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Vermont Pension Investment Committee

First Fiscal Quarter 2017 Preliminary Investment Performance Analysis

November 29th, 2016

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NEPC Update



Highlights of Third Quarter Happenings at NEPC

September 30, 2016

NEPC Insights

Recent White Papers

- “DC Governance: Slaying the Hydra” (August)
- “Nonprofit Annual Audit Survival Guide” (August)
- “Class is in Session: Lawsuits Against Higher Education Retirement Plans” (September)
- Market Chatter: “NEPC’s Summer Travel: Perspectives on China” (September)
- NEPC’s 11th Annual Defined Contribution Plan & Fee Survey

Webinar

- “2016 Defined Contribution Plan & Fee Survey Webinar” (September); Panel reviewed key findings from our 11th annual NEPC 2016 Defined Contribution Plan & Fee Survey.

Video Series

- “Five Questions with Jeff Roberts on Healthcare Strategic Private Equity Investing” (July)
- “Five Questions with Richard M. Charlton” (July)
- “Discussing Pension Risk Transfers with Chris Levell and Craig Svendsen” (August)

NEPC Recognitions

We are pleased to announce that *Chief Investment Officer* published their fifth annual list of the world’s most influential investment consultants featuring NEPC’s **Tim McCusker, FSA, CFA, CAIA, CIO, Partner**, and **Scott Perry, CAIA, Partner**.



Upcoming Events

The 8th Annual NEPC, LLC Public Fund Workshop will be held January 23-24, 2017 in Tempe, Arizona at the Tempe Mission Palms.

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

ESG – Clearing Up The Confusion Webinar (Coming in December)

NEPC is hosting a webinar to continue the conversation around Environmental, Social and Governance integration (ESG). We aim to help clear up the confusion around what ESG represents and why it has become a growing topic of interest. NEPC will be joined by investment managers from different asset classes who will offer their insights into how they are implementing ESG into their investment portfolios.

NEPC Gives Back

- NEPC employees went “sock-less” and participated in the *Sox for Socks* drive to support the Boston Health Care for the Homeless Program, which provides socks for the homeless men and women of Boston.
- Eighteen NEPC employees volunteered to work with Habitat for Humanity Greater Boston, stepping up to help build new homes for low-income families in need of decent and affordable housing.

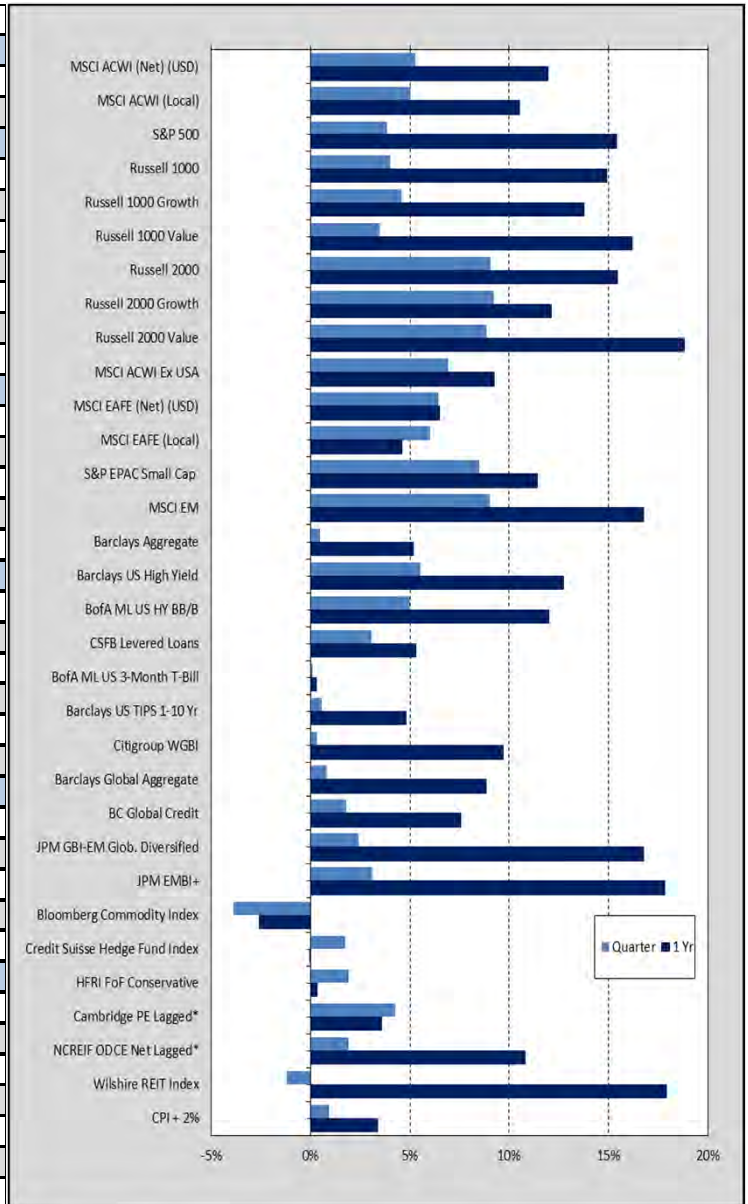
Market Environment

- **US economic expansion can persist: Growth cycles don't die of old age**
 - Health of US consumers remain supportive for an extended growth cycle
 - US corporate earnings under pressure from profit margin declines and dollar strength
 - Continued growth supports positive returns in a low expected return environment
- **Low expectation of interest rate increases from the Federal Reserve**
 - Risks are asymmetric for a negative Fed surprise with muted rate hike outlook
 - A surprise Fed rate increase poses risk to both US equities and interest rate exposure
 - US dollar strength is interconnected with pace of US Federal Reserve policy
- **Central Banks continue to dictate the global investment outlook**
 - Fed balancing current policy and the disruptive effects of a strong dollar on global markets
 - ECB and BoJ likely to maintain and adjust accommodative monetary policies
 - Easing in China is broadly stimulative in the near term but currency policy is unpredictable
- **Improved emerging vs developed world economic growth differential**
 - Large currency adjustments across most emerging countries have provided a foundation to support improved capital market returns
 - Continued political and economic reform is needed to benefit economic growth profile
 - Chinese Yuan devaluation has been incremental; Rapid fall of Yuan remains a global tail-risk

- **Trim US equity exposure as US markets have rebounded significantly**
 - Remain disciplined and look for rebalancing opportunities should equity markets decline
 - Use tactical strategies to capture pockets of value in US high yield as spreads compress
- **Maintain overweight exposure to non-US developed market equities**
 - Central bank support and dollar strength provide a positive economic backdrop
 - Small-cap equity and global equity are preferred implementation approaches
 - These strategies offer the best opportunity to exploit valuation discrepancies among stocks
- **Emerging Markets offer the most attractive total return opportunity for investors in public markets**
 - China uncertainty, dollar pressure and idiosyncratic country risks temper excitement
 - Overweight small-cap and consumer focused strategies relative to broad mandates
- **Developed market duration exposure is generally unattractive**
 - Preserve US duration exposure with a bias towards TIPS over core bonds
 - Rebalance long treasuries, long credit, and risk parity following recent gains
 - Look to eliminate WGBI focused global bond strategies with yields at historic lows
- **Embrace illiquidity in opportunistic credit and private credit strategies**
 - Stressed credit liquidity magnifies the scale of price movements in traditional credit assets
 - Credit markets ability to absorb an exodus from crowded positions is challenged

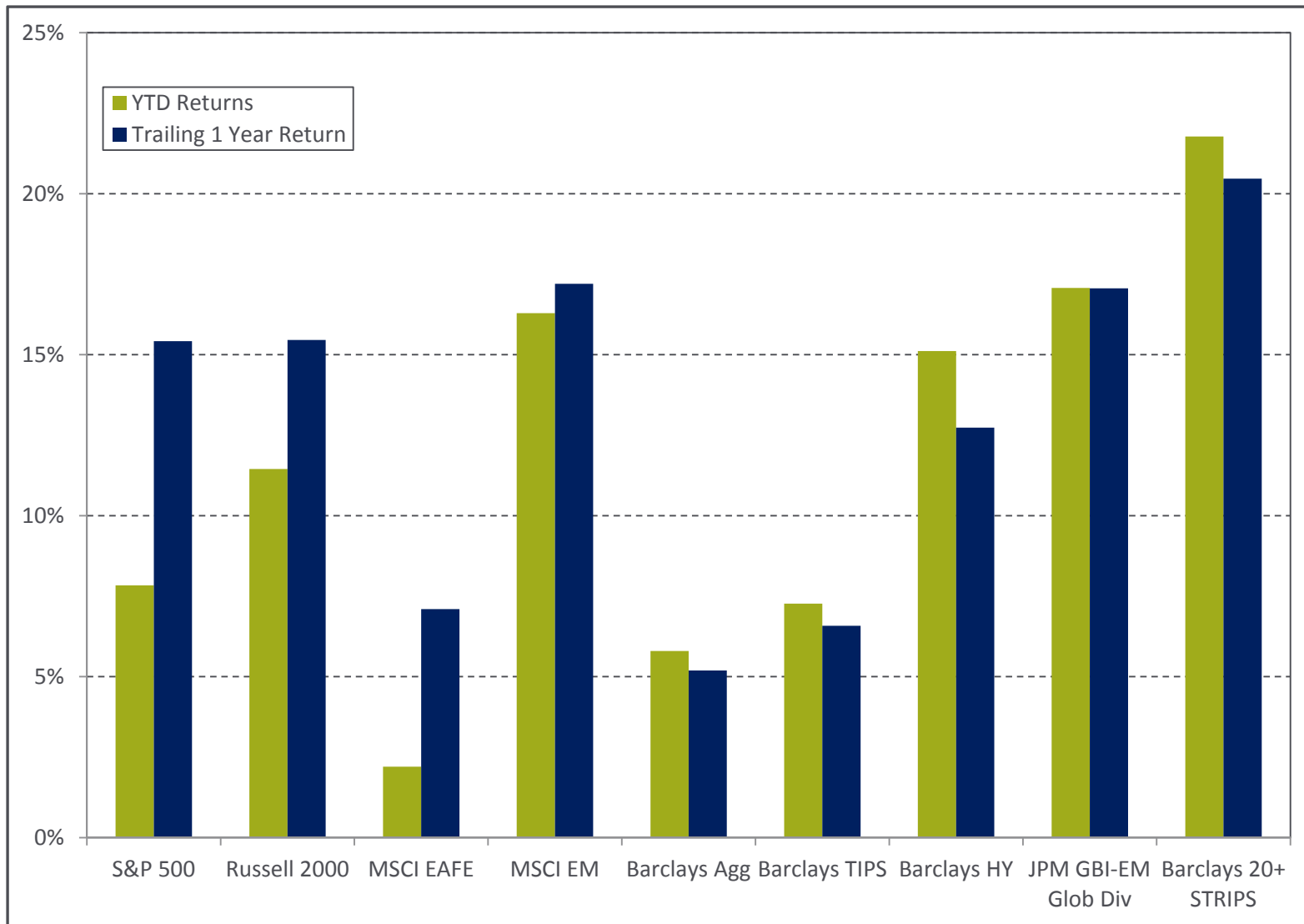
Market Environment – Q3 2016 Overview

		Qtr.	1 Yr.	3 Yr.	5 Yr.	10 Yr.
World Equity Benchmarks						
MSCI ACWI (Net) (USD)	World	5.3%	12.0%	5.2%	10.6%	4.3%
MSCI ACWI (Local)	World (Local Currency)	5.1%	10.5%	7.7%	12.6%	4.6%
Domestic Equity Benchmarks						
S&P 500	Large Core	3.9%	15.4%	11.2%	16.4%	7.2%
Russell 1000	Large Core	4.0%	14.9%	10.8%	16.4%	7.4%
Russell 1000 Growth	Large Growth	4.6%	13.8%	11.8%	16.6%	8.8%
Russell 1000 Value	Large Value	3.5%	16.2%	9.7%	16.2%	5.9%
Russell 2000	Small Core	9.0%	15.5%	6.7%	15.8%	7.1%
Russell 2000 Growth	Small Growth	9.2%	12.1%	6.6%	16.1%	8.3%
Russell 2000 Value	Small Value	8.9%	18.8%	6.8%	15.4%	5.8%
International Equity Benchmarks						
MSCI ACWI Ex USA	World ex-US	6.9%	9.3%	0.2%	6.0%	2.2%
MSCI EAFE (Net) (USD)	Int'l Developed	6.4%	6.5%	0.5%	7.4%	1.8%
MSCI EAFE (Local)	Int'l Developed (Local Currency)	6.0%	4.6%	5.3%	11.2%	2.2%
S&P EPAC Small Cap	Small Cap Int'l	8.5%	11.4%	5.6%	11.5%	4.8%
MSCI EM	Emerging Equity	9.0%	16.8%	-0.6%	3.0%	3.9%
Domestic Fixed Income Benchmarks						
Barclays Aggregate	Core Bonds	0.5%	5.2%	4.0%	3.1%	4.8%
Barclays US High Yield	High Yield	5.6%	12.7%	5.3%	8.3%	7.7%
BofA ML US HY BB/B	High Yield	5.0%	12.0%	5.6%	8.0%	7.1%
CSFB Levered Loans	Bank Loans	3.1%	5.3%	3.6%	5.4%	4.3%
BofA ML US 3-Month T-Bill	Cash	0.1%	0.3%	0.1%	0.1%	0.9%
Barclays US TIPS 1-10 Yr	Inflation	0.6%	4.8%	1.5%	1.3%	3.8%
Global Fixed Income Benchmarks						
Citigroup WGBI	World Gov. Bonds	0.3%	9.7%	1.8%	0.8%	4.1%
Barclays Global Aggregate	Global Core Bonds	0.8%	8.8%	2.1%	1.7%	4.3%
BC Global Credit	Global Bonds	1.8%	7.6%	2.9%	3.7%	4.6%
JPM GBI-EM Glob. Diversified	Em. Mkt. Bonds (Local Currency)	2.4%	16.8%	-2.7%	0.0%	5.5%
JPM EMBI+	Em. Mkt. Bonds	3.1%	17.8%	8.0%	7.3%	7.6%
Alternative Benchmarks						
Bloomberg Commodity Index	Commodity	-3.9%	-2.6%	-12.3%	-9.4%	-5.3%
Credit Suisse Hedge Fund Index	Hedge Fund	1.8%	-0.0%	2.6%	4.3%	4.2%
HFRI FoF Conservative	Fund of Hedge Funds	1.9%	0.3%	2.2%	3.1%	1.5%
Cambridge PE Lagged*	Private Equity	4.2%	3.6%	11.3%	11.3%	10.8%
NCREIF ODCE Net Lagged*	Real Estate	1.9%	10.8%	12.0%	11.7%	5.2%
Wilshire REIT Index	REIT	-1.2%	17.9%	14.3%	15.8%	5.9%
CPI + 2%	Inflation/Real Assets	0.9%	3.4%	3.0%	3.2%	3.8%



* As of 6/30/2016

Year to Date Performance: All Assets Have Moved Higher



Source: Bloomberg
As of 09/30/2016

Returns for Key Indices Ranked in Order of Performance

2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
MSCI EMERGING MARKETS 32.17	MSCI EMERGING MARKETS 39.39	BC AGGREGATE 5.24	MSCI EMERGING MARKETS 78.51	RUSSELL 2000 GROWTH 29.09	BC AGGREGATE 7.84	MSCI EMERGING MARKETS 18.22	RUSSELL 2000 GROWTH 43.30	S&P 500 13.69	RUSSELL 1000 GROWTH 5.67
MSCI EAFE 26.34	RUSSELL 1000 GROWTH 11.81	RUSSELL 2000 VALUE -28.92	RUSSELL 1000 GROWTH 37.21	RUSSELL 2000 26.85	RUSSELL 1000 GROWTH 2.64	RUSSELL 2000 VALUE 18.05	RUSSELL 2000 38.82	RUSSELL 1000 VALUE 13.45	S&P 500 1.38
RUSSELL 1000 VALUE 22.25	MSCI EAFE 11.17	RUSSELL 2000 -33.79	RUSSELL 2000 GROWTH 34.47	RUSSELL 2000 VALUE 24.5	S&P 500 2.11	RUSSELL 1000 VALUE 17.51	RUSSELL 2000 VALUE 34.52	RUSSELL 1000 13.24	RUSSELL 1000 0.92
RUSSELL 2000 VALUE 23.48	RUSSELL 2000 GROWTH 7.06	RUSSELL 1000 VALUE -36.85	MSCI EAFE 31.78	MSCI EMERGING MARKETS 18.88	RUSSELL 1000 1.50	MSCI EAFE 17.32	RUSSELL 1000 GROWTH 33.48	RUSSELL 1000 GROWTH 13.05	BC AGGREGATE 0.55
RUSSELL 2000 18.37	BC AGGREGATE 6.97	S&P 500 -37.0	RUSSELL 1000 28.43	RUSSELL 1000 GROWTH 16.71	RUSSELL 1000 VALUE 0.39	RUSSELL 1000 16.42	RUSSELL 1000 33.11	BC AGGREGATE 5.97	MSCI EAFE -0.81
S&P 500 15.8	RUSSELL 1000 5.77	RUSSELL 1000 -37.6	RUSSELL 2000 27.16	RUSSELL 1000 16.10	RUSSELL 2000 GROWTH -2.91	RUSSELL 2000 16.35	RUSSELL 1000 VALUE 32.53	RUSSELL 2000 GROWTH 5.60	RUSSELL 2000 GROWTH -1.38
RUSSELL 1000 15.46	S&P 500 5.49	RUSSELL 1000 GROWTH -38.44	S&P 500 26.46	RUSSELL 1000 VALUE 15.51	RUSSELL 2000 -4.18	S&P 500 16.00	S&P 500 32.39	RUSSELL 2000 4.89	RUSSELL 1000 VALUE -3.83
RUSSELL 2000 GROWTH 13.35	RUSSELL 1000 VALUE -0.17	RUSSELL 2000 GROWTH -38.54	RUSSELL 2000 VALUE 20.58	S&P 500 15.06	RUSSELL 2000 VALUE -5.50	RUSSELL 1000 GROWTH 15.26	MSCI EAFE 22.78	RUSSELL 2000 VALUE 4.22	RUSSELL 2000 -4.41
RUSSELL 1000 GROWTH 9.07	RUSSELL 2000 -1.56	MSCI EAFE -43.38	RUSSELL 1000 VALUE 19.69	MSCI EAFE 7.75	MSCI EAFE -12.14	RUSSELL 2000 GROWTH 14.59	BC AGGREGATE -2.02	MSCI EMERGING MARKETS -2.19	RUSSELL 2000 VALUE -7.46
BC AGGREGATE 4.33	RUSSELL 2000 VALUE -9.78	MSCI EMERGING MARKETS -53.33	BC AGGREGATE 5.93	BC AGGREGATE 6.54	MSCI EMERGING MARKETS -18.42	BC AGGREGATE 4.21	MSCI EMERGING MARKETS -2.60	MSCI EAFE -4.90	MSCI EMERGING MARKETS -14.93

QTD	1 Year	3 year	5 Year	10 Year
RUSSELL 2000 GROWTH 9.22	RUSSELL 2000 VALUE 18.81	RUSSELL 1000 GROWTH 11.83	RUSSELL 1000 GROWTH 16.60	RUSSELL 1000 GROWTH 8.85
RUSSELL 2000 9.05	MSCI EMERGING MARKETS 16.78	S&P 500 11.16	RUSSELL 1000 16.41	RUSSELL 2000 GROWTH 8.29
MSCI EMERGING MARKETS 9.03	RUSSELL 1000 VALUE 16.20	RUSSELL 1000 10.78	S&P 500 16.37	RUSSELL 1000 7.40
RUSSELL 2000 VALUE 8.87	RUSSELL 2000 15.47	RUSSELL 1000 VALUE 9.70	RUSSELL 1000 VALUE 16.15	S&P 500 7.24
MSCI EAFE 6.43	S&P 500 15.43	RUSSELL 2000 VALUE 6.77	RUSSELL 2000 GROWTH 16.15	RUSSELL 2000 7.07
RUSSELL 1000 GROWTH 4.58	RUSSELL 1000 14.93	RUSSELL 2000 6.71	RUSSELL 2000 15.82	RUSSELL 1000 VALUE 5.85
RUSSELL 1000 4.03	RUSSELL 1000 GROWTH 13.76	RUSSELL 2000 GROWTH 6.58	RUSSELL 2000 VALUE 15.45	RUSSELL 2000 VALUE 5.78
S&P 500 3.85	RUSSELL 2000 GROWTH 12.12	BC AGGREGATE 4.03	MSCI EAFE 7.39	BC AGGREGATE 4.79
RUSSELL 1000 VALUE 3.48	MSCI EAFE 6.52	MSCI EAFE 0.48	BC AGGREGATE 3.08	MSCI EMERGING MARKETS 3.95
BC AGGREGATE 0.46	BC AGGREGATE 5.19	MSCI EMERGING MARKETS -0.56	MSCI EMERGING MARKETS 3.03	MSCI EAFE 1.82

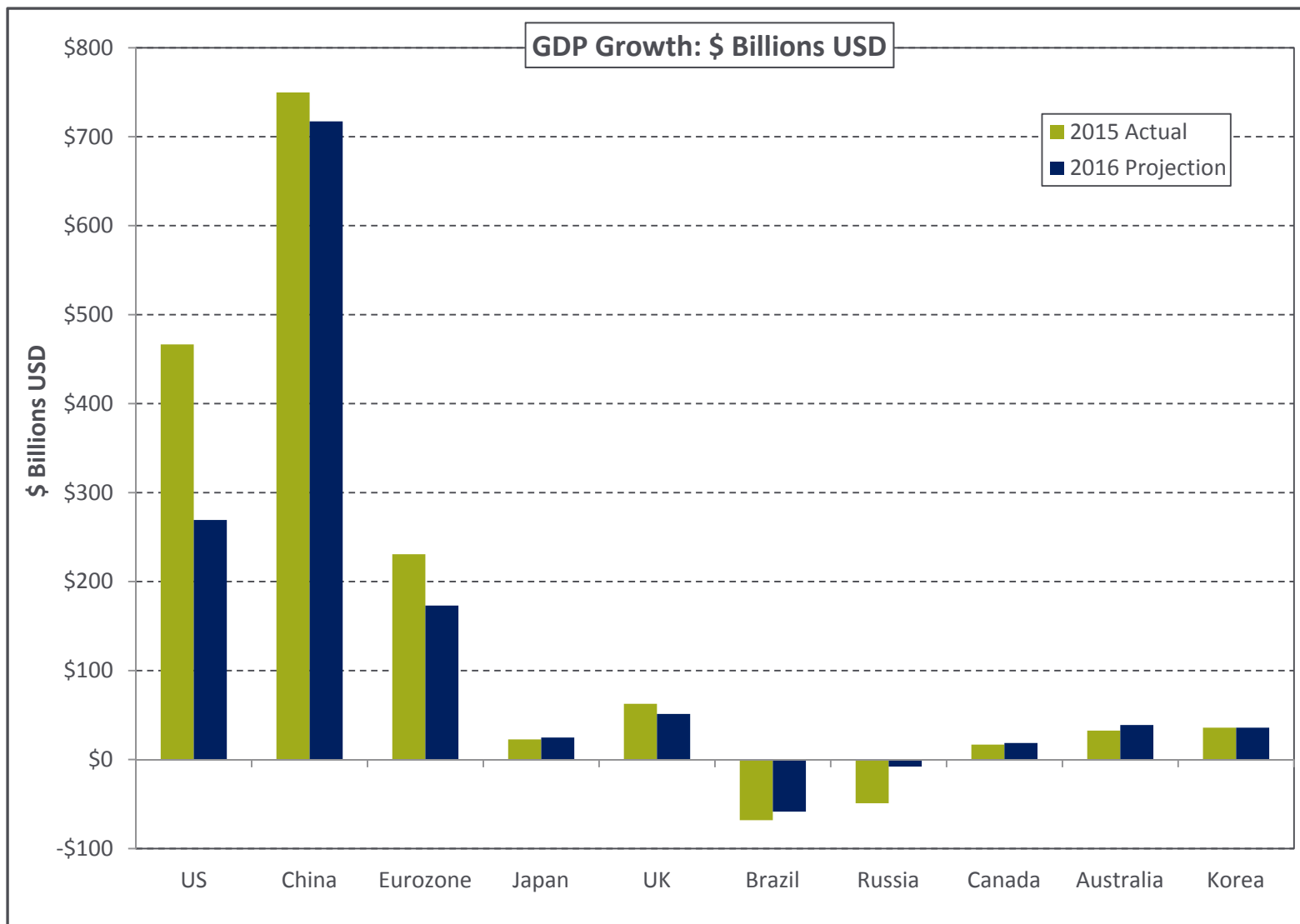
Third Quarter 2016 Performance Update

Hedge Fund Industry Performance Overview	Q3 2016	YTD	Trailing 1 Yr	Trailing 3 Yrs	Trailing 5 Yrs	Trailing 10 Yrs
Composite						
Credit Suisse Hedge Fund Composite	1.7%	0.1%	0.0%	2.5%	4.3%	4.2%
Credit						
Credit Suisse Convertible Arbitrage	3.8%	6.2%	5.5%	2.1%	4.0%	4.0%
Credit Suisse Fixed Income Arbitrage	2.6%	2.4%	2.4%	2.9%	4.6%	3.5%
Credit Suisse Equity Market Neutral	1.6%	-2.0%	-2.0%	1.2%	2.1%	-2.5%
Credit Suisse Multi-Strategy	2.6%	3.2%	3.7%	5.9%	7.3%	5.7%
Event Driven						
Credit Suisse Event Driven	3.0%	0.4%	-1.9%	0.1%	4.2%	4.0%
Credit Suisse Event Driven - Distressed	2.8%	2.7%	0.9%	1.6%	5.4%	4.2%
Credit Suisse Event Driven - Risk Arbitrage	2.3%	5.1%	5.9%	1.7%	2.6%	3.6%
Credit Suisse Event Driven - Multi-Strategy	3.1%	-0.5%	-3.0%	-0.6%	3.7%	4.1%
Equity						
Credit Suisse Long-Short Equity	1.9%	-3.2%	-1.7%	4.0%	6.6%	4.8%
Credit Suisse Emerging Markets	4.2%	4.7%	7.7%	3.5%	5.0%	4.6%
Credit Suisse Dedicated Short Bias	-12.1%	-18.4%	-21.9%	-8.8%	-15.4%	-10.9%
Macro						
Credit Suisse Global Macro	0.6%	-1.0%	-0.4%	1.7%	2.3%	5.8%
Credit Suisse Managed Futures	-3.2%	-1.3%	-2.3%	6.8%	1.0%	4.1%
Traditional Markets						
S&P 500 TR	3.9%	7.8%	15.4%	11.2%	16.4%	7.2%
Barclays Aggregate Bond Index	0.5%	5.8%	5.2%	4.0%	3.1%	4.8%

Source: Credit Suisse, PerTrac

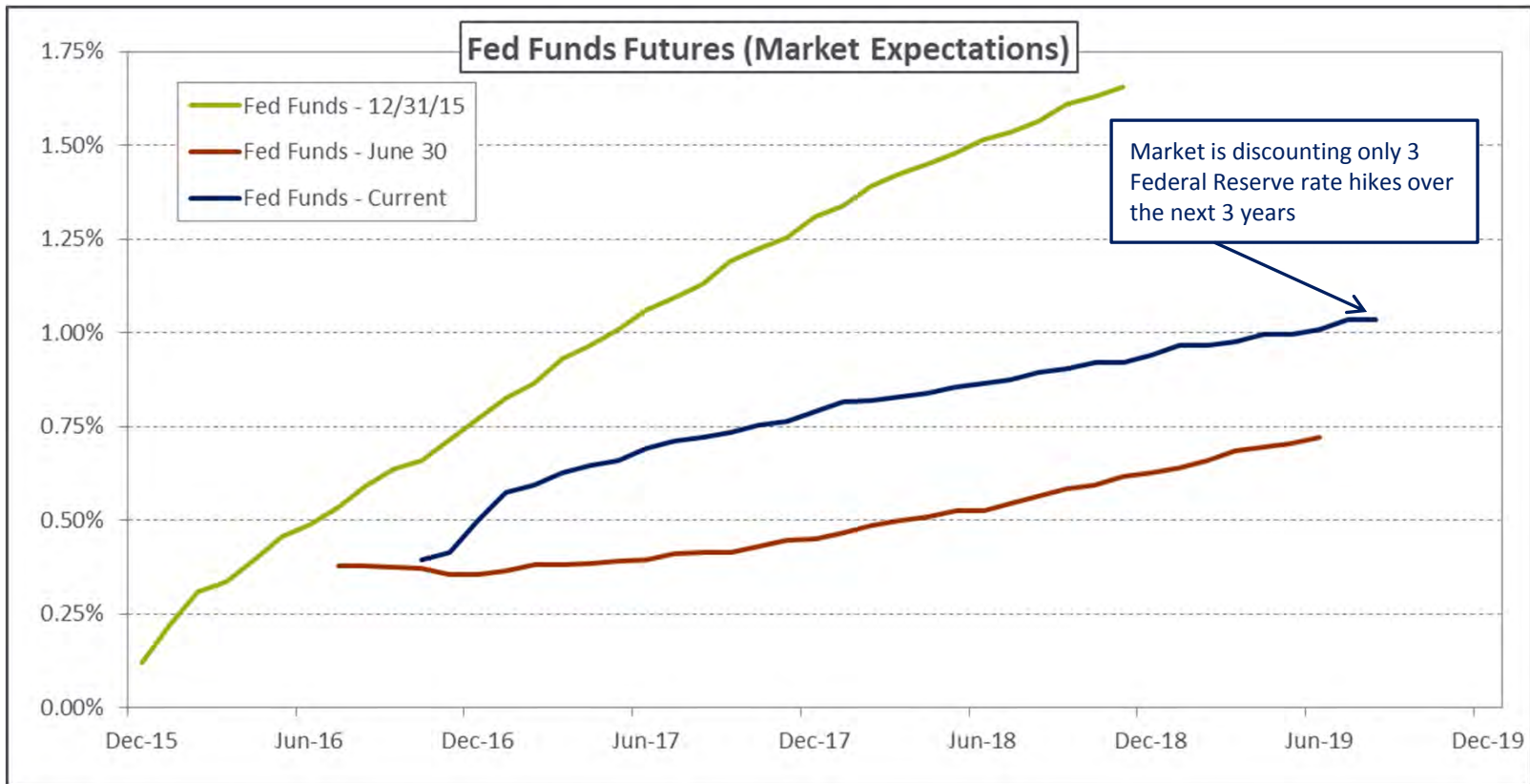
- **Hedge funds had positive results in the third quarter as risk assets continued to rally**
 - Credit Suisse Hedge Fund Composite was up 1.7%
 - HFRI Fund Weighted Composite was up 2.9%
- **Strategy performance more positive**
 - Credit and event driven strategies also outperformed peers (+3.8% and +3.0% respectively)
 - Equity and macro positive but performance was muted compared to other strategies

Subdued Global Growth and China Remains the Growth Engine



Source: Bloomberg
As of 09/30/2016

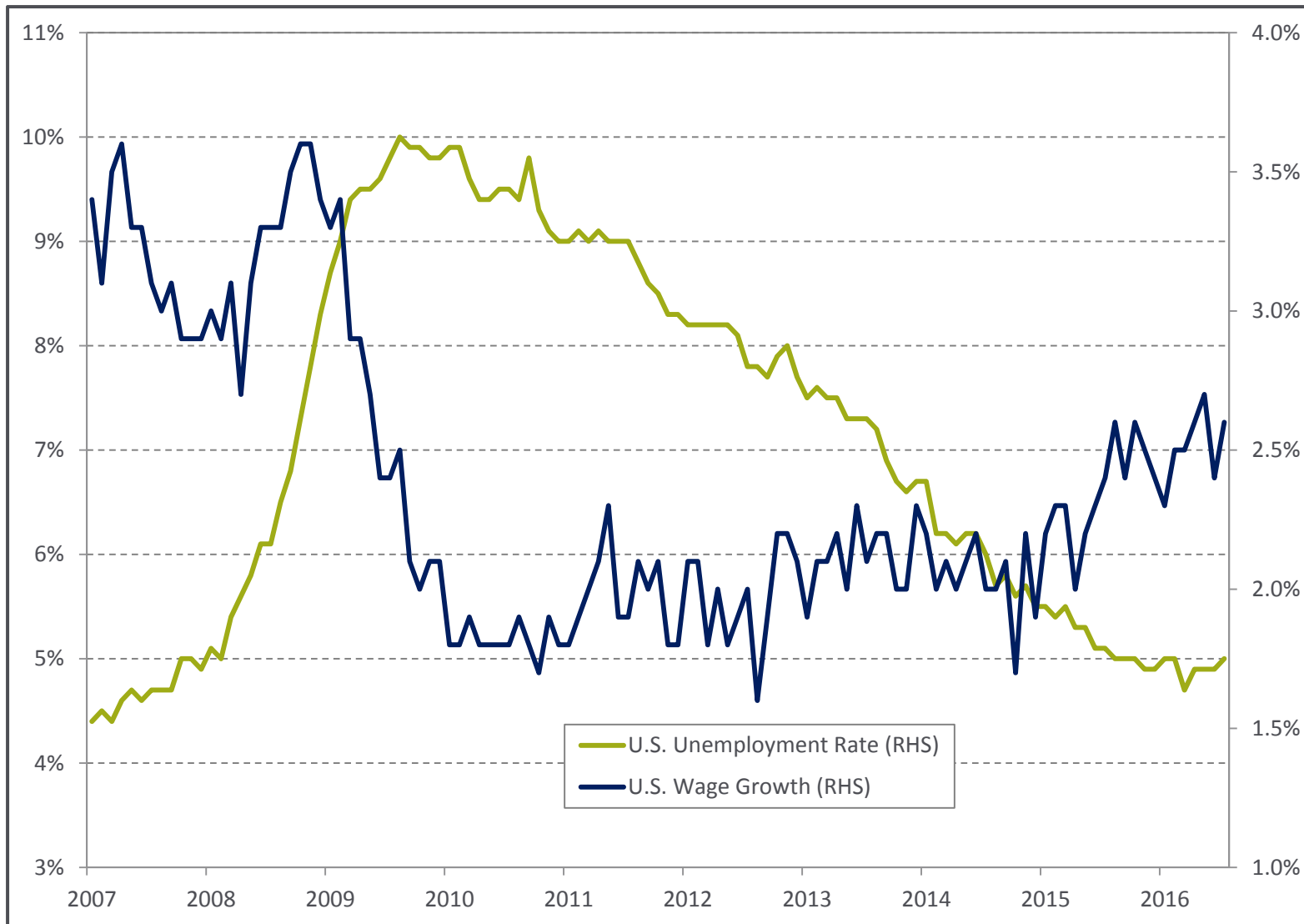
Expectations of Federal Reserve Action Have Decreased Considerably



Source: Bloomberg

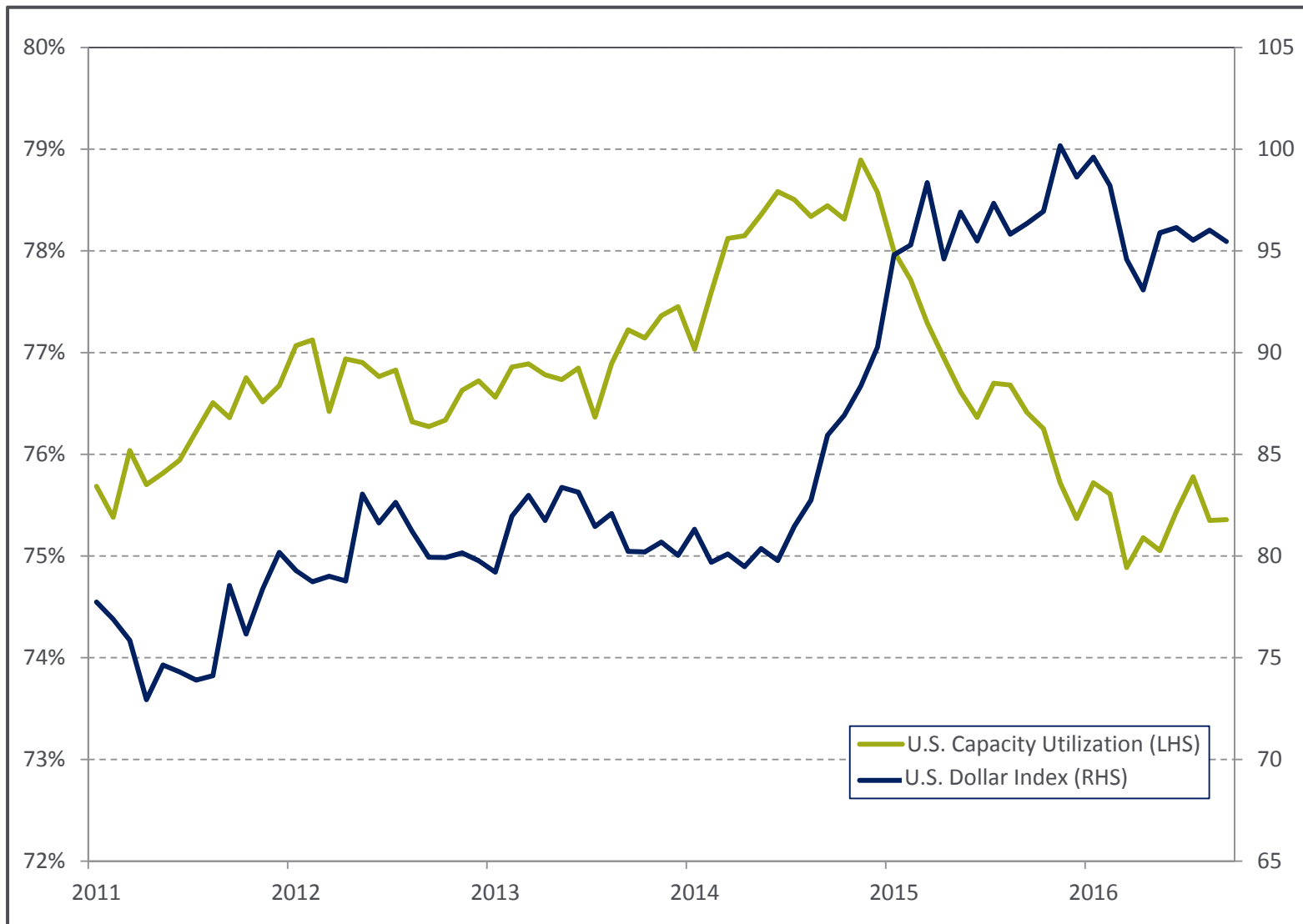
- **Muted, but consistent, US economic growth gives the Fed flexibility to move slowly with policy tightening**
- **Markets discounting a more muted pace increases potential for a negative Fed surprise**

Labor Market Tightness is Beginning to Influence Wage Inflation



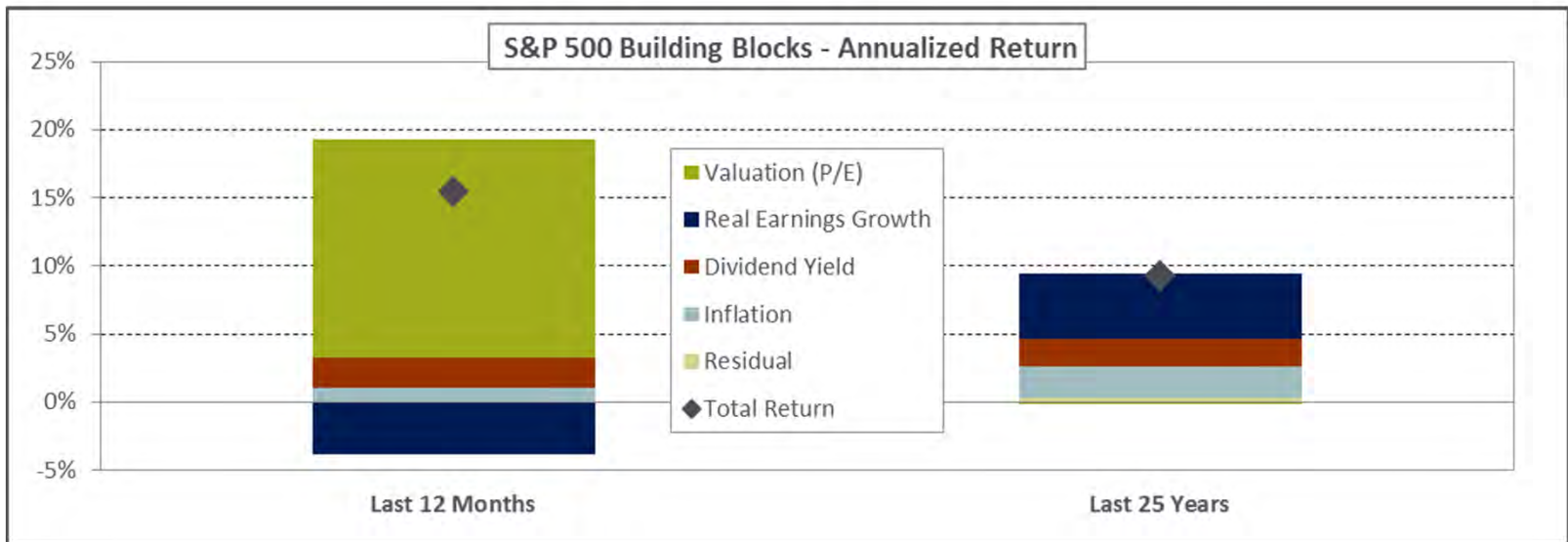
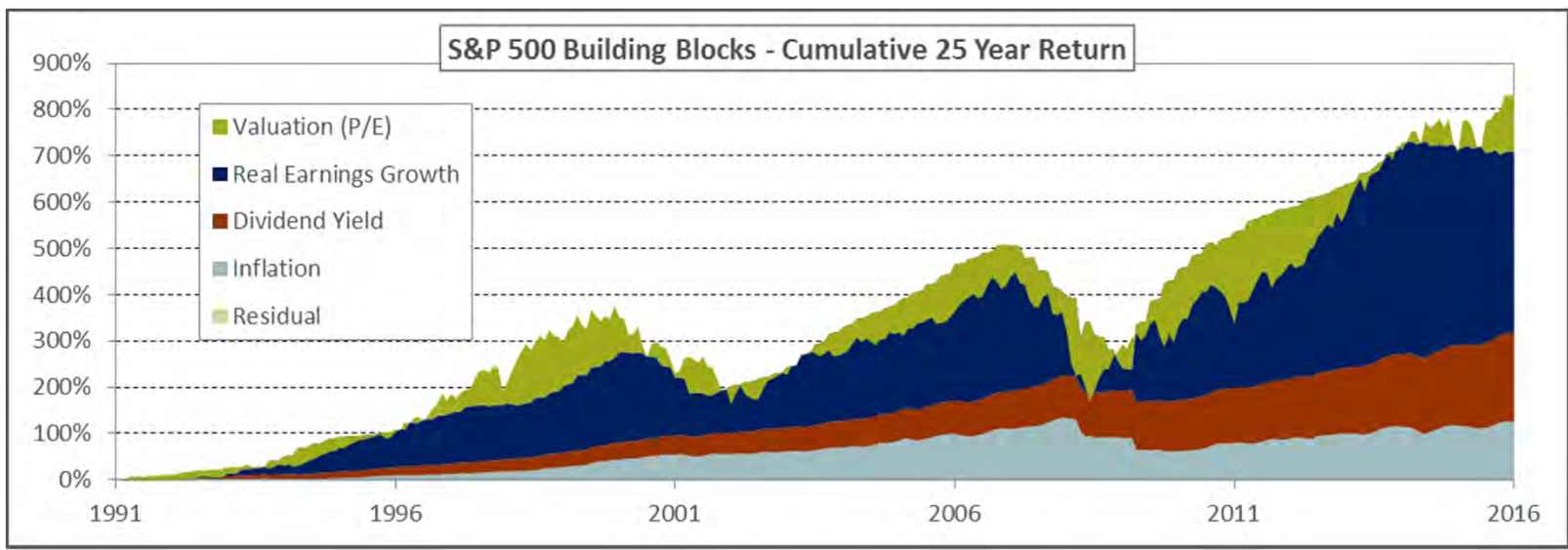
Source: Bloomberg
As of 09/30/2016

Strength of US Dollar Exerts Deflationary Pressure on Economy



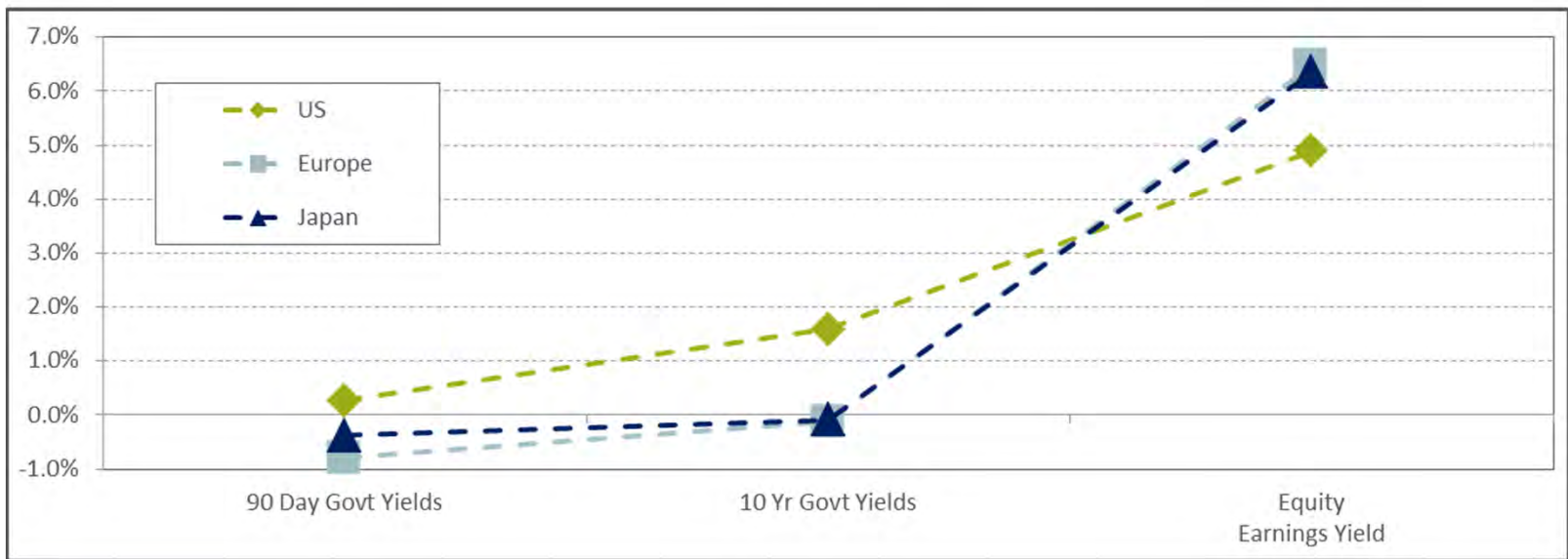
Source: Bloomberg

S&P Earnings Weakness has been Overlooked as Expanding Valuations Drive Recent Returns



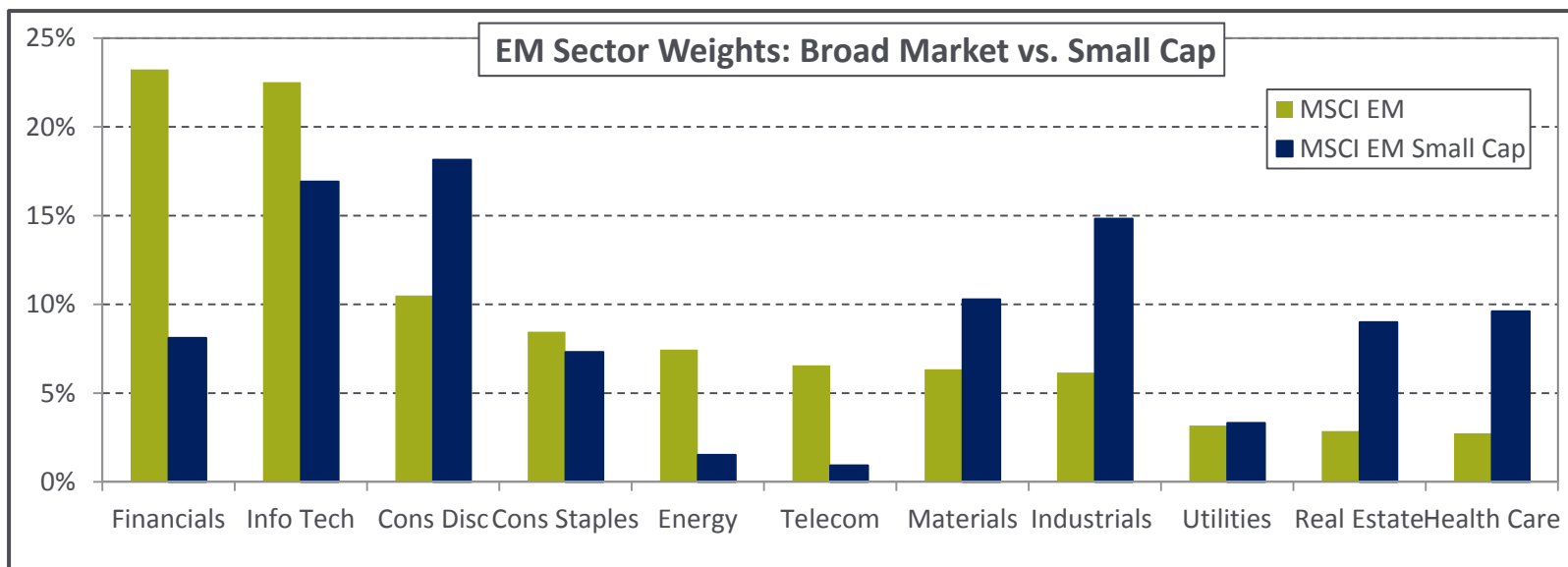
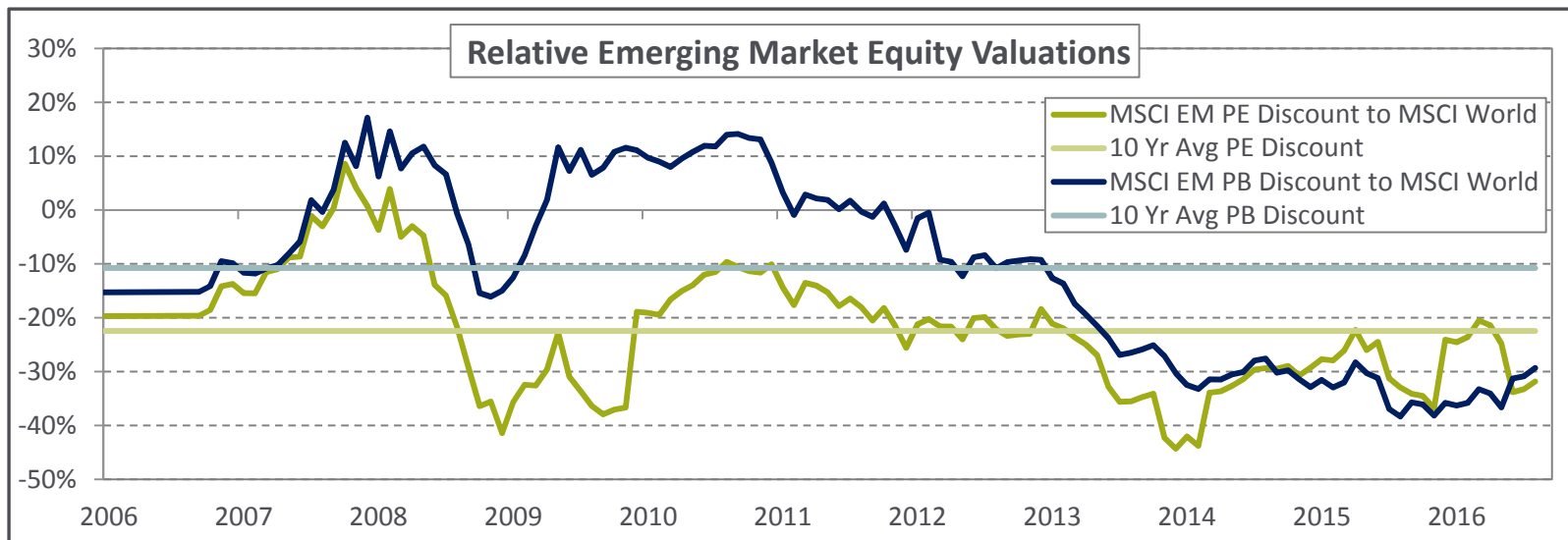
Source: Bloomberg, NEPC

Europe and Japan Equity Markets Carry Risks but Offer a Meaningful Return Opportunity



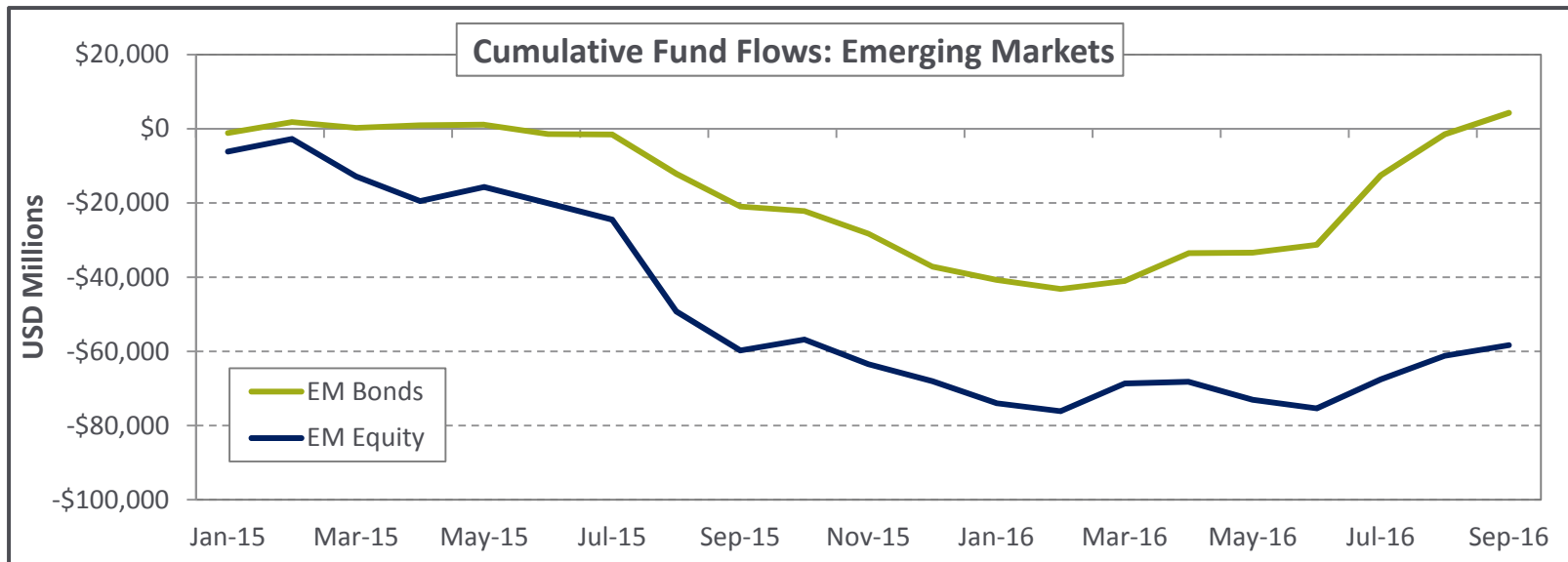
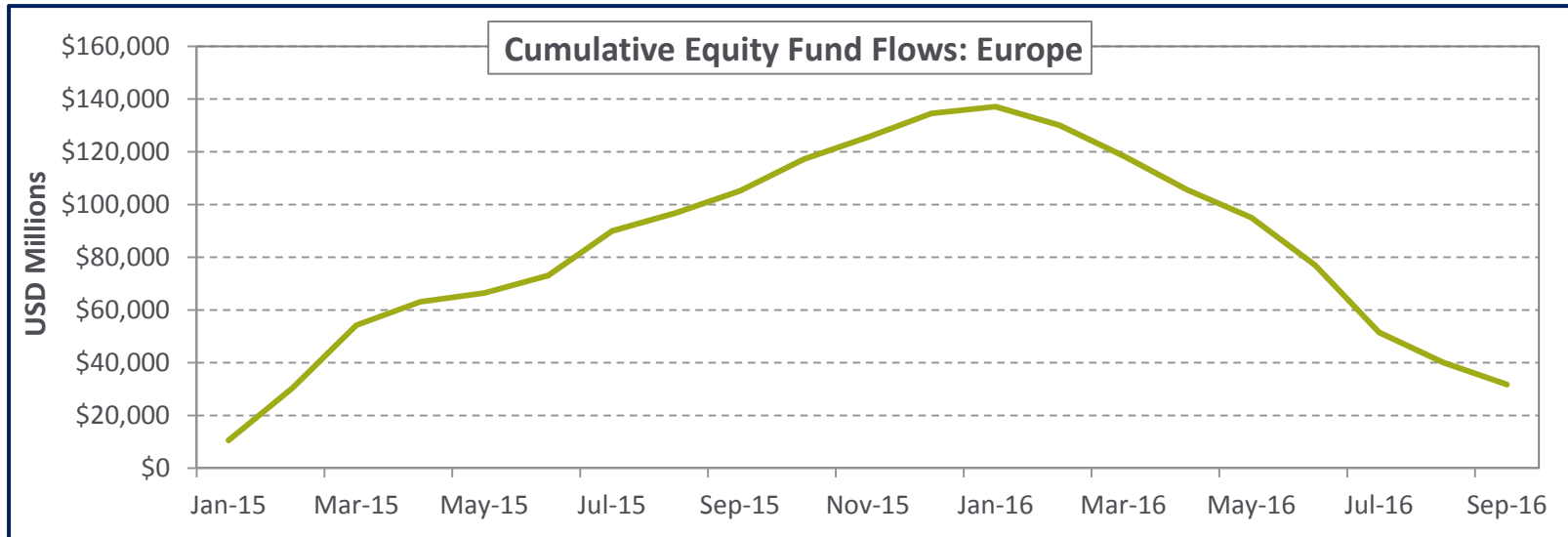
Source: Bloomberg

EM Equities Remain a Compelling Return Opportunity but With Volatility



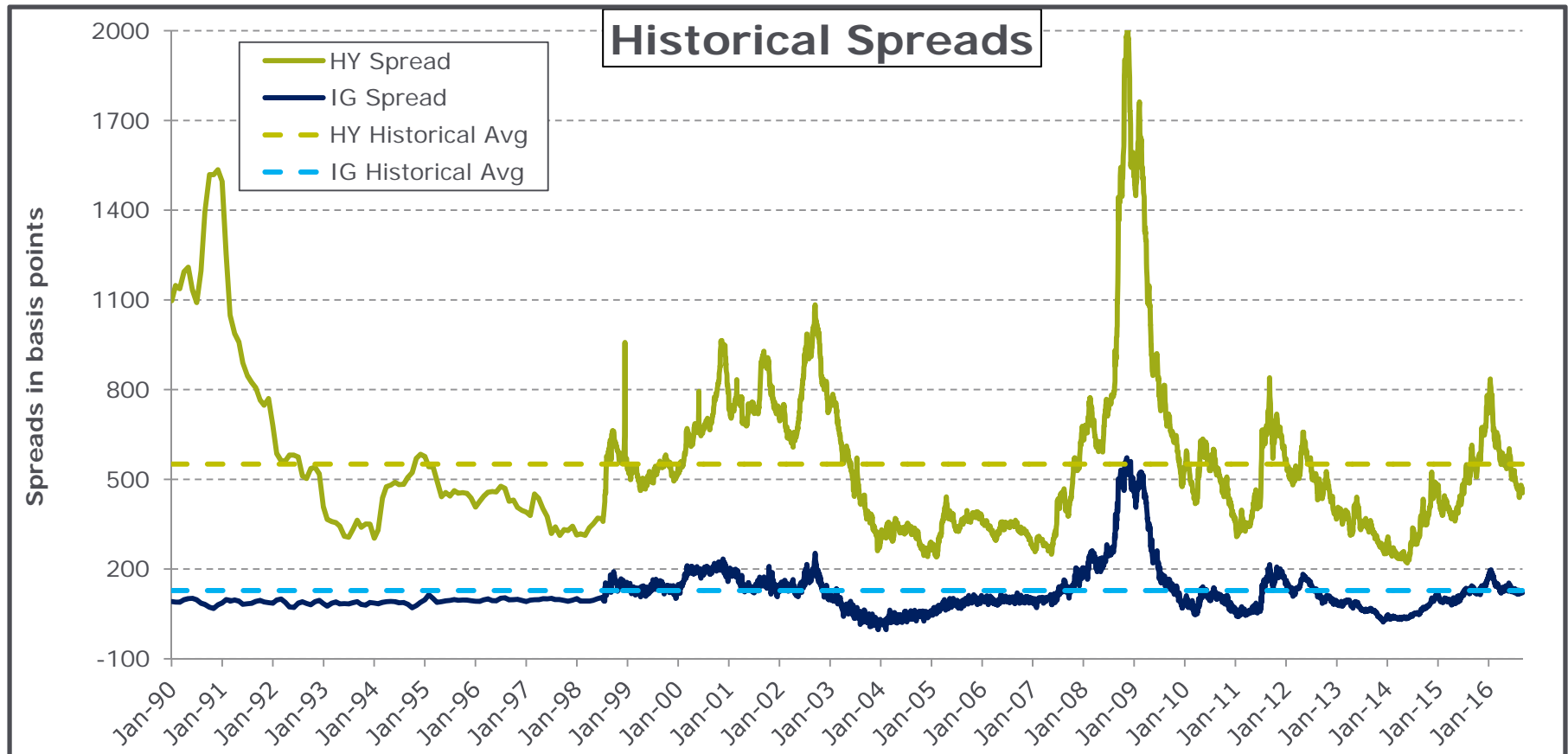
Source: Bloomberg
As of 09/30/2016

Investor Flows Materially Impact Short-Term Performance

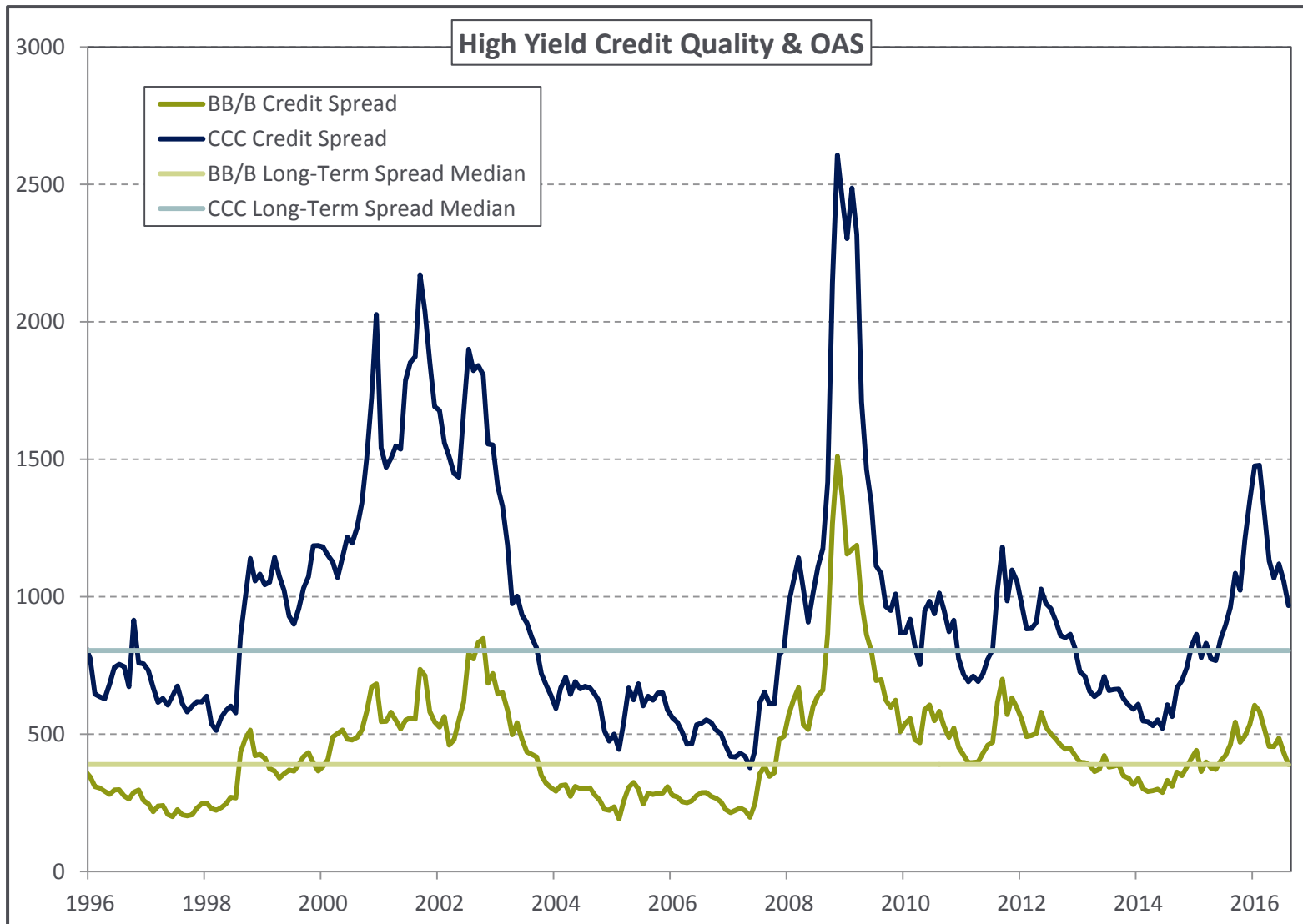


Source: EPFR
As of 09/30/2016

- **IG and HY spreads are at or below historical averages**

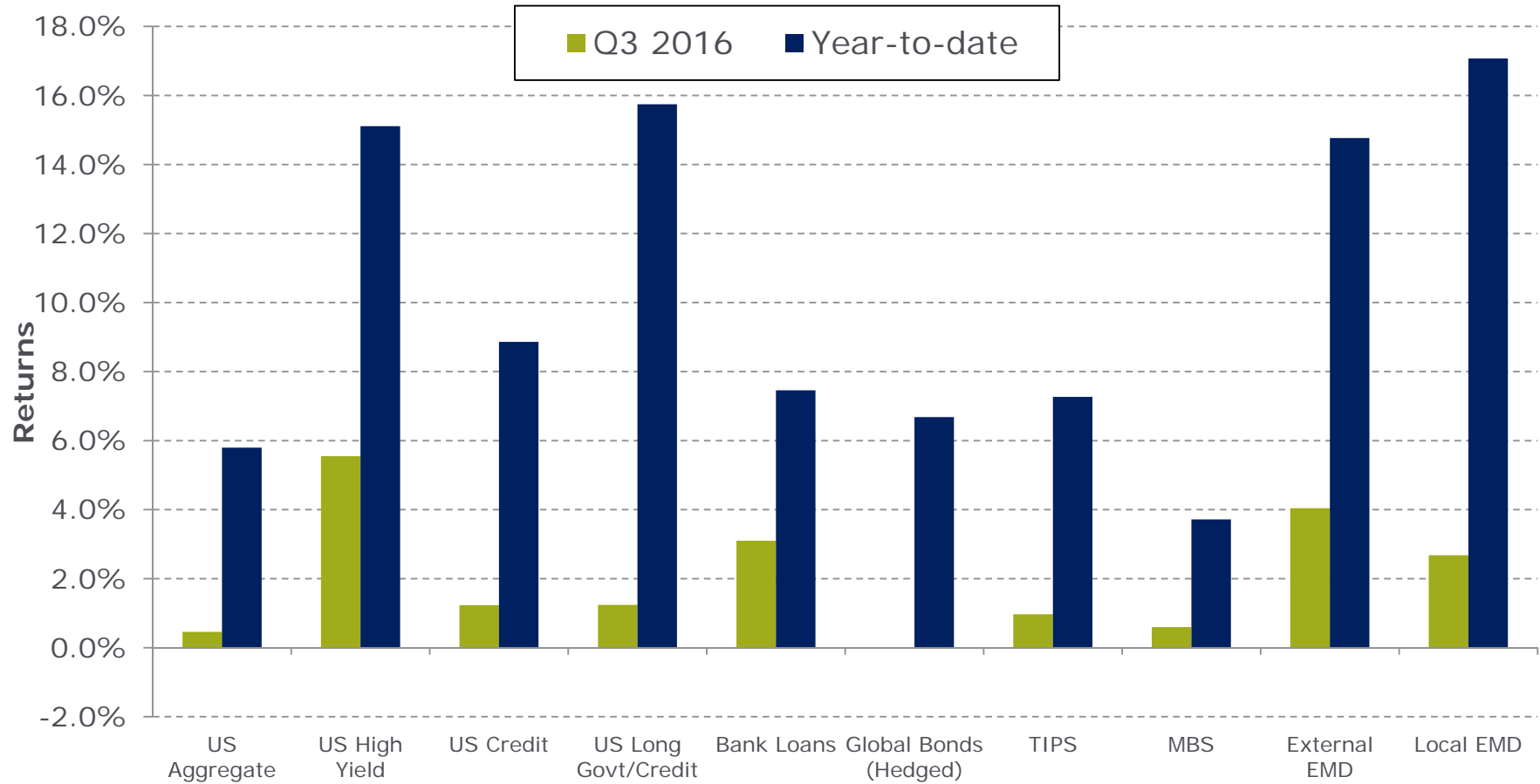


Broad Outperformance of High Yield Increasingly Dependent on Lower Quality Sectors



Source: Bloomberg

Fixed Income Sector Performance



Source: eVestment, as of 9/30/2016

Index Performance Summary as of 10/31/2016

	2009	2010	2011	2012	2013	2014	2015	Q1	Q2	Q3	Oct	YTD
MSCI EM	78.5%	18.9%	-18.4%	18.2%	-2.6%	-2.2%	-14.9%	5.7%	0.7%	9.0%	0.2%	16.3%
JPM GBI-EM Global Div	22.0%	15.7%	-1.8%	16.8%	-9.0%	-5.7%	-14.9%	11.0%	2.7%	2.7%	-0.8%	16.1%
Barclays US Corporate HY	58.2%	15.1%	5.0%	15.8%	7.4%	2.5%	-4.5%	3.4%	5.5%	5.6%	0.4%	15.6%
Barclays US STRIPS 20+ Yr	-36.0%	10.9%	58.5%	3.0%	-21.0%	46.4%	-3.7%	11.4%	9.6%	-0.2%	-6.2%	14.3%
Barclays US Long Credit	16.8%	10.7%	17.1%	12.7%	-6.6%	16.4%	-4.6%	6.8%	6.7%	2.3%	-2.1%	14.1%
JPM EMBI Global Diversified	29.8%	12.2%	7.3%	17.4%	-5.3%	7.4%	1.2%	5.0%	5.0%	4.0%	-1.2%	13.3%
Barclays US Govt/Credit Long	1.9%	10.2%	22.5%	8.8%	-8.8%	19.3%	-3.3%	7.3%	6.5%	1.2%	-2.8%	12.5%
Alerian MLP	76.4%	35.9%	13.9%	4.8%	27.6%	4.8%	-32.6%	-4.2%	19.7%	1.1%	-4.5%	10.8%
Bloomberg Commodity	18.9%	16.8%	-13.3%	-1.1%	-9.5%	-17.0%	-24.7%	0.4%	12.8%	-3.9%	-0.5%	8.3%
Credit Suisse Leveraged Loan	44.9%	10.0%	1.8%	9.4%	6.2%	2.1%	-0.4%	1.3%	2.9%	3.1%	0.8%	8.3%
Citi WGBI	2.6%	5.2%	6.4%	1.6%	-4.0%	-0.5%	-3.6%	7.1%	3.4%	0.3%	-3.4%	7.3%
Russell 2500	34.4%	26.7%	-2.5%	17.9%	36.8%	7.1%	-2.9%	0.4%	3.6%	6.6%	-4.1%	6.3%
Russell 2000	27.2%	26.9%	-4.2%	16.3%	38.8%	4.9%	-4.4%	-1.5%	3.8%	9.0%	-4.8%	6.2%
S&P 500	26.5%	15.1%	2.1%	16.0%	32.4%	13.7%	1.4%	1.3%	2.5%	3.9%	-1.8%	5.9%
Russell 1000	28.4%	16.1%	1.5%	16.4%	33.1%	13.2%	0.9%	1.2%	2.5%	4.0%	-2.0%	5.8%
FTSE NAREIT Equity REITs	28.0%	28.0%	8.3%	18.1%	2.5%	30.1%	3.2%	6.0%	7.0%	-1.4%	-5.7%	5.4%
Barclays US Agg Bond	5.9%	6.5%	7.8%	4.2%	-2.0%	6.0%	0.5%	3.0%	2.2%	0.5%	-0.8%	5.0%
MSCI ACWI	34.6%	12.7%	-7.3%	16.1%	22.8%	4.2%	-2.4%	0.2%	1.0%	5.3%	-1.7%	4.8%
Barclays US Agg Interm	6.5%	6.1%	6.0%	3.6%	-1.0%	4.1%	1.2%	2.3%	1.4%	0.3%	-0.4%	3.7%
Barclays Municipal	12.9%	2.4%	10.7%	6.8%	-2.6%	9.1%	3.3%	1.7%	2.6%	-0.3%	-1.0%	2.9%
BC US Govt/Credit 1-3 Yr	3.8%	2.8%	1.6%	1.3%	0.6%	0.8%	0.7%	1.0%	0.7%	0.0%	0.0%	1.6%
Credit Suisse Hedge Fund	18.6%	10.9%	-2.5%	7.7%	9.7%	4.1%	-0.7%	-2.2%	0.6%	1.7%	-	0.1%
MSCI EAFE	31.8%	7.8%	-12.1%	17.3%	22.8%	-4.9%	-0.8%	-3.0%	-1.5%	6.4%	-2.0%	-0.4%

Source: Bloomberg, Barclays, Alerian, Nareit, MSCI, JP Morgan, Credit Suisse

State Teachers' Retirement System

Vermont State Teachers

Total Fund Performance Summary - Net

	Market Value	Fiscal YTD	Rank	YTD Rank	1 Yr Rank	3 Yrs Rank	5 Yrs Rank	7 Yrs Rank	10 Yrs Rank						
Teachers Composite	\$1,710,279,407	3.2%	62	9.1%	1	10.3%	19	4.6%	83	7.1%	92	7.1%	74	4.4%	88
<i>Policy Index</i>		3.2%	62	8.1%	5	9.6%	40	4.6%	84	6.9%	94	6.4%	94	4.5%	87
<i>Allocation Index</i>		3.5%	46	8.2%	4	9.7%	34	4.3%	89	6.8%	95	6.3%	95	4.4%	87
<i>InvestorForce Public DB Net Median</i>		3.4%		6.5%		9.3%		5.6%		8.8%		7.7%		5.3%	

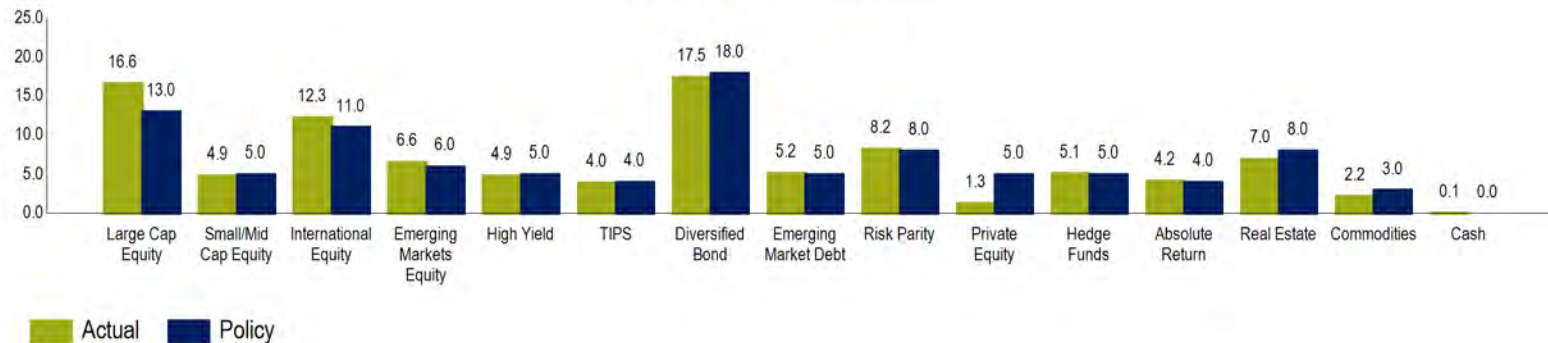
3 Years Ending September 30, 2016

	Anlzd Ret	Rank	Anlzd Std Dev	Rank	Sharpe Ratio	Rank	Sortino Ratio RF	Rank
Teachers Composite	4.60%	83	5.79%	24	0.78	66	1.44	43
Policy Index	4.56%	84	5.47%	10	0.82	59	1.48	40
Allocation Index	4.28%	89	5.60%	15	0.75	72	1.29	62

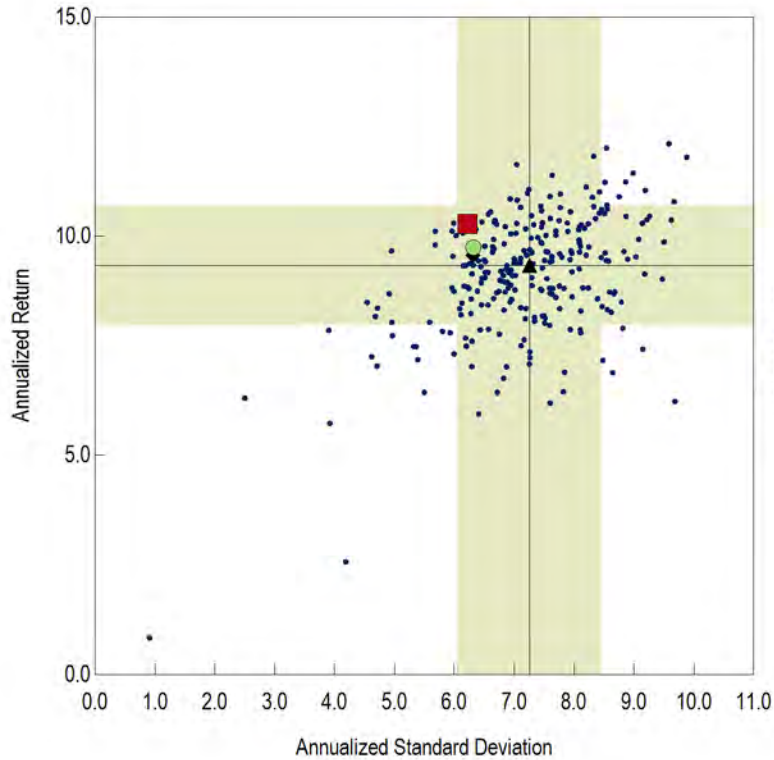
5 Years Ending September 30, 2016

	Anlzd Ret	Rank	Anlzd Std Dev	Rank	Sharpe Ratio	Rank	Sortino Ratio RF	Rank
Teachers Composite	7.13%	92	6.33%	28	1.11	82	2.02	58
Policy Index	6.94%	94	6.09%	22	1.13	79	1.96	67
Allocation Index	6.82%	95	6.17%	24	1.09	86	1.84	79

Actual vs Target Allocation (%)



1 Year Ending September 30, 2016



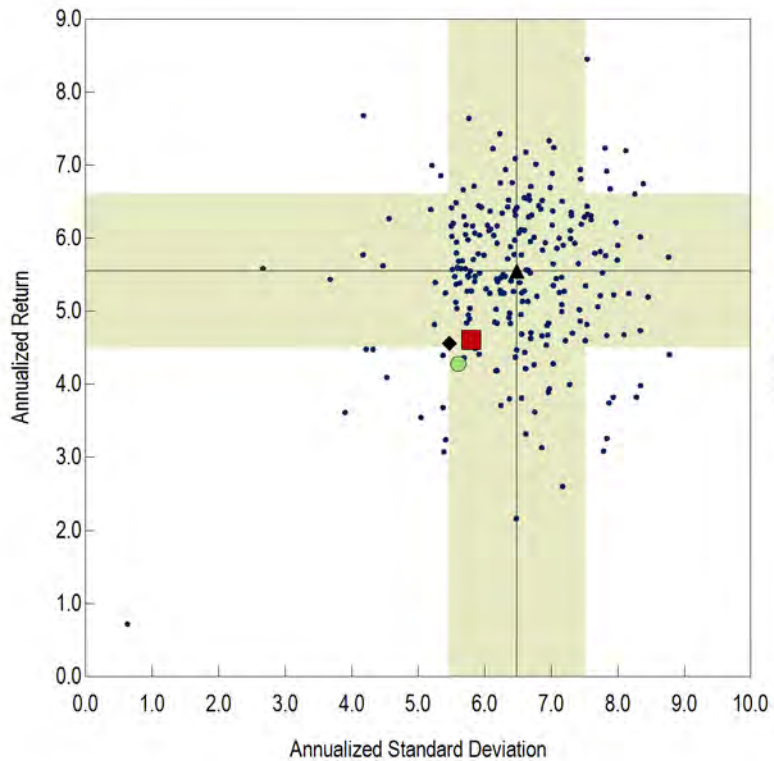
- Teachers Composite
- ◆ Policy Index
- Allocation Index
- ▲ Universe Median
- 68% Confidence Interval
- InvestorForce Public DB Net

1 Year Ending September 30, 2016

	Anlzd Return	Anlzd Return Rank	Anlzd Standard Deviation	Anlzd Standard Deviation Rank	Sharpe Ratio	Sharpe Ratio Rank
Teachers Composite	10.29%	19	6.22%	16	1.62	6
Policy Index	9.57%	40	6.31%	20	1.48	13
S&P 500	15.43%	1	12.46%	99	1.22	59
Citi WGBI	9.71%	34	6.10%	12	1.56	9
MSCI ACWI	11.96%	1	13.48%	99	0.87	97
MSCI ACWI ex USA	9.26%	53	15.04%	99	0.60	99
InvestorForce Public DB Net Median	9.34%	--	7.26%	--	1.25	--

Total Fund Risk/Return - Net

3 Years Ending September 30, 2016



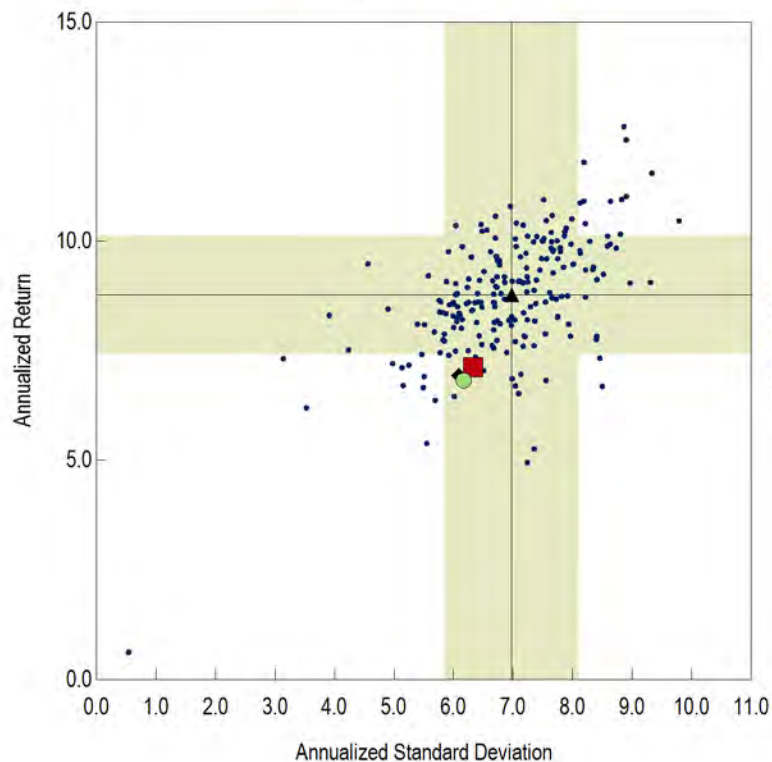
- Teachers Composite
- ◆ Policy Index
- Allocation Index
- ▲ Universe Median
- 68% Confidence Interval
- InvestorForce Public DB Net

3 Years Ending September 30, 2016

	Anlzd Return	Anlzd Return Rank	Anlzd Standard Deviation	Anlzd Standard Deviation Rank	Sharpe Ratio	Sharpe Ratio Rank
Teachers Composite	4.60%	83	5.79%	24	0.78	66
Policy Index	4.56%	84	5.47%	10	0.82	59
S&P 500	11.16%	1	10.83%	99	1.02	16
Citi WGBI	1.78%	99	4.99%	5	0.34	99
MSCI ACWI	5.17%	69	11.34%	99	0.45	99
MSCI ACWI ex USA	0.18%	99	12.69%	99	0.01	99
InvestorForce Public DB Net Median	5.55%	--	6.48%	--	0.85	--

Total Fund Risk/Return - Net

5 Years Ending September 30, 2016

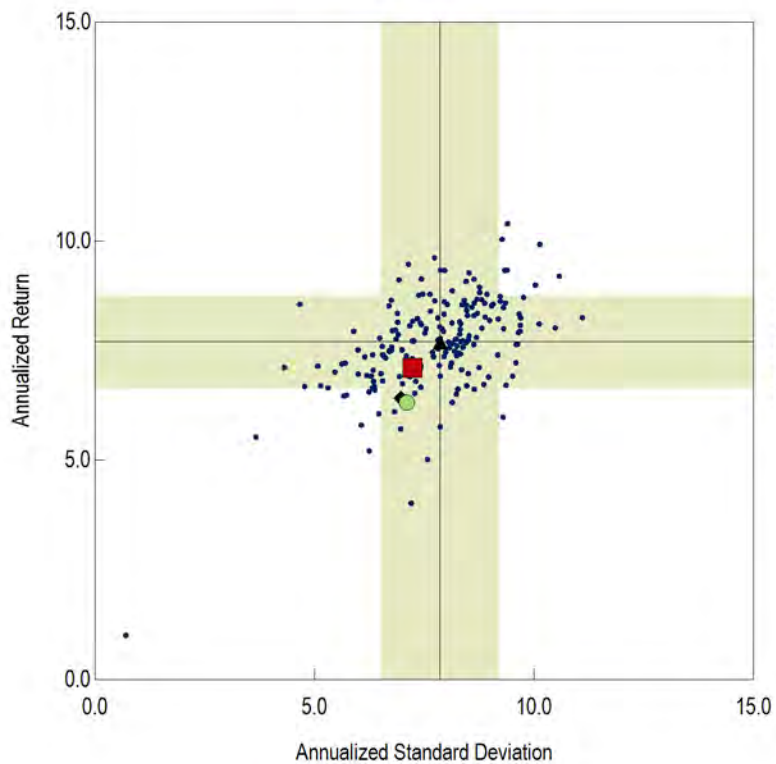


5 Years Ending September 30, 2016

	Anlzd Return	Anlzd Return Rank	Anlzd Standard Deviation	Anlzd Standard Deviation Rank	Sharpe Ratio	Sharpe Ratio Rank
Teachers Composite	7.13%	92	6.33%	28	1.11	82
Policy Index	6.94%	94	6.09%	22	1.13	79
S&P 500	16.37%	1	11.12%	99	1.47	11
Citi WGBI	0.77%	99	4.73%	3	0.15	99
MSCI ACWI	10.63%	5	12.29%	99	0.86	99
MSCI ACWI ex USA	6.04%	99	14.23%	99	0.42	99
InvestorForce Public DB Net Median	8.78%	--	6.98%	--	1.27	--

Total Fund Risk/Return - Net

7 Years Ending September 30, 2016

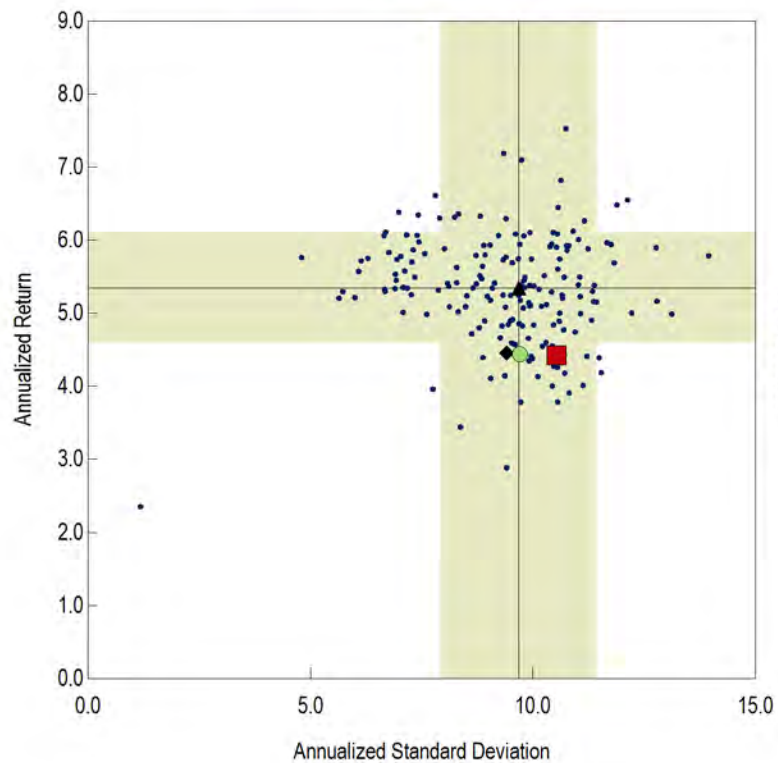


7 Years Ending September 30, 2016

	Anlzd Return	Anlzd Return Rank	Anlzd Standard Deviation	Anlzd Standard Deviation Rank	Sharpe Ratio	Sharpe Ratio Rank
Teachers Composite	7.11%	74	7.23%	34	0.97	51
Policy Index	6.41%	94	6.97%	27	0.91	72
S&P 500	13.17%	1	12.77%	99	1.03	39
Citi WGBI	1.90%	99	5.70%	6	0.32	99
MSCI ACWI	7.77%	45	14.00%	99	0.55	99
MSCI ACWI ex USA	3.66%	99	15.75%	99	0.23	99
InvestorForce Public DB Net Median	7.71%	--	7.86%	--	0.97	--

Total Fund Risk/Return - Net

10 Years Ending September 30, 2016

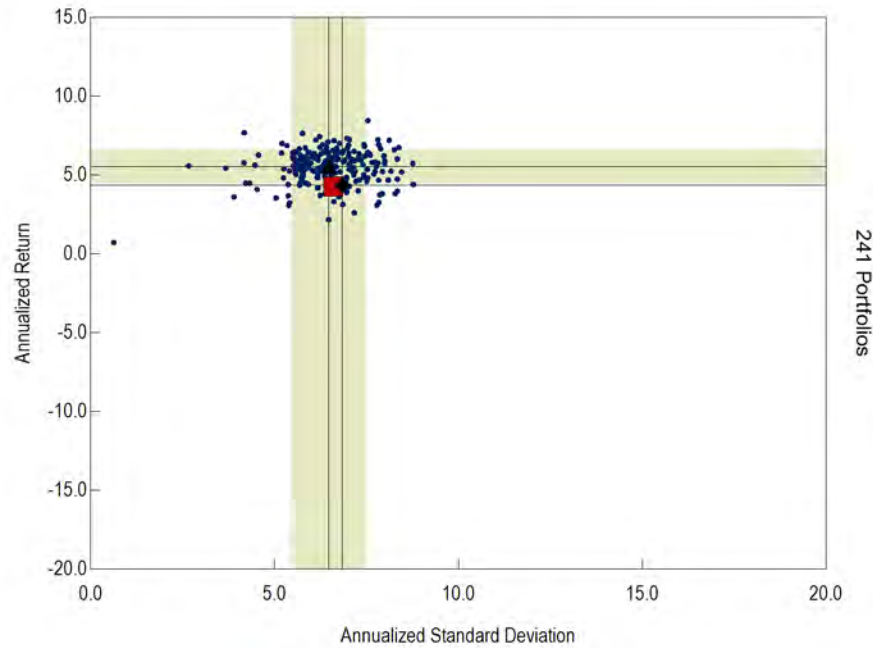


- Teachers Composite
- ◆ Policy Index
- Allocation Index
- ▲ Universe Median
- 68% Confidence Interval
- InvestorForce Public DB Net

10 Years Ending September 30, 2016

	Anlzd Return	Anlzd Return Rank	Anlzd Standard Deviation	Anlzd Standard Deviation Rank	Sharpe Ratio	Sharpe Ratio Rank
Teachers Composite	4.43%	88	10.53%	74	0.35	90
Policy Index	4.46%	87	9.40%	45	0.39	80
S&P 500	7.24%	1	15.25%	99	0.42	70
Citi WGBI	4.10%	95	6.66%	5	0.50	43
MSCI ACWI	4.34%	92	17.02%	99	0.21	99
MSCI ACWI ex USA	2.17%	99	19.19%	99	0.07	99
InvestorForce Public DB Net Median	5.35%	--	9.68%	--	0.48	--

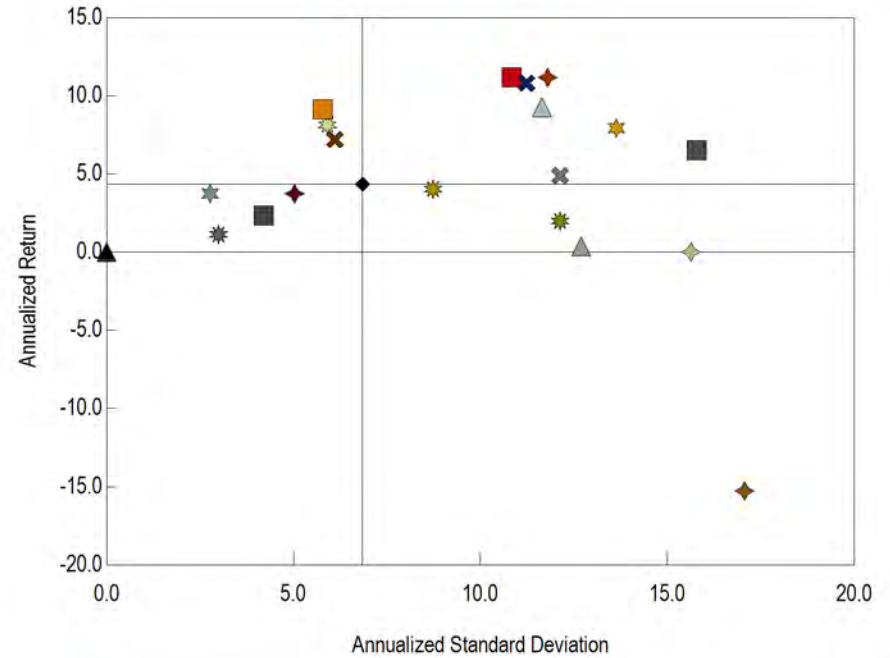
Annualized Return vs. Annualized Standard Deviation
3 Years Ending September 30, 2016



241 Portfolios

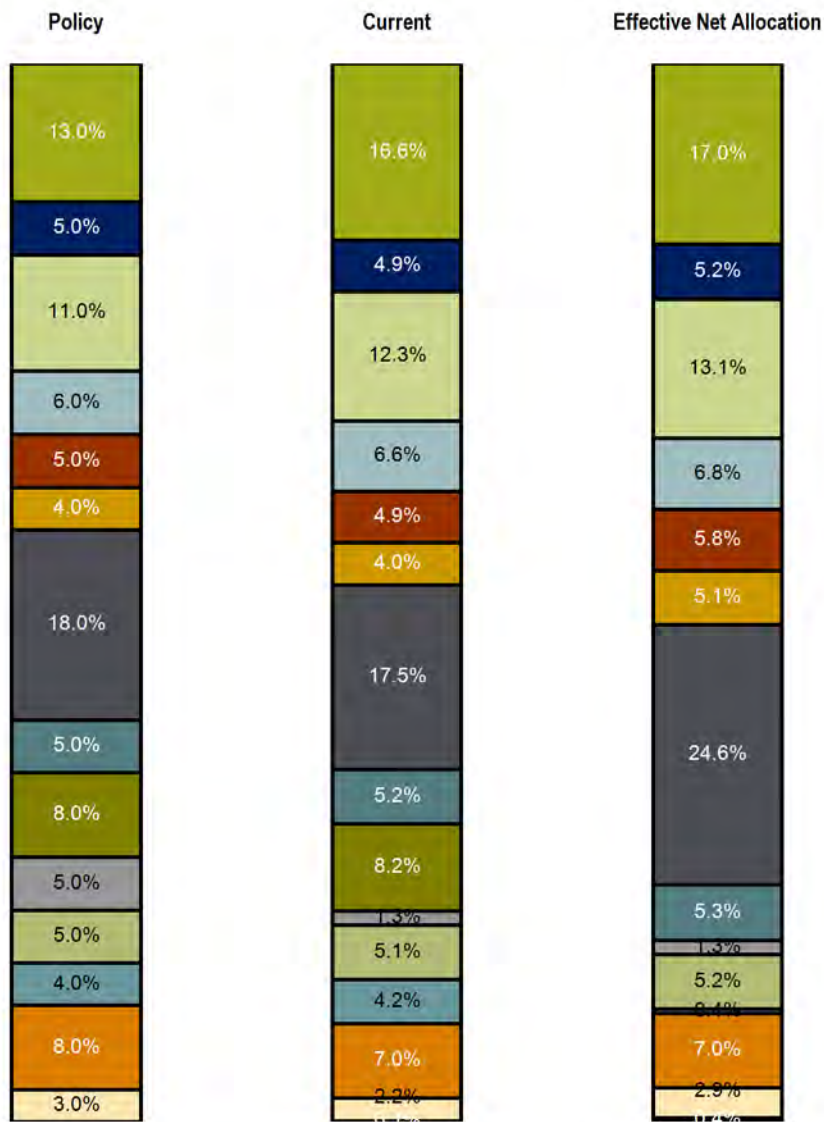
- Total Marketable Assets
- ◆ Total Marketable Assets Custom Index
- ▲ Universe Median
- 68% Confidence Interval
- InvestorForce Public DB Net

Annualized Return vs. Annualized Standard Deviation
3 Years Ending September 30, 2016



- SSgA S&P 500 Cap-Wgt
- ◆ SSgA S&P 500 Equal-Wgt
- ▲ T. Rowe
- SSgA S&P 400
- ▲ Champlain
- * Wellington
- SSgA Russell 2000 Growth
- * Acadian
- * Mondrian
- ▲ SSgA ACWI Ex US
- ◆ Aberdeen
- * PIMCO Core Plus
- Wellington DAS
- * PIMCO Unconstrained
- ◆ KDP
- BlackRock TIPS
- * Wellington Opportunistic EMD
- * AQR Global Risk Premium
- ▲ Vermont Cash
- ◆ Schroder
- ◆ Total Marketable Assets Custom Index
- ▲ Universe Median
- 68% Confidence Interval

Total Fund Asset Allocation vs. Policy Targets

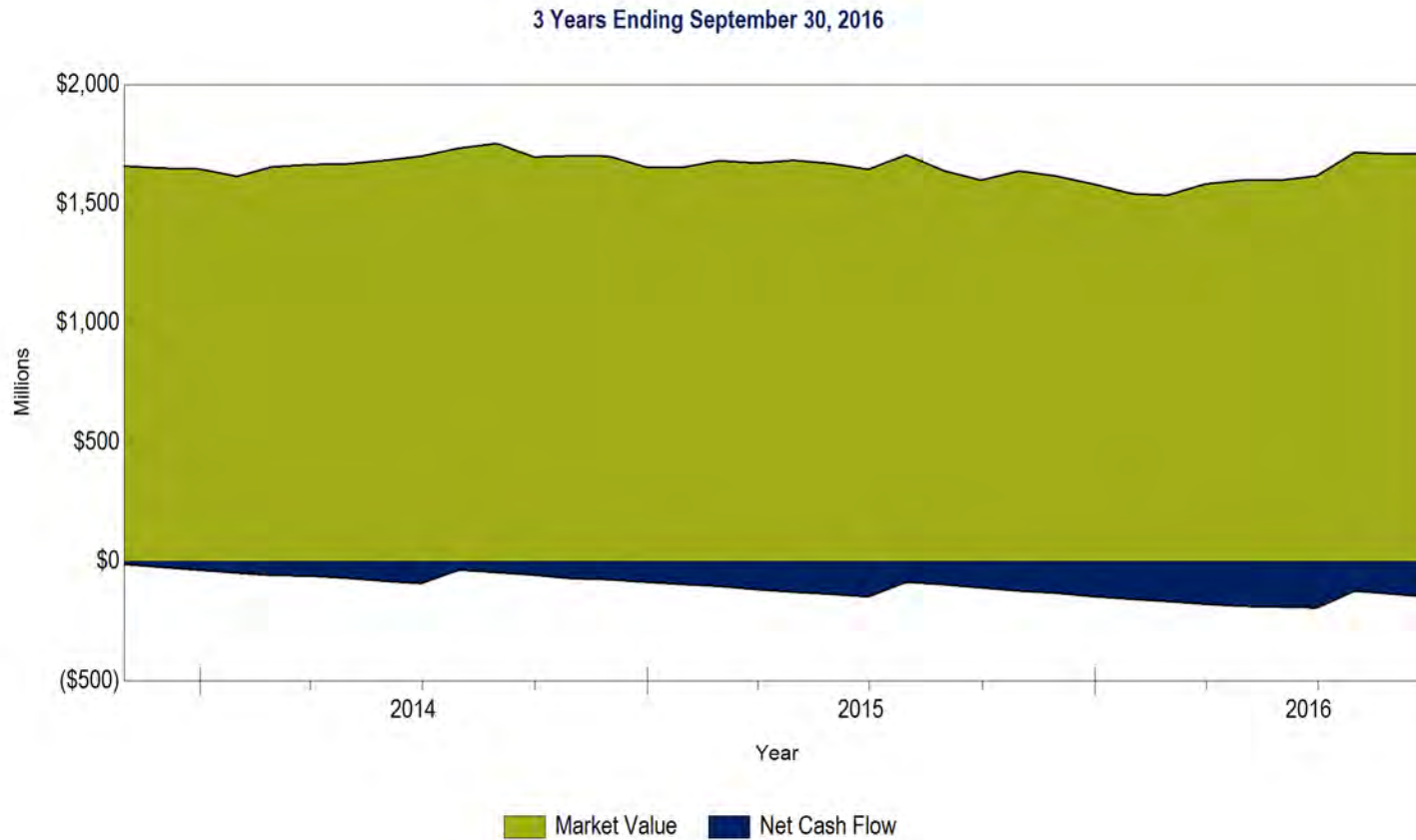


Asset Allocation vs. Target

	Policy	Current	Effective Net Allocation
Large Cap Equity	13.0%	16.6%	17.0%
Small/Mid Cap Equity	5.0%	4.9%	5.2%
International Equity	11.0%	12.3%	13.1%
Emerging Markets Equity	6.0%	6.6%	6.8%
High Yield	5.0%	4.9%	5.8%
TIPS	4.0%	4.0%	5.1%
Diversified Bond	18.0%	17.5%	24.6%
Emerging Market Debt	5.0%	5.2%	5.3%
Risk Parity	8.0%	8.2%	--
Private Equity	5.0%	1.3%	1.3%
Hedge Funds	5.0%	5.1%	5.2%
Absolute Return	4.0%	4.2%	0.4%
Real Estate	8.0%	7.0%	7.0%
Commodities	3.0%	2.2%	2.9%
Cash	--	0.1%	0.4%
Total	100.0%	100.0%	100.0%

Effective Net Allocation breaks out the exposure of GAA managers: AQR and Mellon.

Total Fund Asset Growth Summary



	Last Three Months	Year-To-Date	One Year	Three Years
Beginning Market Value	\$1,617,794,214	\$1,582,816,776	\$1,599,428,905	\$1,631,815,465
Withdrawals	-\$49,593,300	-\$390,020,022	-\$459,495,667	-\$1,079,216,620
Contributions	\$94,586,371	\$387,964,437	\$420,573,785	\$930,112,310
Net Cash Flow	\$44,993,071	-\$2,055,585	-\$38,921,882	-\$149,104,309
Net Investment Change	\$46,976,001	\$129,002,095	\$149,256,263	\$227,052,130
Ending Market Value	\$1,709,763,286	\$1,709,763,286	\$1,709,763,286	\$1,709,763,286

Vermont State Teachers

Total Fund Asset Growth Summary by Manager

	Quarter Ending September 30, 2016					
	Beginning Market Value	Withdrawals	Contributions	Net Cash Flow	Net Investment Change	Ending Market Value
Aberdeen	\$107,037,010	-\$194,548	\$194,548	\$0	\$6,208,940	\$113,245,950
Acadian	\$65,150,764	-\$2,580,011	\$1,080,011	-\$1,500,000	\$4,876,271	\$68,527,035
Allianz Structured Alpha	\$30,239,915	-\$191,922	\$191,922	\$0	\$388,496	\$30,628,411
AQR Global Risk Premium	\$137,664,715	-\$136,995	\$136,995	\$0	\$3,203,942	\$140,868,656
BlackRock TIPS	\$61,588,503	-\$10,963	\$6,010,963	\$6,000,000	\$617,693	\$68,206,195
Champlain	\$34,661,658	-\$3,074,763	\$74,763	-\$3,000,000	\$1,822,126	\$33,483,783
GAM	\$199,700	\$0	\$0	\$0	-\$24,623	\$175,077
GAM Unconstrained Bond	\$55,867,358	-\$46,012	\$46,012	\$0	\$1,154,247	\$57,021,605
Grosvenor	\$85,569,999	\$0	\$0	\$0	\$2,432,942	\$88,002,941
Guggenheim	\$61,975,381	-\$5,690,996	\$6,075,996	\$385,000	\$3,531,127	\$65,891,508
Harbourvest Dover VIII Fund	\$7,790,047	\$0	\$0	\$0	\$0	\$7,790,047
Harbourvest Partners IX Buyout Fund	\$6,185,240	\$0	\$0	\$0	\$0	\$6,185,240
Harbourvest Partners IX Credit Opportunities	\$936,018	\$0	\$0	\$0	\$0	\$936,018
Harbourvest Partners IX Venture Fund	\$4,732,150	\$0	\$0	\$0	\$0	\$4,732,150
Harbourvest Partners X Buyout Fund	\$1,071,668	\$0	\$0	\$0	\$0	\$1,071,668
Harbourvest Partners X Venture Fund	\$561,641	\$0	\$0	\$0	\$0	\$561,641
HIPEP VII	\$1,307,685	\$0	\$238,145	\$238,145	\$0	\$1,545,830
KDP	\$16,542,742	-\$27,264	\$527,264	\$500,000	\$640,193	\$17,682,935
Mellon Dynamic Growth	\$32,063,346	-\$55,224	\$1,055,224	\$1,000,000	\$354,598	\$33,417,944
Mondrian	\$63,577,770	-\$64,648	\$2,064,648	\$2,000,000	\$2,726,092	\$68,303,862
Morgan Stanley Prime Property	\$56,461,058	-\$153,338	\$0	-\$153,338	\$1,430,245	\$57,737,966
PIMCO Core Plus	\$91,564,309	-\$67,429	\$14,497,429	\$14,430,000	-\$6,896,760	\$99,097,549
PIMCO Unconstrained	\$38,563,953	-\$560,208	\$1,060,208	\$500,000	\$840,210	\$39,904,162
Pinnacle Natural Resources, L.P.	\$7,300,000	\$0	\$0	\$0	-\$120,473	\$7,179,527
RREEF America REIT III	\$1,637,795	-\$1,174,763	\$0	-\$1,174,763	-\$203,352	\$259,680

Vermont State Teachers

Total Fund Asset Growth Summary by Manager

	Quarter Ending September 30, 2016					Ending Market Value
	Beginning Market Value	Withdrawals	Contributions	Net Cash Flow	Net Investment Change	
Schroder	\$45,493,590	-\$7,300,000	\$0	-\$7,300,000	-\$837,261	\$37,356,329
Siguler Guff	\$12,594,882	-\$8,905	\$453,109	\$444,204	\$594,126	\$13,633,212
SSgA ACWI Ex US	\$68,073,624	-\$9,067	\$9,067	\$0	\$4,732,875	\$72,806,499
SSgA Barclays Aggregate Index	\$50,595,732	-\$6,161	\$4,006,161	\$4,000,000	\$230,166	\$54,825,898
SSgA Russell 2000 Growth	\$5,174,011	-\$8,001,679	\$9,001,679	\$1,000,000	\$1,112,508	\$7,286,520
SSgA S&P 400	\$7,992,900	-\$1,584	\$501,584	\$500,000	\$346,101	\$8,839,001
SSgA S&P 500 Cap-Wgt	\$182,973,714	-\$13,015,209	\$35,515,209	\$22,500,000	\$7,772,618	\$213,246,332
SSgA S&P 500 Equal-Wgt	\$65,244,994	-\$6,507,035	\$9,007,035	\$2,500,000	\$3,425,723	\$71,170,717
T. Rowe	\$2,510	\$0	\$0	\$0	\$0	\$2,510
Transwestern / Aslan III	\$128,447	\$0	\$0	\$0	\$0	\$128,447
UBS Trumbull	\$47,493,735	\$0	\$0	\$0	\$806,562	\$48,300,297
Vermont Cash	\$881,776	-\$668,152	\$791,974	\$123,823	\$0	\$1,005,599
Wellington	\$30,032,356	-\$46,427	\$2,046,427	\$2,000,000	\$1,408,833	\$33,441,188
Wellington DAS	\$47,007,741	\$0	\$0	\$0	\$117,387	\$47,125,128
Wellington Opportunistic EMD	\$83,853,781	\$0	\$0	\$0	\$4,284,448	\$88,138,229
Total	\$1,617,794,214	-\$49,593,300	\$94,586,371	\$44,993,071	\$46,976,001	\$1,709,763,286

Vermont State Teachers

Total Fund Performance Detail - Net

	Market Value (\$)	% of Portfolio	Policy %	Fiscal YTD (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
Teachers Composite	1,710,279,407	100.0	100.0	3.2	62	9.1	1	10.3	19	4.6	83	7.1	92	4.4	88
Policy Index				3.2	62	8.1	5	9.6	40	4.6	84	6.9	94	4.5	87
Allocation Index				3.5	46	8.2	4	9.7	34	4.3	89	6.8	95	4.4	87
InvestorForce Public DB Net Median				3.4		6.5		9.3		5.6		8.8		5.3	
Total Marketable Assets	1,407,993,312	82.3	78.0	3.5	43	10.2	1	11.3	3	4.3	89	--	--	--	--
Total Marketable Assets Custom Index				3.7	37	8.8	3	10.6	11	4.3	89	--	--	--	--
InvestorForce Public DB Net Median				3.4		6.5		9.3		5.6		8.8		5.3	
US Equity	367,470,052	21.5	18.0	4.4	62	9.5	31	16.0	21	10.3	21	--	--	--	--
Russell 3000				4.4	61	8.2	42	15.0	28	10.4	20	16.4	30	7.4	52
eA All US Equity Net Median				5.1		7.3		12.1		8.4		15.3		7.4	
Large Cap Comp	284,419,559	16.6	13.0	4.1	54	8.7	19	15.7	15	11.0	19	16.7	17	7.8	34
S&P 500				3.9	58	7.8	27	15.4	17	11.2	18	16.4	23	7.2	47
eA US Large Cap Equity Net Median				4.2		5.5		11.5		9.3		15.0		7.1	
SSgA S&P 500 Cap-Wgt	213,246,332	12.5	10.0	3.9	58	7.8	27	15.5	17	11.2	17	16.4	22	--	--
S&P 500				3.9	58	7.8	27	15.4	17	11.2	18	16.4	23	7.2	47
SSgA S&P 500 Equal-Wgt	71,170,717	4.2	3.0	4.8	40	11.1	7	16.4	12	10.8	21	17.4	7	8.5	19
S&P 500 Equal Weighted				4.5	44	10.6	10	16.1	14	10.8	22	17.4	7	8.8	14
T. Rowe	2,510	0.0	0.0												
Small/Mid Cap Comp	83,050,493	4.9	5.0	5.2	60	11.7	21	17.5	8	9.4	17	16.8	19	8.6	35
Russell 2000				9.0	13	11.5	22	15.5	20	6.7	46	15.8	31	7.1	72
eA US Small-Mid Cap Equity Net Median				5.9		8.5		11.2		6.4		14.9		7.9	
SSgA S&P 400	8,839,001	0.5	0.5	4.1	60	12.3	17	15.2	22	9.3	29	16.5	26	--	--
S&P 400 MidCap				4.1	60	12.4	17	15.3	21	9.4	26	16.5	25	9.1	20
eA US Mid Cap Equity Net Median				4.5		7.0		10.7		8.3		15.3		8.2	
Champlain	33,483,783	2.0	2.0	5.0	35	14.2	10	20.5	2	11.2	9	16.8	20	--	--
Russell 2500				6.6	14	10.8	23	14.4	25	7.8	59	16.3	31	7.9	57
eA US Mid Cap Equity Net Median				4.5		7.0		10.7		8.3		15.3		8.2	
Wellington	33,441,188	2.0	2.0	4.3	93	8.8	84	14.7	53	7.9	34	16.1	43	8.8	11
Russell 2000 Value				8.9	23	15.5	17	18.8	20	6.8	52	15.4	57	5.8	87
eA US Small Cap Value Equity Net Median				7.3		12.1		15.0		6.8		15.7		7.4	

Vermont State Teachers

Total Fund Performance Detail - Net

	Market Value (\$)	% of Portfolio	Policy %	Fiscal YTD (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
SSgA Russell 2000 Growth	7,286,520	0.4	0.5	9.4	34	7.5	47	12.1	44	6.5	43	16.0	43	--	--
<i>Russell 2000 Growth</i>				9.2	35	7.5	47	12.1	44	6.6	42	16.1	42	8.3	49
<i>eA US Small Cap Growth Equity Net Median</i>				8.2		7.2		11.3		6.0		15.7		8.2	
Int'l Equity Comp	209,637,396	12.3	11.0	6.1	62	6.1	18	10.2	28	2.8	35	7.9	66	2.1	71
<i>MSCI EAFE</i>				6.4	51	1.7	59	6.5	57	0.5	73	7.4	73	1.8	80
<i>eA All EAFE Equity Net Median</i>				6.5		2.6		6.9		1.9		9.0		2.9	
Acadian	68,527,035	4.0	4.0	7.3	33	7.2	12	13.3	10	4.9	17	9.9	34	1.9	77
Mondrian	68,303,862	4.0	4.0	4.1	90	4.9	28	7.5	47	2.0	50	6.8	87	2.4	60
<i>MSCI EAFE</i>				6.4	51	1.7	59	6.5	57	0.5	73	7.4	73	1.8	80
SSgA ACWI Ex US	72,806,499	4.3	3.0	6.9	40	6.0	34	9.5	48	0.4	82	6.2	89	--	--
<i>MSCI ACWI ex USA</i>				6.9	40	5.8	34	9.3	49	0.2	82	6.0	90	2.2	78
<i>eA ACWI ex-US All Cap Equity Net Median</i>				6.6		3.8		9.0		2.8		8.6		3.4	
Emerging Market Comp	113,245,950	6.6	6.0	5.6	88	18.9	19	19.6	30	0.0	59	--	--	--	--
Aberdeen	113,245,950	6.6	6.0	5.6	88	18.9	19	19.6	30	0.0	59	4.4	45	--	--
<i>MSCI Emerging Markets</i>				9.0	40	16.0	38	16.8	46	-0.6	68	3.0	76	3.9	69
<i>eA Emg Mkts Equity Net Median</i>				8.5		14.5		16.1		0.3		4.2		4.7	
US Fixed Income	450,271,102	26.3	27.0	1.9	27	7.6	30	7.3	31	4.3	38	--	--	--	--
<i>Barclays Aggregate</i>				0.5	63	5.8	49	5.2	50	4.0	45	3.1	60	4.8	50
<i>eA All US Fixed Inc Net Median</i>				0.8		5.6		5.2		3.8		3.7		4.8	
Diversified Fixed	298,490,463	17.5	18.0	1.2	39	6.4	41	6.6	35	4.4	36	4.1	46	4.1	66
<i>Barclays Aggregate</i>				0.5	63	5.8	49	5.2	50	4.0	45	3.1	60	4.8	50
<i>eA All US Fixed Inc Net Median</i>				0.8		5.6		5.2		3.8		3.7		4.8	
PIMCO Core Plus	99,097,549	5.8	6.0	1.1	15	6.0	57	5.9	27	3.7	78	3.5	52	--	--
<i>Barclays Aggregate</i>				0.5	72	5.8	64	5.2	68	4.0	61	3.1	79	4.8	78
Wellington DAS	47,125,128	2.8	3.0	0.2	84	8.6	3	9.3	2	9.1	1	6.5	1	--	--
<i>Wellington Custom Benchmark*</i>				-0.6	99	9.6	1	8.0	2	7.3	1	4.4	13	6.5	3

*Wellington Custom Benchmark is comprised of equal weighted zero coupon bonds targeting a 10 year duration. Instruments include swaps from 7/1/07 thru 12/18/08, swaps and US Treasury STRIPS from 12/19/08 thru 12/29/08, and US Treasury STRIPS since 12/30/08.

Vermont State Teachers

Total Fund Performance Detail - Net

	Market Value (\$)	% of Portfolio	Policy %	Fiscal YTD (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
SSgA Barclays Aggregate Index	54,825,898	3.2	3.0	0.4	73	5.8	67	5.2	68	--	--	--	--	--	--
<i>Barclays Aggregate</i>				0.5	72	5.8	64	5.2	68	4.0	61	3.1	79	4.8	78
<i>3-Month Libor Total Return USD</i>				0.2	90	0.5	99	0.6	99	0.4	99	0.4	99	1.3	99
<i>eA US Core Fixed Inc Net Median</i>				0.7		6.1		5.5		4.1		3.5		5.1	
Unconstrained Fixed Income	97,441,888	5.7	6.0	2.2	66	4.8	70	4.7	74	--	--	--	--	--	--
<i>25% HY, 25% EMD, 50% BC Agg</i>				2.5	58	10.4	19	9.9	19	5.2	9	5.5	38	6.3	26
<i>Barclays Global Aggregate</i>				0.8	97	9.9	24	8.8	28	2.1	70	1.7	91	4.3	73
<i>eA Global Unconstrained Fixed Inc Net Median</i>				2.7		6.6		6.6		3.4		4.6		5.6	
PIMCO Unconstrained	40,420,283	2.4	2.5	2.5	58	4.2	78	5.2	66	1.1	87	1.4	96	--	--
<i>25% HY, 25% EMD, 50% BC Agg</i>				2.5	58	10.4	19	9.9	19	5.2	9	5.5	38	6.3	26
<i>3-Month Libor Total Return USD</i>				0.2	99	0.5	97	0.6	99	0.4	96	0.4	99	1.3	99
GAM Unconstrained Bond	57,021,605	3.3	3.5	2.0	71	5.1	64	4.5	75	--	--	--	--	--	--
<i>3-Month LIBOR + 3%</i>				1.0	94	2.8	88	3.6	86	3.4	51	3.4	77	4.4	73
<i>eA Global Unconstrained Fixed Inc Net Median</i>				2.7		6.6		6.6		3.4		4.6		5.6	
High Yield Comp	83,574,443	4.9	5.0	5.0	44	12.4	41	9.8	61	4.6	46	7.6	50	7.1	36
<i>Barclays High Yield</i>				5.6	22	15.1	9	12.7	5	5.3	28	8.3	21	7.7	15
<i>eA US High Yield Fixed Inc Net Median</i>				4.8		11.9		10.1		4.6		7.6		7.0	
KDP	17,682,935	1.0	1.0	3.6	83	10.2	75	8.4	79	3.7	75	6.1	88	--	--
<i>Barclays High Yield</i>				5.6	22	15.1	9	12.7	5	5.3	28	8.3	21	7.7	15
<i>BofA Merrill Lynch US High Yield BB-B Rated</i>				5.0	42	13.3	28	12.0	11	5.6	18	8.0	30	7.1	36
Guggenheim	65,891,508	3.9	4.0	5.3	31	12.9	34	10.0	55	--	--	--	--	--	--
<i>Barclays High Yield</i>				5.6	22	15.1	9	12.7	5	5.3	28	8.3	21	7.7	15
<i>eA US High Yield Fixed Inc Net Median</i>				4.8		11.9		10.1		4.6		7.6		7.0	
TIPS	68,206,195	4.0	4.0												
BlackRock TIPS	68,206,195	4.0	4.0	1.0	--	7.2	--	6.6	--	2.3	--	1.8	--	--	--
<i>Barclays US TIPS</i>				1.0	--	7.3	--	6.6	--	2.4	--	1.9	--	4.5	--

Vermont State Teachers

Total Fund Performance Detail - Net

	Market Value (\$)	% of Portfolio	Policy %	Fiscal YTD (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
Emerging Market Debt	88,138,229	5.2	5.0												
Wellington Opportunistic EMD	88,138,229	5.2	5.0	5.1	10	16.2	41	18.4	15	7.2	10	7.6	21	--	--
JP Morgan EMBI Global TR				3.7	41	15.0	55	16.8	35	7.4	7	7.4	25	7.6	35
eA All Emg Mkts Fixed Inc Net Median				3.3		15.4		15.8		5.1		5.7		7.2	
Risk Parity	140,868,656	8.2	8.0	2.2	56	11.2	10	10.2	19	3.4	47	5.8	46	4.5	75
eA Global TAA Net Median				2.6		5.9		8.1		3.2		5.6		5.0	
AQR Global Risk Premium	140,868,656	8.2	8.0	2.2	56	13.2	3	10.0	20	4.0	31	5.5	51	--	--
60% MSCI World (Net) / 40% CITI WGBI				3.0	40	7.9	28	11.0	17	4.4	27	7.3	30	4.7	67
Cash	1,005,599	0.1	0.0												
Vermont Cash	1,005,599	0.1	0.0	0.0	--	0.0	--	0.0	--	0.0	--	0.0	--	1.1	--
91 Day T-Bills				0.1	--	0.2	--	0.2	--	0.1	--	0.1	--	0.8	--
Commodities	37,356,329	2.2	3.0												
Schroder	37,356,329	2.2	3.0	-2.2	--	13.6	--	-0.1	--	-15.3	--	-10.7	--	--	--
Bloomberg Commodity Index				-3.9	--	8.9	--	-2.6	--	-12.3	--	-9.4	--	-5.3	--
Total Real Estate	120,059,601	7.0	8.0	2.1	--	6.5	--	10.0	--	12.2	--	--	--	--	--
NCREIF Property Index				1.8	--	6.1	--	9.2	--	11.3	--	11.2	--	7.2	--
NCREIF ODCE				2.1	--	6.5	--	10.1	--	12.4	--	12.4	--	6.0	--
Morgan Stanley Prime Property	57,737,966	3.4		2.3	--	6.7	--	10.1	--	13.1	--	13.3	--	6.3	--
UBS Trumbull	48,300,297	2.8		1.7	--	5.6	--	10.2	--	10.6	--	10.0	--	5.9	--
RREEF America REIT III	259,680	0.0		-12.9	--	-16.5	--	-17.3	--	4.6	--	9.9	--	-4.0	--
Transwestern / Aslan III	128,447	0.0		0.0	--	0.0	--	0.0	--	-2.0	--	7.2	--	-23.5	--
Siguler Guff	13,633,212	0.8		4.6	--	12.4	--	13.7	--	--	--	--	--	--	--
Absolute Return	159,403,901	9.3	9.0	1.8	69	-0.9	59	-0.7	63	1.8	65	4.8	51	--	--
HFRI Fund of Funds Composite Index				2.4	59	-0.2	51	0.5	41	2.2	53	3.2	76	1.8	92
eV Alt Fund of Funds - Multi-Strategy Median				2.8		0.0		0.0		2.3		4.9		3.6	
Grosvenor	88,002,941	5.1	5.0	2.8	49	0.2	47	0.3	44	2.6	47	5.4	39	--	--
Mellon Dynamic Growth	33,417,944	2.0	2.0	0.9	86	1.7	28	6.4	7	5.0	14	7.7	10	3.6	51
Mellon Dynamic Growth Benchmark				3.4	31	7.8	2	10.4	2	4.0	25	6.9	14	4.1	37

Absolute Return composite formerly shown as Hedge Funds composite. As of 04/01/2016, Absolute Return includes Mellon Dynamic Growth and Allianz Structured Alpha.

Risk Parity Composite formerly shown as GAA/Risk Parity.

Mellon Dynamic Growth was included in Risk Parity/GAA composite prior to 04/01/2016.

Allianz Structured Alpha was included Diversified Fixed income composite prior to 04/01/2016.

Mellon Dynamic Growth Benchmark: 60% MSCI All Country World Index IMI / 40% Citigroup GDP Weighted.

Real Estate performance reported on a quarterly basis. NCREIF Property is available 25 days after quarter end.

Real Estate values are finalized as of 9/30/2016, except for Siguler Guff and Morgan Stanley, they are both preliminary.

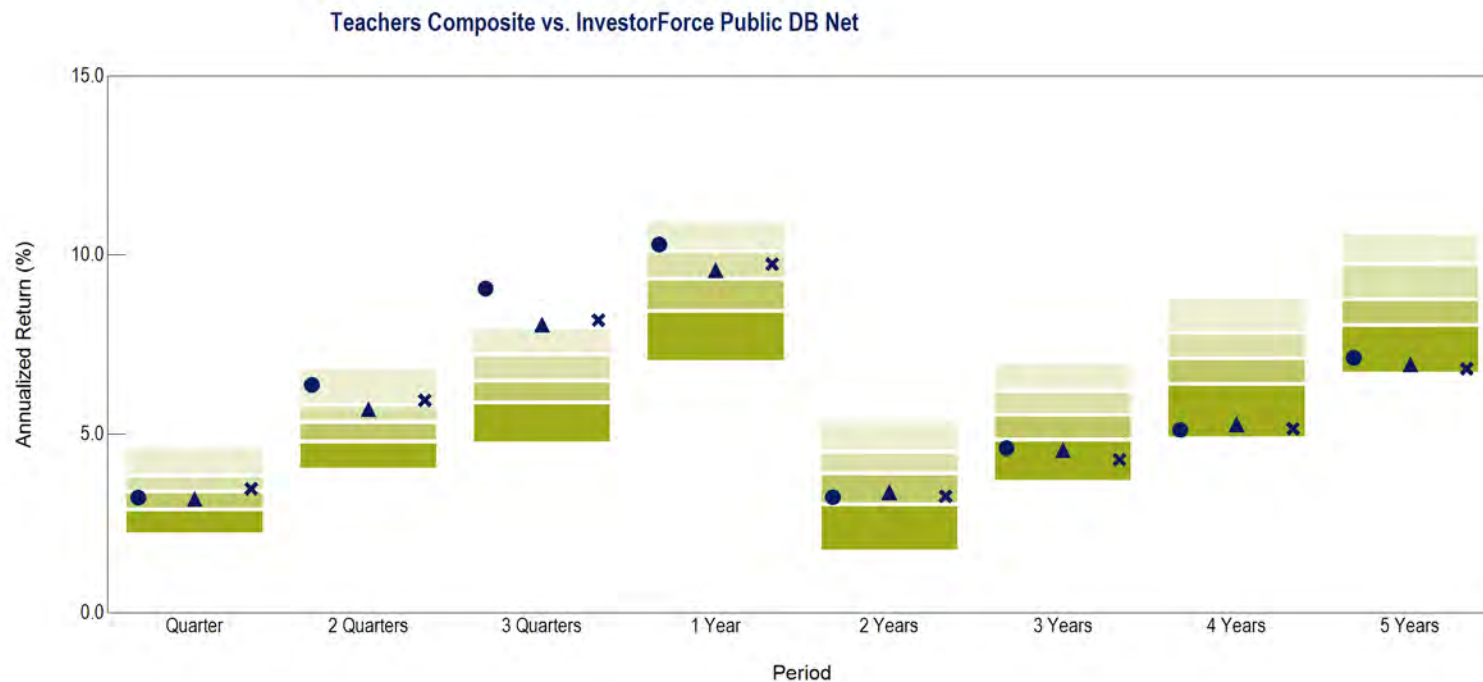
Vermont State Teachers

Total Fund Performance Detail - Net

	Market Value (\$)	% of Portfolio	Policy %	Fiscal YTD (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
Allianz Structured Alpha	30,628,411	1.8	2.0	0.7	88	7.0	4	8.6	3	8.7	5	9.4	5	--	--
<i>91 Day T-Bills</i>				0.1	93	0.2	47	0.2	47	0.1	88	0.1	97	0.8	98
<i>eV Alt Fund of Funds - Multi-Strategy Median</i>				2.8		0.0		0.0		2.3		4.9		3.6	
Pinnacle Natural Resources, L.P.	7,179,527	0.4		-1.7	--	--	--	--	--	--	--	--	--	--	--
<i>Bloomberg Commodity Index</i>				-3.9	--	8.9	--	-2.6	--	-12.3	--	-9.4	--	-5.3	--
<i>eA Commodities Net Median</i>				--		--		--		--		--		--	
GAM	175,077	0.0	0.0												
Private Equity	22,822,593	1.3	5.0	0.0	--	6.2	--	8.6	--	15.6	--	--	--	--	--
<i>Cambridge Associates US All PE</i>				0.0	--	4.2	--	4.7	--	9.4	--	12.3	--	10.4	--
Harbourvest Partners IX Credit Opportunities	936,018	0.1													
Harbourvest Partners IX Venture Fund	4,732,150	0.3													
Harbourvest Partners IX Buyout Fund	6,185,240	0.4													
Harbourvest Partners X Venture Fund	561,641	0.0													
Harbourvest Partners X Buyout Fund	1,071,668	0.1													
Harbourvest Dover VIII Fund	7,790,047	0.5													
HIPEP VII	1,545,830	0.1													

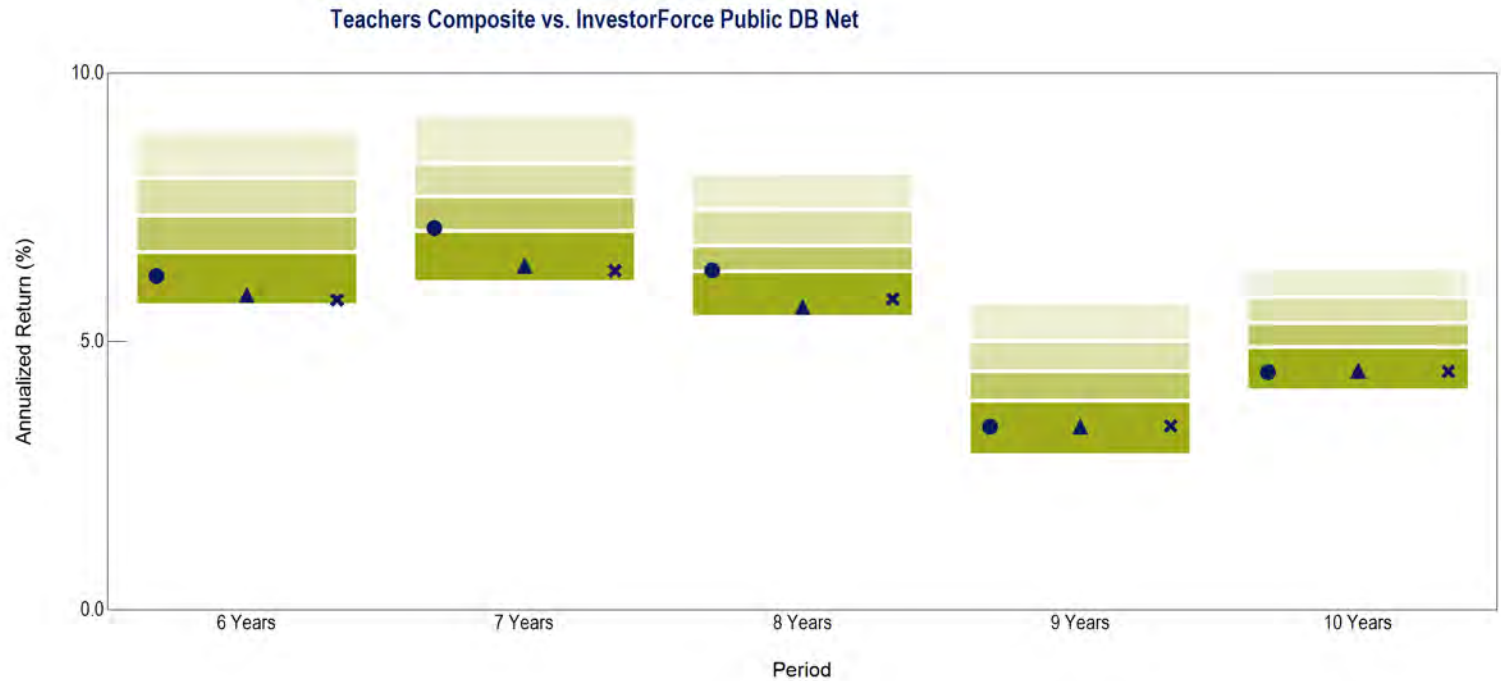
Harbourvest is based on final Capital Account Statements for Q2 2016, and cash adjusted through Q3.

Total Fund Return Summary vs. Peer Universe - Net



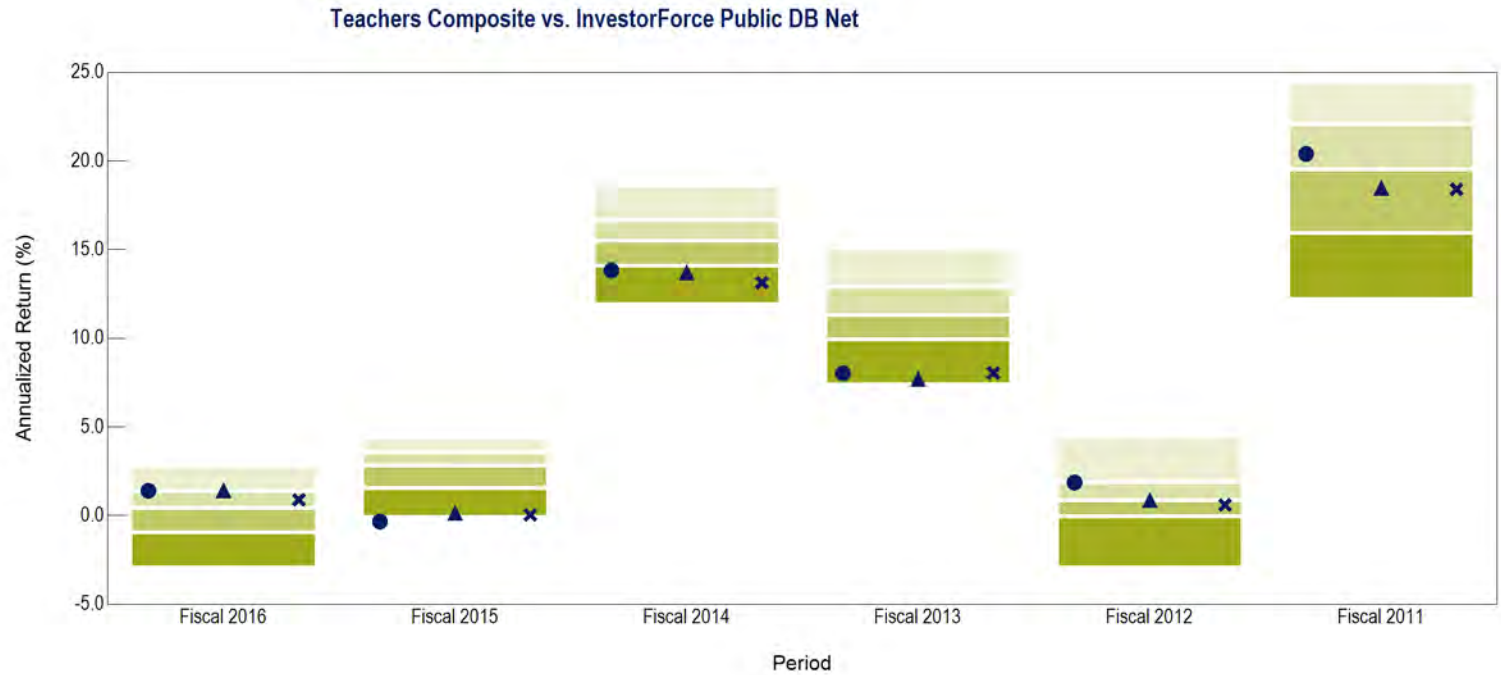
	Return (Rank)															
5th Percentile	4.6	6.9	8.0	11.0	5.4	7.0	8.8	10.6								
25th Percentile	3.9	5.8	7.2	10.1	4.5	6.2	7.8	9.7								
Median	3.4	5.3	6.5	9.3	3.9	5.6	7.1	8.8								
75th Percentile	2.9	4.8	5.9	8.4	3.0	4.9	6.4	8.1								
95th Percentile	2.2	4.0	4.7	7.0	1.7	3.7	4.9	6.7								
# of Portfolios	270	269	268	266	259	241	232	219								
● Teachers Composite	3.2	(62)	6.4	(12)	9.1	(1)	10.3	(19)	3.2	(70)	4.6	(83)	5.1	(93)	7.1	(92)
▲ Policy Index	3.2	(62)	5.7	(30)	8.1	(5)	9.6	(40)	3.4	(66)	4.6	(84)	5.3	(92)	6.9	(94)
× Allocation Index	3.5	(46)	5.9	(23)	8.2	(4)	9.7	(34)	3.3	(70)	4.3	(89)	5.1	(92)	6.8	(95)

Total Fund Return Summary vs. Peer Universe - Net



	Return (Rank)									
5th Percentile	8.9		9.2		8.1		5.7		6.4	
25th Percentile	8.1		8.3		7.5		5.0		5.8	
Median	7.4		7.7		6.8		4.4		5.3	
75th Percentile	6.7		7.1		6.3		3.9		4.9	
95th Percentile	5.7		6.1		5.5		2.9		4.1	
# of Portfolios	210		199		191		184		178	
● Teachers Composite	6.2	(90)	7.1	(74)	6.3	(74)	3.4	(87)	4.4	(88)
▲ Policy Index	5.9	(95)	6.4	(94)	5.6	(93)	3.4	(87)	4.5	(87)
× Allocation Index	5.8	(95)	6.3	(95)	5.8	(91)	3.4	(87)	4.4	(87)

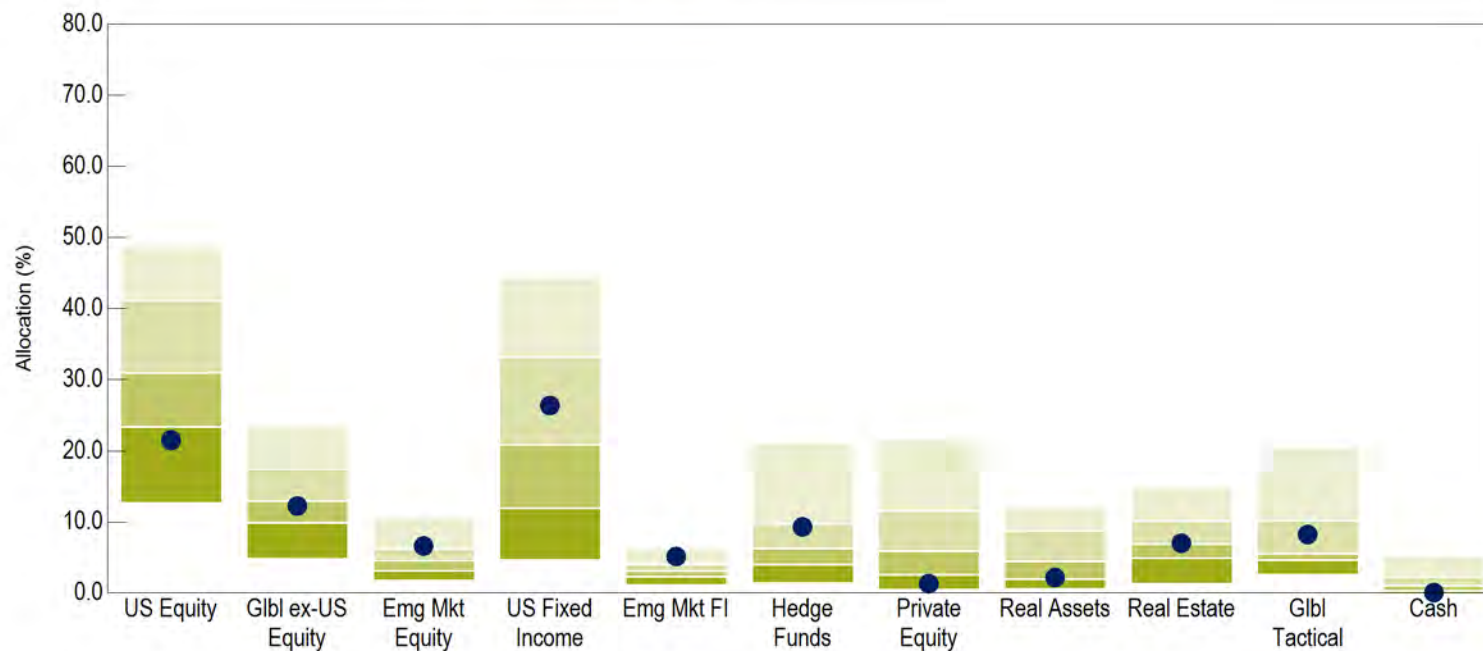
Total Fund Return Summary vs. Peer Universe - Net



	Return (Rank)											
5th Percentile	2.8		4.4		18.6		15.0		4.4		24.4	
25th Percentile	1.4		3.6		16.7		12.9		1.9		22.1	
Median	0.4		2.8		15.5		11.3		0.9		19.5	
75th Percentile	-0.9		1.6		14.1		9.9		0.0		15.9	
95th Percentile	-2.9		-0.1		11.9		7.4		-2.9		12.2	
# of Portfolios	258		231		173		192		147		137	
● Teachers Composite	1.4	(26)	-0.3	(96)	13.8	(83)	8.0	(94)	1.9	(26)	20.4	(39)
▲ Policy Index	1.4	(25)	0.1	(94)	13.7	(84)	7.7	(94)	0.9	(51)	18.5	(61)
× Allocation Index	0.9	(37)	0.0	(95)	13.1	(91)	8.0	(94)	0.6	(59)	18.4	(63)

Total Fund Allocation vs. Peer Universe - Net

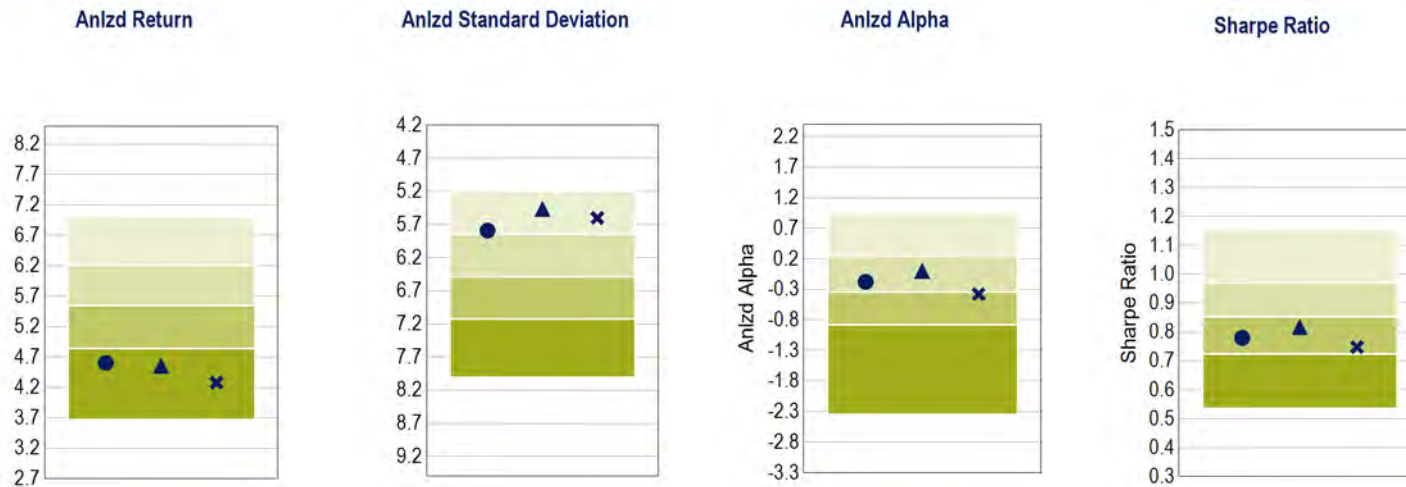
Total Plan Allocation vs. InvestorForce Public DB Net
As of September 30, 2016



	Allocation (Rank)											
5th Percentile	48.8	23.4	10.7	44.3	6.2	21.2	21.7	12.3	14.8	20.4	5.3	--
25th Percentile	41.3	17.4	6.3	33.2	4.1	9.8	11.6	8.9	10.2	10.3	2.4	--
Median	31.0	13.1	4.6	20.9	3.2	6.4	6.0	4.6	7.0	5.7	1.2	--
75th Percentile	23.4	9.9	3.2	12.1	2.4	4.1	2.7	2.0	5.0	4.7	0.4	--
95th Percentile	12.8	4.9	1.8	4.8	1.2	1.5	0.6	0.7	1.4	2.6	0.0	--
# of Portfolios	220	221	125	178	43	91	118	71	152	76	230	--
● Teachers Composite	21.5 (80)	12.3 (61)	6.6 (22)	26.3 (36)	5.2 (17)	9.3 (30)	1.3 (90)	2.2 (73)	7.0 (51)	8.2 (39)	0.1 (93)	--

Total Fund Risk Statistics vs. Peer Universe - Net

Teachers Composite vs. IFX Public DB Net
3 Years



● Teachers Composite

Value	4.60
Rank	83
▲ Policy Index	
Value	4.56
Rank	84
✘ Allocation Index	
Value	4.28
Rank	89

Universe	
5th %tile	7.00
25th %tile	6.22
Median	5.55
75th %tile	4.85
95th %tile	3.68

● Teachers Composite

Value	5.79
Rank	24
▲ Policy Index	
Value	5.47
Rank	10
✘ Allocation Index	
Value	5.60
Rank	15

Universe	
5th %tile	5.19
25th %tile	5.83
Median	6.48
75th %tile	7.12
95th %tile	8.00

● Teachers Composite

Value	-0.18
Rank	44
▲ Policy Index	
Value	0.00
Rank	37
✘ Allocation Index	
Value	-0.38
Rank	54

Universe	
5th %tile	0.95
25th %tile	0.25
Median	-0.34
75th %tile	-0.87
95th %tile	-2.34

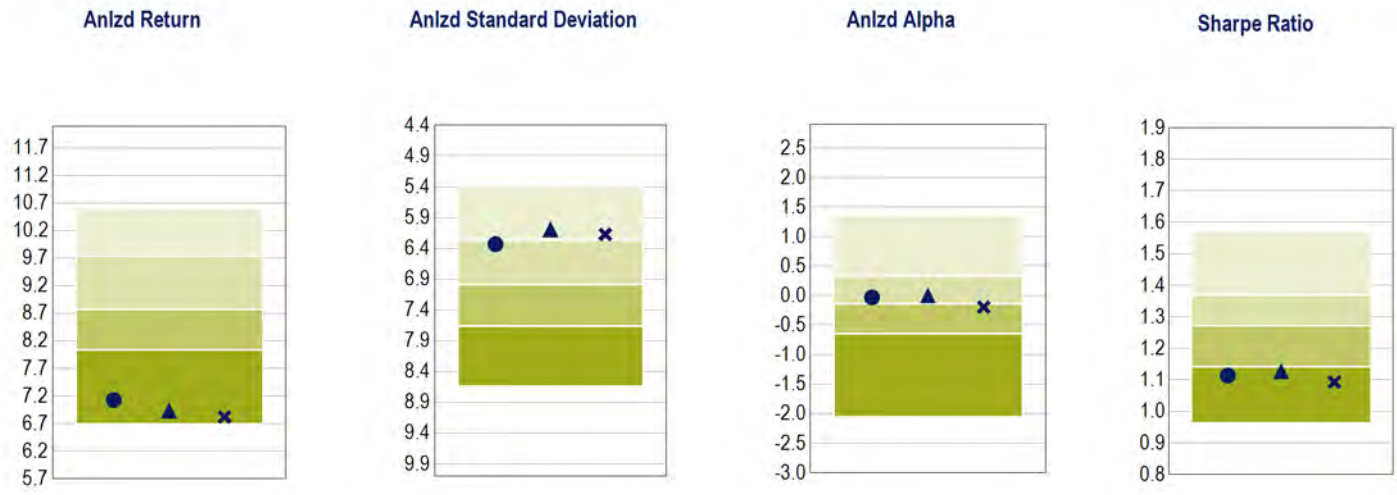
● Teachers Composite

Value	0.78
Rank	66
▲ Policy Index	
Value	0.82
Rank	59
✘ Allocation Index	
Value	0.75
Rank	72

Universe	
5th %tile	1.16
25th %tile	0.97
Median	0.85
75th %tile	0.73
95th %tile	0.54

Total Fund Risk Statistics vs. Peer Universe - Net

Teachers Composite vs. IFX Public DB Net
5 Years



● Teachers Composite

Value	7.13
Rank	92
▲ Policy Index	
Value	6.94
Rank	94
✘ Allocation Index	
Value	6.82
Rank	95

Universe	
5th %tile	10.61
25th %tile	9.75
Median	8.78
75th %tile	8.06
95th %tile	6.70

● Teachers Composite

Value	6.33
Rank	28
▲ Policy Index	
Value	6.09
Rank	22
✘ Allocation Index	
Value	6.17
Rank	24

Universe	
5th %tile	5.38
25th %tile	6.25
Median	6.98
75th %tile	7.66
95th %tile	8.63

● Teachers Composite

Value	-0.03
Rank	45
▲ Policy Index	
Value	0.00
Rank	43
✘ Allocation Index	
Value	-0.20
Rank	55

Universe	
5th %tile	1.36
25th %tile	0.34
Median	-0.12
75th %tile	-0.64
95th %tile	-2.05

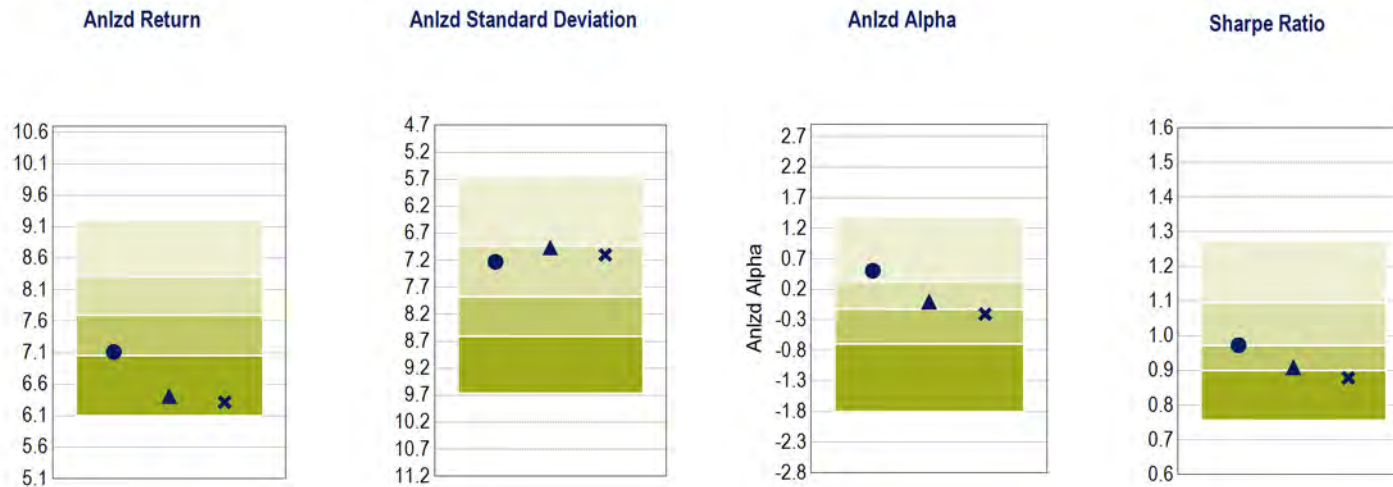
● Teachers Composite

Value	1.11
Rank	82
▲ Policy Index	
Value	1.13
Rank	79
✘ Allocation Index	
Value	1.09
Rank	86

Universe	
5th %tile	1.57
25th %tile	1.37
Median	1.27
75th %tile	1.14
95th %tile	0.97

Total Fund Risk Statistics vs. Peer Universe - Net

Teachers Composite vs. IFX Public DB Net
7 Years



● Teachers Composite

Value	7.11
Rank	74
▲ Policy Index	
Value	6.41
Rank	94
✕ Allocation Index	
Value	6.32
Rank	95

Universe	
5th %tile	9.21
25th %tile	8.32
Median	7.71
75th %tile	7.06
95th %tile	6.11

● Teachers Composite

Value	7.23
Rank	34
▲ Policy Index	
Value	6.97
Rank	27
✕ Allocation Index	
Value	7.10
Rank	29

Universe	
5th %tile	5.66
25th %tile	6.93
Median	7.86
75th %tile	8.60
95th %tile	9.66

● Teachers Composite

Value	0.50
Rank	20
▲ Policy Index	
Value	0.00
Rank	44
✕ Allocation Index	
Value	-0.20
Rank	54

Universe	
5th %tile	1.38
25th %tile	0.34
Median	-0.12
75th %tile	-0.68
95th %tile	-1.80

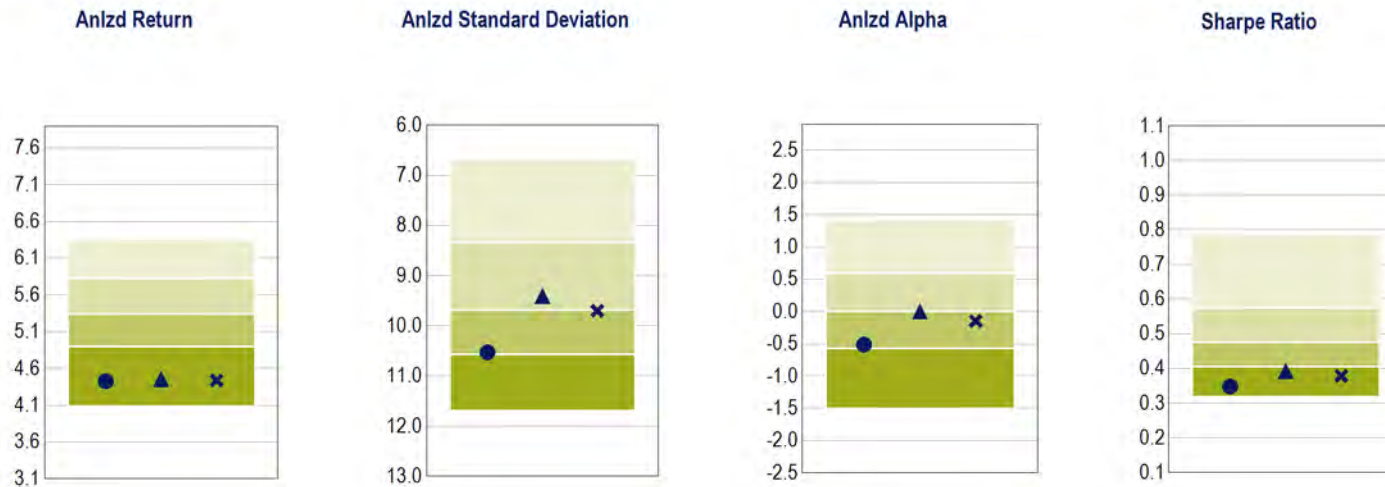
● Teachers Composite

Value	0.97
Rank	51
▲ Policy Index	
Value	0.91
Rank	72
✕ Allocation Index	
Value	0.88
Rank	83

Universe	
5th %tile	1.27
25th %tile	1.10
Median	0.97
75th %tile	0.90
95th %tile	0.76

Total Fund Risk Statistics vs. Peer Universe - Net

Teachers Composite vs. IFX Public DB Net
10 Years



● Teachers Composite	
Value	4.43
Rank	88
▲ Policy Index	
Value	4.46
Rank	87
✕ Allocation Index	
Value	4.44
Rank	87

Universe	
5th %tile	6.36
25th %tile	5.83
Median	5.35
75th %tile	4.91
95th %tile	4.09

● Teachers Composite	
Value	10.53
Rank	74
▲ Policy Index	
Value	9.40
Rank	45
✕ Allocation Index	
Value	9.70
Rank	51

Universe	
5th %tile	6.66
25th %tile	8.32
Median	9.68
75th %tile	10.55
95th %tile	11.67

● Teachers Composite	
Value	-0.52
Rank	74
▲ Policy Index	
Value	0.00
Rank	51
✕ Allocation Index	
Value	-0.15
Rank	58

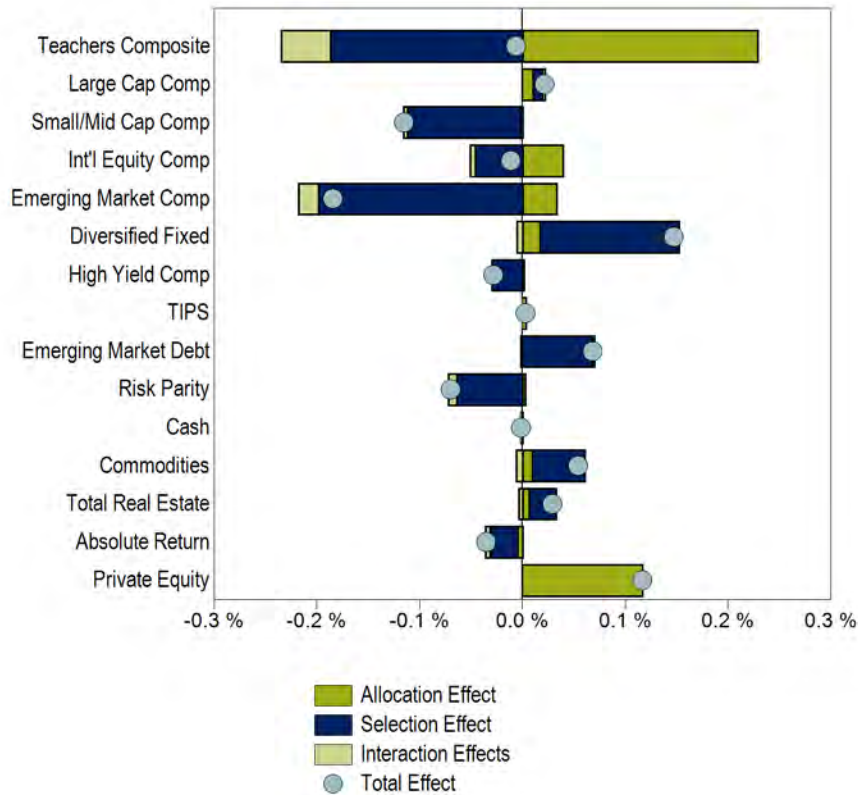
Universe	
5th %tile	1.43
25th %tile	0.60
Median	0.01
75th %tile	-0.56
95th %tile	-1.50

● Teachers Composite	
Value	0.35
Rank	90
▲ Policy Index	
Value	0.39
Rank	80
✕ Allocation Index	
Value	0.38
Rank	83

Universe	
5th %tile	0.79
25th %tile	0.58
Median	0.48
75th %tile	0.41
95th %tile	0.32

Total Fund Attribution Analysis - Net

**Attribution Effects Relative to Policy Index
3 Months Ending September 30, 2016**



**Attribution Summary
3 Months Ending September 30, 2016**

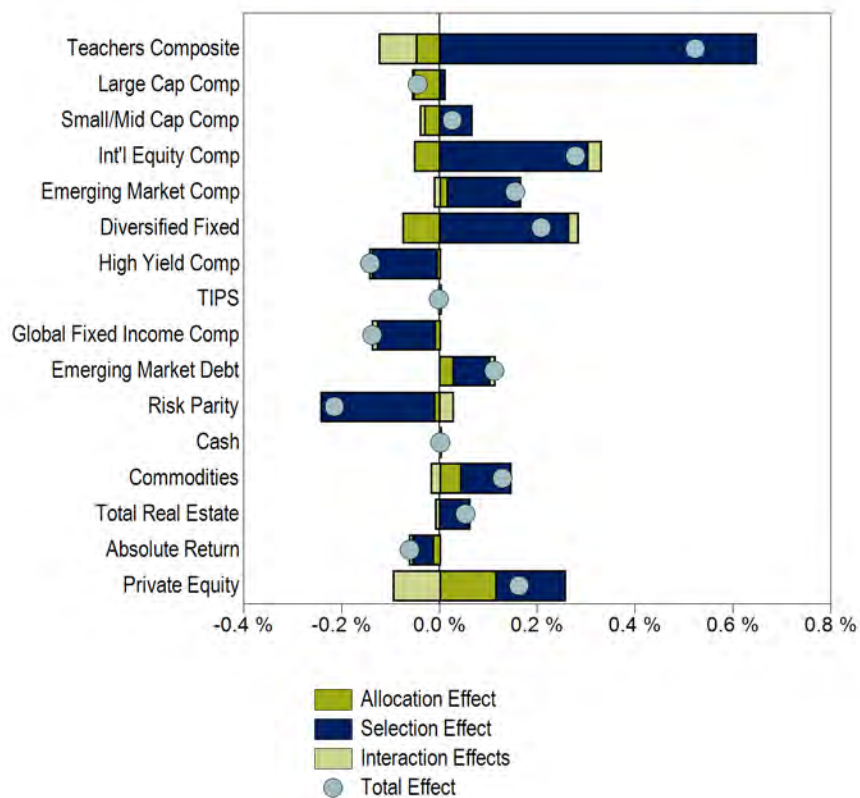
	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction Effects	Total Effects
Large Cap Comp	4.1%	4.0%	0.1%	0.0%	0.0%	0.0%	0.0%
Small/Mid Cap Comp	5.2%	7.5%	-2.3%	-0.1%	0.0%	0.0%	-0.1%
Int'l Equity Comp	6.1%	6.5%	-0.4%	0.0%	0.0%	0.0%	0.0%
Emerging Market Comp	5.6%	9.0%	-3.4%	-0.2%	0.0%	0.0%	-0.2%
Diversified Fixed	1.2%	0.5%	0.7%	0.1%	0.0%	0.0%	0.1%
High Yield Comp	5.0%	5.6%	-0.6%	0.0%	0.0%	0.0%	0.0%
TIPS	1.0%	1.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Emerging Market Debt	5.1%	3.7%	1.4%	0.1%	0.0%	0.0%	0.1%
Risk Parity	2.2%	3.0%	-0.8%	-0.1%	0.0%	0.0%	-0.1%
Cash	0.0%	0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%
Commodities	-2.2%	-3.9%	1.7%	0.1%	0.0%	0.0%	0.1%
Total Real Estate	2.1%	1.8%	0.3%	0.0%	0.0%	0.0%	0.0%
Absolute Return	1.8%	2.1%	-0.3%	0.0%	0.0%	0.0%	0.0%
Private Equity	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%
Total	3.2%	3.2%	0.0%	-0.2%	0.2%	0.0%	0.0%

Note: Plan attribution calculations are returns based and the results shown reflect the composites shown. As a result, the total returns shown may vary from the calculated returns shown on the performance report. The target return shown for each composite is a custom index, based on aggregated policy indices. This policyindex asset weights the underlying policy indices of each option in the plan and the respective benchmark. The allocation, selection, and interaction effects are calculated using the custom index described above alongwith the policy or target weight of each composite. May not add up due to rounding.

Absolute Return's Wtd. index Return is calculated using a weighting of the respective benchmarks for each underlying strategy part of the composite.

Total Fund Attribution Analysis - Net

Attribution Effects Relative to Policy Index
1 Year Ending September 30, 2016



Attribution Summary
1 Year Ending September 30, 2016

	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction Effects	Total Effects
Large Cap Comp	15.7%	15.6%	0.1%	0.0%	-0.1%	0.0%	0.0%
Small/Mid Cap Comp	17.5%	16.0%	1.4%	0.1%	0.0%	0.0%	0.0%
Int'l Equity Comp	10.2%	7.1%	3.1%	0.3%	-0.1%	0.0%	0.3%
Emerging Market Comp	19.6%	16.8%	2.8%	0.1%	0.0%	0.0%	0.2%
Diversified Fixed	6.6%	5.2%	1.4%	0.3%	-0.1%	0.0%	0.2%
High Yield Comp	9.8%	12.7%	-2.9%	-0.1%	0.0%	0.0%	-0.1%
TIPS	6.6%	6.6%	0.0%	0.0%	0.0%	0.0%	0.0%
Global Fixed Income Comp	--	5.8%	--	-0.1%	0.0%	0.0%	-0.1%
Emerging Market Debt	18.4%	16.8%	1.6%	0.1%	0.0%	0.0%	0.1%
Risk Parity	10.2%	10.3%	0.0%	-0.2%	0.0%	0.0%	-0.2%
Cash	0.0%	0.2%	-0.2%	0.0%	0.0%	0.0%	0.0%
Commodities	-0.1%	-2.6%	2.5%	0.1%	0.0%	0.0%	0.1%
Total Real Estate	10.0%	9.2%	0.8%	0.1%	0.0%	0.0%	0.1%
Absolute Return	-0.7%	0.4%	-1.1%	0.0%	0.0%	0.0%	-0.1%
Private Equity	8.6%	4.7%	3.9%	0.1%	0.1%	-0.1%	0.2%
Total	10.1%	9.6%	0.5%	0.6%	0.0%	-0.1%	0.5%

Note: Plan attribution calculations are returns based and the results shown reflect the composites shown. As a result, the total returns shown may vary from the calculated returns shown on the performance report.

The target return shown for each composite is a custom index, based on aggregated policy indices. This policyindex asset weights the underlying policy indices of each option in the plan and the respective benchmark.

The allocation, selection, and interaction effects are calculated using the custom index described above alongwith the policy or target weight of each composite.

May not add up due to rounding.

Absolute Return's Wtd. index Return is calculated using a weighting of the respective benchmarks for each underlying strategy part of the composite.

Asset Allocation Effect - 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 overweighted in a sector that outperforms the benchmark. Negative allocation occurs when the portfolio is overweighted in a sector that underperforms the benchmark and underweighted in a sector that outperforms the benchmark.

Selection Effect - 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 security in the portfolio determines the size of the effect -- the larger the security, the larger the effect is, positive or negative.

Interaction Effect - 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 overweighted 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 either effect.

Vermont State Teachers

Risk Statistics - 3 Years Ending September 30, 2016 - Net

	% of Tot	Anlzd Ret	Rank	Anlzd Std Dev	Rank	Anlzd AJ	Rank	Sharpe Ratio	Rank	Sortino Ratio RF	Rank	Tracking Error	Rank
Teachers Composite	100.00%	4.60%	83	5.79%	24	-0.17%	43	0.78	66	1.44	43	0.84%	22
Policy Index	--	4.56%	84	5.47%	10	0.00%	37	0.82	59	1.48	40	0.00%	1
US Equity	21.49%	10.35%	21	11.14%	27	-0.15%	24	0.92	19	1.67	18	1.52%	2
Russell 3000	--	10.44%	20	10.98%	23	0.00%	22	0.94	16	1.59	23	0.00%	1
Large Cap Comp	16.63%	11.00%	19	10.89%	35	-0.21%	22	1.00	16	1.90	14	0.73%	1
S&P 500	--	11.16%	18	10.83%	34	0.00%	17	1.02	13	1.76	20	0.00%	1
Small/Mid Cap Comp	4.86%	9.40%	17	12.57%	41	3.74%	20	0.74	21	1.47	9	3.66%	2
Russell 2000	--	6.71%	46	14.55%	85	0.00%	64	0.45	58	0.72	60	0.00%	1
Int'l Equity Comp	12.26%	2.81%	35	12.02%	49	2.36%	35	0.23	34	0.41	34	2.27%	9
MSCI EAFE	--	0.48%	73	12.56%	76	0.00%	73	0.03	73	0.05	72	0.00%	1
Emerging Market Comp	6.62%	-0.01%	59	15.63%	62	0.49%	60	-0.01	59	-0.01	60	5.21%	57
MSCI Emerging Markets	--	-0.56%	68	16.37%	80	0.00%	68	-0.04	68	-0.07	68	0.00%	1
US Fixed Income	26.33%	4.31%	38	2.93%	66	0.50%	54	1.44	55	2.97	64	1.59%	39
Barclays Aggregate	--	4.03%	45	2.61%	57	0.00%	77	1.51	51	3.69	45	0.00%	1
Diversified Fixed	17.45%	4.40%	36	2.86%	65	0.40%	58	1.51	50	3.30	55	1.19%	26
Barclays Aggregate	--	4.03%	45	2.61%	57	0.00%	77	1.51	51	3.69	45	0.00%	1
Unconstrained Fixed Income	5.70%	--	--	--	--	--	--	--	--	--	--	--	--
25% HY, 25% EMD, 50% BC Agg	--	5.23%	9	3.48%	43	0.00%	28	1.48	17	3.21	16	0.00%	1
High Yield Comp	4.89%	4.64%	46	5.07%	34	0.35%	52	0.90	51	1.73	55	1.60%	43
Barclays High Yield	--	5.28%	28	6.13%	80	0.00%	57	0.85	54	2.11	32	0.00%	1
TIPS	3.99%	2.31%	36	4.20%	67	-0.13%	43	0.53	32	1.10	21	0.19%	1
Barclays US TIPS	--	2.40%	26	4.13%	58	0.00%	32	0.56	20	1.19	14	0.00%	1
Emerging Market Debt	5.15%	7.19%	10	6.10%	30	-0.20%	17	1.16	12	2.29	13	1.25%	6
JP Morgan EMBI Global TR	--	7.44%	7	6.02%	29	0.00%	16	1.22	9	2.33	13	0.00%	1
Total Real Estate	7.02%	12.19%	--	5.02%	--	0.19%	--	2.41	--	395.71	--	1.15%	--
NCREIF Property Index	--	11.30%	--	4.60%	--	0.00%	--	2.43	--	366.66	--	0.00%	--
Absolute Return	9.32%	1.79%	65	3.58%	30	-0.24%	57	0.47	50	0.65	54	1.23%	1
HFRI Fund of Funds Composite Index	--	2.17%	53	3.62%	31	0.00%	50	0.57	37	0.79	42	0.00%	1
Risk Parity	8.24%	3.41%	47	7.47%	60	-0.36%	44	0.44	54	0.69	51	4.37%	44
60% MSCI World (Net) / 40% CITI WGBI	--	4.37%	27	7.15%	48	0.00%	40	0.60	31	1.22	19	0.00%	1

Vermont State Teachers

Risk Statistics - 5 Years Ending September 30, 2016 - Net

	% of Tot	Anlzd Ret	Rank	Anlzd Std Dev	Rank	Anlzd AJ	Rank	Sharpe Ratio	Rank	Sortino Ratio RF	Rank	Tracking Error	Rank
Teachers Composite	100.00%	7.13%	92	6.33%	28	-0.03%	46	1.11	82	2.02	58	0.80%	11
Policy Index	--	6.94%	94	6.09%	22	0.00%	43	1.13	79	1.96	67	0.00%	1
US Equity	21.49%	--	--	--	--	--	--	--	--	--	--	--	--
Russell 3000	--	16.36%	30	11.43%	20	0.00%	23	1.42	13	2.45	18	0.00%	1
Large Cap Comp	16.63%	16.65%	17	11.43%	36	-0.13%	19	1.45	13	2.65	12	0.90%	1
S&P 500	--	16.37%	23	11.12%	26	0.00%	17	1.47	12	2.54	17	0.00%	1
Small/Mid Cap Comp	4.86%	16.81%	19	13.35%	42	2.99%	23	1.25	17	2.50	7	3.19%	1
Russell 2000	--	15.82%	31	15.02%	79	0.00%	74	1.05	61	1.78	57	0.00%	1
Int'l Equity Comp	12.26%	7.91%	66	13.29%	36	1.06%	66	0.59	65	0.92	64	2.26%	5
MSCI EAFE	--	7.39%	73	14.19%	80	0.00%	83	0.52	80	0.82	79	0.00%	1
Emerging Market Comp	6.62%	--	--	--	--	--	--	--	--	--	--	--	--
MSCI Emerging Markets	--	3.03%	76	17.34%	70	0.00%	79	0.17	79	0.30	77	0.00%	1
US Fixed Income	26.33%	--	--	--	--	--	--	--	--	--	--	--	--
Barclays Aggregate	--	3.08%	60	2.66%	47	0.00%	84	1.13	72	1.84	69	0.00%	1
Diversified Fixed	17.45%	4.05%	46	3.12%	62	0.70%	54	1.27	57	1.89	66	1.18%	22
Barclays Aggregate	--	3.08%	60	2.66%	47	0.00%	84	1.13	72	1.84	69	0.00%	1
Unconstrained Fixed Income	5.70%	--	--	--	--	--	--	--	--	--	--	--	--
25% HY, 25% EMD, 50% BC Agg	--	5.51%	38	3.84%	42	0.00%	59	1.41	26	2.35	32	0.00%	1
High Yield Comp	4.89%	7.62%	50	5.14%	28	0.78%	35	1.47	35	2.87	42	1.45%	40
Barclays High Yield	--	8.34%	21	6.18%	72	0.00%	61	1.34	55	2.99	38	0.00%	1
TIPS	3.99%	--	--	--	--	--	--	--	--	--	--	--	--
Barclays US TIPS	--	1.92%	34	4.74%	69	0.00%	30	0.39	27	0.52	27	0.00%	1
Emerging Market Debt	5.15%	--	--	--	--	--	--	--	--	--	--	--	--
JP Morgan EMBI Global TR	--	7.42%	25	7.03%	26	0.00%	26	1.05	21	1.60	33	0.00%	1
Total Real Estate	7.02%	--	--	--	--	--	--	--	--	--	--	--	--
NCREIF Property Index	--	11.18%	--	4.50%	--	0.00%	--	2.47	--	453.66	--	0.00%	--
Absolute Return	9.32%	4.79%	51	3.74%	37	1.66%	44	1.26	30	2.04	24	1.33%	1
HFRI Fund of Funds Composite Index	--	3.17%	76	3.54%	33	0.00%	77	0.87	59	1.32	58	0.00%	1
Risk Parity	8.24%	5.75%	46	7.90%	58	-0.71%	70	0.72	73	1.10	78	4.14%	47
60% MSCI World (Net) / 40% CITI WGBI	--	7.35%	30	7.74%	54	0.00%	47	0.94	28	1.69	21	0.00%	1

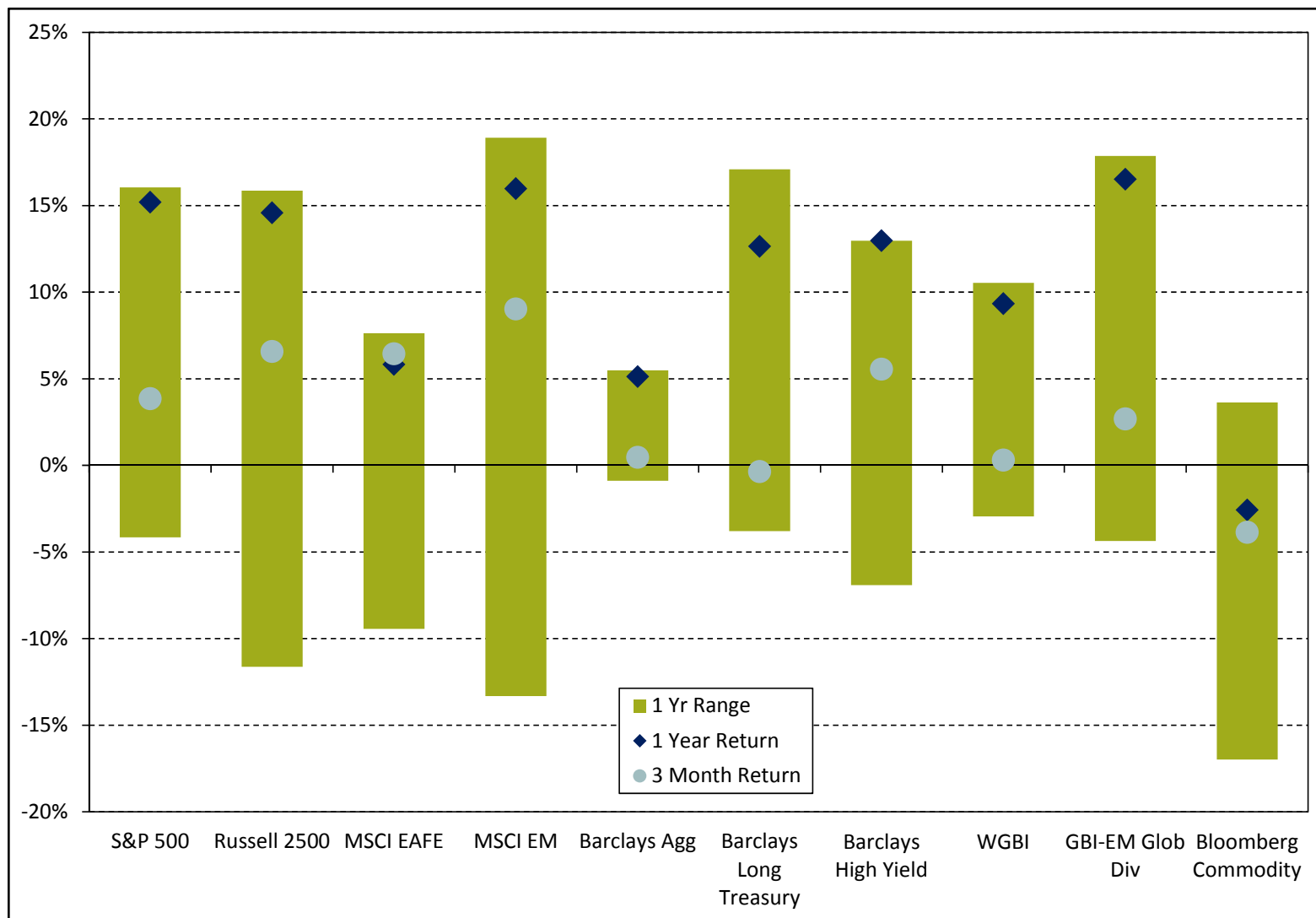
Appendix

Index Performance Summary as of 09/30/2016

	2009	2010	2011	2012	2013	2014	2015	Q1	Q2	Q3	Sept	YTD
Barclays US STRIPS 20+ Yr	-36.0%	10.9%	58.5%	3.0%	-21.0%	46.4%	-3.7%	11.4%	9.6%	-0.2%	-2.8%	21.8%
JPM GBI-EM Global Div	22.0%	15.7%	-1.8%	16.8%	-9.0%	-5.7%	-14.9%	11.0%	2.7%	2.7%	2.0%	17.1%
Barclays US Long Credit	16.8%	10.7%	17.1%	12.7%	-6.6%	16.4%	-4.6%	6.8%	6.7%	2.3%	-1.1%	16.5%
MSCI EM	78.5%	18.9%	-18.4%	18.2%	-2.6%	-2.2%	-14.9%	5.7%	0.7%	9.0%	1.3%	16.0%
Alerian MLP	76.4%	35.9%	13.9%	4.8%	27.6%	4.8%	-32.6%	-4.2%	19.7%	1.1%	1.9%	15.9%
Barclays US Govt/Credit Long	1.9%	10.2%	22.5%	8.8%	-8.8%	19.3%	-3.3%	7.3%	6.5%	1.2%	-1.3%	15.7%
Barclays US Corporate HY	58.2%	15.1%	5.0%	15.8%	7.4%	2.5%	-4.5%	3.4%	5.5%	5.6%	0.7%	15.1%
JPM EMBI Global Diversified	29.8%	12.2%	7.3%	17.4%	-5.3%	7.4%	1.2%	5.0%	5.0%	4.0%	0.4%	14.8%
FTSE NAREIT Equity REITs	28.0%	28.0%	8.3%	18.1%	2.5%	30.1%	3.2%	6.0%	7.0%	-1.4%	-1.8%	11.8%
Russell 2000	27.2%	26.9%	-4.2%	16.3%	38.8%	4.9%	-4.4%	-1.5%	3.8%	9.0%	1.1%	11.5%
Citi WGBI	2.6%	5.2%	6.4%	1.6%	-4.0%	-0.5%	-3.6%	7.1%	3.4%	0.3%	0.7%	11.1%
Russell 2500	34.4%	26.7%	-2.5%	17.9%	36.8%	7.1%	-2.9%	0.4%	3.6%	6.6%	0.5%	10.8%
Bloomberg Commodity	18.9%	16.8%	-13.3%	-1.1%	-9.5%	-17.0%	-24.7%	0.4%	12.8%	-3.9%	3.1%	8.9%
Russell 1000	28.4%	16.1%	1.5%	16.4%	33.1%	13.2%	0.9%	1.2%	2.5%	4.0%	0.1%	7.9%
S&P 500	26.5%	15.1%	2.1%	16.0%	32.4%	13.7%	1.4%	1.3%	2.5%	3.9%	0.0%	7.8%
Credit Suisse Leveraged Loan	44.9%	10.0%	1.8%	9.4%	6.2%	2.1%	-0.4%	1.3%	2.9%	3.1%	0.9%	7.5%
MSCI ACWI	34.6%	12.7%	-7.3%	16.1%	22.8%	4.2%	-2.4%	0.2%	1.0%	5.3%	0.6%	6.6%
Barclays US Agg Bond	5.9%	6.5%	7.8%	4.2%	-2.0%	6.0%	0.5%	3.0%	2.2%	0.5%	-0.1%	5.8%
Barclays US Agg Interm	6.5%	6.1%	6.0%	3.6%	-1.0%	4.1%	1.2%	2.3%	1.4%	0.3%	0.2%	4.1%
Barclays Municipal	12.9%	2.4%	10.7%	6.8%	-2.6%	9.1%	3.3%	1.7%	2.6%	-0.3%	-0.5%	4.0%
MSCI EAFE	31.8%	7.8%	-12.1%	17.3%	22.8%	-4.9%	-0.8%	-3.0%	-1.5%	6.4%	1.2%	1.7%
BC US Govt/Credit 1-3 Yr	3.8%	2.8%	1.6%	1.3%	0.6%	0.8%	0.7%	1.0%	0.7%	0.0%	0.1%	1.7%
Credit Suisse Hedge Fund	18.6%	10.9%	-2.5%	7.7%	9.7%	4.1%	-0.7%	-2.2%	0.6%	1.6%	-	0.0%

Source: Bloomberg, Barclays, Alerian, Nareit, MSCI, JP Morgan, Credit Suisse

Near Term Broad Market Performance Summary as of 09/30/2016



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

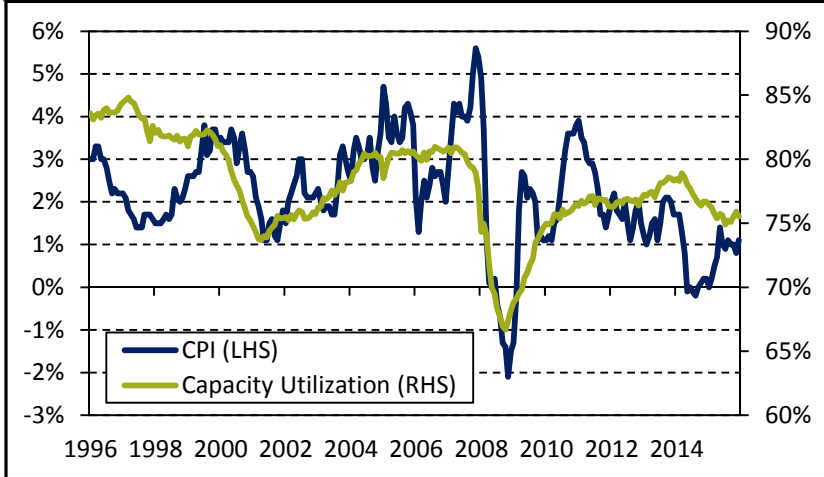
Long Term Broad Market Performance Summary as of 09/30/2016



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

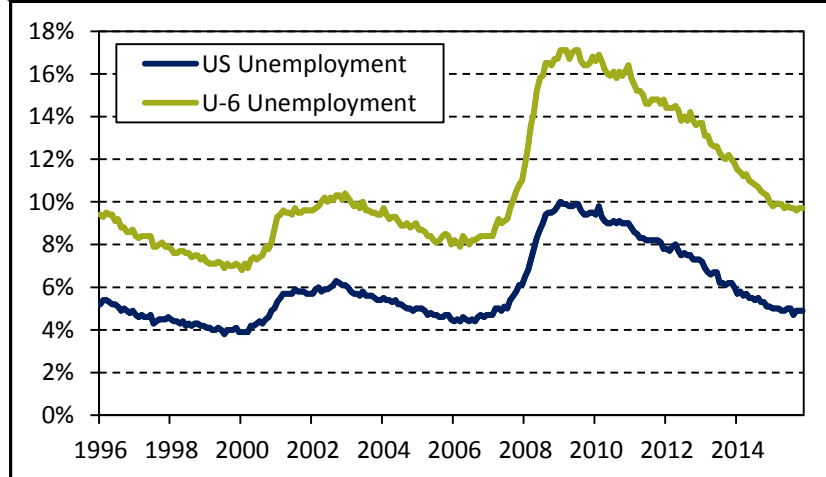
US Economic Indicators

Inflation experiences slight uptick



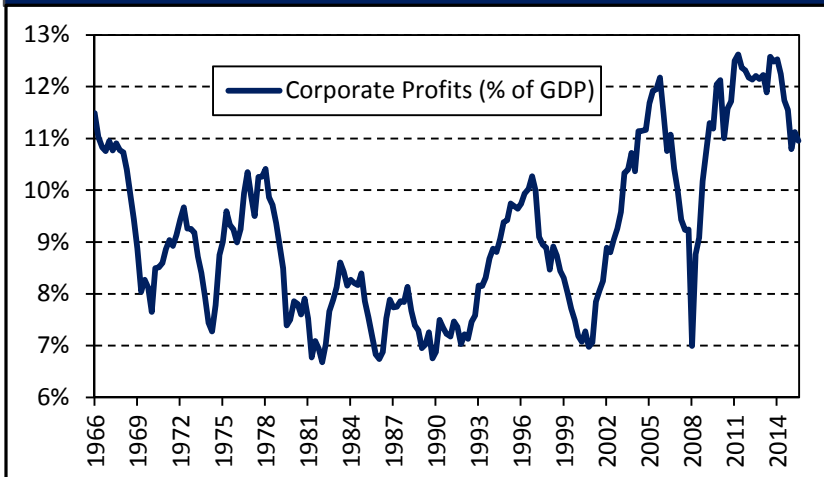
Source: Bloomberg, Federal Reserve, Bureau of Labor Statistics

Unemployment remains steady



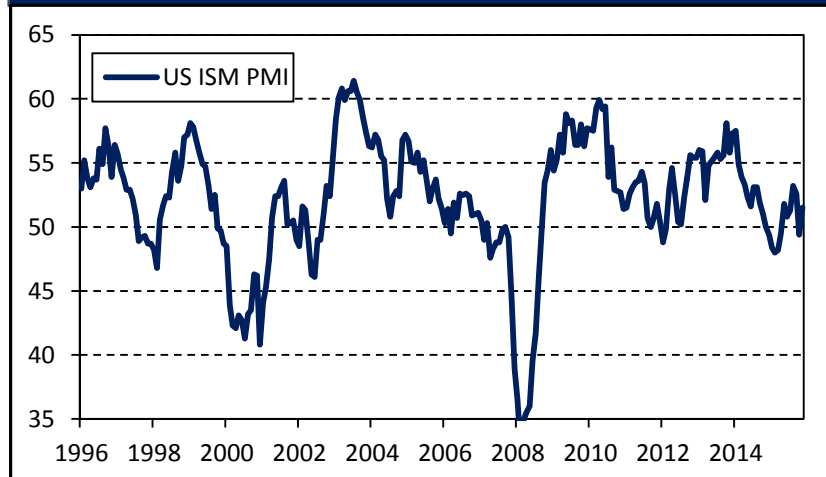
Source: Bloomberg, Bureau of Labor Statistics

Corporate profits continue to decline



Source: Bloomberg, Bureau of Economic Analysis

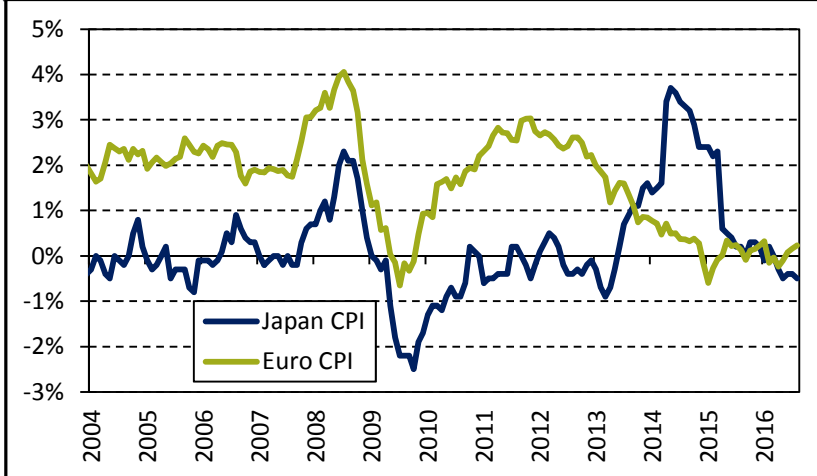
Manufacturing is relatively neutral



Source: Bloomberg, Institute for Supply Management

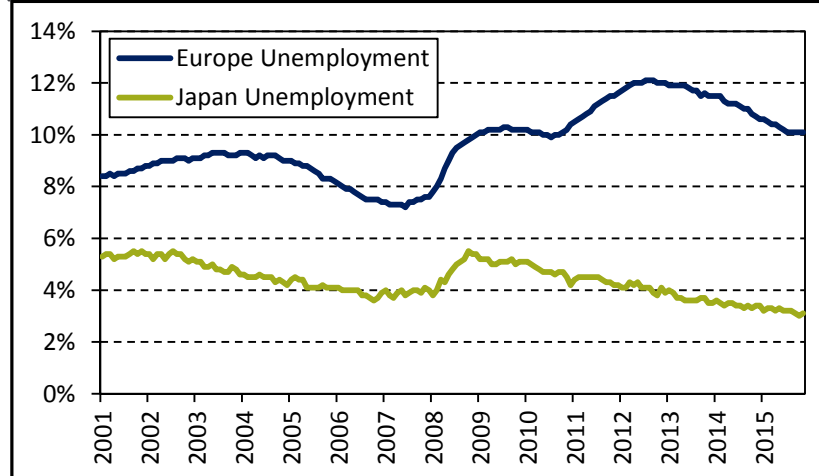
International Economic Indicators

Inflation in Europe experiences a slight uptick



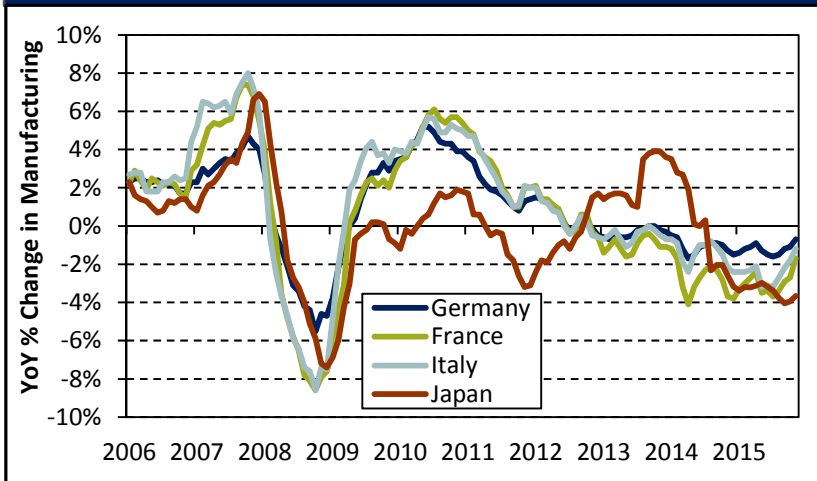
Source: Bloomberg, Japan Ministry of Internal Affairs and Communications, Eurostat

Europe unemployment trending lower



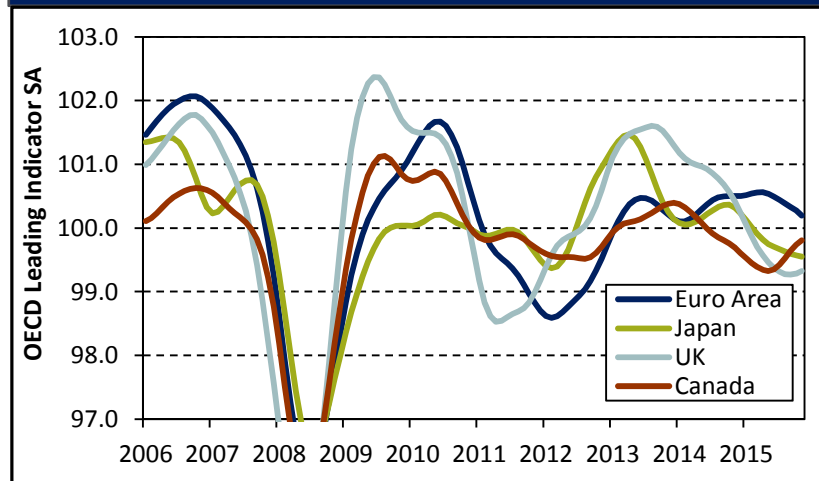
Source: Bloomberg, Japan Ministry of Internal Affairs and Communications, Eurostat

Manufacturing approaches neutral territory



Source: Bloomberg, OECD, Eurostat

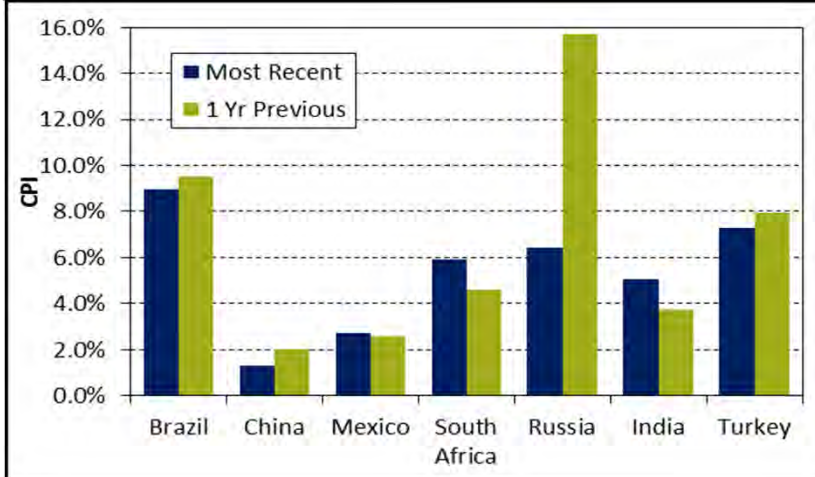
Euro Area and Japan leading indicators have declined



Source: Bloomberg, OECD

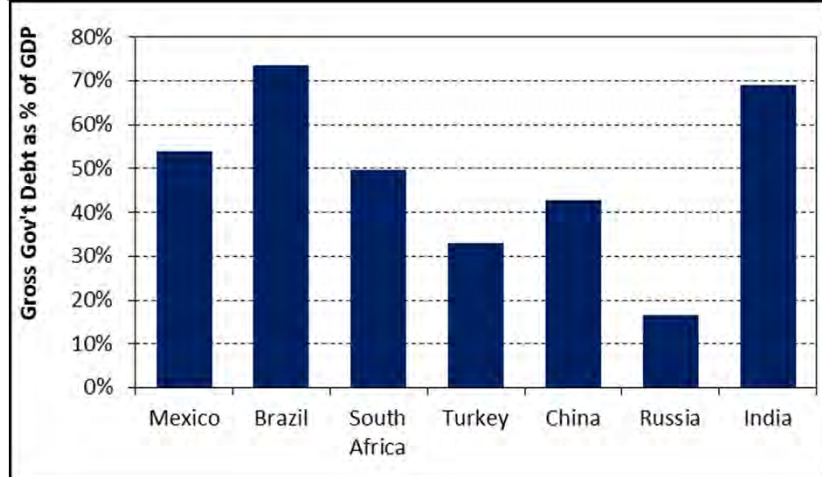
Emerging Market Economic Indicators

EM inflation varies by country



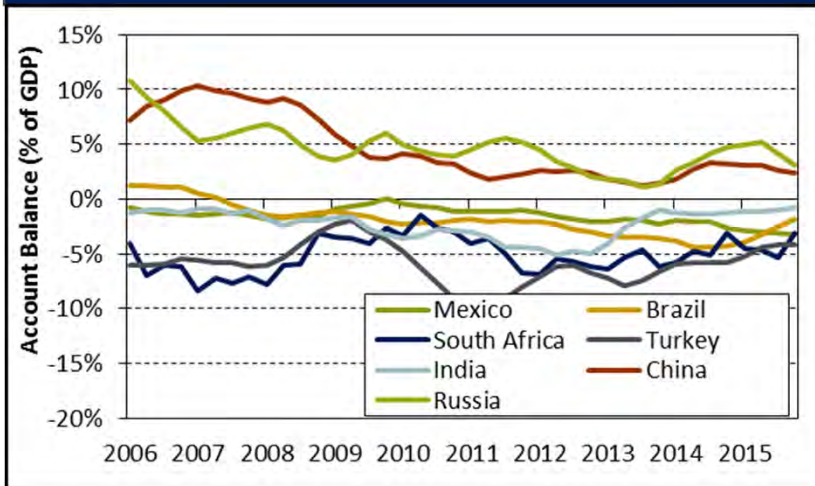
Source: Bloomberg

Relatively healthy Debt/GDP ratios



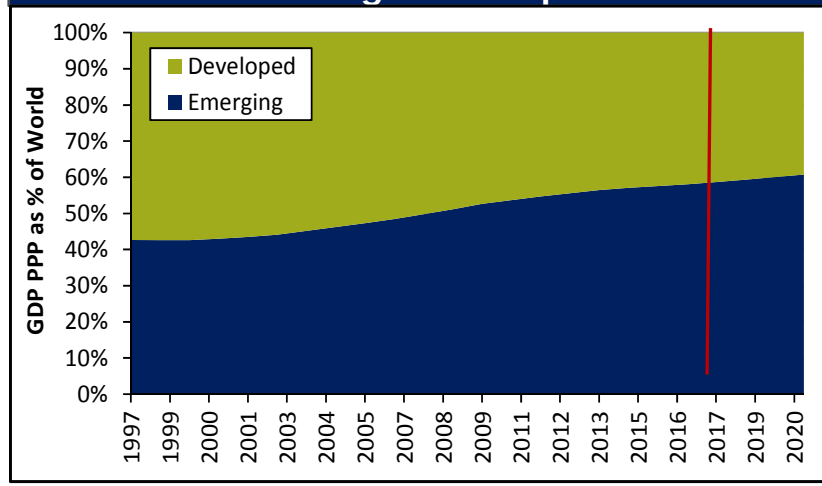
Source: Bloomberg, IMF

Account balances remain steady



Source: Bloomberg

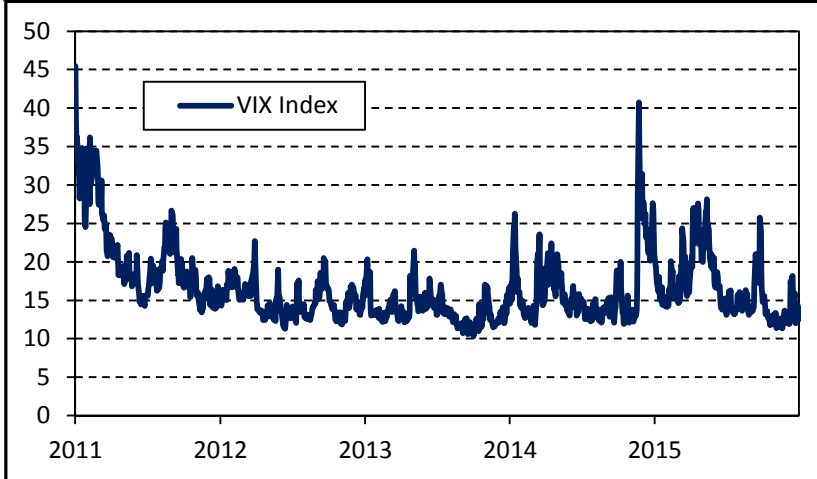
EM continues trending higher as a percent of global output



Source: Bloomberg, IMF

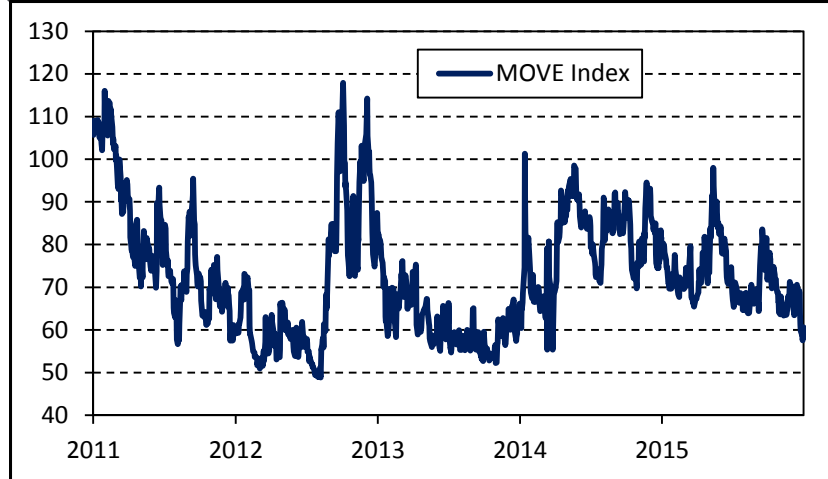
Volatility

Equity volatility seeing recent decrease



Source: Bloomberg, CBOE

Treasury volatility continues decreasing as a rate hike approaches



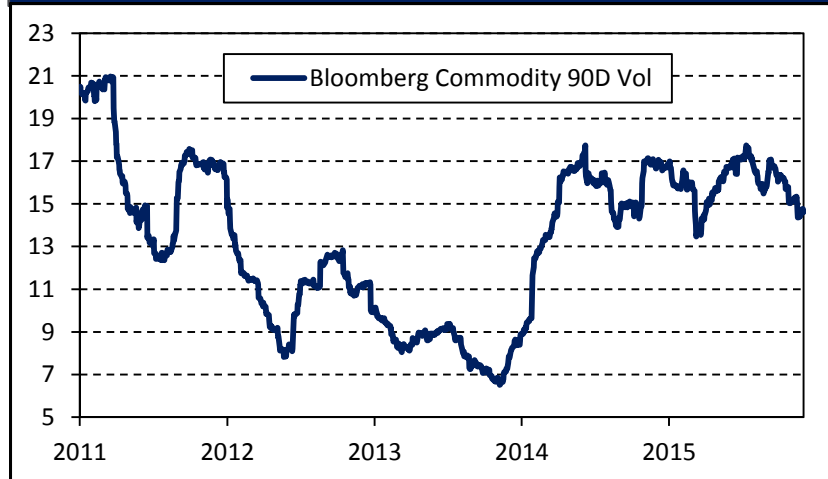
Source: Bloomberg, Merrill Lynch

Currency volatility remains elevated



Source: Bloomberg, Deutsche Bank

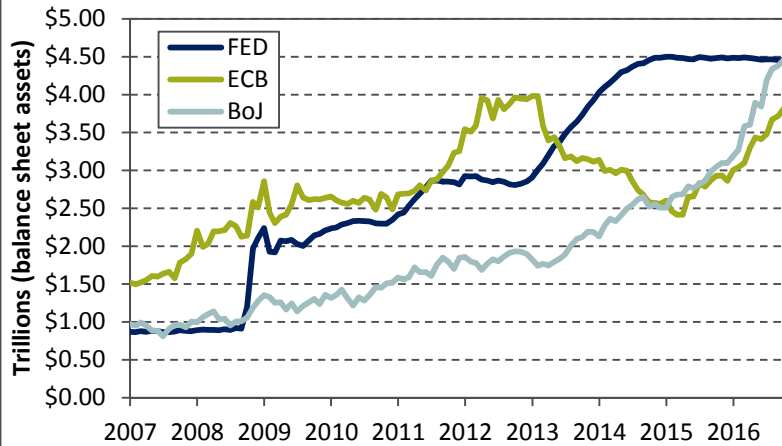
Commodity volatility continues to decline



Source: Bloomberg, Merrill Lynch

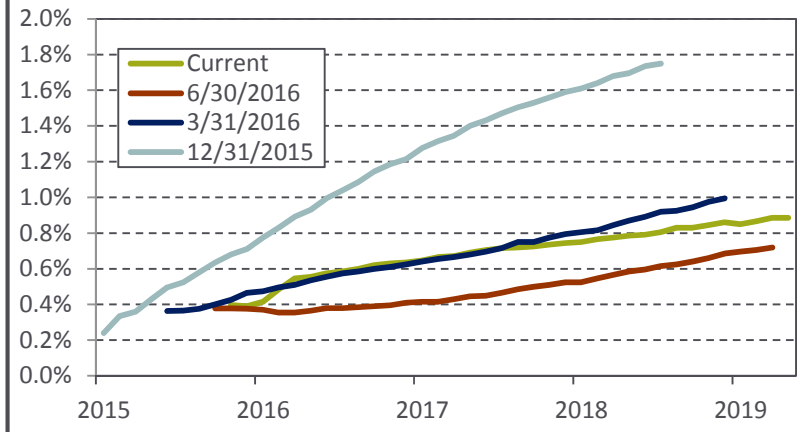
Central Banks

Central banks continue increasing balance sheet size



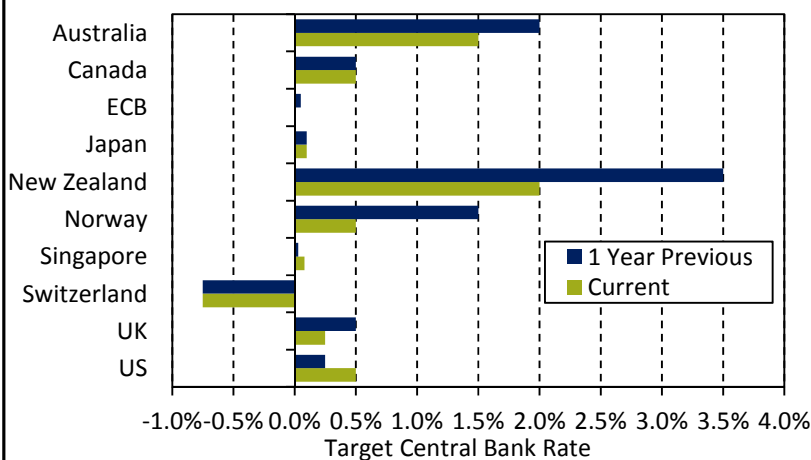
Source: Bloomberg, Federal Reserve, Bank of Japan, ECB, NEPC

Market expectations for interest rates echo the lower for longer sentiment



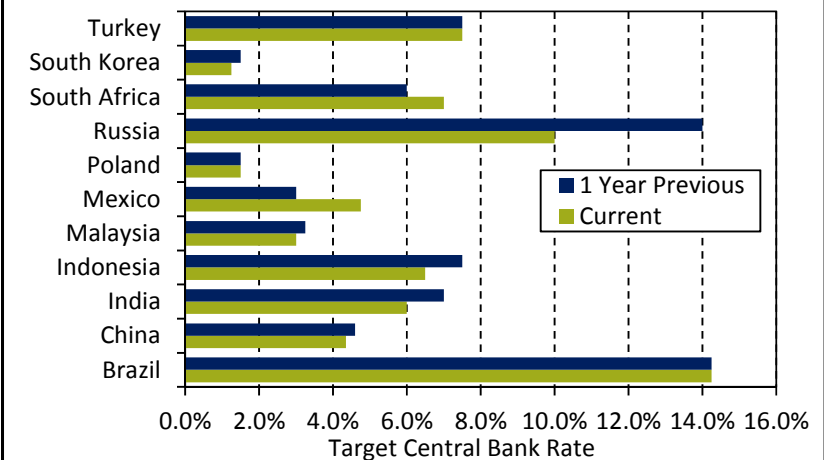
Source: Bloomberg, Federal Reserve

Developed market interest rates are mostly lower than one year previous



Source: Bloomberg

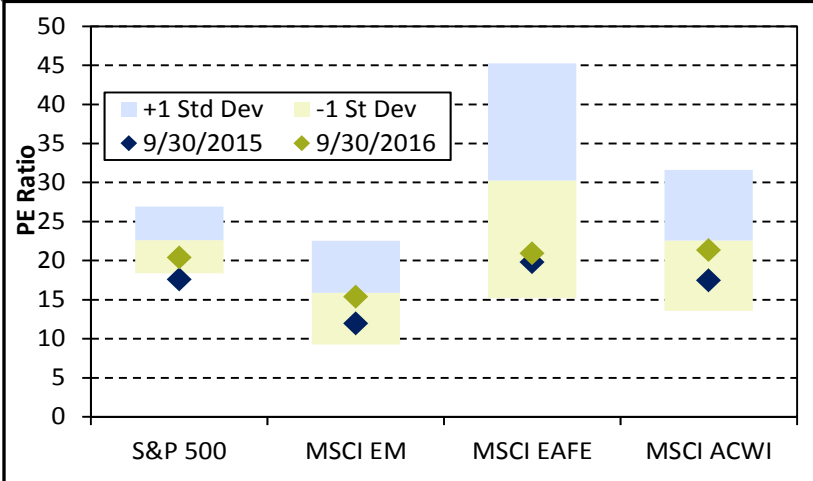
EM central bank policies vary by country-specific economic conditions



Source: Bloomberg

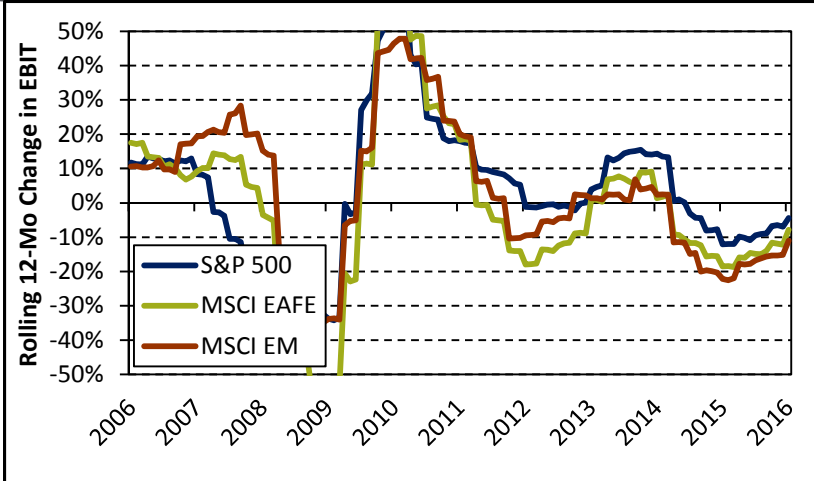
Global Equity

Global valuations increased over the year



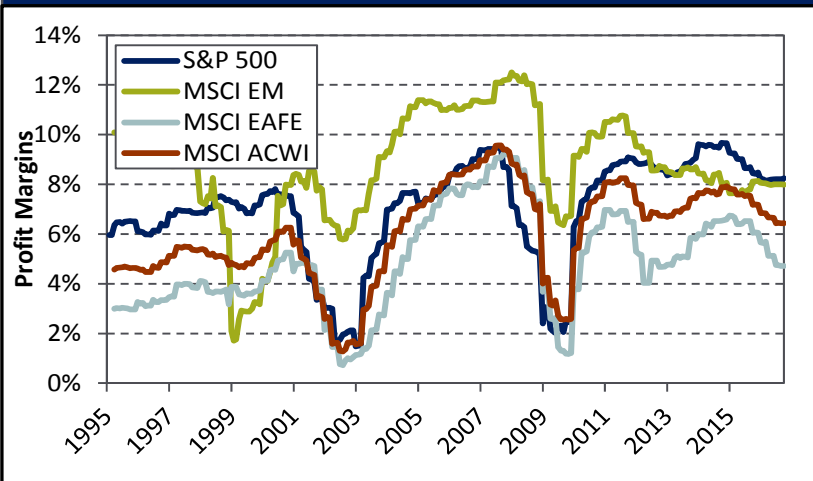
Source: Bloomberg, Standard and Poors, MSCI *MSCI EAFE is ex UK Telecom
*Standard deviation calculations based on 20 years of data

Earnings growth increases slightly



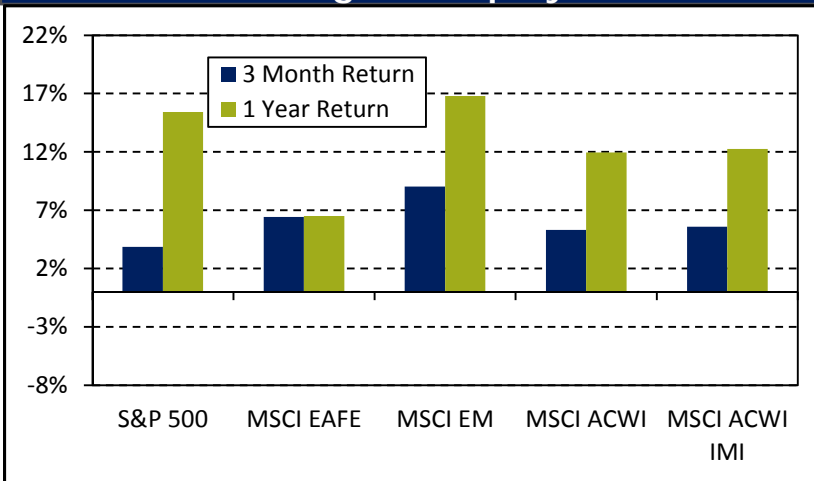
Source: Bloomberg, Standard and Poors, MSCI

Profit margins continue to decline



Source: Bloomberg, MSCI

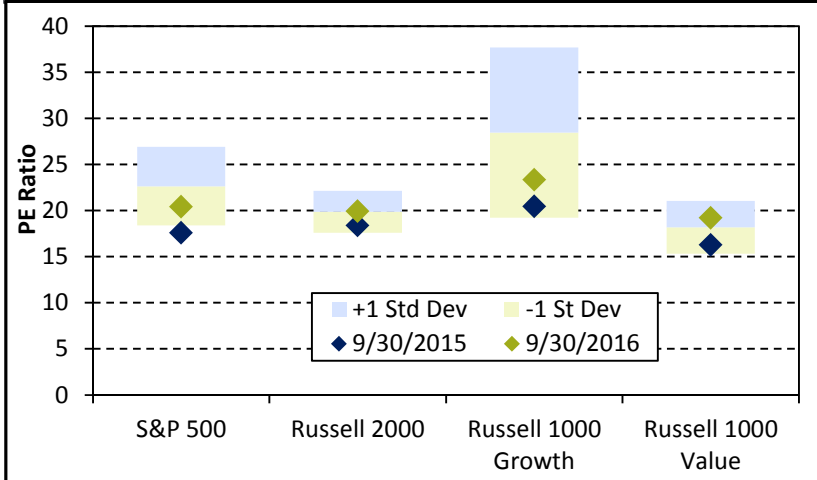
Broadly positive short-term returns for global equity



Source: Bloomberg, MSCI

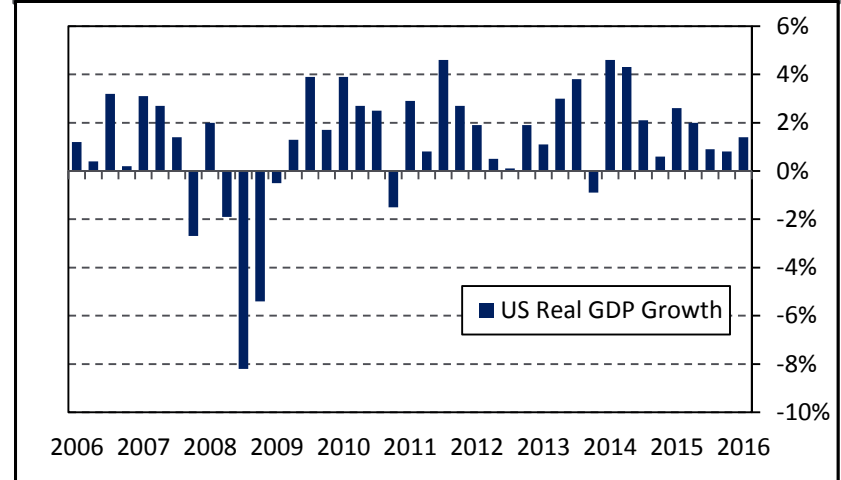
US Equity

US equity valuations have increased year over year



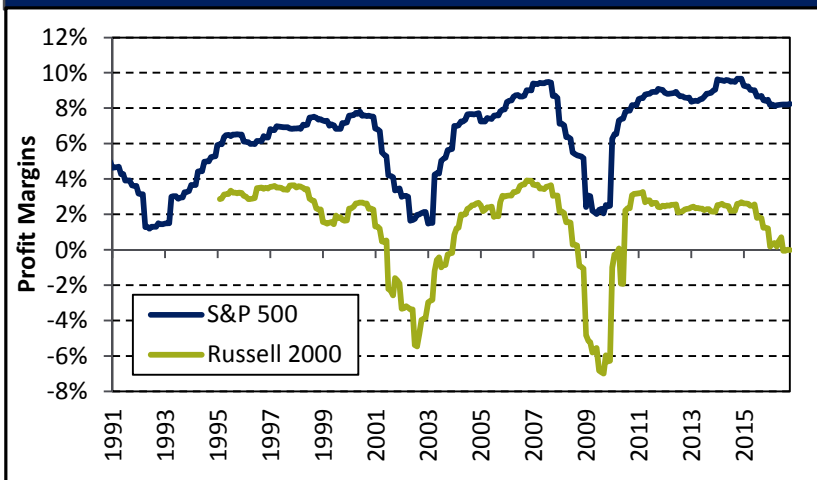
Source: Bloomberg, Standard and Poors, Russell *Russell 2000 PE is index adjusted positive* Standard deviation calculations based on 20 years of data

GDP growth remains steady



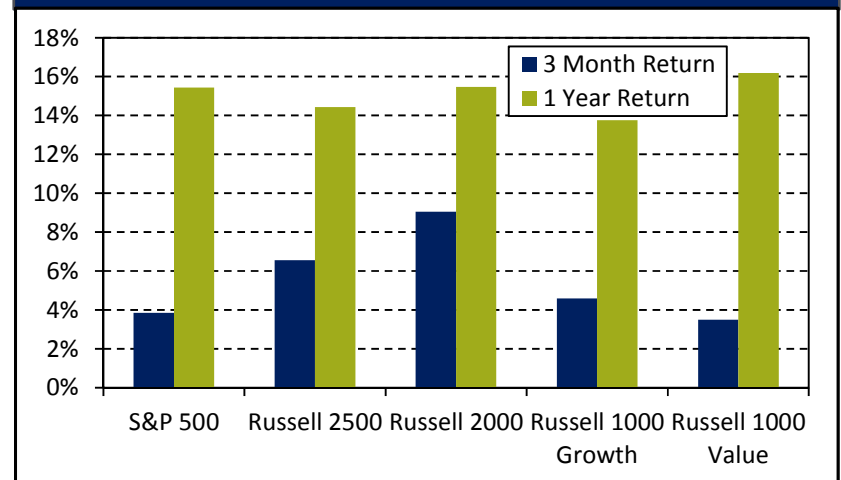
Source: Bloomberg, Bureau of Economic Analysis

Profit margins continue to decline



Source: Bloomberg, Standard and Poors, Russell

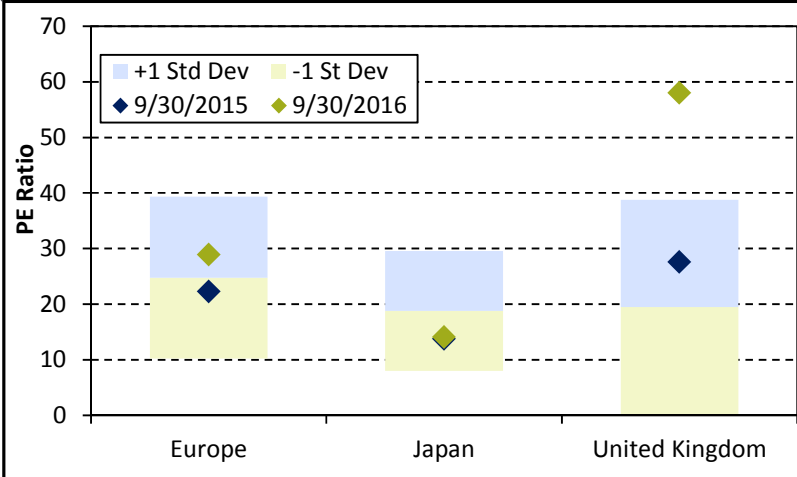
Strong short-term US equity returns



Source: Bloomberg, Standard and Poors, Russell

International Equity

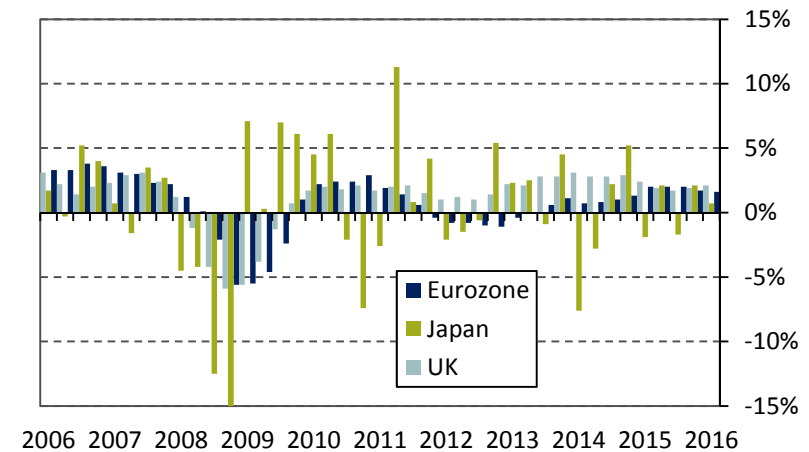
UK PE ratio remains elevated



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

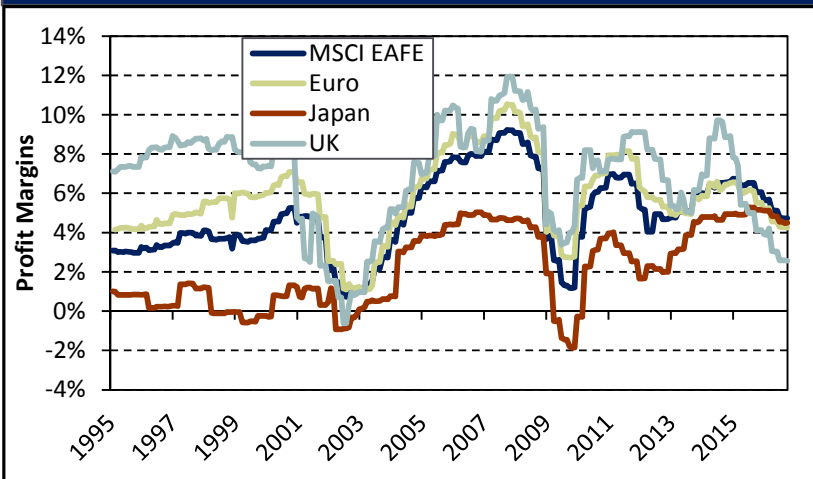
*Standard deviation calculations based on 20 years of data, with Europe since 12/1998

Global growth varies by country



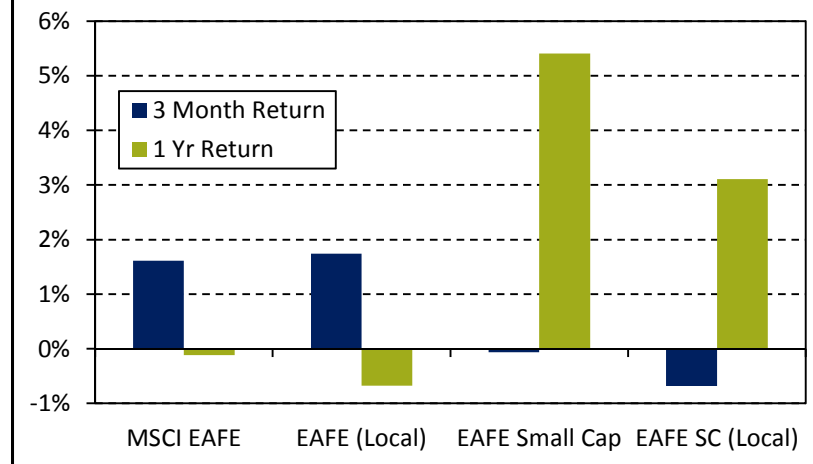
Source: Bloomberg

Margins continue to decline, particularly in the UK



Source: Bloomberg, MSCI

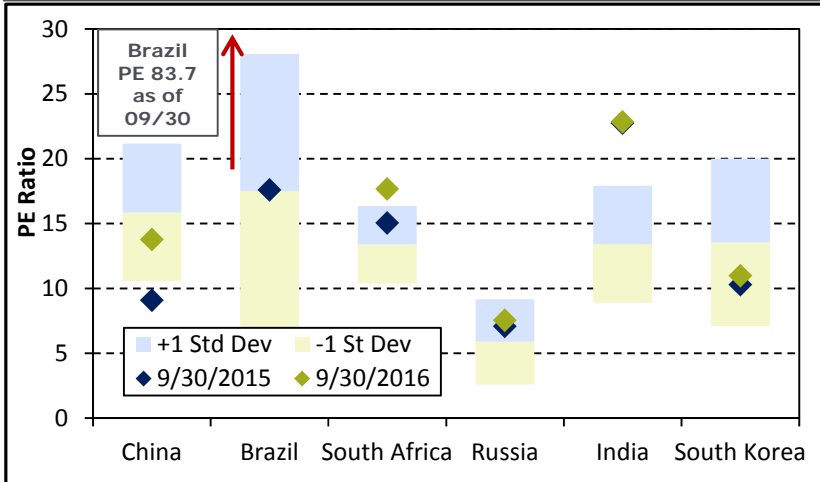
EAFE small cap returns have struggled in recent months



Source: Bloomberg, MSCI

Emerging Markets Equity

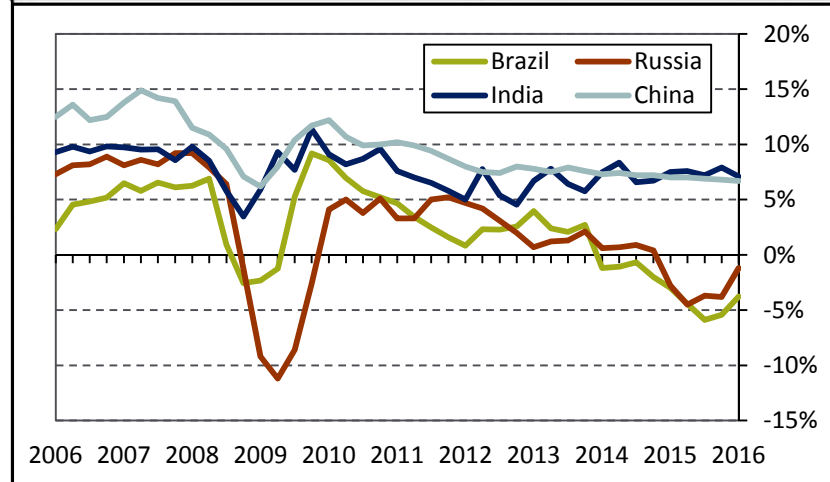
Regional valuations similar year over year with the exception of Brazil



Source: Bloomberg, MSCI

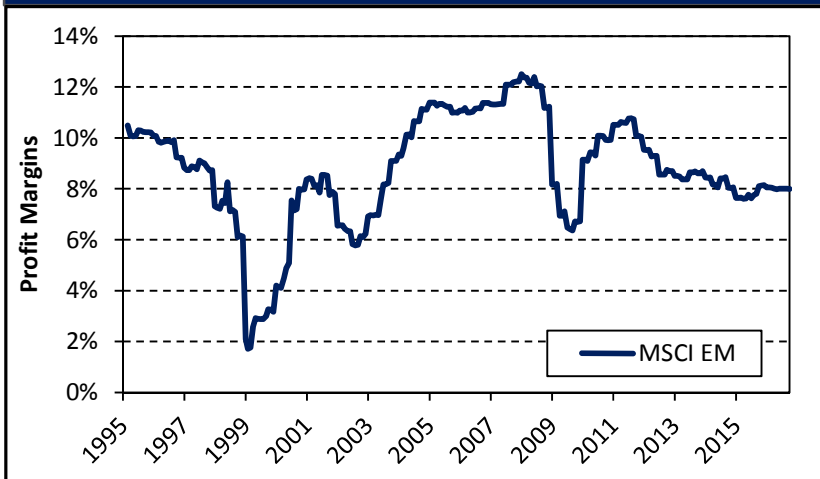
*Standard deviation calculations based on 20 years of data, with Russia since 01/1998

Russia and Brazil experience upward trends in growth



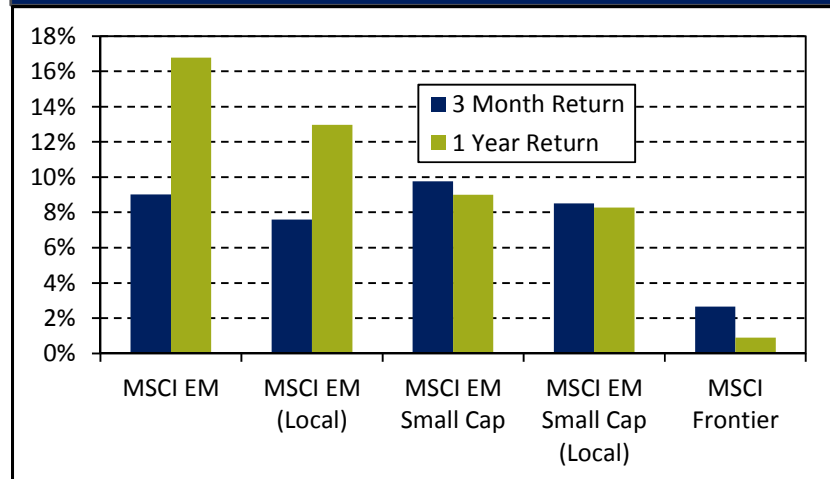
Source: Bloomberg

Profit margins in line with history



Source: Bloomberg, MSCI

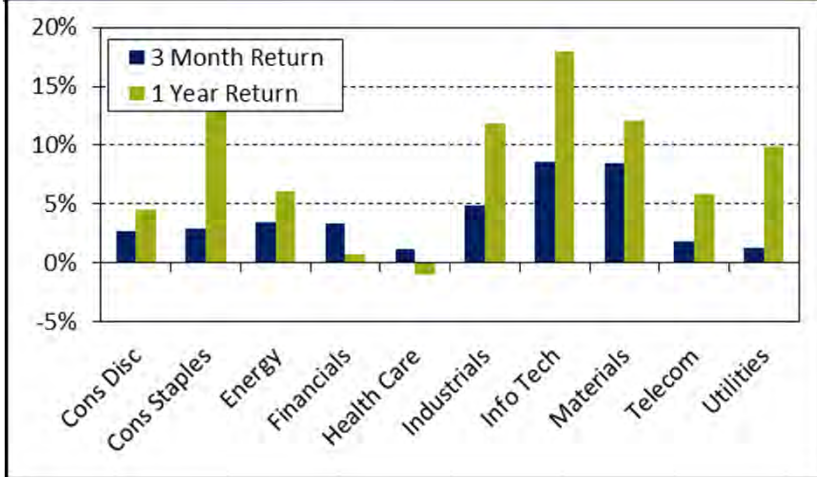
Strong short-term returns for EM



Source: Bloomberg, MSCI

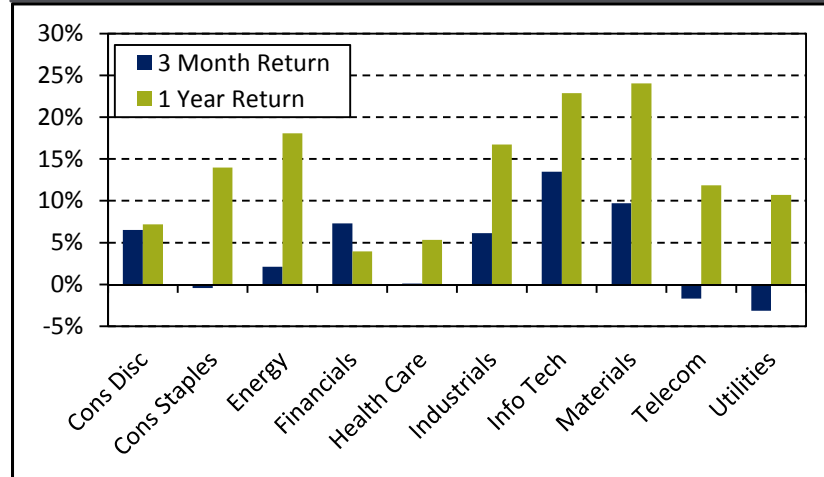
Global Equity by Sector

MSCI ACWI short-term returns driven by Info Tech and Materials



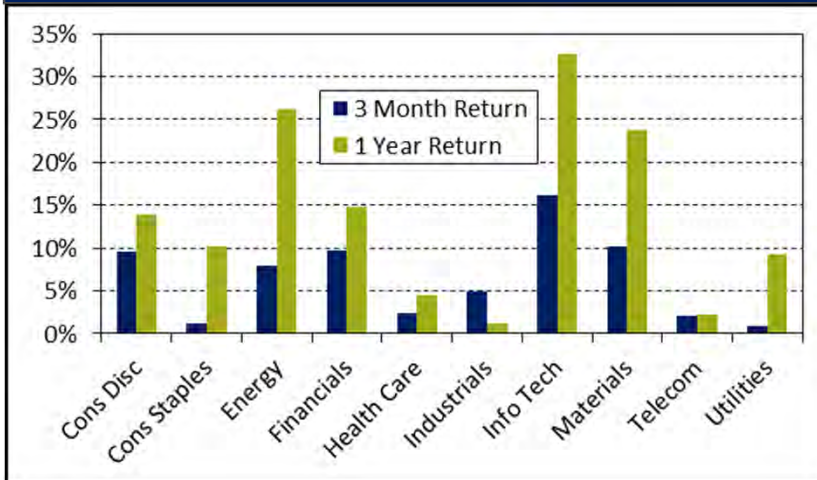
Source: Bloomberg, MSCI

S&P 500 sectors post broadly positive short-term returns



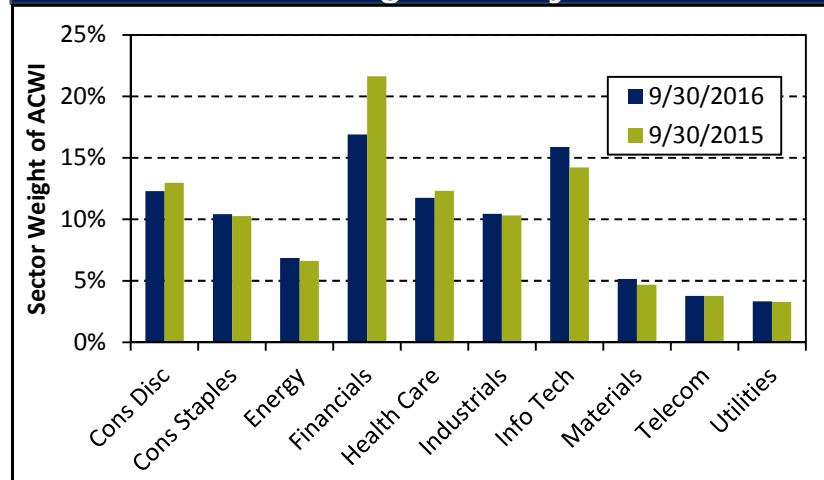
Source: Bloomberg, Standard and Poors

EM sectors posting strong short-term returns



Source: Bloomberg, MSCI

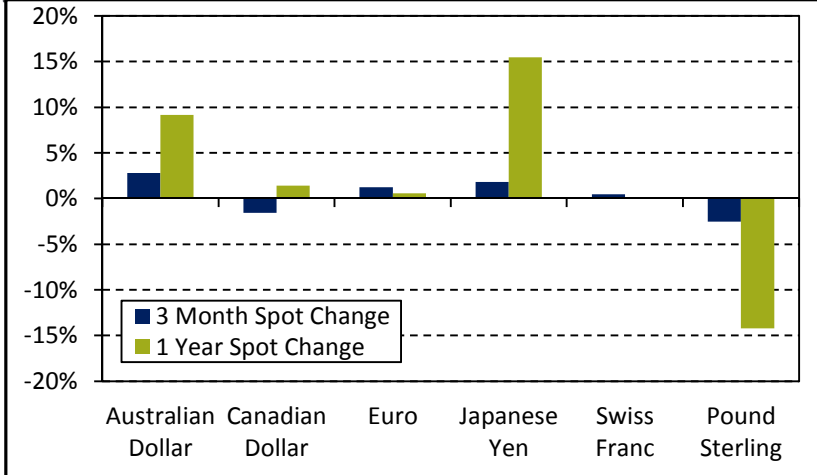
Financials sector weight has decreased significantly



Source: Bloomberg, MSCI

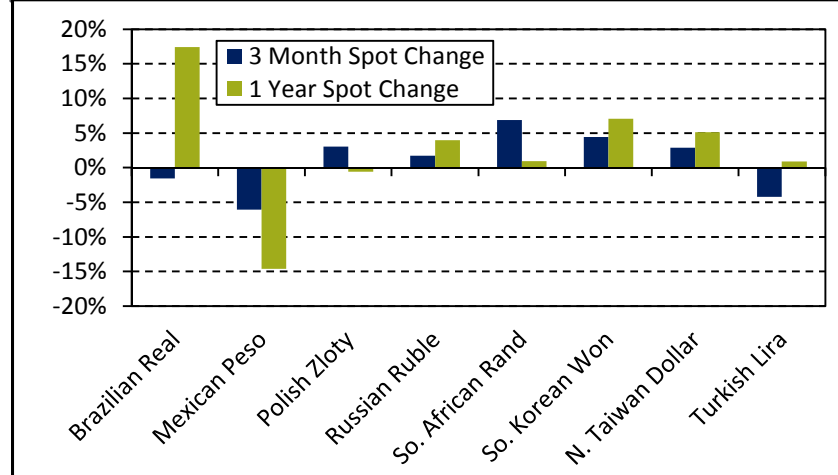
Currencies

Developed currencies experience mixed results versus the dollar



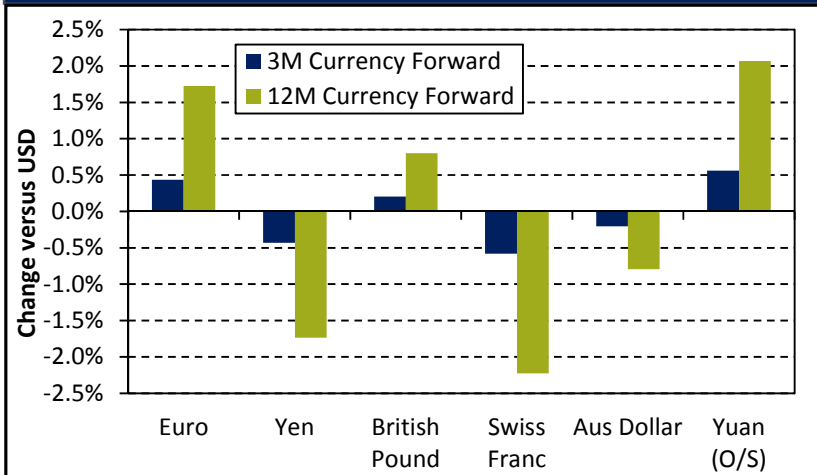
Source: Bloomberg

Diverse EM currency performance versus the dollar



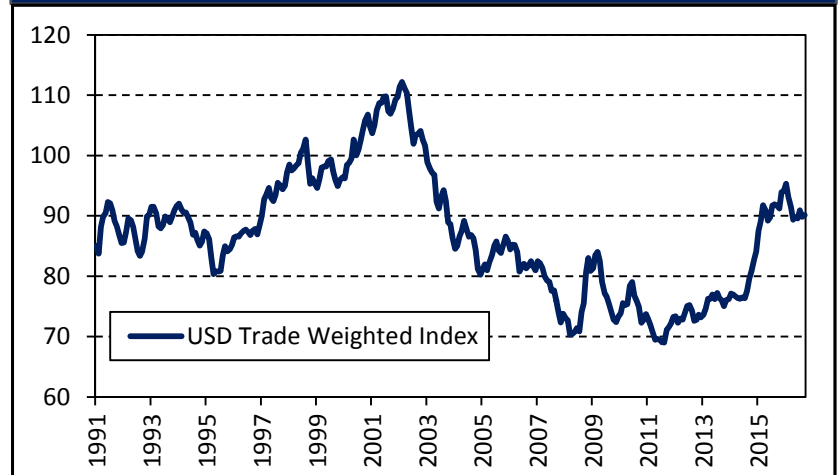
Source: Bloomberg

USD expectations vary across developed markets



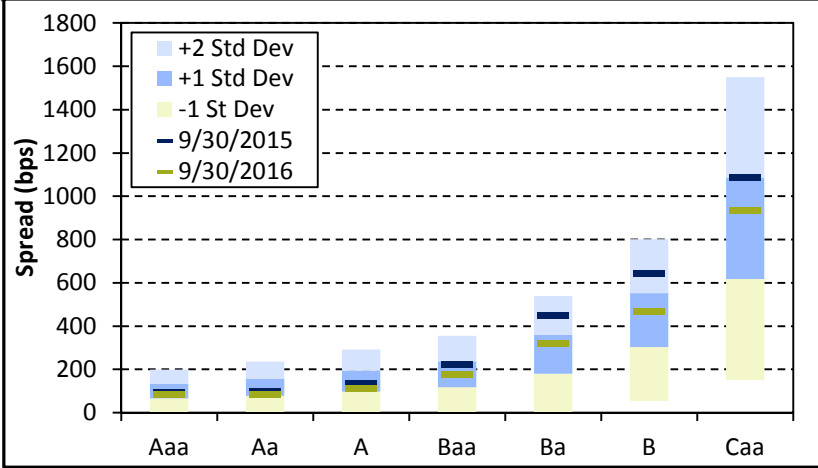
Source: Bloomberg

Dollar strength retreated slightly off highs



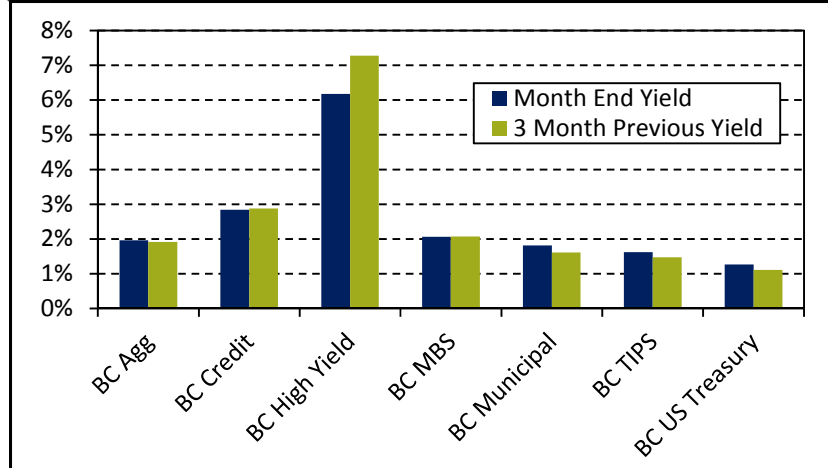
Source: Bloomberg, Federal Reserve

Spreads remain lower than the previous year



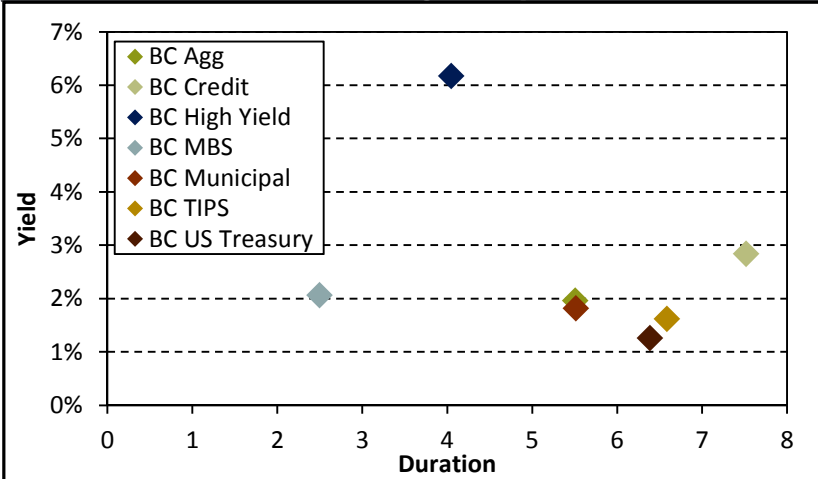
Source: Bloomberg, Barclays
*Standard deviation calculations based on 20 years of data

Except high yield, yields have remained similar over recent months



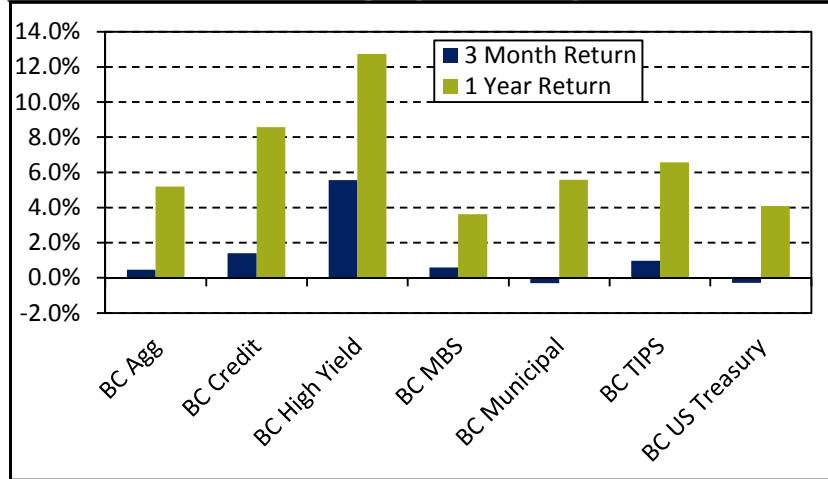
Source: Bloomberg, Barclays

TIPS look attractive among similar duration/yield profiles



Source: Bloomberg, Barclays

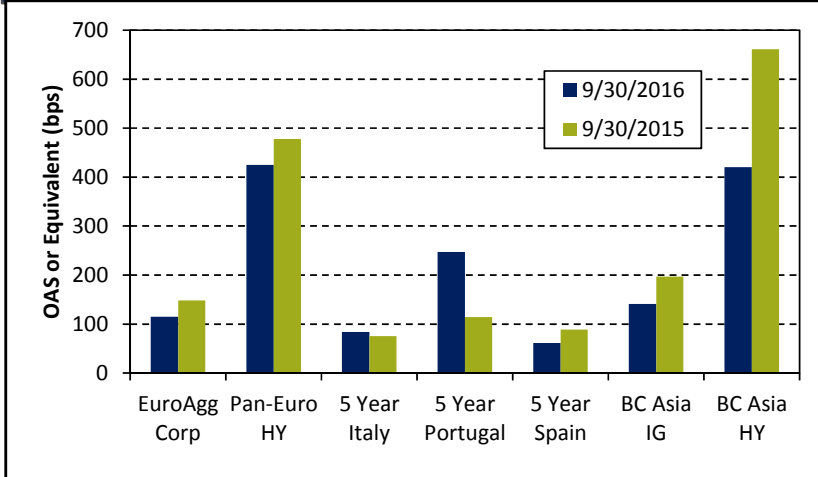
Relatively flat returns except the credit and high yield rally



Source: Bloomberg, Barclays

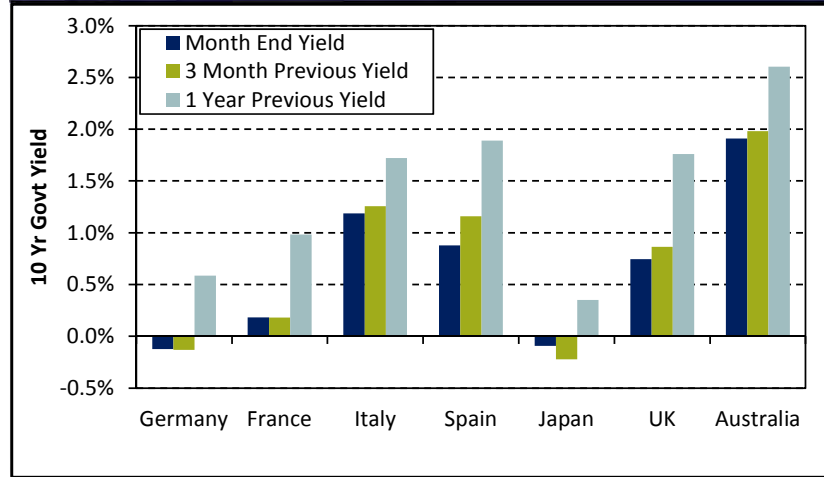
International Developed Fixed Income

European periphery yields vary relative to Germany



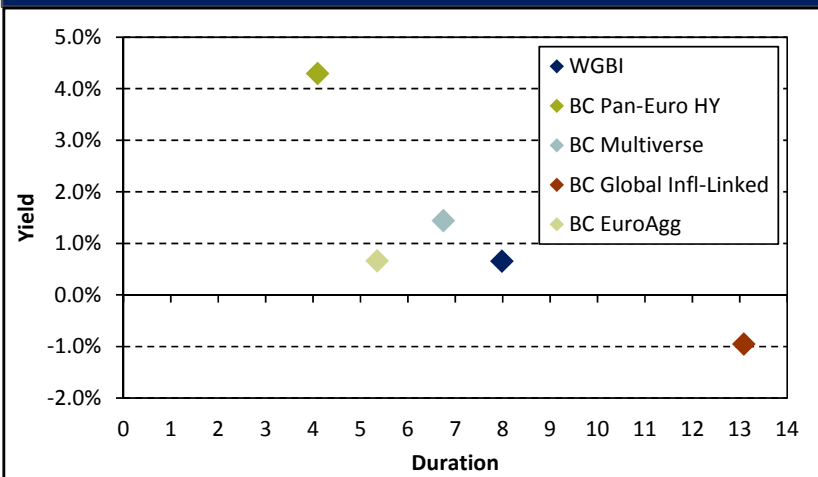
Source: Barclays, Bloomberg, *European periphery spreads are over equivalent German Bund

Global yields continue to fall with the exception of Japan



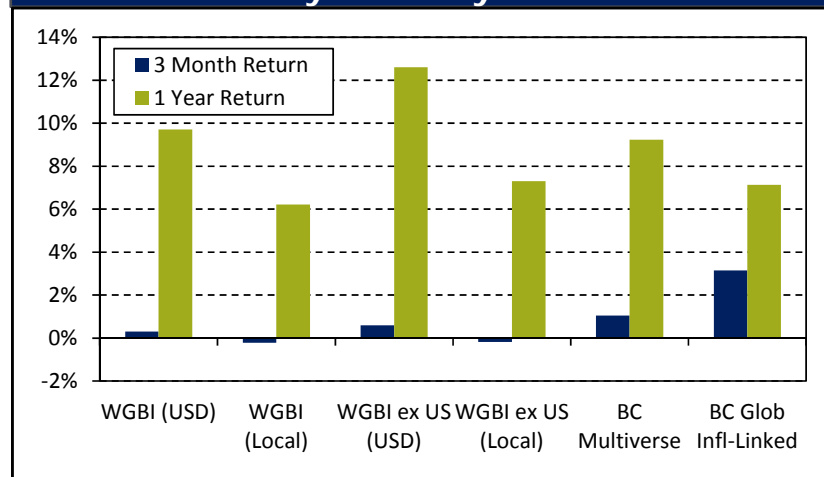
Source: Bloomberg

Low global yields relative to duration



Source: Bloomberg, Citigroup, Barclays

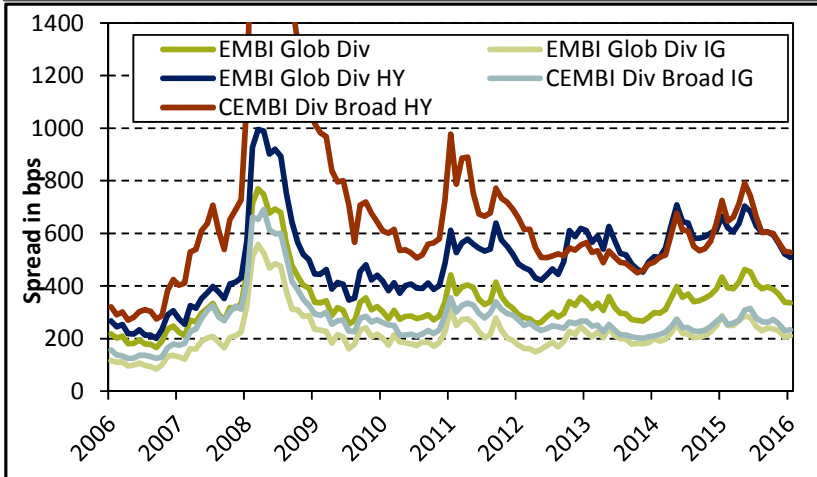
Global bond returns are heavily influenced by currency returns



Source: Bloomberg, Citigroup, Barclays

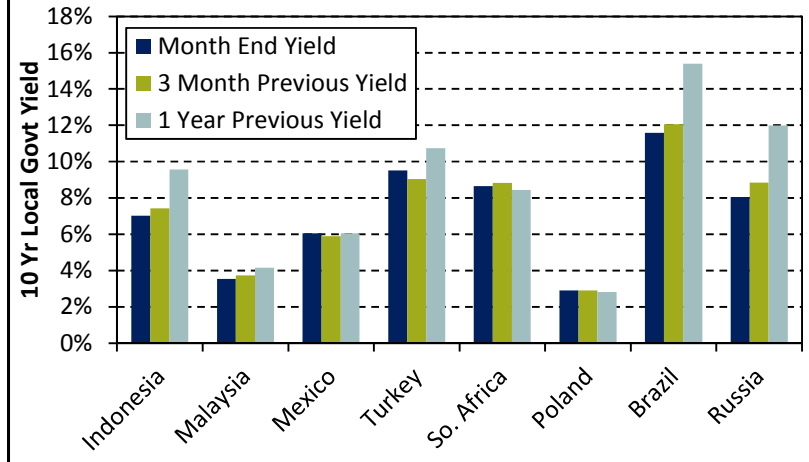
Emerging Markets Fixed Income

Spreads continue to decline



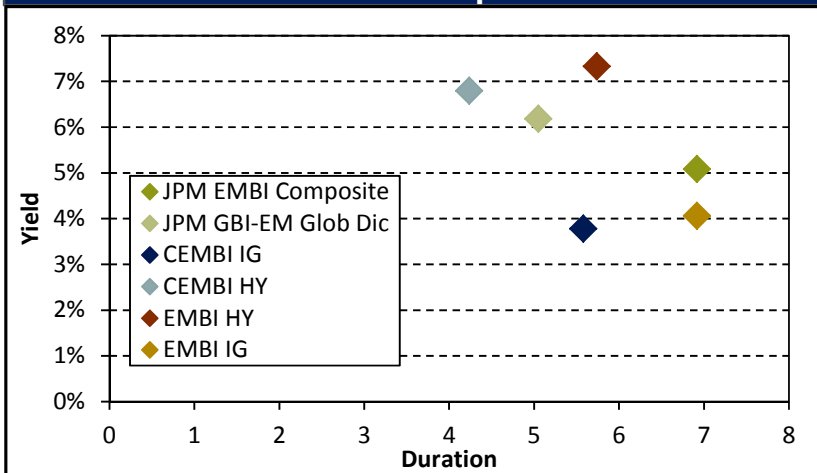
Source: Bloomberg, JP Morgan

EM local bond yields have declined for more volatile markets



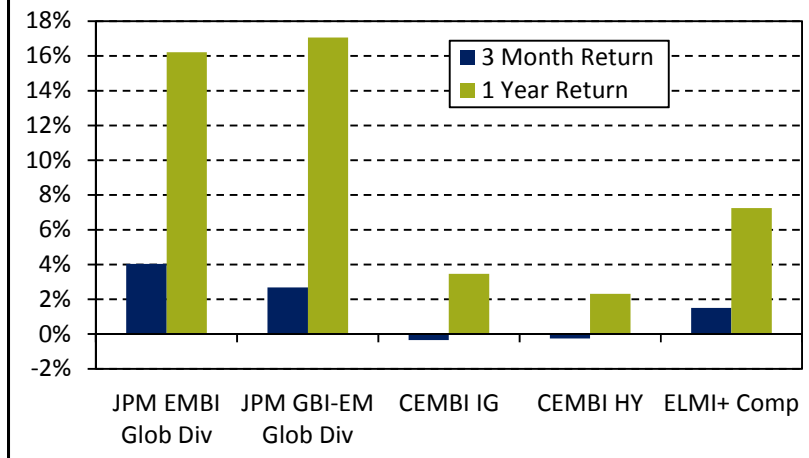
Source: Bloomberg

EM yields remain attractive versus global counterparts



Source: Bloomberg, JP Morgan

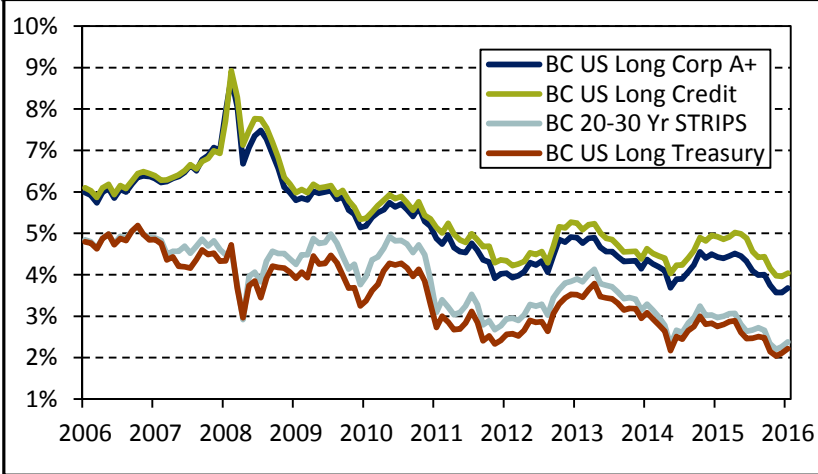
EM debt continues to perform well



Source: Bloomberg, JP Morgan

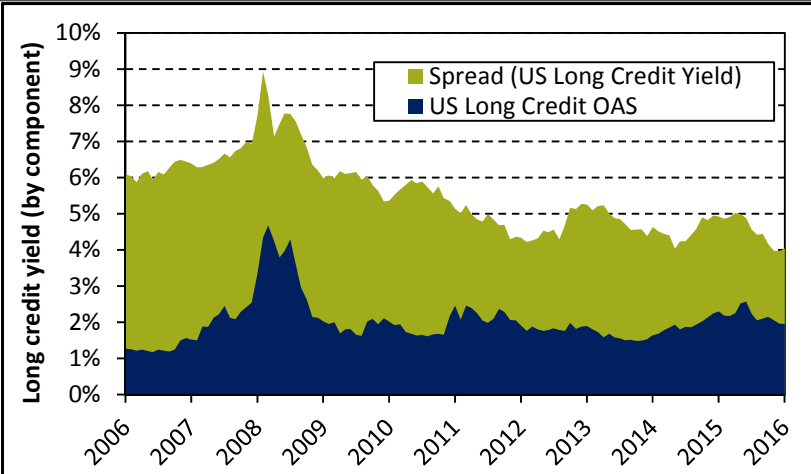
Long Rates and Liability

Long duration yields continue to decline



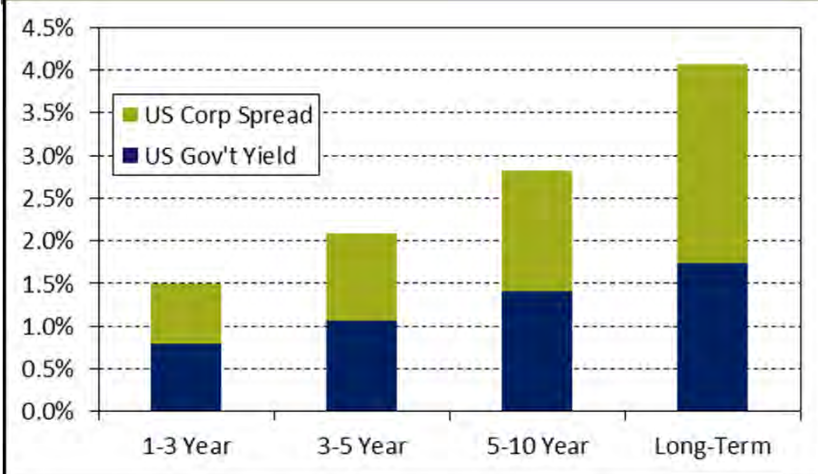
Source: Bloomberg, Citigroup, Barclays

Lower yields driven by real rates



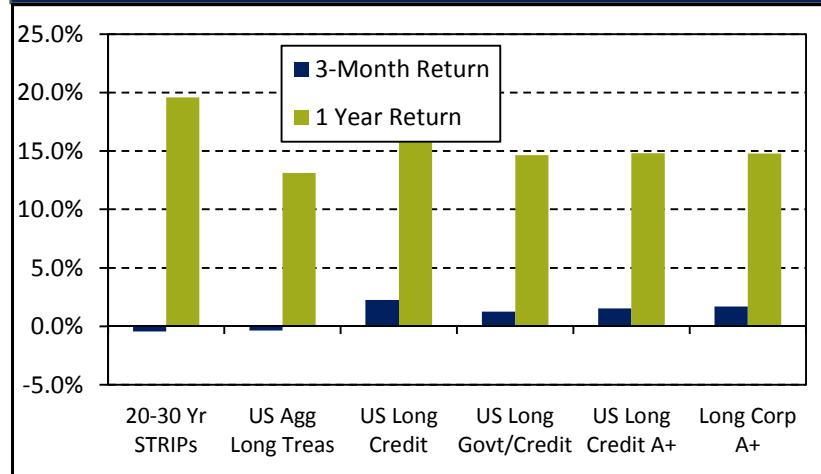
Source: Bloomberg, US Treasury, Barclays, NEPC

Yield and spread components continue to offer modest returns



Source: Bloomberg, Barclays

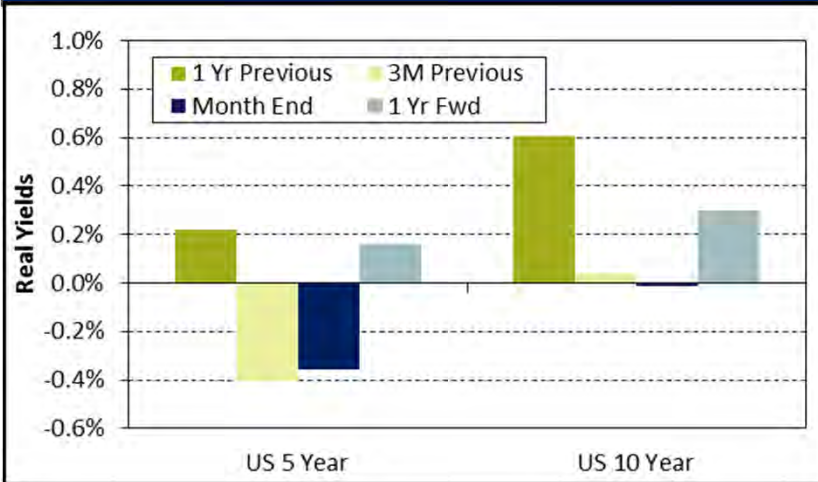
Long duration short-term returns are flat



Source: Bloomberg, Barclays

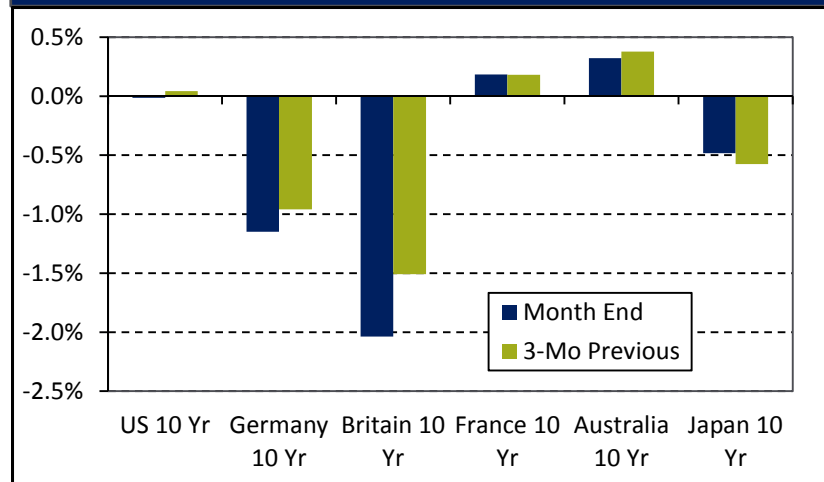
Inflation and Real Rates

US real yields have decreased



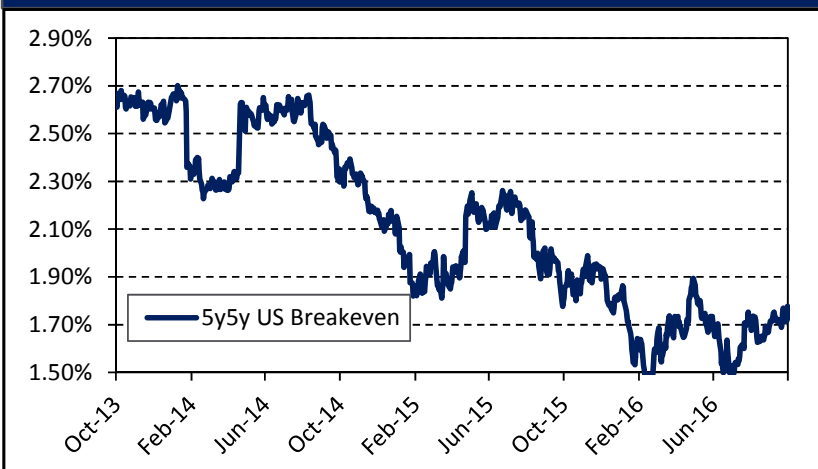
Source: Bloomberg

Global real yields dip even lower



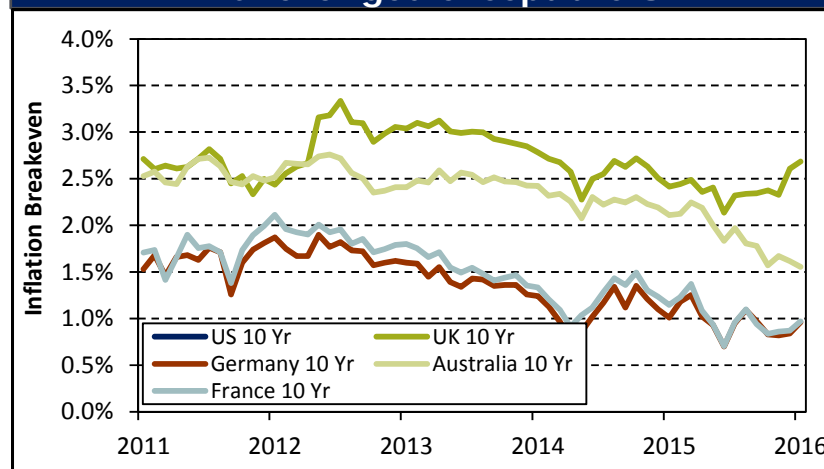
Source: Bloomberg

US inflation expectations remain low



Source: Bloomberg

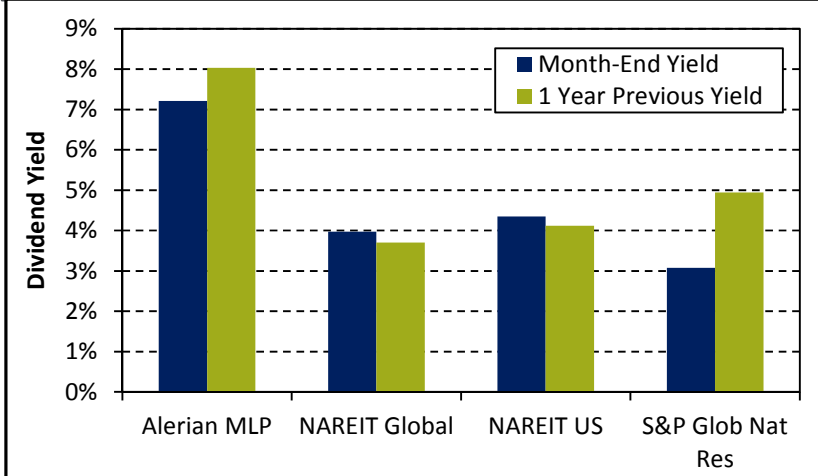
Global inflation expectations remain mostly unchanged except the UK



Source: Bloomberg

Inflation Sensitive Growth Assets

Yields remain similar to the previous year



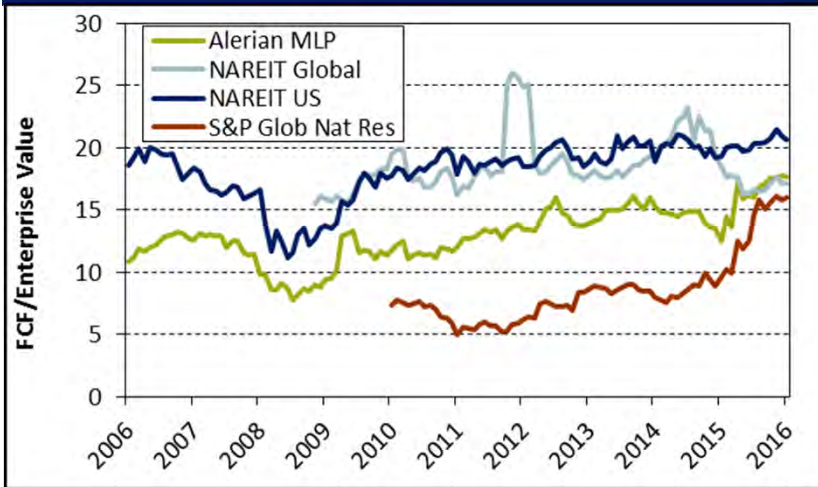
Source: Bloomberg, Alerian, Nareit, Standard and Poors

Sustained recovery in commercial real estate occupancy rates



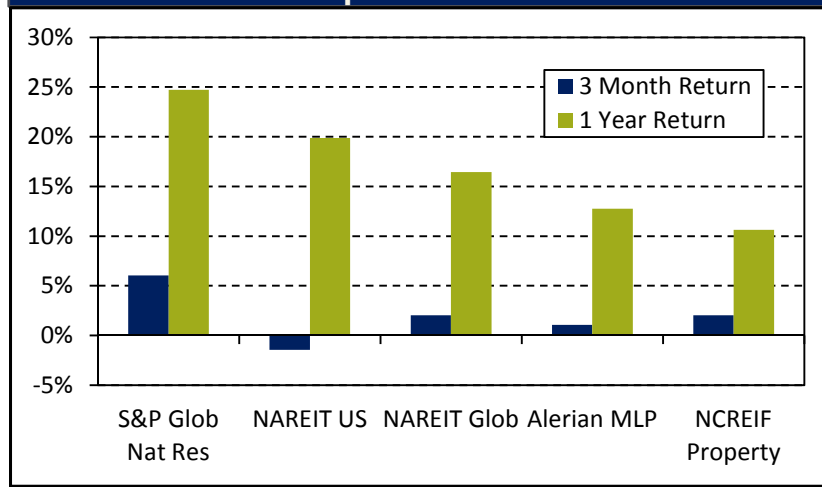
Source: NCREIF

Valuations remain steady



Source: Bloomberg, US Census Bureau

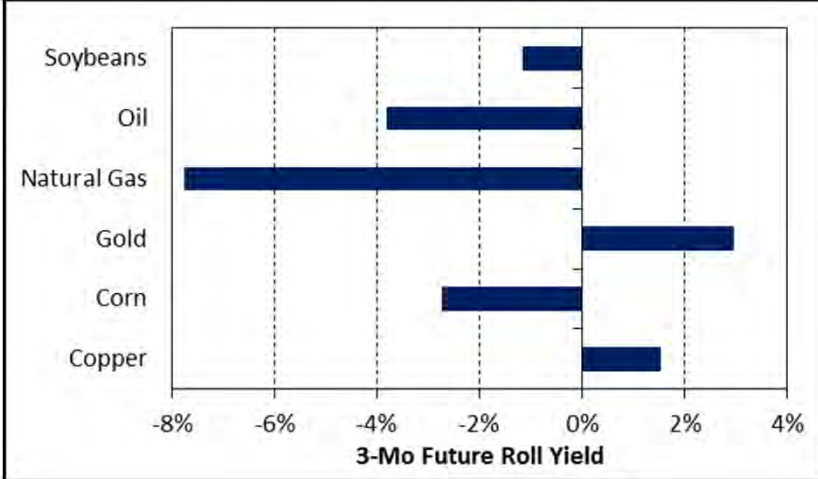
REITs exhibit mixed short-term performance



Source: Bloomberg, Alerian, Nareit, Standard and Poors

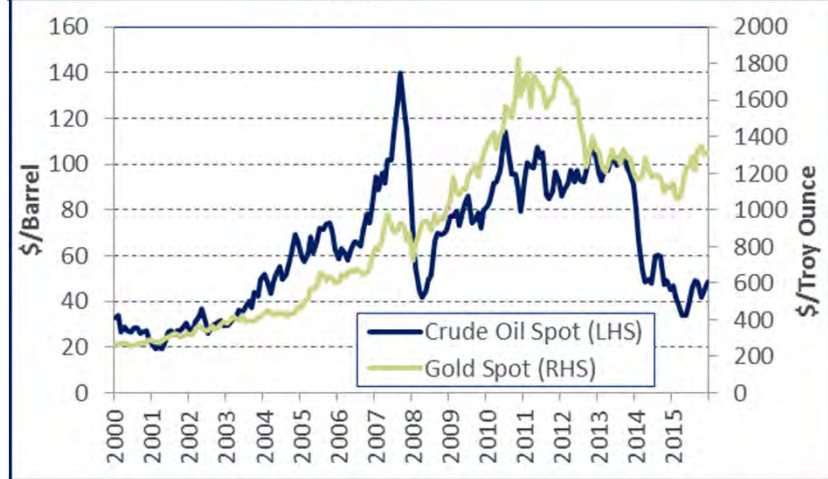
Commodities

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



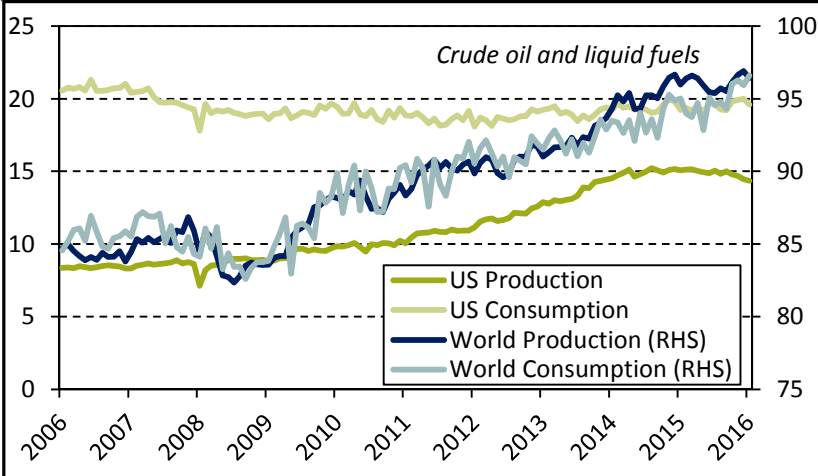
Source: Bloomberg

Recent spike in gold and decline in oil as oversupply concerns continue



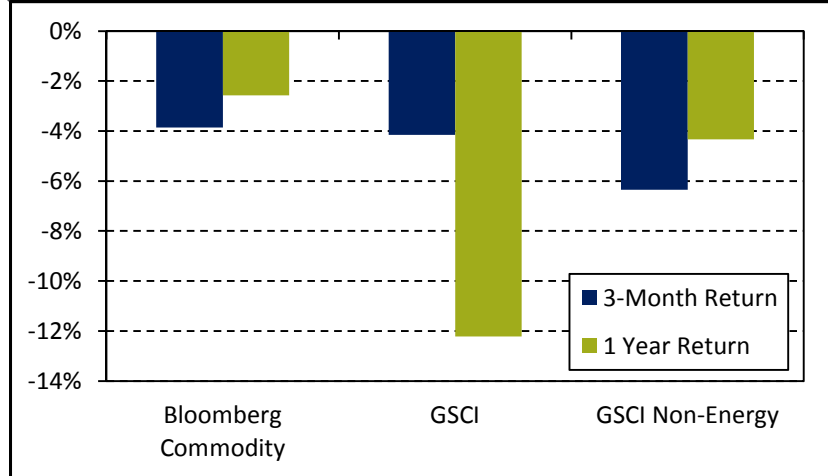
Source: Bloomberg

Recent decline in world production as consumption holds steady



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

Commodity indices continue to decline



Source: Bloomberg, Standard and Poors

Glossary of Investment Terminology

The calculation methodology for each measure of performance is outlined below.

Measurement	Description	Equation
Policy Target	Measures policy allocation decisions.	= TARGET ASSET WEIGHTS X INDEX RETURNS
Allocation Index	Measures actual allocation decisions. Deviations from the policy target can be derived. (Allocation Index – Policy Index)	= ACTUAL ASSET WEIGHTS X INDEX RETURNS
Composite (Total Return)	Measures actual performance and can derive active management decisions. (Composite – Allocation Index)	= ACTUAL ASSET WEIGHTS X ACTUAL RETURNS

The calculation methodology for each measure of attribution is outlined below.

Measurement	Description	Equation
Allocation Effect	Measure the effects of overweighting or underweighting managers and asset classes.	= (ACTUAL MANAGER WEIGHT – POLICY TARGET WEIGHT) X POLICY INDEX RETURN
Selection Effect	Measures the managers' ability to add excess return relative to the policy index.	= (ACTUAL MANAGER RETURN – INDEX RETURN) X POLICY TARGET WEIGHT
Interaction Effect	Measures the cross correlation of both selection and allocation affects and is often referred to as an "error term".	= (ACTUAL MANAGER RETURN X (ACTUAL MANAGER WEIGHT – POLICY TARGET WEIGHT)) – ((MANAGER WEIGHT – POLICY TARGET WEIGHT) X INDEX RETURN)

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