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Vermont Pension Investment Committee

First Quarter State Teachers' Investment Performance Analysis

May 24th, 2016

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NEPC Update



Highlights of First Quarter Happenings at NEPC

NEPC Research White Papers

- 2016 First Quarter Market Thoughts
- Market Chatter: Is it really All About China? (January 2016)
- Market Chatter: Monetary Policy Divergence and Developed Currency (April 2016)

Upcoming Events

- ‘Opportunities for Future Investments’ is the theme for NEPC’s 21st Annual Investment Conference – May 10-11, 2016 at the Hynes Convention Center in Boston, MA. Keynote Speakers are:
 - Michael Cembalest, Chairman of Market and Investment Strategy, J.P. Morgan Asset Management
 - Dr. Dambisa Moyo, Global Economist and Author

Register at www.NEPC.com

NEPC Client Recognitions

We are excited to announce that three of NEPC’s clients were nominated for 2016 “Chief Investment Officer of the Year” Investor Intelligence Award. The winners will be announced at Institutional Investor’s annual Roundtable for Public Funds, taking place April 27-29, 2016 in Los Angeles, CA. We wish them luck!

- Arn Andrews, CIO, City of San Jose Dept. of Retirement Services
- Ryan Parham, CIO, AZ Public Safety Personnel Retirement Systems
- Girard Miller, CIO, Orange County Employee Retirement System



NEPC Client Recognitions (continued)

A number of NEPC clients were named on TrustedInsight’s list of Top 30 Pension Fund Chief Investment Officers. According to the January 2016 issue, “these 30 chief investment officers manage more than \$1.3 trillion in assets for millions of retirees in the United States. These professionals are at the forefront of an industry that’s slow to evolve, under constant scrutiny and vital to the wellbeing of many average Americans. Nonetheless, they operate at the top of their field to prudently protect the benefits of their constituency.” NEPC clients that made the list include:

- Scott Evans, CIO, New York Employees Retirement System - \$78.5B AUM
- David Villa, CIO, State of Wisconsin Investment Board - \$102B AUM
- Gary Dokes, CIO, Arizona State Retirement System - \$31B AUM
- Michael Trotsky, Executive Director, CIO, Massachusetts PRIM Board - \$62B AUM
- Robert Beale, CIO, Louisiana State Employees’ Retirement System - \$5.2B AUM
- Richard Shafer, CIO, Ohio Public Employees’ Retirement System - \$91.5B AUM
- James Perry, CIO, Dallas Police and Fire Pension System - \$3B AUM
- William Coaker, CIO, San Francisco Employees Retirement System - \$20.3B AUM
- Bob Jacksha, CIO, New Mexico Education Retirement Fund - \$11B AUM
- Girard Miller, CIO, Orange County Employees Retirement System - \$12.1B AUM
- Sam Masoudi, CFA, CAIA, CIO, Wyoming Retirement System - \$7.8B AUM

Market Environment

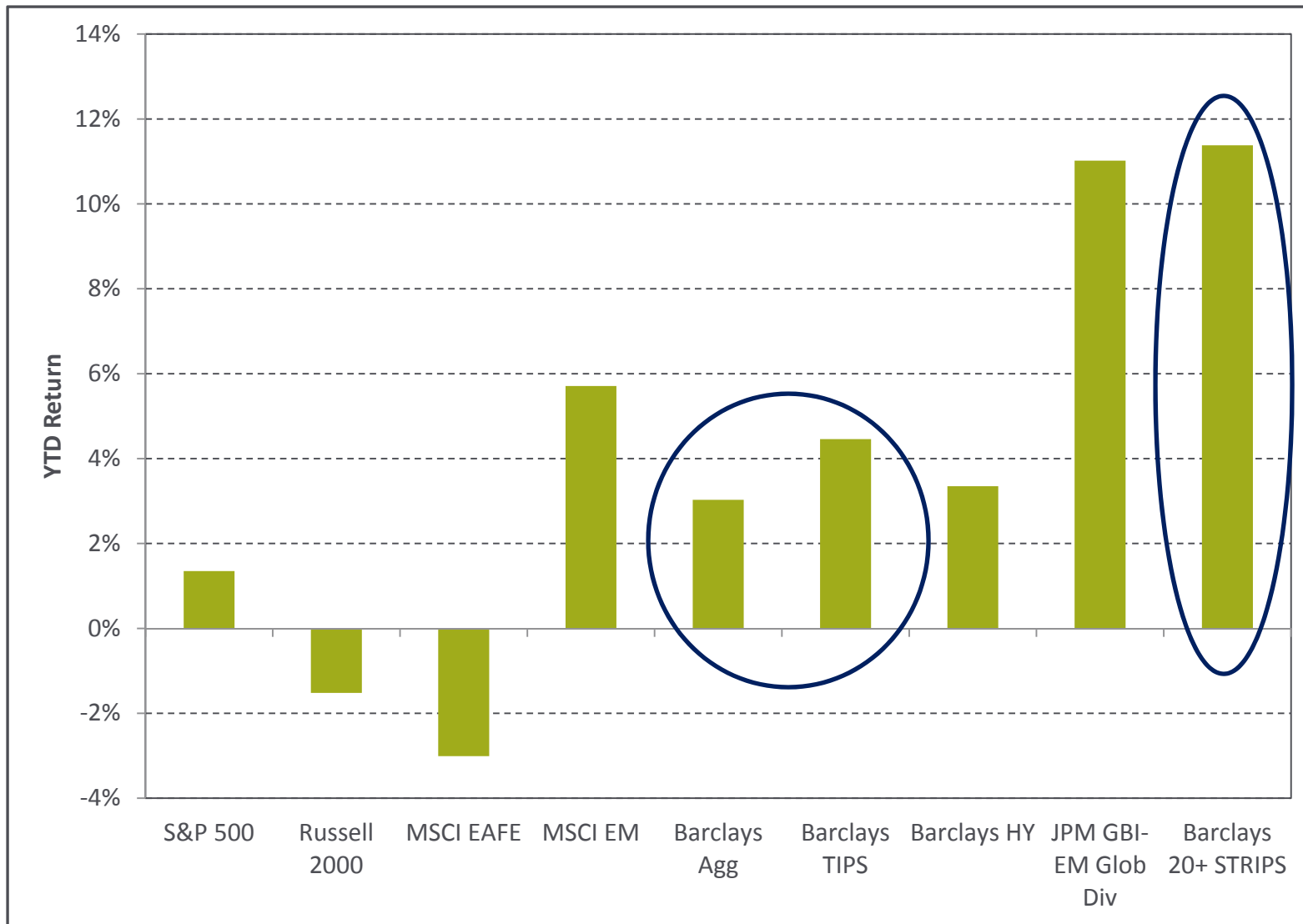


- **US economic cycle and US central bank policy are at the forefront of major cyclical and secular forces informing our Assumptions and Actions**
 - These factors interact to create a supportive environment for risk assets in the near term but ultimately push long term capital market forecasts lower relative to history
- **The US economy is nearly 7 years removed from the previous recession but the health of US consumers can extend the expansion**
 - Prolonged US economic cycle has the potential to push the US dollar higher
- **Persistent US Dollar strength tightens global monetary conditions and materially weakens the US corporate earnings profile**
 - A strong dollar strains international borrowers with dollar based debt
 - Outsized credit growth in Asia, specifically China, at risk from a stronger US dollar
- **Influence of central bank policies in the developed world remain broadly supportive for risk assets but come with long term effects**
 - US policy is slowly diverging from Europe and Japan but gradual expected pace of hikes provides a positive backdrop for US equities and credit in the near term
 - Extraordinary central bank measures from Europe and Japan continue to expand and support a strong bias to equities in these markets

- **US economic expansion continues as Federal Reserve begins policy shift**
 - Economic conditions and health of US consumers remain supportive for growth
 - US Corporate earnings quality has deteriorated under pressure from profit margin weakness and a relatively strong dollar
- **Central Banks continue to dictate the global investment outlook**
 - Market expectations of Fed action extremely muted over next 36 months; a surprise Fed rate increase poses risk to both US equities and fixed income
 - ECB and BoJ likely to maintain and expand accommodative monetary policies
 - Easing in China is broadly stimulative in the near term but currency policy is unpredictable
- **Large currency adjustments across most emerging countries have provided a foundation to support improved capital market returns**
 - Continued political and economic reform is needed across EM to stimulate economic growth
 - Chinese Yuan (RMB) depreciation has been incremental relative to other EM FX adjustments and fears of further adjustment remain a near-term concern
- **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

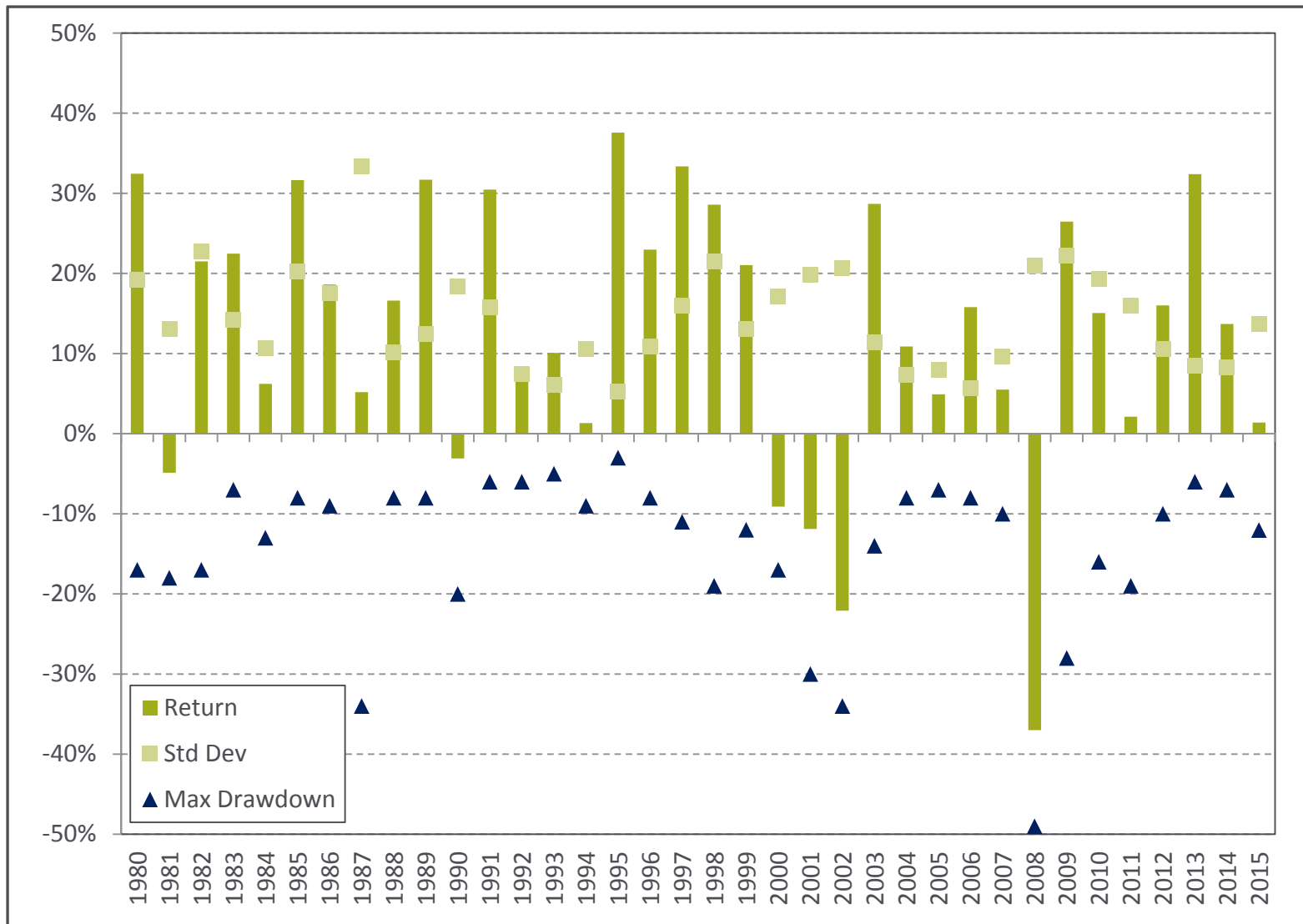
- **Prospects of low US core bond returns warrant a more positive tilt to US equity, especially following sell-offs**
 - Macro policy remains supportive but corporate earnings quality is deteriorating
 - Lower returns expected but pockets of opportunity can be found in US equity and credit
- **Overweight non-US developed market equities**
 - Central bank support and dollar strength provide a positive economic backdrop
 - Small-cap equities offer purest opportunity to benefit from local earnings recovery
 - EAFE equity markets offer the potential for strong returns relative to US equities
- **Overweight emerging market small-cap and consumer focused strategies relative to broad equity mandates**
 - Valuations and long-term fundamentals suggest a strategic overweight
 - China uncertainty, dollar pressure and idiosyncratic country risks temper excitement
- **Seek tactical fixed income strategies but preserve duration exposure**
 - US duration continues to have a role in a diversified and risk-aware portfolio
 - TIPS offer an attractive duration profile with inflation expectations at secular lows
 - Credit selection is critical as credit cycle matures and spreads contract in recent rally
- **Private market opportunities are the preferred access point as energy market distress continues to evolve**
 - Return opportunities of private strategies are compelling but suggest patience

Year to Date Performance – Sharp Market Rally Masks Scale of Recent Sell-Off



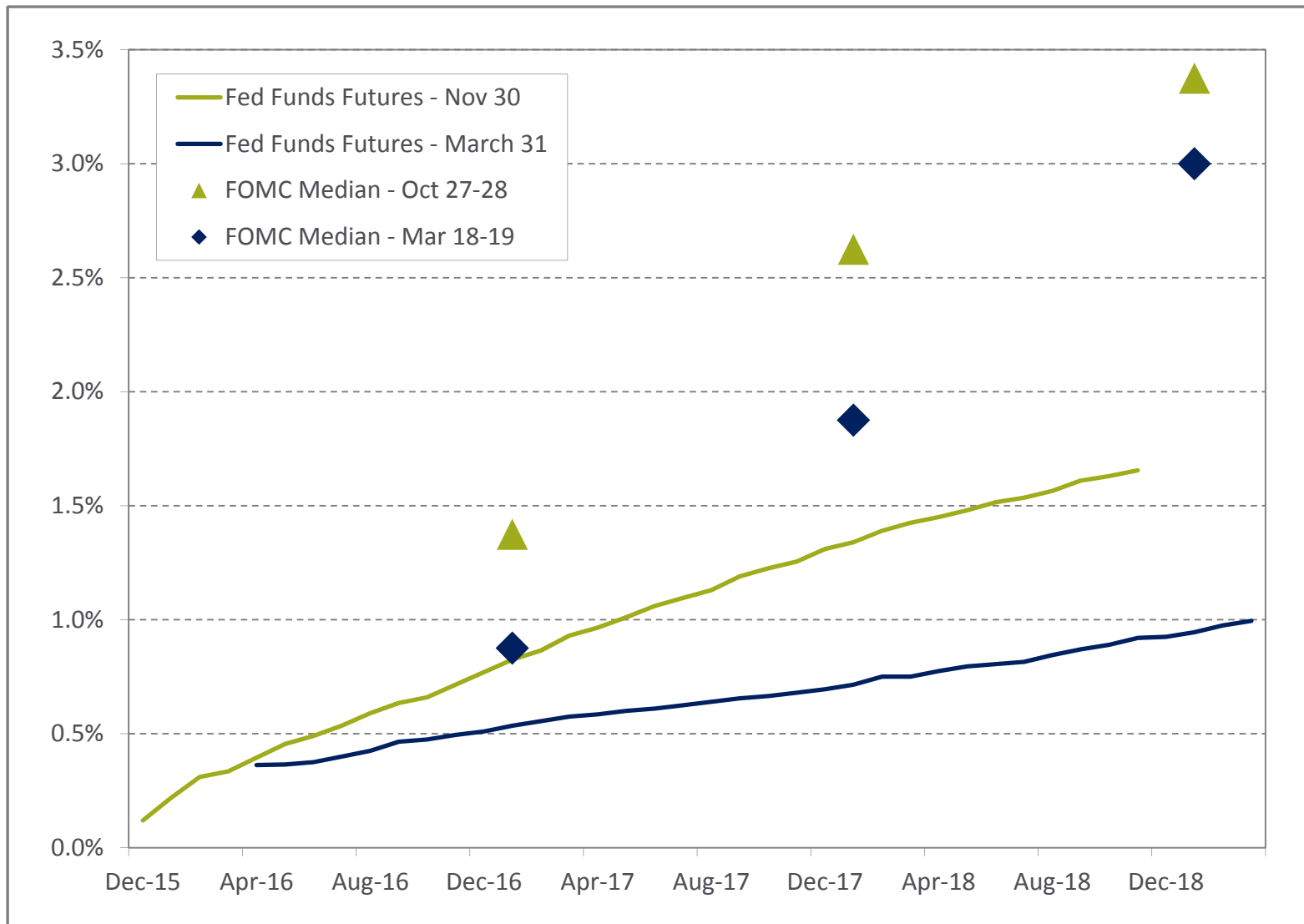
Source: Morningstar Direct

S&P 500 Intra-Year Drawdowns of Recent Magnitude Relatively Common



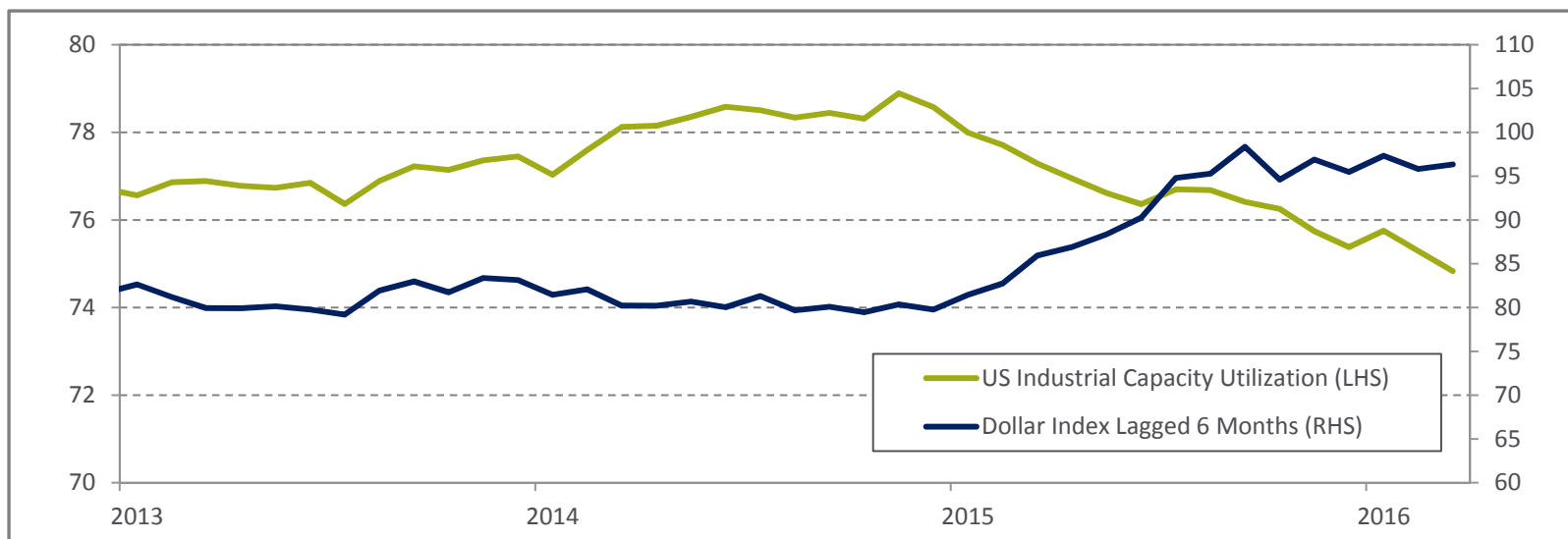
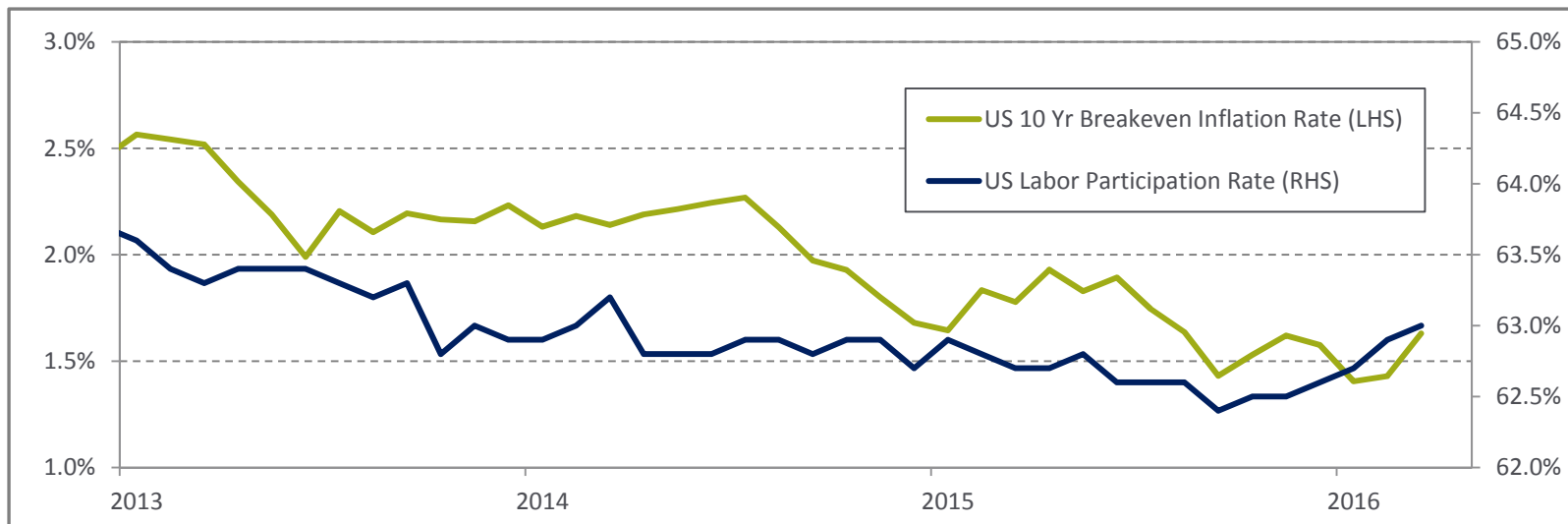
Source: Standard & Poors, Bloomberg

Expectations of Fed Policy Rate Hikes Have Moderated



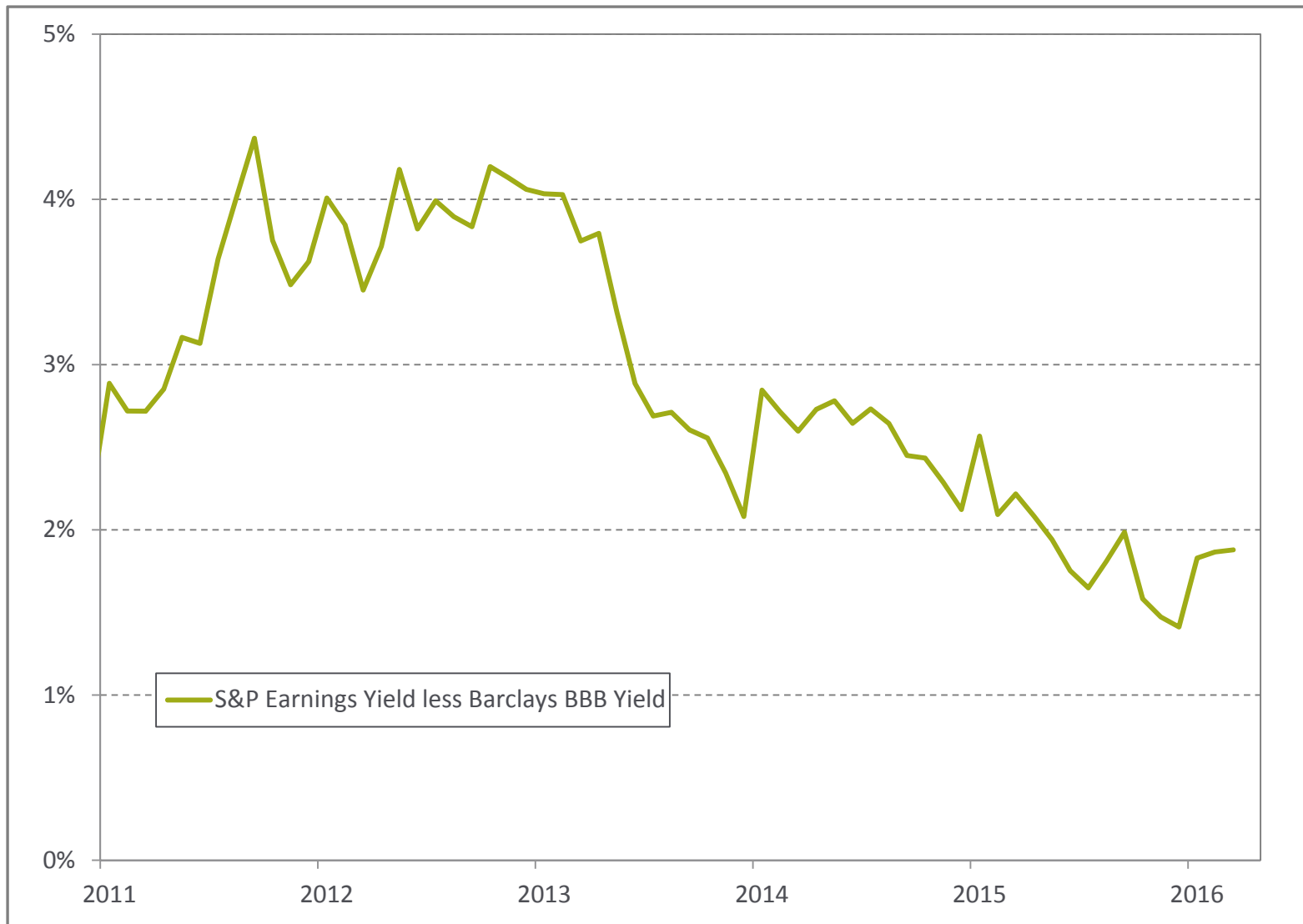
Source: Federal Reserve, Bloomberg

Is the Market at Risk From a Surprise Fed Reserve Move?



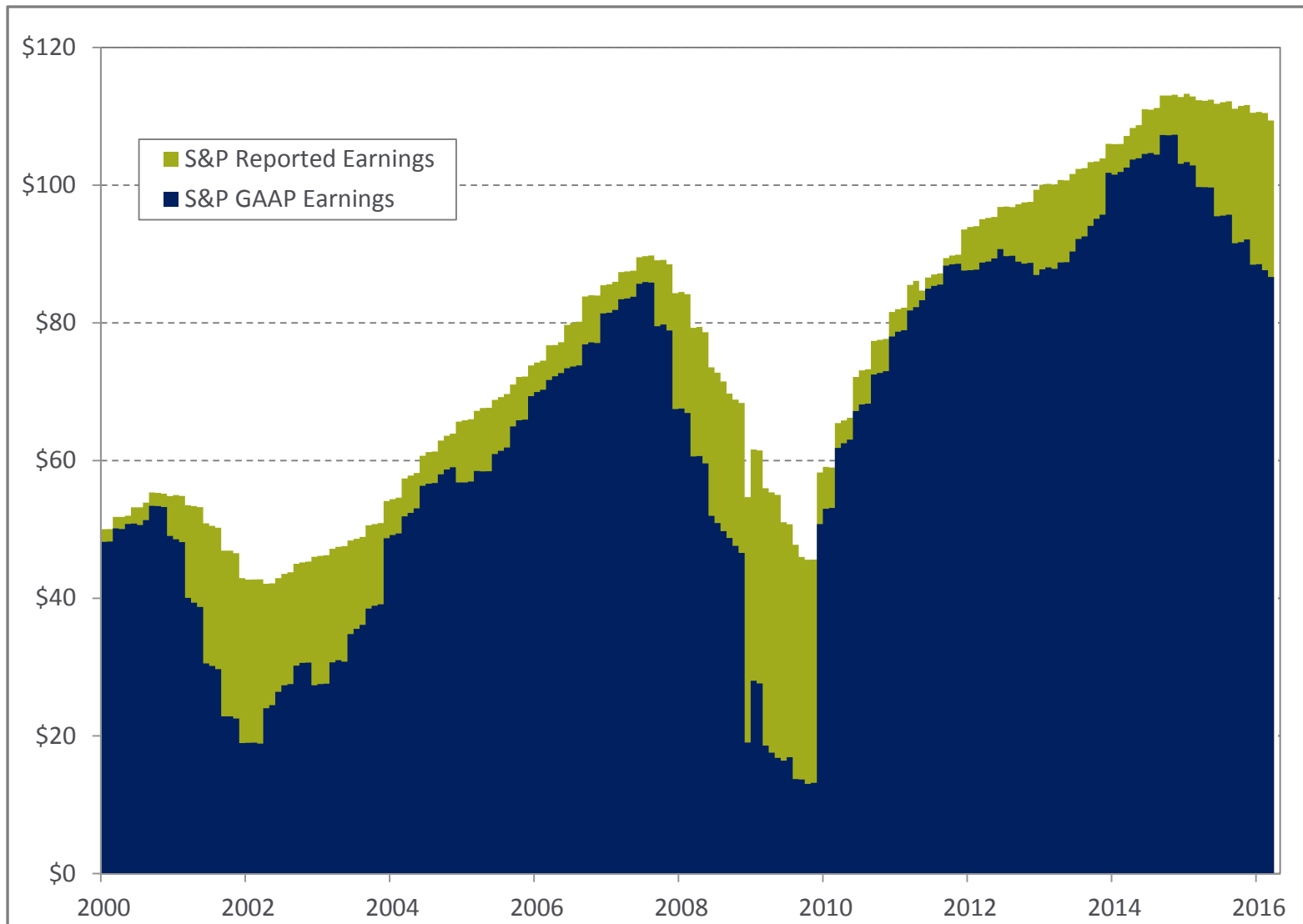
Sources: Bloomberg

Pockets of Opportunity in US Equities are More Limited Following the Recent Rally



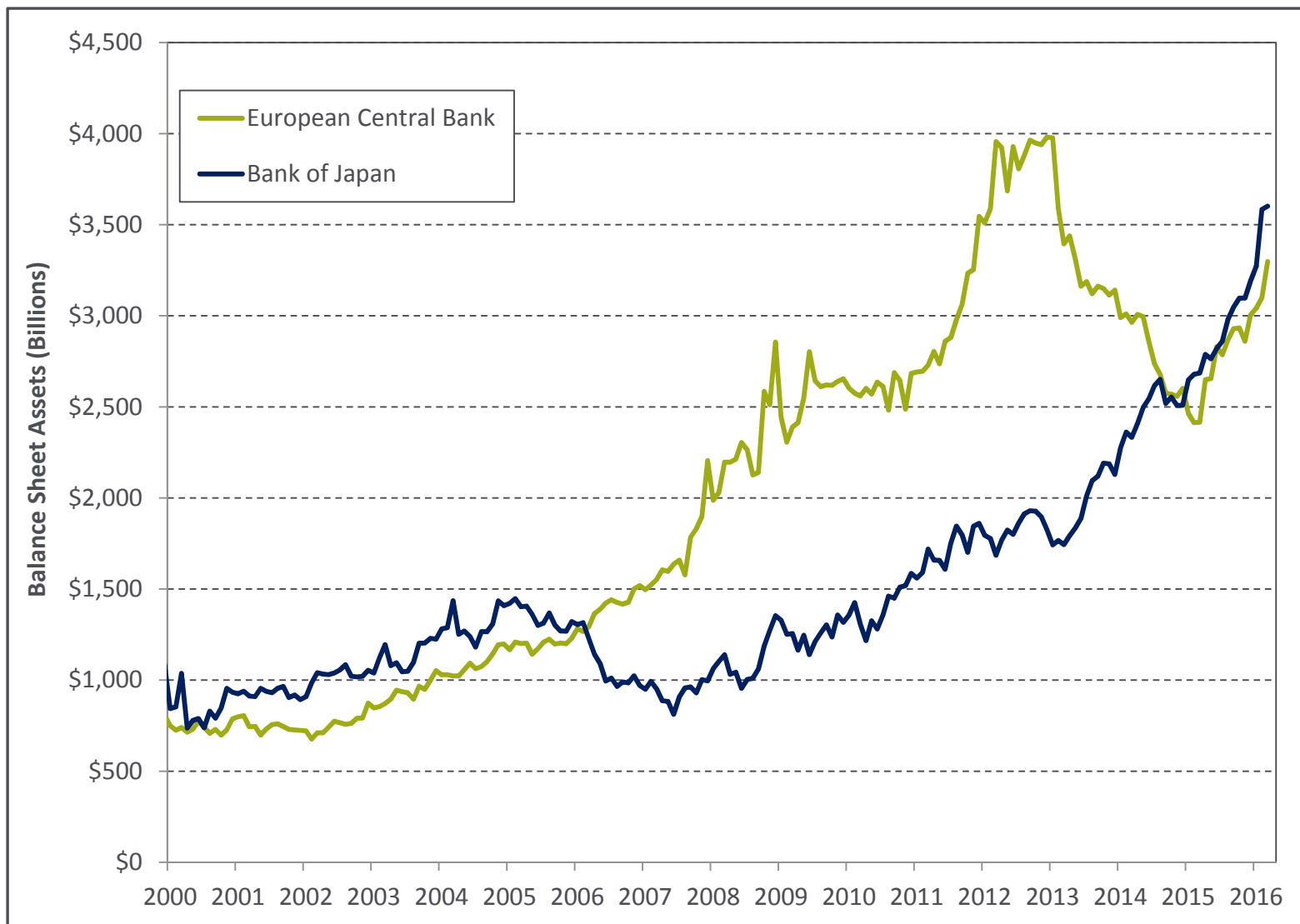
Source: Bloomberg

Earnings Quality has Weakened Largely Due to Energy Sector; Historically Sign of Market Stress



Source: Bloomberg

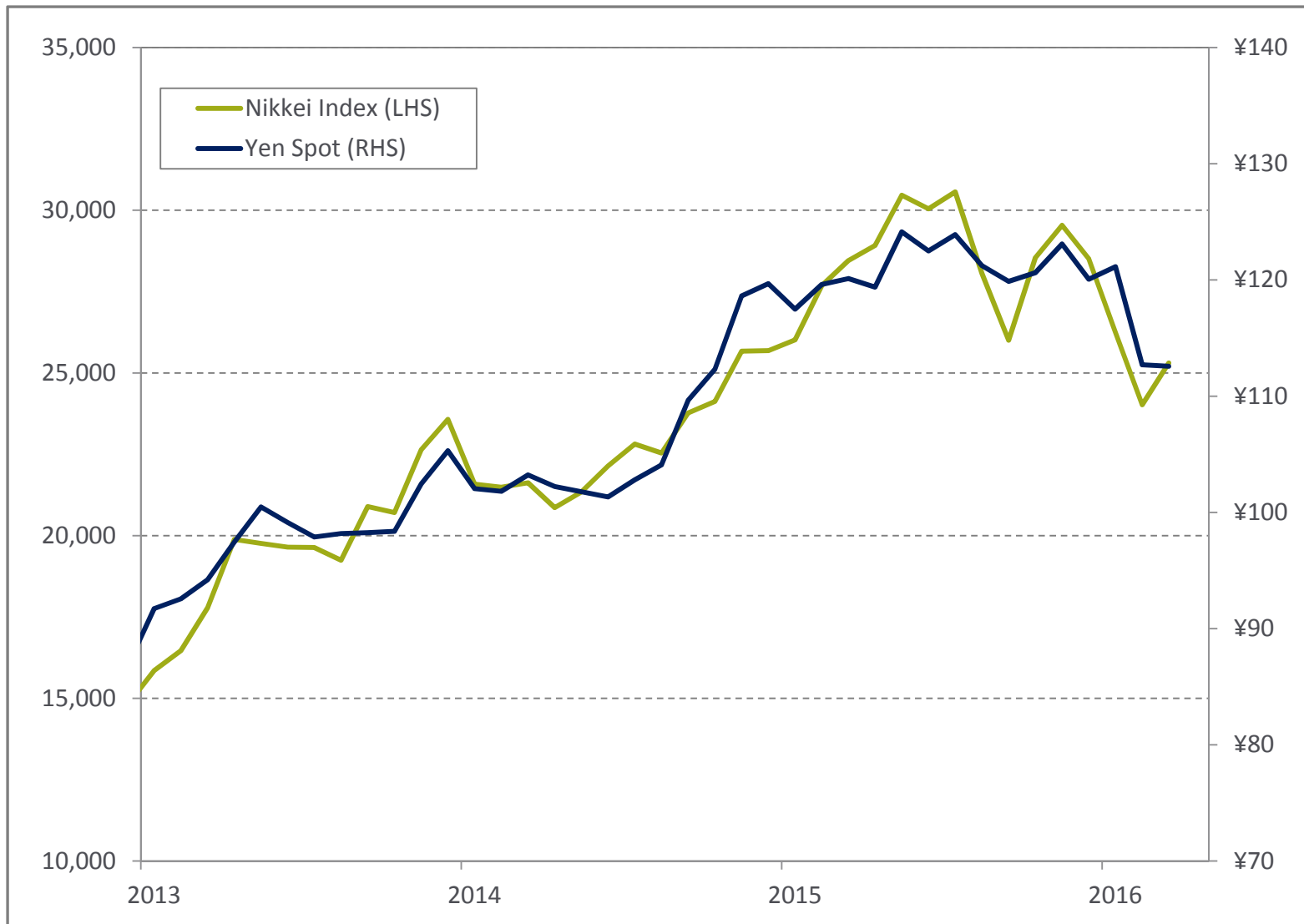
Unprecedented Central Bank Support in Europe and Japan Supports Non-US Developed Equity



Source: Bank of Japan, ECB, Bloomberg

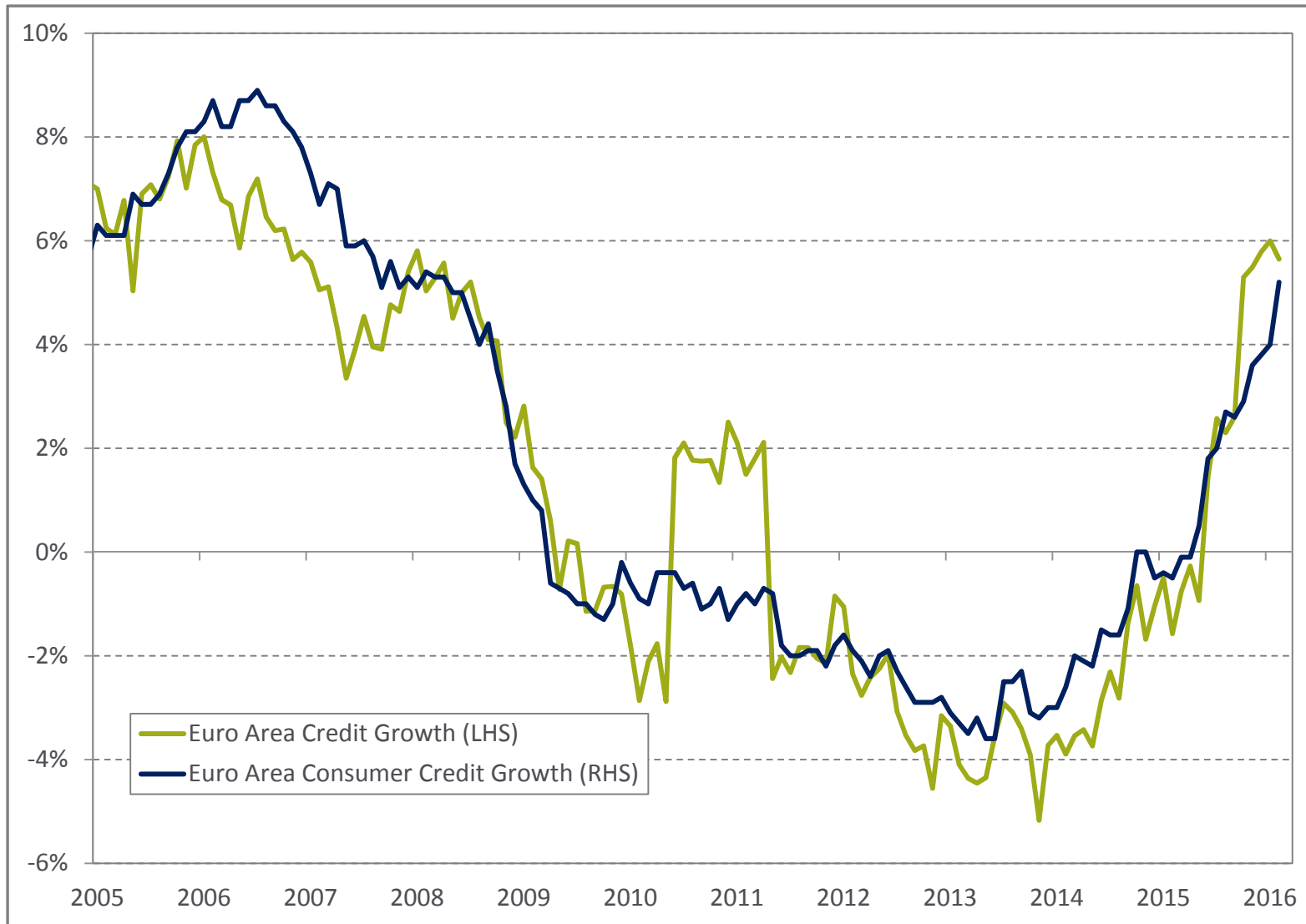


Central Bank of Japan's Ability to Weaken the Yen in Near-Term Heavily Influences Equities



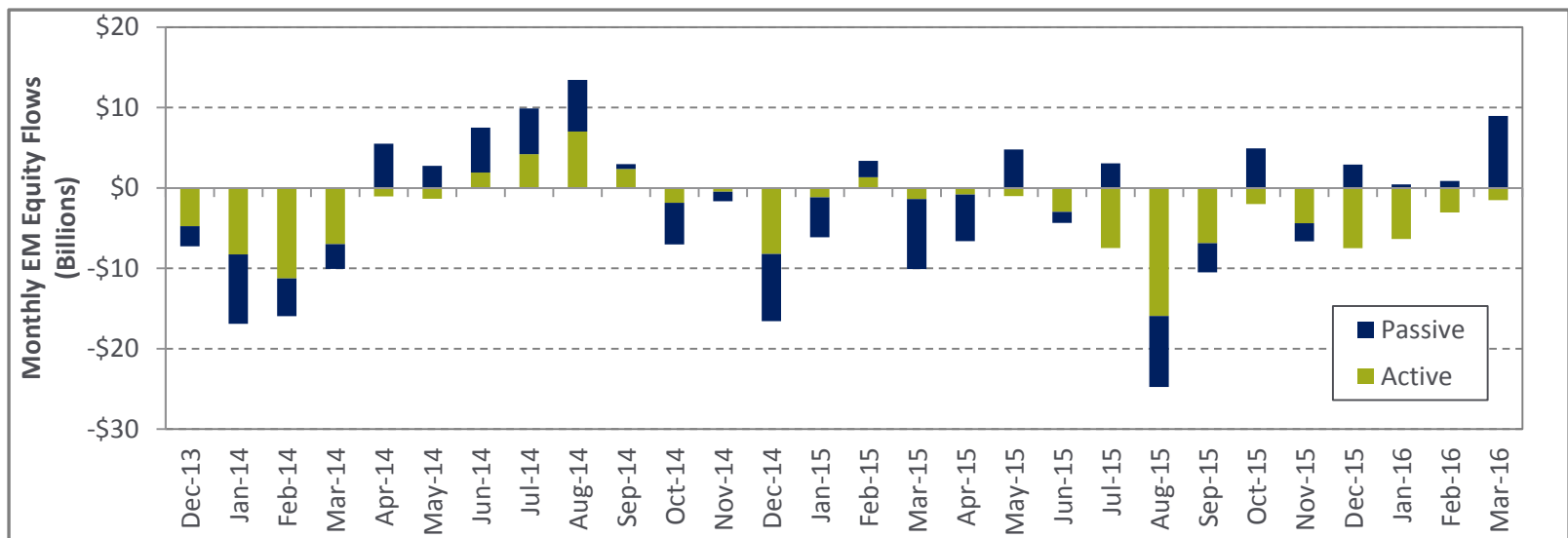
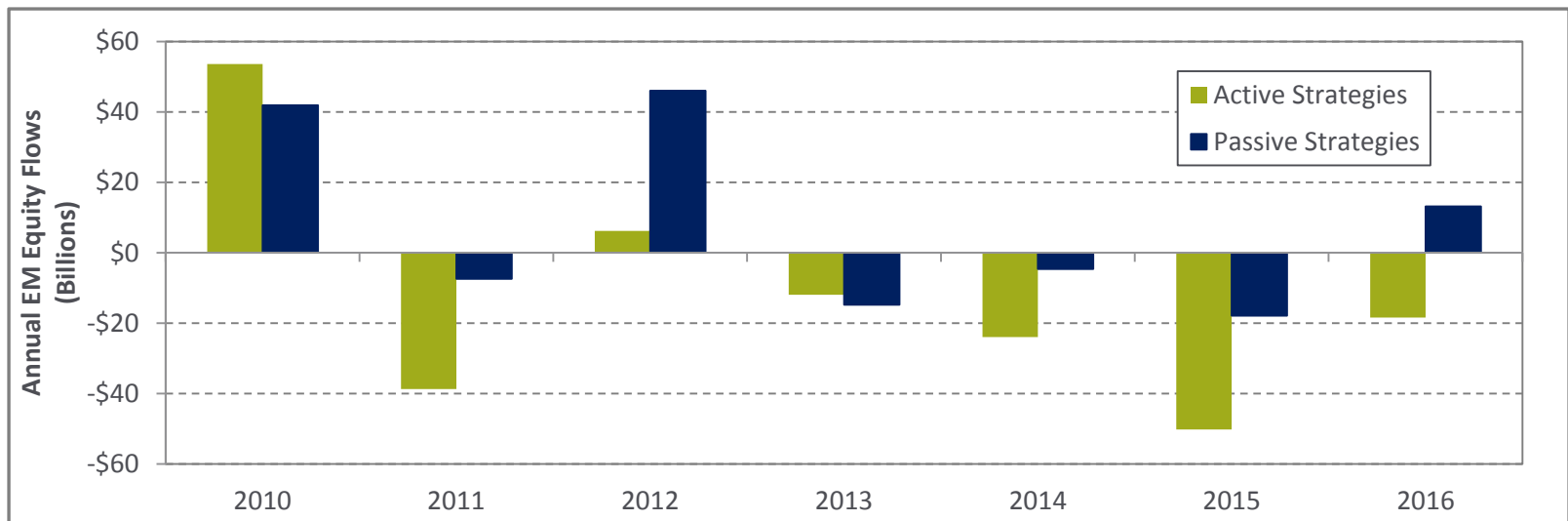
Source: Tokyo Stock Exchange, Bloomberg

European Central Bank Accommodative Monetary Policies Flowing Through to the Credit Sector



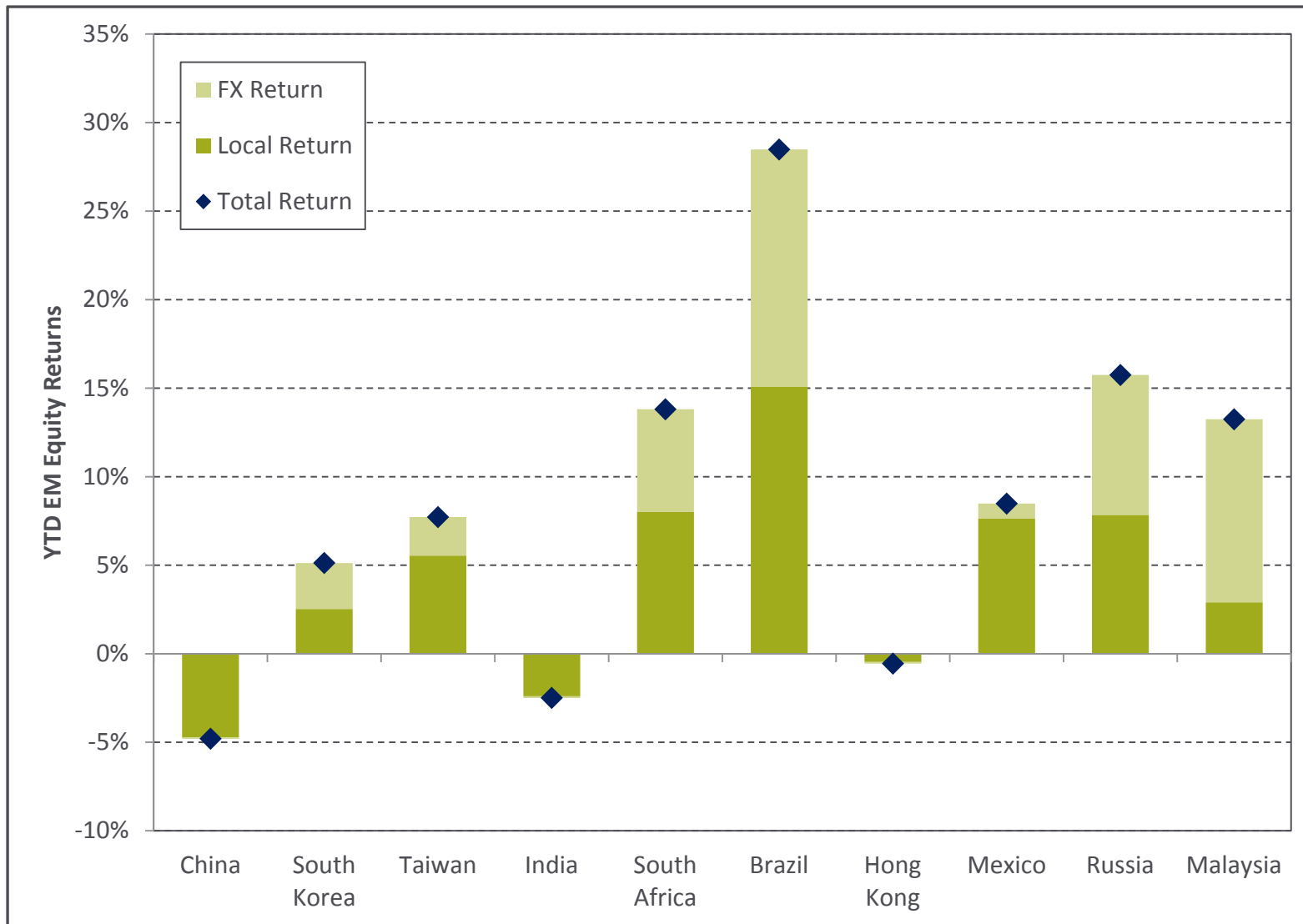
Source: ECB, Bloomberg

Recent Positive Fund Flows Supported Q1 Emerging Markets Rally



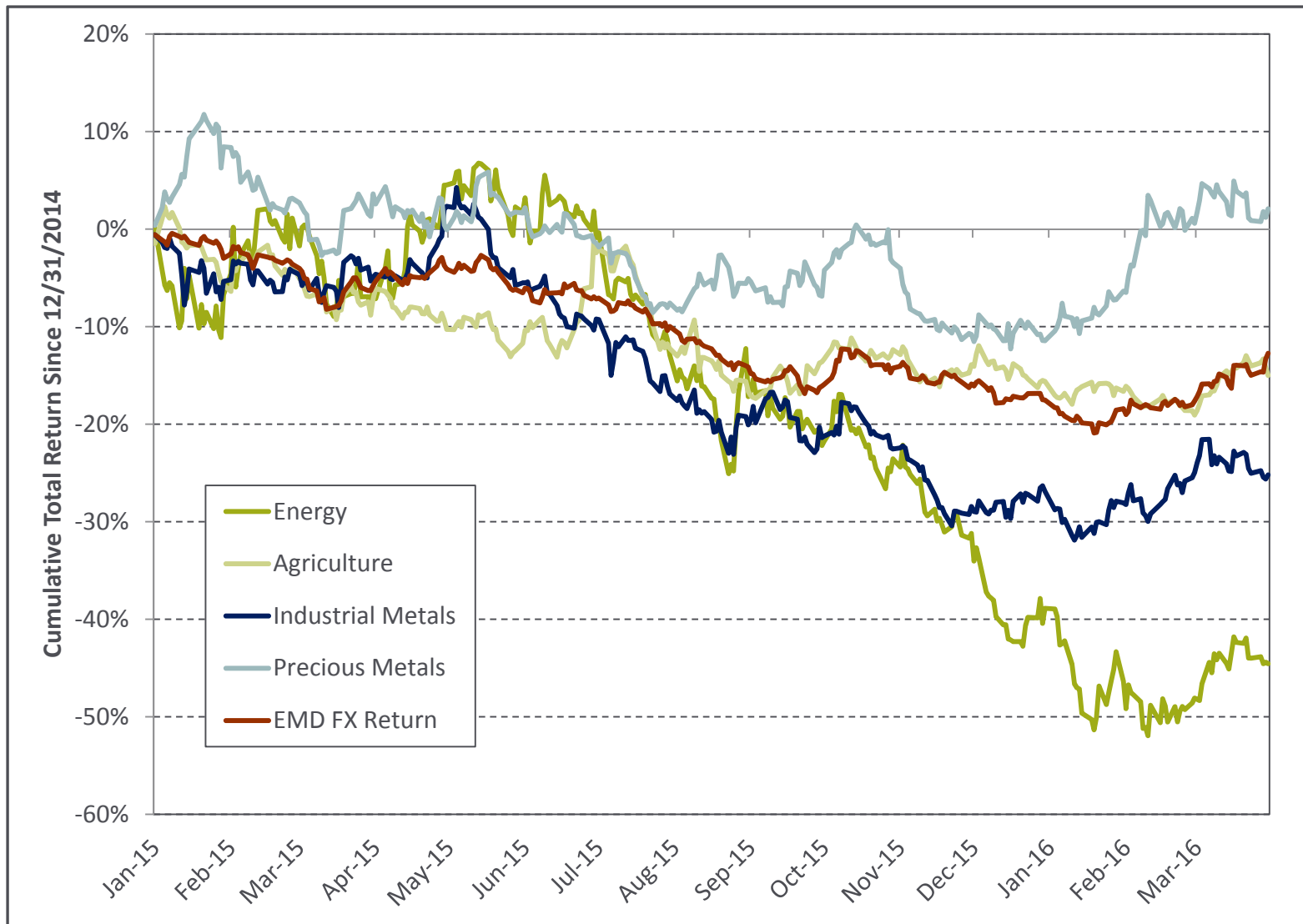
Sources: EPFR Global

EM Rally Largely Driven by Countries Coming Off of Severe Currency Declines



Source: MSCI, Bloomberg

Stabilizing Commodity Returns are a Positive for Emerging Markets



Source: Bloomberg



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Index Performance Summary as of 4/30/2016

	2009	2010	2011	2012	2013	2014	2015	Q1	APRIL	YTD
JPM GBI-EM Global Diversified	22.0%	15.7%	-1.8%	16.8%	-9.0%	-5.7%	-14.9%	11.0%	2.6%	13.9%
Barclays US STRIPS 20+ Yr	-36.0%	10.9%	58.5%	3.0%	-21.0%	46.4%	-3.7%	11.4%	-0.9%	10.4%
Barclays US Long Credit	16.8%	10.7%	17.1%	12.7%	-6.6%	16.4%	-4.6%	6.8%	2.4%	9.3%
Bloomberg Commodity	18.9%	16.8%	-13.3%	-1.1%	-9.5%	-17.0%	-24.7%	0.4%	8.5%	9.0%
Barclays US Govt/Credit Long	1.9%	10.2%	22.5%	8.8%	-8.8%	19.3%	-3.3%	7.3%	1.2%	8.6%
Citi WGBI	2.6%	5.2%	6.4%	1.6%	-4.0%	-0.5%	-3.6%	7.1%	1.3%	8.4%
Barclays US Corporate High Yield	58.2%	15.1%	5.0%	15.8%	7.4%	2.5%	-4.5%	3.4%	3.9%	7.4%
JPM EMBI Global Diversified	29.8%	12.2%	7.3%	17.4%	-5.3%	7.4%	1.2%	5.0%	1.8%	6.9%
Alerian MLP	76.4%	35.9%	13.9%	4.8%	27.6%	4.8%	-32.6%	-4.2%	11.0%	6.4%
MSCI EM	78.5%	18.9%	-18.4%	18.2%	-2.6%	-2.2%	-14.9%	5.7%	0.5%	6.3%
FTSE NAREIT Equity REITs	28.0%	28.0%	8.3%	18.1%	2.5%	30.1%	3.2%	6.0%	-2.4%	3.5%
Barclays US Agg Bond	5.9%	6.5%	7.8%	4.2%	-2.0%	6.0%	0.5%	3.0%	0.4%	3.4%
Credit Suisse Leveraged Loan	44.9%	10.0%	1.8%	9.4%	6.2%	2.1%	-0.4%	1.3%	1.9%	3.3%
Barclays US Agg Interm	6.5%	6.1%	6.0%	3.6%	-1.0%	4.1%	1.2%	2.3%	0.2%	2.5%
Barclays Municipal	12.9%	2.4%	10.7%	6.8%	-2.6%	9.1%	3.3%	1.7%	0.7%	2.4%
Russell 2500	34.4%	26.7%	-2.5%	17.9%	36.8%	7.1%	-2.9%	0.4%	1.5%	1.9%
S&P 500	26.5%	15.1%	2.1%	16.0%	32.4%	13.7%	1.4%	1.3%	0.4%	1.7%
Russell 1000	28.4%	16.1%	1.5%	16.4%	33.1%	13.2%	0.9%	1.2%	0.5%	1.7%
MSCI ACWI	34.6%	12.7%	-7.3%	16.1%	22.8%	4.2%	-2.4%	0.2%	1.5%	1.7%
Barclays US Govt/Credit 1-3 Yr	3.8%	2.8%	1.6%	1.3%	0.6%	0.8%	0.7%	1.0%	0.1%	1.1%
Russell 2000	27.2%	26.9%	-4.2%	16.3%	38.8%	4.9%	-4.4%	-1.5%	1.6%	0.0%
MSCI EAFE	31.8%	7.8%	-12.1%	17.3%	22.8%	-4.9%	-0.8%	-3.0%	2.9%	-0.2%
Credit Suisse Hedge Fund	18.6%	10.9%	-2.5%	7.7%	9.7%	4.1%	-0.7%	-2.2%	N/A	-2.2%

Source: Morningstar Direct



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State Teachers' Retirement System

Total Fund Performance Summary

	Market Value	3 Mo	Rank	Fiscal YTD	Rank	1 Yr	Rank	3 Yrs	Rank	5 Yrs	Rank
Teachers Composite	\$1,583,272,569	2.5%	2	-1.6%	55	-1.7%	56	2.8%	96	4.5%	88
<i>Policy Index</i>		2.3%	4	-1.0%	38	-0.9%	38	3.5%	88	4.4%	89
<i>Allocation Index</i>		2.1%	7	-1.5%	52	-1.6%	53	3.2%	93	4.2%	91
<i>InvestorForce Public DB Net Median</i>		1.2%		-1.5%		-1.5%		5.4%		5.8%	

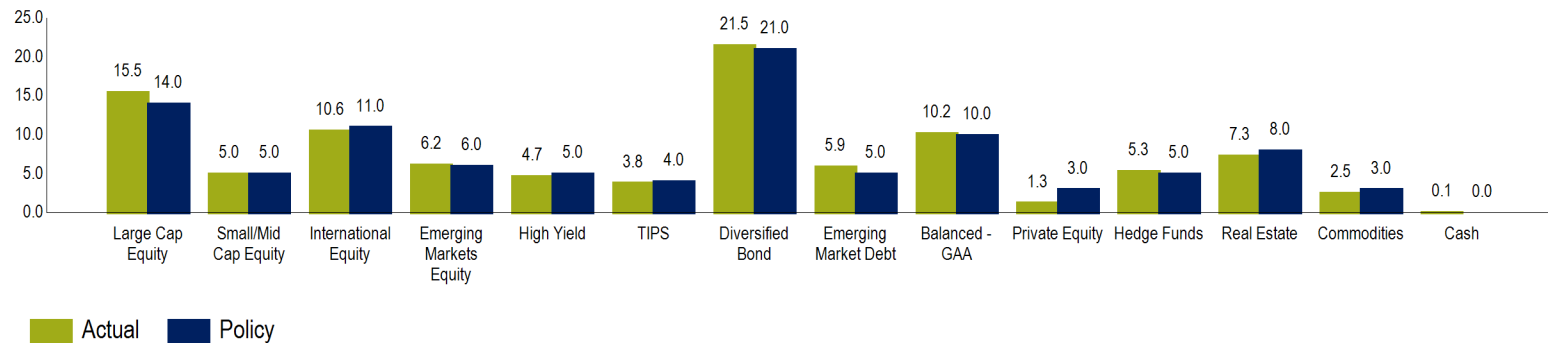
3 Years Ending March 31, 2016

	Anlzd Ret	Rank	Anlzd Std Dev	Rank	Sharpe Ratio	Rank	Sortino Ratio RF	Rank
Teachers Composite	2.82%	96	6.40%	27	0.43	94	0.91	88
Policy Index	3.47%	88	5.97%	12	0.57	81	1.23	69
Allocation Index	3.19%	93	6.04%	14	0.52	87	1.08	79

5 Years Ending March 31, 2016

	Anlzd Ret	Rank	Anlzd Std Dev	Rank	Sharpe Ratio	Rank	Sortino Ratio RF	Rank
Teachers Composite	4.55%	88	7.00%	29	0.64	74	1.05	66
Policy Index	4.40%	89	6.72%	21	0.65	73	1.05	67
Allocation Index	4.17%	91	6.85%	26	0.60	82	0.95	76

Actual vs Target Allocation (%)



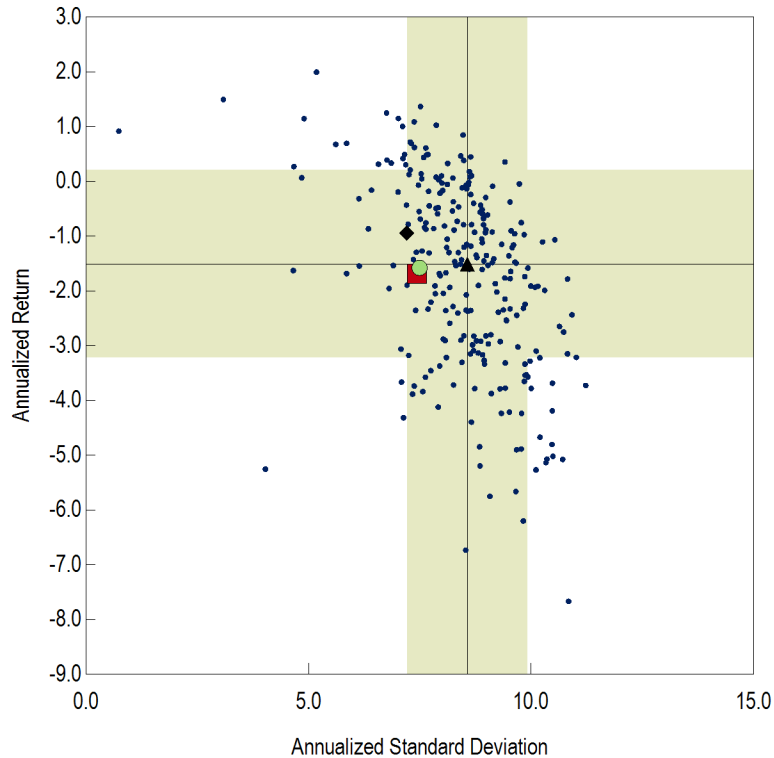
**Interim targets reflected are transitional as part of recent portfolio restructuring



Vermont State Teachers

Total Fund Risk/Return

1 Year Ending March 31, 2016



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

1 Year Ending March 31, 2016

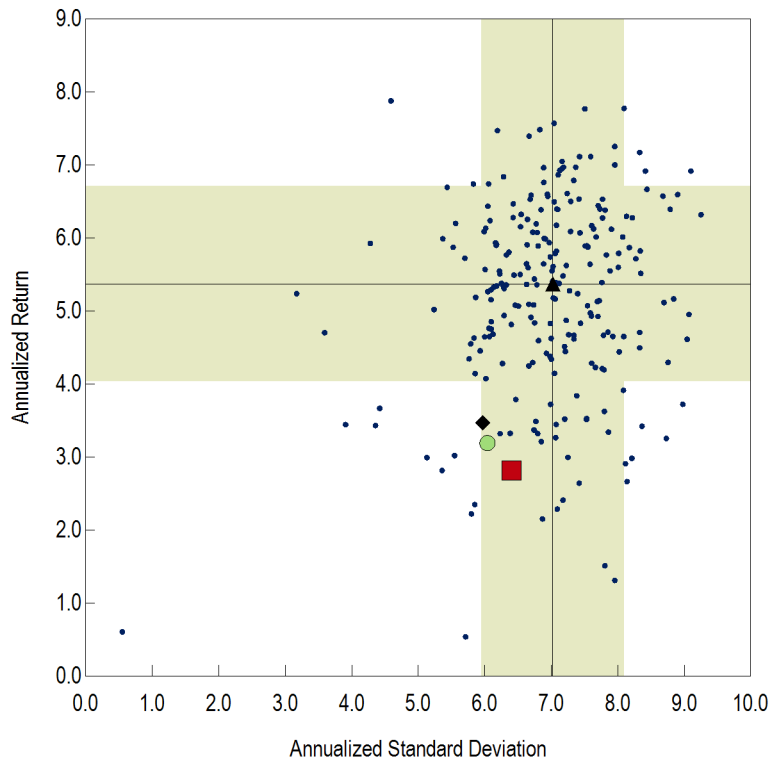
	Anlzd Return	Anlzd Return Rank	Anlzd Standard Deviation	Anlzd Standard Deviation Rank	Sharpe Ratio	Sharpe Ratio Rank
Teachers Composite	-1.69%	56	7.44%	18	-0.24	61
Policy Index	-0.94%	38	7.20%	12	-0.15	42
S&P 500	1.78%	1	14.66%	99	0.11	4
60% MSCI ACWI (Net)/40% CITI WGBI	-0.06%	19	10.03%	91	-0.02	18
Citi WGBI	5.92%	1	5.47%	3	1.06	1
MSCI ACWI	-4.34%	94	15.88%	99	-0.28	67
MSCI ACWI ex USA	-9.19%	99	17.70%	99	-0.53	96
InvestorForce Public DB Net Median	-1.51%	--	8.57%	--	-0.18	--

259 Portfolios

Vermont State Teachers

Total Fund Risk/Return

3 Years Ending March 31, 2016

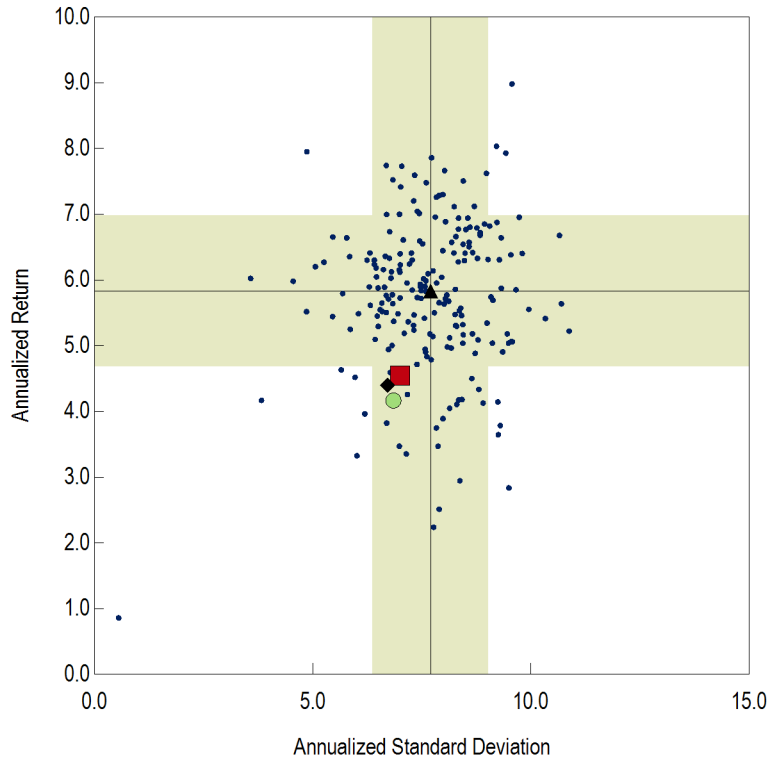


- Teachers Composite
- ◆ Policy Index
- Allocation Index
- ▲ Universe Median
- 68% Confidence Interval
- InvestorForce Public DB Net

3 Years Ending March 31, 2016

	Anlzd Return	Anlzd Return Rank	Anlzd Standard Deviation	Anlzd Standard Deviation Rank	Sharpe Ratio	Sharpe Ratio Rank
Teachers Composite	2.82%	96	6.40%	27	0.43	94
Policy Index	3.47%	88	5.97%	12	0.57	81
S&P 500	11.82%	1	11.35%	99	1.04	7
60% MSCI ACWI (Net)/40% CITI WGBI	3.66%	86	7.97%	86	0.45	93
Citi WGBI	0.49%	99	5.03%	4	0.09	99
MSCI ACWI	5.54%	46	12.04%	99	0.46	93
MSCI ACWI ex USA	0.32%	99	13.59%	99	0.02	99
InvestorForce Public DB Net Median	5.37%	--	7.02%	--	0.77	--

5 Years Ending March 31, 2016

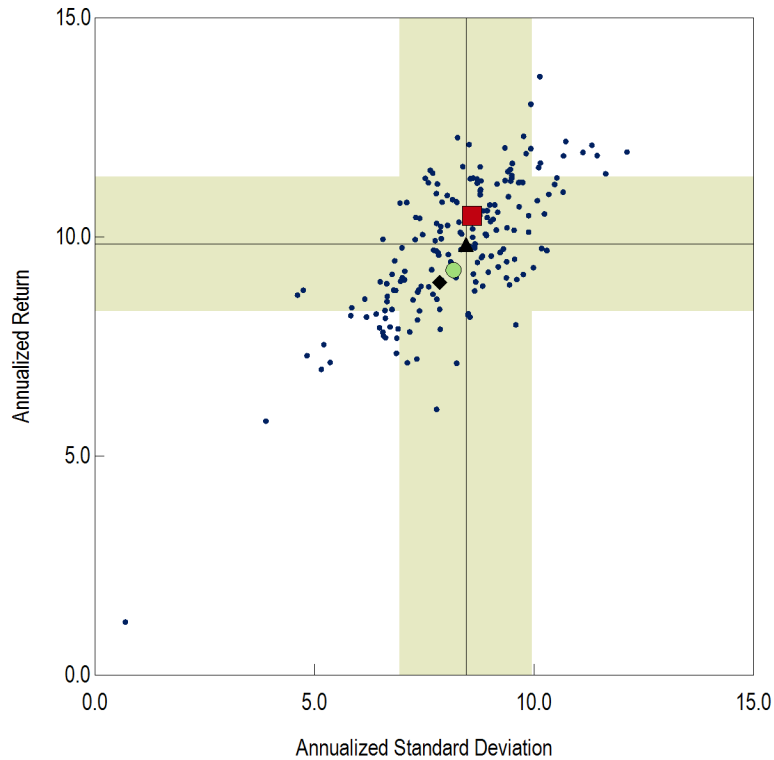


- Teachers Composite
- ◆ Policy Index
- Allocation Index
- ▲ Universe Median
- 68% Confidence Interval
- InvestorForce Public DB Net

5 Years Ending March 31, 2016

	Anlzd Return	Anlzd Return Rank	Anlzd Standard Deviation	Anlzd Standard Deviation Rank	Sharpe Ratio	Sharpe Ratio Rank
Teachers Composite	4.55%	88	7.00%	29	0.64	74
Policy Index	4.40%	89	6.72%	21	0.65	73
S&P 500	11.58%	1	12.22%	99	0.94	16
60% MSCI ACWI (Net)/40% CITI WGBI	3.81%	95	8.85%	84	0.42	98
Citi WGBI	1.16%	99	4.83%	2	0.23	99
MSCI ACWI	5.22%	74	13.71%	99	0.38	99
MSCI ACWI ex USA	0.31%	99	15.68%	99	0.02	99
InvestorForce Public DB Net Median	5.83%	--	7.70%	--	0.77	--

7 Years Ending March 31, 2016



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

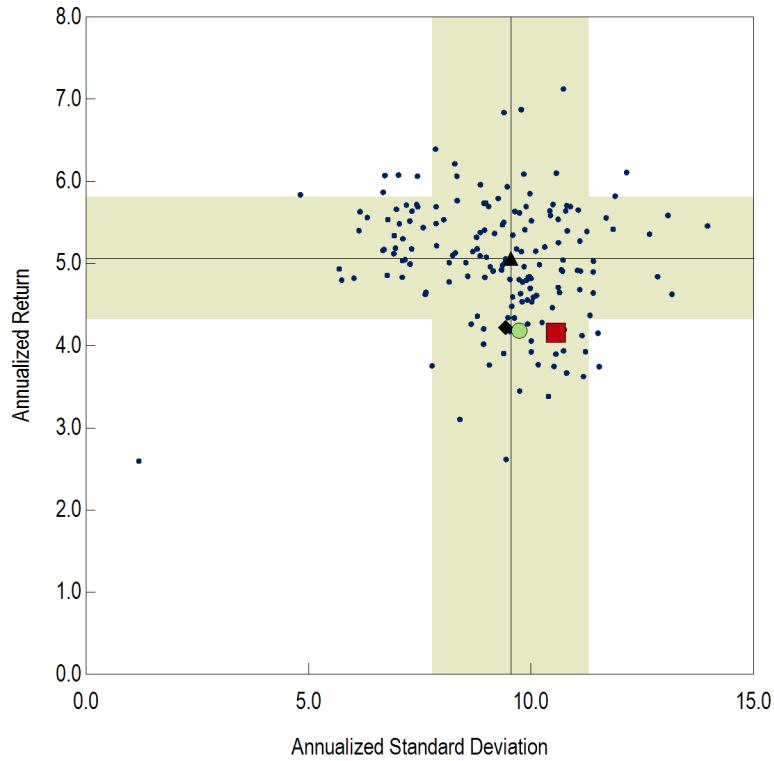
7 Years Ending March 31, 2016

	Anlzd Return	Anlzd Return Rank	Anlzd Standard Deviation	Anlzd Standard Deviation Rank	Sharpe Ratio	Sharpe Ratio Rank
Teachers Composite	10.49%	36	8.59%	55	1.21	43
Policy Index	8.97%	73	7.85%	38	1.13	66
S&P 500	16.97%	1	13.49%	99	1.25	35
60% MSCI ACWI (Net)/40% CITI WGBI	8.80%	76	10.16%	93	0.86	99
Citi WGBI	2.74%	99	5.73%	5	0.47	99
MSCI ACWI	12.55%	1	15.34%	99	0.81	99
MSCI ACWI ex USA	9.18%	66	17.57%	99	0.52	99
InvestorForce Public DB Net Median	9.84%	--	8.45%	--	1.18	--

Vermont State Teachers

Total Fund Risk/Return

10 Years Ending March 31, 2016

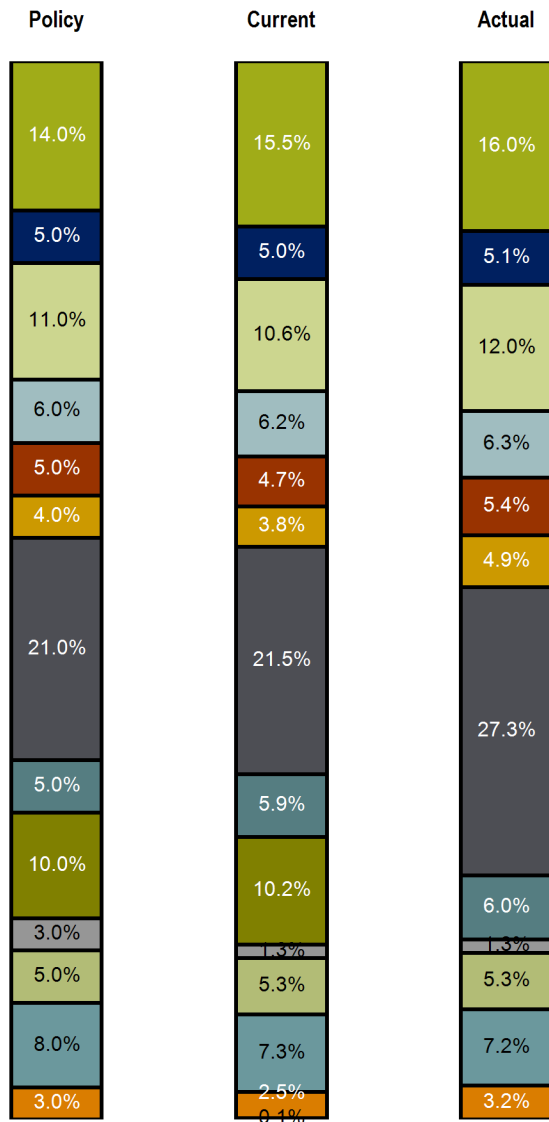


- Teachers Composite
- ◆ Policy Index
- Allocation Index
- ▲ Universe Median
- 68% Confidence Interval
- InvestorForce Public DB Net

10 Years Ending March 31, 2016

	Anlzd Return	Anlzd Return Rank	Anlzd Standard Deviation	Anlzd Standard Deviation Rank	Sharpe Ratio	Sharpe Ratio Rank
Teachers Composite	4.16%	88	10.56%	76	0.30	90
Policy Index	4.22%	87	9.42%	47	0.34	82
S&P 500	7.01%	1	15.28%	99	0.39	61
60% MSCI ACWI (Net)/40% CITI WGBI	4.48%	81	11.22%	91	0.31	87
Citi WGBI	4.19%	88	6.60%	5	0.48	35
MSCI ACWI	4.08%	90	17.07%	99	0.18	99
MSCI ACWI ex USA	1.94%	99	19.24%	99	0.05	99
InvestorForce Public DB Net Median	5.07%	--	9.54%	--	0.43	--

Total Fund Asset Allocation vs. Policy Targets



Asset Allocation vs. Target

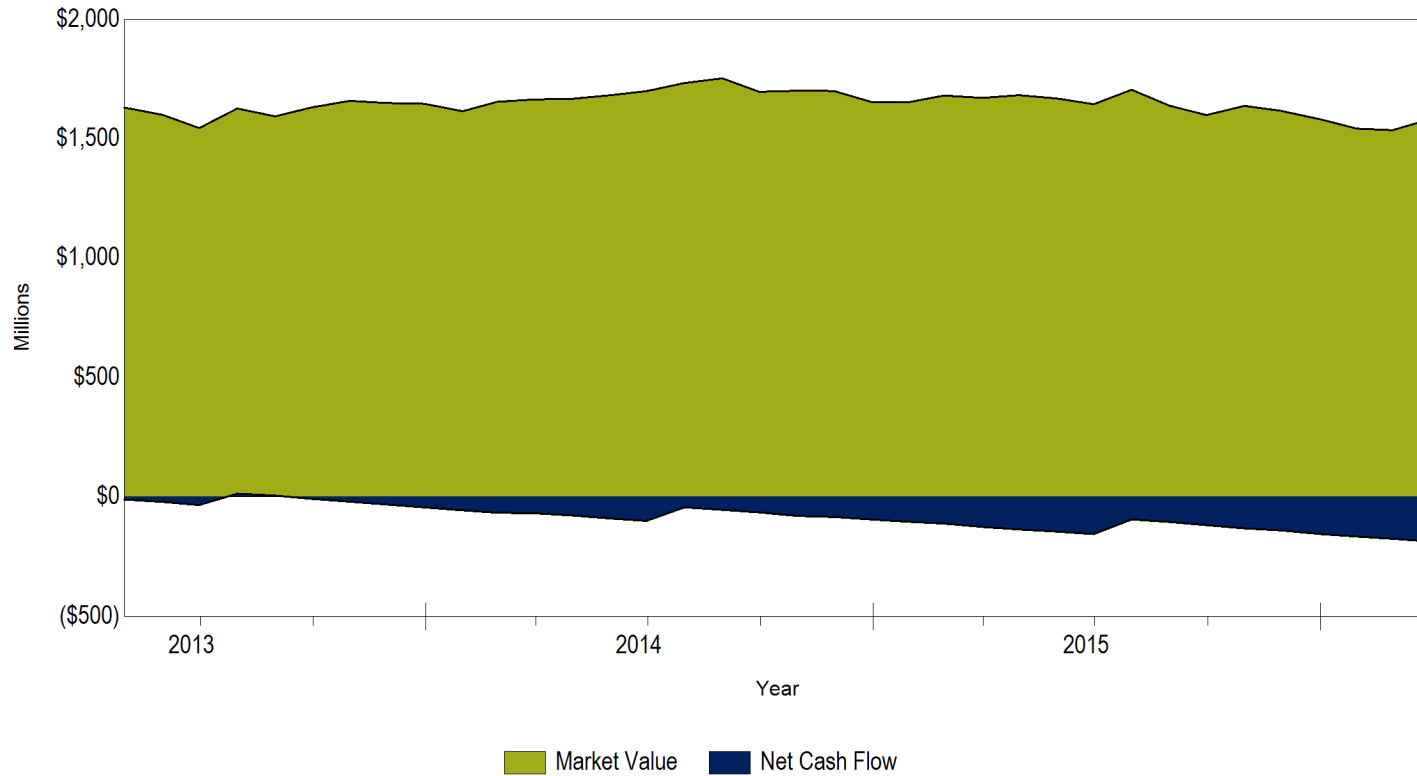
	Current	Interim Policy	Current	Difference*
Large Cap Equity	\$245,686,397	14.0%	15.5%	1.5%
Small/Mid Cap Equity	\$79,524,571	5.0%	5.0%	0.0%
International Equity	\$167,254,918	11.0%	10.6%	-0.4%
Emerging Markets Equity	\$97,731,943	6.0%	6.2%	0.2%
High Yield	\$74,706,353	5.0%	4.7%	-0.3%
TIPS	\$60,549,974	4.0%	3.8%	-0.2%
Diversified Bond	\$341,057,660	21.0%	21.5%	0.5%
Emerging Market Debt	\$93,879,154	5.0%	5.9%	0.9%
Balanced - GAA	\$161,153,058	10.0%	10.2%	0.2%
Private Equity	\$20,089,540	3.0%	1.3%	-1.7%
Hedge Funds	\$84,562,121	5.0%	5.3%	0.3%
Real Estate	\$115,602,085	8.0%	7.3%	-0.7%
Commodities	\$39,772,420	3.0%	2.5%	-0.5%
Cash	\$1,702,374	--	0.1%	0.1%
Total	\$1,583,272,569	100.0%	100.0%	

*Difference between Interim Policy and Current Allocation

**Interim targets reflected are transitional as part of recent portfolio restructuring

Total Fund Asset Growth Summary

3 Years Ending March 31, 2016



	Last Three Months	Fiscal Year-To-Date	One Year	Three Years
Beginning Market Value	\$1,582,816,776	\$1,645,024,961	\$1,671,328,249	\$1,617,830,201
- Withdrawals	-\$187,676,797	-\$306,775,462	-\$496,410,544	-\$959,417,818
+ Contributions	\$156,060,541	\$275,799,749	\$435,334,413	\$772,344,817
= Net Cash Flow	-\$31,616,256	-\$30,975,712	-\$61,076,130	-\$187,073,001
+ Net Investment Change	\$32,072,050	-\$30,776,679	-\$26,979,549	\$152,515,370
= Ending Market Value	\$1,583,272,569	\$1,583,272,569	\$1,583,272,569	\$1,583,272,569

Vermont State Teachers

Total Fund Asset Growth Summary by Manager

	Quarter Ending March 31, 2016					Ending Market Value
	Beginning Market Value	Withdrawals	Contributions	Net Cash Flow	Net Investment Change	
Aberdeen	\$90,208,084	-\$153,864	\$174,035	\$20,171	\$7,503,689	\$97,731,943
Acadian	\$66,011,083	-\$1,085,226	\$131,462	-\$953,764	-\$301,525	\$64,755,795
Allianz Structured Alpha	\$50,466,366	-\$290,852	\$0	-\$290,852	\$3,166,989	\$53,342,503
AQR Global Risk Premium	\$124,036,708	-\$124,050	\$150,682	\$26,632	\$5,906,772	\$129,970,112
BlackRock TIPS	\$48,753,241	-\$9,815	\$9,510,926	\$9,501,111	\$2,295,622	\$60,549,974
Champlain	\$31,730,553	-\$62,621	\$95,711	\$33,089	\$866,580	\$32,630,222
GAM	\$256,678	\$0	\$1	\$1	-\$3	\$256,676
GAM Unconstrained Bond	\$72,938,919	-\$19,104,629	\$0	-\$19,104,629	\$879,057	\$54,713,347
Grosvenor	\$87,830,799	-\$1,102	\$0	-\$1,102	-\$3,524,252	\$84,305,445
Guggenheim	\$47,826,630	-\$59,129	\$10,074,472	\$10,015,342	\$952,516	\$58,794,488
Harbourvest Dover VIII Fund	\$6,786,087	\$0	\$570,506	\$570,506	\$0	\$7,356,593
Harbourvest Partners IX Buyout Fund	\$5,334,307	\$0	\$248,908	\$248,908	\$0	\$5,583,215
Harbourvest Partners IX Credit Opportunities	\$790,442	\$0	\$87,247	\$87,247	\$0	\$877,689
Harbourvest Partners IX Venture Fund	\$4,598,744	\$0	\$43,322	\$43,322	\$0	\$4,642,066
Harbourvest Partners X Buyout Fund	\$378,964	\$0	\$0	\$0	\$0	\$378,964
Harbourvest Partners X Venture Fund	\$219,513	\$0	\$0	\$0	\$0	\$219,513
HIPEP VII	\$778,435	\$0	\$253,065	\$253,065	\$0	\$1,031,500
KDP	\$16,962,791	-\$1,527,898	\$35,159	-\$1,492,739	\$441,812	\$15,911,864
Mellon Dynamic Growth	\$32,716,150	\$944,451	\$63,421	\$1,007,872	-\$2,541,076	\$31,182,946
Mondrian	\$62,869,645	-\$62,613	\$112,275	\$49,662	\$362,011	\$63,281,318
Morgan Stanley Prime Property	\$54,135,933	-\$164,826	\$0	-\$164,826	\$1,177,992	\$55,149,099
PIMCO Core Plus	\$69,323,446	-\$68,413	\$18,560,242	\$18,491,829	\$1,626,249	\$89,441,524
PIMCO Unconstrained	\$40,932,021	-\$61,635	\$65,211	\$3,576	\$187,235	\$41,122,831
RREEF America REIT III	\$3,220,445	-\$942,837	\$0	-\$942,837	-\$104,636	\$2,172,973
Schroder	\$39,051,305	\$0	\$27,686	\$27,686	\$693,428	\$39,772,420

Vermont State Teachers

Total Fund Asset Growth Summary by Manager

	Quarter Ending March 31, 2016					Ending Market Value
	Beginning Market Value	Withdrawals	Contributions	Net Cash Flow	Net Investment Change	
Siguler Guff	\$10,562,672	-\$8,905	\$531,007	\$522,101	\$405,816	\$11,490,589
SSgA ACWI Ex US	\$39,324,253	-\$7,016	\$29,309	\$22,292	-\$128,739	\$39,217,806
SSgA Barclays Aggregate Index	\$46,100,450	-\$12,039	\$2,006,469	\$1,994,430	\$1,400,170	\$49,495,050
SSgA Russell 2000 Growth	\$5,256,285	-\$1,096	\$4,903	\$3,807	-\$245,973	\$5,014,119
SSgA S&P 400	\$7,397,454	-\$1,390	\$9,993	\$8,603	\$279,359	\$7,685,416
SSgA S&P 500 Cap-Wgt	\$100,890,435	-\$10,391,115	\$91,009,925	\$80,618,810	\$661,085	\$182,170,330
SSgA S&P 500 Equal-Wgt	\$49,661,697	-\$7,106,070	\$20,059,763	\$12,953,693	\$898,167	\$63,513,557
T. Rowe	\$2,397	\$0	\$113	\$113	\$0	\$2,510
Transwestern / Aslan III	\$128,447	\$0	\$0	\$0	\$0	\$128,447
UBS Trumbull	\$45,717,488	\$0	\$0	\$0	\$943,489	\$46,660,977
Vermont Cash	\$4,141,930	-\$3,964,701	\$1,525,145	-\$2,439,556	\$0	\$1,702,374
Wellington	\$32,456,860	-\$64,614	\$592,235	\$527,621	\$1,210,333	\$34,194,814
Wellington DAS	\$50,552,509	\$0	\$3,479	\$3,479	\$2,386,416	\$52,942,404
Wellington Opportunistic EMD	\$89,790,974	\$0	\$13,694	\$13,694	\$4,074,486	\$93,879,154
zMondrian GFI	\$48,832,193	-\$50,715,562	\$41,179	-\$50,674,383	\$1,842,190	--
zPIMCO All Asset	\$93,843,443	-\$92,629,228	\$28,996	-\$92,600,233	-\$1,243,210	\$0
Total	\$1,582,816,776	-\$187,676,797	\$156,060,541	-\$31,616,256	\$32,072,050	\$1,583,272,569

Vermont State Teachers

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
Teachers Composite	1,583,272,569	100.0	100.0	2.5	2	-1.6	55	-1.7	56	2.8	96	4.5	88	4.2	88
Policy Index				2.3	4	-1.0	38	-0.9	38	3.5	88	4.4	89	4.2	87
Allocation Index				2.1	7	-1.5	52	-1.6	53	3.2	93	4.2	91	4.2	88
InvestorForce Public DB Net Median				1.2		-1.5		-1.5		5.4		5.8		5.1	
US Equity	325,210,968	20.5	19.0	2.1	26	-0.3	22	0.1	21	--	--	--	--	--	--
Russell 3000				1.0	39	-0.5	23	-0.3	23	11.1	27	11.0	24	6.9	43
eA All US Equity Net Median				0.1		-4.3		-4.2		9.5		9.4		6.6	
Large Cap Comp	245,686,397	15.5	14.0	1.9	22	1.1	20	1.0	20	11.8	28	11.4	26	7.5	28
S&P 500				1.3	30	1.5	18	1.8	16	11.8	27	11.6	25	7.0	44
eA US Large Cap Equity Net Median				-0.2		-2.4		-2.1		10.6		10.2		6.8	
SSgA S&P 500 Cap-Wgt	182,170,330	11.5	11.0	1.4	30	1.6	18	1.8	16	11.8	27	11.6	25	--	--
S&P 500				1.3	30	1.5	18	1.8	16	11.8	27	11.6	25	7.0	44
SSgA S&P 500 Equal-Wgt	63,513,557	4.0	3.0	3.2	11	0.0	27	-1.2	39	11.7	29	11.3	27	7.9	21
S&P 500 Equal Weighted				3.0	13	0.1	26	-1.0	38	11.8	29	11.5	26	8.2	15
T. Rowe	2,510	0.0	0.0												
Small/Mid Cap Comp	79,524,571	5.0	5.0	2.6	27	-3.0	22	-1.6	13	10.3	19	10.1	17	6.9	44
Russell 2000				-1.5	73	-10.1	72	-9.8	70	6.8	64	7.2	64	5.3	78
eA US Small-Mid Cap Equity Net Median				0.5		-7.4		-7.2		7.7		7.7		6.7	
SSgA S&P 400	7,685,416	0.5	0.5	3.7	14	-2.6	27	-3.7	36	9.4	45	--	--	--	--
S&P 400 MidCap				3.8	14	-2.6	26	-3.6	35	9.5	45	9.5	36	7.8	39
eA US Mid Cap Equity Net Median				0.8		-4.7		-5.2		9.1		9.0		7.4	
Champlain	32,630,222	2.1	2.0	2.5	29	-2.1	22	0.4	10	10.8	24	10.5	24	--	--
Russell 2500				0.4	55	-7.0	65	-7.3	66	8.2	68	8.6	57	6.5	71
eA US Mid Cap Equity Net Median				0.8		-4.7		-5.2		9.1		9.0		7.4	
Wellington	34,194,814	2.2	2.0	3.5	31	-2.2	16	-1.3	11	9.6	20	10.3	12	8.5	5
Russell 2000 Value				1.7	58	-6.6	61	-7.7	71	5.7	74	6.7	72	4.4	89
eA US Small Cap Value Equity Net Median				2.2		-5.5		-5.8		7.6		8.1		6.1	
SSgA Russell 2000 Growth	5,014,119	0.3	0.5	-4.7	58	-13.6	57	-11.9	59	7.8	45	7.6	53	--	--
Russell 2000 Growth				-4.7	58	-13.6	57	-11.8	58	7.9	42	7.7	53	6.0	45
eA US Small Cap Growth Equity Net Median				-4.1		-12.4		-10.5		7.1		7.8		5.6	

Fiscal Year End is 6/30

Vermont State Teachers

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
Int'l Equity Comp	167,254,918	10.6	11.0	-0.1	18	-6.4	43	-5.8	50	3.8	47	3.1	62	2.3	59
MSCI EAFE				-3.0	65	-8.8	68	-8.3	73	2.2	71	2.3	74	1.8	79
eA All EAFE Equity Net Median				-2.2		-7.4		-5.9		3.6		3.6		2.9	
Acadian	64,755,795	4.1	4.0	-0.6	23	-3.2	19	-2.1	23	5.1	31	4.0	44	1.9	76
Mondrian	63,281,318	4.0	4.0	0.5	12	-7.7	54	-7.4	67	4.1	43	3.5	52	2.9	50
MSCI EAFE				-3.0	65	-8.8	68	-8.3	73	2.2	71	2.3	74	1.8	79
SSgA ACWI Ex US	39,217,806	2.5	3.0	-0.3	36	-9.6	76	-9.0	77	0.5	87	0.5	86	--	--
MSCI ACWI ex USA				-0.4	36	-9.7	76	-9.2	77	0.3	88	0.3	89	1.9	74
eA ACWI ex-US All Cap Equity Net Median				-1.5		-7.0		-5.8		3.3		3.3		2.9	
Emerging Market Comp	97,731,943	6.2	6.0	8.1	12	-7.5	10	-9.4	40	-5.2	79	--	--	--	--
Aberdeen	97,731,943	6.2	6.0	8.1	12	-7.5	10	-9.4	40	-5.2	79	-0.9	23	--	--
MSCI Emerging Markets				5.7	27	-12.6	65	-12.0	64	-4.5	67	-4.1	73	3.0	74
eA Emg Mkts Equity Net Median				4.0		-11.6		-10.8		-3.7		-2.4		3.9	
US Fixed Income	476,313,987	30.1	30.0	2.9	31	1.9	54	0.8	58	--	--	--	--	--	--
Barclays Aggregate				3.0	26	3.7	21	2.0	23	2.5	37	3.8	49	4.9	48
eA All US Fixed Inc Net Median				2.2		2.2		1.1		2.1		3.7		4.8	
Diversified Fixed	341,057,660	21.5	21.0	2.8	34	3.0	33	1.5	35	2.3	44	4.2	39	4.1	66
Barclays Aggregate				3.0	26	3.7	21	2.0	23	2.5	37	3.8	49	4.9	48
eA All US Fixed Inc Net Median				2.2		2.2		1.1		2.1		3.7		4.8	
Allianz Structured Alpha	53,342,503	3.4	2.0	5.7	1	8.7	1	6.3	1	7.3	1	7.7	1	--	--
Citi 10 Year Treasury				4.8	1	6.3	2	3.0	3	2.7	29	5.7	4	5.8	16
PIMCO Core Plus	89,441,524	5.6	6.0	2.5	85	2.5	87	0.9	93	1.7	94	3.8	69	--	--
Barclays Aggregate				3.0	40	3.7	32	2.0	35	2.5	47	3.8	69	4.9	73
Wellington DAS	52,942,404	3.3	3.0	4.7	1	10.6	1	7.6	1	6.5	1	8.7	1	--	--
Wellington Custom Benchmark				6.1	1	8.3	1	4.7	1	4.2	3	7.1	1	6.6	3
SSgA Barclays Aggregate Index	49,495,050	3.1	4.0	3.0	42	3.7	35	1.9	36	--	--	--	--	--	--
Barclays Aggregate				3.0	40	3.7	32	2.0	35	2.5	47	3.8	69	4.9	73
3-Month Libor Total Return USD				0.1	99	0.3	99	0.4	97	0.3	99	0.3	99	1.6	99
eA US Core Fixed Inc Net Median				2.9		3.3		1.8		2.5		4.0		5.1	

Vermont State Teachers

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
Unconstrained Fixed Income	95,836,179	6.1	6.0	0.8	66	-2.1	72	--	--	--	--	--	--	--	--
25% HY, 25% EMD, 50% BC Agg				3.7	16	2.1	9	1.2	11	2.4	20	4.7	21	6.1	21
Barclays Global Aggregate				5.9	1	5.8	1	4.6	1	0.9	55	1.8	67	4.3	78
eA Global Unconstrained Fixed Inc Net Median				1.7		-1.5		-1.5		1.3		3.5		5.0	
PIMCO Unconstrained	41,122,831	2.6	2.5	0.3	72	-2.4	77	-3.0	70	-0.9	85	--	--	--	--
25% HY, 25% EMD, 50% BC Agg				3.7	16	2.1	9	1.2	11	2.4	20	4.7	21	6.1	21
3-Month Libor Total Return USD				0.1	79	0.3	31	0.4	21	0.3	64	0.3	93	1.6	99
GAM Unconstrained Bond	54,713,347	3.5	3.5	1.1	59	-1.9	59	--	--	--	--	--	--	--	--
3-Month LIBOR + 3%				0.9	64	2.6	3	3.4	2	3.3	10	3.3	52	4.6	75
eA Global Unconstrained Fixed Inc Net Median				1.7		-1.5		-1.5		1.3		3.5		5.0	
High Yield Comp	74,706,353	4.7	5.0	2.0	65	-4.4	60	-3.6	56	1.8	52	4.7	43	--	--
Barclays High Yield				3.4	12	-3.7	53	-3.7	56	1.8	51	4.9	39	7.0	20
eA US High Yield Fixed Inc Net Median				2.3		-3.5		-3.2		1.9		4.6		6.3	
KDP	15,911,864	1.0	1.0	2.4	46	-3.7	53	-3.5	54	1.2	71	4.0	77	--	--
Barclays High Yield				3.4	12	-3.7	53	-3.7	56	1.8	51	4.9	39	7.0	20
BofA Merrill Lynch US High Yield BB-B Rated				3.1	16	-2.4	35	-2.4	38	2.5	36	5.2	26	6.5	36
Guggenheim	58,794,488	3.7	4.0	1.8	71	-4.6	64	-3.7	57	--	--	--	--	--	--
Barclays High Yield				3.4	12	-3.7	53	-3.7	56	1.8	51	4.9	39	7.0	20
eA US High Yield Fixed Inc Net Median				2.3		-3.5		-3.2		1.9		4.6		6.3	
TIPS	60,549,974	3.8	4.0												
BlackRock TIPS	60,549,974	3.8	4.0	4.4	--	2.5	--	1.4	--	-0.8	--	2.9	--	--	--
Barclays US TIPS				4.5	--	2.6	--	1.5	--	-0.7	--	3.0	--	4.6	--

GAM Unconstrained Bond was funded in June 2015

Vermont State Teachers

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
Emerging Market Debt	93,879,154	5.9	5.0												
Wellington Opportunistic EMD	93,879,154	5.9	5.0	4.5	75	2.8	14	1.4	36	1.6	22	5.7	10	--	--
JP Morgan EMBI Global TR				5.2	52	4.7	3	4.4	5	2.4	11	6.0	9	7.1	37
eA All Emg Mkts Fixed Inc Net Median				5.4		0.7		0.8		-0.6		3.2		6.5	
Total Real Estate	115,602,085	7.3	8.0	2.0	--	8.1	--	12.5	--	13.5	--	--	--	--	--
NCREIF Property Index				2.2	--	8.4	--	11.8	--	11.9	--	11.9	--	7.6	--
NCREIF ODCE				2.2	--	9.5	--	13.7	--	13.6	--	13.3	--	6.4	--
Morgan Stanley Prime Property	55,149,099	3.5		1.9	--	8.9	--	13.5	--	14.8	--	14.2	--	6.7	--
UBS Trumbull	46,660,977	2.9		2.1	--	9.9	--	12.8	--	11.4	--	10.6	--	6.2	--
RREEF America REIT III	2,172,973	0.1		-4.8	--	-10.7	--	-1.5	--	12.7	--	21.0	--	-2.3	--
Transwestern / Aslan III	128,447	0.0		0.0	--	2.1	--	5.8	--	1.3	--	6.5	--	-24.4	--
Siguler Guff	11,490,589	0.7		3.7	--	4.4	--	8.1	--	--	--	--	--	--	--
Hedge Fund Comp	84,562,121	5.3	5.0	-4.0	68	-6.2	49	-5.7	46	2.1	49	2.8	47	--	--
HFRI Fund of Funds Composite Index				-3.1	55	-5.9	47	-5.7	46	1.8	57	1.3	73	1.5	91
eV Alt Fund of Funds - Multi-Strategy Median				-3.0		-6.4		-6.2		2.1		2.7		3.1	
Grosvenor	84,305,445	5.3	5.0	-4.0	68	-6.3	49	-5.6	45	3.0	35	3.3	35	--	--
GAM	256,676	0.0	0.0												
GAA Comp	161,153,058	10.2	10.0	2.9	10	-6.1	81	-7.4	81	-0.2	93	2.7	70	--	--
eA Global TAA Net Median				1.0		-3.6		-4.6		2.1		3.2		4.2	
Mellon Dynamic Growth	31,182,946	2.0	2.0	-1.8	93	-4.1	65	-6.0	73	4.6	9	5.2	5	--	--
Mellon Dynamic Growth Benchmark				2.8	11	-0.6	21	-0.8	10	3.1	22	4.2	16	--	--
AQR Global Risk Premium	129,970,112	8.2	8.0	4.7	1	-6.2	82	-8.7	84	-1.5	98	3.6	39	--	--
60% MSCI World / 40% CITI WGBI				2.8	11	1.2	6	0.8	6	4.8	8	4.9	9	4.9	25

Real Estate is as of Q1 2016. Transwestern is cash adjusted and updated through Q4 2015

PIMCO All Asset Index: 40% BC Agg / 30% TIPS / 10% S&P500 / 10% BC HY / 10% JPM EMBI+

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

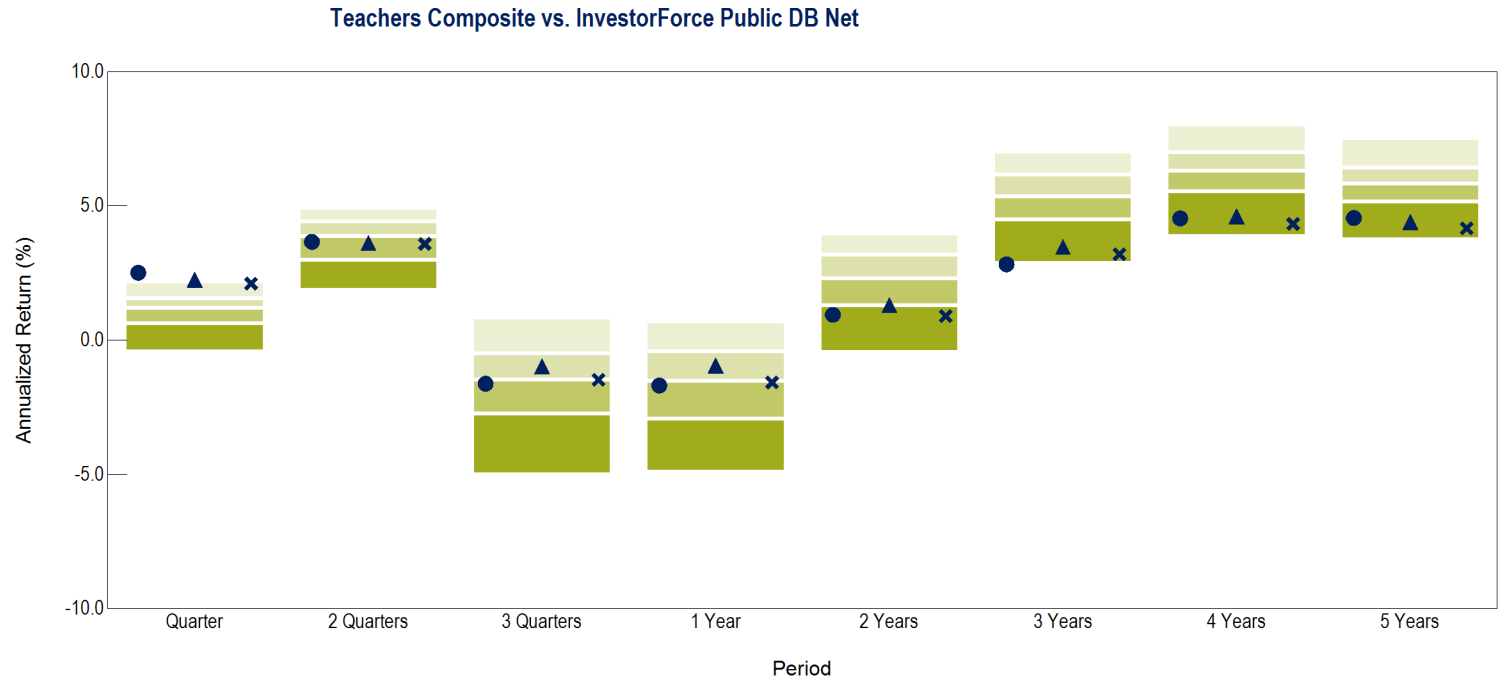
Vermont State Teachers

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
Commodities	39,772,420	2.5	3.0												
Schroder <i>Bloomberg Commodity Index</i>	39,772,420	2.5	3.0	1.5	--	-23.1	--	-19.0	--	-19.8	--	-15.7	--	--	--
				0.4	--	-23.1	--	-19.6	--	-16.9	--	-14.1	--	-6.2	--
Cash	1,702,374	0.1	0.0												
Vermont Cash <i>91 Day T-Bills</i>	1,702,374	0.1	0.0	0.0	--	0.0	--	0.0	--	0.0	--	0.0	--	1.3	--
				0.1	--	0.1	--	0.1	--	0.1	--	0.1	--	1.0	--
Private Equity	20,089,540	1.3	3.0	0.0	--	0.9	--	14.9	--	14.3	--	--	--	--	--
<i>Cambridge Associates US All PE</i>				0.0	--	-0.9	--	2.8	--	10.7	--	11.4	--	10.8	--
Harbourvest Partners IX Credit Opportunities	877,689	0.1													
Harbourvest Partners IX Venture Fund	4,642,066	0.3													
Harbourvest Partners IX Buyout Fund	5,583,215	0.4													
Harbourvest Partners X Venture Fund	219,513	0.0													
Harbourvest Partners X Buyout Fund	378,964	0.0													
Harbourvest Dover VIII Fund	7,356,593	0.5													
HIPEP VII	1,031,500	0.1													

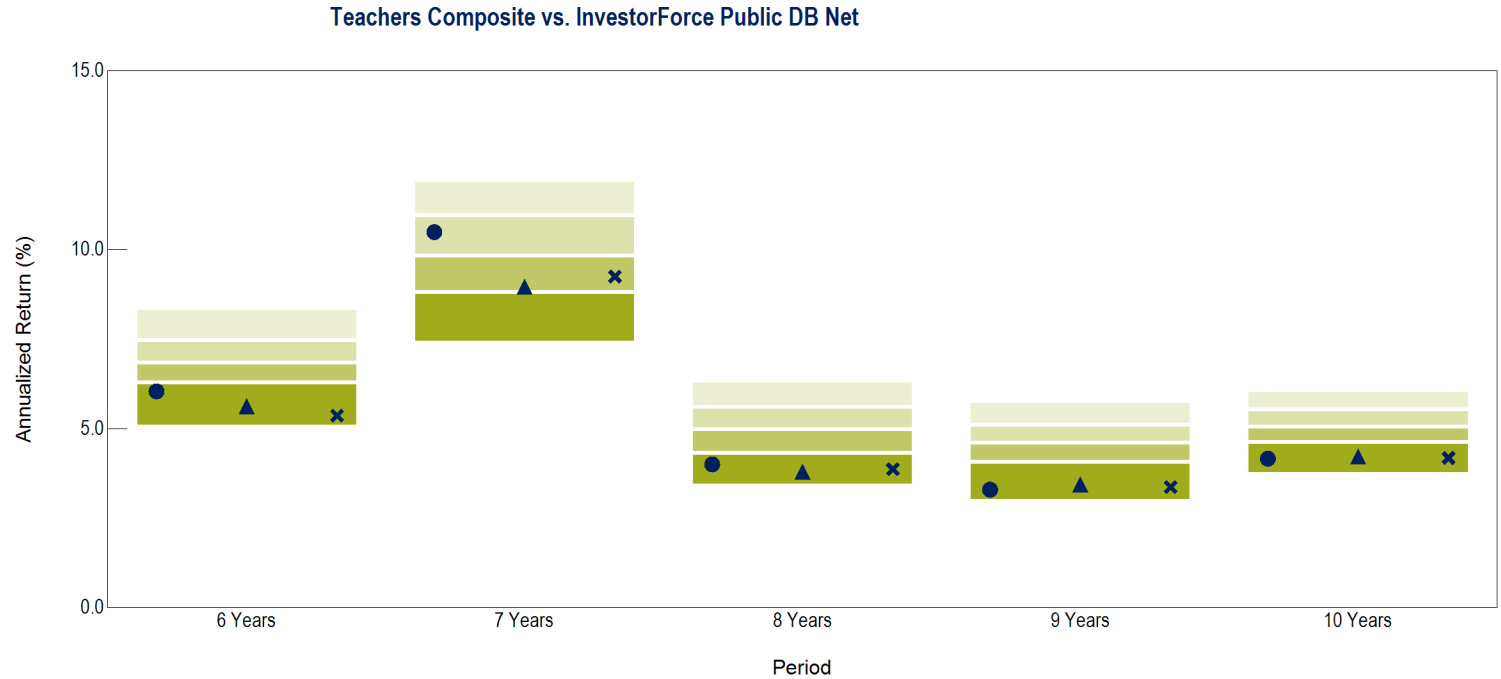
Harbourvest is as of Q4 2015 and cash adjusted through the present

Total Fund Return Summary vs. Peer Universe



	Return (Rank)															
5th Percentile	2.2	4.9	0.8	0.7	4.0	7.0	8.0	7.5								
25th Percentile	1.6	4.4	-0.5	-0.4	3.2	6.2	7.0	6.4								
Median	1.2	3.9	-1.5	-1.5	2.3	5.4	6.3	5.8								
75th Percentile	0.6	3.0	-2.7	-2.9	1.3	4.5	5.6	5.2								
95th Percentile	-0.4	1.9	-5.0	-4.9	-0.4	2.9	3.9	3.8								
# of Portfolios	260	259	259	259	249	236	223	206								
● Teachers Composite	2.5	(2)	3.7	(58)	-1.6	(55)	-1.7	(56)	0.9	(83)	2.8	(96)	4.5	(91)	4.5	(88)
▲ Policy Index	2.3	(4)	3.6	(60)	-1.0	(38)	-0.9	(38)	1.3	(76)	3.5	(88)	4.6	(91)	4.4	(89)
× Allocation Index	2.1	(7)	3.6	(62)	-1.5	(52)	-1.6	(53)	0.9	(85)	3.2	(93)	4.3	(93)	4.2	(91)

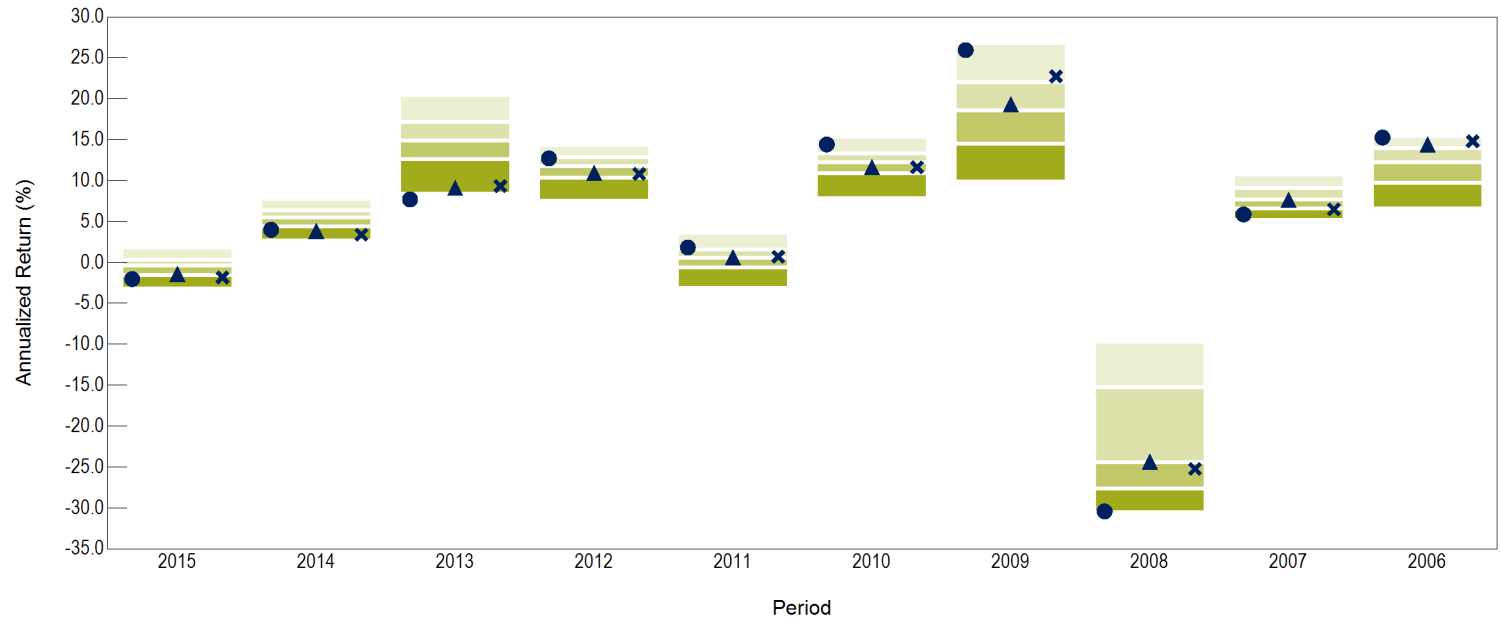
Total Fund Return Summary vs. Peer Universe



	Return (Rank)									
5th Percentile	8.4		11.9		6.3		5.8		6.1	
25th Percentile	7.5		11.0		5.6		5.1		5.6	
Median	6.8		9.8		5.0		4.6		5.1	
75th Percentile	6.3		8.8		4.3		4.1		4.6	
95th Percentile	5.1		7.4		3.4		3.0		3.8	
# of Portfolios	198		187		183		177		170	
● Teachers Composite	6.0	(83)	10.5	(36)	4.0	(88)	3.3	(91)	4.2	(88)
▲ Policy Index	5.6	(92)	9.0	(73)	3.8	(91)	3.4	(88)	4.2	(87)
× Allocation Index	5.4	(94)	9.2	(65)	3.9	(90)	3.4	(90)	4.2	(88)

Total Fund Return Summary vs. Peer Universe

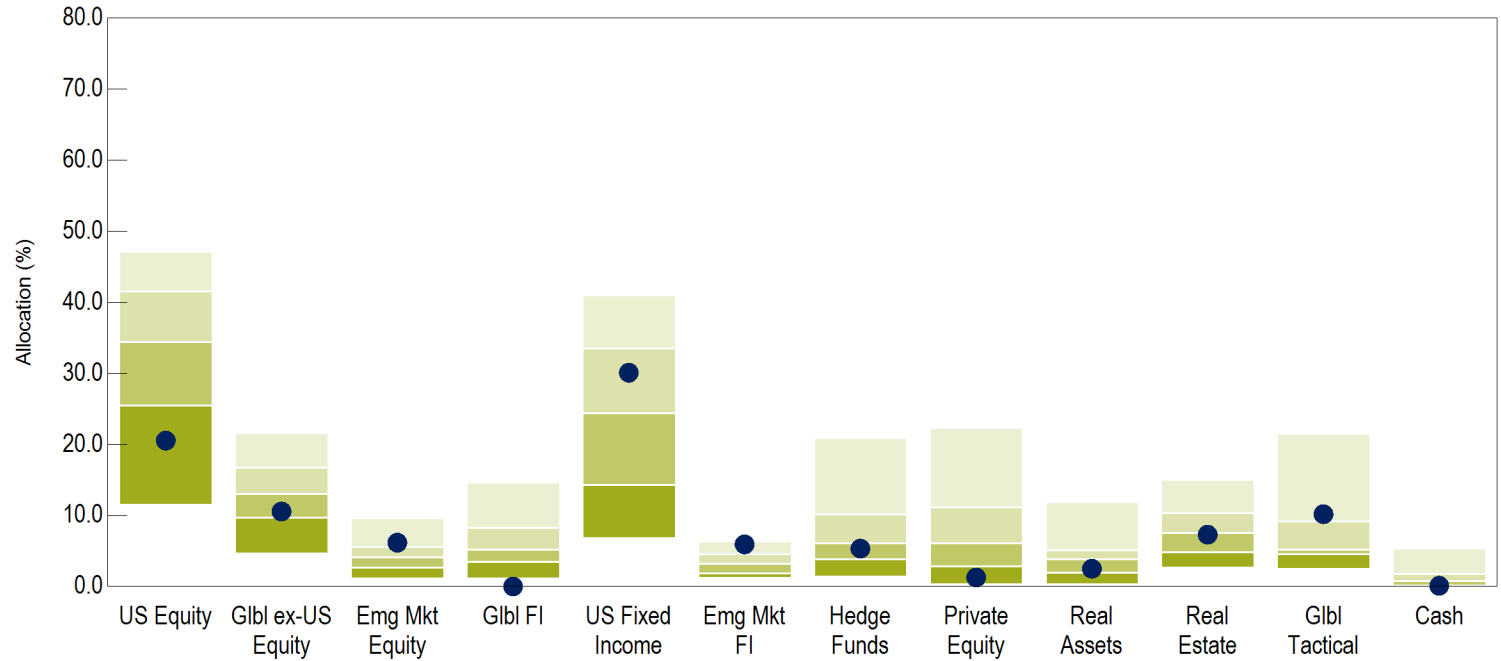
Teachers Composite vs. InvestorForce Public DB Net



	Return (Rank)													
	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006				
5th Percentile	1.7	7.7	20.4	14.3	3.6	15.3	26.8	-9.8	10.7	15.4				
25th Percentile	0.4	6.4	17.2	12.9	1.6	13.4	22.0	-15.2	9.1	14.0				
Median	-0.4	5.5	14.9	11.8	0.6	12.2	18.6	-24.4	7.8	12.3				
75th Percentile	-1.5	4.4	12.7	10.4	-0.5	10.9	14.5	-27.6	6.7	9.8				
95th Percentile	-3.2	2.7	8.4	7.6	-3.1	7.9	9.9	-30.5	5.2	6.6				
# of Portfolios	262	210	191	159	137	131	128	125	122	115				
● Teachers Composite	-2.0 (83)	4.0 (82)	7.7 (97)	12.7 (31)	1.8 (22)	14.4 (10)	25.9 (7)	-30.4 (94)	5.9 (88)	15.3 (6)				
▲ Policy Index	-1.4 (74)	3.8 (84)	9.1 (93)	10.9 (67)	0.6 (50)	11.7 (63)	19.3 (48)	-24.3 (50)	7.6 (52)	14.4 (16)				
× Allocation Index	-1.8 (81)	3.4 (91)	9.3 (92)	10.8 (70)	0.7 (47)	11.6 (65)	22.7 (23)	-25.2 (53)	6.5 (80)	14.8 (9)				

Total Fund Allocation vs. Peer Universe

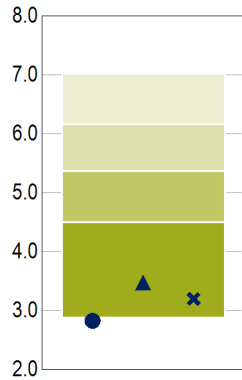
Total Plan Allocation vs. InvestorForce Public DB Net
As of March 31, 2016



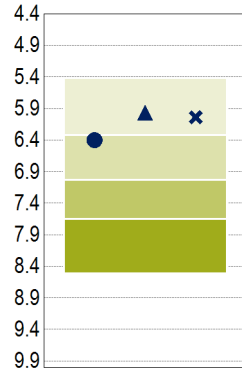
	Allocation (Rank)												
5th Percentile	47.1	21.6	9.6	14.6	41.0	6.4	20.9	22.3	11.8	15.0	21.5	5.3	--
25th Percentile	41.6	16.8	5.7	8.4	33.6	4.7	10.2	11.3	5.2	10.4	9.2	1.8	--
Median	34.5	13.1	4.2	5.2	24.5	3.3	6.2	6.2	3.9	7.6	5.3	0.9	--
75th Percentile	25.6	9.7	2.7	3.6	14.4	2.0	3.9	3.0	2.1	4.9	4.6	0.3	--
95th Percentile	11.6	4.7	1.2	1.2	6.9	1.3	1.4	0.4	0.4	2.7	2.5	0.0	--
# of Portfolios	213	202	110	48	168	35	70	114	49	142	62	208	--
● Teachers Composite	20.5 (85)	10.6 (66)	6.2 (17)	0.0 (99)	30.1 (37)	5.9 (10)	5.3 (55)	1.3 (91)	2.5 (68)	7.3 (56)	10.2 (22)	0.1 (86)	--

Teachers Composite vs. IFX Public DB Net
3 Years

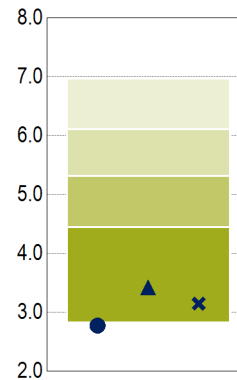
Anlzd Return



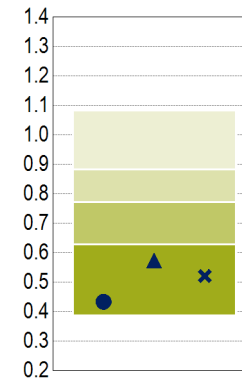
Anlzd Standard Deviation



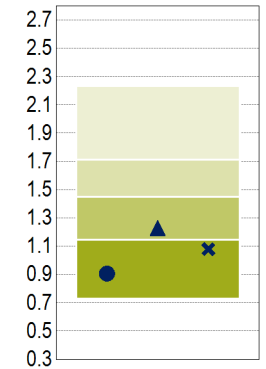
Ann Excess RF Return



Sharpe Ratio



Sortino Ratio RF



● Teachers Composite	
Value	2.82
%tile	96
▲ Policy Index	
Value	3.47
%tile	88
✕ Allocation Index	
Value	3.19
%tile	93
Universe	
5th %tile	7.01
25th %tile	6.17
Median	5.37
75th %tile	4.51
95th %tile	2.89

● Teachers Composite	
Value	6.40
%tile	27
▲ Policy Index	
Value	5.97
%tile	12
✕ Allocation Index	
Value	6.04
%tile	14
Universe	
5th %tile	5.42
25th %tile	6.31
Median	7.02
75th %tile	7.64
95th %tile	8.50

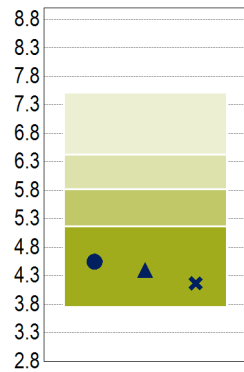
● Teachers Composite	
Value	2.77
%tile	96
▲ Policy Index	
Value	3.42
%tile	88
✕ Allocation Index	
Value	3.14
%tile	93
Universe	
5th %tile	6.96
25th %tile	6.12
Median	5.32
75th %tile	4.46
95th %tile	2.83

● Teachers Composite	
Value	0.43
%tile	94
▲ Policy Index	
Value	0.57
%tile	81
✕ Allocation Index	
Value	0.52
%tile	87
Universe	
5th %tile	1.08
25th %tile	0.89
Median	0.77
75th %tile	0.63
95th %tile	0.39

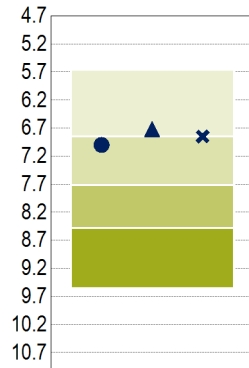
● Teachers Composite	
Value	0.91
%tile	88
▲ Policy Index	
Value	1.23
%tile	69
✕ Allocation Index	
Value	1.08
%tile	79
Universe	
5th %tile	2.23
25th %tile	1.72
Median	1.45
75th %tile	1.15
95th %tile	0.73

Teachers Composite vs. IFx Public DB Net
5 Years

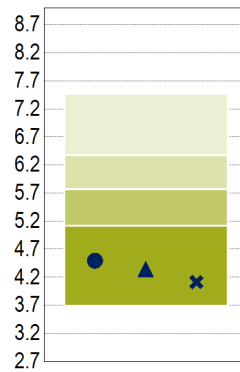
Anlzd Return



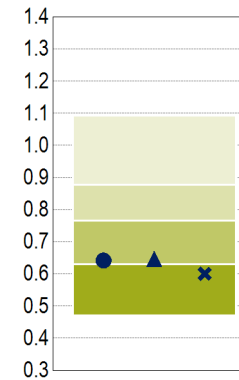
Anlzd Standard Deviation



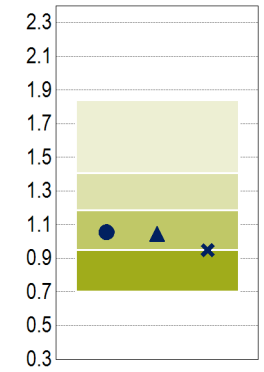
Ann Excess RF Return



Sharpe Ratio



Sortino Ratio RF



● Teachers Composite

Value	4.55
%tile	88
▲ Policy Index	
Value	4.40
%tile	89
✕ Allocation Index	
Value	4.17
%tile	91

Universe	
5th %tile	7.52
25th %tile	6.44
Median	5.83
75th %tile	5.18
95th %tile	3.76

● Teachers Composite

Value	7.00
%tile	29
▲ Policy Index	
Value	6.72
%tile	21
✕ Allocation Index	
Value	6.85
%tile	26

Universe	
5th %tile	5.66
25th %tile	6.83
Median	7.70
75th %tile	8.47
95th %tile	9.55

● Teachers Composite

Value	4.49
%tile	88
▲ Policy Index	
Value	4.34
%tile	89
✕ Allocation Index	
Value	4.11
%tile	91

Universe	
5th %tile	7.46
25th %tile	6.38
Median	5.78
75th %tile	5.13
95th %tile	3.70

● Teachers Composite

Value	0.64
%tile	74
▲ Policy Index	
Value	0.65
%tile	73
✕ Allocation Index	
Value	0.60
%tile	82

Universe	
5th %tile	1.09
25th %tile	0.88
Median	0.77
75th %tile	0.63
95th %tile	0.47

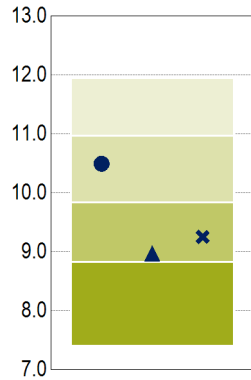
● Teachers Composite

Value	1.05
%tile	66
▲ Policy Index	
Value	1.05
%tile	67
✕ Allocation Index	
Value	0.95
%tile	76

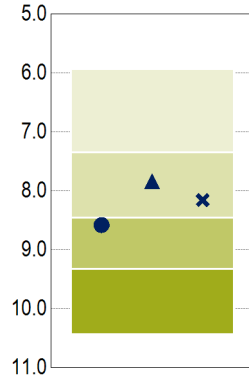
Universe	
5th %tile	1.84
25th %tile	1.41
Median	1.19
75th %tile	0.95
95th %tile	0.70

Teachers Composite vs. IFx Public DB Net
7 Years

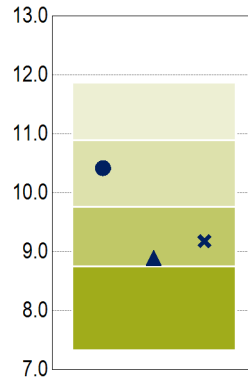
Anlzd Return



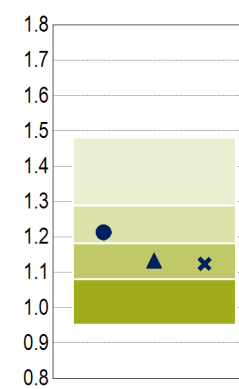
Anlzd Standard Deviation



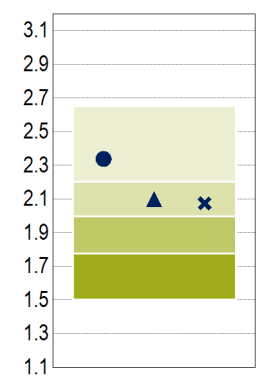
Ann Excess RF Return



Sharpe Ratio



Sortino Ratio RF



● Teachers Composite	
Value	10.49
%tile	36
▲ Policy Index	
Value	8.97
%tile	73
✕ Allocation Index	
Value	9.25
%tile	65
Universe	
5th %tile	11.94
25th %tile	10.97
Median	9.84
75th %tile	8.83
95th %tile	7.41

● Teachers Composite	
Value	8.59
%tile	55
▲ Policy Index	
Value	7.85
%tile	38
✕ Allocation Index	
Value	8.16
%tile	45
Universe	
5th %tile	5.93
25th %tile	7.34
Median	8.45
75th %tile	9.32
95th %tile	10.43

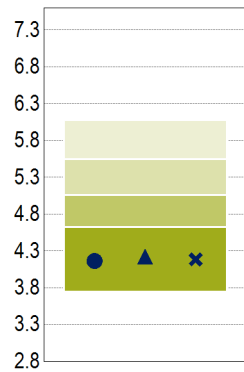
● Teachers Composite	
Value	10.41
%tile	36
▲ Policy Index	
Value	8.89
%tile	73
✕ Allocation Index	
Value	9.17
%tile	65
Universe	
5th %tile	11.86
25th %tile	10.90
Median	9.77
75th %tile	8.76
95th %tile	7.33

● Teachers Composite	
Value	1.21
%tile	43
▲ Policy Index	
Value	1.13
%tile	66
✕ Allocation Index	
Value	1.12
%tile	68
Universe	
5th %tile	1.48
25th %tile	1.29
Median	1.18
75th %tile	1.08
95th %tile	0.95

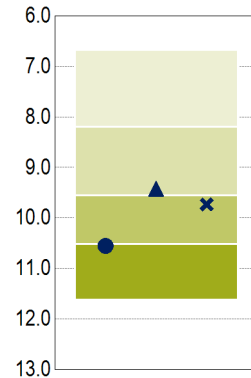
● Teachers Composite	
Value	2.34
%tile	16
▲ Policy Index	
Value	2.10
%tile	38
✕ Allocation Index	
Value	2.07
%tile	40
Universe	
5th %tile	2.65
25th %tile	2.21
Median	2.00
75th %tile	1.78
95th %tile	1.51

Teachers Composite vs. IFx Public DB Net
10 Years

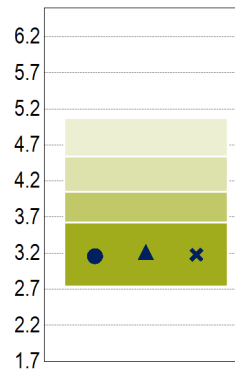
Anlzd Return



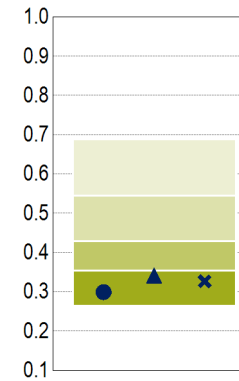
Anlzd Standard Deviation



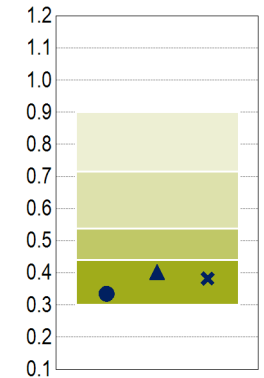
Ann Excess RF Return



Sharpe Ratio



Sortino Ratio RF



● Teachers Composite	
Value	4.16
%tile	88
▲ Policy Index	
Value	4.22
%tile	87
✕ Allocation Index	
Value	4.18
%tile	88
Universe	
5th %tile	6.07
25th %tile	5.55
Median	5.07
75th %tile	4.64
95th %tile	3.75

● Teachers Composite	
Value	10.56
%tile	76
▲ Policy Index	
Value	9.42
%tile	47
✕ Allocation Index	
Value	9.73
%tile	55
Universe	
5th %tile	6.67
25th %tile	8.18
Median	9.54
75th %tile	10.51
95th %tile	11.61

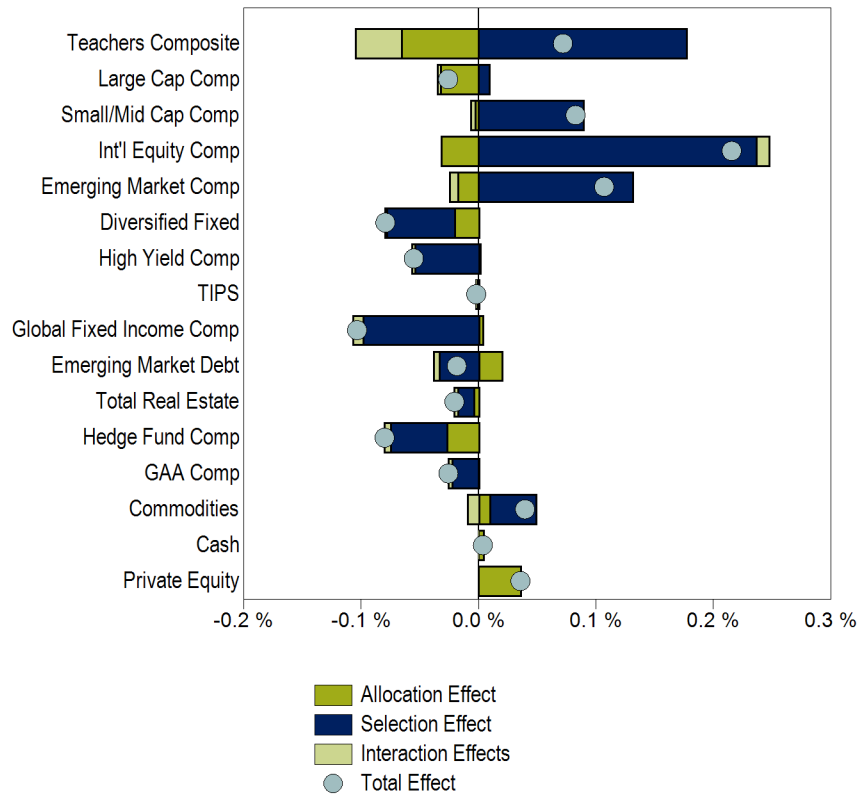
● Teachers Composite	
Value	3.16
%tile	88
▲ Policy Index	
Value	3.22
%tile	87
✕ Allocation Index	
Value	3.18
%tile	88
Universe	
5th %tile	5.07
25th %tile	4.55
Median	4.06
75th %tile	3.63
95th %tile	2.75

● Teachers Composite	
Value	0.30
%tile	90
▲ Policy Index	
Value	0.34
%tile	82
✕ Allocation Index	
Value	0.33
%tile	85
Universe	
5th %tile	0.69
25th %tile	0.55
Median	0.43
75th %tile	0.35
95th %tile	0.27

● Teachers Composite	
Value	0.33
%tile	93
▲ Policy Index	
Value	0.40
%tile	83
✕ Allocation Index	
Value	0.38
%tile	87
Universe	
5th %tile	0.90
25th %tile	0.72
Median	0.54
75th %tile	0.44
95th %tile	0.30

Total Fund Attribution Analysis

Attribution Effects Relative to Policy Index
3 Months Ending March 31, 2016



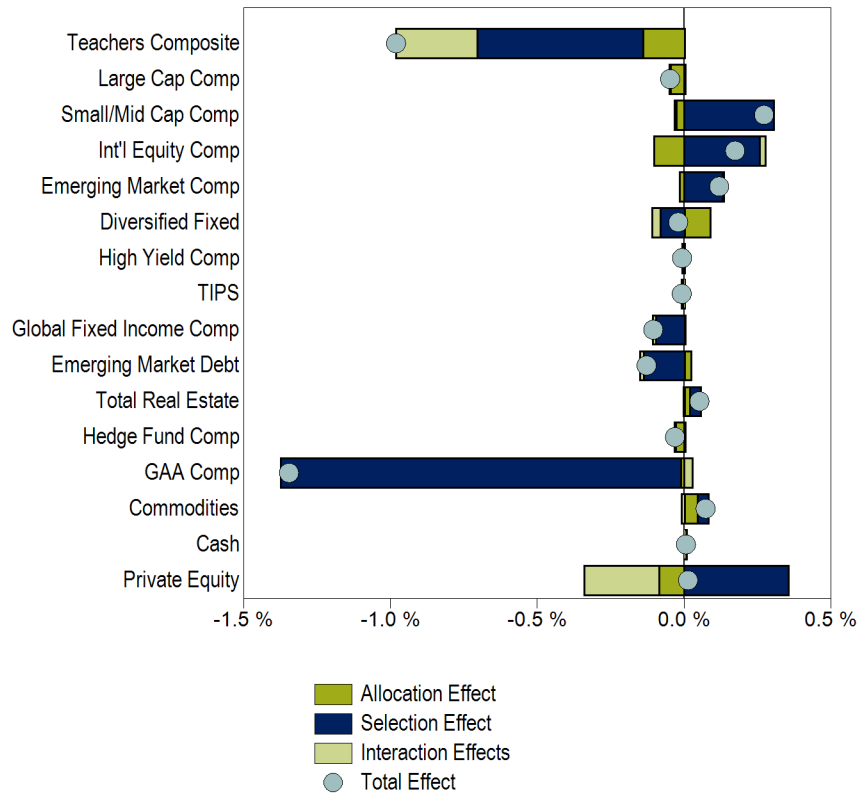
Attribution Summary
3 Months Ending March 31, 2016

	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction Effects	Total Effects
Large Cap Comp	1.9%	1.8%	0.1%	0.0%	0.0%	0.0%	0.0%
Small/Mid Cap Comp	2.6%	0.7%	1.8%	0.1%	0.0%	0.0%	0.1%
Int'l Equity Comp	-0.1%	-2.5%	2.4%	0.2%	0.0%	0.0%	0.2%
Emerging Market Comp	8.1%	5.7%	2.4%	0.1%	0.0%	0.0%	0.1%
Diversified Fixed	2.8%	3.0%	-0.3%	-0.1%	0.0%	0.0%	-0.1%
High Yield Comp	2.0%	3.4%	-1.4%	-0.1%	0.0%	0.0%	-0.1%
TIPS	4.4%	4.5%	0.0%	0.0%	0.0%	0.0%	0.0%
Global Fixed Income Comp	3.7%	7.1%	-3.4%	-0.1%	0.0%	0.0%	-0.1%
Emerging Market Debt	4.5%	5.2%	-0.7%	0.0%	0.0%	0.0%	0.0%
Total Real Estate	2.0%	2.2%	-0.2%	0.0%	0.0%	0.0%	0.0%
Hedge Fund Comp	-4.0%	-3.1%	-0.9%	0.0%	0.0%	0.0%	-0.1%
GAA Comp	2.9%	3.0%	-0.2%	0.0%	0.0%	0.0%	0.0%
Commodities	1.5%	0.4%	1.1%	0.0%	0.0%	0.0%	0.0%
Cash	0.0%	0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%
Private Equity	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total	2.3%	2.2%	0.1%	0.2%	-0.1%	0.0%	0.1%

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.

Total Fund Attribution Analysis

Attribution Effects Relative to Policy Index
1 Year Ending March 31, 2016



Attribution Summary
1 Year Ending March 31, 2016

	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction Effects	Total Effects
Large Cap Comp	1.0%	1.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Small/Mid Cap Comp	-1.6%	-7.5%	6.0%	0.3%	0.0%	0.0%	0.3%
Int'l Equity Comp	-5.8%	-8.4%	2.6%	0.3%	-0.1%	0.0%	0.2%
Emerging Market Comp	-9.4%	-12.0%	2.6%	0.1%	0.0%	0.0%	0.1%
Diversified Fixed	1.5%	2.0%	-0.4%	-0.1%	0.1%	0.0%	0.0%
High Yield Comp	-3.6%	-3.7%	0.1%	0.0%	0.0%	0.0%	0.0%
TIPS	1.4%	1.5%	-0.1%	0.0%	0.0%	0.0%	0.0%
Global Fixed Income Comp	2.6%	5.9%	-3.4%	-0.1%	0.0%	0.0%	-0.1%
Emerging Market Debt	1.4%	4.4%	-2.9%	-0.1%	0.0%	0.0%	-0.1%
Total Real Estate	12.5%	11.8%	0.6%	0.0%	0.0%	0.0%	0.1%
Hedge Fund Comp	-5.7%	-5.7%	0.0%	0.0%	0.0%	0.0%	0.0%
GAA Comp	-7.4%	1.1%	-8.5%	-1.4%	0.0%	0.0%	-1.3%
Commodities	-19.0%	-19.6%	0.5%	0.0%	0.0%	0.0%	0.1%
Cash	0.0%	0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%
Private Equity	14.9%	2.8%	12.1%	0.4%	-0.1%	-0.3%	0.0%
Total	-1.9%	-0.9%	-1.0%	-0.6%	-0.1%	-0.3%	-1.0%

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 policy index 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 along with the policy or target weight of each composite. May not add up due to rounding.

Vermont State Teachers

Total Fund Risk Statistics - 3 Years Ending March 31, 2016

	% 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%	2.82%	96	6.40%	27	-0.87%	74	0.43	94	0.91	88	0.91%	32
Policy Index	--	3.47%	88	5.97%	12	0.00%	38	0.57	81	1.23	69	0.00%	1
US Equity	20.54%	--	--	--	--	--	--	--	--	--	--	--	--
Russell 3000	--	11.15%	27	11.56%	22	0.00%	28	0.96	20	1.82	23	0.00%	1
Large Cap Comp	15.52%	11.78%	28	11.42%	32	-0.08%	30	1.03	24	2.17	14	0.73%	1
S&P 500	--	11.82%	27	11.35%	29	0.00%	29	1.04	23	2.05	20	0.00%	1
Small/Mid Cap Comp	5.02%	10.30%	19	13.47%	46	4.39%	21	0.76	20	1.64	13	3.33%	2
Russell 2000	--	6.84%	64	15.33%	85	0.00%	80	0.44	75	0.76	73	0.00%	1
Int'l Equity Comp	10.56%	3.76%	47	13.23%	65	1.61%	49	0.28	49	0.60	43	2.03%	7
MSCI EAFE	--	2.23%	71	13.61%	85	0.00%	74	0.16	74	0.30	71	0.00%	1
Emerging Market Comp	6.17%	-5.18%	79	16.22%	63	-1.03%	80	-0.32	78	-0.67	89	5.32%	63
MSCI Emerging Markets	--	-4.50%	67	16.66%	76	0.00%	60	-0.27	63	-0.51	65	0.00%	1
US Fixed Income	30.08%	--	--	--	--	--	--	--	--	--	--	--	--
Barclays Aggregate	--	2.50%	37	3.00%	56	0.00%	65	0.81	50	1.39	37	0.00%	1
Diversified Fixed	21.54%	2.31%	44	3.55%	69	-0.49%	81	0.64	70	1.01	68	1.19%	23
Barclays Aggregate	--	2.50%	37	3.00%	56	0.00%	65	0.81	50	1.39	37	0.00%	1
Unconstrained Fixed Income	6.05%	--	--	--	--	--	--	--	--	--	--	--	--
25% HY, 25% EMD, 50% BC Agg	--	2.37%	20	4.07%	49	0.00%	37	0.57	30	0.94	30	0.00%	1
High Yield Comp	4.72%	1.79%	52	4.92%	24	0.28%	49	0.35	49	0.65	49	1.53%	53
Barclays High Yield	--	1.84%	51	5.93%	72	0.00%	54	0.30	54	0.66	48	0.00%	1
TIPS	3.82%	-0.82%	51	5.36%	79	-0.10%	40	-0.16	38	-0.21	38	0.20%	1
Barclays US TIPS	--	-0.72%	39	5.31%	76	0.00%	27	-0.14	27	-0.19	27	0.00%	1
Emerging Market Debt	5.93%	1.64%	22	7.17%	28	-0.71%	23	0.22	23	0.35	22	1.10%	3
JP Morgan EMBI Global TR	--	2.43%	11	7.34%	29	0.00%	19	0.32	19	0.49	18	0.00%	1
Total Real Estate	7.30%	13.48%	--	5.50%	--	0.21%	--	2.44	--	659.72	--	1.49%	--
NCREIF Property Index	--	11.91%	--	4.77%	--	0.00%	--	2.48	--	582.36	--	0.00%	--
Hedge Fund Comp	5.34%	2.13%	49	3.96%	36	0.39%	49	0.52	45	0.82	42	1.37%	4
HFRI Fund of Funds Composite Index	--	1.75%	57	3.74%	28	0.00%	57	0.45	49	0.69	50	0.00%	1
GAA Comp	10.18%	-0.16%	93	8.16%	57	-3.46%	93	-0.03	92	-0.04	92	4.00%	44
60% MSCI ACWI (Net)/40% CITI WGBI	--	3.66%	16	7.97%	52	0.00%	34	0.45	25	1.16	9	0.00%	1

Vermont State Teachers

Total Fund Risk Statistics - 5 Years Ending March 31, 2016

	% 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%	4.55%	88	7.00%	29	0.00%	29	0.64	74	1.05	66	0.83%	12
Policy Index	--	4.40%	89	6.72%	21	0.00%	29	0.65	73	1.05	67	0.00%	1
US Equity	20.54%	--	--	--	--	--	--	--	--	--	--	--	--
Russell 3000	--	11.01%	24	12.67%	22	0.00%	25	0.86	19	1.45	20	0.00%	1
Large Cap Comp	15.52%	11.41%	26	12.71%	42	-0.59%	33	0.89	28	1.55	27	1.02%	1
S&P 500	--	11.58%	25	12.22%	29	0.00%	25	0.94	20	1.65	21	0.00%	1
Small/Mid Cap Comp	5.02%	10.11%	17	14.94%	41	3.73%	23	0.67	23	1.17	17	3.08%	1
Russell 2000	--	7.20%	64	16.68%	82	0.00%	75	0.43	70	0.70	64	0.00%	1
Int'l Equity Comp	10.56%	3.13%	62	14.58%	30	0.99%	60	0.21	59	0.32	55	2.16%	7
MSCI EAFE	--	2.29%	74	15.53%	70	0.00%	74	0.14	74	0.22	73	0.00%	1
Emerging Market Comp	6.17%	--	--	--	--	--	--	--	--	--	--	--	--
MSCI Emerging Markets	--	-4.13%	73	18.77%	64	0.00%	74	-0.22	78	-0.35	76	0.00%	1
US Fixed Income	30.08%	--	--	--	--	--	--	--	--	--	--	--	--
Barclays Aggregate	--	3.78%	49	2.77%	50	0.00%	82	1.34	50	2.29	41	0.00%	1
Diversified Fixed	21.54%	4.17%	39	3.24%	62	0.25%	71	1.27	59	2.04	57	1.50%	28
Barclays Aggregate	--	3.78%	49	2.77%	50	0.00%	82	1.34	50	2.29	41	0.00%	1
Unconstrained Fixed Income	6.05%	--	--	--	--	--	--	--	--	--	--	--	--
25% HY, 25% EMD, 50% BC Agg	--	4.67%	21	3.89%	26	0.00%	32	1.19	15	1.98	15	0.00%	1
High Yield Comp	4.72%	4.74%	43	5.48%	22	0.65%	37	0.86	35	1.45	39	1.46%	46
Barclays High Yield	--	4.93%	39	6.51%	67	0.00%	56	0.75	52	1.41	48	0.00%	1
TIPS	3.82%	--	--	--	--	--	--	--	--	--	--	--	--
Barclays US TIPS	--	3.02%	34	5.04%	79	0.00%	27	0.59	26	0.82	25	0.00%	1
Emerging Market Debt	5.93%	--	--	--	--	--	--	--	--	--	--	--	--
JP Morgan EMBI Global TR	--	5.97%	9	7.19%	14	0.00%	7	0.82	6	1.21	6	0.00%	1
Total Real Estate	7.30%	--	--	--	--	--	--	--	--	--	--	--	--
NCREIF Property Index	--	11.93%	--	4.78%	--	0.00%	--	2.49	--	708.74	--	0.00%	--
Hedge Fund Comp	5.34%	2.81%	47	4.30%	39	1.51%	46	0.64	42	0.93	38	1.34%	1
HFRI Fund of Funds Composite Index	--	1.29%	73	4.03%	34	0.00%	72	0.31	67	0.45	65	0.00%	1
GAA Comp	10.18%	2.71%	70	8.55%	56	-0.66%	78	0.31	83	0.47	85	3.63%	38
60% MSCI ACWI (Net)/40% CITI WGBI	--	3.81%	29	8.85%	63	0.00%	70	0.42	61	0.69	54	0.00%	1



Appendix



Index Performance Summary as of 3/31/2016

	2009	2010	2011	2012	2013	2014	2015	JAN	FEB	MAR	YTD
Barclays US Strips 20+ Yr	-36.0%	10.9%	58.5%	3.0%	-21.0%	46.4%	-3.7%	6.9%	4.6%	-0.3%	11.4%
JPM GBI-EM Global Diversified	22.0%	15.7%	-1.8%	16.8%	-9.0%	-5.7%	-14.9%	0.4%	1.4%	9.1%	11.0%
Barclays US Govt/Credit Long	1.9%	10.2%	22.5%	8.8%	-8.8%	19.3%	-3.3%	2.1%	2.2%	2.8%	7.3%
Citi WGBI	2.6%	5.2%	6.4%	1.7%	-4.0%	-0.5%	-3.6%	1.4%	2.9%	2.7%	7.1%
Barclays US Long Credit	16.8%	10.7%	17.1%	12.7%	-6.6%	16.4%	-4.6%	0.3%	1.7%	4.8%	6.8%
FTSE NAREIT Equity REITs	28.0%	28.0%	8.3%	18.1%	2.5%	30.1%	3.2%	-3.4%	-0.4%	10.1%	6.0%
MSCI EM	78.5%	18.9%	-18.4%	18.2%	-2.6%	-2.2%	-14.9%	-6.5%	-0.2%	13.2%	5.7%
JPM EMBI Global Diversified	29.8%	12.2%	7.4%	17.4%	-5.3%	7.4%	1.2%	-0.2%	1.9%	3.3%	5.0%
Barclays US Corporate HY	58.2%	15.1%	5.0%	15.8%	7.4%	2.5%	-4.5%	-1.6%	0.6%	4.4%	3.4%
Barclays US Agg Bond	5.9%	6.5%	7.8%	4.2%	-2.0%	6.0%	0.6%	1.4%	0.7%	0.9%	3.0%
Barclays US Agg Interm	6.5%	6.2%	6.0%	3.6%	-1.0%	4.1%	1.2%	1.3%	0.5%	0.6%	2.3%
Barclays Municipal	12.9%	2.4%	10.7%	6.8%	-2.6%	9.1%	3.3%	1.2%	0.2%	0.3%	1.7%
S&P 500	26.5%	15.1%	2.1%	16.0%	32.4%	13.7%	1.4%	-5.0%	-0.1%	6.8%	1.4%
Credit Suisse Leveraged Loan	44.9%	10.0%	1.8%	9.4%	6.2%	2.1%	-0.4%	-0.7%	-0.6%	2.6%	1.3%
Russell 1000	28.4%	16.1%	1.5%	16.4%	33.1%	13.2%	0.9%	-5.4%	0.0%	7.0%	1.2%
Barclays US Govt/Credit 1-3 Yr	3.8%	2.8%	1.6%	1.3%	0.6%	0.8%	0.7%	0.5%	0.1%	0.4%	1.0%
Bloomberg Commodity	18.9%	16.8%	-13.3%	-1.1%	-9.5%	-17.0%	-24.7%	-1.7%	-1.6%	3.8%	0.4%
Russell 2500	34.4%	26.7%	-2.5%	17.9%	36.8%	7.1%	-2.9%	-8.0%	0.7%	8.3%	0.4%
MSCI ACWI	34.6%	12.7%	-7.4%	16.1%	22.8%	4.2%	-2.4%	-6.0%	-0.7%	7.4%	0.2%
Russell 2000	27.2%	26.9%	-4.2%	16.4%	38.8%	4.9%	-4.4%	-8.8%	0.0%	8.0%	-1.5%
Credit Suisse Hedge Fund	18.6%	11.0%	-2.5%	7.7%	9.7%	4.1%	-0.7%	-1.4%	-1.1%	N/A	-2.5%
MSCI EAFE	31.8%	7.8%	-12.1%	17.3%	22.8%	-4.9%	-0.8%	-7.2%	-1.8%	6.5%	-3.0%
Alerian MLP	76.4%	35.9%	13.9%	4.8%	27.6%	4.8%	-32.6%	-11.1%	-0.5%	8.3%	-4.2%

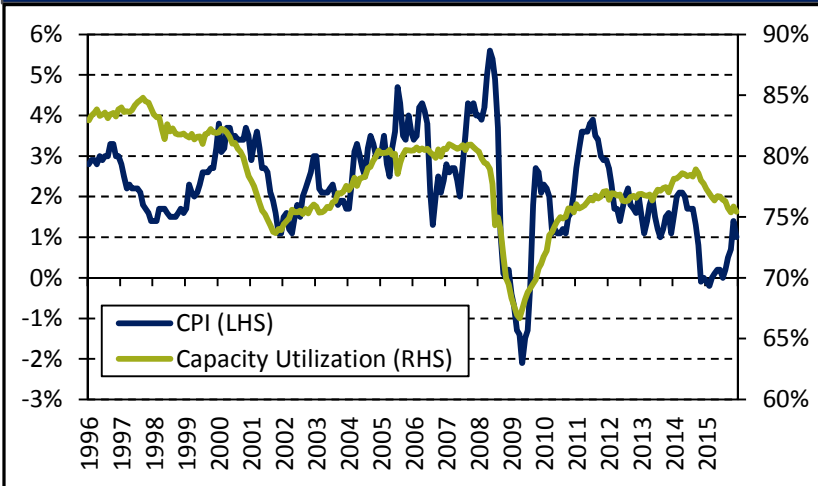
Source: Morningstar Direct



NEPC, LLC

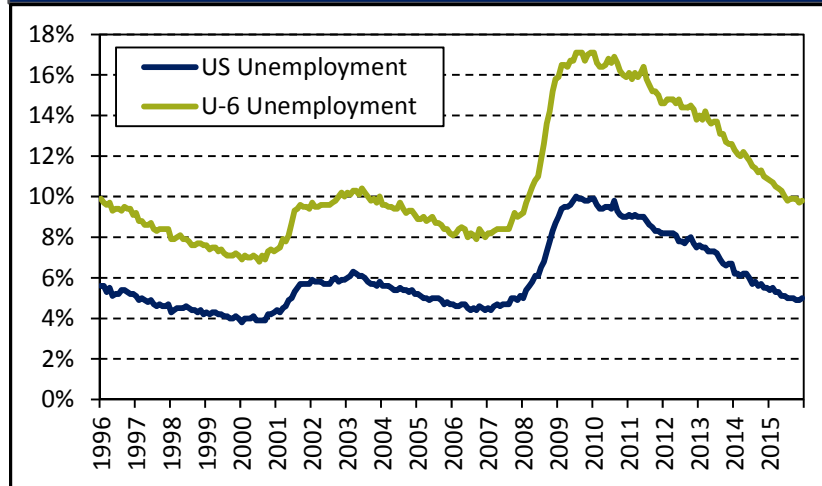
US Economic Indicators

Inflation has increased off lows



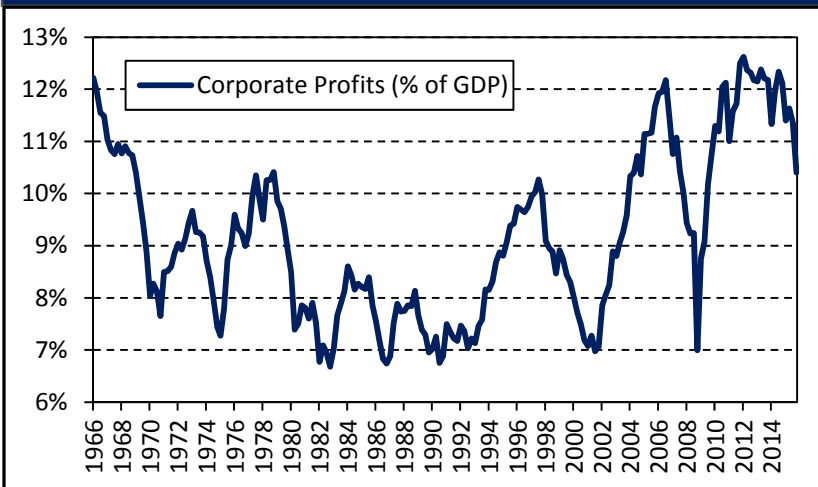
Source: Bloomberg, Federal Reserve, Bureau of Labor Statistics

Unemployment steadily improving



Source: Bloomberg, Bureau of Labor Statistics

Corporate profits lower off secular highs



Source: Bloomberg, Bureau of Economic Analysis

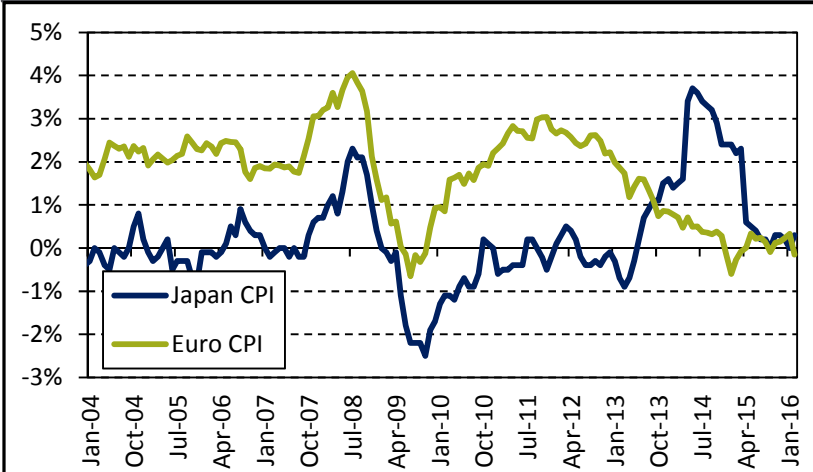
Manufacturing trending higher after dip



Source: Bloomberg, Institute for Supply Management

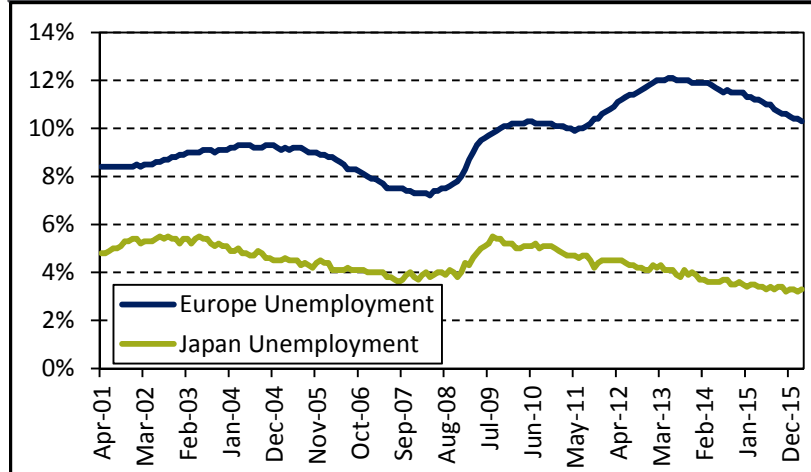
International Economic Indicators

Inflation remains muted



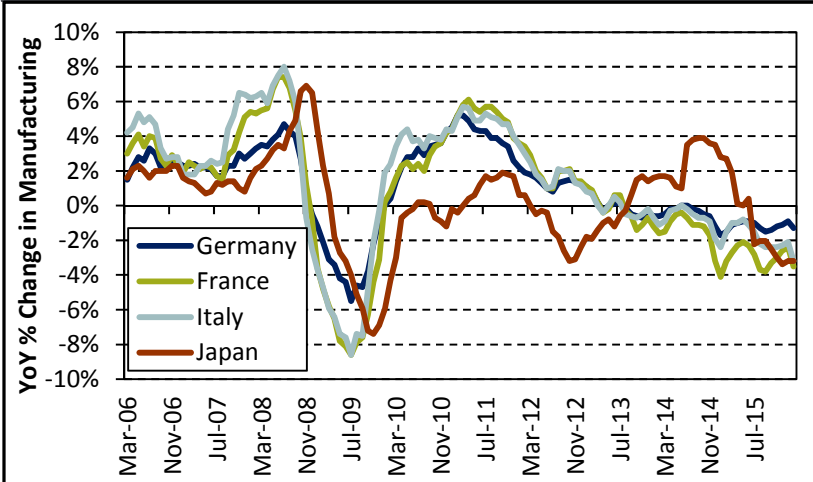
Source: Bloomberg, Japan Ministry of Internal Affairs and Communications, Eurostat

Europe employment recovery lagging



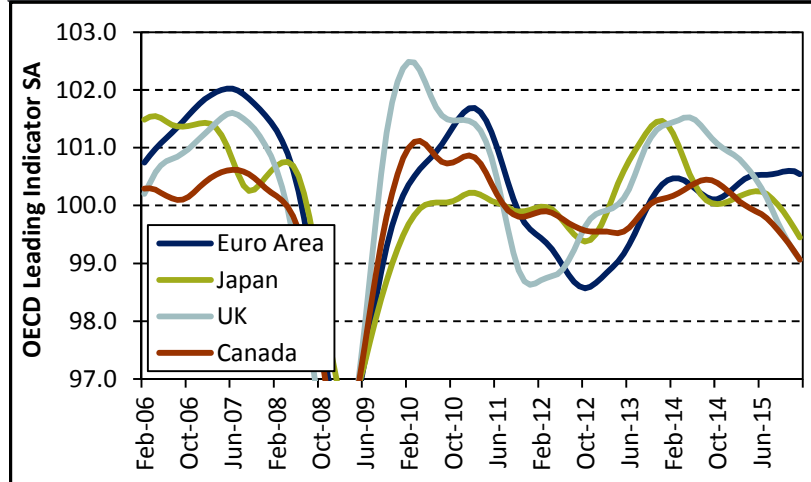
Source: Bloomberg, Japan Ministry of Internal Affairs and Communications, Eurostat

Manufacturing in developed economies has lagged



Source: Bloomberg, OECD, Eurostat

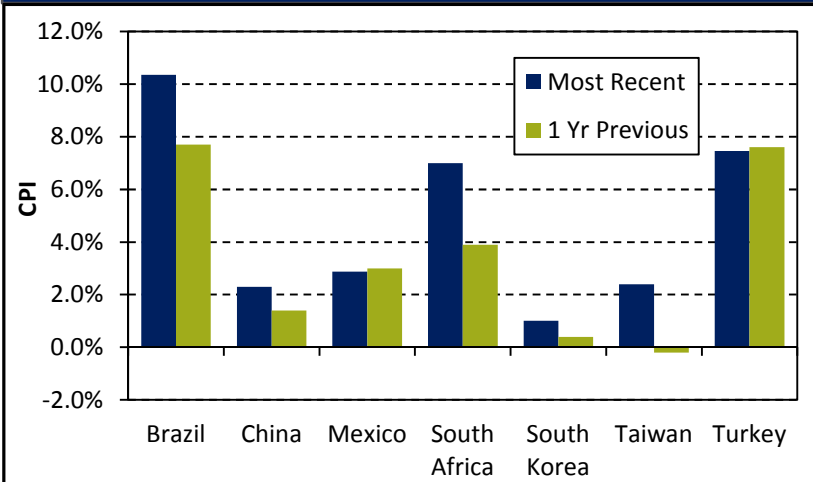
Leading indicators mostly neutral



Source: Bloomberg, OECD

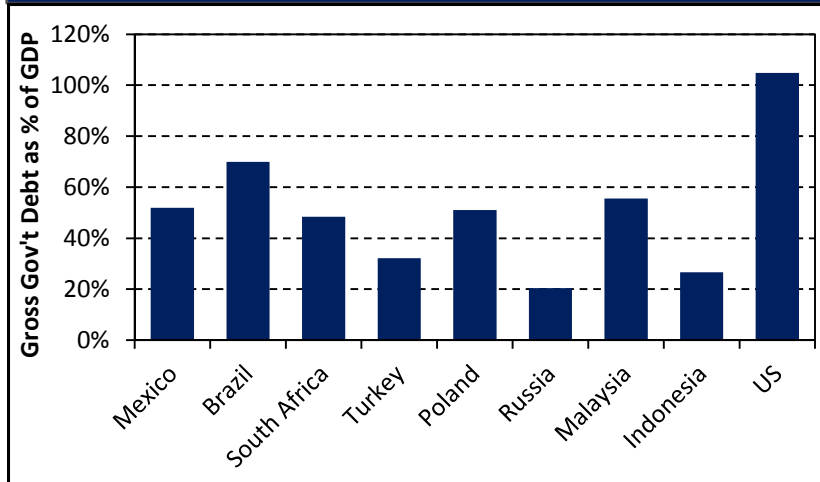
Emerging Market Economic Indicators

EM inflation is varied by country



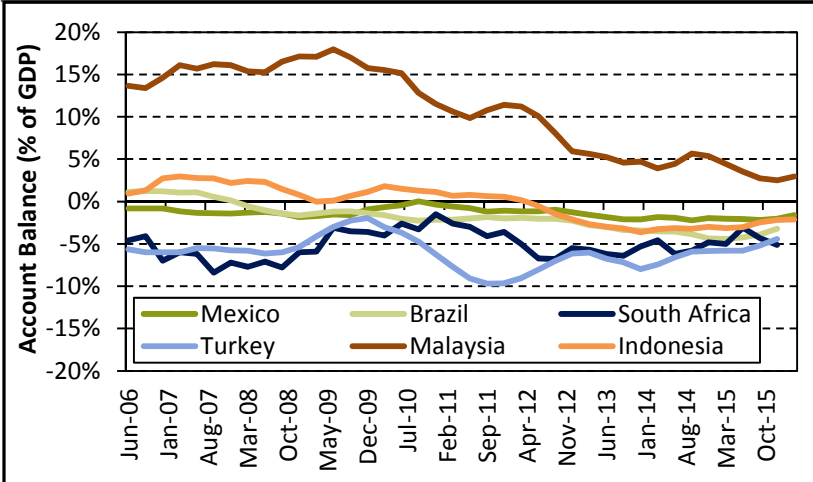
Source: Bloomberg

Relatively healthy Debt/GDP ratios



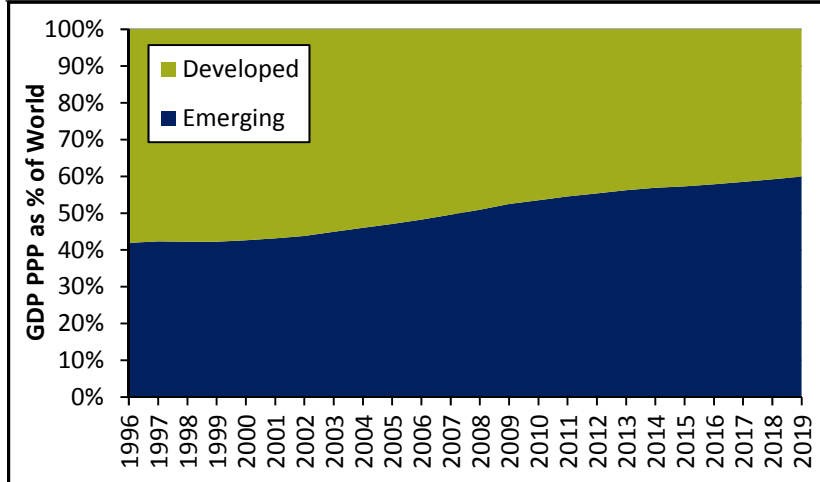
Source: Bloomberg, IMF

Marginal improvement in account balance challenged countries



Source: Bloomberg

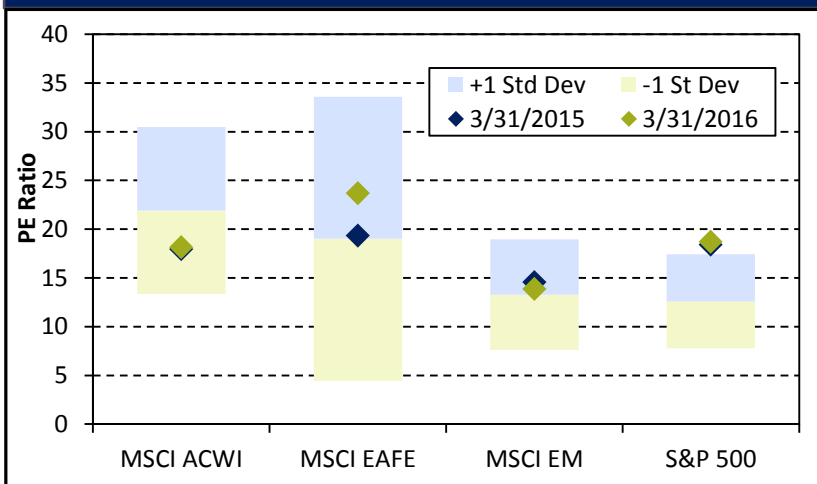
Emerging economies make up >50% of global output



Source: Bloomberg, IMF

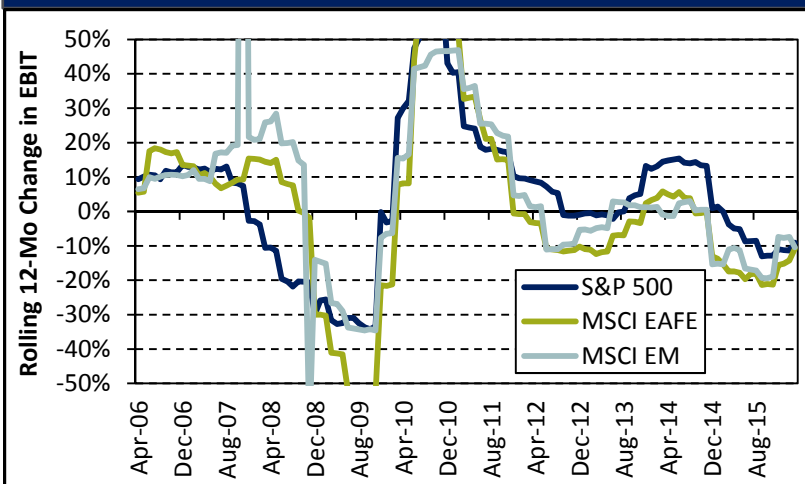


Global valuations are mixed



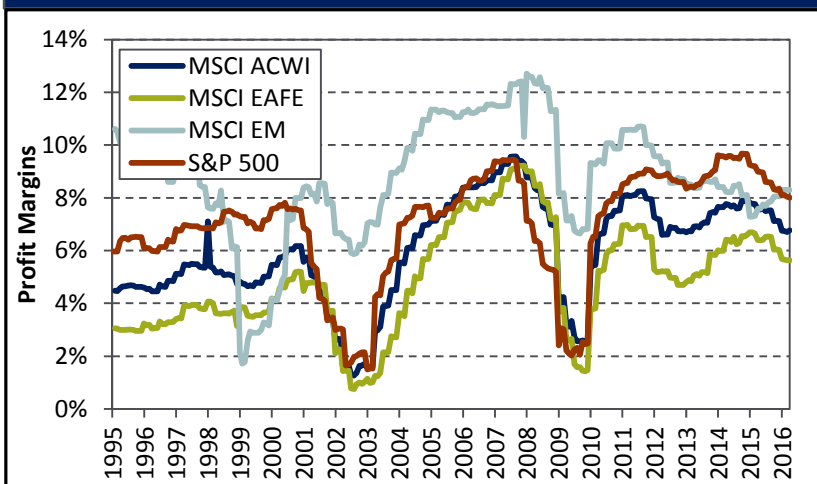
Source: Bloomberg, Standard and Poors, MSCI *MSCI EAFE is ex UK Telecom

Earnings growth trending lower



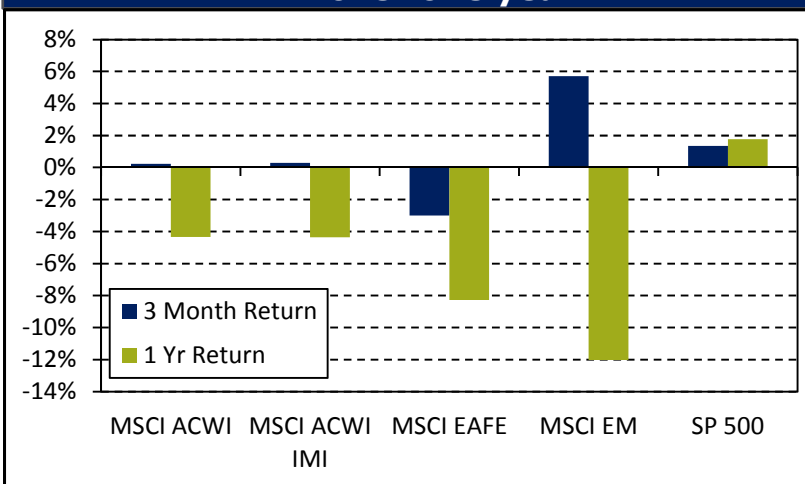
Source: Bloomberg, Standard and Poors, MSCI

Margins declining outside of EM



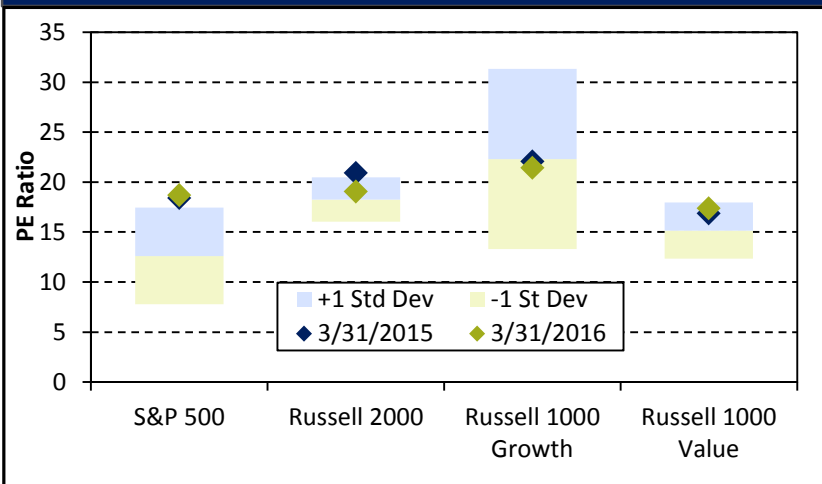
Source: Bloomberg, MSCI

Global equity returns have been negative over one year



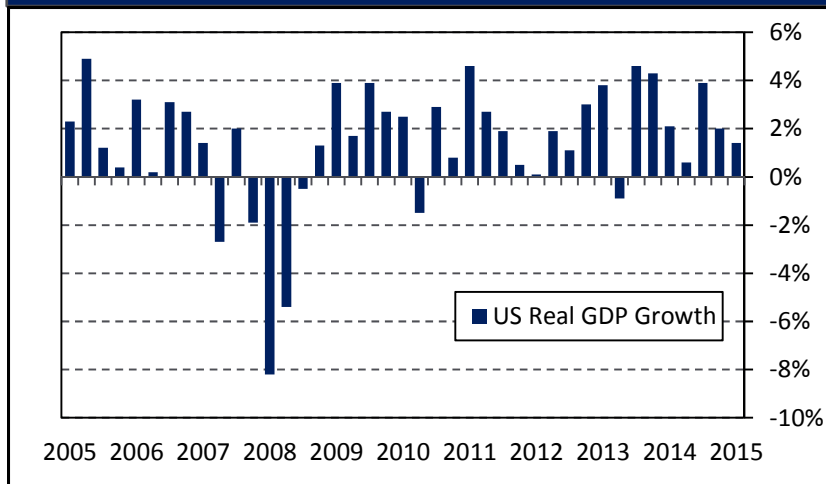
Source: Bloomberg, MSCI

Valuations near or above historical norms



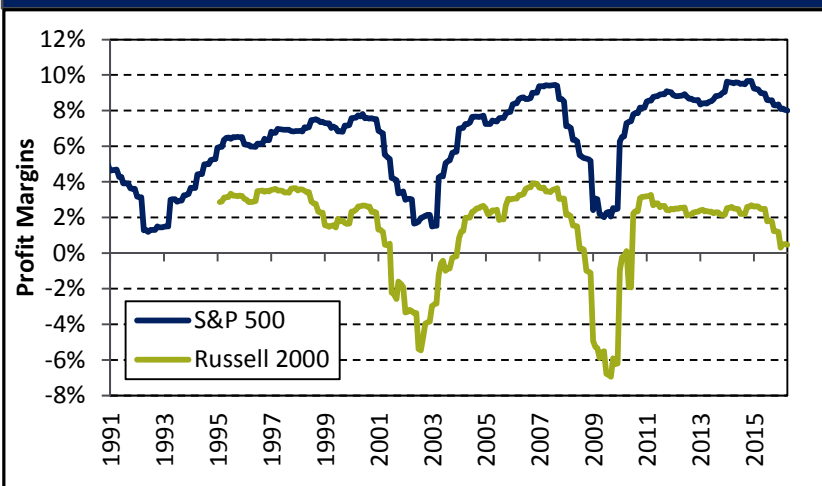
Source: Bloomberg, Standard and Poors, Russell *Russell 2000 PE is index adjusted positive

Growth recovery marked by inconsistency



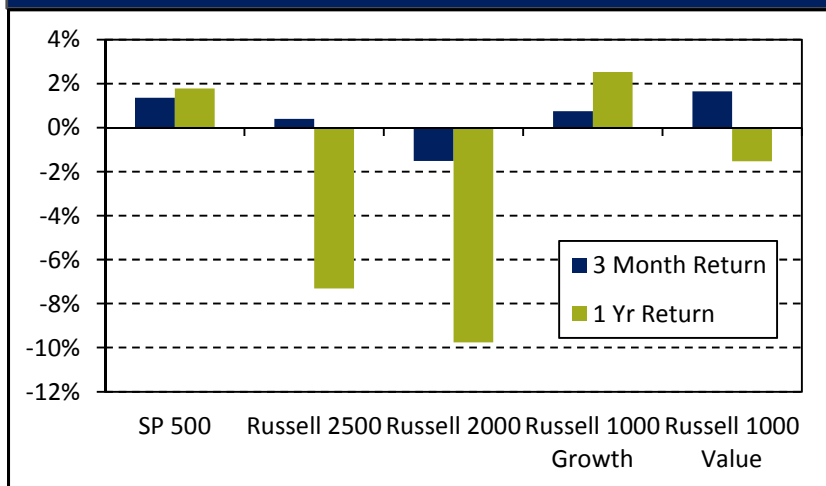
Source: Bloomberg, Bureau of Economic Analysis

Profit margins lower off highs



Source: Bloomberg, Standard and Poors, Russell

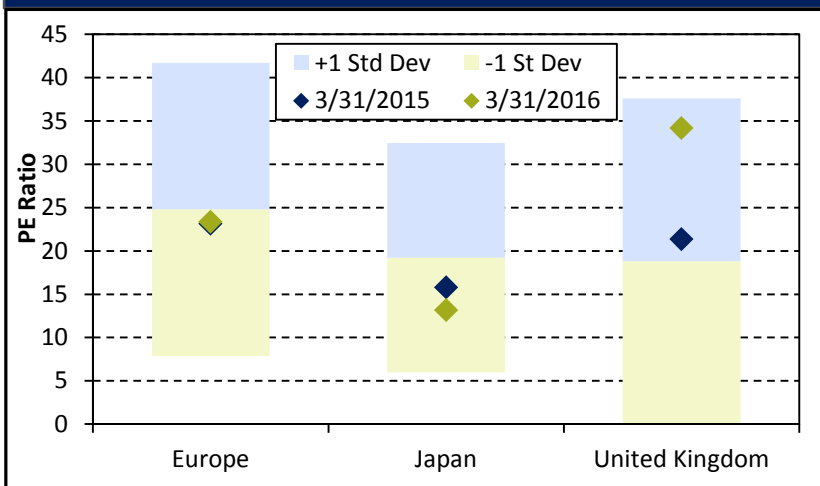
Trailing performance has been mixed



Source: Bloomberg, Standard and Poors, Russell

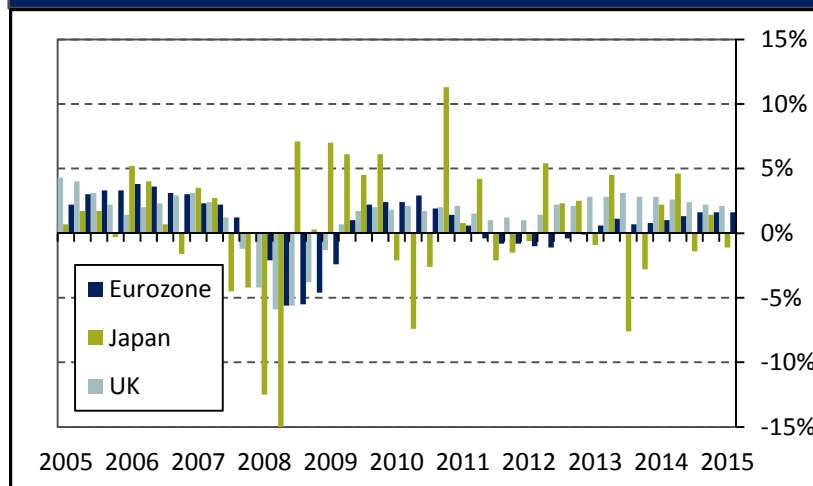
International Equity

PEs varied by region/country



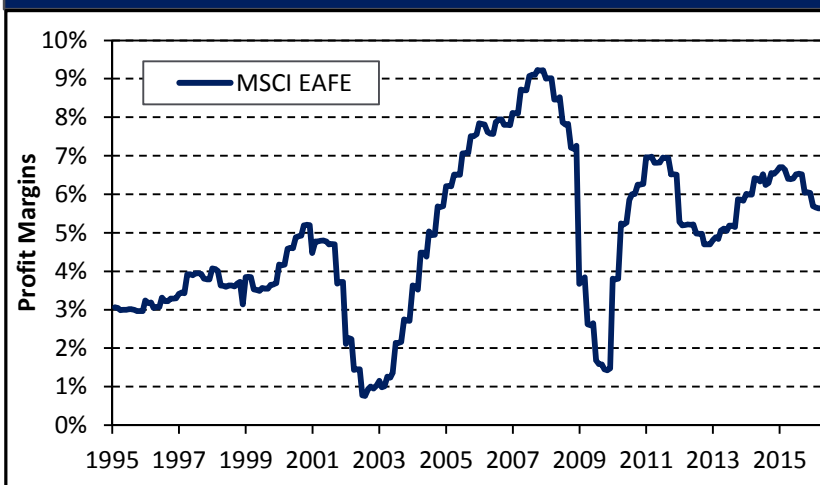
Source: Bloomberg, MSCI, FTSE *UK represented by FTSE 100 Index

Slow Global Growth



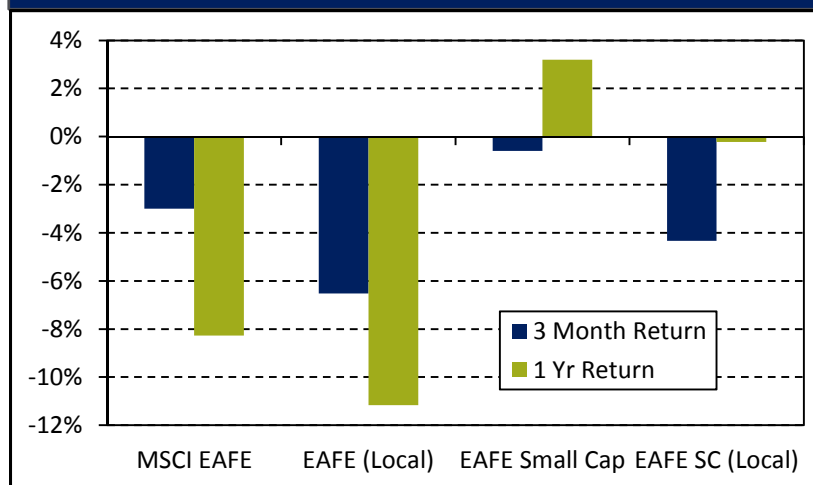
Source: Bloomberg

Margins elevated but not at extremes



Source: Bloomberg, MSCI

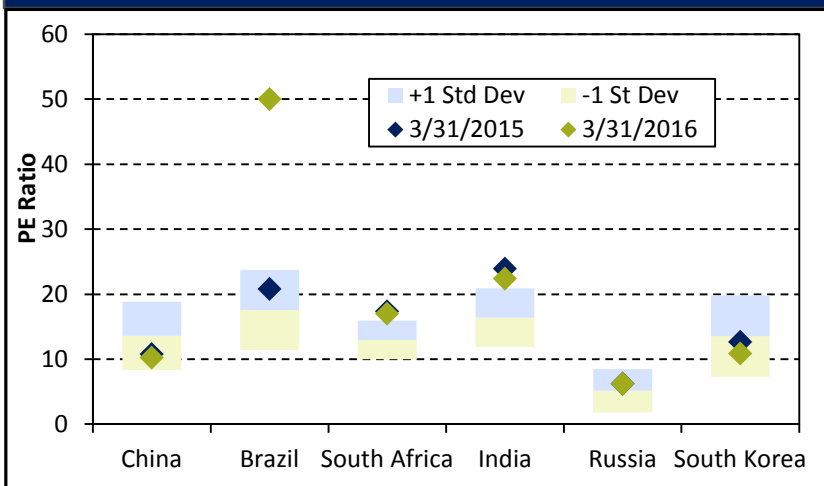
Returns near flat or negative



Source: Bloomberg, MSCI

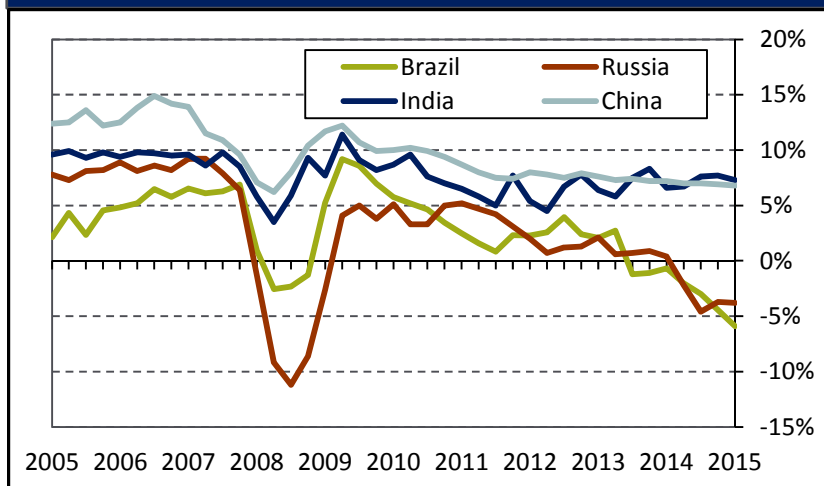
Emerging Markets Equity

Regional valuations show divergence



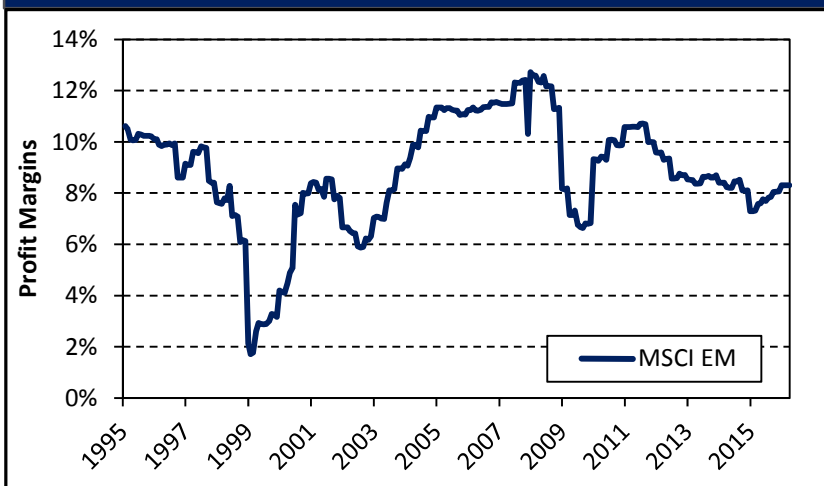
Source: Bloomberg, MSCI

Slowing growth in major economies



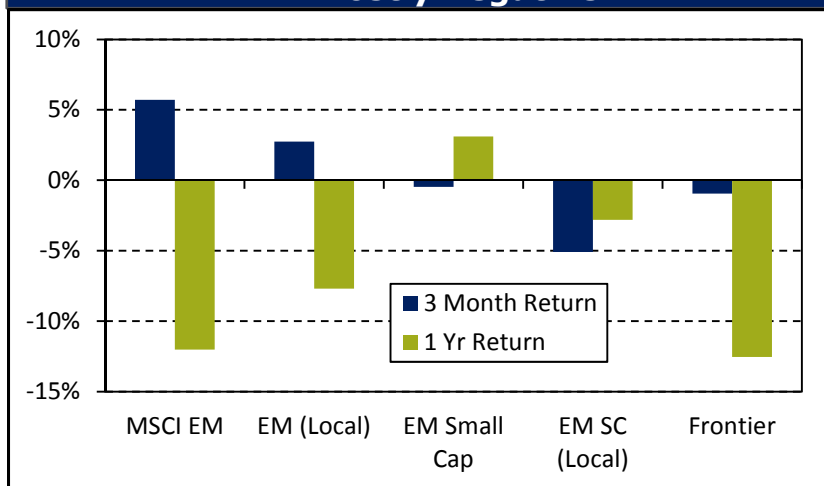
Source: Bloomberg

Profit margins in line with history



Source: Bloomberg, MSCI

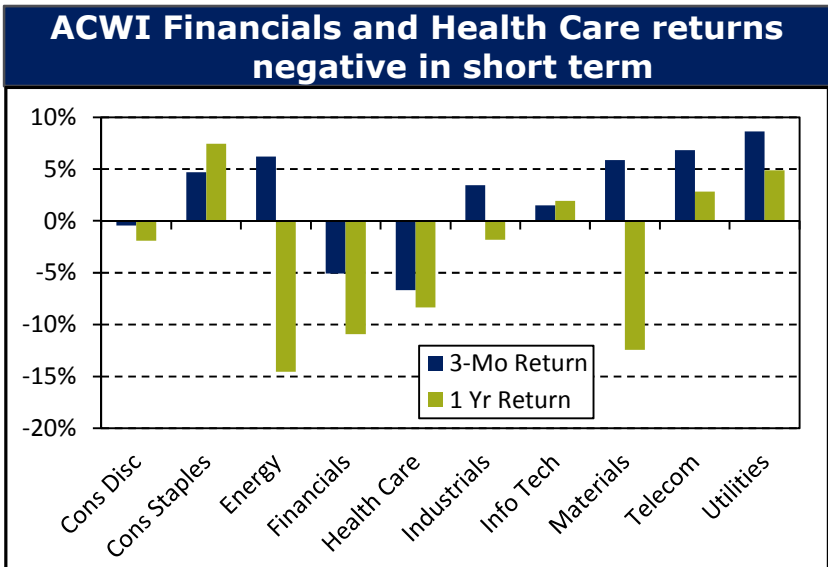
Recent rally in EM but one year returns mostly negative



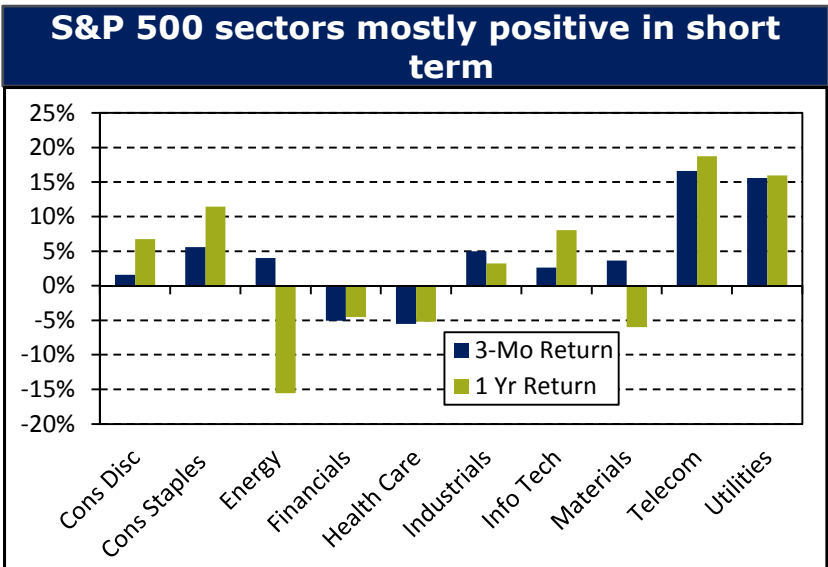
Source: Bloomberg, MSCI



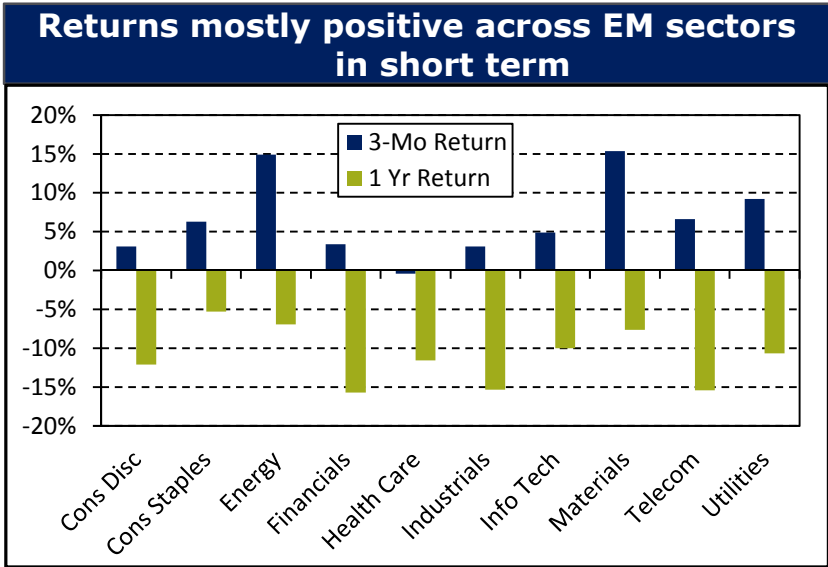
Global Equity by Sector



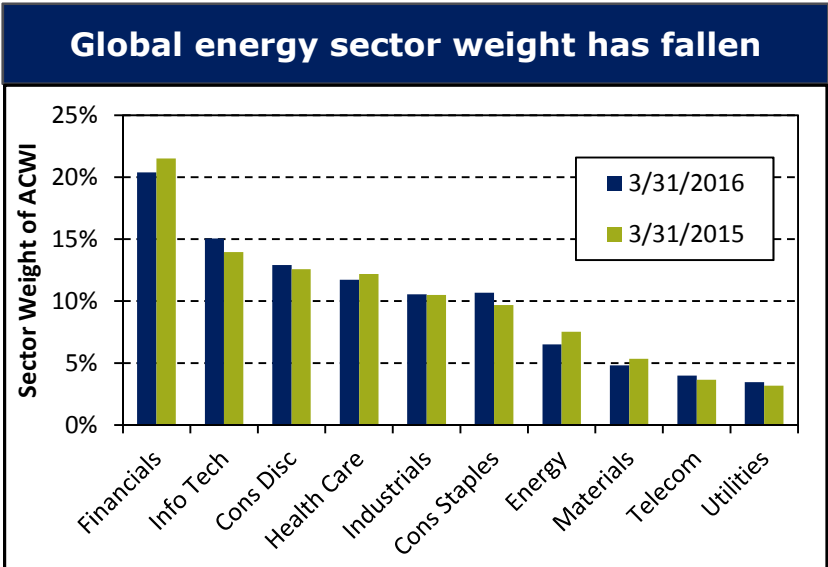
Source: Bloomberg, MSCI



Source: Bloomberg, Standard and Poors

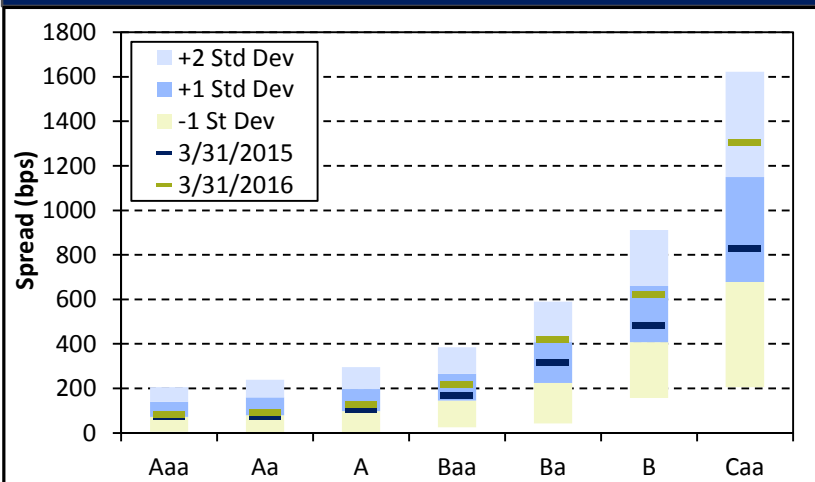


Source: Bloomberg, MSCI



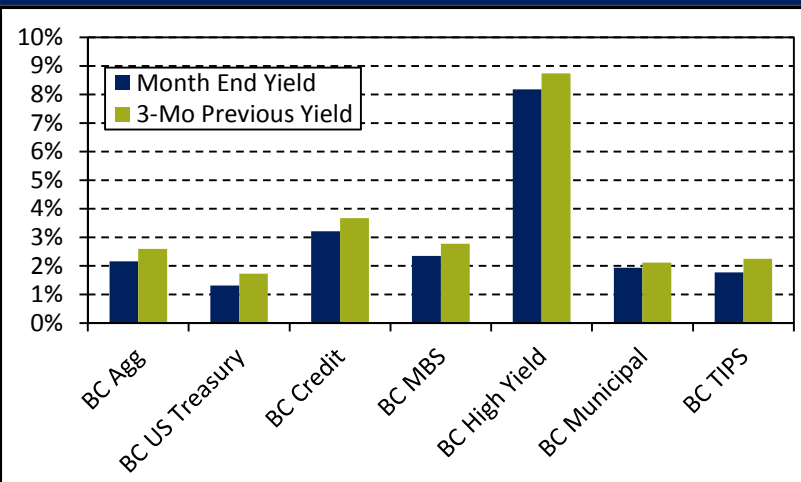
Source: Bloomberg, MSCI

Spread levels above historical medians



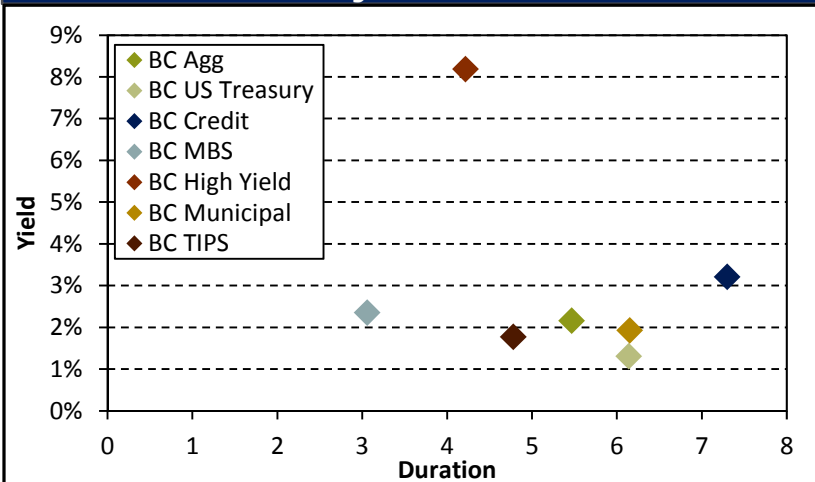
Source: Bloomberg, Barclays

Yields have mostly declined



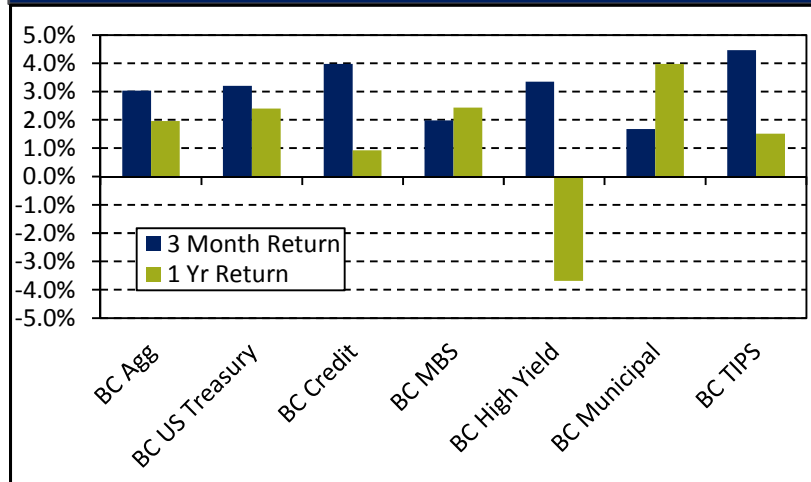
Source: Bloomberg, Barclays

Similar yield/duration tradeoff among major US indices



Source: Bloomberg, Barclays

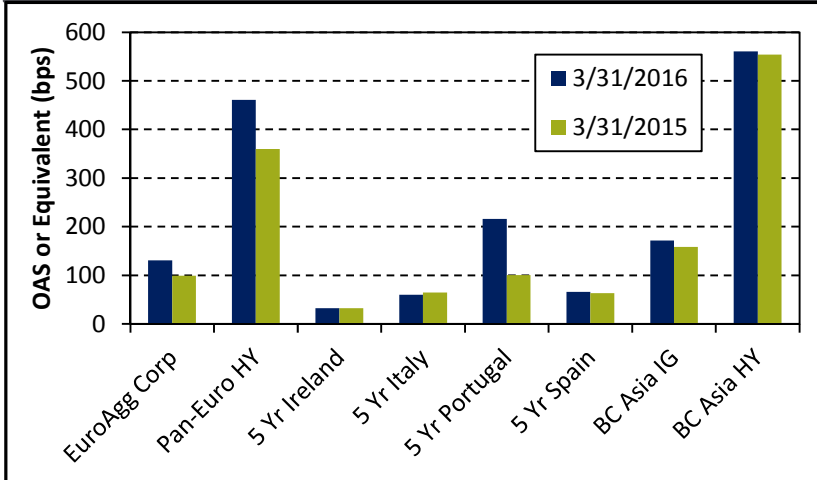
Returns marked by recent credit rally



Source: Bloomberg, Barclays

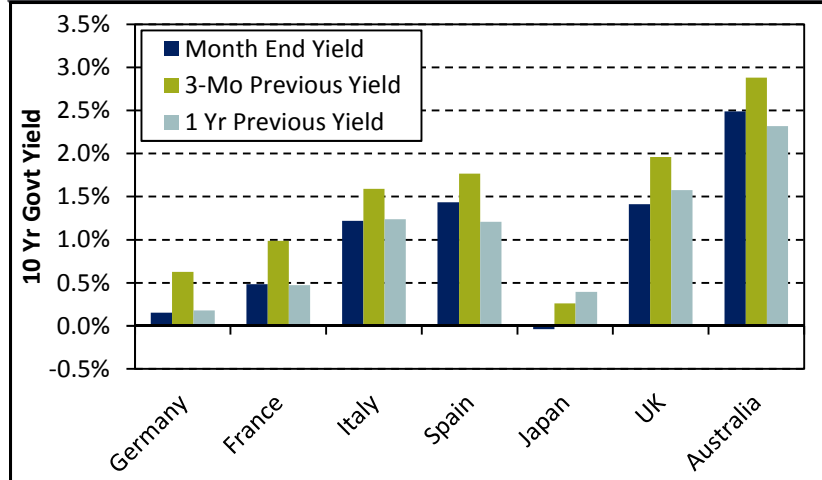
International Developed Fixed Income

European periphery yields at small premium relative to Germany



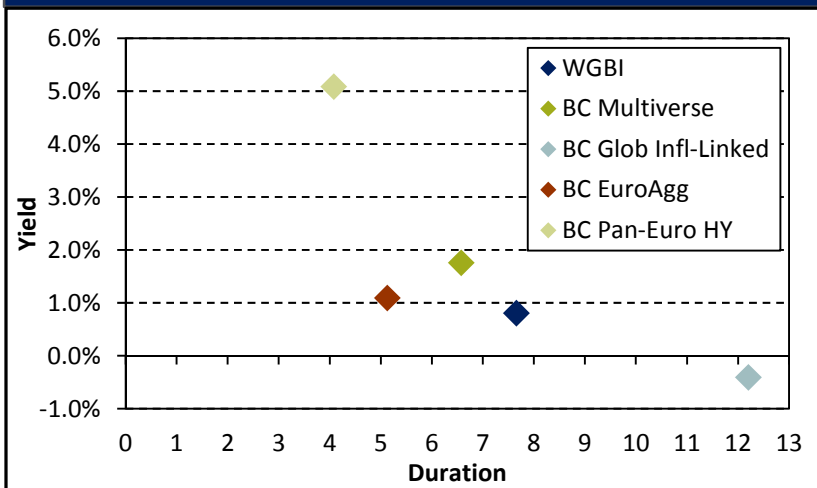
Source: Barclays, Bloomberg, *European periphery spreads are over equivalent German Bund

Global yields are at or near historic lows



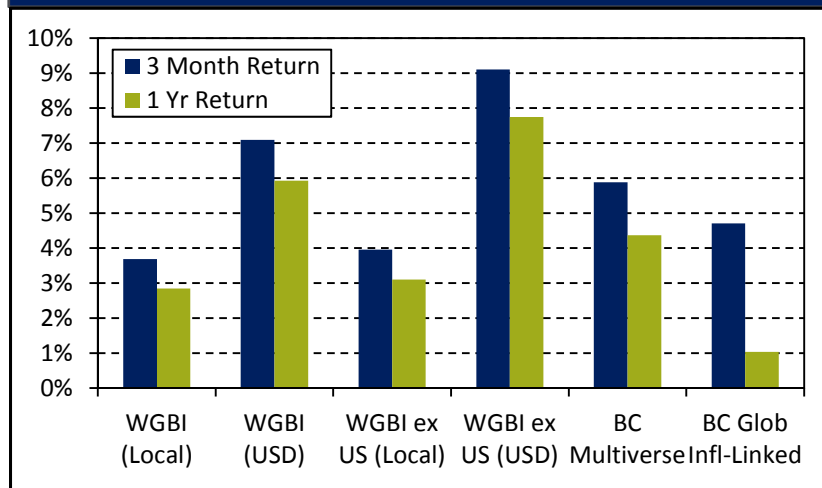
Source: Bloomberg

Low global yields relative to duration



Source: Bloomberg, Citigroup, Barclays

Global bonds positive in USD terms

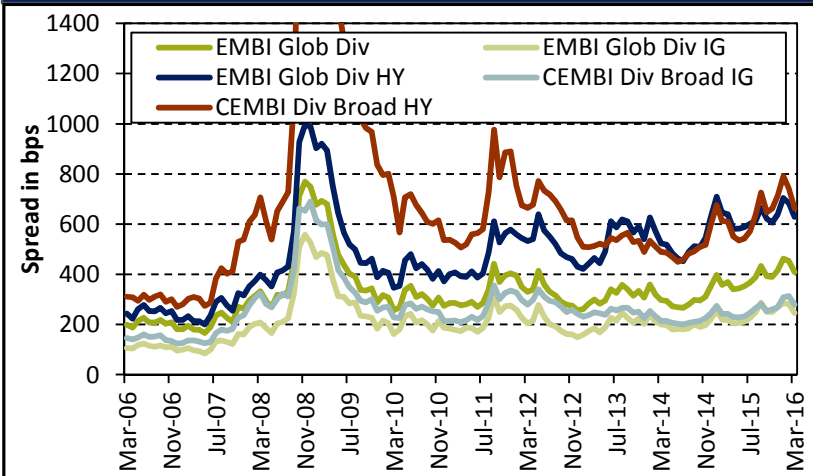


Source: Bloomberg, Citigroup, Barclays



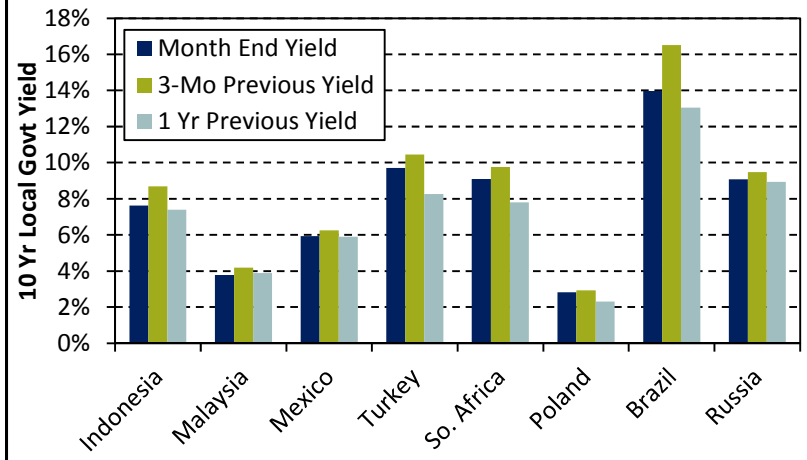
Emerging Markets Fixed Income

Spreads have widened recently



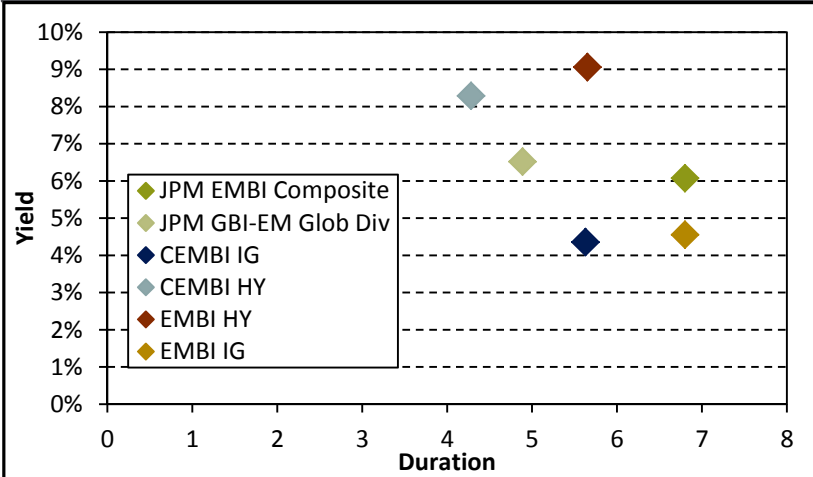
Source: Bloomberg, JP Morgan

Emerging market bond yield changes have varied directionally



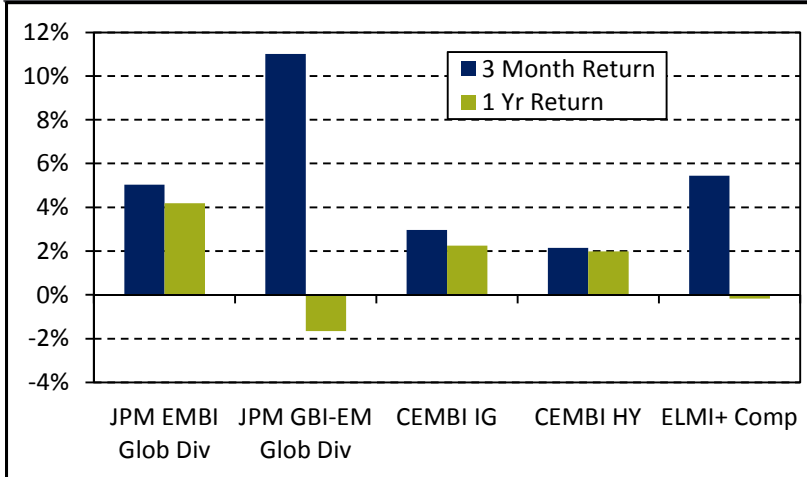
Source: Bloomberg

EM yields higher versus global counterparts



Source: Bloomberg, JP Morgan

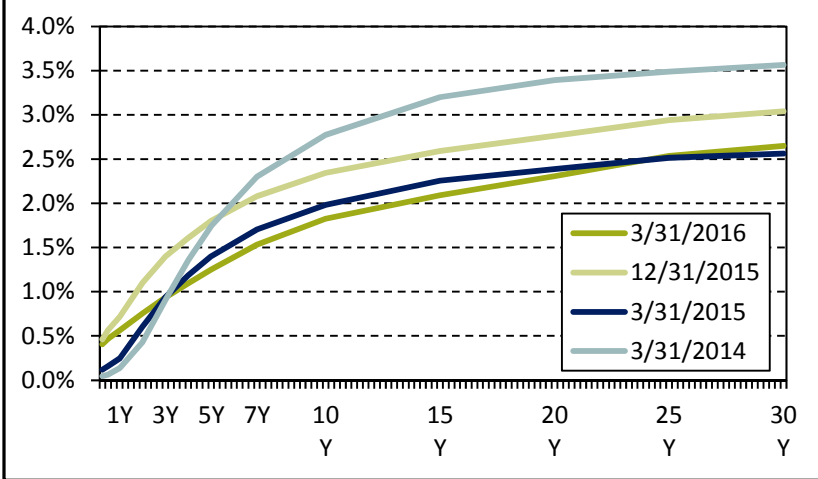
Currency effect pronounced in EMD returns



Source: Bloomberg, JP Morgan

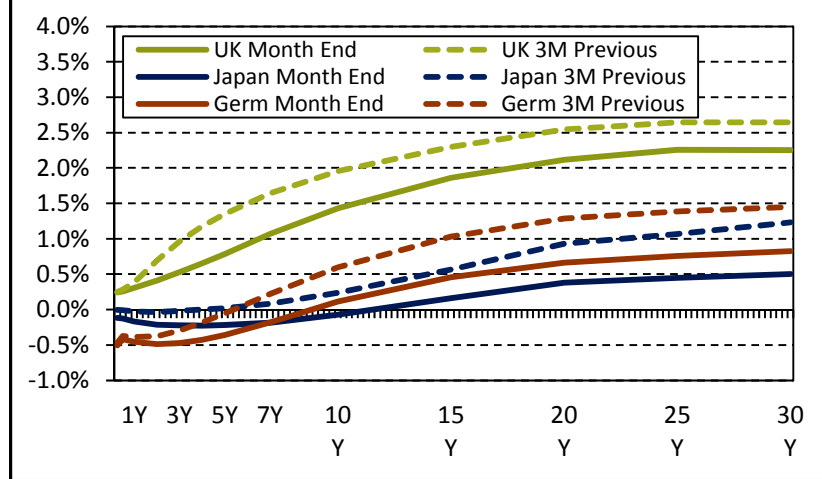


Treasury yield curve has declined since year end



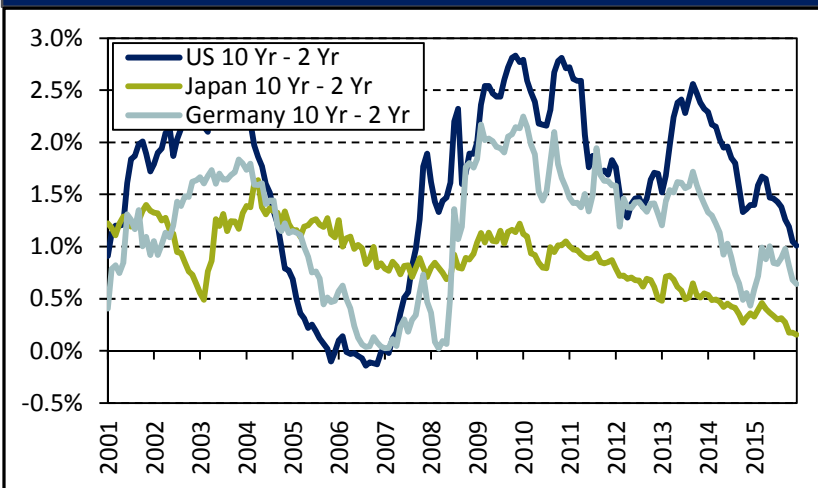
Source: Bloomberg

Global yield curves have shifted downwards



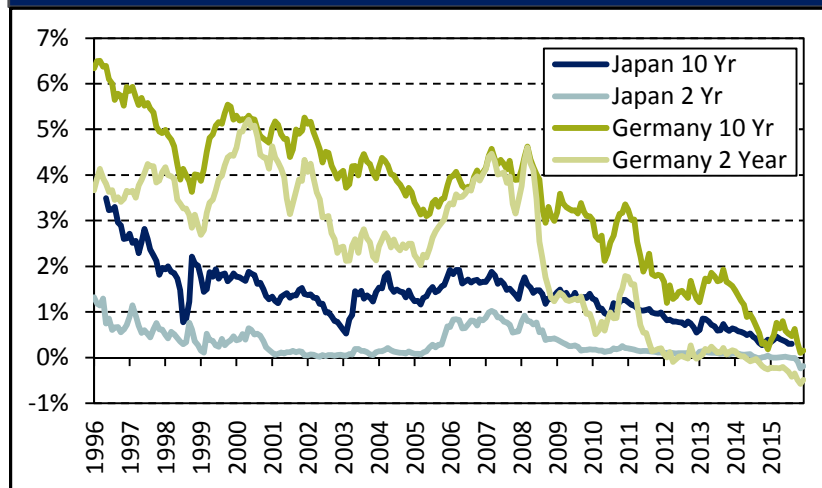
Source: Bloomberg

Global yield curves trending lower



Source: Bloomberg

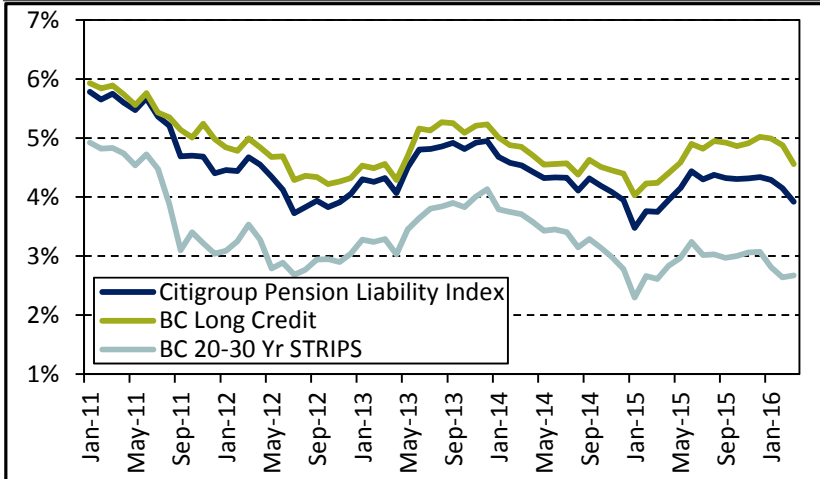
Global yields have trended lower over long term



Source: Bloomberg

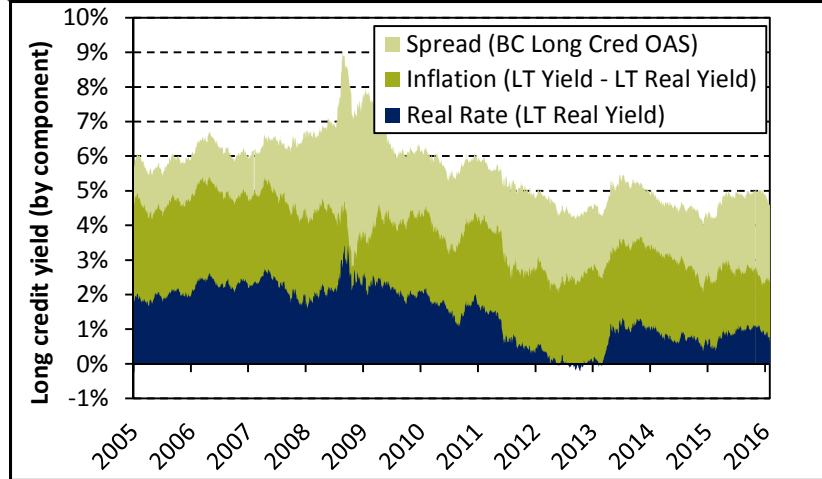
Long Rates and Liability

Long duration yields have fallen over last few years even with recent uptick



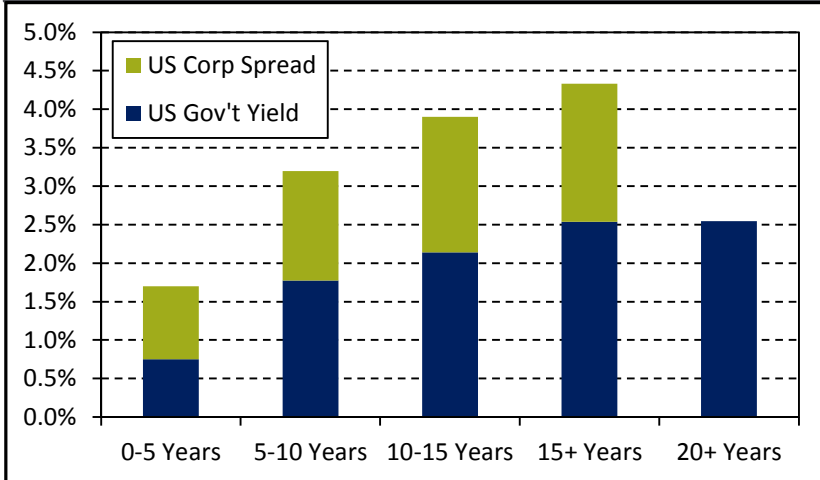
Source: Bloomberg, Citigroup, Barclays

Lower yields driven by low inflation expectations and real rates



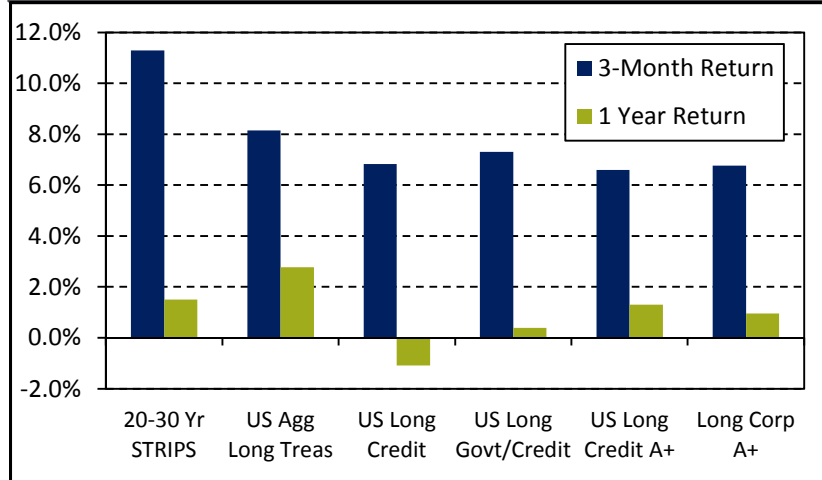
Source: Bloomberg, US Treasury, Barclays, NEPC

Yields are low but spreads above historic averages



Source: Bloomberg, BofA Merrill Lynch, Barclays *No index for 20+ year corporate

Returns recently positive

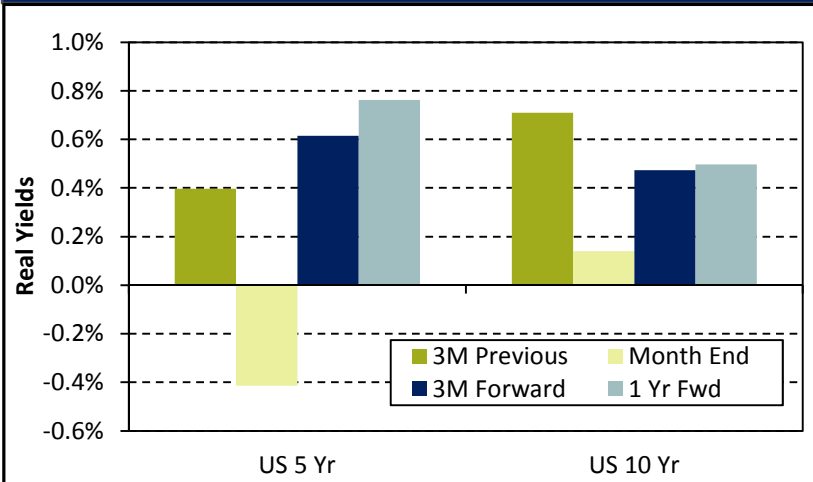


Source: Bloomberg, Barclays



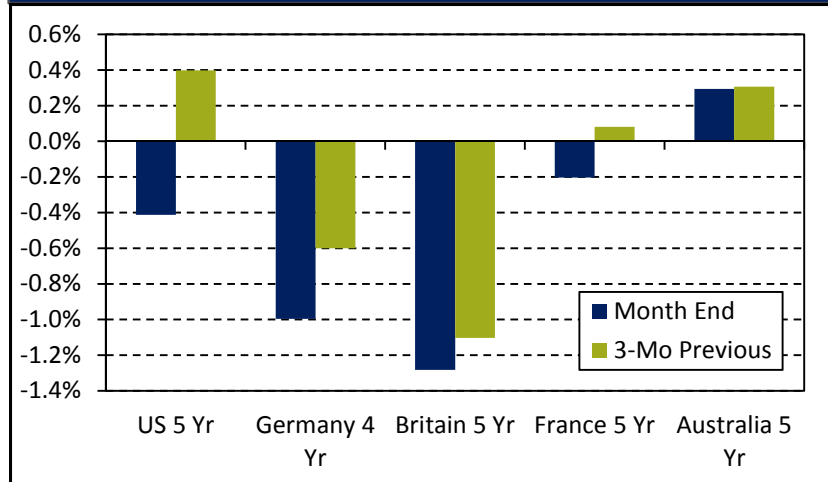
Inflation and Real Rates

US real yields have decreased slightly



Source: Bloomberg

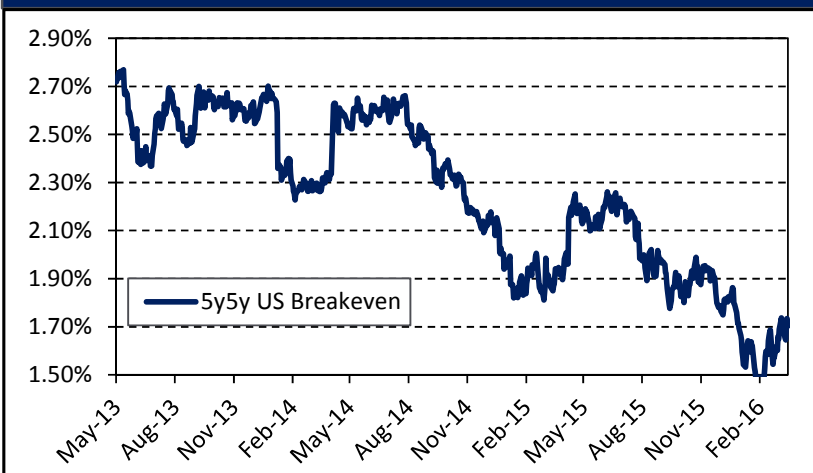
Global real yields mostly negative



*3-Mo data not available for Germany 4 year rate

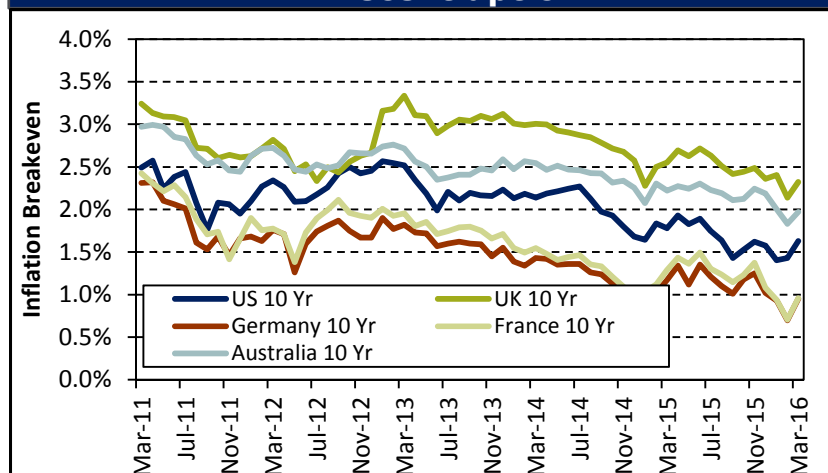
Source: Bloomberg

US inflation expectations very low



Source: Bloomberg

Global inflation expectations have seen recent uptick

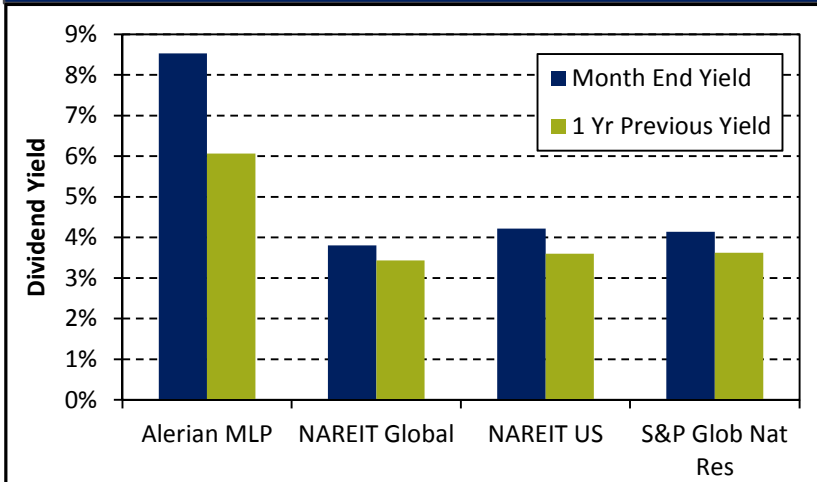


Source: Bloomberg



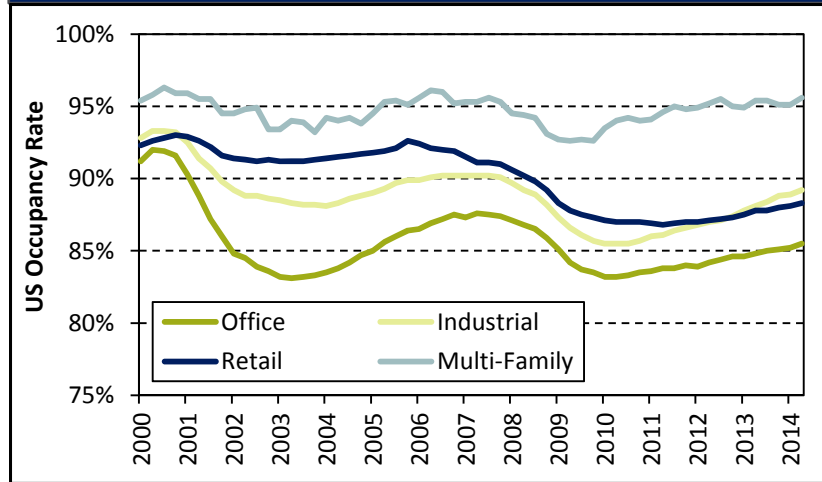
Inflation Sensitive Growth Assets

Yields higher relative to last year



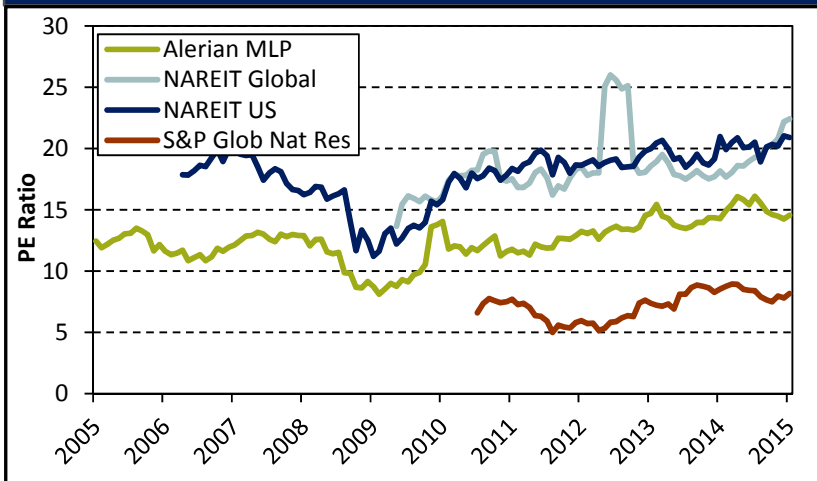
Source: Bloomberg, Alerian, Nareit, Standard and Poors

Gradual recovery in occupancy rates



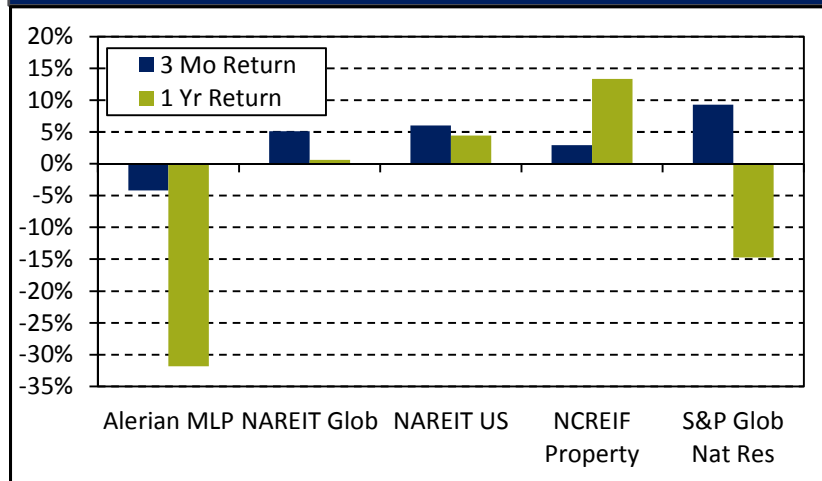
Source: Bloomberg, CB Richard Ellis

PE Ratios near or above averages



Source: Bloomberg, US Census Bureau

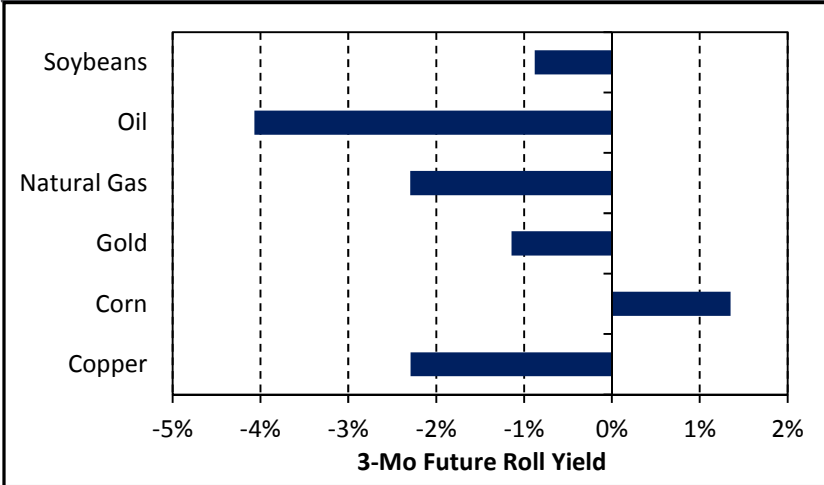
Recent MLP selloff and energy pressure



Source: Bloomberg, Alerian, Nareit, Standard and Poors

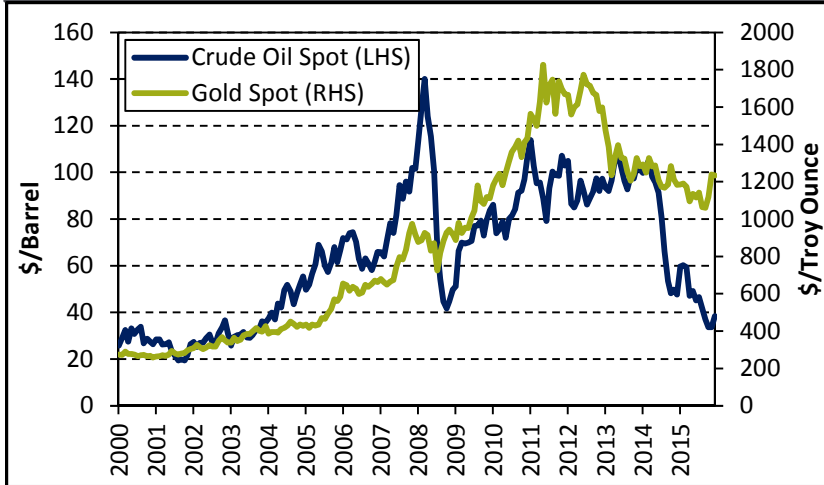
Commodities

Contango in major commodity futures



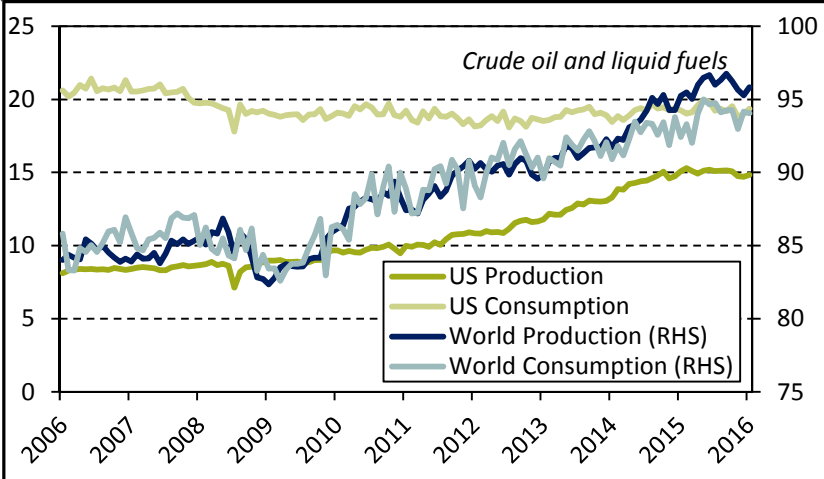
Source: Bloomberg

Precipitous fall in oil prices



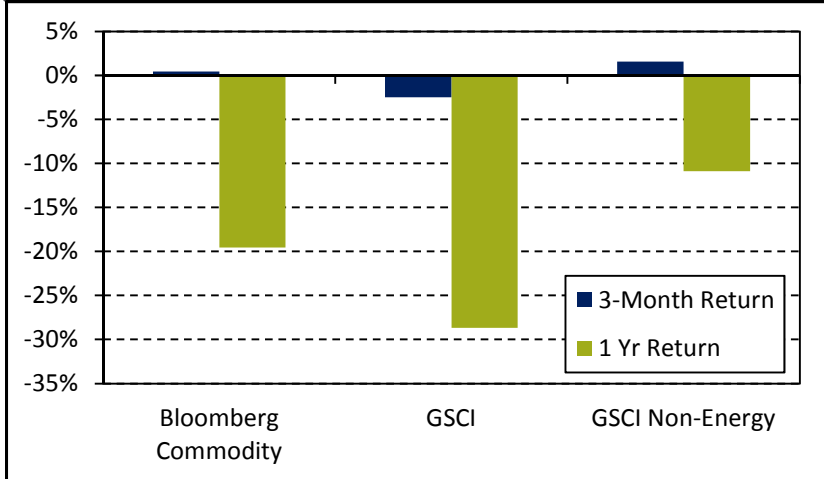
Source: Bloomberg

US fuel production closing gap with consumption



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

Commodity indices negative over one year after oil-induced 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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