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VCERA
VENTURA COUNTY EMPLOYEES'
RETIREMENT ASSOCIATION

Ventura County Employees' Retirement Association

Investment Summary
Quarter Ending September 30, 2017

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Market Environment Update and Outlook

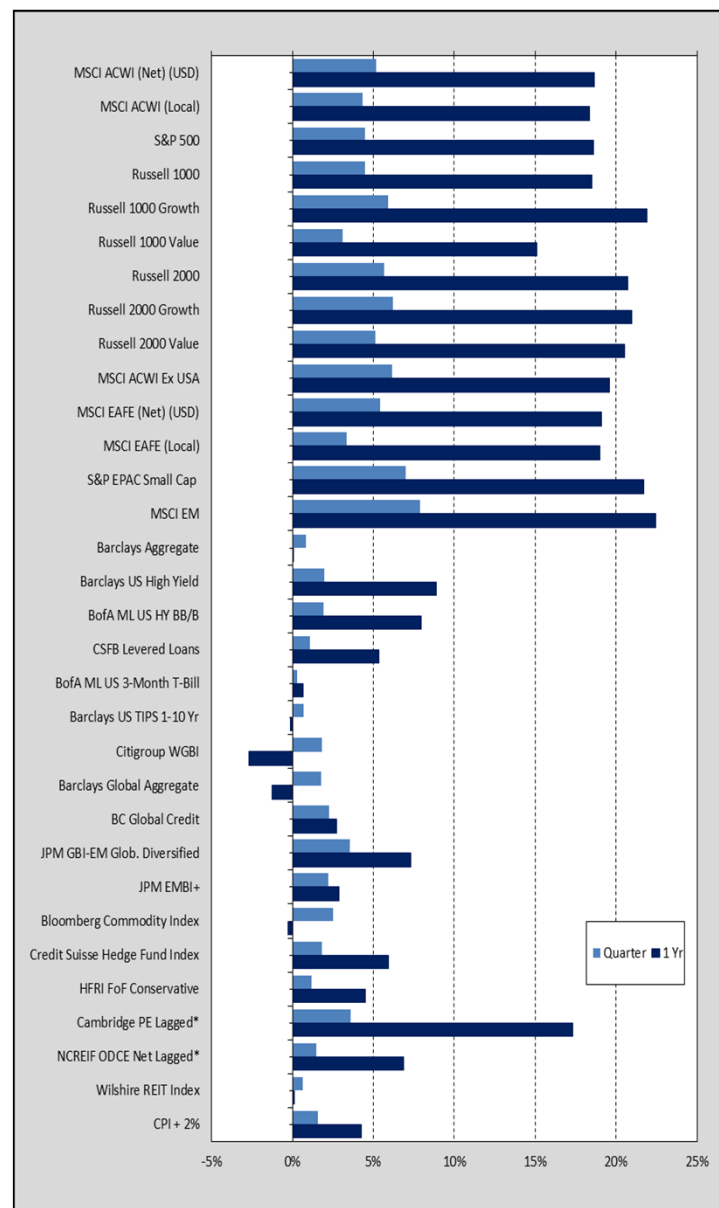


Economic Environment

- **Third quarter GDP growth rate (advance estimate) is estimated at 3.0%.**
 - Retail sales ended September at +4.7% on a YoY basis. In the same period last year the YoY growth rate was 2.6%.
 - Corporate profits (ended April) as a percent of GDP decreased slightly to 9.2% from 9.5% (in January) and remain elevated relative to historical levels.
 - The inventory-to-sales ratio ended August flat at 1.4 and has remained relatively flat since early 2010.
 - The U.S. trade deficit declined by 2.6% ended August as exports increased to a level last seen two and half years ago and imports decreased slightly.
- **The unemployment rate decreased to 4.2% from 4.4% in Q3; U-6, a broader measure of unemployment, decreased to 8.3% from 8.6% during the third quarter.**
- **The Case-Shiller Home Price Index (ended July) increased to 194.1 from 192.7 in June and is at levels higher than that of pre-financial crisis levels of 150.9.**
- **Rolling 12-month seasonally-adjusted CPI saw an up-tick to 2.2% at the end of September from 1.6% at the end of June; Capacity Utilization marginally decreased to 76.0% in Q3 from 76.6% in Q2.**
- **Fed Funds rate was unchanged at a targeted range of 1.0% - to – 1.25%. The 10-year Treasury Yield (constant maturity) finished Q3 at 2.2% flat from Q2.**
- **The Fed balance sheet decreased slightly during Q3 2017, while the European Central Bank balance sheet continues to increase.**
 - ECB held its benchmark refinance rate at 0%, deposit rates -0.4% and asset purchases at €60 billion per month of corporate and public securities
- **S&P valuations increased slightly in Q3 remaining above the 10-year and long-term averages.**
 - Cyclically adjusted Shiller PE ratio (30.2x) is above the long-term average of 16.8x and above the 10-year average of 23.1x.

Market Environment – Q3 2017 Overview

		Qtr.	1 Yr.	3 Yr.	5 Yr.	10 Yr.
World Equity Benchmarks						
MSCI ACWI (Net) (USD)	World	5.2%	18.6%	7.4%	10.2%	3.9%
MSCI ACWI (Local)	World (Local Currency)	4.3%	18.3%	8.8%	12.2%	4.6%
Domestic Equity Benchmarks						
S&P 500	Large Core	4.5%	18.6%	10.8%	14.2%	7.4%
Russell 1000	Large Core	4.5%	18.5%	10.6%	14.3%	7.5%
Russell 1000 Growth	Large Growth	5.9%	21.9%	12.7%	15.3%	9.1%
Russell 1000 Value	Large Value	3.1%	15.1%	8.5%	13.2%	5.9%
Russell 2000	Small Core	5.7%	20.7%	12.2%	13.8%	7.8%
Russell 2000 Growth	Small Growth	6.2%	21.0%	12.2%	14.3%	8.5%
Russell 2000 Value	Small Value	5.1%	20.5%	12.1%	13.3%	7.1%
International Equity Benchmarks						
MSCI ACWI Ex USA	World ex-US	6.2%	19.6%	4.7%	7.0%	1.3%
MSCI EAFE (Net) (USD)	Int'l Developed	5.4%	19.1%	5.0%	8.4%	1.3%
MSCI EAFE (Local)	Int'l Developed (Local Currency)	3.4%	19.0%	7.9%	12.3%	2.6%
S&P EPAC Small Cap	Small Cap Int'l	7.0%	21.7%	11.1%	13.0%	4.4%
MSCI EM	Emerging Equity	7.9%	22.5%	4.9%	4.0%	1.3%
Domestic Fixed Income Benchmarks						
Barclays Aggregate	Core Bonds	0.8%	0.1%	2.7%	2.1%	4.3%
Barclays US High Yield	High Yield	2.0%	8.9%	5.8%	6.4%	7.8%
BofA ML US HY BB/B	High Yield	1.9%	8.0%	5.8%	6.1%	7.2%
CSFB Levered Loans	Bank Loans	1.1%	5.4%	4.0%	4.4%	4.4%
BofA ML US 3-Month T-Bill	Cash	0.3%	0.7%	0.3%	0.2%	0.5%
Barclays US TIPS 1-10 Yr	Inflation	0.7%	-0.1%	1.3%	0.1%	3.3%
Global Fixed Income Benchmarks						
Citigroup WGBI	World Gov. Bonds	1.8%	-2.7%	0.9%	-0.4%	3.0%
Barclays Global Aggregate	Global Core Bonds	1.8%	-1.3%	1.3%	0.5%	3.3%
BC Global Credit	Global Bonds	2.3%	2.7%	2.4%	2.4%	4.1%
JPM GBI-EM Glob. Diversified	Em. Mkt. Bonds (Local Currency)	3.6%	7.3%	0.3%	-0.9%	3.8%
JPM EMBI+	Em. Mkt. Bonds	2.2%	2.9%	6.3%	4.0%	7.1%
Alternative Benchmarks						
Bloomberg Commodity Index	Commodities	2.5%	-0.3%	-10.4%	-10.5%	-6.8%
Credit Suisse Hedge Fund Index	Hedge Fund	1.8%	5.9%	2.0%	4.2%	3.3%
HFRI FoF Conservative	Fund of Hedge Funds	1.2%	4.5%	1.8%	3.5%	1.0%
Cambridge PE Lagged*	Private Equity	3.6%	17.3%	9.7%	13.5%	9.3%
NCREIF ODCE Net Lagged*	Real Estate	1.5%	6.9%	10.3%	10.8%	4.3%
Wilshire REIT Index	REIT	0.6%	0.1%	9.7%	9.5%	5.6%
CPI + 2%	Inflation/Real Assets	1.6%	4.3%	3.2%	3.3%	3.7%



* As of 6/30/2017

Global Equity

- **U.S. equities as measured by the S&P 500 posted moderate gains in the third quarter (+4.5%).**
- **Small cap stocks outperformed large cap stocks during the quarter, with the Russell 2000 Index returning 5.7% and the Russell 1000 Index returning 4.5%.**
- **International equities outperformed U.S. markets during the quarter, returning 6.2%, as measured by the MSCI ACWI ex-U.S. Index. Emerging markets returned 7.9% as measured by the MSCI Emerging Markets Index in U.S. dollar terms.**
 - Developed international markets returned 5.4% in USD terms, while in local currency terms returned 3.4% as measured by the MSCI EAFE Index.

Private Equity

- **Capital commitment momentum slowed slightly in Q3 2017.**
- **Private equity fundraising totaled \$150 billion in Q3 2017.**
 - North America focused private equity funds raised \$64 billion.
 - Asia focused private equity funds raised \$9 billion.
 - Europe focused private equity raised \$20 billion.
- **Private equity dry powder continued its increase to record levels and stands at \$942 billion ended Q3 up from approximately \$906 billion ended Q2.**

Fixed Income

- **The nominal yield curve continued to flatten in Q3. Intermediate –to- long term yields increased 2 –to- 3 basis points across five to 30 year treasury bonds while short term yields increased 12 basis points for the 3 month and 7 basis points in the one year.**
- **The spread between two and 10 year rates decreased to 86 basis points from 93 basis points in Q3.**
- **Treasury Inflation-Protected Securities, or TIPS, returned 0.7% during the quarter, as measured by the BBg Barclays US TIPS 1-10 Yr Index.**
- **The BBg Barclays Long Duration Credit Index gained 0.6%.**
- **Long Treasuries gained 0.6% and investment-grade US corporate debt gained 0.8%.**
- **The BBg Barclays 1-3 year US Government/ Credit Index returned 0.3%. US high yield bonds gained 2.0% driven by tighter spreads.**
- **Emerging markets debt had modest gains.**
 - US dollar-denominated debt, as measured by the JP Morgan EMBI Index, gained 2.2%; local currency debt gained 3.6%, according to the JP Morgan GBI-EM BD Index.

Real Assets/Inflation-Linked Assets

- **Energy remains attractive despite volatile oil prices.**
 - Private equity and debt opportunities are attractive.
 - Fire sale prices never materialized but focusing on assets outside of the hottest zip codes provides potential for strong returns as market normalizes.
- **Infrastructure – select opportunities to access growth markets.**
 - High quality assets are receiving premium bids from direct investors (Pension Funds and Sovereigns) with low costs of capital and long hold horizons; focus on mismanaged or niche opportunities.
- **Metals & Mining – have commodity prices bottomed?**
 - Peak capex occurred in 2012, lagging commodity price drops that began in 2011.
 - Diverse demand drivers for underlying commodity prices.
- **Timber – low return potential and limited opportunity for outperformance.**
- **Agriculture – near-term slowdown in price appreciation creates opportunity to invest in a strong (very) long term outlook supported by demographic trends.**

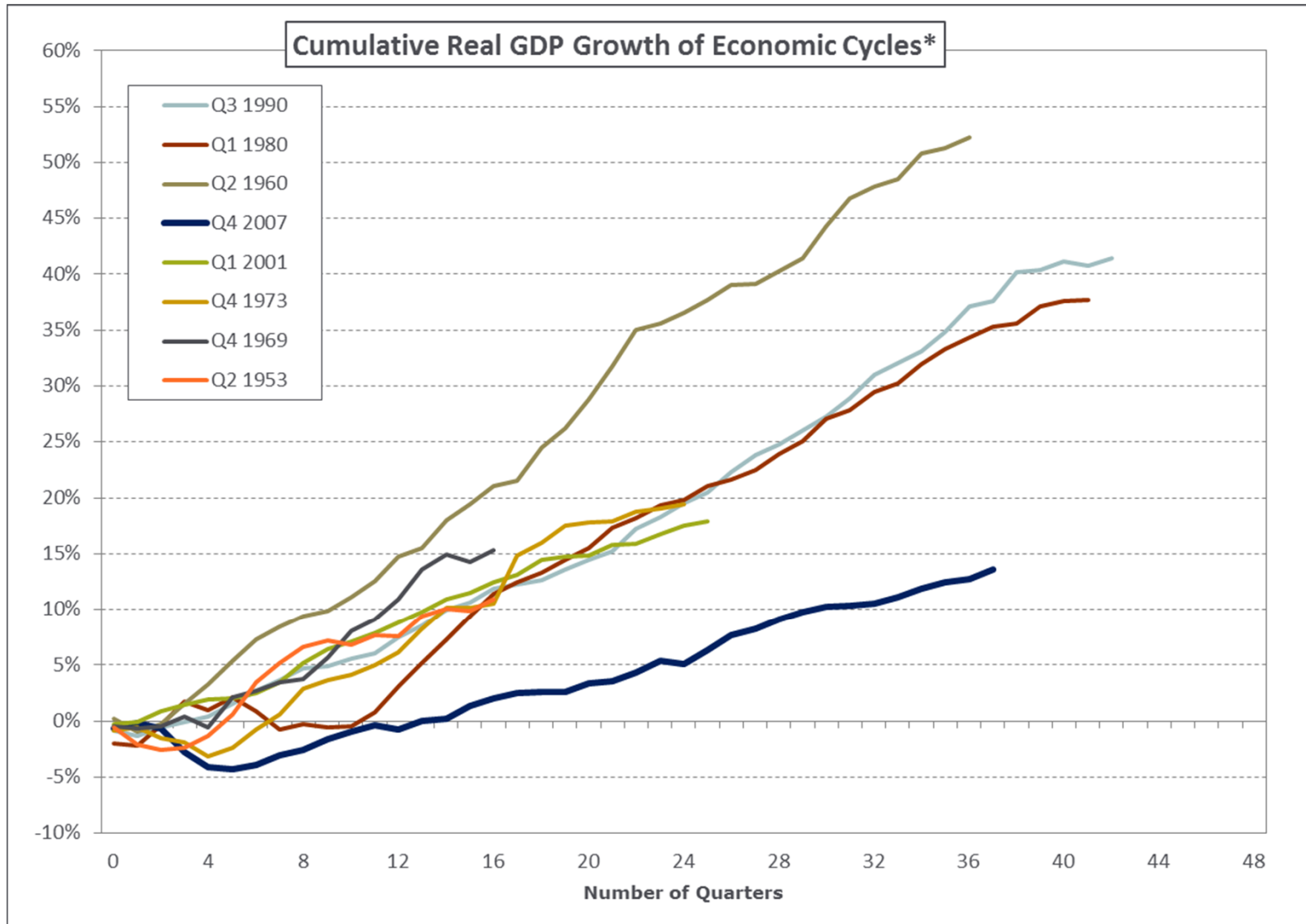
Commodities

- **Commodities gained 2.5% as measured by the Bloomberg Commodity Index.**
 - Energy led gains in commodities with heating oil and crude oil posting strong gains.

Real Estate

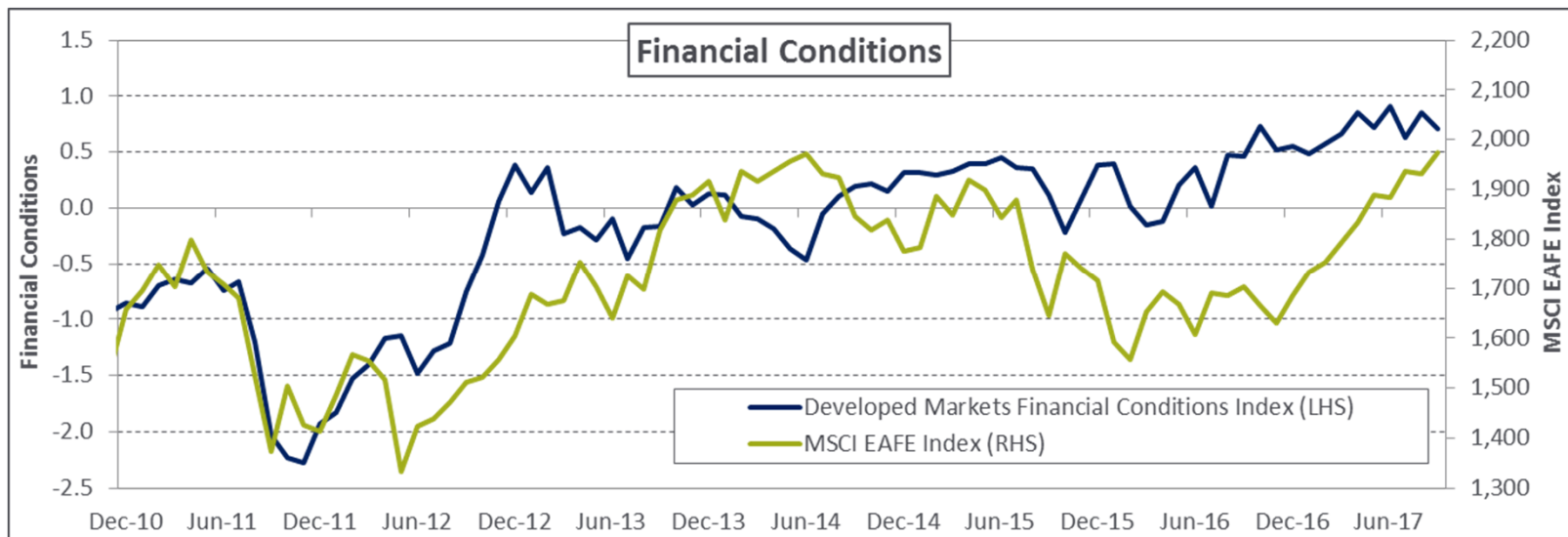
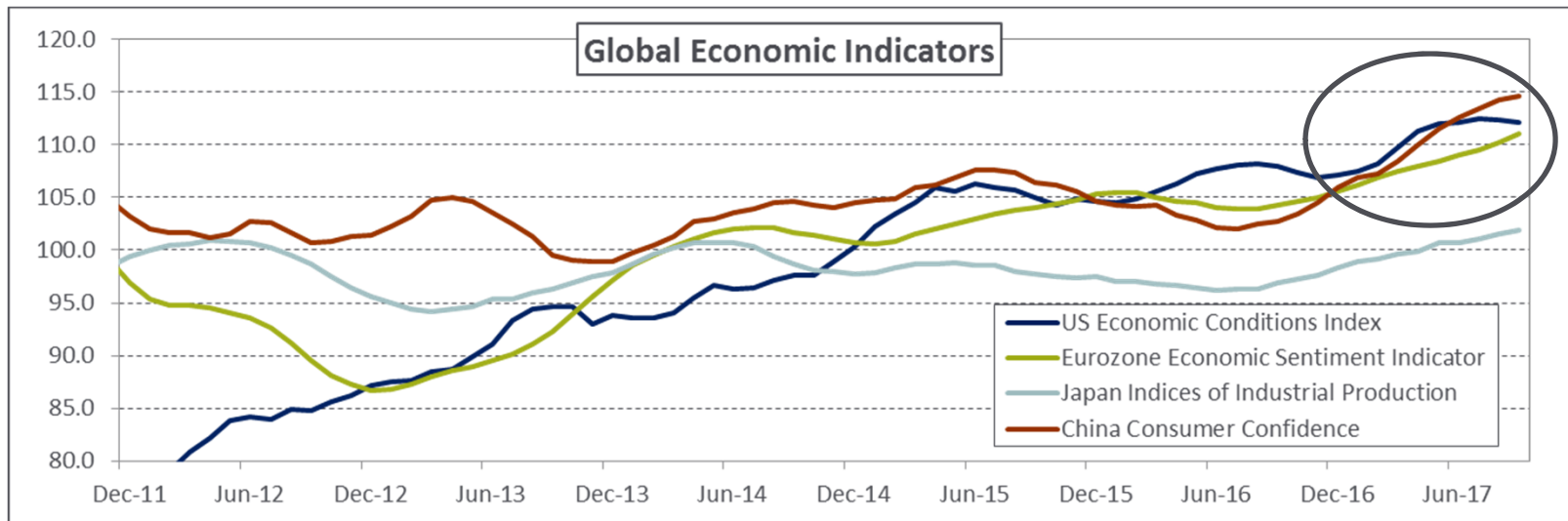
- **NEPC continues to be neutral on core real estate in the US and remains positive on non-core real estate, that is, value-add and opportunistic strategies.**
- **Real estate fundamentals (rent growth, occupancy, net absorption) remain strong; however, valuations are high on an absolute and relative basis.**
 - Rising interest rates have been baked into existing valuations but excess cap rate expansion (beyond general expectations) will reset valuations.
- **Overall, the non-core real estate investment environment in the U.S. is normalizing; however, select areas remain attractive.**
- **Europe is viewed as the best place for a marginal dollar of non-core real estate investment.**
 - Current US-dollar denominated investors with currency exposure will feel near-term impact of Brexit, but new investors may benefit from a strong US-dollar. Long-term Brexit and broader European political instability, however, are unclear.

A Prolonged US Economic Expansion Can Support An Extended Rally For Risk Assets



Source: Federal Reserve Bank of St. Louis
 *Cumulative Real GDP growth from recession start

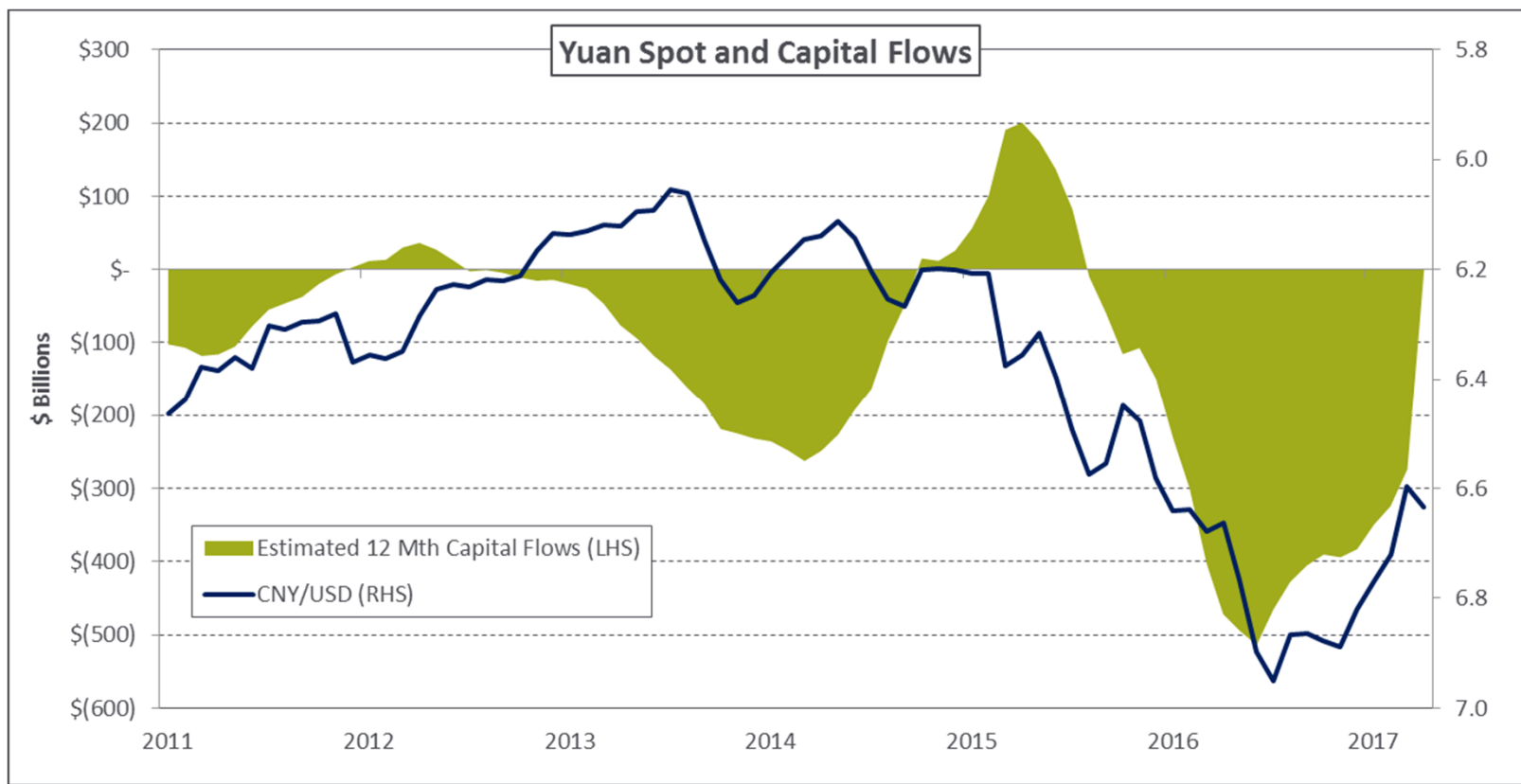
Synchronized Global Growth Conditions Supported Equities Globally In 2017



Source: Bloomberg, Morgan Stanley



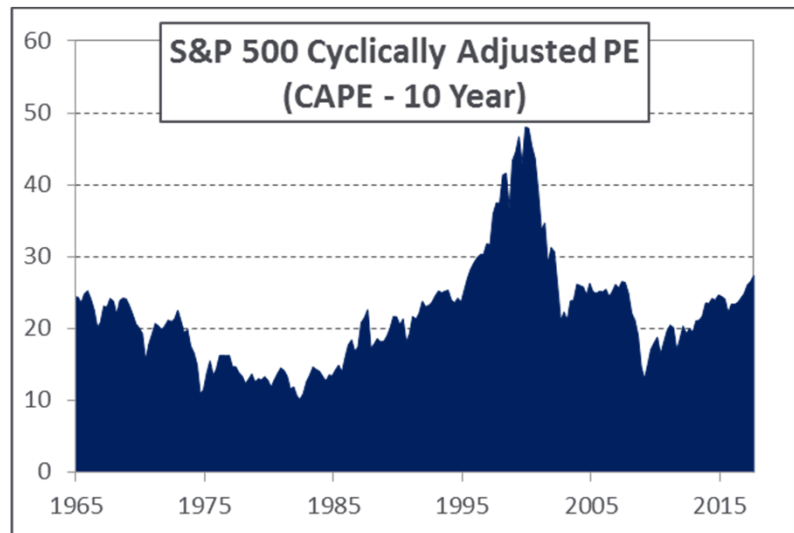
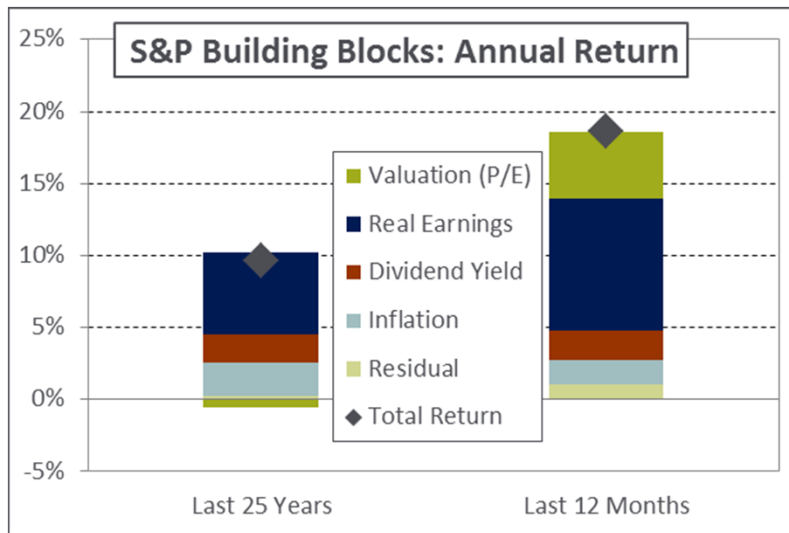
China Transitions – Stable Currency Management Benefits Emerging Markets



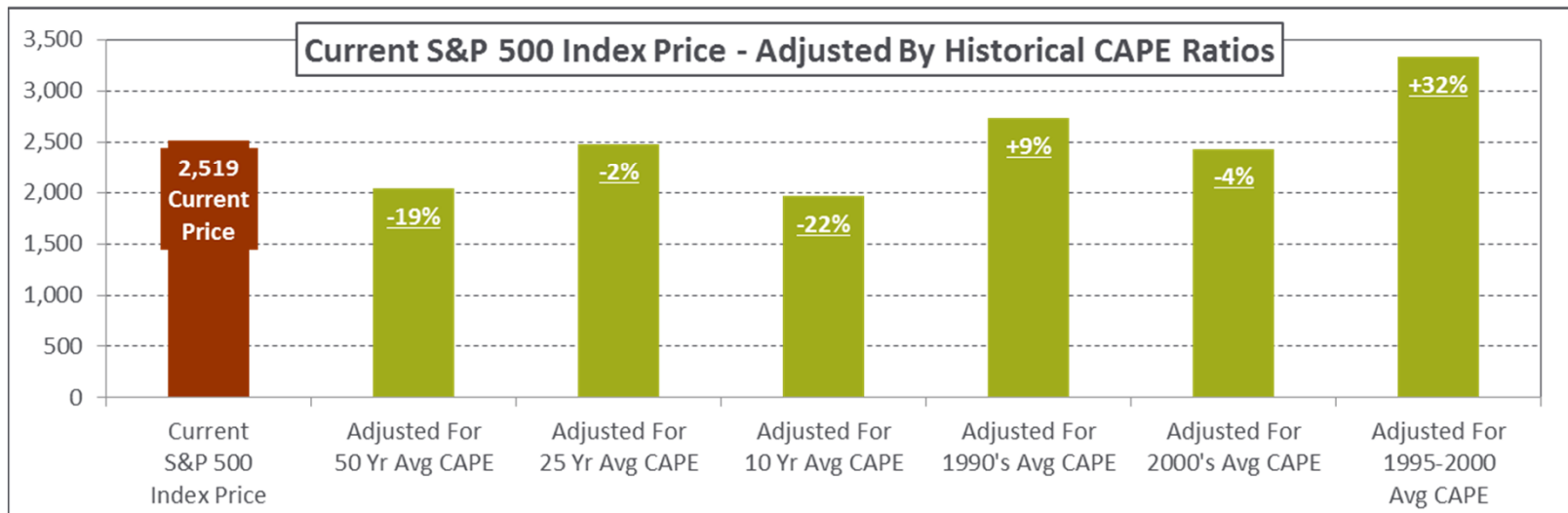
Source: Bloomberg

- **Markets have responded positively to the PBOC’s management of a more stable yuan as capital outflow pressure has eased**
- **Currency devaluation remains a tail risk as continued credit expansion and real estate development risk inflating asset price bubbles**

Expanding US Valuations Have Supported S&P 500 Returns But Could Still Run Further

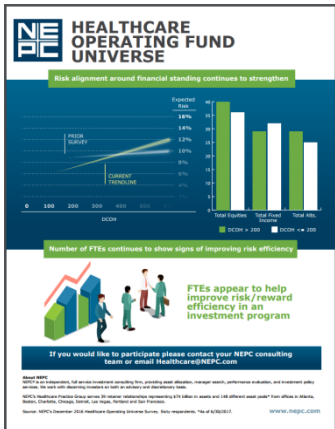


Source Top/Bottom: Bloomberg, NEPC



Holding the current earnings profile constant, what would the S&P 500 trade at under past CAPE ratios. While the S&P 500 is overvalued, it is not at extreme valuations and is supported by low inflation/interest rates

HIGHLIGHTS OF THIRD QUARTER HAPPENINGS AT NEPC



NEPC INSIGHTS

- A Tale of Two Countries: What’s Next for Investors? (July 2017)
- Is the Buy-Write Strategy Right For You? (July 2017)
- 2017 2nd Quarter Market Thoughts (July 2017)
- The Top Three Stressors for Pension Plans (July 2017)
- 2017 Q2 Endowment & Foundation Survey Results & Infographic (August 2017)
- NEPC Healthcare Operating Fund Universe Results and Infographic (August 2017)
- Monitoring the Economic Impact of Harvey (August 2017)
- Market Chatter: Should the Underperformance of CTAs Give Investors Pause (September 2017)
- Defined Contribution Plan & Fee Survey: Healthcare Findings Infographic (September 2017)

WEBINAR REPLAYS

- NEPC’s 12th Annual Defined Contribution Plan & Fee Survey (September 2017)

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

RECENT UPDATES

- Our team continues to grow: Please join us in welcoming our Partner, Sam Austin; and Senior Consultants, Kiersten Christensen, Andrew Coupe and Rick Ciccione!
- NEPC was featured in over 45 pieces of news coverage including Bloomberg, Pensions & Investments and FundFire to name a few.
- **SAVE THE DATE!** We will be hosting our 23rd Annual Investment Conference on May 14-15, 2018.

HIGHLIGHTS OF THIRD QUARTER HAPPENINGS AT NEPC



NEPC GIVES BACK

This quarter NEPC participated in three charity organization events: Sox for Socks, Habitat for Humanity and the American Red Cross.

- The Sox for Socks Drive supports Boston's Health Care for the Homeless. The organization provides medical care to Boston's homeless. This year, over 100 pairs of socks were collected and donated.
- Habitat for Humanity Greater Boston is a Massachusetts charitable organization dedicated to building homes in partnership with low-income families in need of decent and affordable housing. Twenty NEPC employees dedicated time and muscle to bring a home closer to occupancy in Dorchester, MA.
- We are thinking of those affected by Hurricane Harvey. In a show of support, employees donated to the American Red Cross with NEPC matching all donations.



CLIENT AWARDS

We'd like to congratulate the following clients for their recent wins at Chief Investment Officer's 2017 Power 100 Awards:

- David Villa, State of Wisconsin Investment Board
- Bob Jacksha, New Mexico Educational Retirement Board
- Tim Barrett, Texas Tech University System
- Don Pierce, San Bernardino County Employees' Retirement Association
- Carrie Thome, Wisconsin Alumni Research Foundation

Total Fund Performance Summary

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	Return	Since
Total Fund	\$5,257,900,164	3.7%	33	11.4%	46	12.8%	34	6.6%	49	8.9%	27	5.3%	37	8.1%	Apr-94
<i>Policy Index</i>		3.7%	36	11.8%	39	13.1%	27	7.5%	15	9.2%	19	5.6%	22	8.2%	Apr-94
<i>60% MSCI ACWI (Net) / 40% CITI WGBI</i>		3.8%	20	12.8%	14	9.7%	95	4.9%	94	6.0%	97	3.9%	94	--	Apr-94
<i>InvestorForce Public DB > \$1B Net Median</i>		3.5%		11.3%		12.5%		6.6%		8.3%		5.0%		7.7%	Apr-94

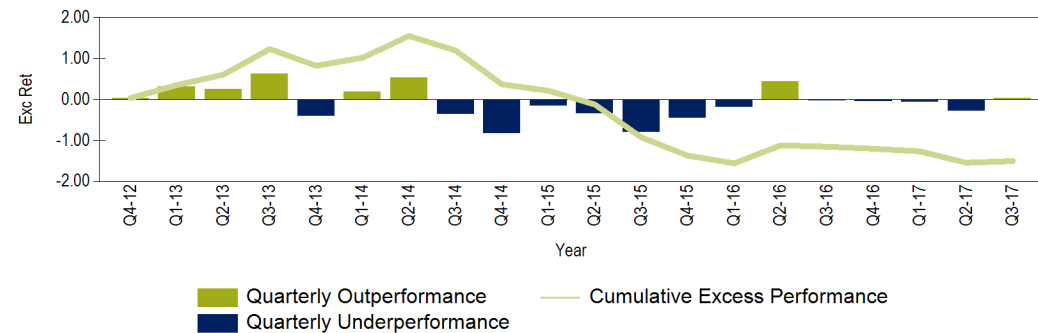
- For the five year period ending September 30, 2017, the Fund returned 8.9% trailing the policy index by 0.3% and ranking in the 27th percentile of its peers and outperforming the actuarial assumed rate of 7.5%. The Fund's volatility, as measured by standard deviation, ranked in the 76th percentile of its peers, and the risk-adjusted return, or Sharpe Ratio, ranks in the 48th percentile. This means that the Fund has earned more return per unit of volatility taken than 52% of its peers.

- For the three-year period, the Fund returned 6.6%, trailing the policy index by 0.9% and ranking in the 49th percentile of its peers. The Fund's volatility ranks in the 80th percentile of its peers over this period, with the Fund's Sharpe Ratio ranking in the 77th percentile.

- For the one-year period, the Fund returned 12.8%, underperforming the policy index by 0.3% and ranking in the 34th 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 \$605 million which includes a net investment gain of \$193 million in the quarter. Assets increased from \$4.67 billion one year ago to \$5.26 billion.

Quarterly and Cumulative Excess Performance



3 Years Ending September 30, 2017

	Anlzd Ret	Rank	Anlzd Std Dev	Rank	Sharpe Ratio	Rank	Sortino Ratio RF	Rank
Total Fund	6.6%	49	6.4%	80	1.0	77	1.5	60
Policy Index	7.5%	15	6.2%	73	1.2	37	1.7	34
InvestorForce Public DB > \$1B Net Median	6.6%	--	5.6%	--	1.1	--	1.5	--

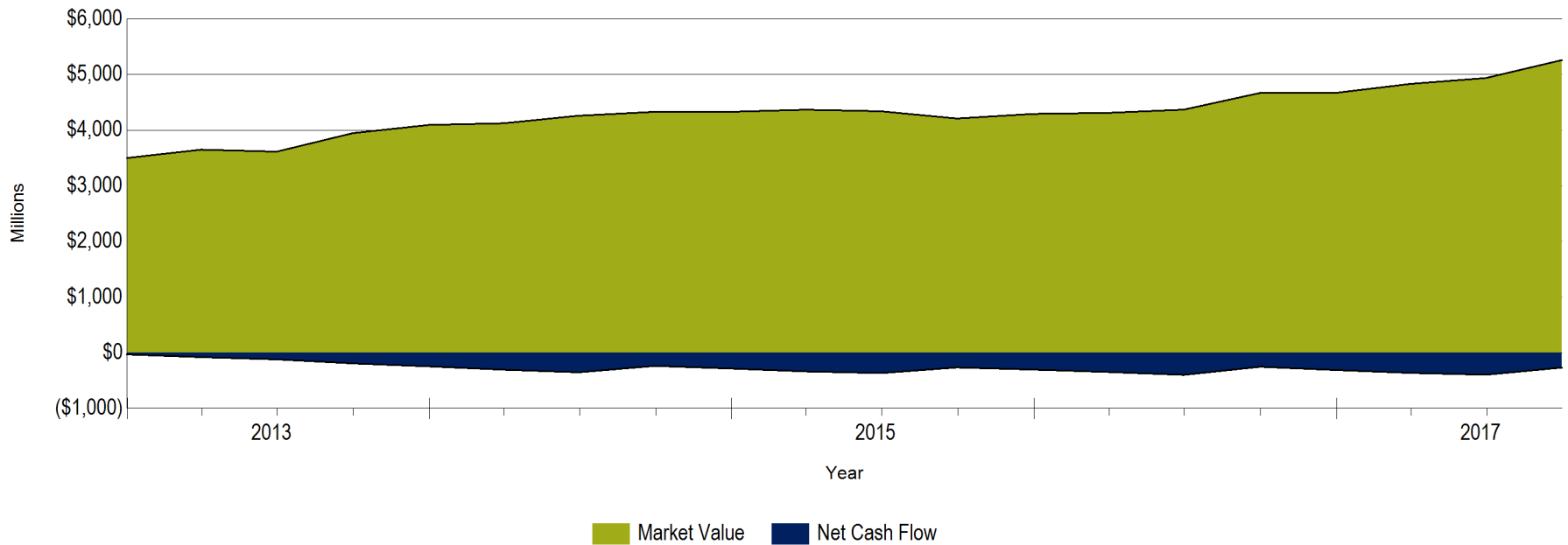
5 Years Ending September 30, 2017

	Anlzd Ret	Rank	Anlzd Std Dev	Rank	Sharpe Ratio	Rank	Sortino Ratio RF	Rank
Total Fund	8.9%	27	6.2%	76	1.4	48	2.4	35
Policy Index	9.2%	19	6.0%	71	1.5	35	2.5	29
InvestorForce Public DB > \$1B Net Median	8.3%	--	5.6%	--	1.4	--	2.2	--

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

Total Fund Asset Growth Summary

Market Value History
5 Years Ending September 30, 2017

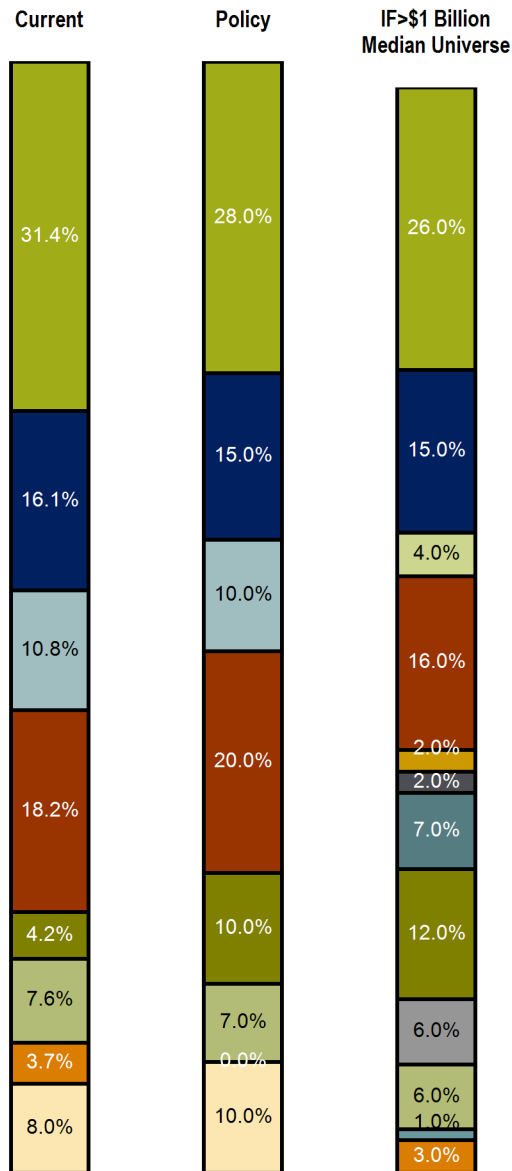


Summary of Cash Flows

	Last Three Months	One Year	Three Years	Five Years
Beginning Market Value	\$4,935,381,791	\$4,666,540,419	\$4,328,104,648	\$3,483,762,393
Net Cash Flow	\$129,410,401	-\$13,828,788	-\$29,297,405	-\$266,785,001
Net Investment Change	\$193,107,972	\$605,188,533	\$959,092,921	\$2,040,922,773
Ending Market Value	\$5,257,900,164	\$5,257,900,164	\$5,257,900,164	\$5,257,900,164

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	\$1,651,964,078	31.4%	28.0%	3.4%	24.0% - 32.0%	Yes
Non-US Equity	\$849,111,435	16.1%	15.0%	1.1%	12.0% - 18.0%	Yes
Emerging Markets Equity	--	--	--	0.0%		--
Global Equity	\$566,363,191	10.8%	10.0%	0.8%	7.0% - 13.0%	Yes
U.S. Fixed Income	\$955,638,625	18.2%	20.0%	-1.8%	16.0% - 24.0%	Yes
Fixed Income - Emerging	--	--	--	0.0%		--
Fixed Income - Global	--	--	--	0.0%		--
Global Asset Allocation	--	--	--	0.0%		--
Private Equity	\$220,639,111	4.2%	10.0%	-5.8%	0.0% - 12.0%	Yes
Hedge Funds	--	--	--	0.0%		--
Real Estate	\$397,266,572	7.6%	7.0%	0.6%	4.0% - 10.0%	Yes
Commodities/ Real Assets	--	--	--	0.0%		--
Cash	\$195,180,524	3.7%	0.0%	3.7%	0.0% - 3.0%	No
Liquid Alternatives	\$421,736,628	8.0%	10.0%	-2.0%	5.0% - 15.0%	Yes
Total	\$5,257,900,164	100.0%	100.0%			

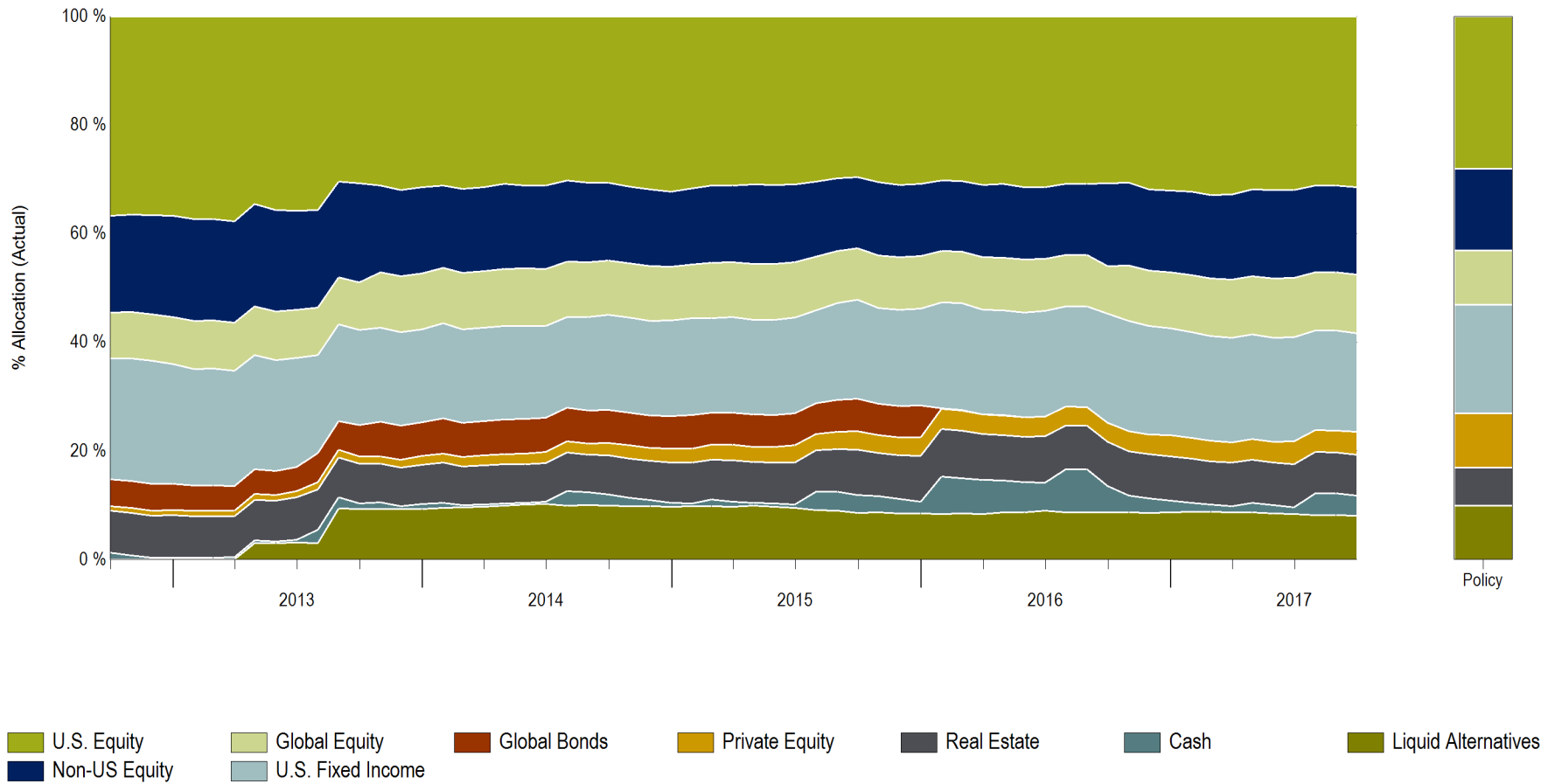
*Difference between Policy and Current Allocation

Cash represents assets in Parametric Overlay.

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

Total Fund Allocation History

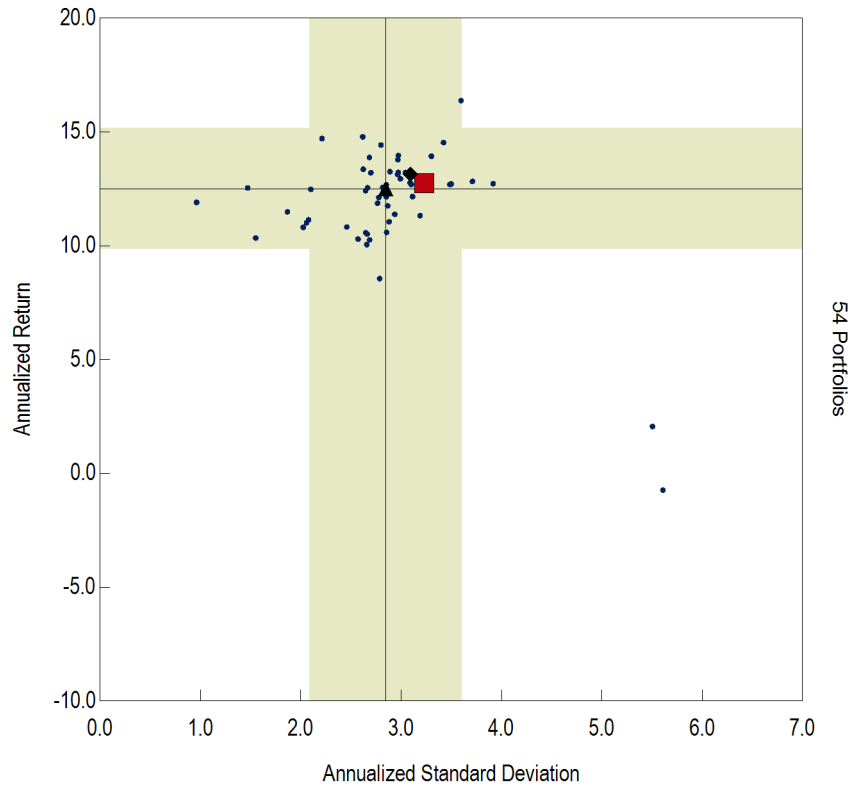
Asset Allocation History
5 Years Ending September 30, 2017



Policy Index shown is most recently approved index

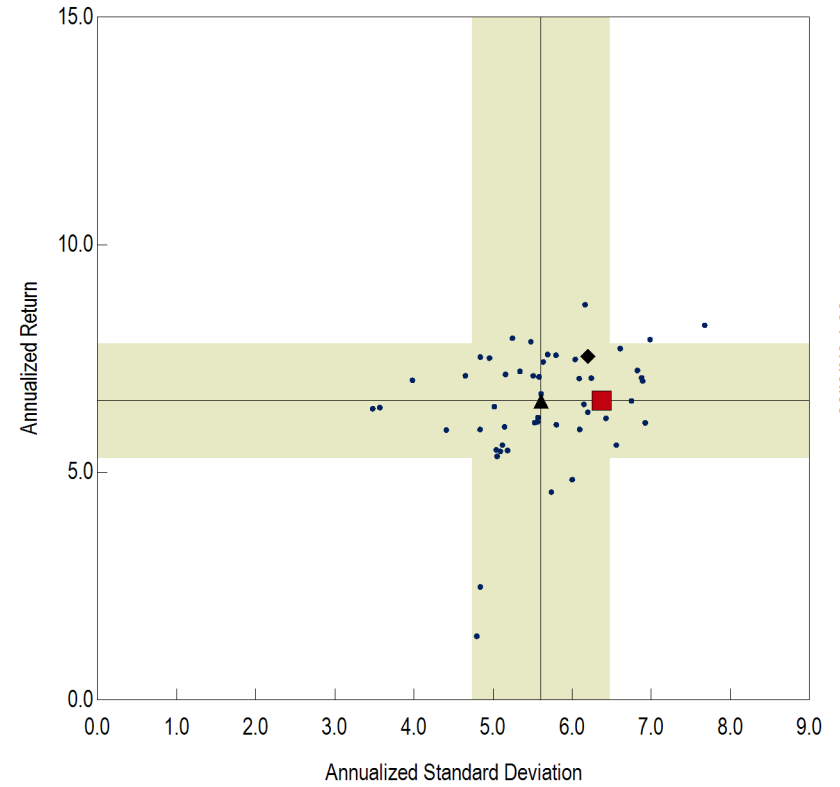
Total Fund Risk/Return

1 Years Ending September 30, 2017



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

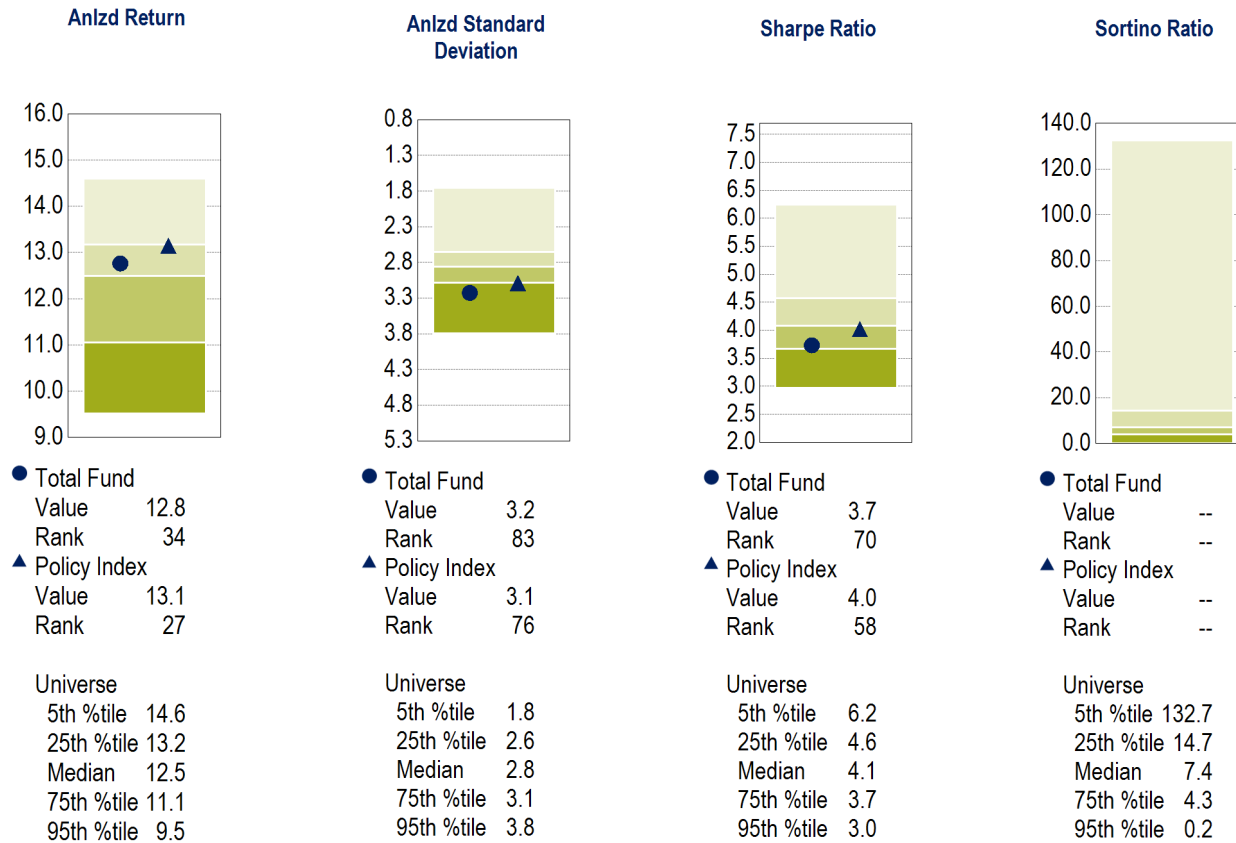
3 Years Ending September 30, 2017



- 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

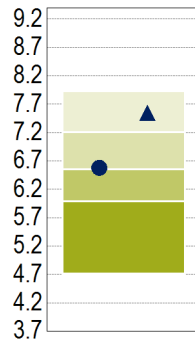


Sortino Ratio requires two months with negative returns in the time period.

Total Fund Risk Statistics vs. Peer Universe

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

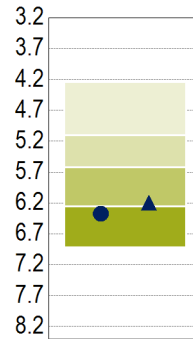
Anlzd Return



● Total Fund
Value 6.6
Rank 49
▲ Policy Index
Value 7.5
Rank 15

Universe
5th %tile 7.9
25th %tile 7.2
Median 6.6
75th %tile 6.0
95th %tile 4.7

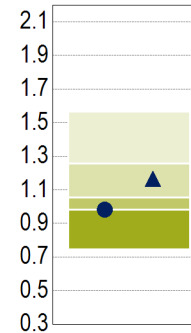
Anlzd Standard Deviation



● Total Fund
Value 6.4
Rank 80
▲ Policy Index
Value 6.2
Rank 73

Universe
5th %tile 4.2
25th %tile 5.1
Median 5.6
75th %tile 6.2
95th %tile 6.9

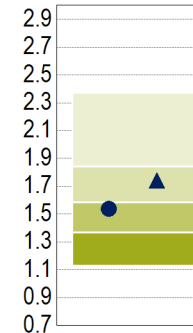
Sharpe Ratio



● Total Fund
Value 1.0
Rank 77
▲ Policy Index
Value 1.2
Rank 37

Universe
5th %tile 1.6
25th %tile 1.3
Median 1.1
75th %tile 1.0
95th %tile 0.7

Sortino Ratio

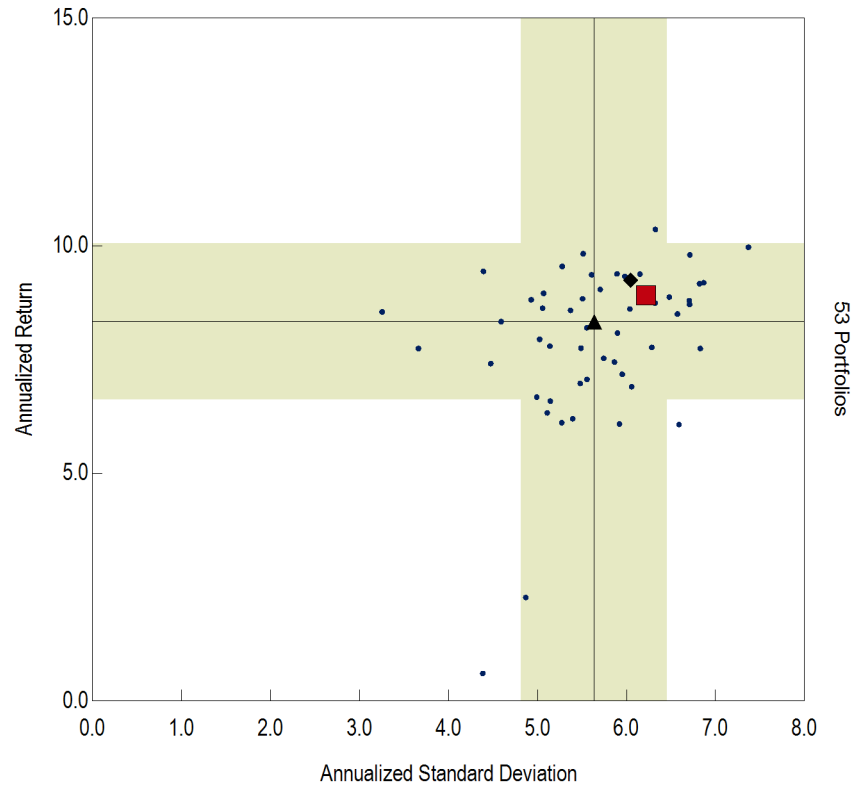


● Total Fund
Value 1.5
Rank 60
▲ Policy Index
Value 1.7
Rank 34

Universe
5th %tile 2.4
25th %tile 1.8
Median 1.6
75th %tile 1.4
95th %tile 1.1

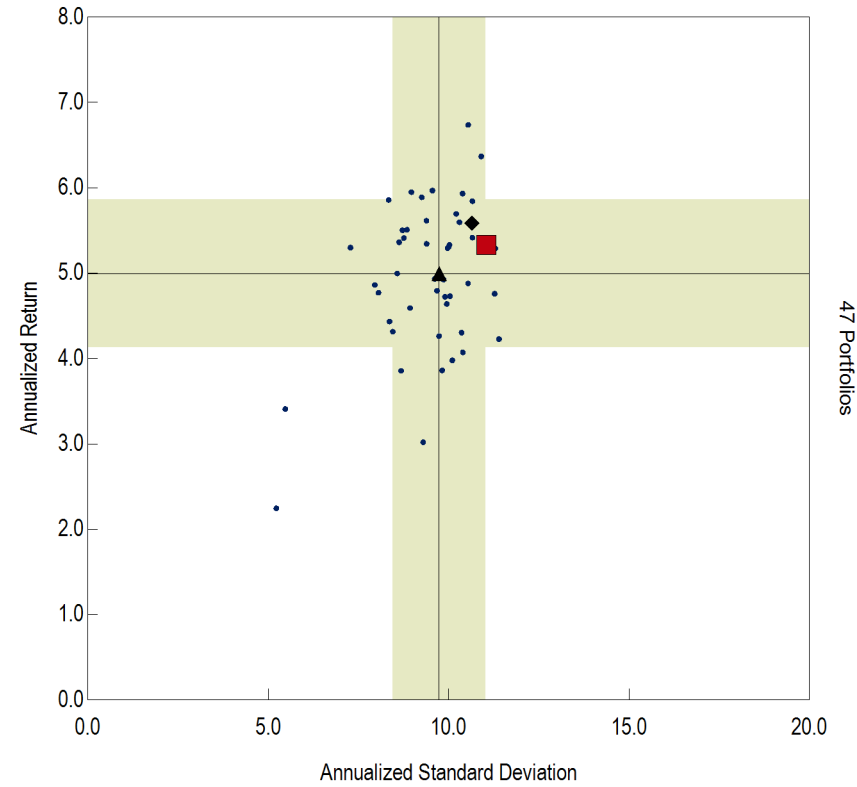
Total Fund Risk/Return

5 Years Ending September 30, 2017



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

10 Years Ending September 30, 2017

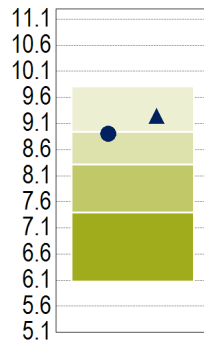


- Total Fund
- ◆ Policy Index
- ▲ Universe Median
- 68% Confidence Interval
- InvestorForce Public DB > \$1B Net

Total Fund Risk Statistics vs. Peer Universe

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

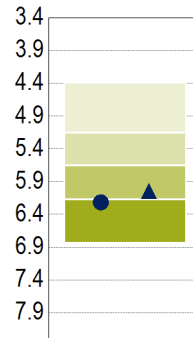
Anlzd Return



● Total Fund
Value 8.9
Rank 27
▲ Policy Index
Value 9.2
Rank 19

Universe
5th %tile 9.8
25th %tile 9.0
Median 8.3
75th %tile 7.4
95th %tile 6.1

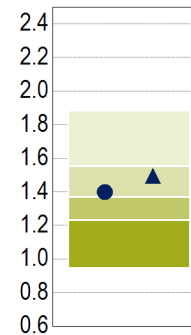
Anlzd Standard Deviation



● Total Fund
Value 6.2
Rank 76
▲ Policy Index
Value 6.0
Rank 71

Universe
5th %tile 4.4
25th %tile 5.1
Median 5.6
75th %tile 6.2
95th %tile 6.8

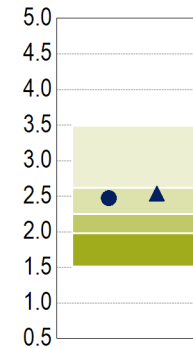
Sharpe Ratio



● Total Fund
Value 1.4
Rank 48
▲ Policy Index
Value 1.5
Rank 35

Universe
5th %tile 1.9
25th %tile 1.6
Median 1.4
75th %tile 1.2
95th %tile 1.0

Sortino Ratio



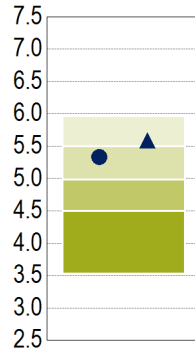
● Total Fund
Value 2.5
Rank 35
▲ Policy Index
Value 2.5
Rank 29

Universe
5th %tile 3.5
25th %tile 2.6
Median 2.3
75th %tile 2.0
95th %tile 1.5

Total Fund Risk Statistics vs. Peer Universe

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

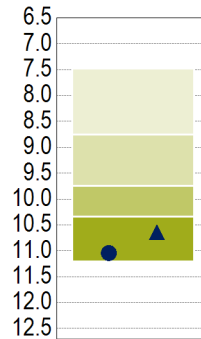
Anlzd Return



● Total Fund
Value 5.3
Rank 37
▲ Policy Index
Value 5.6
Rank 22

Universe
5th %tile 6.0
25th %tile 5.5
Median 5.0
75th %tile 4.5
95th %tile 3.5

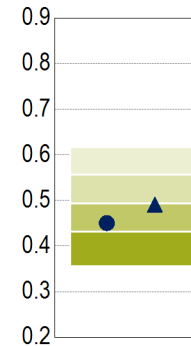
Anlzd Standard
Deviation



● Total Fund
Value 11.0
Rank 94
▲ Policy Index
Value 10.6
Rank 87

Universe
5th %tile 7.5
25th %tile 8.7
Median 9.7
75th %tile 10.3
95th %tile 11.2

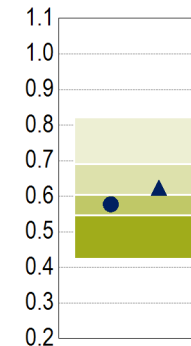
Sharpe Ratio



● Total Fund
Value 0.5
Rank 68
▲ Policy Index
Value 0.5
Rank 52

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

Sortino Ratio

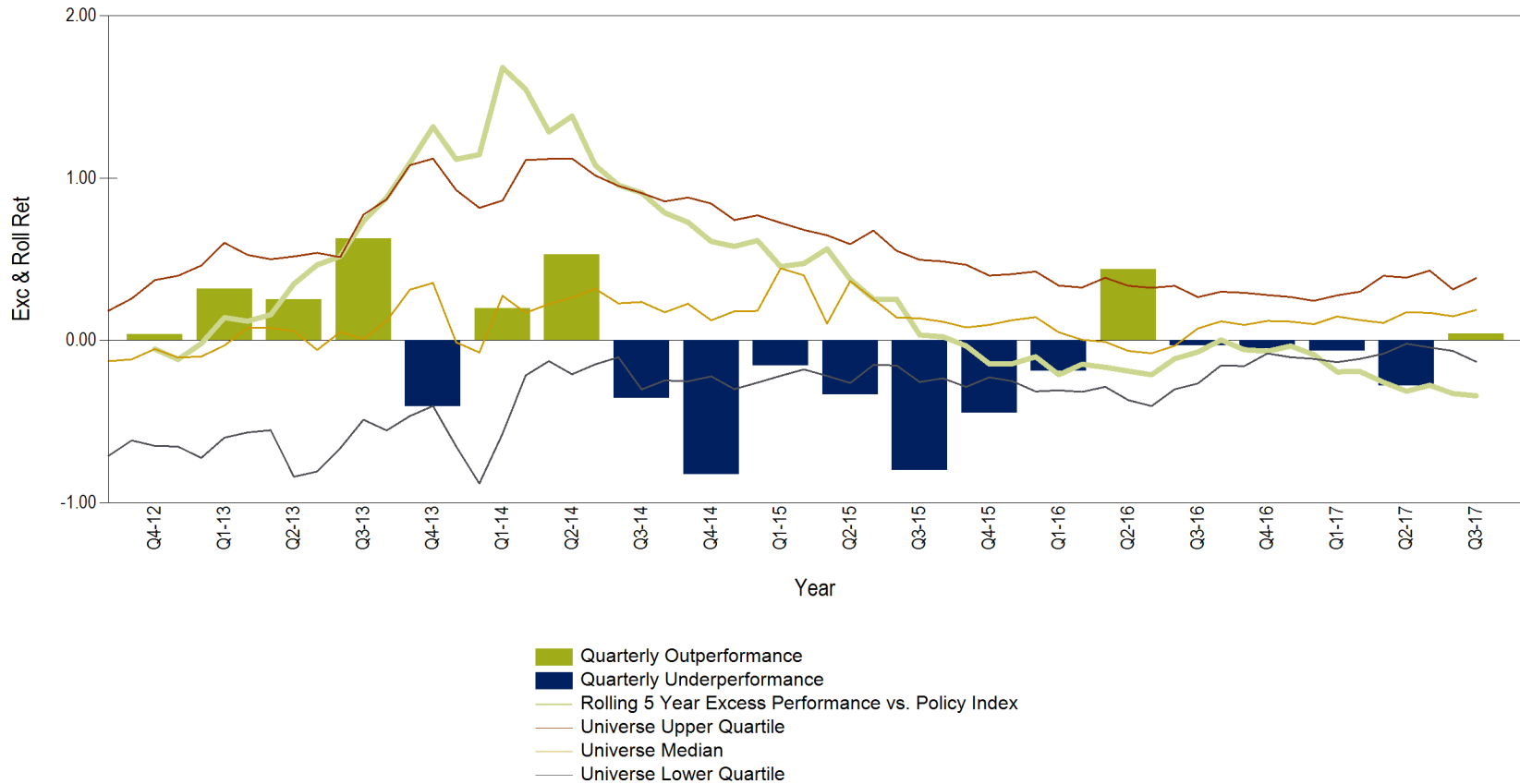


● Total Fund
Value 0.6
Rank 61
▲ Policy Index
Value 0.6
Rank 45

Universe
5th %tile 0.8
25th %tile 0.7
Median 0.6
75th %tile 0.5
95th %tile 0.4

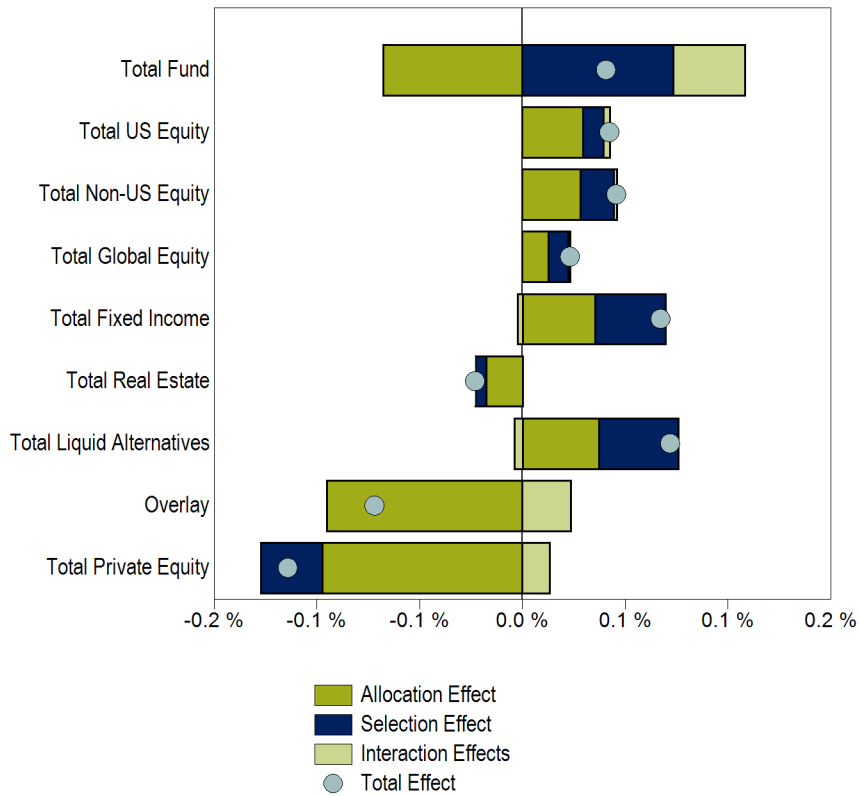
Rolling 5 Year Excess Returns- Net of Fees

Rolling Annualized Excess Performance



Total Fund Attribution Analysis

Attribution Effects
3 Months Ending September 30, 2017

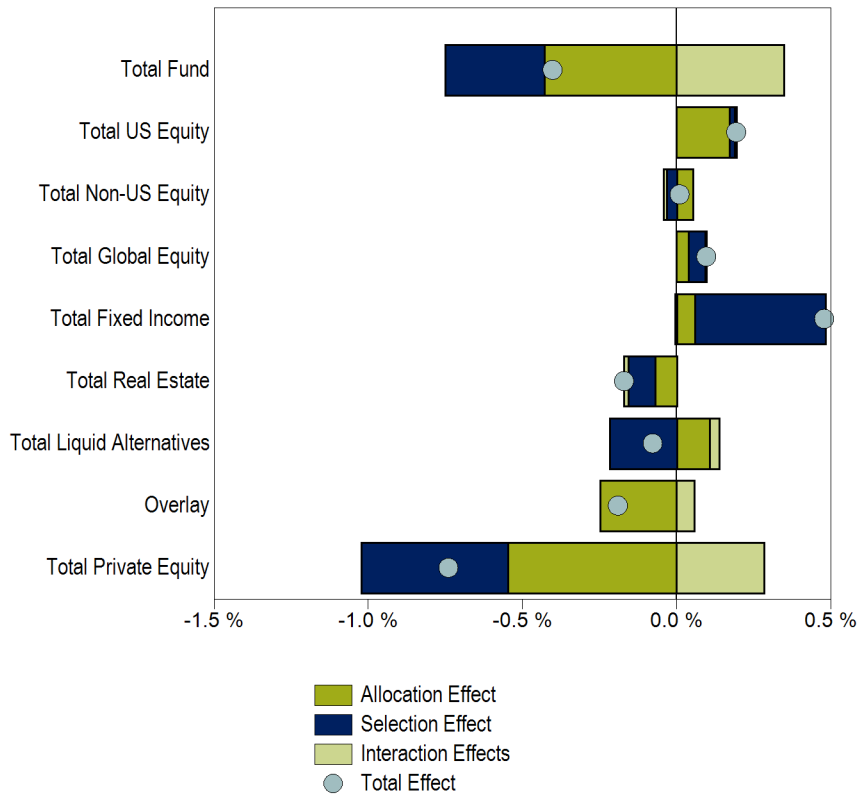


Attribution Summary
3 Months Ending September 30, 2017

	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction Effects	Total Effects
Total US Equity	4.6%	4.6%	0.0%	0.0%	0.0%	0.0%	0.0%
Total Non-US Equity	6.3%	6.2%	0.1%	0.0%	0.0%	0.0%	0.0%
Total Global Equity	5.3%	5.2%	0.1%	0.0%	0.0%	0.0%	0.0%
Total Fixed Income	1.0%	0.8%	0.2%	0.0%	0.0%	0.0%	0.1%
Total Real Estate	1.6%	1.6%	-0.1%	0.0%	0.0%	0.0%	0.0%
Total Liquid Alternatives	1.9%	1.5%	0.4%	0.0%	0.0%	0.0%	0.1%
Overlay	1.5%	0.3%	1.2%	0.0%	-0.1%	0.0%	-0.1%
Total Private Equity	5.0%	5.3%	-0.4%	0.0%	-0.1%	0.0%	-0.1%
Total	3.7%	3.7%	0.0%	0.1%	-0.1%	0.0%	0.0%

Total Fund Attribution Analysis

Attribution Effects
1 Year Ending September 30, 2017

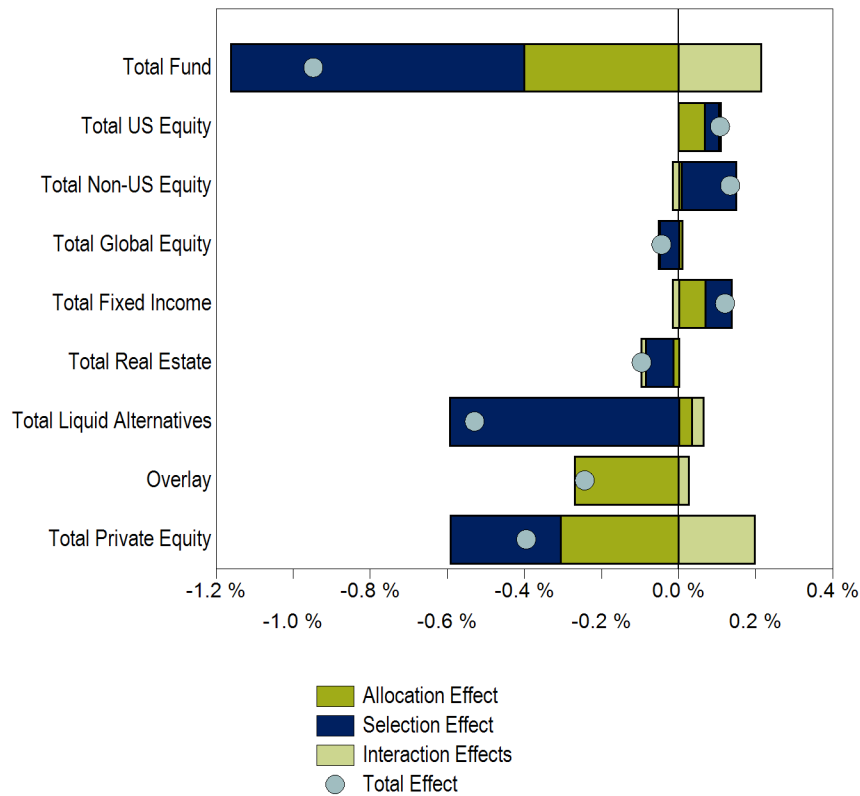


Attribution Summary
1 Year Ending September 30, 2017

	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction Effects	Total Effects
Total US Equity	18.8%	18.7%	0.1%	0.0%	0.2%	0.0%	0.2%
Total Non-US Equity	19.4%	19.6%	-0.2%	0.0%	0.1%	0.0%	0.0%
Total Global Equity	19.2%	18.6%	0.6%	0.1%	0.0%	0.0%	0.1%
Total Fixed Income	2.0%	0.1%	1.9%	0.4%	0.1%	0.0%	0.5%
Total Real Estate	5.5%	6.7%	-1.2%	-0.1%	-0.1%	0.0%	-0.2%
Total Liquid Alternatives	4.0%	6.1%	-2.1%	-0.2%	0.1%	0.0%	-0.1%
Overlay	4.0%	0.7%	3.3%	0.0%	-0.2%	0.1%	-0.2%
Total Private Equity	17.2%	22.2%	-5.0%	-0.5%	-0.5%	0.3%	-0.7%
Total	12.7%	13.1%	-0.4%	-0.3%	-0.4%	0.3%	-0.4%

Total Fund Attribution Analysis

Attribution Effects
3 Years Ending September 30, 2017

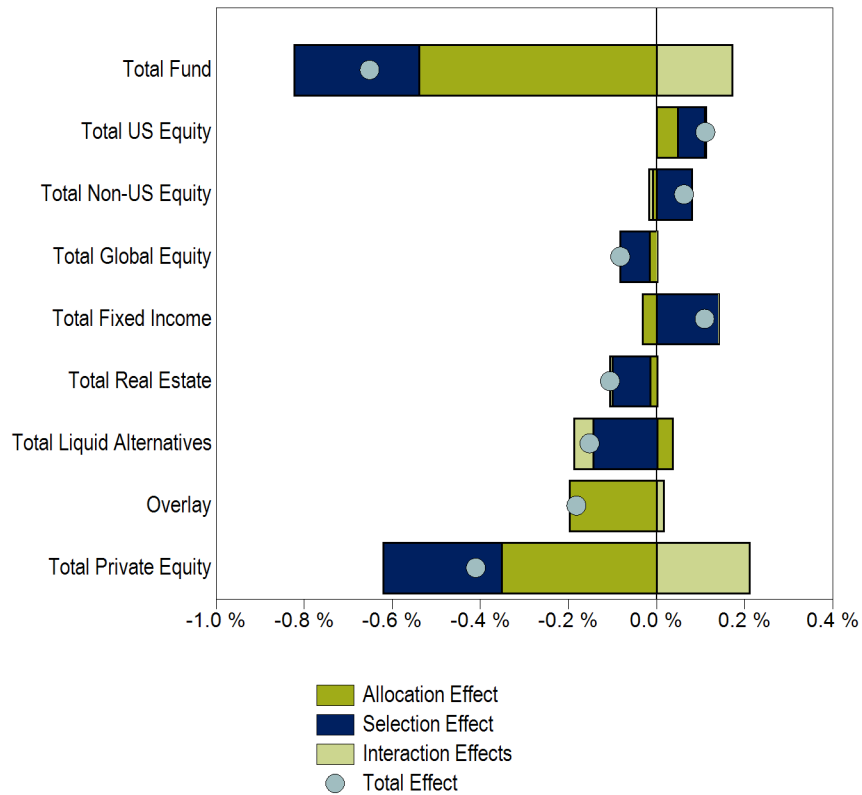


Attribution Summary
3 Years Ending September 30, 2017

	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction Effects	Total Effects
Total US Equity	10.8%	10.7%	0.1%	0.0%	0.1%	0.0%	0.1%
Total Non-US Equity	5.7%	4.7%	1.0%	0.1%	0.0%	0.0%	0.1%
Total Global Equity	6.9%	7.4%	-0.5%	-0.1%	0.0%	0.0%	0.0%
Total Fixed Income	2.7%	2.3%	0.4%	0.1%	0.1%	0.0%	0.1%
Total Real Estate	8.8%	9.8%	-1.0%	-0.1%	0.0%	0.0%	-0.1%
Total Liquid Alternatives	-0.8%	5.2%	-6.0%	-0.6%	0.0%	0.0%	-0.5%
Overlay	1.6%	0.3%	1.2%	0.0%	-0.3%	0.0%	-0.2%
Total Private Equity	12.4%	14.0%	-1.6%	-0.3%	-0.3%	0.2%	-0.4%
Total	6.6%	7.5%	-0.9%	-0.8%	-0.4%	0.2%	-0.9%

Total Fund Attribution Analysis

Attribution Effects
5 Years Ending September 30, 2017



Attribution Summary
5 Years Ending September 30, 2017

	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction Effects	Total Effects
Total US Equity	14.4%	14.2%	0.2%	0.1%	0.0%	0.0%	0.1%
Total Non-US Equity	7.6%	7.0%	0.6%	0.1%	0.0%	0.0%	0.1%
Total Global Equity	9.5%	10.2%	-0.7%	-0.1%	0.0%	0.0%	-0.1%
Total Fixed Income	2.3%	1.7%	0.6%	0.1%	0.0%	0.0%	0.1%
Total Real Estate	9.4%	10.6%	-1.2%	-0.1%	0.0%	0.0%	-0.1%
Total Liquid Alternatives	--	5.5%	--	-0.1%	0.0%	0.0%	-0.1%
Overlay	--	0.2%	--	0.0%	-0.2%	0.0%	-0.2%
Total Private Equity	15.1%	17.5%	-2.5%	-0.3%	-0.4%	0.2%	-0.4%
Total	8.7%	9.3%	-0.6%	-0.3%	-0.6%	0.2%	-0.6%

Ventura County Employees' Retirement Association

Total Fund Risk Statistics

1 Year Ending September 30, 2017

	% of Tot	Anlzd Ret	Rank	Anlzd Std Dev	Rank	Anlzd AJ	Rank	Tracking Error	Rank	Info Ratio	Rank	Beta
Total Equity	58.3%	19.0%	34	4.7%	64	0.8%	35	1.5%	58	0.2	24	1.0
MSCI ACWI	--	18.6%	46	4.6%	36	0.0%	45	0.0%	1	--	--	1.0
Total US Equity	31.4%	18.8%	36	6.0%	28	0.1%	16	0.5%	8	0.1	30	1.0
Russell 3000	--	18.7%	36	6.0%	28	0.0%	17	0.0%	1	--	--	1.0
Total Non-US Equity	16.1%	19.4%	53	6.7%	49	-0.3%	47	1.1%	12	-0.2	--	1.0
MSCI ACWI ex USA	--	19.6%	49	6.6%	42	0.0%	36	0.0%	1	--	--	1.0
Total Global Equity	10.8%	19.2%	35	4.5%	12	0.7%	30	0.1%	1	8.7	1	1.0
MSCI ACWI	--	18.6%	59	4.6%	12	0.0%	55	0.0%	1	--	--	1.0
Total Fixed Income	18.2%	2.0%	53	2.4%	46	1.8%	46	0.8%	50	2.4	37	0.8
Total Fixed Income Policy Index	--	0.1%	83	3.2%	84	0.0%	74	0.0%	1	--	--	1.0
Total US Fixed Income	18.2%	2.0%	33	2.4%	61	1.8%	31	0.8%	65	2.4	30	0.8
BBgBarc US Aggregate TR	--	0.1%	75	3.2%	93	0.0%	63	0.0%	1	--	--	1.0
Total Liquid Alternatives	8.0%	4.0%	--	5.1%	--	-9.5%	--	4.9%	--	-0.4	--	2.4
CPI + 4% (Unadjusted)	--	6.1%	--	0.7%	--	0.0%	--	0.0%	--	--	--	1.0

	% of Tot	Anlzd Ret	Rank	Anlzd Std Dev	Rank
Total Real Estate	7.6%	5.5%	73	2.4%	56
NCREIF ODCE Net	--	6.7%	53	2.8%	68
Total Private Equity	4.2%	17.2%	8	6.1%	62
DJ U.S. Total Stock Market Index + 3%	--	22.2%	1	6.0%	60

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 85 portfolios), Total US Equity (InvestorForce Public DB US Eq consists of 165 portfolios), Total Non-US Equity (InvestorForce Public DB ex-US Eq consists of 115 portfolios), Total Global Equity (InvestorForce Public DB Gbl Eq consists of 39 portfolios), Total Fixed Income (InvestorForce Public DB Total Fix Inc consists of 81 portfolios), Total US Fixed Income (InvestorForce Public DB US Fix Inc consists of 110 portfolios), Total Real Estate (InvestorForce Public DB Real Estate Pub+Priv consists of 58 portfolios) and Total Private Equity (InvestorForce Public DB Private Eq consists of 40 portfolios).

Ventura County Employees' Retirement Association

Total Fund Risk Statistics

3 Years Ending September 30, 2017

	% of Tot	Anlzd Ret	Rank	Anlzd Std Dev	Rank	Anlzd AJ	Rank	Tracking Error	Rank	Info Ratio	Rank	Beta
Total Equity	58.3%	8.8%	48	10.2%	68	1.7%	8	1.3%	33	1.1	2	1.0
MSCI ACWI	--	7.4%	89	10.6%	91	0.0%	72	0.0%	1	--	--	1.0
Total US Equity	31.4%	10.8%	27	10.3%	55	0.1%	29	0.3%	1	0.5	7	1.0
Russell 3000	--	10.7%	35	10.2%	53	0.0%	35	0.0%	1	--	--	1.0
Total Non-US Equity	16.1%	5.7%	43	11.7%	48	1.2%	40	1.2%	7	0.9	18	0.9
MSCI ACWI ex USA	--	4.7%	77	12.3%	85	0.0%	77	0.0%	1	--	--	1.0
Total Global Equity	10.8%	6.9%	81	10.7%	69	-0.6%	97	1.1%	4	-0.5	--	1.0
MSCI ACWI	--	7.4%	75	10.6%	65	0.0%	88	0.0%	1	--	--	1.0
Total Fixed Income	18.2%	2.7%	57	2.4%	34	1.1%	26	1.8%	65	0.2	41	0.7
Total Fixed Income Policy Index	--	2.3%	70	2.7%	49	0.0%	77	0.0%	1	--	--	1.0
Total US Fixed Income	18.2%	3.0%	39	2.4%	50	1.3%	21	2.1%	86	0.2	54	0.6
BBgBarc US Aggregate TR	--	2.7%	52	2.9%	75	0.0%	73	0.0%	1	--	--	1.0
Total Liquid Alternatives	8.0%	-0.8%	--	9.3%	--	-13.4%	--	9.1%	--	-0.7	--	2.5
CPI + 4% (Unadjusted)	--	5.2%	--	1.1%	--	0.0%	--	0.0%	--	--	--	1.0

	% of Tot	Anlzd Ret	Rank	Anlzd Std Dev	Rank
Total Real Estate	7.6%	8.8%	86	3.9%	49
NCREIF ODCE Net	--	9.8%	63	4.2%	56
Total Private Equity	4.2%	12.4%	29	6.0%	63
DJ U.S. Total Stock Market Index + 3%	--	14.0%	10	10.2%	98

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 74 portfolios), Total US Equity (InvestorForce Public DB US Eq consists of 151 portfolios), Total Non-US Equity (InvestorForce Public DB ex-US Eq consists of 108 portfolios), Total Global Equity (InvestorForce Public DB Gbl Eq consists of 32 portfolios), Total Fixed Income (InvestorForce Public DB Total Fix Inc consists of 74 portfolios), Total US Fixed Income (InvestorForce Public DB US Fix Inc consists of 104 portfolios), Total Real Estate (InvestorForce Public DB Real Estate Pub+Priv consists of 55 portfolios) and Total Private Equity (InvestorForce Public DB Private Eq consists of 39 portfolios).

Ventura County Employees' Retirement Association

Total Fund Risk Statistics

5 Years Ending September 30, 2017

	% of Tot	Anlzd Ret	Rank	Anlzd Std Dev	Rank	Anlzd AJ	Rank	Tracking Error	Rank	Info Ratio	Rank	Beta
Total Equity	58.3%	11.6%	52	9.7%	52	1.8%	11	1.3%	39	1.1	3	1.0
MSCI ACWI	--	10.2%	90	9.9%	81	0.0%	76	0.0%	1	--	--	1.0
Total US Equity	31.4%	14.4%	16	9.8%	39	0.2%	16	0.3%	1	0.6	2	1.0
Russell 3000	--	14.2%	31	9.8%	36	0.0%	23	0.0%	1	--	--	1.0
Total Non-US Equity	16.1%	7.6%	56	11.0%	24	1.0%	44	1.2%	7	0.5	28	0.9
MSCI ACWI ex USA	--	7.0%	76	11.5%	73	0.0%	74	0.0%	1	--	--	1.0
Total Global Equity	10.8%	9.5%	72	10.0%	54	-0.7%	95	1.1%	5	-0.6	--	1.0
MSCI ACWI	--	10.2%	69	9.9%	47	0.0%	86	0.0%	1	--	--	1.0
Total Fixed Income	18.2%	2.3%	53	2.5%	25	1.0%	25	1.6%	60	0.4	34	0.7
Total Fixed Income Policy Index	--	1.7%	75	2.8%	42	0.0%	77	0.0%	1	--	--	1.0
Total US Fixed Income	18.2%	2.6%	33	2.4%	44	1.2%	22	1.8%	84	0.3	48	0.7
BBgBarc US Aggregate TR	--	2.1%	52	2.8%	67	0.0%	72	0.0%	1	--	--	1.0
Total Liquid Alternatives	8.0%	--	--	--	--	--	--	--	--	--	--	--
CPI + 4% (Unadjusted)	--	8.8%	--	6.4%	--	0.0%	--	0.0%	--	--	--	1.0

	% of Tot	Anlzd Ret	Rank	Anlzd Std Dev	Rank
Total Real Estate	7.6%	9.4%	89	4.0%	44
NCREIF ODCE Net	--	10.6%	65	4.4%	56
Total Private Equity	4.2%	15.1%	7	6.5%	66
DJ U.S. Total Stock Market Index + 3%	--	17.5%	1	9.8%	92

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 59 portfolios), Total US Equity (InvestorForce Public DB US Eq consists of 125 portfolios), Total Non-US Equity (InvestorForce Public DB ex-US Eq consists of 94 portfolios), Total Global Equity (InvestorForce Public DB Gbl Eq consists of 22 portfolios), Total Fixed Income (InvestorForce Public DB Total Fix Inc consists of 64 portfolios), Total US Fixed Income (InvestorForce Public DB US Fix Inc consists of 92 portfolios), Total Real Estate (InvestorForce Public DB Real Estate Pub+Priv consists of 50 portfolios) and Total Private Equity (InvestorForce Public DB Private Eq consists of 34 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	Return (%)	Since
Total Fund	5,257,900,164	100.0	100.0	3.7	33	11.4	46	12.8	34	6.6	49	8.9	27	5.3	37	8.1	Apr-94
Policy Index				3.7	36	11.8	39	13.1	27	7.5	15	9.2	19	5.6	22	8.2	Apr-94
Over/Under				0.0		-0.4		-0.3		-0.9		-0.3		-0.3		-0.1	
60% MSCI ACWI (Net) / 40% CITI WGBI				3.8	20	12.8	14	9.7	95	4.9	94	6.0	97	3.9	94	--	Apr-94
InvestorForce Public DB > \$1B Net Median				3.5		11.3		12.5		6.6		8.3		5.0		7.7	Apr-94
Total Fund ex Parametric*	5,056,575,421	96.2	--	3.5	--	11.2	--	12.5	--	6.5	--	8.8	--	5.2	--	8.1	Apr-94
Total Fund ex Private Equity	5,037,261,053	95.8	--	3.7	36	11.3	51	12.6	46	6.4	60	8.4	50	--	--	9.3	Jan-12
Policy Index				3.7	36	11.8	39	13.1	27	7.5	15	9.2	19	5.6	22	10.0	Jan-12
Over/Under				0.0		-0.5		-0.5		-1.1		-0.8				-0.7	
InvestorForce Public DB > \$1B Net Median				3.5		11.3		12.5		6.6		8.3		5.0		9.1	Jan-12
Total US Equity	1,651,964,078	31.4	28.0	4.6	35	13.9	29	18.8	36	10.8	27	14.4	16	7.4	50	9.2	Dec-93
Russell 3000				4.6	37	13.9	29	18.7	36	10.7	35	14.2	31	7.6	30	9.5	Dec-93
Over/Under				0.0		0.0		0.1		0.1		0.2		-0.2		-0.3	
InvestorForce Public DB US Eq Net Median				4.4		13.1		18.3		10.5		13.9		7.4		9.2	Dec-93
Western U.S. Index Plus	184,899,033	3.5		5.5	30	14.8	34	19.6	41	11.4	29	14.9	23	5.8	38	5.4	May-07
S&P 500				4.5	50	14.2	37	18.6	49	10.8	37	14.2	38	7.4	55	7.2	May-07
Over/Under				1.0		0.6		1.0		0.6		0.7		-1.6		-1.8	
eA All US Equity Net Median				4.5		12.4		18.5		9.9		13.6		7.6		7.2	May-07
Blackrock Russell 1000 Index	1,408,814,660	26.8		4.5	49	--	--	--	--	--	--	--	--	--	--	6.6	May-17
Russell 1000				4.5	49	14.2	45	18.5	47	10.6	28	14.3	31	7.5	43	6.5	May-17
Over/Under				0.0													
eA US Large Cap Equity Net Median				4.5		13.6		18.2		9.4		13.4		7.3		6.6	May-17
Blackrock Russell 2500 Index	58,250,385	1.1		4.8	35	--	--	--	--	--	--	--	--	--	--	6.2	May-17
Russell 2500				4.7	35	11.0	51	17.8	52	10.6	37	13.9	38	8.2	48	6.2	May-17
Over/Under				0.1													
eA US Small-Mid Cap Equity Net Median				4.1		11.0		18.0		9.8		13.3		8.0		5.7	May-17

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

Policy Index: Currently, 28% Russell 3000 Index, 20% Barclays Aggregate, 15% MSCI ACWI ex U.S., 10% MSCI ACWI, 10% DJ U.S. Total Stock Market 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	Return (%)	Since
Total Non-US Equity	849,111,435	16.1	15.0	6.3	50	20.5	83	19.4	53	5.7	43	7.6	56	1.9	43	6.7	Mar-94
MSCI ACWI ex USA				6.2	57	21.1	77	19.6	49	4.7	77	7.0	76	1.3	69	5.4	Mar-94
Over/Under				0.1		-0.6		-0.2		1.0		0.6		0.6		1.3	
MSCI EAFE				5.4	82	20.0	87	19.1	58	5.0	69	8.4	34	1.3	66	5.0	Mar-94
MSCI ACWI ex USA Local Currency				4.4	96	13.5	99	19.1	59	7.7	4	10.9	2	2.9	20	--	Mar-94
MSCI EAFE Local Currency				3.4	99	11.2	99	19.0	59	7.9	4	12.3	1	2.6	24	5.0	Mar-94
InvestorForce Public DB ex-US Eq Net Median				6.3		22.5		19.5		5.6		7.6		1.8		5.9	Mar-94
BlackRock ACWI ex-U.S. Index	415,817,178	7.9		6.3	49	21.7	64	19.8	54	5.4	71	7.5	76	1.8	67	2.9	Mar-07
MSCI ACWI ex USA				6.2	51	21.1	69	19.6	56	4.7	77	7.0	84	1.3	84	2.4	Mar-07
Over/Under				0.1		0.6		0.2		0.7		0.5		0.5		0.5	
MSCI ACWI ex USA Local Currency				4.4	90	13.5	99	19.1	57	7.7	37	10.9	16	2.9	48	3.4	Mar-07
eA ACWI ex-US All Cap Equity Net Median				6.2		24.0		20.4		6.7		9.2		2.7		3.9	Mar-07
Sprucegrove	223,345,597	4.2		8.4	19	20.5	74	23.6	28	6.0	63	8.0	71	2.8	48	7.9	Mar-02
MSCI ACWI ex USA				6.2	51	21.1	69	19.6	56	4.7	77	7.0	84	1.3	84	6.9	Mar-02
Over/Under				2.2		-0.6		4.0		1.3		1.0		1.5		1.0	
MSCI EAFE				5.4	73	20.0	80	19.1	57	5.0	73	8.4	67	1.3	83	6.3	Mar-02
MSCI ACWI ex USA Local Currency				4.4	90	13.5	99	19.1	57	7.7	37	10.9	16	2.9	48	5.5	Mar-02
MSCI EAFE Local Currency				3.4	96	11.2	99	19.0	57	7.9	36	12.3	10	2.6	52	4.7	Mar-02
eA ACWI ex-US All Cap Equity Net Median				6.2		24.0		20.4		6.7		9.2		2.7		7.5	Mar-02
Hexavest	91,911,216	1.7		3.1	93	14.6	94	13.7	86	4.0	87	6.6	94	--	--	4.9	Dec-10
MSCI EAFE				5.4	53	20.0	61	19.1	42	5.0	72	8.4	66	1.3	74	5.6	Dec-10
Over/Under				-2.3		-5.4		-5.4		-1.0		-1.8				-0.7	
MSCI EAFE Local Currency				3.4	86	11.2	99	19.0	42	7.9	29	12.3	6	2.6	40	8.3	Dec-10
eA EAFE All Cap Equity Net Median				5.6		20.5		17.8		6.4		9.2		2.0		6.6	Dec-10
Walter Scott	118,037,444	2.2		4.8	85	20.7	72	14.9	86	7.4	46	7.4	78	--	--	6.1	Dec-10
MSCI ACWI ex USA				6.2	51	21.1	69	19.6	56	4.7	77	7.0	84	1.3	84	4.4	Dec-10
Over/Under				-1.4		-0.4		-4.7		2.7		0.4				1.7	
MSCI ACWI ex USA Local Currency				4.4	90	13.5	99	19.1	57	7.7	37	10.9	16	2.9	48	7.3	Dec-10
MSCI EAFE				5.4	73	20.0	80	19.1	57	5.0	73	8.4	67	1.3	83	5.6	Dec-10
eA ACWI ex-US All Cap Equity Net Median				6.2		24.0		20.4		6.7		9.2		2.7		6.6	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	Return (%)	Since
Total Global Equity	566,363,191	10.8	10.0	5.3	27	17.6	76	19.2	35	6.9	81	9.5	72	3.2	34	6.1	May-05
MSCI ACWI				5.2	31	17.3	86	18.6	59	7.4	75	10.2	69	3.9	26	6.9	May-05
Over/Under				0.1		0.3		0.6		-0.5		-0.7		-0.7		-0.8	
InvestorForce Public DB Gbl Eq Net Median				4.5		19.2		18.8		8.8		11.7		1.8		6.4	May-05
BlackRock MSCI ACWI Equity Index	566,363,191	10.8		5.3	46	17.6	45	19.2	40	7.9	48	10.6	51	--	--	11.4	Aug-12
MSCI ACWI				5.2	48	17.3	49	18.6	45	7.4	56	10.2	58	3.9	63	11.0	Aug-12
Over/Under				0.1		0.3		0.6		0.5		0.4				0.4	
eA All Global Equity Net Median				5.0		17.1		17.9		7.8		10.7		4.4		11.4	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	Return (%)	Since
Total Private Equity	220,639,111	4.2	10.0	5.0	21	13.4	21	17.2	8	12.4	29	15.1	7	--	--	14.4	Jan-12
<i>DJ U.S. Total Stock Market Index + 3%</i>				5.3	11	16.5	2	22.2	1	14.0	10	17.5	1	--	--	18.6	Jan-12
Over/Under				-0.3		-3.1		-5.0		-1.6		-2.4				-4.2	
<i>InvestorForce Public DB Private Eq Net Median</i>				2.7		10.4		14.0		9.7		12.7		7.9		12.0	Jan-12
Adams Street Global Fund Series	125,759,609	2.4		3.0	--	8.5	--	12.0	--	9.6	--	12.8	--	--	--	12.5	Jan-12
<i>DJ U.S. Total Stock Market Index + 3%</i>				5.3	--	16.5	--	22.2	--	14.0	--	17.5	--	--	--	18.6	Jan-12
Over/Under				-2.3		-8.0		-10.2		-4.4		-4.7				-6.1	
Harbourvest	63,935,727	1.2		8.8	--	22.1	--	25.9	--	18.6	--	--	--	--	--	20.3	Aug-13
<i>DJ U.S. Total Stock Market Index + 3%</i>				5.3	--	16.5	--	22.2	--	14.0	--	17.5	--	--	--	15.4	Aug-13
Over/Under				3.5		5.6		3.7		4.6						4.9	
Pantheon Global Secondary Funds	28,730,707	0.5		6.3	--	21.0	--	27.9	--	13.2	--	15.8	--	--	--	12.9	Jan-12
<i>DJ U.S. Total Stock Market Index + 3%</i>				5.3	--	16.5	--	22.2	--	14.0	--	17.5	--	--	--	18.6	Jan-12
Over/Under				1.0		4.5		5.7		-0.8		-1.7				-5.7	
Drive Capital Fund	2,213,068	0.0		-4.4	--	-31.7	--	-51.7	--	--	--	--	--	--	--	-48.9	Sep-16
<i>DJ U.S. Total Stock Market Index + 3%</i>				5.3	--	16.5	--	22.2	--	14.0	--	17.5	--	--	--	20.8	Sep-16
Over/Under				-9.7		-48.2		-73.9								-69.7	

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

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

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

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

Ventura County Employees' Retirement Association

Private Equity Limited Partnership Performance

Fund Name	Vintage Year	Initial Investment Date	Commitment	Capital Called to Date ¹	Outstanding Commitment ¹	Call Ratio	Add'l Fees ²	Distributions to Date	Valuation	Total Value	Net Benefit	IRR	Since Inception	
													Distributions to Paid In Multiple (DPI)	Total Value to Paid In Multiple (TVPI)
Adams Street 2010 U.S. Fund	2010	5/21/2010	\$42,500,000	\$36,188,750	\$6,311,250	85%	\$15,213	\$18,681,786	\$35,061,255	\$53,743,041	\$17,539,078	13.2%	0.52x	1.48x
Adams Street 2010 Non-U.S. Dev. Mkts Fund	2010	5/21/2010	\$25,500,000	\$21,254,249	\$4,245,751	83%	\$1,589	\$10,529,344	\$17,602,142	\$28,131,486	\$6,875,648	9.7%	0.5x	1.32x
Adams Street 2010 Non-U.S. Emg Mkts Fund	2010	1/3/2011	\$8,500,000	\$6,868,000	\$1,632,000	81%	\$0	\$1,193,443	\$8,218,962	\$9,412,405	\$2,544,405	9.5%	0.17x	1.37x
Adams Street 2010 Direct Fund	2010	5/21/2010	\$8,500,000	\$7,975,550	\$524,450	94%	\$6,697	\$7,196,986	\$5,503,181	\$12,700,167	\$4,739,126	12.0%	0.9x	1.59x
Total Adams Street 2010	2010	5/21/2010	\$85,000,000	\$72,286,549	\$12,713,451	85%	\$23,499	\$37,601,559	\$66,385,540	\$103,987,099	\$31,698,257	11.8%	0.52x	1.44x
Adams Street 2013 Global Fund	2013	6/27/2013	\$75,000,000	\$49,950,000	\$25,050,000	67%	\$10,728	\$4,679,630	\$52,830,780	\$57,510,410	\$7,549,682	6.9%	0.09x	1.15x
Adams Street 2016 Global Fund	2016	12/22/2016	\$60,000,000	\$5,850,000	\$54,150,000	10%	\$0	\$0	\$6,543,301	\$6,543,301	\$693,301	38.9%	0x	1.12x
Drive Capital Fund II	2016	9/1/2016	\$15,000,000	\$2,580,044	\$12,423,166	17%	\$3,210	\$0	\$2,213,067	\$2,213,067	(\$366,977)	-31.8%	0x	0.86x
GTCR Fund XII	2017	9/29/2017	\$30,000,000	--	\$30,000,000	0%	--	--	--	--	--	--	--	--
HarbourVest - Dover Street VIII	2013	5/30/2013	\$67,500,000	\$58,472,454	\$9,112,500	87%	\$84,954	\$40,364,723	\$43,914,100	\$84,278,823	\$23,018,716	21.8%	0.69x	1.44x
HarbourVest - Dover Street IX	2016	12/16/2016	\$60,000,000	\$9,600,000	\$50,400,000	16%	\$0	\$1,441,532	\$11,133,228	\$12,574,760	\$2,974,760	97.9%	0.15x	1.31x
HarbourVest - PRTNS CO INVEST IV L.P.	2017	6/2/2017	\$30,000,000	\$8,250,000	\$21,750,000	28%	\$0	\$0	\$9,210,740	\$9,210,740	\$960,740	34.0%	0x	1.12x
Pantheon Global Secondary Fund IV	2010	8/20/2010	\$15,000,000	\$9,960,000	\$5,040,000	66%	\$0	\$10,650,001	\$4,501,466	\$15,151,467	\$5,191,467	14.0%	1.07x	1.52x
Pantheon Global Secondary Fund V	2015	2/26/2015	\$50,000,000	\$21,091,509	\$28,908,491	42%	(\$162,514)	\$3,562,603	\$24,216,636	\$27,779,239	\$6,850,244	23.7%	0.17x	1.33x
Total VCERA Private Equity Program	--	5/21/2010	\$487,500,000	\$238,040,556	\$249,547,608	49%	-\$40,123	\$98,300,048	\$220,948,858	\$319,248,906	\$78,570,190	14.0%	0.42x	1.34x

1. Includes recycled/recallable distributions received to date.

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

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

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

Performance shown is based on 6/30/2017 NAVs cash-adjusted for cash flows through 09/30/2017.

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	Return (%)	Since
Total US Fixed Income	955,638,625	18.2	20.0	1.0	35	3.9	34	2.0	33	3.0	39	2.6	33	5.6	16	6.0	Feb-94
BBgBarc US Aggregate TR				0.8	47	3.1	48	0.1	75	2.7	52	2.1	52	4.3	51	5.4	Feb-94
Over/Under				0.2		0.8		1.9		0.3		0.5		1.3		0.6	
InvestorForce Public DB US Fix Inc Net Median				0.8		3.0		0.3		2.8		2.2		4.3		6.0	Feb-94
BlackRock U.S. Debt Fund	222,223,498	4.2		0.9	52	3.2	54	0.1	85	2.8	53	2.1	57	4.4	51	5.3	Nov-95
BBgBarc US Aggregate TR				0.8	55	3.1	56	0.1	87	2.7	54	2.1	59	4.3	54	5.2	Nov-95
Over/Under				0.1		0.1		0.0		0.1		0.0		0.1		0.1	
eA All US Fixed Inc Net Median				0.9		3.4		1.1		2.9		2.5		4.4		5.1	Nov-95
Western	296,137,168	5.6		1.2	33	5.2	29	2.0	36	3.9	31	3.4	36	5.5	29	6.2	Dec-96
BBgBarc US Aggregate TR				0.8	55	3.1	56	0.1	87	2.7	54	2.1	59	4.3	54	5.2	Dec-96
Over/Under				0.4		2.1		1.9		1.2		1.3		1.2		1.0	
eA All US Fixed Inc Net Median				0.9		3.4		1.1		2.9		2.5		4.4		5.2	Dec-96
Reams	309,031,319	5.9		0.6	69	2.5	67	2.2	34	2.2	66	1.7	68	5.6	28	5.5	Sep-01
Reams Custom Index				0.3	91	0.9	94	1.2	49	0.7	96	0.4	96	3.4	72	4.0	Sep-01
Over/Under				0.3		1.6		1.0		1.5		1.3		2.2		1.5	
BBgBarc US Aggregate TR				0.8	55	3.1	56	0.1	87	2.7	54	2.1	59	4.3	54	4.5	Sep-01
3-Month LIBOR + 3%				1.1	39	3.2	55	4.2	22	3.7	34	3.5	35	3.9	63	4.8	Sep-01
eA All US Fixed Inc Net Median				0.9		3.4		1.1		2.9		2.5		4.4		4.5	Sep-01
Loomis Strategic Alpha	45,754,600	0.9		1.5	22	2.7	63	4.4	20	2.5	59	--	--	--	--	2.7	Jul-13
BBgBarc US Aggregate TR				0.8	55	3.1	56	0.1	87	2.7	54	2.1	59	4.3	54	3.0	Jul-13
Over/Under				0.7		-0.4		4.3		-0.2						-0.3	
3-Month LIBOR + 3%				1.1	39	3.2	55	4.2	22	3.7	34	3.5	35	3.9	63	3.6	Jul-13
eA All US Fixed Inc Net Median				0.9		3.4		1.1		2.9		2.5		4.4		3.2	Jul-13
Loomis Sayles Multi Strategy	82,492,040	1.6		2.0	9	7.6	11	5.4	16	4.4	26	5.0	17	6.7	15	6.7	Jul-05
Loomis Custom Index				1.2	35	4.1	39	2.6	30	3.5	37	3.3	38	5.3	32	5.2	Jul-05
Over/Under				0.8		3.5		2.8		0.9		1.7		1.4		1.5	
BBgBarc US Govt/Credit TR				0.8	59	3.5	48	0.0	88	2.8	51	2.1	58	4.3	51	4.3	Jul-05
eA All US Fixed Inc Net Median				0.9		3.4		1.1		2.9		2.5		4.4		4.3	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	Return (%)	Since
Total Real Estate	397,266,572	7.6	7.0	1.6	51	3.8	85	5.5	73	8.8	86	9.4	89	2.6	96	7.8	Mar-94
NCREIF ODCE Net				1.6	48	4.7	67	6.7	53	9.8	63	10.6	65	4.1	70	8.1	Mar-94
Over/Under				0.0		-0.9		-1.2		-1.0		-1.2		-1.5		-0.3	
InvestorForce Public DB Real Estate Pub+Priv Net Median				1.6		5.4		6.9		10.2		10.8		4.8		7.2	Mar-94
Prudential Real Estate	141,977,647	2.7		2.1	--	5.1	--	7.5	--	10.5	--	11.1	--	3.7	--	6.2	Jun-04
NCREIF ODCE Net				1.6	--	4.7	--	6.7	--	9.8	--	10.6	--	4.1	--	7.1	Jun-04
Over/Under				0.5		0.4		0.8		0.7		0.5		-0.4		-0.9	
NCREIF ODCE				1.9	--	5.4	--	7.7	--	10.8	--	11.6	--	5.0	--	8.1	Jun-04
UBS Real Estate	255,116,077	4.9		1.3	--	3.2	--	4.4	--	8.0	--	8.5	--	4.2	--	7.4	Mar-03
NCREIF ODCE Net				1.6	--	4.7	--	6.7	--	9.8	--	10.6	--	4.1	--	7.3	Mar-03
Over/Under				-0.3		-1.5		-2.3		-1.8		-2.1		0.1		0.1	
NCREIF ODCE				1.9	--	5.4	--	7.7	--	10.8	--	11.6	--	5.0	--	8.3	Mar-03
RREEF	172,848	0.0		-0.8	--	-4.8	--	-5.1	--	-4.5	--	4.8	--	-6.3	--	-6.3	Sep-07
NCREIF ODCE Net				1.6	--	4.7	--	6.7	--	9.8	--	10.6	--	4.1	--	4.1	Sep-07
Over/Under				-2.4		-9.5		-11.8		-14.3		-5.8		-10.4		-10.4	
NCREIF ODCE				1.9	--	5.4	--	7.7	--	10.8	--	11.6	--	5.0	--	5.0	Sep-07

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	Return (%)	Since
Total Liquid Alternatives	421,736,628	8.0	10.0	1.9	--	4.3	--	4.0	--	-0.8	--	--	--	--	--	4.8	Apr-13
<i>CPI + 4% (Unadjusted)</i>				<i>1.5</i>	--	<i>5.0</i>	--	<i>6.1</i>	--	<i>5.2</i>	--	<i>8.8</i>	--	--	--	<i>6.3</i>	<i>Apr-13</i>
Over/Under				0.4		-0.7		-2.1		-6.0						-1.5	
Bridgewater All Weather Fund	302,088,378	5.7		3.5	--	7.5	--	5.6	--	3.3	--	--	--	--	--	5.1	Aug-13
<i>CPI + 5% (Unadjusted)</i>				<i>1.8</i>	--	<i>5.8</i>	--	<i>7.1</i>	--	<i>6.2</i>	--	--	--	--	--	<i>6.3</i>	<i>Aug-13</i>
Over/Under				1.7		1.7		-1.5		-2.9						-1.2	
Tortoise Energy Infrastructure	119,648,250	2.3		-2.0	--	-2.8	--	0.0	--	-9.0	--	--	--	--	--	1.5	Apr-13
<i>Wells Fargo MLP Index</i>				<i>-2.0</i>	--	<i>-5.1</i>	--	<i>-1.7</i>	--	<i>-12.4</i>	--	<i>0.4</i>	--	--	--	<i>-3.0</i>	<i>Apr-13</i>
Over/Under				0.0		2.3		1.7		3.4						4.5	
Overlay	195,180,524	3.7	0.0														
Parametric	195,180,524	3.7															

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

Ventura County Employees' Retirement Association

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	Top Quartile	-	Hold	Watch (Board Driven)	3Q 2014 Departure & Performance	N/A
Hexavest	Bottom Quartile	Yes	No Action	-	New Hires	1/2013
Walter Scott	Bottom Quartile	-	-	-		10/2012
BlackRock MSCI ACWI Index	-	-	-	-		10/2013
Adams Street	N/A	-	-	-		11/2013
HarbourVest	N/A	-	-	-		3/2014
Pantheon	N/A	-	-	-		1/2015
Drive	N/A	-	-	-		
BlackRock U.S. Debt Fund	-	-	-	-		10/2013
Western	-	-	-	-		6/2014
Reams	-	-	-	-		11/2013
Loomis Sayles Multi-Sector Full Discretion	Top Quartile	-	-	-		11/2013
Loomis Sayles Strategic Alpha	Top Quartile	-	-	-		11/2013

Due Diligence Monitor Continued

	Performance (Recent Quarter)	Changes/ Announcements (Recent Quarter)	NEPC DD Committee Rec.	Plan Rec.	Comments	Last Onsite Conducted
Prudential	N/A	-	-	-		7/2014
RREEF	N/A	-	-	-		7/2013
UBS	N/A	-	-	-		8/2011
Bridgewater	N/A	-	-	-		9/2012
Tortoise	N/A	Yes	Watch	-	Change of Firm Ownership	8/2013
Parametric/Clifton	N/A	-	-	-		7/2013

NEPC Due Diligence Committee Recommendation Key

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

Due Diligence Commentary

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

Manager Changes/Announcements

Hexavest

Hexavest Inc. has added three new investment professionals to the team: Jean-Christophe Lermusiaux, Matheiu Roy, and Emmanuel Matte. All of these positions were added based on growth to help enhance the team. Mr. Matte was hired as a Managing Director in Client Services and Business Development. Mr. Lermusiaux will work in collaboration with Jean-Pierre Couture and Jean-Benoit Leblanc in the portfolio management of the firm's emerging markets equity mandates. Before joining Hexavest, he worked as a senior portfolio manager at PSP Investments, where he covered global emerging market equities. Mr. Roy will work in collaboration with Jean-René Adam and Kevin LeBlanc in the portfolio management of Canadian equity mandates. Before joining Hexavest, he was a Portfolio Manager at Canadian National Railway. With these additions, the portfolios are now managed by a team of 12 individuals. We are comfortable with these decisions as the team utilizes proprietary multi-factor models and a Barra optimizer alongside their fundamental analysis. Regions are being co-covered, with Vital Proulx continuing to make the final decisions. We do not recommend any action as a result of this announcement.

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

Tortoise

NEPC was notified by Tortoise Capital Advisors ("Tortoise" or the "Firm") of a definitive agreement of a buyout from Mariner Holdings. ("Mariner"). Tortoise' management team has partnered with Lovell Minnick, a private equity firm specializing in financial and related business services companies, to acquire the Firm. HarbourVest Partners, AlpInvest Partners and other limited partners are co-investing in the transaction. Lovell Minnick will be the only new governance partner in the deal. The transaction is expected to close in the first quarter of 2018. Terms of the transaction have not been publically disclosed. Three active Tortoise co-founders, Zachary Hamel, Kenneth Malvey and Terry Matlack, and Co-founder David Schulte, who left Tortoise in 2015, will sell their remaining interest in Tortoise which amount to 11%. Tortoise's ongoing management and employees will maintain their 23% equity interest and will apply leverage to the deal bringing their ownership stake to approximately 35%.

NEPC recommends maintaining Watch status at this time. We will continue to monitor the situation and provide updates as necessary.

Below is a summary of managers that remain on Hold:

Sprucegrove

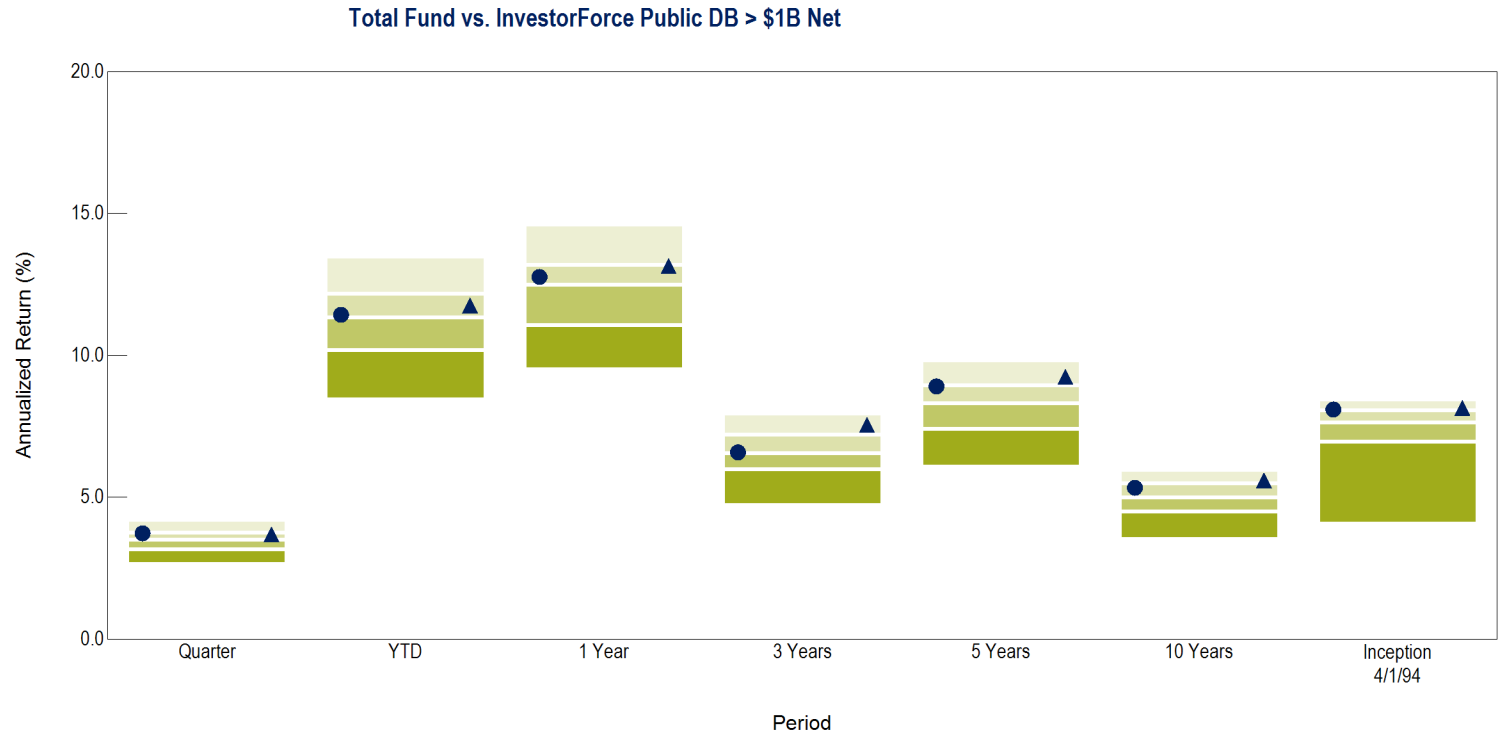
Sprucegrove announced that they will open all products at the firm for new investment. They had been closed for a number of years, but following a period of poor performance and asset outflows they now have capacity. While this is a positive event, it triggers an opportunity to reconsider any allocation to the products. Assets have been declining. The most recent 1 year performance has rebounded, but longer term numbers remain challenged.

NEPC recommends maintaining a Hold rating at this time. We will continue to monitor the situation and provide updates as necessary.



Ventura County Employees' Retirement Association

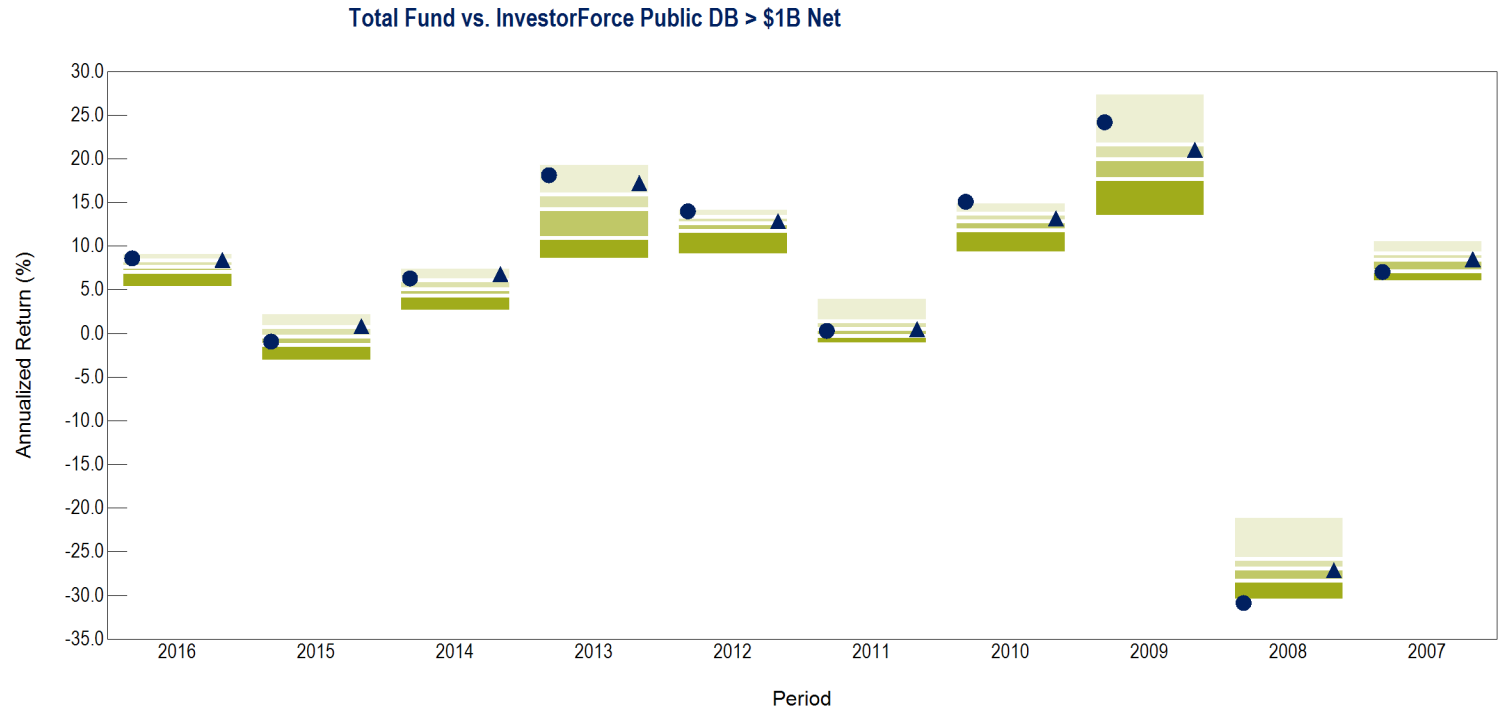
Total Fund Return Summary vs. Peer Universe



	Return (Rank)													
5th Percentile	4.2		13.5		14.6		7.9		9.8		6.0		8.4	
25th Percentile	3.8		12.2		13.2		7.2		9.0		5.5		8.1	
Median	3.5		11.3		12.5		6.6		8.3		5.0		7.7	
75th Percentile	3.2		10.2		11.1		6.0		7.4		4.5		7.0	
95th Percentile	2.7		8.4		9.5		4.7		6.1		3.5		4.1	
# of Portfolios	54		54		54		53		53		47		31	
● Total Fund	3.7	(33)	11.4	(46)	12.8	(34)	6.6	(49)	8.9	(27)	5.3	(37)	8.1	(24)
▲ Policy Index	3.7	(36)	11.8	(39)	13.1	(27)	7.5	(15)	9.2	(19)	5.6	(22)	8.2	(22)

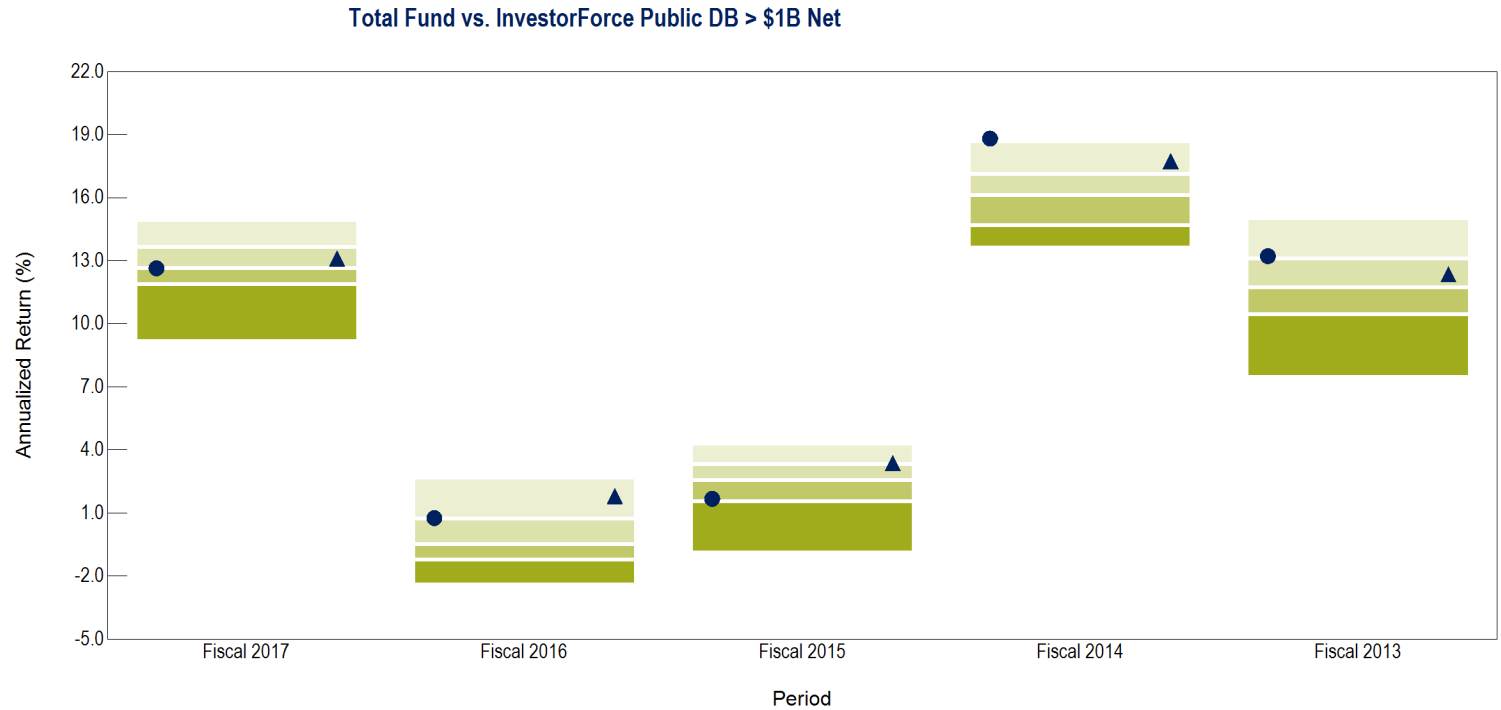
Ventura County Employees' Retirement Association

Total Fund Return Summary vs. Peer Universe



	Return (Rank)																				
5th Percentile	9.3	2.4	7.6	19.5	14.3	4.2	15.1	27.5	-20.9	10.7											
25th Percentile	8.4	0.8	6.1	16.0	13.4	1.5	13.8	21.7	-25.7	9.2											
Median	7.7	-0.4	5.1	14.3	12.7	0.6	12.8	20.0	-26.9	8.5											
75th Percentile	7.1	-1.3	4.4	11.0	11.8	-0.3	11.8	17.7	-28.3	7.1											
95th Percentile	5.3	-3.2	2.6	8.5	9.0	-1.2	9.3	13.4	-30.5	5.9											
# of Portfolios	62	57	55	48	44	42	41	40	39	39											
● Total Fund	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)	7.0	(77)	
▲ Policy Index	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)	8.5	(50)	

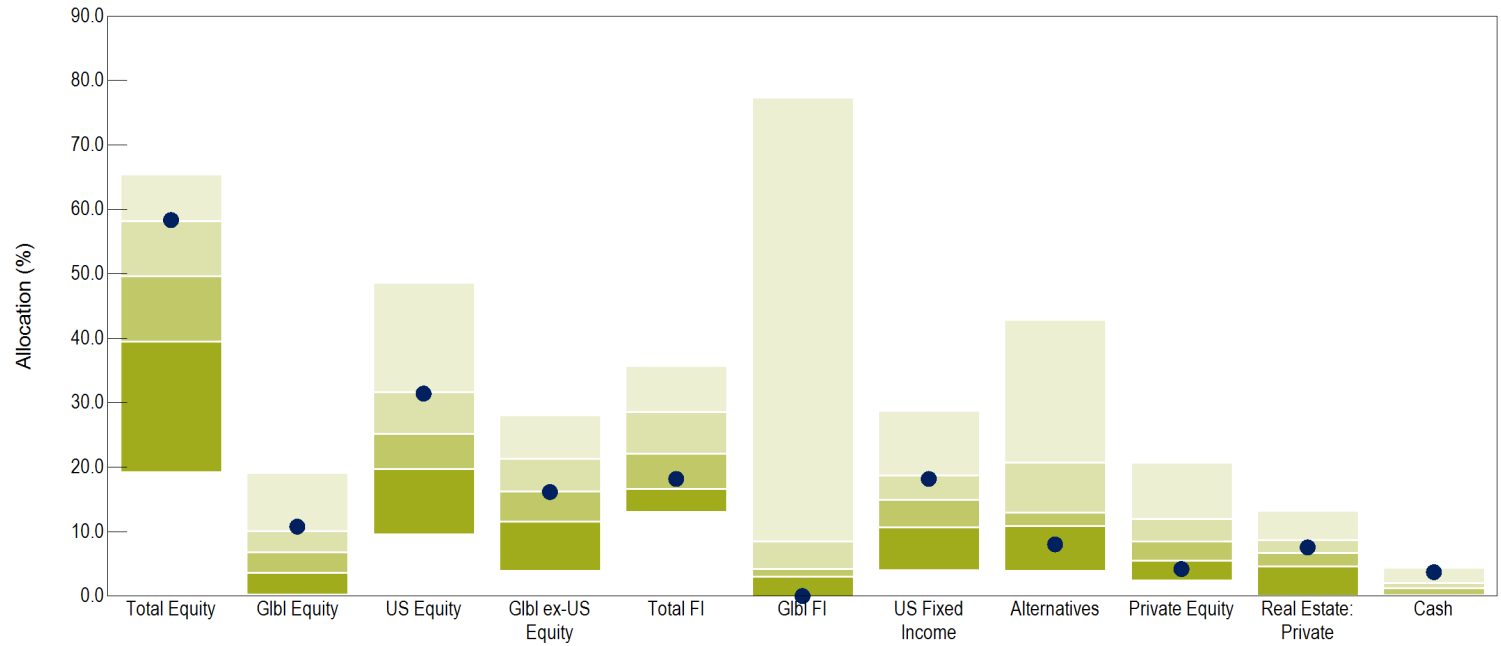
Ventura County Employees' Retirement Association
Total Fund Return Summary vs. Peer Universe



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

Total Fund Allocations vs. Peer Universe

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

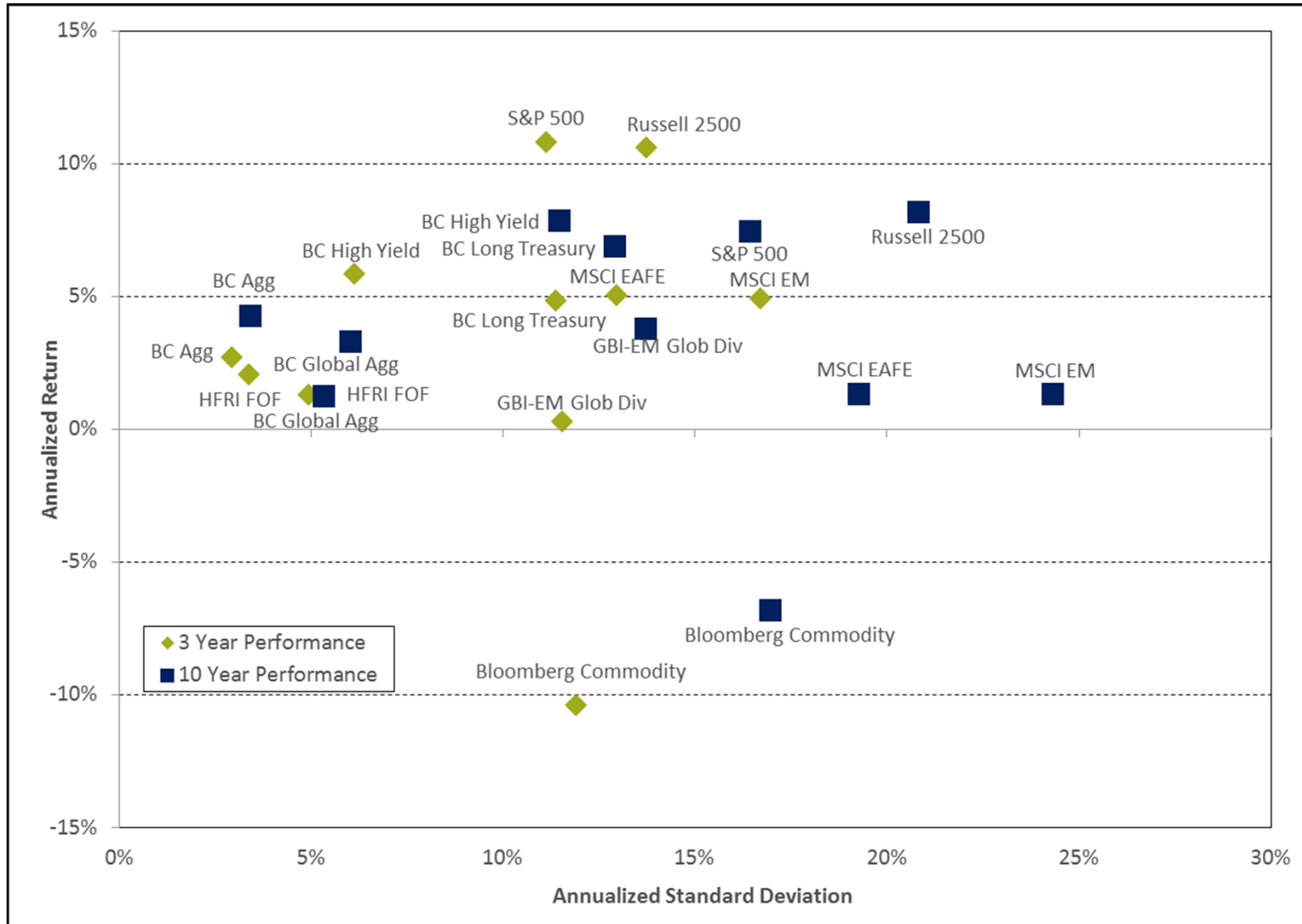


	Allocation (Rank)																						
5th Percentile	65.5	19.1	48.6	28.1	35.7	77.4	28.8	42.9	20.7	13.2	4.4	--											
25th Percentile	58.3	10.2	31.7	21.4	28.7	8.6	18.9	20.8	12.1	8.8	2.2	--											
Median	49.7	6.9	25.3	16.3	22.2	4.3	15.0	13.0	8.6	6.8	1.4	--											
75th Percentile	39.6	3.7	19.8	11.7	16.8	3.1	10.8	10.9	5.6	4.7	0.3	--											
95th Percentile	19.3	0.4	9.7	4.0	13.1	0.0	4.1	4.0	2.6	0.2	0.0	--											
# of Portfolios	48	18	39	43	49	23	43	44	42	37	46	--											
● Total Fund	58.3	(25)	10.8	(23)	31.4	(28)	16.1	(51)	18.2	(65)	0.0	(96)	18.2	(29)	8.0	(84)	4.2	(83)	7.6	(40)	3.7	(8)	--

Appendix: Market Environment

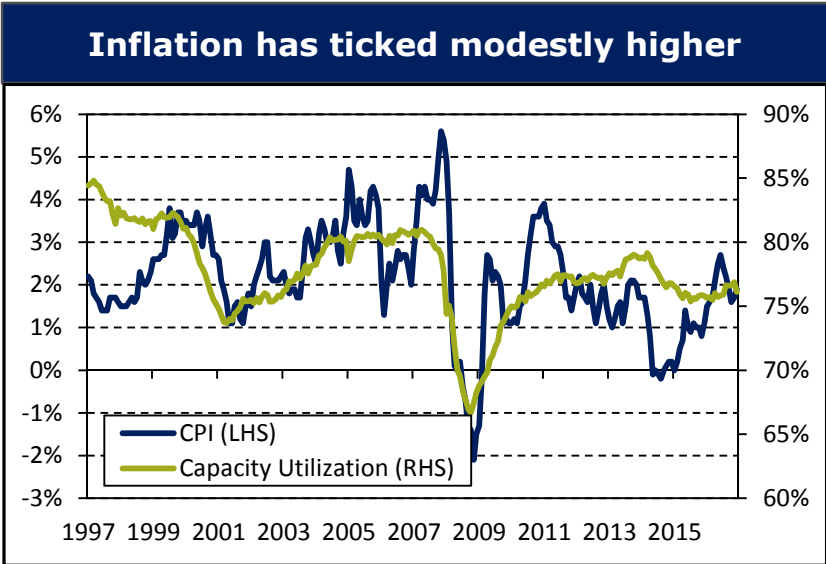


Long Term Broad Market Performance Summary as of 09/30/2017

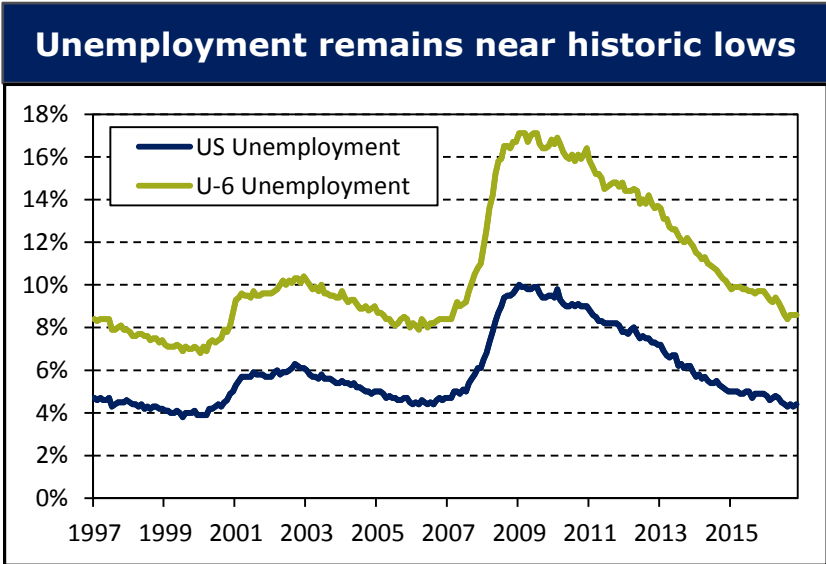


Source: Bloomberg, Standard and Poors, Russell, MSCI, Barclays, JP Morgan

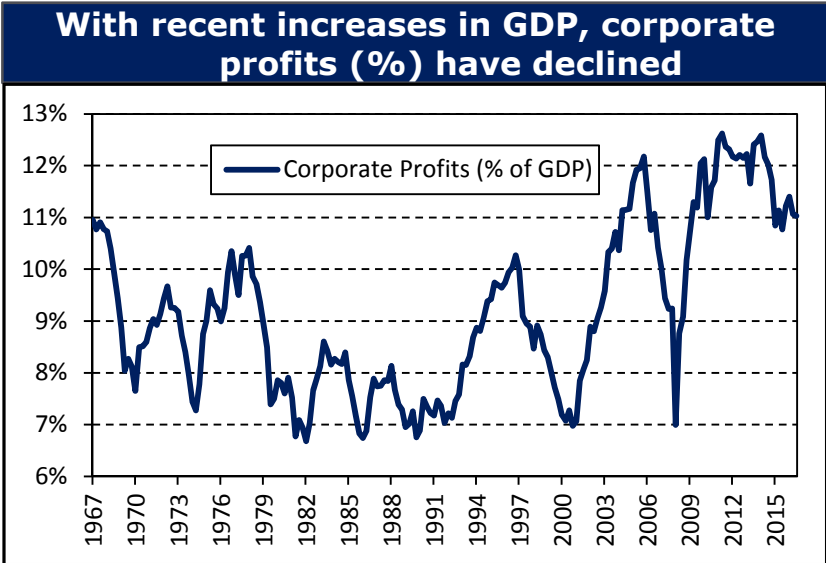
US Economic Indicators



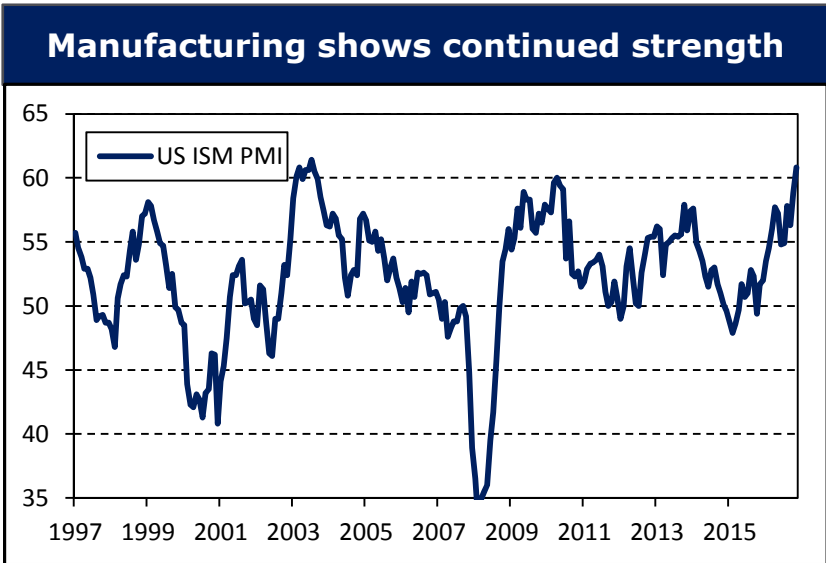
Source: Bloomberg, Federal Reserve, Bureau of Labor Statistics



Source: Bloomberg, Bureau of Labor Statistics



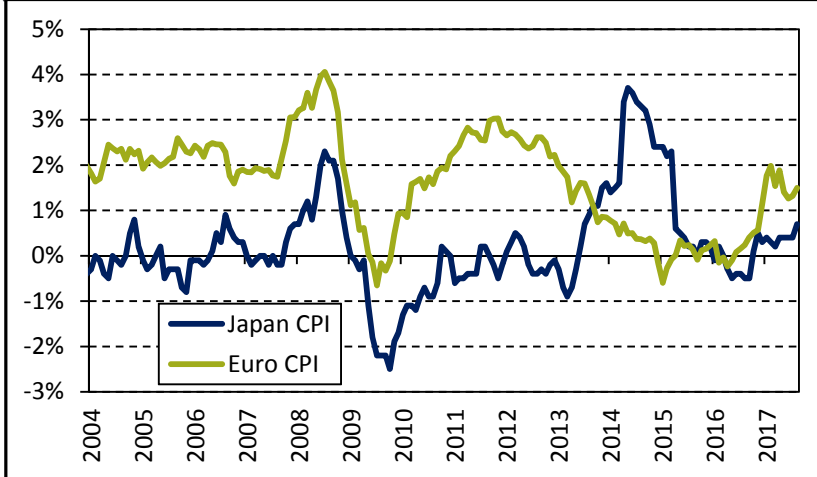
Source: Bloomberg, Bureau of Economic Analysis



Source: Bloomberg, Institute for Supply Management

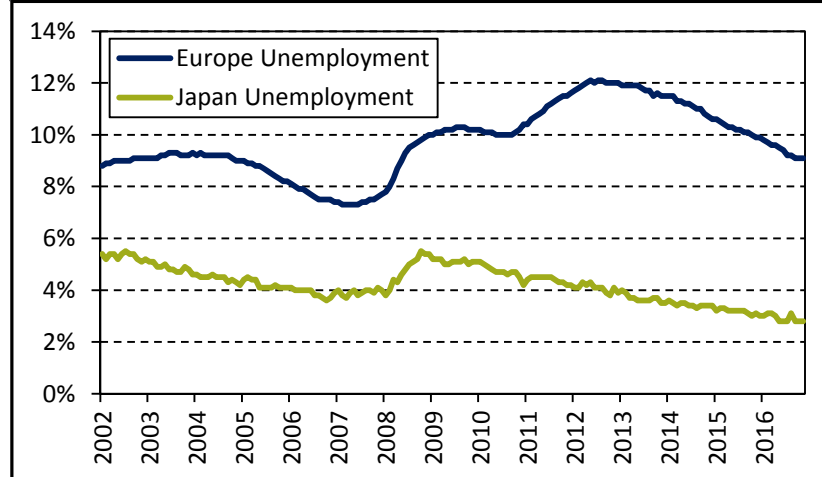
International Economic Indicators

Eurozone and Japan inflation are on an upswing



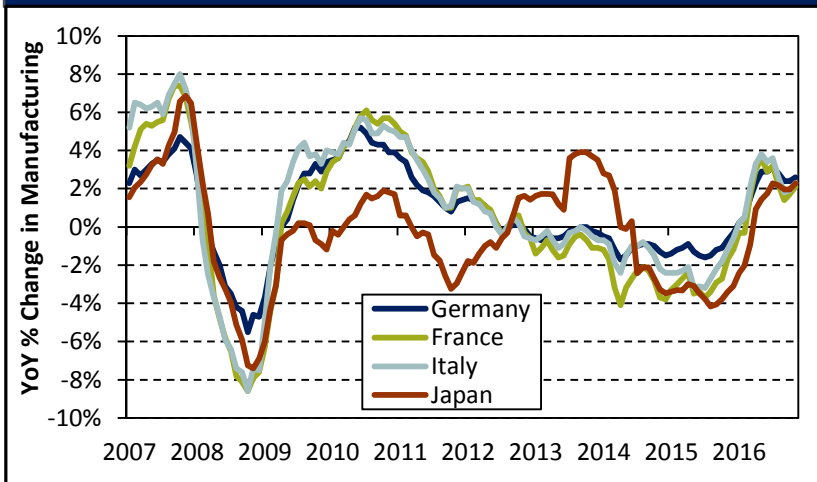
Source: Bloomberg, Japan Ministry of Internal Affairs and Communications, Eurostat

Unemployment has steadied



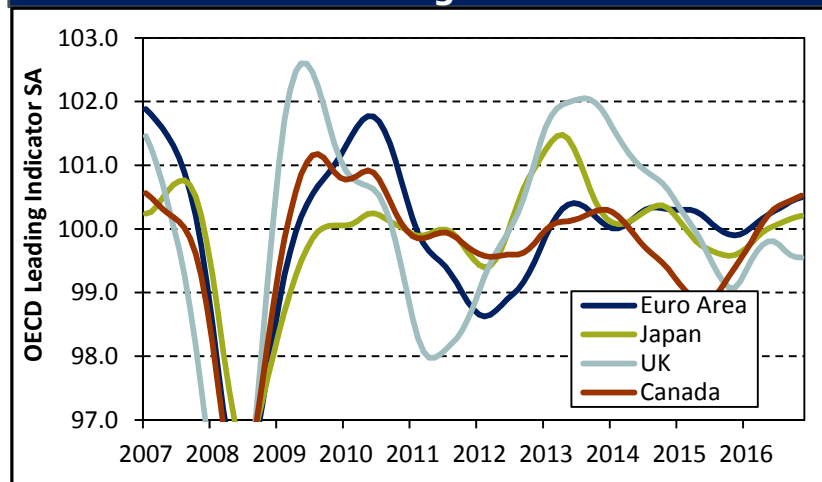
Source: Bloomberg, Japan Ministry of Internal Affairs and Communications, Eurostat

Manufacturing shows continued strength



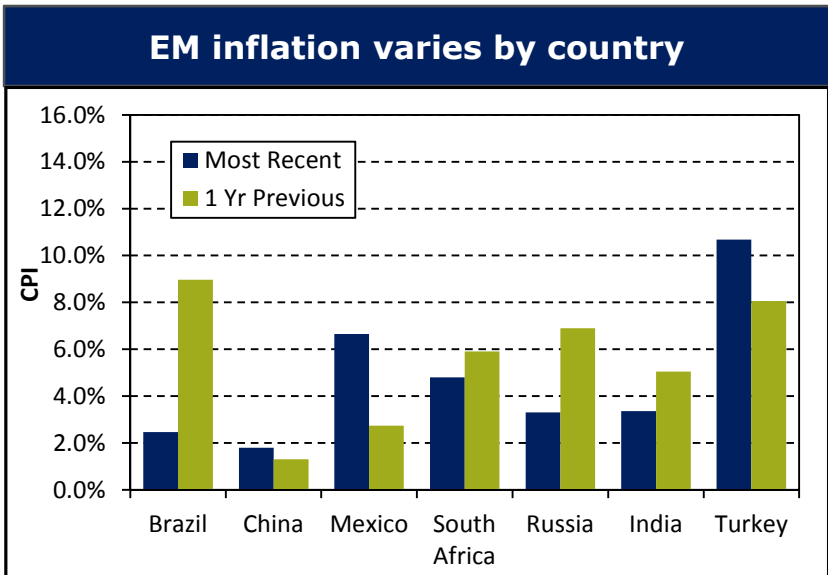
Source: Bloomberg, OECD, Eurostat

Ex-UK, leading indicators are trending higher

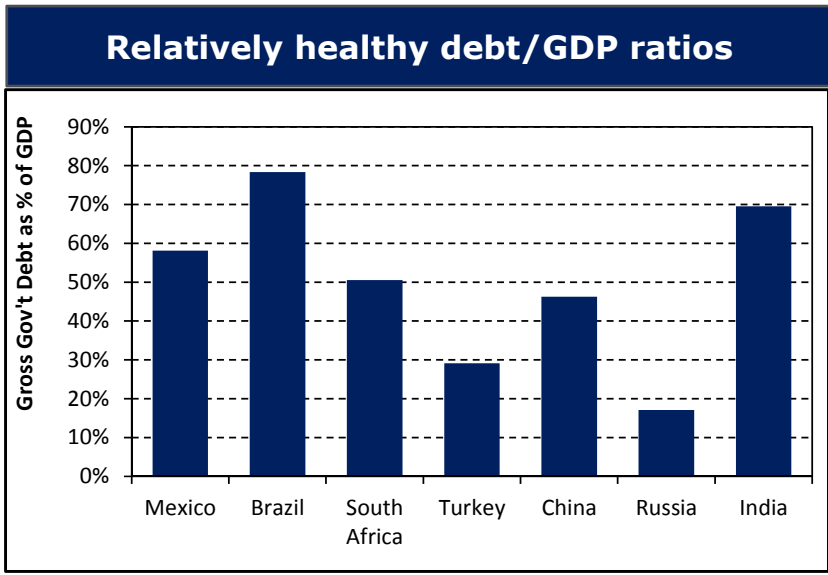


Source: Bloomberg, OECD

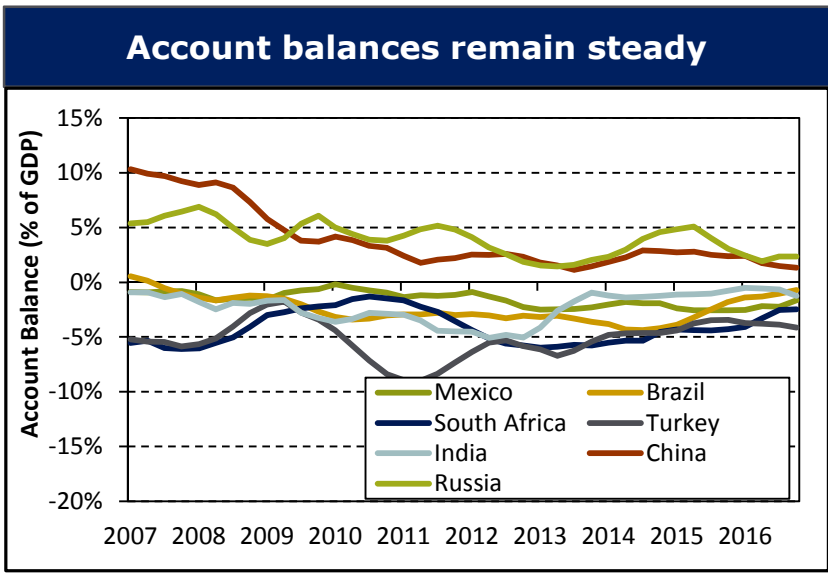
Emerging Market Economic Indicators



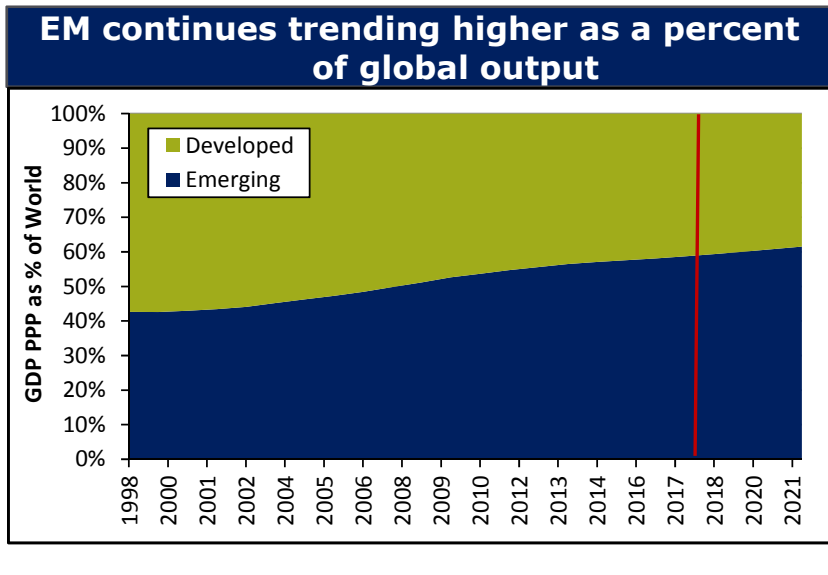
Source: Bloomberg



Source: Bloomberg, IMF



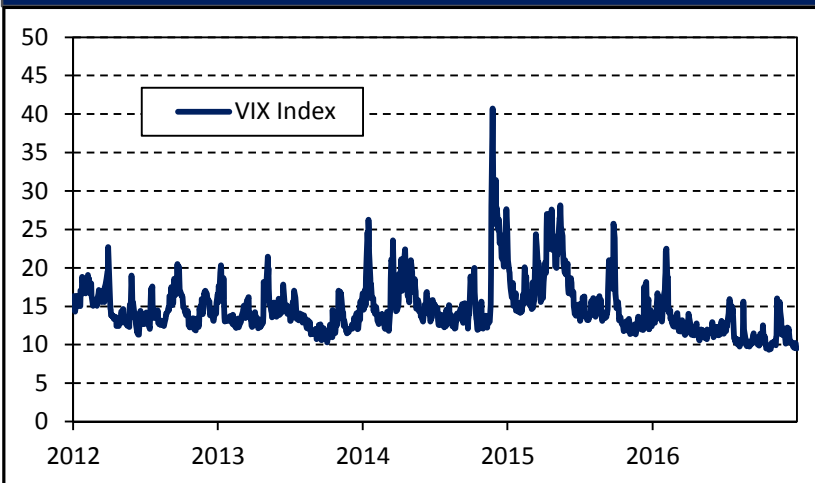
Source: Bloomberg



Source: Bloomberg, IMF

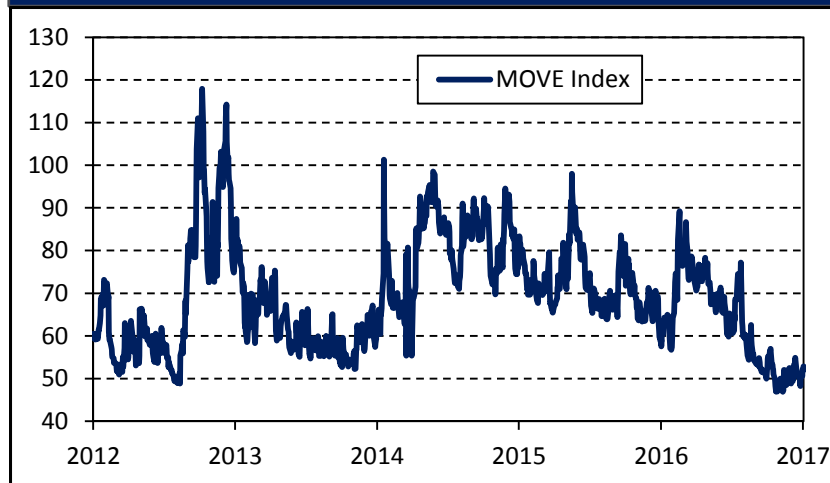
Volatility

Equity volatility remains near historic lows



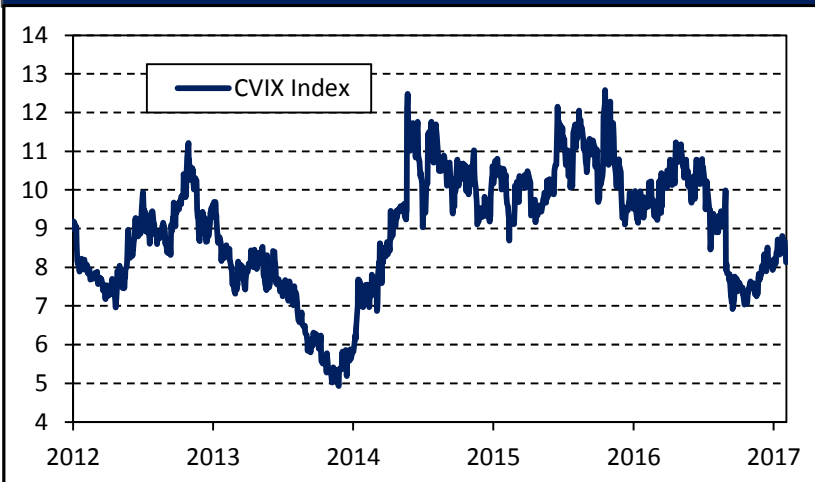
Source: Bloomberg, CBOE

Treasury volatility has increased slightly off recent lows



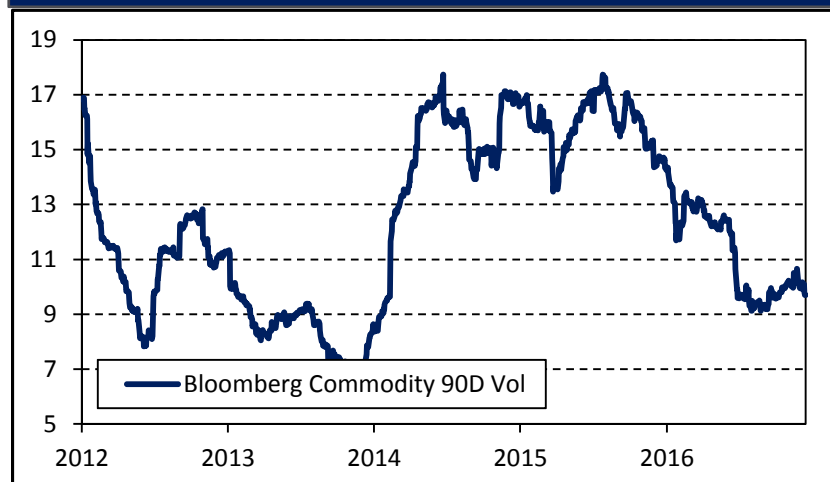
Source: Bloomberg, Merrill Lynch

Currency volatility has modestly declined



Source: Bloomberg, Deutsche Bank

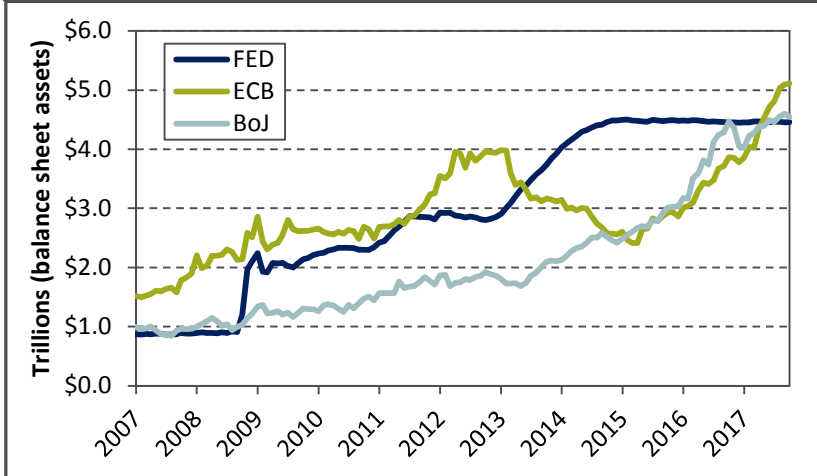
Commodity volatility is trending downward



Source: Bloomberg, Merrill Lynch

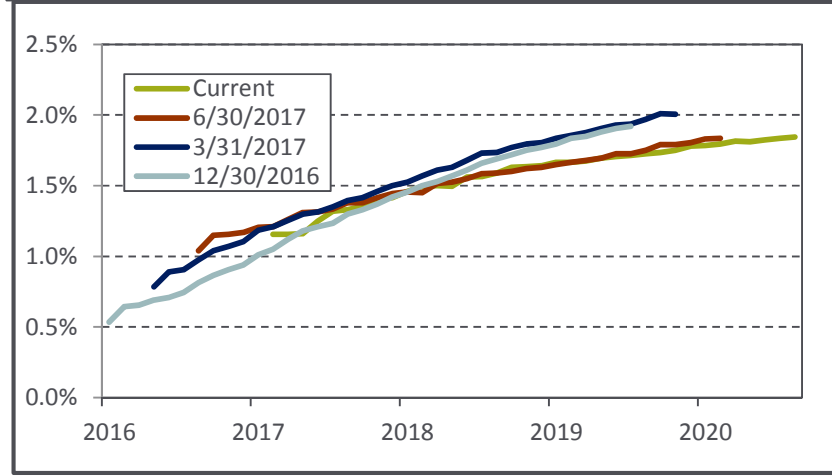
Central Banks

ECB and BOJ balance sheets continue to grow



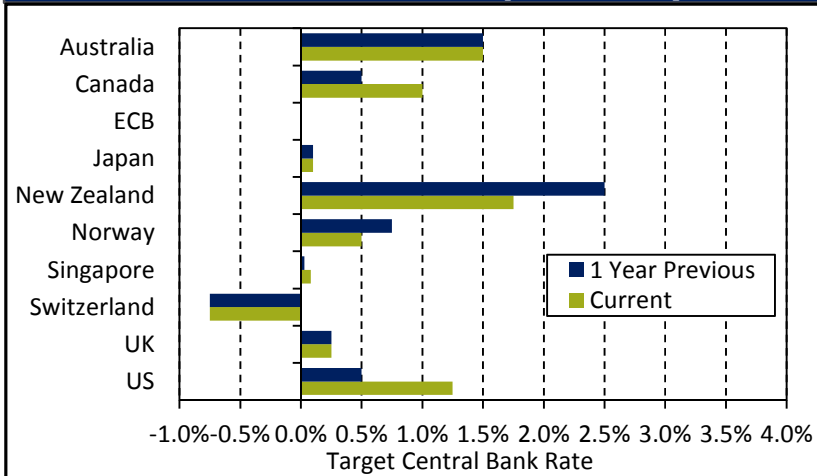
Source: Bloomberg, Federal Reserve, Bank of Japan, ECB, NEPC

Short-term interest rates have increased, causing a relatively flatter yield curve



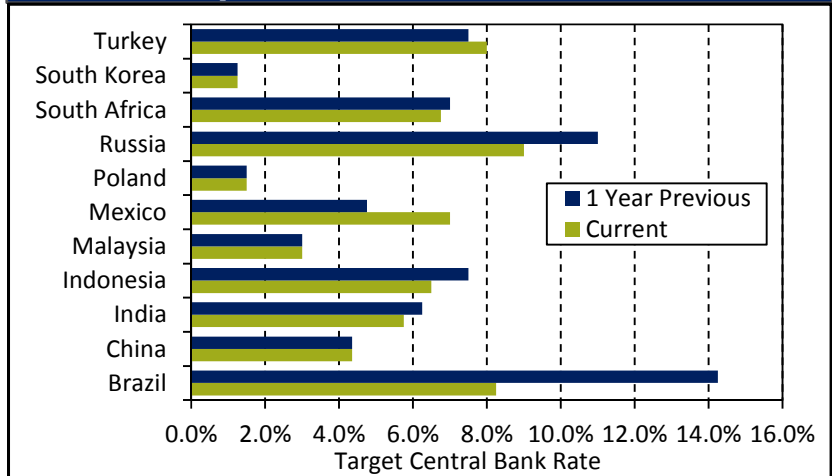
Source: Bloomberg, Federal Reserve

Ex-US and Canada, developed market rates are lower than the previous year



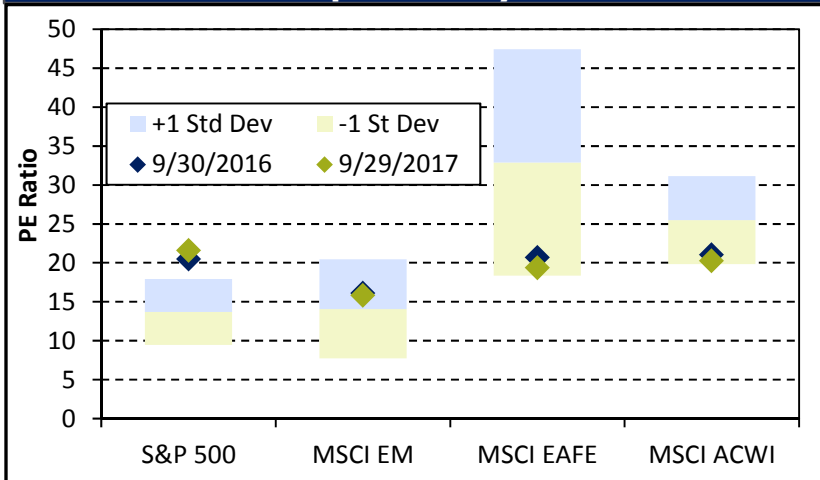
Source: Bloomberg

EM central bank policies vary by country-specific economic conditions



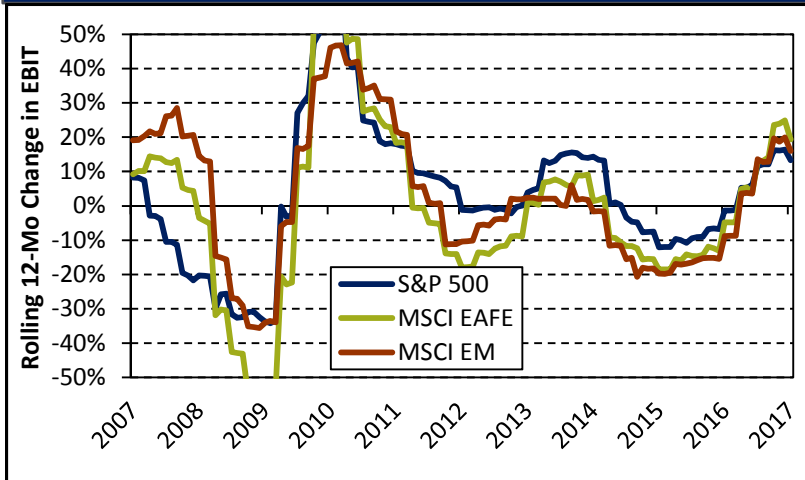
Source: Bloomberg

Ex-US valuations remain lower than the previous year



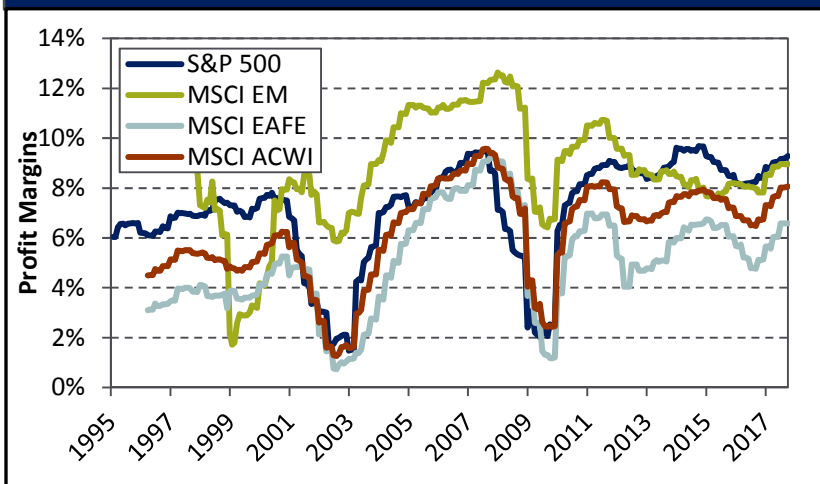
Source: Bloomberg, Standard and Poors, MSCI *MSCI EAFE is ex UK Telecom
*Standard deviation calculations on 20 years of data except S&P 500 (30 years)

Rolling annual earnings growth remains elevated relative to recent lows



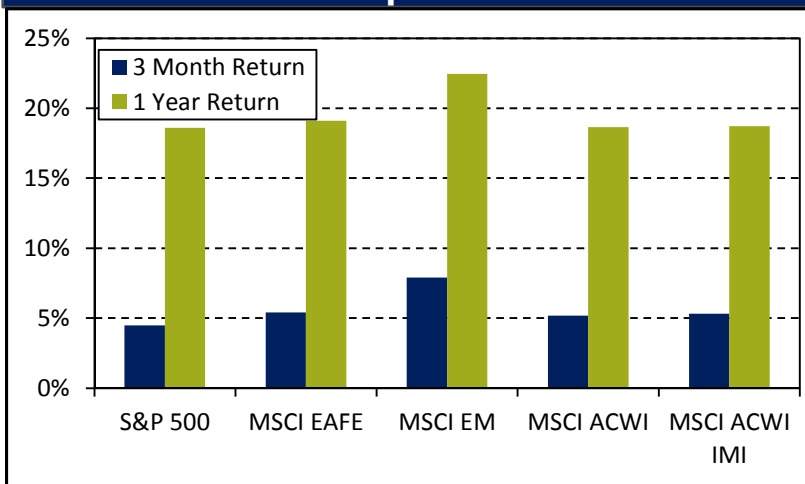
Source: Bloomberg, Standard and Poors, MSCI

Profit margins continue to improve



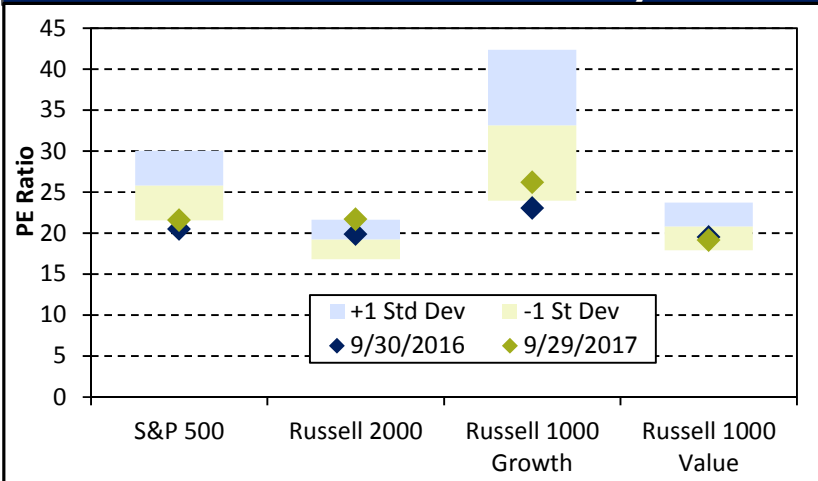
Source: Bloomberg, MSCI

Equities have experienced strong short-term performance



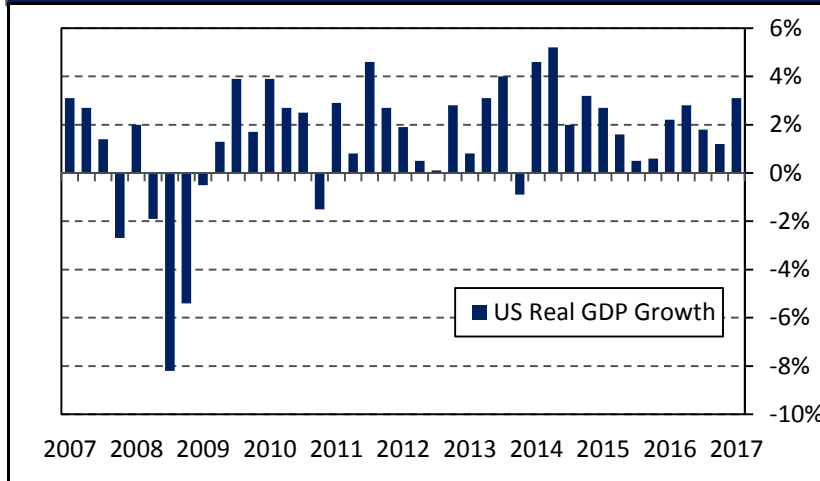
Source: Bloomberg, MSCI

Ex-Value, equity valuations remain elevated relative to last year



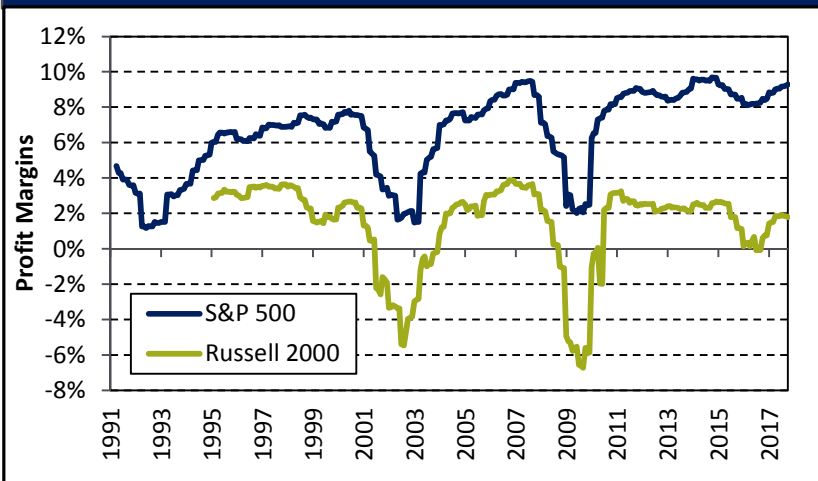
Source: Bloomberg, Standard and Poors, Russell *Russell 2000 PE is index adjusted positive* Standard deviation calculations based on 20 years of data

Real GDP growth strengthened in Q2



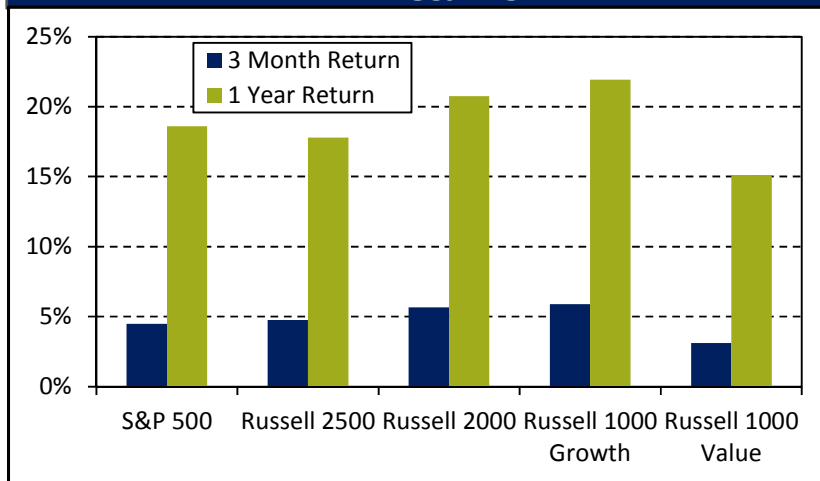
Source: Bloomberg, Bureau of Economic Analysis

S&P profit margins experience an uptick



Source: Bloomberg, Standard and Poors, Russell

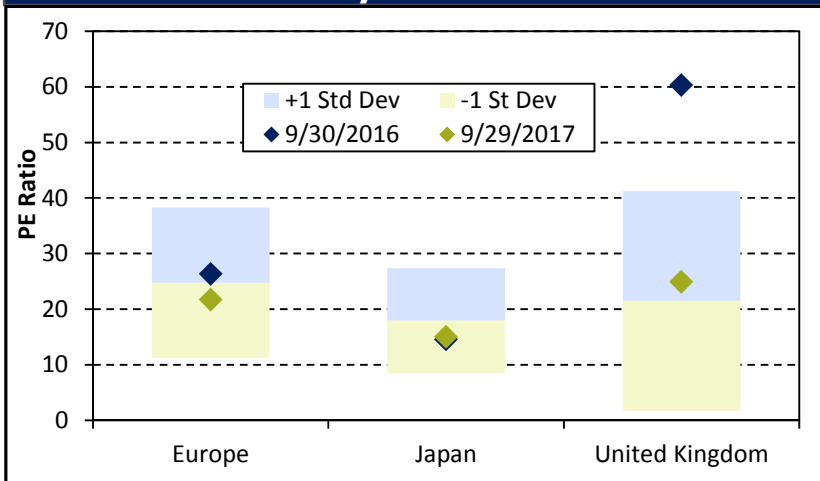
US equities continue to post positive returns



Source: Bloomberg, Standard and Poors, Russell

International Equity

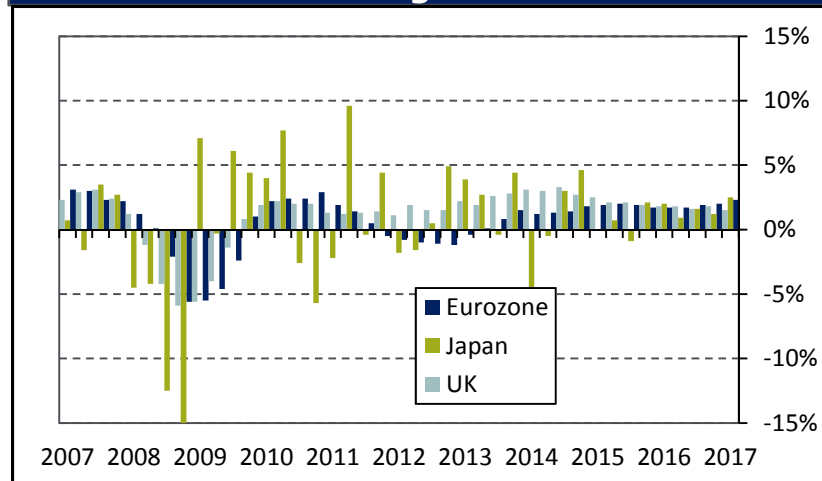
UK and Europe PEs remain below previous year levels



Source: Bloomberg, MSCI, FTSE *UK represented by FTSE 100 Index

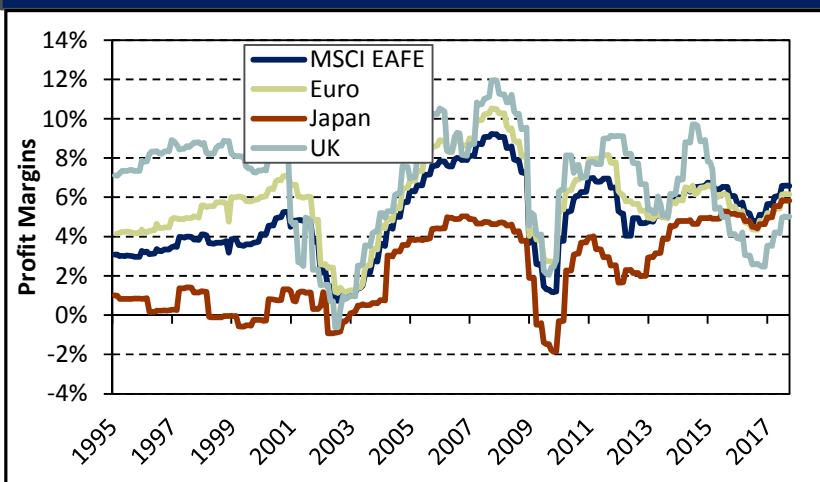
*Standard deviation calculations based on 20 years of data, with Europe since 12/1998

Eurozone and Japan growth increased, while UK growth slowed



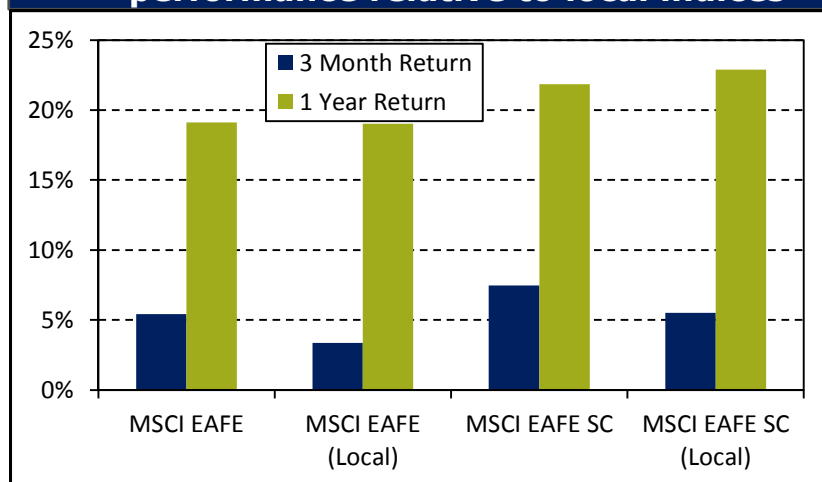
Source: Bloomberg

Profit margins continue trending higher



Source: Bloomberg, MSCI

Dollar weakness boosted short-term performance relative to local indices

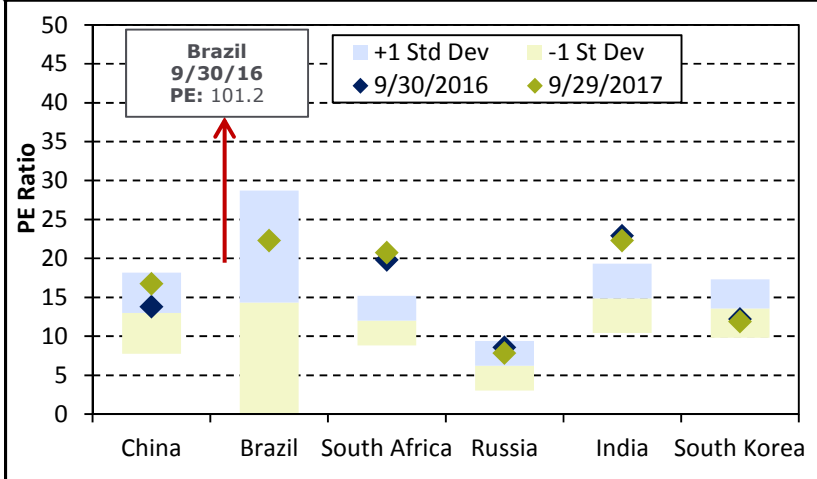


Source: Bloomberg, MSCI



Emerging Markets Equity

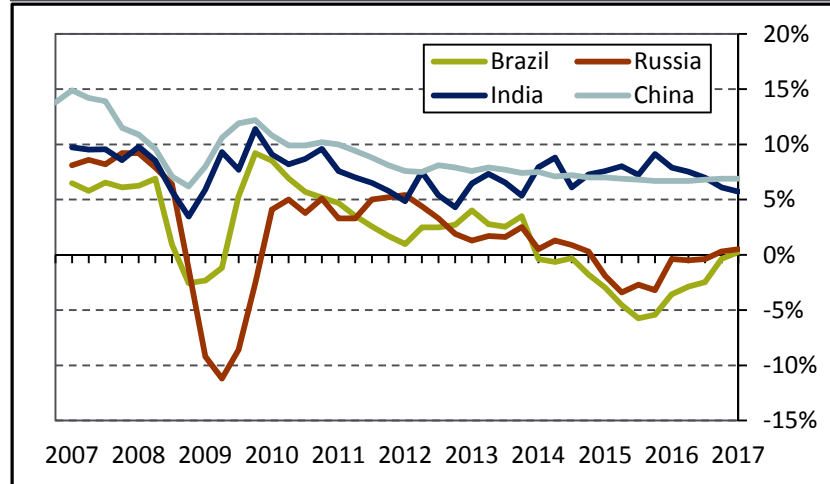
Ex-India, EM valuations remain elevated relative to the previous year



Source: Bloomberg, MSCI

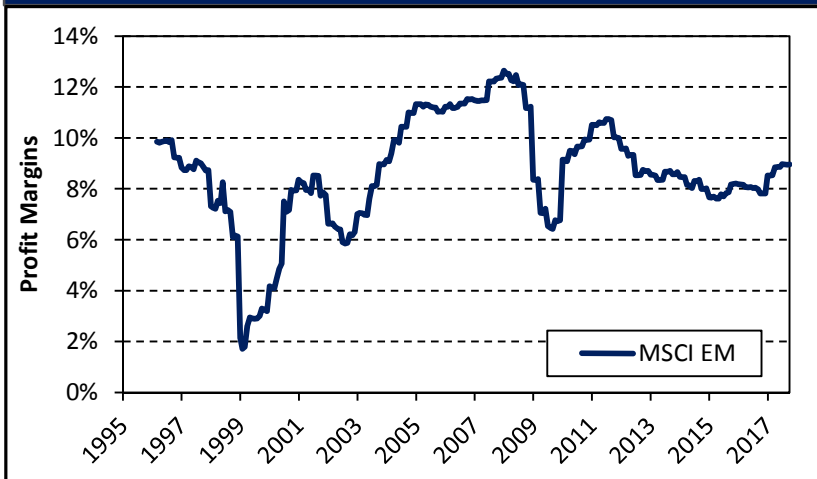
*Standard deviation calculations based on 20 years of data, with Russia since 01/1998

Brazil and Russia continue rebounding off earnings contractions



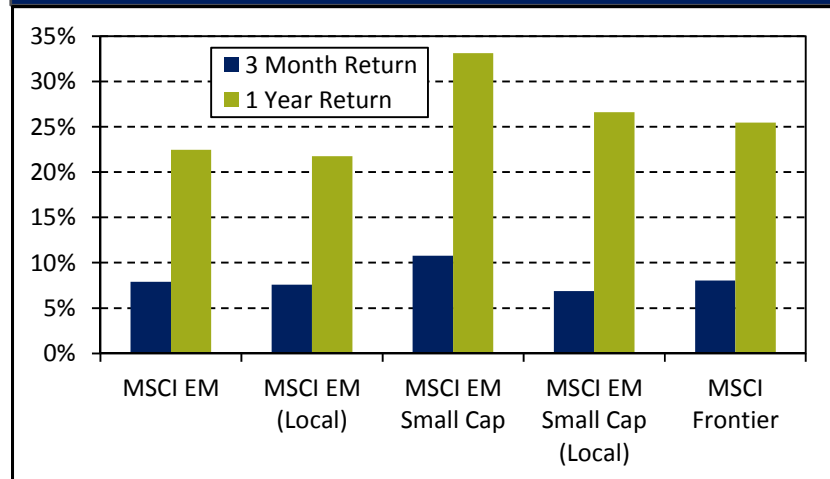
Source: Bloomberg

Profit margins continue trending upward



Source: Bloomberg, MSCI

EM posts strong short-term returns

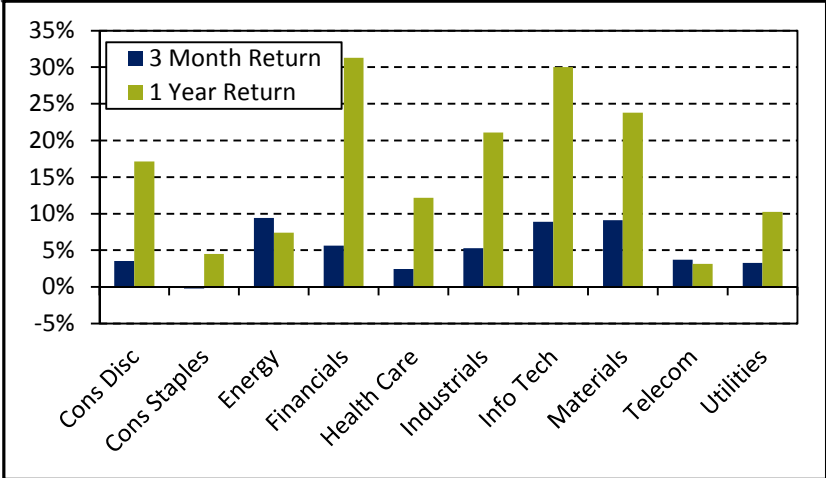


Source: Bloomberg, MSCI



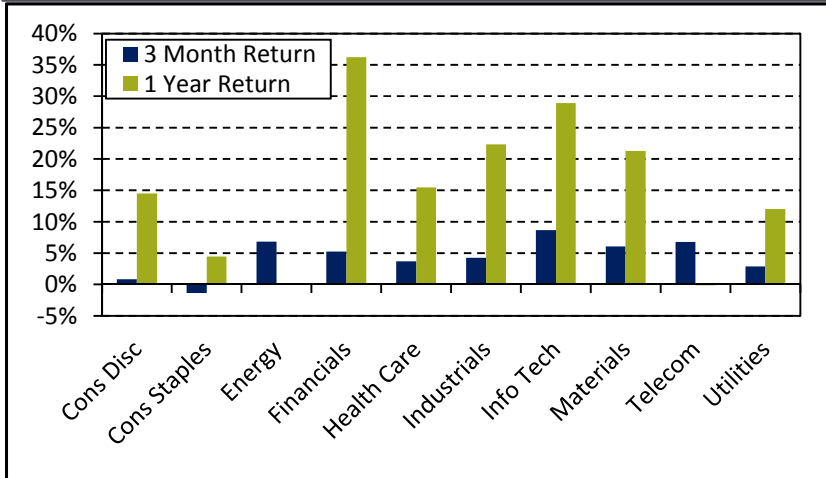
Global Equity by Sector

Consumer Staples drags MSCI ACWI short-term returns



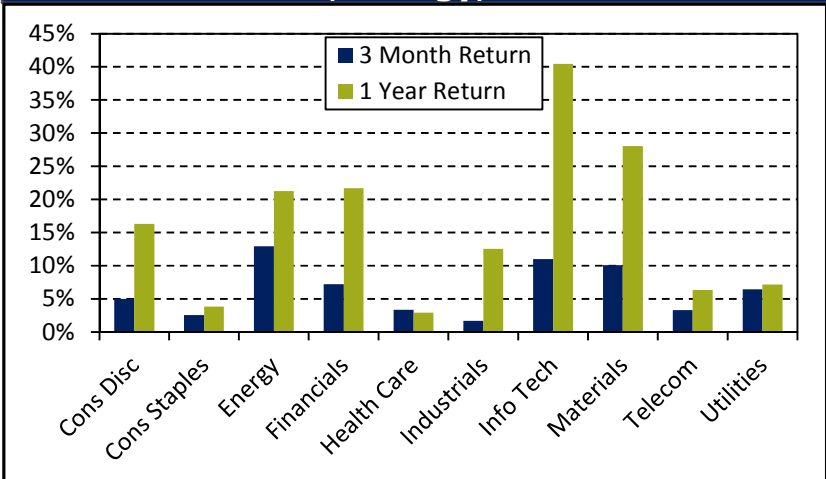
Source: Bloomberg, MSCI

Info Tech and Telecom lead S&P short-term performance



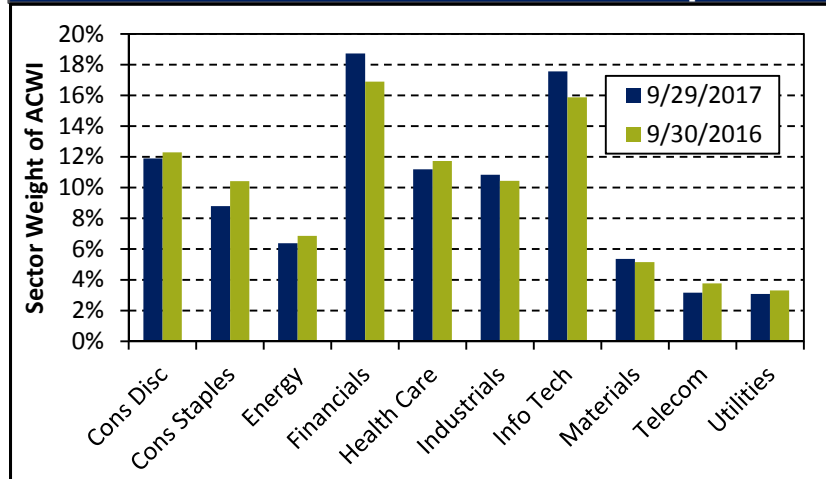
Source: Bloomberg, Standard and Poors

EM short-term returns have been driven by Info Tech, Energy, and Materials



Source: Bloomberg, MSCI

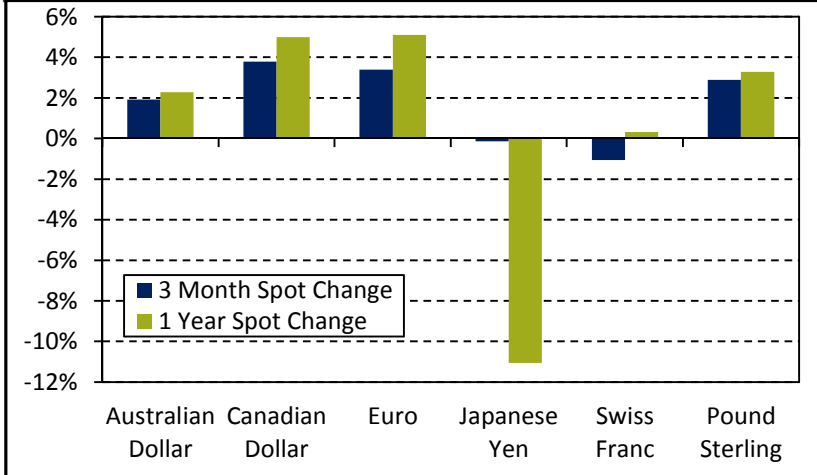
Financials and Info Tech weights have increased with recent run-ups



Source: Bloomberg, MSCI

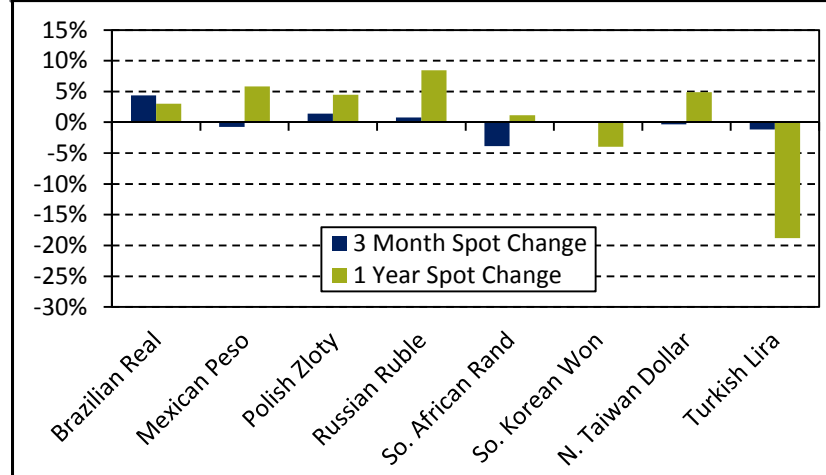
Currencies

Currencies have appreciated against the dollar with recent USD weakness



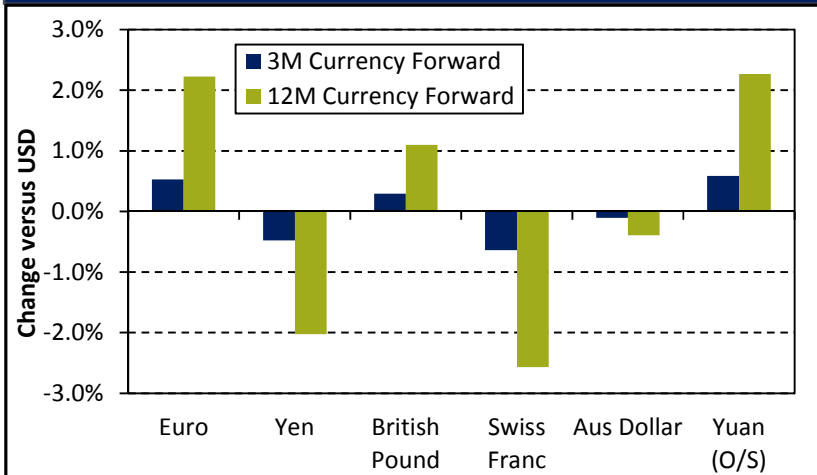
Source: Bloomberg

EM currencies remain mixed relative to the dollar



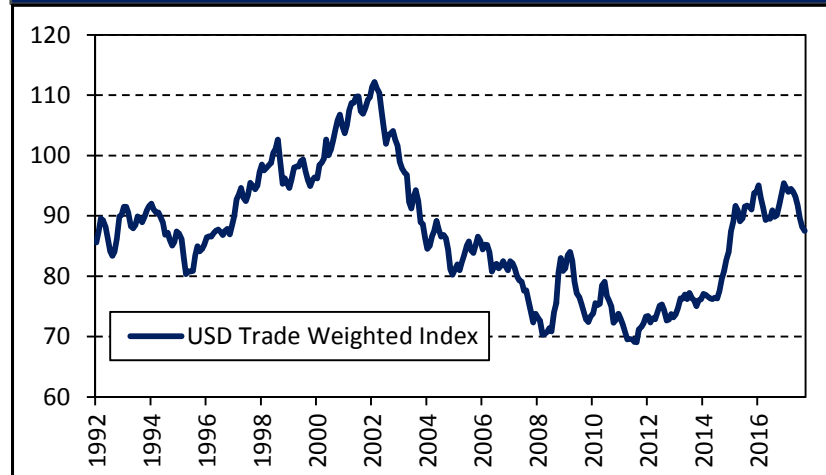
Source: Bloomberg

USD expectations vary across developed markets



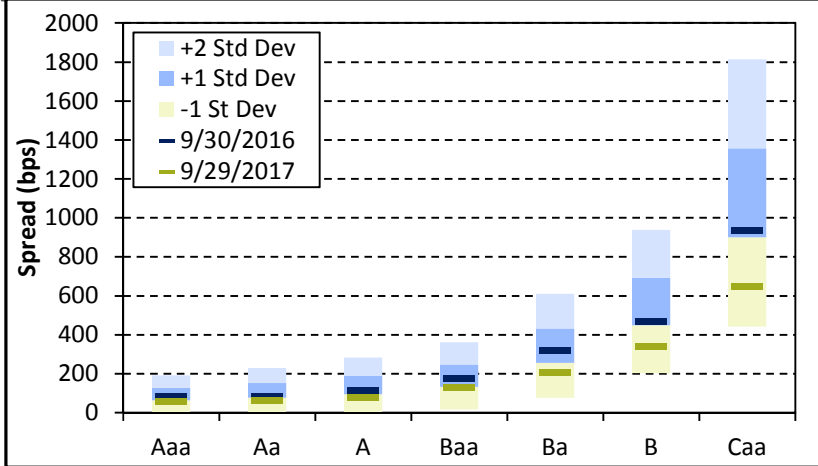
Source: Bloomberg

The dollar continues trending downward



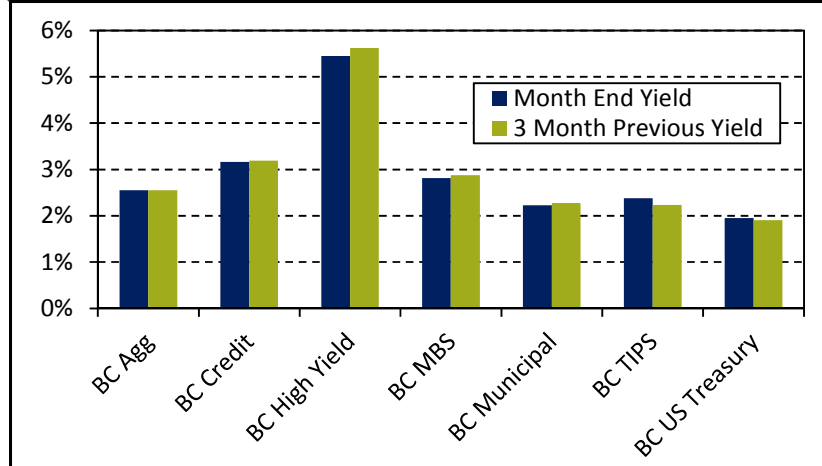
Source: Bloomberg, Federal Reserve

Spreads remain lower than the previous year



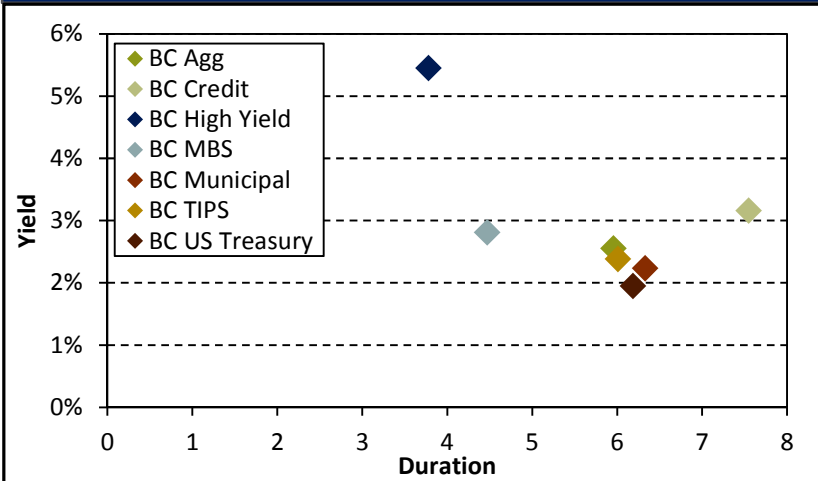
Source: Bloomberg, Barclays
*Standard deviation calculations based on 20 years of data

TIPS yield has increased relative to previous months



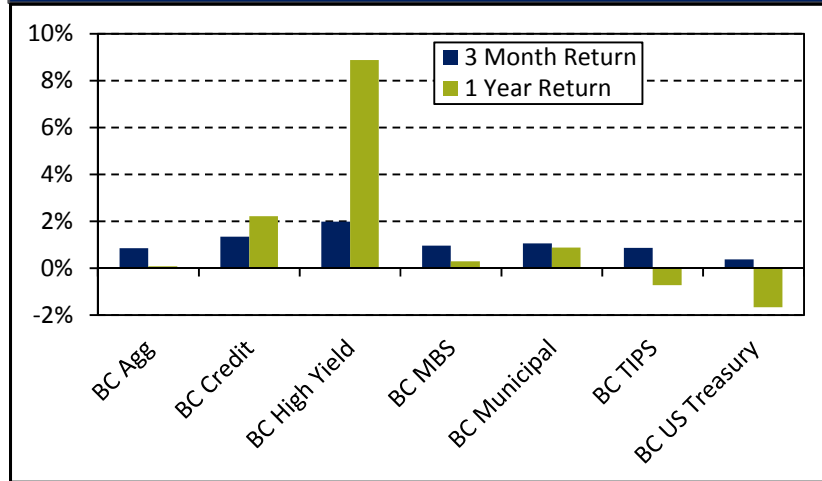
Source: Bloomberg, Barclays

Similar duration/yield profiles among core indices



Source: Bloomberg, Barclays

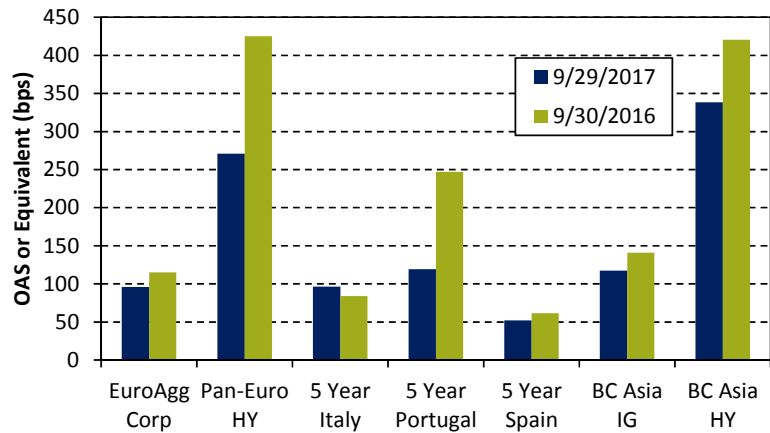
Fixed income indices post positive short-term returns



Source: Bloomberg, Barclays

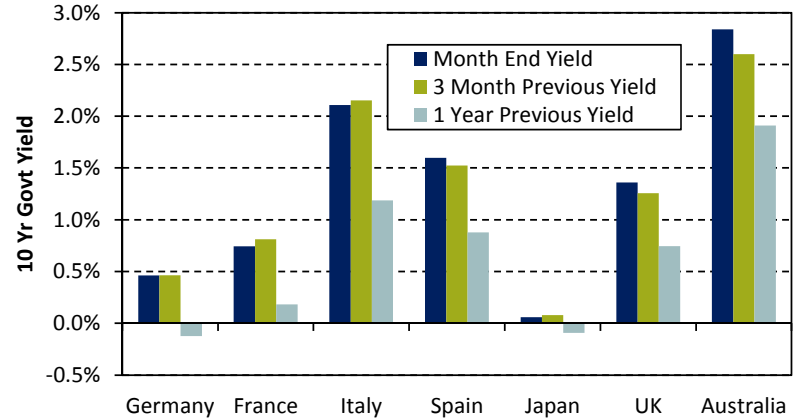
International Developed Fixed Income

Periphery yields have broadly declined over the year relative to Germany



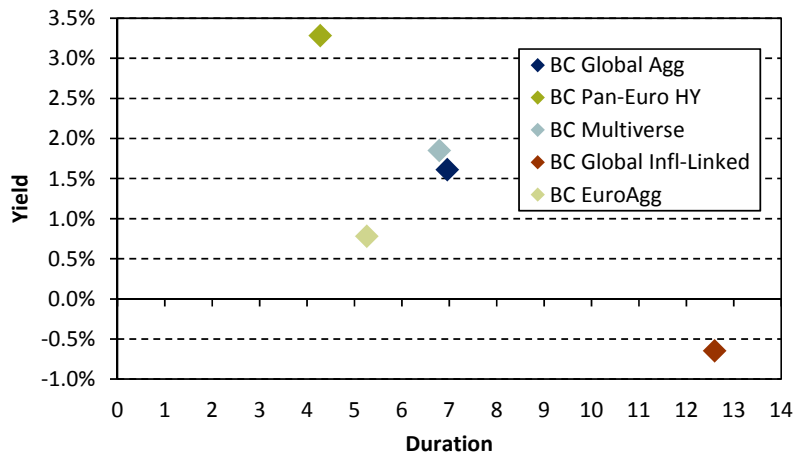
Source: Barclays, Bloomberg, *European periphery spreads are over equivalent German Bund

Yields are significantly higher relative to last year



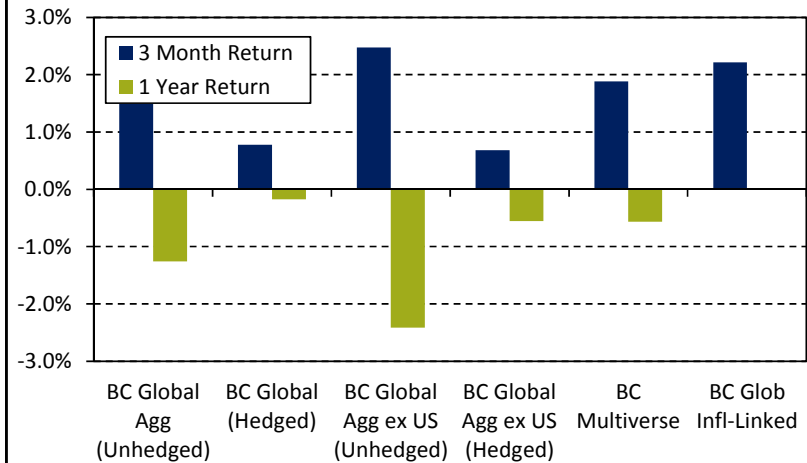
Source: Bloomberg

Low yields persist in global bond universe



Source: Bloomberg, Citigroup, Barclays

Global bonds post strong short-term returns

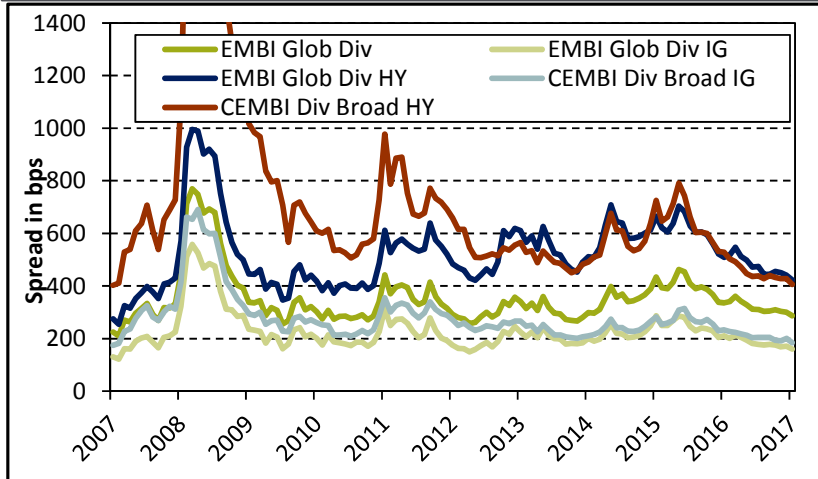


Source: Bloomberg, Citigroup, Barclays



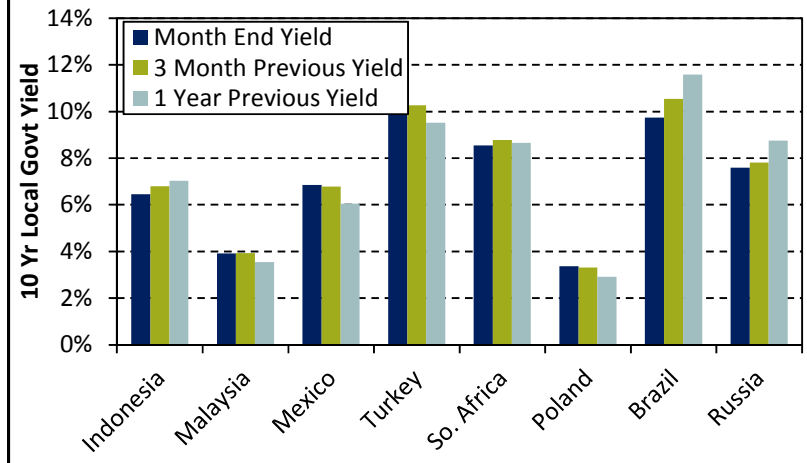
Emerging Markets Fixed Income

EM spreads continue to compress



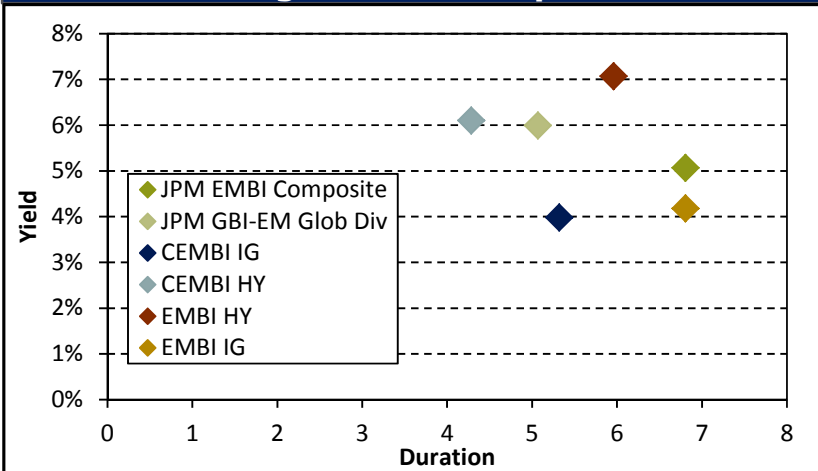
Source: Bloomberg, JP Morgan

Yields have broadly declined relative to previous months



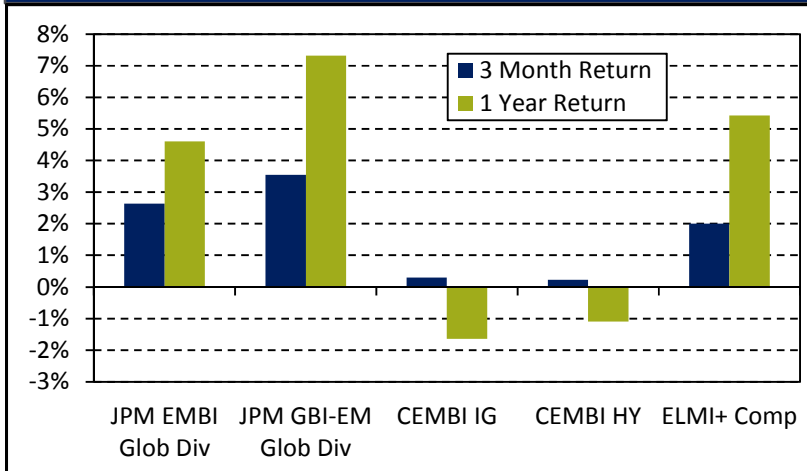
Source: Bloomberg

EM yields appear attractive relative to global counterparts



Source: Bloomberg, JP Morgan

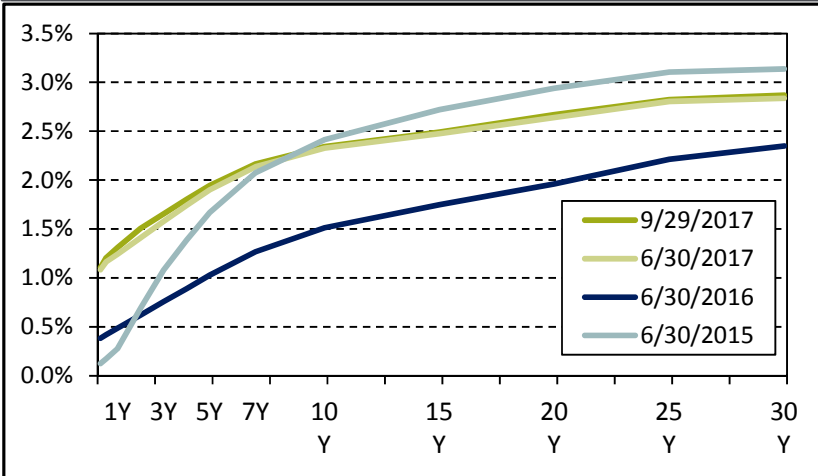
EM debt posts strong positive short-term returns



Source: Bloomberg, JP Morgan

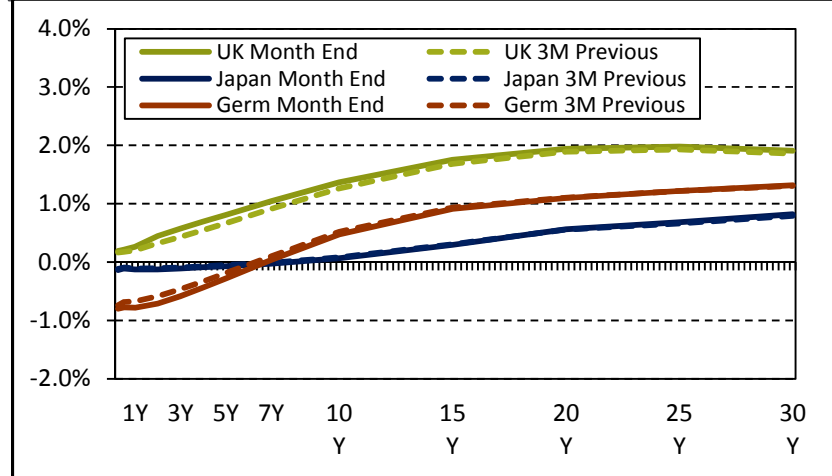


The curve remains mostly unchanged from three months prior



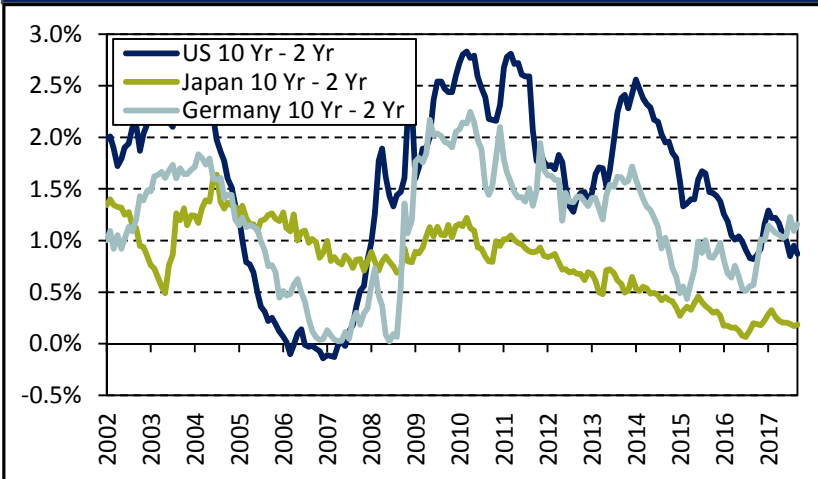
Source: Bloomberg

Interest rate expectations remain similar to previous months



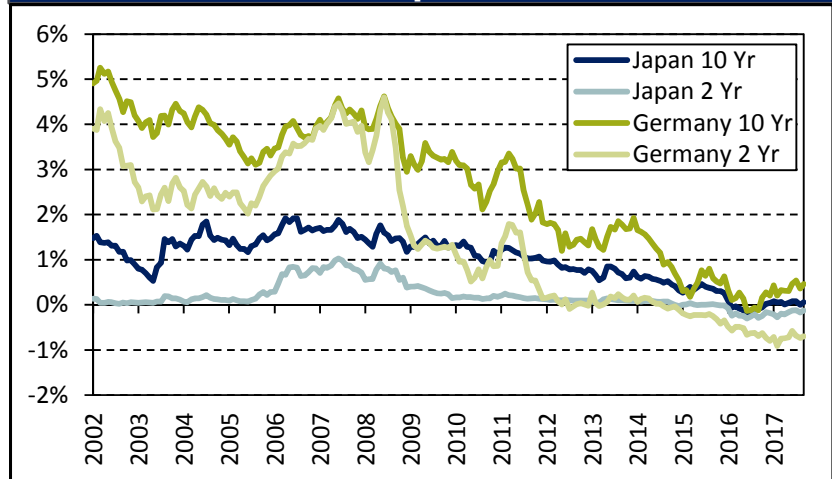
Source: Bloomberg

US and German 10-2 spreads have spiked in the near term



Source: Bloomberg

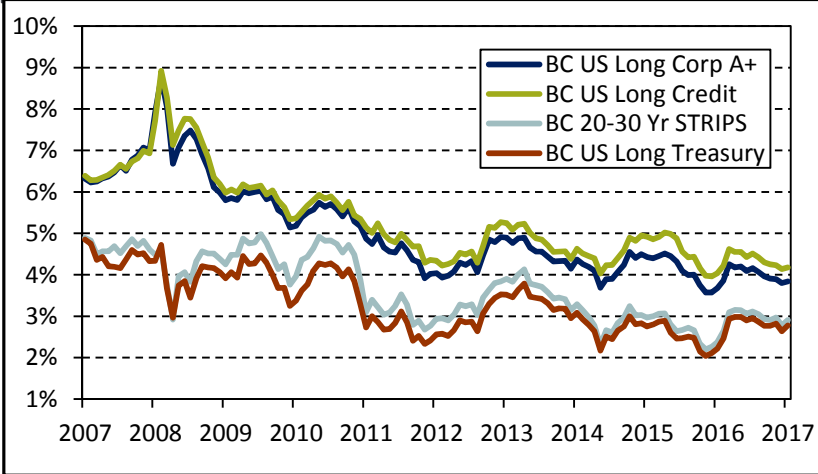
Sovereign bond yields continue to trend upward



Source: Bloomberg

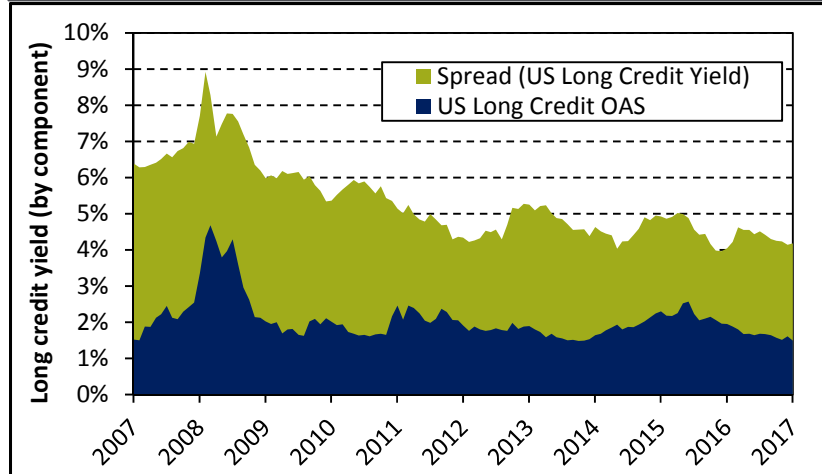
Long Rates and Liability

Long duration yields have slightly increased



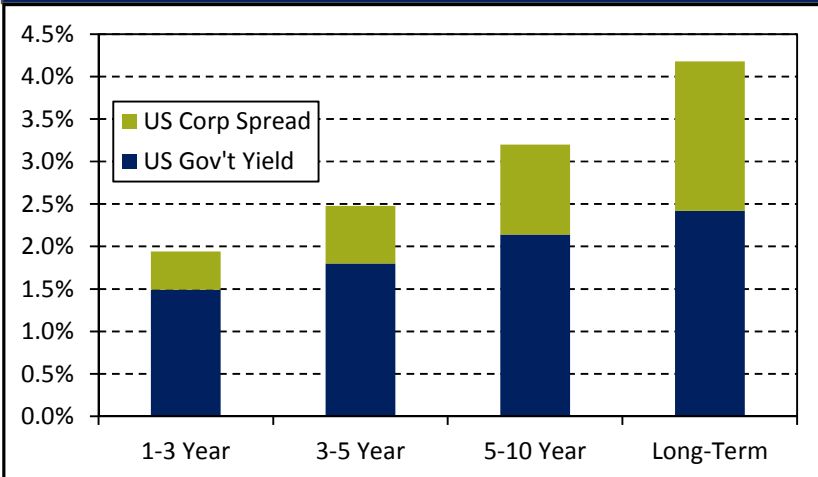
Source: Bloomberg, Citigroup, Barclays

Long credit yield is in line with the long-term historical average



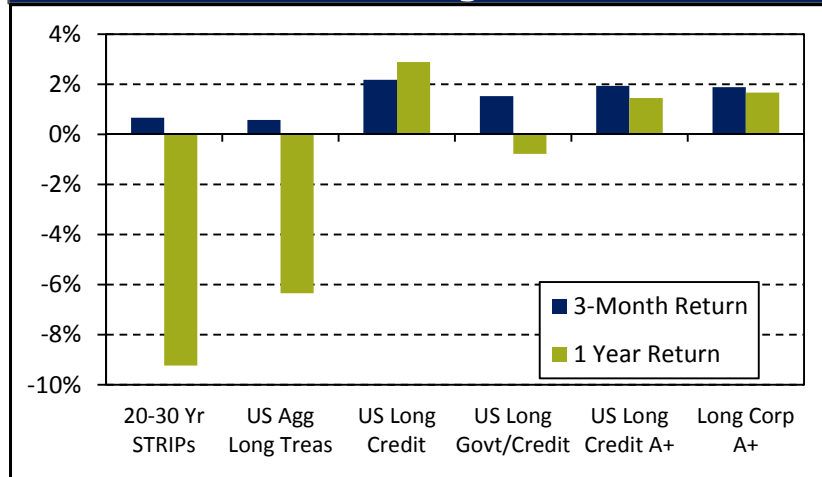
Source: Bloomberg, US Treasury, Barclays, NEPC

Yield and spread components continue to offer modest returns



Source: Bloomberg, Barclays

Long duration fixed income posts short-term gains

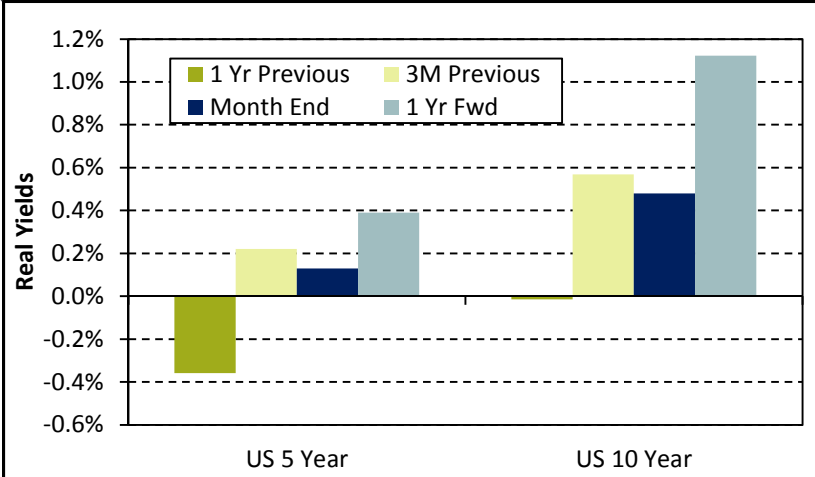


Source: Bloomberg, Barclays



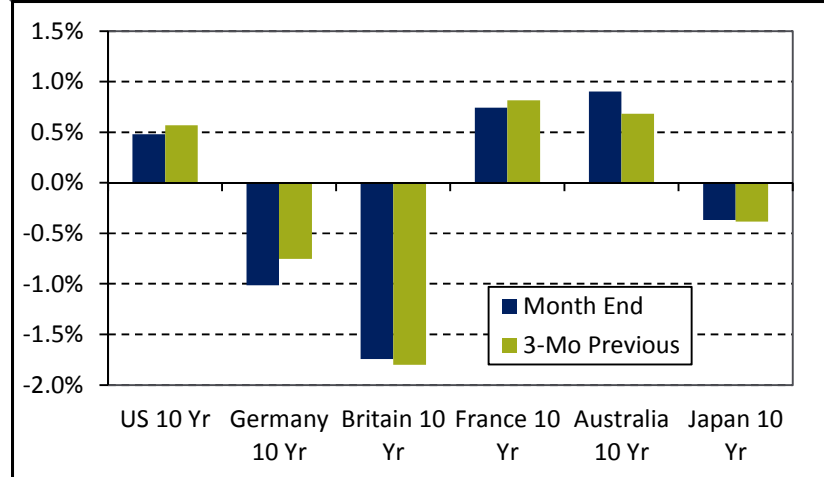
Inflation and Real Rates

US real yields have declined in recent months



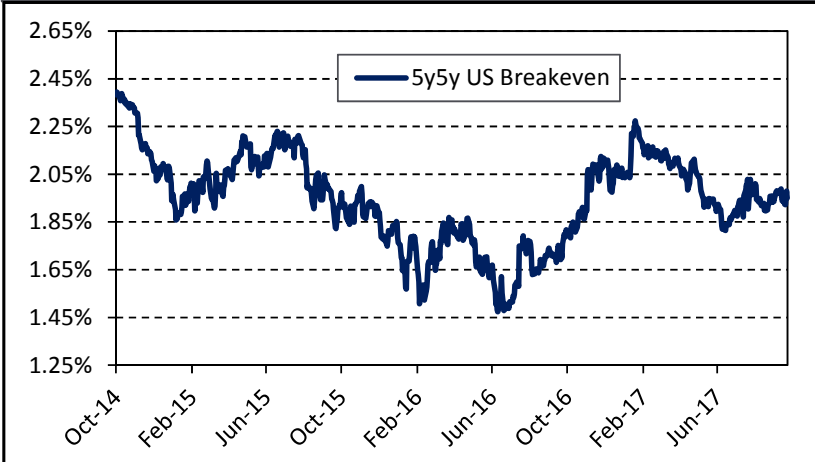
Source: Bloomberg

Real yields have broadly declined in developed markets



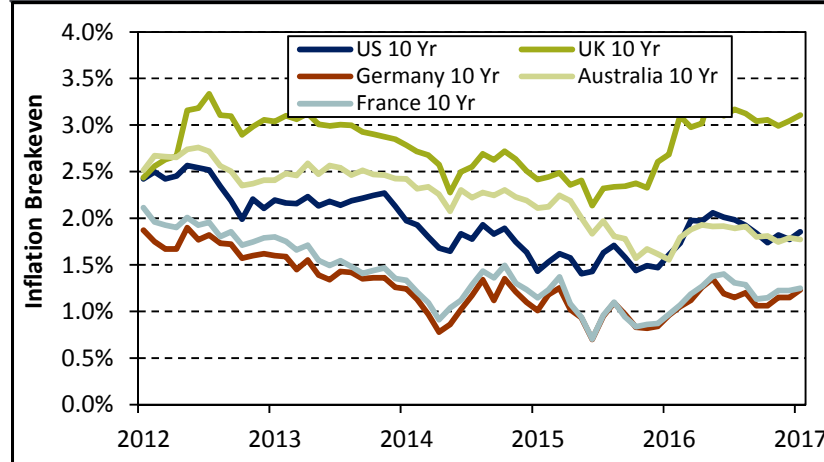
Source: Bloomberg

US inflation expectations have decreased off of post US election highs



Source: Bloomberg

Inflation expectations have begun trending upward

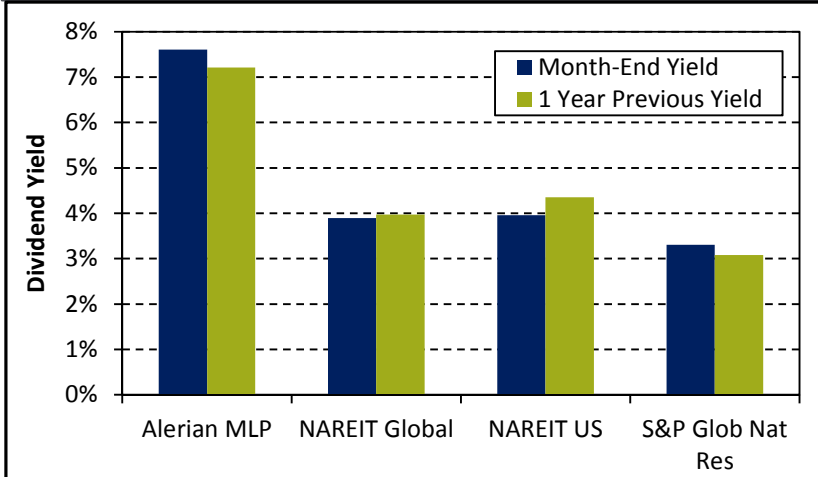


Source: Bloomberg



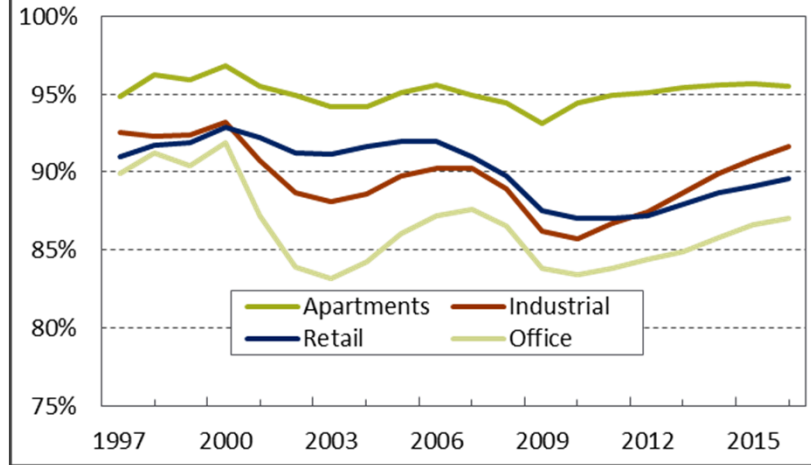
Inflation-Sensitive Growth Assets

Yields remain in line with the previous year



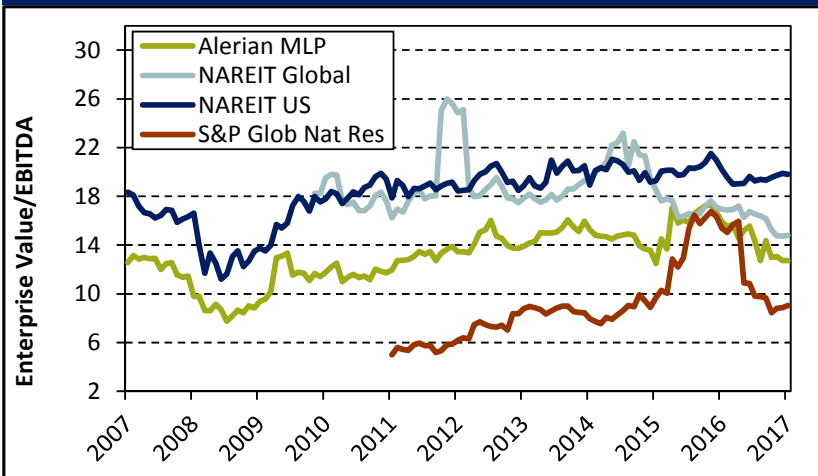
Source: Bloomberg, Alerian, Nareit, Standard and Poors

Sustained recovery in commercial real estate occupancy rates



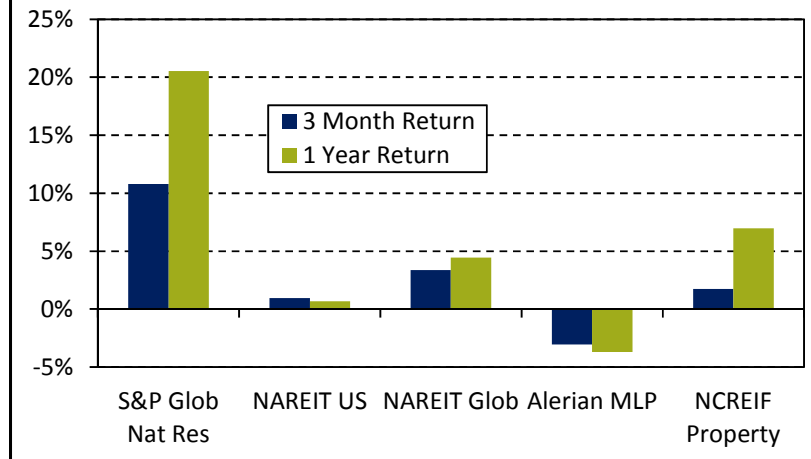
Source: CBRE

US REIT valuations have steadied



Source: Bloomberg, US Census Bureau

Mixed short-term performance for inflation-sensitive growth assets

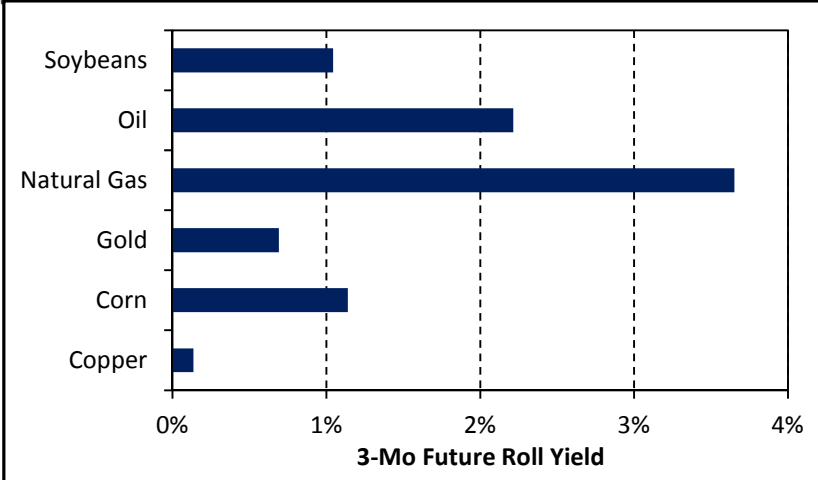


Source: Bloomberg, Alerian, Nareit, Standard and Poors



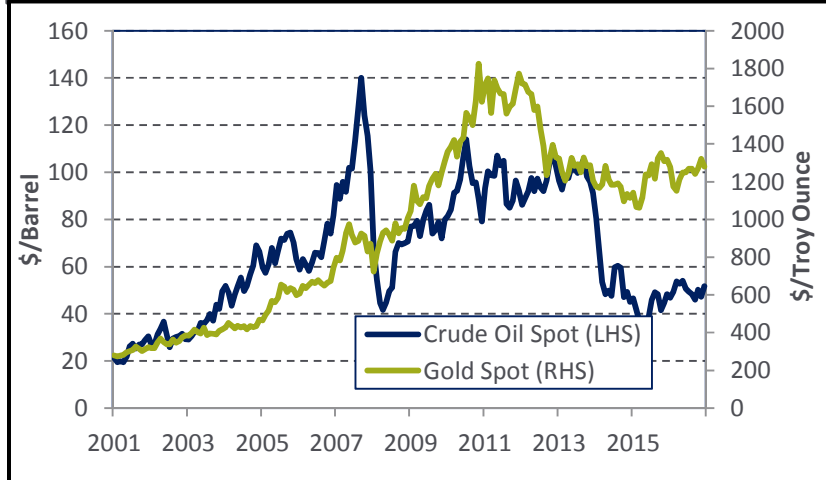
Commodities

Commodities now broadly have positive roll yields



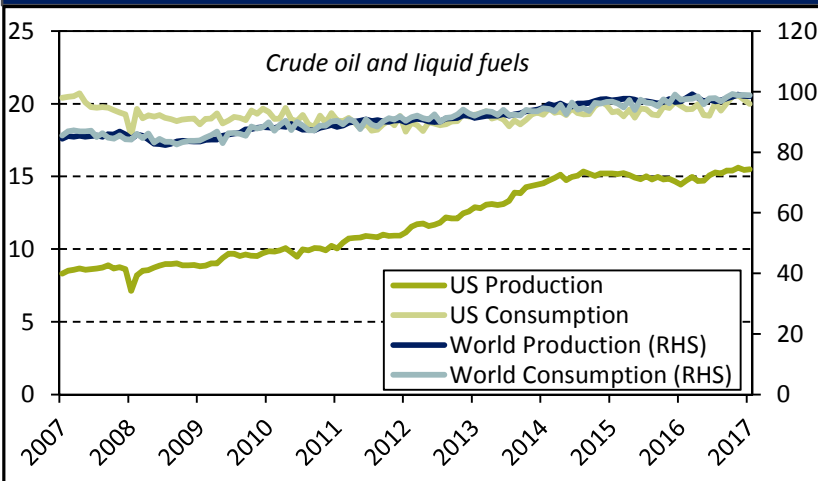
Source: Bloomberg

Gold and oil edge slightly higher



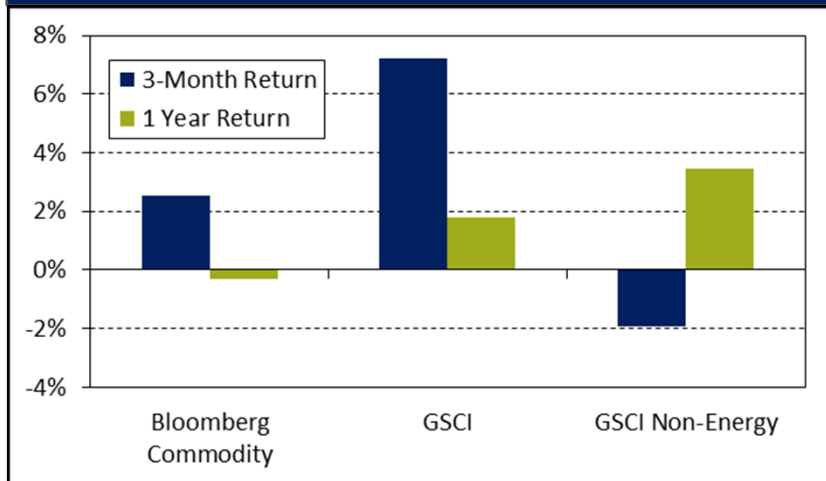
Source: Bloomberg

Oil production and consumption has steadied



Source: Bloomberg, US Department of Energy *Crude oil and liquid fuels

GSCI Non-Energy underperformed in the near term



Source: Bloomberg, Standard and Poors



Glossary of Investment Terminology—Risk Statistics

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 X 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.

$\text{UpsideCapture} = \text{TotalReturn}(\text{FundReturns}) / \text{TotalReturns}(\text{BMReturn})$ when Period Benchmark Return is $> = 0$

$\text{DownsideCapture} = \text{TotalReturn}(\text{FundReturns}) / \text{TotalReturns}(\text{BMReturn})$ when Benchmark < 0

Data Source: InvestorForce

Glossary of Investment Terminology

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Glossary of Investment Terminology

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

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

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

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

Formula:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Glossary of Investment Terminology

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

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

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

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

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

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

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

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

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

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

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

Upside Deviation¹ - Standard Deviation of Positive Returns

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

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

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

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

- **Past performance is no guarantee of future results.**
- **The goal of this report is to provide a basis for monitoring financial markets. The opinions presented herein represent the good faith views of NEPC as of the date of this report and are subject to change at any time.**
- **Information on market indices was provided by sources external to NEPC. While NEPC has exercised reasonable professional care in preparing this report, we cannot guarantee the accuracy of all source information contained within.**
- **All investments carry some level of risk. Diversification and other asset allocation techniques do not ensure profit or protect against losses.**
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Information Disclaimer and Reporting Methodology

Information Disclaimer

- Past performance is no guarantee of future results.
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Reporting Methodology

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