

QUARTERLY PERFORMANCE REPORT

VENTURA COUNTY EMPLOYEES' RETIREMENT ASSOCIATION

June 30, 2018

Allan Martin, Partner

Anthony Ferrara, CAIA, Consultant

Michael Miranda, CFA, Senior Analyst



VCERA
VENTURA COUNTY EMPLOYEES'
RETIREMENT ASSOCIATION



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MARKET ENVIRONMENT UPDATE AND OUTLOOK

NEPC, LLC

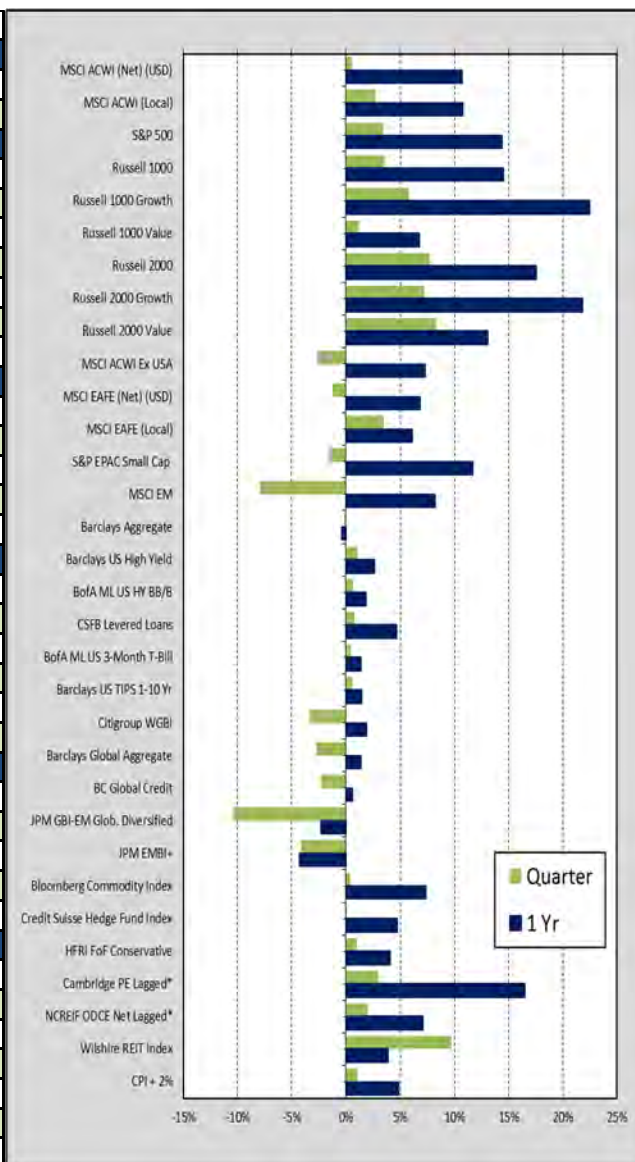
ECONOMIC ENVIRONMENT

- **Second quarter GDP growth rate (advance estimate) increased at a robust 4.1%.**
 - Retail sales ended May at +6.0% on a YoY basis. In the same period last year the YoY growth rate was 3.1%.
 - Corporate profits (ended January) as a percent of GDP increased to 9.3% from 8.5% (in October) and remain elevated relative to historical levels.
 - The inventory-to-sales ratio ended May down at 1.3 from 1.4 and has remained relatively flat since early 2010.
 - The U.S. trade deficit narrowed to the smallest deficit since October 2016.
- **The unemployment rate decreased to 4.0% ended Q2 from 4.1%; U-6, a broader measure of unemployment, decreased to 7.8% from 8.0% during the first quarter.**
- **The Case-Shiller Home Price Index (ended April) increased to 200.9 from 196.3 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 2.9% from 2.4% at the end of June; Capacity Utilization increased to 78.0% from 77.5% in Q2.**
- **Fed Funds rate was increased 0.25% to a targeted range of 1.75% - to – 2.00%. The 10-year Treasury Yield (constant maturity) finished Q2 at 2.9% up from 2.8% in June.**
- **The Fed balance sheet decreased slightly during Q2 2018, while the European Central Bank balance sheet continues to increase.**
 - ECB held its benchmark refinance rate at 0%, deposit rates -0.4% and signaled that asset purchases may end in December
- **S&P valuations increased slightly in Q2, remaining above the 10-year and long-term averages.**
 - Cyclically adjusted Shiller PE ratio (32.0x) is above the long-term average of 16.9x and above the 10-year average of 23.5x.



MARKET ENVIRONMENT – Q2 2018 OVERVIEW

		Qtr.	1 Yr.	3 Yr.	5 Yr.	10 Yr.
World Equity Benchmarks						
MSCI ACWI (Net) (USD)	World	0.5%	10.7%	8.2%	9.4%	5.8%
MSCI ACWI (Local)	World (Local Currency)	2.7%	10.8%	8.4%	10.8%	7.0%
Domestic Equity Benchmarks						
S&P 500	Large Core	3.4%	14.4%	11.9%	13.4%	10.2%
Russell 1000	Large Core	3.6%	14.5%	11.6%	13.4%	10.2%
Russell 1000 Growth	Large Growth	5.8%	22.5%	15.0%	16.4%	11.8%
Russell 1000 Value	Large Value	1.2%	6.8%	8.3%	10.3%	8.5%
Russell 2000	Small Core	7.8%	17.6%	11.0%	12.5%	10.6%
Russell 2000 Growth	Small Growth	7.2%	21.9%	10.6%	13.6%	11.2%
Russell 2000 Value	Small Value	8.3%	13.1%	11.2%	11.2%	9.9%
International Equity Benchmarks						
MSCI ACWI Ex USA	World ex-US	-2.6%	7.3%	5.1%	6.0%	2.5%
MSCI EAFE (Net) (USD)	Int'l Developed	-1.2%	6.8%	4.9%	6.4%	2.8%
MSCI EAFE (Local)	Int'l Developed (Local Currency)	3.5%	6.1%	5.2%	8.9%	5.0%
S&P EPAC Small Cap	Small Cap Int'l	-1.6%	11.7%	9.6%	11.5%	6.5%
MSCI EM	Emerging Equity	-8.0%	8.2%	5.6%	5.0%	2.3%
Domestic Fixed Income Benchmarks						
Barclays Aggregate	Core Bonds	-0.2%	-0.4%	1.7%	2.3%	3.7%
Barclays US High Yield	High Yield	1.0%	2.6%	5.5%	5.5%	8.2%
BofA ML US HY BB/B	High Yield	0.7%	1.8%	4.9%	5.3%	7.3%
CSFB Levered Loans	Bank Loans	0.8%	4.7%	4.3%	4.2%	5.0%
BofA ML US 3-Month T-Bill	Cash	0.5%	1.4%	0.7%	0.4%	0.4%
Barclays US TIPS 1-10 Yr	Inflation	0.6%	1.5%	1.5%	1.2%	2.3%
Global Fixed Income Benchmarks						
Citigroup WGBI	World Gov. Bonds	-3.4%	1.9%	2.8%	1.1%	2.1%
Barclays Global Aggregate	Global Core Bonds	-2.8%	1.4%	2.6%	1.5%	2.6%
BC Global Credit	Global Bonds	-2.3%	0.6%	2.8%	2.5%	3.6%
JPM GBI-EM Glob. Diversified	Em. Mkt. Bonds (Local Currency)	-10.4%	-2.3%	2.0%	-1.4%	2.6%
JPM EMBI+	Em. Mkt. Bonds	-4.1%	-4.3%	4.0%	4.0%	6.2%
Alternative Benchmarks						
Bloomberg Commodity Index	Commodities	0.4%	7.3%	-4.5%	-6.4%	-9.0%
Credit Suisse Hedge Fund Index	Hedge Fund	0.1%	4.8%	2.0%	3.6%	3.3%
HFRI FoF Conservative	Fund of Hedge Funds	1.0%	4.1%	1.9%	3.0%	1.2%
Cambridge PE Lagged*	Private Equity	3.0%	16.5%	12.1%	13.2%	10.4%
NCREIF ODCE Net Lagged*	Real Estate	2.0%	7.1%	9.0%	10.4%	4.2%
Wilshire REIT Index	REIT	9.7%	3.9%	7.8%	8.4%	7.8%
CPI + 2%	Inflation/Real Assets	1.1%	4.8%	3.9%	3.6%	3.5%















* As of 3/31/2018



PERFORMANCE OVERVIEW

Q2 Market Summary

Macro			Equity			Credit			Real Assets		
US Dollar	VIX	US 10-Yr	S&P 500	MSCI EAFE	MSCI EM	US Agg.	High Yield	Dollar EMD	Oil	Gold	REITS
											
5.0%	-3.9	12 bps	3.4%	-1.2%	-8.0%	-0.2%	1.0%	-3.5%	14.2%	-5.4%	8.3%

- **US stocks increased on the quarter, supported by strong earnings growth**
- **Emerging market equities and currencies weakened this quarter as trade concerns and Federal Reserve interest rate increases weighed on markets**
 - The US dollar reversed its first quarter decline and increased relative to a basket of major developed market currencies
- **The US yield curve continued to flatten as the second Fed rate hike of 2018 pushed short-term interest rates higher**

Market segment (index representation) as follows: US Dollar (DXY Index), VIX (CBOE Volatility Index), US 10-Year (US 10-Year Treasury Yield), S&P 500 (US Equity), MSCI EAFE Index (International Developed Equity), MSCI Emerging Markets (Emerging Markets Equity), US Agg (Barclays US Aggregate Bond Index), High Yield (Barclays US High Yield Index), Dollar EMD (JPM Emerging Market Bond Index), Crude Oil (WTI Crude Oil Spot), Gold (Gold Price Spot), and REITs (NAREIT Composite Index).



MACRO PERFORMANCE OVERVIEW

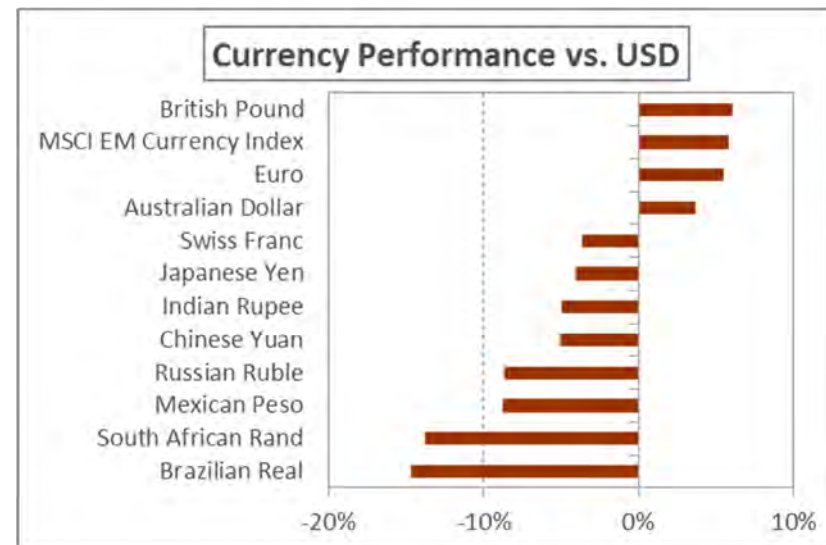
Q2 Macro Market Summary

- The global growth outlook remains strong, particularly in the US
- Global equity market volatility fell, despite escalating tensions related to the US-China trade dispute
- The US Treasury curve continued to flatten raising concerns of an inverted curve should the Fed hike rates beyond market expectations

Central Banks	Current Rate	CPI YOY	Notes from the Quarter
Federal Reserve	1.75% - 2.00%	2.9%	The Fed increased its benchmark interest rate to 1.75% - 2.00% in June and is expected to hike rates two more times in 2018
European Central Bank	0.0%	1.7%	The ECB maintained its current benchmark interest rate, while indicating rates would remain steady at least through mid-2019.
Bank of Japan	-0.1%	1.3%	The BoJ will continue its ultra-easy QE program with inflation remaining well below target.

	Yield 03/31/18	Yield 06/30/18	Δ
US 10-Yr	2.74%	2.86%	0.12%
US 30-Yr	2.97%	2.99%	0.02%
US Real 10-Yr	0.68%	0.74%	0.05%
German 10-Yr	0.50%	0.30%	-0.20%
Japan 10-Yr	0.05%	0.04%	-0.01%
China 10-Yr	3.75%	3.48%	-0.27%
EM Local Debt	6.00%	6.59%	0.59%

Source: Bloomberg



Source: Bloomberg



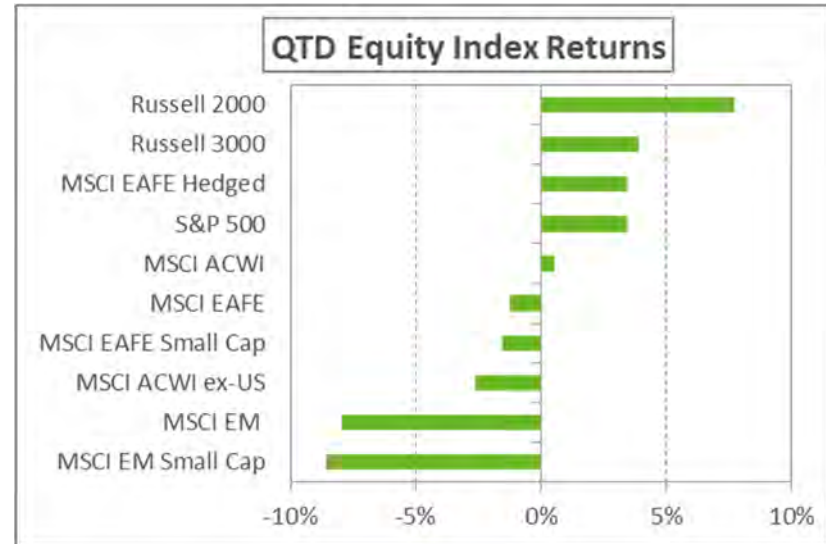
EQUITY PERFORMANCE OVERVIEW

Q2 Equity Market Summary

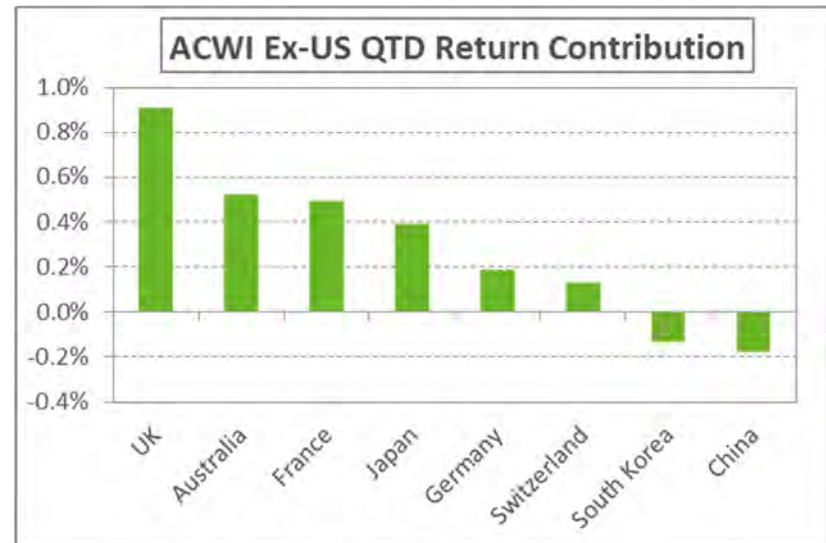
- US small cap outperformed large cap as tax reform benefits helped boost earnings
- Trade concerns and yuan weakness weighed on Chinese returns as equity markets neared bear market territory

Russell 3000 QTD Sector Return Contribution	
Information Technology	1.5%
Consumer Discretionary	0.0%
Financials	0.1%
Industrials	0.4%
Consumer Staples	0.9%
Energy	0.4%
Materials	0.1%
Health Care	0.2%
Real Estate	0.0%
Telecommunication	-0.0%
Utilities	-0.1%

Source: Russell, Bloomberg



Source: MSCI, Russell, S&P, Bloomberg



Source: MSCI, Bloomberg. QTD top country contributors to index return



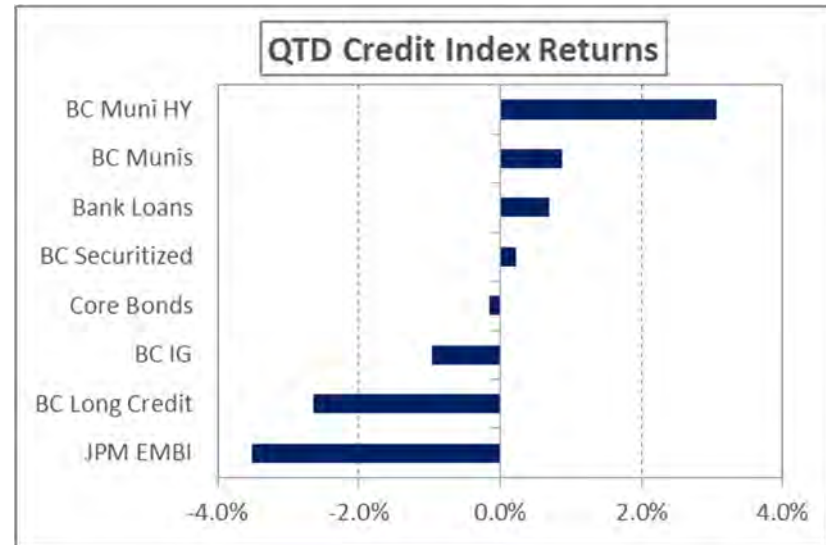
CREDIT PERFORMANCE OVERVIEW

Q2 Credit Market Summary

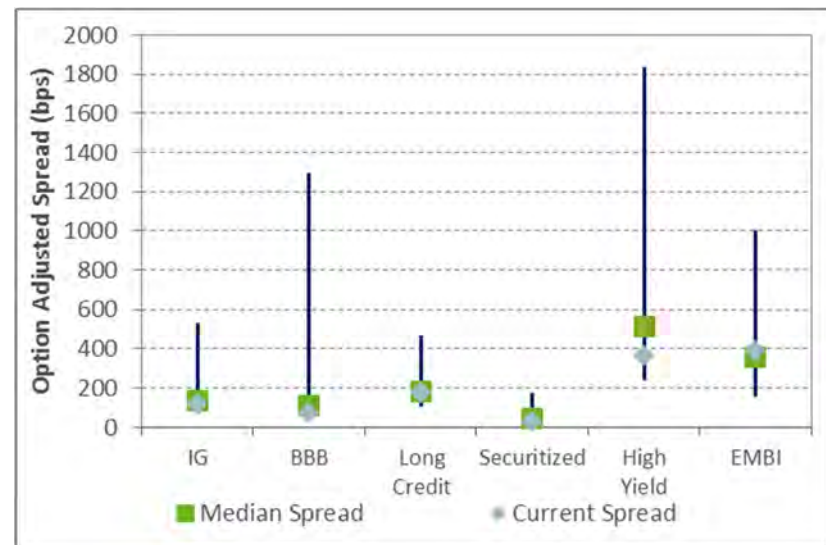
- Credit spreads increased slightly, but remain below medians in most areas of the credit market
- Dollar-denominated EMD spreads increased 62 bps during the quarter, resulting in a decline of 3.5%
- Local currency EMD declined 10.4% as currency weakness weighed on returns

Credit Spread (Basis Points)	03/31/18	06/30/18	\Delta
BC IG Credit	103	116	13
BC Long Credit	148	174	26
BC Securitized	29	28	-1
BC High Yield	354	363	9
Muni HY	253	198	-55
JPM EMBI	326	388	62
Bank Loans - Libor	257	303	46

Source: Barclays, Merrill Lynch, JPM, Bloomberg, NEPC



Source: Barclays, JPM, S&P, Bloomberg



Source: Barclays, JPM, S&P, Bloomberg. As of 01/31/2000



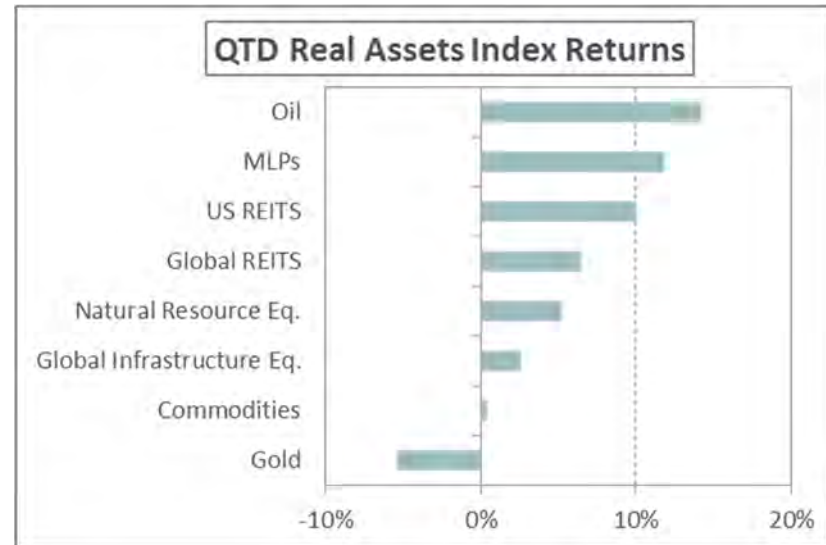
REAL ASSETS PERFORMANCE OVERVIEW

Q2 Real Assets Market Summary

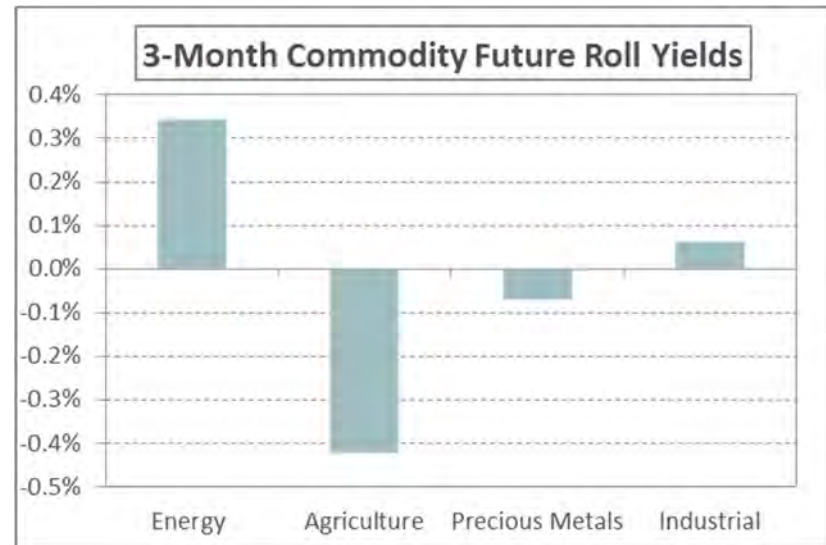
- Crude oil increased 14.2% during the quarter as a result of tighter global supply and US-imposed sanctions on Iran
- Agricultural commodities broadly declined, as Chinese tariffs specifically targeted soybeans
- MLPs reversed steep losses from earlier in the year as industry consolidation and simplification continues

Real Asset Yields	03/31/18	06/30/18
MLPs	8.9%	8.1%
Core Real Estate	4.5%	4.2%
US REITs	4.6%	4.4%
Global REITs	4.0%	3.7%
Global Infrastructure Equities	3.9%	4.4%
Natural Resource Equities	3.6%	3.5%
US 10-Yr Breakeven Inflation	2.1%	2.1%
Commodity Index Roll Yield	-1.6%	0.1%

Source: NCREIF, Alerian, NAREIT, S&P, Bloomberg



Source: S&P, NAREIT, Alerian, Bloomberg



Source: Bloomberg, NEPC Calculated as of 07/11/2018



KEY MARKET THEMES

Extended US Economic Cycle

Economic cycles do not die of old age

The US economy is in an extended expansionary cycle despite being nine years removed from the last recession

Fiscal stimulus, health of US consumers, and ongoing recovery of the housing market continue to drive economic growth

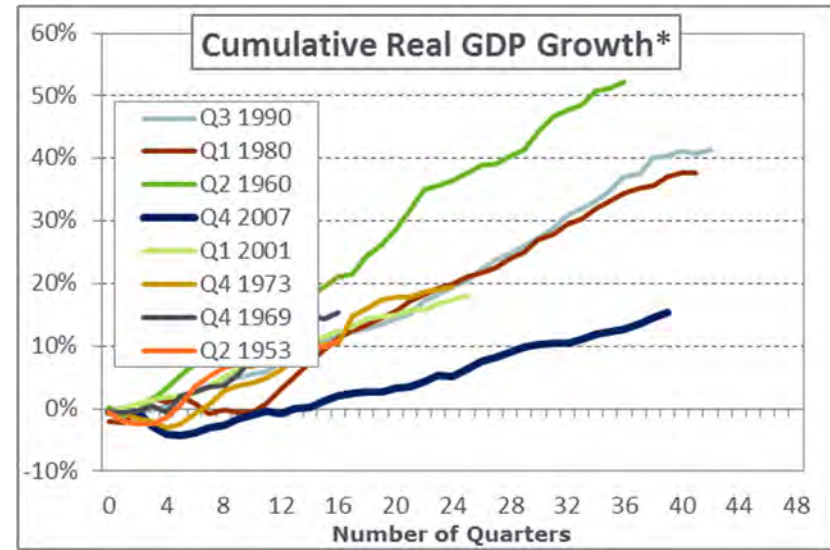
A prolonged US economic expansion can support a continued rally for US equities despite elevated valuation levels

US financial conditions remain loose and support steady economic gains

An acceleration in inflation leading to Fed tightening has historically been a catalyst to end economic expansions

US recession concerns are muted as strong global economic conditions and growth rates reinforce an expansion of the US economy

Reversal in these easy conditions may be fueled from a misstep by the Fed, strong dollar, and/or increased volatility in the Chinese yuan

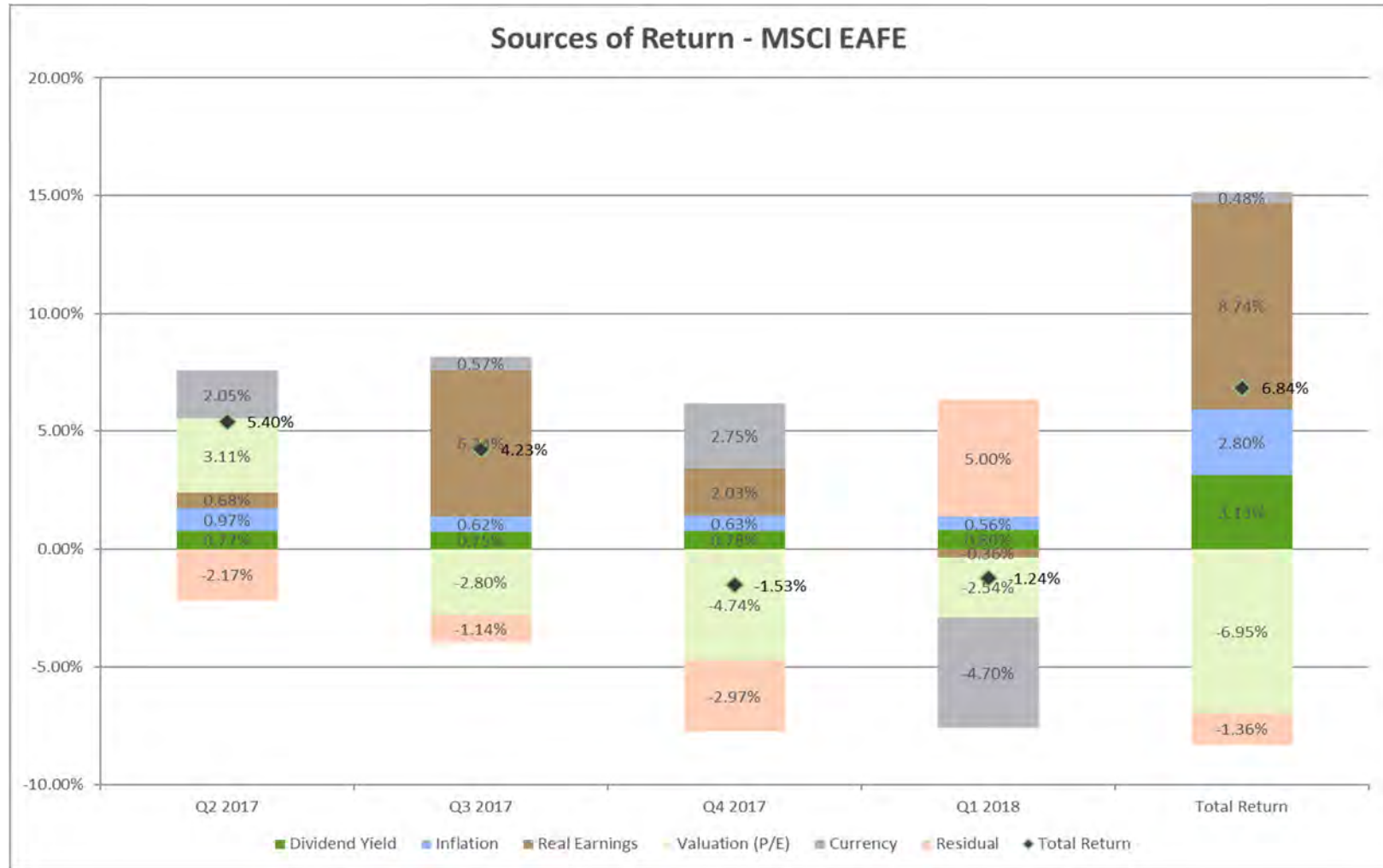


Source: (Top) Bloomberg, *Cumulative GDP growth from prior cycle peak

Source: (Bottom) Federal Reserve Bank of Chicago and Kansas City



1 YEAR ATTRIBUTION OF MSCI EAFE RETURNS



Spot Rates

1 USD = 0.846 Euro

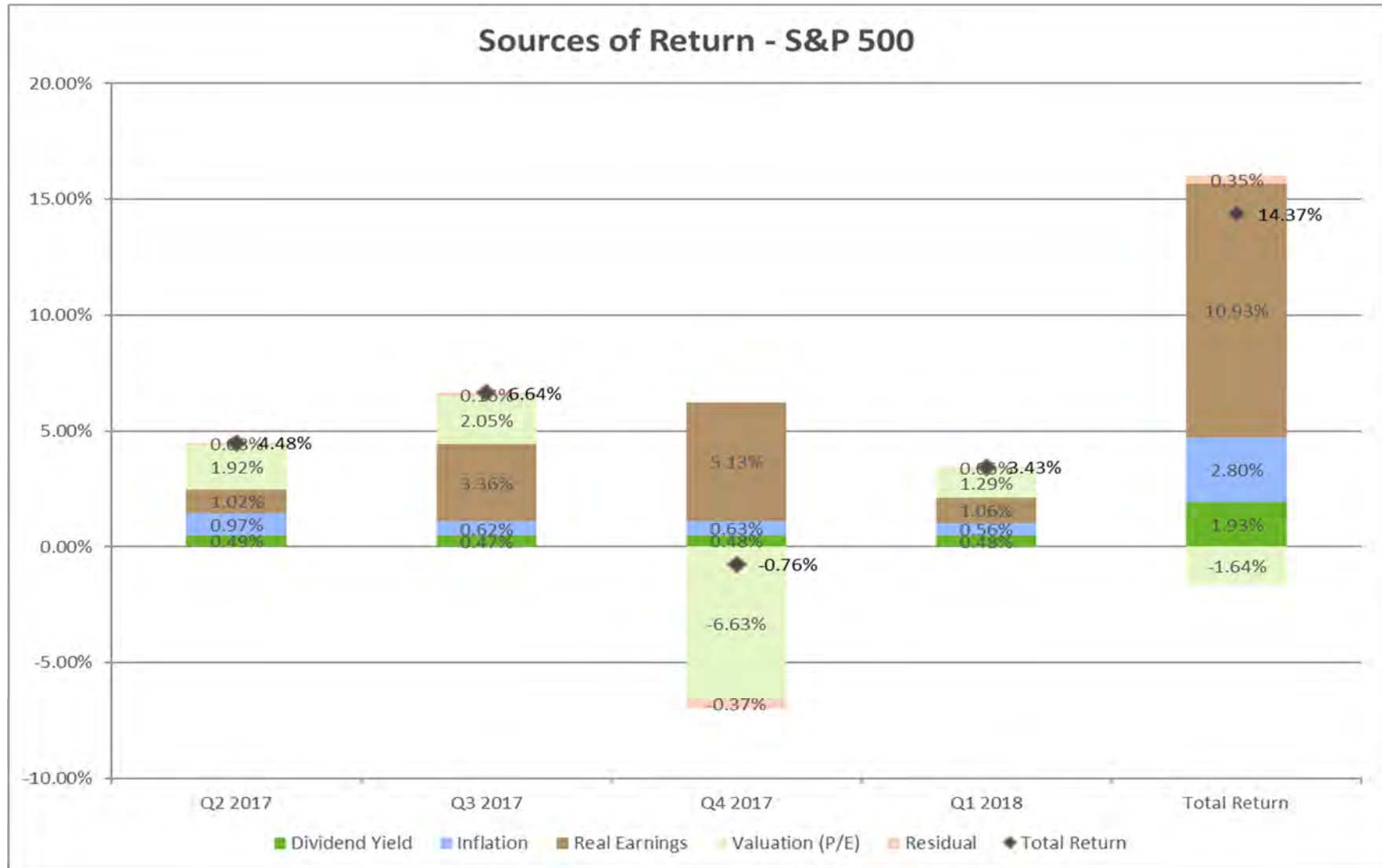
1 USD = 0.833 Euro

1 USD = 0.811 Euro

1 USD = 0.858 Euro



1 YEAR ATTRIBUTION OF S&P 500 RETURNS



US-CHINA TRADE ESCALATION



<p>The US proposes 25% tariffs on \$50B of Chinese goods totaling 1300 products (Implemented in July)</p>	<p>April</p>	<p>Retaliatory tariffs of ~\$3B worth of US exports. In response to implementation of US tariffs in Q1 on solar panels, washing machines, steel, and aluminum</p>
<p>US appears to reach broad agreement with China and holds off on additional tariffs. Agreement is never finalized.</p>	<p>May</p>	<p>China offers to cut import duties on cars and remove tariffs on US farm products</p>
<p>US restricts Chinese acquisition of US firms with sensitive technology</p> <p>US threatens tariffs on another \$200 billion worth of Chinese goods</p>	<p>June</p>	<p>China details tariff on \$50 billion worth of exports on 659 US goods in response to the US April announcement (Implemented in July)</p>
<p>25% tariff levied on \$34 billion of imports from China with tariffs expected on another \$16 billion in two weeks.</p> <p>Potential tariffs on \$200B worth of imports from China is announced with possible implementation in late Q3</p>	<p>July</p>	<p>China responds with tariffs of 25% on \$34 billion worth of US exports with soybeans being a sizable target. Tariffs on \$16 billion worth of goods dependent on US response.</p> <p>Micro Technology ordered to temporarily halt sales in China due to a patent dispute</p>

US-CHINA TRADE: POTENTIAL OUTCOMES

Outcome	Description	Implications
<p><u>Base Case:</u> Elevated Tariffs and/or Trade Limitations</p>	<p>A “cold war” in the ongoing “trade battle” between the US and China</p>	<ul style="list-style-type: none"> - Tariffs and restrictions on trade are implemented – leading to marginally higher inflation and marginally lower growth rates - Equity and currency volatility is elevated, but valuations may provide attractive investment opportunities
<p><u>Favorable Case:</u> Negotiated Settlement</p>	<p>The US and China agree to a mutually beneficial pact</p>	<ul style="list-style-type: none"> - Some tariffs or trade limitations may be implemented, but the pact allows for broader access to local China and US markets for each nation - Volatility may persist throughout negotiations, though this is the most appealing outcome for global equities
<p><u>Tail Risks:</u> US – China Trade War</p>	<p>The countries escalate to implementing more severe protectionist policies</p>	<ul style="list-style-type: none"> - Results in destabilization of global equity markets and the global economy - It would likely result in a global recession as economic growth rates are hampered with the potential for stagflation - Investors are encouraged to rebalance to “safe haven” fixed-income exposure, such as TIPS and government debt
<p>Full-Blown Trade War</p>	<p>Other countries become involved levying additional tariffs and materially reducing global trade flows (e.g. 1930s style global trade restrictions)</p>	

BEYOND US-CHINA TRADE

- **Should dynamics shift toward the tail-risk outcomes, there are other important aspects of the United States' role in the global economy that should be considered:**

Chinese Ownership of US Treasuries

Measured about \$1.2T at the end of 2017

Provides some leverage if China threatened to sell

However, materially reducing Treasuries could negatively impact the Yuan

Degree of Political Control

Known political stability affords China the opportunity to take a harsher negotiation posture

China can effectively control local sentiment if needed – for example, to implement boycotts on American goods

Yuan Devaluation

Competitiveness of goods and exports would increase

However, could trigger large capital outflows from China. Likely requires capital controls, which runs counter to goal of opening local financial markets

Currency Reserves

The USD status as a reserve currency allows it to benefit from safe-haven flows that could result from a reduction in trade

This status could be jeopardized if other key countries shift reserves elsewhere

US Companies Operating Internationally

Companies such as Apple, Disney, or Nike could face additional hurdles from the Chinese government to operate locally

China's manufacturing base could allow them to cut off key parts of the global supply chain

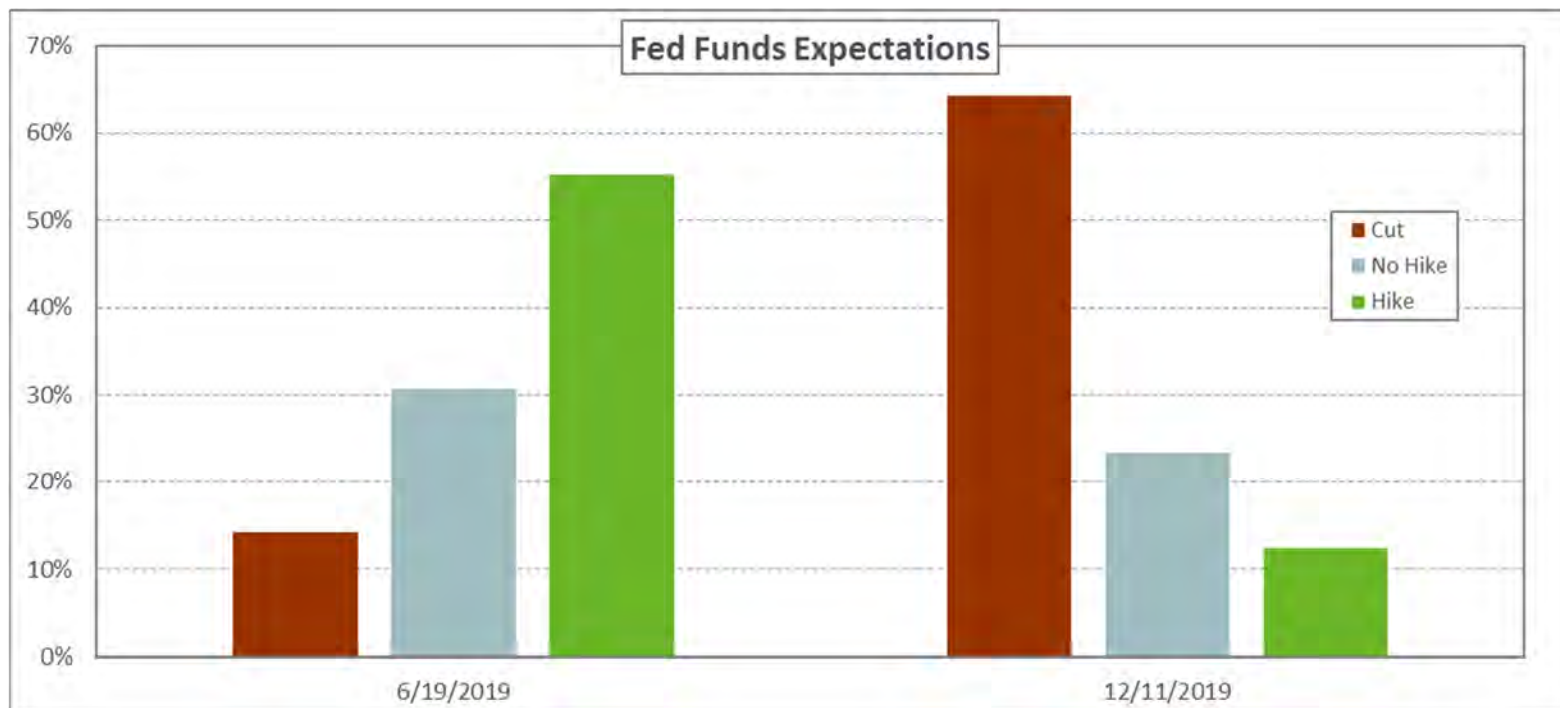
Europe

The US and the EU have a trade partnership worth over \$1.1T annually

Tensions have escalated – leading the EU to respond with retaliatory measures on American products such as motorcycles and denim

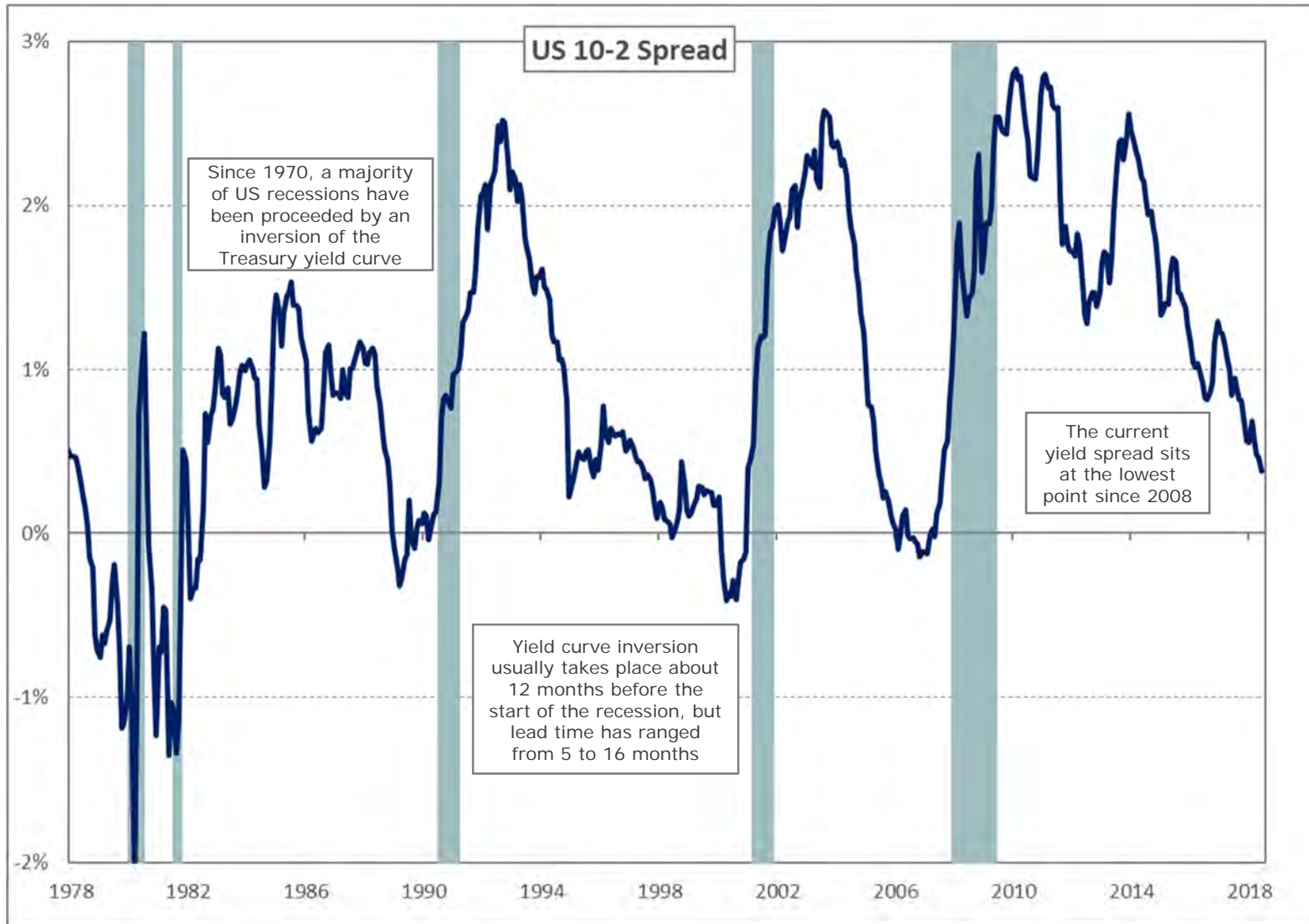
THE PATH OF FEDERAL RESERVE HIKES

- **The current target federal funds level is 1.75%-2.00%, following two rate increases in March and June of 2018**
 - Fed funds expectations imply a minimum of one additional hike and potentially a second in 2018 based on both market expectations and Fed policy makers estimates
- **New Fed Chair Jerome Powell has promised greater transparency but market expectations highlight a large disconnect in the back half of 2019 for the Fed Funds target level**



Data as of 7/13/2018; Data assumes Fed Funds rate at 6/19/2019 is 2.25-2.50 and Fed Funds rate at 12/11/2019 is 2.75-3.00
Source: Fed, Bloomberg, NEPC

THE YIELD CURVE IS A STRONG SIGNAL

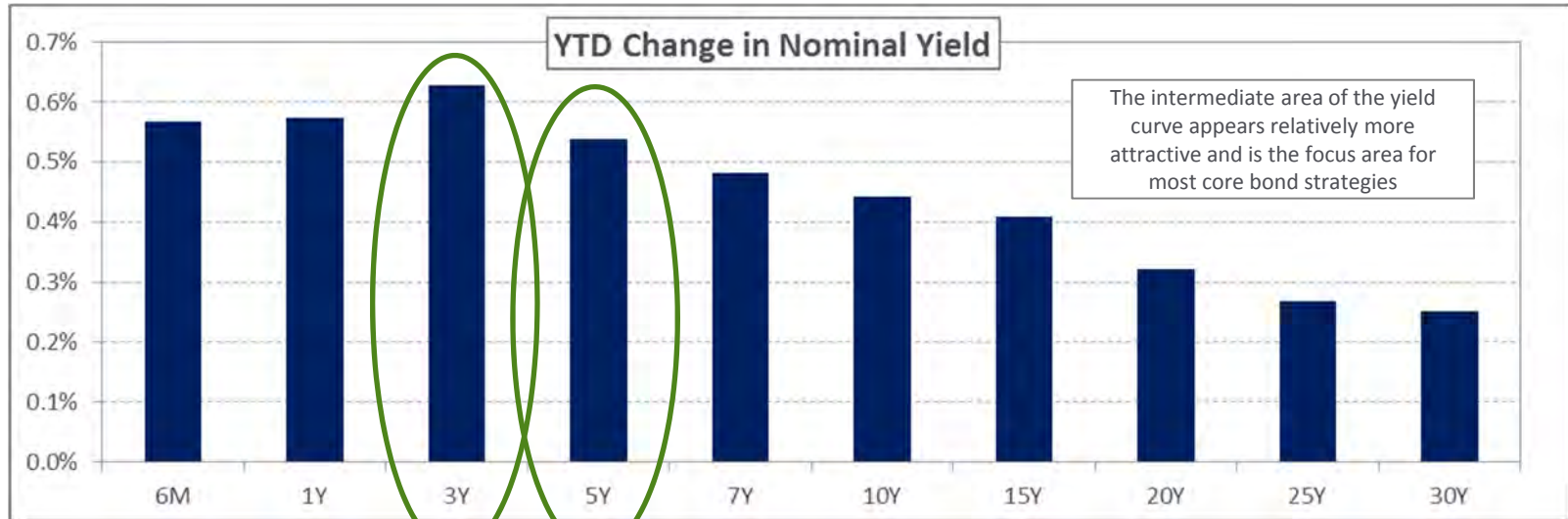


Source: FRED

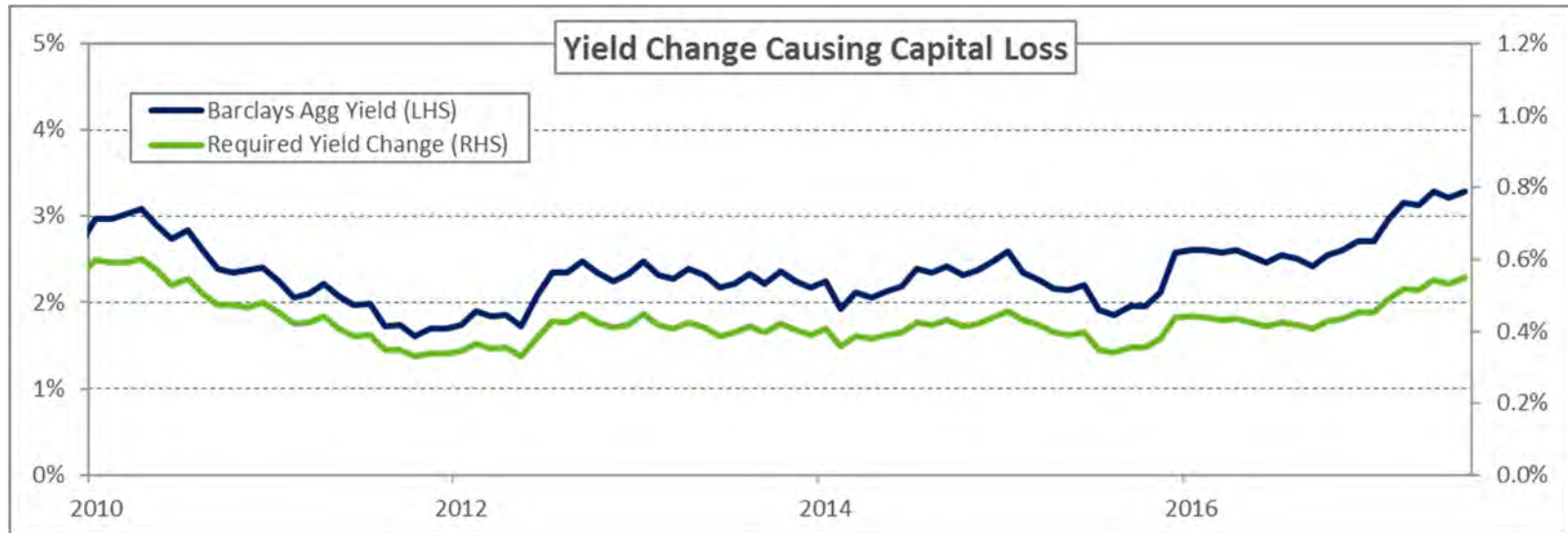
Light blue shading indicates recession; 10-2 spread is calculated as 10-year minus 2-year Treasury



US YIELDS ARE MORE ATTRACTIVE



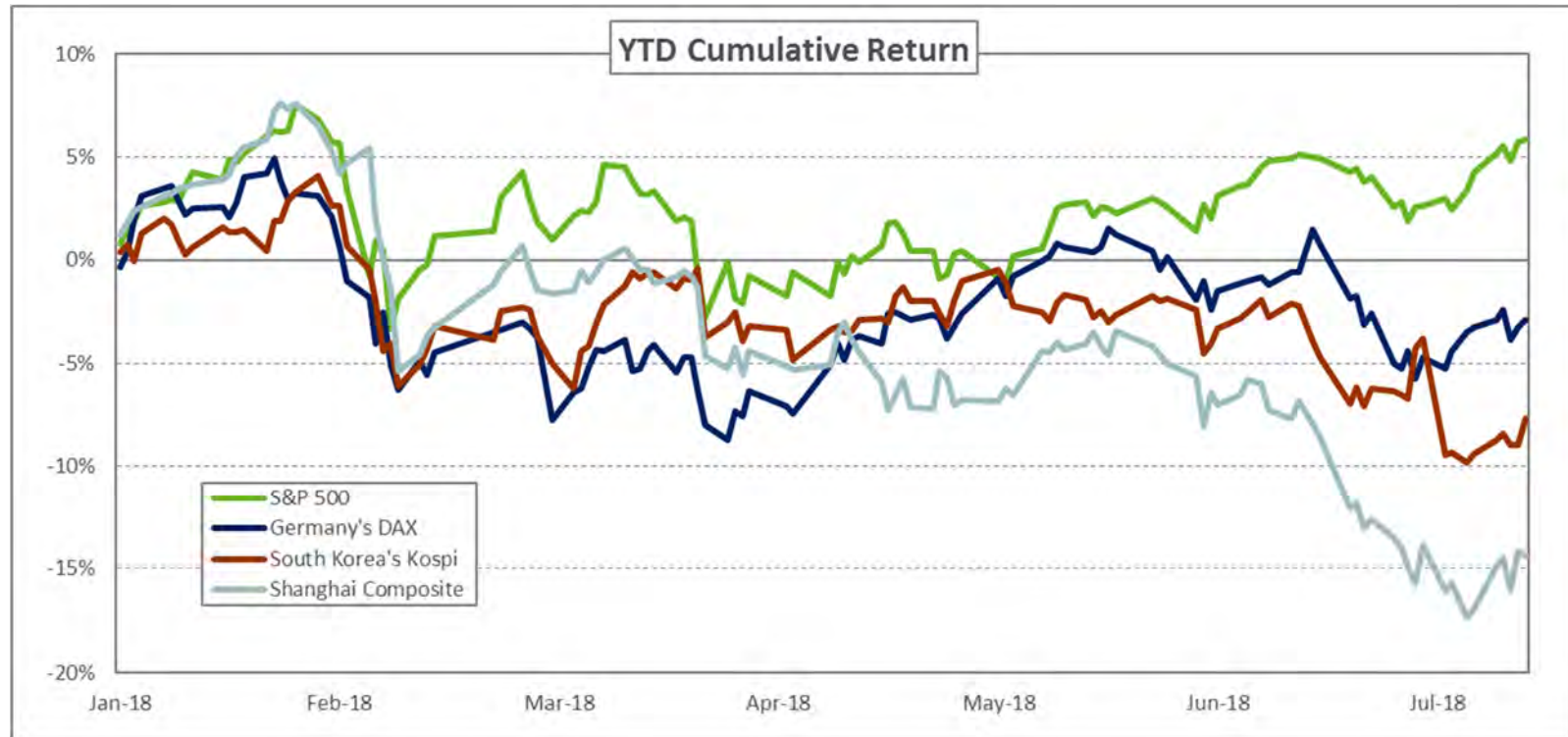
Source: Bloomberg, NEPC; Change calculated using 06/29/18 and 12/29/17 values



Source: Barclays, Bloomberg, NEPC



GLOBAL EQUITIES IN 2018



Source: S&P, Russell, Bloomberg, NEPC; Cumulative return calculated through 07/16/2018

- **With the US economy performing well, 2018 was set to be a strong year for earnings even before the tax reform was enacted**
 - First quarter US corporate earnings reached near historic levels and earnings for 2018 are expected to increase 20% relative to the year prior as tax cuts offer a tailwind
- **International and emerging markets are also experiencing strong earnings growth, but have suffered from the negative sentiment associated with US-China trade tensions**



CHINA DRIVES EMERGING MARKET SENTIMENT



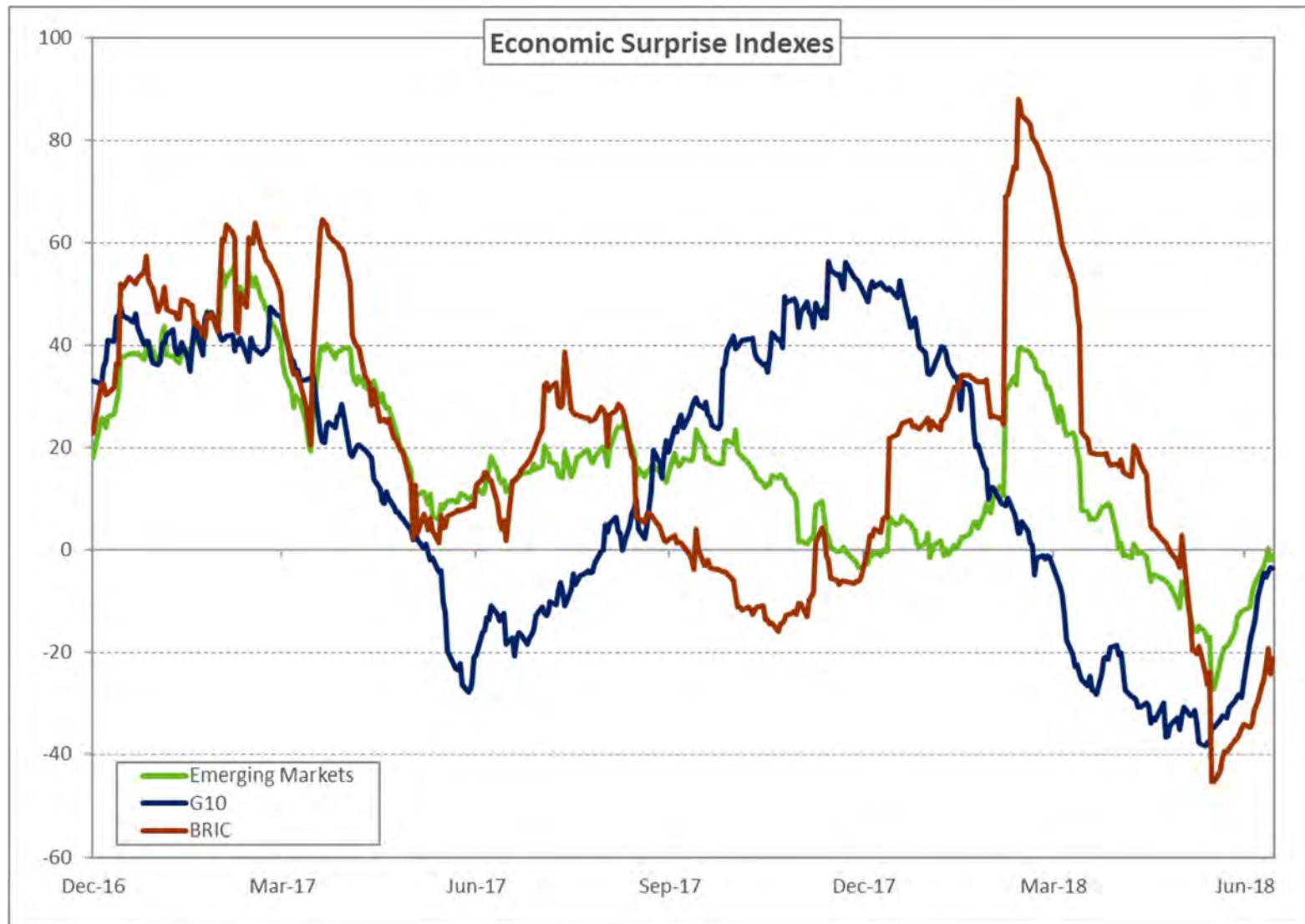
Source: MSCI, Bloomberg, NEPC



Source: MSCI, Bloomberg, NEPC



EMERGING ECONOMIES SHOW RESILIENCY



Source: Citi, Bloomberg



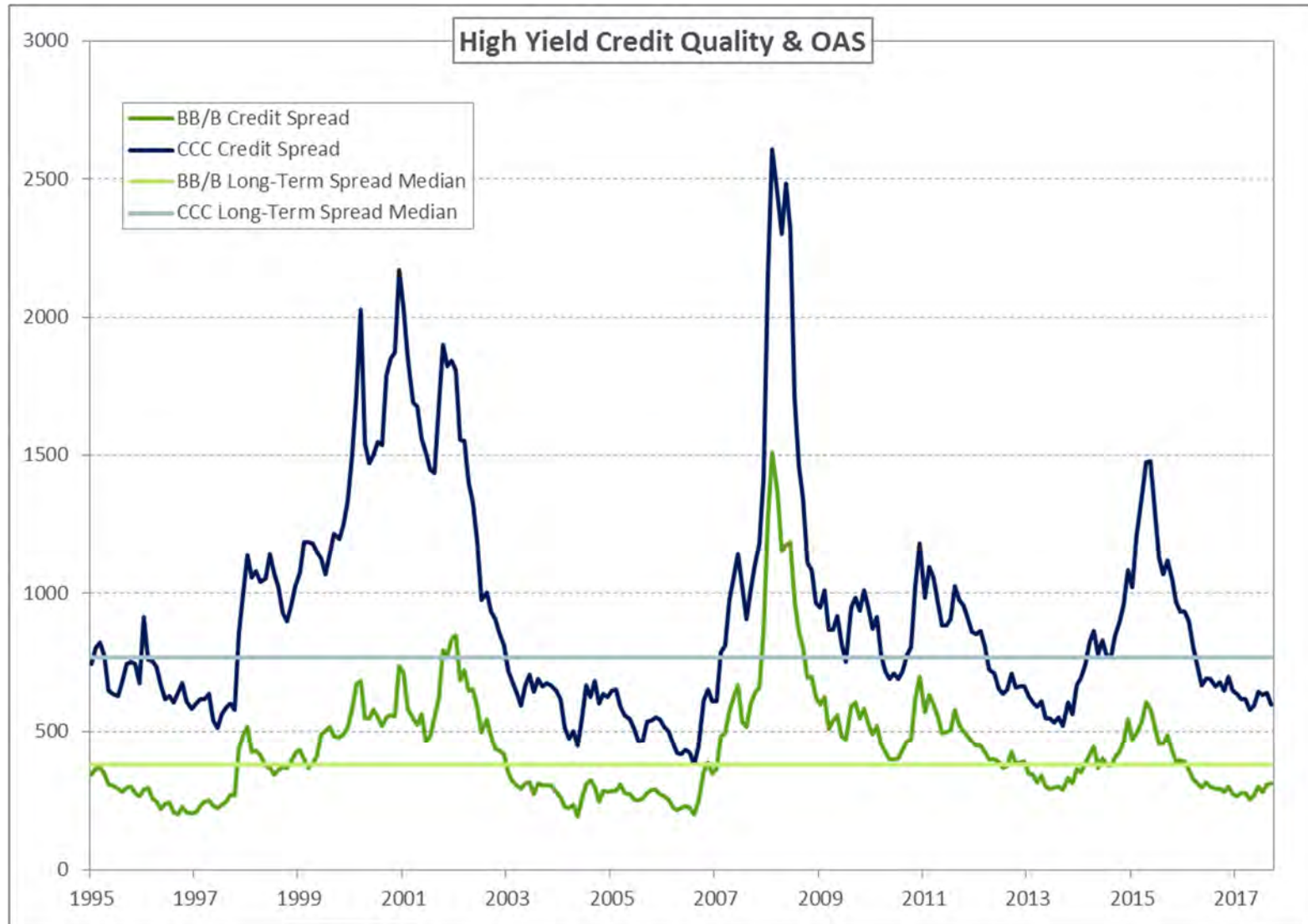
GLOBAL TRADE IS STILL EXPANDING



Source: OECD



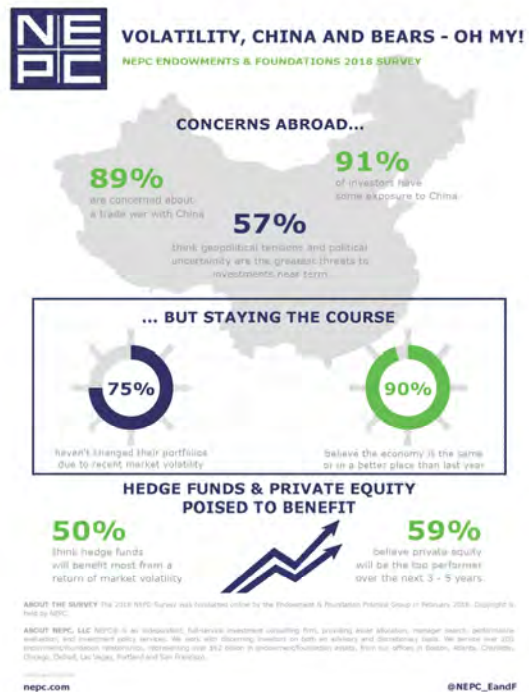
CREDIT SPREADS APPEAR UNATTRACTIVE



Source: Barclays, Bloomberg, NEPC



HIGHLIGHTS OF SECOND QUARTER HAPPENINGS AT NEPC



NEPC INSIGHTS

- Taking Stock: Globalization Backlash: Tariffs are a Dangerous Game
- Taking Stock: A Millennial's Take on ESG and Defined Contribution Plans
- The Need for Investment Discipline: Review, Revise and Repeat
- 2018 First Quarter Market Thoughts
- The State of Strategic Investing in Healthcare
- Taking Stock: Corporate Pension Plans: A Changing Yield Curve and Q1 Liability Performance
- Nothing Ventured, Nothing Gained: The European VC Opportunity
- Taking Stock: Megatrends – The Forces Driving Our Future
- May 2018 – Endowment & Foundation Survey Results & Infographic
- Taking Stock: A Roundup of NEPC's 2018 Investment Conference
- Taking Stock: Holding the Investment Industry to a Higher Standard
- Taking Stock: China's Demographic Solution: Too Little Too Late?
- Putting the Pieces Together: Equity Portfolio Construction for Private Wealth Clients
- Taking Stock: Is This the Ghost of Taper Tantrums Past?
- Taking Stock: What's 'Appening with Financial Wellness?

WEBINAR REPLAYS

- 8th Annual Investment Manager Webinar Replay
- NEPC Q1 2018 Quarterly Markets Call

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



TOTAL FUND PERFORMANCE SUMMARY

NEPC, LLC

Ventura County Employees' Retirement Association

TOTAL FUND PERFORMANCE SUMMARY (NET)

	Market Value	3 Mo	Rank	YTD	Rank	1 Yr	Rank	3 Yrs	Rank	5 Yrs	Rank	10 Yrs	Rank	Inception	Inception Date
Total Fund	\$5,370,442,517	1.5%	16	0.9%	39	8.9%	22	7.3%	22	8.3%	22	6.8%	16	8.0%	Apr-94
<i>Policy Index</i>		1.5%	11	1.2%	30	9.2%	13	7.9%	6	8.9%	8	6.9%	14	8.1%	Apr-94
<i>60% MSCI ACWI (Net) / 40% CITI WGBI</i>		-1.0%	99	-0.6%	98	7.2%	79	6.2%	76	6.2%	96	4.6%	98	--	Apr-94
<i>60% S&P 500 / 40% BBgBarc Aggregate</i>		2.0%	4	1.0%	32	8.3%	34	7.9%	6	9.0%	8	7.8%	3	8.3%	Apr-94
<i>InvestorForce Public DB > \$1B Net Median</i>		0.6%		0.6%		8.0%		6.7%		7.5%		6.1%		7.4%	Apr-94

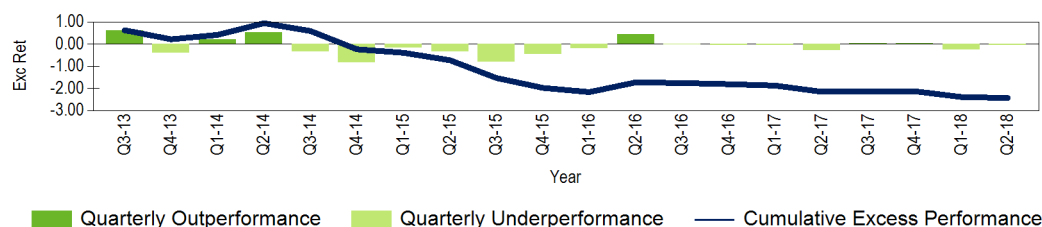
- For the five year period ending June 30, 2018, the Fund returned 8.3% trailing the policy index by 0.6% and ranking in the 22nd percentile of its peers and outperforming the actuarial assumed rate of 7.5%. The Fund's volatility, as measured by standard deviation, ranked in the 75th percentile of its peers, and the risk-adjusted return, or Sharpe Ratio, ranks in the 49th percentile. This means that the Fund has earned more return per unit of volatility taken than 51% of its peers.

- For the three-year period, the Fund returned 7.3%, trailing the policy index by 0.6% and ranking in the 22nd percentile of its peers. The Fund's volatility ranks in the 78th percentile of its peers over this period, with the Fund's Sharpe Ratio ranking in the 48th percentile.

- For the one-year period, the Fund returned 8.9%, underperforming the policy index by 0.3% and ranking in the 22nd 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 \$465.9 million which includes a net investment gain of \$81.5 million in the quarter. Assets increased from \$4.94 billion one year ago to \$5.37 billion.

Quarterly and Cumulative Excess Performance



3 Years Ending June 30, 2018								
	Anlzd Ret	Rank	Anlzd Std Dev	Rank	Sharpe Ratio	Rank	Sortino Ratio RF	Rank
Total Fund	7.3%	22	6.5%	78	1.0	48	1.4	40
Policy Index	7.9%	6	6.4%	69	1.1	24	1.5	26
InvestorForce Public DB > \$1B Net Median	6.7%	--	5.7%	--	1.0	--	1.3	--

5 Years Ending June 30, 2018								
	Anlzd Ret	Rank	Anlzd Std Dev	Rank	Sharpe Ratio	Rank	Sortino Ratio RF	Rank
Total Fund	8.3%	22	6.3%	75	1.2	49	2.1	30
Policy Index	8.9%	8	6.1%	68	1.4	22	2.3	20
InvestorForce Public DB > \$1B Net Median	7.5%	--	5.7%	--	1.2	--	1.9	--

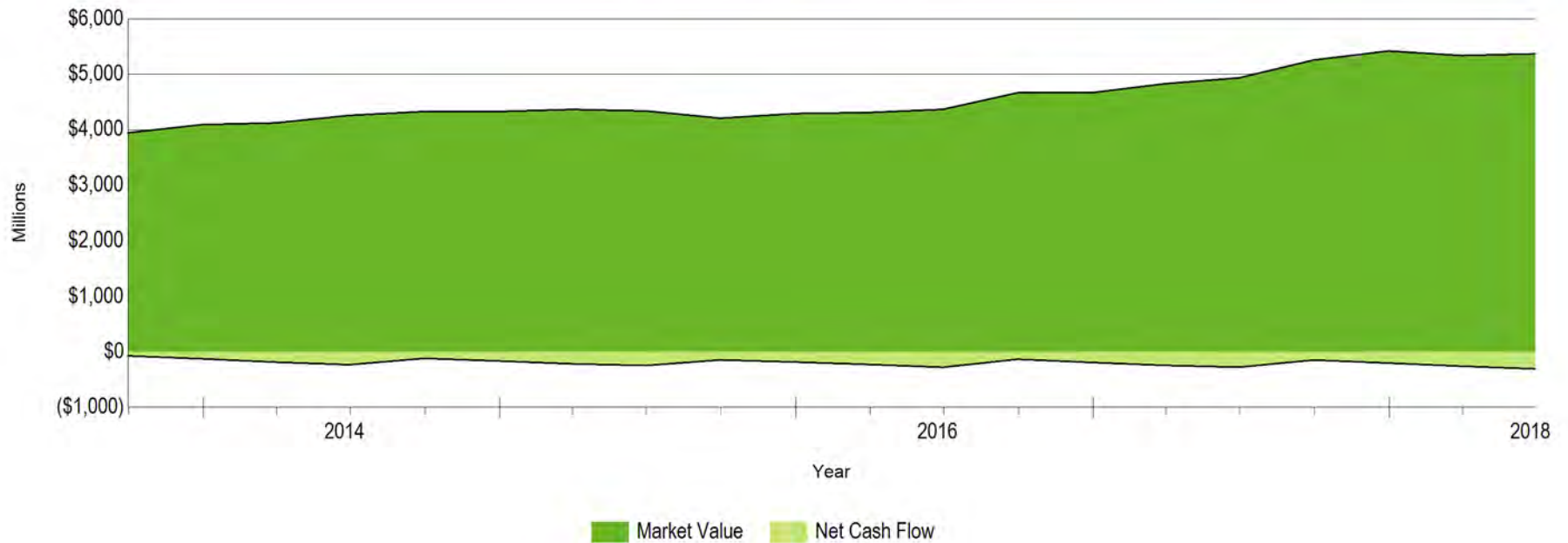
Policy Index as of January 2016: 28% Russell 3000 Index, 20% Barclays Aggregate, 15% MSCI ACWI ex U.S., 10% MSCI ACWI, 10% Russell 3000 Index + 3%, 10% CPI+4% Index, and 7% NCREIF ODCE Real Estate Index.



Ventura County Employees' Retirement Association

TOTAL FUND ASSET GROWTH SUMMARY

Market Value History
5 Years Ending June 30, 2018

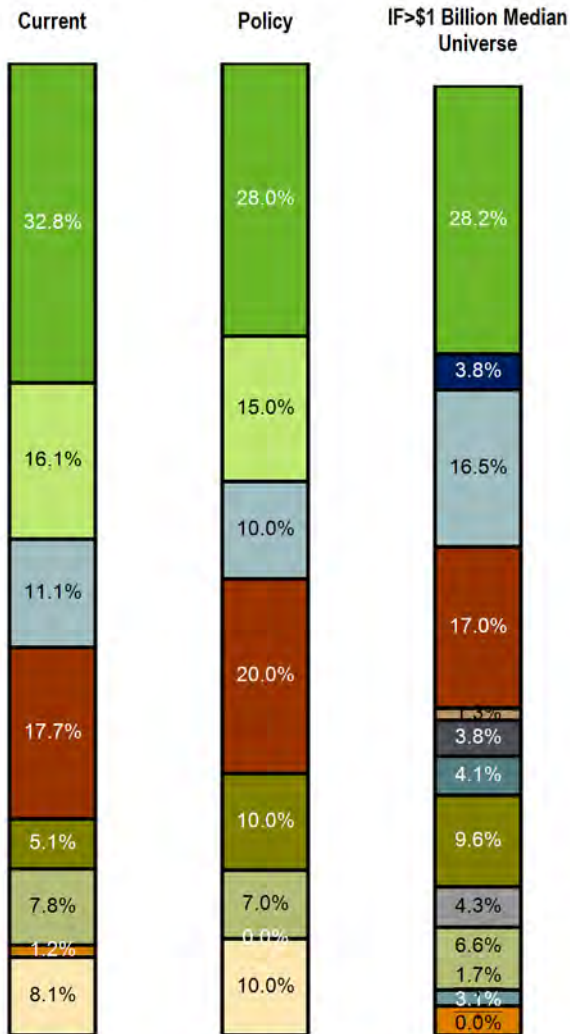


Summary of Cash Flows				
	Last Three Months	One Year	Three Years	Five Years
Beginning Market Value	\$5,337,941,269	\$4,935,381,791	\$4,338,136,581	\$3,612,254,371
Net Cash Flow	-\$49,028,713	-\$30,877,284	-\$60,538,589	-\$307,090,907
Net Investment Change	\$81,529,962	\$465,938,011	\$1,092,844,526	\$2,065,279,053
Ending Market Value	\$5,370,442,517	\$5,370,442,517	\$5,370,442,517	\$5,370,442,517



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	\$1,761,716,123	32.8%	28.0%	4.8%	24.0% - 32.0%	--	
Non-US Equity	\$865,705,331	16.1%	15.0%	1.1%	12.0% - 18.0%	Yes	
Emerging Markets Equity	--	--	--	0.0%	--	--	
Global Equity	\$598,302,462	11.1%	10.0%	1.1%	7.0% - 13.0%	Yes	
U.S. Fixed Income	\$948,051,558	17.7%	20.0%	-2.3%	16.0% - 24.0%	Yes	
Fixed Income - Emerging	--	--	--	0.0%	--	--	
Fixed Income - Global	--	--	--	0.0%	--	--	
Global Asset Allocation	--	--	--	0.0%	--	--	
Private Equity	\$276,117,815	5.1%	10.0%	-4.9%	0.0% - 12.0%	Yes	
Hedge Funds	--	--	--	0.0%	--	--	
Real Estate	\$419,523,044	7.8%	7.0%	0.8%	4.0% - 10.0%	Yes	
Commodities/ Real Assets	--	--	--	0.0%	--	--	
Cash	\$66,943,506	1.2%	0.0%	1.2%	0.0% - 3.0%	Yes	
Liquid Alternatives	\$434,082,679	8.1%	10.0%	-1.9%	5.0% - 15.0%	Yes	
Total	\$5,370,442,517	100.0%	100.0%				

*Difference between Policy and Current Allocation

Cash represents assets in Parametric Overlay

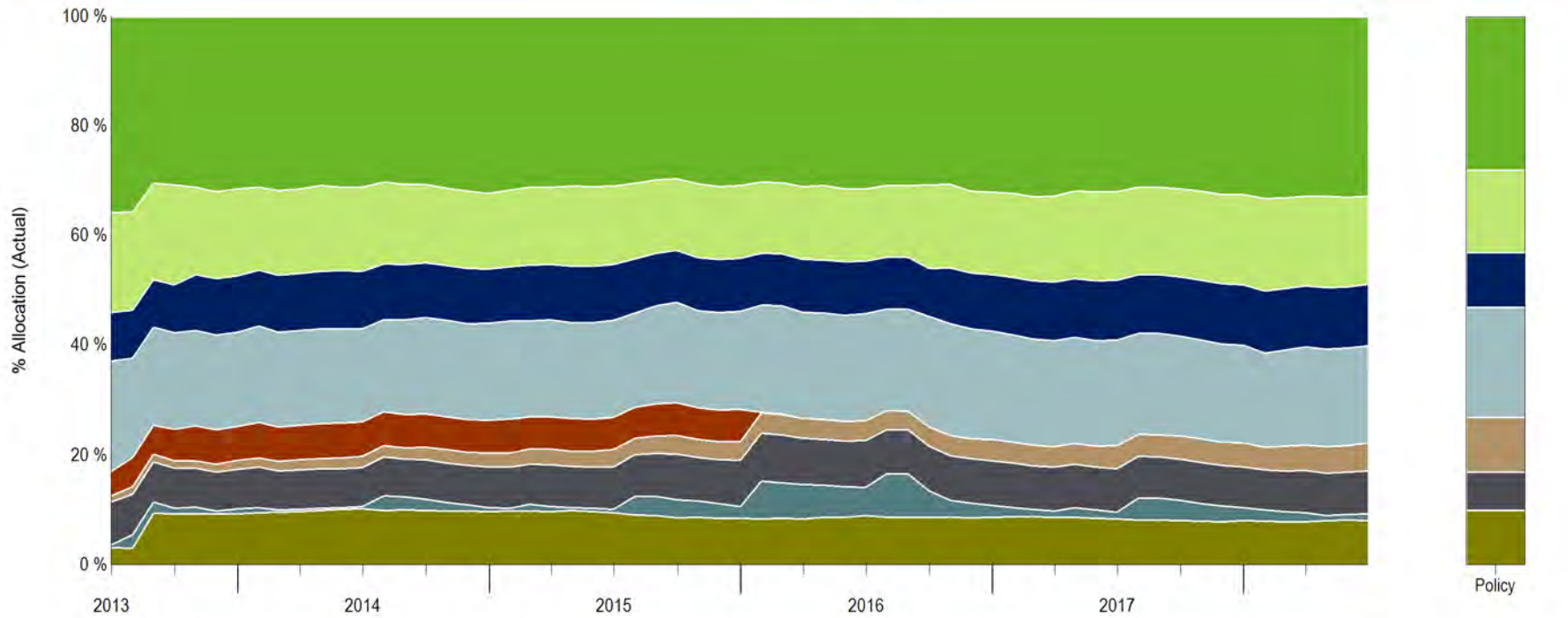
Policy Index as of January 2016: 28% Russell 3000 Index, 20% Barclays Aggregate, 15% MSCI ACWI ex U.S., 10% MSCI ACWI, 10% Russell 3000 + 3%, 10% CPI+4% Index, and 7% NCREIF ODCE Real Estate Index.



Ventura County Employees' Retirement Association

TOTAL FUND ALLOCATION HISTORY

Asset Allocation History
5 Years Ending June 30, 2018



- U.S. Equity
- Global Equity
- Global Bonds
- Private Equity
- Real Estate
- Cash
- Liquid Alternatives
- Non-US Equity
- U.S. Fixed Income

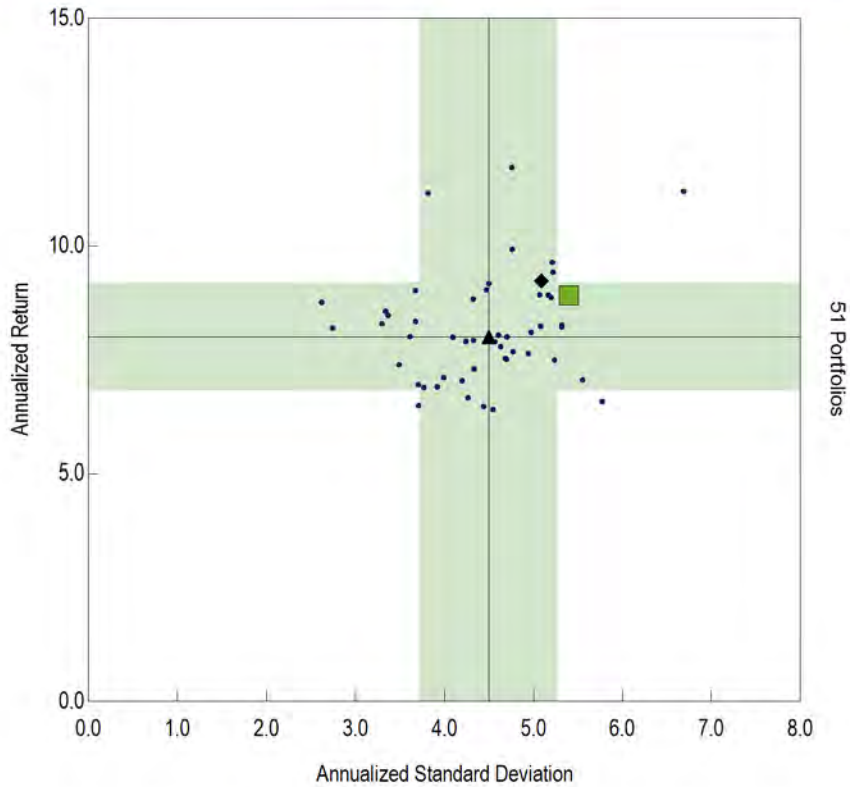
Policy Index shown is most recently approved index



Ventura County Employees' Retirement Association

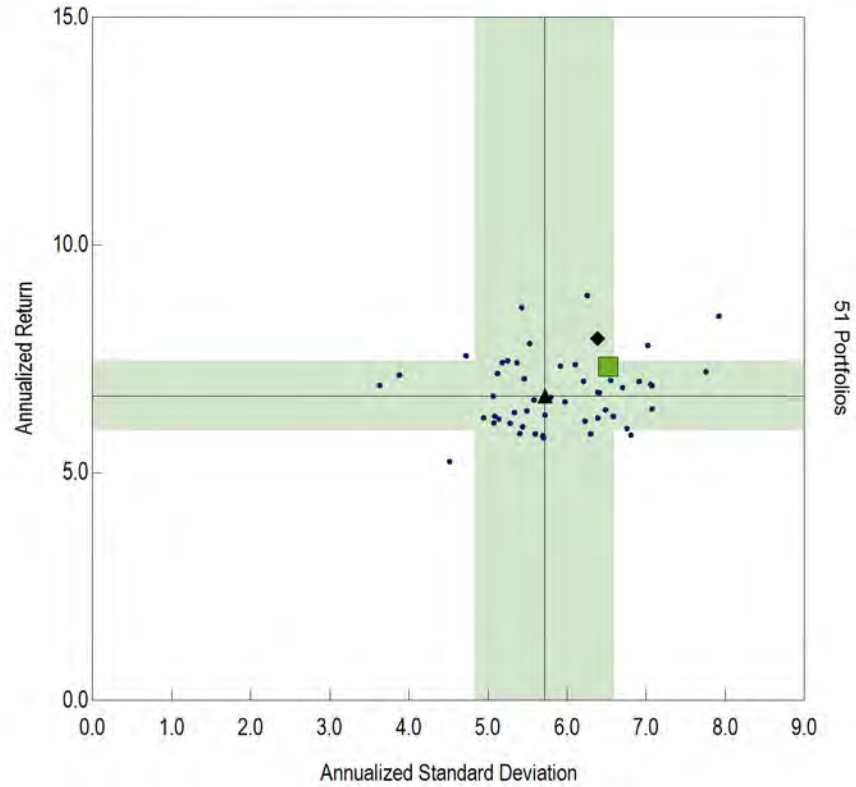
TOTAL FUND RISK/RETURN

1 Years Ending June 30, 2018



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

3 Years Ending June 30, 2018



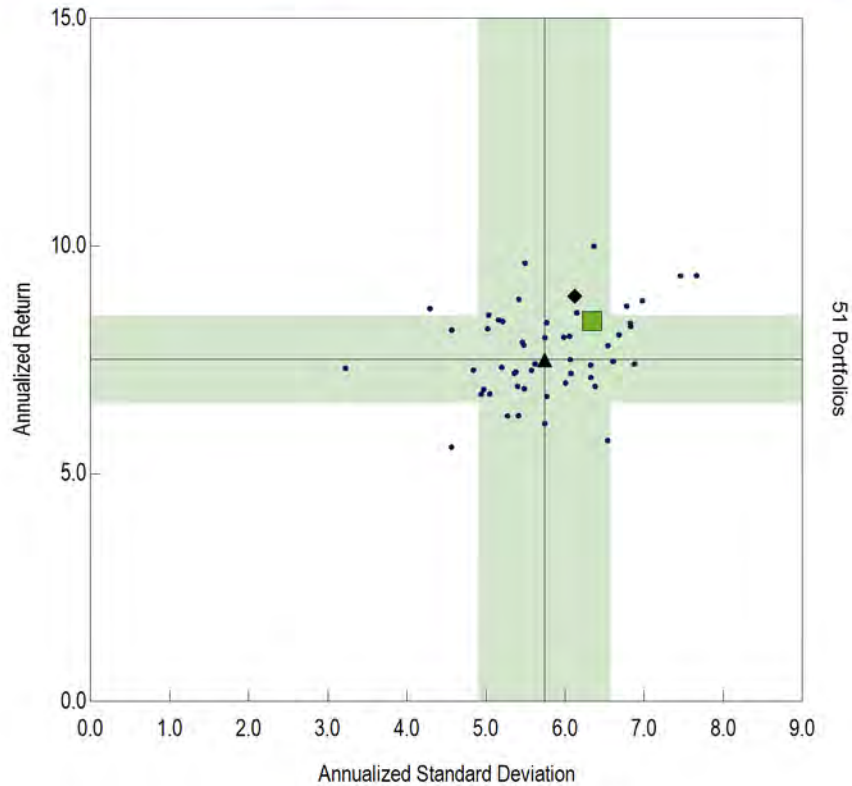
- Total Fund
- ◆ Policy Index
- ▲ Universe Median
- 68% Confidence Interval
- InvestorForce Public DB > \$1B Net



Ventura County Employees' Retirement Association

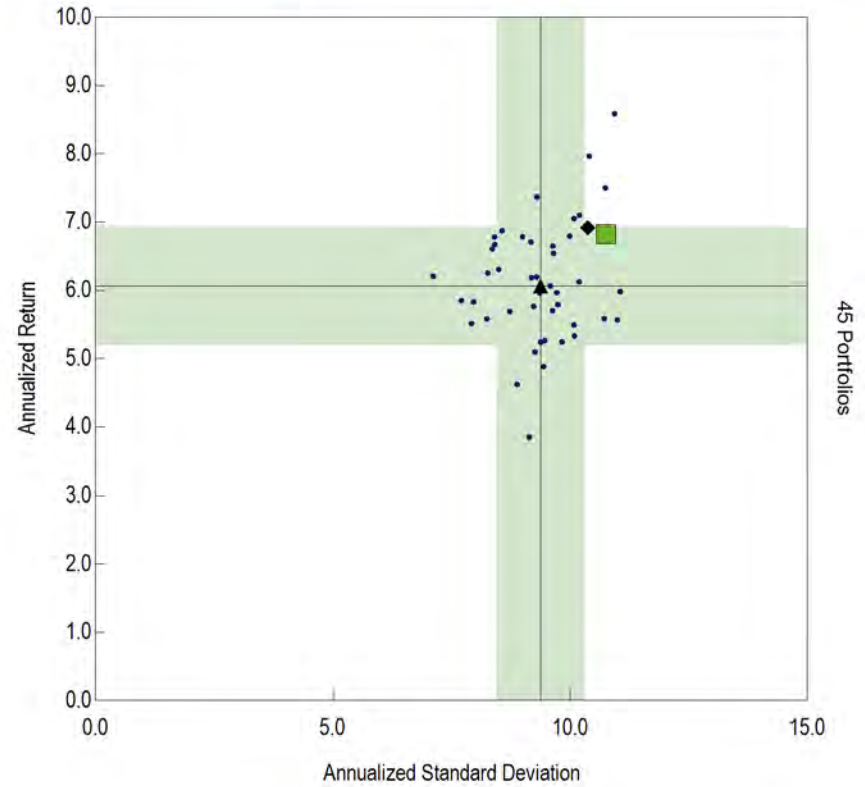
TOTAL FUND RISK/RETURN

5 Years Ending June 30, 2018



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

10 Years Ending June 30, 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



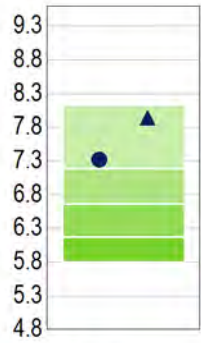
Sortino Ratio requires two months with negative returns in the time period.



TOTAL FUND RISK STATISTICS VS. PEER UNIVERSE

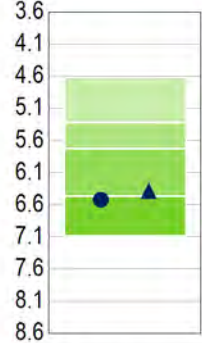
Total Fund vs. InvestorForce Public DB > \$1B Net
3 Years

Anlzd Return



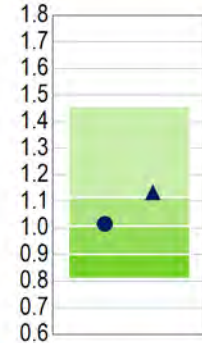
● Total Fund	
Value	7.3
Rank	22
▲ Policy Index	
Value	7.9
Rank	6
Universe	
5th %tile	8.1
25th %tile	7.2
Median	6.7
75th %tile	6.2
95th %tile	5.8

Anlzd Standard Deviation



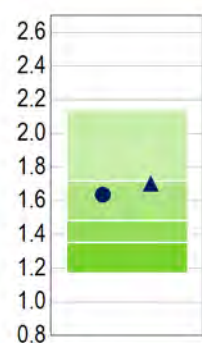
● Total Fund	
Value	6.5
Rank	78
▲ Policy Index	
Value	6.4
Rank	69
Universe	
5th %tile	4.6
25th %tile	5.3
Median	5.7
75th %tile	6.5
95th %tile	7.1

Sharpe Ratio



● Total Fund	
Value	1.0
Rank	48
▲ Policy Index	
Value	1.1
Rank	24
Universe	
5th %tile	1.5
25th %tile	1.1
Median	1.0
75th %tile	0.9
95th %tile	0.8

Sortino Ratio



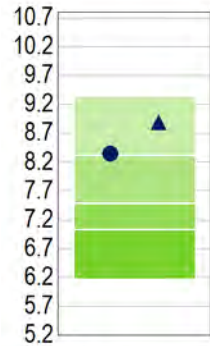
● Total Fund	
Value	1.6
Rank	32
▲ Policy Index	
Value	1.7
Rank	31
Universe	
5th %tile	2.1
25th %tile	1.7
Median	1.5
75th %tile	1.4
95th %tile	1.2



TOTAL FUND RISK STATISTICS VS. PEER UNIVERSE

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

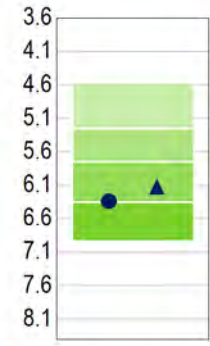
Anlzd Return



● Total Fund
Value 8.3
Rank 22
▲ Policy Index
Value 8.9
Rank 8

Universe
5th %tile 9.3
25th %tile 8.3
Median 7.5
75th %tile 7.0
95th %tile 6.2

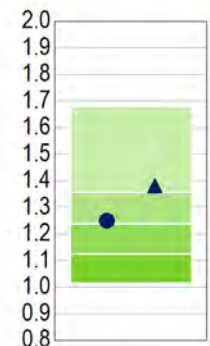
Anlzd Standard Deviation



● Total Fund
Value 6.3
Rank 75
▲ Policy Index
Value 6.1
Rank 68

Universe
5th %tile 4.6
25th %tile 5.2
Median 5.7
75th %tile 6.3
95th %tile 6.9

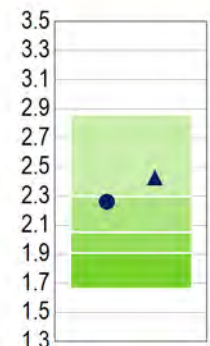
Sharpe Ratio



● Total Fund
Value 1.2
Rank 49
▲ Policy Index
Value 1.4
Rank 22

Universe
5th %tile 1.7
25th %tile 1.4
Median 1.2
75th %tile 1.1
95th %tile 1.0

Sortino Ratio



● Total Fund
Value 2.3
Rank 28
▲ Policy Index
Value 2.4
Rank 18

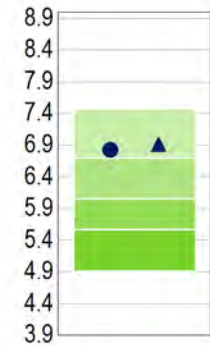
Universe
5th %tile 2.9
25th %tile 2.3
Median 2.1
75th %tile 1.9
95th %tile 1.7



TOTAL FUND RISK STATISTICS VS. PEER UNIVERSE

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

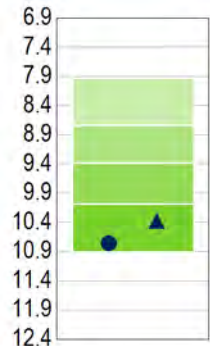
Anlzd Return



● Total Fund
Value 6.8
Rank 16
▲ Policy Index
Value 6.9
Rank 14

Universe
5th %tile 7.5
25th %tile 6.7
Median 6.1
75th %tile 5.6
95th %tile 4.9

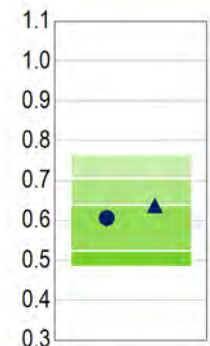
Anlzd Standard Deviation



● Total Fund
Value 10.8
Rank 94
▲ Policy Index
Value 10.4
Rank 87

Universe
5th %tile 7.9
25th %tile 8.7
Median 9.4
75th %tile 10.1
95th %tile 10.9

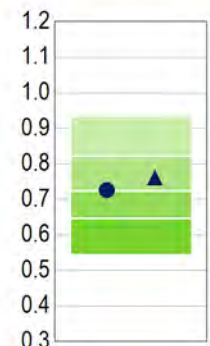
Sharpe Ratio



● Total Fund
Value 0.6
Rank 59
▲ Policy Index
Value 0.6
Rank 52

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

Sortino Ratio

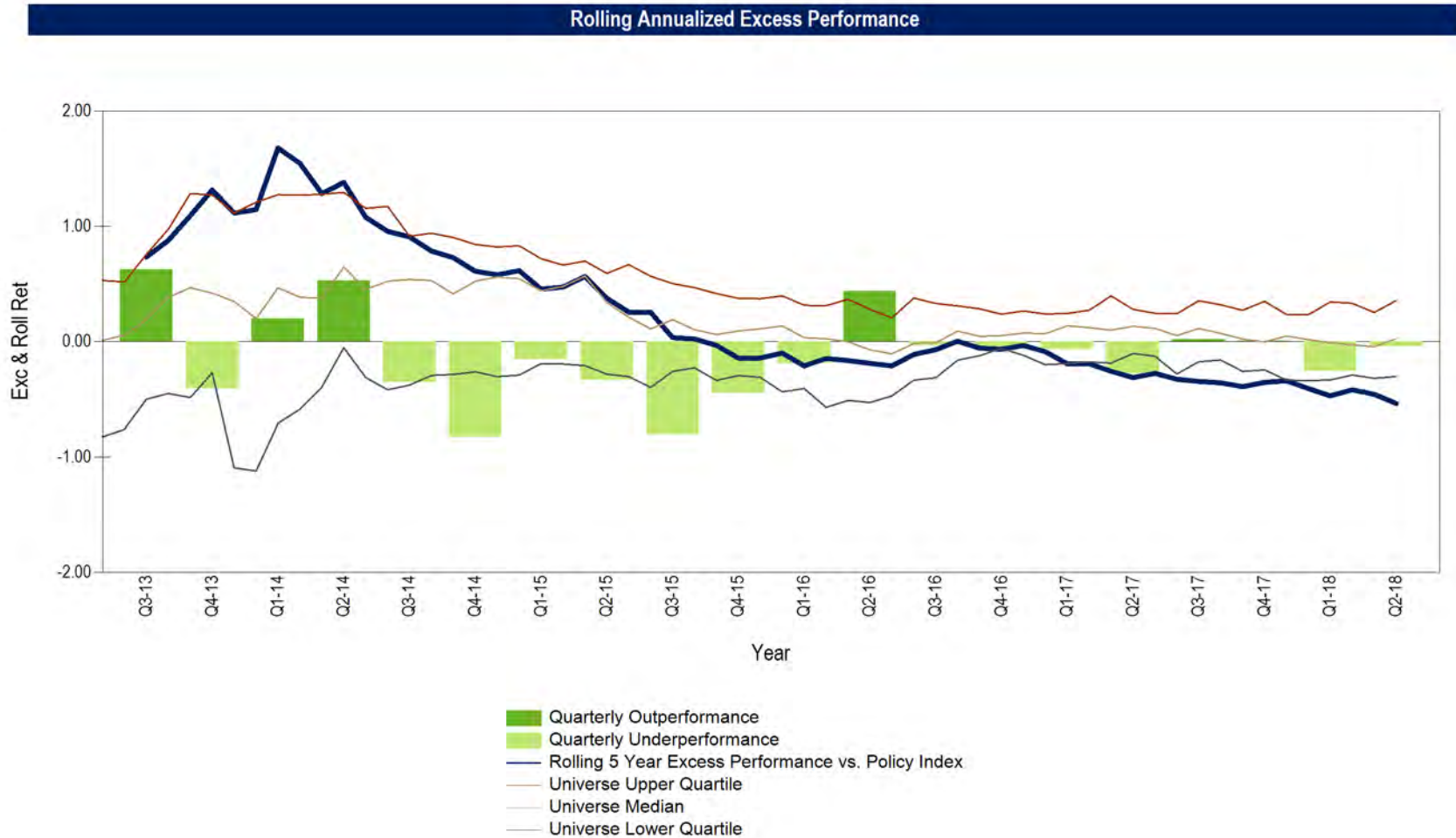


● Total Fund
Value 0.7
Rank 51
▲ Policy Index
Value 0.8
Rank 38

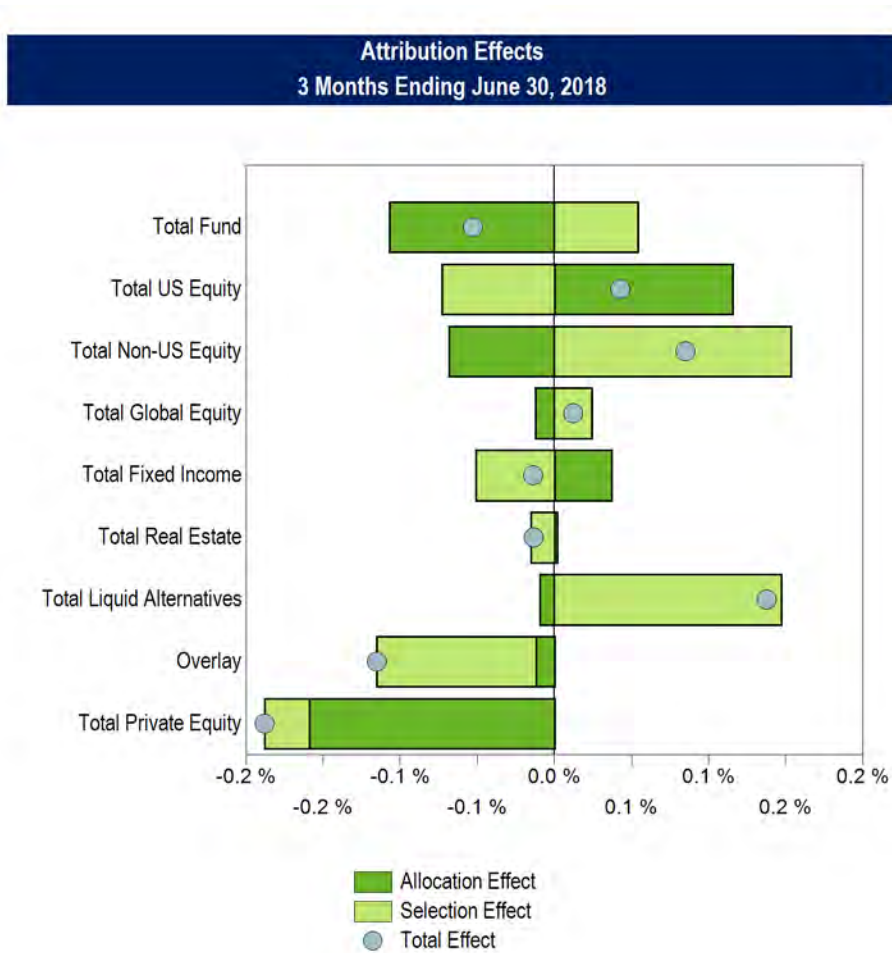
Universe
5th %tile 0.9
25th %tile 0.8
Median 0.7
75th %tile 0.6
95th %tile 0.5



ROLLING 5 YEAR EXCESS RETURNS- NET OF FEES



TOTAL FUND ATTRIBUTION ANALYSIS

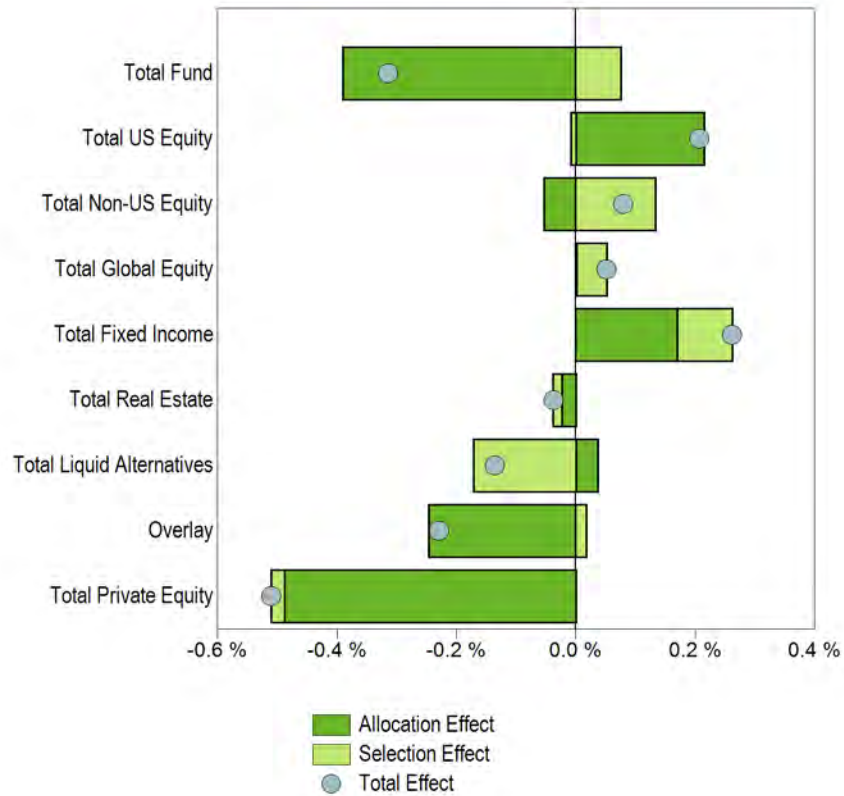


Attribution Summary						
3 Months Ending June 30, 2018						
	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Total Effects
Total US Equity	3.7%	3.9%	-0.2%	-0.1%	0.1%	0.0%
Total Non-US Equity	-1.7%	-2.6%	0.9%	0.2%	-0.1%	0.1%
Total Global Equity	0.7%	0.5%	0.2%	0.0%	0.0%	0.0%
Total Fixed Income	-0.4%	-0.2%	-0.3%	-0.1%	0.0%	0.0%
Total Real Estate	1.6%	1.8%	-0.2%	0.0%	0.0%	0.0%
Total Liquid Alternatives	3.8%	2.0%	1.9%	0.1%	0.0%	0.1%
Overlay	-7.4%	0.5%	-7.9%	-0.1%	0.0%	-0.1%
Total Private Equity	4.0%	4.6%	-0.7%	0.0%	-0.2%	-0.2%
Total	1.4%	1.5%	-0.1%	0.1%	-0.1%	-0.1%



TOTAL FUND ATTRIBUTION ANALYSIS

Attribution Effects 1 Year Ending June 30, 2018

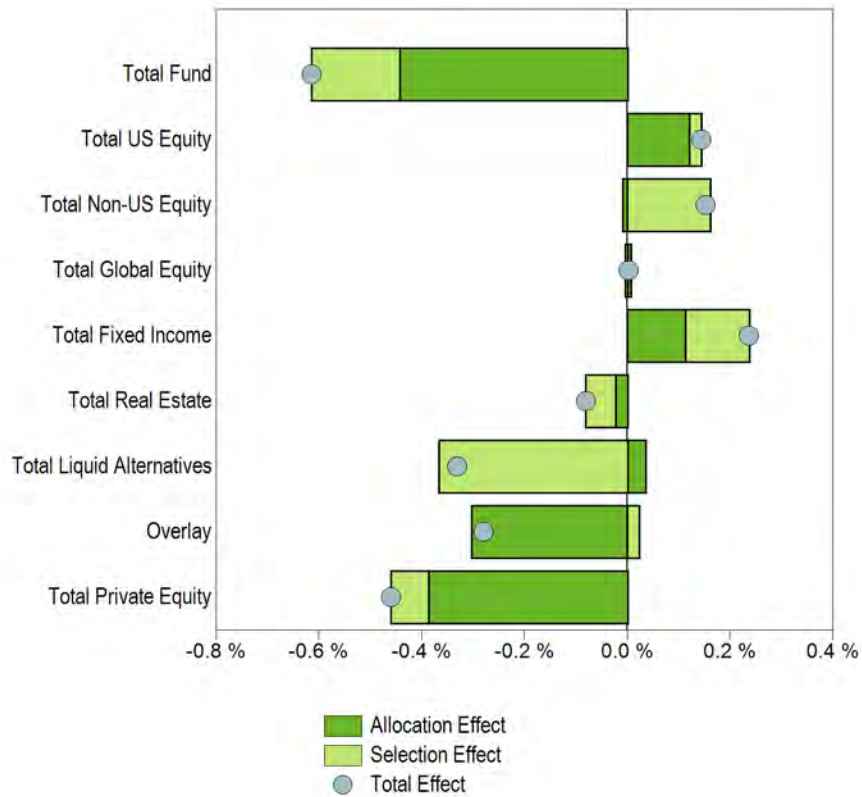


Attribution Summary 1 Year Ending June 30, 2018						
	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Total Effects
Total US Equity	14.8%	14.8%	0.0%	0.0%	0.2%	0.2%
Total Non-US Equity	8.1%	7.3%	0.8%	0.1%	-0.1%	0.1%
Total Global Equity	11.2%	10.7%	0.5%	0.0%	0.0%	0.1%
Total Fixed Income	0.1%	-0.4%	0.5%	0.1%	0.2%	0.3%
Total Real Estate	7.3%	7.5%	-0.2%	0.0%	0.0%	0.0%
Total Liquid Alternatives	4.8%	7.0%	-2.2%	-0.2%	0.0%	-0.1%
Overlay	0.0%	1.4%	-1.4%	0.0%	-0.2%	-0.2%
Total Private Equity	17.9%	18.2%	-0.3%	0.0%	-0.5%	-0.5%
Total	8.9%	9.2%	-0.3%	0.1%	-0.4%	-0.3%



TOTAL FUND ATTRIBUTION ANALYSIS

Attribution Effects
3 Years Ending June 30, 2018

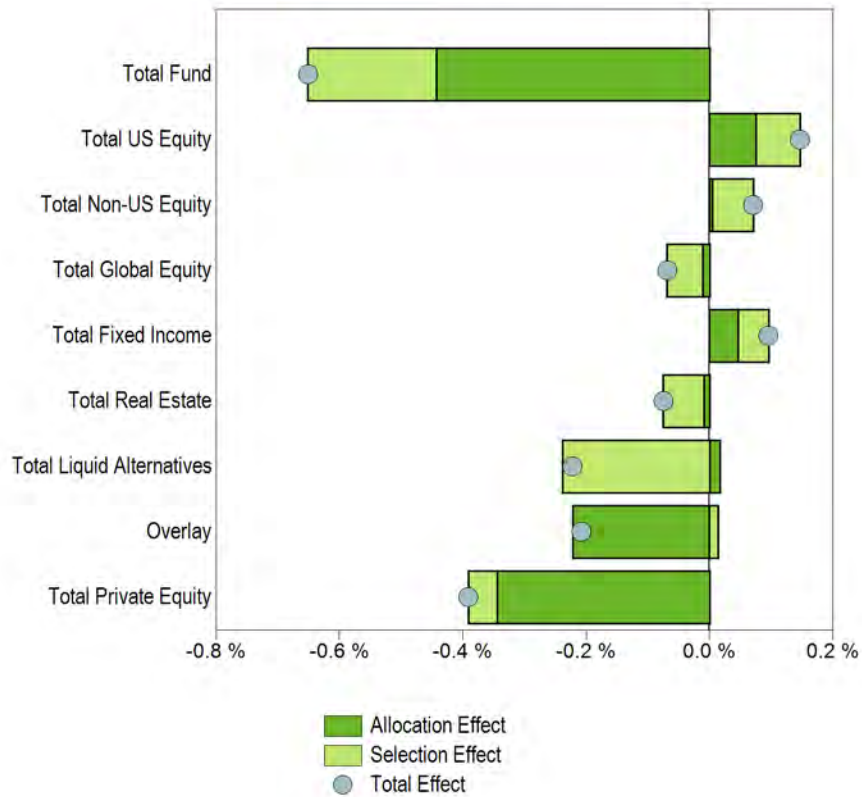


Attribution Summary						
3 Years Ending June 30, 2018						
	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Total Effects
Total US Equity	11.6%	11.6%	0.1%	0.0%	0.1%	0.1%
Total Non-US Equity	6.3%	5.1%	1.2%	0.2%	0.0%	0.2%
Total Global Equity	8.1%	8.2%	0.0%	0.0%	0.0%	0.0%
Total Fixed Income	2.4%	1.7%	0.8%	0.1%	0.1%	0.2%
Total Real Estate	7.7%	8.4%	-0.7%	-0.1%	0.0%	-0.1%
Total Liquid Alternatives	1.6%	5.9%	-4.3%	-0.4%	0.0%	-0.3%
Overlay	1.0%	0.7%	0.3%	0.0%	-0.3%	-0.3%
Total Private Equity	14.1%	14.9%	-0.7%	-0.1%	-0.4%	-0.5%
Total	7.3%	7.9%	-0.6%	-0.2%	-0.4%	-0.6%



TOTAL FUND ATTRIBUTION ANALYSIS

Attribution Effects
5 Years Ending June 30, 2018



Attribution Summary						
5 Years Ending June 30, 2018						
	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Total Effects
Total US Equity	13.5%	13.2%	0.2%	0.1%	0.1%	0.1%
Total Non-US Equity	6.6%	6.0%	0.6%	0.1%	0.0%	0.1%
Total Global Equity	8.8%	9.4%	-0.6%	-0.1%	0.0%	-0.1%
Total Fixed Income	2.3%	2.0%	0.3%	0.0%	0.0%	0.1%
Total Real Estate	9.2%	10.0%	-0.8%	-0.1%	0.0%	-0.1%
Total Liquid Alternatives	4.2%	6.4%	-2.2%	-0.2%	0.0%	-0.2%
Overlay	--	0.4%	--	0.0%	-0.2%	-0.2%
Total Private Equity	15.6%	16.6%	-1.0%	0.0%	-0.3%	-0.4%
Total	8.2%	8.8%	-0.6%	-0.1%	-0.5%	-0.6%



Ventura County Employees' Retirement Association

TOTAL FUND RISK STATISTICS

1 Year Ending June 30, 2018												
	% of Tot	Anlzd Ret	Rank	Anlzd Std Dev	Rank	Anlzd AJ	Rank	Tracking Error	Rank	Info Ratio	Rank	Beta
Total Equity	60.1%	12.2%	28	8.3%	93	1.9%	21	1.0%	17	1.6	3	1.0
MSCI ACWI	--	10.7%	84	8.6%	99	0.0%	48	0.0%	1	--	--	1.0
Total US Equity	32.8%	14.8%	39	8.3%	96	-0.2%	56	0.5%	8	-0.1	39	1.0
Russell 3000	--	14.8%	38	8.2%	89	0.0%	48	0.0%	1	--	--	1.0
Total Non-US Equity	16.1%	8.1%	34	9.5%	62	1.1%	31	0.7%	7	1.1	6	1.0
MSCI ACWI ex USA	--	7.3%	48	9.9%	83	0.0%	47	0.0%	1	--	--	1.0
Total Global Equity	11.1%	11.2%	13	8.6%	79	0.5%	43	0.1%	1	3.7	1	1.0
MSCI ACWI	--	10.7%	19	8.6%	79	0.0%	49	0.0%	1	--	--	1.0
Total Fixed Income	17.7%	0.1%	59	1.8%	70	0.0%	66	0.8%	45	0.6	61	0.7
Total Fixed Income Policy Index	--	-0.4%	77	2.4%	93	0.0%	67	0.0%	1	--	--	1.0
Total US Fixed Income	17.7%	0.1%	47	1.8%	70	0.0%	69	0.8%	65	0.6	70	0.7
BBgBarc US Aggregate TR	--	-0.4%	77	2.4%	94	0.0%	71	0.0%	1	--	--	1.0
Total Liquid Alternatives	8.1%	4.8%	--	6.9%	--	9.7%	--	7.0%	--	-0.3	--	-1.1
CPI + 4% (Unadjusted)	--	7.0%	--	0.8%	--	0.0%	--	0.0%	--	--	--	1.0

	% of Tot	Anlzd Ret	Rank	Anlzd Std Dev	Rank
Total Real Estate	7.8%	7.3%	66	3.1%	66
NCREIF ODCE Net	--	7.5%	60	3.1%	68
Total Private Equity	5.5%	17.9%	27	5.6%	47
Russell 3000 + 3%	--	18.2%	24	8.2%	83

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 95 portfolios), Total US Equity (InvestorForce Public DB US Eq consists of 183 portfolios), Total Non-US Equity (InvestorForce Public DB ex-US Eq consists of 132 portfolios), Total Global Equity (InvestorForce Public DB Gbl Eq consists of 40 portfolios), Total Fixed Income (InvestorForce Public DB Total Fix Inc consists of 94 portfolios), Total US Fixed Income (InvestorForce Public DB US Fix Inc consists of 116 portfolios), Total Real Estate (InvestorForce Public DB Real Estate Pub+Priv consists of 72 portfolios) and Total Private Equity (InvestorForce Public DB Private Eq consists of 48 portfolios).



Ventura County Employees' Retirement Association

TOTAL FUND RISK STATISTICS

3 Years Ending June 30, 2018												
	% of Tot	Anlzd Ret	Rank	Anlzd Std Dev	Rank	Anlzd AJ	Rank	Tracking Error	Rank	Info Ratio	Rank	Beta
Total Equity	60.1%	9.6%	23	10.3%	74	1.7%	11	1.2%	31	1.2	1	1.0
MSCI ACWI	--	8.2%	85	10.7%	90	0.0%	71	0.0%	1	--	--	1.0
Total US Equity	32.8%	11.6%	28	10.4%	65	0.0%	30	0.3%	3	0.2	11	1.0
Russell 3000	--	11.6%	32	10.3%	60	0.0%	30	0.0%	1	--	--	1.0
Total Non-US Equity	16.1%	6.3%	34	11.6%	48	1.4%	32	1.1%	7	1.1	6	1.0
MSCI ACWI ex USA	--	5.1%	67	12.2%	80	0.0%	63	0.0%	1	--	--	1.0
Total Global Equity	11.1%	8.1%	15	10.6%	72	0.0%	62	0.8%	1	-0.1	30	1.0
MSCI ACWI	--	8.2%	14	10.7%	72	0.0%	66	0.0%	1	--	--	1.0
Total Fixed Income	17.7%	2.4%	46	2.5%	49	1.0%	39	1.6%	57	0.5	39	0.8
Total Fixed Income Policy Index	--	1.7%	64	2.6%	59	0.0%	85	0.0%	1	--	--	1.0
Total US Fixed Income	17.7%	2.5%	29	2.5%	62	1.0%	28	1.6%	73	0.5	46	0.8
BBgBarc US Aggregate TR	--	1.7%	56	2.6%	71	0.0%	83	0.0%	1	--	--	1.0
Total Liquid Alternatives	8.1%	1.6%	--	9.3%	--	-20.4%	--	9.0%	--	-0.5	--	4.1
CPI + 4% (Unadjusted)	--	5.9%	--	0.8%	--	0.0%	--	0.0%	--	--	--	1.0

	% of Tot	Anlzd Ret	Rank	Anlzd Std Dev	Rank
Total Real Estate	7.8%	7.7%	87	3.4%	49
NCREIF ODCE Net	--	8.4%	63	3.6%	55
Total Private Equity	5.5%	14.1%	17	6.1%	59
Russell 3000 + 3%	--	14.9%	13	10.3%	93

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 84 portfolios), Total US Equity (InvestorForce Public DB US Eq consists of 169 portfolios), Total Non-US Equity (InvestorForce Public DB ex-US Eq consists of 124 portfolios), Total Global Equity (InvestorForce Public DB Gbl Eq consists of 34 portfolios), Total Fixed Income (InvestorForce Public DB Total Fix Inc consists of 85 portfolios), Total US Fixed Income (InvestorForce Public DB US Fix Inc consists of 111 portfolios), Total Real Estate (InvestorForce Public DB Real Estate Pub+Priv consists of 68 portfolios) and Total Private Equity (InvestorForce Public DB Private Eq consists of 47 portfolios).



Ventura County Employees' Retirement Association

TOTAL FUND RISK STATISTICS

5 Years Ending June 30, 2018												
	% of Tot	Anlzd Ret	Rank	Anlzd Std Dev	Rank	Anlzd AJ	Rank	Tracking Error	Rank	Info Ratio	Rank	Beta
Total Equity	60.1%	10.7%	47	9.9%	61	1.6%	8	1.2%	29	1.1	1	1.0
MSCI ACWI	--	9.4%	85	10.2%	86	0.0%	66	0.0%	1	--	--	1.0
Total US Equity	32.8%	13.5%	14	10.0%	49	0.2%	15	0.3%	2	0.7	1	1.0
Russell 3000	--	13.2%	23	10.0%	42	0.0%	23	0.0%	1	--	--	1.0
Total Non-US Equity	16.1%	6.6%	44	11.1%	31	0.9%	39	1.1%	5	0.5	27	0.9
MSCI ACWI ex USA	--	6.0%	68	11.6%	75	0.0%	65	0.0%	1	--	--	1.0
Total Global Equity	11.1%	8.8%	73	10.3%	56	-0.6%	91	1.0%	1	-0.6	99	1.0
MSCI ACWI	--	9.4%	69	10.2%	50	0.0%	88	0.0%	1	--	--	1.0
Total Fixed Income	17.7%	2.3%	55	2.3%	30	0.8%	31	1.6%	55	0.2	42	0.7
Total Fixed Income Policy Index	--	2.0%	67	2.7%	49	0.0%	82	0.0%	1	--	--	1.0
Total US Fixed Income	17.7%	2.6%	48	2.2%	43	1.0%	25	1.8%	83	0.2	62	0.6
BBgBarc US Aggregate TR	--	2.3%	53	2.7%	69	0.0%	84	0.0%	1	--	--	1.0
Total Liquid Alternatives	8.1%	4.2%	--	8.7%	--	0.2%	--	8.7%	--	-0.3	--	0.6
CPI + 4% (Unadjusted)	--	6.4%	--	2.3%	--	0.0%	--	0.0%	--	--	--	1.0

	% of Tot	Anlzd Ret	Rank	Anlzd Std Dev	Rank
Total Real Estate	7.8%	9.2%	82	3.9%	46
NCREIF ODCE Net	--	10.0%	61	4.2%	59
Total Private Equity	5.5%	15.6%	22	6.5%	59
Russell 3000 + 3%	--	16.7%	16	10.0%	86

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 66 portfolios), Total US Equity (InvestorForce Public DB US Eq consists of 137 portfolios), Total Non-US Equity (InvestorForce Public DB ex-US Eq consists of 104 portfolios), Total Global Equity (InvestorForce Public DB Gbl Eq consists of 16 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 93 portfolios), Total Real Estate (InvestorForce Public DB Real Estate Pub+Priv consists of 62 portfolios) and Total Private Equity (InvestorForce Public DB Private Eq consists of 44 portfolios).



Ventura County Employees' Retirement Association

TOTAL FUND PERFORMANCE DETAIL (NET)

	Market Value (\$)	% of Portfolio	Policy %	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Total Fund	5,370,442,517	100.0	100.0	1.5	16	0.9	39	8.9	22	7.3	22	8.3	22	6.8	16	8.0	Apr-94
Policy Index				1.5	11	1.2	30	9.2	13	7.9	6	8.9	8	6.9	14	8.1	Apr-94
Over/Under				0.0		-0.3		-0.3		-0.6		-0.6		-0.1		-0.1	
60% MSCI ACWI (Net) / 40% CITI WGBI				-1.0	99	-0.6	98	7.2	79	6.2	76	6.2	96	4.6	98	--	Apr-94
60% S&P 500 / 40% BBgBarc Aggregate				2.0	4	1.0	32	8.3	34	7.9	6	9.0	8	7.8	3	8.3	Apr-94
InvestorForce Public DB > \$1B Net Median				0.6		0.6		8.0		6.7		7.5		6.1		7.4	Apr-94
Total Fund ex Parametric*	5,314,815,484	99.0	--	1.4	--	0.8	--	8.7	--	7.2	--	8.3	--	6.7	--	8.0	Apr-94
Total Fund ex Private Equity	5,075,691,723	94.5	--	1.3	20	0.5	55	8.5	32	7.0	31	7.9	45	--	--	8.9	Jan-12
Policy Index				1.5	11	1.2	30	9.2	13	7.9	6	8.9	8	6.9	14	9.6	Jan-12
Over/Under				-0.2		-0.7		-0.7		-0.9		-1.0				-0.7	
InvestorForce Public DB > \$1B Net Median				0.6		0.6		8.0		6.7		7.5		6.1		8.7	Jan-12
Total US Equity	1,761,716,123	32.8	28.0	3.7	49	2.9	54	14.8	39	11.6	28	13.5	14	10.4	22	9.3	Dec-93
Russell 3000				3.9	41	3.2	48	14.8	38	11.6	32	13.2	23	10.3	33	9.7	Dec-93
Over/Under				-0.2		-0.3		0.0		0.0		0.3		0.1		-0.4	
InvestorForce Public DB US Eq Net Median				3.7		3.1		14.3		11.2		12.8		10.0		9.3	Dec-93
Western U.S. Index Plus	202,374,621	3.8		3.3	58	2.2	58	15.3	41	12.5	20	14.0	22	10.1	49	5.9	May-07
S&P 500				3.4	56	2.6	53	14.4	46	11.9	25	13.4	29	10.2	48	7.6	May-07
Over/Under				-0.1		-0.4		0.9		0.6		0.6		-0.1		-1.7	
eV All US Equity Net Median				3.7		3.1		13.7		9.9		12.0		10.0		7.7	May-07
Blackrock Russell 1000 Index	1,494,649,095	27.8		3.6	32	2.9	37	14.6	39	--	--	--	--	--	--	14.3	May-17
Russell 1000				3.6	34	2.9	38	14.5	40	11.6	27	13.4	32	10.2	36	14.2	May-17
Over/Under				0.0		0.0		0.1								0.1	
eV US Large Cap Equity Net Median				2.6		1.4		12.6		9.9		12.1		9.6		12.5	May-17
Blackrock Russell 2500 Index	64,692,407	1.2		5.8	31	5.5	43	16.3	43	--	--	--	--	--	--	15.2	May-17
Russell 2500				5.7	31	5.5	44	16.2	43	10.3	38	12.3	36	10.7	43	15.1	May-17
Over/Under				0.1		0.0		0.1								0.1	
eV US Small-Mid Cap Equity Net Median				4.3		4.5		15.1		9.4		11.6		10.4		14.5	May-17

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

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

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



Ventura County Employees' Retirement Association

TOTAL FUND PERFORMANCE DETAIL (NET)

	Market Value (\$)	% of Portfolio	Policy %	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Total Non-US Equity	865,705,331	16.1	15.0	-1.7	13	-3.2	33	8.1	34	6.3	34	6.6	44	3.3	52	6.5	Mar-94
MSCI ACWI ex USA				-2.6	35	-3.8	58	7.3	48	5.1	67	6.0	68	2.5	72	5.3	Mar-94
Over/Under				0.9		0.6		0.8		1.2		0.6		0.8		1.2	
MSCI EAFE				-1.2	11	-2.7	28	6.8	60	4.9	70	6.4	51	2.8	63	4.9	Mar-94
MSCI ACWI ex USA NR LCL				1.9	1	-1.2	10	7.4	45	5.8	43	8.8	1	4.9	8	--	Mar-94
MSCI EAFE NR LCL				3.5	1	-1.0	7	6.1	72	5.2	63	8.9	1	5.0	4	4.9	Mar-94
InvestorForce Public DB ex-US Eq Net Median				-3.2		-3.6		7.1		5.5		6.4		3.3		5.8	Mar-94
BlackRock ACWI ex-U.S. Index	422,851,771	7.9		-2.3	52	-3.4	66	8.0	60	5.7	55	6.6	65	3.1	68	2.9	Mar-07
MSCI ACWI ex USA IMI				-2.6	56	-3.6	73	7.7	64	5.5	61	6.4	70	2.9	71	2.6	Mar-07
Over/Under				0.3		0.2		0.3		0.2		0.2		0.2		0.3	
MSCI ACWI ex USA NR LCL				1.9	7	-1.2	31	7.4	65	5.8	52	8.8	29	4.9	34	3.4	Mar-07
eV ACWI ex-US All Cap Equity Net Median				-2.3		-2.7		9.2		5.8		7.9		4.1		3.8	Mar-07
Sprucegrove	228,055,630	4.2		-1.8	41	-3.7	74	10.4	34	7.2	42	6.8	64	4.5	46	7.7	Mar-02
MSCI ACWI ex USA				-2.6	56	-3.8	75	7.3	66	5.1	65	6.0	73	2.5	77	6.6	Mar-02
Over/Under				0.8		0.1		3.1		2.1		0.8		2.0		1.1	
MSCI EAFE				-1.2	30	-2.7	53	6.8	70	4.9	66	6.4	70	2.8	74	6.1	Mar-02
MSCI ACWI ex USA NR LCL				1.9	7	-1.2	31	7.4	65	5.8	52	8.8	29	4.9	34	5.4	Mar-02
MSCI EAFE NR LCL				3.5	3	-1.0	30	6.1	74	5.2	64	8.9	28	5.0	28	4.7	Mar-02
eV ACWI ex-US All Cap Equity Net Median				-2.3		-2.7		9.2		5.8		7.9		4.1		7.4	Mar-02
Hexavest	90,792,512	1.7		-2.0	67	-3.9	74	1.5	95	3.6	79	4.9	92	--	--	4.2	Dec-10
MSCI EAFE				-1.2	49	-2.7	55	6.8	55	4.9	57	6.4	71	2.8	70	5.2	Dec-10
Over/Under				-0.8		-1.2		-5.3		-1.3		-1.5				-1.0	
MSCI EAFE NR LCL				3.5	1	-1.0	34	6.1	59	5.2	56	8.9	19	5.0	29	7.8	Dec-10
eV EAFE All Cap Equity Net Median				-1.3		-2.0		7.5		5.8		7.2		3.4		6.2	Dec-10
Walter Scott	124,005,417	2.3		0.8	14	-0.4	25	9.4	50	8.3	28	7.1	64	--	--	6.1	Dec-10
MSCI ACWI ex USA				-2.6	56	-3.8	75	7.3	66	5.1	65	6.0	73	2.5	77	4.1	Dec-10
Over/Under				3.4		3.4		2.1		3.2		1.1			2.0		
MSCI ACWI ex USA NR LCL				1.9	7	-1.2	31	7.4	65	5.8	52	8.8	29	4.9	34	7.0	Dec-10
MSCI EAFE				-1.2	30	-2.7	53	6.8	70	4.9	66	6.4	70	2.8	74	5.2	Dec-10
eV ACWI ex-US All Cap Equity Net Median				-2.3		-2.7		9.2		5.8		7.9		4.1		6.3	Dec-10



Ventura County Employees' Retirement Association

TOTAL FUND PERFORMANCE DETAIL (NET)

	Market Value (\$)	% of Portfolio	Policy %	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Total Global Equity	598,302,462	11.1	10.0	0.7	37	-0.2	64	11.2	13	8.1	15	8.8	73	5.1	20	6.2	May-05
MSCI ACWI				0.5	45	-0.4	66	10.7	19	8.2	14	9.4	69	5.8	15	7.0	May-05
Over/Under				0.2		0.2		0.5		-0.1		-0.6		-0.7		-0.8	
InvestorForce Public DB Gbl Eq Net Median				0.4		0.1		9.1		7.7		10.3		3.0		6.2	May-05
BlackRock MSCI ACWI Equity Index	598,302,462	11.1		0.7	59	-0.2	55	11.2	45	8.7	37	9.8	42	--	--	10.9	Aug-12
MSCI ACWI				0.5	62	-0.4	59	10.7	48	8.2	42	9.4	51	5.8	65	10.5	Aug-12
Over/Under				0.2		0.2		0.5		0.5		0.4		0.4		0.4	
eV All Global Equity Net Median				1.3		0.1		10.4		7.6		9.4		6.8		10.9	Aug-12



Ventura County Employees' Retirement Association

TOTAL FUND PERFORMANCE DETAIL (NET)

	Market Value (\$)	% of Portfolio	Policy %	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Total Private Equity	294,750,794	5.5	10.0	4.0	32	9.0	29	17.9	27	14.1	17	15.6	22	--	--	14.6	Jan-12
<i>Russell 3000 + 3%</i>				<u>4.6</u>	19	<u>4.7</u>	84	<u>18.2</u>	24	<u>14.9</u>	13	<u>16.7</u>	16	<u>13.5</u>	1	<u>18.4</u>	Jan-12
Over/Under				-0.6		4.3		-0.3		-0.8		-1.1				-3.8	
<i>Cambridge Associates Global All PE (Qtr Lag)</i>				2.7	55	7.7	41	17.0	35	11.8	56	12.8	58	9.1	46	12.9	Jan-12
<i>InvestorForce Public DB Private Eq Net Median</i>				3.0		7.1		14.5		12.1		13.5		8.7		13.0	Jan-12
Adams Street Global Fund Series	149,479,281	2.8		3.9	--	9.4	--	17.7	--	12.0	--	14.3	--	--	--	13.2	Jan-12
<i>Russell 3000 + 3%</i>				<u>4.6</u>	--	<u>4.7</u>	--	<u>18.2</u>	--	<u>14.9</u>	--	<u>16.7</u>	--	<u>13.5</u>	--	<u>18.4</u>	Jan-12
Over/Under				-0.7		4.7		-0.5		-2.9		-2.4				-5.2	
Harbourvest	72,036,607	1.3		4.3	--	11.4	--	22.2	--	18.5	--	19.4	--	--	--	19.8	Aug-13
<i>Russell 3000 + 3%</i>				<u>4.6</u>	--	<u>4.7</u>	--	<u>18.2</u>	--	<u>14.9</u>	--	<u>16.7</u>	--	<u>13.5</u>	--	<u>15.6</u>	Aug-13
Over/Under				-0.3		6.7		4.0		3.6		2.7				4.2	
Pantheon Global Secondary Funds	35,854,206	0.7		7.8	--	7.9	--	17.6	--	19.9	--	14.8	--	--	--	13.1	Jan-12
<i>Russell 3000 + 3%</i>				<u>4.6</u>	--	<u>4.7</u>	--	<u>18.2</u>	--	<u>14.9</u>	--	<u>16.7</u>	--	<u>13.5</u>	--	<u>18.4</u>	Jan-12
Over/Under				3.2		3.2		-0.6		5.0		-1.9				-5.3	
Drive Capital Fund	4,111,802	0.1		-4.0	--	-4.0	--	-10.9	--	--	--	--	--	--	--	-35.3	Sep-16
<i>Russell 3000 + 3%</i>				<u>4.6</u>	--	<u>4.7</u>	--	<u>18.2</u>	--	<u>14.9</u>	--	<u>16.7</u>	--	<u>13.5</u>	--	<u>19.1</u>	Sep-16
Over/Under				-8.6		-8.7		-29.1								-54.4	
Abbott Secondary Opportunities	5,071,982	0.1		0.0	--	0.0	--	--	--	--	--	--	--	--	--	0.0	Jan-18
<i>Russell 3000 + 3%</i>				<u>4.6</u>	--	<u>4.7</u>	--	<u>18.2</u>	--	<u>14.9</u>	--	<u>16.7</u>	--	<u>13.5</u>	--	<u>4.7</u>	Jan-18
Over/Under				-4.6		-4.7										-4.7	
CVI Credit Value Fund	3,061,224	0.1		2.3	--	2.3	--	--	--	--	--	--	--	--	--	2.3	Jan-18
<i>Russell 3000 + 3%</i>				<u>4.6</u>	--	<u>4.7</u>	--	<u>18.2</u>	--	<u>14.9</u>	--	<u>16.7</u>	--	<u>13.5</u>	--	<u>4.7</u>	Jan-18
Over/Under				-2.3		-2.4										-2.4	
Clearlake Capital Partners V	2,153,176	0.0		-2.4	--	--	--	--	--	--	--	--	--	--	--	-2.4	Mar-18
<i>Russell 3000 + 3%</i>				<u>4.6</u>	--	<u>4.7</u>	--	<u>18.2</u>	--	<u>14.9</u>	--	<u>16.7</u>	--	<u>13.5</u>	--	<u>2.8</u>	Mar-18
Over/Under				-7.0												-5.2	
Battery Ventures XII	584,450	0.0		0.0	--	--	--	--	--	--	--	--	--	--	--	0.0	Apr-18
<i>Russell 3000 + 3%</i>				<u>4.6</u>	--	<u>4.7</u>	--	<u>18.2</u>	--	<u>14.9</u>	--	<u>16.7</u>	--	<u>13.5</u>	--	<u>4.6</u>	Apr-18
Over/Under				-4.6												-4.6	

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

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

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



Ventura County Employees' Retirement Association

TOTAL FUND PERFORMANCE DETAIL (NET)

	Market Value (\$)	% of Portfolio	Policy %	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Insight Venture Partners X	2,750,000	0.1		--	--	--	--	--	--	--	--	--	--	--	--	0.0	May-18
<i>Russell 3000 + 3%</i>				<u>4.6</u>	--	<u>4.7</u>	--	<u>18.2</u>	--	<u>14.9</u>	--	<u>16.7</u>	--	<u>13.5</u>	--	<u>4.0</u>	<i>May-18</i>
Over/Under																-4.0	
GTCR Fund XII	479,498	0.0		--	--	--	--	--	--	--	--	--	--	--	--	0.0	Jun-18
<i>Russell 3000 + 3%</i>				<u>4.6</u>	--	<u>4.7</u>	--	<u>18.2</u>	--	<u>14.9</u>	--	<u>16.7</u>	--	<u>13.5</u>	--	<u>0.9</u>	<i>Jun-18</i>
Over/Under																-0.9	
Buenaventure One, LLC	535,590	0.0		--	--	--	--	--	--	--	--	--	--	--	--	--	Jul-18
<i>Russell 3000 + 3%</i>				<u>4.6</u>	--	<u>4.7</u>	--	<u>18.2</u>	--	<u>14.9</u>	--	<u>16.7</u>	--	<u>13.5</u>	--	--	<i>Jul-18</i>
Over/Under																--	
Abbott Capital Cash	18,632,979	0.3															



VENTURA COUNTY EMPLOYEES' RETIREMENT ASSOCIATION PRIVATE EQUITY LIMITED PARTNERSHIP PERFORMANCE

Fund Name	Vintage Year	Initial Investment Date	Initial 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	\$6,571,982	\$18,790,735	26%	--	\$1,500,000	\$1,000,000	\$2,500,000	-\$4,071,982	-99.9%	0.23x	0.38x
Adams Street 2010 U.S. Fund	2010	5/21/2010	\$42,500,000	\$37,442,500	\$5,057,500	88%	\$15,213	\$22,779,749	\$37,053,193	\$59,832,942	\$22,375,229	13.9%	0.61x	1.6x
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	\$18,863,062	\$32,037,647	\$9,710,809	11.3%	0.59x	1.44x
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	\$9,085,338	\$10,945,182	\$3,567,182	10.6%	0.25x	1.48x
Adams Street 2010 Direct Fund	2010	5/21/2010	\$8,500,000	\$8,046,100	\$453,900	95%	\$6,697	\$8,141,277	\$5,300,602	\$13,441,879	\$5,389,082	12.4%	1.01x	1.67x
Adams Street 2013 Global Fund	2013	6/27/2013	\$75,000,000	\$53,250,000	\$21,750,000	71%	\$10,728	\$6,236,204	\$59,594,061	\$65,830,265	\$12,569,537	8.3%	0.12x	1.24x
Adams Street 2016 Global Fund	2016	12/22/2016	\$60,000,000	\$16,950,000	\$43,050,000	28%	\$0	\$2,082,389	\$16,663,078	\$18,745,467	\$1,795,467	17.6%	0.12x	1.11x
Battery Ventures XII	2018	2/1/2018	\$9,050,000	\$533,950	\$8,516,050	6%	\$0	\$0	\$505,308	\$505,308	-\$28,642	-34.8%	0x	0.95x
Battery Ventures XII Side Fund	2018	2/1/2018	\$5,050,000	\$50,500	\$4,999,500	1%	\$0	\$0	\$44,495	\$44,495	-\$6,005	-38.2%	0x	0.88x
Buenaventure One, LLC	2018	1/5/2018	\$37,250,000	\$535,590	\$36,714,410	0%	--	--	\$535,590	\$535,590	--	0.0%	--	--
Clearlake Capital Partners V	2017	12/22/2017	\$9,950,000	\$2,189,963	\$7,760,847	22%	\$46,158	\$2,397	\$2,119,050	\$2,121,447	-\$114,674	-14.6%	0x	0.97x
CVI Credit Value Fund IV	2017	12/31/2017	\$30,000,000	\$3,000,000	\$27,000,000	10%	--	\$6,147	\$3,032,831	\$3,038,978	\$38,978	3.3%	0x	1.01x
Drive Capital Fund II	2016	9/1/2016	\$15,000,000	\$4,724,107	\$10,279,103	31%	\$3,210	\$0	\$4,111,804	\$4,111,804	-\$615,513	-15.3%	0x	0.87x
GTCR Fund XII	2017	9/29/2017	\$30,000,000	\$744,000	\$29,256,000	2%	--	\$264,502	\$133,170	\$397,672	-\$346,328	-100.0%	0.36x	0.53x
Insight Venture Partners X	2017	10/13/2017	\$25,000,000	\$2,750,000	\$22,250,000	11%	--	--	\$2,529,155	\$2,529,155	-\$220,845	-33.8%	--	0.92x
HarbourVest - Dover Street VIII	2013	5/30/2013	\$67,500,000	\$59,822,454	\$7,762,500	89%	\$84,954	\$60,419,800	\$29,800,712	\$90,220,512	\$30,313,104	21.5%	1.01x	1.51x
HarbourVest - Dover Street IX	2016	12/16/2016	\$60,000,000	\$19,200,000	\$40,800,000	32%	\$0	\$4,832,781	\$19,815,060	\$24,647,841	\$5,447,841	48.1%	0.25x	1.28x
HarbourVest - PRTNS CO INVEST IV L.P.	2017	6/2/2017	\$30,000,000	\$21,156,100	\$9,040,640	71%	\$0	\$0	\$22,778,807	\$22,778,807	\$1,622,707	10.5%	0x	1.08x
M/C Partners VIII	2018	4/2/2018	\$10,000,000	--	\$10,000,000	0%	--	--	--	--	--	--	--	--
Pantheon Global Secondary Fund IV	2010	8/20/2010	\$15,000,000	\$9,960,000	\$5,040,000	66%	\$0	\$12,450,001	\$3,177,708	\$15,627,709	\$5,667,709	14.1%	1.25x	1.57x
Pantheon Global Secondary Fund V	2015	2/26/2015	\$50,000,000	\$30,341,509	\$19,658,491	61%	(\$162,514)	\$7,200,000	\$31,953,626	\$39,153,626	\$8,974,631	19.2%	0.24x	1.29x
The Resolute Fund IV	2018	5/2/2018	\$20,000,000	--	\$20,000,000	0%	--	--	--	--	--	--	--	--
Total VCERA Private Equity Program	--	5/21/2010	\$658,800,000	\$306,972,004	\$352,476,427	47%	\$6,035	\$140,949,676	\$268,096,650	\$409,046,326	\$102,068,287	13.7%	0.46x	1.33x

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 6/30/2018 recent statement of investments produced by Abbott Capital.



Ventura County Employees' Retirement Association

TOTAL FUND PERFORMANCE DETAIL (NET)

	Market Value (\$)	% of Portfolio	Policy %	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Total US Fixed Income	948,051,558	17.7	20.0	-0.4	93	-1.3	74	0.1	47	2.5	29	2.6	48	5.2	11	5.7	Feb-94
BBgBarc US Aggregate TR				-0.2	69	-1.6	92	-0.4	77	1.7	56	2.3	53	3.7	57	5.2	Feb-94
Over/Under				-0.2		0.3		0.5		0.8		0.3		1.5		0.5	
InvestorForce Public DB US Fix Inc Net Median				0.0		-0.9		-0.2		2.0		2.5		3.9		5.3	Feb-94
BlackRock U.S. Debt Fund	219,585,713	4.1		-0.1	72	-1.6	75	-0.4	75	1.8	59	2.3	56	3.8	56	5.0	Nov-95
BBgBarc US Aggregate TR				-0.2	73	-1.6	75	-0.4	76	1.7	60	2.3	58	3.7	58	5.0	Nov-95
Over/Under				0.1		0.0		0.0		0.1		0.0		0.1		0.0	
eV All US Fixed Inc Net Median				0.2		-0.6		0.3		2.1		2.6		4.1		4.9	Nov-95
Western	292,342,911	5.4		-0.8	88	-2.1	84	-0.3	70	2.8	39	3.4	38	5.1	31	5.9	Dec-96
BBgBarc US Aggregate TR				-0.2	73	-1.6	75	-0.4	76	1.7	60	2.3	58	3.7	58	5.0	Dec-96
Over/Under				-0.6		-0.5		0.1		1.1		1.1		1.4		0.9	
eV All US Fixed Inc Net Median				0.2		-0.6		0.3		2.1		2.6		4.1		5.0	Dec-96
Reams	307,608,985	5.7		-0.2	73	-0.6	50	0.0	59	2.3	47	1.4	81	5.2	30	5.2	Sep-01
Reams Custom Index				0.6	22	1.1	12	1.8	23	1.1	81	0.8	93	3.1	70	3.9	Sep-01
Over/Under				-0.8		-1.7		-1.8		1.2		0.6		2.1		1.3	
BBgBarc US Aggregate TR				-0.2	73	-1.6	75	-0.4	76	1.7	60	2.3	58	3.7	58	4.2	Sep-01
3-Month LIBOR + 3%				1.3	5	2.6	4	4.8	6	4.1	23	3.8	31	3.8	57	4.8	Sep-01
eV All US Fixed Inc Net Median				0.2		-0.6		0.3		2.1		2.6		4.1		4.3	Sep-01
Loomis Strategic Alpha	46,623,597	0.9		0.0	65	0.9	13	3.1	13	2.6	42	2.7	49	--	--	2.6	Jul-13
BBgBarc US Aggregate TR				-0.2	73	-1.6	75	-0.4	76	1.7	60	2.3	58	3.7	58	2.3	Jul-13
Over/Under				0.2		2.5		3.5		0.9		0.4		0.3		0.3	
3-Month LIBOR + 3%				1.3	5	2.6	4	4.8	6	4.1	23	3.8	31	3.8	57	3.8	Jul-13
eV All US Fixed Inc Net Median				0.2		-0.6		0.3		2.1		2.6		4.1		2.5	Jul-13
Loomis Sayles Multi Strategy	81,890,351	1.5		-1.1	90	-1.8	80	0.9	38	3.5	31	4.4	24	6.6	18	6.2	Jul-05
Loomis Custom Index				0.2	50	-1.0	60	0.6	44	2.8	39	3.1	41	5.0	33	4.9	Jul-05
Over/Under				-1.3		-0.8		0.3		0.7		1.3		1.6		1.3	
BBgBarc US Govt/Credit TR				-0.3	80	-1.9	82	-0.6	84	1.8	57	2.3	57	3.8	57	3.9	Jul-05
eV All US Fixed Inc Net Median				0.2		-0.6		0.3		2.1		2.6		4.1		4.0	Jul-05

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

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

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



Ventura County Employees' Retirement Association

TOTAL FUND PERFORMANCE DETAIL (NET)

	Market Value (\$)	% of Portfolio	Policy %	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Total Real Estate	419,523,044	7.8	7.0	1.6	79	3.6	62	7.3	66	7.7	87	9.2	82	3.1	96	7.8	Mar-94
<i>NCREIF ODCE Net</i>				<u>1.8</u>	66	<u>3.8</u>	48	<u>7.5</u>	60	<u>8.4</u>	63	<u>10.0</u>	61	<u>4.3</u>	64	<u>8.1</u>	<i>Mar-94</i>
<i>Over/Under</i>				-0.2		-0.2		-0.2		-0.7		-0.8		-1.2		-0.3	
<i>InvestorForce Public DB Real Estate Pub+Priv Net Median</i>				2.1		3.8		7.9		8.8		10.3		5.0		8.9	<i>Mar-94</i>
Prudential Real Estate	150,332,587	2.8		1.7	--	4.0	--	8.1	--	9.1	--	10.7	--	4.0	--	6.3	Jun-04
<i>NCREIF ODCE Net</i>				<u>1.8</u>	--	<u>3.8</u>	--	<u>7.5</u>	--	<u>8.4</u>	--	<u>10.0</u>	--	<u>4.3</u>	--	<u>7.1</u>	<i>Jun-04</i>
<i>Over/Under</i>				-0.1		0.2		0.6		0.7		0.7		-0.3		-0.8	
<i>NCREIF ODCE</i>				2.1	--	4.3	--	8.4	--	9.4	--	11.0	--	5.3	--	8.1	<i>Jun-04</i>
UBS Real Estate	269,190,457	5.0		1.6	--	3.3	--	6.9	--	7.0	--	8.4	--	4.5	--	7.4	Mar-03
<i>NCREIF ODCE Net</i>				<u>1.8</u>	--	<u>3.8</u>	--	<u>7.5</u>	--	<u>8.4</u>	--	<u>10.0</u>	--	<u>4.3</u>	--	<u>7.3</u>	<i>Mar-03</i>
<i>Over/Under</i>				-0.2		-0.5		-0.6		-1.4		-1.6		0.2		0.1	
<i>NCREIF ODCE</i>				2.1	--	4.3	--	8.4	--	9.4	--	11.0	--	5.3	--	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	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Total Liquid Alternatives	434,082,679	8.1	10.0	3.8	--	0.0	--	4.8	--	1.6	--	4.2	--	--	--	4.6	Apr-13
CPI + 4% (Unadjusted)				2.0	--	4.2	--	7.0	--	5.9	--	6.4	--	--	--	6.4	Apr-13
Over/Under				1.8		-4.2		-2.2		-4.3		-2.2				-1.8	
Bridgewater All Weather Fund	313,853,932	5.8		1.1	--	-0.2	--	7.5	--	4.4	--	--	--	--	--	5.1	Aug-13
CPI + 5% (Unadjusted)				2.2	--	4.7	--	8.0	--	6.9	--	--	--	--	--	6.6	Aug-13
Over/Under				-1.1		-4.9		-0.5		-2.5						-1.5	
Tortoise Energy Infrastructure	120,228,747	2.2		11.7	--	0.7	--	-1.9	--	-4.6	--	0.8	--	--	--	1.3	Apr-13
Wells Fargo MLP Index				11.3	--	-1.3	--	-4.0	--	-7.4	--	-3.3	--	--	--	-2.9	Apr-13
Over/Under				0.4		2.0		2.1		2.8		4.1				4.2	
Overlay	48,310,527	0.9	0.0														
Parametric	48,310,527	0.9															

Overlay performance is not applicable on an individual account level.

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

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



MANAGER DUE DILIGENCE

NEPC, LLC

DUE DILIGENCE MONITOR

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

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



DUE DILIGENCE MONITOR

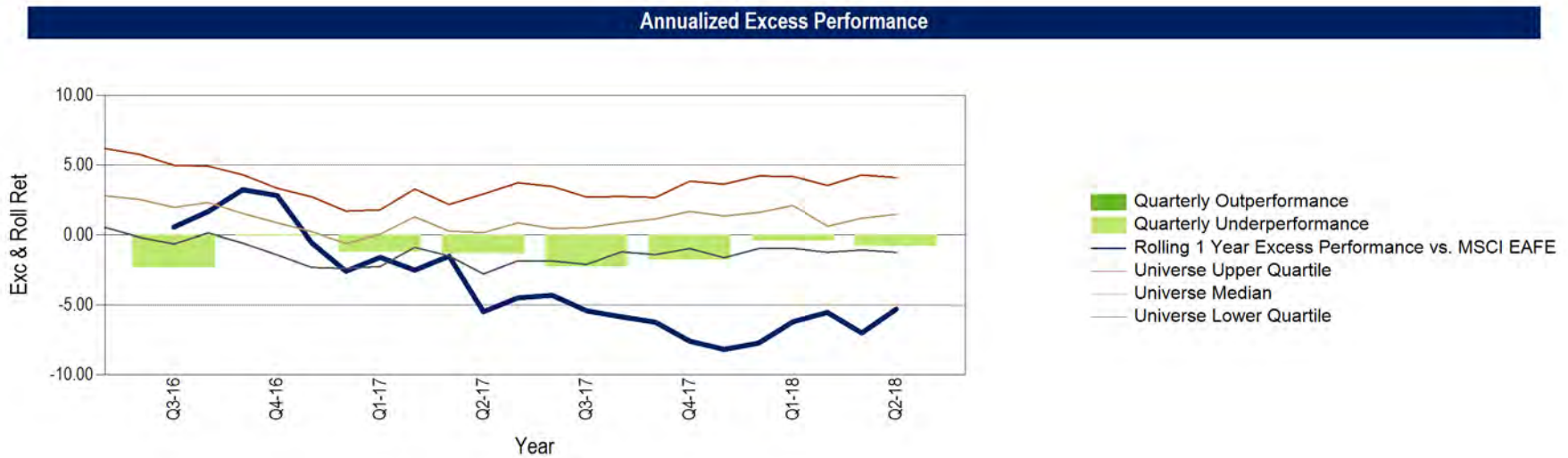
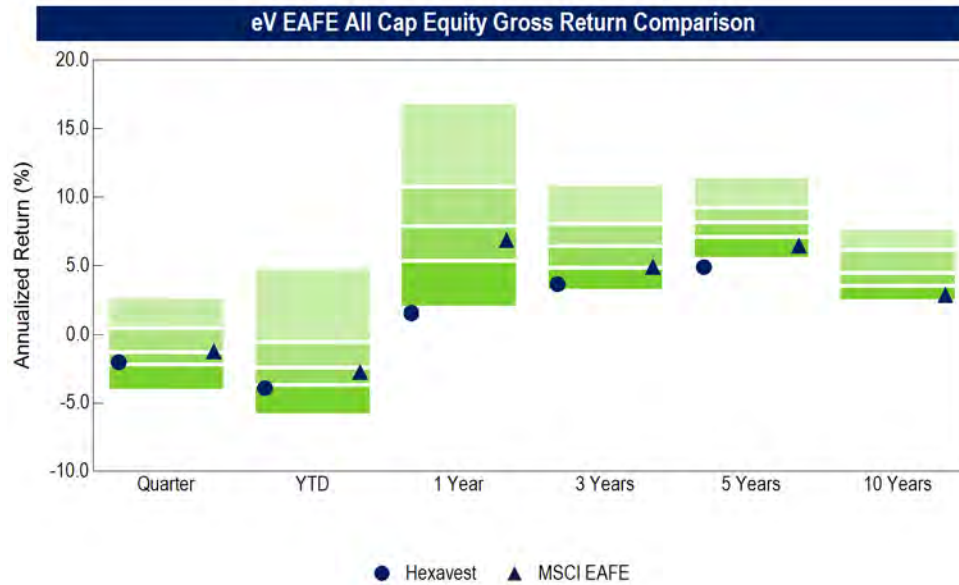
	Performance (Recent Quarter)	Changes/ Announcements (Recent Quarter)	NEPC DD Committee Rec.	Plan Rec.	Comments	Last Onsite Conducted
Loomis Sayles Strategic Alpha	-	-	-	-		11/2013
Loomis Sayles Multi-Sector Full Discretion	Bottom Quartile	-	-	-		11/2013
Prudential	N/A	-	-	-		7/2014
RREEF	N/A	-	-	-		7/2013
UBS	N/A	-	-	-		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.

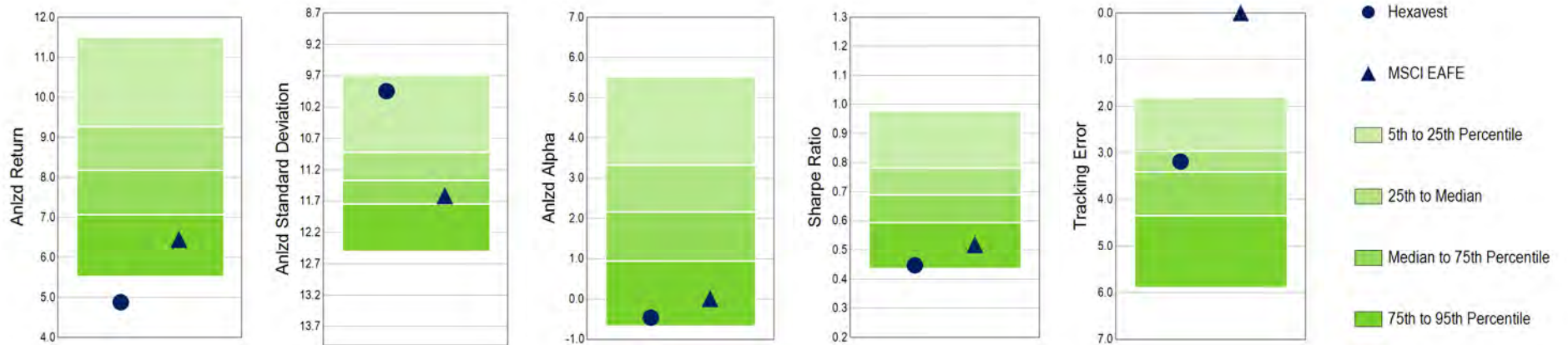
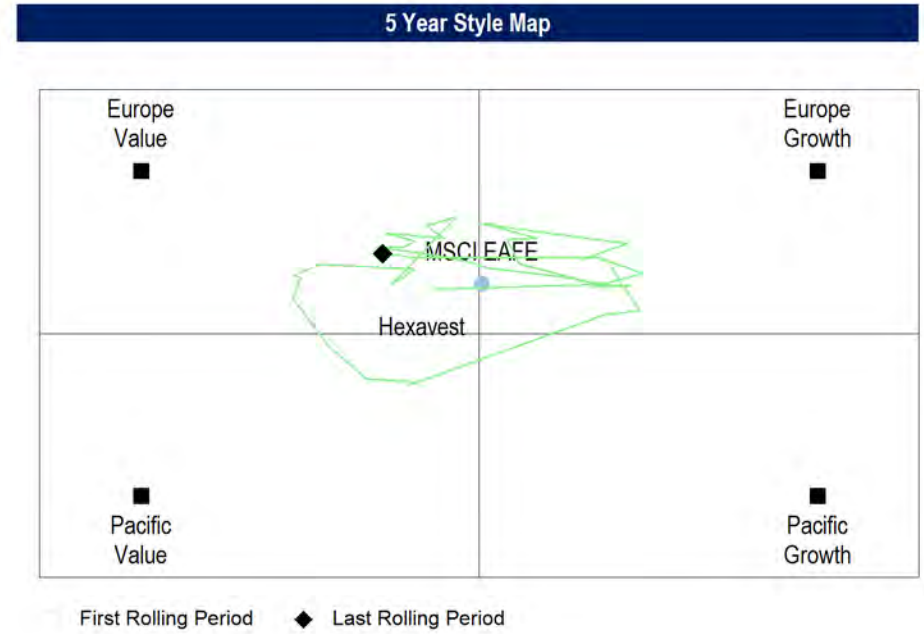
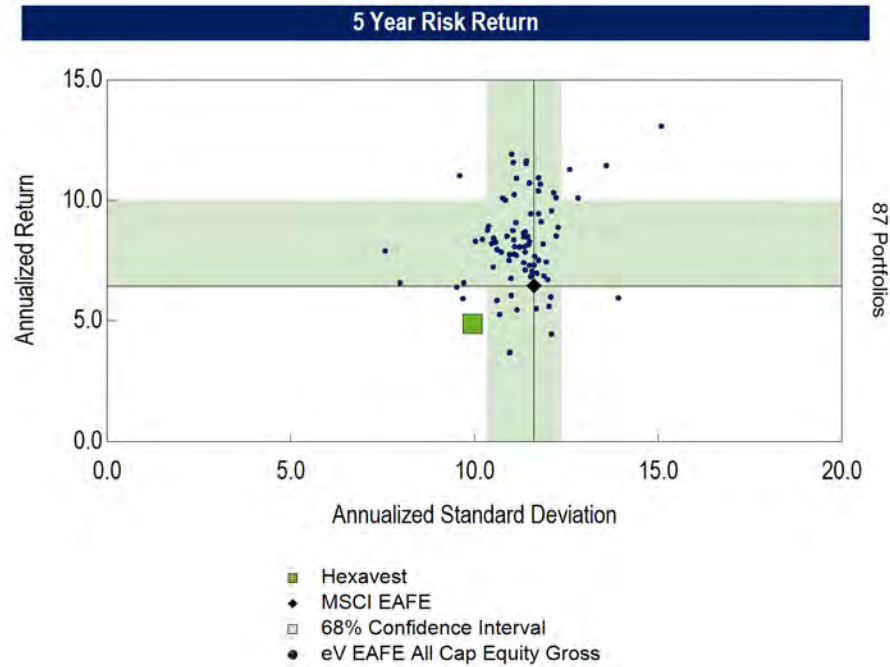


HEXAVEST



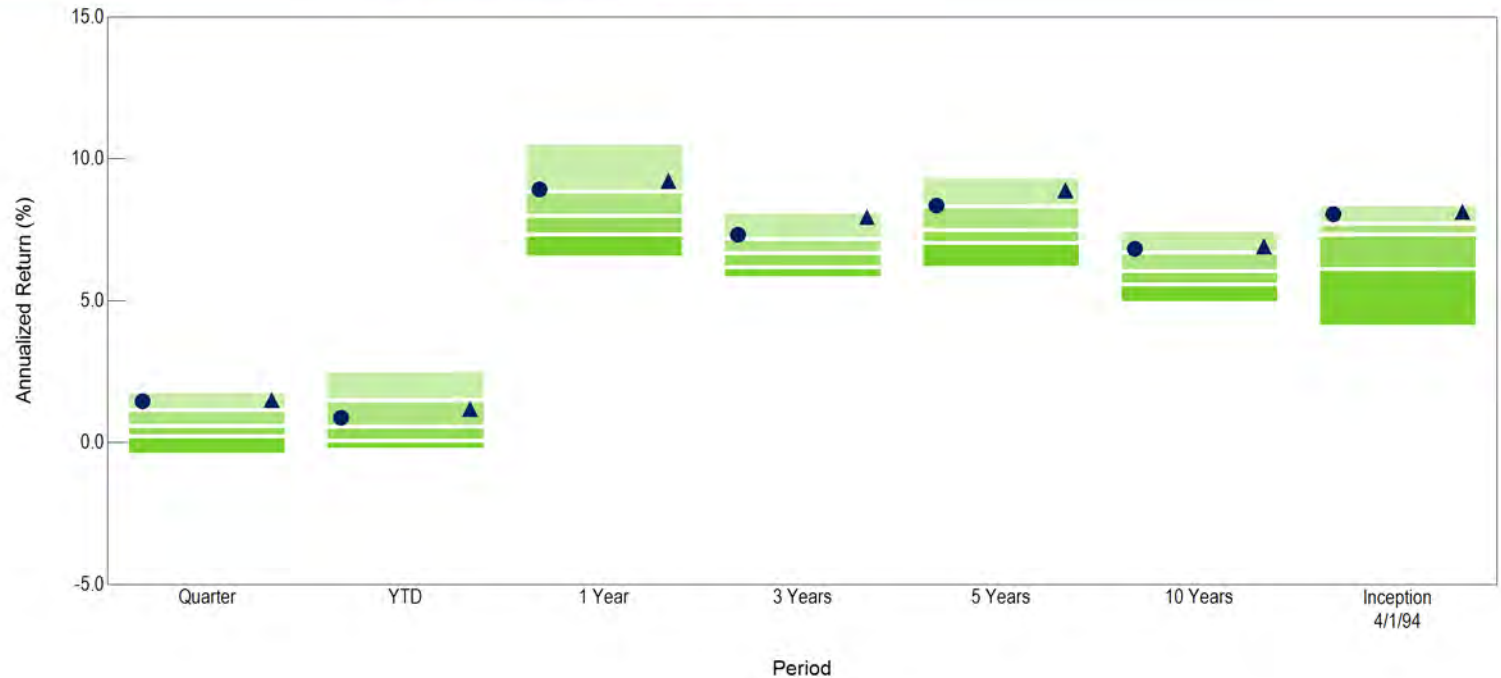
Ventura County Employees' Retirement Association

HEXAVEST



TOTAL FUND RETURN SUMMARY VS. PEER UNIVERSE

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



	Return (Rank)													
5th Percentile	1.8	2.5	10.5	8.1	9.3	7.5	8.4							
25th Percentile	1.1	1.5	8.8	7.2	8.3	6.7	7.7							
Median	0.6	0.6	8.0	6.7	7.5	6.1	7.4							
75th Percentile	0.2	0.1	7.3	6.2	7.0	5.6	6.1							
95th Percentile	-0.4	-0.2	6.5	5.8	6.2	4.9	4.1							
# of Portfolios	52	51	51	51	51	45	30							
● Total Fund	1.5	(16)	0.9	(39)	8.9	(22)	7.3	(22)	8.3	(22)	6.8	(16)	8.0	(14)
▲ Policy Index	1.5	(11)	1.2	(30)	9.2	(13)	7.9	(6)	8.9	(8)	6.9	(14)	8.1	(12)



TOTAL FUND RETURN SUMMARY VS. PEER UNIVERSE

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

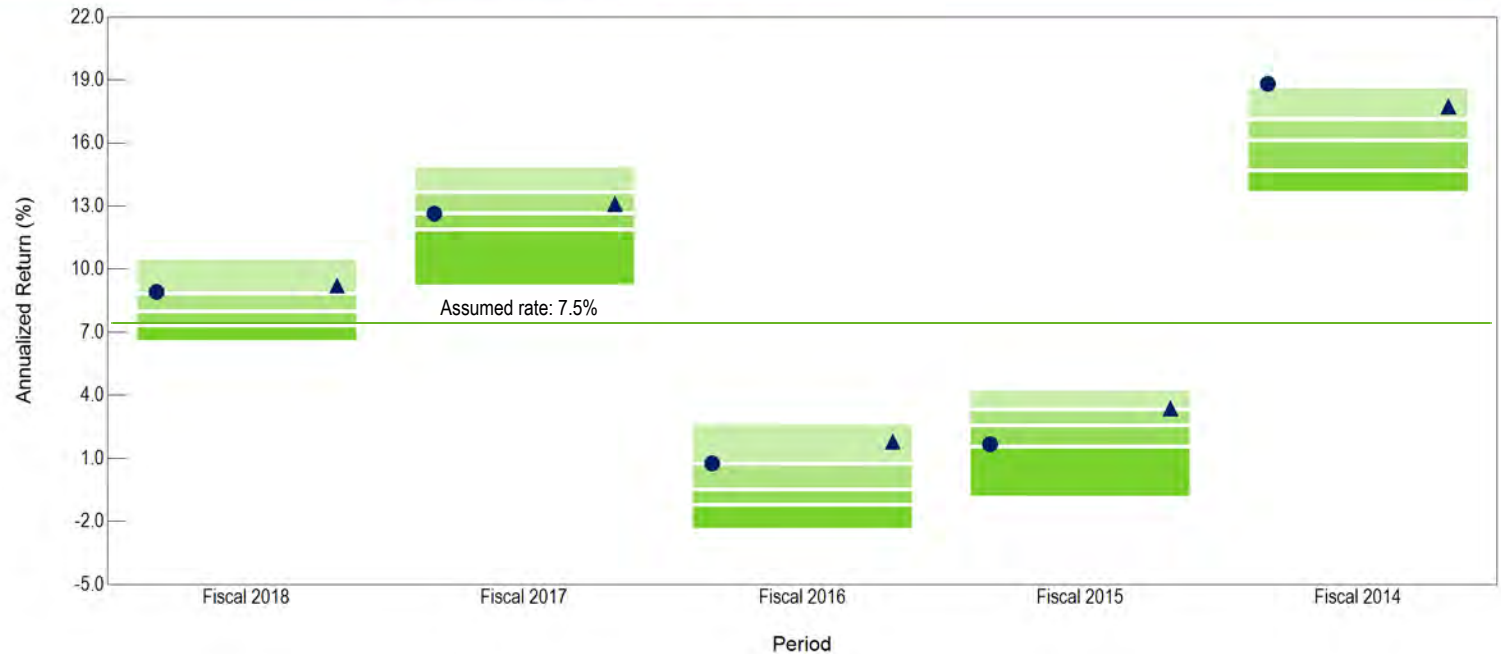


	Return (Rank)																			
5th Percentile	18.6	9.3	2.4	7.6	19.5	14.3	4.2	15.1	27.5	-20.9	18.6	9.3	2.4	7.6	19.5	14.3	4.2	15.1	27.5	-20.9
25th Percentile	16.6	8.4	0.8	6.1	16.0	13.4	1.5	13.8	21.7	-25.7	16.6	8.4	0.8	6.1	16.0	13.4	1.5	13.8	21.7	-25.7
Median	15.6	7.7	-0.4	5.1	14.3	12.7	0.6	12.8	20.0	-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

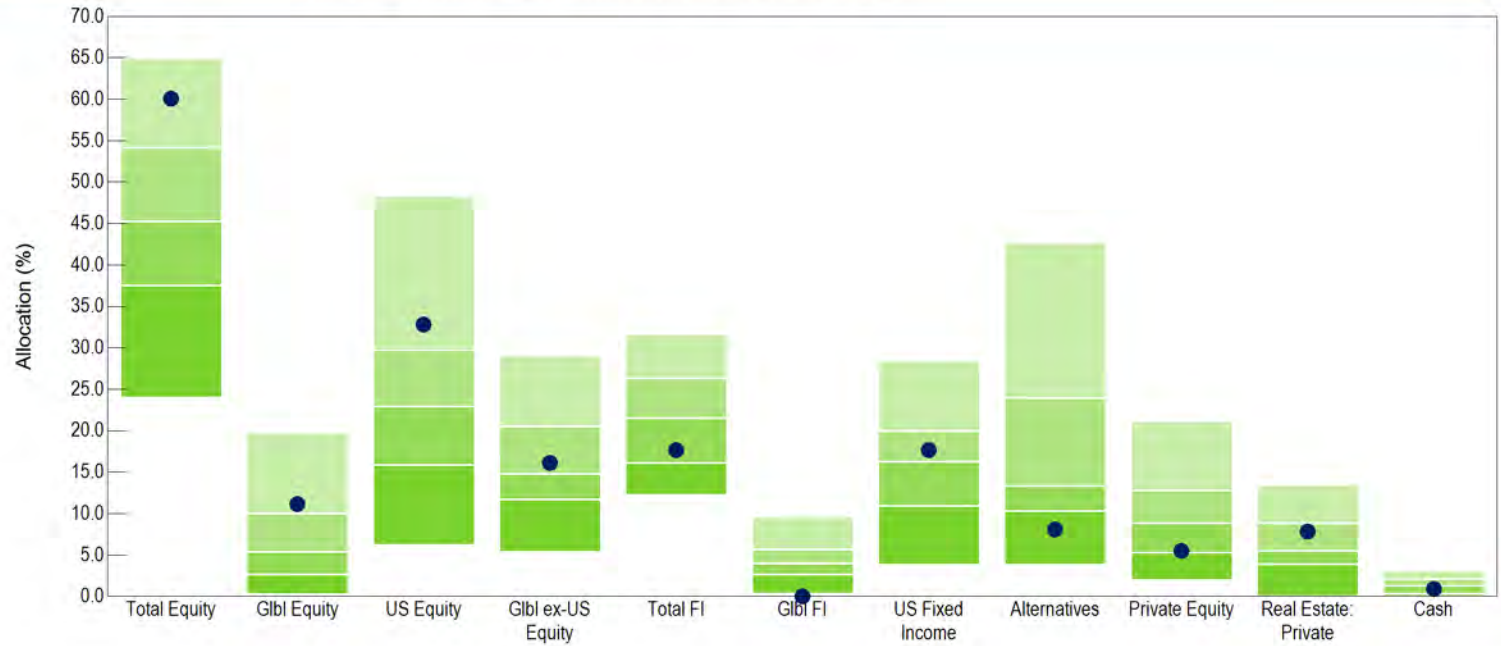


	Return (Rank)									
5th Percentile	10.5		14.9		2.7		4.3		18.7	
25th Percentile	8.8		13.7		0.8		3.3		17.2	
Median	8.0		12.7		-0.5		2.6		16.1	
75th Percentile	7.3		11.9		-1.2		1.6		14.7	
95th Percentile	6.5		9.2		-2.4		-0.9		13.6	
# of Portfolios	51		65		55		53		43	
● Total Fund	8.9	(22)	12.6	(53)	0.8	(26)	1.7	(71)	18.8	(4)
▲ Policy Index	9.2	(13)	13.1	(37)	1.8	(9)	3.4	(25)	17.7	(19)



TOTAL FUND ALLOCATIONS VS. PEER UNIVERSE

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



	Allocation (Rank)											
5th Percentile	65.0	19.7	48.3	29.1	31.7	9.6	28.5	42.7	21.1	13.5	3.1	--
25th Percentile	54.2	10.0	29.8	20.6	26.4	5.7	20.0	24.0	12.9	9.0	2.2	--
Median	45.3	5.5	23.0	14.9	21.6	4.1	16.4	13.4	8.9	5.6	1.3	--
75th Percentile	37.6	2.7	15.9	11.8	16.2	2.7	11.0	10.4	5.3	4.0	0.4	--
95th Percentile	24.1	0.4	6.3	5.5	12.3	0.4	3.9	3.9	2.0	0.1	0.1	--
# of Portfolios	49	17	43	47	50	21	44	47	44	39	49	--
• Total Fund	60.1 (13)	11.1 (21)	32.8 (18)	16.1 (42)	17.7 (66)	0.0 (99)	17.7 (35)	8.1 (87)	5.5 (75)	7.8 (35)	0.9 (61)	--



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*	15.9	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 NR LCL</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 NR LCL</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 NR LCL</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 NR LCL</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 NR LCL</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 NR LCL</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 NR LCL</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)	15.9	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											



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

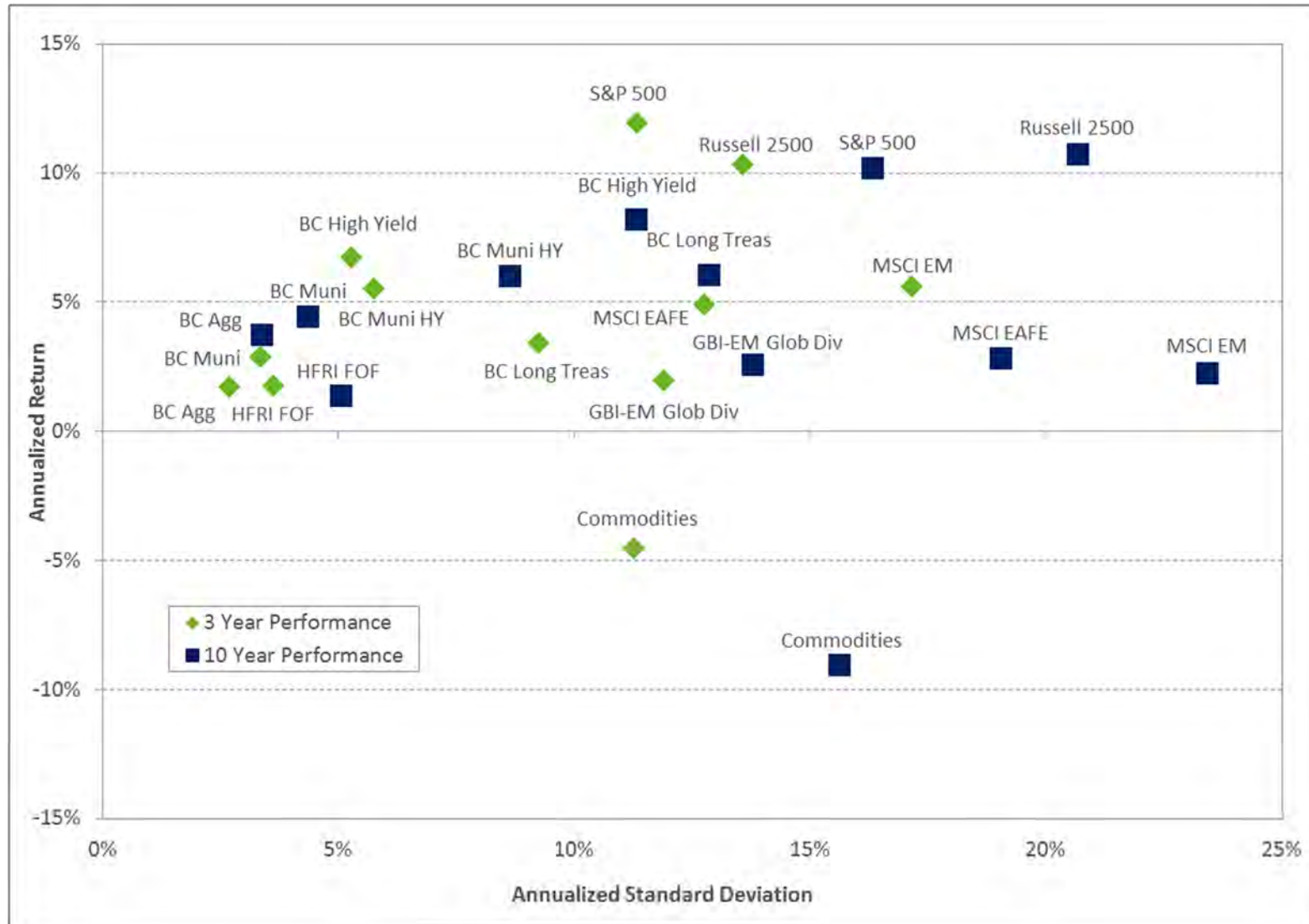
	2017 (%)	2016 (%)	2015 (%)	2014 (%)	2013 (%)	2012 (%)	2011 (%)	2010 (%)	2009 (%)	2008 (%)	2007 (%)
Total Liquid Alternatives	7.2	11.7	-13.8	10.2	--	--	--	--	--	--	--
CPI + 4% (Unadjusted)	6.2	6.2	4.8	4.8	28.8	5.4	13.5	--	--	--	--
Over/Under	1.0	5.5	-18.6	5.4							
Bridgewater All Weather Fund	11.9	10.0	-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

LONG-TERM PERFORMANCE SUMMARY



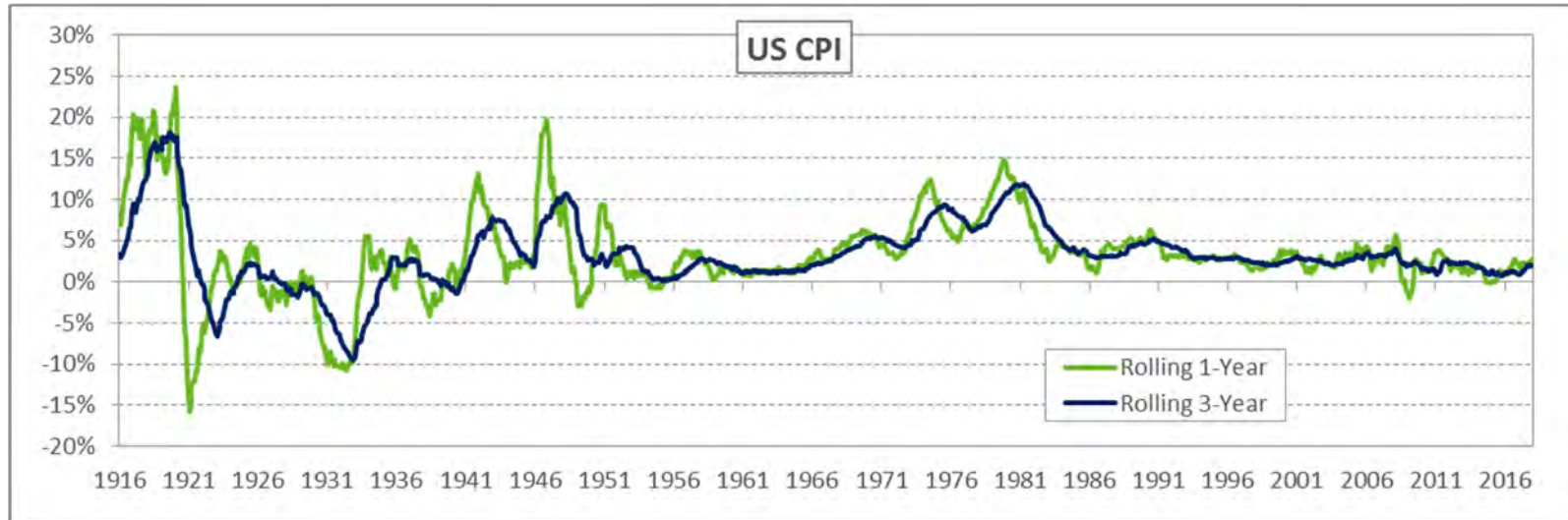
Source: Bloomberg, Standard and Poor's, Russell, MSCI, Barclays, JP Morgan



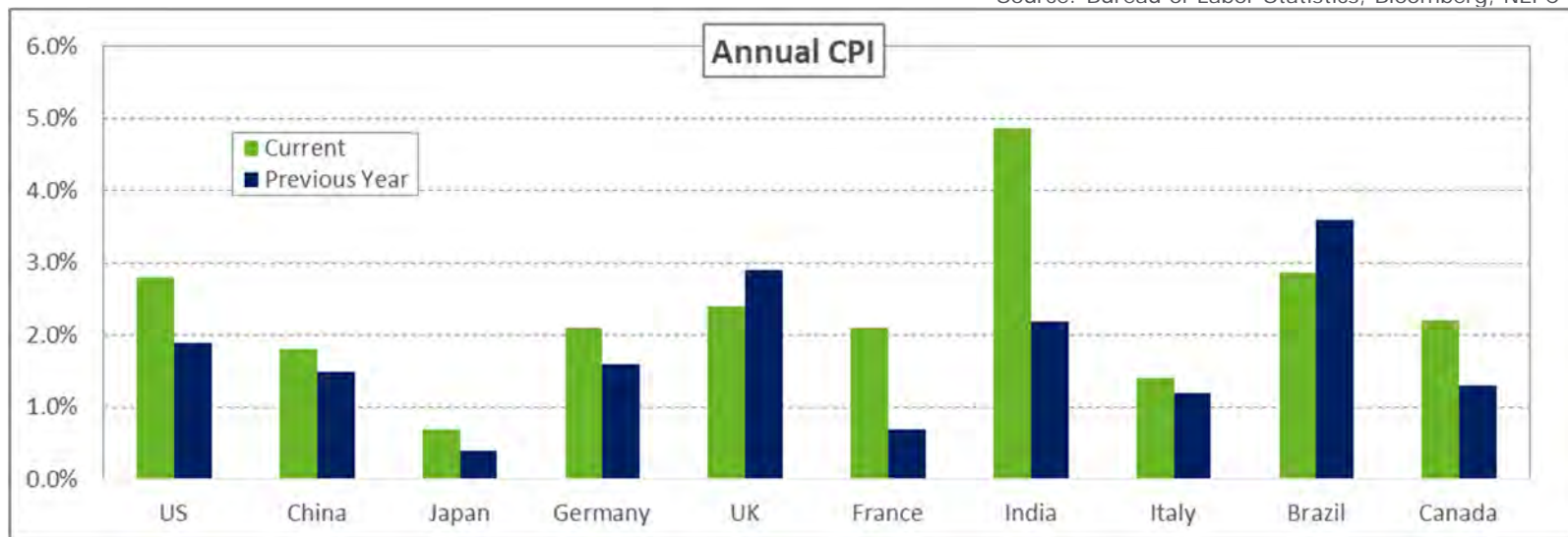
MACRO

NEPC, LLC

INFLATION



Source: Bureau of Labor Statistics, Bloomberg, NEPC



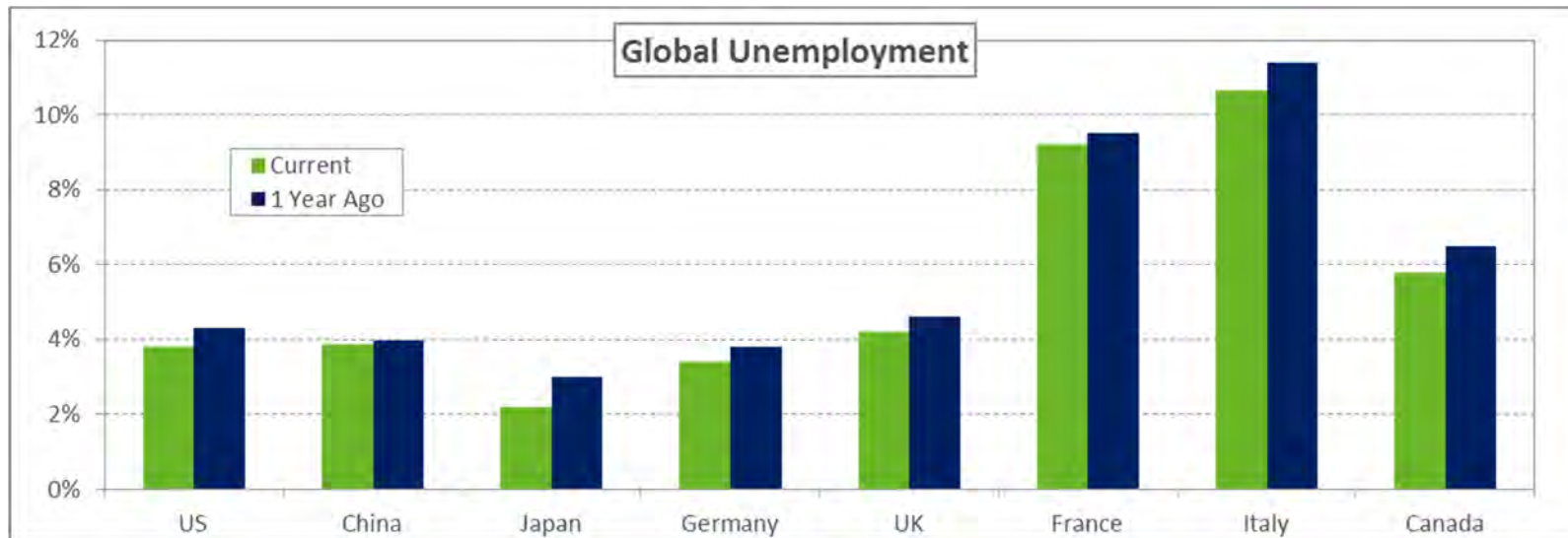
Source: Bureau of Labor Statistics, National Bureau of Statistics of China, Ministry of Internal Affairs and Communications (Japan), German Federal Statistics Office, UK Office for National Statistics, National Statistics Office of France, India Central Statistical Organization, ISTAT, IBGE, STCA, Bloomberg



UNEMPLOYMENT



Source: Bureau of Labor Statistics, Bloomberg



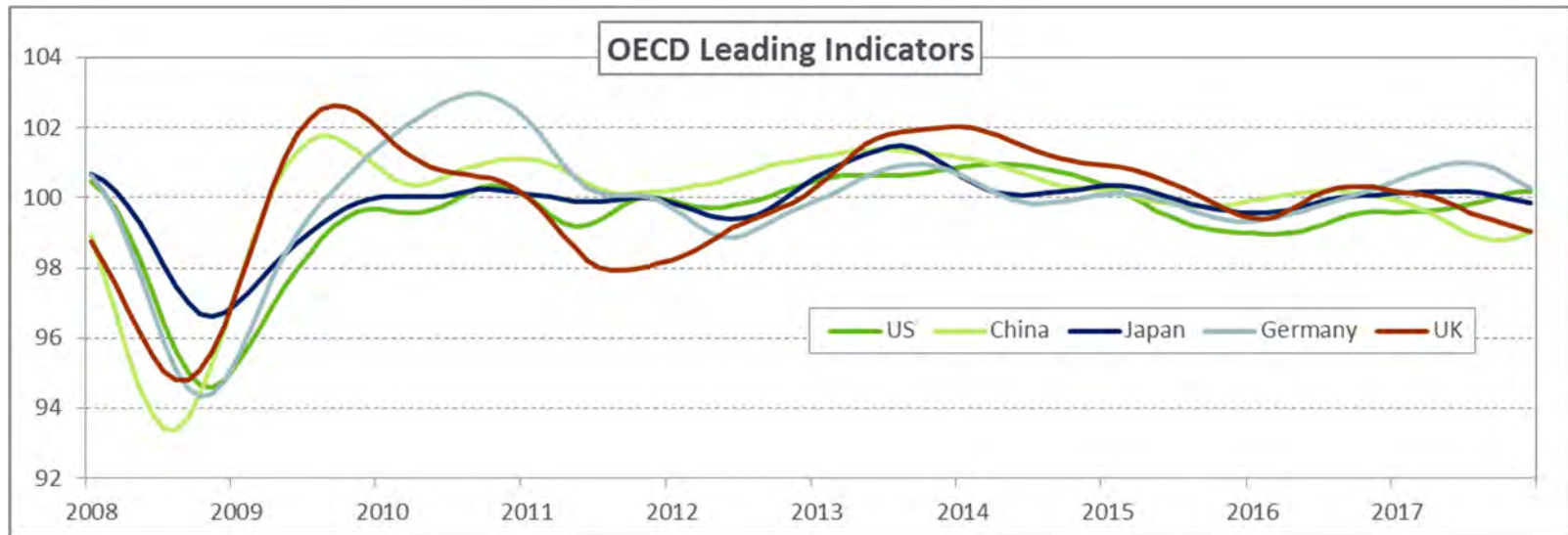
Source: Bureau of Labor Statistics, STA, National Bureau of Statistics of China, Ministry of Internal Affairs and Communications (Japan), German Federal Statistics Office, UK Office for National Statistics, National Statistics Office of France, ISTAT, IBGE, Bloomberg



ECONOMIC INDICATORS



Source: IMF



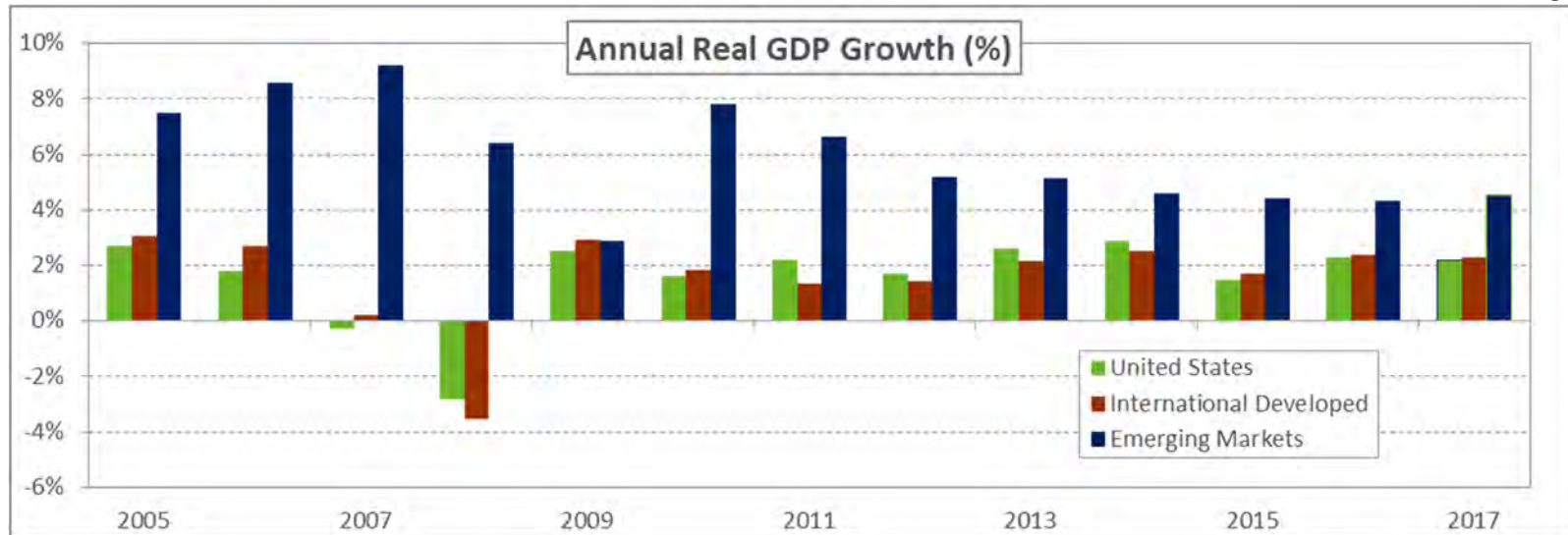
Source: OECD, Bloomberg



GROSS DOMESTIC PRODUCT



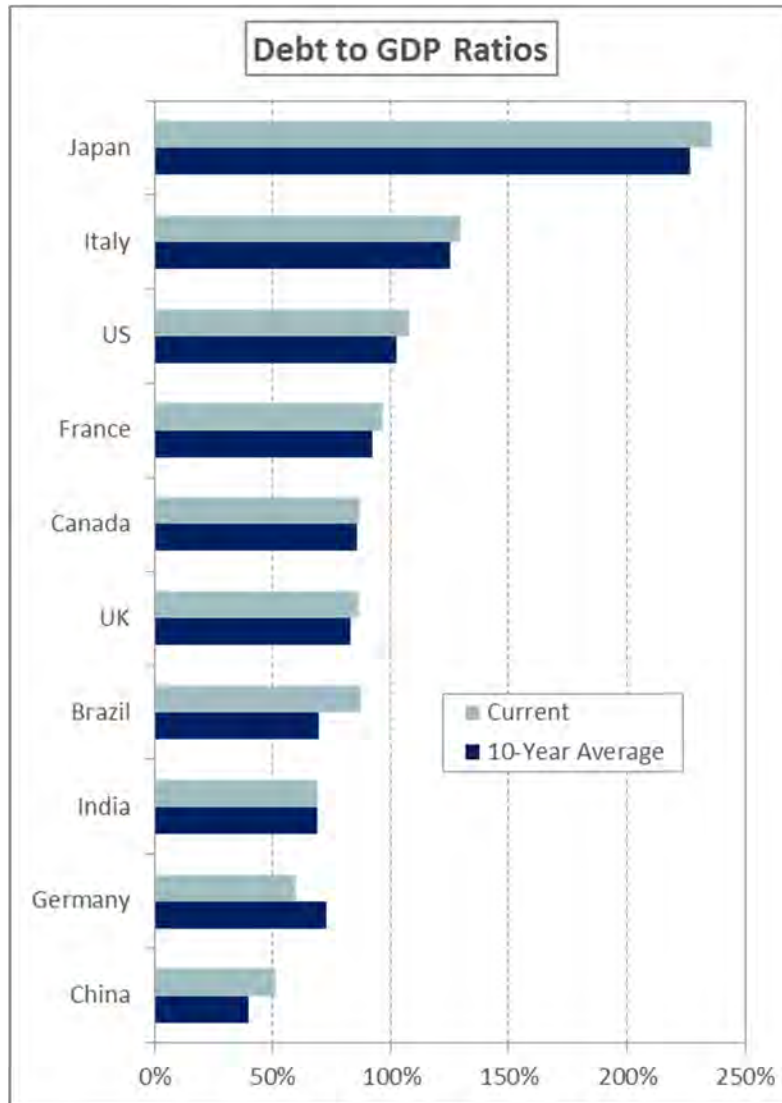
Source: Bloomberg



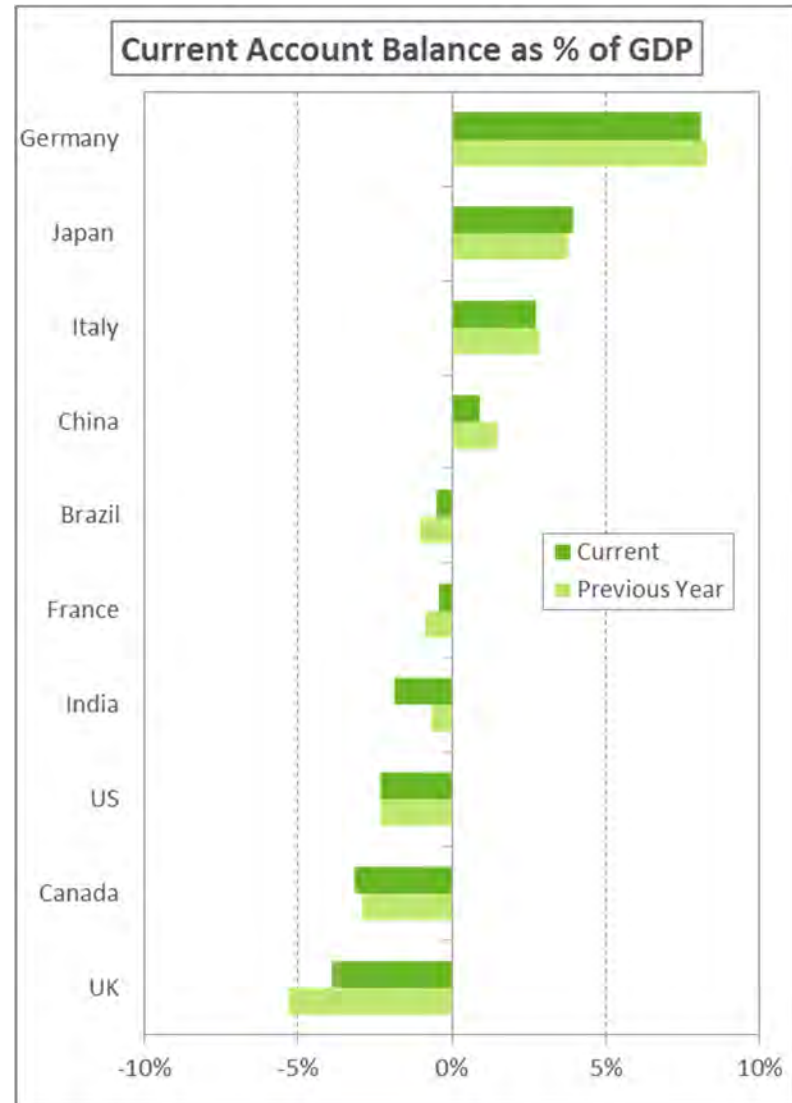
Source: Bloomberg



GROSS DOMESTIC PRODUCT METRICS



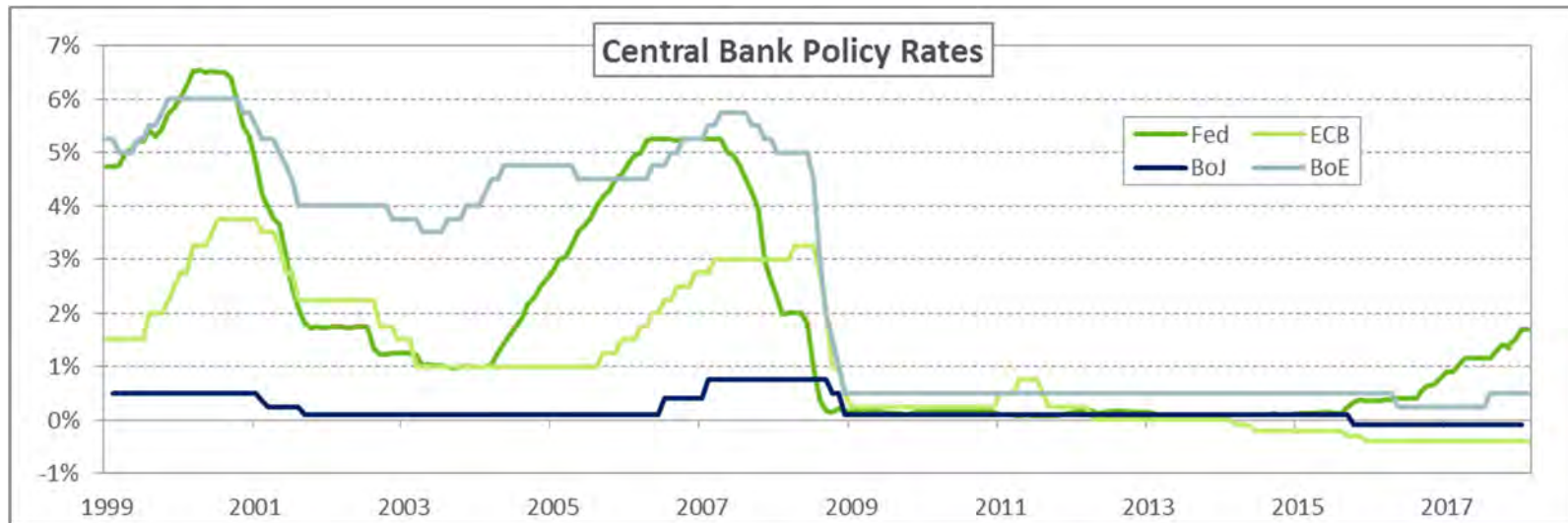
Source: IMF, Bloomberg



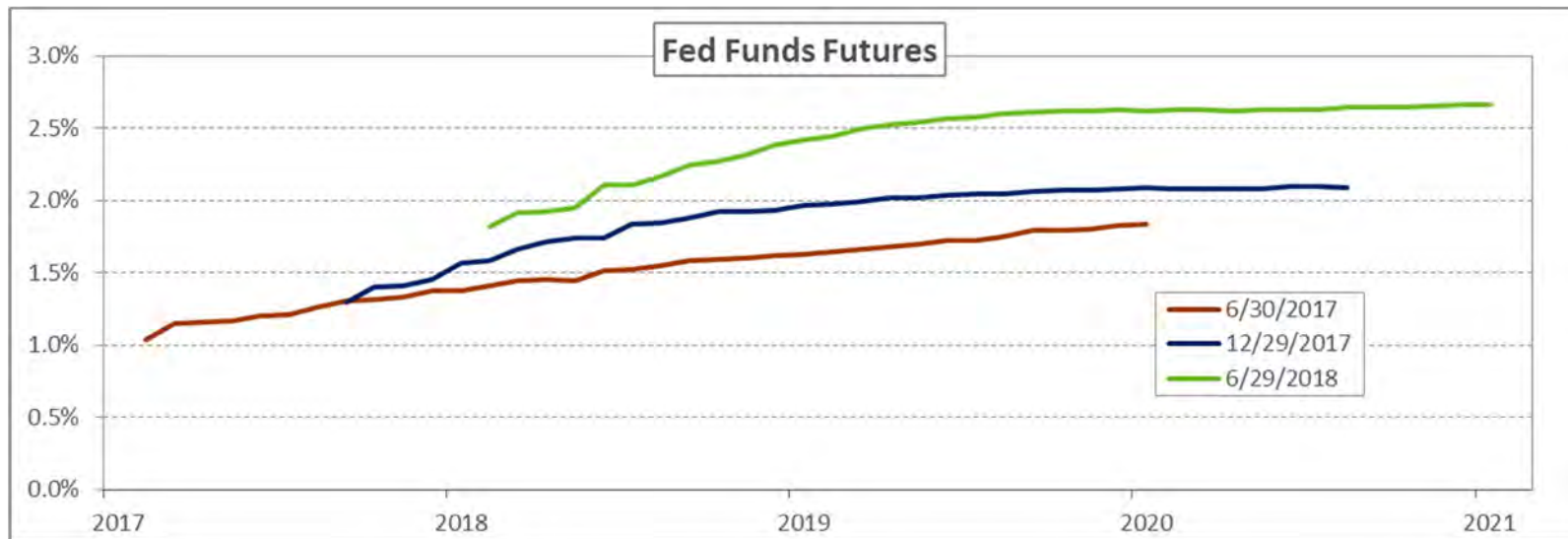
Source: Bloomberg



CENTRAL BANK RATES



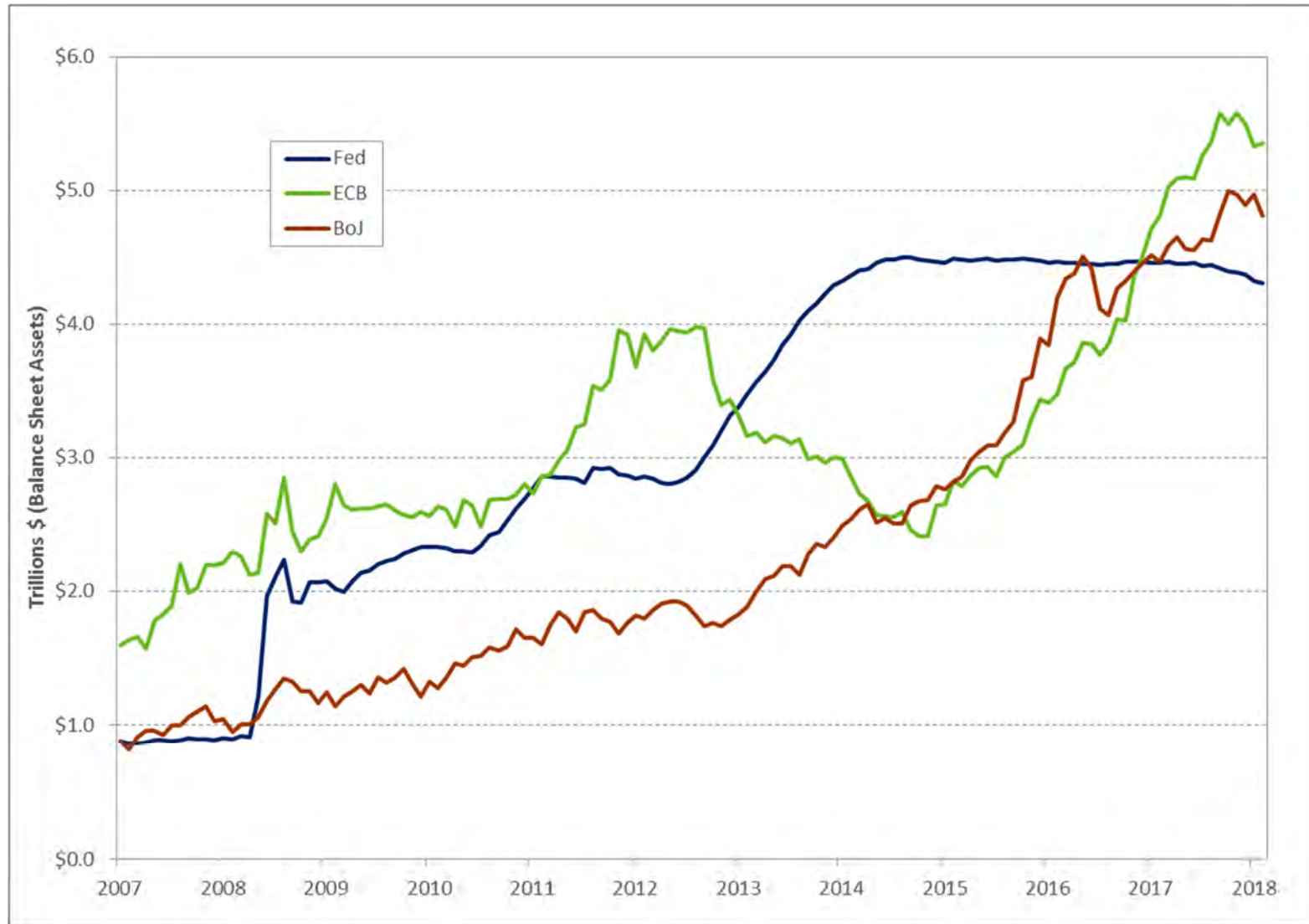
Source: Federal Reserve, ECB, Bank of Japan, Bank of England, Bloomberg



Source: Bloomberg



CENTRAL BANK BALANCE SHEETS



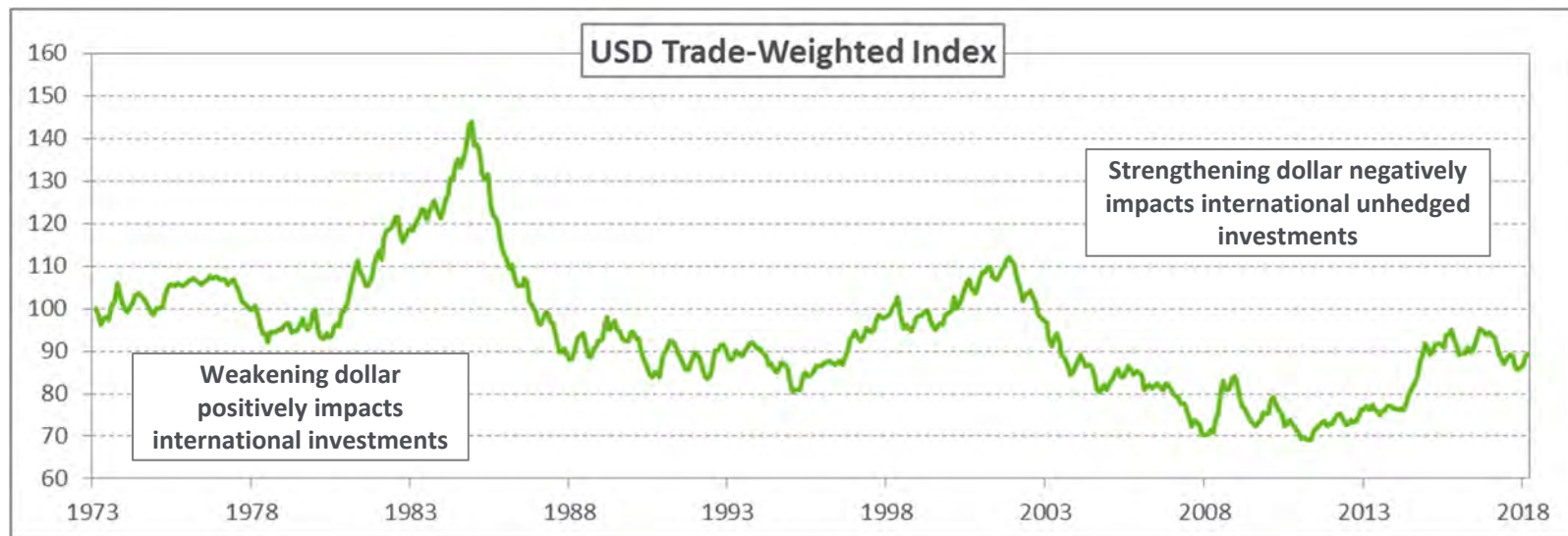
Source: Federal Reserve, Bank of Japan, ECB, Bloomberg, NEPC



CURRENCIES

Currencies	% Change Relative to USD			
	Spot	1 Month	YTD	1 Year
Euro	1.17	-0.1%	-5.9%	2.2%
British Pound	1.32	-0.6%	-6.9%	1.4%
Japanese Yen	110.75	-1.7%	-1.4%	1.5%
Swiss Franc	0.99	-0.5%	-6.0%	-3.3%
Australian Dollar	0.74	-2.2%	-8.1%	-3.7%
Chinese Yuan	6.62	-3.2%	-5.0%	2.2%
Brazilian Real	3.88	-3.8%	-17.8%	-14.7%
Russian Ruble	62.76	-0.6%	-10.4%	-7.5%
Indian Rupee	68.46	-1.5%	-7.0%	-5.6%
Mexican Peso	19.92	-0.1%	-6.6%	-9.0%
South African Rand	13.73	-7.5%	-13.7%	-4.8%

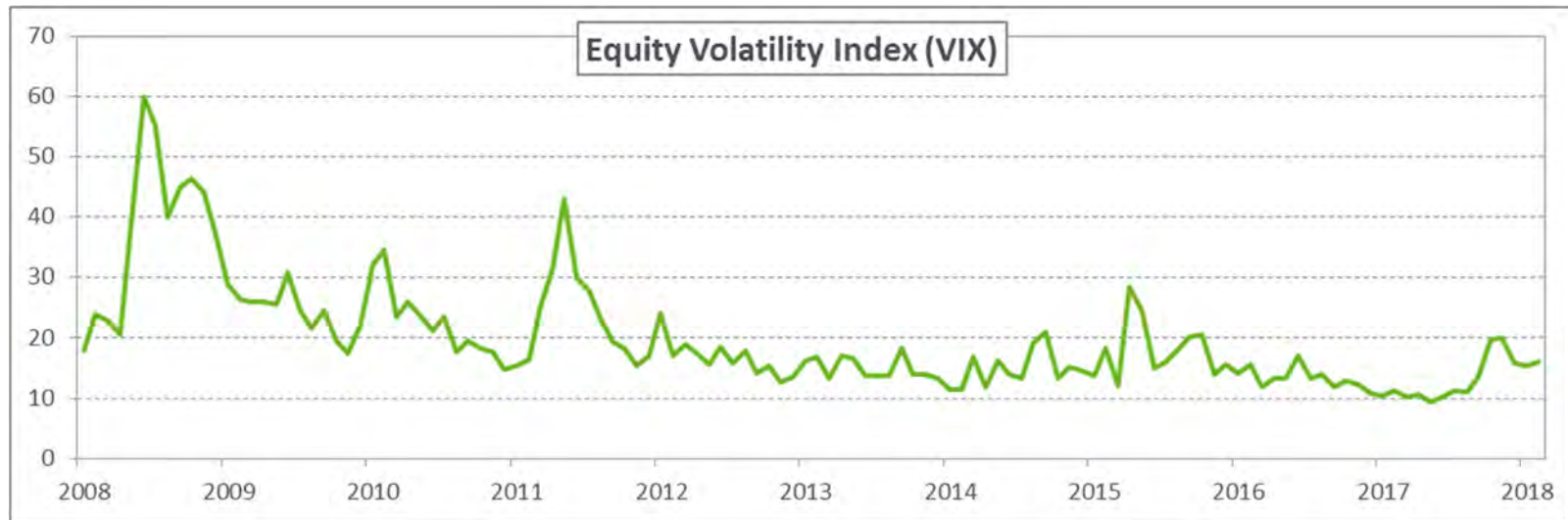
Source: Bloomberg



Source: Bloomberg



VOLATILITY



Source: CBOE, Bloomberg



Source: Merrill Lynch, Bloomberg



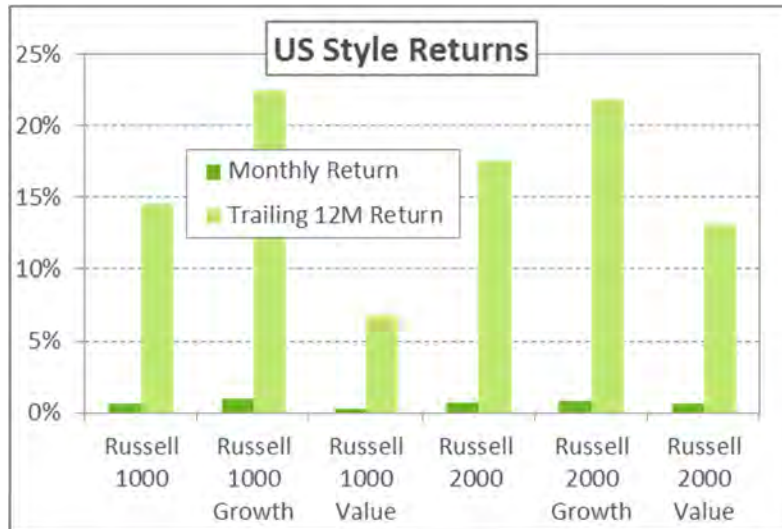
Source: Deutsche Bank, Bloomberg



EQUITY

NEPC, LLC

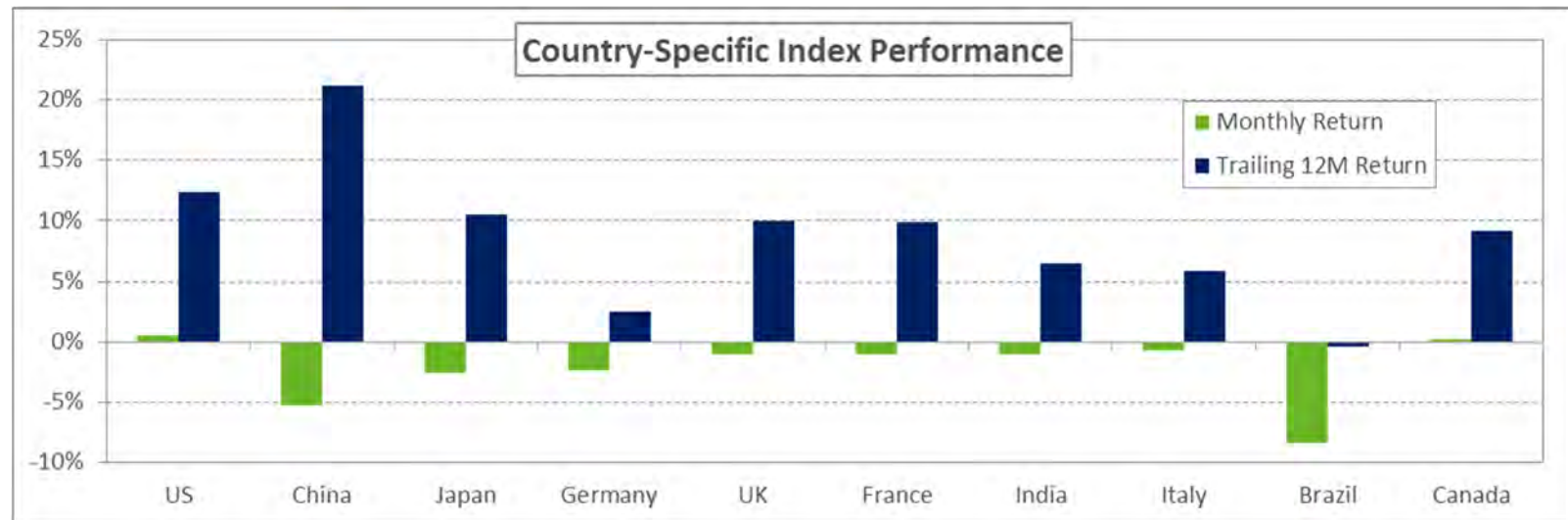
EQUITY INDEX PERFORMANCE



Source: Russell, Bloomberg



Source: MSCI, Bloomberg



Source: MSCI, Bloomberg
Represents returns in USD

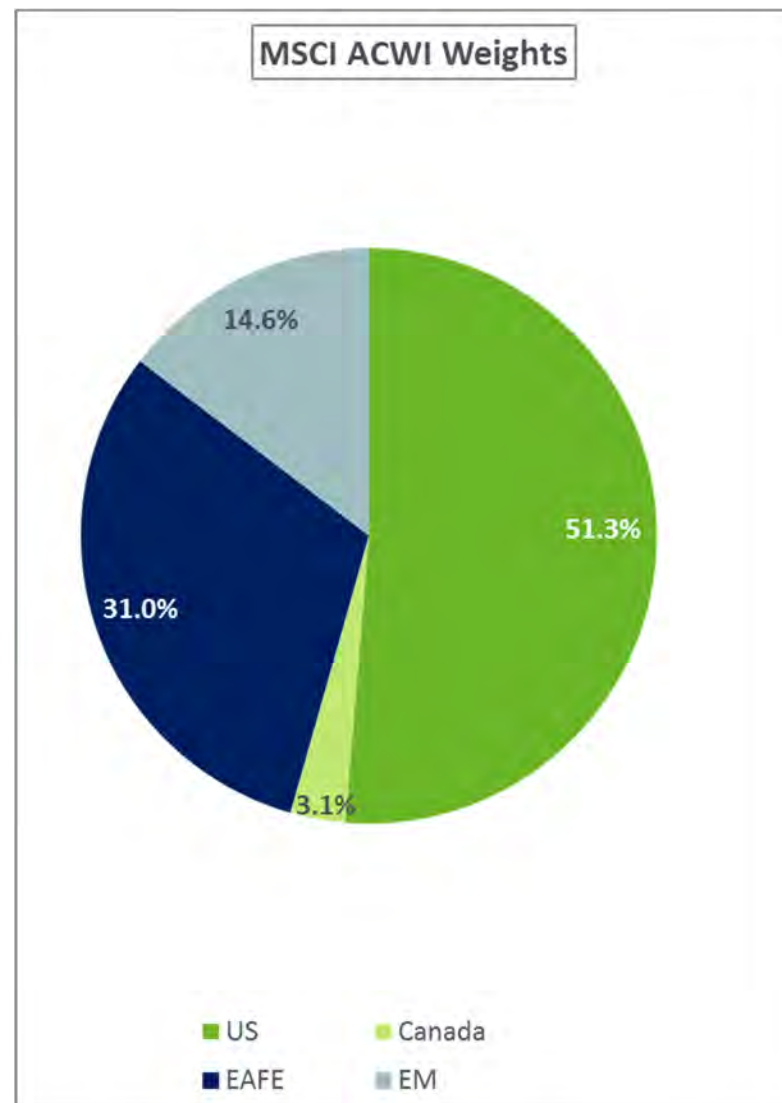


INDEX COMPOSITION

	MTD	QTD	YTD	Index Weight
S&P 500	0.6%	3.4%	2.6%	100%
Cons Disc	3.6%	8.1%	11.3%	13.0%
Cons Staples	4.4%	-1.8%	-9.0%	7.0%
Energy	0.7%	13.2%	6.3%	6.4%
Financials	-1.9%	-3.3%	-4.3%	13.4%
Health Care	1.6%	3.0%	1.6%	14.3%
Industrials	-3.3%	-3.3%	-5.0%	9.6%
Info Tech	-0.4%	7.0%	10.7%	25.8%
Materials	0.3%	2.4%	-3.4%	2.6%
Real Estate	4.3%	5.8%	0.3%	2.9%
Telecom	2.3%	-1.4%	-9.1%	2.0%
Utilities	2.7%	3.5%	-0.2%	3.0%

	MTD	QTD	YTD	Index Weight
MSCI ACWI	-0.5%	0.7%	-0.2%	100%
Cons Disc	0.8%	3.0%	4.0%	12.2%
Cons Staples	2.2%	-1.3%	-6.1%	8.0%
Energy	0.6%	10.2%	6.1%	6.8%
Financials	-2.4%	-5.6%	-6.6%	17.8%
Health Care	1.2%	2.5%	1.5%	10.9%
Industrials	-2.9%	-2.7%	-4.3%	10.8%
Info Tech	-1.1%	3.9%	7.2%	19.4%
Materials	-1.8%	0.4%	-3.3%	5.2%
Real Estate	0.4%	1.4%	-2.3%	3.0%
Telecom	0.1%	-4.2%	-9.4%	2.8%
Utilities	1.3%	1.3%	0.0%	3.0%

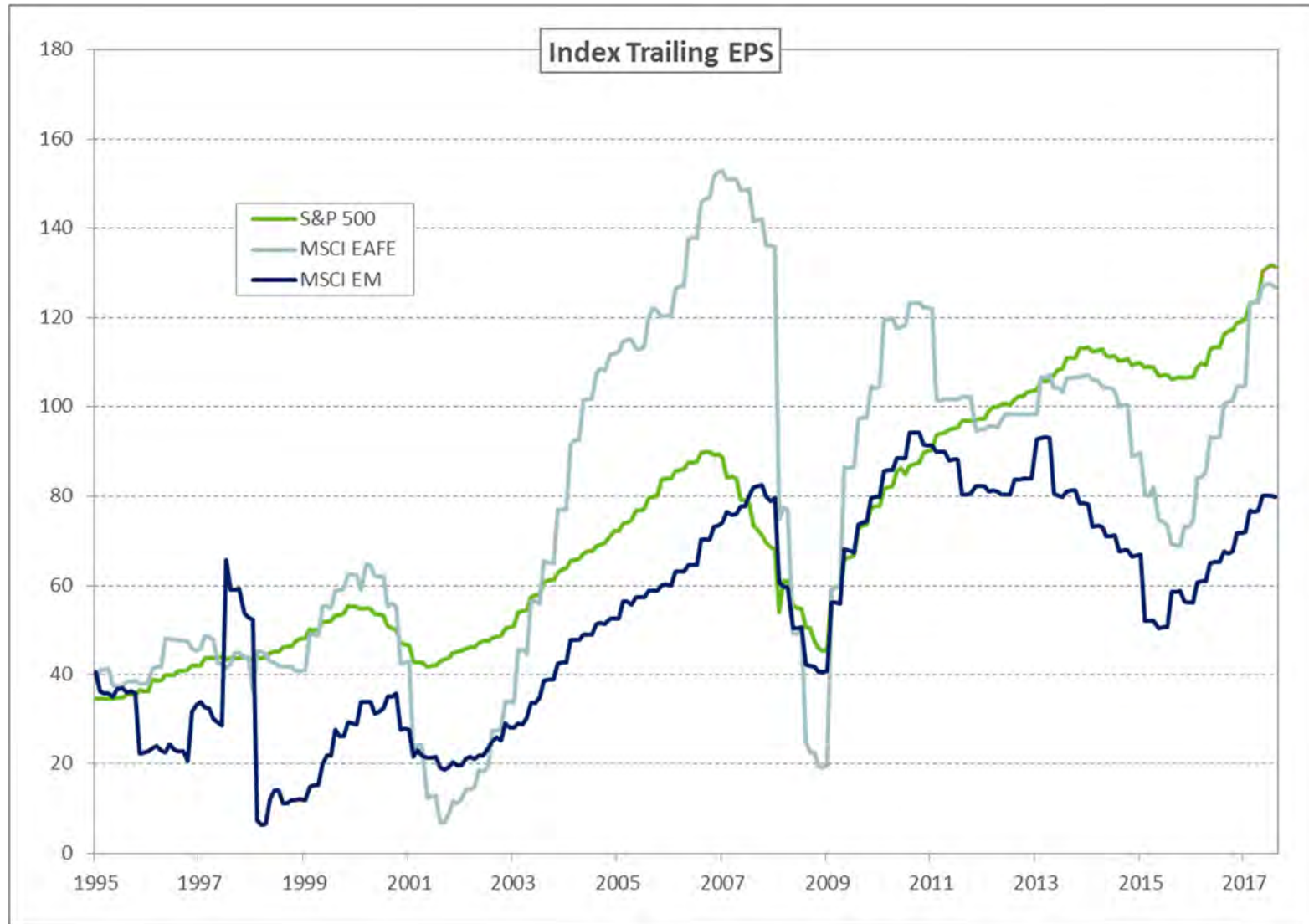
Source: S&P, MSCI, Bloomberg



Source: MSCI, Bloomberg



EARNINGS



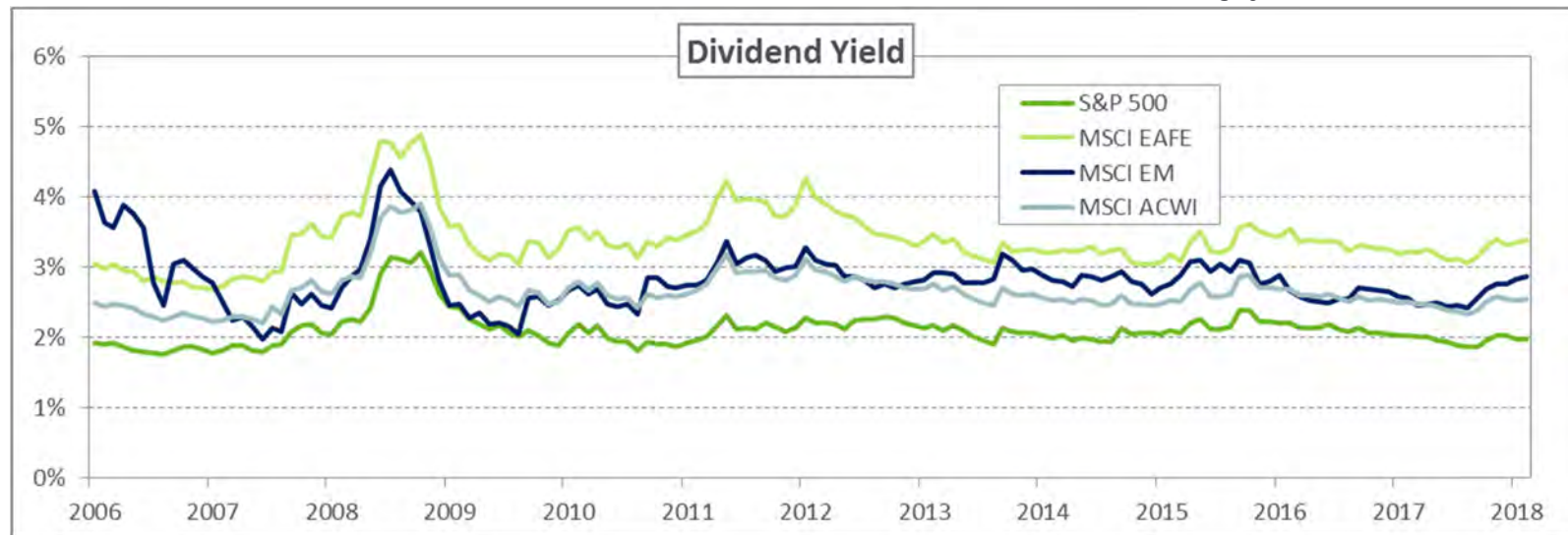
Source: S&P, MSCI, Bloomberg



YIELDS



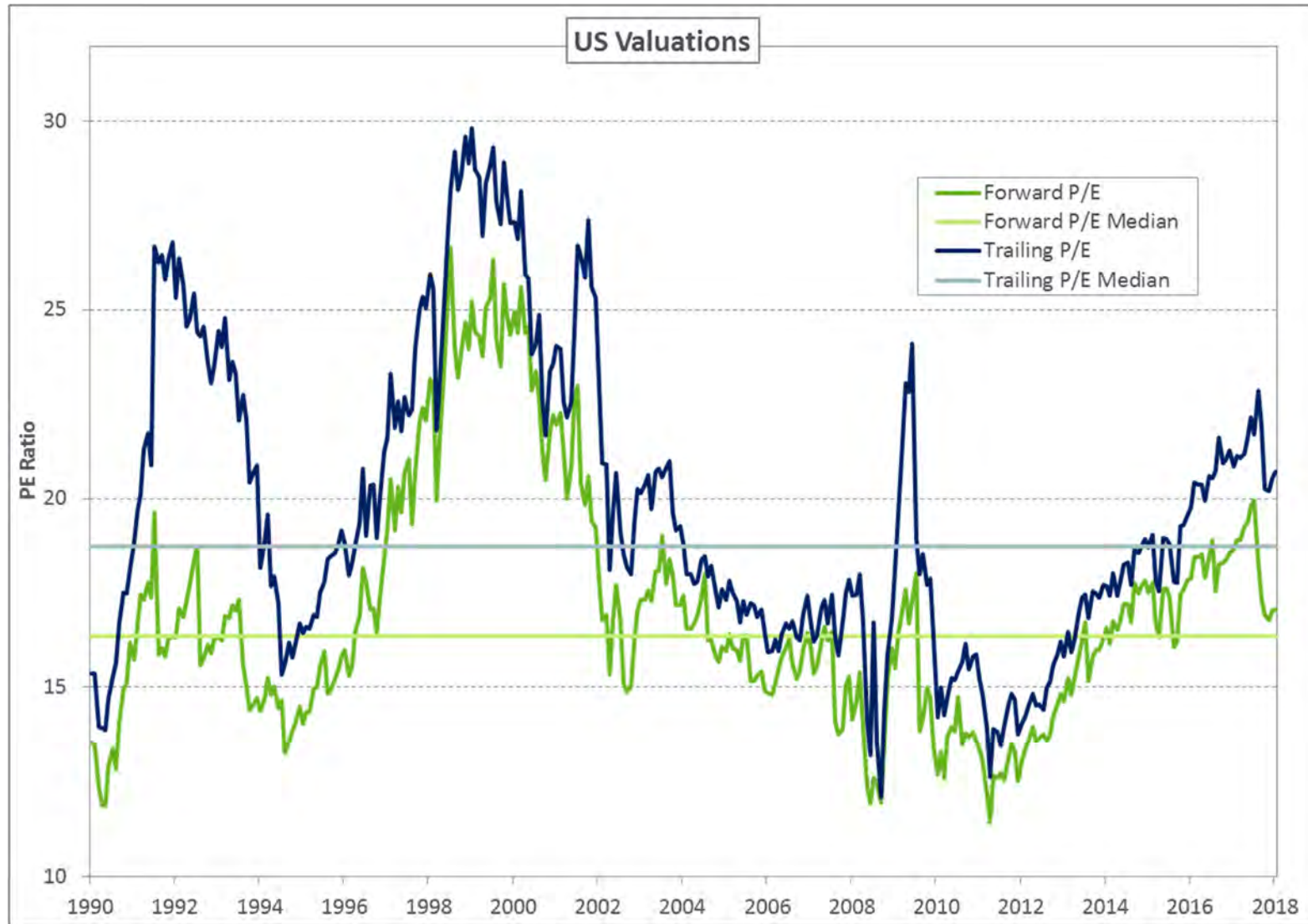
Source: S&P, MSCI, Bloomberg
Earnings yield calculated as 1/PE Ratio



Source: S&P, MSCI, Bloomberg



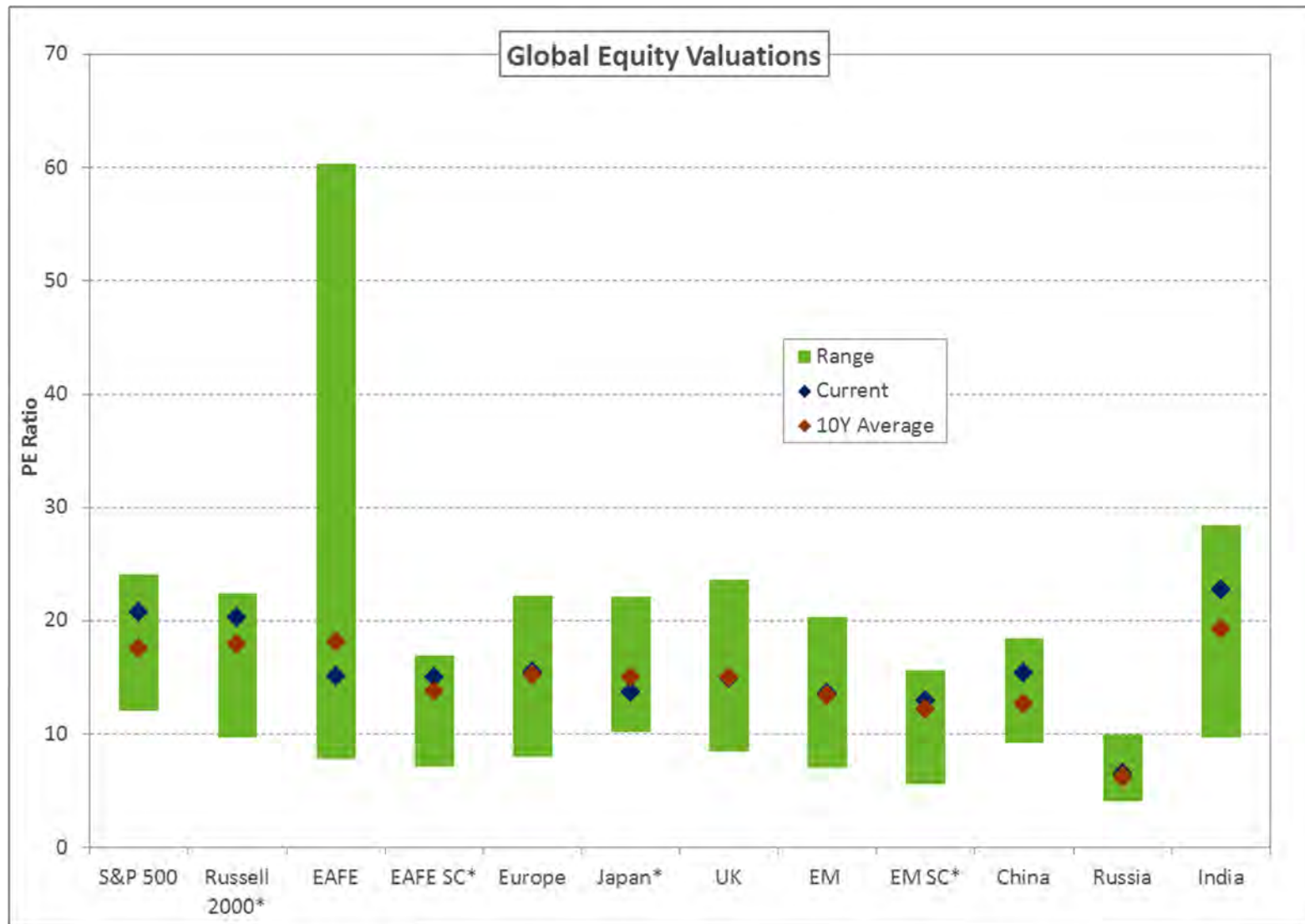
US EQUITY VALUATIONS



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



CREDIT

NEPC, LLC

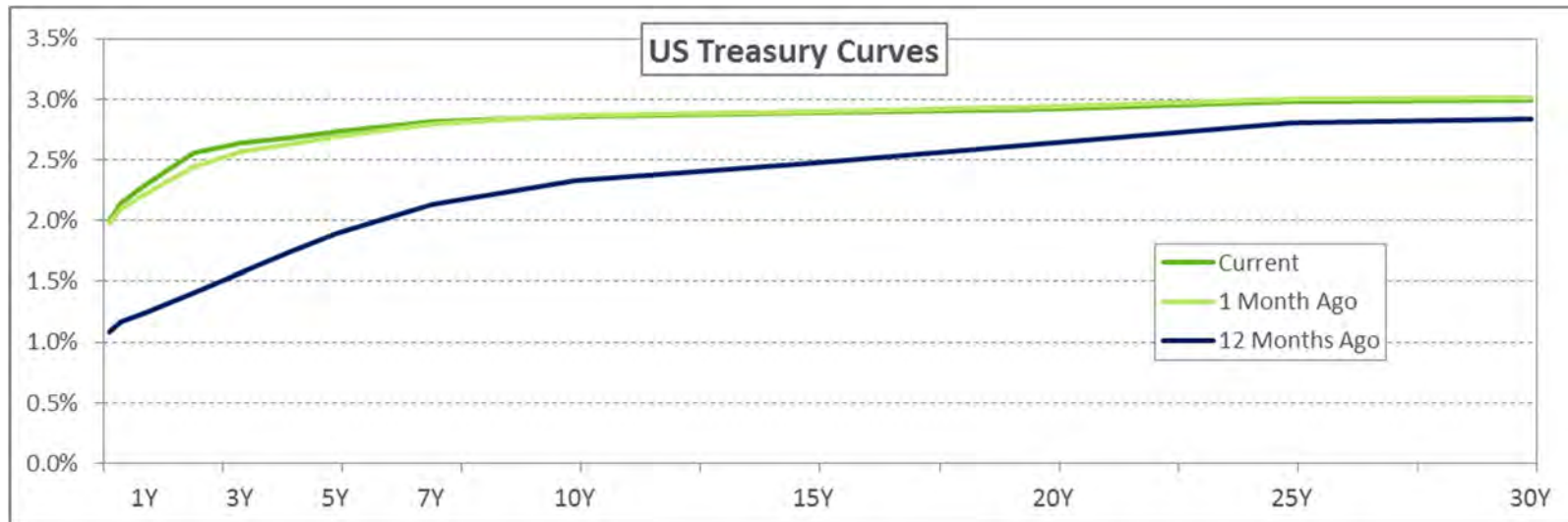
FIXED INCOME CHARACTERISTICS

	Averages			Total Returns (%)		
	Yield to Worst	Spread (bps)	Duration (Years)	1-Month	YTD	1-Year
Barclays Aggregate	3.3%	44	6.0	-0.1%	-0.2%	-0.4%
Barclays Treasury	2.7%	-	6.1	0.0%	0.1%	-0.6%
Barclays Agency	2.8%	14	3.8	0.0%	0.0%	-0.1%
Barclays MBS	3.4%	28	5.1	0.0%	0.2%	0.1%
Barclays ABS	3.0%	42	2.2	0.0%	0.4%	0.2%
Barclays CMBS	3.5%	70	5.3	-0.2%	-0.1%	-0.3%
Barclays Corp IG	4.0%	123	7.3	-0.6%	-1.0%	-0.8%
Barclays Muni	2.7%	-	6.0	0.1%	0.9%	1.6%
Barclays HY Muni	4.8%	-	7.7	0.5%	3.1%	7.1%
Barclays TIPS	3.0%	-	4.9	0.4%	0.8%	2.1%
Barclays HY	6.5%	363	3.9	0.4%	1.0%	2.6%
Barclays Global Agg	2.0%	47	7.1	-0.4%	-2.8%	1.4%
JPM EMBI Glob Div	6.6%	388.06	7.2	-1.2%	-3.5%	-1.6%
JPM CEMBI Broad	5.2%	298.32	4.6	-0.4%	-1.8%	-0.1%
JPM GBI - EM	6.6%	-	5.1	-2.9%	-10.4%	-2.3%

Source: Barclays, JPM, Bloomberg



TREASURIES



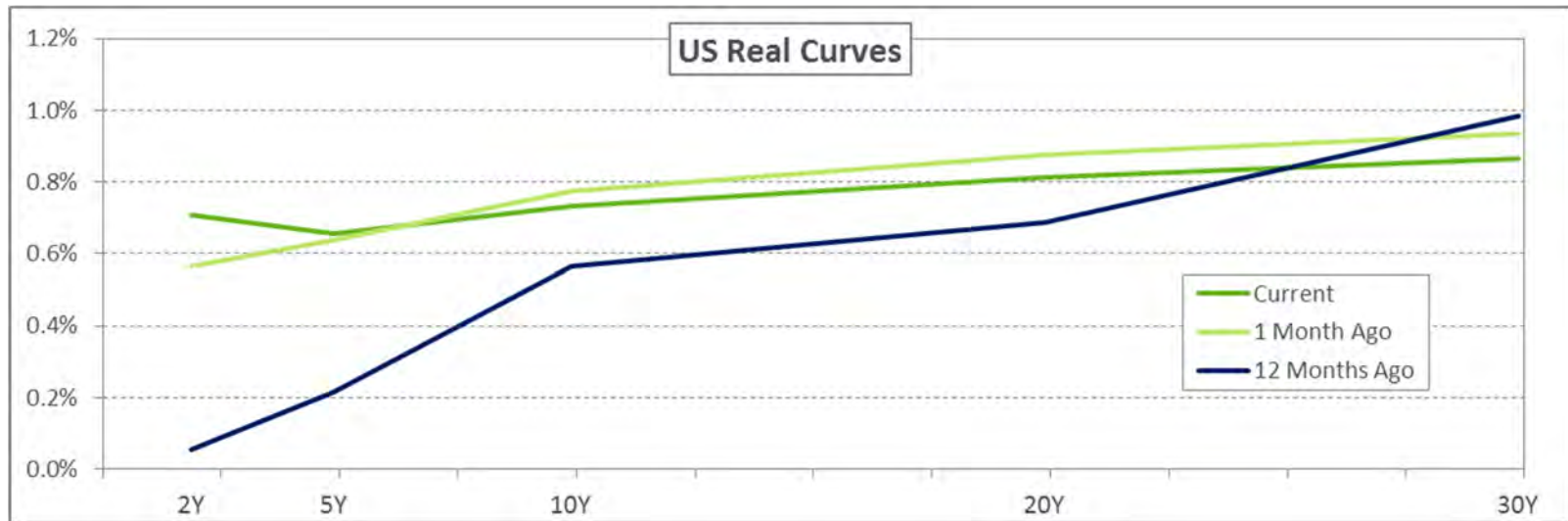
Source: Bloomberg

	Yield (%)			Total Return (%)	
	Current	1 Month Ago	12 Months Ago	1 Month	12 Months
3M Treasury	2.00%	1.98%	1.08%	0.16%	1.29%
6M Treasury	2.14%	2.10%	1.16%	0.17%	1.35%
2Y Treasury	2.56%	2.44%	1.41%	-0.02%	-0.15%
5Y Treasury	2.74%	2.69%	1.90%	-0.05%	-1.51%
10Y Treasury	2.86%	2.87%	2.33%	0.00%	-2.64%
30Y Treasury	2.99%	3.02%	2.84%	0.30%	-0.17%

Source: Barclays, Bloomberg



REAL YIELDS



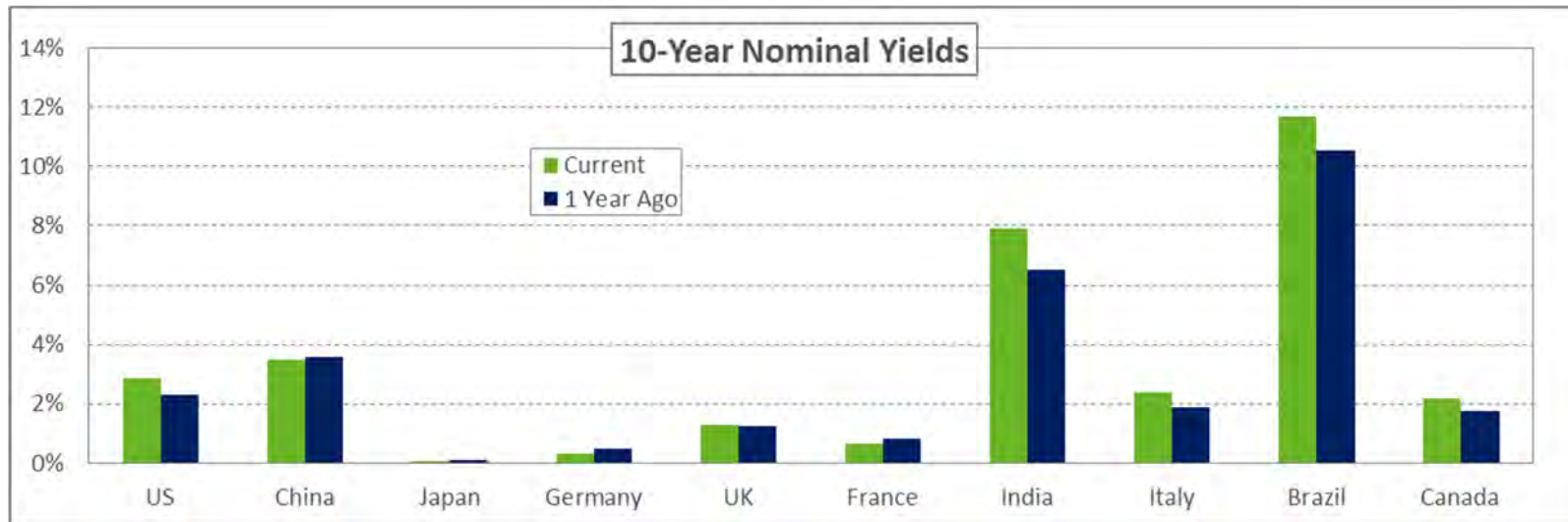
Source: Bloomberg

	Real Rates			Breakeven Rates	
	Current	1 Month Ago	12 Months Ago	Current	12 Months Ago
2Y Treasury	0.71%	0.57%	0.05%	1.80%	1.29%
5Y Treasury	0.65%	0.64%	0.22%	2.08%	1.66%
10Y Treasury	0.73%	0.78%	0.56%	2.13%	1.74%
20Y Treasury	0.81%	0.88%	0.69%	2.08%	1.70%
30Y Treasury	0.87%	0.94%	0.98%	2.12%	1.85%

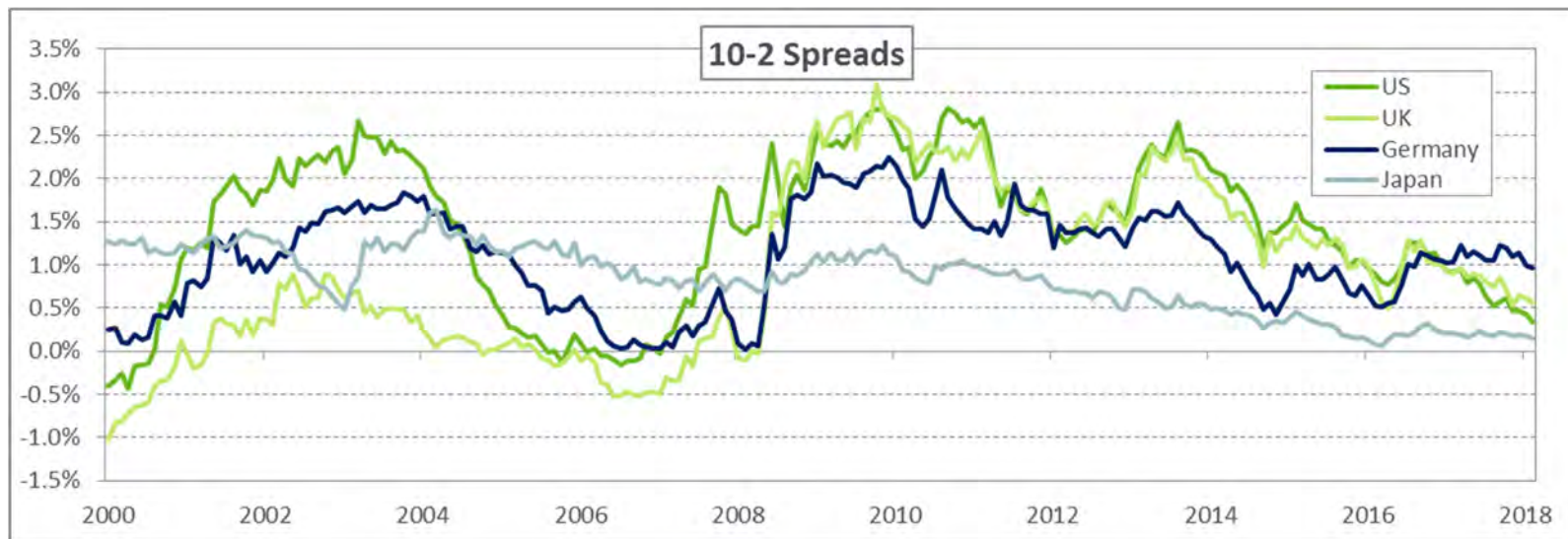
Source: Barclays, Bloomberg



NOMINAL YIELDS



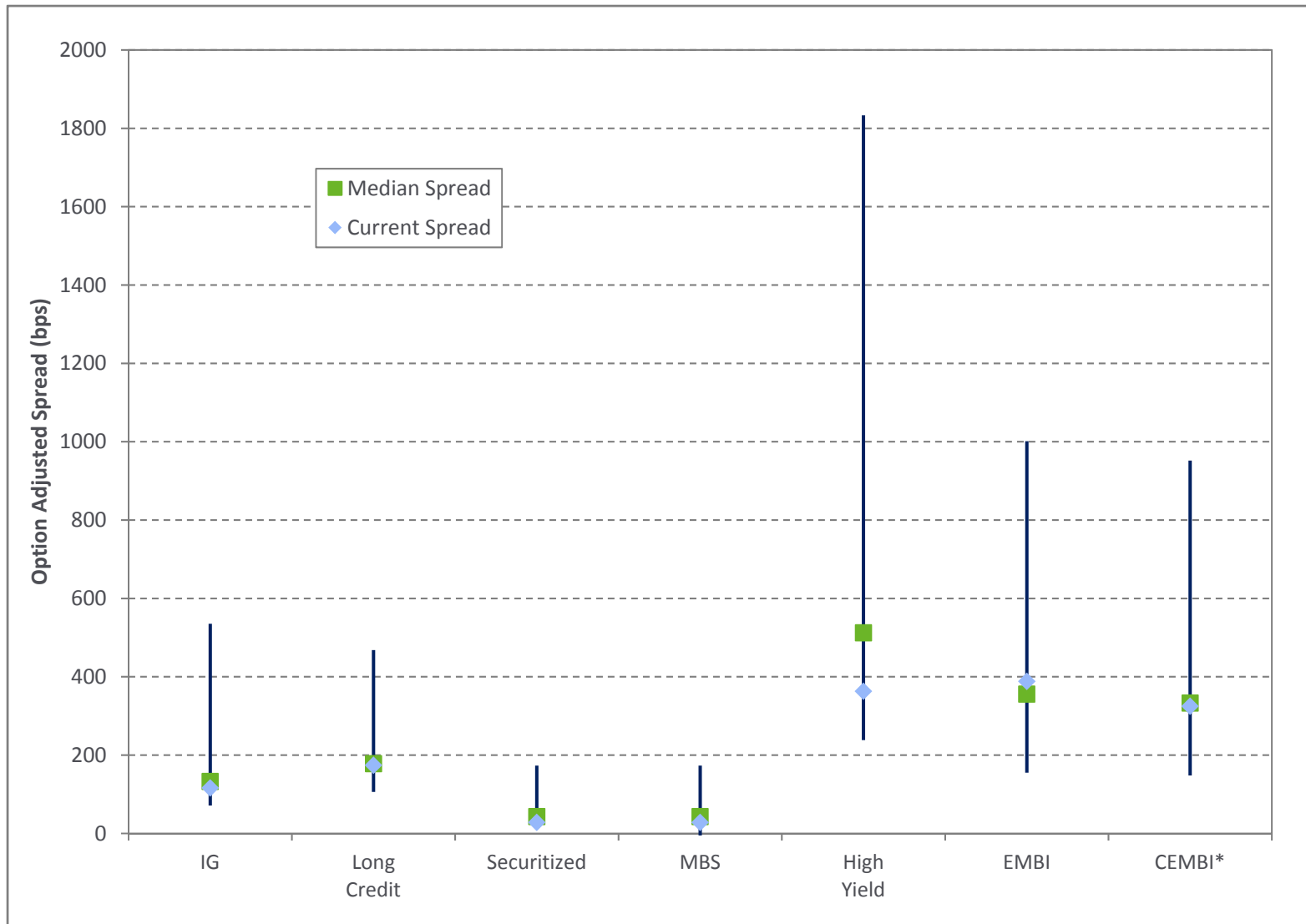
Source: Bloomberg



Source: Bloomberg



CREDIT SPREADS



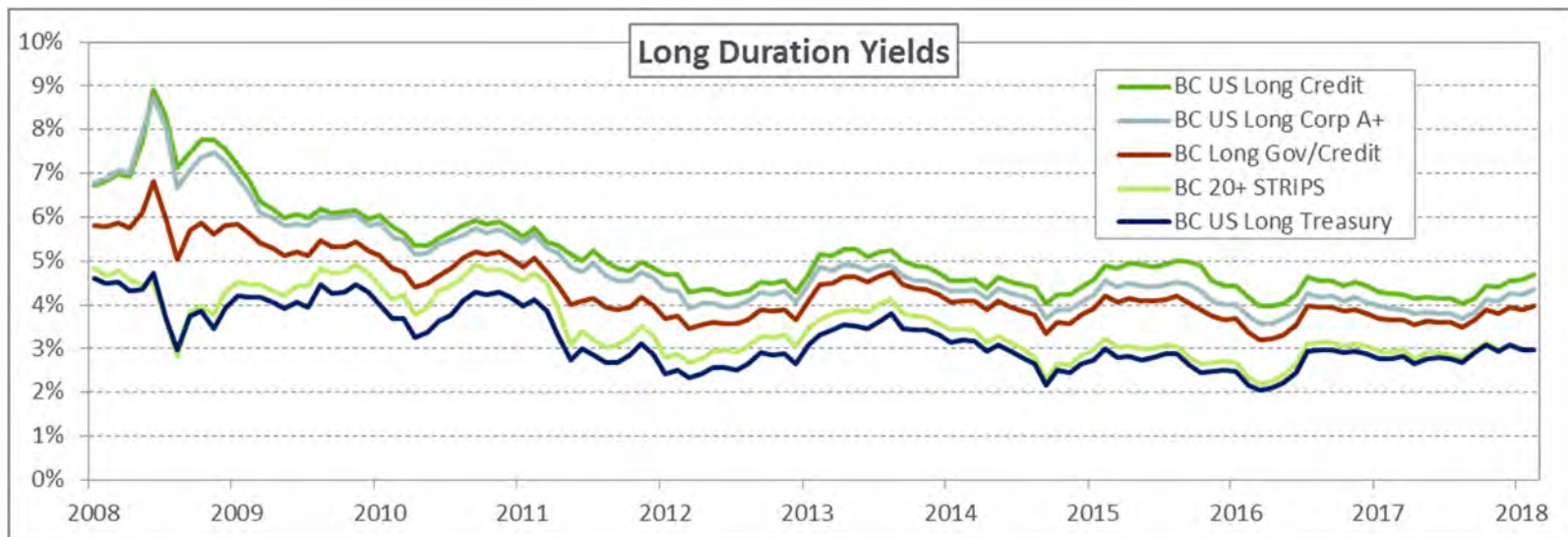
Source: Barclays, JPM, Bloomberg
 Data range: 01/31/2000 through month-end
 *JPM CEMBI calculated since 12/31/2001



LONG DURATION

Index	Month-End Yield	1 Month Prior Yield	1 Year Prior Yield	Duration
Barclays Long Treasury	3.0%	3.0%	2.8%	17.2
Barclays 20+ STRIPS	3.0%	3.0%	2.9%	25.4
Barclays Long Gov/Credit	4.0%	3.9%	3.7%	14.9
Barclays Long Credit	4.7%	4.6%	4.3%	13.4
Barclays Long Corp A+	4.3%	4.2%	3.9%	14.1

Source: Barclays, Bloomberg



Source: Barclays, Bloomberg



REAL ASSETS

NEPC, LLC

REAL ASSETS INDEX PERFORMANCE

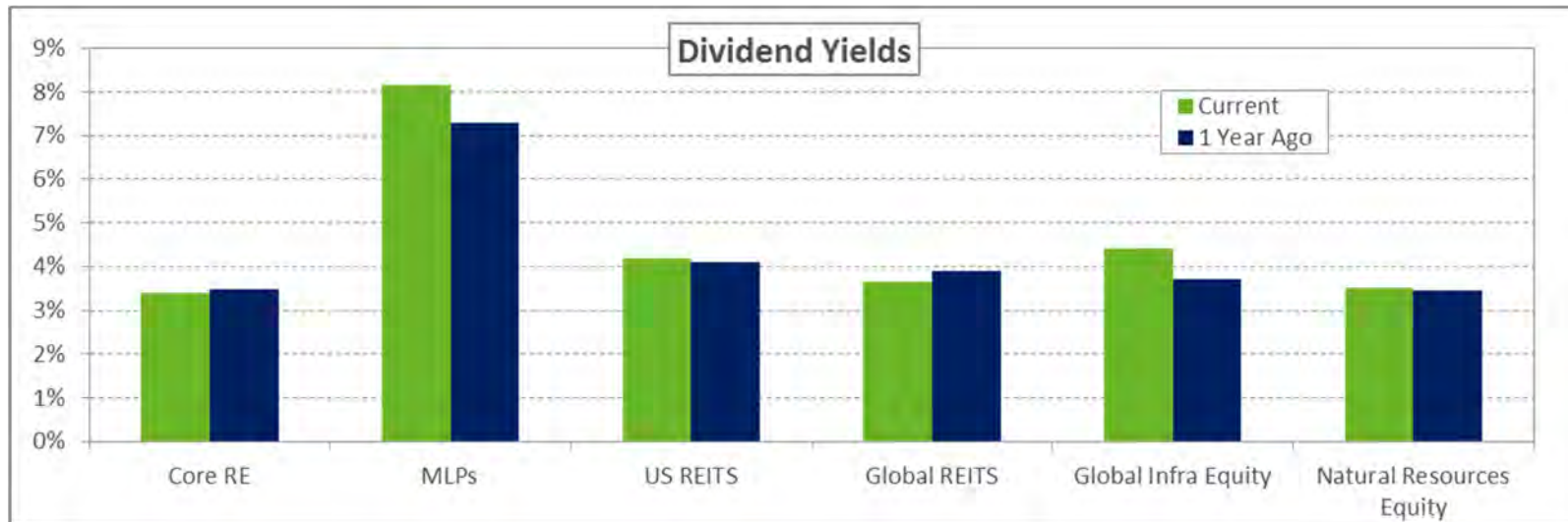
Index	1 Month	3 Month	YTD	1 Year	3 Year	5 Year
Bloomberg Commodity Index	-3.5%	0.4%	0.4%	7.3%	-4.5%	-6.4%
Bloomberg Sub Agriculture Index	-10.5%	-8.7%	-8.7%	-13.3%	-9.9%	-9.5%
Coffee	-8.5%	-5.5%	-5.5%	-16.3%	-13.1%	-9.8%
Corn	-10.8%	-11.0%	-11.0%	-16.9%	-14.7%	-16.2%
Cotton	-7.9%	6.1%	6.1%	25.2%	8.0%	1.8%
Soybean	-15.4%	-18.4%	-18.4%	-13.6%	-9.0%	-5.1%
Soybean Oil	-6.7%	-9.7%	-9.7%	-15.1%	-9.1%	-12.0%
Sugar	-6.3%	-3.1%	-3.1%	-15.3%	-6.2%	-14.7%
Wheat	-7.5%	4.7%	4.7%	-20.1%	-18.6%	-14.8%
Bloomberg Sub Energy	2.7%	10.7%	10.7%	34.8%	-9.0%	-13.0%
Brent Crude	2.7%	16.7%	16.7%	69.6%	-1.5%	-10.8%
Heating Oil	0.3%	10.5%	10.5%	52.2%	-2.5%	-8.8%
Natural Gas	-0.7%	4.2%	4.2%	-17.8%	-23.3%	-21.3%
Unleaded Gas	0.2%	7.7%	7.7%	41.8%	-4.5%	-8.7%
WTI Crude Oil	8.8%	13.2%	13.2%	58.9%	-8.3%	-14.0%
Bloomberg Sub Industrial Metals	-4.8%	1.0%	1.0%	15.2%	6.2%	0.9%
Aluminum	-6.7%	8.7%	8.7%	11.8%	6.1%	-0.2%
Copper	-3.7%	-2.7%	-2.7%	7.5%	2.6%	-1.7%
Nickel	-2.1%	12.1%	12.1%	57.7%	6.2%	0.3%
Zinc	-7.3%	-12.1%	-12.1%	6.1%	12.1%	7.4%
Bloomberg Sub Precious Metals	-3.3%	-4.5%	-4.5%	-0.8%	1.2%	-1.3%
Gold	-3.7%	-5.5%	-5.5%	0.2%	1.5%	-0.1%
Silver	-1.9%	-0.9%	-0.9%	-3.6%	-0.1%	-4.9%
Bloomberg Sub Livestock	2.7%	5.5%	5.5%	-9.4%	-4.5%	-2.7%
Lean Hogs	2.5%	3.0%	3.0%	-11.4%	-3.5%	-8.6%
Live Cattle	2.8%	6.9%	6.9%	-8.7%	-5.3%	0.7%

Source: Bloomberg

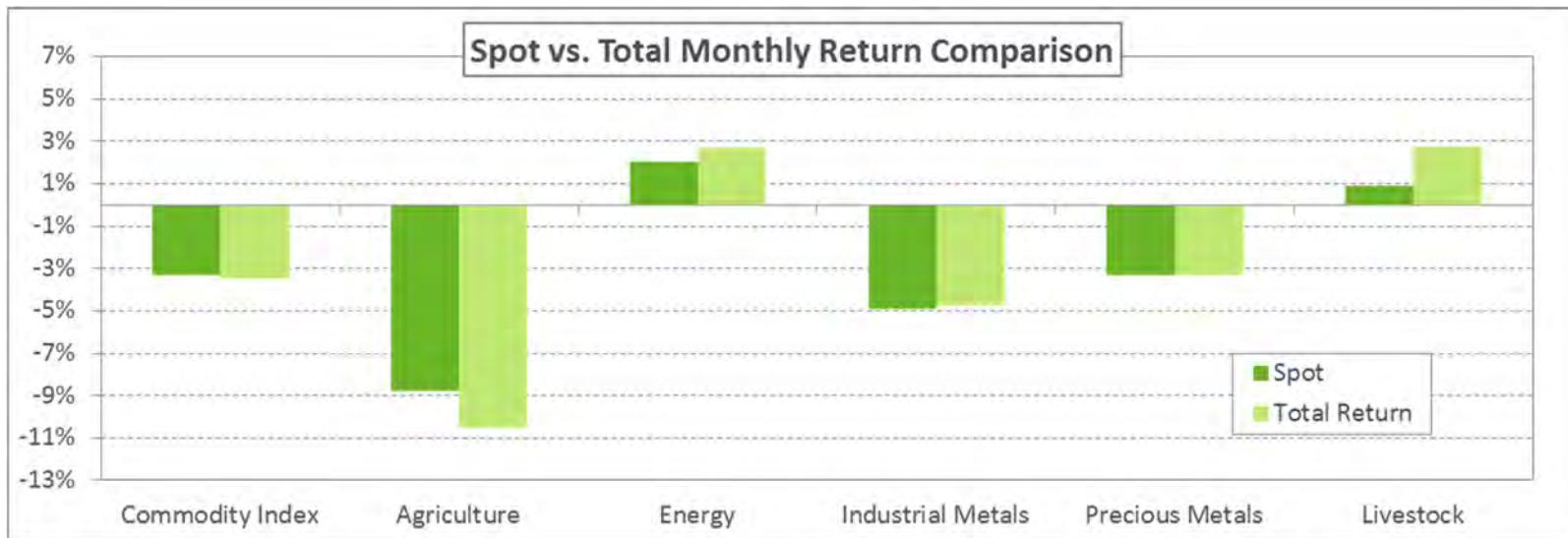
Bloomberg subindex total return indices reflects the return of the underlying one month commodity futures price movements



INCOME YIELD



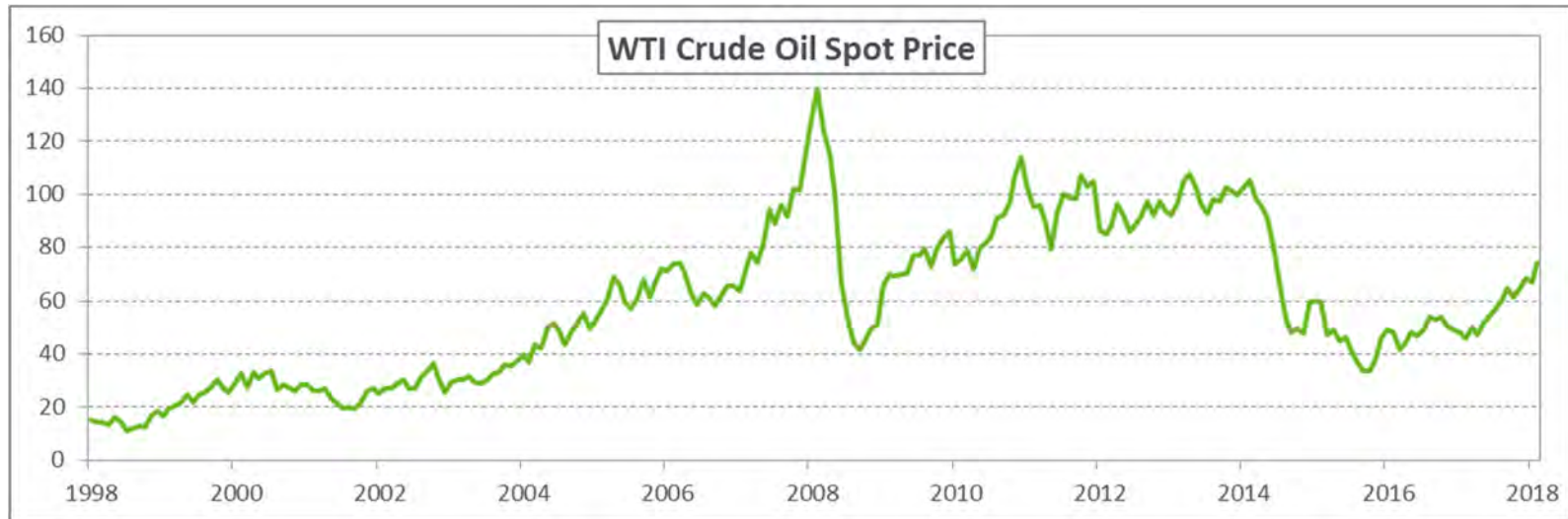
Source: Alerian, NAREIT, S&P, Bloomberg



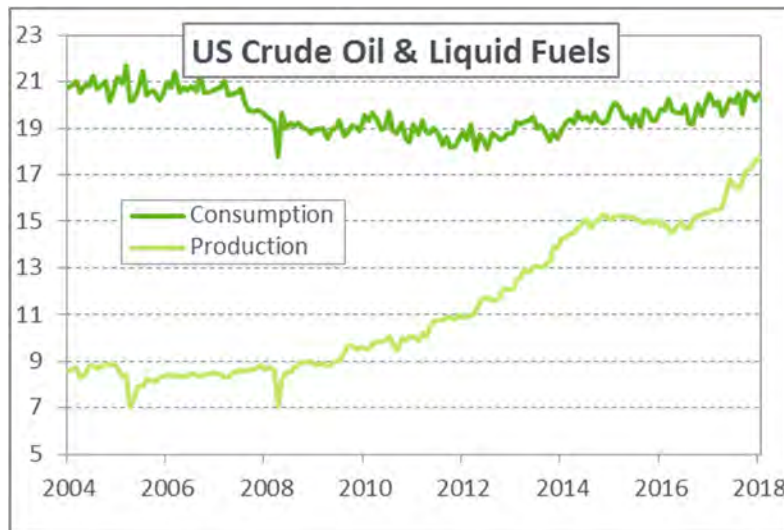
Source: Bloomberg, NEPC



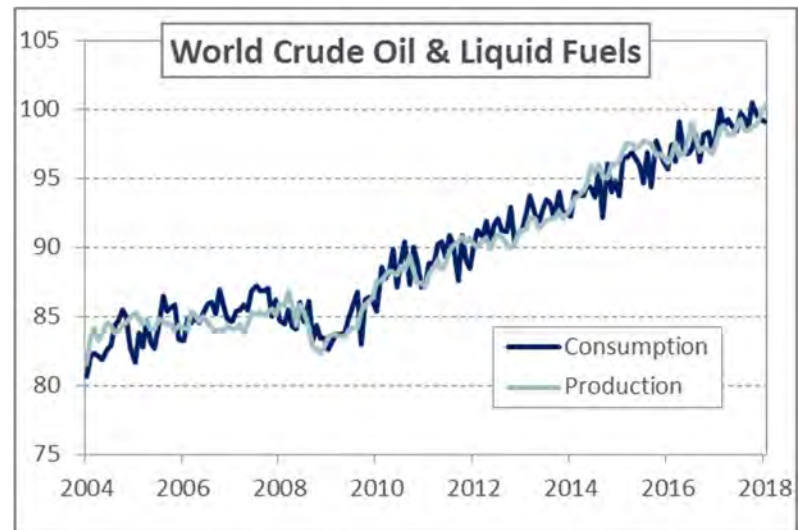
OIL MARKETS



Source: New York Mercantile Exchange, Bloomberg



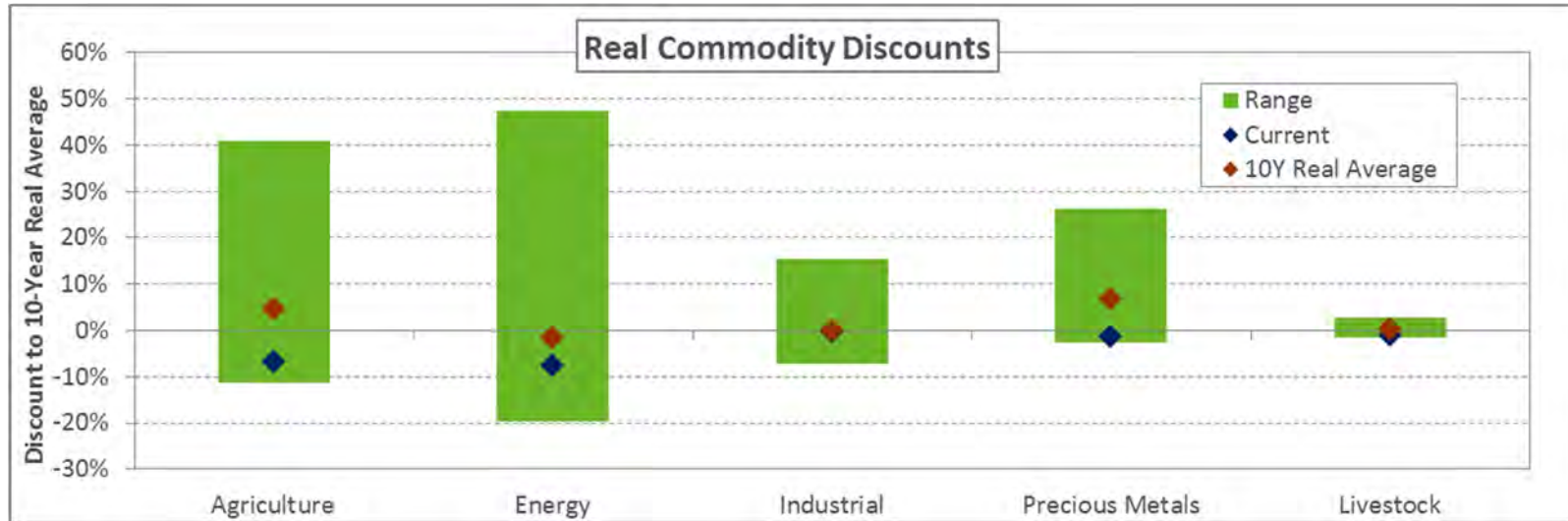
Source: US Department of Energy, Bloomberg



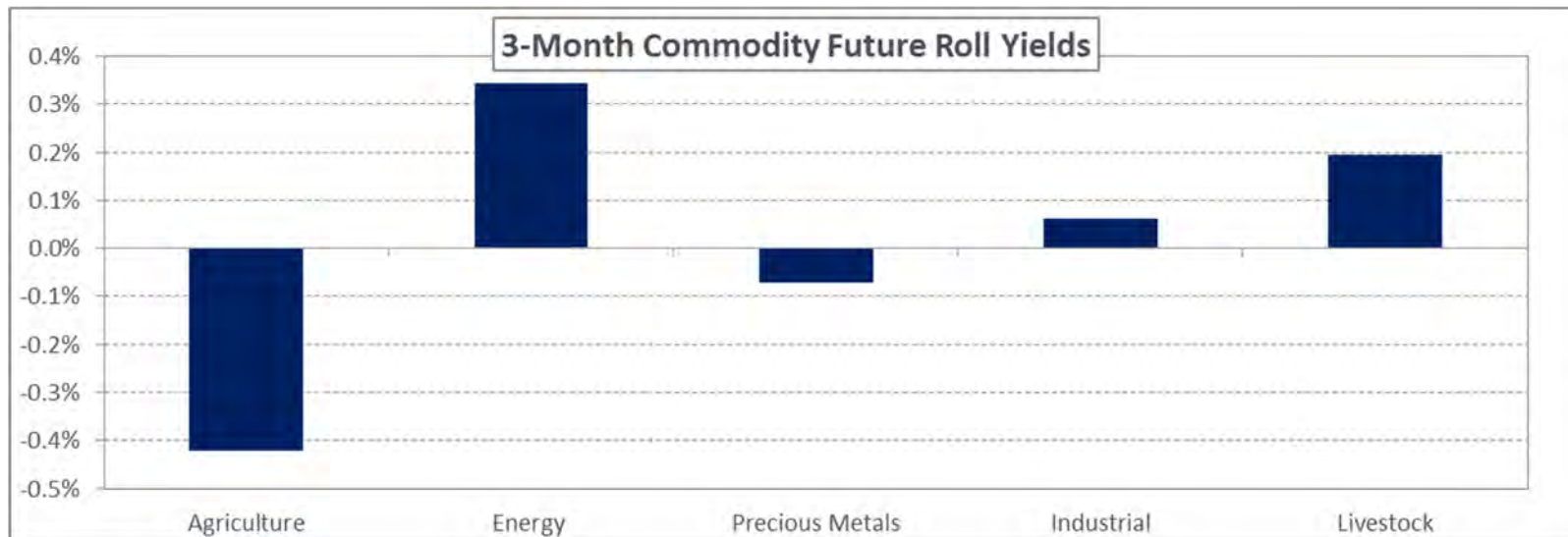
Source: OECD, Bloomberg



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

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

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

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

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

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

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

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

Data Source: InvestorForce



GLOSSARY OF INVESTMENT TERMINOLOGY

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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



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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



GLOSSARY OF INVESTMENT TERMINOLOGY

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

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

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

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

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

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

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

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

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

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

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

Upside Deviation¹ - Standard Deviation of Positive Returns

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

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

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

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



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- 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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