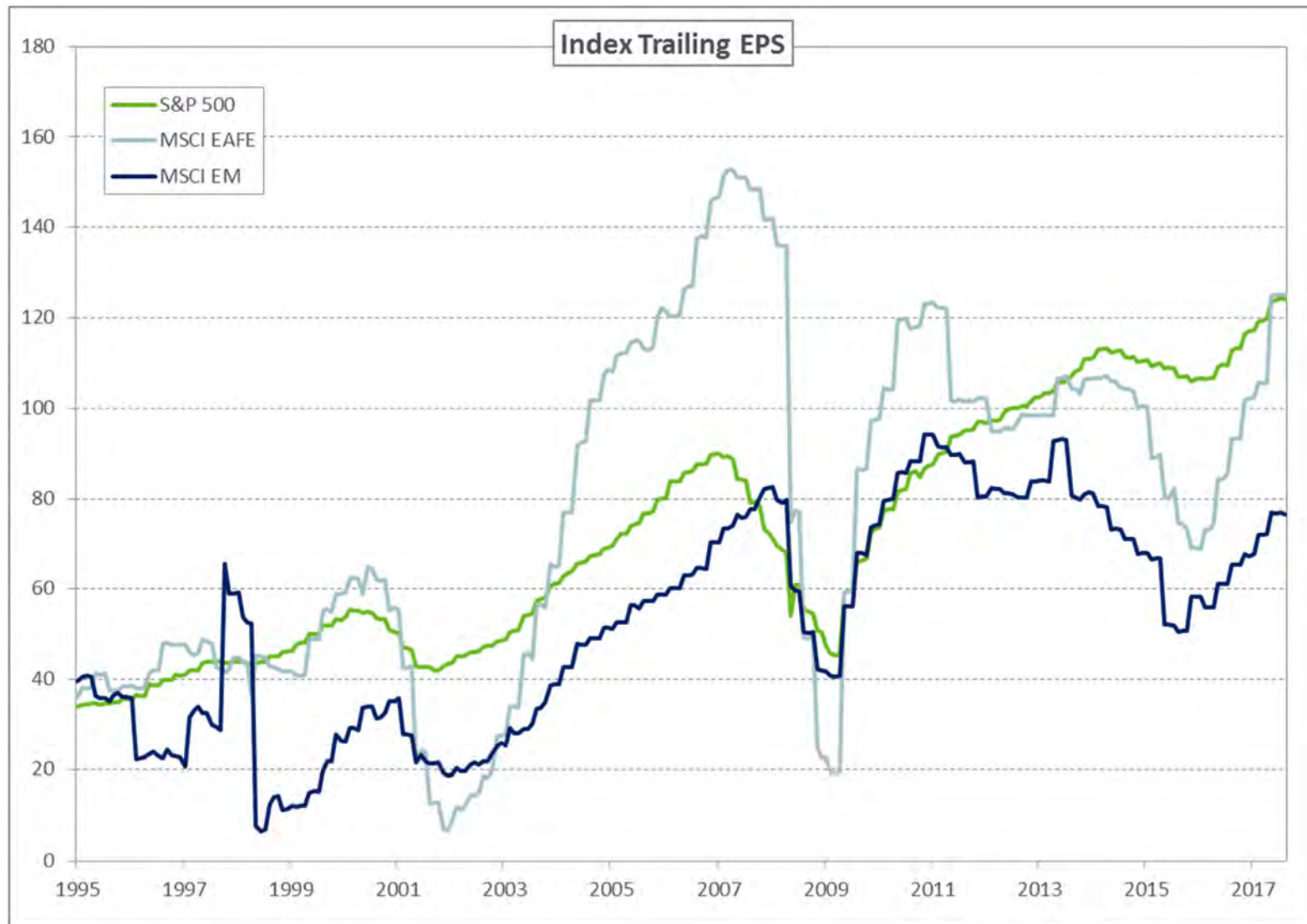


Source: S&P, MSCI, Bloomberg

Source: MSCI, Bloomberg



EARNINGS



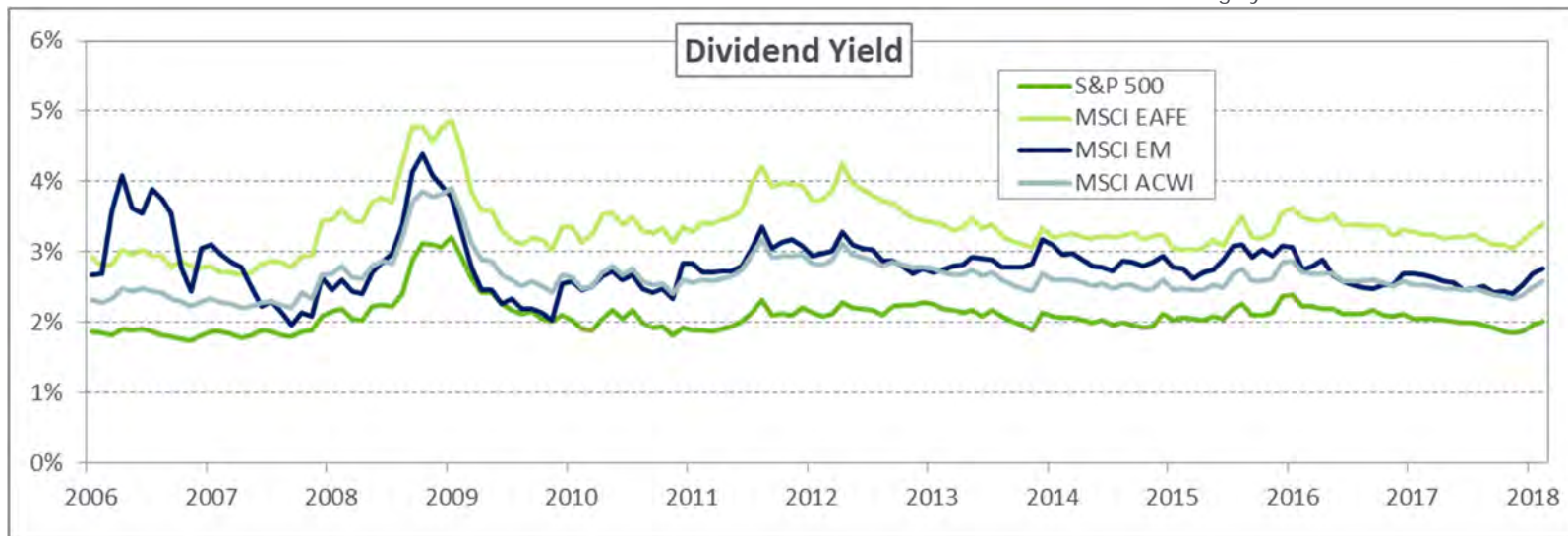
Source: S&P, MSCI, Bloomberg



YIELDS



Source: S&P, MSCI, Bloomberg
Earnings yield calculated as 1/PE Ratio



Source: S&P, MSCI, Bloomberg



CREDIT

NEPC, LLC

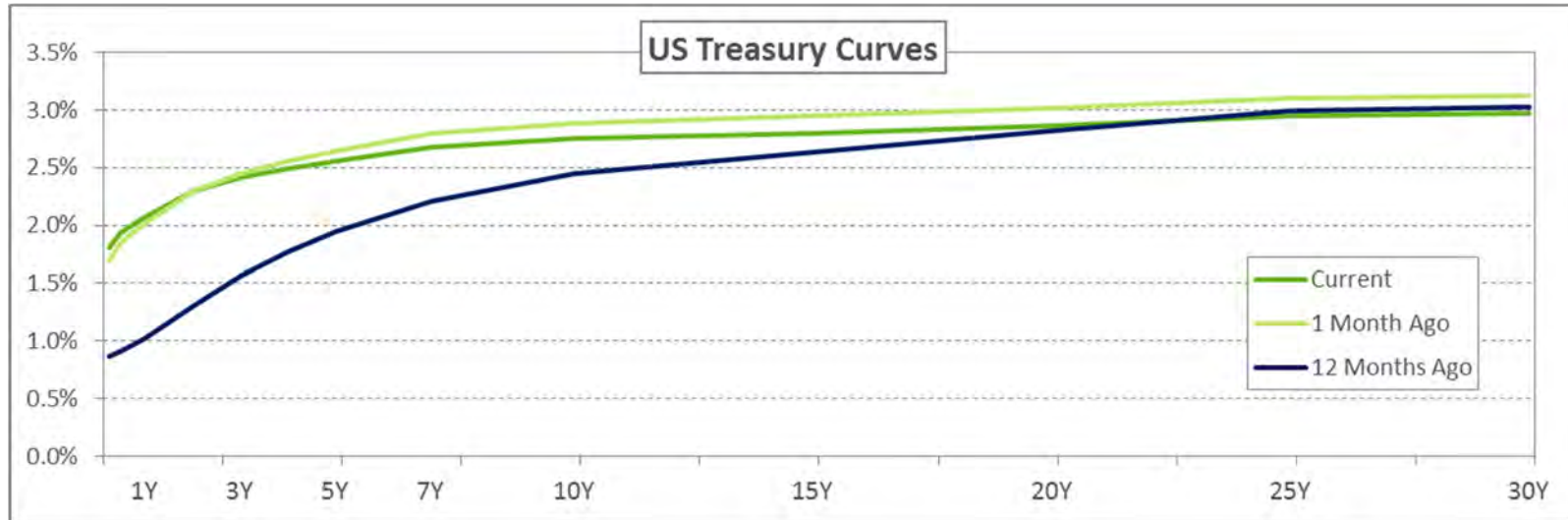
FIXED INCOME CHARACTERISTICS

	Averages			Total Returns (%)		
	Yield to Worst	Spread (bps)	Duration (Years)	1-Month	YTD	1-Year
Barclays Aggregate	3.1%	41	6.1	0.6%	-1.5%	1.2%
Barclays Treasury	2.6%	-	6.1	0.9%	-1.2%	0.4%
Barclays Agency	2.6%	12	3.9	0.6%	-0.5%	0.8%
Barclays MBS	3.3%	29	5.1	0.6%	-1.2%	0.8%
Barclays ABS	2.8%	43	2.3	0.2%	-0.5%	0.5%
Barclays CMBS	3.3%	67	5.4	0.4%	-1.3%	1.1%
Barclays Corp IG	3.8%	109	7.5	0.3%	-2.3%	2.7%
Barclays Muni	2.7%	-	6.0	0.4%	-1.1%	2.7%
Barclays HY Muni	5.3%	-	8.1	1.5%	0.6%	6.0%
Barclays TIPS	2.8%	-	5.0	1.1%	-0.8%	0.9%
Barclays HY	6.2%	354	4.1	-0.6%	-0.9%	3.8%
Barclays Global Agg	1.8%	38	7.1	1.1%	1.4%	7.0%
JPM EMBI Glob Div	5.9%	326	7.4	0.3%	-1.7%	4.3%
JPM CEMBI Broad	4.6%	244	4.7	-0.2%	-1.1%	3.7%
JPM GBI - EM	6.0%	-	5.2	1.0%	4.4%	13.0%

Source: Barclays, JPM, Bloomberg



TREASURIES



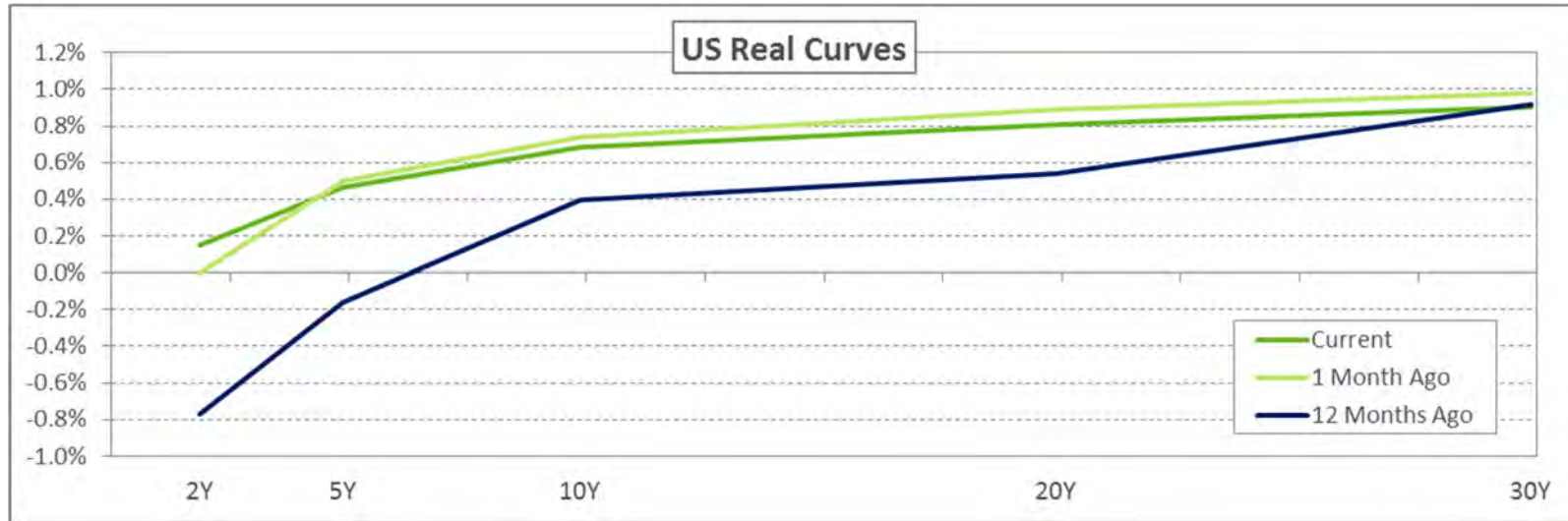
Source: Bloomberg

	Yield (%)			Total Return (%)	
	Current	1 Month Ago	12 Months Ago	1 Month	12 Months
3M Treasury	1.81%	1.70%	0.86%	0.13%	1.05%
6M Treasury	1.94%	1.85%	0.91%	0.14%	1.07%
2Y Treasury	2.30%	2.29%	1.31%	0.17%	-0.17%
5Y Treasury	2.56%	2.65%	1.94%	0.65%	-0.81%
10Y Treasury	2.75%	2.89%	2.45%	1.32%	-1.09%
30Y Treasury	2.98%	3.13%	3.03%	3.37%	3.54%

Source: Barclays, Bloomberg



REAL YIELDS



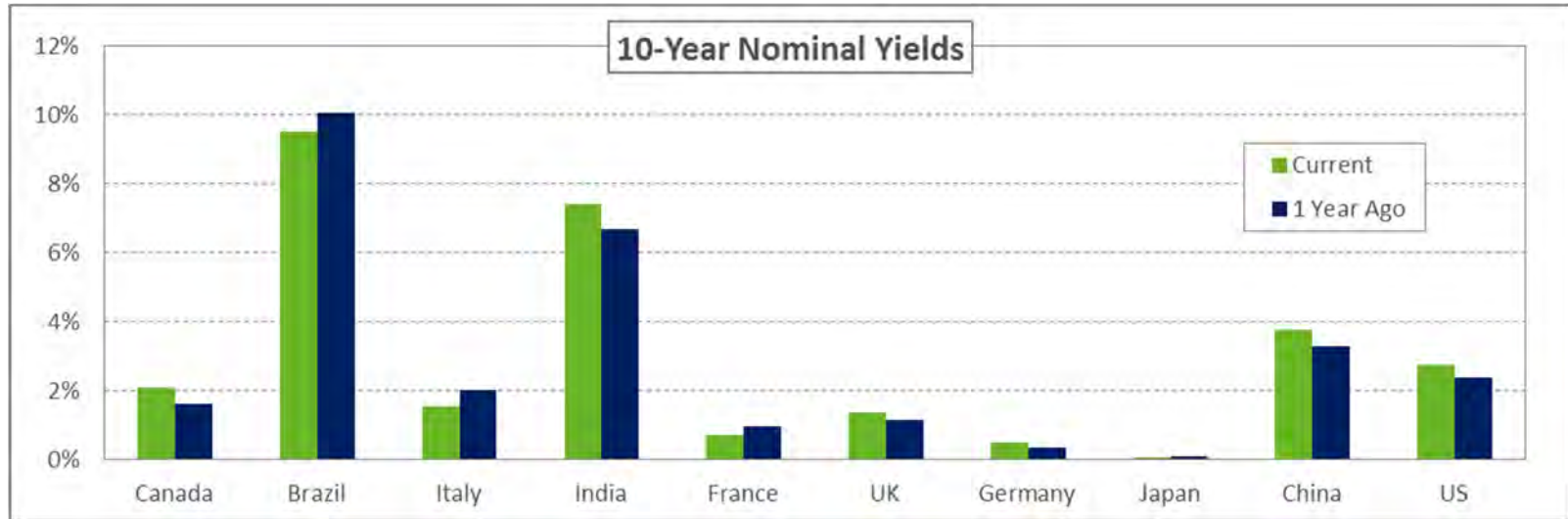
Source: Bloomberg

	Real Rates			Breakeven Rates	
	Current	1 Month Ago	12 Months Ago	Current	12 Months Ago
2Y Treasury	0.15%	0.00%	-0.77%	1.98%	1.82%
5Y Treasury	0.47%	0.50%	-0.16%	2.04%	1.95%
10Y Treasury	0.68%	0.74%	0.40%	2.06%	1.98%
20Y Treasury	0.81%	0.89%	0.54%	2.00%	1.94%
30Y Treasury	0.90%	0.98%	0.91%	2.07%	2.09%

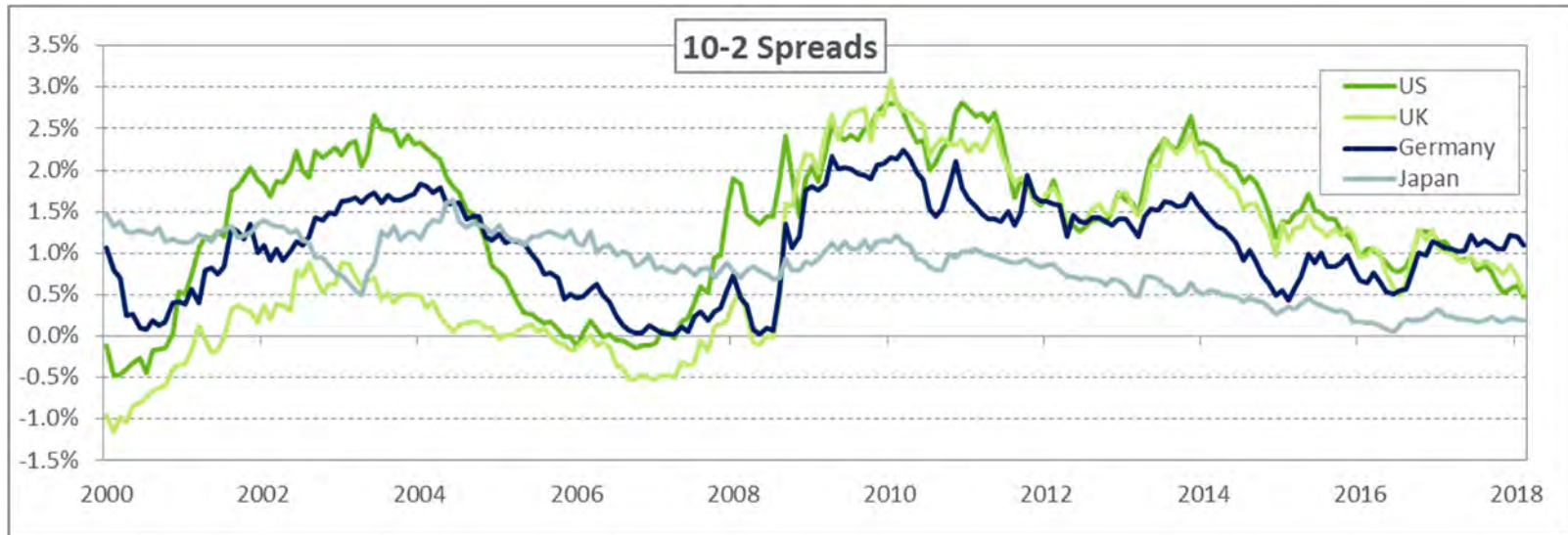
Source: Barclays, Bloomberg



NOMINAL YIELDS



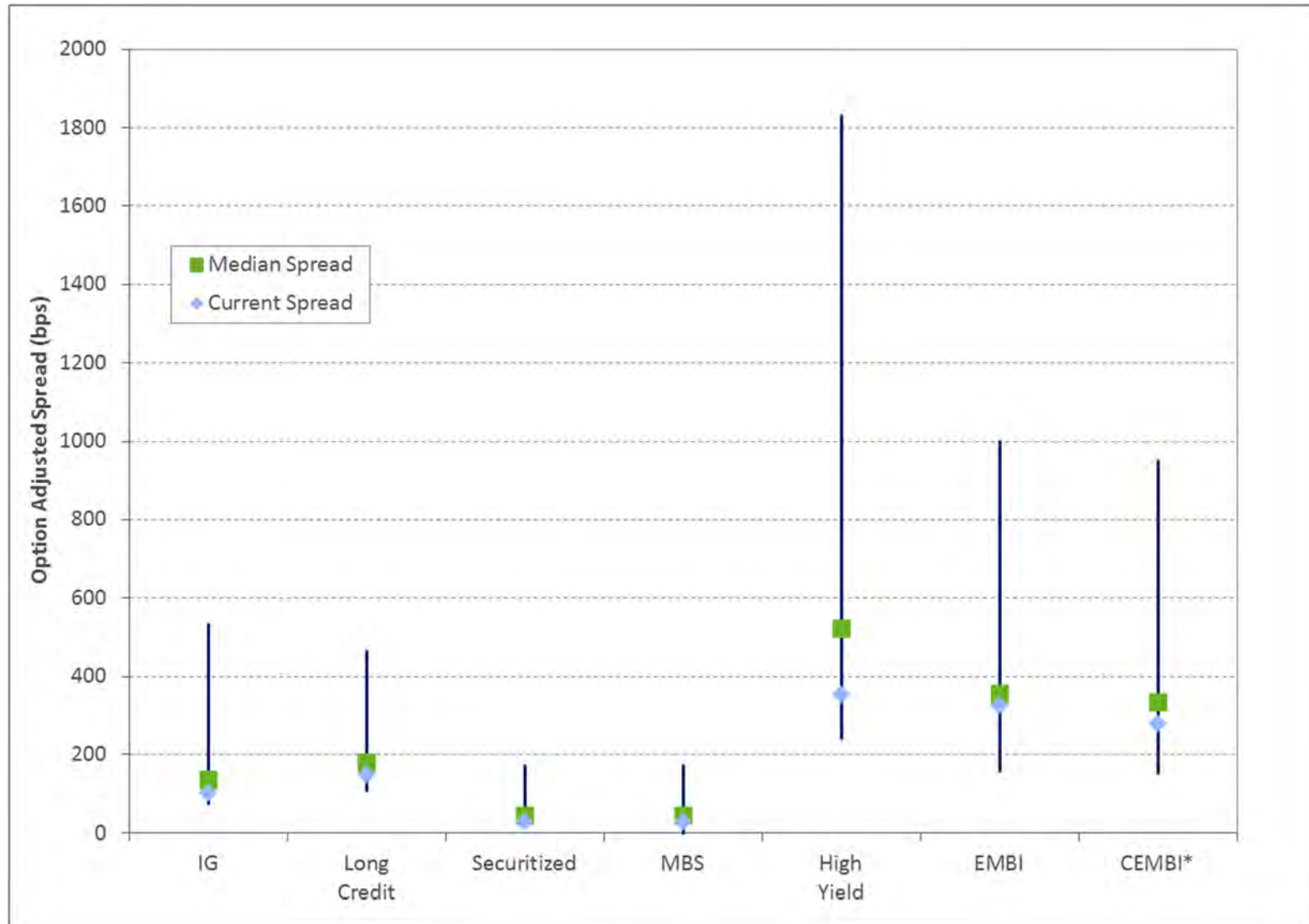
Source: Bloomberg



Source: Bloomberg



CREDIT SPREADS



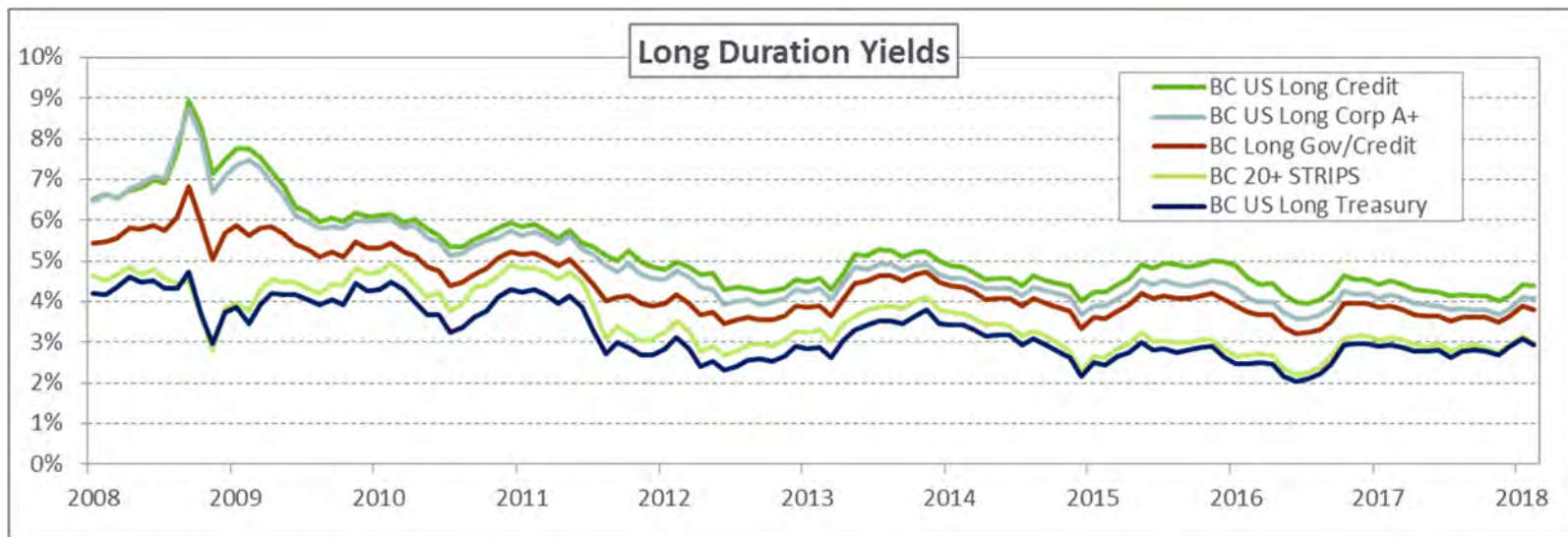
Source: Barclays, JPM, Bloomberg
Ranges calculated since 01/31/2000
*JPM CEMBI calculated as of 12/31/2001



LONG DURATION

Index	Month-End Yield	1 Month Prior Yield	1 Year Prior Yield	Duration
Barclays Long Treasury	2.9%	3.1%	3.0%	17.3
Barclays 20+ STRIPS	3.0%	3.2%	3.1%	25.5
Barclays Long Gov/Credit	3.8%	3.9%	3.9%	15.2
Barclays Long Credit	4.4%	4.4%	4.5%	13.8
Barclays Long Corp A+	4.1%	4.1%	4.2%	14.4

Source: Barclays, Bloomberg



Source: Barclays, Bloomberg



REAL ASSETS

NEPC, LLC

REAL ASSETS INDEX PERFORMANCE

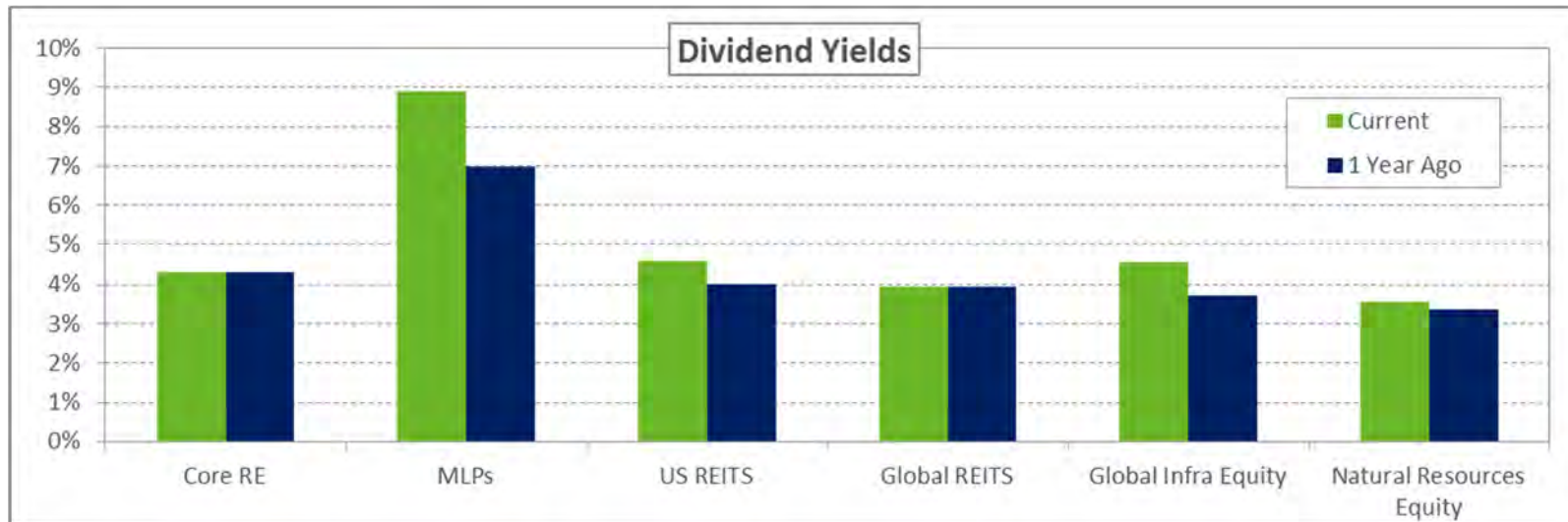
Index	1 Month	3 Month	YTD	1 Year	3 Year	5 Year
Bloomberg Commodity Index	-0.6%	-0.4%	-0.4%	3.7%	-3.2%	-8.3%
Bloomberg Sub Agriculture Index	-2.8%	3.1%	3.1%	-5.4%	-4.6%	-8.7%
Coffee	-3.0%	-7.6%	-7.6%	-22.5%	-12.6%	-11.7%
Corn	1.6%	8.7%	8.7%	-5.9%	-9.1%	-15.8%
Cotton	-1.6%	2.6%	2.6%	7.0%	8.0%	-0.6%
Soybean	-1.0%	7.5%	7.5%	4.9%	0.3%	-0.2%
Soybean Oil	-1.1%	-4.8%	-4.8%	-3.5%	-2.7%	-11.8%
Sugar	-7.6%	-17.9%	-17.9%	-28.8%	-4.5%	-15.2%
Wheat	-8.8%	3.2%	3.2%	-11.3%	-15.0%	-16.7%
Bloomberg Sub Energy	4.9%	1.8%	1.8%	9.9%	-9.0%	-16.2%
Brent Crude	7.2%	5.4%	5.4%	30.5%	-3.2%	-14.6%
Heating Oil	6.2%	-0.3%	-0.3%	27.7%	-2.9%	-11.7%
Natural Gas	1.5%	-6.9%	-6.9%	-28.6%	-23.9%	-24.3%
Unleaded Gas	4.3%	0.9%	0.9%	18.1%	-1.5%	-12.2%
WTI Crude Oil	5.8%	8.8%	8.8%	25.7%	-7.1%	-16.4%
Bloomberg Sub Industrial Metals	-4.4%	-6.2%	-6.2%	12.7%	4.0%	-1.5%
Aluminum	-6.2%	-12.0%	-12.0%	0.0%	0.6%	-3.7%
Copper	-3.3%	-8.6%	-8.6%	12.0%	1.8%	-3.4%
Nickel	-3.6%	4.2%	4.2%	31.3%	1.0%	-5.8%
Zinc	-4.9%	-0.8%	-0.8%	19.7%	15.3%	9.3%
Bloomberg Sub Precious Metals	0.2%	-0.5%	-0.5%	0.5%	1.8%	-6.1%
Gold	0.4%	1.0%	1.0%	5.2%	3.1%	-4.2%
Silver	-0.7%	-5.2%	-5.2%	-12.0%	-2.0%	-11.7%
Bloomberg Sub Livestock	-7.1%	-10.0%	-10.0%	-4.4%	-6.7%	-3.4%
Lean Hogs	-0.6%	-10.7%	-10.7%	-1.4%	-4.8%	-7.6%
Live Cattle	-10.4%	-10.4%	-10.4%	-7.0%	-7.9%	-1.0%

Source: Bloomberg

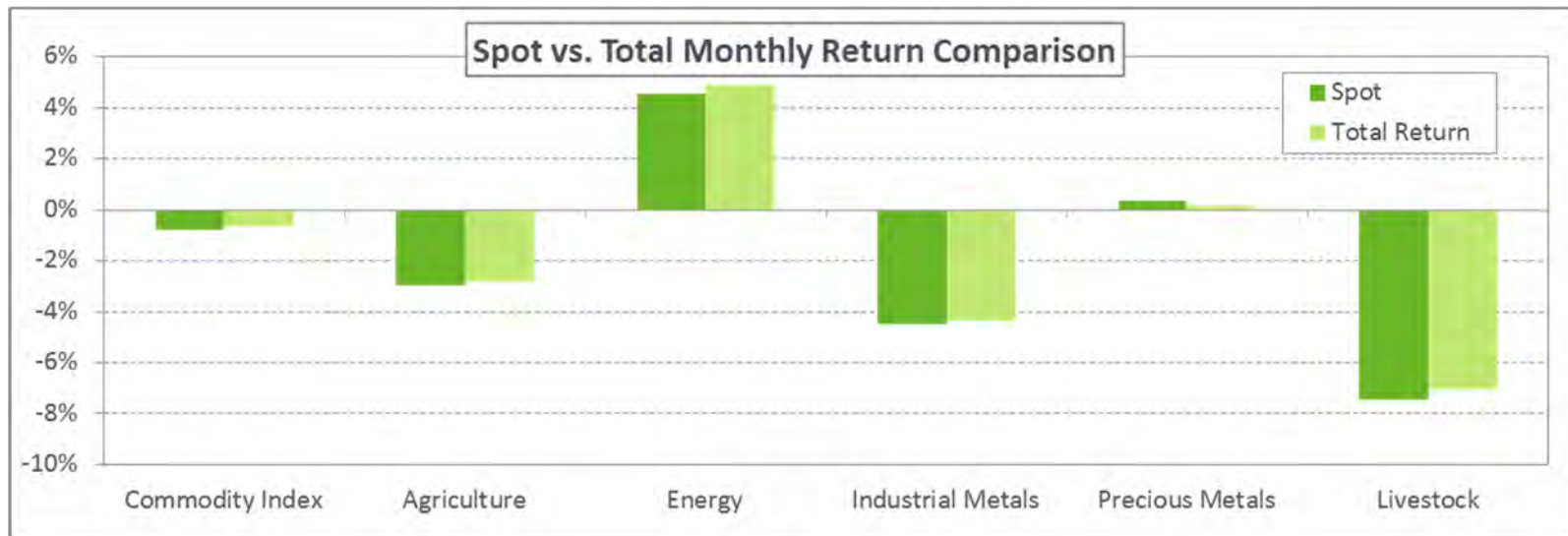
Bloomberg subindex total return indices reflects the return of the underlying one month commodity futures price movements



INCOME YIELD



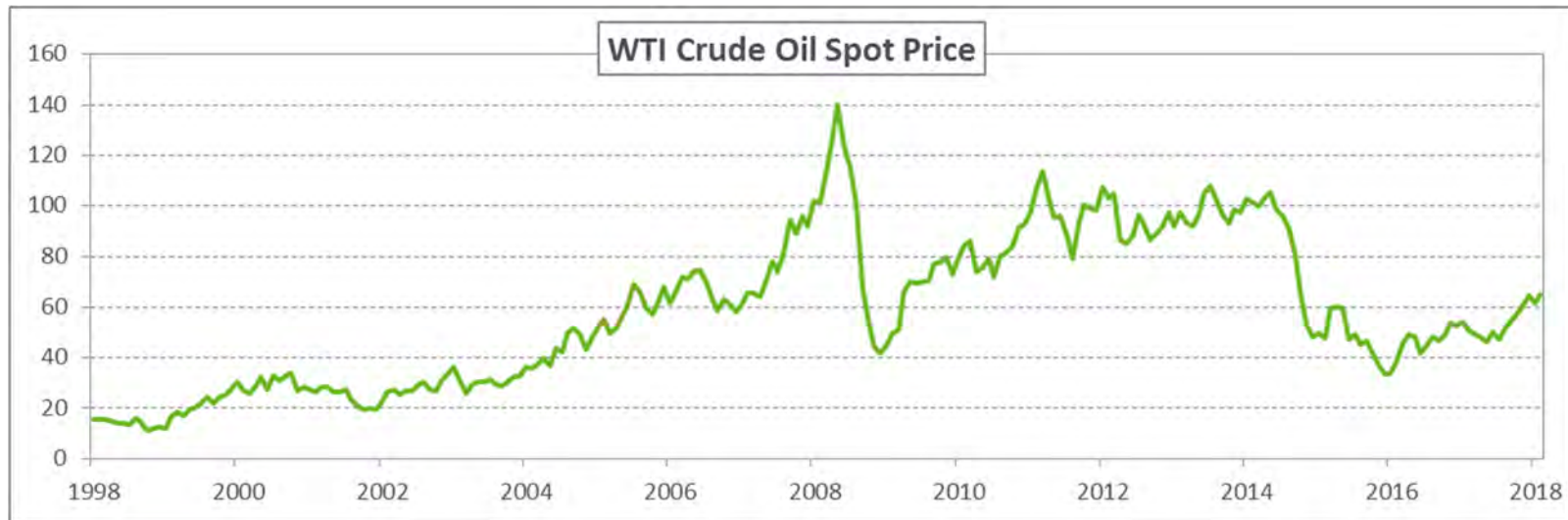
Source: Alerian, NAREIT, S&P, Bloomberg



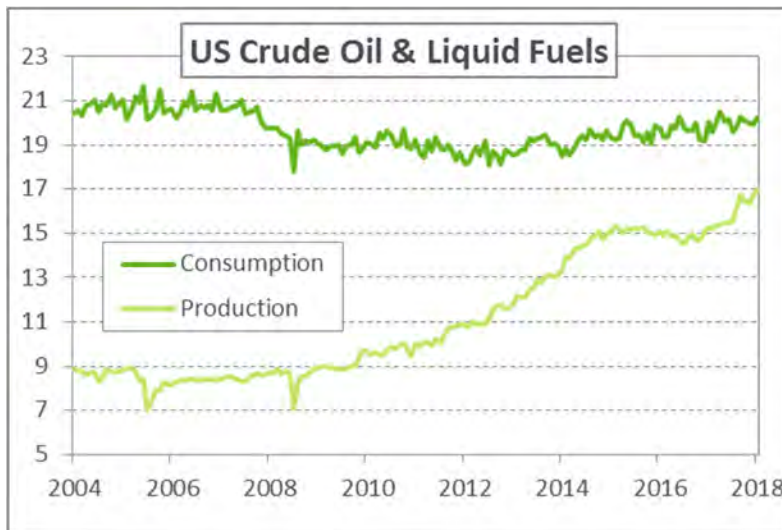
Source: Bloomberg, NEPC



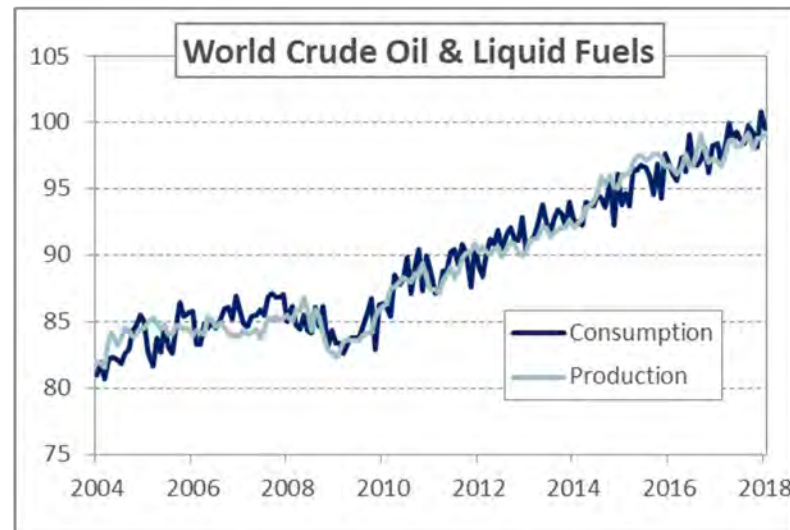
OIL MARKETS



Source: New York Mercantile Exchange, Bloomberg



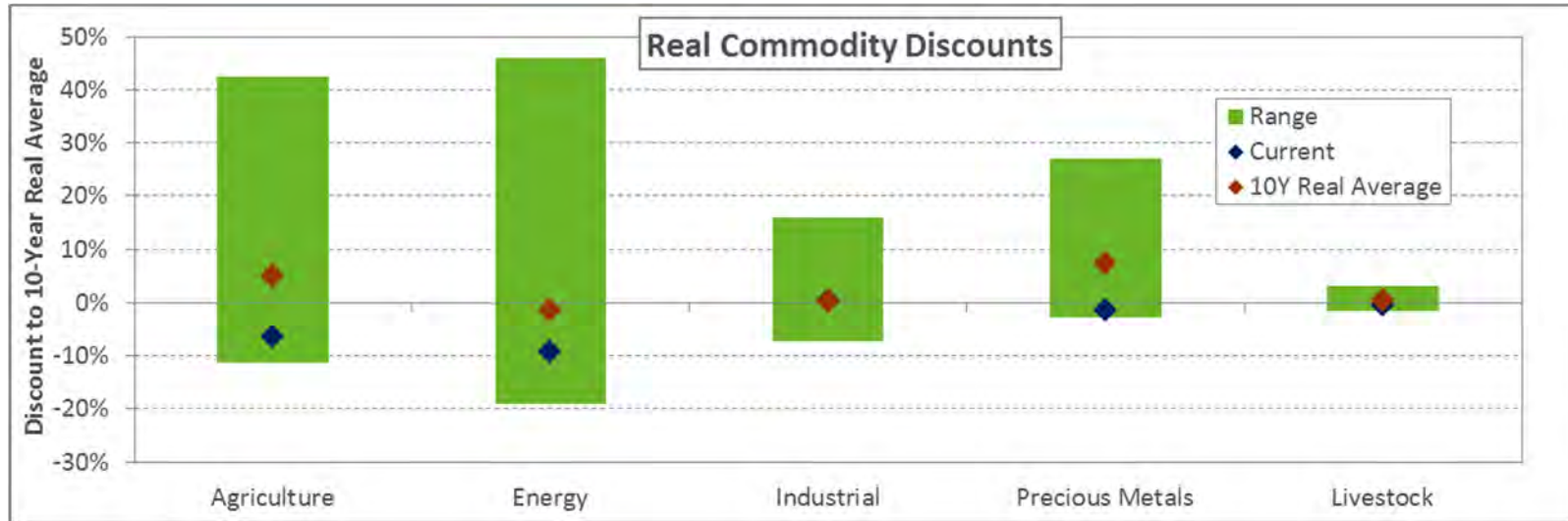
Source: US Department of Energy, Bloomberg



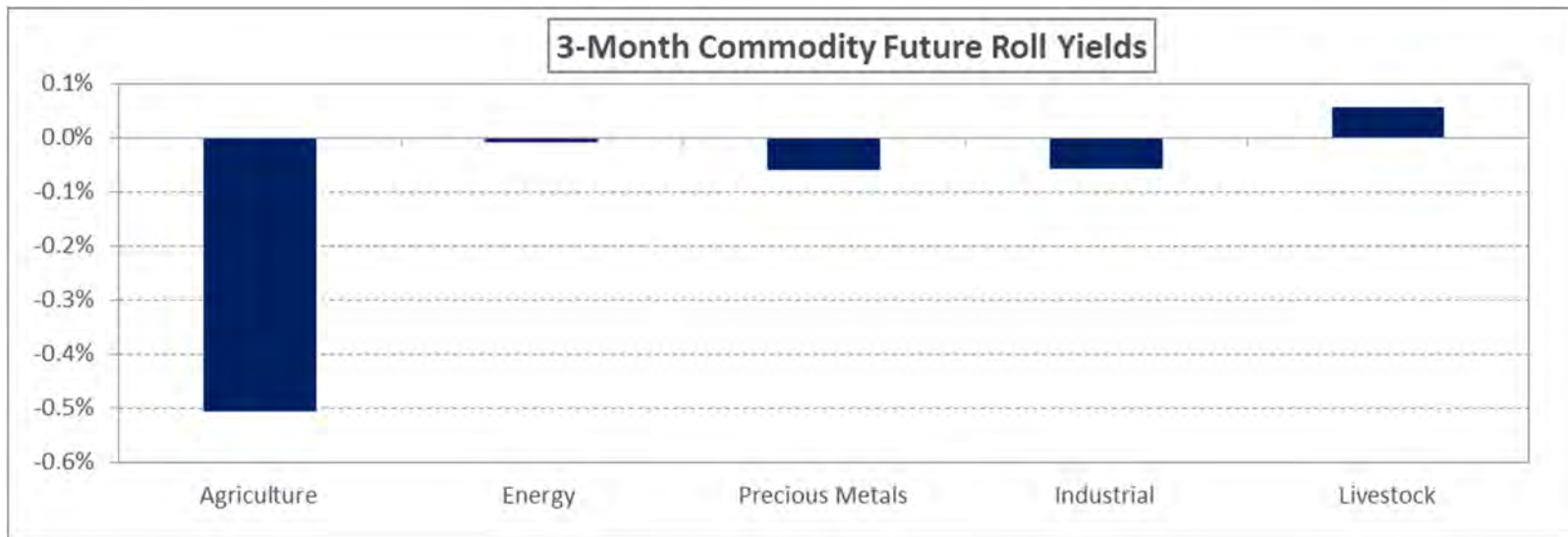
Source: OECD, Bloomberg



VALUATIONS



Source: Bloomberg, NEPC



Source: Bloomberg



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 Barclays Capital/Bloomberg 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.
- **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:
 $(\text{Annualized Return of Portfolio} - \text{Annualized Return of Risk Free}) / \text{Annualized Standard Deviation}(\text{Portfolio Returns})$

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



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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



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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



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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



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- 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.
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