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Ventura County Employees' Retirement Association

Investment Summary
Quarter Ending March 31, 2017

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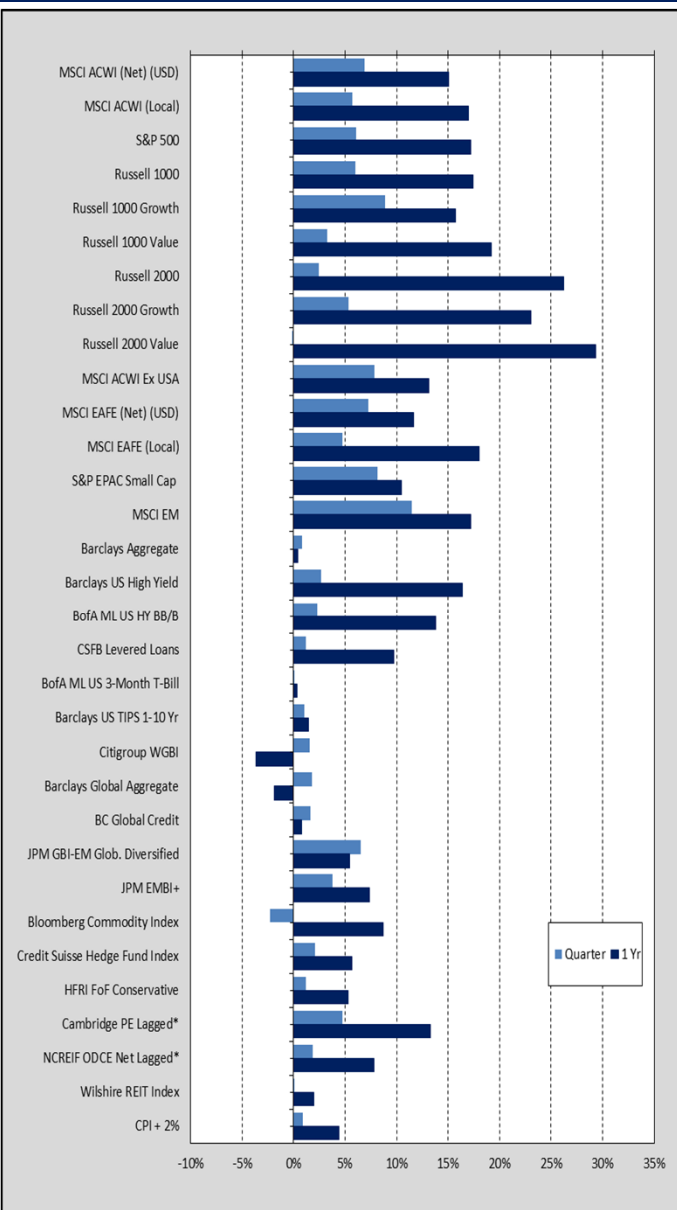
Market Environment and Outlook

Economic Environment

- **First quarter GDP growth rate (first estimate) is estimated to be a meager 0.7%.**
 - Retail sales ended February at +5.3% on a YoY basis. In the same period last year the YoY growth rate was 3.0%.
 - Corporate profits (ended October) as a percent of GDP increased to 9.2% from 9.0% (in July) and remain elevated relative to historical levels.
 - The inventory-to-sales ratio ended February flat at 1.4 and has remained relatively flat since early 2010.
 - The U.S. trade deficit narrowed almost 10% ended February as exports increased and imports decreased.
- **The unemployment rate decreased to 4.5% in Q1 from 4.7% in Q4; U-6, a broader measure of unemployment, decreased to 8.9% during the first quarter from 9.2%.**
- **The Case-Shiller Home Price Index (ended January) increased to 185.51 from 185.06 in October and is at levels higher than that of pre-financial crisis levels of 150.9.**
- **Rolling 12-month seasonally adjusted CPI saw an uptick to 2.4% at the end of March; Capacity Utilization marginally increased to 76.4% in Q1 from 76% ended Q4.**
- **Fed Funds rate was increased +0.25% to a targeted range of 0.75% - to – 1.0%. The 10-year Treasury Yield (constant maturity) finished Q1 at 2.5% flat from Q4.**
- **The Fed balance sheet increased slightly during Q1 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 €80 billion per month of corporate and public securities; announced slowing of bond purchase pace beginning April 2017 to €60 billion.
- **S&P valuations increased slightly in Q4 remaining above the 10-year and long-term averages.**
 - Cyclically adjusted Shiller PE ratio (28.82x) is above the long-term average of 16.74x and above the 10-year average of 22.97x.

Market Environment – Q1 2017 Overview

		Qtr.	1 Yr.	3 Yr.	5 Yr.	10 Yr.
World Equity Benchmarks						
MSCI ACWI (Net) (USD)	World	6.9%	15.0%	5.1%	8.4%	4.0%
MSCI ACWI (Local)	World (Local Currency)	5.7%	17.0%	8.1%	10.7%	4.6%
Domestic Equity Benchmarks						
S&P 500	Large Core	6.1%	17.2%	10.4%	13.3%	7.5%
Russell 1000	Large Core	6.0%	17.4%	10.0%	13.3%	7.6%
Russell 1000 Growth	Large Growth	8.9%	15.8%	11.3%	13.3%	9.1%
Russell 1000 Value	Large Value	3.3%	19.2%	8.7%	13.1%	5.9%
Russell 2000	Small Core	2.5%	26.2%	7.2%	12.4%	7.1%
Russell 2000 Growth	Small Growth	5.3%	23.0%	6.7%	12.1%	8.1%
Russell 2000 Value	Small Value	-0.1%	29.4%	7.6%	12.5%	6.1%
International Equity Benchmarks						
MSCI ACWI Ex USA	World ex-US	7.9%	13.1%	0.6%	4.4%	1.4%
MSCI EAFE (Net) (USD)	Int'l Developed	7.2%	11.7%	0.5%	5.8%	1.1%
MSCI EAFE (Local)	Int'l Developed (Local Currency)	4.7%	18.0%	7.3%	10.7%	2.3%
S&P EPAC Small Cap	Small Cap Int'l	8.1%	10.5%	3.8%	9.4%	3.3%
MSCI EM	Emerging Equity	11.4%	17.2%	1.2%	0.8%	2.7%
Domestic Fixed Income Benchmarks						
Barclays Aggregate	Core Bonds	0.8%	0.4%	2.7%	2.3%	4.3%
Barclays US High Yield	High Yield	2.7%	16.4%	4.6%	6.8%	7.5%
BofA ML US HY BB/B	High Yield	2.3%	13.8%	4.6%	6.6%	6.9%
CSFB Levered Loans	Bank Loans	1.2%	9.7%	3.7%	4.9%	4.3%
BofA ML US 3-Month T-Bill	Cash	0.1%	0.4%	0.2%	0.1%	0.7%
Barclays US TIPS 1-10 Yr	Inflation	1.1%	1.5%	1.5%	0.6%	3.6%
Global Fixed Income Benchmarks						
Citigroup WGBI	World Gov. Bonds	1.6%	-3.7%	-1.2%	-0.6%	3.0%
Barclays Global Aggregate	Global Core Bonds	1.8%	-1.9%	-0.4%	0.4%	3.3%
BC Global Credit	Global Bonds	1.6%	0.7%	0.7%	2.2%	3.9%
JPM GBI-EM Glob. Diversified	Em. Mkt. Bonds (Local Currency)	6.5%	5.5%	-2.7%	-1.6%	4.1%
JPM EMBI+	Em. Mkt. Bonds	3.8%	7.4%	5.9%	5.0%	6.7%
Alternative Benchmarks						
Bloomberg Commodity Index	Commodities	-2.3%	8.7%	-13.9%	-9.5%	-6.2%
Credit Suisse Hedge Fund Index	Hedge Fund	2.1%	5.7%	2.0%	4.0%	3.6%
HFRI FoF Conservative	Fund of Hedge Funds	1.2%	5.3%	1.8%	3.2%	1.1%
Cambridge PE Lagged*	Private Equity	4.7%	13.3%	9.9%	13.0%	10.0%
NCREIF ODCE Net Lagged*	Real Estate	1.9%	7.8%	11.0%	11.2%	4.8%
Wilshire REIT Index	REIT	0.0%	2.0%	10.2%	9.8%	4.4%
CPI + 2%	Inflation/Real Assets	0.9%	4.4%	3.1%	3.3%	3.8%



* As of 12/31/2016

Global Equity

- **U.S. equities as measured by the S&P 500 posted strong gains in the first quarter (+6.1%). Volatility related to geopolitics and economic uncertainty continued in the quarter.**
- **Small cap stocks reversed course and underperformed large cap stocks during the quarter, with the Russell 2000 Index returning 2.5% and the Russell 1000 Index returning 6.0%.**
- **International equities outperformed U.S. markets during the quarter, returning 7.9%, as measured by the MSCI ACWI ex-U.S. Index. Emerging markets returned 11.4% as measured by the MSCI Emerging Markets Index in U.S. dollar terms.**
 - Developed international markets returned 7.2% in USD terms, while in local currency terms returned 4.7% as measured by the MSCI EAFE Index.

Private Equity

- **Record capital commitments were recorded in Q1 2017.**
- **Private equity fundraising totaled \$89 billion in Q1 2017.**
 - North America focused private equity funds raised a record \$62 billion.
 - Asia focused private equity funds raised \$13 billion.
 - Europe focused private equity fundraising momentum slowed raising \$12 billion.
- **Private equity dry powder continued its increase to \$842 billion ended Q1 up from \$821 billion in Q4.**

Fixed Income

- **The nominal yield curve flattened in Q1. Intermediate –to- long term yields stayed flat while short term yields increased 18 –to- 30 basis points.**
- **The spread between two and 10-year rates decreased to 113 basis points from 125 basis points in Q4. Treasury Inflation-Protected Securities, or TIPS, returned 1.1% during the quarter, as measured by the BBg Barclays US TIPS 1-10 Yr Index.**
- **The BBg Barclays Long Duration Credit Index gained 1.36%.**
- **Long Treasuries gained 1.41% and investment-grade US corporate debt gained 0.8%.**
- **The BBg Barclays 1-3 year Government/ Credit Index returned 0.41%. US high yield bonds gained 2.3% driven by tighter spreads.**
- **Emerging markets debt had moderate –to- strong gains.**
 - US dollar-denominated debt, as measured by the JP Morgan EMBI Index, gained 3.8%; local currency debt gained 6.5%, 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.**

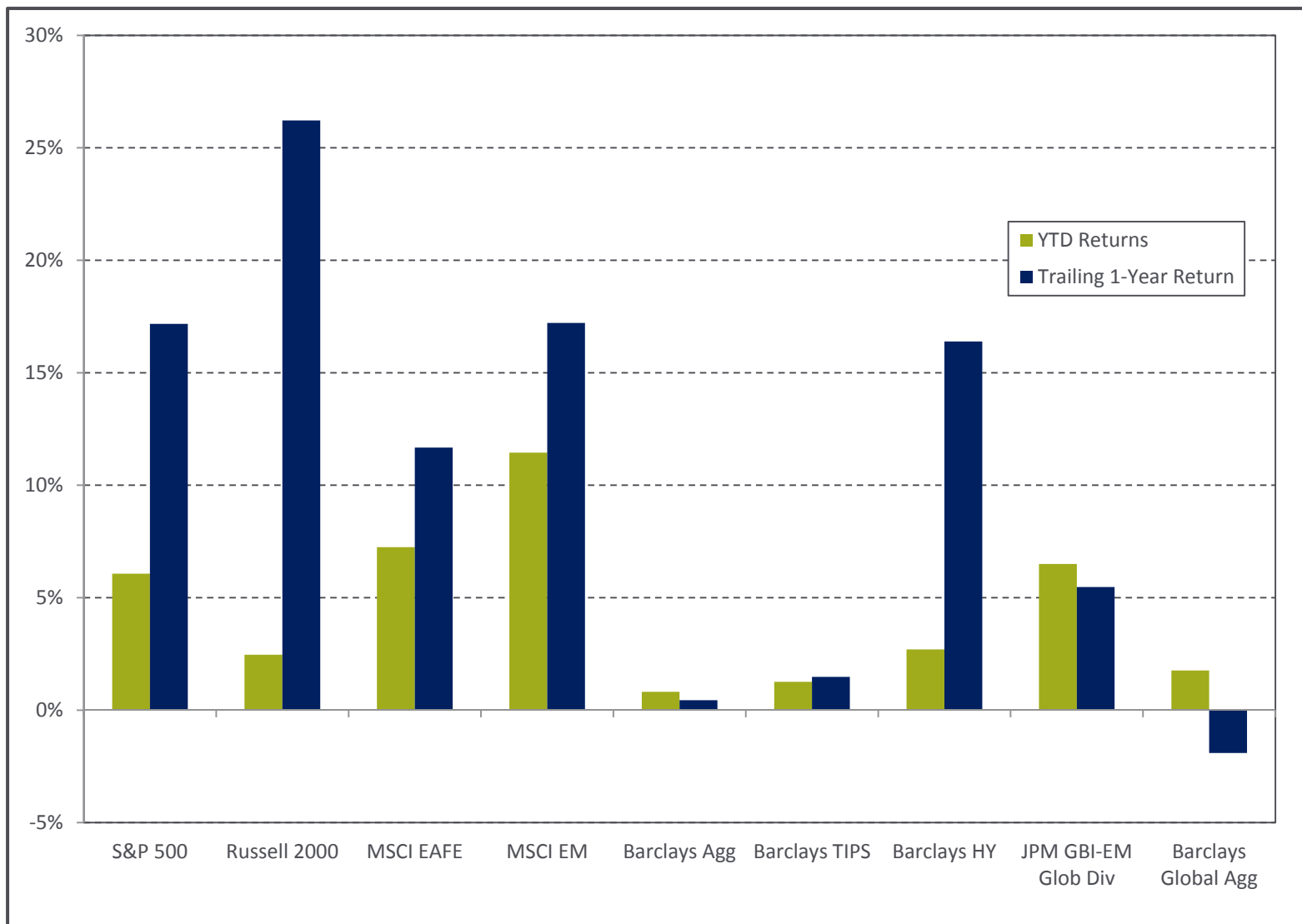
Commodities

- **Commodities ended the quarter down 2.3% as measured by the Bloomberg Commodity Index.**
 - Commodity price momentum shifted from Energy to Metals led by aluminum (+16%) and gold (+8.4%).

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.

Year to Date Performance: All Assets Have Moved Higher



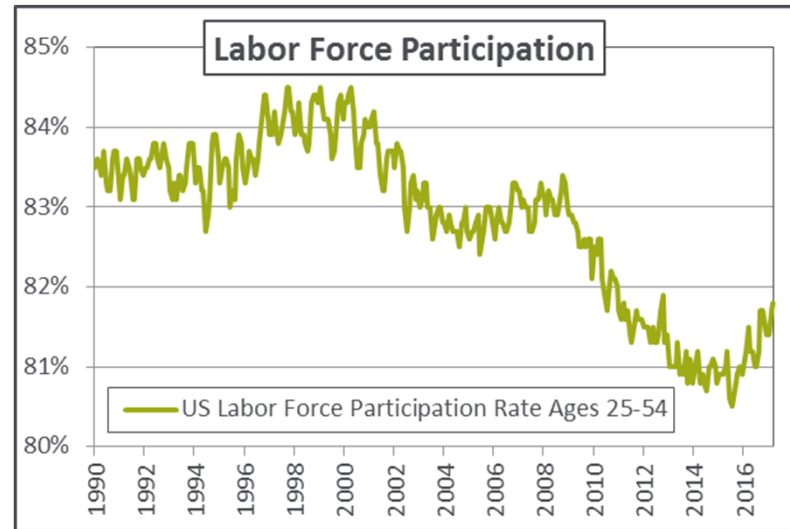
Source: S&P, Russell, MSCI, Barclays, JPM, Bloomberg
As of 03/31/2017

Extended US Economic Cycle

US recession concerns are muted

The US economy is likely to experience slow and steady growth as excess capacity is gradually absorbed by the economy

The labor market recovery has been robust but excess capacity remains as many have yet to return to the workforce

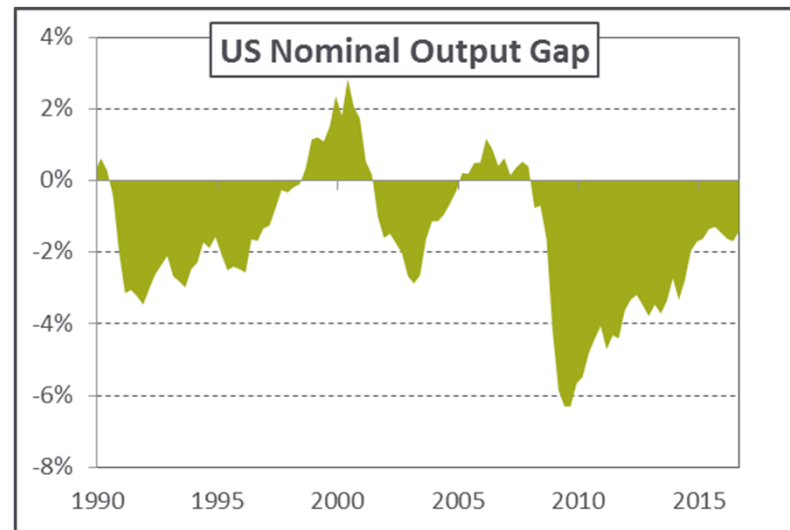


Source: FRED

Outlook for fiscal stimulus is cloudy and any potential growth benefit unlikely to be seen in 2017 or 2018

Tax cuts and infrastructure spending modestly improve the US growth profile but face a prolong path through Congress

US dollar strength and corporate profitability trends are the primary sources of concern for potential weakness



Source: Congressional Budget Office, Bloomberg

Federal Reserve Gradualism

The Federal Reserve is expected to slowly increase interest rates

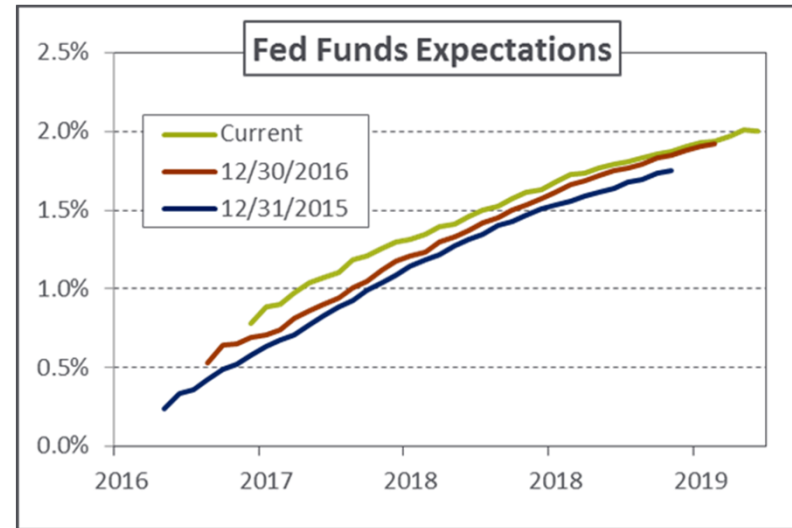
Expected path of Fed policy through 2019 matters more than timing of the next hike

A relatively accommodative Fed is likely to continue, unless there is a dramatic acceleration in inflation

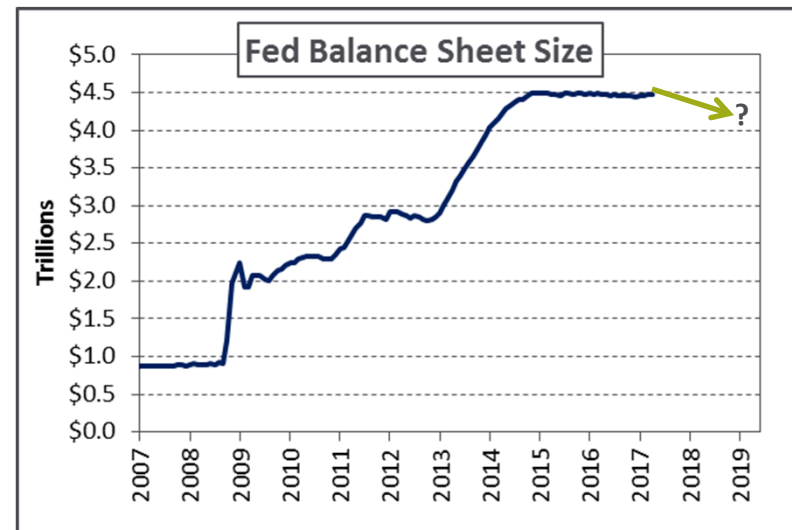
2017 is likely to be a year of greater uncertainty for Fed policy

Fed's plan to reduce the size of its balance sheet will be closely watched as they look to avoid market taper fears

Politics will intersect with Fed policy as speculation builds whether Janet Yellen will continue as Chair past her term expiring in February 2018



Source: Bloomberg



Source: Fed, Bloomberg

China Transitions

China is the global growth engine but faces fundamental transitions

As the rural population moves to urban centers, fixed investment is required to sustain the production based economy

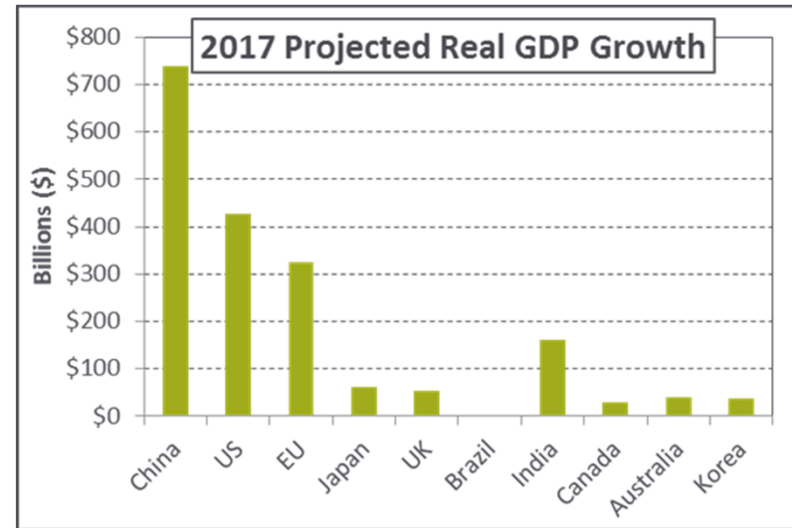
China’s economic transition is pivoting away from manufacturing to a service and consumption based economy

Any disruption to these transitions will have global repercussions due to China’s size and role in the global economy

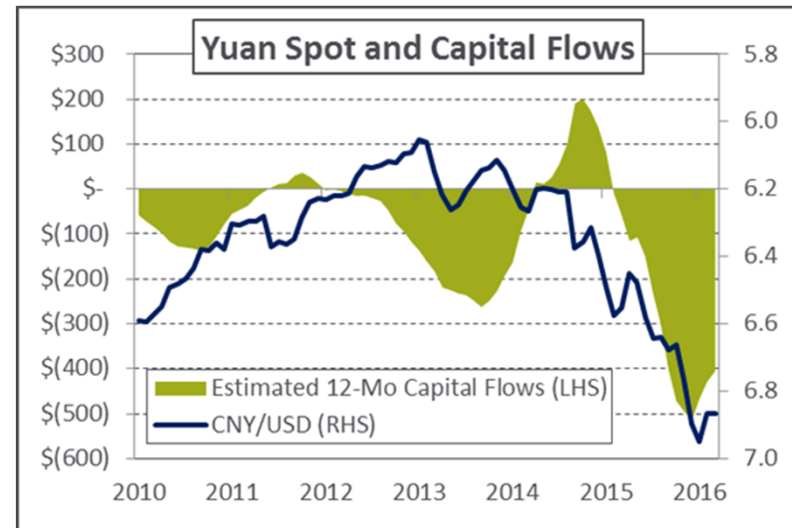
The PBOC is balancing the risks of a more open market with currency declines and capital outflows

Concerns of capital outflows have forced greater intervention from the central bank to limit currency declines

Desire for a weaker currency to support the production based economy is offset by fears of capital fleeing the country and destabilizing credit markets



Source: IMF, Bloomberg



Source: SAFE, Bloomberg

Globalization Backlash

Uneven economic growth and wage gains have fueled political discontent in the developed world

Political uncertainty intensifies currency volatility but currency depreciation can stimulate local equity markets (e.g. UK)

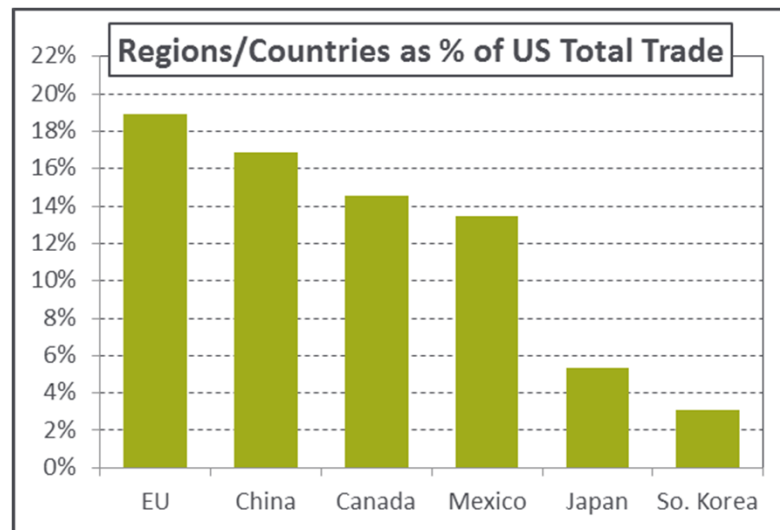
However, a shift away from political orthodoxy heightens lower probability political tail-risks such as a US-China trade war or a dissolution of the euro

Have we reached "Peak Trade"?

A secular transition is underway and a shift from free trade policies in the West may reduce long-term economic growth

A strong US pivot away from global trade is a tail-risk for the global economy and would likely impact capital markets negatively in the emerging world

Election	Main Candidates	Dates
France Presidential Election	Marine Le Pen <i>National Front</i> Emmanuel Macron <i>En Marche!</i>	May 7 th
UK General Election	Theresa May <i>Conservative Party</i> Jeremy Corbyn <i>Labour Party</i>	June 8 th
Italy General Election	Matteo Orfini <i>Democratic Party</i> Beppe Grillo <i>5-Star Movement</i>	Potential 2017 snap election



Source: IMF, Bloomberg

Highlights of First Quarter Happenings at NEPC

March 31, 2017

NEPC Insights

- Will a Higher Fed Funds Rate Raise Long-Term Rates? (January 2017)
- 2016 4th Quarter Market Thoughts (January 2017)
- 2016 Q4 Endowment & Foundation Survey Results and Infographic (February 2017)
- The Times Are a Changin': NEPC's 2017 Annual Asset Allocation Letter (February 2017)
- NEPC's 2017 Healthcare Operating Fund Universe & Infographic (March 2017)
- The Fed's Masterful Move (March 2017)
- Fossil Fuel Divestment: Considerations for Institutional Portfolios (March 2017)
- Globalization Backlash – Europe's Political Roadmap (March 2017)
- Are Loose Personal Trading Policies at Hedge Funds A Red Flag? (March 2017)



MARK YOUR CALENDAR!



Upcoming Events

NEPC's 22nd Annual Investment Conference will be held on May 9-10, 2017 at the InterContinental Hotel in Boston, MA.

This year's conference will focus on opportunities and threats in these uncertain political and economic times. In addition to the messages delivered by our exceptional keynote speakers, attendees will learn about asset allocation and investment ideas across the market spectrum. **Register today!**

<http://info.nepc.com/nepc-22nd-annual-investment-conference>

Webinar Replays

- NEPC 2017 Market Outlook (January 2017)

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

Recent Updates

- Expanded Private Wealth business with two new NEPC Partners and three senior hires
- Opened new Private Wealth office in Portland, OR
- Launched updated NEPC website
- Collaborated with RiskFirst's Pension Risk Analytics platform, Pfaroe, to improve effectiveness of asset-liability strategies and ongoing monitoring
- **Named a "Greenwich Quality Leader" by Greenwich Associates. See Greenwich.com for more information.**



NEPC Gives Back

Basketball teams made up of Boston's working professionals, Year Up students and alumni including two NEPC teams, participated in the Annual Year Up Basketball Tournament fundraising event. Year Up, is a nonprofit connecting low-income young adults with companies looking for talent. The program is a one-year, intensive training program providing hands-on skills development, coursework eligible for college credit, corporate internships, and wraparound support.

Total Fund Performance Summary

Ventura County Employees' Retirement Association

Total Fund Performance Summary (Net)

	Market Value	3 Mo	Rank	Fiscal YTD	Rank	1 Yr	Rank	3 Yrs	Rank	5 Yrs	Rank	10 Yrs	Rank	Return	Since
Total Fund	\$4,829,813,958	4.5%	30	9.6%	46	12.1%	23	5.4%	41	8.2%	18	5.3%	31	8.0%	Apr-94
Policy Index		4.6%	28	9.8%	39	11.8%	40	6.2%	8	8.4%	14	5.6%	16	8.0%	Apr-94
Allocation Index		4.8%	22	10.4%	19	12.7%	11	5.8%	26	7.8%	37	5.2%	34	--	Apr-94
60% MSCI ACWI (Net)/40% CITI WGBI		4.7%	23	5.2%	98	7.3%	98	2.7%	97	4.9%	95	4.0%	90	--	Apr-94
InvestorForce Public DB > \$1B Net Median		4.2%		9.5%		11.6%		4.9%		7.3%		4.9%		7.5%	Apr-94

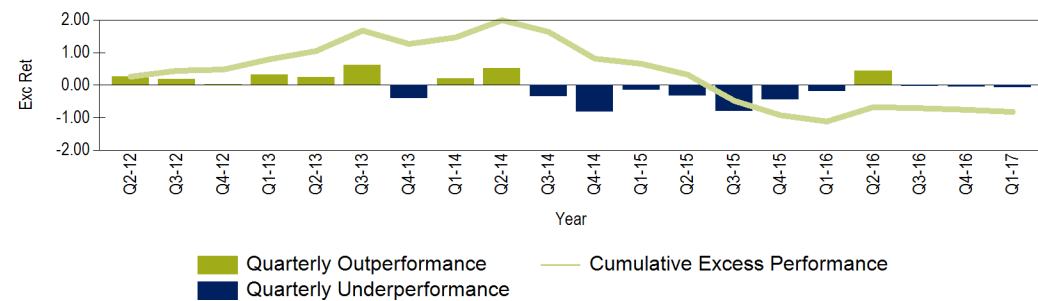
- For the five year period ending March 31, 2017, the Fund returned 8.2% trailing the policy index by 0.2% and ranking in the 18th percentile of its peers and outperforming the actuarial assumed rate of 7.5%. The Fund's volatility, as measured by standard deviation, ranked in the 79th percentile of its peers, and the risk-adjusted return, or Sharpe Ratio, ranks in the 36th percentile. This means that the Fund has earned more return per unit of volatility taken than 64% of its peers.

- For the three-year period, the Fund returned 5.4%, trailing the policy index by 0.8% and ranking in the 41st percentile of its peers. The Fund's volatility ranks in the 77th percentile of its peers over this period, with the Fund's Sharpe Ratio ranking in the 42nd percentile.

- For the one-year period, the Fund returned 12.1%, outperforming the policy index by 0.3% and ranking in the 23rd 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 \$536 million which includes a net investment gain of \$213 million in the quarter. Assets increased from \$4.31 billion one year ago to \$4.83 billion.

Quarterly and Cumulative Excess Performance



3 Years Ending March 31, 2017

	Anlzd Ret	Rank	Anlzd Std Dev	Rank	Sharpe Ratio	Rank	Sortino Ratio RF	Rank
Total Fund	5.4%	41	6.6%	77	0.8	42	1.3	32
Policy Index	6.2%	8	6.4%	69	0.9	23	1.5	21
InvestorForce Public DB > \$1B Net Median	4.9%	--	6.0%	--	0.8	--	1.2	--

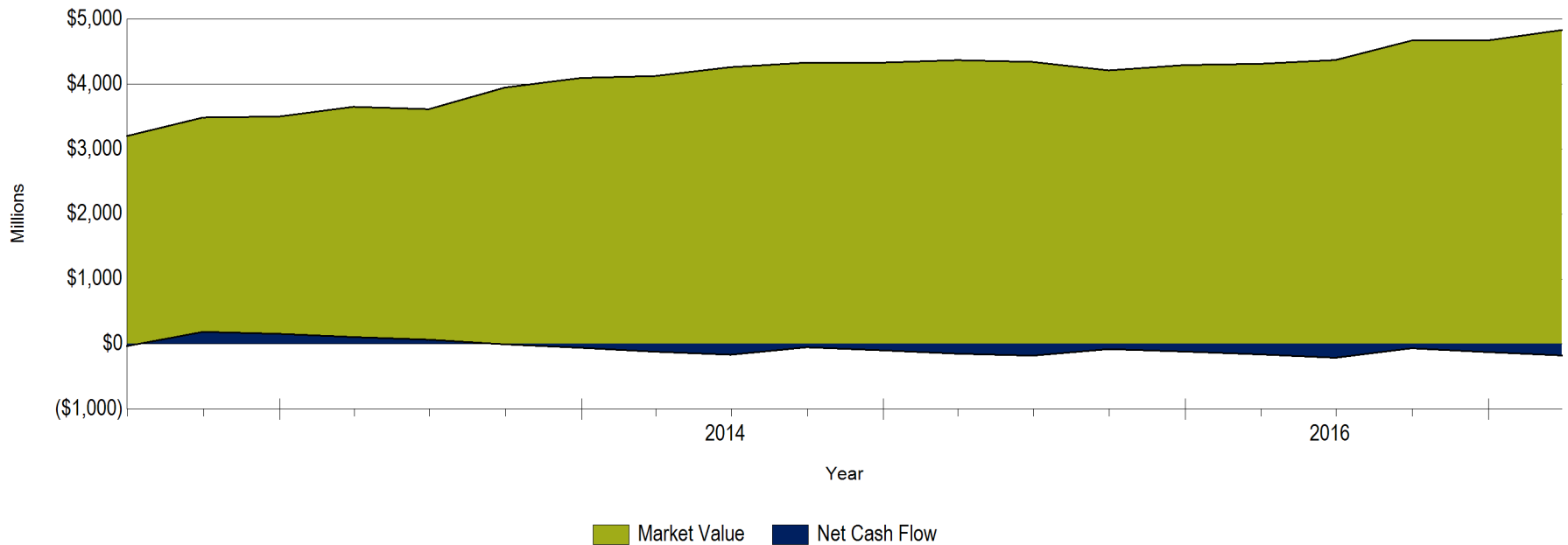
5 Years Ending March 31, 2017

	Anlzd Ret	Rank	Anlzd Std Dev	Rank	Sharpe Ratio	Rank	Sortino Ratio RF	Rank
Total Fund	8.2%	18	6.8%	79	1.2	36	1.8	32
Policy Index	8.4%	14	6.7%	72	1.2	31	1.8	32
InvestorForce Public DB > \$1B Net Median	7.3%	--	6.1%	--	1.1	--	1.6	--

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

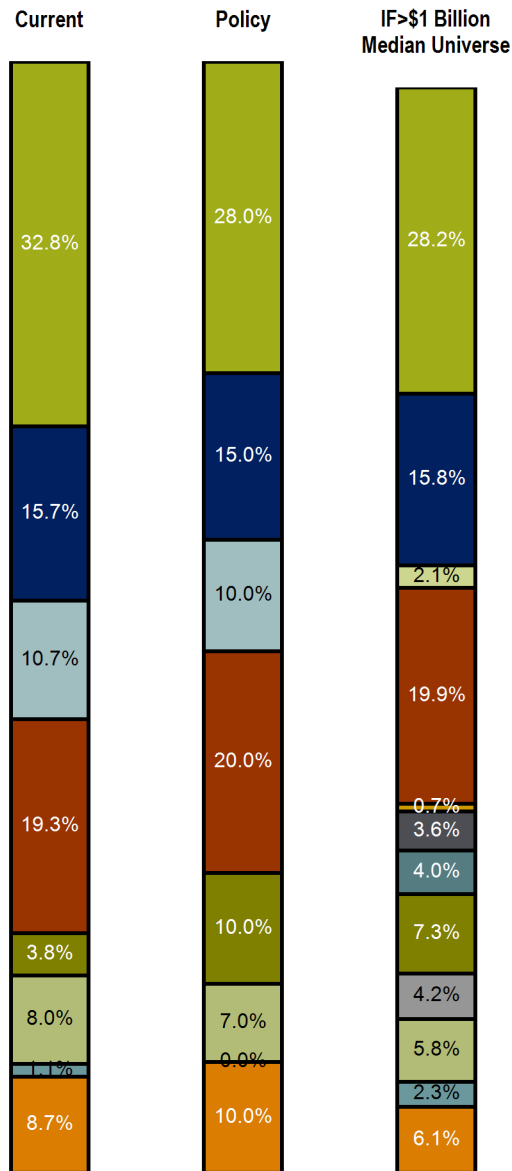
Market Value History
5 Years Ending March 31, 2017



Summary of Cash Flows

	Last Three Months	Fiscal Year-To-Date	One Year	Three Years	Five Years
Beginning Market Value	\$4,668,717,739	\$4,367,190,644	\$4,309,978,136	\$4,122,353,883	\$3,294,661,872
Net Cash Flow	-\$52,070,241	\$34,778,920	-\$16,267,819	-\$58,166,942	-\$176,275,327
Net Investment Change	\$213,166,461	\$427,844,394	\$536,103,641	\$765,627,017	\$1,711,427,414
Ending Market Value	\$4,829,813,958	\$4,829,813,958	\$4,829,813,958	\$4,829,813,958	\$4,829,813,958

Total Fund Asset Allocation vs. Policy Targets



Asset Allocation vs. Target

	Current	Current	Policy	Difference*	Policy Range	Within Range
U.S. Equity	\$1,583,544,406	32.8%	28.0%	4.8%	24.0% - 32.0%	No
Non-US Equity	\$758,594,811	15.7%	15.0%	0.7%	12.0% - 18.0%	Yes
Emerging Markets Equity	--	--	--	0.0%		--
Global Equity	\$515,088,297	10.7%	10.0%	0.7%	7.0% - 13.0%	Yes
U.S. Fixed Income	\$929,860,024	19.3%	20.0%	-0.7%	16.0% - 24.0%	Yes
Fixed Income - Emerging	--	--	--	0.0%		--
Fixed Income - Global	--	--	--	0.0%		--
Global Asset Allocation	--	--	--	0.0%		--
Private Equity	\$182,937,119	3.8%	10.0%	-6.2%	0.0% - 12.0%	Yes
Hedge Funds	--	--	--	0.0%		--
Real Estate	\$386,654,349	8.0%	7.0%	1.0%	4.0% - 10.0%	Yes
Cash	\$54,501,046	1.1%	0.0%	1.1%	0.0% - 3.0%	Yes
Liquid Alternatives	\$418,633,906	8.7%	10.0%	-1.3%	5.0% - 15.0%	Yes
Total	\$4,829,813,958	100.0%	100.0%			

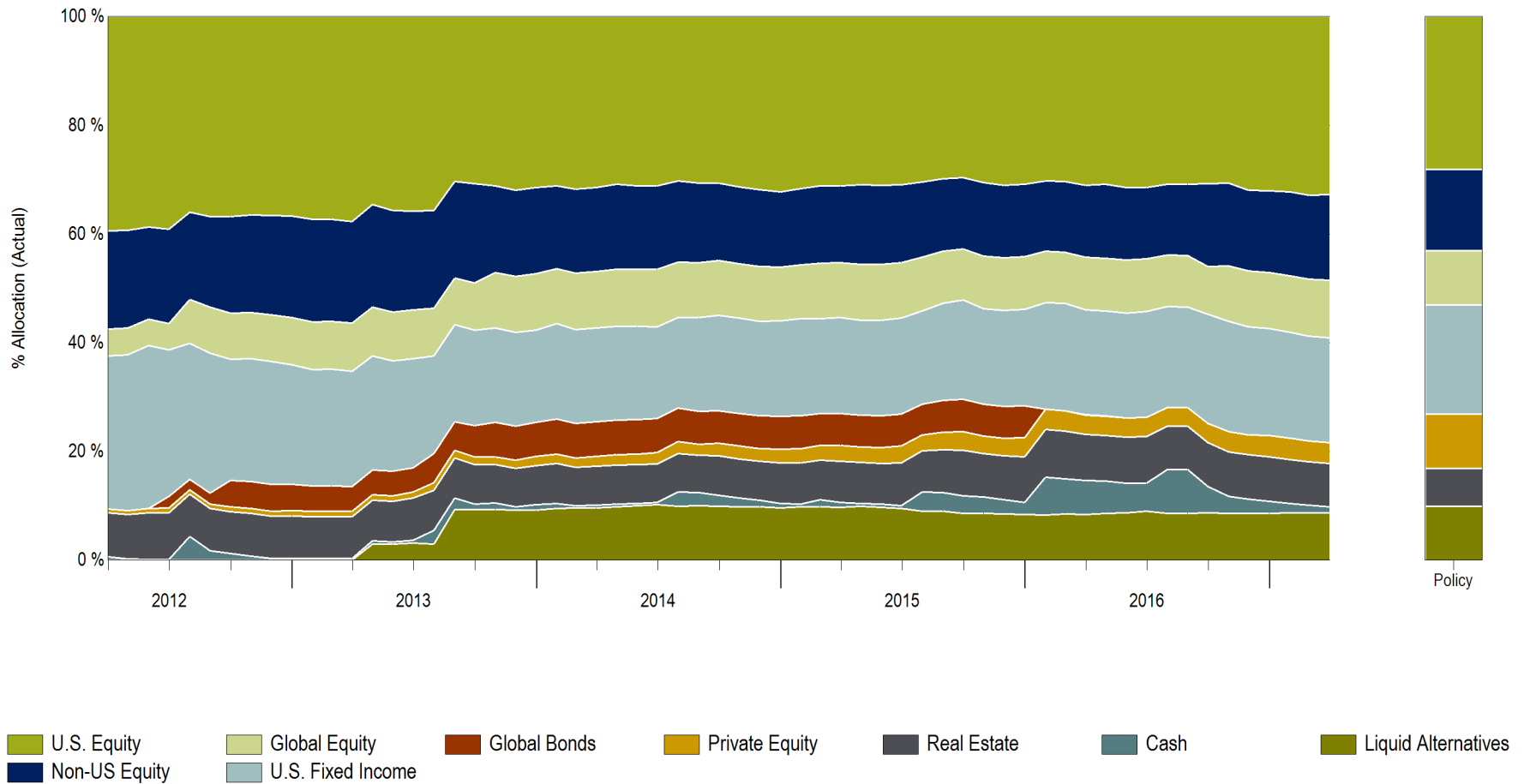
*Difference between Policy and Current Allocation

Cash represents asset in Parametric Overlay.

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Total Fund Allocation History

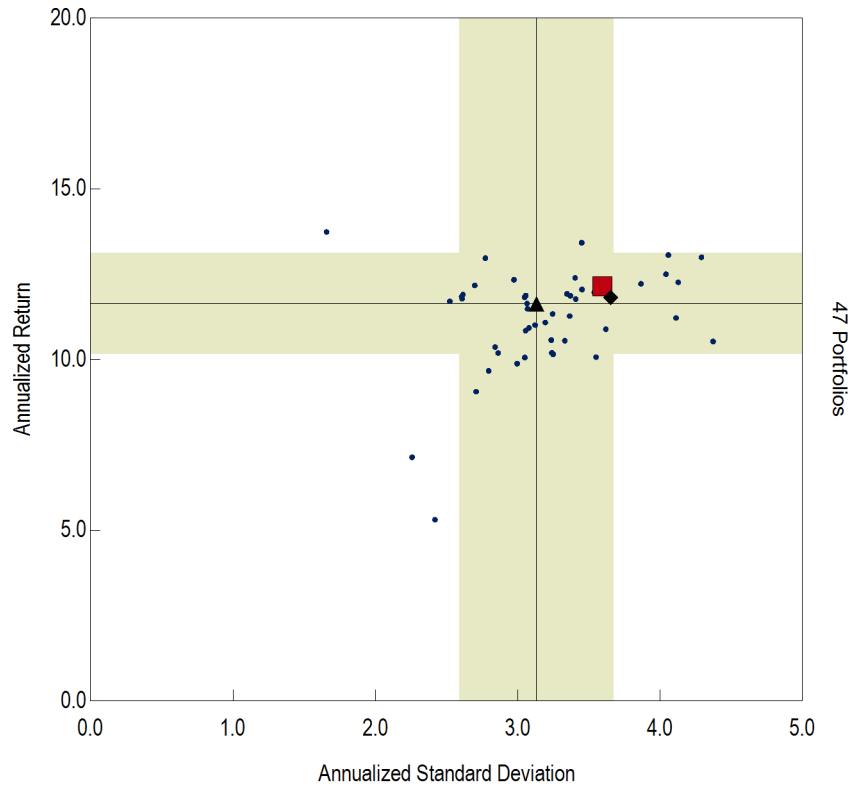
Asset Allocation History
5 Years Ending March 31, 2017



Policy Index shown is most recently approved index

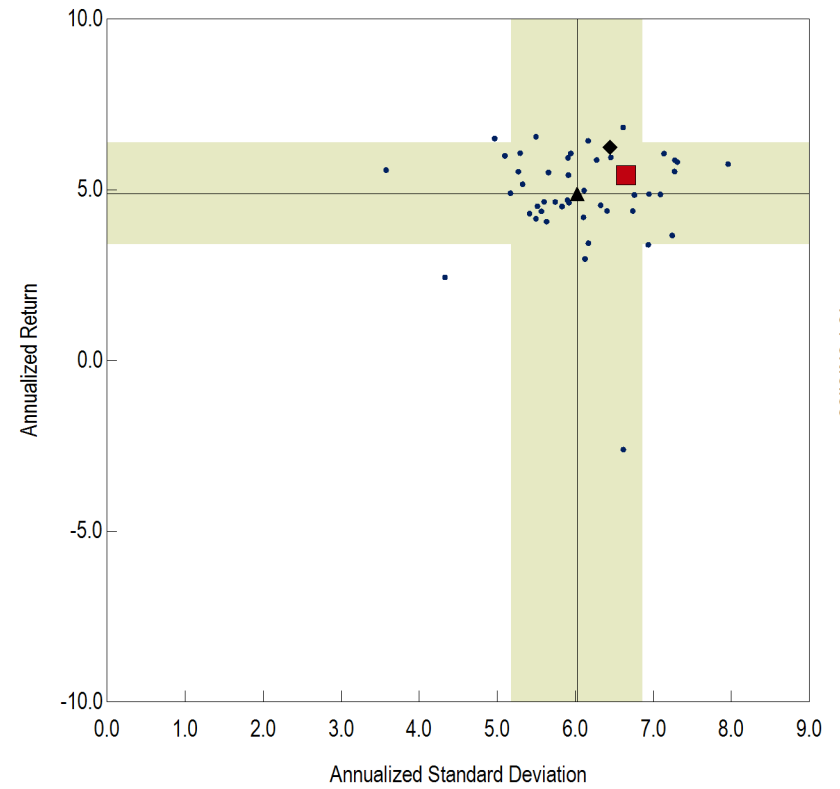
Total Fund Risk/Return

1 Years Ending March 31, 2017



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

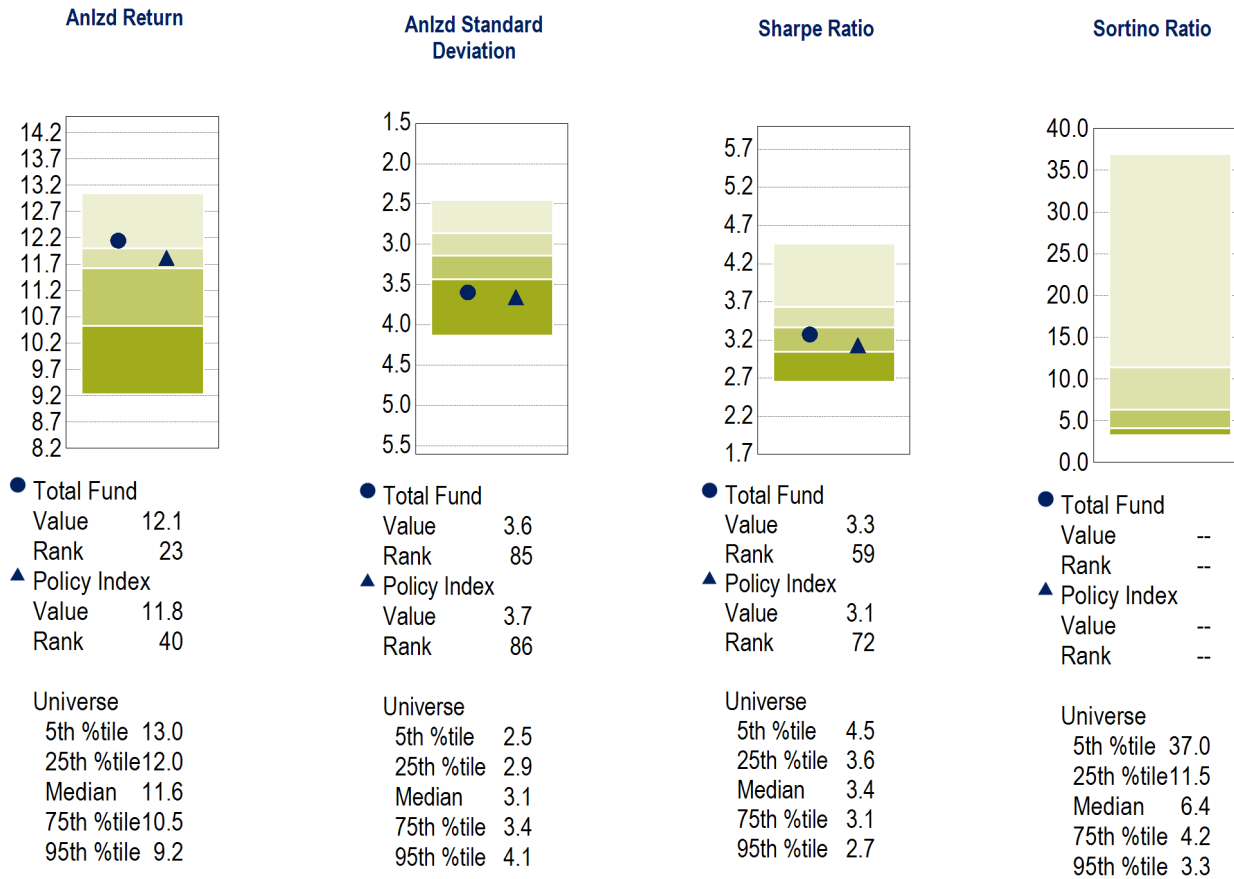
3 Years Ending March 31, 2017



- Total Fund
- ◆ Policy Index
- ▲ Universe Median
- 68% Confidence Interval
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Total Fund Risk Statistics vs. Peer Universe

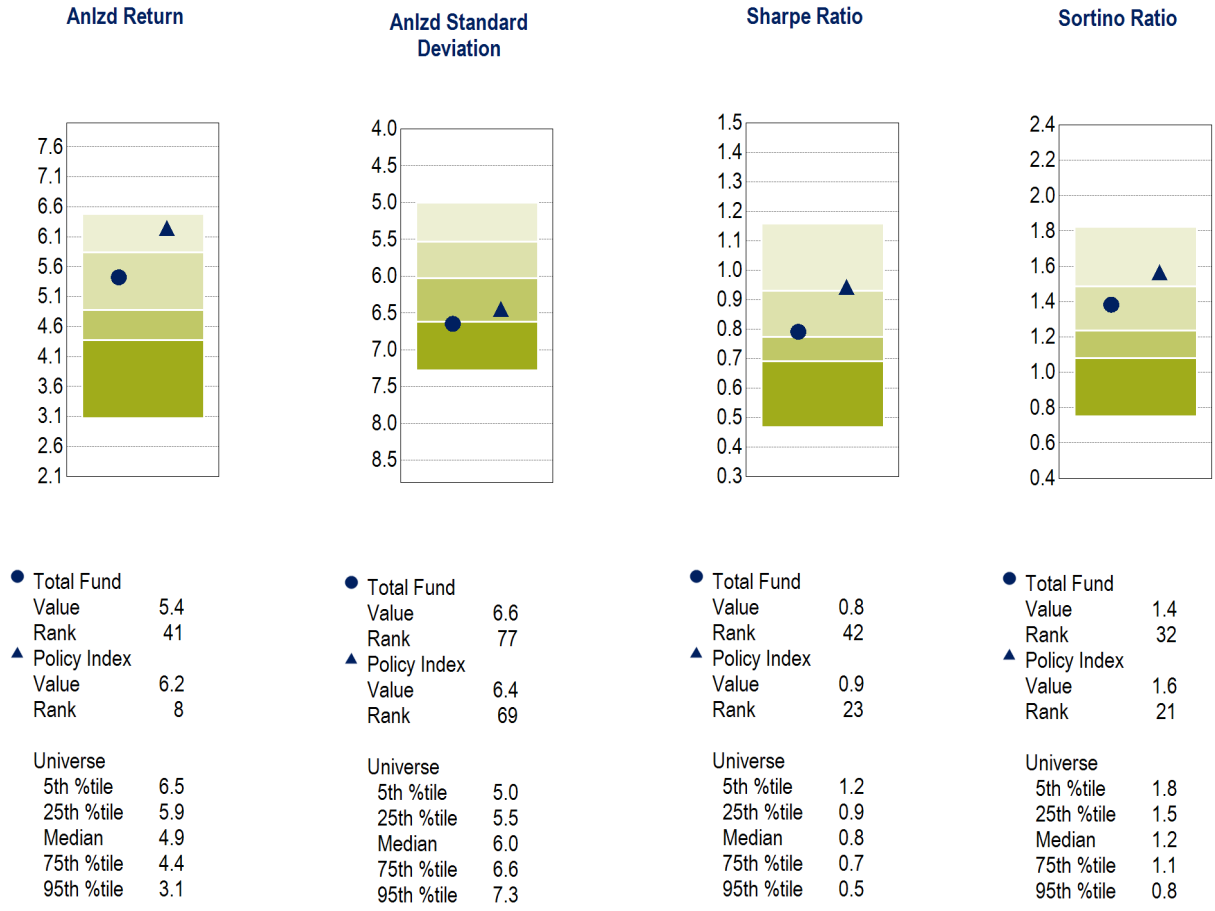
Total Fund vs. InvestorForce Public DB > \$1B Net
1 Year



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

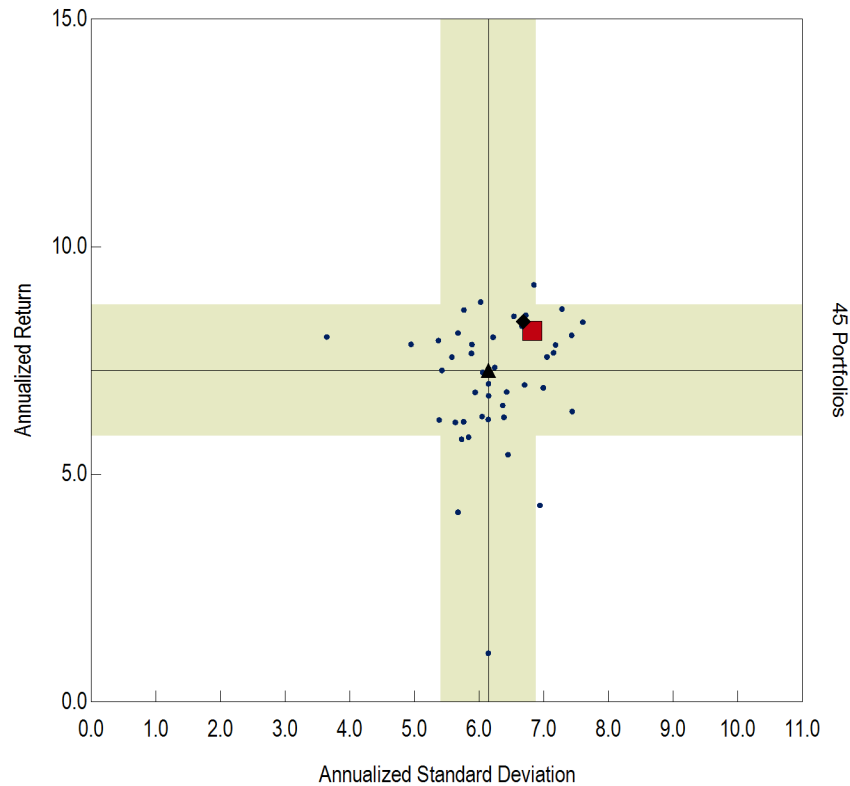
Total Fund Risk Statistics vs. Peer Universe

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



Total Fund Risk/Return

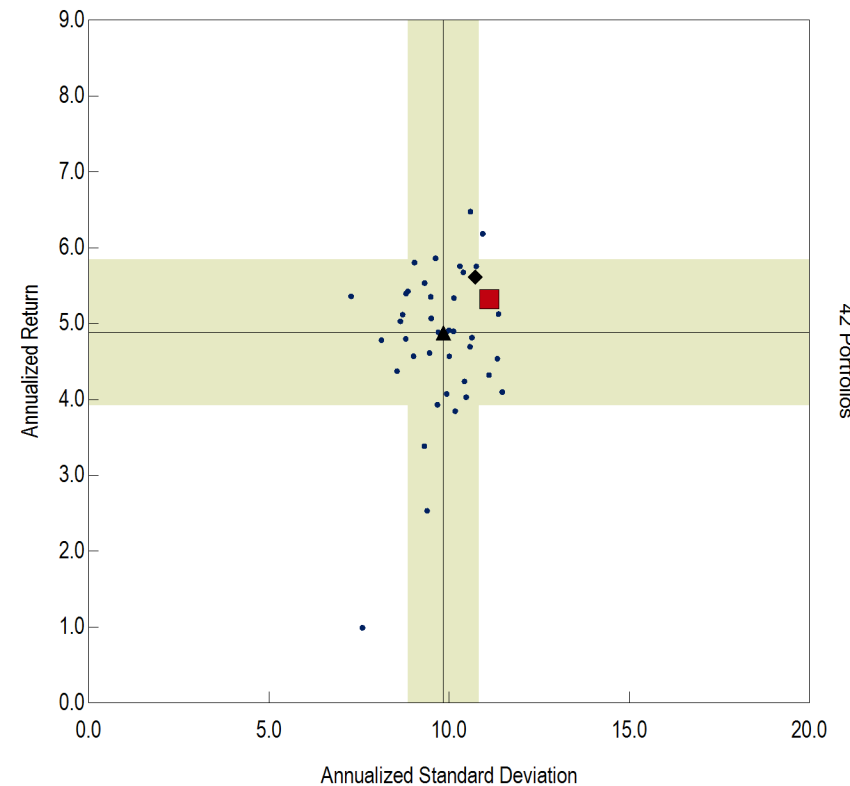
5 Years Ending March 31, 2017



45 Portfolios

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

10 Years Ending March 31, 2017



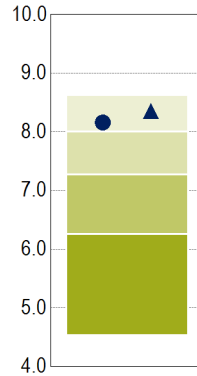
42 Portfolios

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

Total Fund Risk Statistics vs. Peer Universe

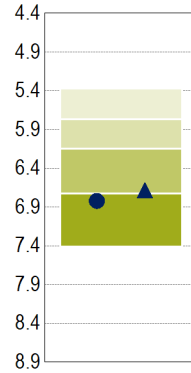
Total Fund vs. InvestorForce Public DB > \$1B Net
5 Years

Anlzd Return



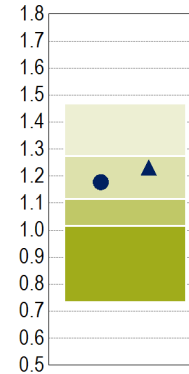
● Total Fund	
Value	8.2
Rank	18
▲ Policy Index	
Value	8.4
Rank	14
Universe	
5th %tile	8.6
25th %tile	8.0
Median	7.3
75th %tile	6.3
95th %tile	4.5

Anlzd Standard Deviation



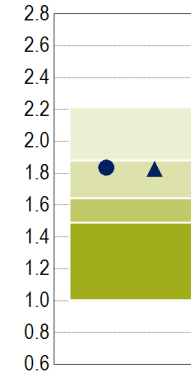
● Total Fund	
Value	6.8
Rank	79
▲ Policy Index	
Value	6.7
Rank	72
Universe	
5th %tile	5.4
25th %tile	5.8
Median	6.1
75th %tile	6.7
95th %tile	7.4

Sharpe Ratio



● Total Fund	
Value	1.2
Rank	36
▲ Policy Index	
Value	1.2
Rank	31
Universe	
5th %tile	1.5
25th %tile	1.3
Median	1.1
75th %tile	1.0
95th %tile	0.7

Sortino Ratio

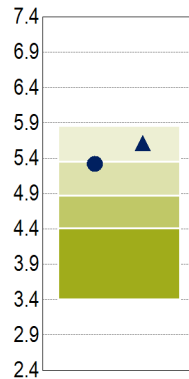


● Total Fund	
Value	1.8
Rank	32
▲ Policy Index	
Value	1.8
Rank	33
Universe	
5th %tile	2.2
25th %tile	1.9
Median	1.6
75th %tile	1.5
95th %tile	1.0

Total Fund Risk Statistics vs. Peer Universe

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

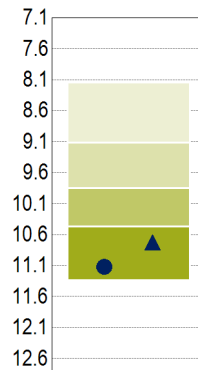
Anlzd Return



● Total Fund	
Value	5.3
Rank	31
▲ Policy Index	
Value	5.6
Rank	16

Universe	
5th %tile	5.9
25th %tile	5.4
Median	4.9
75th %tile	4.4
95th %tile	3.4

Anlzd Standard Deviation



● Total Fund	
Value	11.1
Rank	93
▲ Policy Index	
Value	10.7
Rank	85

Universe	
5th %tile	8.1
25th %tile	9.1
Median	9.8
75th %tile	10.5
95th %tile	11.3

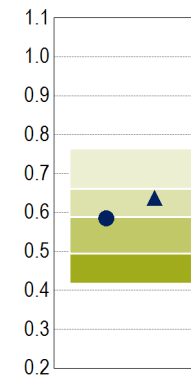
Sharpe Ratio



● Total Fund	
Value	0.4
Rank	64
▲ Policy Index	
Value	0.5
Rank	42

Universe	
5th %tile	0.6
25th %tile	0.5
Median	0.4
75th %tile	0.4
95th %tile	0.3

Sortino Ratio

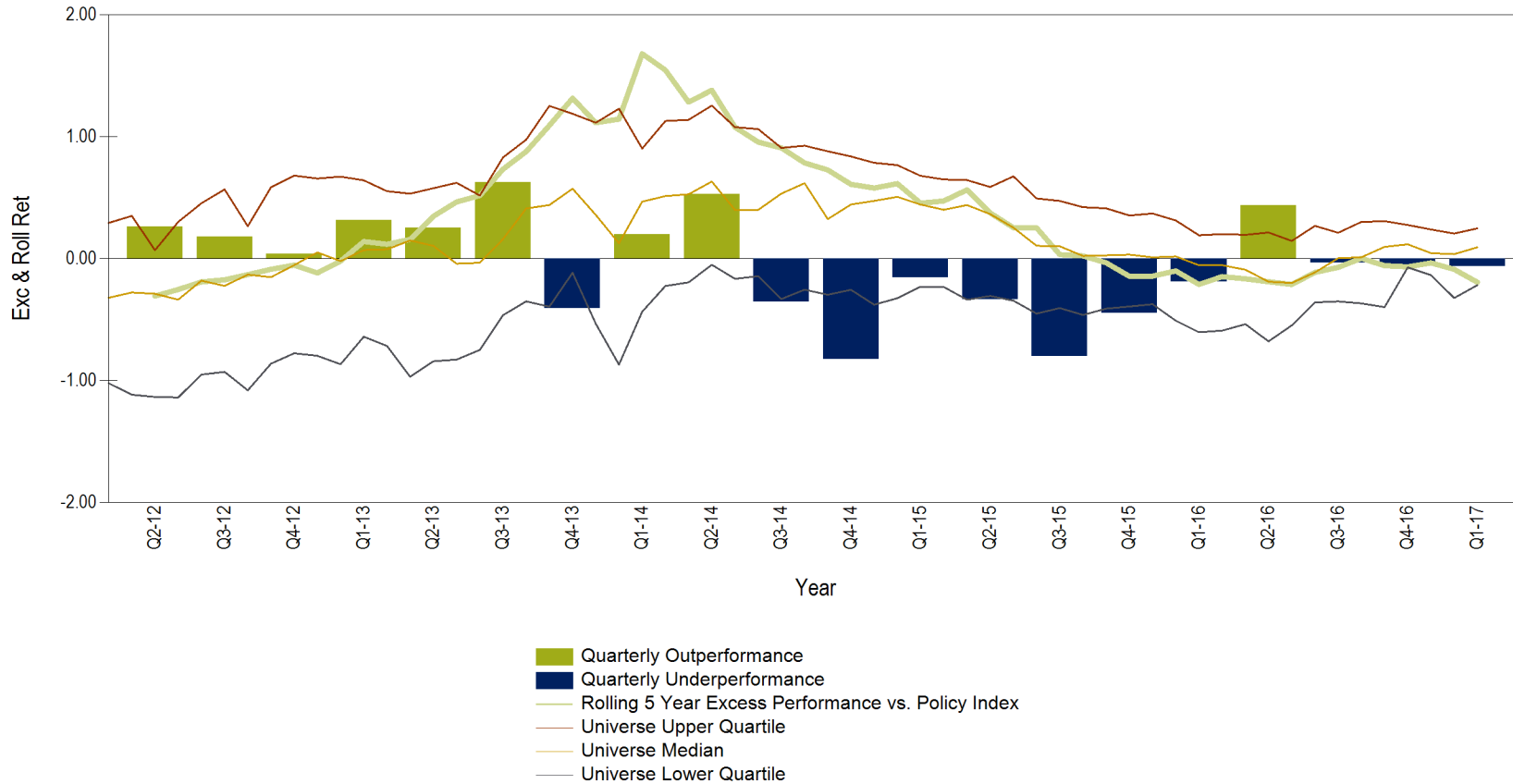


● Total Fund	
Value	0.6
Rank	54
▲ Policy Index	
Value	0.6
Rank	35

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

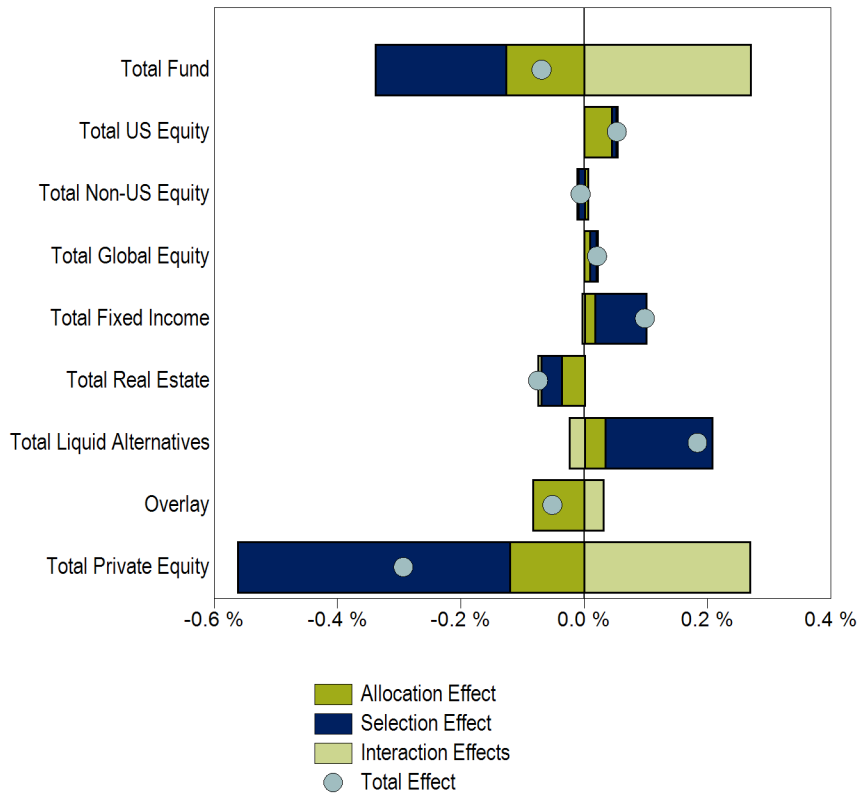
Rolling 5 Year Excess Returns- Net of Fees

Rolling Annualized Excess Performance



Total Fund Attribution Analysis

Attribution Effects
3 Months Ending March 31, 2017

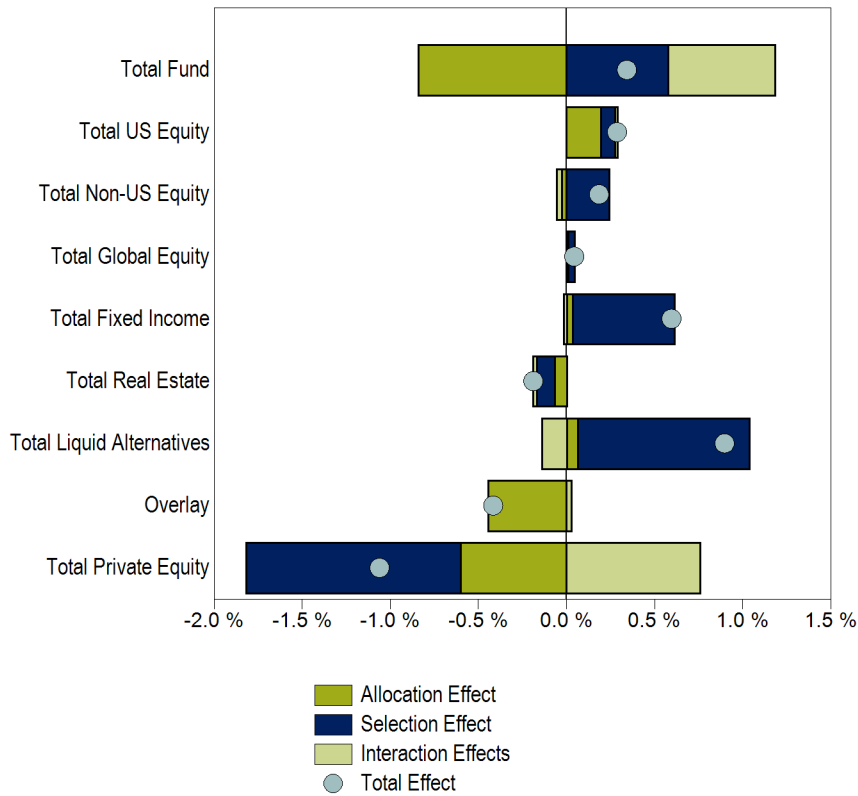


Attribution Summary
3 Months Ending March 31, 2017

	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction Effects	Total Effects
Total US Equity	5.8%	5.7%	0.0%	0.0%	0.0%	0.0%	0.1%
Total Non-US Equity	7.8%	7.9%	-0.1%	0.0%	0.0%	0.0%	0.0%
Total Global Equity	7.0%	6.9%	0.1%	0.0%	0.0%	0.0%	0.0%
Total Fixed Income	1.2%	0.8%	0.4%	0.1%	0.0%	0.0%	0.1%
Total Real Estate	1.1%	1.5%	-0.5%	0.0%	0.0%	0.0%	-0.1%
Total Liquid Alternatives	3.7%	2.0%	1.7%	0.2%	0.0%	0.0%	0.2%
Overlay	1.8%	0.1%	1.6%	0.0%	-0.1%	0.0%	-0.1%
Total Private Equity	2.2%	6.6%	-4.4%	-0.4%	-0.1%	0.3%	-0.3%
Total	4.5%	4.6%	-0.1%	-0.2%	-0.1%	0.3%	-0.1%

Total Fund Attribution Analysis

**Attribution Effects
1 Year Ending March 31, 2017**

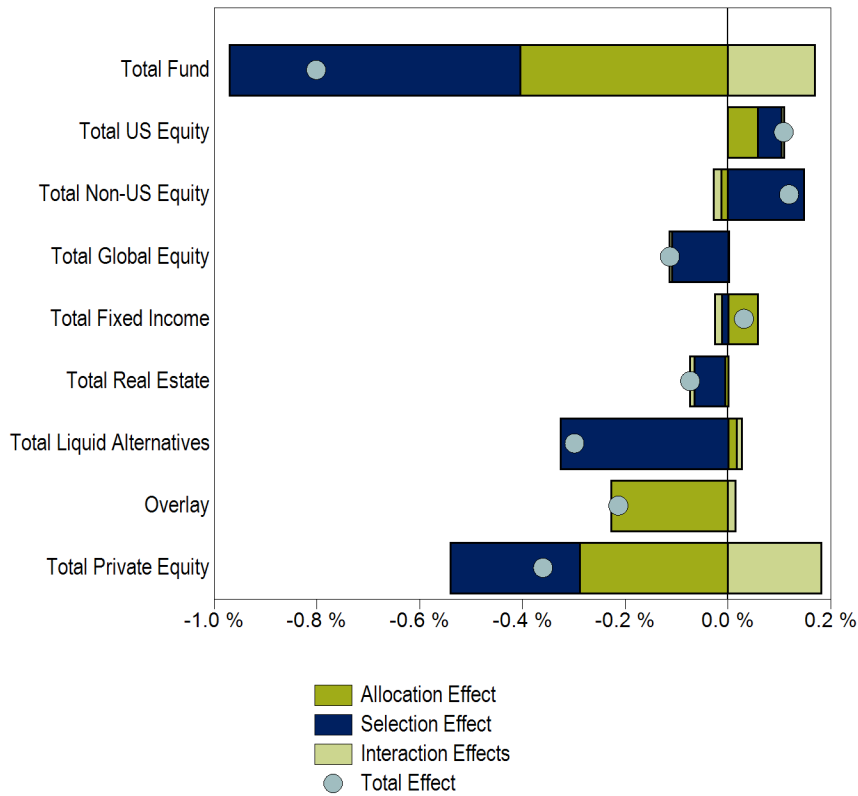


**Attribution Summary
1 Year Ending March 31, 2017**

	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction Effects	Total Effects
Total US Equity	18.4%	18.1%	0.3%	0.1%	0.2%	0.0%	0.3%
Total Non-US Equity	14.8%	13.1%	1.6%	0.2%	0.0%	0.0%	0.2%
Total Global Equity	15.4%	15.0%	0.3%	0.0%	0.0%	0.0%	0.0%
Total Fixed Income	3.1%	0.4%	2.6%	0.6%	0.0%	0.0%	0.6%
Total Real Estate	6.0%	7.4%	-1.4%	-0.1%	-0.1%	0.0%	-0.2%
Total Liquid Alternatives	15.9%	6.5%	9.4%	1.0%	0.1%	-0.1%	0.9%
Overlay	1.8%	0.4%	1.5%	0.0%	-0.4%	0.0%	-0.4%
Total Private Equity	9.2%	21.6%	-12.4%	-1.2%	-0.6%	0.8%	-1.1%
Total	12.2%	11.8%	0.3%	0.6%	-0.8%	0.6%	0.3%

Total Fund Attribution Analysis

**Attribution Effects
3 Years Ending March 31, 2017**

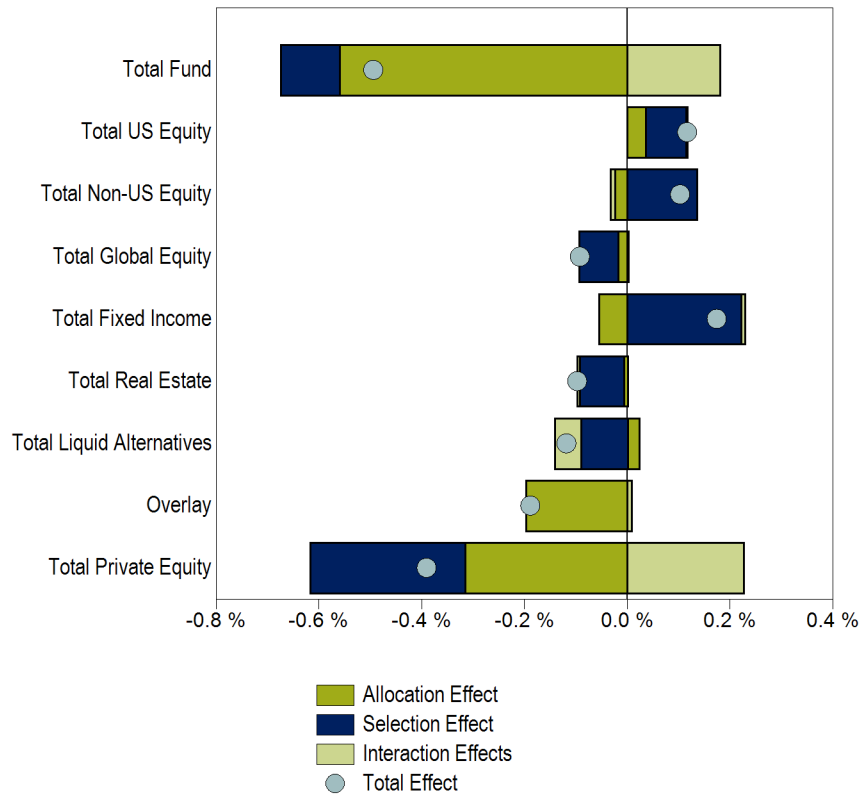


**Attribution Summary
3 Years Ending March 31, 2017**

	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction Effects	Total Effects
Total US Equity	9.8%	9.7%	0.2%	0.0%	0.1%	0.0%	0.1%
Total Non-US Equity	1.6%	0.6%	1.0%	0.1%	0.0%	0.0%	0.1%
Total Global Equity	4.0%	5.1%	-1.1%	-0.1%	0.0%	0.0%	-0.1%
Total Fixed Income	2.1%	2.0%	0.1%	0.0%	0.0%	0.0%	0.0%
Total Real Estate	9.9%	10.8%	-0.9%	-0.1%	0.0%	0.0%	-0.1%
Total Liquid Alternatives	1.5%	5.1%	-3.6%	-0.3%	0.0%	0.0%	-0.3%
Overlay	0.7%	0.2%	0.6%	0.0%	-0.2%	0.0%	-0.2%
Total Private Equity	12.7%	12.9%	-0.3%	-0.3%	-0.3%	0.2%	-0.4%
Total	5.4%	6.2%	-0.8%	-0.6%	-0.4%	0.2%	-0.8%

Total Fund Attribution Analysis

**Attribution Effects
5 Years Ending March 31, 2017**



**Attribution Summary
5 Years Ending March 31, 2017**

	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction Effects	Total Effects
Total US Equity	13.4%	13.1%	0.3%	0.1%	0.0%	0.0%	0.1%
Total Non-US Equity	5.3%	4.4%	1.0%	0.1%	0.0%	0.0%	0.1%
Total Global Equity	7.7%	8.4%	-0.7%	-0.1%	0.0%	0.0%	-0.1%
Total Fixed Income	2.8%	1.9%	0.9%	0.2%	-0.1%	0.0%	0.2%
Total Real Estate	9.8%	10.9%	-1.2%	-0.1%	0.0%	0.0%	-0.1%
Total Liquid Alternatives	--	4.9%	--	-0.1%	0.0%	0.0%	-0.1%
Overlay	--	0.1%	--	0.0%	-0.2%	0.0%	-0.2%
Total Private Equity	13.5%	16.5%	-3.0%	-0.3%	-0.3%	0.2%	-0.4%
Total	7.9%	8.4%	-0.5%	-0.1%	-0.6%	0.2%	-0.5%

Ventura County Employees' Retirement Association

Total Fund Risk Statistics

1 Year Ending March 31, 2017

	% of Tot	Anlzd Ret	Rank	Anlzd Std Dev	Rank	Anlzd AJ	Rank	Tracking Error	Rank	Info Ratio	Rank	Beta
Total Equity	59.2%	16.9%	62	5.6%	4	2.6%	67	1.5%	1	1.2	10	0.9
MSCI ACWI	--	15.0%	77	5.7%	5	0.0%	79	0.0%	1	--	--	1.0
Total US Equity	32.8%	18.4%	43	6.8%	19	0.2%	32	0.1%	1	2.9	1	1.0
Russell 3000	--	18.1%	45	6.7%	19	0.0%	33	0.0%	1	--	--	1.0
Total Non-US Equity	15.7%	14.8%	26	8.0%	58	1.9%	36	1.0%	4	1.7	3	1.0
MSCI ACWI ex USA	--	13.1%	52	8.1%	63	0.0%	64	0.0%	1	--	--	1.0
Total Global Equity	10.7%	15.4%	24	5.5%	9	0.9%	41	0.5%	4	0.7	25	1.0
MSCI ACWI	--	15.0%	42	5.7%	15	0.0%	45	0.0%	1	--	--	1.0
Total Fixed Income	19.3%	3.1%	56	2.8%	53	2.7%	43	1.2%	57	2.2	39	0.8
Total Fixed Income Policy Index	--	0.4%	79	3.4%	74	0.0%	80	0.0%	1	--	--	1.0
Total US Fixed Income	19.3%	3.1%	38	2.8%	58	2.7%	32	1.2%	77	2.2	42	0.8
BBgBarc US Aggregate TR	--	0.4%	72	3.4%	91	0.0%	78	0.0%	1	--	--	1.0
Total Liquid Alternatives	8.7%	15.9%	--	6.7%	--	-6.4%	--	6.4%	--	1.5	--	3.6
CPI + 4% (Unadjusted)	--	6.5%	--	0.8%	--	0.0%	--	0.0%	--	--	--	1.0

	% of Tot	Anlzd Ret	Rank	Anlzd Std Dev	Rank
Total Real Estate	8.0%	6.0%	76	2.5%	34
NCREIF ODCE Net	--	7.4%	48	3.1%	59
Total Private Equity	3.8%	9.2%	46	4.8%	54
DJ U.S. Total Stock Market Index + 3%	--	21.6%	1	6.7%	88

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 86 portfolios), Total US Equity (InvestorForce Public DB US Eq consists of 161 portfolios), Total Non-US Equity (InvestorForce Public DB ex-US Eq consists of 114 portfolios), Total Global Equity (InvestorForce Public DB Gbl Eq consists of 35 portfolios), Total Fixed Income (InvestorForce Public DB Total Fix Inc consists of 90 portfolios), Total US Fixed Income (InvestorForce Public DB US Fix Inc consists of 98 portfolios), Total Real Estate (InvestorForce Public DB Real Estate Pub+Priv consists of 54 portfolios) and Total Private Equity (InvestorForce Public DB Private Eq consists of 32 portfolios).

Ventura County Employees' Retirement Association

Total Fund Risk Statistics

3 Years Ending March 31, 2017

	% of Tot	Anlzd Ret	Rank	Anlzd Std Dev	Rank	Anlzd AJ	Rank	Tracking Error	Rank	Info Ratio	Rank	Beta
Total Equity	59.2%	6.6%	79	10.5%	22	1.7%	81	1.3%	1	1.1	13	1.0
MSCI ACWI	--	5.1%	89	10.8%	28	0.0%	90	0.0%	1	--	--	1.0
Total US Equity	32.8%	9.8%	20	10.7%	25	0.1%	23	0.1%	1	1.8	1	1.0
Russell 3000	--	9.7%	22	10.7%	24	0.0%	25	0.0%	1	--	--	1.0
Total Non-US Equity	15.7%	1.6%	38	11.7%	46	1.1%	36	1.2%	4	0.9	3	0.9
MSCI ACWI ex USA	--	0.6%	73	12.4%	81	0.0%	66	0.0%	1	--	--	1.0
Total Global Equity	10.7%	4.0%	77	10.9%	71	-1.1%	99	1.2%	8	-0.9	99	1.0
MSCI ACWI	--	5.1%	74	10.8%	67	0.0%	97	0.0%	1	--	--	1.0
Total Fixed Income	19.3%	2.1%	68	2.5%	37	0.7%	28	1.9%	65	0.1	47	0.7
Total Fixed Income Policy Index	--	2.0%	72	2.8%	52	0.0%	70	0.0%	1	--	--	1.0
Total US Fixed Income	19.3%	2.6%	55	2.4%	42	1.0%	25	2.2%	86	0.0	54	0.6
BBgBarc US Aggregate TR	--	2.7%	48	2.9%	67	0.0%	77	0.0%	1	--	--	1.0
Total Liquid Alternatives	8.7%	1.5%	--	10.2%	--	-12.4%	--	10.0%	--	-0.4	--	2.8
CPI + 4% (Unadjusted)	--	5.1%	--	1.1%	--	0.0%	--	0.0%	--	--	--	1.0

	% of Tot	Anlzd Ret	Rank	Anlzd Std Dev	Rank
Total Real Estate	8.0%	9.9%	73	4.3%	35
NCREIF ODCE Net	--	10.8%	60	4.5%	41
Total Private Equity	3.8%	12.7%	28	6.5%	77
DJ U.S. Total Stock Market Index + 3%	--	12.9%	24	10.7%	97

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 76 portfolios), Total US Equity (InvestorForce Public DB US Eq consists of 147 portfolios), Total Non-US Equity (InvestorForce Public DB ex-US Eq consists of 103 portfolios), Total Global Equity (InvestorForce Public DB Gbl Eq consists of 31 portfolios), Total Fixed Income (InvestorForce Public DB Total Fix Inc consists of 80 portfolios), Total US Fixed Income (InvestorForce Public DB US Fix Inc consists of 95 portfolios), Total Real Estate (InvestorForce Public DB Real Estate Pub+Priv consists of 51 portfolios) and Total Private Equity (InvestorForce Public DB Private Eq consists of 30 portfolios).

Ventura County Employees' Retirement Association

Total Fund Risk Statistics

5 Years Ending March 31, 2017

	% of Tot	Anlzd Ret	Rank	Anlzd Std Dev	Rank	Anlzd AJ	Rank	Tracking Error	Rank	Info Ratio	Rank	Beta
Total Equity	59.2%	10.2%	89	10.5%	23	2.3%	91	1.5%	1	1.2	6	0.9
MSCI ACWI	--	8.4%	97	11.1%	36	0.0%	98	0.0%	1	--	--	1.0
Total US Equity	32.8%	13.4%	25	10.5%	20	0.2%	23	0.3%	1	1.0	1	1.0
Russell 3000	--	13.1%	30	10.5%	19	0.0%	26	0.0%	1	--	--	1.0
Total Non-US Equity	15.7%	5.3%	45	12.2%	27	1.2%	29	1.2%	5	0.8	9	0.9
MSCI ACWI ex USA	--	4.4%	66	12.9%	77	0.0%	62	0.0%	1	--	--	1.0
Total Global Equity	10.7%	7.7%	69	10.9%	33	-0.6%	95	1.2%	12	-0.6	99	1.0
MSCI ACWI	--	8.4%	66	11.1%	53	0.0%	86	0.0%	1	--	--	1.0
Total Fixed Income	19.3%	2.8%	47	2.6%	26	1.4%	22	1.7%	56	0.5	27	0.7
Total Fixed Income Policy Index	--	1.9%	87	2.9%	45	0.0%	79	0.0%	1	--	--	1.0
Total US Fixed Income	19.3%	3.1%	32	2.5%	45	1.6%	18	1.9%	80	0.4	46	0.7
BBgBarc US Aggregate TR	--	2.3%	56	2.9%	67	0.0%	82	0.0%	1	--	--	1.0
Total Liquid Alternatives	8.7%	--	--	--	--	--	--	--	--	--	--	--
CPI + 4% (Unadjusted)	--	9.5%	--	7.8%	--	0.0%	--	0.0%	--	--	--	1.0

	% of Tot	Anlzd Ret	Rank	Anlzd Std Dev	Rank
Total Real Estate	8.0%	9.8%	74	4.1%	29
NCREIF ODCE Net	--	10.9%	56	4.5%	39
Total Private Equity	3.8%	13.5%	27	6.6%	79
DJ U.S. Total Stock Market Index + 3%	--	16.5%	2	10.5%	97

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 60 portfolios), Total US Equity (InvestorForce Public DB US Eq consists of 118 portfolios), Total Non-US Equity (InvestorForce Public DB ex-US Eq consists of 87 portfolios), Total Global Equity (InvestorForce Public DB Gbl Eq consists of 20 portfolios), Total Fixed Income (InvestorForce Public DB Total Fix Inc consists of 68 portfolios), Total US Fixed Income (InvestorForce Public DB US Fix Inc consists of 80 portfolios), Total Real Estate (InvestorForce Public DB Real Estate Pub+Priv consists of 45 portfolios) and Total Private Equity (InvestorForce Public DB Private Eq consists of 24 portfolios).

Ventura County Employees' Retirement Association

Total Fund Performance Detail (Net)

	Market Value (\$)	% of Portfolio	Policy %	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Return (%)	Since
Total Fund	4,829,813,958	100.0	100.0	4.5	30	9.6	46	12.1	23	5.4	41	8.2	18	5.3	31	8.0	Apr-94
Policy Index				4.6	28	9.8	39	11.8	40	6.2	8	8.4	14	5.6	16	8.0	Apr-94
Over/Under				-0.1		-0.2		0.3		-0.8		-0.2		-0.3		0.0	
Allocation Index				4.8	22	10.4	19	12.7	11	5.8	26	7.8	37	5.2	34	--	Apr-94
60% MSCI ACWI (Net)/40% CITI WGBI				4.7	23	5.2	98	7.3	98	2.7	97	4.9	95	4.0	90	--	Apr-94
InvestorForce Public DB > \$1B Net Median				4.2		9.5		11.6		4.9		7.3		4.9		7.5	Apr-94
Total Fund ex Parametric	4,775,312,912	98.9	--	4.5	--	9.0	--	11.6	--	5.3	--	8.0	--	5.2	--	7.9	Apr-94
Total Fund ex Private Equity	4,646,876,839	96.2	--	4.6	28	9.6	45	12.3	18	5.2	44	7.5	46	--	--	8.9	Jan-12
Policy Index				4.6	28	9.8	39	11.8	40	6.2	8	8.4	14	5.6	16	9.6	Jan-12
Over/Under				0.0		-0.2		0.5		-1.0		-0.9				-0.7	
InvestorForce Public DB > \$1B Net Median				4.2		9.5		11.6		4.9		7.3		4.9		8.4	Jan-12
Total US Equity	1,583,544,406	32.8	28.0	5.8	38	15.3	51	18.4	43	9.8	20	13.4	25	7.3	55	9.1	Dec-93
Russell 3000				5.7	38	15.0	53	18.1	45	9.7	22	13.1	30	7.6	46	9.4	Dec-93
Over/Under				0.1		0.3		0.3		0.1		0.3		-0.3		-0.3	
eA All US Equity Net Median				4.8		15.3		17.4		7.9		12.1		7.5		10.1	Dec-93
BlackRock Equity Market Fund	1,358,237,620	28.1		5.8	38	15.2	52	18.2	45	9.8	20	13.2	28	--	--	7.9	Dec-07
Dow Jones U.S. Total Stock Market				5.8	38	15.1	53	18.1	45	9.7	22	13.1	30	7.6	46	7.8	Dec-07
Over/Under				0.0		0.1		0.1		0.1		0.1				0.1	
eA All US Equity Net Median				4.8		15.3		17.4		7.9		12.1		7.5		7.7	Dec-07
Western U.S. Index Plus	170,482,575	3.5		6.0	36	15.0	53	18.6	42	10.9	8	14.3	11	--	--	4.8	May-07
S&P 500				6.1	34	14.4	59	17.2	53	10.4	13	13.3	26	7.5	49	6.8	May-07
Over/Under				-0.1		0.6		1.4		0.5		1.0				-2.0	
eA All US Equity Net Median				4.8		15.3		17.4		7.9		12.1		7.5		6.8	May-07
BlackRock Extended Equity Index	54,824,212	1.1		4.5	44	18.4	34	22.4	22	7.2	39	12.6	33	8.1	44	11.8	Oct-02
Dow Jones U.S. Completion Total Stock Market				4.6	44	18.2	35	22.2	23	7.0	45	12.3	37	8.0	47	11.7	Oct-02
Over/Under				-0.1		0.2		0.2		0.2		0.3		0.1		0.1	
eA US Small-Mid Cap Equity Net Median				4.1		15.9		18.7		6.5		11.6		7.9		11.3	Oct-02

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	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Return (%)	Since
Total Non-US Equity	758,594,811	15.7	15.0	7.8	82	14.3	32	14.8	26	1.6	38	5.3	45	1.7	40	6.3	Mar-94
MSCI ACWI ex USA				7.9	79	13.9	38	13.1	52	0.6	73	4.4	66	1.4	53	5.0	Mar-94
Over/Under				-0.1		0.4		1.7		1.0		0.9		0.3		1.3	
MSCI EAFE				7.2	91	13.3	50	11.7	75	0.5	74	5.8	30	1.1	63	4.6	Mar-94
MSCI ACWI ex USA Local Currency				5.2	99	17.5	8	17.3	5	6.7	1	9.1	1	2.8	15	--	Mar-94
MSCI EAFE Local Currency				4.7	99	18.9	5	18.0	3	7.3	1	10.7	1	2.3	26	4.8	Mar-94
InvestorForce Public DB ex-US Eq Net Median				8.6		13.1		13.3		1.3		5.0		1.4		5.5	Mar-94
BlackRock ACWI ex-U.S. Index	368,954,038	7.6		8.1	56	13.9	36	13.3	41	1.0	53	4.9	80	1.8	63	1.8	Mar-07
MSCI ACWI ex USA				7.9	62	13.9	36	13.1	42	0.6	61	4.4	82	1.4	71	1.4	Mar-07
Over/Under				0.2		0.0		0.2		0.4		0.5		0.4		0.4	
MSCI ACWI ex USA Local Currency				5.2	99	17.5	15	17.3	11	6.7	6	9.1	6	2.8	46	2.8	Mar-07
eA ACWI ex-US All Cap Equity Net Median				8.6		12.0		11.5		1.4		6.2		2.5		2.5	Mar-07
Sprucegrove	200,018,577	4.1		8.1	55	20.7	3	20.6	2	1.4	50	5.7	67	2.3	53	7.4	Mar-02
MSCI ACWI ex USA				7.9	62	13.9	36	13.1	42	0.6	61	4.4	82	1.4	71	6.3	Mar-02
Over/Under				0.2		6.8		7.5		0.8		1.3		0.9		1.1	
MSCI EAFE				7.2	75	13.3	38	11.7	50	0.5	62	5.8	63	1.1	81	5.7	Mar-02
MSCI ACWI ex USA Local Currency				5.2	99	17.5	15	17.3	11	6.7	6	9.1	6	2.8	46	5.2	Mar-02
MSCI EAFE Local Currency				4.7	99	18.9	4	18.0	8	7.3	6	10.7	4	2.3	52	4.4	Mar-02
eA ACWI ex-US All Cap Equity Net Median				8.6		12.0		11.5		1.4		6.2		2.5		6.8	Mar-02
Hexavest	84,840,944	1.8		6.0	92	9.5	72	10.1	53	1.5	44	5.4	75	--	--	4.0	Dec-10
MSCI EAFE				7.2	55	13.3	29	11.7	38	0.5	72	5.8	65	1.1	79	4.2	Dec-10
Over/Under				-1.2		-3.8		-1.6		1.0		-0.4				-0.2	
MSCI EAFE Local Currency				4.7	99	18.9	3	18.0	1	7.3	1	10.7	1	2.3	40	7.9	Dec-10
eA EAFE All Cap Equity Net Median				7.4		11.8		10.3		1.4		6.5		1.8		5.3	Dec-10
Walter Scott	104,781,253	2.2		7.6	67	8.6	75	12.3	48	3.8	20	5.5	70	--	--	4.6	Dec-10
MSCI ACWI ex USA				7.9	62	13.9	36	13.1	42	0.6	61	4.4	82	1.4	71	2.8	Dec-10
Over/Under				-0.3		-5.3		-0.8		3.2		1.1				1.8	
MSCI ACWI ex USA Local Currency				5.2	99	17.5	15	17.3	11	6.7	6	9.1	6	2.8	46	6.6	Dec-10
MSCI EAFE				7.2	75	13.3	38	11.7	50	0.5	62	5.8	63	1.1	81	4.2	Dec-10
eA ACWI ex-US All Cap Equity Net Median				8.6		12.0		11.5		1.4		6.2		2.5		4.9	Dec-10

Ventura County Employees' Retirement Association

Total Fund Performance Detail (Net)

	Market Value (\$)	% of Portfolio	Policy %	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Return (%)	Since
Total Global Equity	515,088,297	10.7	10.0	7.0	83	14.5	55	15.4	24	4.0	77	7.7	69	3.3	20	5.5	May-05
MSCI ACWI				6.9	85	13.9	61	15.0	42	5.1	74	8.4	66	4.0	13	6.4	May-05
Over/Under				0.1		0.6		0.4		-1.1		-0.7		-0.7		-0.9	
InvestorForce Public DB Gbl Eq Net Median				8.1		15.1		14.8		7.3		10.9		1.8		5.5	May-05
BlackRock MSCI ACWI Equity Index	515,088,297	10.7		7.0	40	14.3	33	15.6	29	5.5	43	--	--	--	--	10.4	Aug-12
MSCI ACWI				6.9	42	13.9	36	15.0	32	5.1	51	8.4	65	4.0	55	10.0	Aug-12
Over/Under				0.1		0.4		0.6		0.4						0.4	
eA All Global Equity Net Median				6.4		11.8		13.0		5.1		8.9		4.2		10.3	Aug-12

Ventura County Employees' Retirement Association

Total Fund Performance Detail (Net)

	Market Value (\$)	% of Portfolio	Policy %	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Return (%)	Since
Total Private Equity	182,937,119	3.8	10.0	2.2	49	9.4	33	9.2	46	12.7	28	13.5	27	--	--	13.6	Jan-12
<i>DJ U.S. Total Stock Market Index + 3%</i>				<u>6.6</u>	4	<u>17.6</u>	3	<u>21.6</u>	1	<u>12.9</u>	24	<u>16.5</u>	2	--	--	<u>18.5</u>	<i>Jan-12</i>
Over/Under				-4.4		-8.2		-12.4		-0.2		-3.0				-4.9	
<i>InvestorForce Public DB Private Eq Net Median</i>				2.1		8.0		9.0		10.5		11.7		7.6		11.8	<i>Jan-12</i>
Adams Street Global Fund Series	112,481,817	2.3		1.7	--	8.3	--	7.5	--	10.7	--	12.0	--	--	--	12.3	Jan-12
<i>DJ U.S. Total Stock Market Index + 3%</i>				<u>6.6</u>	--	<u>17.6</u>	--	<u>21.6</u>	--	<u>12.9</u>	--	<u>16.5</u>	--	--	--	<u>18.5</u>	<i>Jan-12</i>
Over/Under				-4.9		-9.3		-14.1		-2.2		-4.5				-6.2	
Harbourvest- Dover Street VIII	48,518,811	1.0		4.4	--	10.3	--	11.7	--	18.6	--	--	--	--	--	18.2	Aug-13
<i>DJ U.S. Total Stock Market Index + 3%</i>				<u>6.6</u>	--	<u>17.6</u>	--	<u>21.6</u>	--	<u>12.9</u>	--	<u>16.5</u>	--	--	--	<u>14.9</u>	<i>Aug-13</i>
Over/Under				-2.2		-7.3		-9.9		5.7						3.3	
Pantheon Global Secondary Funds	21,617,788	0.4		0.0	--	17.5	--	15.4	--	10.7	--	11.1	--	--	--	10.2	Jan-12
<i>DJ U.S. Total Stock Market Index + 3%</i>				<u>6.6</u>	--	<u>17.6</u>	--	<u>21.6</u>	--	<u>12.9</u>	--	<u>16.5</u>	--	--	--	<u>18.5</u>	<i>Jan-12</i>
Over/Under				-6.6		-0.1		-6.2		-2.2		-5.4				-8.3	
Drive Capital Fund	318,703	0.0		-18.7	--	--	--	--	--	--	--	--	--	--	--	-42.5	Sep-16
<i>DJ U.S. Total Stock Market Index + 3%</i>				<u>6.6</u>	--	<u>17.6</u>	--	<u>21.6</u>	--	<u>12.9</u>	--	<u>16.5</u>	--	--	--	<u>12.3</u>	<i>Sep-16</i>
Over/Under				-25.3												-54.8	

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, and 2013 Global Fund.

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

Drive Capital Fund, funded 9/1/2016.

Ventura County Employees' Retirement Association

Private Equity Limited Partnership Performance

Fund Name	Vintage Year	Initial Investment Date	Capital 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	\$33,277,500	\$9,222,500	78%	\$15,213	\$14,394,035	\$34,888,147	\$49,282,182	\$15,398,387	0.0%	0.43x	1.48x
Adams Street 2010 Non-U.S. Dev. Mkts Fund	2010	5/21/2010	\$25,500,000	\$20,591,249	\$4,908,751	81%	\$1,589	\$8,748,084	\$16,398,305	\$25,146,389	\$4,293,628	6.3%	0.42x	1.22x
Adams Street 2010 Non-U.S. Emg Mkts Fund	2010	1/3/2011	\$8,500,000	\$6,621,500	\$1,878,500	78%	\$0	\$738,789	\$7,882,770	\$8,621,559	\$1,950,696	9.4%	0.11x	1.3x
Adams Street 2010 Direct Fund	2010	5/21/2010	\$8,500,000	\$7,879,500	\$620,500	93%	\$6,697	\$5,925,550	\$5,315,175	\$11,240,725	\$4,353,302	14.4%	0.75x	1.43x
Total Adams Street 2010	2010	5/21/2010	\$85,000,000	\$68,369,749	\$16,630,251	80%	\$23,499	\$29,806,458	\$64,484,397	\$94,290,855	\$25,996,013	10.4%	0.44x	1.38x
Adams Street 2013 Global Fund	2013	6/27/2013	\$75,000,000	\$44,250,000	\$30,750,000	59%	\$10,728	\$3,108,905	\$45,870,101	\$48,979,006	\$3,243,440	4.4%	0.07x	1.11x
Adams Street 2016 Global Fund	2016	12/22/2016	\$60,000,000	\$1,500,000	\$58,500,000	3%	\$0	\$0	\$2,127,330	\$2,127,330	\$94,044	0.0%	0x	1.42x
Drive Capital Fund II	2016	9/1/2016	\$15,000,000	\$523,355	\$14,476,645	3%	\$3,210	\$0	\$318,703	\$318,703	(\$134,770)	0.0%	--	0.61x
HarbourVest - Dover Street VIII	2013	5/30/2013	\$67,500,000	\$57,712,500	\$9,787,500	86%	\$84,954	\$33,410,731	\$45,583,658	\$78,994,389	\$20,456,569	21.8%	0.58x	1.37x
HarbourVest - Dover Street IX	2016	12/16/2016	\$60,000,000	\$4,800,000	\$55,200,000	8%	\$0	\$841,532	\$4,314,770	\$5,156,302	\$178,874	8.0%	--	--
Pantheon Global Secondary Fund IV	2010	8/20/2010	\$15,000,000	\$9,960,000	\$5,040,000	66%	\$0	\$9,090,001	\$5,637,596	\$14,727,597	\$4,535,351	12.8%	0.91x	1.48x
Pantheon Global Secondary Fund V	2015	2/26/2015	\$50,000,000	\$13,391,510	\$36,608,490	27%	(\$87,343)	\$12,568	\$17,284,973	\$17,297,541	\$2,908,277	77.7%	--	1.3x
Total VCERA Private Equity Program	--	5/21/2010	\$427,500,000	\$200,507,114	\$226,992,886	47%	\$35,048	\$76,270,195	\$185,621,528	\$261,891,723	\$57,277,798	12.2%	0.38x	1.31x

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 12/31/2016 NAVs cash-adjusted for cash flows through 03/31/2017.

Ventura County Employees' Retirement Association

Total Fund Performance Detail (Net)

	Market Value (\$)	% of Portfolio	Policy %	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Return (%)	Since
Total US Fixed Income	929,860,024	19.3	20.0	1.2	39	0.6	39	3.1	38	2.6	55	3.1	32	5.5	13	6.0	Feb-94
BBgBarc US Aggregate TR				0.8	65	-1.7	94	0.4	72	2.7	48	2.3	56	4.3	46	5.4	Feb-94
Over/Under				0.4		2.3		2.7		-0.1		0.8		1.2		0.6	
InvestorForce Public DB US Fix Inc Net Median				1.0		-0.5		1.6		2.6		2.6		4.2		6.0	Feb-94
BlackRock U.S. Debt Fund	217,023,341	4.5		0.8	63	-1.7	84	0.5	79	2.7	49	2.4	60	4.4	51	5.3	Nov-95
BBgBarc US Aggregate TR				0.8	64	-1.7	84	0.4	80	2.7	51	2.3	61	4.3	54	5.2	Nov-95
Over/Under				0.0		0.0		0.1		0.0		0.1		0.1		0.1	
eA All US Fixed Inc Net Median				1.1		-0.1		1.6		2.7		2.9		4.4		5.2	Nov-95
Western	285,444,680	5.9		1.5	29	-0.3	56	2.6	40	3.7	28	3.9	37	5.2	31	6.2	Dec-96
BBgBarc US Aggregate TR				0.8	64	-1.7	84	0.4	80	2.7	51	2.3	61	4.3	54	5.3	Dec-96
Over/Under				0.7		1.4		2.2		1.0		1.6		0.9		0.9	
eA All US Fixed Inc Net Median				1.1		-0.1		1.6		2.7		2.9		4.4		5.2	Dec-96
Reams	303,757,365	6.3		0.8	64	1.5	27	3.4	34	1.2	84	2.5	58	5.7	25	5.5	Sep-01
Reams Custom Index				0.3	96	0.7	33	0.9	65	0.5	96	1.0	88	3.6	70	4.0	Sep-01
Over/Under				0.5		0.8		2.5		0.7		1.5		2.1		1.5	
BBgBarc US Aggregate TR				0.8	64	-1.7	84	0.4	80	2.7	51	2.3	61	4.3	54	4.5	Sep-01
3-Month LIBOR + 3%				1.0	52	3.0	22	3.9	31	3.5	31	3.4	41	4.1	59	4.8	Sep-01
eA All US Fixed Inc Net Median				1.1		-0.1		1.6		2.7		2.9		4.4		4.6	Sep-01
Loomis Strategic Alpha	44,961,168	0.9		1.1	48	4.6	20	6.9	20	2.6	54	--	--	--	--	2.7	Jul-13
BBgBarc US Aggregate TR				0.8	64	-1.7	84	0.4	80	2.7	51	2.3	61	4.3	54	2.8	Jul-13
Over/Under				0.3		6.3		6.5		-0.1						-0.1	
3-Month LIBOR + 3%				1.0	52	3.0	22	3.9	31	3.5	31	3.4	41	4.1	59	3.5	Jul-13
eA All US Fixed Inc Net Median				1.1		-0.1		1.6		2.7		2.9		4.4		3.0	Jul-13
Loomis Sayles Multi Strategy	78,673,470	1.6		2.8	7	4.4	20	8.4	17	3.8	25	5.4	19	6.5	14	6.6	Jul-05
Loomis Custom Index				1.3	39	1.7	25	5.1	25	3.1	39	3.6	40	5.2	31	5.2	Jul-05
Over/Under				1.5		2.7		3.3		0.7		1.8		1.3		1.4	
BBgBarc US Govt/Credit TR				1.0	56	-2.1	89	0.5	76	2.7	51	2.5	58	4.3	52	4.2	Jul-05
eA All US Fixed Inc Net Median				1.1		-0.1		1.6		2.7		2.9		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	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Return (%)	Since
Total Real Estate	386,654,349	8.0	7.0	1.1	84	4.3	55	6.0	76	9.9	73	9.8	74	3.1	81	7.9	Mar-94
<i>NCREIF ODCE Net</i>				<i>1.5</i>	<i>56</i>	<i>5.3</i>	<i>33</i>	<i>7.4</i>	<i>48</i>	<i>10.8</i>	<i>60</i>	<i>10.9</i>	<i>56</i>	<i>4.6</i>	<i>34</i>	<i>8.2</i>	<i>Mar-94</i>
<i>Over/Under</i>				<i>-0.4</i>		<i>-1.0</i>		<i>-1.4</i>		<i>-0.9</i>		<i>-1.1</i>		<i>-1.5</i>		<i>-0.3</i>	
<i>InvestorForce Public DB Real Estate Pub+Priv Net Median</i>				<i>1.6</i>		<i>4.8</i>		<i>7.2</i>		<i>11.1</i>		<i>11.2</i>		<i>4.0</i>		<i>7.2</i>	<i>Mar-94</i>
Prudential Real Estate	136,969,399	2.8		1.4	--	5.6	--	7.5	--	11.4	--	11.2	--	4.3	--	6.1	Jun-04
<i>NCREIF ODCE Net</i>				<i>1.5</i>	--	<i>5.3</i>	--	<i>7.4</i>	--	<i>10.8</i>	--	<i>10.9</i>	--	<i>4.6</i>	--	<i>7.1</i>	<i>Jun-04</i>
<i>Over/Under</i>				<i>-0.1</i>		<i>0.3</i>		<i>0.1</i>		<i>0.6</i>		<i>0.3</i>		<i>-0.3</i>		<i>-1.0</i>	
<i>NCREIF ODCE</i>				<i>1.8</i>	--	<i>6.1</i>	--	<i>8.3</i>	--	<i>11.8</i>	--	<i>12.0</i>	--	<i>5.6</i>	--	<i>8.1</i>	<i>Jun-04</i>
UBS Real Estate	249,504,786	5.2		0.9	--	3.6	--	5.2	--	9.0	--	9.0	--	4.7	--	7.5	Mar-03
<i>NCREIF ODCE Net</i>				<i>1.5</i>	--	<i>5.3</i>	--	<i>7.4</i>	--	<i>10.8</i>	--	<i>10.9</i>	--	<i>4.6</i>	--	<i>7.3</i>	<i>Mar-03</i>
<i>Over/Under</i>				<i>-0.6</i>		<i>-1.7</i>		<i>-2.2</i>		<i>-1.8</i>		<i>-1.9</i>		<i>0.1</i>		<i>0.2</i>	
<i>NCREIF ODCE</i>				<i>1.8</i>	--	<i>6.1</i>	--	<i>8.3</i>	--	<i>11.8</i>	--	<i>12.0</i>	--	<i>5.6</i>	--	<i>8.3</i>	<i>Mar-03</i>
RREEF	180,164	0.0		-0.7	--	-13.6	--	-12.9	--	2.6	--	9.0	--	--	--	-6.2	Sep-07
<i>NCREIF ODCE Net</i>				<i>1.5</i>	--	<i>5.3</i>	--	<i>7.4</i>	--	<i>10.8</i>	--	<i>10.9</i>	--	<i>4.6</i>	--	<i>4.0</i>	<i>Sep-07</i>
<i>Over/Under</i>				<i>-2.2</i>		<i>-18.9</i>		<i>-20.3</i>		<i>-8.2</i>		<i>-1.9</i>				<i>-10.2</i>	
<i>NCREIF ODCE</i>				<i>1.8</i>	--	<i>6.1</i>	--	<i>8.3</i>	--	<i>11.8</i>	--	<i>12.0</i>	--	<i>5.6</i>	--	<i>4.9</i>	<i>Sep-07</i>

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

Ventura County Employees' Retirement Association

Total Fund Performance Detail (Net)

	Market Value (\$)	% of Portfolio	Policy %	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Return (%)	Since
Total Liquid Alternatives	418,633,906	8.7	10.0	3.7	--	6.4	--	15.9	--	1.5	--	--	--	--	--	5.2	Apr-13
<i>CPI + 4% (Unadjusted)</i>				<i>2.0</i>	--	<i>4.2</i>	--	<i>6.5</i>	--	<i>5.1</i>	--	<i>9.5</i>	--	--	--	<i>6.3</i>	<i>Apr-13</i>
Over/Under				1.7		2.2		9.4		-3.6						-1.1	
Bridgewater All Weather Fund	289,772,713	6.0		3.1	--	4.6	--	10.8	--	3.1	--	--	--	--	--	4.6	Aug-13
<i>CPI + 5% (Unadjusted)</i>				<i>2.2</i>	--	<i>4.9</i>	--	<i>7.5</i>	--	<i>6.1</i>	--	--	--	--	--	<i>6.2</i>	<i>Aug-13</i>
Over/Under				0.9		-0.3		3.3		-3.0						-1.6	
Tortoise Energy Infrastructure	128,861,194	2.7		5.0	--	10.7	--	29.3	--	-1.8	--	--	--	--	--	3.7	Apr-13
<i>Wells Fargo MLP Index</i>				<i>3.7</i>	--	<i>10.6</i>	--	<i>34.7</i>	--	<i>-4.7</i>	--	<i>3.4</i>	--	--	--	<i>-1.2</i>	<i>Apr-13</i>
Over/Under				1.3		0.1		-5.4		2.9						4.9	
Overlay	54,501,046	1.1	0.0														
Parametric	54,501,046	1.1															

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 Equity Market Index	-	Yes	No Action	-	Q1 Departure	10/2013
Western U.S. Index Plus	-	-	-	-		6/2014
BlackRock Extended Equity Index	-	Yes	No Action	-	Q1 Departure	10/2013
BlackRock MSCI ACWI ex-U.S. Index	-	Yes	No Action	-	Q1 Departure	10/2013
Sprucegrove	-	-	Hold	Watch (Board Driven)	3Q 2014 Departure & Performance	N/A
Hexavest	Bottom Quartile	-	-	-		1/2013
Walter Scott	-	-	-	-		10/2012
BlackRock MSCI ACWI Index	-	Yes	No Action	-	Q1 Departure	10/2013
Adams Street	N/A	-	-	-		11/2013
HarbourVest	N/A	-	-	-		3/2014
Pantheon	N/A	-	-	-		1/2015
BlackRock U.S. Debt Fund	Bottom Quartile	Yes	No Action	-	Q1 Departure	10/2013
Western	Bottom Quartile	-	-	-		6/2014
Reams	-	-	-	-		11/2013
Loomis Sayles Multi-Sector Full Discretion	Top Decile	-	-	-		11/2013
Loomis Sayles Strategic Alpha	-	-	-	-		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	-	-	-		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

Blackrock

Amy Schioldager, Global Head of Beta Strategies at BlackRock, retired at the end of the first quarter in 2017. She will remain a senior advisor at the firm. BlackRock is working on a succession plan for Ms. Schioldager and more information will be provided when that plan is in place.

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

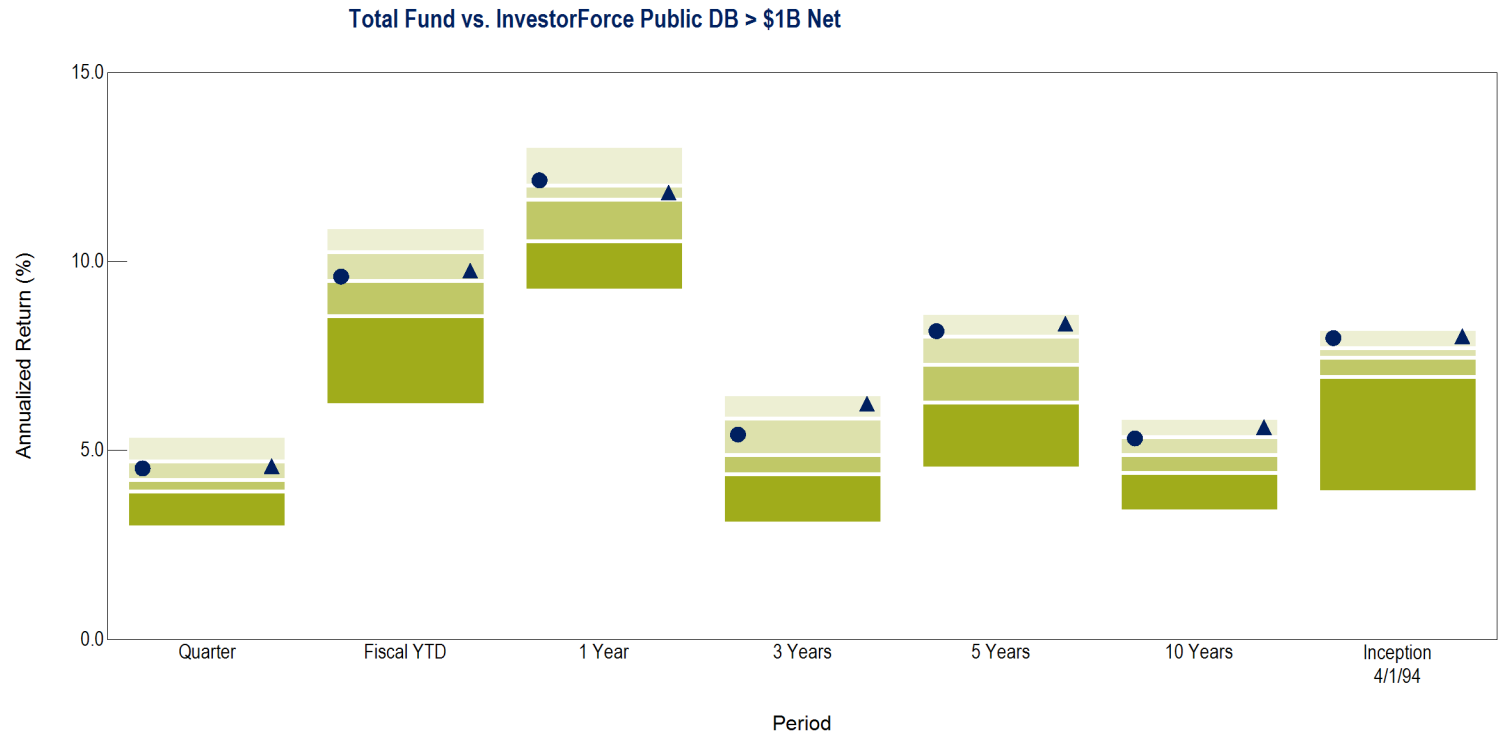
Below is a summary of managers that remain on Hold:

Sprucegrove

On July 27th 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. YTD 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.

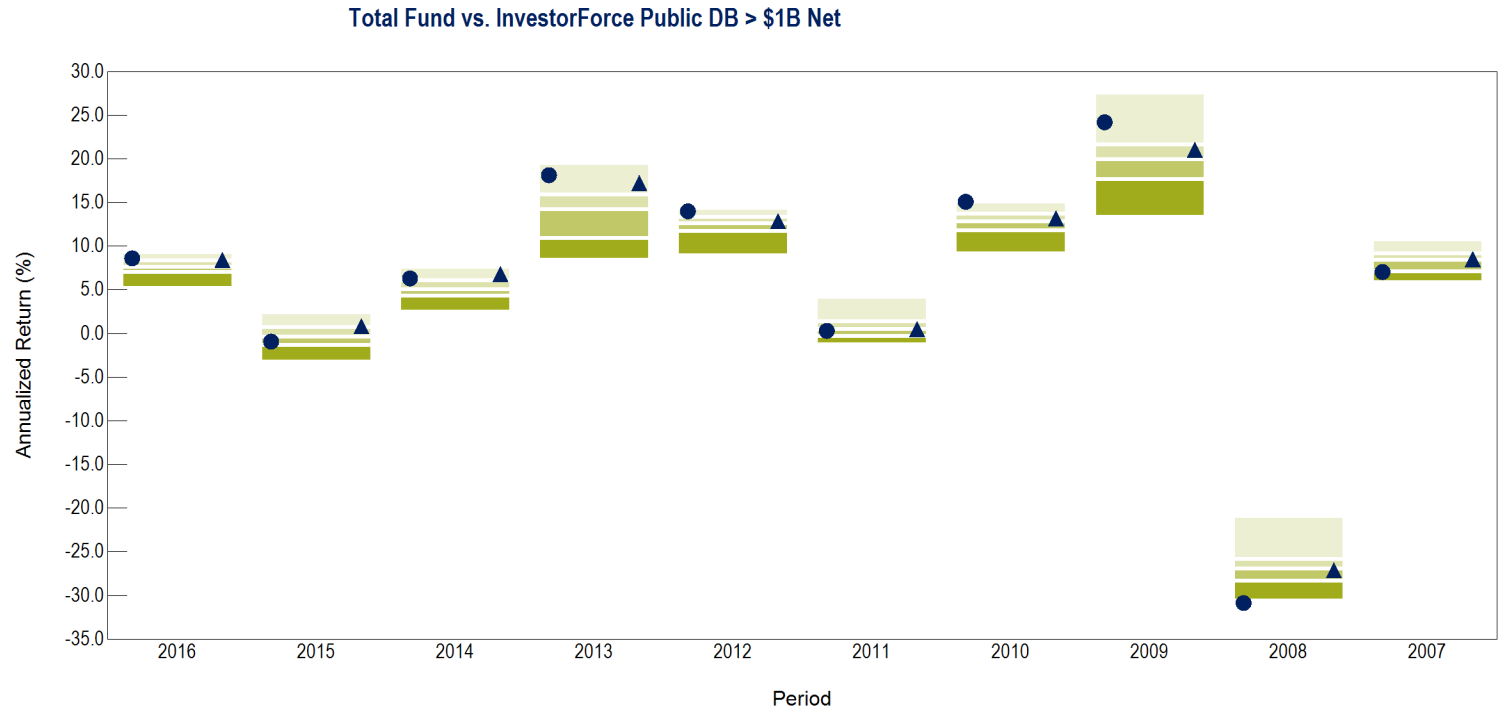
Ventura County Employees' Retirement Association
Total Fund Return Summary vs. Peer Universe



	Return (Rank)														
5th Percentile	5.4	10.9	13.0	6.5	8.6	5.9	8.2	5.4	10.3	12.0	5.9	8.0	5.4	7.7	
25th Percentile	4.7	10.3	12.0	5.9	8.0	5.4	7.7	4.2	9.5	11.6	4.9	7.3	4.9	7.5	
Median	4.2	9.5	11.6	4.9	7.3	4.9	7.5	3.9	8.6	10.5	4.4	6.3	4.4	7.0	
75th Percentile	3.9	8.6	10.5	4.4	6.3	4.4	7.0	3.0	6.2	9.2	3.1	4.5	3.4	3.9	
95th Percentile	3.0	6.2	9.2	3.1	4.5	3.4	3.9	# of Portfolios	47	47	47	46	45	42	29
● Total Fund	4.5	(30)	9.6	(46)	12.1	(23)	5.4	(41)	8.2	(18)	5.3	(31)	8.0	(15)	
▲ Policy Index	4.6	(28)	9.8	(39)	11.8	(40)	6.2	(8)	8.4	(14)	5.6	(16)	8.0	(13)	

Ventura County Employees' Retirement Association

Total Fund Return Summary vs. Peer Universe

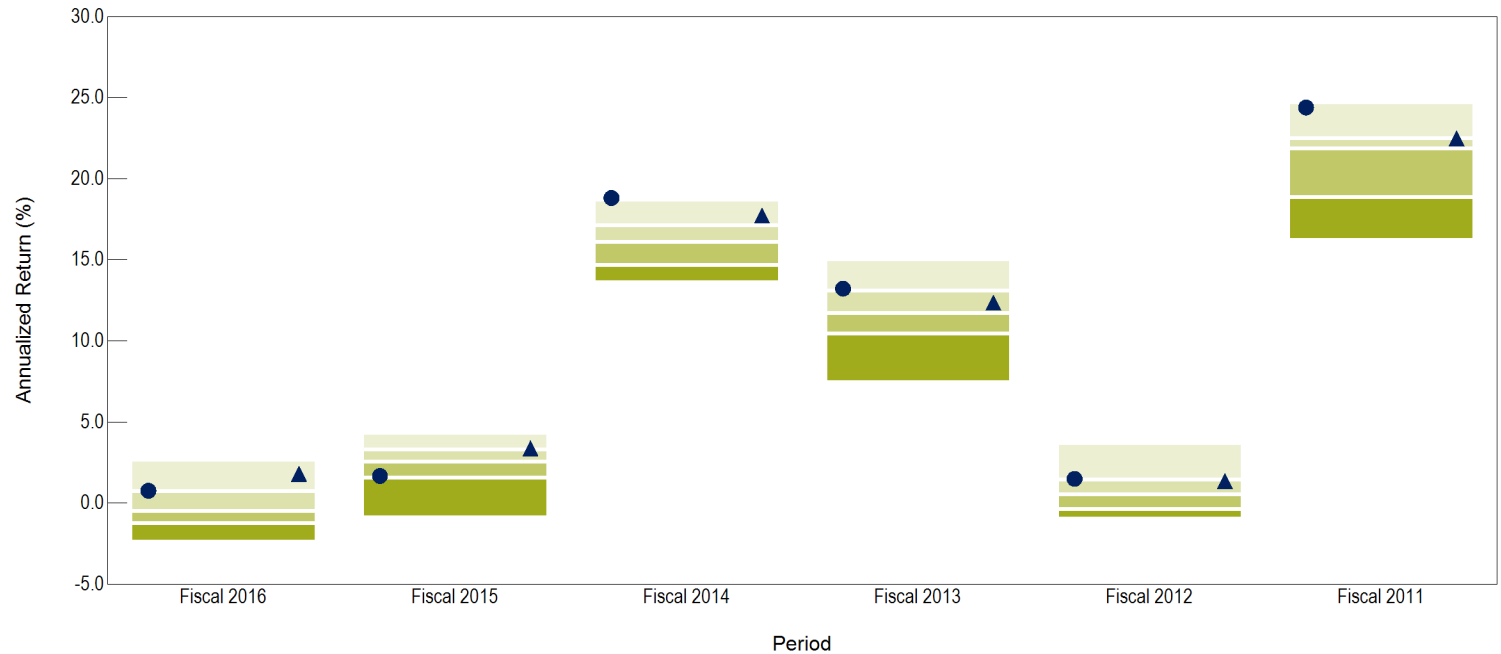


	Return (Rank)																			
5th Percentile	9.3	2.4	7.6	19.5	14.3	4.2	15.1	27.5	-20.9	10.7										
25th Percentile	8.4	0.8	6.1	16.0	13.4	1.5	13.8	21.7	-25.7	9.2										
Median	7.7	-0.4	5.1	14.3	12.7	0.6	12.8	20.0	-26.9	8.5										
75th Percentile	7.1	-1.3	4.4	11.0	11.8	-0.3	11.8	17.7	-28.3	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

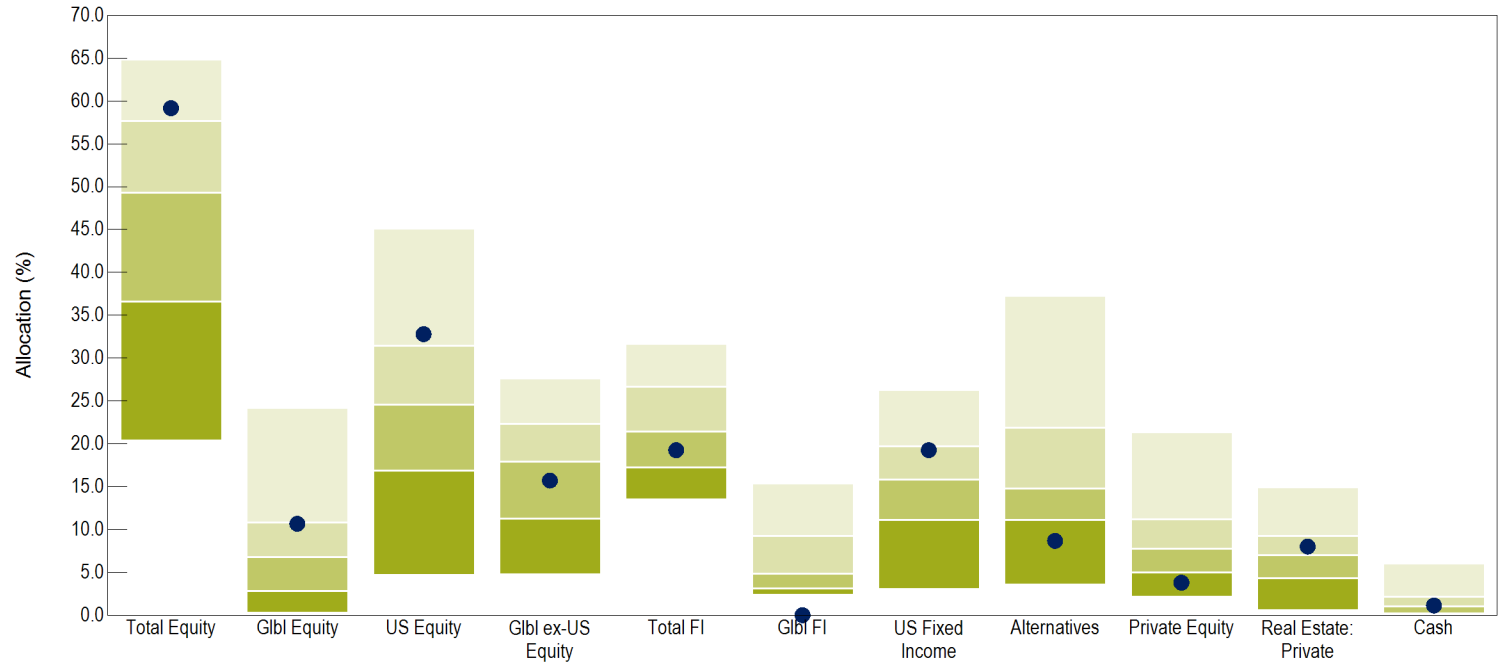
Total Fund vs. InvestorForce Public DB > \$1B Net



	Return (Rank)											
5th Percentile	2.7	4.3	18.7	15.0	3.7	24.7						
25th Percentile	0.8	3.3	17.2	13.1	1.5	22.5						
Median	-0.5	2.6	16.1	11.8	0.5	21.9						
75th Percentile	-1.2	1.6	14.7	10.5	-0.3	18.9						
95th Percentile	-2.4	-0.9	13.6	7.5	-0.9	16.3						
# of Portfolios	55	53	43	56	41	42						
● Total Fund	0.8	(26)	1.7	(71)	18.8	(4)	13.2	(22)	1.5	(25)	24.4	(10)
▲ Policy Index	1.8	(9)	3.4	(25)	17.7	(19)	12.4	(39)	1.4	(27)	22.5	(30)

Total Fund Allocations vs. Peer Universe

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

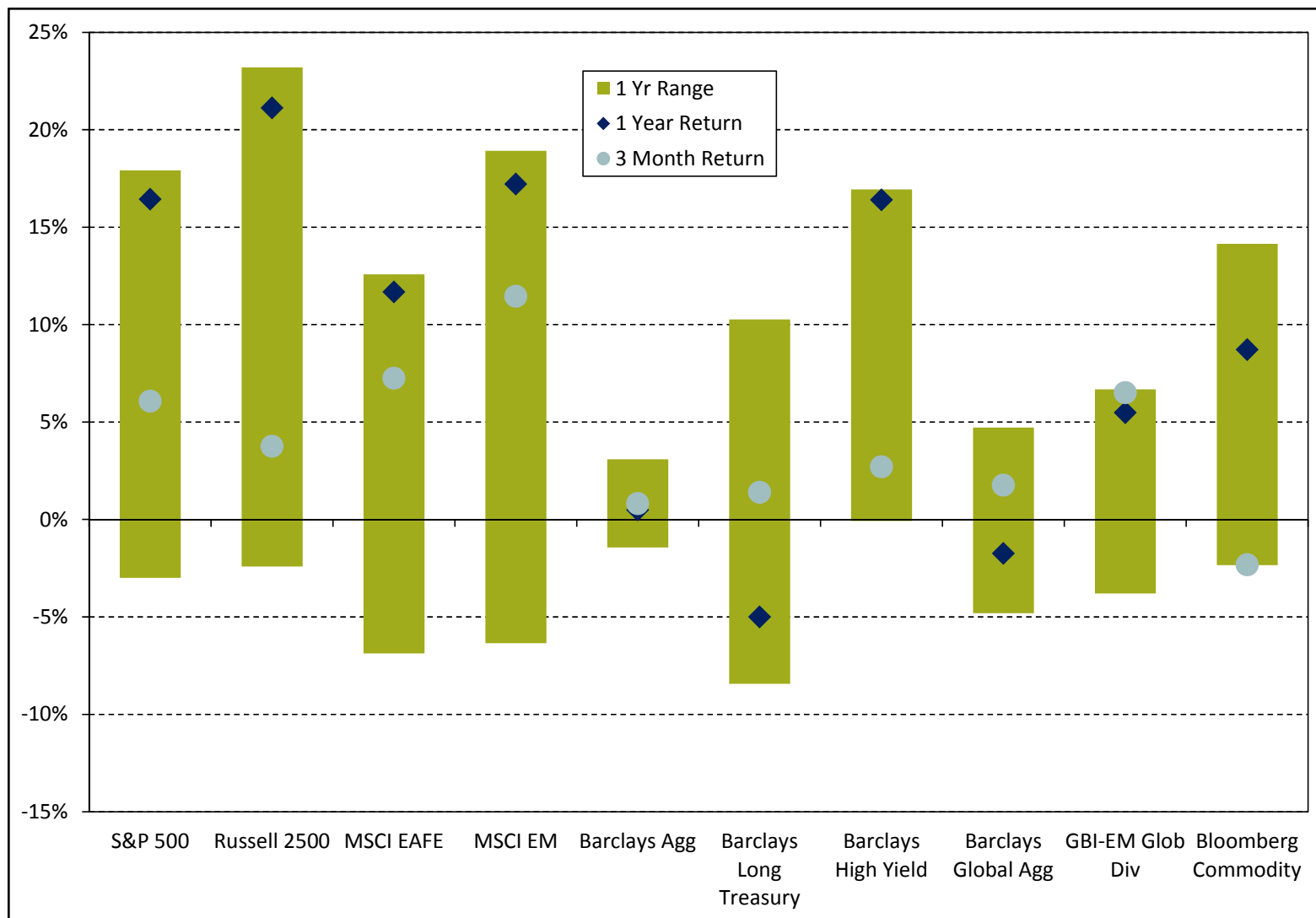


	Total Equity		Gbl Equity		US Equity		Gbl ex-US Equity		Total FI		Gbl FI		US Fixed Income		Alternatives		Private Equity		Real Estate: Private		Cash	
5th Percentile	64.9	24.2	45.1	27.6	31.7	15.4	26.3	37.3	21.4	14.9	6.0	--	--	--	--	--	--	--	--	--	--	--
25th Percentile	57.7	10.9	31.5	22.4	26.7	9.3	19.8	21.9	11.3	9.3	2.2	--	--	--	--	--	--	--	--	--	--	--
Median	49.4	6.8	24.6	18.0	21.5	4.9	15.9	14.8	7.8	7.1	1.1	--	--	--	--	--	--	--	--	--	--	--
75th Percentile	36.7	2.9	16.9	11.3	17.3	3.2	11.2	11.2	5.1	4.4	0.3	--	--	--	--	--	--	--	--	--	--	--
95th Percentile	20.4	0.4	4.8	4.8	13.6	2.4	3.1	3.6	2.2	0.6	0.0	--	--	--	--	--	--	--	--	--	--	--
# of Portfolios	42	18	38	38	43	20	42	40	39	34	40	--	--	--	--	--	--	--	--	--	--	--
● Total Fund	59.2	(17)	10.7	(27)	32.8	(21)	15.7	(56)	19.3	(67)	0.0	(99)	19.3	(27)	8.7	(83)	3.8	(82)	8.0	(39)	1.1	(51)

Appendix: Market Environment

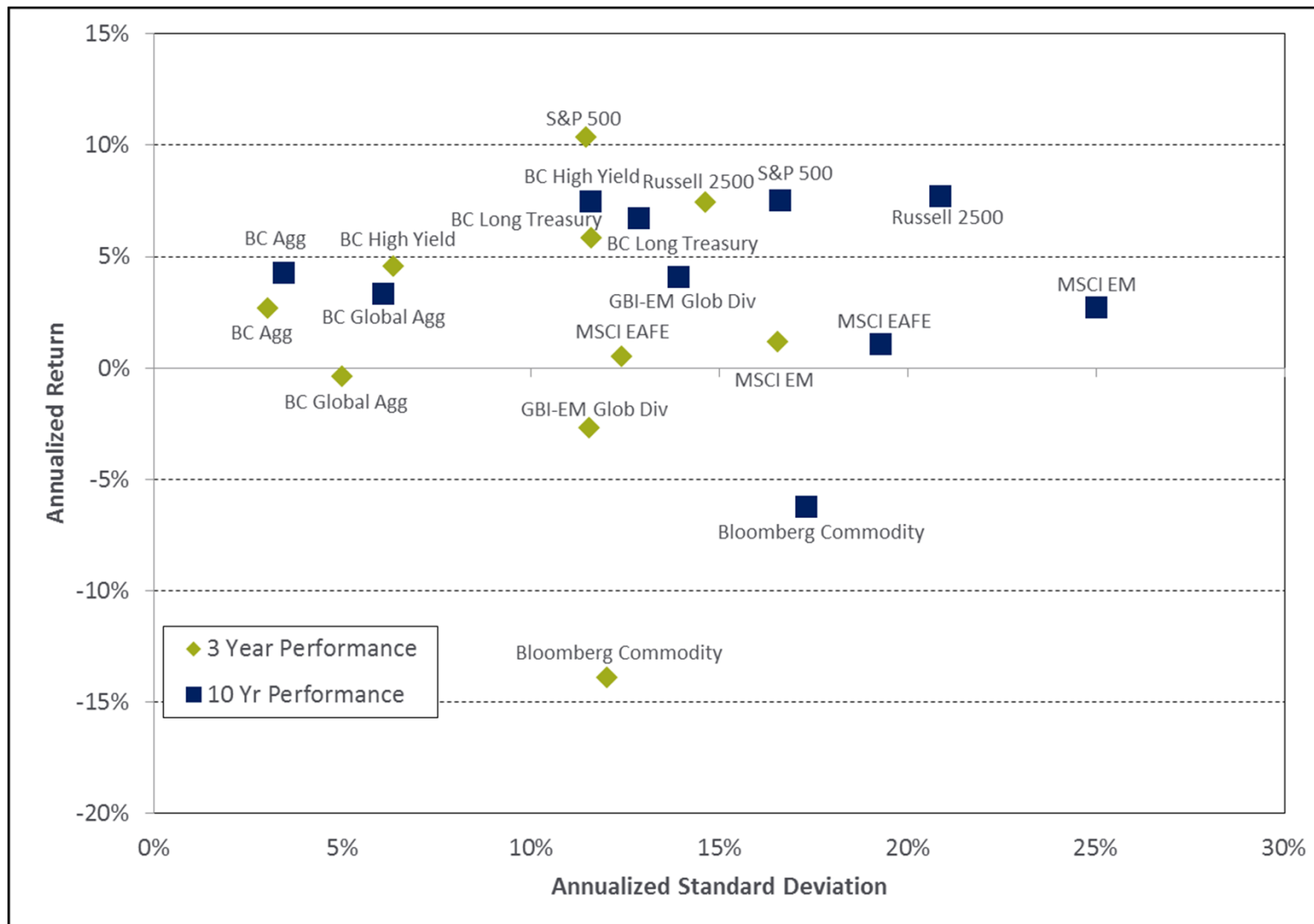


Near Term Broad Market Performance Summary as of 03/31/2017



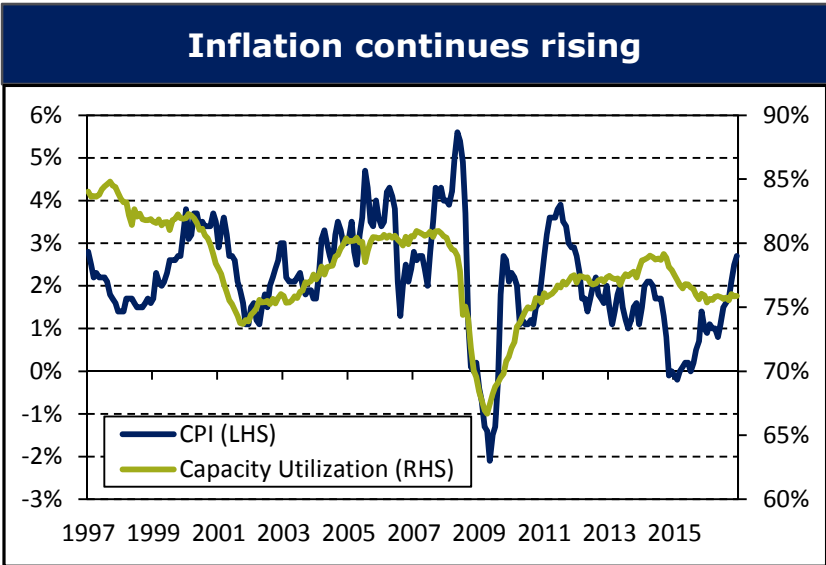
Source: Bloomberg, Standard and Poors, Russell, MSCI, Barclays, JP Morgan
 *1 Yr Range: Represents range of cumulative high/low daily index returns for an investment made one year ago

Long Term Broad Market Performance Summary as of 03/31/2017

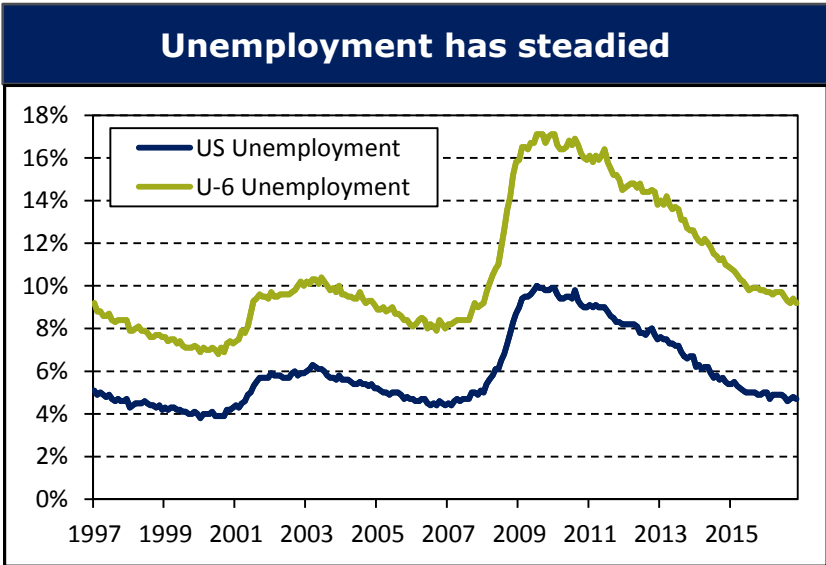


Source: Bloomberg, Standard and Poors, Russell, MSCI, Barclays, JP Morgan

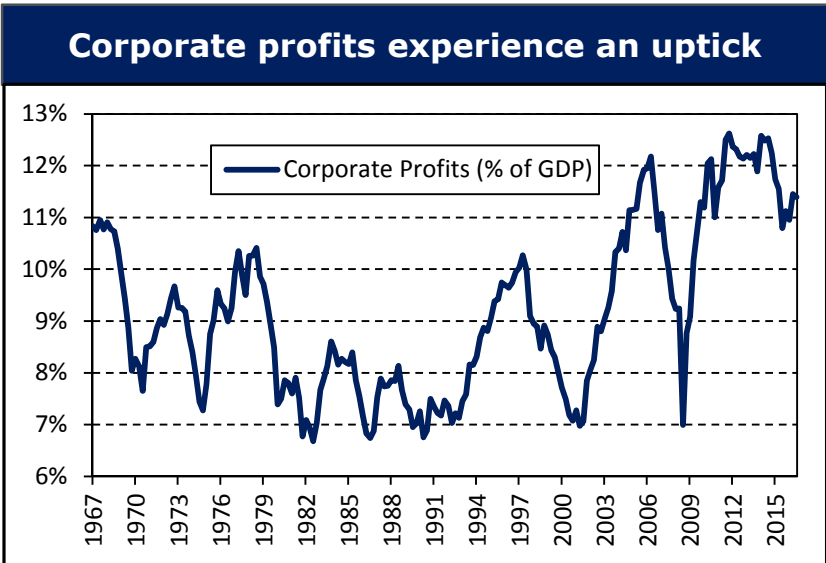
US Economic Indicators



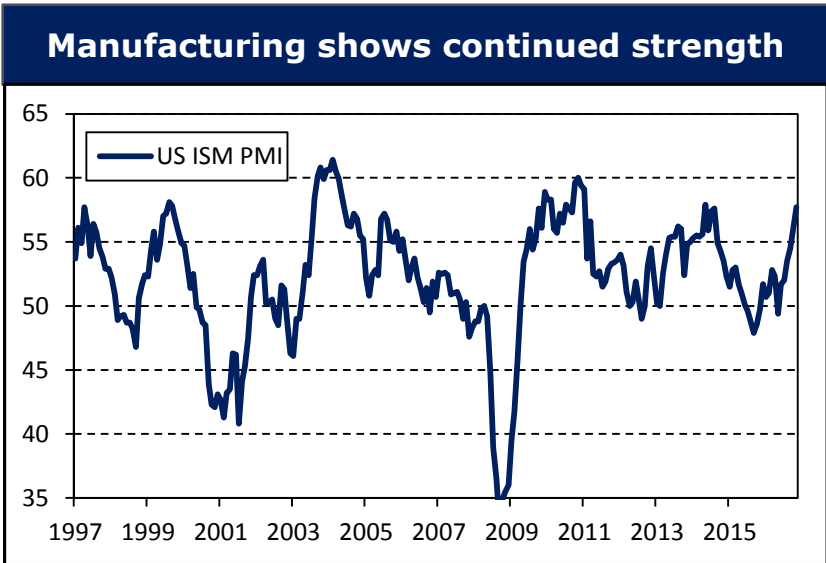
Source: Bloomberg, Federal Reserve, Bureau of Labor Statistics



Source: Bloomberg, Bureau of Labor Statistics



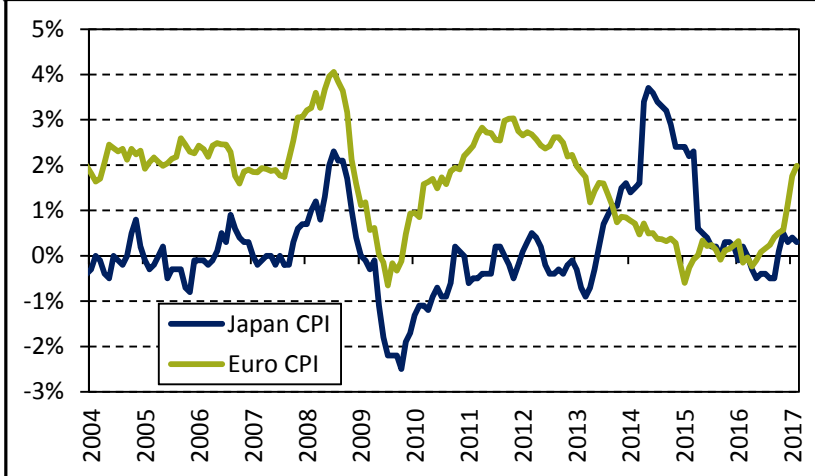
Source: Bloomberg, Bureau of Economic Analysis



Source: Bloomberg, Institute for Supply Management

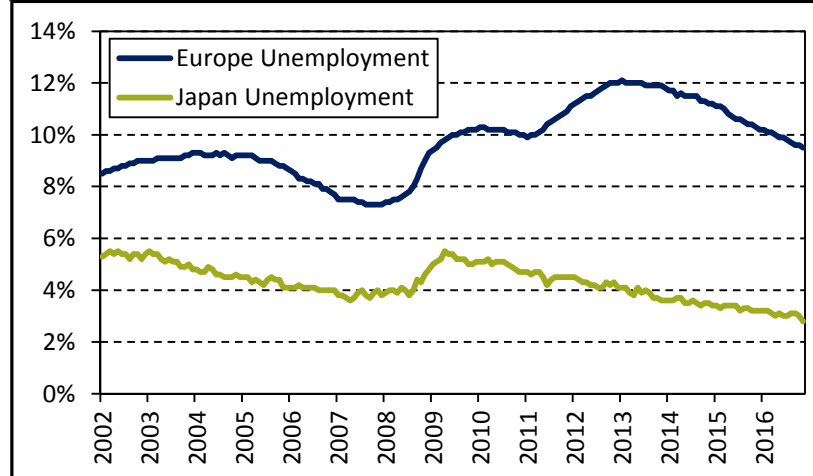
International Economic Indicators

Eurozone inflation continues to rise



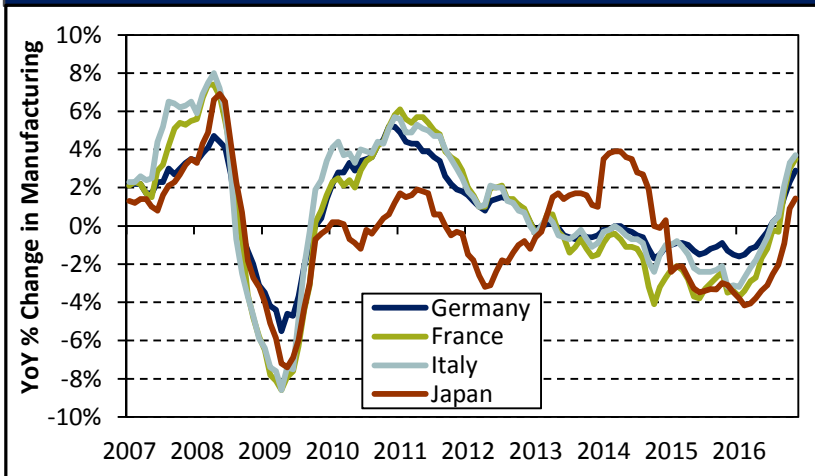
Source: Bloomberg, Japan Ministry of Internal Affairs and Communications, Eurostat

Europe unemployment edges lower



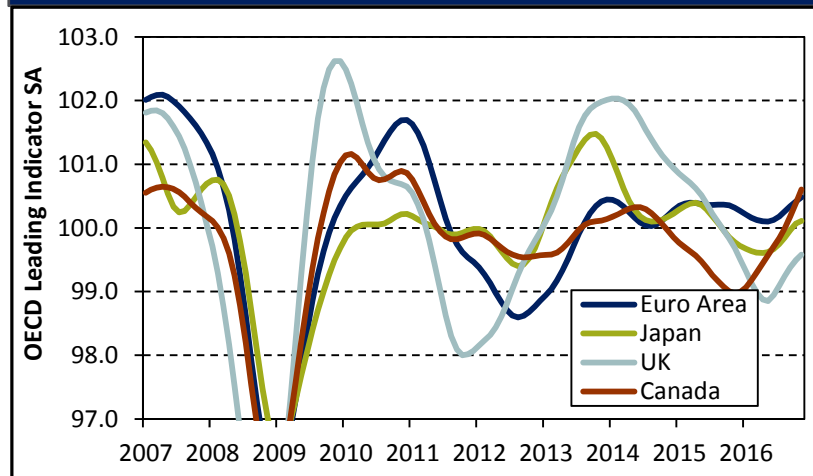
Source: Bloomberg, Japan Ministry of Internal Affairs and Communications, Eurostat

Manufacturing shows continued strength



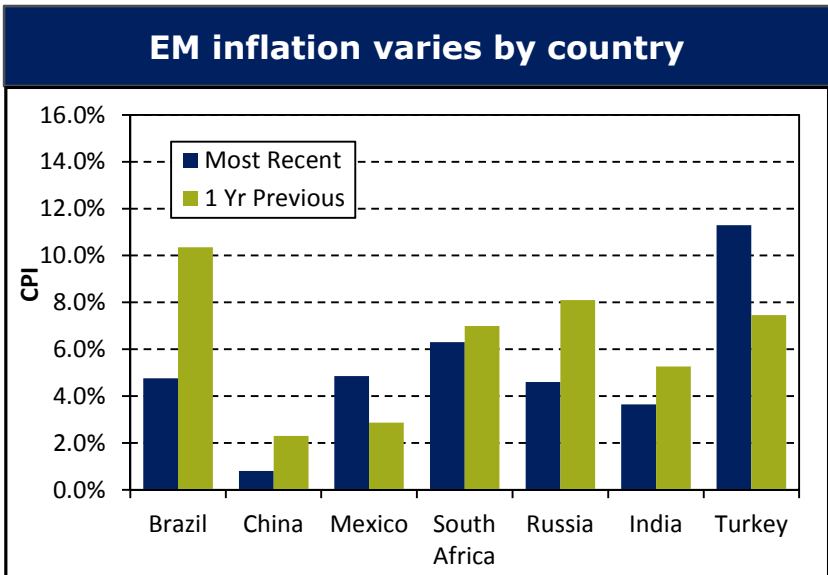
Source: Bloomberg, OECD, Eurostat

Leading indicators are trending higher

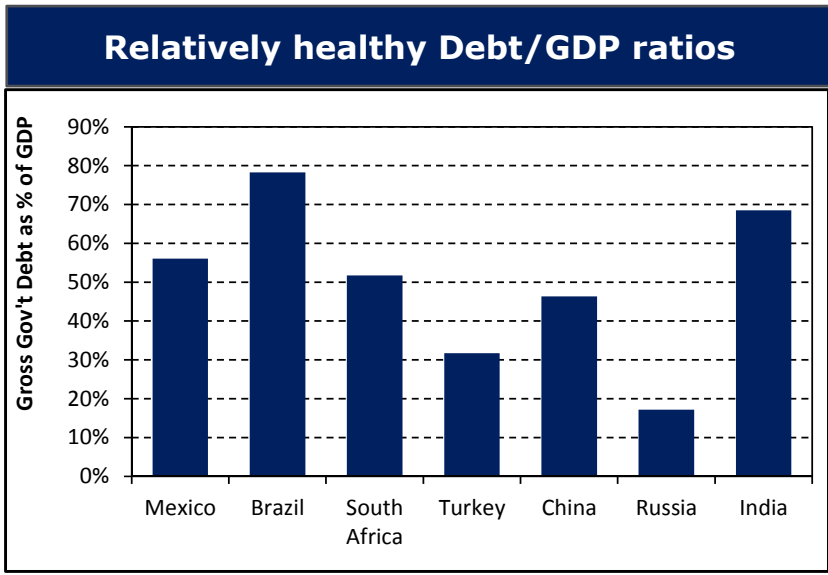


Source: Bloomberg, OECD

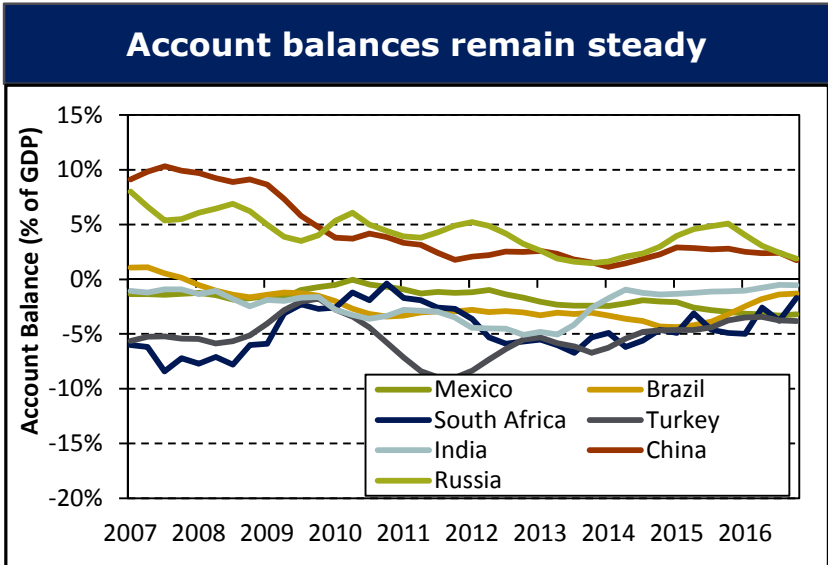
Emerging Market Economic Indicators



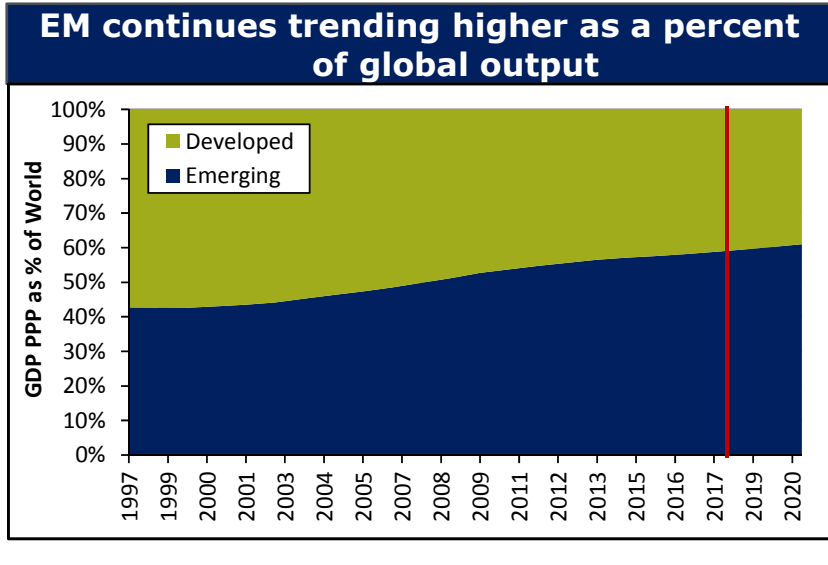
Source: Bloomberg



Source: Bloomberg, IMF



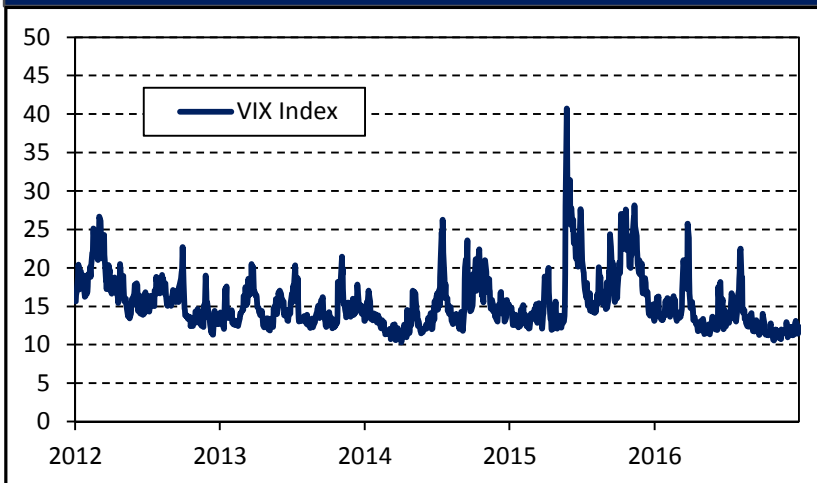
Source: Bloomberg



Source: Bloomberg, IMF

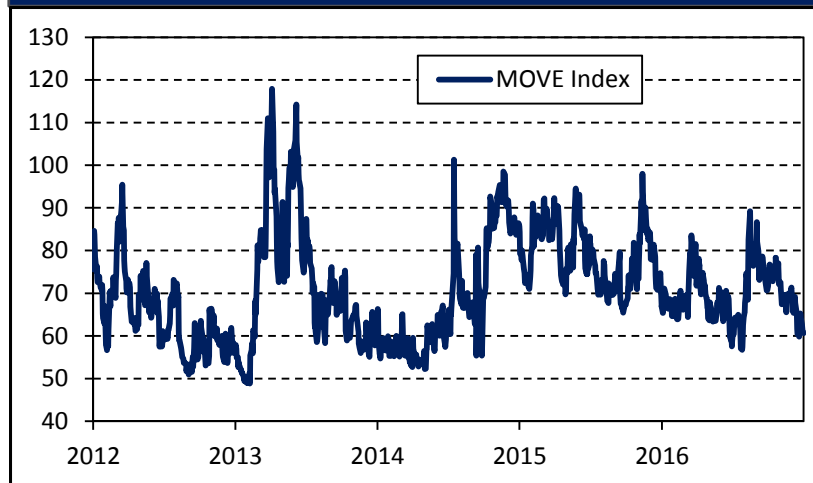
Volatility

Equity volatility remains low



Source: Bloomberg, CBOE

Treasury volatility has recently subsided



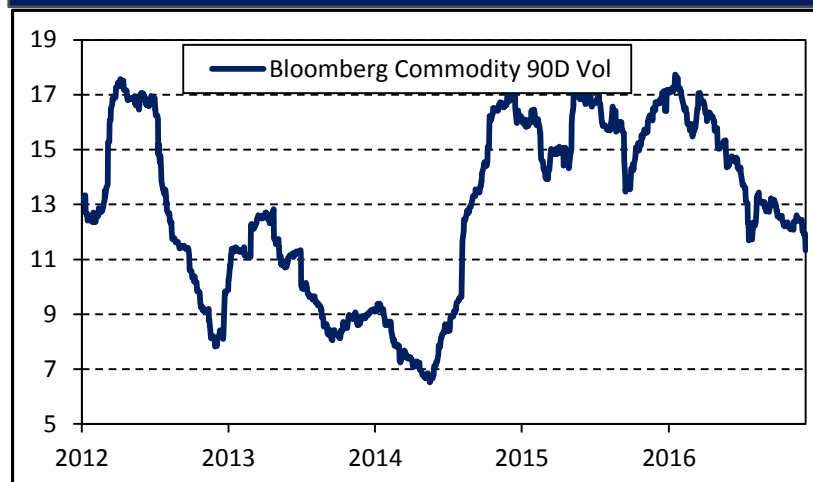
Source: Bloomberg, Merrill Lynch

Currency volatility remains elevated



Source: Bloomberg, Deutsche Bank

Commodity volatility continues to decline

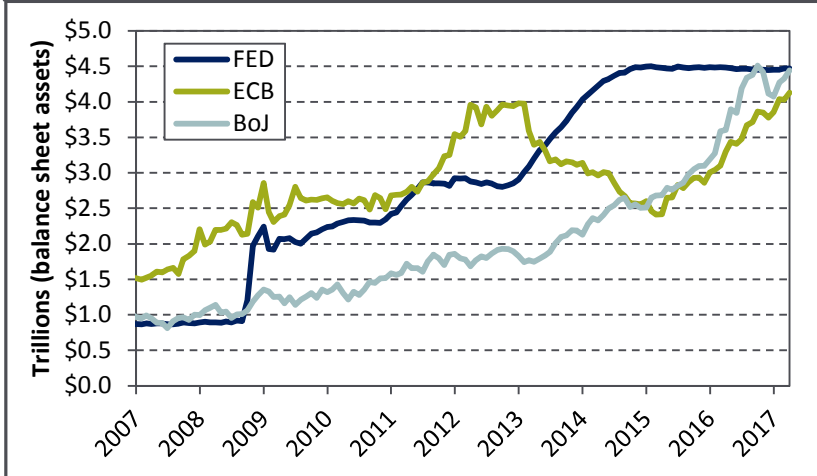


Source: Bloomberg, Merrill Lynch



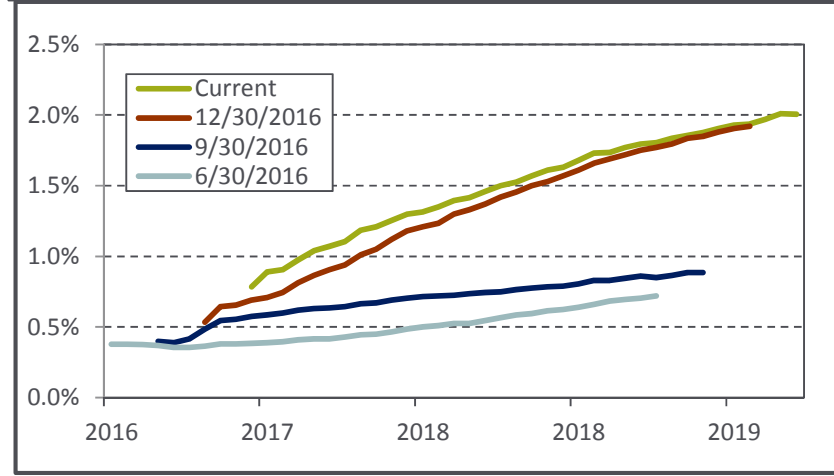
Central Banks

Currency movement continues impacting the value of the BoJ's balance sheet



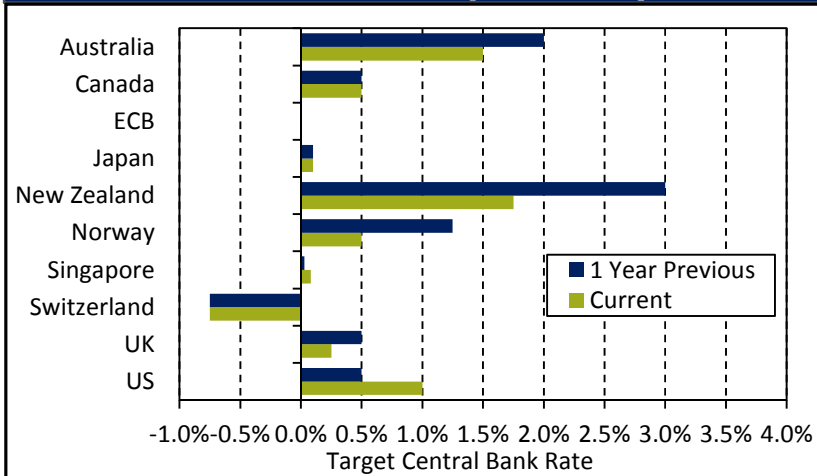
Source: Bloomberg, Federal Reserve, Bank of Japan, ECB, NEPC

Post-election yield curve has increased slightly with the Fed rate hike



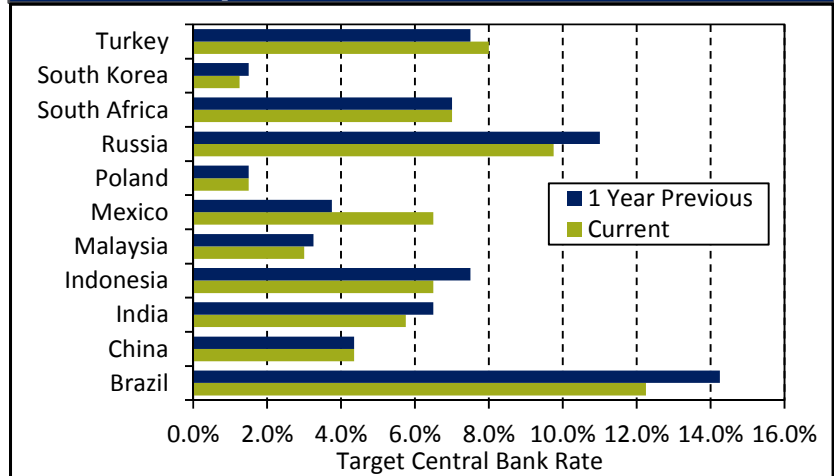
Source: Bloomberg, Federal Reserve

Ex- US developed market interest rates are lower than the previous year



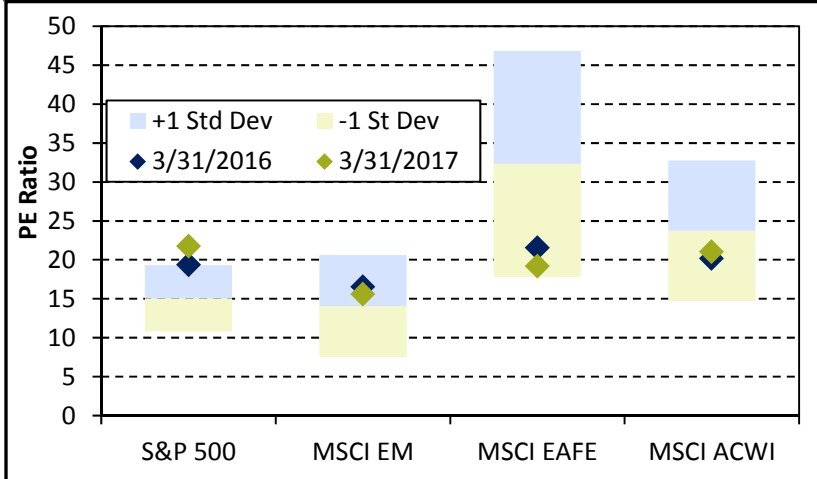
Source: Bloomberg

EM central bank policies vary by country-specific economic conditions



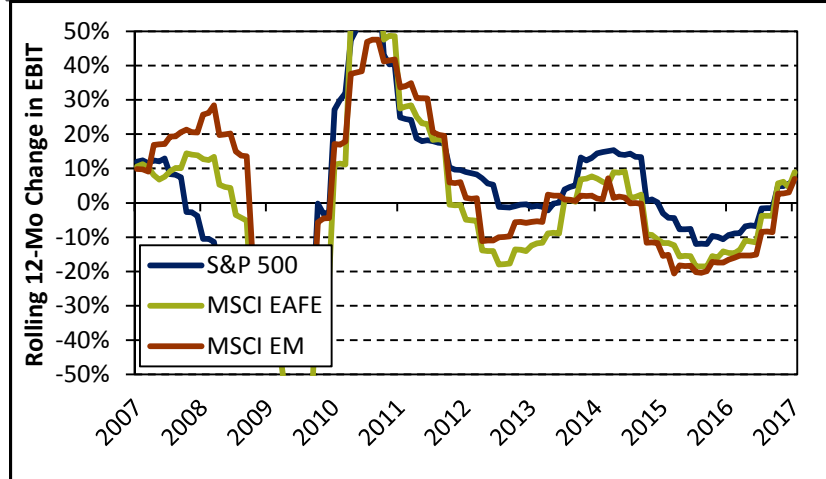
Source: Bloomberg

EM and EAFE valuations remain lower than the previous year



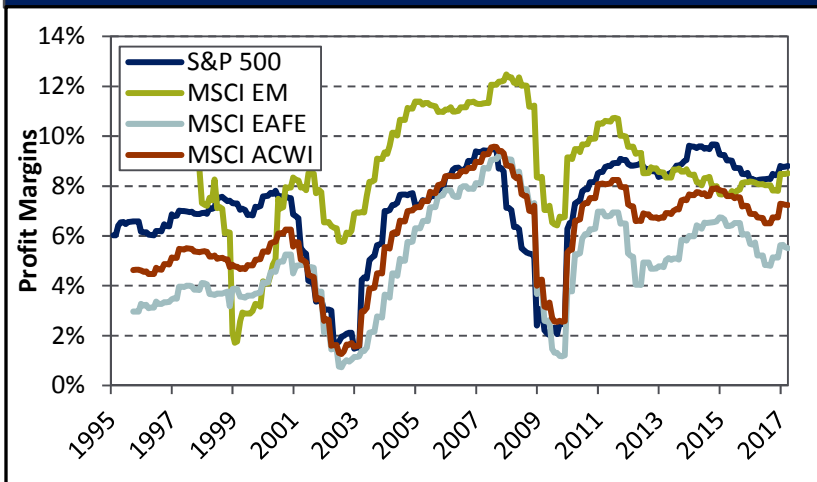
Source: Bloomberg, Standard and Poors, MSCI *MSCI EAFE is ex UK Telecom
*Standard deviation calculations on 20 years of data except S&P 500 (30 years)

Rolling annual earnings growth continues trending upward off contraction



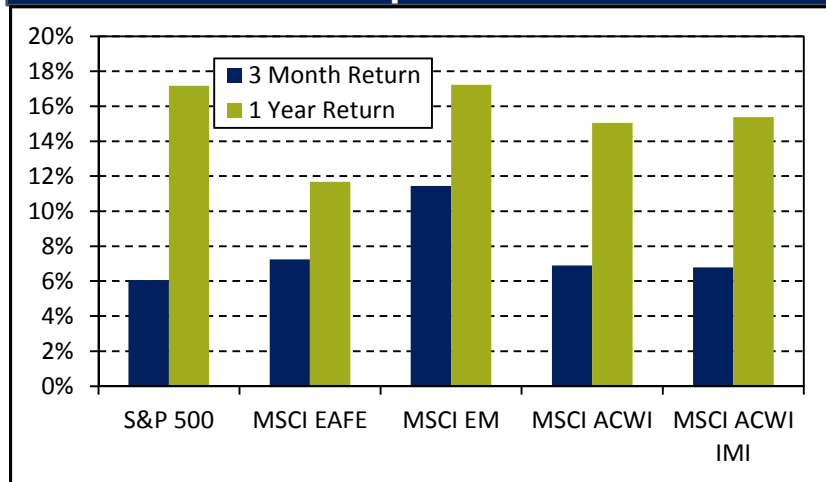
Source: Bloomberg, Standard and Poors, MSCI

Profit margins continue to increase



Source: Bloomberg, MSCI

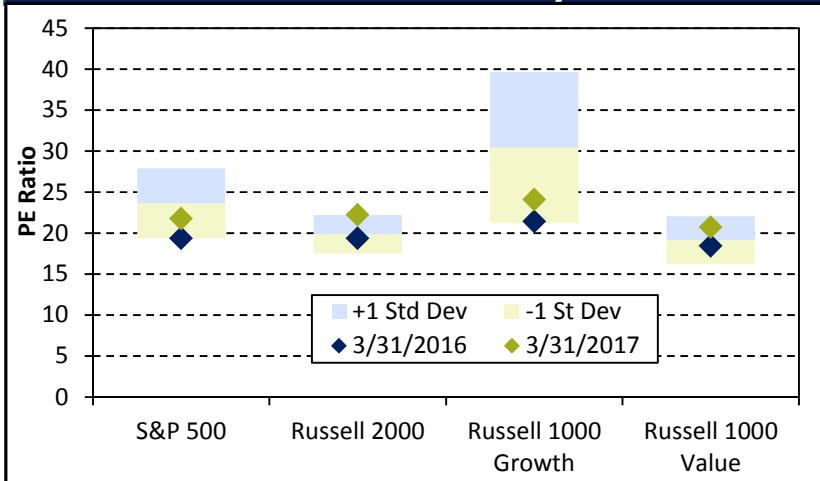
Equities have experienced positive short-term performance



Source: Bloomberg, MSCI

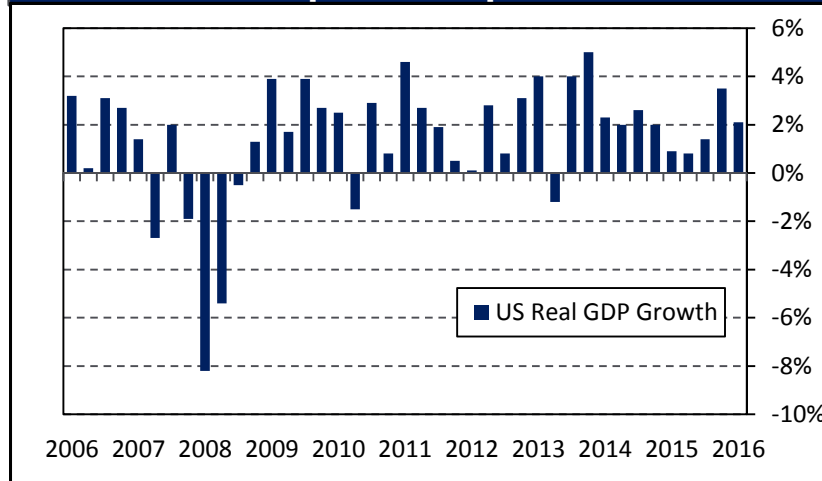
US Equity

US equity valuations remain elevated relative to last year



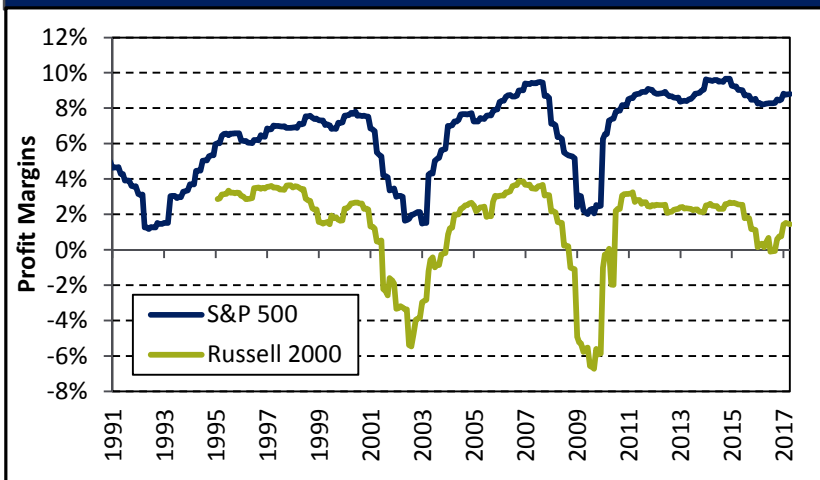
Source: Bloomberg, Standard and Poors, Russell *Russell 2000 PE is index adjusted positive* Standard deviation calculations based on 20 years of data

Real GDP growth declined from the previous quarter



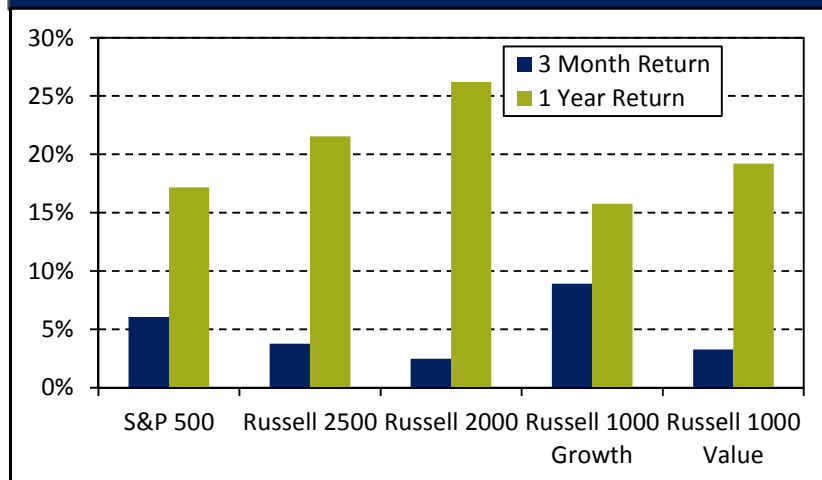
Source: Bloomberg, Bureau of Economic Analysis

Profit margins experience a slight uptick



Source: Bloomberg, Standard and Poors, Russell

US equity posts positive short-term returns

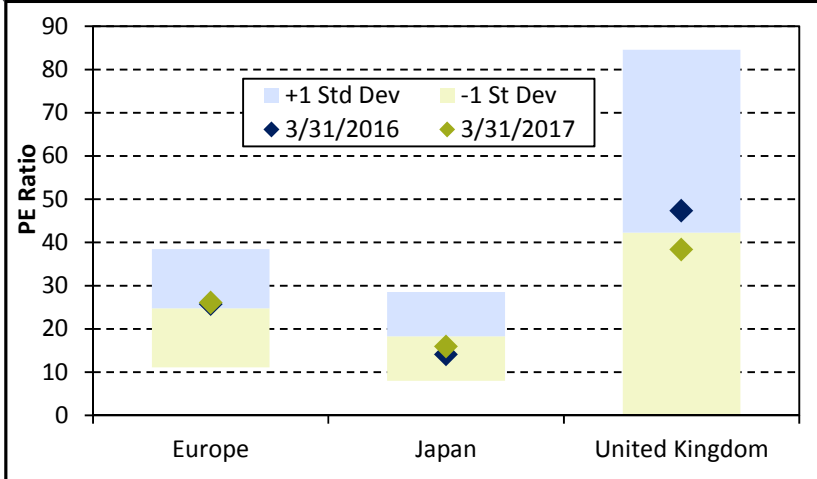


Source: Bloomberg, Standard and Poors, Russell



International Equity

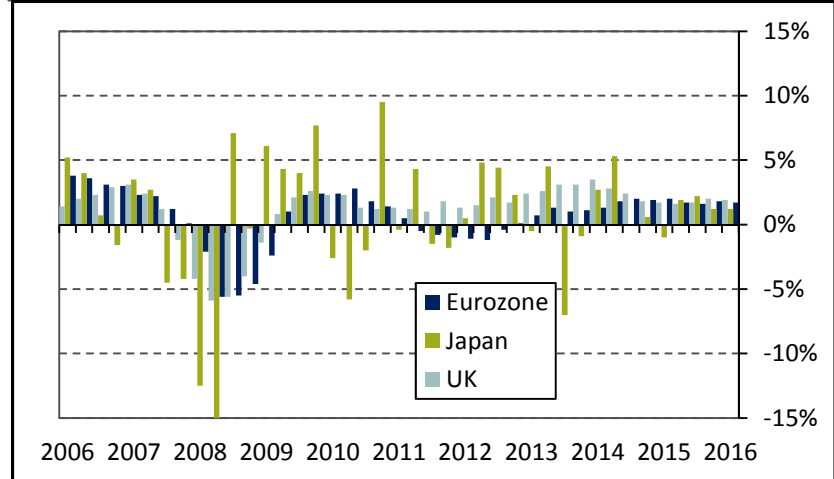
UK valuation falls below previous year level



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

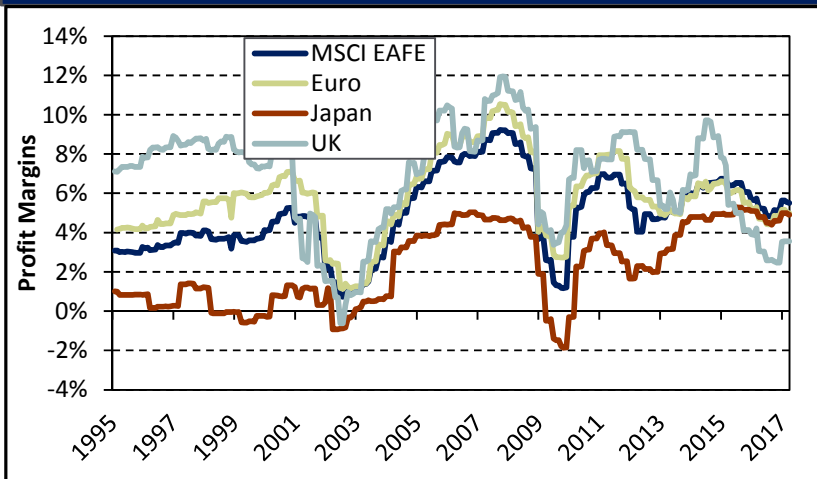
*Standard deviation calculations based on 20 years of data, with Europe since 12/1998

International growth has steadied



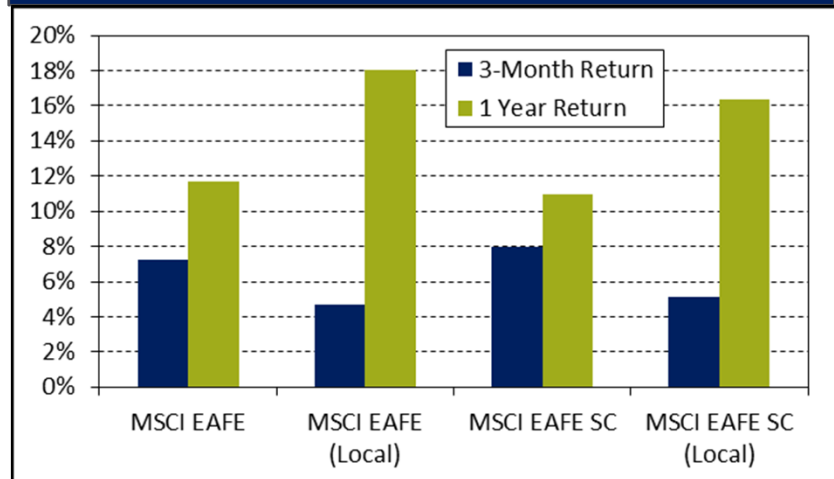
Source: Bloomberg

Profit margins continue trending higher



Source: Bloomberg, MSCI

Strong short-term performance for EAFE

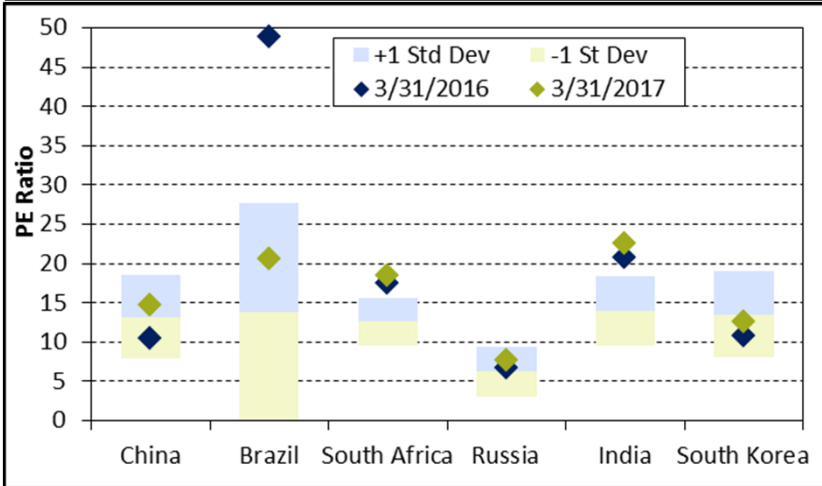


Source: Bloomberg, MSCI



Emerging Markets Equity

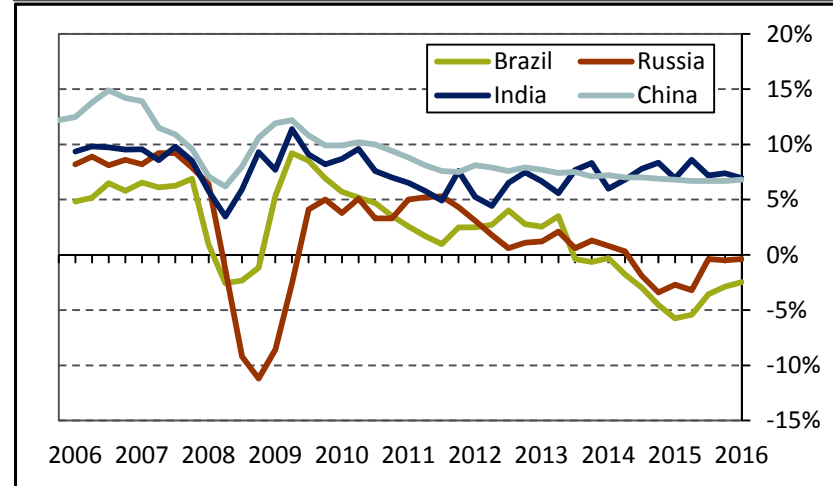
Ex-Brazil, current year valuations remain higher than the previous year



Source: Bloomberg, MSCI

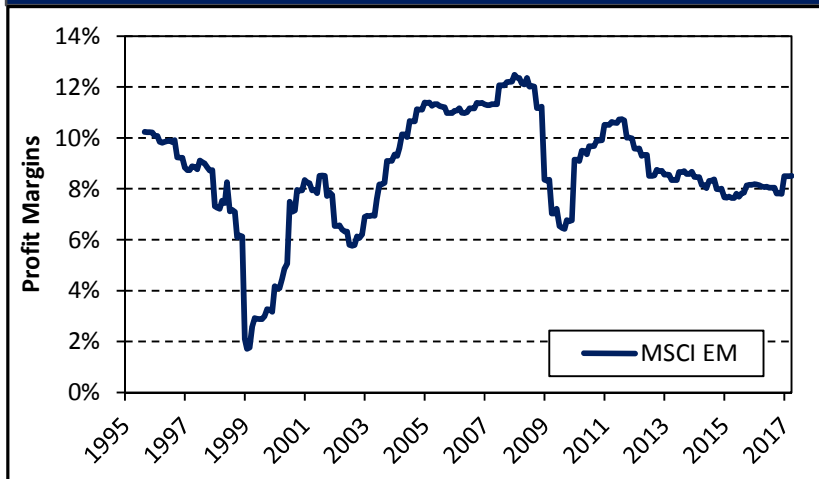
*Standard deviation calculations based on 20 years of data, with Russia since 01/1998

Brazil continues to rebound off earnings contraction



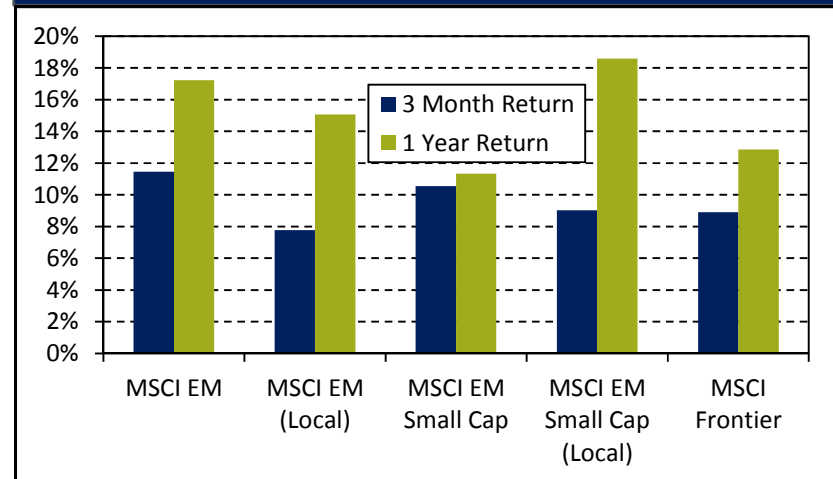
Source: Bloomberg

Profit margins experience slight uptick



Source: Bloomberg, MSCI

EM posts strong short-term returns

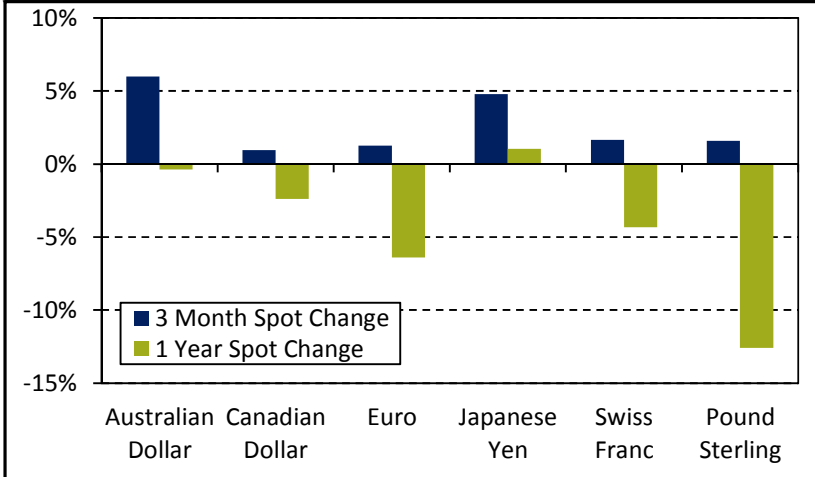


Source: Bloomberg, MSCI



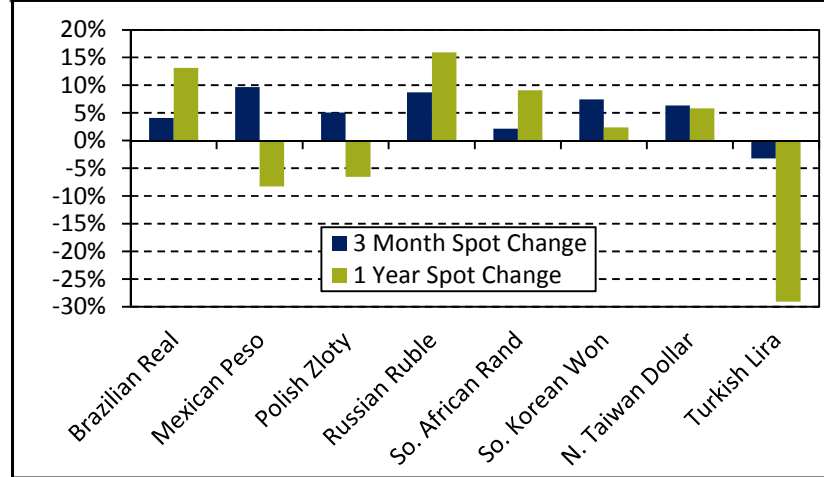
Currencies

International currencies have appreciated with the dollar decline



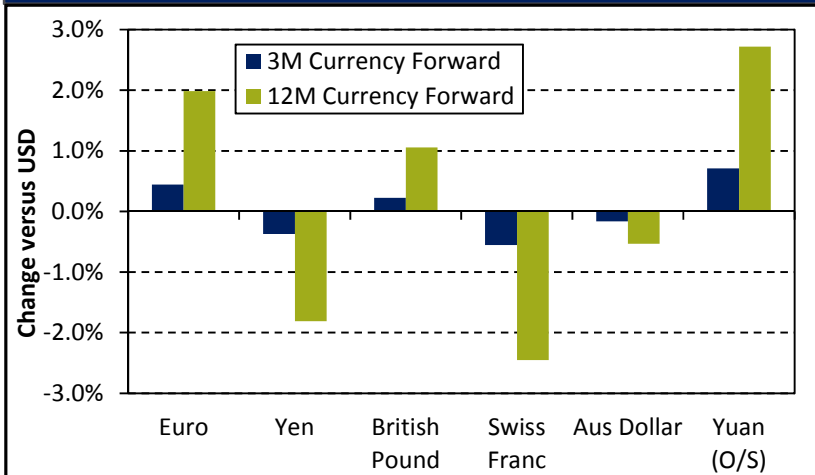
Source: Bloomberg

The Lira has experienced sharp depreciation



Source: Bloomberg

USD expectations vary across developed markets



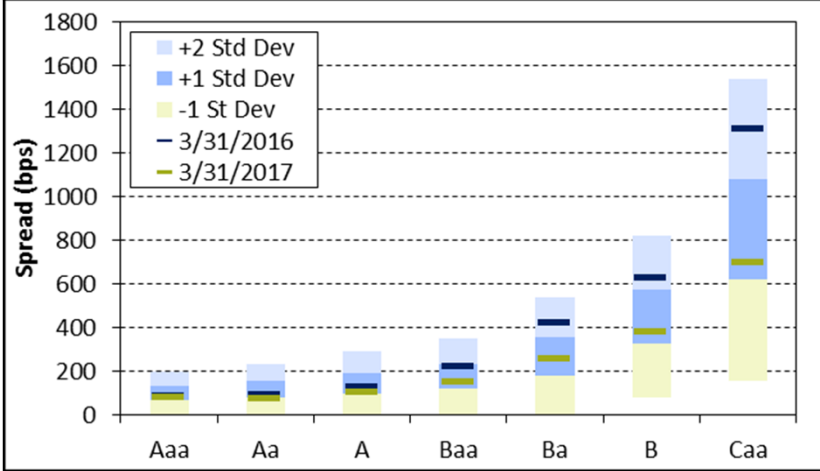
Source: Bloomberg

The dollar has steadied in 2017



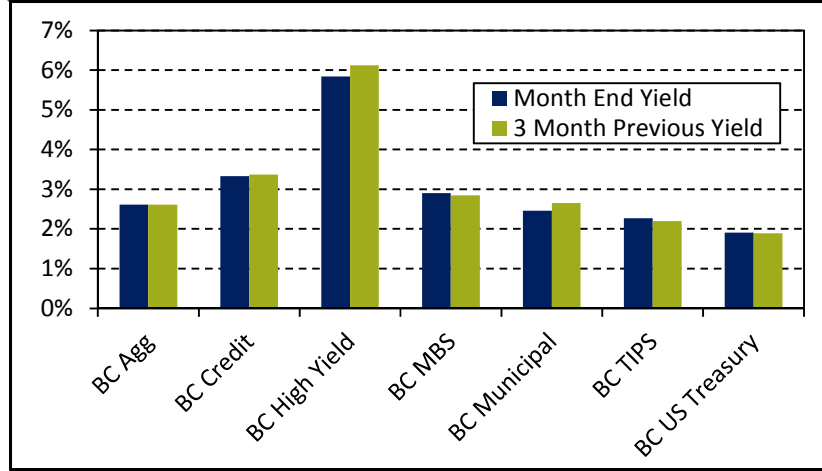
Source: Bloomberg, Federal Reserve

Spreads remain lower than the previous year



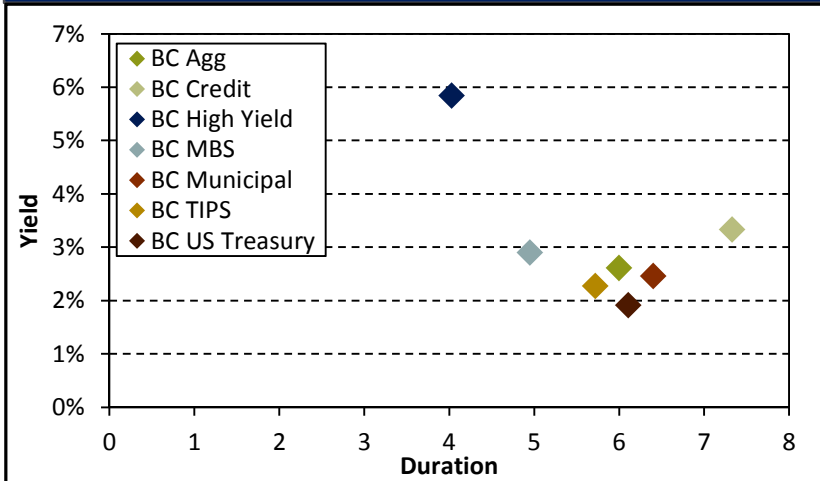
Source: Bloomberg, Barclays
*Standard deviation calculations based on 20 years of data

Yields are similar to three months prior



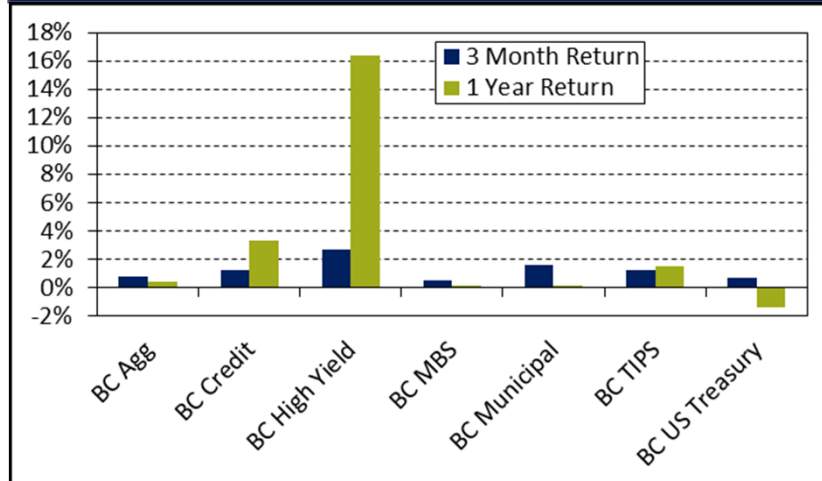
Source: Bloomberg, Barclays

Similar duration/yield profiles among core indices



Source: Bloomberg, Barclays

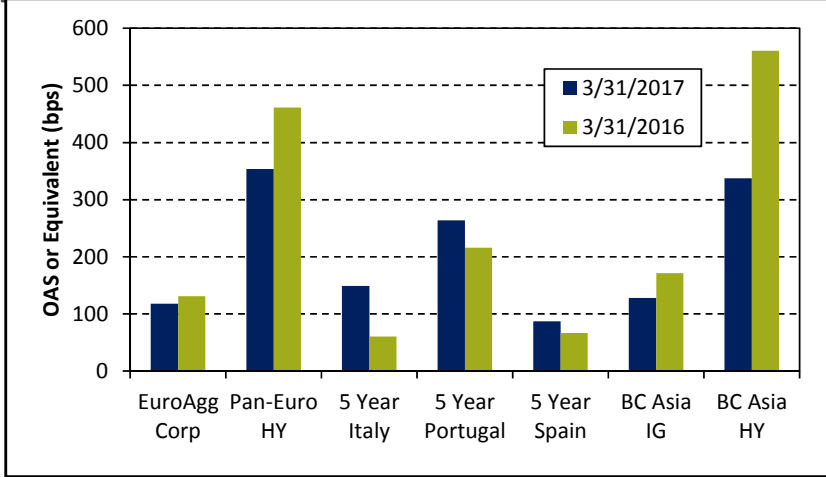
High yield continues to outperform other fixed income indices



Source: Bloomberg, Barclays

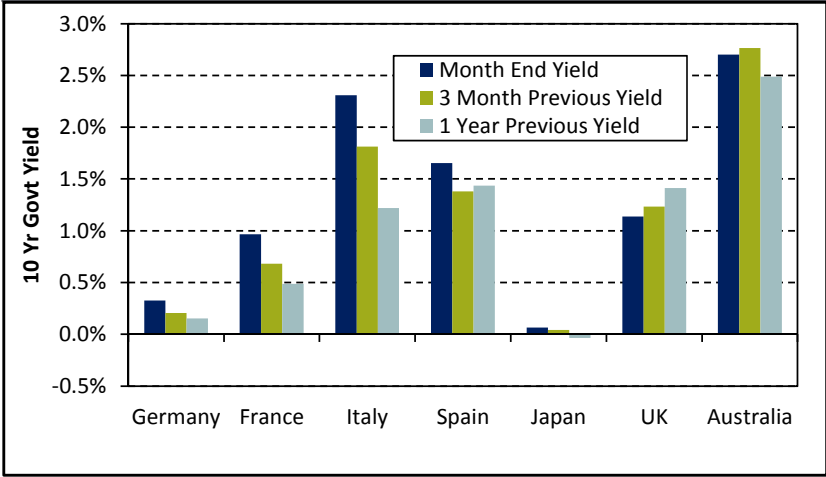
International Developed Fixed Income

European periphery yields vary relative to Germany



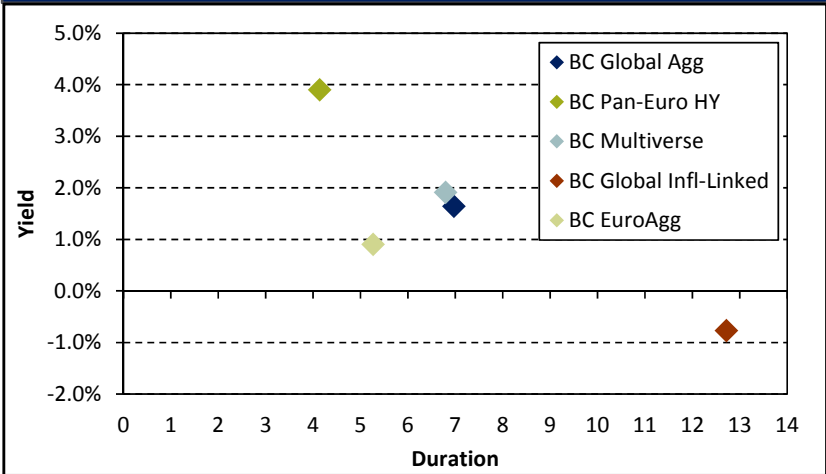
Source: Barclays, Bloomberg, *European periphery spreads are over equivalent German Bund

Ex the UK and Australia, international developed market yields have increased



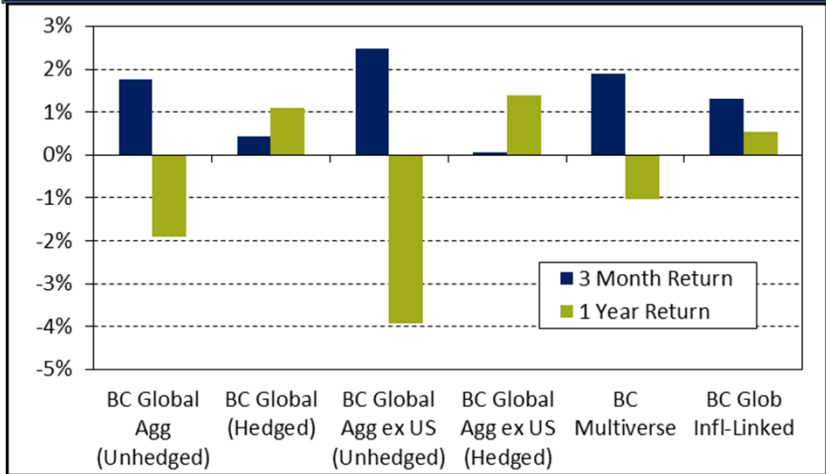
Source: Bloomberg

Low yields persist in global bond universe



Source: Bloomberg, Citigroup, Barclays

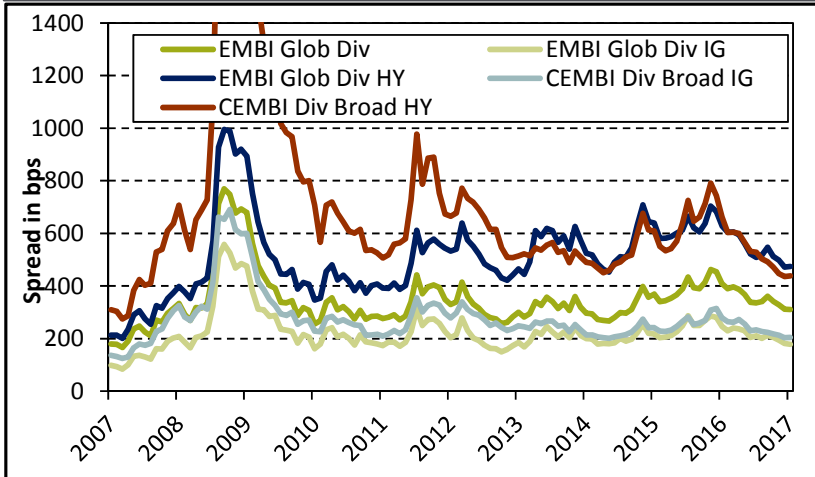
Global bonds post relatively strong short-term returns



Source: Bloomberg, Citigroup, Barclays

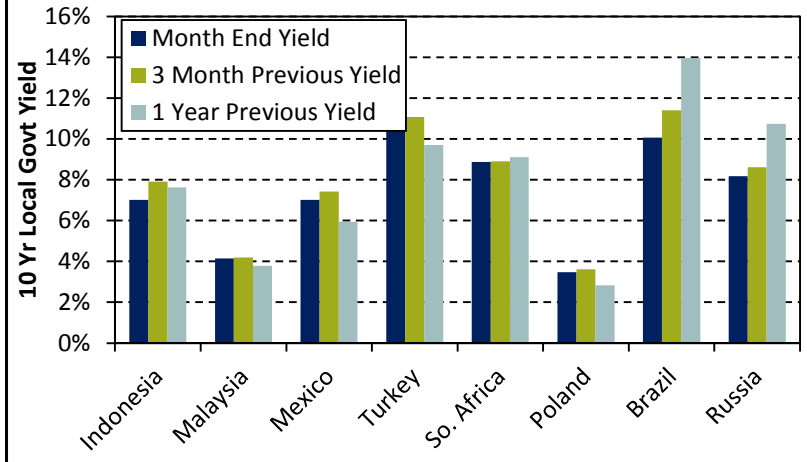
Emerging Markets Fixed Income

Spreads continue to decline



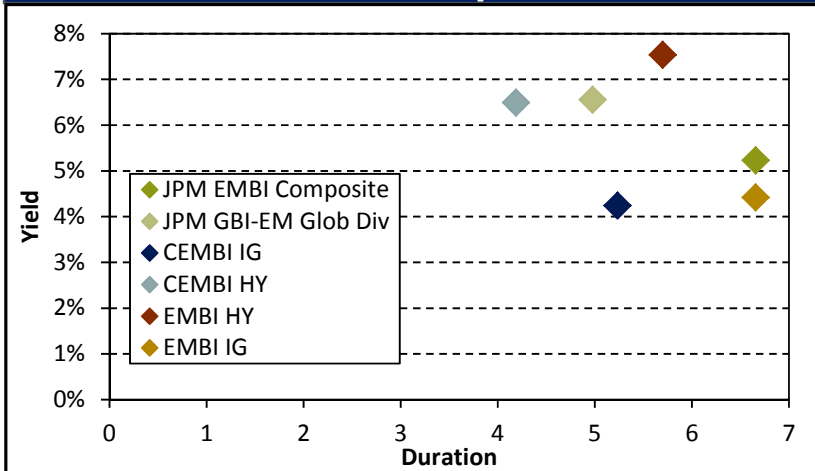
Source: Bloomberg, JP Morgan

Ex Russia and Brazil, EM local bond yields remain largely unchanged for the year



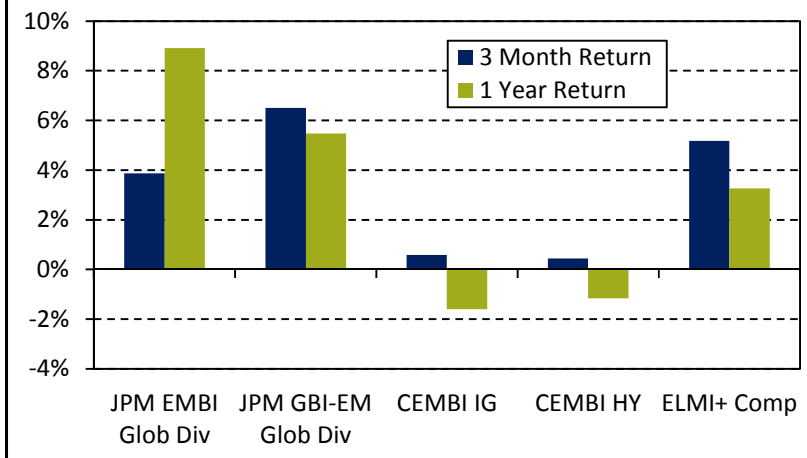
Source: Bloomberg

EM yields remain attractive versus global counterparts



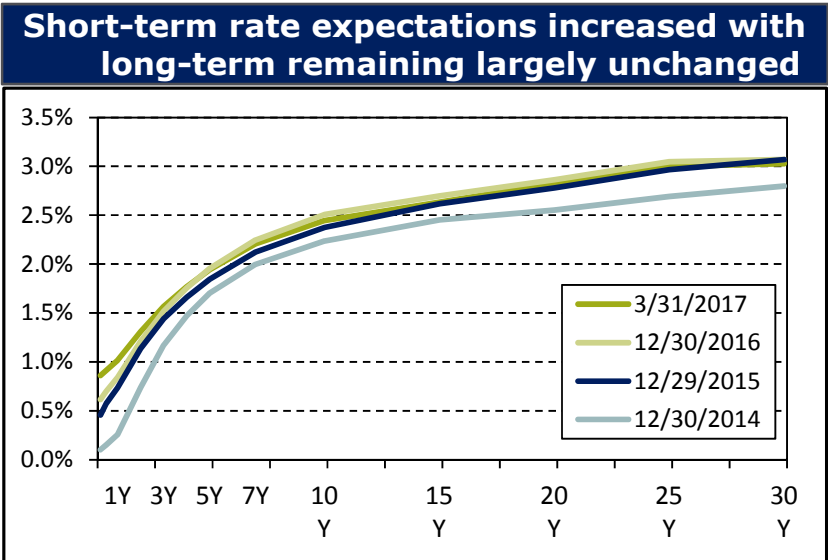
Source: Bloomberg, JP Morgan

EM debt posts strong positive short-term returns

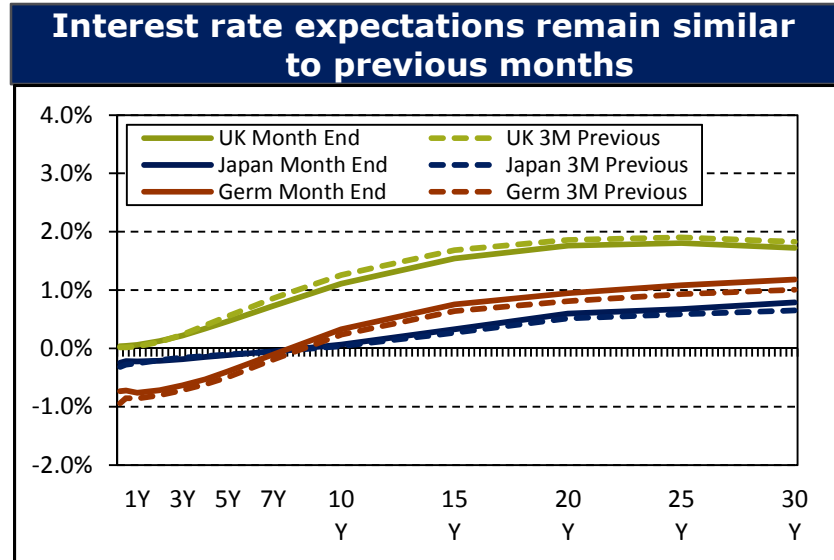


Source: Bloomberg, JP Morgan

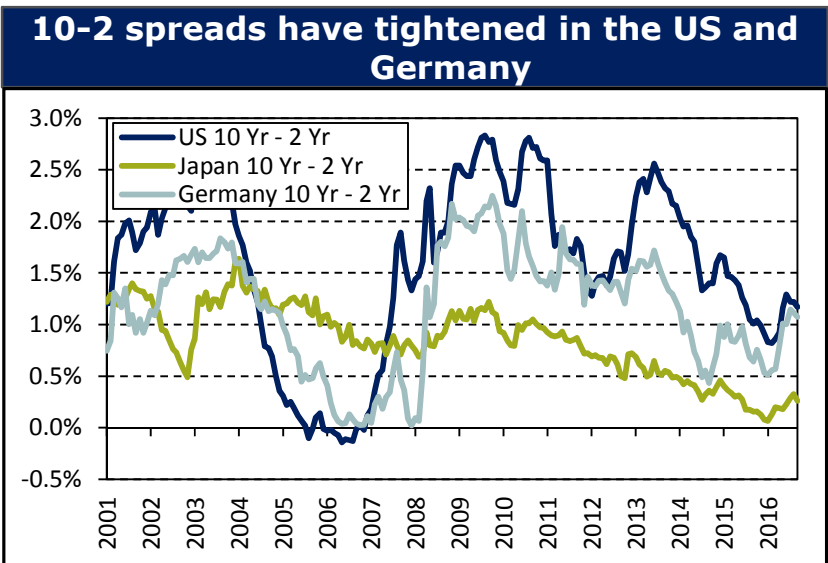




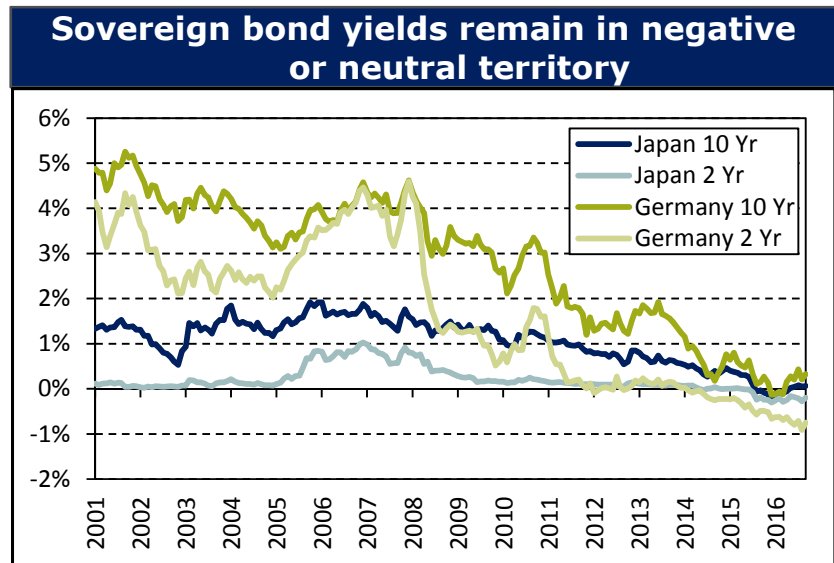
Source: Bloomberg



Source: Bloomberg



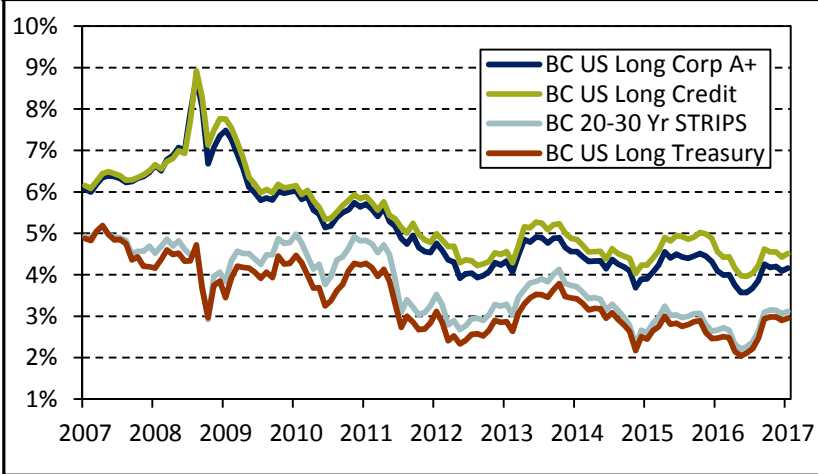
Source: Bloomberg



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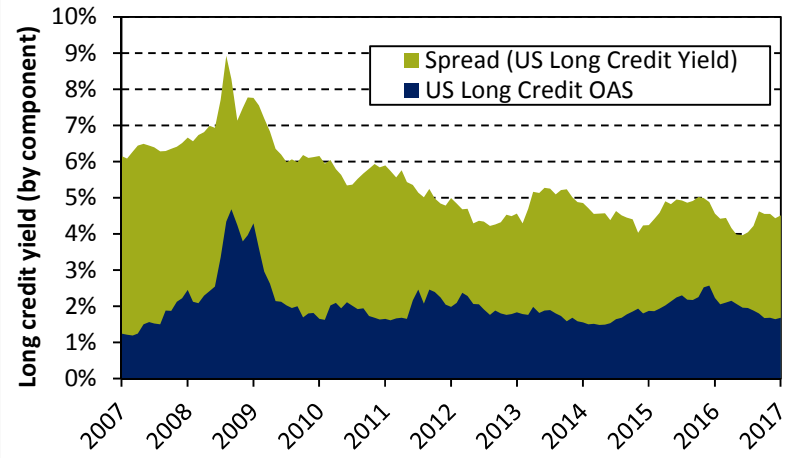
Long Rates and Liability

Long duration yields have steadied



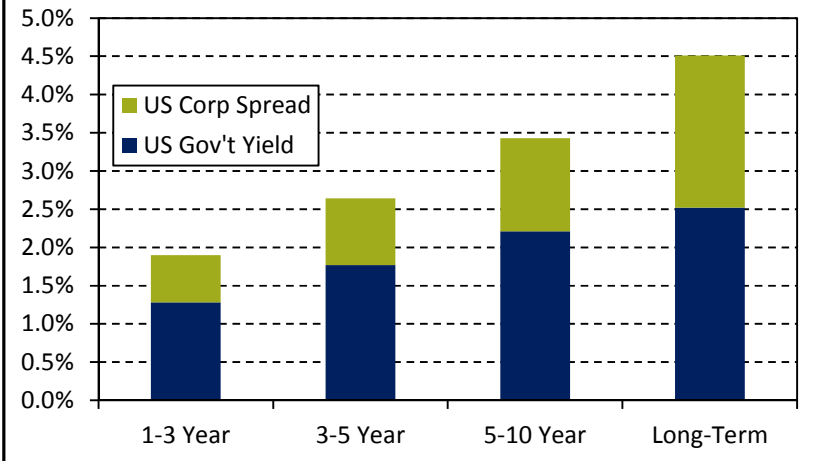
Source: Bloomberg, Citigroup, Barclays

Long credit yield remains in line with previous years



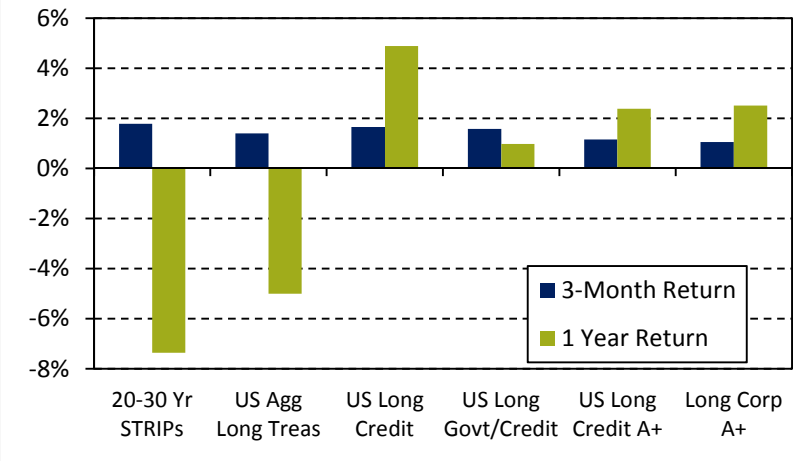
Source: Bloomberg, US Treasury, Barclays, NEPC

Yield and spread components continue to offer modest returns



Source: Bloomberg, Barclays

Long duration fixed income posts short-term gains

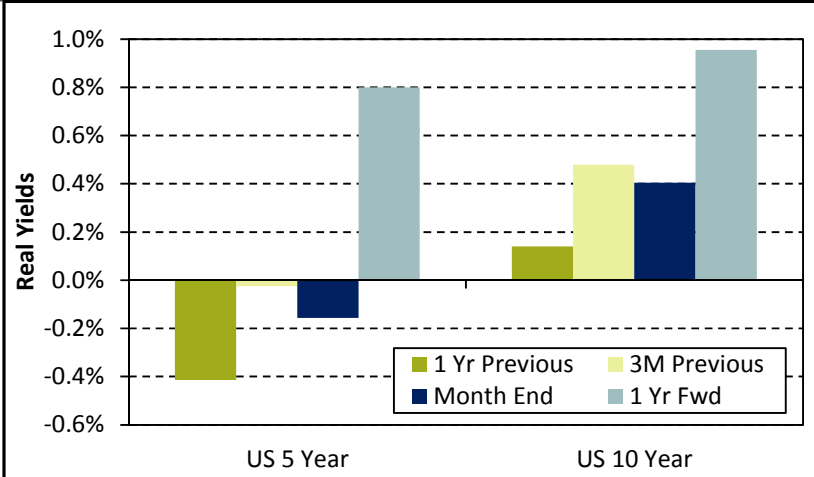


Source: Bloomberg, Barclays



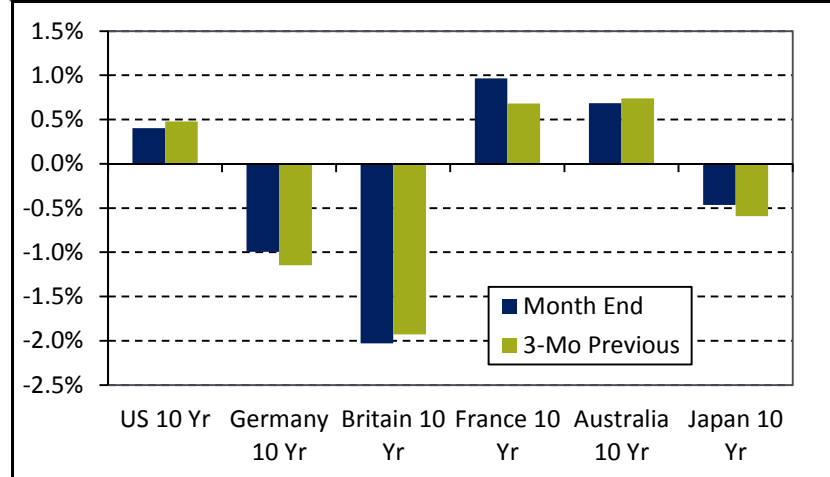
Inflation and Real Rates

US 5 and 10 year real yields decreased from three months prior



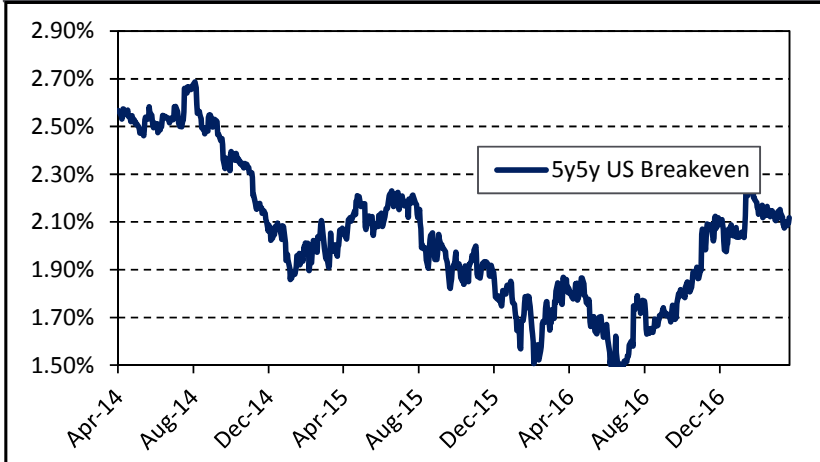
Source: Bloomberg

France's yield has increased with election uncertainty



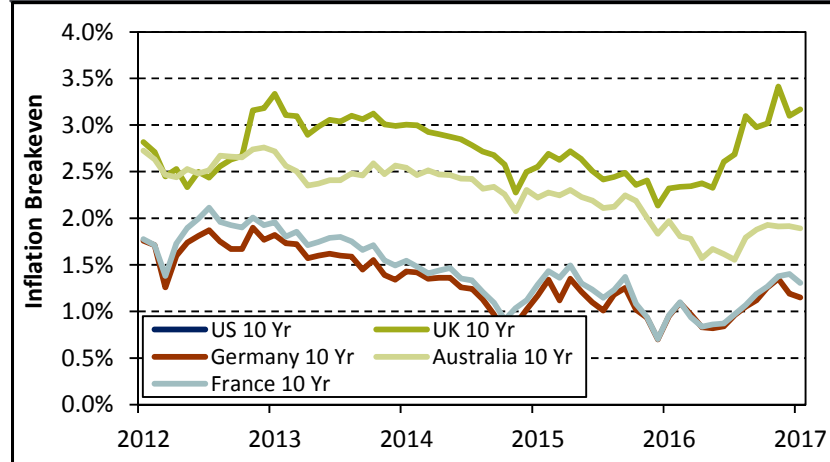
Source: Bloomberg

US inflation expectations have decreased off of post US election highs



Source: Bloomberg

Germany and France inflation expectations have begun to fall

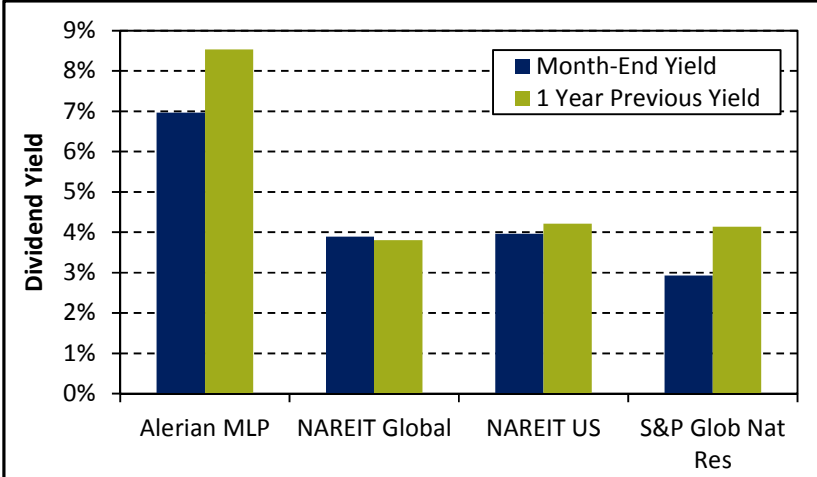


Source: Bloomberg



Inflation-Sensitive Growth Assets

MLP yields remain similar to the previous year



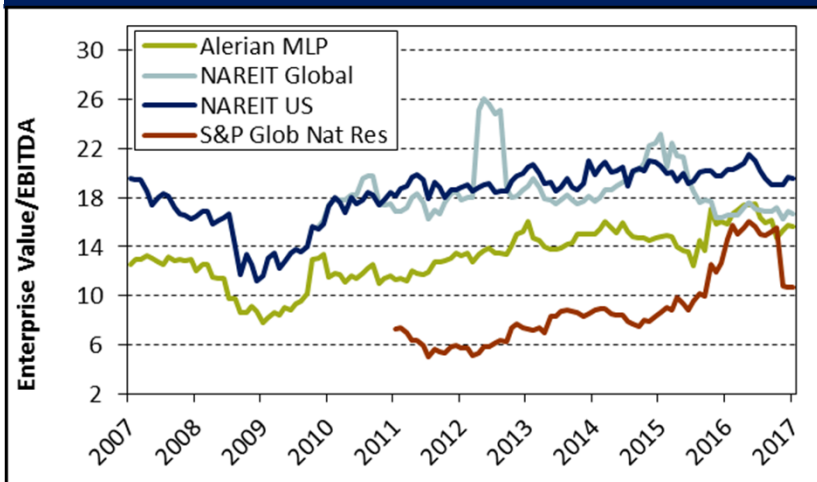
Source: Bloomberg, Alerian, Nareit, Standard and Poors

Sustained recovery in commercial real estate occupancy rates



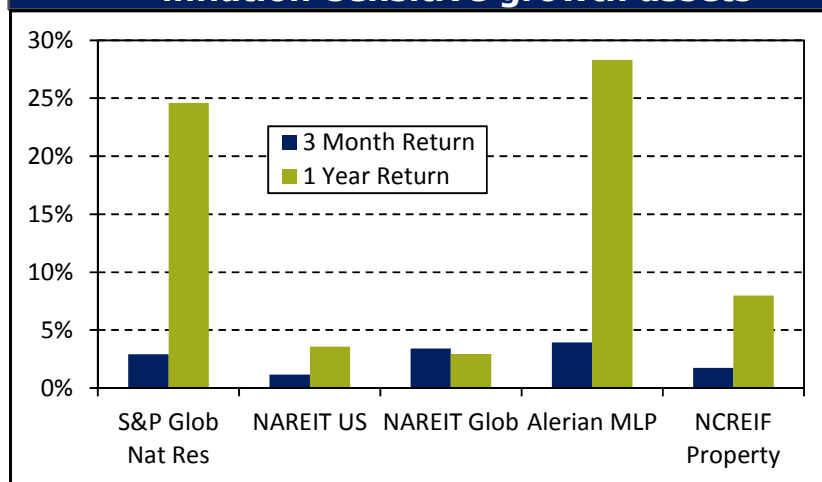
Source: NCREIF

US REIT valuations have steadied



Source: Bloomberg, US Census Bureau

Positive short-term performance for inflation-sensitive growth assets

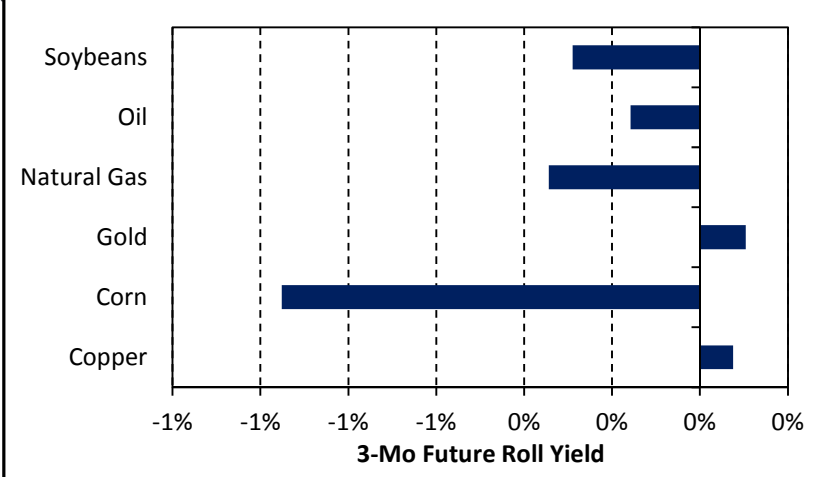


Source: Bloomberg, Alerian, Nareit, Standard and Poors



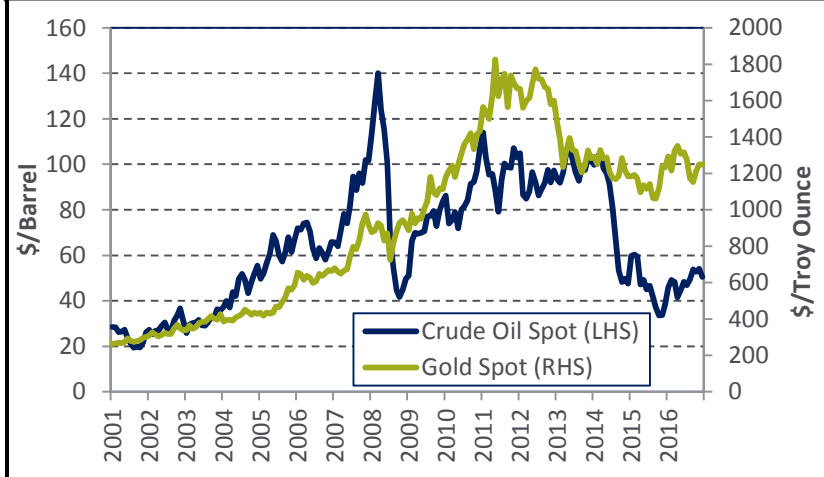
Commodities

Negative roll yields remain a hurdle for investing directly in oil and natural gas



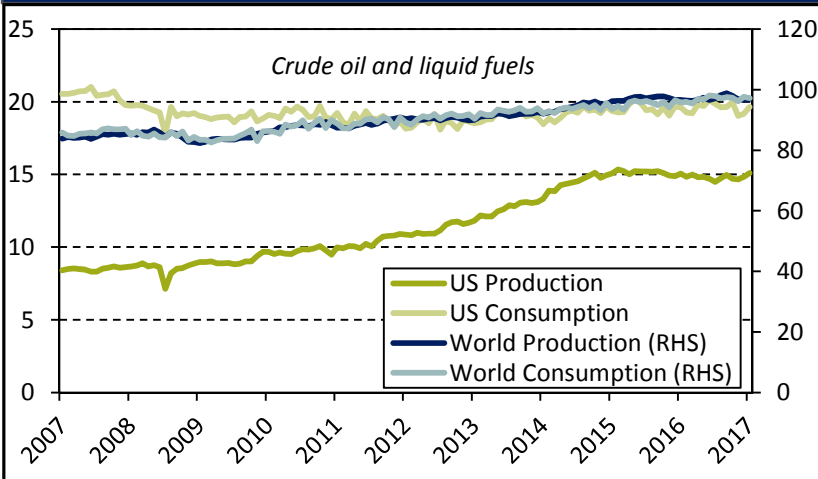
Source: Bloomberg

Oil has slightly declined for the month



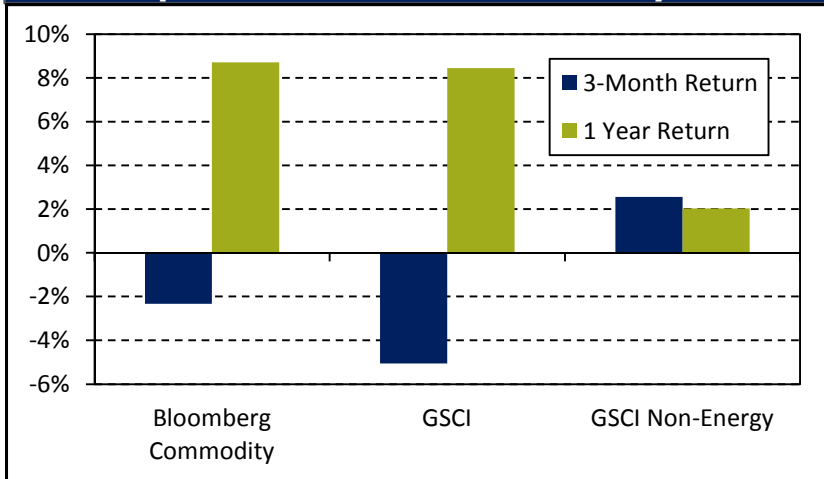
Source: Bloomberg

Oil production and consumption has steadied



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

Non-energy commodities have outperformed broad commodity indices



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:

(Annualized Return of Portfolio - Annualized Return of Benchmark)/Annualized Standard Deviation(Period Portfolio Return - 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:

*Calculation Average (X-Y)/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:

(Annualized Return of Portfolio - Annualized Return of Risk Free) / 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:

*Tracking Error = 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:

(Portfolio Average Return - Average Return of Risk-Free Rate)/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.

UpsideCapture = TotalReturn(FundReturns)/TotalReturns(BMReturn) when Period Benchmark Return is ≥ 0

DownsideCapture = TotalReturn(FundReturns)/TotalReturns(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.**
- **This report is provided as a management aid for the client's internal use only. This report may contain confidential or proprietary information and may not be copied or redistributed to any party not legally entitled to receive it.**

Information Disclaimer and Reporting Methodology

Information Disclaimer

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

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