



NEPC, LLC

YOU DEMAND MORE. So do we.SM



Vermont Pension Investment Committee

Third Fiscal Quarter 2017 Preliminary Investment Performance Analysis

June 27, 2017

Christopher Levell, ASA, CFA, CAIA, Partner
Margaret Belmondo, CIMA®, Senior Consultant
Nedelina Petkova, Senior Analyst

255 State Street, Boston, MA 02109 | TEL: 617.374.1300 | FAX: 617.374.1313 | www.nepc.com

BOSTON | ATLANTA | CHARLOTTE | CHICAGO | DETROIT | LAS VEGAS | PORTLAND | SAN FRANCISCO

NEPC Update



Highlights of First Quarter Happenings at NEPC

March 31, 2017

NEPC Insights

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



MARK YOUR CALENDAR!



Upcoming Events

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

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

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

Webinar Replays

- NEPC 2017 Market Outlook (January 2017)

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

Recent Updates

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



NEPC Gives Back

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

Market Environment

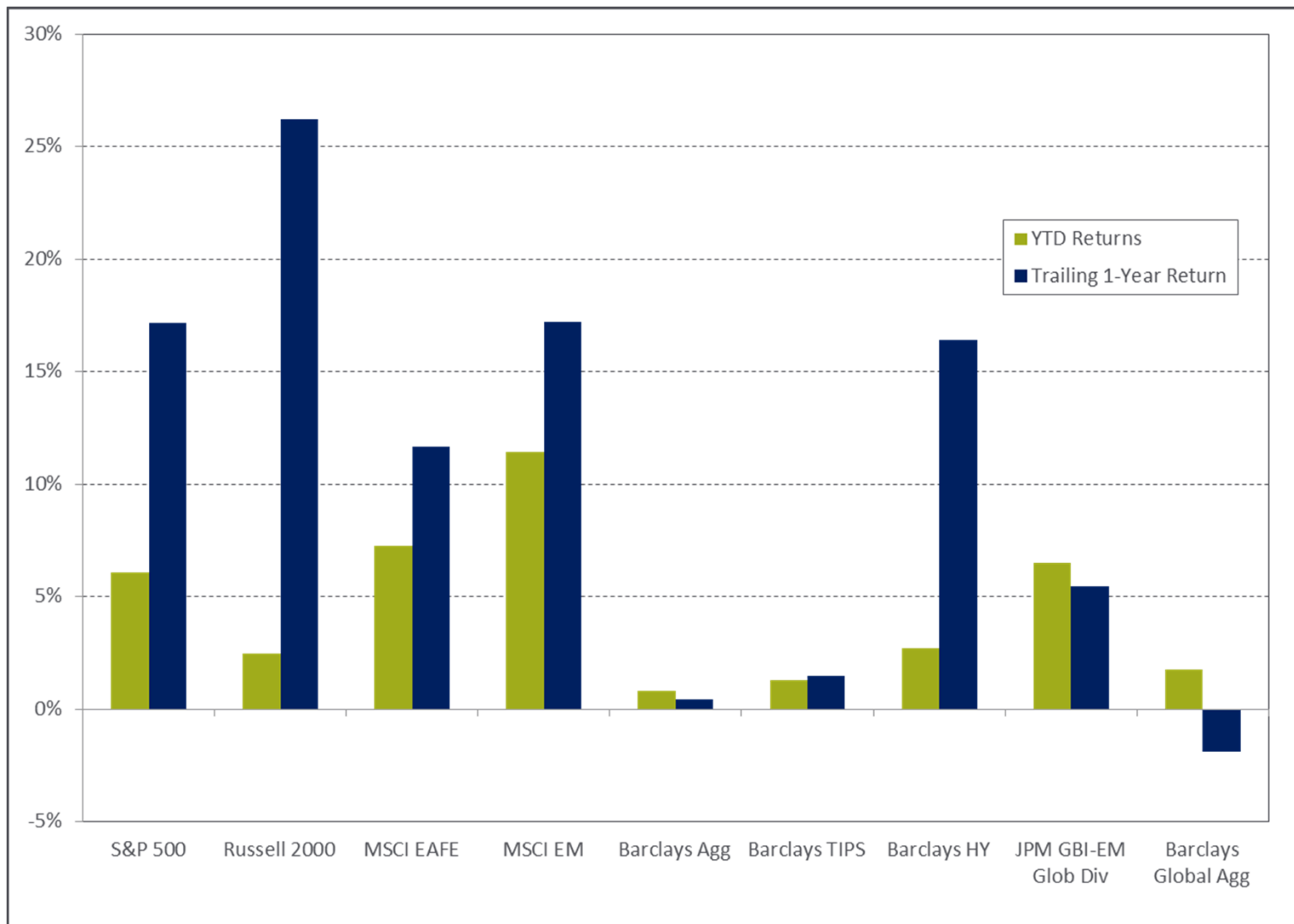


- **The US economy is experiencing an extended economic growth cycle**
 - Eight years removed from recession, US consumers continue to drive the US economy
 - Continued economic gains support positive but subdued risk asset returns
- **Federal Reserve monetary policy remains on a gradual normalization path**
 - Despite the March increase, the path for rate hikes appears subdued in 2017 and beyond
 - As the Fed looks to reduce its \$4.5 trillion balance sheet, clear messaging will be critical
 - Chair Yellen's uncertain tenure may stoke market unease as her term expires in Feb. 2018
- **Stimulative policies ease China's transition to a consumption led economy**
 - However, credit expansion and infrastructure spending risk inflating asset price bubbles
 - Central bank's yuan defense has been sizable but a rapid price fall remains a global tail-risk
- **Globalization backlash is disrupting the political and economic orthodoxy**
 - Anti-establishment political sentiment fuels a wider range of potential outcomes both at the polls (e.g. Europe) and in the actions of political leaders (e.g. US Trade Policy)
 - Capital market fundamentals are not materially altered but the associated risks of globalization backlash likely lead to larger price shifts among developed market currencies

Current Opportunities

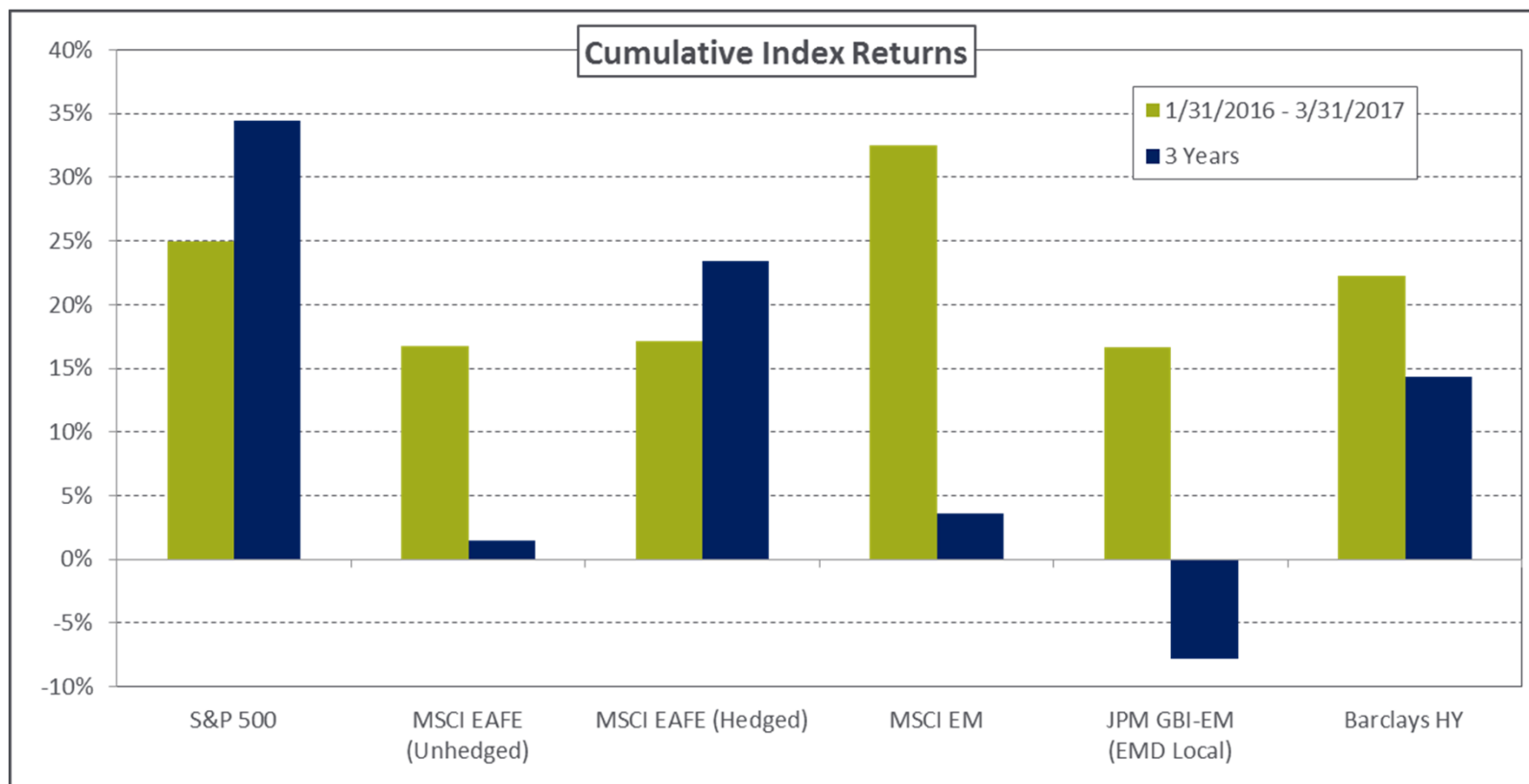
- **Trim US equity gains following a period of strong market returns**
 - Expanding valuations have driven recent gains with soft corporate earnings growth
- **Maintain overweight exposure to non-US developed market equities**
 - We believe markets offer an elevated return that compensates for Europe's political risk
- **Emerging market equities remain attractive and offer robust total returns**
 - Overweight small-cap and consumer focused strategies relative to broad mandates
- **Allocate to TIPS from core bonds as inflation expectations remain muted**
 - Duration exposure remains a critical asset allocation building block for a portfolio
- **Reduce high yield bond exposure for other credit strategies**
 - High yield credit spreads are less compelling but continue to benefit from high demand
- **For tactical investors, look to fund emerging local debt from risk assets**
 - Valuations for many emerging market currencies remain attractive despite the recent rally
- **Add macro hedge fund strategies for portfolio diversification benefits**
 - Systematic strategies tend to exhibit low correlation to equity markets

Year to Date Performance: All Assets Have Moved Higher



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

Maintain a Disciplined Rebalance Approach



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

- **US risk assets have outperformed expectations and we encourage investors to trim exposure to US equities and high yield**
- **We continue to recommend a strategic 50% currency hedge but US dollar gains over the last 3 years offer a rebalancing opportunity**

Index Performance Summary as of 03/31/2017

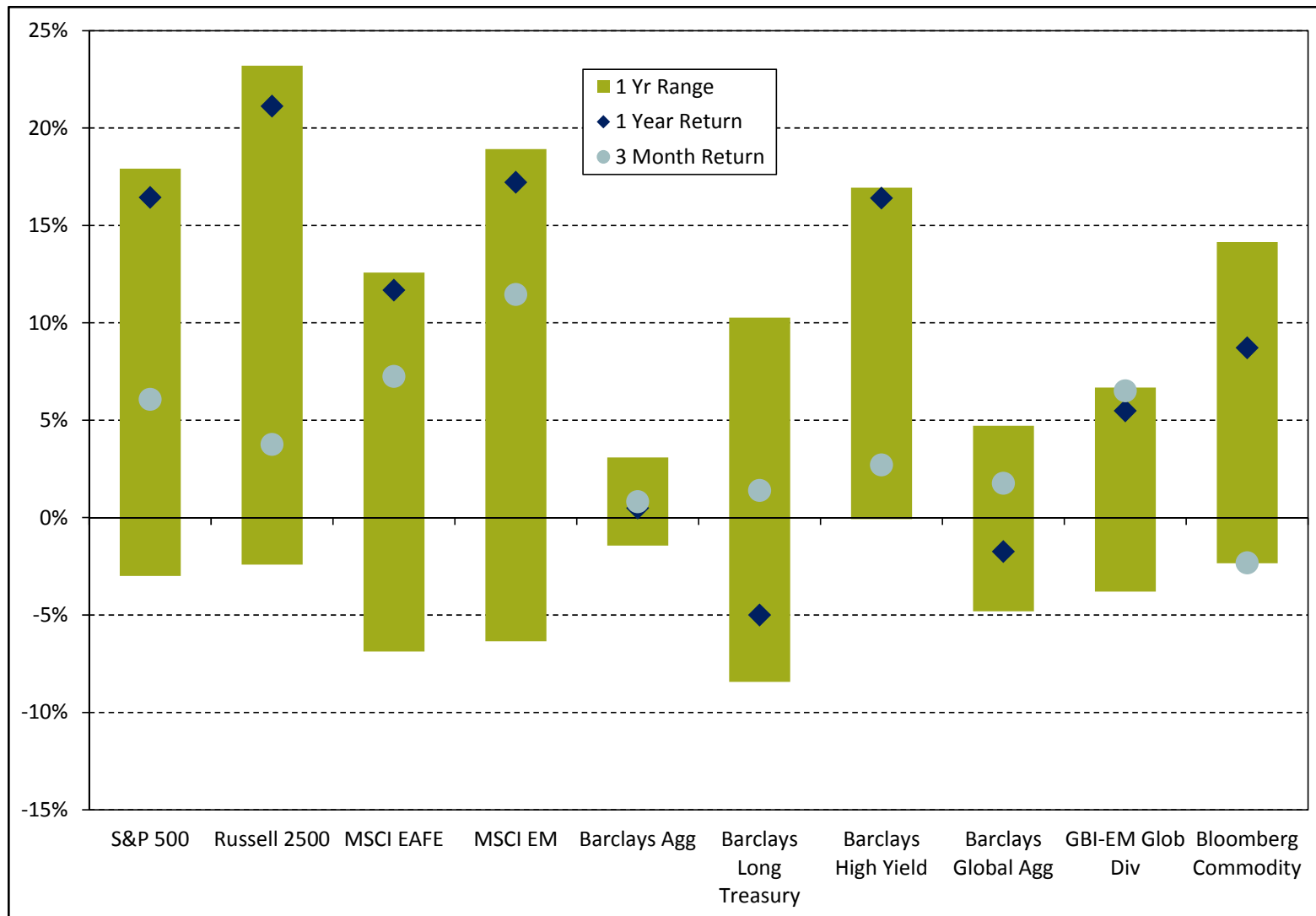
	2009	2010	2011	2012	2013	2014	2015	2016	Jan	Feb	Mar	YTD
EM Equity	78.5%	18.9%	-18.4%	18.2%	-2.6%	-2.2%	-14.9%	11.2%	5.5%	3.1%	2.5%	11.4%
Int'l Developed Equity	31.8%	7.8%	-12.1%	17.3%	22.8%	-4.9%	-0.8%	1.0%	2.9%	1.4%	2.8%	7.2%
EM Local Credit	22.0%	15.7%	-1.8%	16.8%	-9.0%	-5.7%	-14.9%	9.9%	2.3%	1.8%	2.3%	6.5%
US Large Cap	26.5%	15.1%	2.1%	16.0%	32.4%	13.7%	1.4%	12.0%	1.9%	4.0%	0.1%	6.1%
US Small/Mid Cap	34.4%	26.7%	-2.5%	17.9%	36.8%	7.1%	-2.9%	17.6%	1.4%	2.4%	-0.1%	3.8%
US High Yield	58.2%	15.1%	5.0%	15.8%	7.4%	2.5%	-4.5%	17.1%	1.5%	1.5%	-0.2%	2.7%
Global Credit	-6.5%	-5.3%	-5.3%	-4.1%	2.7%	-0.6%	3.3%	2.1%	1.1%	0.5%	0.2%	1.8%
US Long Treasuries	-12.9%	9.4%	29.9%	3.6%	-12.7%	25.1%	-1.2%	1.3%	0.4%	1.6%	-0.6%	1.4%
US Credit	5.9%	6.5%	7.8%	4.2%	-2.0%	6.0%	0.5%	2.6%	0.2%	0.7%	-0.1%	0.8%
Commodities	18.9%	16.8%	-13.3%	-1.1%	-9.5%	-17.0%	-24.7%	11.8%	0.1%	0.2%	-2.7%	-2.3%

Source: Bloomberg, Barclays, S&P, Russell, MSCI, JP Morgan, Credit Suisse

S&P 500 = US Large Cap
 Russell 2500 = US Small/Mid Cap
 MSCI EAFE = International Developed Equity
 MSCI EM = Emerging Market Equity
 Barclays Agg = US Credit
 Barclays Long Treasury = US Long Treasuries
 Barclays High Yield = US HY
 Barclays Global Agg = Global Credit
 GBI-EM Global Diversified = EM Local Credit
 Bloomberg Commodity = Commodities

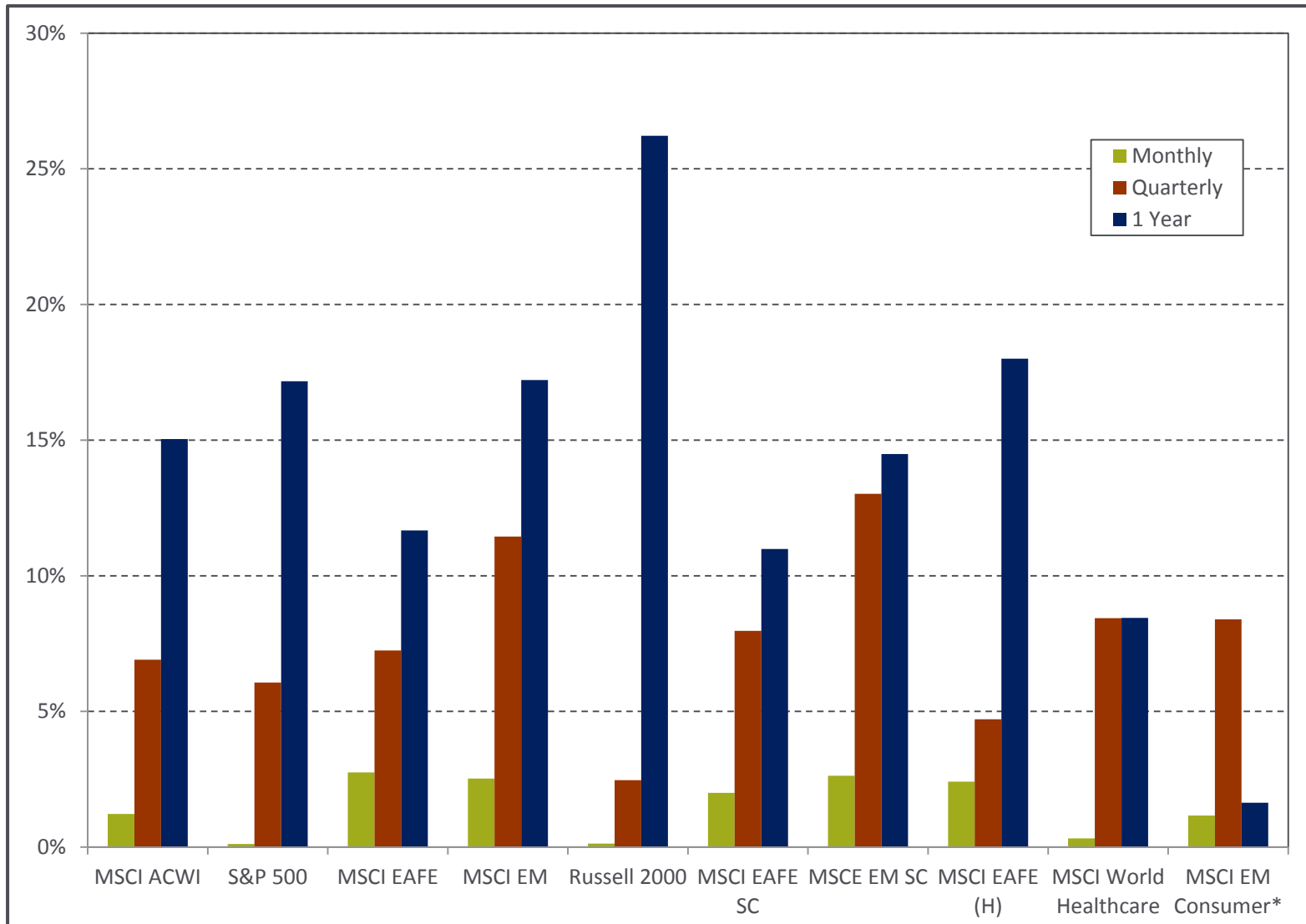


Near Term Broad Market Performance Summary as of 03/31/2017



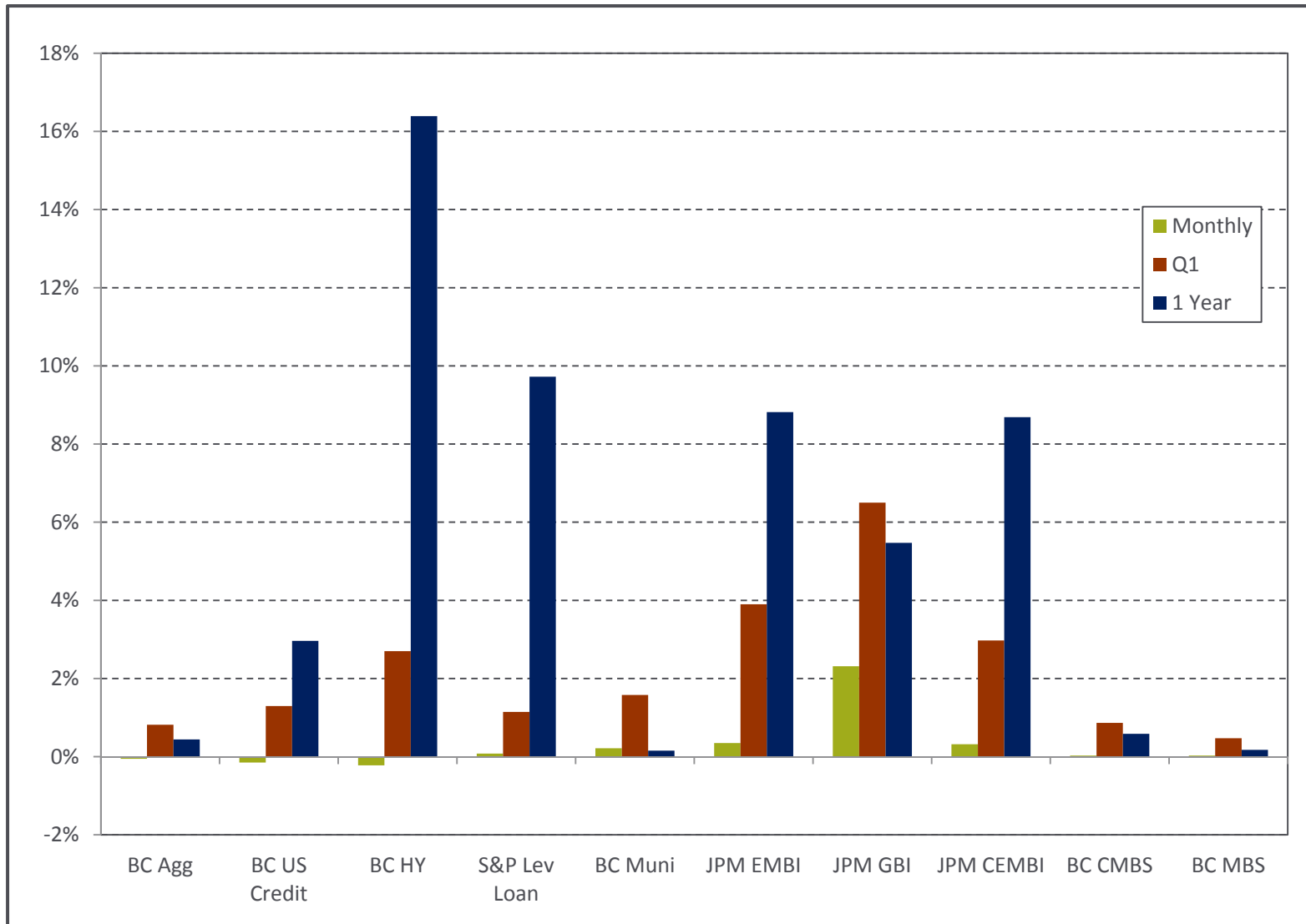
Source: Bloomberg, Standard and Poors, Russell, MSCI, Barclays, JP Morgan
 *1 Yr Range: Represents range of cumulative high/low daily index returns for an investment made one year ago

Equity Index Returns as of 03/31/2017



Source: MSCI, S&P, Russell, NEPC, Bloomberg

Fixed Income Index Returns as of 03/31/2017



Source: Barclays, S&P, JPM, Bloomberg

State Municipal Employees' Retirement System

Vermont Municipal Employees

Total Fund Performance Summary - Net

	Market Value	3 Mo	Rank	Fiscal YTD	Rank	1 Yr	Rank	3 Yrs	Rank	5 Yrs	Rank	7 Yrs	Rank	10 Yrs	Rank
Municipal Composite	\$585,212,337	4.2%	55	7.9%	69	11.2%	41	4.1%	86	5.9%	90	6.8%	79	4.3%	83
<i>Policy Index</i>		3.5%	89	7.1%	86	9.7%	78	4.0%	86	5.6%	93	6.2%	94	4.4%	79
<i>Allocation Index</i>		4.0%	67	7.7%	75	10.3%	60	4.0%	87	5.7%	93	6.2%	94	4.4%	79
<i>InvestorForce Public DB Net Median</i>		4.2%		8.8%		10.8%		5.0%		7.2%		7.4%		5.1%	

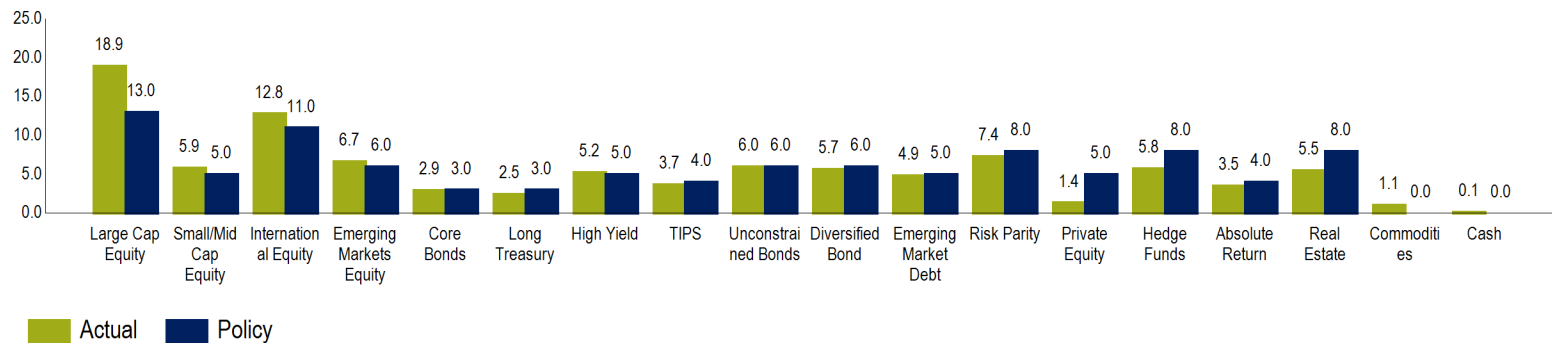
3 Years Ending March 31, 2017

	Anlzd Ret	Rank	Anlzd Std Dev	Rank	Sharpe Ratio	Rank	Sortino Ratio RF	Rank
Municipal Composite	4.05%	86	5.77%	30	0.67	76	1.16	62
Policy Index	4.04%	86	5.28%	11	0.73	65	1.29	43
Allocation Index	3.97%	87	5.54%	22	0.69	73	1.16	62

5 Years Ending March 31, 2017

	Anlzd Ret	Rank	Anlzd Std Dev	Rank	Sharpe Ratio	Rank	Sortino Ratio RF	Rank
Municipal Composite	5.86%	90	5.93%	33	0.97	82	1.58	66
Policy Index	5.61%	93	5.51%	18	1.00	77	1.57	67
Allocation Index	5.69%	93	5.63%	23	0.99	78	1.54	70

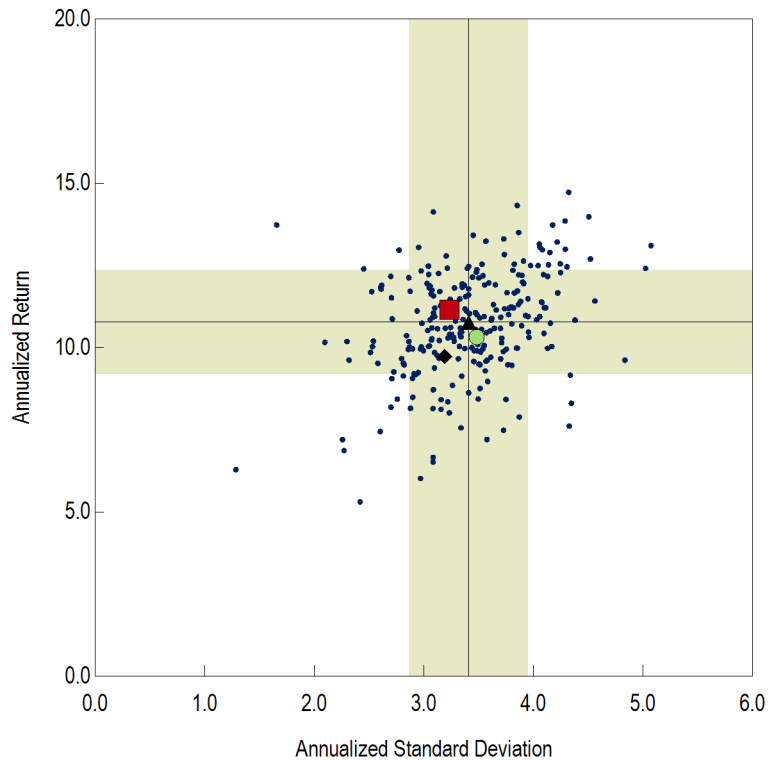
Actual vs Target Allocation (%)



Vermont Municipal Employees

Total Fund Risk/Return - Net

1 Years Ending March 31, 2017



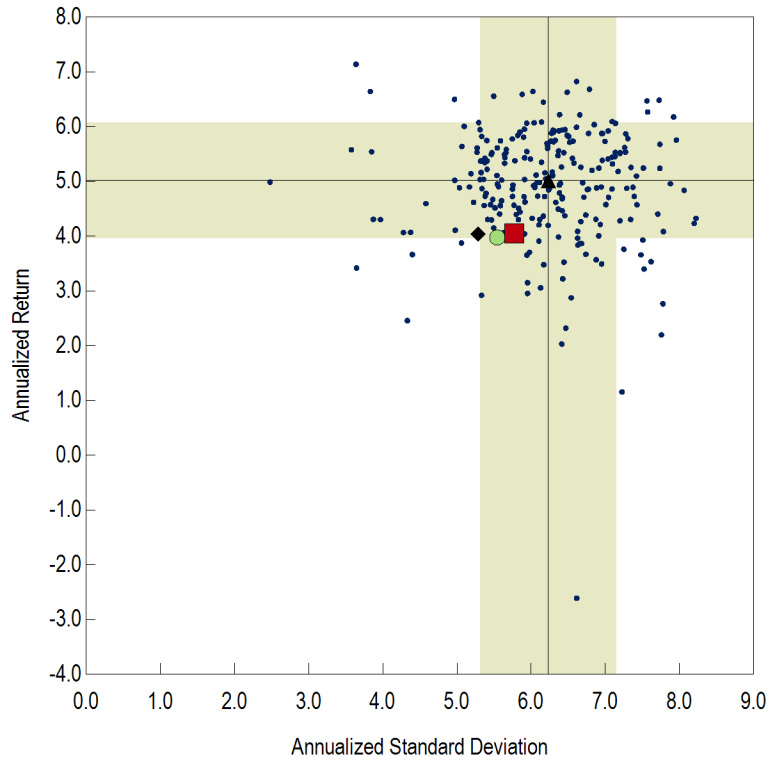
1 Year Ending March 31, 2017

	Anlzd Return	Anlzd Return Rank	Anlzd Standard Deviation	Anlzd Standard Deviation Rank	Sharpe Ratio	Sharpe Ratio Rank
Municipal Composite	11.16%	41	3.23%	39	3.34	29
Policy Index	9.73%	78	3.19%	35	2.93	59
S&P 500	17.17%	1	6.24%	99	2.69	78
Citi WGBI	-3.65%	99	7.60%	99	-0.53	99
MSCI ACWI	15.04%	1	5.69%	99	2.58	85
MSCI ACWI ex USA	13.13%	5	8.13%	99	1.57	99
InvestorForce Public DB Net Median	10.78%	--	3.41%	--	3.02	--

Vermont Municipal Employees

Total Fund Risk/Return - Net

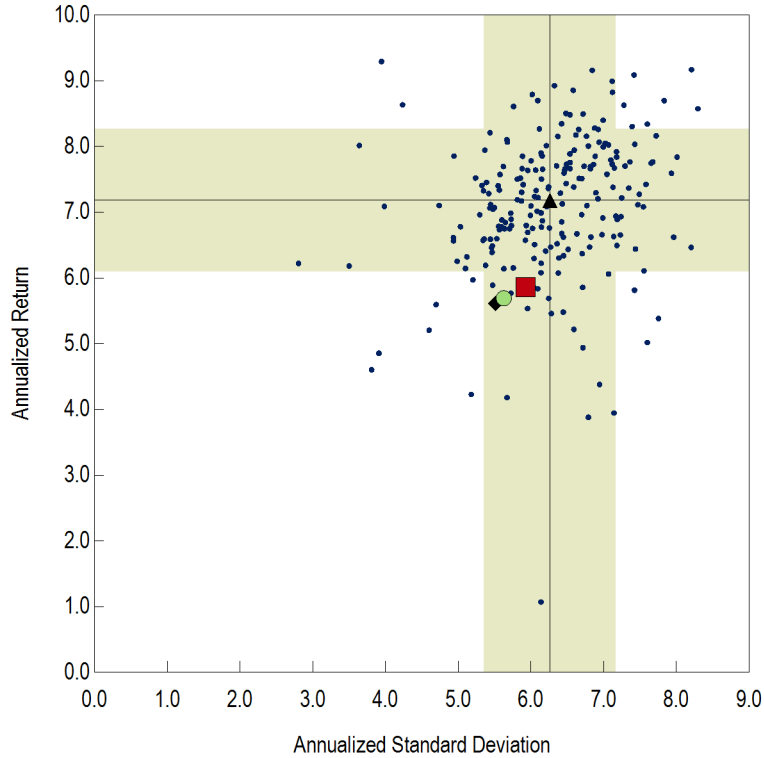
3 Years Ending March 31, 2017



3 Years Ending March 31, 2017

	Anlzd Return	Anlzd Return Rank	Anlzd Standard Deviation	Anlzd Standard Deviation Rank	Sharpe Ratio	Sharpe Ratio Rank
Municipal Composite	4.05%	86	5.77%	30	0.67	76
Policy Index	4.04%	86	5.28%	11	0.73	65
S&P 500	10.37%	1	10.41%	99	0.98	11
Citi WGBI	-1.20%	99	5.90%	34	-0.23	99
MSCI ACWI	5.08%	48	10.79%	99	0.45	97
MSCI ACWI ex USA	0.56%	99	12.35%	99	0.03	99
InvestorForce Public DB Net Median	5.02%	--	6.23%	--	0.79	--

5 Years Ending March 31, 2017



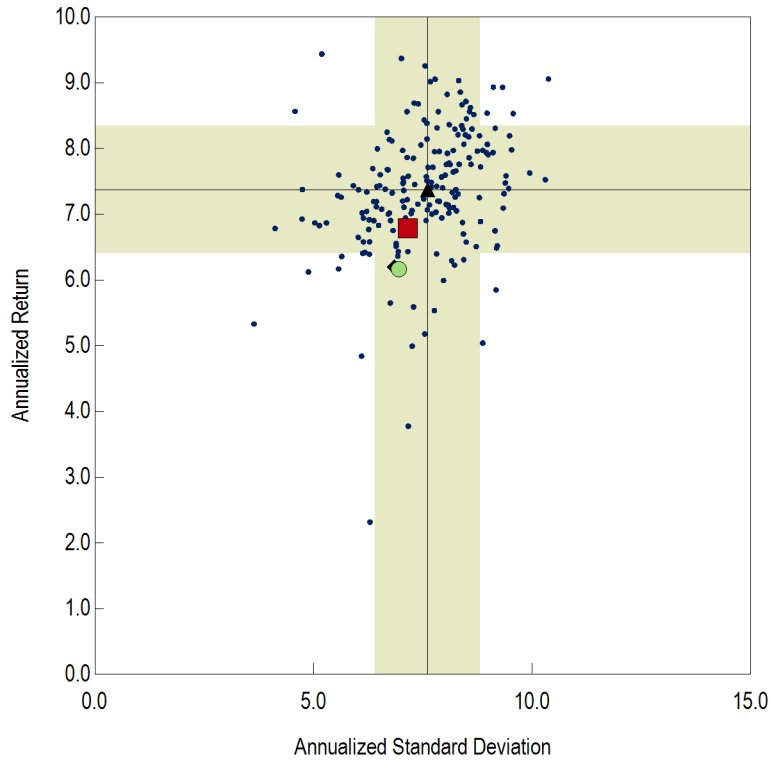
5 Years Ending March 31, 2017

	Anlzd Return	Anlzd Return Rank	Anlzd Standard Deviation	Anlzd Standard Deviation Rank	Sharpe Ratio	Sharpe Ratio Rank
Municipal Composite	5.86%	90	5.93%	33	0.97	82
Policy Index	5.61%	93	5.51%	18	1.00	77
S&P 500	13.30%	1	10.20%	99	1.29	15
Citi WGBI	-0.58%	99	5.29%	10	-0.13	99
MSCI ACWI	8.37%	9	11.06%	99	0.75	97
MSCI ACWI ex USA	4.36%	98	12.93%	99	0.33	99
InvestorForce Public DB Net Median	7.18%	--	6.26%	--	1.13	--

Vermont Municipal Employees

Total Fund Risk/Return - Net

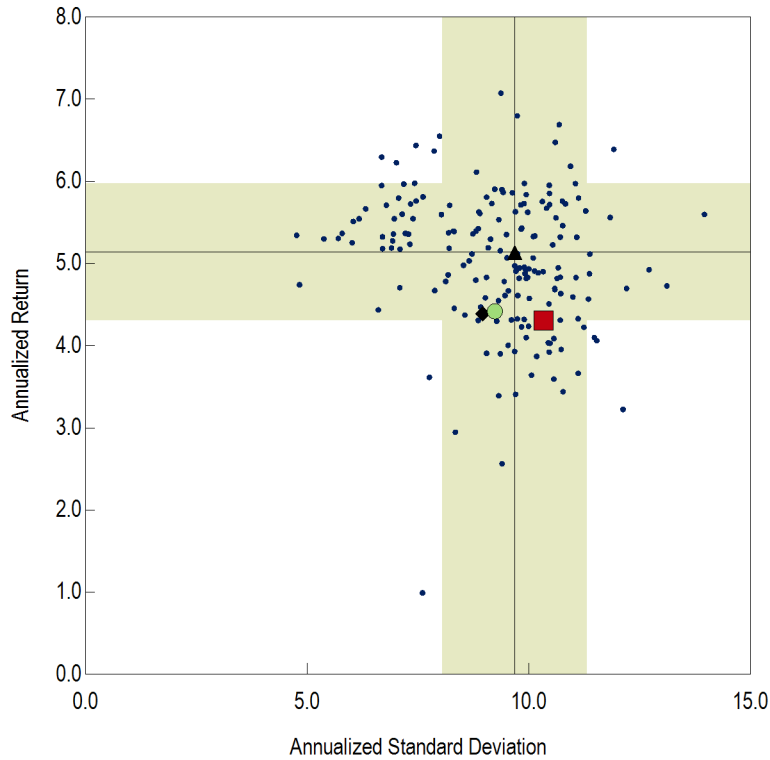
7 Years Ending March 31, 2017



7 Years Ending March 31, 2017

	Anlzd Return	Anlzd Return Rank	Anlzd Standard Deviation	Anlzd Standard Deviation Rank	Sharpe Ratio	Sharpe Ratio Rank
Municipal Composite	6.79%	79	7.15%	39	0.93	64
Policy Index	6.20%	94	6.84%	28	0.89	73
S&P 500	12.94%	1	12.44%	99	1.03	35
Citi WGBI	1.31%	99	5.68%	8	0.21	99
MSCI ACWI	7.81%	31	13.69%	99	0.56	99
MSCI ACWI ex USA	3.82%	99	15.52%	99	0.24	99
InvestorForce Public DB Net Median	7.37%	--	7.61%	--	0.97	--

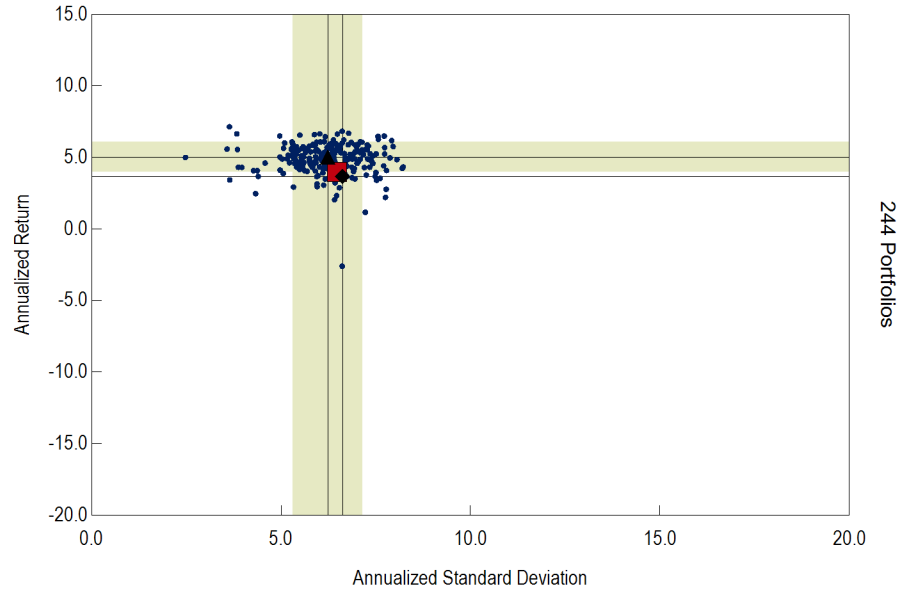
10 Years Ending March 31, 2017



10 Years Ending March 31, 2017

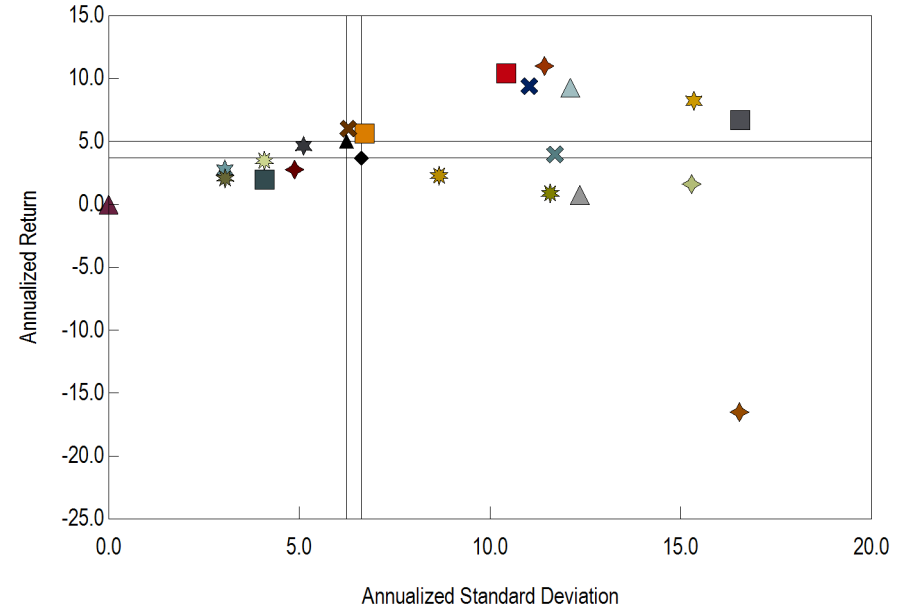
	Anlzd Return	Anlzd Return Rank	Anlzd Standard Deviation	Anlzd Standard Deviation Rank	Sharpe Ratio	Sharpe Ratio Rank
Municipal Composite	4.30%	83	10.33%	72	0.36	83
Policy Index	4.39%	79	8.95%	35	0.43	68
S&P 500	7.51%	1	15.30%	99	0.46	56
Citi WGBI	3.03%	99	6.82%	9	0.37	83
MSCI ACWI	4.00%	91	17.01%	99	0.20	99
MSCI ACWI ex USA	1.35%	99	19.17%	99	0.04	99
InvestorForce Public DB Net Median	5.14%	--	9.67%	--	0.48	--

Annualized Return vs. Annualized Standard Deviation
3 Years Ending March 31, 2017



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

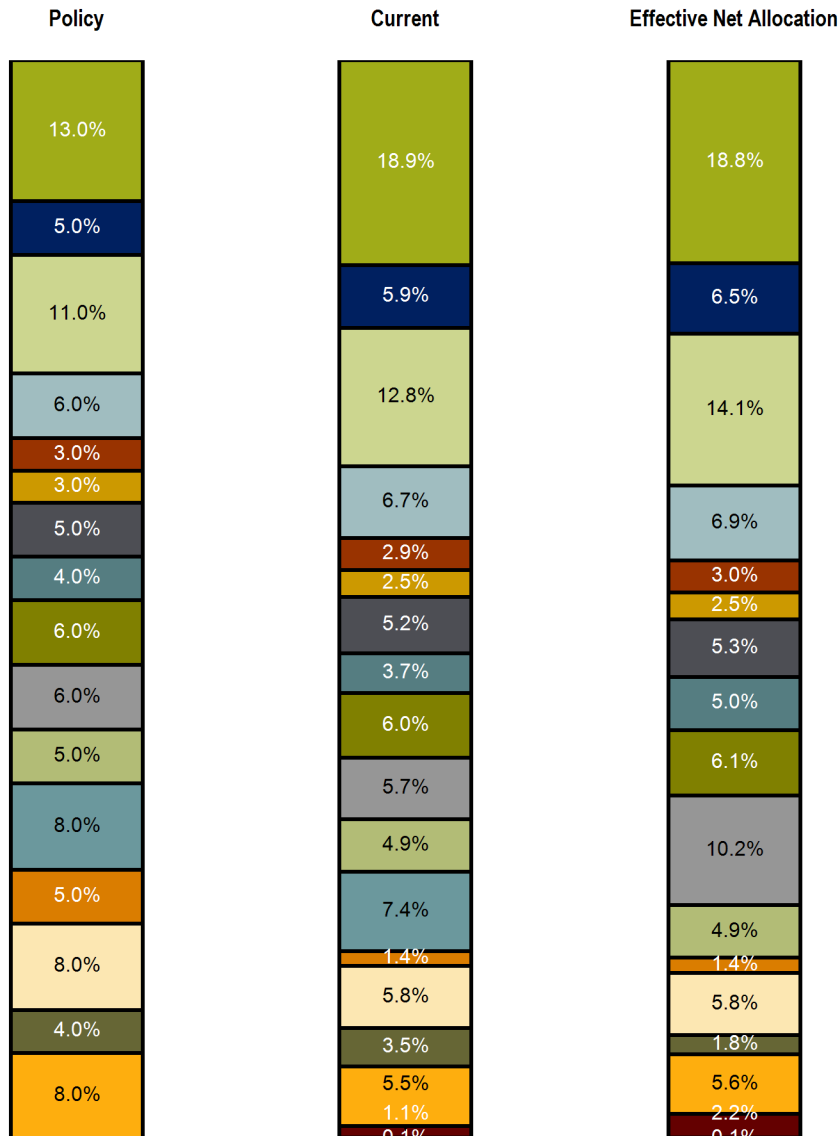
Annualized Return vs. Annualized Standard Deviation
3 Years Ending March 31, 2017



- 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
- ◆ Guggenheim
- BlackRock TIPS
- ◆ Wellington Opportunistic EMD
- ◆ AQR Global Risk Premium
- ▲ Vermont Cash
- ◆ Schroder
- ◆ Total Marketable Assets Custom Index
- ▲ Universe Median
- 68% Confidence Interval

Vermont Municipal Employees

Total Fund Asset Allocation vs. Policy Targets



Asset Allocation vs. Target

	Policy	Current	Effective Net Allocation
Large Cap Equity	13.0%	19.4%	18.8%
Small/Mid Cap Equity	5.0%	6.0%	6.5%
International Equity	11.0%	13.1%	14.1%
Emerging Markets Equity	6.0%	6.8%	6.9%
Core Bonds	3.0%	3.0%	3.0%
Long Treasury	3.0%	2.6%	2.5%
High Yield	5.0%	5.4%	5.3%
TIPS	4.0%	3.8%	5.0%
Unconstrained Bonds	6.0%	6.2%	6.1%
Diversified Bond	6.0%	5.8%	10.2%
Emerging Market Debt	5.0%	5.0%	4.9%
Risk Parity	8.0%	7.5%	--
Private Equity	5.0%	1.4%	1.4%
Hedge Funds	8.0%	5.9%	5.8%
Absolute Return	4.0%	3.6%	1.8%
Real Estate	8.0%	3.3%	5.6%
Commodities	--	1.1%	2.2%
Cash	--	0.1%	0.1%
Total	100.0%	100.0%	100.0%

Effective Net Allocation breaks out the exposures of AQR Global Risk Premium and Mellon Dynamic Growth.

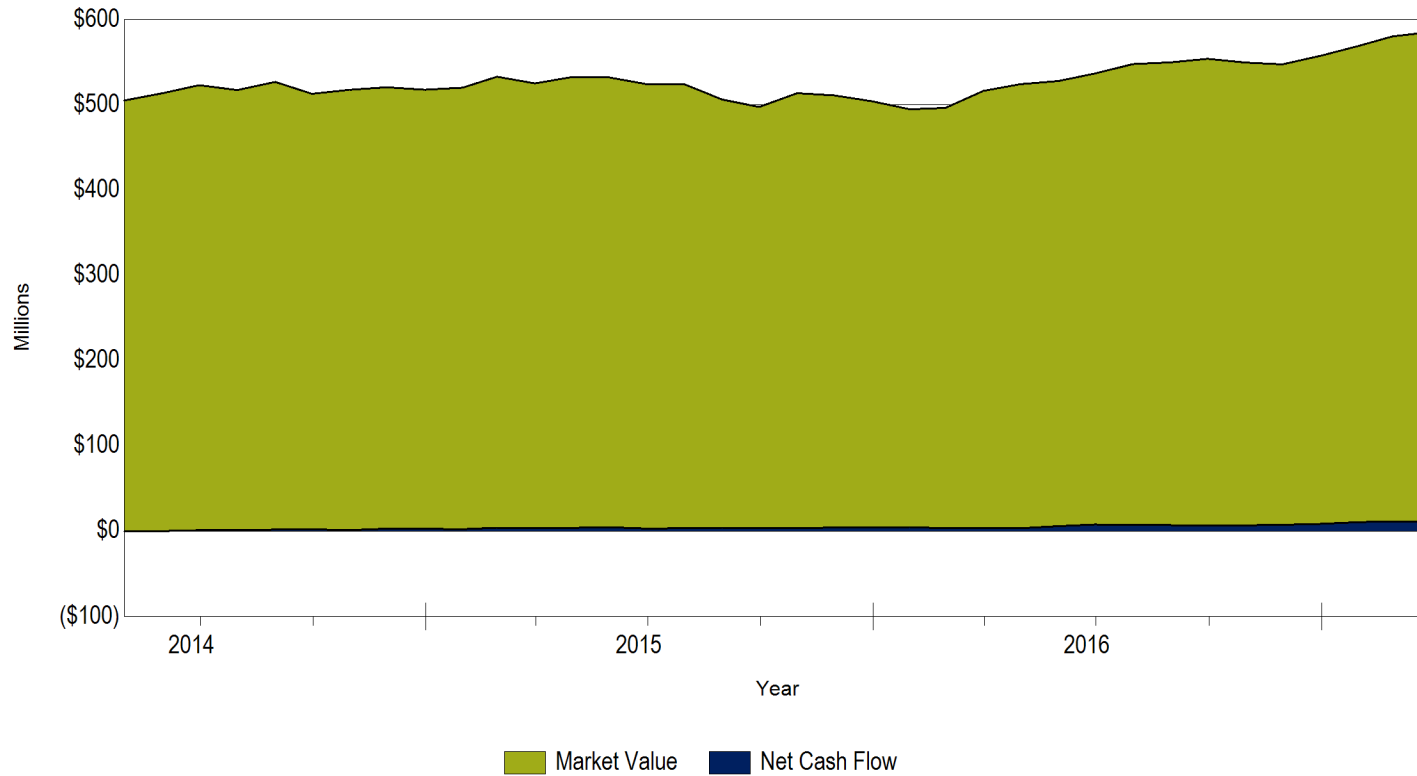
Hedge Funds include Grosvenor and Pinnacle Natural Resources, L.P.

Absolute Return includes Mellon Dynamic Growth and Allianz Structured Alpha.

Vermont Municipal Employees

Total Fund Asset Growth Summary

3 Years Ending March 31, 2017



	Last Three Months	Fiscal Year-To-Date	One Year	Three Years
Beginning Market Value	\$558,119,277	\$536,594,955	\$516,211,199	\$501,854,519
Contributions	\$6,029,047	\$24,071,307	\$40,415,102	\$244,993,445
Withdrawals	-\$3,129,856	-\$20,497,083	-\$32,556,710	-\$233,748,367
Net Cash Flow	\$2,899,191	\$3,574,223	\$7,858,392	\$11,245,077
Net Investment Change	\$24,193,868	\$45,043,158	\$61,142,746	\$72,112,740
Ending Market Value	\$585,212,337	\$585,212,337	\$585,212,337	\$585,212,337



Vermont Municipal Employees

Total Fund Asset Growth Summary by Manager

	Quarter Ending March 31, 2017					Ending Market Value
	Beginning Market Value	Contributions	Withdrawals	Net Cash Flow	Net Investment Change	
Aberdeen	\$34,912,650	\$69,538	-\$69,538	\$0	\$4,149,028	\$39,061,679
Acadian	\$23,706,452	\$26,857	-\$26,857	\$0	\$2,417,099	\$26,123,551
Allianz Structured Alpha	\$10,072,992	\$0	-\$64,177	-\$64,177	\$156,041	\$10,164,856
AQR Global Risk Premium	\$41,138,499	\$45,339	-\$45,339	\$0	\$1,922,819	\$43,061,319
BlackRock TIPS	\$21,231,351	\$3,623	-\$3,623	\$0	\$273,300	\$21,504,651
Champlain	\$12,386,591	\$25,122	-\$25,122	\$0	\$710,190	\$13,096,781
GAM	\$56,902	\$0	\$0	\$0	-\$5	\$56,898
GAM Unconstrained Bond	\$19,951,702	\$0	-\$25,516	-\$25,516	\$639,478	\$20,565,665
Grosvenor	\$26,009,326	\$0	\$0	\$0	\$465,921	\$26,475,247
Guggenheim	\$23,240,824	\$27,296	-\$27,296	\$0	\$496,193	\$23,737,018
Harbourvest Dover Street Fund IX	\$264,587	\$208,259	\$0	\$208,259	\$0	\$472,846
Harbourvest Dover VIII Fund	\$2,327,222	\$0	\$0	\$0	\$0	\$2,327,222
Harbourvest Partners IX Buyout Fund	\$1,965,421	\$0	\$0	\$0	\$0	\$1,965,421
Harbourvest Partners IX Credit Opportunities	\$284,793	\$0	\$0	\$0	\$0	\$284,793
Harbourvest Partners IX Venture Fund	\$1,419,815	\$0	\$0	\$0	\$0	\$1,419,815
Harbourvest Partners X Buyout Fund	\$607,852	\$0	\$0	\$0	\$0	\$607,852
Harbourvest Partners X Venture Fund	\$288,423	\$0	\$0	\$0	\$0	\$288,423
HIPEP VII	\$533,872	\$40,669	\$0	\$40,669	\$0	\$574,542
KDP	\$6,758,084	\$8,939	-\$8,939	\$0	\$127,590	\$6,885,674
Mellon Dynamic Growth	\$10,270,838	\$15,903	-\$15,903	\$0	\$314,086	\$10,584,924
Mondrian	\$22,368,686	\$19,194	-\$19,194	\$0	\$1,686,380	\$24,055,067
Morgan Stanley Prime Property	\$13,241,205	\$0	-\$27,807	-\$27,807	\$282,691	\$13,496,090
PIMCO Core Plus	\$32,761,099	\$23,007	-\$23,007	\$0	\$537,698	\$33,298,797
PIMCO Unconstrained	\$14,415,943	\$20,243	-\$20,243	\$0	\$321,919	\$14,737,862
Pinnacle Natural Resources, L.P.	\$5,237,205	\$2,295,352	\$0	\$2,295,352	-\$228,946	\$7,303,611

Vermont Municipal Employees

Total Fund Asset Growth Summary by Manager

	Quarter Ending March 31, 2017					Ending Market Value
	Beginning Market Value	Contributions	Withdrawals	Net Cash Flow	Net Investment Change	
RREEF America REIT III	\$57,951	\$0	-\$181	-\$181	-\$249	\$57,522
Schroder	\$8,872,340	\$22,709	-\$2,318,061	-\$2,295,352	-\$164,472	\$6,412,516
Siguler Guff DREOF II	\$6,120,482	\$41,028	-\$3,932	\$37,096	\$232,849	\$6,390,428
Siguler Guff DREOF II Co-Investment	\$1,146,502	\$70,804	\$0	\$70,804	\$42,461	\$1,259,767
SSgA ACWI Ex US	\$22,983,849	\$4,312	-\$4,312	\$0	\$1,825,147	\$24,808,996
SSgA Barclays Aggregate Index	\$17,081,793	\$1,999	-\$1,999	\$0	\$139,803	\$17,221,596
SSgA Russell 2000 Growth	\$4,196,477	\$505	-\$505	\$0	\$229,083	\$4,425,560
SSgA S&P 400	\$4,592,711	\$375	-\$375	\$0	\$180,400	\$4,773,112
SSgA S&P 500 Cap-Wgt	\$76,220,952	\$2,004,909	-\$4,909	\$2,000,000	\$4,713,664	\$82,934,616
SSgA S&P 500 Equal-Wgt	\$25,448,827	\$1,002,624	-\$2,624	\$1,000,000	\$1,340,266	\$27,789,093
T. Rowe	\$1,141	\$0	\$0	\$0	\$0	\$1,141
Transwestern / Aslan III	\$28,766	\$0	\$0	\$0	\$0	\$28,766
UBS Trumbull	\$10,975,374	\$26,571	-\$26,571	\$0	\$126,364	\$11,101,738
Vermont Cash	\$1,175,374	\$0	-\$339,957	-\$339,957	\$0	\$835,416
Wellington	\$12,139,023	\$23,869	-\$23,869	\$0	-\$145,611	\$11,993,412
Wellington DAS	\$14,322,241	\$0	\$0	\$0	\$261,402	\$14,583,643
Wellington Opportunistic EMD	\$27,303,136	\$0	\$0	\$0	\$1,141,278	\$28,444,414
Total	\$558,119,277	\$6,029,047	-\$3,129,856	\$2,899,191	\$24,193,868	\$585,212,337

Vermont Municipal Employees

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
Municipal Composite	585,212,337	100.0	100.0	4.2	55	7.9	69	11.2	41	4.1	86	5.9	90	4.3	83
<i>Policy Index</i>				3.5	89	7.1	86	9.7	78	4.0	86	5.6	93	4.4	79
<i>Allocation Index</i>				4.0	67	7.7	75	10.3	60	4.0	87	5.7	93	4.4	79
<i>InvestorForce Public DB Net Median</i>				4.2		8.8		10.8		5.0		7.2		5.1	
Total Marketable Assets	490,351,577	83.8	--	4.8	18	8.5	56	12.0	21	4.0	87	--	--	--	--
<i>Total Marketable Assets Custom Index</i>				4.1	59	7.6	80	10.3	60	3.7	91	--	--	--	--
<i>InvestorForce Public DB Net Median</i>				4.2		8.8		10.8		5.0		7.2		5.1	
US Equity	145,013,713	24.8	18.0	5.1	46	14.9	55	18.0	46	9.7	23	--	--	--	--
<i>Russell 3000</i>				5.7	38	15.0	53	18.1	45	9.8	21	13.2	29	7.5	48
<i>eA All US Equity Net Median</i>				4.8		15.3		17.4		7.9		12.1		7.5	
Large Cap Comp	110,724,849	18.9	13.0	5.9	48	14.4	46	17.3	32	10.1	18	13.4	14	8.1	29
<i>S&P 500</i>				6.1	44	14.4	47	17.2	34	10.4	14	13.3	18	7.5	44
<i>eA US Large Cap Equity Net Median</i>				5.6		14.0		15.5		8.3		11.9		7.3	
SSgA S&P 500 Cap-Wgt	82,934,616	14.2	10.0	6.1	44	14.4	46	17.2	33	10.4	14	13.3	18	--	--
<i>S&P 500</i>				6.1	44	14.4	47	17.2	34	10.4	14	13.3	18	7.5	44
SSgA S&P 500 Equal-Wgt	27,789,093	4.7	3.0	5.2	57	14.3	47	17.4	31	9.4	31	13.9	9	8.3	23
<i>S&P 500 Equal Weighted</i>				5.4	54	14.4	46	17.4	31	9.6	28	14.0	7	8.7	17
T. Rowe	1,141	0.0	0.0												
Small/Mid Cap Comp	34,288,864	5.9	5.0	2.8	73	16.3	49	20.2	35	9.3	17	13.4	22	8.5	30
<i>Russell 2000</i>				2.5	79	21.6	19	26.2	8	7.2	39	12.4	37	7.1	68
<i>eA US Small-Mid Cap Equity Net Median</i>				4.2		15.9		18.7		6.6		11.6		7.9	
SSgA S&P 400	4,773,112	0.8	0.5	3.9	72	16.2	30	20.8	19	9.3	21	13.3	26	--	--
<i>S&P 400 MidCap</i>				3.9	71	16.3	29	20.9	17	9.4	20	13.3	26	9.0	26
<i>eA US Mid Cap Equity Net Median</i>				5.3		13.9		16.2		7.7		12.1		8.2	
Champlain	13,096,781	2.2	2.0	5.5	48	15.7	34	22.7	7	11.0	6	14.0	17	--	--
<i>Russell 2500</i>				3.8	76	17.3	23	21.5	14	7.4	55	12.6	36	7.7	60
<i>eA US Mid Cap Equity Net Median</i>				5.3		13.9		16.2		7.7		12.1		8.2	

Vermont Municipal Employees

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
Wellington	11,993,412	2.0	2.0	-1.4	86	15.8	88	16.6	92	8.2	38	12.7	48	8.6	18
<i>Russell 2000 Value</i>				-0.1	64	24.0	21	29.4	14	7.6	52	12.5	51	6.1	81
<i>eA US Small Cap Value Equity Net Median</i>				0.5		21.2		23.4		7.7		12.6		7.3	
SSgA Russell 2000 Growth	4,425,560	0.8	0.5	5.4	57	19.3	39	23.1	47	6.7	45	12.0	48	8.0	48
<i>Russell 2000 Growth</i>				5.3	58	19.2	40	23.0	49	6.7	44	12.1	46	8.1	46
<i>eA US Small Cap Growth Equity Net Median</i>				6.1		18.3		22.4		6.3		11.9		7.9	
Int'l Equity Comp	74,987,614	12.8	11.0	8.5	24	14.5	31	14.6	17	1.9	41	7.0	42	1.4	69
<i>MSCI EAFE</i>				7.2	59	13.3	43	11.7	44	0.5	74	5.8	70	1.1	76
<i>eA All EAFE Equity Net Median</i>				7.5		12.8		11.0		1.4		6.8		2.3	
Acadian	26,123,551	4.5	4.0	10.1	6	18.4	9	19.0	3	4.0	15	9.2	18	1.5	65
Mondrian	24,055,067	4.1	4.0	7.5	54	11.2	65	11.6	44	0.9	62	6.1	64	1.8	61
<i>MSCI EAFE</i>				7.2	59	13.3	43	11.7	44	0.5	74	5.8	70	1.1	76
SSgA ACWI Ex US	24,808,996	4.2	3.0	7.9	56	14.0	36	13.4	40	0.8	60	4.6	82	--	--
<i>MSCI ACWI ex USA</i>				7.9	63	13.9	37	13.1	43	0.6	63	4.4	82	1.4	72
<i>eA ACWI ex-US All Cap Equity Net Median</i>				8.5		12.0		11.5		1.4		6.2		2.6	
Emerging Market Comp	39,061,679	6.7	6.0	11.7	62	11.6	74	16.2	60	1.6	60	--	--	--	--
Aberdeen	39,061,679	6.7	6.0	11.7	62	11.6	74	16.2	60	1.6	60	1.7	64	--	--
<i>MSCI Emerging Markets</i>				11.4	68	16.4	41	17.2	51	1.2	65	0.8	80	2.7	67
<i>eA Emg Mkts Equity Net Median</i>				12.2		15.2		17.2		2.1		2.1		3.4	
US Fixed Income	152,534,905	26.1	27.0	1.8	21	2.2	25	5.0	26	3.8	26	--	--	--	--
<i>BBgBarc US Aggregate TR</i>				0.8	65	-1.7	84	0.4	80	2.7	52	2.3	61	4.3	54
<i>eA All US Fixed Inc Net Median</i>				1.1		0.0		1.7		2.7		2.9		4.4	
Diversified Fixed	100,407,562	17.2	18.0	1.9	20	0.7	35	3.0	37	3.7	27	3.3	44	3.8	66
<i>BBgBarc US Aggregate TR</i>				0.8	65	-1.7	84	0.4	80	2.7	52	2.3	61	4.3	54
<i>eA All US Fixed Inc Net Median</i>				1.1		0.0		1.7		2.7		2.9		4.4	
PIMCO Core Plus	33,298,797	5.7	6.0	1.6	3	-0.5	20	1.8	26	2.8	53	2.5	62	--	--
<i>BBgBarc US Aggregate TR</i>				0.8	66	-1.7	74	0.4	74	2.7	60	2.3	73	4.3	77
Wellington DAS	14,583,643	2.5	3.0	1.8	2	-6.1	99	-2.8	99	5.6	1	5.1	2	--	--
<i>Wellington Custom Benchmark*</i>				1.4	3	-6.5	99	-2.8	99	4.5	3	3.4	15	5.6	7

*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 Municipal Employees

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
SSgA Barclays Aggregate Index	17,221,596	2.9	3.0	0.8	68	-1.8	76	0.4	74	--	--	--	--	--	--
BBgBarc US Aggregate TR				0.8	66	-1.7	74	0.4	74	2.7	60	2.3	73	4.3	77
3-Month Libor Total Return USD				0.3	99	0.7	4	0.9	55	0.5	99	0.4	99	1.1	99
eA US Core Fixed Inc Net Median				0.9		-1.3		1.1		2.8		2.6		4.5	
Unconstrained Fixed Income	35,303,526	6.0	6.0	2.7	40	6.3	29	8.3	32	--	--	--	--	--	--
25% HY, 25% EMD, 50% BC Agg				2.1	61	2.4	73	6.4	58	4.0	11	4.2	35	5.8	20
BBgBarc Global Aggregate TR				1.8	70	-4.7	99	-1.9	99	-0.4	92	0.4	93	3.3	91
eA Global Unconstrained Fixed Inc Net Median				2.3		5.1		7.1		2.5		3.6		5.2	
PIMCO Unconstrained	14,737,862	2.5	2.5	2.1	61	6.0	33	7.9	35	2.1	66	1.5	91	--	--
25% HY, 25% EMD, 50% BC Agg				2.1	61	2.4	73	6.4	58	4.0	11	4.2	35	5.8	20
3-Month Libor Total Return USD				0.3	99	0.7	94	0.9	95	0.5	86	0.4	93	1.1	99
GAM Unconstrained Bond	20,565,665	3.5	3.5	3.1	30	6.4	27	8.7	31	--	--	--	--	--	--
3-Month LIBOR + 3%				1.0	93	3.0	69	3.9	76	3.5	20	3.4	54	4.1	76
eA Global Unconstrained Fixed Inc Net Median				2.3		5.1		7.1		2.5		3.6		5.2	
High Yield Comp	30,622,692	5.2	5.0	2.0	74	9.7	40	15.1	35	4.2	35	6.4	35	7.0	36
BBgBarc US High Yield TR				2.7	32	10.3	32	16.4	21	4.6	25	6.8	24	7.5	17
eA US High Yield Fixed Inc Net Median				2.3		9.1		13.8		3.8		6.1		6.7	
KDP	6,885,674	1.2	1.0	1.8	79	6.2	85	10.2	78	2.8	82	4.6	91	--	--
BBgBarc US High Yield TR				2.7	32	10.3	32	16.4	21	4.6	25	6.8	24	7.5	17
BofA Merrill Lynch US High Yield BB-B Rated				2.3	54	8.8	57	13.8	51	4.6	24	6.6	28	6.9	37
Guggenheim	23,737,018	4.1	4.0	2.0	71	10.7	22	16.6	20	4.6	24	--	--	--	--
BBgBarc US High Yield TR				2.7	32	10.3	32	16.4	21	4.6	25	6.8	24	7.5	17
eA US High Yield Fixed Inc Net Median				2.3		9.1		13.8		3.8		6.1		6.7	

Vermont Municipal Employees

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
TIPS	21,504,651	3.7	4.0												
BlackRock TIPS	21,504,651	3.7	4.0	1.3	--	-0.2	--	1.5	--	2.0	--	0.9	--	--	--
BBgBarc US TIPS TR				1.3	--	-0.2	--	1.5	--	2.0	--	1.0	--	4.2	--
Emerging Market Debt	28,444,414	4.9	5.0												
Wellington Opportunistic EMD	28,444,414	4.9	5.0	4.2	73	6.3	25	12.5	22	6.0	8	5.8	10	--	--
JP Morgan EMBI Global TR				3.9	80	3.2	81	8.8	54	5.7	13	5.2	20	6.9	29
eA All Emg Mkts Fixed Inc Net Median				5.2		4.8		9.2		3.6		3.7		6.1	
Risk Parity/GAA	43,061,319	7.4	8.0												
Risk Parity	43,061,319	7.4	8.0	4.6	32	4.3	67	10.4	29	2.3	52	4.0	48	4.2	55
eA Global TAA Net Median				3.5		5.4		7.7		2.3		3.9		4.3	
AQR Global Risk Premium	43,061,319	7.4	8.0	4.6	32	4.3	67	10.4	29	2.3	51	3.9	51	--	--
60% MSCI World (Net) / 40% CITI WGBI				4.4	36	5.0	60	7.1	55	2.9	41	5.4	24	4.1	57
Cash	835,416	0.1	0.0												
Vermont Cash	835,416	0.1	0.0	0.0	--	0.0	--	0.0	--	0.0	--	0.0	--	0.8	--
91 Day T-Bills				0.1	--	0.3	--	0.4	--	0.2	--	0.1	--	0.5	--
Commodities	6,412,516	1.1	3.0												
Schroder	6,412,516	1.1	3.0	-2.8	--	-2.9	--	10.8	--	-16.5	--	-11.6	--	--	--
Bloomberg Commodity Index				-2.3	--	-3.6	--	8.7	--	-13.9	--	-9.5	--	-6.2	--
Total Real Estate	32,334,311	5.5	8.0	2.0	--	6.0	--	7.9	--	10.4	--	--	--	--	--
NCREIF Property Index				1.6	--	5.1	--	7.3	--	10.6	--	10.7	--	6.7	--
NCREIF ODCE				1.8	--	6.1	--	8.3	--	11.8	--	12.0	--	5.6	--
Morgan Stanley Prime Property	13,496,090	2.3		1.9	--	6.7	--	9.3	--	11.4	--	12.4	--	5.5	--
UBS Trumbull	11,101,738	1.9		0.9	--	3.6	--	5.1	--	8.0	--	8.3	--	4.7	--
RREEF America REIT III	57,522	0.0		-0.7	--	-13.6	--	-13.0	--	2.6	--	9.0	--	-4.7	--
Transwestern / Aslan III	28,766	0.0		0.0	--	0.0	--	0.0	--	8.3	--	16.1	--	-20.3	--
Siguler Guff DREOF II	6,390,428	1.1		3.8	--	10.3	--	11.2	--	--	--	--	--	--	--
Siguler Guff DREOF II Co-Investment	1,259,767	0.2		3.6	--	--	--	--	--	--	--	--	--	--	--

Risk Parity Composite formerly shown as Risk Parity/GAA.

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

Real Estate values are finalized as of 03/31/2017, except for the Siguler Guff funds, they are preliminary.

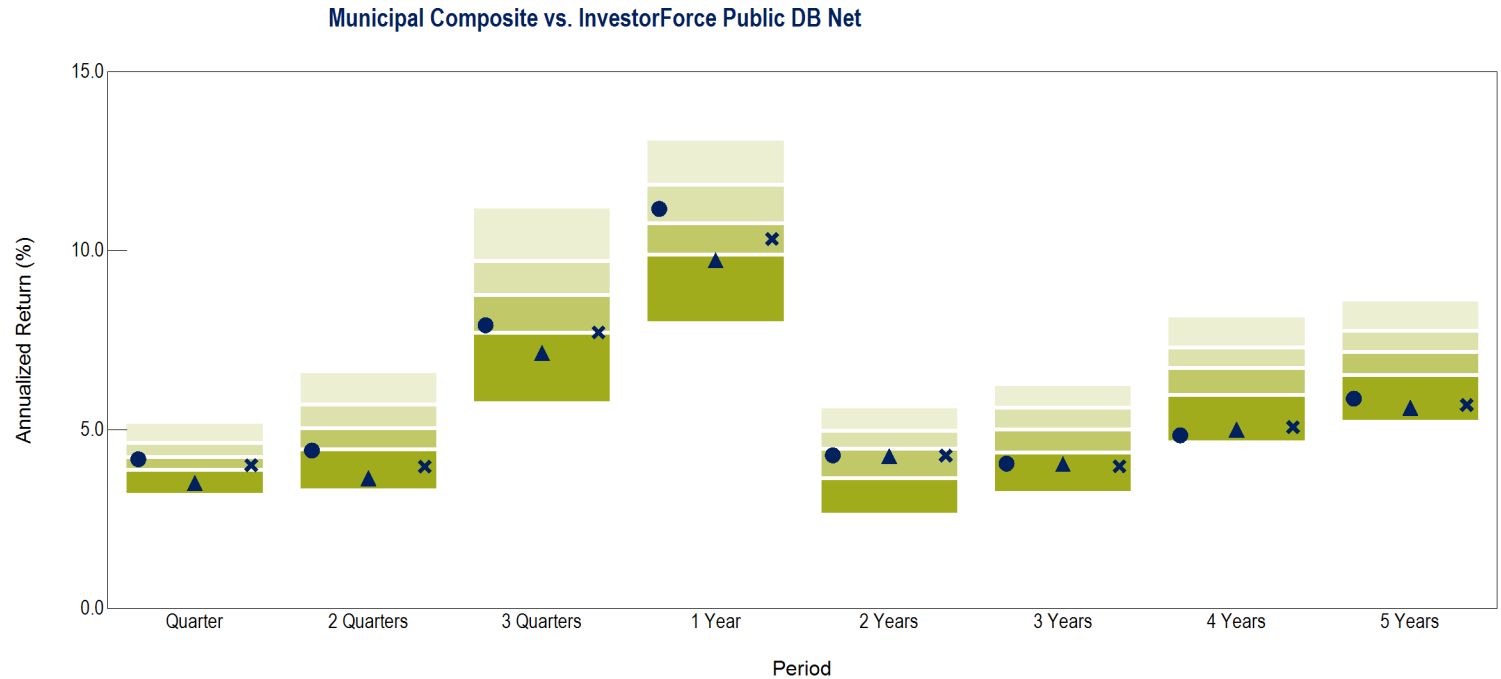
Vermont Municipal Employees

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
Absolute Return	54,585,535	9.3	9.0	0.5	90	3.9	78	5.6	65	0.6	75	4.3	52	--	--
<i>HFRI Fund of Funds Composite Index</i>				2.4	47	5.6	57	6.2	59	1.8	51	3.2	75	1.2	87
<i>eV Alt Fund of Funds - Multi-Strategy Median</i>				2.3		6.0		6.9		1.8		4.4		2.9	
Grosvenor	26,475,247	4.5	5.0	1.8	63	7.0	39	8.6	33	2.0	48	5.3	34	--	--
Mellon Dynamic Growth	10,584,924	1.8	2.0	2.9	32	2.2	92	4.9	72	5.7	7	5.6	32	2.8	52
<i>Mellon Dynamic Growth Benchmark</i>				4.1	15	5.4	59	6.9	51	2.7	41	4.9	39	3.5	32
<i>eV Alt Fund of Funds - Multi-Strategy Median</i>				2.3		6.0		6.9		1.8		4.4		2.9	
Allianz Structured Alpha	10,164,856	1.7	2.0	0.9	85	3.6	80	4.9	72	8.9	3	8.0	7	--	--
<i>91 Day T-Bills</i>				0.1	94	0.3	95	0.4	94	0.2	87	0.1	99	0.5	96
<i>eV Alt Fund of Funds - Multi-Strategy Median</i>				2.3		6.0		6.9		1.8		4.4		2.9	
Pinnacle Natural Resources, L.P.	7,303,611	1.2		-8.2	--	-6.6	--	--	--	--	--	--	--	--	--
<i>Bloomberg Commodity Index</i>				-2.3	--	-3.6	--	8.7	--	-13.9	--	-9.5	--	-6.2	--
GAM	56,898	0.0	0.0												
Private Equity	7,940,914	1.4	5.0	0.0	--	7.4	--	12.6	--	15.0	--	--	--	--	--
<i>Cambridge Associates US All PE</i>				0.0	--	8.7	--	13.0	--	8.8	--	11.8	--	9.3	--
Harbourvest Partners IX Credit Opportunities	284,793	0.0													
Harbourvest Partners IX Venture Fund	1,419,815	0.2													
Harbourvest Partners IX Buyout Fund	1,965,421	0.3													
Harbourvest Partners X Venture Fund	288,423	0.0													
Harbourvest Partners X Buyout Fund	607,852	0.1													
Harbourvest Dover VIII Fund	2,327,222	0.4													
Harbourvest Dover Street Fund IX	472,846	0.1													
HIPEP VII	574,542	0.1													

Absolute Return composite formerly shown as Hedge Funds composite. As of 04/01/2016, Absolute Return includes Mellon Dynamic Growth and Allianz Structured Alpha. 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. Harbourvest values based on final Capital Account Statements for Q4, and cash adjusted through Q1.

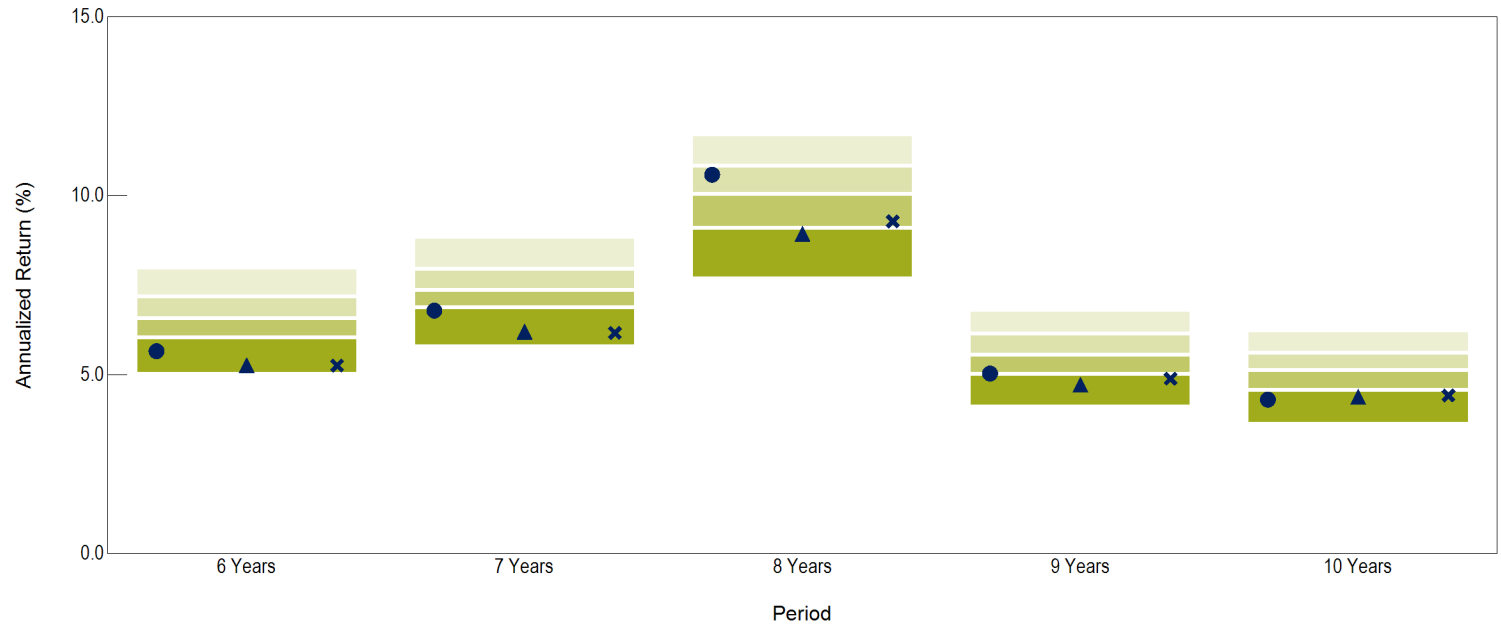
Total Fund Return Summary vs. Peer Universe - Net



	Return (Rank)															
5th Percentile	5.2		6.6		11.2		13.1		5.6		6.3		8.2		8.6	
25th Percentile	4.6		5.7		9.7		11.8		5.0		5.6		7.3		7.8	
Median	4.2		5.0		8.8		10.8		4.5		5.0		6.7		7.2	
75th Percentile	3.9		4.5		7.7		9.9		3.7		4.4		6.0		6.5	
95th Percentile	3.2		3.3		5.7		8.0		2.6		3.2		4.7		5.2	
# of Portfolios	257		257		257		256		254		244		230		222	
● Municipal Composite	4.2	(55)	4.4	(78)	7.9	(69)	11.2	(41)	4.3	(60)	4.1	(86)	4.8	(93)	5.9	(90)
▲ Policy Index	3.5	(89)	3.6	(93)	7.1	(86)	9.7	(78)	4.3	(60)	4.0	(86)	5.0	(92)	5.6	(93)
× Allocation Index	4.0	(67)	4.0	(90)	7.7	(75)	10.3	(60)	4.3	(60)	4.0	(87)	5.1	(92)	5.7	(93)

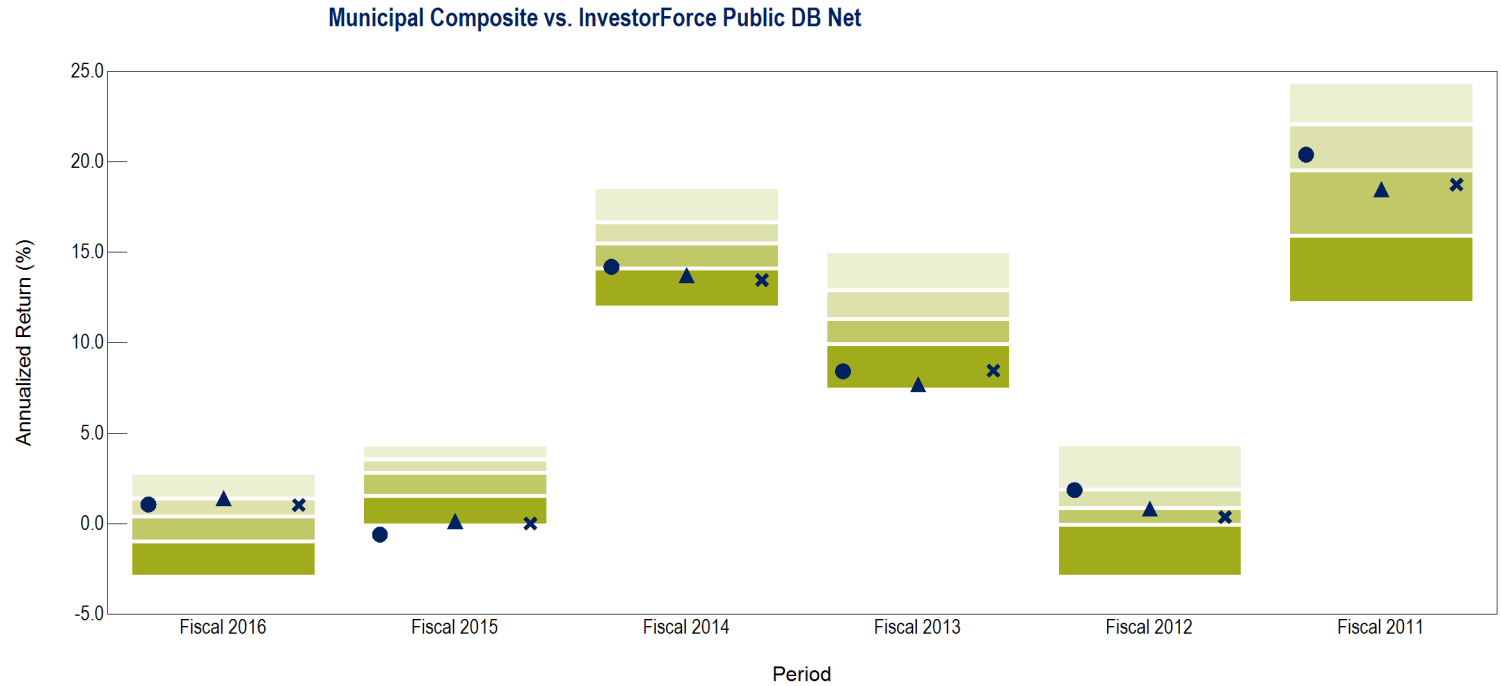
Total Fund Return Summary vs. Peer Universe - Net

Municipal Composite vs. InvestorForce Public DB Net



	Return (Rank)									
5th Percentile	8.0		8.8		11.7		6.8		6.2	
25th Percentile	7.2		8.0		10.8		6.2		5.6	
Median	6.6		7.4		10.1		5.6		5.1	
75th Percentile	6.1		6.9		9.1		5.0		4.6	
95th Percentile	5.0		5.8		7.7		4.1		3.6	
# of Portfolios	205		196		186		183		178	
● Municipal Composite	5.7	(86)	6.8	(79)	10.6	(33)	5.0	(75)	4.3	(83)
▲ Policy Index	5.3	(93)	6.2	(94)	8.9	(80)	4.7	(86)	4.4	(79)
× Allocation Index	5.3	(93)	6.2	(94)	9.3	(72)	4.9	(83)	4.4	(79)

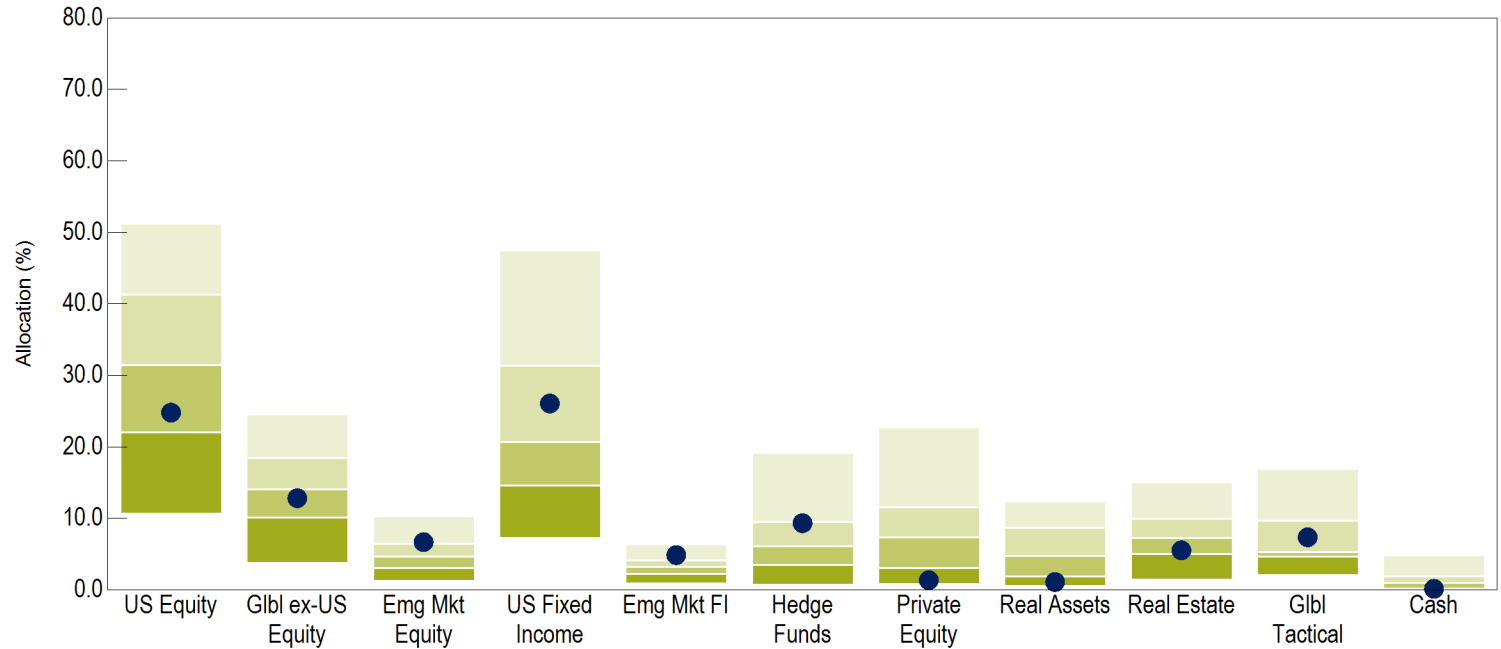
Total Fund Return Summary vs. Peer Universe - Net



	Return (Rank)		Fiscal 2016		Fiscal 2015		Fiscal 2014		Fiscal 2013		Fiscal 2012		Fiscal 2011	
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			
● Municipal Composite	1.1	(33)	-0.6	(97)	14.2	(73)	8.4	(92)	1.9	(26)	20.4	(39)		
▲ Policy Index	1.4	(25)	0.1	(94)	13.7	(84)	7.7	(94)	0.8	(52)	18.5	(61)		
× Allocation Index	1.0	(33)	0.0	(95)	13.5	(89)	8.5	(92)	0.4	(66)	18.7	(59)		

Total Fund Allocation vs. Peer Universe - Net

Total Plan Allocation vs. InvestorForce Public DB Net
As of March 31, 2017

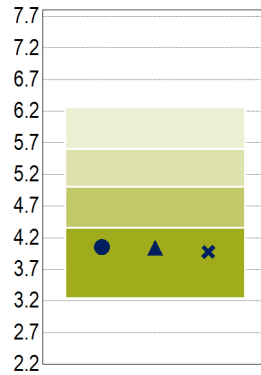


	Allocation (Rank)												
5th Percentile	51.3	24.6	10.3	47.5	6.4	19.1	22.7	12.4	15.0	16.9	4.9	--	
25th Percentile	41.4	18.5	6.5	31.4	4.2	9.6	11.6	8.8	10.0	9.7	2.0	--	
Median	31.5	14.1	4.7	20.8	3.3	6.2	7.5	4.8	7.4	5.4	1.0	--	
75th Percentile	22.1	10.2	3.1	14.7	2.3	3.6	3.1	1.9	5.1	4.7	0.3	--	
95th Percentile	10.7	3.8	1.3	7.3	1.0	0.8	0.9	0.6	1.5	2.1	0.0	--	
# of Portfolios	184	205	119	187	41	88	116	66	153	68	225	--	
● Municipal Composite	24.8 (66)	12.8 (61)	6.7 (25)	26.1 (37)	4.9 (20)	9.3 (27)	1.4 (90)	1.1 (88)	5.5 (68)	7.4 (40)	0.1 (84)	--	

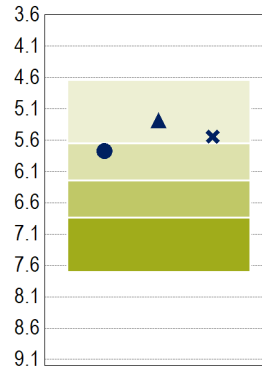
Total Fund Risk Statistics vs. Peer Universe - Net

Municipal Composite vs. IFx Public DB Net
3 Years

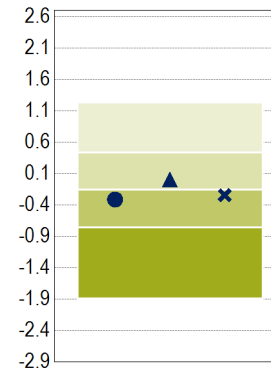
Anlzd Return



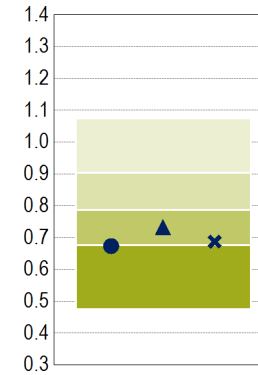
Anlzd Standard Deviation



Anlzd Alpha



Sharpe Ratio



● Municipal Composite

Value	4.05
Rank	86
▲ Policy Index	
Value	4.04
Rank	86
✕ Allocation Index	
Value	3.97
Rank	87

Universe	
5th %tile	6.26
25th %tile	5.61
Median	5.02
75th %tile	4.37
95th %tile	3.25

● Municipal Composite

Value	5.77
Rank	30
▲ Policy Index	
Value	5.28
Rank	11
✕ Allocation Index	
Value	5.54
Rank	22

Universe	
5th %tile	4.64
25th %tile	5.64
Median	6.23
75th %tile	6.83
95th %tile	7.69

● Municipal Composite

Value	-0.32
Rank	56
▲ Policy Index	
Value	0.00
Rank	42
✕ Allocation Index	
Value	-0.25
Rank	52

Universe	
5th %tile	1.23
25th %tile	0.44
Median	-0.14
75th %tile	-0.75
95th %tile	-1.89

● Municipal Composite

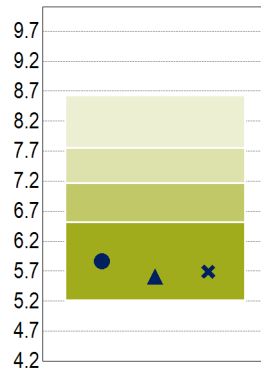
Value	0.67
Rank	76
▲ Policy Index	
Value	0.73
Rank	65
✕ Allocation Index	
Value	0.69
Rank	73

Universe	
5th %tile	1.07
25th %tile	0.91
Median	0.79
75th %tile	0.68
95th %tile	0.48

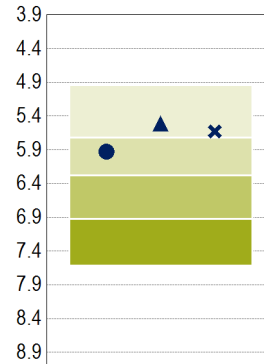
Total Fund Risk Statistics vs. Peer Universe - Net

Municipal Composite vs. IFx Public DB Net
5 Years

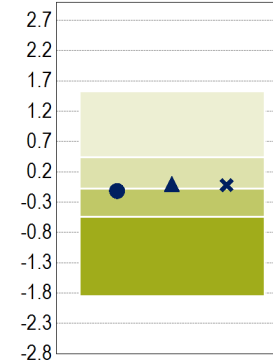
Anlzd Return



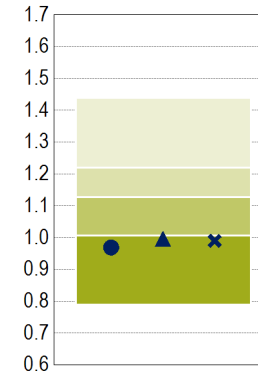
Anlzd Standard Deviation



Anlzd Alpha



Sharpe Ratio



● Municipal Composite

Value	5.86
Rank	90
▲ Policy Index	
Value	5.61
Rank	93
✕ Allocation Index	
Value	5.69
Rank	93

Universe	
5th %tile	8.63
25th %tile	7.77
Median	7.18
75th %tile	6.53
95th %tile	5.23

● Municipal Composite

Value	5.93
Rank	33
▲ Policy Index	
Value	5.51
Rank	18
✕ Allocation Index	
Value	5.63
Rank	23

Universe	
5th %tile	4.94
25th %tile	5.71
Median	6.26
75th %tile	6.92
95th %tile	7.60

● Municipal Composite

Value	-0.12
Rank	52
▲ Policy Index	
Value	0.00
Rank	46
✕ Allocation Index	
Value	-0.02
Rank	47

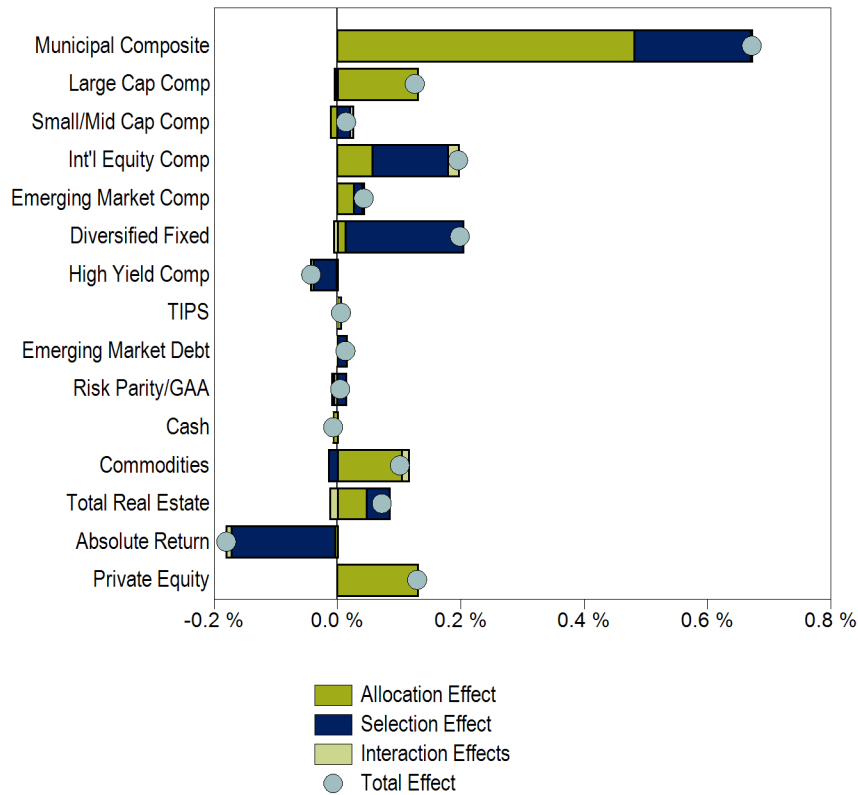
Universe	
5th %tile	1.53
25th %tile	0.45
Median	-0.06
75th %tile	-0.54
95th %tile	-1.84

● Municipal Composite

Value	0.97
Rank	82
▲ Policy Index	
Value	1.00
Rank	77
✕ Allocation Index	
Value	0.99
Rank	78

Universe	
5th %tile	1.44
25th %tile	1.22
Median	1.13
75th %tile	1.01
95th %tile	0.79

Attribution Effects Relative to Policy Index
3 Months Ending March 31, 2017



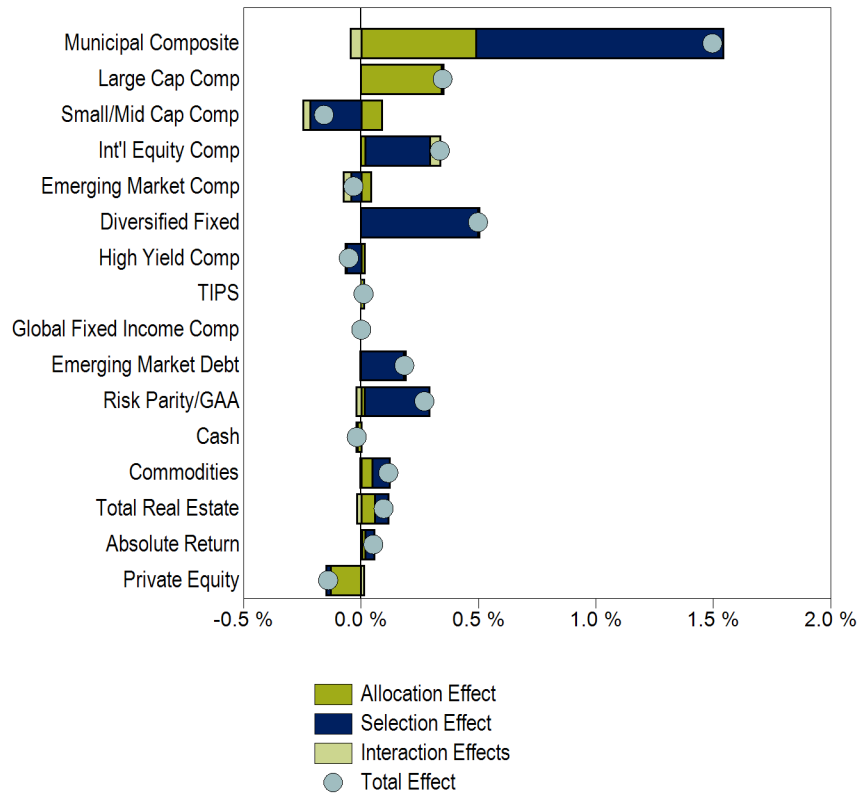
Attribution Summary
3 Months Ending March 31, 2017

	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction Effects	Total Effects
Large Cap Comp	5.9%	5.9%	0.0%	0.0%	0.1%	0.0%	0.1%
Small/Mid Cap Comp	2.8%	2.4%	0.4%	0.0%	0.0%	0.0%	0.0%
Int'l Equity Comp	8.5%	7.4%	1.1%	0.1%	0.1%	0.0%	0.2%
Emerging Market Comp	11.7%	11.4%	0.2%	0.0%	0.0%	0.0%	0.0%
Diversified Fixed	1.9%	0.8%	1.0%	0.2%	0.0%	0.0%	0.2%
High Yield Comp	2.0%	2.7%	-0.7%	0.0%	0.0%	0.0%	0.0%
TIPS	1.3%	1.3%	0.0%	0.0%	0.0%	0.0%	0.0%
Emerging Market Debt	4.2%	3.9%	0.3%	0.0%	0.0%	0.0%	0.0%
Risk Parity/GAA	4.6%	4.4%	0.1%	0.0%	0.0%	0.0%	0.0%
Cash	0.0%	0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%
Commodities	-2.8%	-2.3%	-0.5%	0.0%	0.1%	0.0%	0.1%
Total Real Estate	2.0%	1.6%	0.4%	0.0%	0.0%	0.0%	0.1%
Absolute Return	0.5%	2.4%	-1.8%	-0.2%	0.0%	0.0%	-0.2%
Private Equity	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%
Total	4.2%	3.5%	0.7%	0.2%	0.5%	0.0%	0.7%

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.

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

Attribution Effects Relative to Policy Index
1 Year Ending March 31, 2017



Attribution Summary
1 Year Ending March 31, 2017

	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction Effects	Total Effects
Large Cap Comp	17.3%	17.3%	0.0%	0.0%	0.3%	0.0%	0.3%
Small/Mid Cap Comp	20.2%	24.8%	-4.6%	-0.2%	0.1%	0.0%	-0.2%
Int'l Equity Comp	14.6%	12.0%	2.7%	0.3%	0.0%	0.0%	0.3%
Emerging Market Comp	16.2%	17.2%	-1.1%	0.0%	0.0%	0.0%	0.0%
Diversified Fixed	3.0%	0.4%	2.6%	0.5%	0.0%	0.0%	0.5%
High Yield Comp	15.1%	16.4%	-1.3%	-0.1%	0.0%	0.0%	-0.1%
TIPS	1.5%	1.5%	0.0%	0.0%	0.0%	0.0%	0.0%
Global Fixed Income Comp	--	--	--	--	0.0%	--	--
Emerging Market Debt	12.5%	8.8%	3.6%	0.2%	0.0%	0.0%	0.2%
Risk Parity/GAA	10.4%	7.1%	3.3%	0.3%	0.0%	0.0%	0.3%
Cash	0.0%	0.4%	-0.4%	0.0%	0.0%	0.0%	0.0%
Commodities	10.8%	8.7%	2.1%	0.1%	0.0%	0.0%	0.1%
Total Real Estate	7.9%	7.3%	0.7%	0.1%	0.1%	0.0%	0.1%
Absolute Return	5.6%	5.2%	0.4%	0.0%	0.0%	0.0%	0.1%
Private Equity	12.6%	13.0%	-0.4%	0.0%	-0.1%	0.0%	-0.1%
Total	11.2%	9.7%	1.5%	1.0%	0.5%	0.0%	1.5%

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 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.

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 VPIC's ability to effectively allocate their portfolio's assets to various asset classes. The allocation effect determines whether the overweighting or underweighting of asset classes relative to a benchmark contributes positively or negatively to the overall portfolio return. Positive allocation occurs when the portfolio is overweighted in an asset class that outperforms the benchmark. Negative allocation occurs when the portfolio is overweighted in an asset class that underperforms the benchmark and underweighted in an asset class that outperforms the benchmark.

Selection Effect - Measures VPIC's ability to select managers within a given asset class relative to a benchmark. The over or underperformance of the portfolio is weighted by the benchmark weight, therefore, selection is not affected by VPIC's allocation to the asset class. The weight of the manager in the portfolio determines the size of the effect -- the larger the manager, the larger the effect is, positive or negative.

Interaction Effect - The interaction effect measures the combined impact of VPIC's manager selection and manager allocation decisions within an asset class. For example, if VPIC had superior manager selection and overweighted that particular asset class, the interaction effect is positive. If VPIC had superior manager selection, but underweighted that asset class, the interaction effect is negative. In this case, VPIC did not take advantage of the superior manager selection by allocating more assets to that asset class.

Vermont Municipal Employees

Risk Statistics - 3 Years Ending March 31, 2017 - Net

	% of Tot	Anlzd Ret	Rank	Anlzd Std Dev	Rank	Anlzd AJ	Rank	Sharpe Ratio	Rank	Sortino Ratio RF	Rank	Tracking Error	Rank
Municipal Composite	100.00%	4.05%	86	5.77%	30	-0.30%	55	0.67	76	1.16	62	0.92%	33
Policy Index	--	4.04%	86	5.28%	11	0.00%	41	0.73	65	1.29	43	0.00%	1
US Equity	24.78%	9.66%	23	11.02%	32	-0.27%	27	0.86	19	1.49	22	1.62%	2
Russell 3000	--	9.75%	21	10.71%	25	0.00%	24	0.90	15	1.48	23	0.00%	1
Large Cap Comp	18.92%	10.10%	18	10.54%	36	-0.37%	23	0.94	17	1.71	14	0.71%	1
S&P 500	--	10.37%	14	10.41%	33	0.00%	17	0.98	12	1.66	17	0.00%	1
Small/Mid Cap Comp	5.86%	9.31%	17	13.10%	48	3.38%	24	0.70	23	1.44	10	3.95%	1
Russell 2000	--	7.22%	39	15.68%	92	0.00%	63	0.45	56	0.78	54	0.00%	1
Int'l Equity Comp	12.81%	1.94%	41	11.53%	40	1.47%	41	0.15	39	0.27	38	2.07%	6
MSCI EAFE	--	0.50%	74	12.23%	77	0.00%	74	0.03	74	0.05	74	0.00%	1
Emerging Market Comp	6.67%	1.61%	60	15.28%	58	0.54%	60	0.09	61	0.18	54	5.31%	60
MSCI Emerging Markets	--	1.18%	65	16.11%	78	0.00%	65	0.06	65	0.12	65	0.00%	1
US Fixed Income	26.06%	3.76%	26	3.03%	62	1.41%	26	1.18	25	1.75	26	1.69%	36
BBgBarc US Aggregate TR	--	2.68%	52	2.94%	60	0.00%	76	0.86	58	1.17	66	0.00%	1
Diversified Fixed	17.16%	3.74%	27	3.08%	63	1.15%	28	1.16	27	1.50	40	1.24%	25
BBgBarc US Aggregate TR	--	2.68%	52	2.94%	60	0.00%	76	0.86	58	1.17	66	0.00%	1
High Yield Comp	5.23%	4.21%	35	5.01%	39	0.52%	41	0.81	42	1.47	46	1.66%	42
BBgBarc US High Yield TR	--	4.56%	25	6.08%	82	0.00%	59	0.72	56	1.62	38	0.00%	1
TIPS	3.67%	1.99%	25	4.08%	68	-0.08%	22	0.45	23	0.79	21	0.18%	4
BBgBarc US TIPS TR	--	2.03%	22	4.01%	67	0.00%	17	0.46	19	0.83	18	0.00%	1
Emerging Market Debt	4.86%	6.01%	8	6.28%	29	0.36%	15	0.93	11	1.47	16	1.33%	9
JP Morgan EMBI Global TR	--	5.73%	13	6.23%	28	0.00%	19	0.89	16	1.34	19	0.00%	1
Total Real Estate	5.53%	10.36%	--	4.34%	--	0.35%	--	2.35	--	208.59	--	1.22%	--
NCREIF Property Index	--	10.58%	--	4.41%	--	0.00%	--	2.36	--	213.22	--	0.00%	--
Absolute Return	9.33%	0.64%	75	3.18%	23	-0.90%	66	0.15	68	0.18	71	1.43%	1
HFRI Fund of Funds Composite Index	--	1.80%	51	3.41%	31	0.00%	51	0.48	42	0.59	45	0.00%	1
Risk Parity/GAA	7.36%	2.25%	52	7.63%	64	-0.35%	55	0.27	59	0.46	54	4.60%	40
60% MSCI World (Net) / 40% CITI WGBI	--	2.94%	41	7.01%	50	0.00%	51	0.40	43	0.79	33	0.00%	1

Vermont Municipal Employees

Risk Statistics - 5 Years Ending March 31, 2017 - Net

	% of Tot	Anlzd Ret	Rank	Anlzd Std Dev	Rank	Anlzd AJ	Rank	Sharpe Ratio	Rank	Sortino Ratio RF	Rank	Tracking Error	Rank
Municipal Composite	100.00%	5.86%	90	5.93%	33	-0.11%	52	0.97	82	1.58	66	0.86%	25
Policy Index	--	5.61%	93	5.51%	18	0.00%	45	1.00	77	1.57	67	0.00%	1
US Equity	24.78%	--	--	--	--	--	--	--	--	--	--	--	--
Russell 3000	--	13.18%	29	10.45%	19	0.00%	25	1.25	13	2.04	17	0.00%	1
Large Cap Comp	18.92%	13.44%	14	10.36%	31	-0.03%	20	1.29	12	2.19	11	0.74%	1
S&P 500	--	13.30%	18	10.20%	26	0.00%	20	1.29	11	2.12	15	0.00%	1
Small/Mid Cap Comp	5.86%	13.36%	22	12.46%	48	2.86%	30	1.06	25	1.97	15	3.41%	1
Russell 2000	--	12.35%	37	14.36%	86	0.00%	78	0.85	64	1.41	58	0.00%	1
Int'l Equity Comp	12.81%	7.01%	42	12.61%	50	1.51%	48	0.55	45	0.82	42	2.08%	6
MSCI EAFE	--	5.83%	70	13.21%	81	0.00%	79	0.43	75	0.65	72	0.00%	1
Emerging Market Comp	6.67%	--	--	--	--	--	--	--	--	--	--	--	--
MSCI Emerging Markets	--	0.81%	80	15.33%	71	0.00%	81	0.04	81	0.07	79	0.00%	1
US Fixed Income	26.06%	--	--	--	--	--	--	--	--	--	--	--	--
BBgBarc US Aggregate TR	--	2.34%	61	2.88%	53	0.00%	83	0.77	77	1.05	74	0.00%	1
Diversified Fixed	17.16%	3.26%	44	3.29%	65	0.78%	49	0.96	56	1.26	57	1.19%	24
BBgBarc US Aggregate TR	--	2.34%	61	2.88%	53	0.00%	83	0.77	77	1.05	74	0.00%	1
High Yield Comp	5.23%	6.38%	35	4.43%	30	0.87%	32	1.41	29	2.33	43	1.43%	41
BBgBarc US High Yield TR	--	6.82%	24	5.38%	75	0.00%	64	1.24	59	2.43	38	0.00%	1
TIPS	3.67%	--	--	--	--	--	--	--	--	--	--	--	--
BBgBarc US TIPS TR	--	0.97%	36	4.64%	63	0.00%	35	0.18	26	0.24	31	0.00%	1
Emerging Market Debt	4.86%	--	--	--	--	--	--	--	--	--	--	--	--
JP Morgan EMBI Global TR	--	5.25%	20	7.10%	33	0.00%	24	0.72	23	1.07	23	0.00%	1
Total Real Estate	5.53%	--	--	--	--	--	--	--	--	--	--	--	--
NCREIF Property Index	--	10.69%	--	4.35%	--	0.00%	--	2.43	--	264.69	--	0.00%	--
Absolute Return	9.33%	4.30%	52	3.54%	34	1.25%	45	1.18	37	1.72	40	1.50%	1
HFRI Fund of Funds Composite Index	--	3.22%	75	3.39%	31	0.00%	64	0.91	49	1.27	50	0.00%	1
Risk Parity/GAA	7.36%	4.02%	48	7.60%	60	-0.80%	73	0.51	67	0.76	64	4.25%	35
60% MSCI World (Net) / 40% CITI WGBI	--	5.44%	24	7.21%	52	0.00%	52	0.74	23	1.25	20	0.00%	1

Appendix

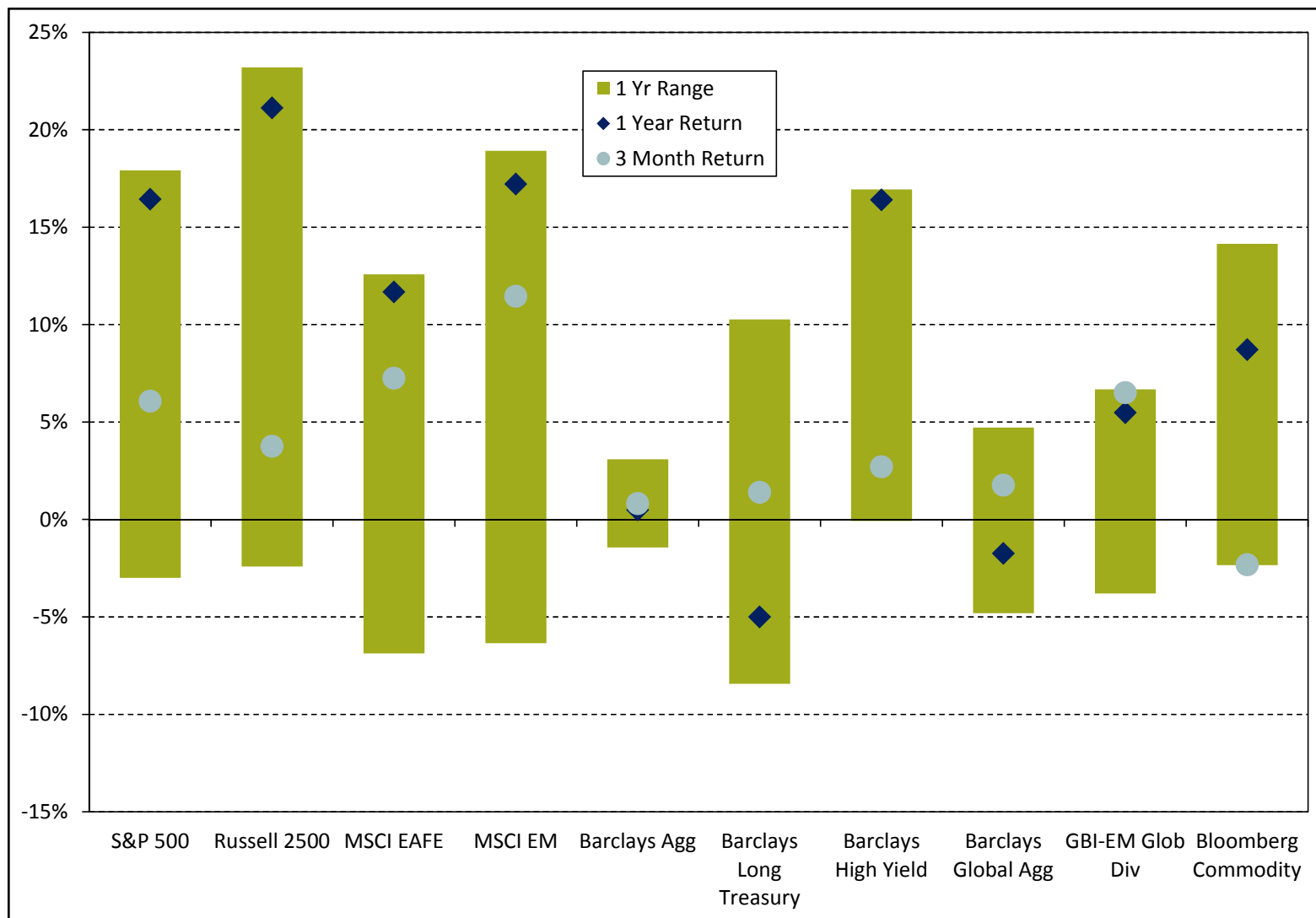


Index Performance Summary as of 03/31/2017

	2009	2010	2011	2012	2013	2014	2015	2016	Jan	Feb	Mar	YTD
MSCI EM	78.5%	18.9%	-18.4%	18.2%	-2.6%	-2.2%	-14.9%	11.2%	5.5%	3.1%	2.5%	11.4%
MSCI EAFE	31.8%	7.8%	-12.1%	17.3%	22.8%	-4.9%	-0.8%	1.0%	2.9%	1.4%	2.8%	7.2%
MSCI ACWI	34.6%	12.7%	-7.3%	16.1%	22.8%	4.2%	-2.4%	7.9%	2.7%	2.8%	1.2%	6.9%
JPM GBI-EM Global Div	22.0%	15.7%	-1.8%	16.8%	-9.0%	-5.7%	-14.9%	9.9%	2.3%	1.8%	2.3%	6.5%
S&P 500	26.5%	15.1%	2.1%	16.0%	32.4%	13.7%	1.4%	12.0%	1.9%	4.0%	0.1%	6.1%
Russell 1000	28.4%	16.1%	1.5%	16.4%	33.1%	13.2%	0.9%	12.1%	2.0%	3.9%	0.1%	6.0%
Alerian MLP	76.4%	35.9%	13.9%	4.8%	27.6%	4.8%	-32.6%	18.3%	4.9%	0.4%	-1.3%	3.9%
JPM EMBI Glob Div	29.8%	12.2%	7.3%	17.4%	-5.3%	7.4%	1.2%	10.2%	1.4%	2.0%	0.4%	3.9%
Russell 2500	34.4%	26.7%	-2.5%	17.9%	36.8%	7.1%	-2.9%	17.6%	1.4%	2.4%	-0.1%	3.8%
Barclays US Corporate HY	58.2%	15.1%	5.0%	15.8%	7.4%	2.5%	-4.5%	17.1%	1.5%	1.5%	-0.2%	2.7%
Russell 2000	27.2%	26.9%	-4.2%	16.3%	38.8%	4.9%	-4.4%	21.3%	0.4%	1.9%	0.1%	2.5%
BC US STRIPS 20+ Yr	-36.0%	10.9%	58.5%	3.0%	-21.0%	46.4%	-3.7%	1.4%	0.5%	2.3%	-1.0%	1.8%
BC Global Agg	-6.5%	-5.3%	-5.3%	-4.1%	2.7%	-0.6%	3.3%	2.1%	1.1%	0.5%	0.2%	1.8%
Credit Suisse Hedge Fund	18.6%	10.9%	-2.5%	7.7%	9.7%	4.1%	-0.7%	1.2%	0.7%	1.0%	-	1.7%
BC US Long Credit	16.8%	10.7%	17.1%	12.7%	-6.6%	16.4%	-4.6%	10.2%	0.2%	2.0%	-0.6%	1.7%
BC Municipal	12.9%	2.4%	10.7%	6.8%	-2.6%	9.1%	3.3%	0.2%	0.7%	0.7%	0.2%	1.6%
BC US Govt/Credit Long	1.9%	10.2%	22.5%	8.8%	-8.8%	19.3%	-3.3%	6.7%	0.3%	1.8%	-0.6%	1.6%
BC TIPS	11.4%	6.3%	13.6%	7.0%	-8.6%	3.6%	-1.4%	4.7%	0.8%	0.5%	-0.1%	1.3%
CS Leveraged Loan	44.9%	10.0%	1.8%	9.4%	6.2%	2.1%	-0.4%	9.9%	0.5%	0.6%	0.1%	1.2%
FTSE NAREIT Equity REITs	28.0%	28.0%	8.3%	18.1%	2.5%	30.1%	3.2%	8.5%	0.1%	3.4%	-2.3%	1.2%
BC US Agg Bond	5.9%	6.5%	7.8%	4.2%	-2.0%	6.0%	0.5%	2.6%	0.2%	0.7%	-0.1%	0.8%
BC US Agg Interm	6.5%	6.1%	6.0%	3.6%	-1.0%	4.1%	1.2%	2.0%	0.2%	0.5%	0.0%	0.7%
BC US Govt/Credit 1-3 Yr	3.8%	2.8%	1.6%	1.3%	0.6%	0.8%	0.7%	1.3%	0.2%	0.2%	0.1%	0.4%
Bloomberg Commodity	18.9%	16.8%	-13.3%	-1.1%	-9.5%	-17.0%	-24.7%	11.8%	0.1%	0.2%	-2.7%	-2.3%

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

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



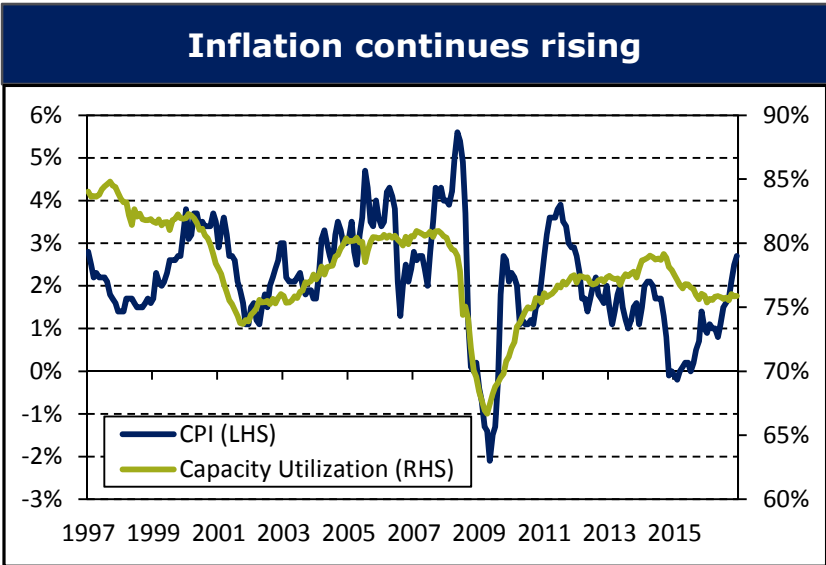
Source: Bloomberg, Standard and Poors, Russell, MSCI, Barclays, JP Morgan
 *1 Yr Range: Represents range of cumulative high/low daily index returns for an investment made one year ago

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

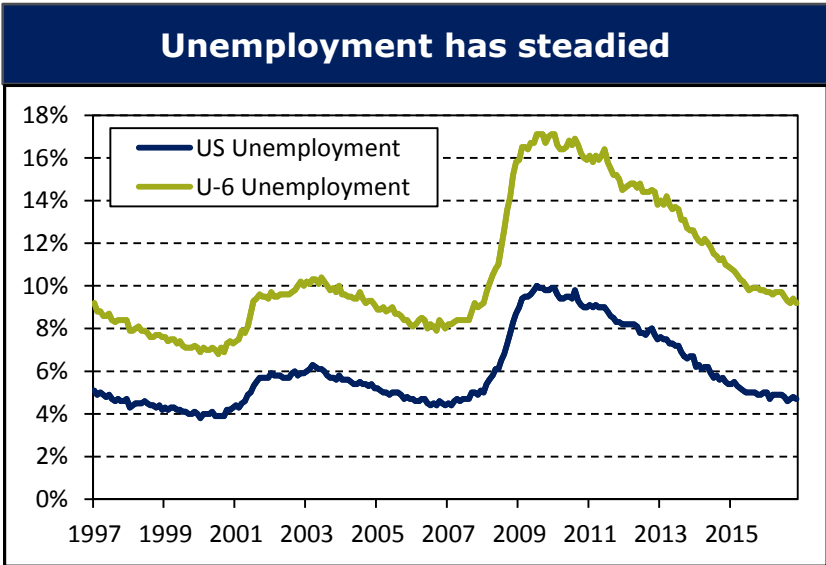


Source: Bloomberg, Standard and Poors, Russell, MSCI, Barclays, JP Morgan

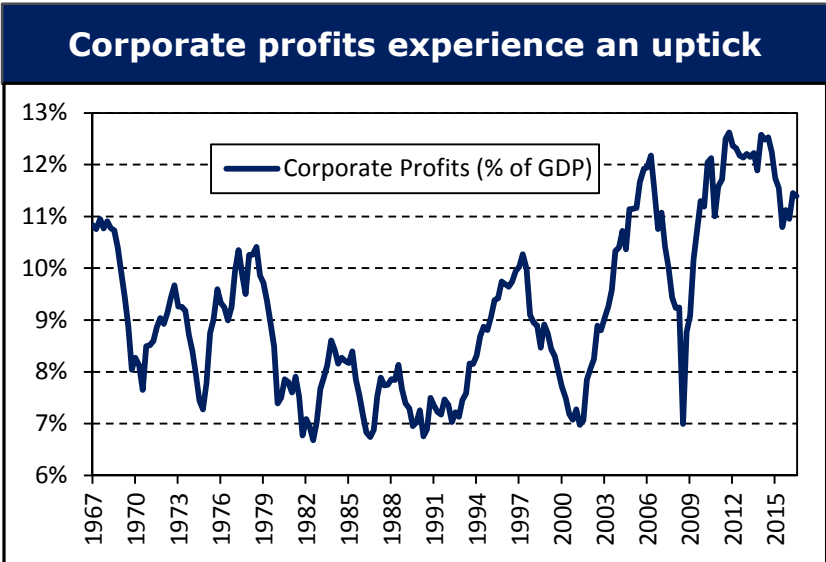
US Economic Indicators



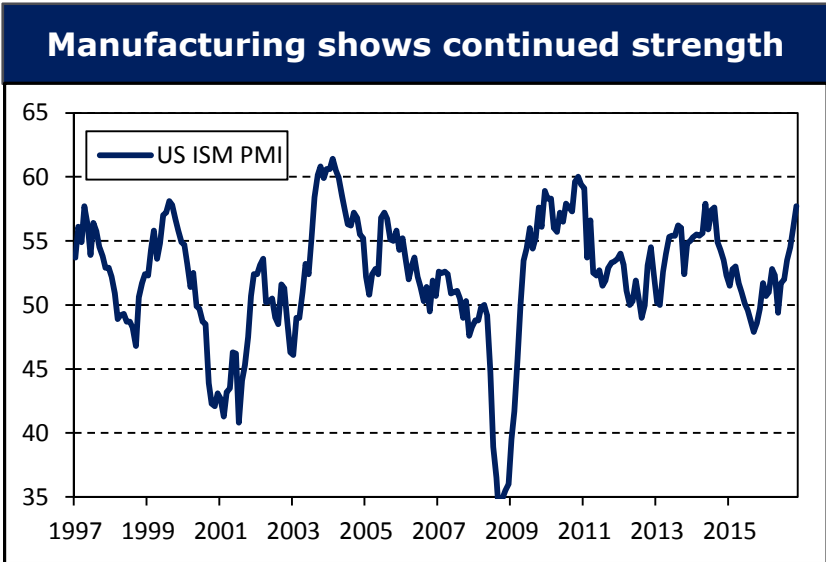
Source: Bloomberg, Federal Reserve, Bureau of Labor Statistics



Source: Bloomberg, Bureau of Labor Statistics



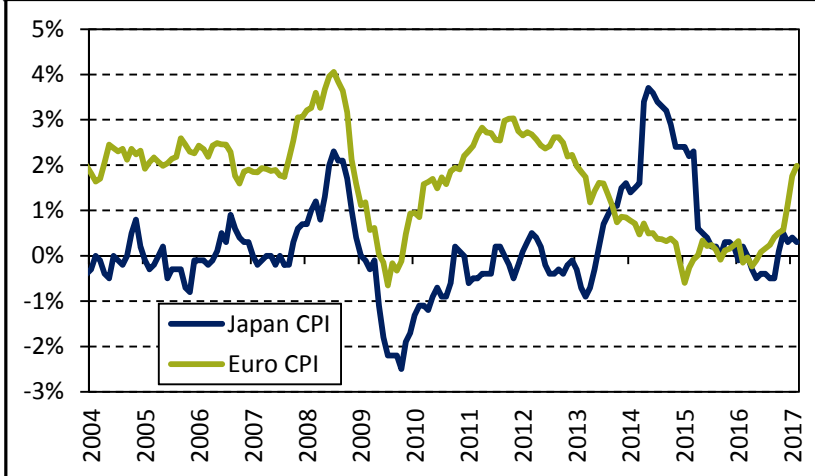
Source: Bloomberg, Bureau of Economic Analysis



Source: Bloomberg, Institute for Supply Management

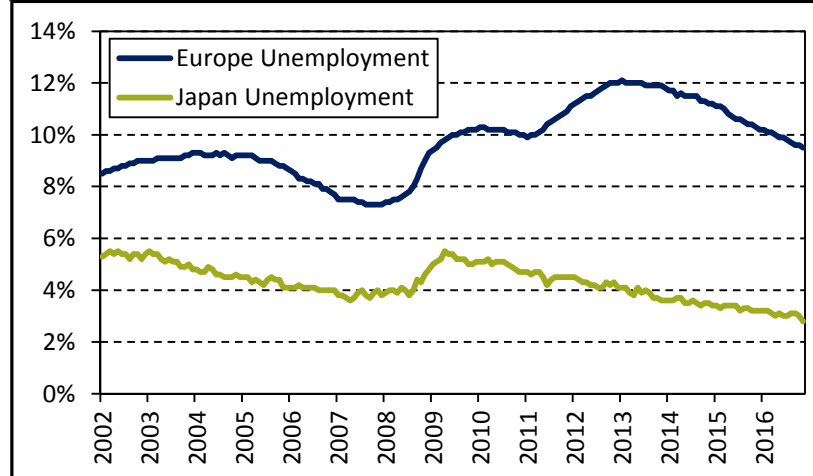
International Economic Indicators

Eurozone inflation continues to rise



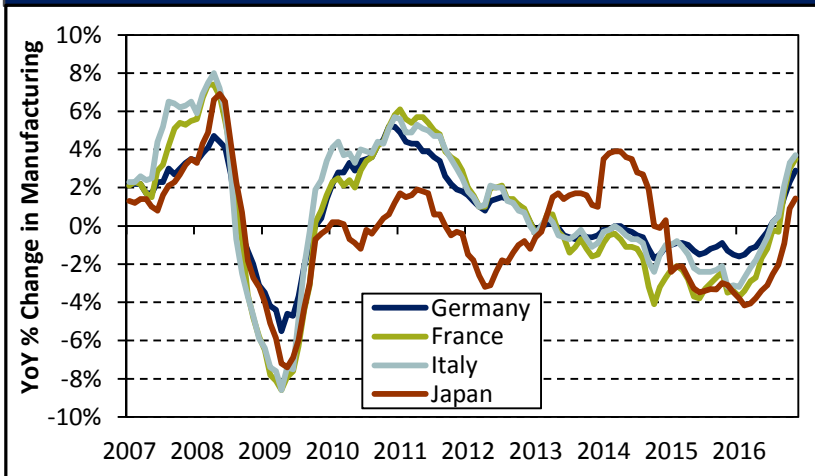
Source: Bloomberg, Japan Ministry of Internal Affairs and Communications, Eurostat

Europe unemployment edges lower



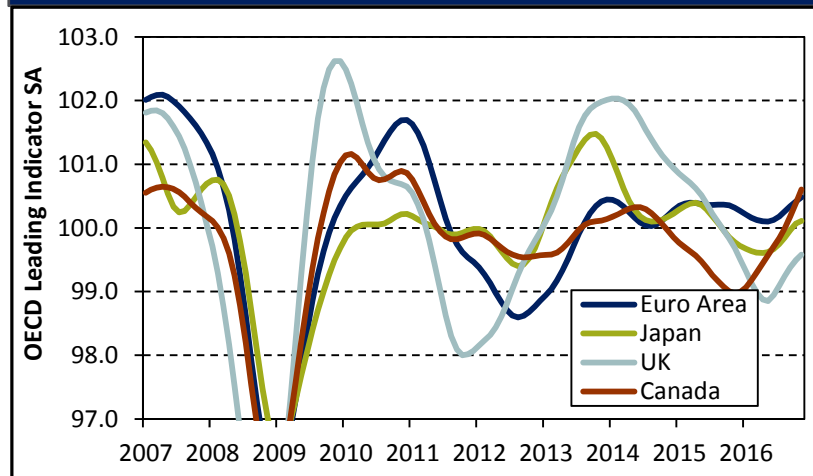
Source: Bloomberg, Japan Ministry of Internal Affairs and Communications, Eurostat

Manufacturing shows continued strength



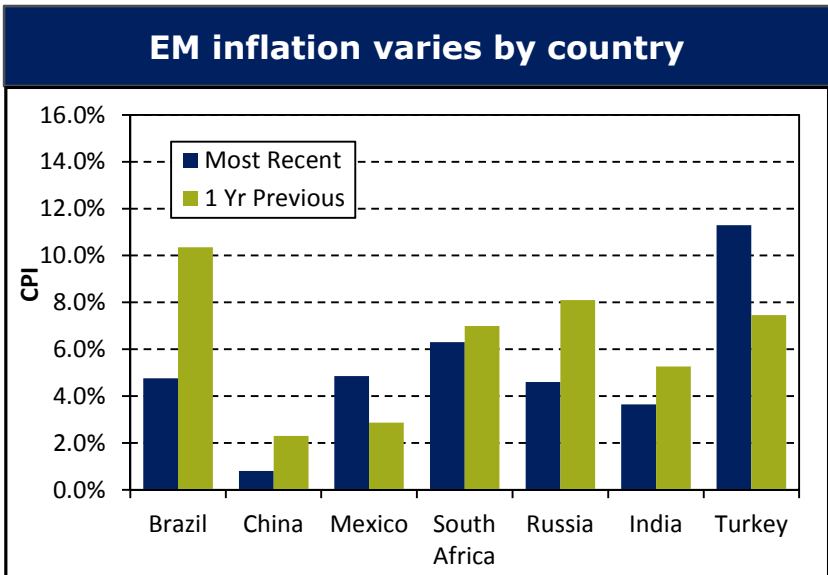
Source: Bloomberg, OECD, Eurostat

Leading indicators are trending higher

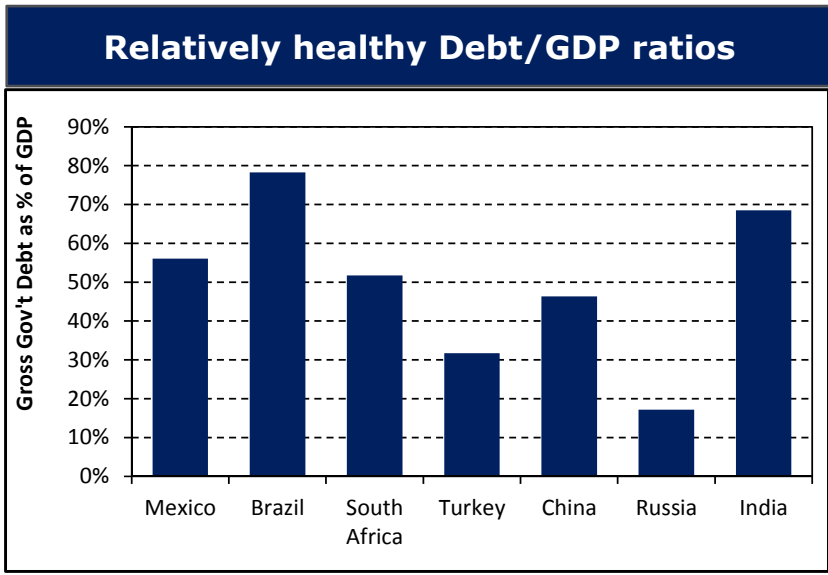


Source: Bloomberg, OECD

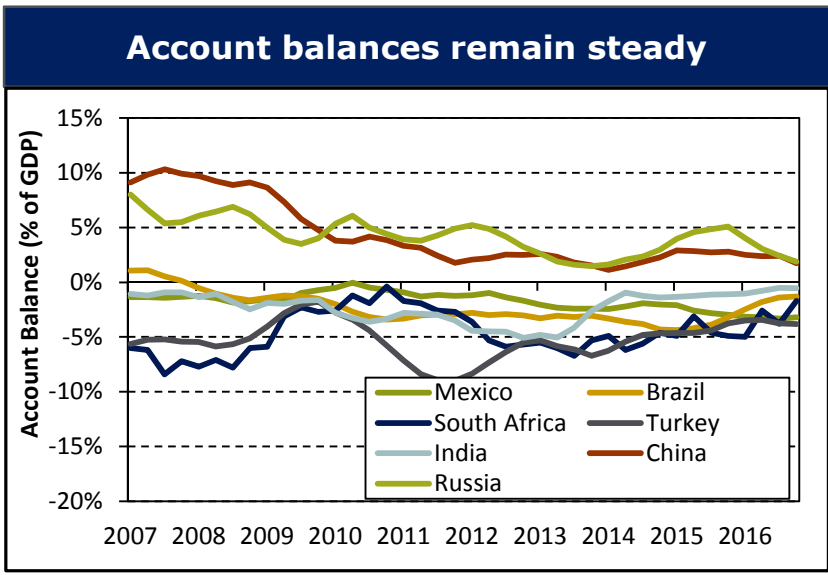
Emerging Market Economic Indicators



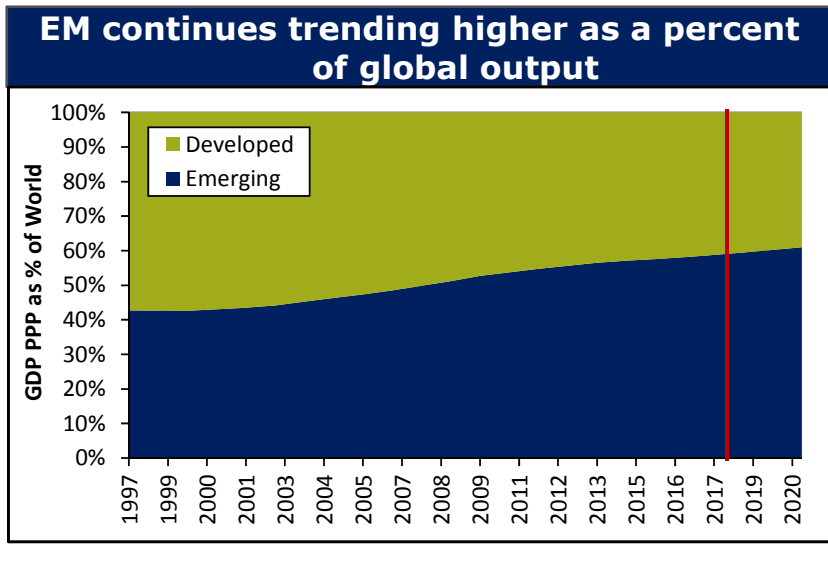
Source: Bloomberg



Source: Bloomberg, IMF



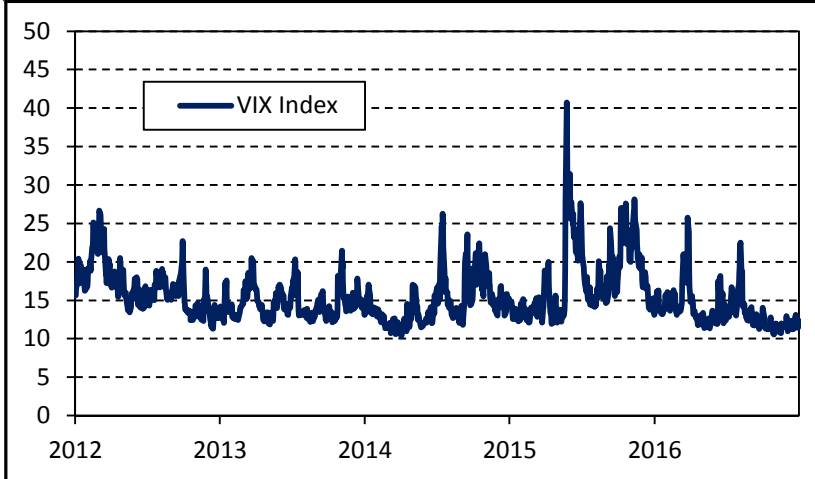
Source: Bloomberg



Source: Bloomberg, IMF

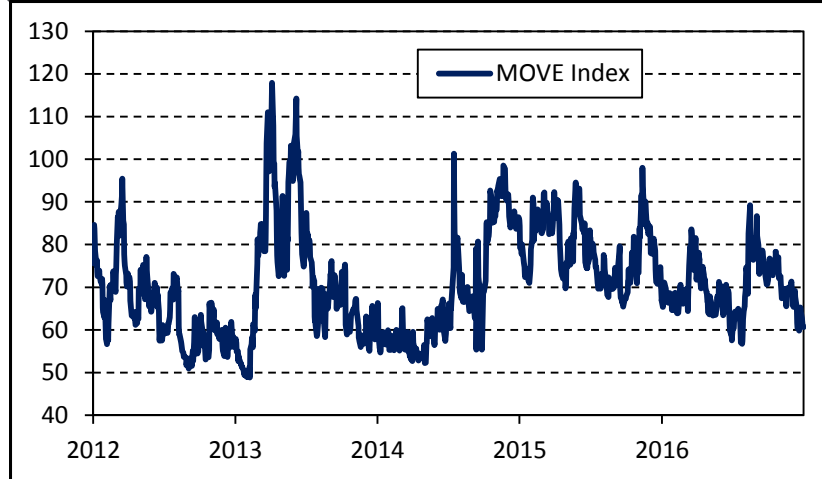
Volatility

Equity volatility remains low



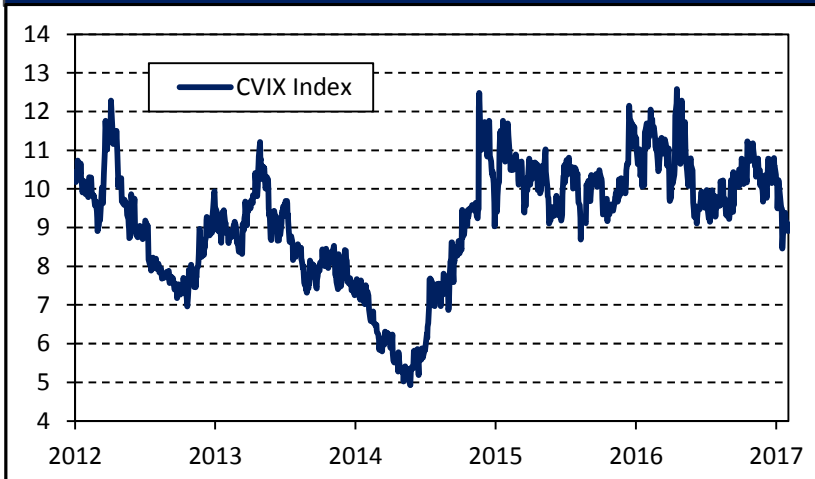
Source: Bloomberg, CBOE

Treasury volatility has recently subsided



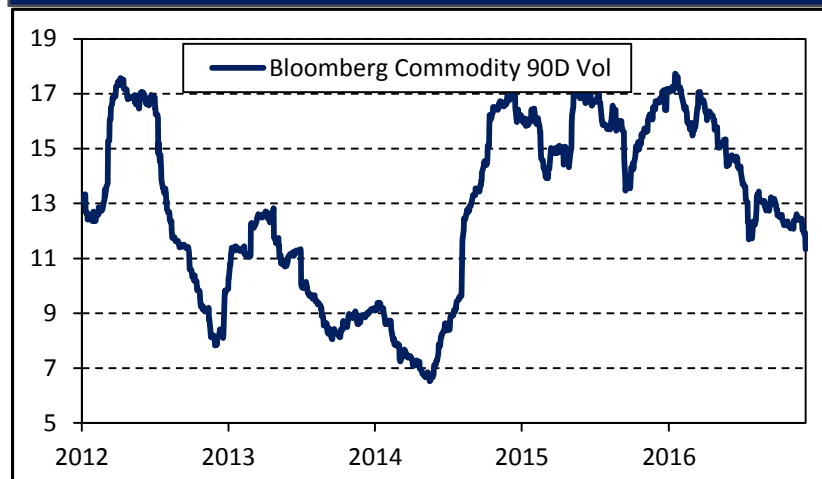
Source: Bloomberg, Merrill Lynch

Currency volatility remains elevated



Source: Bloomberg, Deutsche Bank

Commodity volatility continues to decline

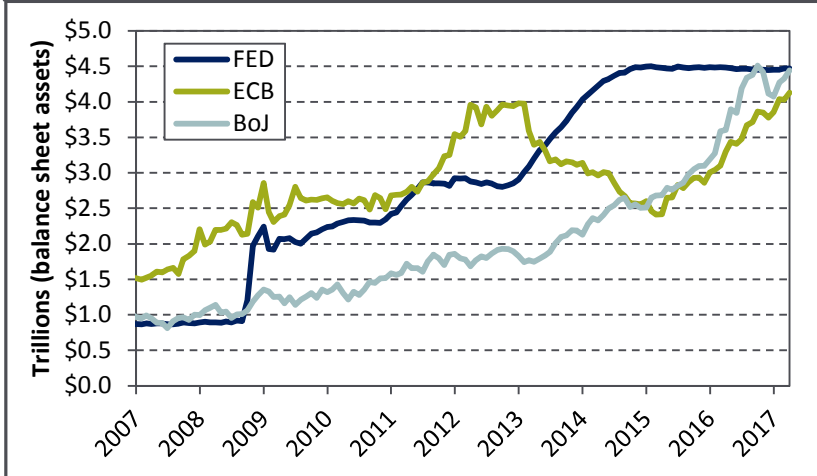


Source: Bloomberg, Merrill Lynch



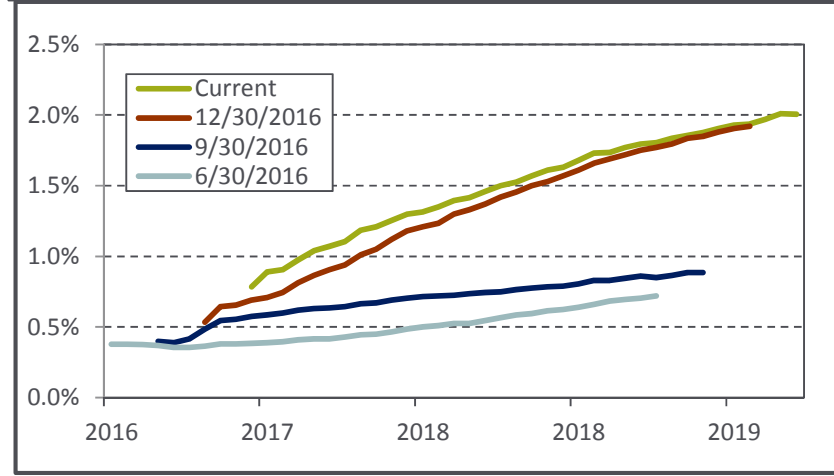
Central Banks

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



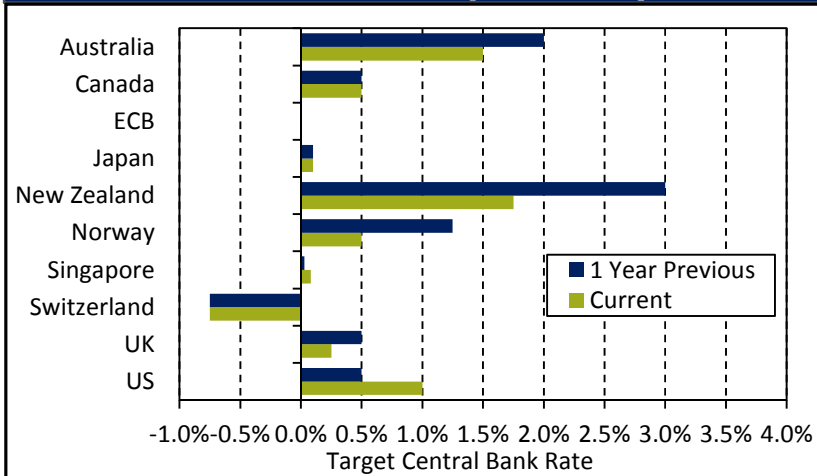
Source: Bloomberg, Federal Reserve, Bank of Japan, ECB, NEPC

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



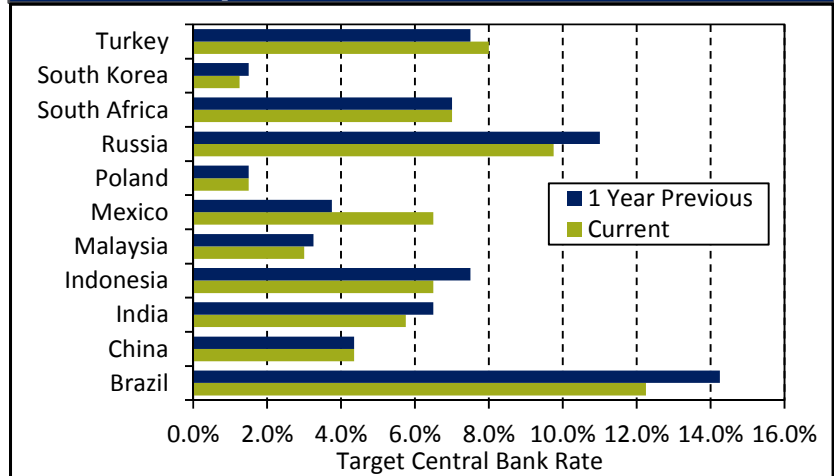
Source: Bloomberg, Federal Reserve

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



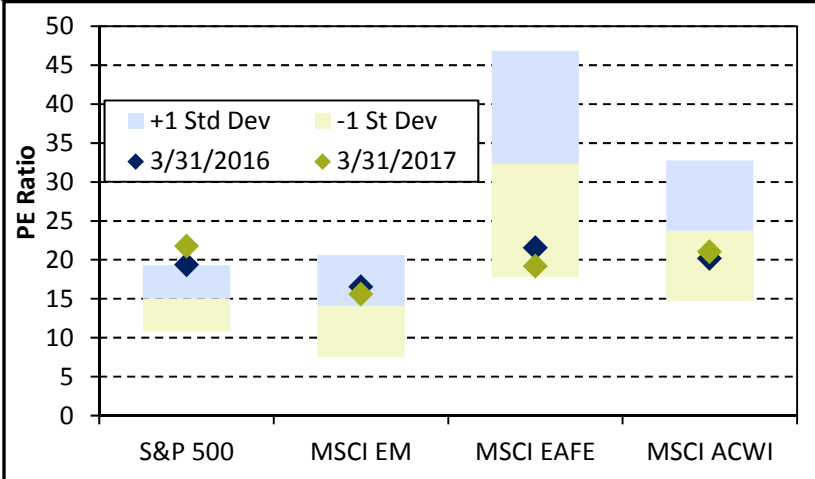
Source: Bloomberg

EM central bank policies vary by country-specific economic conditions



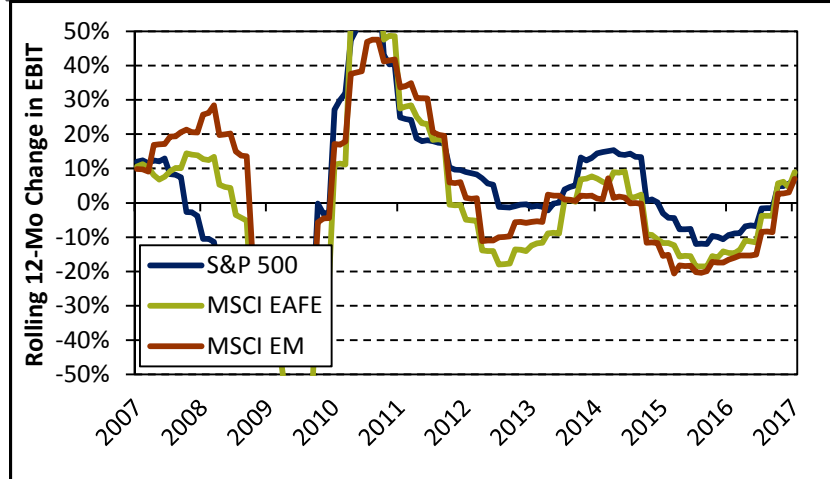
Source: Bloomberg

EM and EAFE valuations remain lower than the previous year



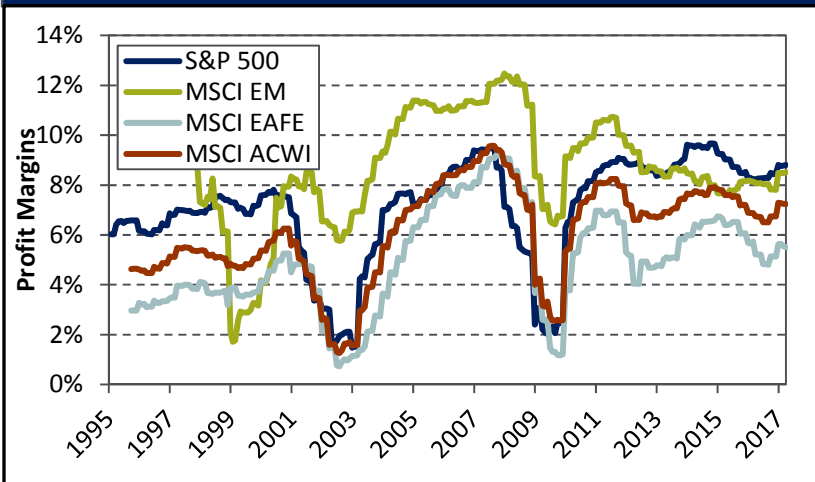
Source: Bloomberg, Standard and Poors, MSCI *MSCI EAFE is ex UK Telecom
*Standard deviation calculations on 20 years of data except S&P 500 (30 years)

Rolling annual earnings growth continues trending upward off contraction



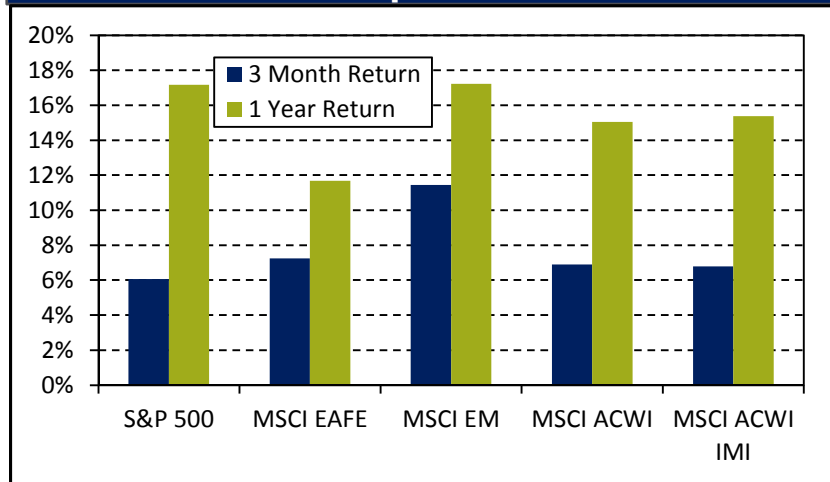
Source: Bloomberg, Standard and Poors, MSCI

Profit margins continue to increase



Source: Bloomberg, MSCI

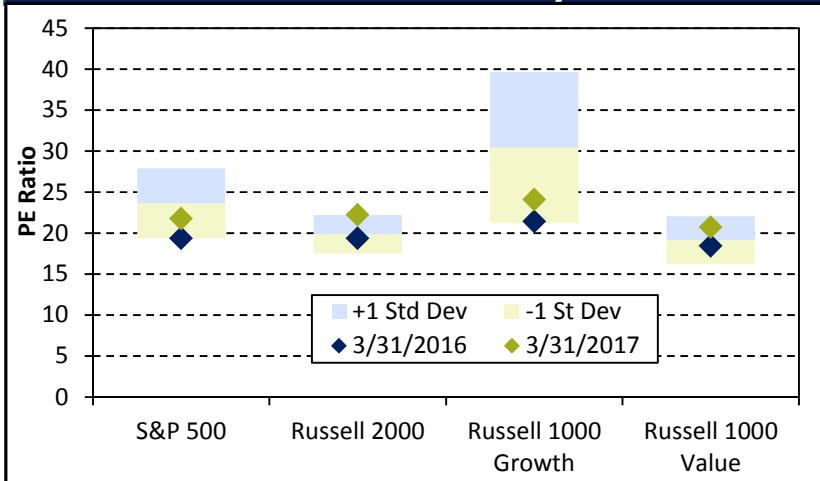
Equities have experienced positive short-term performance



Source: Bloomberg, MSCI

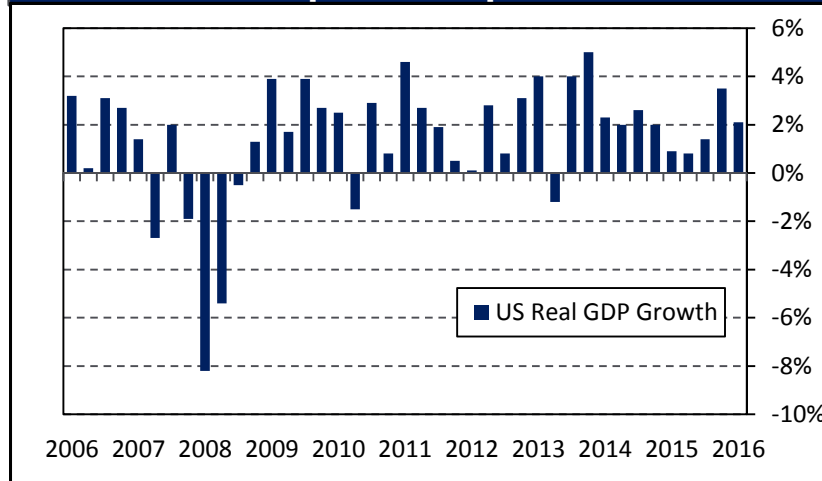
US Equity

US equity valuations remain elevated relative to last year



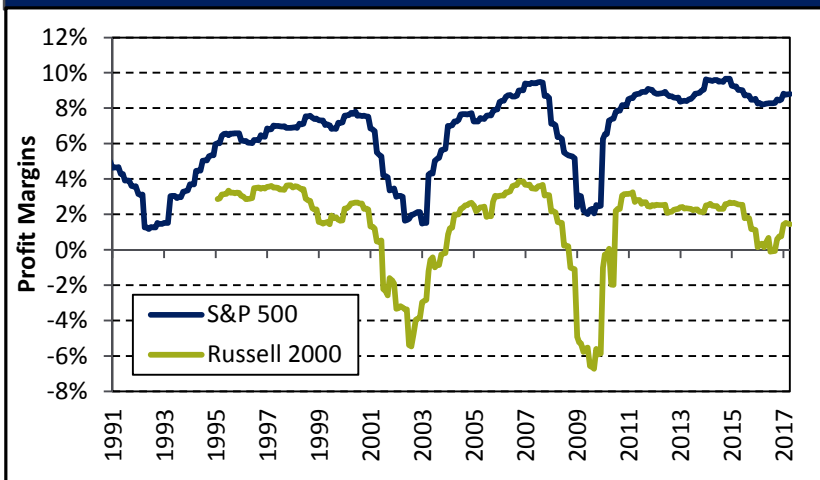
Source: Bloomberg, Standard and Poors, Russell *Russell 2000 PE is index adjusted positive* Standard deviation calculations based on 20 years of data

Real GDP growth declined from the previous quarter



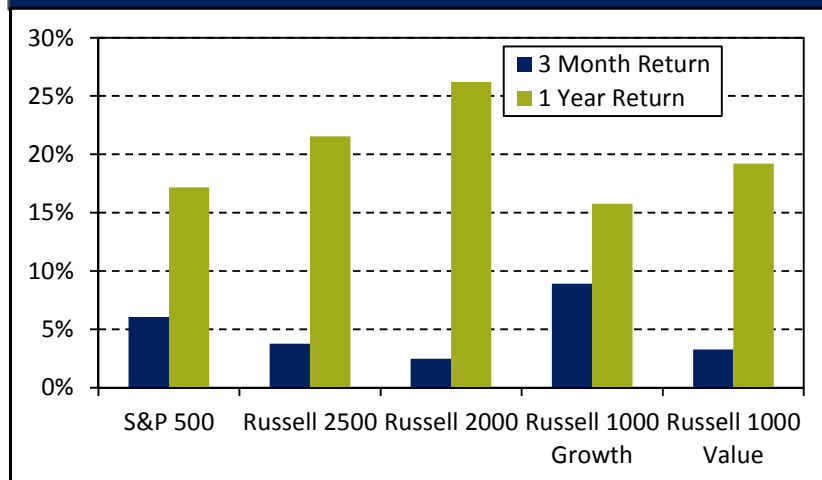
Source: Bloomberg, Bureau of Economic Analysis

Profit margins experience a slight uptick



Source: Bloomberg, Standard and Poors, Russell

US equity posts positive short-term returns

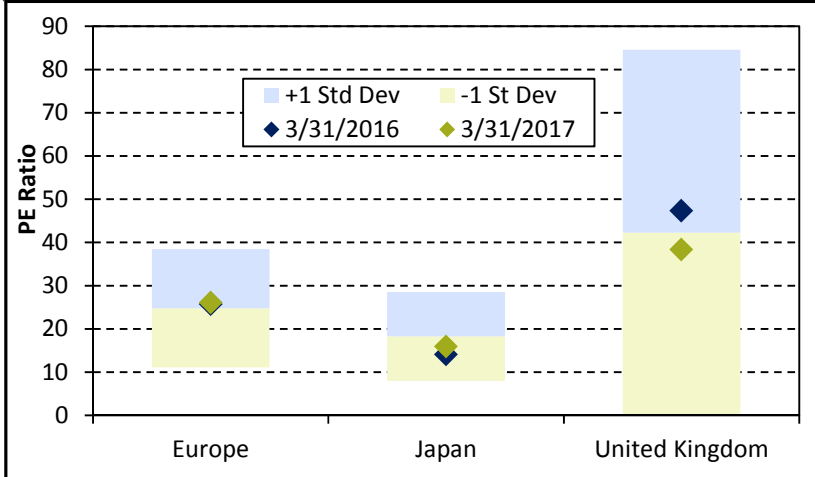


Source: Bloomberg, Standard and Poors, Russell



International Equity

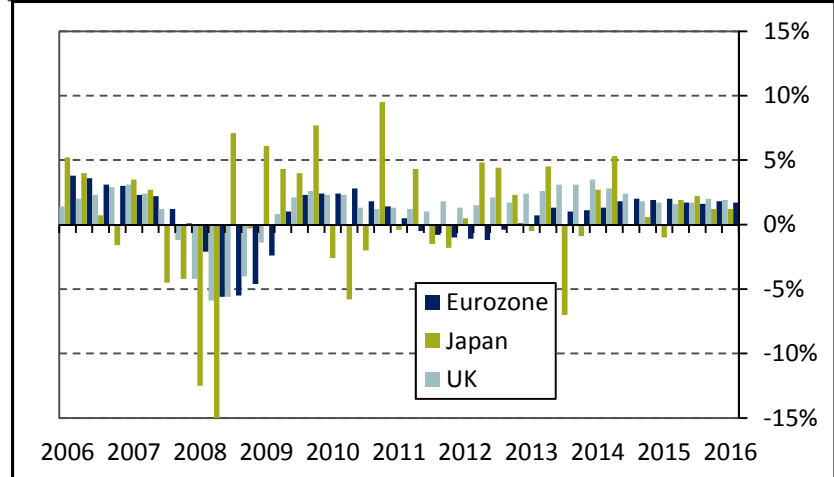
UK valuation falls below previous year level



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

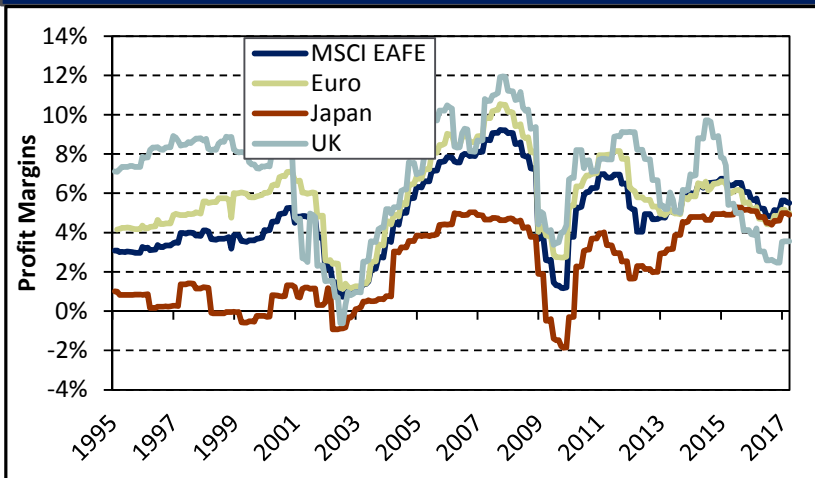
*Standard deviation calculations based on 20 years of data, with Europe since 12/1998

International growth has steadied



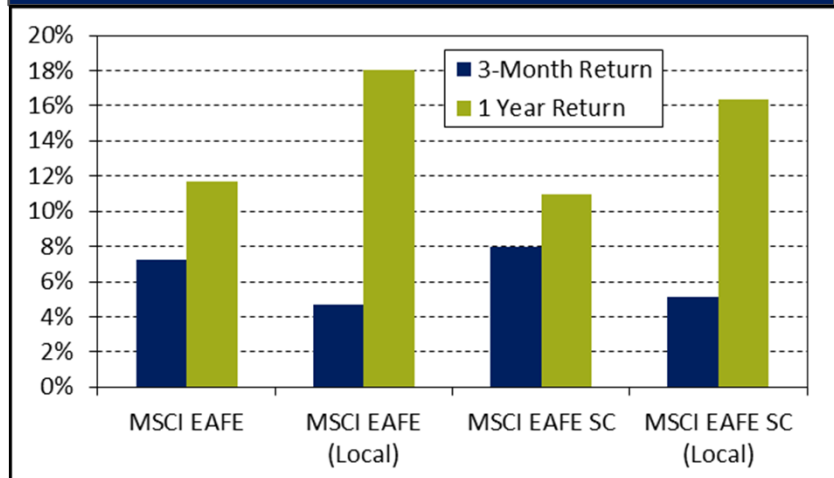
Source: Bloomberg

Profit margins continue trending higher



Source: Bloomberg, MSCI

Strong short-term performance for EAFE



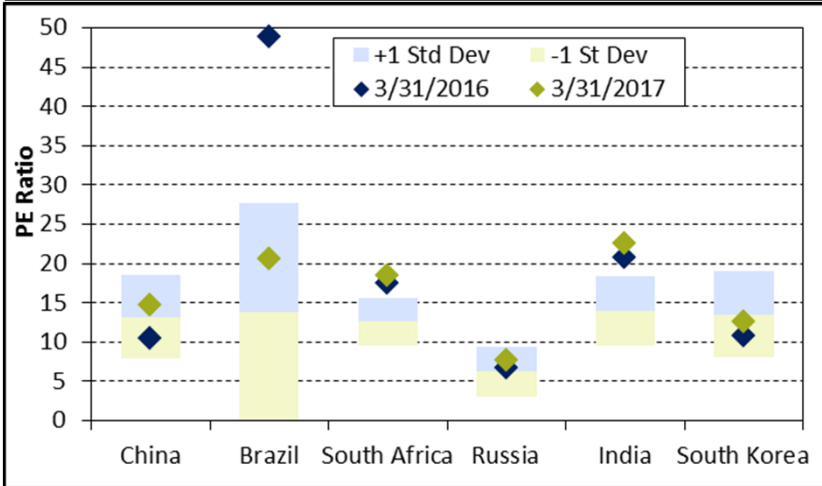
Source: Bloomberg, MSCI



NEPC, LLC

Emerging Markets Equity

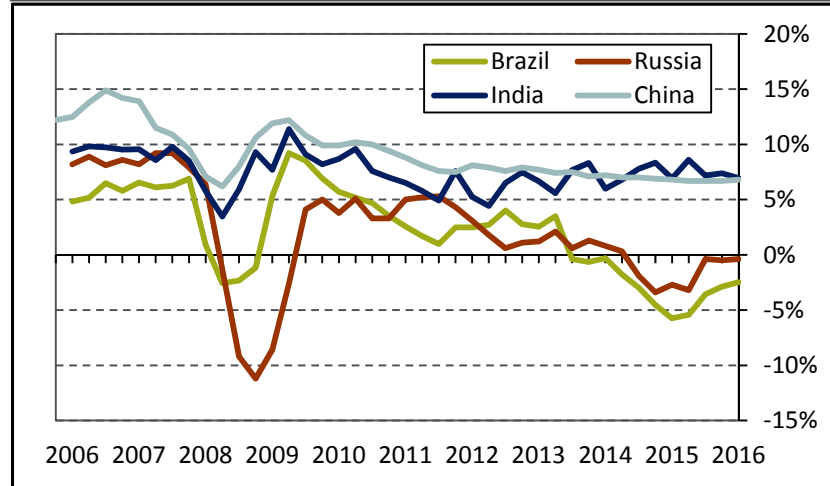
Ex-Brazil, current year valuations remain higher than the previous year



Source: Bloomberg, MSCI

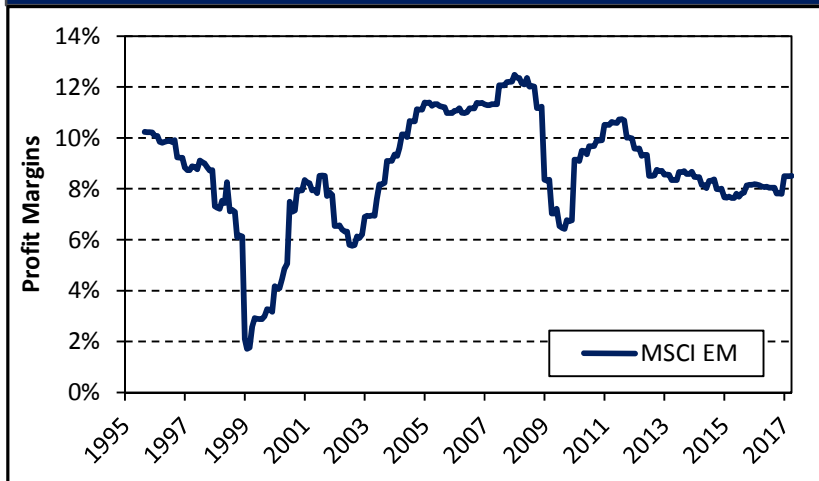
*Standard deviation calculations based on 20 years of data, with Russia since 01/1998

Brazil continues to rebound off earnings contraction



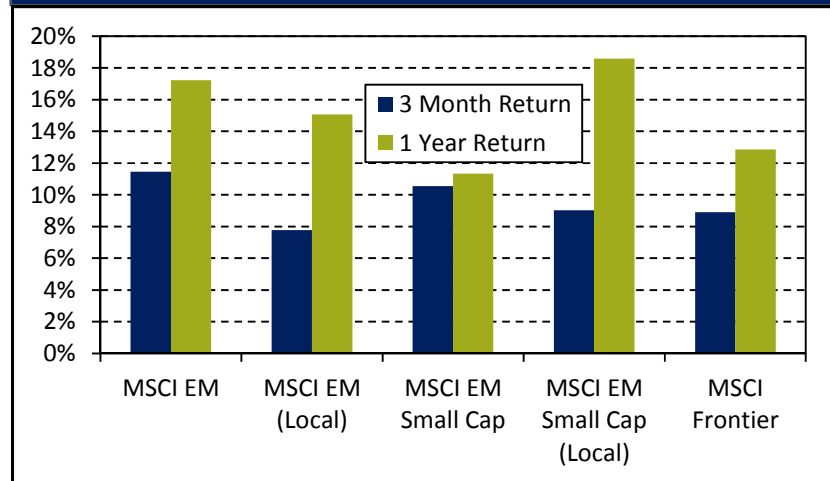
Source: Bloomberg

Profit margins experience slight uptick



Source: Bloomberg, MSCI

EM posts strong short-term returns

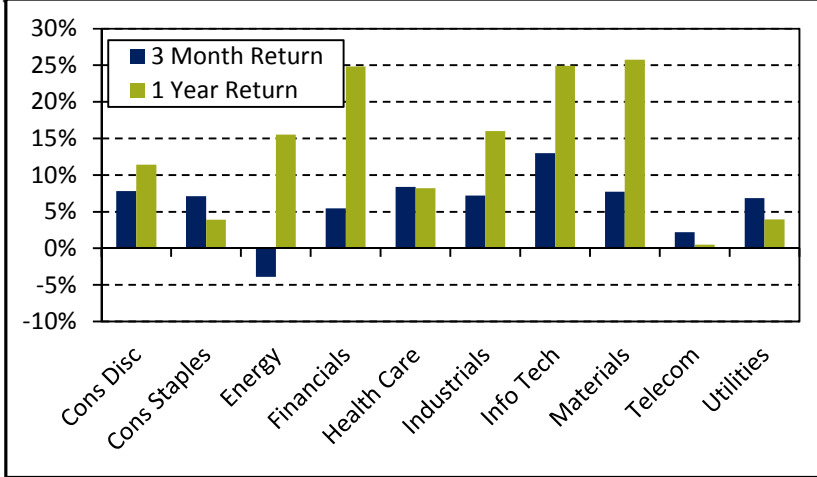


Source: Bloomberg, MSCI



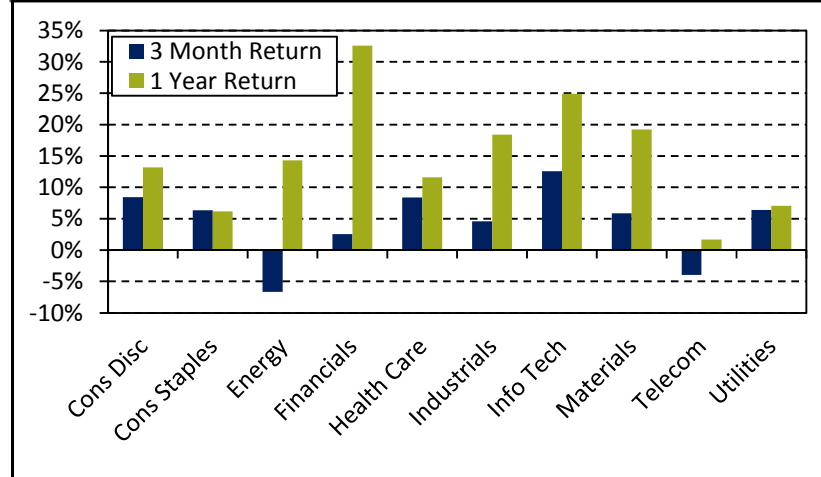
Global Equity by Sector

Ex-energy, MSCI ACWI has posted broad short-term returns



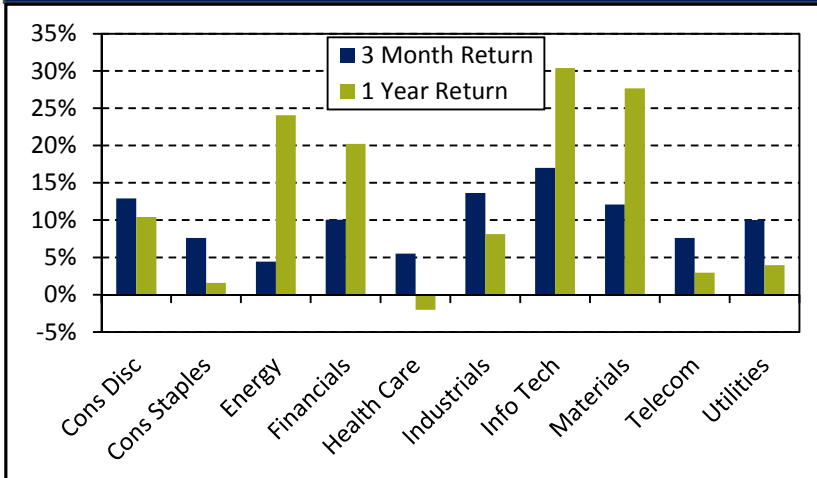
Source: Bloomberg, MSCI

Energy and Telecom sectors drag S&P 500 short-term returns



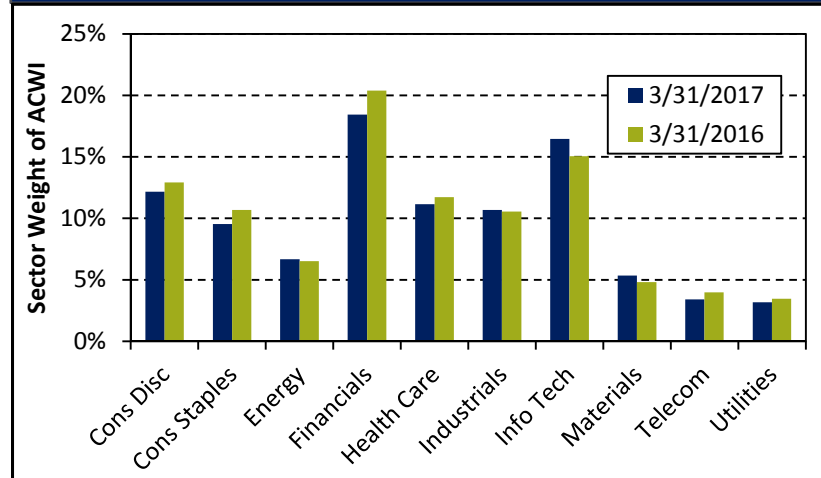
Source: Bloomberg, Standard and Poors

MSCI EM posts positive short-term returns across all sectors



Source: Bloomberg, MSCI

Financials sector weight has decreased in favor of Info Tech and Materials

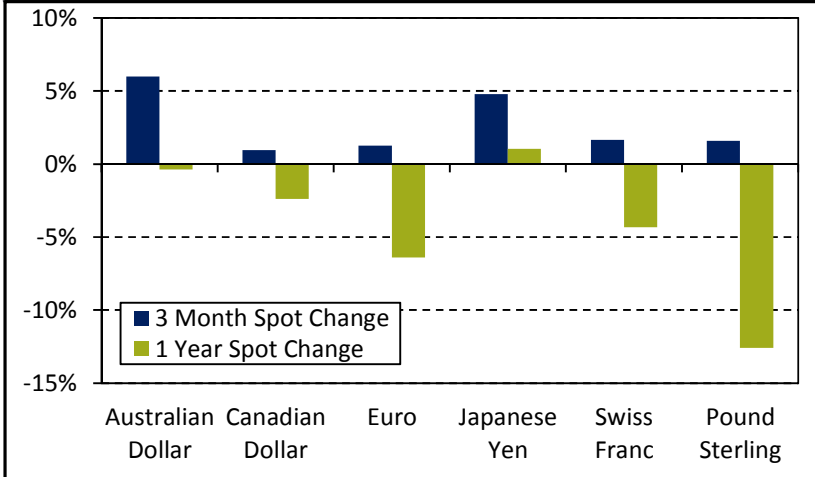


Source: Bloomberg, MSCI



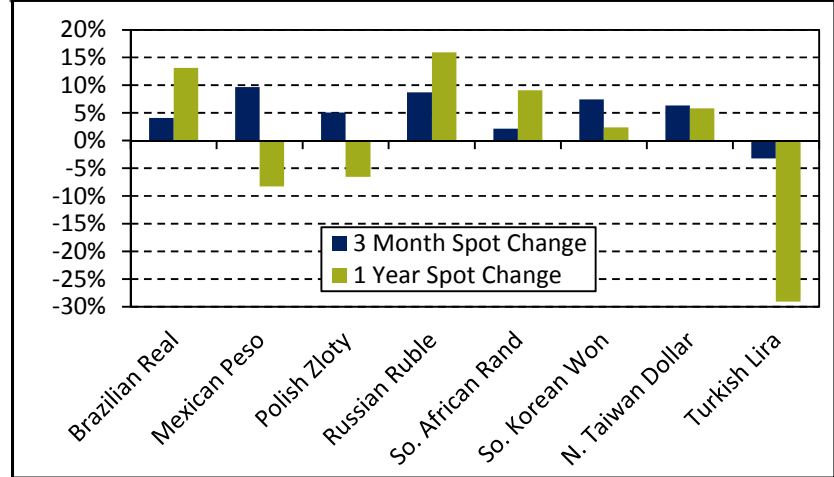
Currencies

International currencies have appreciated with the dollar decline



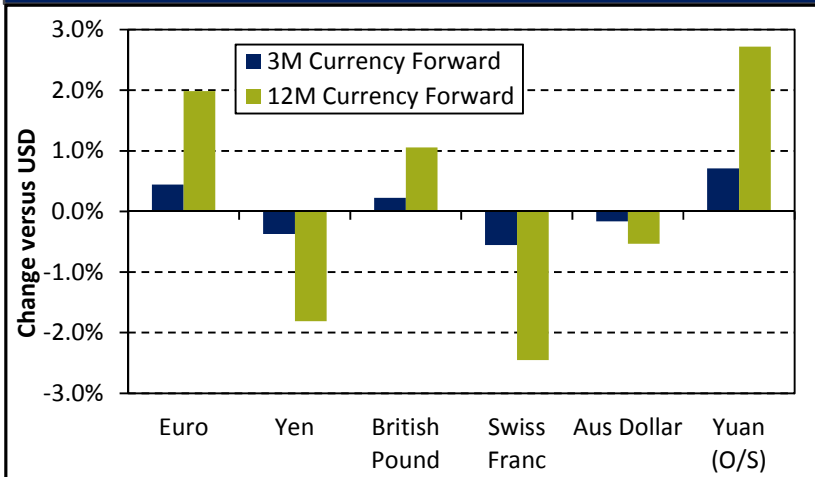
Source: Bloomberg

The Lira has experienced sharp depreciation



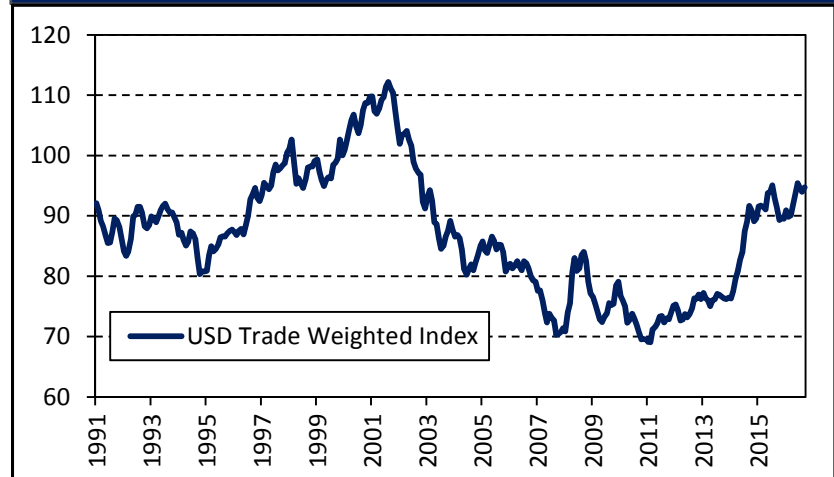
Source: Bloomberg

USD expectations vary across developed markets



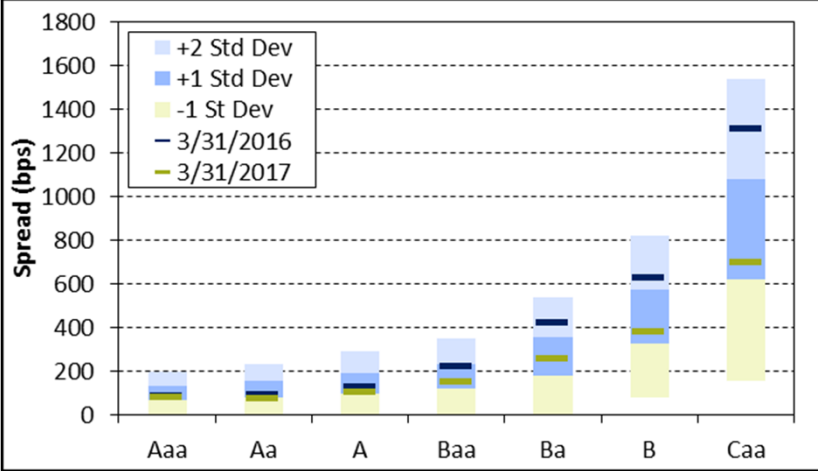
Source: Bloomberg

The dollar has steadied in 2017



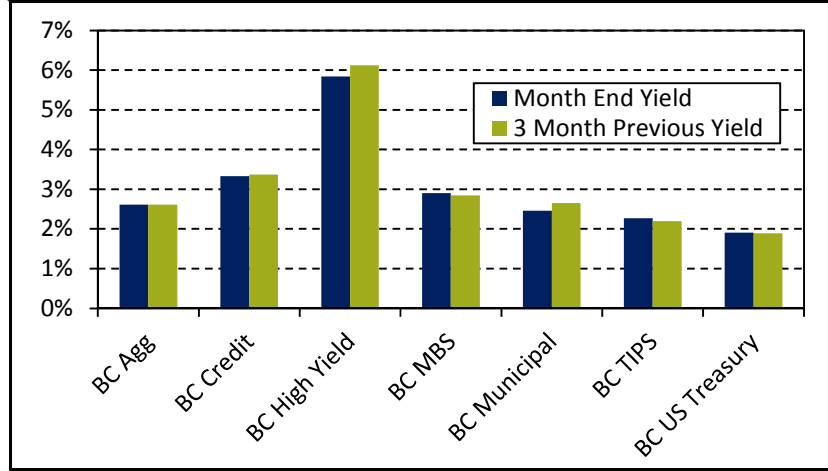
Source: Bloomberg, Federal Reserve

Spreads remain lower than the previous year



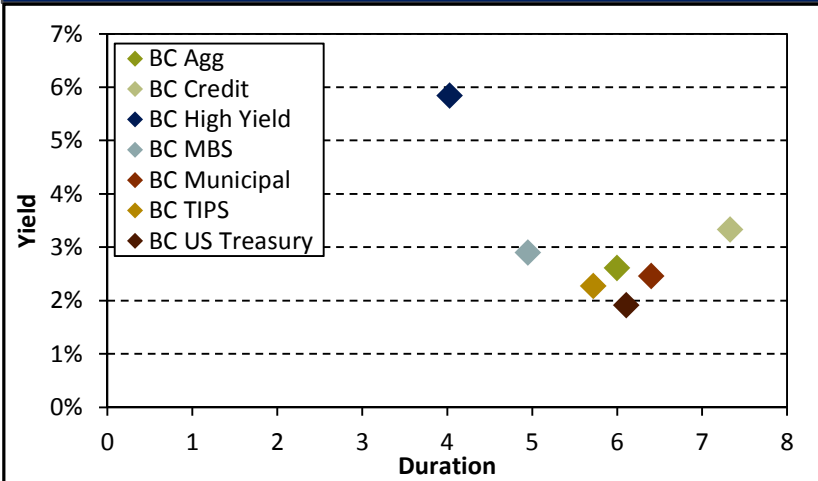
Source: Bloomberg, Barclays
*Standard deviation calculations based on 20 years of data

Yields are similar to three months prior



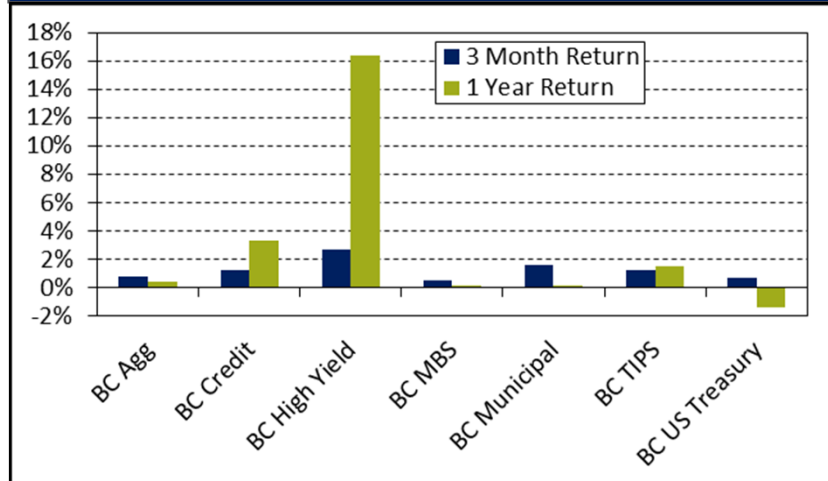
Source: Bloomberg, Barclays

Similar duration/yield profiles among core indices



Source: Bloomberg, Barclays

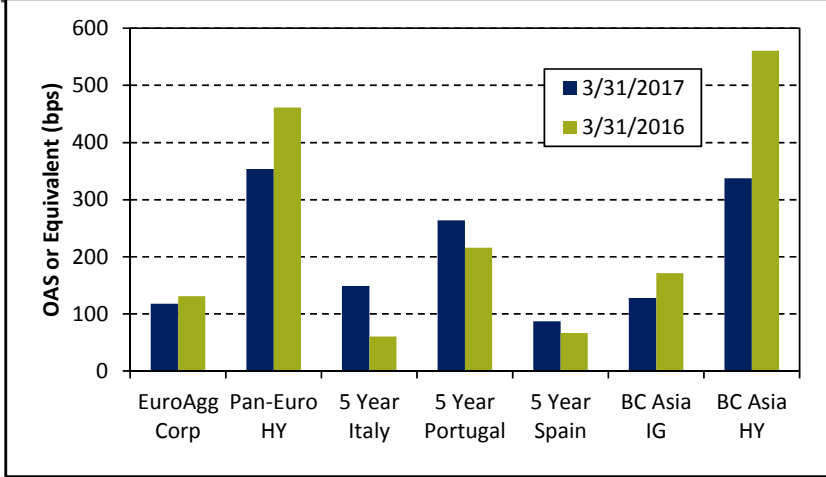
High yield continues to outperform other fixed income indices



Source: Bloomberg, Barclays

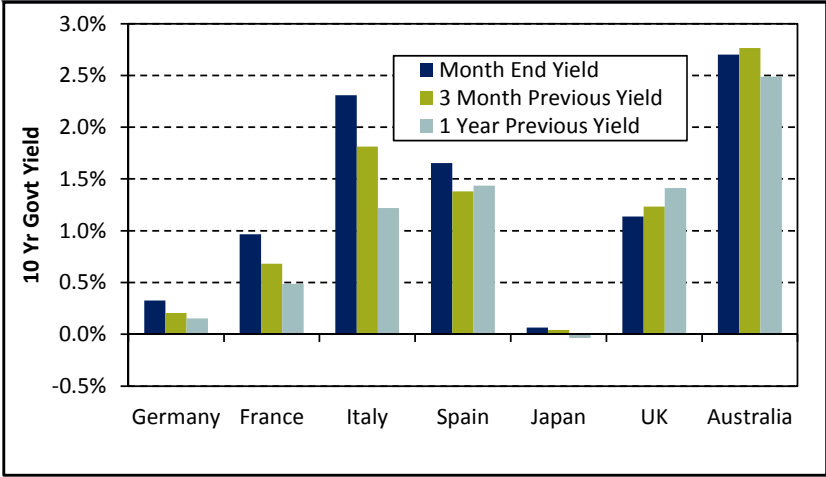
International Developed Fixed Income

European periphery yields vary relative to Germany



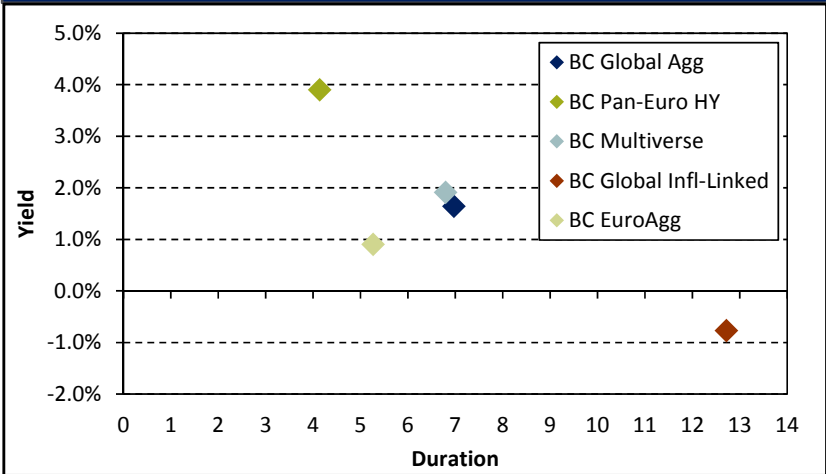
Source: Barclays, Bloomberg, *European periphery spreads are over equivalent German Bund

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



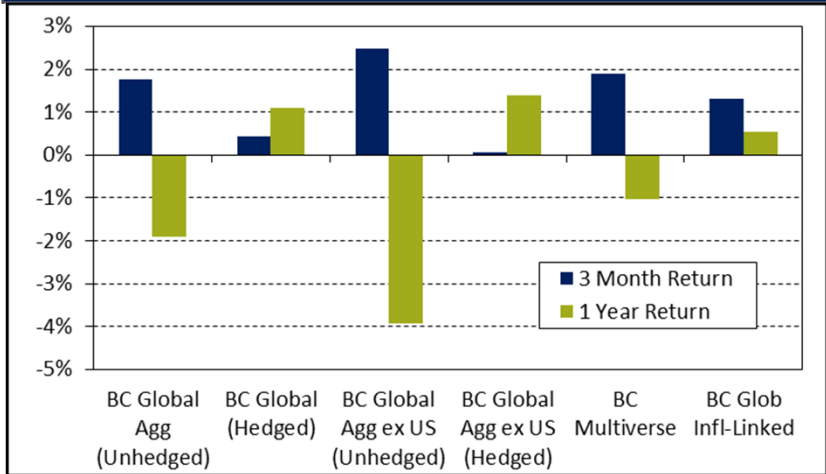
Source: Bloomberg

Low yields persist in global bond universe



Source: Bloomberg, Citigroup, Barclays

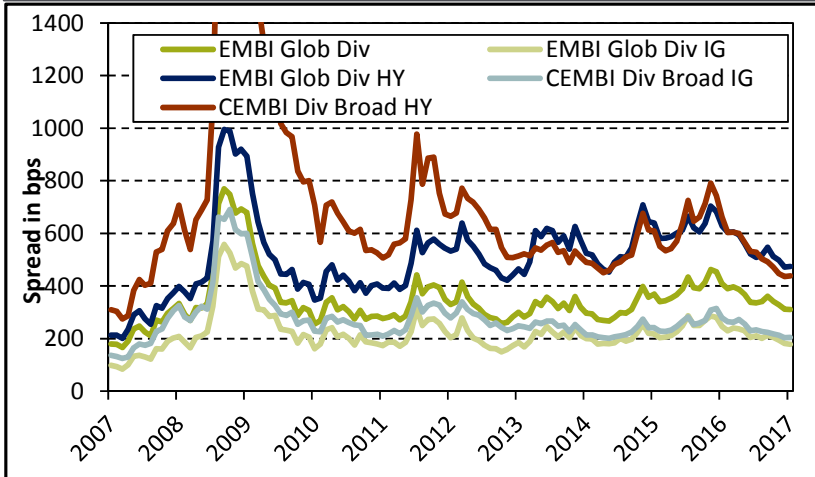
Global bonds post relatively strong short-term returns



Source: Bloomberg, Citigroup, Barclays

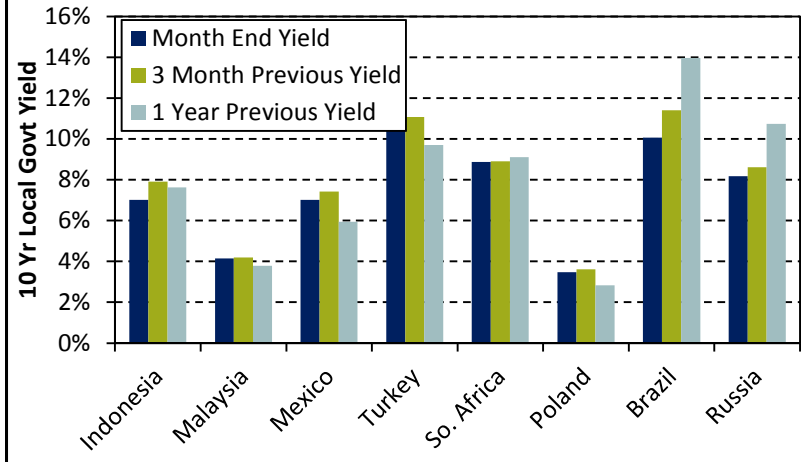
Emerging Markets Fixed Income

Spreads continue to decline



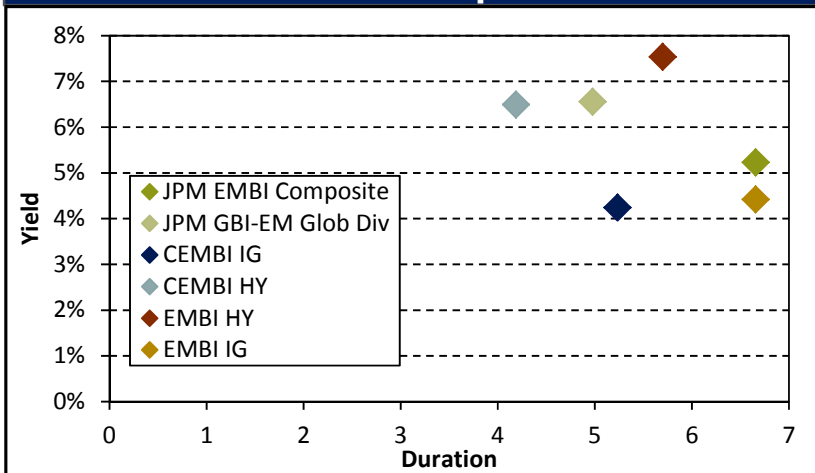
Source: Bloomberg, JP Morgan

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



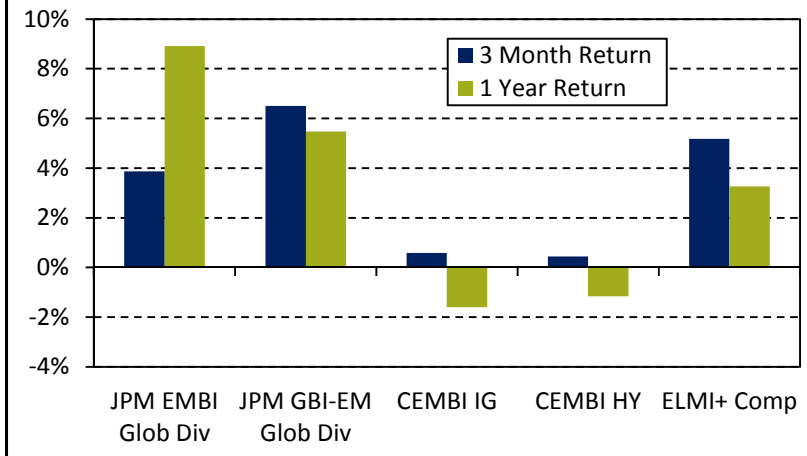
Source: Bloomberg

EM yields remain attractive versus global counterparts



Source: Bloomberg, JP Morgan

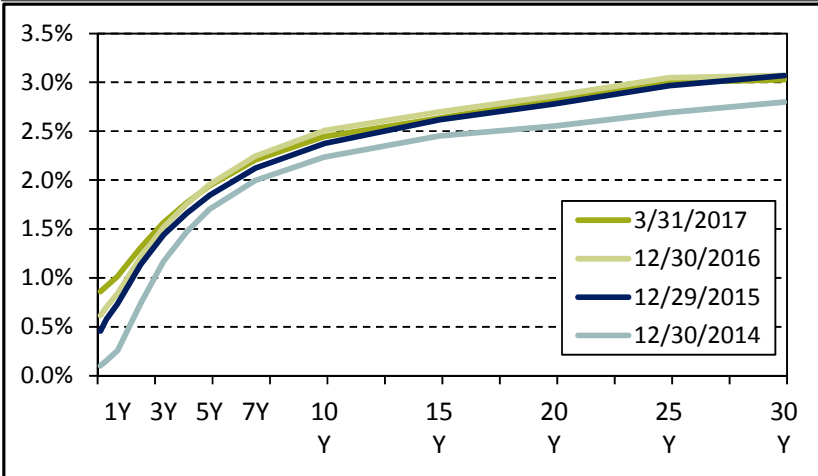
EM debt posts strong positive short-term returns



Source: Bloomberg, JP Morgan

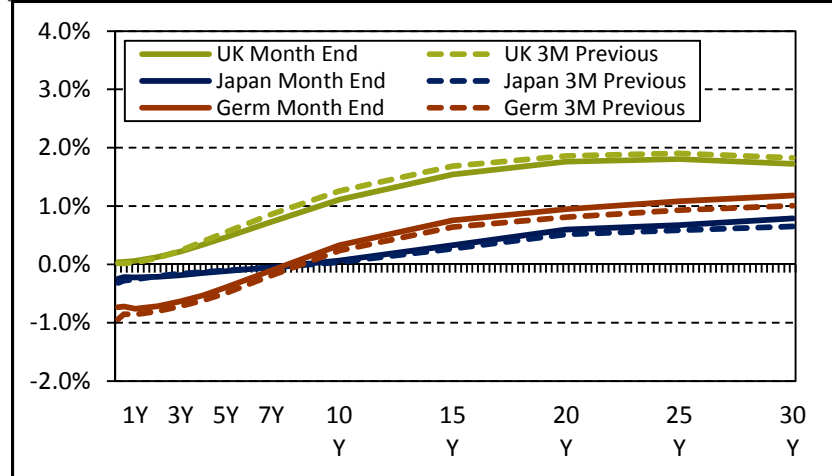
Rates

Short-term rate expectations increased with long-term remaining largely unchanged



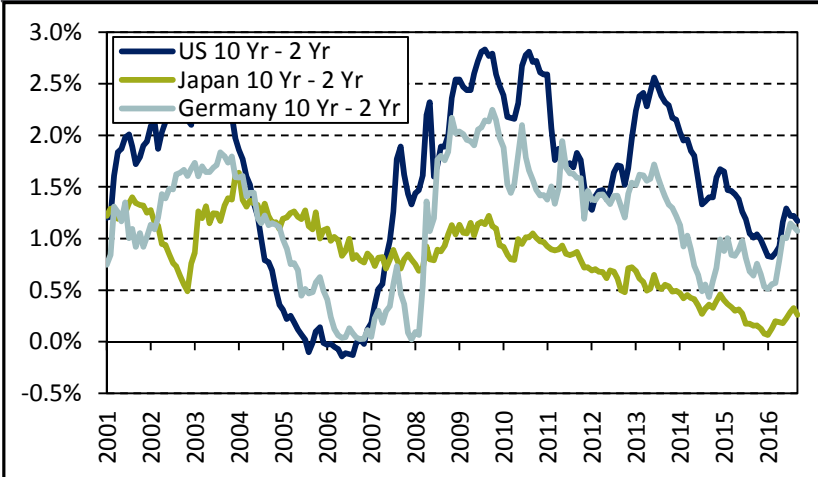
Source: Bloomberg

Interest rate expectations remain similar to previous months



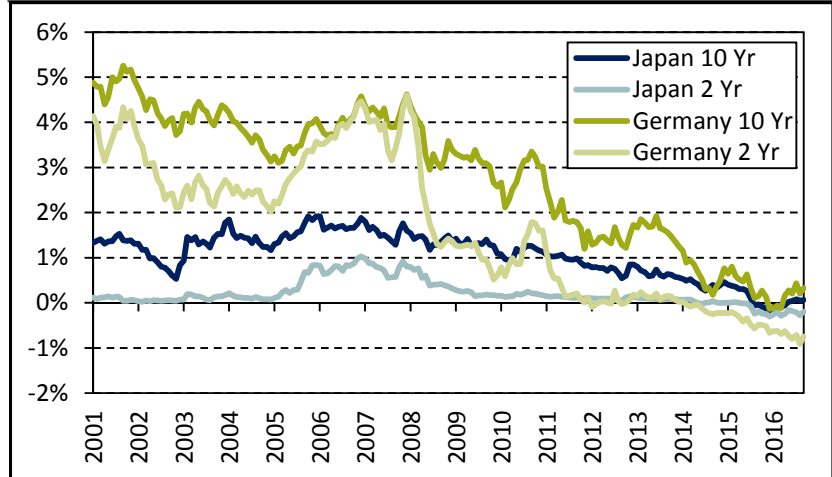
Source: Bloomberg

10-2 spreads have tightened in the US and Germany



Source: Bloomberg

Sovereign bond yields remain in negative or neutral territory

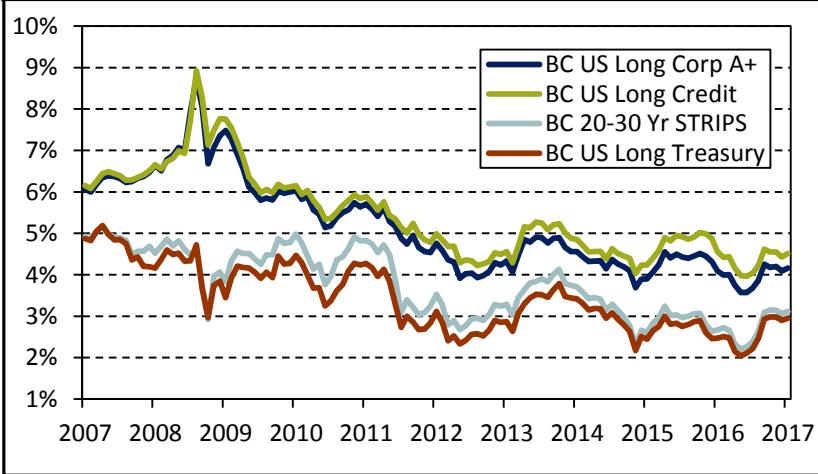


Source: Bloomberg



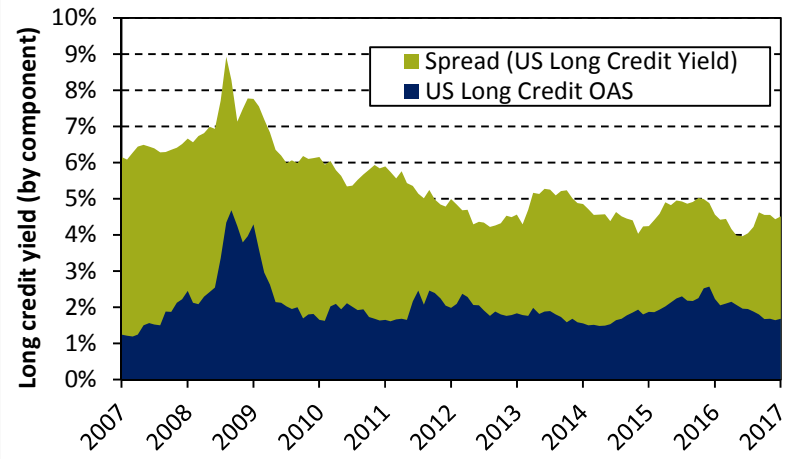
Long Rates and Liability

Long duration yields have steadied



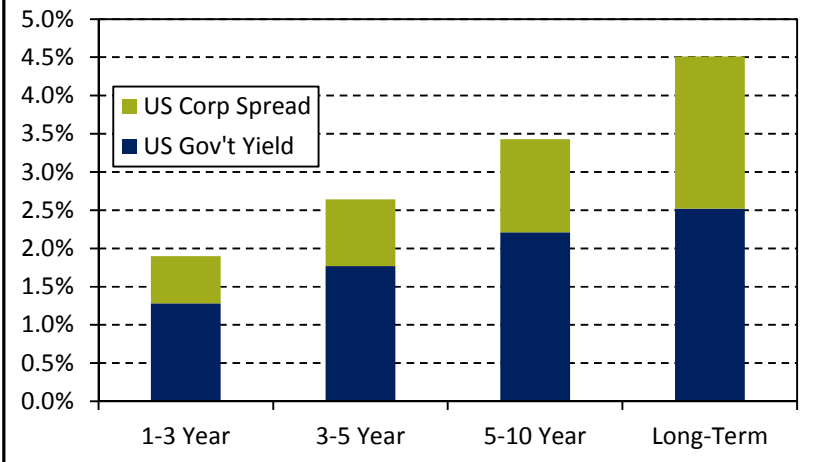
Source: Bloomberg, Citigroup, Barclays

Long credit yield remains in line with previous years



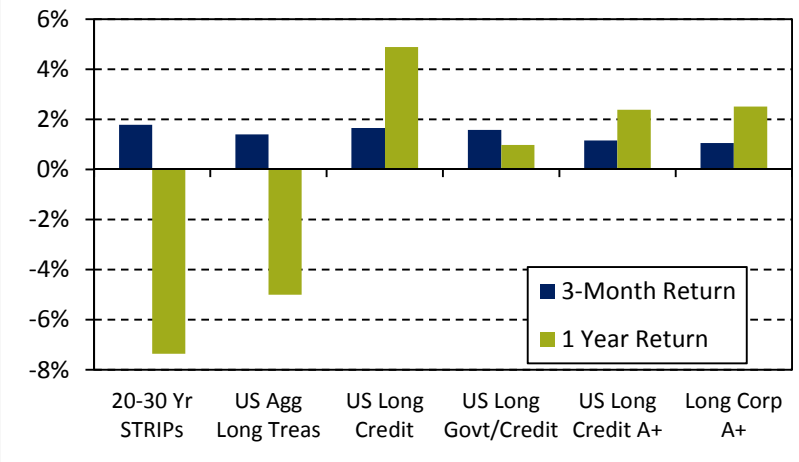
Source: Bloomberg, US Treasury, Barclays, NEPC

Yield and spread components continue to offer modest returns



Source: Bloomberg, Barclays

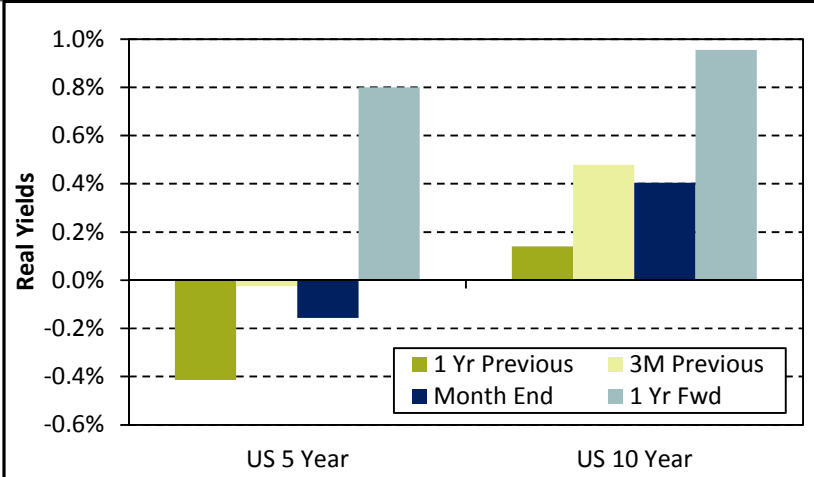
Long duration fixed income posts short-term gains



Source: Bloomberg, Barclays

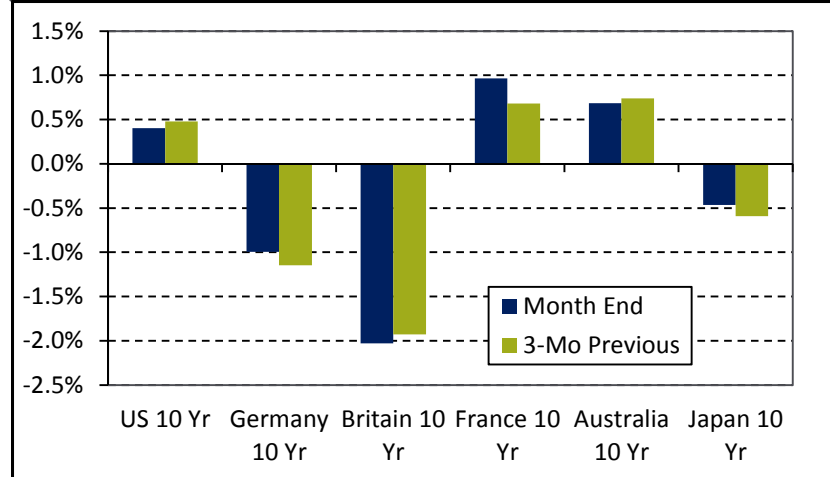
Inflation and Real Rates

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



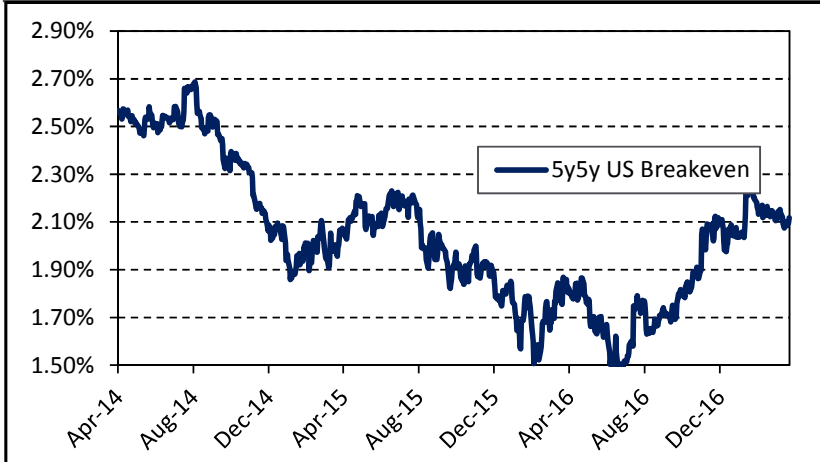
Source: Bloomberg

France's yield has increased with election uncertainty



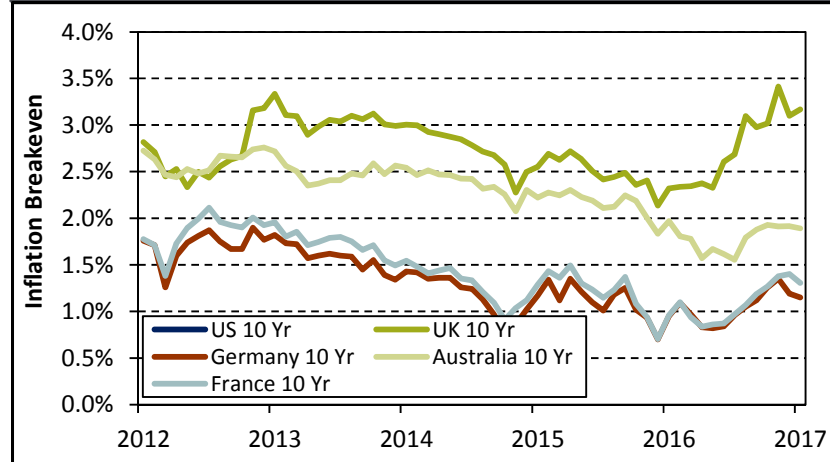
Source: Bloomberg

US inflation expectations have decreased off of post US election highs



Source: Bloomberg

Germany and France inflation expectations have begun to fall

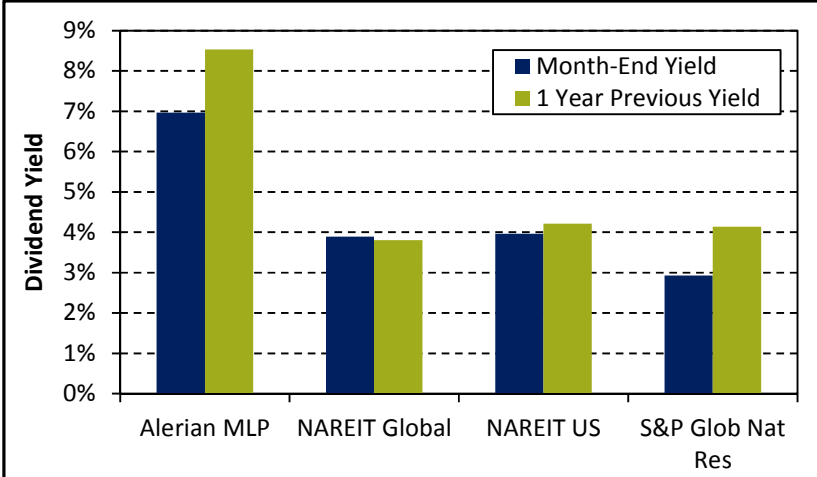


Source: Bloomberg



Inflation-Sensitive Growth Assets

MLP yields remain similar to the previous year



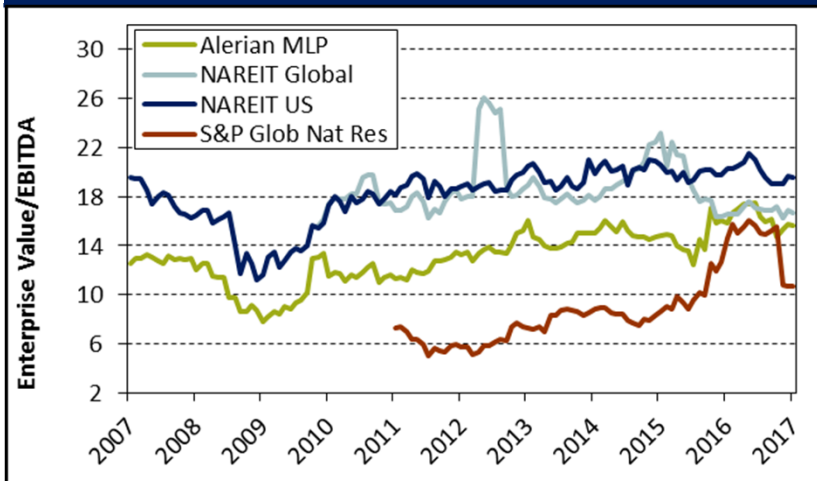
Source: Bloomberg, Alerian, Nareit, Standard and Poors

Sustained recovery in commercial real estate occupancy rates



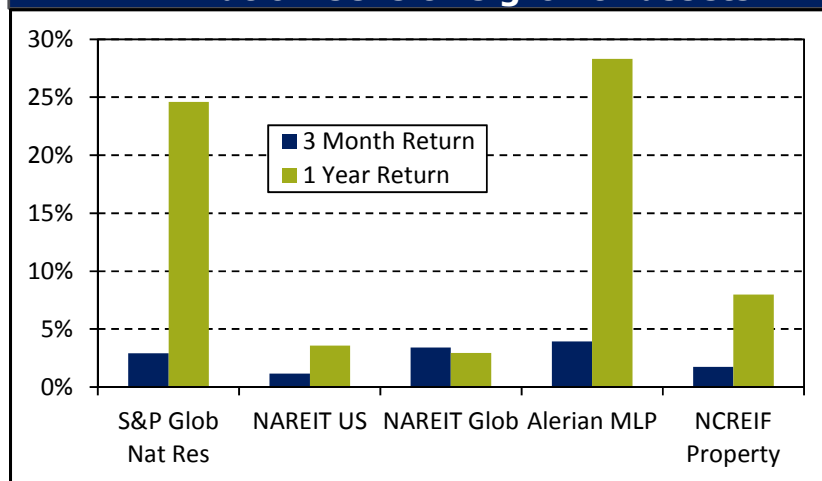
Source: NCREIF

US REIT valuations have steadied



Source: Bloomberg, US Census Bureau

Positive short-term performance for inflation-sensitive growth assets

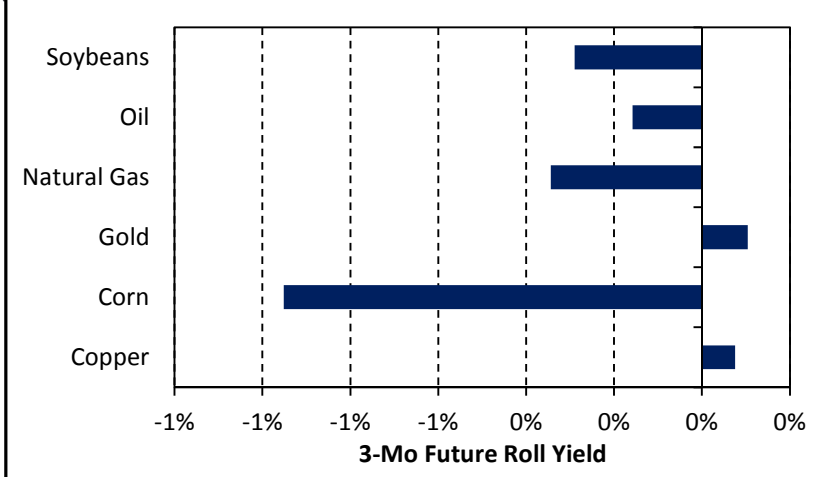


Source: Bloomberg, Alerian, Nareit, Standard and Poors



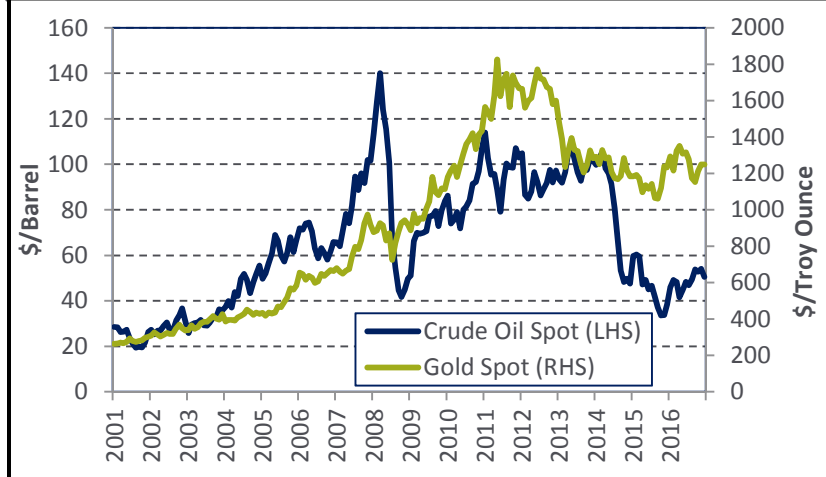
Commodities

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



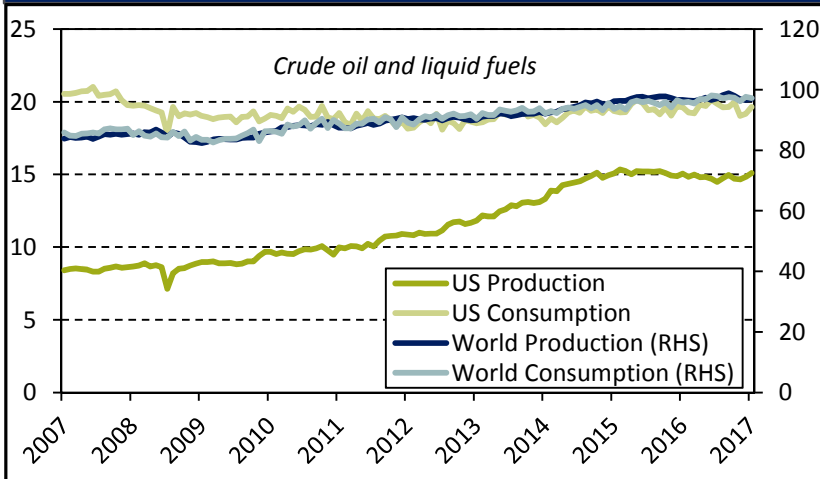
Source: Bloomberg

Oil has slightly declined for the month



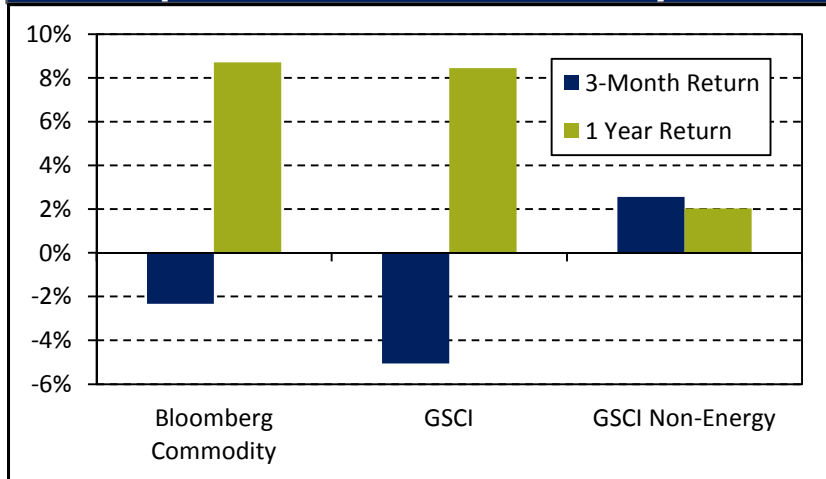
Source: Bloomberg

Oil production and consumption has steadied



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

Non-energy commodities have outperformed broad commodity indices



Source: Bloomberg, Standard and Poors



Glossary of Investment Terminology

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