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## **Vermont Pension Investment Committee**

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### **First Fiscal Quarter 2018 Preliminary Investment Performance Analysis**

November 28, 2017

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# Market Environment





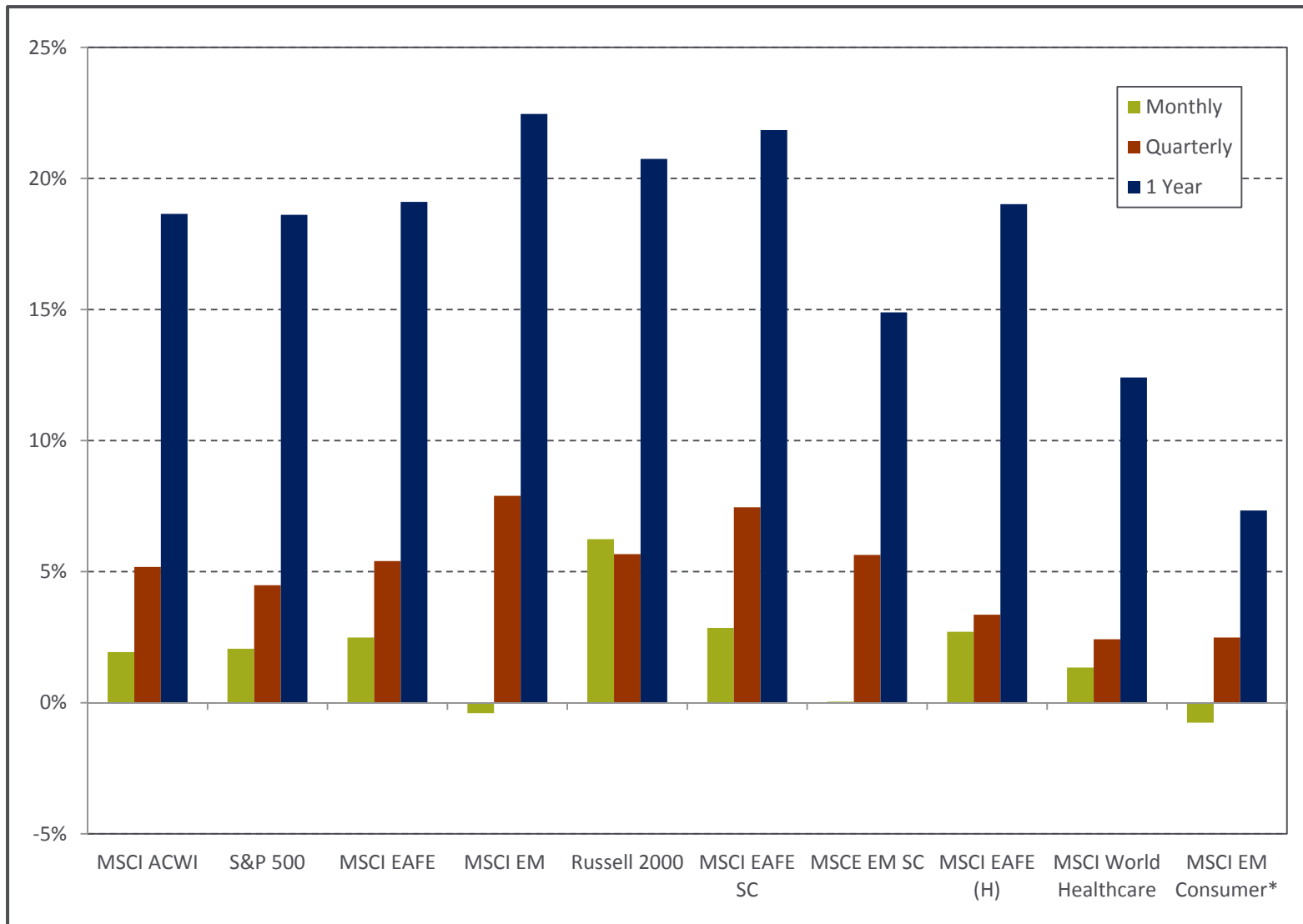
## Q3 Market Summary

Macro			Equity			Credit			Real Assets		
US Dollar	VIX	US 10-Yr	S&P 500	MSCI EAFE	MSCI EM	US Agg.	High Yield	Dollar EMD	Oil	Gold	REITS
											
-2.7%	-1.7	3 bps	4.5%	5.4%	7.9%	0.8%	2.0%	2.4%	12.2%	3.1%	1.3%

- **Equities continued to push higher with supportive macroeconomic data, robust earnings, and accommodative central banks**
  - Emerging markets continued their outperformance led by strong returns in China
- **Bond yields were little changed over the quarter – reflecting minimal volatility seen in US economic growth and inflation rates**
- **Reflecting the pro-risk environment, the US dollar declined relative to both the euro and yuan while volatility remained near historic lows**

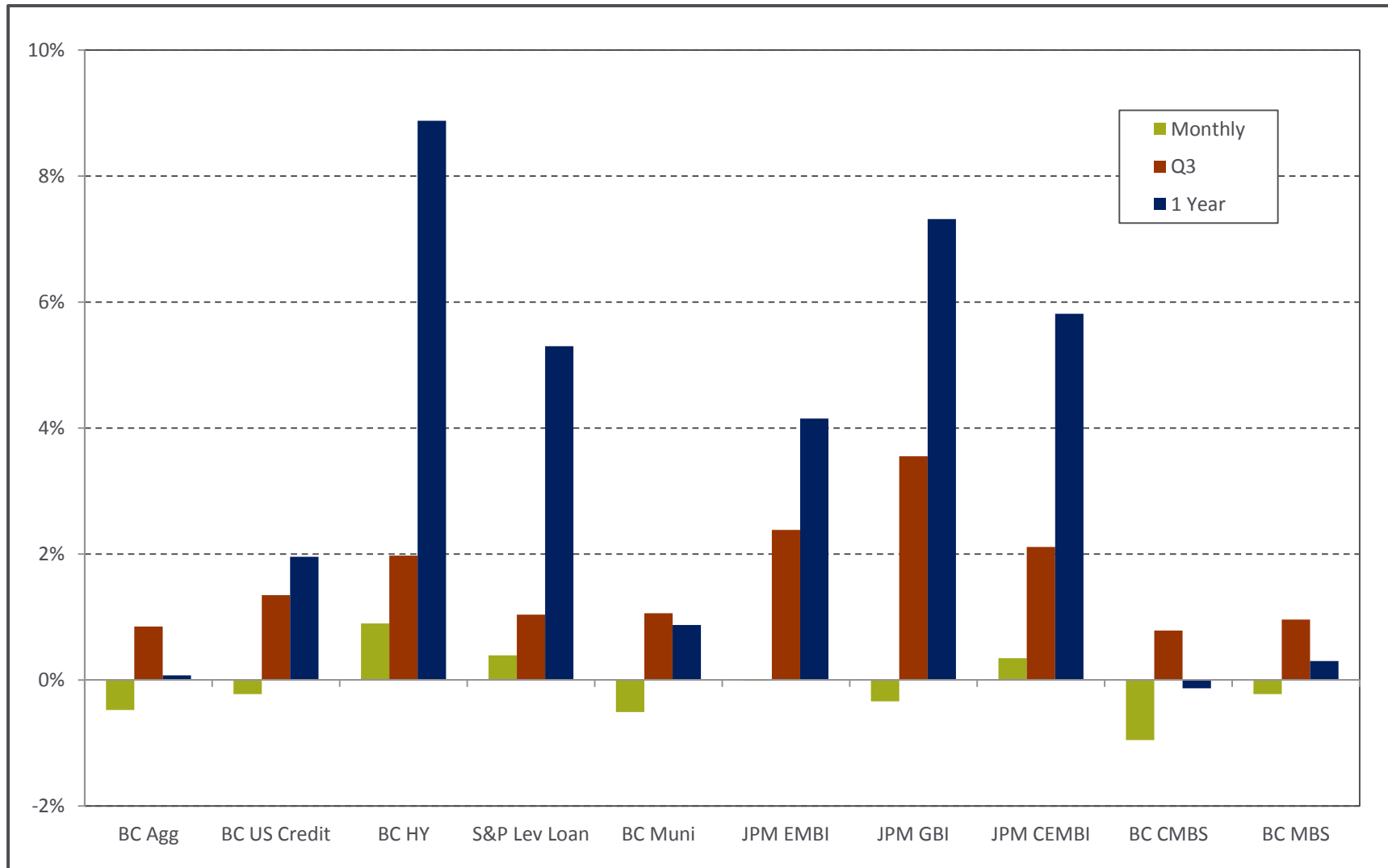
Market segment (index representation) as follows: US Dollar (DXY Index), VIX (CBOE Volatility Index), US 10-Year (US 10-Year Treasury Yield), S&P 500 (US Equity), MSCI EAFE Index (International Developed Equity), MSCI Emerging Markets (Emerging Markets Equity), US Agg (Barclays US Aggregate Bond Index), High Yield (Barclays US High Yield Index), Dollar EMD (JPM Emerging Market Bond Index), Crude Oil (WTI Crude Oil Spot), Gold (Gold Price Spot), and REITs (NAREIT Composite Index).

# Equity Index Returns- September 30, 2017



\*Equal-weighted EM Healthcare, Consumer Durables & Apparel, Consumer Discretionary, Consumer Staples  
 Source: MSCI, S&P, Russell, NEPC, Bloomberg

# Index Returns



Source: Barclays, S&P, JPM, Bloomberg

# State Employees' Retirement System



# Vermont State Employees

## Total Fund Performance Summary - Net

	Market Value	3 Mo Rank	Fiscal YTD Rank	YTD Rank	1 Yr Rank	3 Yrs Rank	5 Yrs Rank	7 Yrs Rank	10 Yrs Rank								
<b>Total Employees Composite</b>	<b>\$1,789,351,251</b>	<b>3.0%</b>	<b>72</b>	<b>3.0%</b>	<b>72</b>	<b>10.1%</b>	<b>67</b>	<b>10.3%</b>	<b>78</b>	<b>5.5%</b>	<b>80</b>	<b>6.2%</b>	<b>92</b>	<b>6.8%</b>	<b>88</b>	<b>4.3%</b>	<b>84</b>
<i>Policy Index</i>		3.2%	54	3.2%	54	9.8%	74	10.0%	85	5.6%	79	6.2%	92	6.5%	94	4.4%	83
<i>Allocation Index</i>		3.4%	38	3.4%	38	10.5%	56	10.4%	76	5.6%	78	6.3%	91	6.5%	94	4.4%	83
<i>InvestorForce Public DB Net Median</i>		3.3%		3.3%		10.7%		11.6%		6.4%		8.0%		7.9%		5.3%	

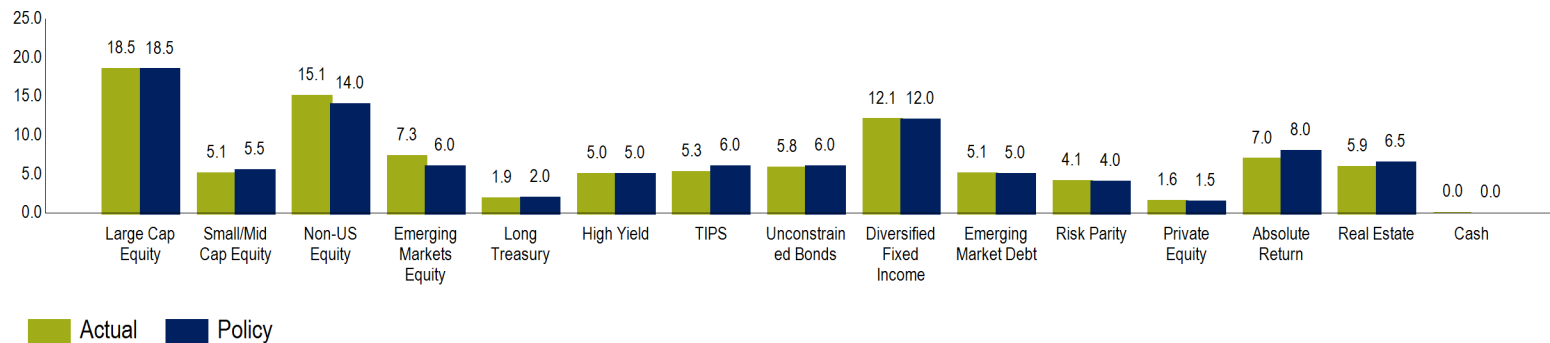
### 3 Years Ending September 30, 2017

	Anlzd Ret	Rank	Anlzd Std Dev	Rank	Sharpe Ratio	Rank	Sortino Ratio RF	Rank
Total Employees Composite	5.50%	80	5.26%	23	0.98	64	1.62	27
Policy Index	5.59%	79	4.97%	11	1.06	43	1.78	16
Allocation Index	5.63%	78	5.16%	19	1.03	52	1.66	23

### 5 Years Ending September 30, 2017

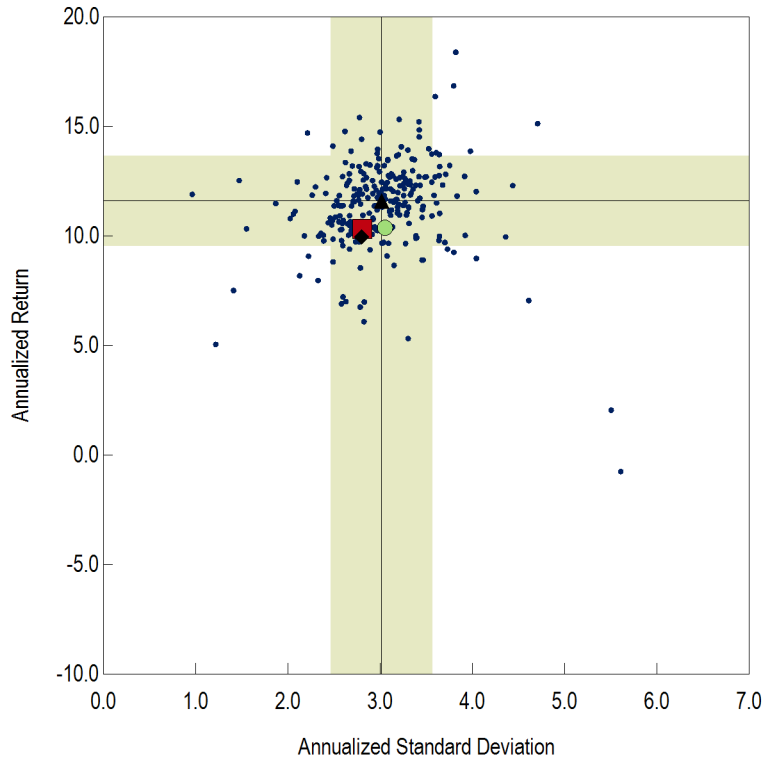
	Anlzd Ret	Rank	Anlzd Std Dev	Rank	Sharpe Ratio	Rank	Sortino Ratio RF	Rank
Total Employees Composite	6.21%	92	5.44%	30	1.10	89	1.90	76
Policy Index	6.23%	92	5.01%	12	1.20	75	2.13	55
Allocation Index	6.29%	91	5.14%	19	1.18	78	2.04	62

### Actual vs Target Allocation (%)





1 Year Ending September 30, 2017



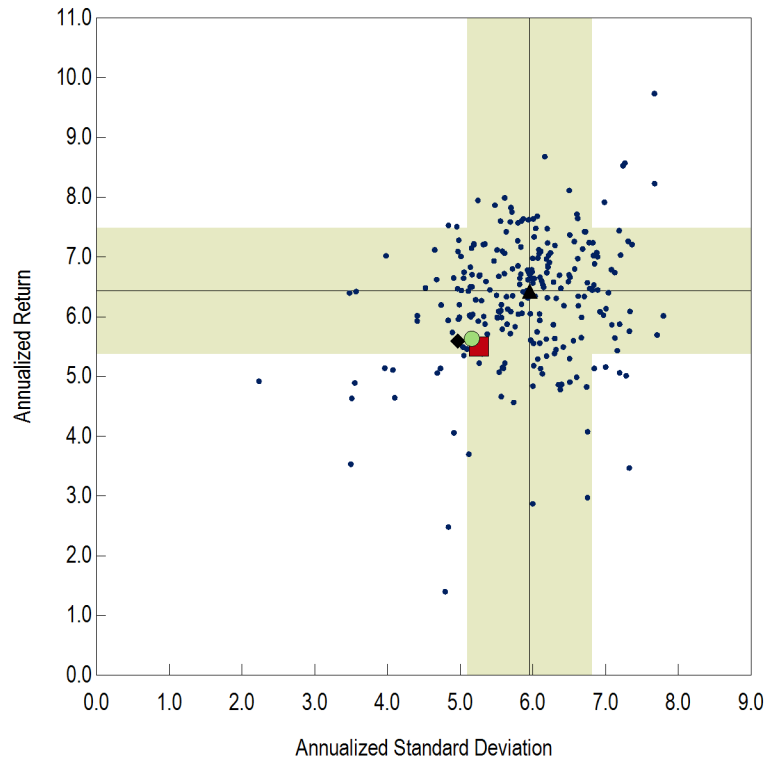
- Total Employees Composite
- ◆ Policy Index
- Allocation Index
- ▲ Universe Median
- 68% Confidence Interval
- InvestorForce Public DB Net

1 Year Ending September 30, 2017

	Anlzd Return	Anlzd Return Rank	Anlzd Standard Deviation	Anlzd Standard Deviation Rank	Sharpe Ratio	Sharpe Ratio Rank
Total Employees Composite	10.32%	78	2.81%	35	3.42	66
Policy Index	9.96%	85	2.80%	35	3.30	72
S&P 500	18.61%	1	5.46%	99	3.28	74
Citi WGBI	-2.69%	99	7.03%	99	-0.49	99
MSCI ACWI	18.65%	1	4.57%	99	3.92	33
MSCI ACWI ex USA	19.61%	1	6.63%	99	2.85	89
InvestorForce Public DB Net Median	11.60%	--	3.02%	--	3.61	--

263 Portfolios

3 Years Ending September 30, 2017



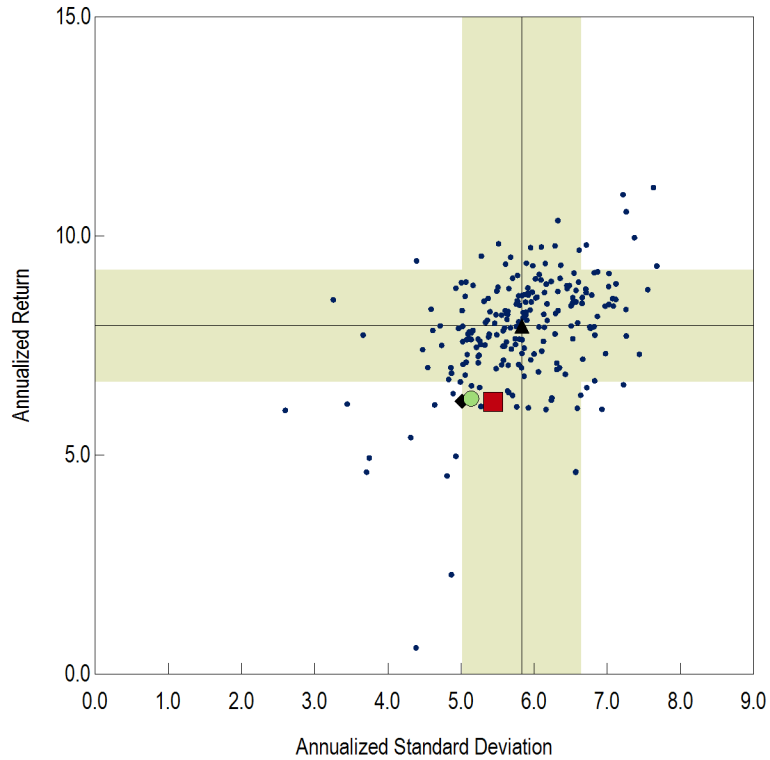
- Total Employees Composite
- ◆ Policy Index
- Allocation Index
- ▲ Universe Median
- 68% Confidence Interval
- InvestorForce Public DB Net

3 Years Ending September 30, 2017

	Anlzd Return	Anlzd Return Rank	Anlzd Standard Deviation	Anlzd Standard Deviation Rank	Sharpe Ratio	Sharpe Ratio Rank
Total Employees Composite	5.50%	80	5.26%	23	0.98	64
Policy Index	5.59%	79	4.97%	11	1.06	43
S&P 500	10.81%	1	10.07%	99	1.04	48
Citi WGBI	0.88%	99	5.81%	44	0.10	99
MSCI ACWI	7.43%	11	10.57%	99	0.67	97
MSCI ACWI ex USA	4.70%	96	12.25%	99	0.36	99
InvestorForce Public DB Net Median	6.43%	--	5.96%	--	1.04	--

252 Portfolios

5 Years Ending September 30, 2017

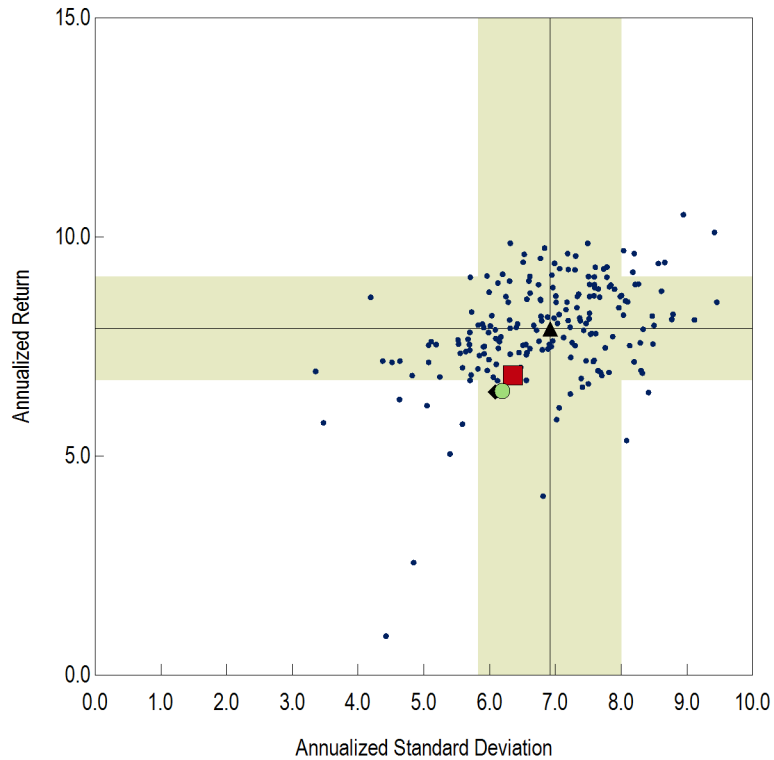


- Total Employees Composite
- ◆ Policy Index
- Allocation Index
- ▲ Universe Median
- 68% Confidence Interval
- InvestorForce Public DB Net

5 Years Ending September 30, 2017

	Anlzd Return	Anlzd Return Rank	Anlzd Standard Deviation	Anlzd Standard Deviation Rank	Sharpe Ratio	Sharpe Ratio Rank
Total Employees Composite	6.21%	92	5.44%	30	1.10	89
Policy Index	6.23%	92	5.01%	12	1.20	75
S&P 500	14.22%	1	9.55%	99	1.47	22
Citi WGBI	-0.43%	99	5.39%	29	-0.12	99
MSCI ACWI	10.20%	2	9.94%	99	1.00	93
MSCI ACWI ex USA	6.97%	82	11.55%	99	0.59	99
InvestorForce Public DB Net Median	7.95%	--	5.83%	--	1.34	--

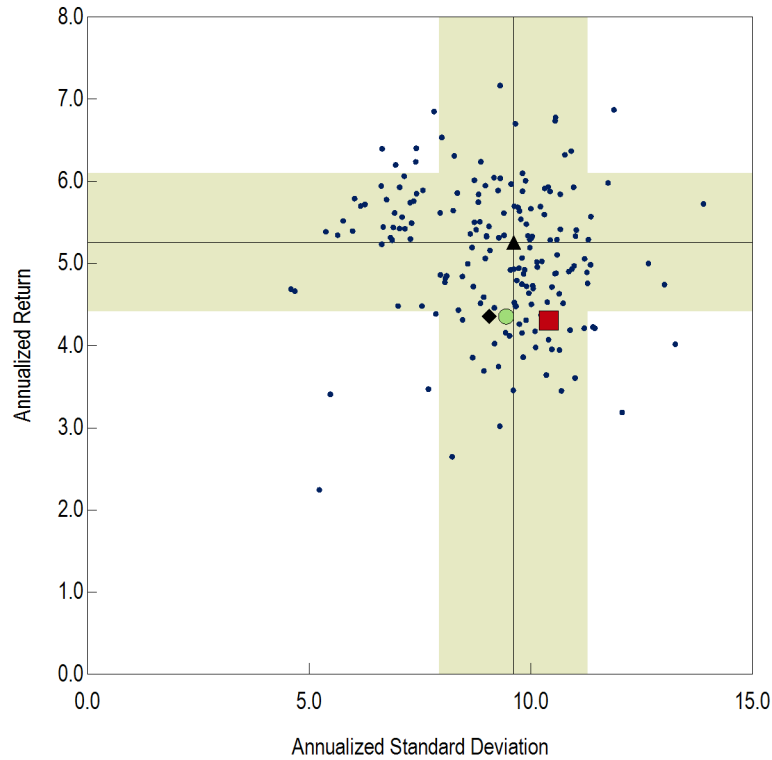
7 Years Ending September 30, 2017



7 Years Ending September 30, 2017

	Anlzd Return	Anlzd Return Rank	Anlzd Standard Deviation	Anlzd Standard Deviation Rank	Sharpe Ratio	Sharpe Ratio Rank
Total Employees Composite	6.84%	88	6.36%	34	1.05	76
Policy Index	6.47%	94	6.09%	24	1.03	77
S&P 500	14.38%	1	10.90%	99	1.30	19
Citi WGBI	0.80%	99	5.48%	9	0.12	99
MSCI ACWI	9.17%	11	12.23%	99	0.74	99
MSCI ACWI ex USA	5.25%	99	14.18%	99	0.36	99
InvestorForce Public DB Net Median	7.91%	--	6.92%	--	1.14	--

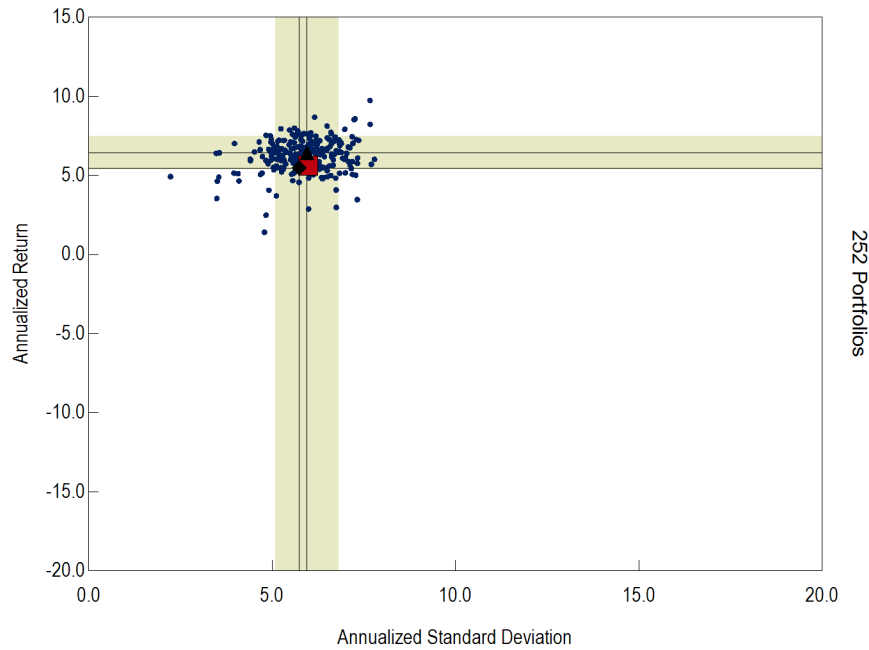
10 Years Ending September 30, 2017



10 Years Ending September 30, 2017

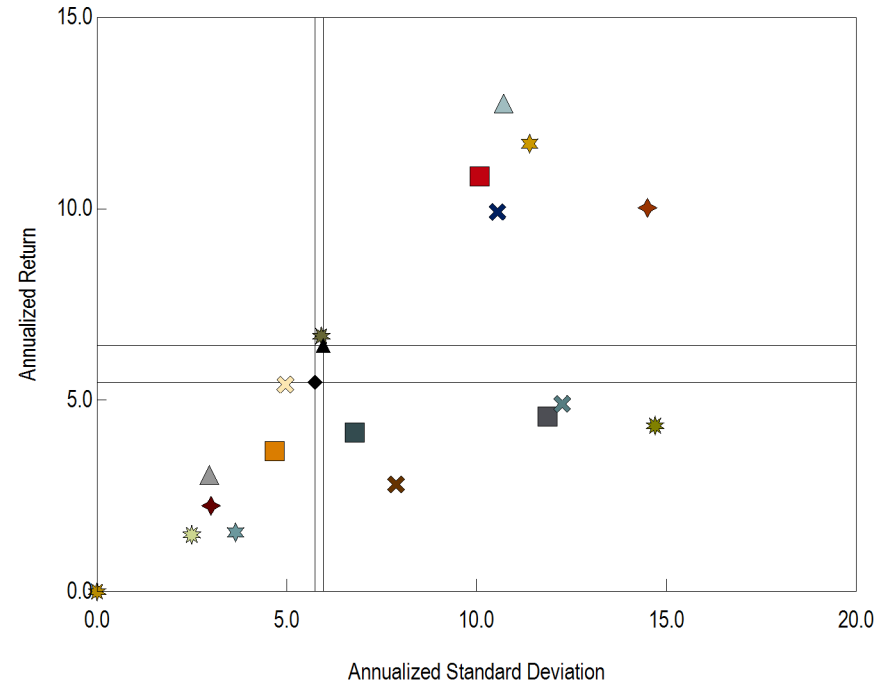
	Anlzd Return	Anlzd Return Rank	Anlzd Standard Deviation	Anlzd Standard Deviation Rank	Sharpe Ratio	Sharpe Ratio Rank
Total Employees Composite	4.31%	84	10.40%	77	0.38	88
Policy Index	4.36%	83	9.06%	40	0.44	69
S&P 500	7.44%	1	15.14%	99	0.47	62
Citi WGBI	2.95%	99	6.74%	9	0.38	87
MSCI ACWI	3.88%	93	16.89%	99	0.21	99
MSCI ACWI ex USA	1.28%	99	19.06%	99	0.05	99
InvestorForce Public DB Net Median	5.26%	--	9.60%	--	0.51	--

Annualized Return vs. Annualized Standard Deviation  
3 Years Ending September 30, 2017



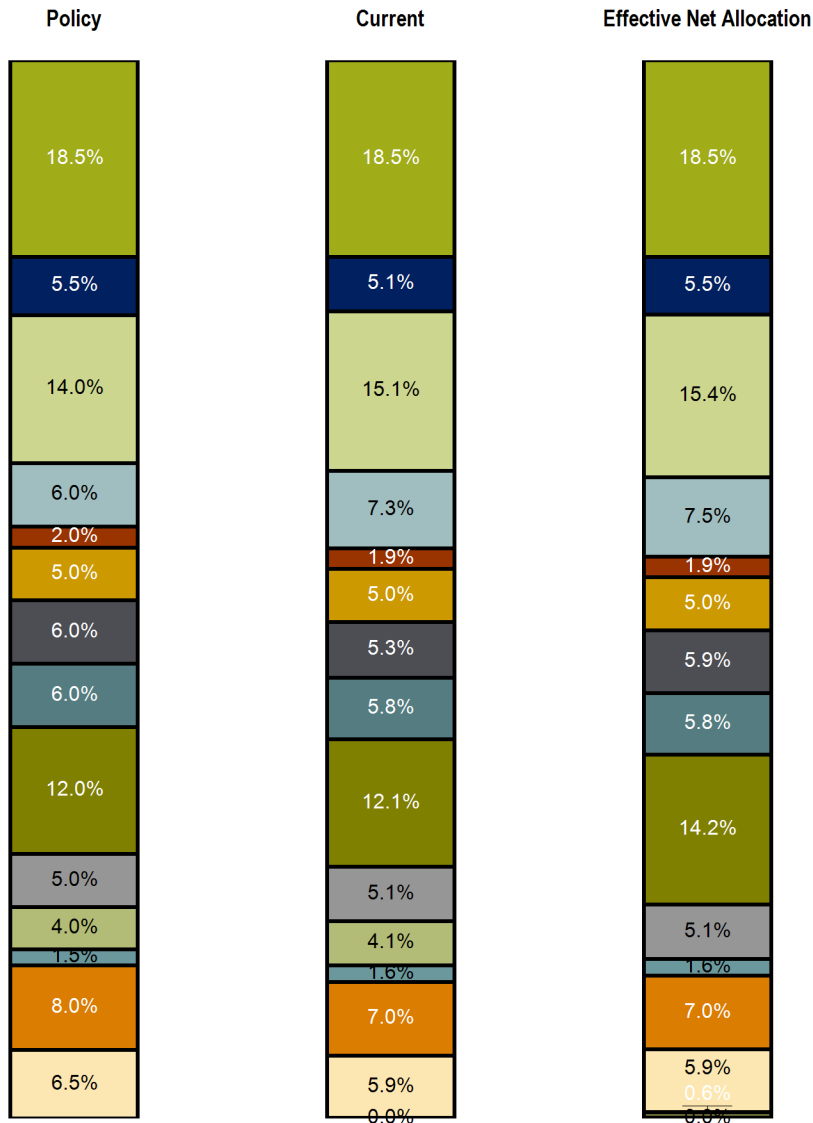
- Total Marketable Assets
- ◆ Total Marketable Assets Custom Index
- ▲ Universe Median
- 68% Confidence Interval
- InvestorForce Public DB Net

Annualized Return vs. Annualized Standard Deviation  
3 Years Ending September 30, 2017



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

Total Fund Asset Allocation vs. Policy Targets



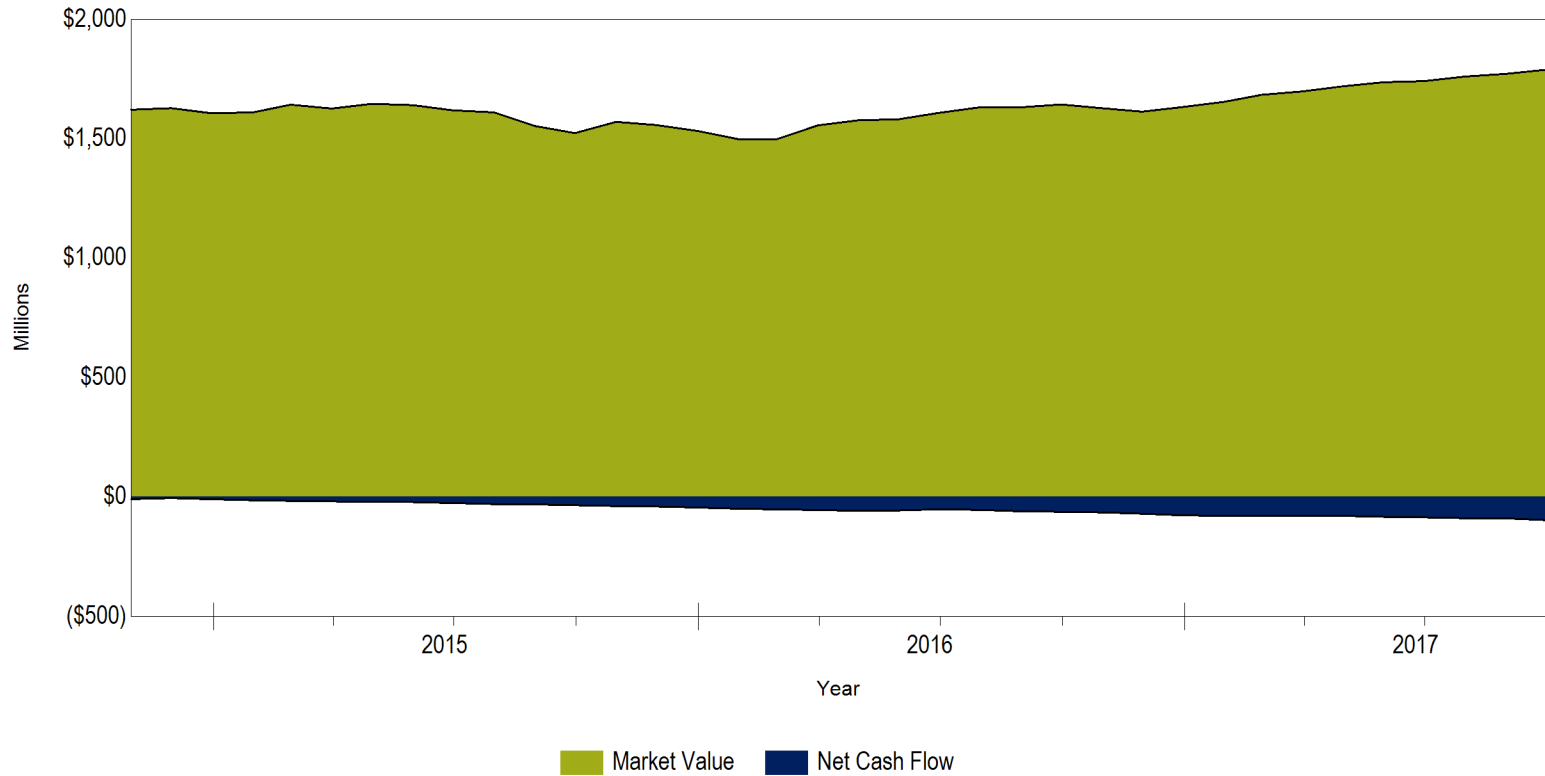
Asset Allocation vs. Target

	Policy	Current	Effective Net Allocation
Large Cap Equity	18.5%	18.5%	18.5%
Small/Mid Cap Equity	5.5%	5.1%	5.5%
Non-US Equity	14.0%	15.1%	15.4%
Emerging Markets Equity	6.0%	7.3%	7.5%
Long Treasury	2.0%	1.9%	1.9%
High Yield	5.0%	5.0%	5.0%
TIPS	6.0%	5.3%	5.9%
Unconstrained Bonds	6.0%	5.8%	5.8%
Diversified Fixed Income	12.0%	12.1%	14.2%
Emerging Market Debt	5.0%	5.1%	5.1%
Risk Parity	4.0%	4.1%	--
Private Equity	1.5%	1.6%	1.6%
Absolute Return	8.0%	7.0%	7.0%
Real Estate	6.5%	5.9%	5.9%
Commodities	--	--	0.6%
Cash	--	0.0%	0.0%
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

Effective Net Allocation breaks out the exposure of AQR Global Risk Premium. Absolute Return includes Grosvenor, Pinnacle Natural Resources, L.P., and Allianz Structured Alpha.

Total Fund Asset Growth Summary

3 Years Ending September 30, 2017



	Last Three Months	Fiscal Year-To-Date	Year-To-Date	One Year	Three Years
Beginning Market Value	\$1,741,704,960	\$1,741,704,960	\$1,633,425,741	\$1,643,822,689	\$1,611,661,732
Contributions	\$115,720,596	\$115,720,596	\$315,547,417	\$326,862,536	\$957,876,953
Withdrawals	-\$127,271,337	-\$127,271,337	-\$335,612,893	-\$361,899,230	-\$1,055,360,903
Net Cash Flow	-\$11,550,742	-\$11,550,742	-\$20,065,476	-\$35,036,693	-\$97,483,950
Net Investment Change	\$59,197,033	\$59,197,033	\$175,990,987	\$180,565,256	\$275,173,469
Ending Market Value	\$1,789,351,251	\$1,789,351,251	\$1,789,351,251	\$1,789,351,251	\$1,789,351,251



## Vermont State Employees

### Total Fund Asset Growth Summary by Manager

	Quarter Ending September 30, 2017					Ending Market Value
	Beginning Market Value	Contributions	Withdrawals	Net Cash Flow	Net Investment Change	
Aberdeen	\$125,909,267	\$224,588	-\$224,588	\$0	\$5,524,790	\$131,434,057
Acadian	\$80,016,537	\$94,459	-\$21,594,459	-\$21,500,000	\$5,288,226	\$63,804,763
Allianz Structured Alpha	\$31,515,625	\$0	-\$151,115	-\$151,115	\$561,980	\$31,926,489
AQR Global Risk Premium	\$70,923,651	\$141,836	-\$141,836	\$0	\$3,241,208	\$74,164,859
BlackRock TIPS	\$77,902,684	\$15,711,372	-\$13,828	\$15,697,543	\$802,423	\$94,402,650
Champlain	\$48,665,355	\$4,644,549	-\$94,427	\$4,550,122	\$419,737	\$53,635,214
GAM	\$167,030	\$0	\$0	\$0	\$29	\$167,059
GAM Unconstrained Bond	\$60,377,596	-\$88,610	\$0	-\$88,610	\$876,777	\$61,165,763
Grosvenor	\$80,649,409	\$0	-\$31,395,087	-\$31,395,087	\$832,326	\$50,086,648
Guggenheim	\$69,745,638	\$75,145	-\$75,145	\$0	\$1,277,214	\$71,022,851
Harbourvest Dover IX Fund	\$2,816,097	\$541,698	\$0	\$541,698	\$0	\$3,357,795
Harbourvest Dover VIII Fund	\$7,234,498	-\$186,900	-\$233,313	-\$420,213	\$0	\$6,814,285
Harbourvest Partners IX Buyout Fund	\$6,543,989	\$0	-\$343,813	-\$343,813	\$0	\$6,200,175
Harbourvest Partners IX Credit Opportunities	\$937,293	\$0	-\$34,041	-\$34,041	\$0	\$903,252
Harbourvest Partners IX Venture Fund	\$4,734,892	\$0	-\$229,914	-\$229,914	\$0	\$4,504,978
Harbourvest Partners X Buyout Fund	\$2,610,033	\$0	\$0	\$0	\$0	\$2,610,033
Harbourvest Partners X Venture Fund	\$1,296,111	\$329,669	\$0	\$329,669	\$0	\$1,625,780
HIPEP VII	\$2,302,255	\$207,446	\$0	\$207,446	\$0	\$2,509,701
KDP	\$17,419,455	\$28,125	-\$28,125	\$0	\$1,354,493	\$18,773,948
Mellon Dynamic Growth	\$49,875	\$0	\$0	\$0	\$60	\$49,935
Mondrian	\$72,707,105	\$66,048	-\$12,166,048	-\$12,100,000	\$4,196,039	\$64,803,144
PIMCO Core Plus	\$96,838,784	\$70,689	-\$70,689	\$0	\$1,136,697	\$97,975,480
PIMCO Unconstrained	\$42,550,951	\$61,372	-\$61,372	\$0	\$640,549	\$43,191,500
Pinnacle Natural Resources, L.P.	\$41,129,191	\$0	\$0	\$0	\$1,176,393	\$42,305,584
RREEF America REIT III	\$198,454	\$0	-\$952	-\$952	\$17,803	\$215,305

## Vermont State Employees

### Total Fund Asset Growth Summary by Manager

	Quarter Ending September 30, 2017					Ending Market Value
	Beginning Market Value	Contributions	Withdrawals	Net Cash Flow	Net Investment Change	
Siguler Guff DREOF II	\$13,239,126	\$0	-\$8,067	-\$8,067	-\$231,802	\$12,999,257
Siguler Guff DREOF II Co-Investment	\$3,954,304	\$153,382	\$0	\$153,382	\$35,288	\$4,142,974
SSgA ACWI Ex US	\$106,490,797	\$28,616,691	-\$16,691	\$28,600,000	\$6,642,488	\$141,733,285
SSgA Barclays Aggregate Index	\$91,632,325	\$25,424,429	-\$9,420	\$25,415,009	\$977,220	\$118,024,554
SSgA S&P 500 Cap-Wgt	\$244,998,962	\$15,986	-\$4,515,986	-\$4,500,000	\$10,889,457	\$251,388,419
SSgA S&P 500 Equal-Wgt	\$77,046,136	\$7,650	-\$7,650	\$0	\$2,797,833	\$79,843,969
State Street Long U.S. Treasury Index	\$34,248,042	\$1,135	\$0	\$1,135	\$184,350	\$34,433,526
T. Rowe	\$3,085	\$0	\$0	\$0	\$0	\$3,085
Transwestern / Aslan III	\$102,653	\$0	\$0	\$0	\$0	\$102,653
UBS Trumbull	\$40,082,692	\$39,501,891	-\$180,068	\$39,321,823	\$8,893,508	\$88,298,023
Vermont Cash	\$1,400,264	\$0	-\$611,044	-\$611,044	\$0	\$789,221
Wellington	\$45,640,761	\$77,945	-\$6,903,128	-\$6,825,183	-\$764,056	\$38,051,522
Wellington Opportunistic EMD	\$89,463,508	\$0	\$0	\$0	\$2,426,004	\$91,889,512
Z Terminated - Morgan Stanley Prime Property	\$48,160,530	\$0	-\$48,160,530	-\$48,160,530	\$0	--
<b>Total</b>	<b>\$1,741,704,960</b>	<b>\$115,720,596</b>	<b>-\$127,271,337</b>	<b>-\$11,550,742</b>	<b>\$59,197,033</b>	<b>\$1,789,351,251</b>

# Vermont State Employees

## Total Fund Performance Detail - Net

	Market Value (\$)	% of Portfolio	Policy %	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
<b>Total Employees Composite</b>	<b>1,789,351,251</b>	<b>100.0</b>	<b>100.0</b>	<b>3.0</b>	<b>72</b>	<b>3.0</b>	<b>72</b>	<b>10.1</b>	<b>67</b>	<b>10.3</b>	<b>78</b>	<b>5.5</b>	<b>80</b>	<b>6.2</b>	<b>92</b>	<b>4.3</b>	<b>84</b>
<i>Policy Index</i>				3.2	54	3.2	54	9.8	74	10.0	85	5.6	79	6.2	92	4.4	83
<i>Allocation Index</i>				3.4	38	3.4	38	10.5	56	10.4	76	5.6	78	6.3	91	4.4	83
<i>InvestorForce Public DB Net Median</i>				3.3		3.3		10.7		11.6		6.4		8.0		5.3	
<b>Total Marketable Assets</b>	<b>1,530,581,260</b>	<b>85.5</b>	<b>84.0</b>	<b>3.2</b>	<b>53</b>	<b>3.2</b>	<b>53</b>	<b>11.5</b>	<b>29</b>	<b>11.3</b>	<b>59</b>	<b>5.6</b>	<b>79</b>	<b>6.1</b>	<b>95</b>	<b>--</b>	<b>--</b>
<i>Total Marketable Assets Custom Index</i>				3.5	30	3.5	30	10.8	46	10.4	75	5.5	82	6.3	92	--	--
<i>InvestorForce Public DB Net Median</i>				3.3		3.3		10.7		11.6		6.4		8.0		5.3	
<b>Total Domestic Equity</b>	<b>422,922,210</b>	<b>23.6</b>	<b>24.0</b>	<b>3.6</b>	<b>70</b>	<b>3.6</b>	<b>70</b>	<b>11.7</b>	<b>55</b>	<b>17.0</b>	<b>63</b>	<b>10.9</b>	<b>37</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>
<i>Russell 3000</i>				4.6	48	4.6	48	13.9	40	18.7	48	10.7	38	14.2	38	7.6	52
<i>eA All US Equity Net Median</i>				4.5		4.5		12.4		18.5		9.9		13.6		7.6	
<b>Total Large Cap Equities</b>	<b>331,235,474</b>	<b>18.5</b>	<b>18.5</b>	<b>4.3</b>	<b>55</b>	<b>4.3</b>	<b>55</b>	<b>13.6</b>	<b>50</b>	<b>18.0</b>	<b>54</b>	<b>10.6</b>	<b>28</b>	<b>14.5</b>	<b>26</b>	<b>8.0</b>	<b>31</b>
<i>S&amp;P 500</i>				4.5	49	4.5	49	14.2	44	18.6	46	10.8	25	14.2	32	7.4	45
<i>eA US Large Cap Equity Net Median</i>				4.5		4.5		13.6		18.2		9.4		13.4		7.3	
SSgA S&P 500 Cap-Wgt	251,388,419	14.0	14.0	4.5	49	4.5	49	14.2	45	18.6	46	10.8	25	14.2	31	--	--
<i>S&amp;P 500</i>				4.5	49	4.5	49	14.2	44	18.6	46	10.8	25	14.2	32	7.4	45
SSgA S&P 500 Equal-Wgt	79,843,969	4.5	4.5	3.6	72	3.6	72	11.8	66	15.9	73	9.9	40	15.0	16	8.6	17
<i>S&amp;P 500 Equal Weighted</i>				3.6	73	3.6	73	11.9	65	16.2	70	10.1	38	15.0	15	8.9	13
T. Rowe	3,085	0.0	0.0														

# Vermont State Employees

## Total Fund Performance Detail - Net

	Market Value (\$)	% of Portfolio	Policy %	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
<b>Total Small/Mid Cap Equities</b>	<b>91,686,736</b>	<b>5.1</b>	<b>5.5</b>	<b>1.3</b>	<b>95</b>	<b>1.3</b>	<b>95</b>	<b>5.5</b>	<b>91</b>	<b>13.7</b>	<b>85</b>	<b>11.2</b>	<b>27</b>	<b>13.9</b>	<b>38</b>	<b>8.6</b>	<b>36</b>
<i>Russell 2000</i>				5.7	22	5.7	22	10.9	51	20.7	24	12.2	18	13.8	39	7.8	53
<i>eA US Small-Mid Cap Equity Net Median</i>				4.1		4.1		11.0		18.0		9.8		13.3		8.0	
<b>Champlain</b>	<b>53,635,214</b>	<b>3.0</b>	<b>2.8</b>	<b>2.0</b>	<b>88</b>	<b>2.0</b>	<b>88</b>	<b>12.8</b>	<b>46</b>	<b>17.4</b>	<b>42</b>	<b>12.8</b>	<b>8</b>	<b>15.6</b>	<b>14</b>	<b>--</b>	<b>--</b>
<i>Russell 2500</i>				4.7	29	4.7	29	11.0	57	17.8	41	10.6	31	13.9	46	8.2	49
<i>eA US Mid Cap Equity Net Median</i>				3.7		3.7		11.9		16.4		9.4		13.5		8.1	
<b>Wellington</b>	<b>38,051,522</b>	<b>2.1</b>	<b>2.8</b>	<b>0.5</b>	<b>97</b>	<b>0.5</b>	<b>97</b>	<b>-1.9</b>	<b>99</b>	<b>10.6</b>	<b>98</b>	<b>10.0</b>	<b>67</b>	<b>12.1</b>	<b>77</b>	<b>8.6</b>	<b>30</b>
<i>Russell 2000 Value</i>				5.1	45	5.1	45	5.7	63	20.5	44	12.1	36	13.3	60	7.1	72
<i>eA US Small Cap Value Equity Net Median</i>				5.0		5.0		6.6		19.8		11.0		14.0		7.9	
<b>Total Non US Equity</b>	<b>401,775,250</b>	<b>22.5</b>	<b>20.0</b>	<b>5.6</b>	<b>59</b>	<b>5.6</b>	<b>59</b>	<b>23.5</b>	<b>33</b>	<b>20.7</b>	<b>41</b>	<b>6.1</b>	<b>56</b>	<b>7.5</b>	<b>84</b>	<b>--</b>	<b>--</b>
<i>MSCI EAFE</i>				5.4	65	5.4	65	20.0	68	19.1	58	5.0	75	8.4	69	1.3	81
<i>MSCI ACWI ex USA</i>				6.2	46	6.2	46	21.1	54	19.6	52	4.7	81	7.0	92	1.3	84
<i>eA All EAFE Equity Net Median</i>				5.9		5.9		21.4		19.7		6.3		9.4		2.7	
<b>Total Core Non US Equity</b>	<b>270,341,192</b>	<b>15.1</b>	<b>14.0</b>	<b>6.3</b>	<b>45</b>	<b>6.3</b>	<b>45</b>	<b>23.3</b>	<b>35</b>	<b>22.7</b>	<b>27</b>	<b>7.3</b>	<b>40</b>	<b>10.0</b>	<b>37</b>	<b>1.8</b>	<b>67</b>
<i>MSCI EAFE</i>				5.4	65	5.4	65	20.0	68	19.1	58	5.0	75	8.4	69	1.3	81
<i>eA All EAFE Equity Net Median</i>				5.9		5.9		21.4		19.7		6.3		9.4		2.7	
<b>Acadian</b>	<b>63,804,763</b>	<b>3.6</b>	<b>4.0</b>	<b>6.9</b>	<b>37</b>	<b>6.9</b>	<b>37</b>	<b>30.2</b>	<b>9</b>	<b>30.6</b>	<b>3</b>	<b>11.7</b>	<b>10</b>	<b>13.1</b>	<b>15</b>	<b>2.2</b>	<b>64</b>
<b>Mondrian</b>	<b>64,803,144</b>	<b>3.6</b>	<b>4.0</b>	<b>5.8</b>	<b>53</b>	<b>5.8</b>	<b>53</b>	<b>18.6</b>	<b>77</b>	<b>17.9</b>	<b>68</b>	<b>4.6</b>	<b>82</b>	<b>8.4</b>	<b>68</b>	<b>2.0</b>	<b>66</b>
<i>MSCI EAFE</i>				5.4	65	5.4	65	20.0	68	19.1	58	5.0	75	8.4	69	1.3	81
<b>SSgA ACWI Ex US</b>	<b>141,733,285</b>	<b>7.9</b>	<b>6.0</b>	<b>6.2</b>	<b>51</b>	<b>6.2</b>	<b>51</b>	<b>21.4</b>	<b>66</b>	<b>19.8</b>	<b>54</b>	<b>4.9</b>	<b>74</b>	<b>7.2</b>	<b>81</b>	<b>--</b>	<b>--</b>
<i>MSCI ACWI ex USA</i>				6.2	51	6.2	51	21.1	69	19.6	56	4.7	77	7.0	84	1.3	84
<i>eA ACWI ex-US All Cap Equity Net Median</i>				6.2		6.2		24.0		20.4		6.7		9.2		2.7	
<b>Total Emerging Market Equity</b>	<b>131,434,057</b>	<b>7.3</b>	<b>6.0</b>	<b>4.2</b>	<b>87</b>	<b>4.2</b>	<b>87</b>	<b>23.8</b>	<b>76</b>	<b>17.2</b>	<b>80</b>	<b>4.3</b>	<b>68</b>	<b>3.3</b>	<b>88</b>	<b>--</b>	<b>--</b>
<b>Aberdeen</b>	<b>131,434,057</b>	<b>7.3</b>	<b>6.0</b>	<b>4.2</b>	<b>87</b>	<b>4.2</b>	<b>87</b>	<b>23.8</b>	<b>76</b>	<b>17.2</b>	<b>80</b>	<b>4.3</b>	<b>68</b>	<b>3.2</b>	<b>88</b>	<b>--</b>	<b>--</b>
<i>MSCI Emerging Markets</i>				7.9	46	7.9	46	27.8	55	22.5	45	4.9	59	4.0	77	1.3	79
<i>eA Emg Mkts Equity Net Median</i>				7.8		7.8		28.4		21.9		5.3		5.2		2.3	

# Vermont State Employees

## Total Fund Performance Detail - Net

	Market Value (\$)	% of Portfolio	Policy %	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
<b>Total Fixed Income</b>	<b>630,879,786</b>	<b>35.3</b>	<b>36.0</b>	<b>1.4</b>	<b>28</b>	<b>1.4</b>	<b>28</b>	<b>5.1</b>	<b>29</b>	<b>3.3</b>	<b>25</b>	<b>4.2</b>	<b>28</b>	--	--	--	--
BBgBarc US Aggregate TR				0.8	55	0.8	55	3.1	56	0.1	87	2.7	54	2.1	59	4.3	54
eA All US Fixed Inc Net Median				0.9		0.9		3.4		1.1		2.9		2.5		4.4	
<b>Total Diversified Fixed Income</b>	<b>216,000,035</b>	<b>12.1</b>	<b>12.0</b>	<b>1.0</b>	<b>42</b>	<b>1.0</b>	<b>42</b>	<b>4.1</b>	<b>39</b>	<b>-0.3</b>	<b>94</b>	<b>4.2</b>	<b>28</b>	<b>3.2</b>	<b>38</b>	<b>4.2</b>	<b>56</b>
BBgBarc US Aggregate TR				0.8	55	0.8	55	3.1	56	0.1	87	2.7	54	2.1	59	4.3	54
eA All US Fixed Inc Net Median				0.9		0.9		3.4		1.1		2.9		2.5		4.4	
PIMCO Core Plus	97,975,480	5.5	6.0	1.1	9	1.1	9	4.4	5	1.2	19	3.0	29	2.1	66	--	--
BBgBarc US Aggregate TR				0.8	52	0.8	52	3.1	64	0.1	73	2.7	61	2.1	66	4.3	78
SSgA Barclays Aggregate Index	118,024,554	6.6	6.0	0.9	31	0.9	31	3.2	61	0.1	69	--	--	--	--	--	--
BBgBarc US Aggregate TR				0.8	52	0.8	52	3.1	64	0.1	73	2.7	61	2.1	66	4.3	78
3-Month Libor Total Return USD				0.3	99	0.3	99	0.9	99	1.2	19	0.7	99	0.5	99	0.9	99
eA US Core Fixed Inc Net Median				0.9		0.9		3.3		0.4		2.8		2.3		4.6	
<b>Total TIPS</b>	<b>94,402,650</b>	<b>5.3</b>	<b>6.0</b>	<b>0.8</b>	<b>74</b>	<b>0.8</b>	<b>74</b>	<b>1.6</b>	<b>57</b>	<b>-0.8</b>	<b>70</b>	<b>1.6</b>	<b>28</b>	<b>-0.1</b>	<b>54</b>	<b>--</b>	<b>--</b>
BlackRock TIPS	94,402,650	5.3	6.0	0.8	--	0.8	--	1.6	--	-0.8	--	1.5	--	-0.1	--	--	--
BBgBarc US TIPS TR				0.9	--	0.9	--	1.7	--	-0.7	--	1.6	--	0.0	--	3.9	--
<b>Total High Yield Bonds</b>	<b>89,796,799</b>	<b>5.0</b>	<b>5.0</b>	<b>1.6</b>	<b>68</b>	<b>1.6</b>	<b>68</b>	<b>5.4</b>	<b>80</b>	<b>8.1</b>	<b>50</b>	<b>5.1</b>	<b>47</b>	<b>6.0</b>	<b>38</b>	<b>7.2</b>	<b>43</b>
BBgBarc US High Yield TR				2.0	35	2.0	35	7.0	26	8.9	34	5.8	26	6.4	26	7.8	15
eA US High Yield Fixed Inc Net Median				1.8		1.8		6.5		8.1		5.0		5.7		7.0	
KDP	18,773,948	1.0	1.0	1.4	83	1.4	83	4.8	87	5.5	89	3.7	89	4.1	95	--	--
BBgBarc US High Yield TR				2.0	35	2.0	35	7.0	26	8.9	34	5.8	26	6.4	26	7.8	15
BofA Merrill Lynch US High Yield BB-B Rated				1.9	40	1.9	40	6.6	47	8.0	56	5.8	27	6.1	31	7.2	42
Guggenheim	71,022,851	4.0	4.0	1.7	62	1.7	62	5.5	79	8.8	36	5.4	36	--	--	--	--
BBgBarc US High Yield TR				2.0	35	2.0	35	7.0	26	8.9	34	5.8	26	6.4	26	7.8	15
eA US High Yield Fixed Inc Net Median				1.8		1.8		6.5		8.1		5.0		5.7		7.0	

# Vermont State Employees

## Total Fund Performance Detail - Net

	Market Value (\$)	% of Portfolio	Policy %	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
<b>Total Emerging Market Debt</b>	<b>91,889,512</b>	<b>5.1</b>	<b>5.0</b>	<b>2.7</b>	<b>81</b>	<b>2.7</b>	<b>81</b>	<b>9.7</b>	<b>68</b>	<b>6.5</b>	<b>63</b>	<b>6.7</b>	<b>10</b>	<b>5.0</b>	<b>17</b>	<b>--</b>	<b>--</b>
Wellington Opportunistic EMD	91,889,512	5.1	5.0	2.7	81	2.7	81	9.7	68	6.5	63	6.7	10	5.0	17	--	--
JP Morgan EMBI Global Index				2.4	91	2.4	91	8.7	81	4.2	94	6.1	19	4.3	31	7.3	30
eA All Emg Mkts Fixed Inc Net Median				3.3		3.3		11.6		7.4		4.6		3.1		6.5	
<b>Total Long Treasury</b>	<b>34,433,526</b>	<b>1.9</b>	<b>2.0</b>	<b>0.5</b>	<b>--</b>	<b>0.5</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>
State Street Long U.S. Treasury Index	34,433,526	1.9	2.0	0.5	--	0.5	--	--	--	--	--	--	--	--	--	--	--
BBgBarc US Treasury Long TR				0.6	--	0.6	--	6.0	--	-6.4	--	4.9	--	2.8	--	6.9	--
<b>Total Unconstrained Fixed Income</b>	<b>104,357,263</b>	<b>5.8</b>	<b>6.0</b>	<b>1.4</b>	<b>75</b>	<b>1.4</b>	<b>75</b>	<b>5.7</b>	<b>52</b>	<b>7.0</b>	<b>31</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>
25% HY, 25% EMD, 50% BC Agg				1.5	68	1.5	68	5.5	58	3.3	85	4.4	14	3.7	30	6.0	30
BBgBarc Global Aggregate TR				1.8	50	1.8	50	6.3	50	-1.3	99	1.3	88	0.5	93	3.3	88
eA Global Unconstrained Fixed Inc Net Median				1.8		1.8		6.0		6.1		2.6		2.7		5.0	
PIMCO Unconstrained	43,191,500	2.4	2.5	1.4	76	1.4	76	4.4	75	5.8	59	2.2	62	1.5	89	--	--
25% HY, 25% EMD, 50% BC Agg				1.5	68	1.5	68	5.5	58	3.3	85	4.4	14	3.7	30	6.0	30
3-Month Libor Total Return USD				0.3	99	0.3	99	0.9	99	1.2	99	0.7	92	0.5	93	0.9	99
GAM Unconstrained Bond	61,165,763	3.4	3.5	1.5	74	1.5	74	6.6	41	7.8	25	--	--	--	--	--	--
3-Month LIBOR + 3%				1.1	85	1.1	85	3.2	89	4.2	74	3.7	27	3.5	31	3.9	78
eA Global Unconstrained Fixed Inc Net Median				1.8		1.8		6.0		6.1		2.6		2.7		5.0	

# Vermont State Employees

## Total Fund Performance Detail - Net

	Market Value (\$)	% of Portfolio	Policy %	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
<b>Total Risk Parity/GAA</b>	<b>74,214,794</b>	<b>4.1</b>	<b>4.0</b>	<b>4.4</b>	<b>28</b>	<b>4.4</b>	<b>28</b>	<b>10.0</b>	<b>48</b>	<b>7.5</b>	<b>60</b>	<b>2.9</b>	<b>58</b>	<b>3.8</b>	<b>64</b>	<b>4.1</b>	<b>52</b>
Mellon Dynamic Growth	49,935	0.0	0.0	0.1	97	0.1	97	4.2	61	2.6	89	4.2	30	5.0	58	2.6	64
<i>Mellon Dynamic Growth Benchmark</i>				3.9	14	3.9	14	12.2	12	9.8	29	4.8	23	6.0	37	3.7	35
<b>Total Risk Parity</b>	<b>74,164,859</b>	<b>4.1</b>	<b>4.0</b>	<b>4.4</b>	<b>28</b>	<b>4.4</b>	<b>28</b>	<b>10.4</b>	<b>47</b>	<b>7.8</b>	<b>58</b>	<b>2.8</b>	<b>58</b>	<b>3.4</b>	<b>66</b>	<b>--</b>	<b>--</b>
<i>eA Global TAA Net Median</i>				3.0		3.0		9.6		8.5		3.5		4.6		4.2	
AQR Global Risk Premium	74,164,859	4.1	4.0	4.4	28	4.4	28	10.4	47	7.8	58	2.8	58	3.4	66	--	--
<i>60% MSCI World (Net) / 40% CITI WGBI</i>				3.6	39	3.6	39	12.1	39	9.4	41	5.1	28	6.4	26	4.0	53
<b>Total Cash</b>	<b>789,221</b>	<b>0.0</b>	<b>0.0</b>														
Vermont Cash	789,221	0.0		0.0	--	0.0	--	0.0	--	0.0	--	0.0	--	0.0	--	0.5	--
<i>91 Day T-Bills</i>				0.3	--	0.3	--	0.6	--	0.7	--	0.3	--	0.2	--	0.4	--
<b>Total Real Estate</b>	<b>105,758,212</b>	<b>5.9</b>	<b>6.5</b>	<b>1.6</b>	<b>--</b>	<b>1.6</b>	<b>--</b>	<b>3.9</b>	<b>--</b>	<b>6.1</b>	<b>--</b>	<b>9.7</b>	<b>--</b>	<b>11.0</b>	<b>--</b>	<b>--</b>	<b>--</b>
<i>NCREIF Property Index</i>				1.7	--	1.7	--	5.1	--	6.9	--	9.8	--	10.3	--	6.2	--
<b>Total Real Estate Core</b>	<b>88,615,981</b>	<b>5.0</b>	<b>5.0</b>	<b>1.3</b>	<b>--</b>	<b>1.3</b>	<b>--</b>	<b>3.2</b>	<b>--</b>	<b>5.1</b>	<b>--</b>	<b>9.4</b>	<b>--</b>	<b>10.9</b>	<b>--</b>	<b>--</b>	<b>--</b>
UBS Trumbull	88,298,023	4.9		1.3	--	1.3	--	3.2	--	4.4	--	8.2	--	8.6	--	4.4	--
RREEF America REIT III	215,305	0.0		-0.8	--	-0.8	--	-4.8	--	-5.1	--	-4.0	--	5.2	--	-6.2	--
Transwestern / Aslan III	102,653	0.0		0.0	--	0.0	--	0.0	--	0.0	--	5.0	--	14.3	--	-21.4	--
<b>Total Real Estate Non-Core</b>	<b>17,142,232</b>	<b>1.0</b>	<b>1.5</b>	<b>3.1</b>	<b>--</b>	<b>3.1</b>	<b>--</b>	<b>7.8</b>	<b>--</b>	<b>11.6</b>	<b>--</b>	<b>9.9</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>
Siguler Guff DREOF II	12,999,257	0.7		3.8	--	3.8	--	8.1	--	12.3	--	10.1	--	--	--	--	--
Siguler Guff DREOF II Co- Investment	4,142,974	0.2		0.9	--	0.9	--	6.8	--	--	--	--	--	--	--	--	--

Real Estate performance reported on a quarterly basis. NCREIF Property is available 25 days after quarter end.  
Real Estate values are preliminary as of 09/30/2017.

## Vermont State Employees

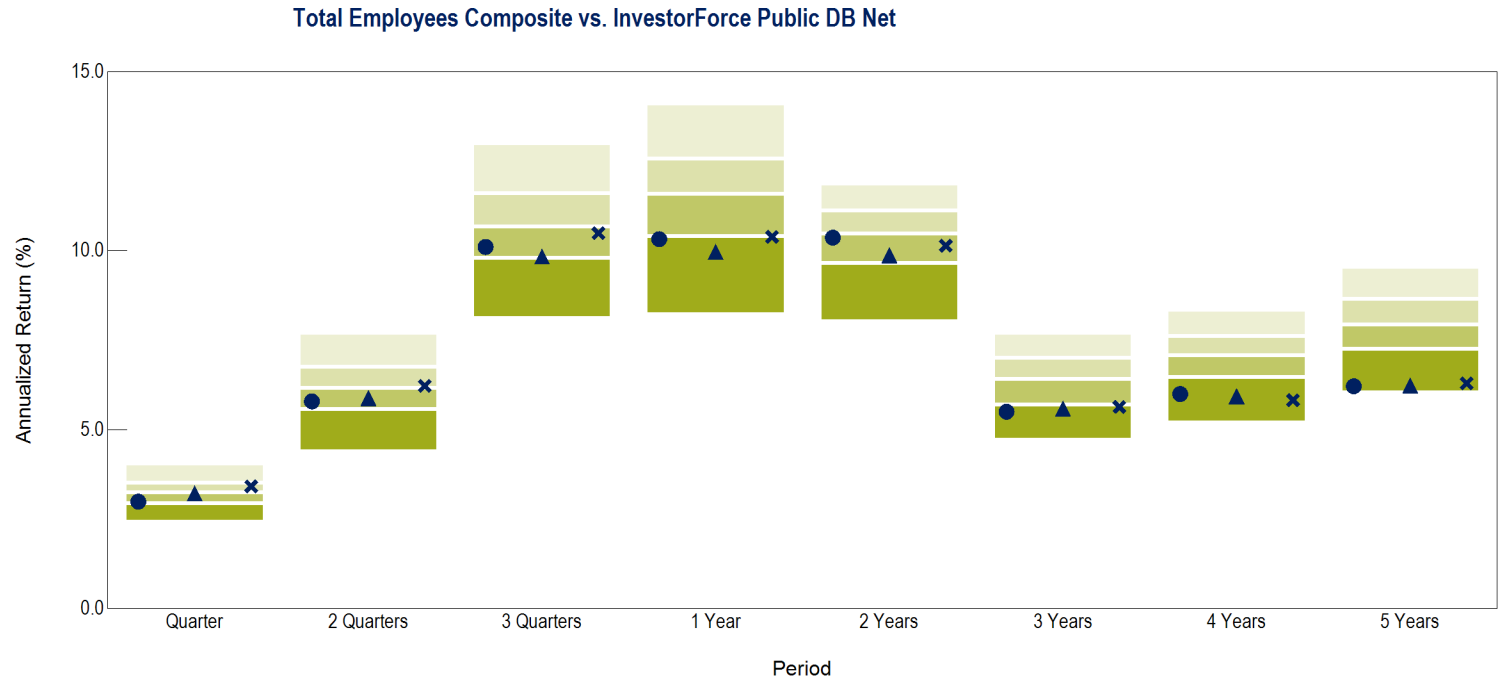
### Total Fund Performance Detail - Net

	Market Value (\$)	% of Portfolio	Policy %	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
<b>Total Absolute Return</b>	<b>124,485,780</b>	<b>7.0</b>	<b>8.0</b>	<b>2.0</b>	<b>53</b>	<b>2.0</b>	<b>53</b>	<b>1.8</b>	<b>89</b>	<b>3.9</b>	<b>77</b>	<b>0.9</b>	<b>81</b>	<b>4.3</b>	<b>69</b>	<b>--</b>	<b>--</b>
<i>HFRI Fund of Funds Composite Index</i>				2.3	46	2.3	46	5.6	48	6.5	51	2.2	60	3.8	73	1.1	90
<i>eV Alt Fund of Funds - Multi-Strategy Median</i>				2.1		2.1		5.3		6.5		2.6		5.3		3.0	
Grosvenor	50,086,648	2.8	3.0	1.7	63	1.7	63	3.9	63	6.2	53	2.3	59	5.4	49	--	--
Allianz Structured Alpha	31,926,489	1.8	2.0	1.3	74	1.3	74	3.6	70	5.1	64	7.8	7	6.2	33	--	--
<i>91 Day T-Bills</i>				0.3	96	0.3	96	0.6	96	0.7	96	0.3	88	0.2	99	0.4	96
<i>eV Alt Fund of Funds - Multi-Strategy Median</i>				2.1		2.1		5.3		6.5		2.6		5.3		3.0	
Pinnacle Natural Resources, L.P.	42,305,584	2.4	3.0	2.9	--	2.9	--	-8.4	--	-5.3	--	--	--	--	--	--	--
<i>Bloomberg Commodity Index</i>				2.5	--	2.5	--	-2.9	--	-0.3	--	-10.4	--	-10.5	--	-6.8	--
GAM	167,059	0.0	0.0														
<b>Total Private Equity</b>	<b>28,525,999</b>	<b>1.6</b>	<b>1.5</b>	<b>0.0</b>	<b>--</b>	<b>0.0</b>	<b>--</b>	<b>6.7</b>	<b>--</b>	<b>8.9</b>	<b>--</b>	<b>15.0</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>
<i>Cambridge Associates US All PE</i>				0.0	--	0.0	--	7.6	--	12.4	--	9.0	--	12.4	--	9.2	--

Absolute Return composite formerly shown as Hedge Funds composite. As of 04/01/2016, Absolute Return includes Allianz Structured Alpha. Allianz Structured Alpha was included Diversified Fixed income composite prior to 04/01/2016. Harbourvest values based on final Capital Account Statements for Q2, and cash adjusted through Q3.

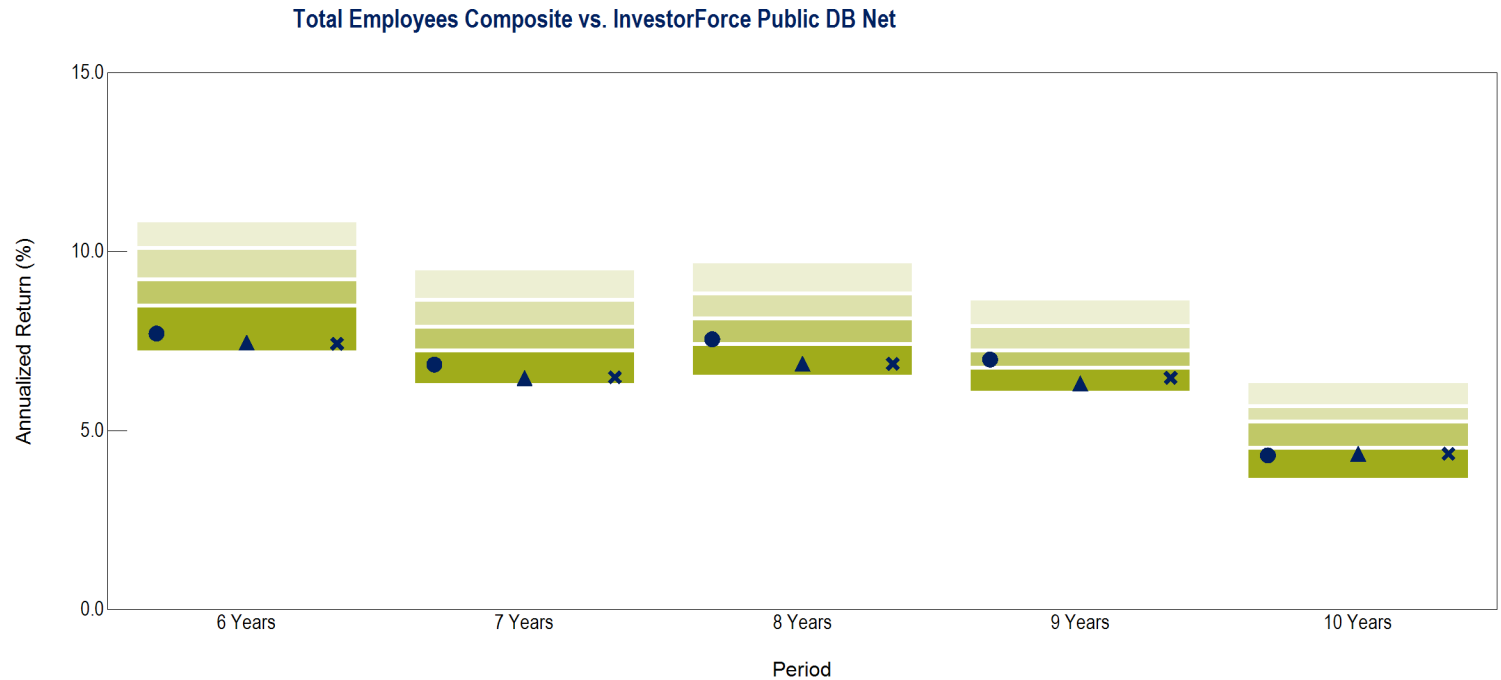


Total Fund Return Summary vs. Peer Universe - Net



	Return (Rank)															
<b>5th Percentile</b>	4.0	7.7	13.0	14.1	11.9	7.7	8.3	9.5								
<b>25th Percentile</b>	3.5	6.8	11.6	12.6	11.1	7.0	7.6	8.7								
<b>Median</b>	3.3	6.2	10.7	11.6	10.5	6.4	7.1	8.0								
<b>75th Percentile</b>	3.0	5.6	9.8	10.4	9.7	5.7	6.5	7.3								
<b>95th Percentile</b>	2.4	4.4	8.1	8.2	8.0	4.7	5.2	6.1								
<b># of Portfolios</b>	264	264	264	263	258	252	234	227								
<b>● Total Employees Composite</b>	3.0 (72)	5.8 (68)	10.1 (67)	10.3 (78)	10.4 (53)	5.5 (80)	6.0 (86)	6.2 (92)								
<b>▲ Policy Index</b>	3.2 (54)	5.9 (62)	9.8 (74)	10.0 (85)	9.9 (70)	5.6 (79)	5.9 (88)	6.2 (92)								
<b>× Allocation Index</b>	3.4 (38)	6.2 (50)	10.5 (56)	10.4 (76)	10.1 (61)	5.6 (78)	5.8 (89)	6.3 (91)								

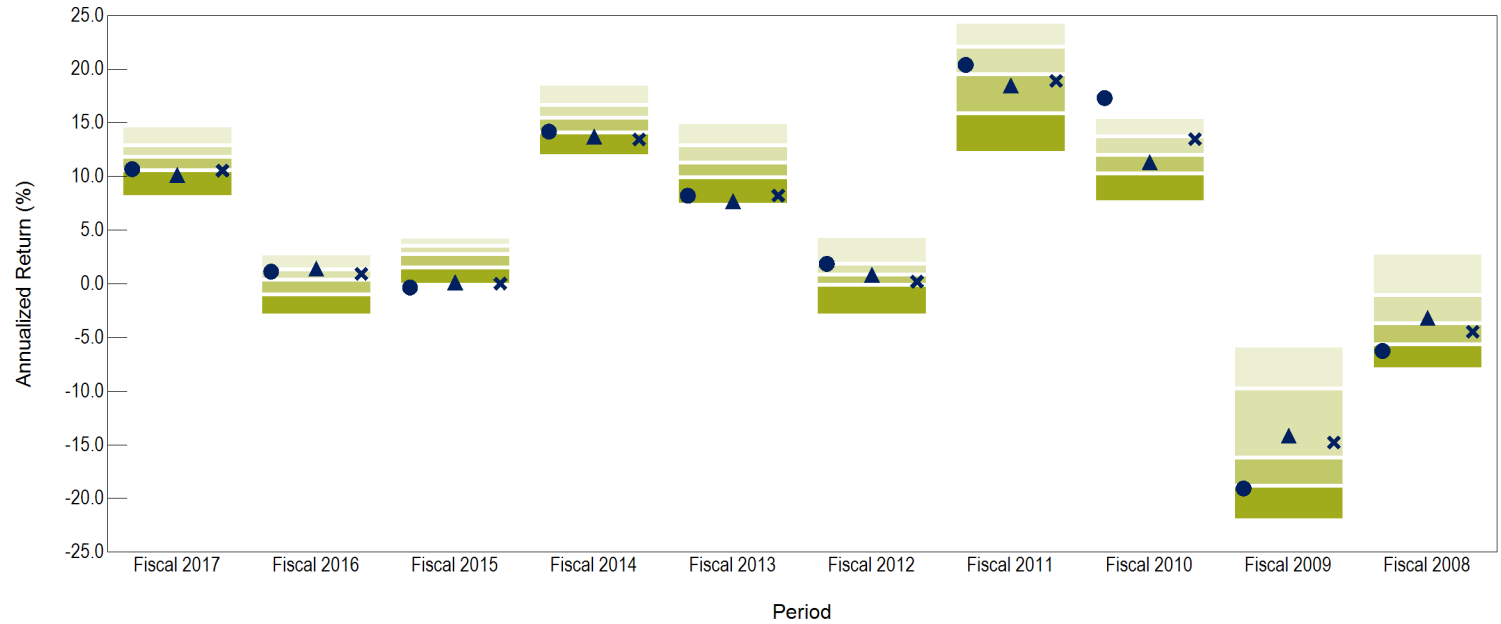
Total Fund Return Summary vs. Peer Universe - Net



	Return (Rank)									
5th Percentile	10.9		9.5		9.7		8.7		6.4	
25th Percentile	10.1		8.7		8.8		7.9		5.7	
Median	9.2		7.9		8.1		7.2		5.3	
75th Percentile	8.5		7.2		7.4		6.8		4.5	
95th Percentile	7.2		6.3		6.5		6.1		3.6	
# of Portfolios	211		200		190		183		180	
● Total Employees Composite	7.7	(90)	6.8	(88)	7.6	(71)	7.0	(65)	4.3	(84)
▲ Policy Index	7.5	(95)	6.5	(94)	6.9	(93)	6.3	(91)	4.4	(83)
× Allocation Index	7.4	(95)	6.5	(94)	6.9	(93)	6.5	(87)	4.4	(83)

Total Fund Return Summary vs. Peer Universe - Net

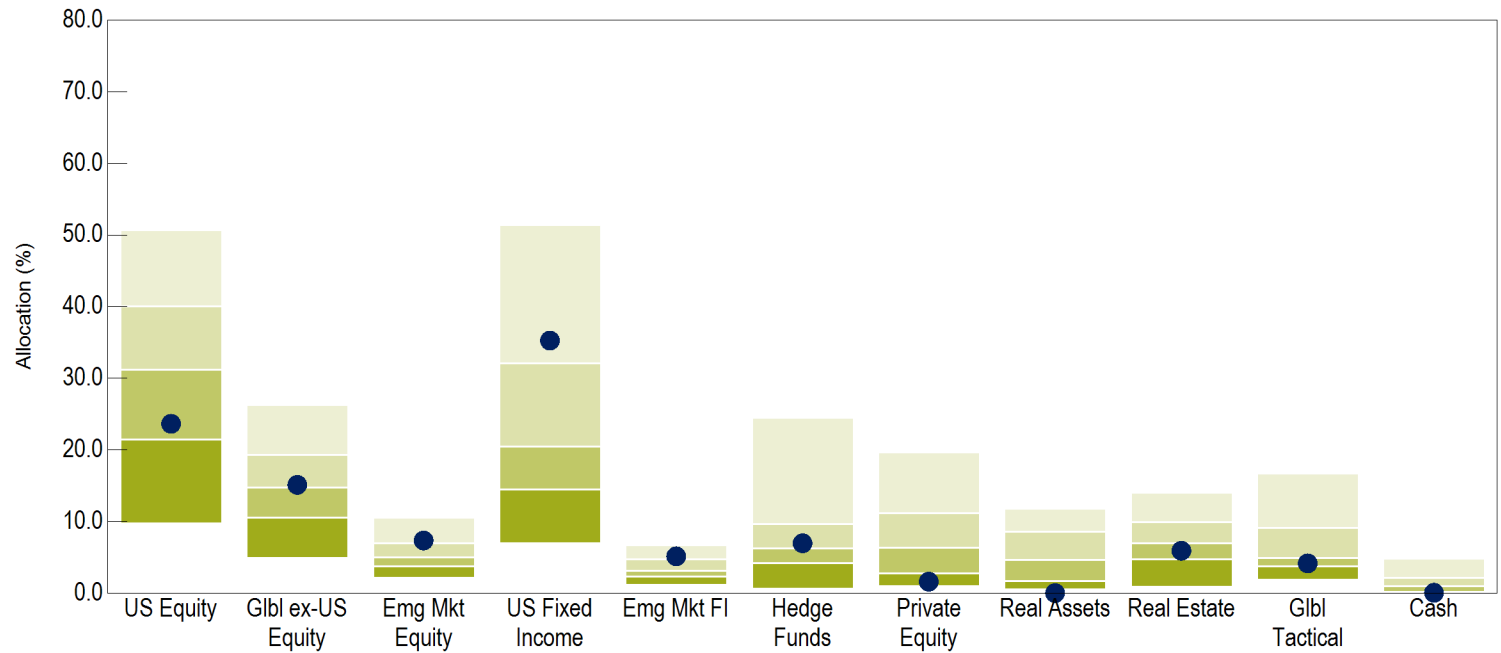
Total Employees Composite vs. InvestorForce Public DB Net



	Return (Rank)																			
5th Percentile	14.7	2.8	4.4	18.6	15.0	4.4	24.4	15.5	-5.8	2.9										
25th Percentile	12.9	1.4	3.6	16.7	12.9	1.9	22.1	13.8	-9.7	-1.0										
Median	11.9	0.4	2.8	15.5	11.3	0.9	19.5	12.0	-16.1	-3.6										
75th Percentile	10.6	-0.9	1.6	14.1	9.9	0.0	15.9	10.3	-18.8	-5.6										
95th Percentile	8.1	-2.9	-0.1	11.9	7.4	-2.9	12.2	7.6	-22.0	-7.9										
# of Portfolios	282	258	231	173	192	147	137	130	127	123										
● Total Employees Composite	10.7	(73)	1.1	(32)	-0.3	(96)	14.2	(73)	8.2	(93)	1.9	(26)	20.4	(39)	17.3	(1)	-19.1	(77)	-6.3	(79)
▲ Policy Index	10.1	(82)	1.4	(25)	0.1	(94)	13.7	(84)	7.7	(94)	0.8	(52)	18.5	(61)	11.3	(62)	-14.1	(36)	-3.2	(47)
× Allocation Index	10.5	(77)	0.9	(36)	0.0	(95)	13.4	(89)	8.2	(93)	0.2	(70)	18.9	(57)	13.5	(31)	-14.8	(41)	-4.5	(60)

Total Fund Allocation vs. Peer Universe - Net

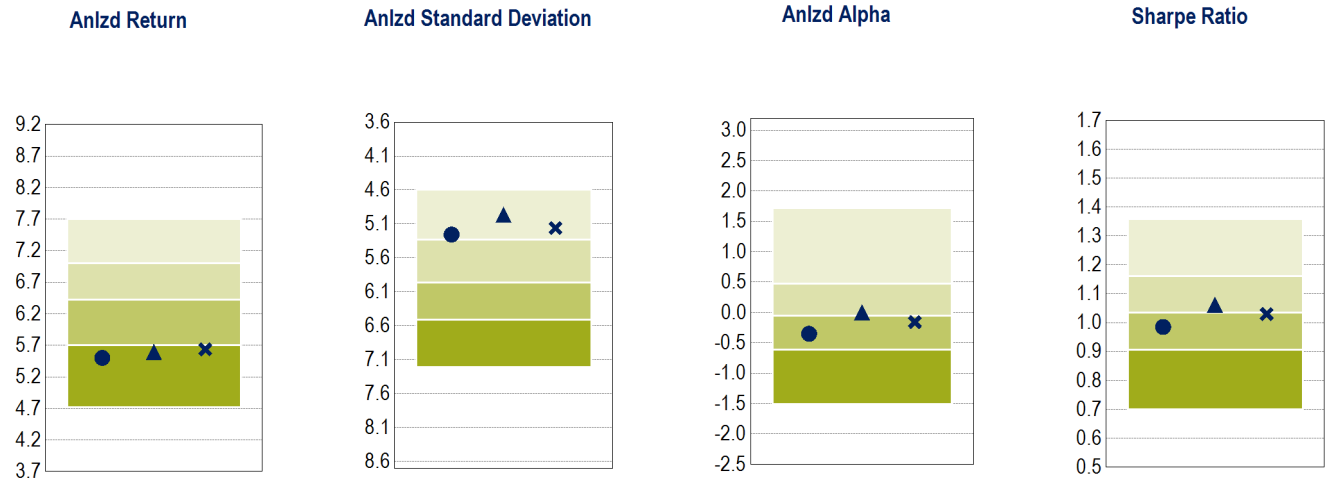
Total Plan Allocation vs. InvestorForce Public DB Net  
As of September 30, 2017



	Allocation (Rank)																						
5th Percentile	50.6	26.3	10.5	51.4	6.7	24.5	19.7	11.8	14.0	16.7	4.8	--											
25th Percentile	40.1	19.4	7.0	32.1	4.8	9.7	11.2	8.6	10.0	9.2	2.2	--											
Median	31.3	14.8	5.1	20.5	3.2	6.3	6.5	4.7	7.0	5.0	1.1	--											
75th Percentile	21.5	10.6	3.8	14.6	2.4	4.2	2.8	1.8	4.8	3.9	0.3	--											
95th Percentile	9.8	5.0	2.2	7.0	1.2	0.7	1.1	0.6	1.0	1.9	0.0	--											
# of Portfolios	183	208	129	181	43	85	108	71	152	58	229	--											
● Total Employees Composite	23.6	(71)	15.1	(48)	7.3	(23)	35.3	(17)	5.1	(22)	7.0	(45)	1.6	(87)	0.0	(99)	5.9	(61)	4.1	(71)	0.0	(93)	--

Total Fund Risk Statistics vs. Peer Universe - Net

Employees Composite vs. IFx Public DB Net  
3 Years



● Total Employees Composite	
Value	5.50
Rank	80
▲ Policy Index	
Value	5.59
Rank	79
✕ Allocation Index	
Value	5.63
Rank	78
Universe	
5th %tile	7.70
25th %tile	7.01
Median	6.43
75th %tile	5.72
95th %tile	4.73

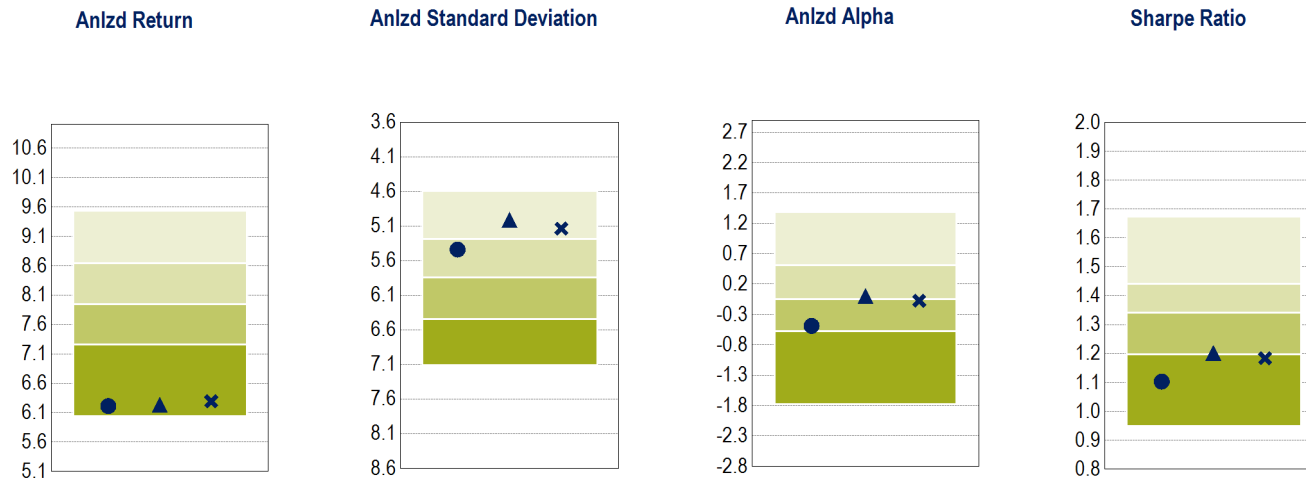
● Total Employees Composite	
Value	5.26
Rank	23
▲ Policy Index	
Value	4.97
Rank	11
✕ Allocation Index	
Value	5.16
Rank	19
Universe	
5th %tile	4.59
25th %tile	5.32
Median	5.96
75th %tile	6.50
95th %tile	7.20

● Total Employees Composite	
Value	-0.35
Rank	65
▲ Policy Index	
Value	0.00
Rank	49
✕ Allocation Index	
Value	-0.16
Rank	56
Universe	
5th %tile	1.72
25th %tile	0.48
Median	-0.05
75th %tile	-0.61
95th %tile	-1.50

● Total Employees Composite	
Value	0.98
Rank	64
▲ Policy Index	
Value	1.06
Rank	43
✕ Allocation Index	
Value	1.03
Rank	52
Universe	
5th %tile	1.36
25th %tile	1.16
Median	1.04
75th %tile	0.91
95th %tile	0.70

Total Fund Risk Statistics vs. Peer Universe - Net

Employees Composite vs. I/Fx Public DB Net  
5 Years



● Total Employees Composite	
Value	6.21
Rank	92
▲ Policy Index	
Value	6.23
Rank	92
✕ Allocation Index	
Value	6.29
Rank	91
Universe	
5th %tile	9.54
25th %tile	8.66
Median	7.95
75th %tile	7.27
95th %tile	6.05

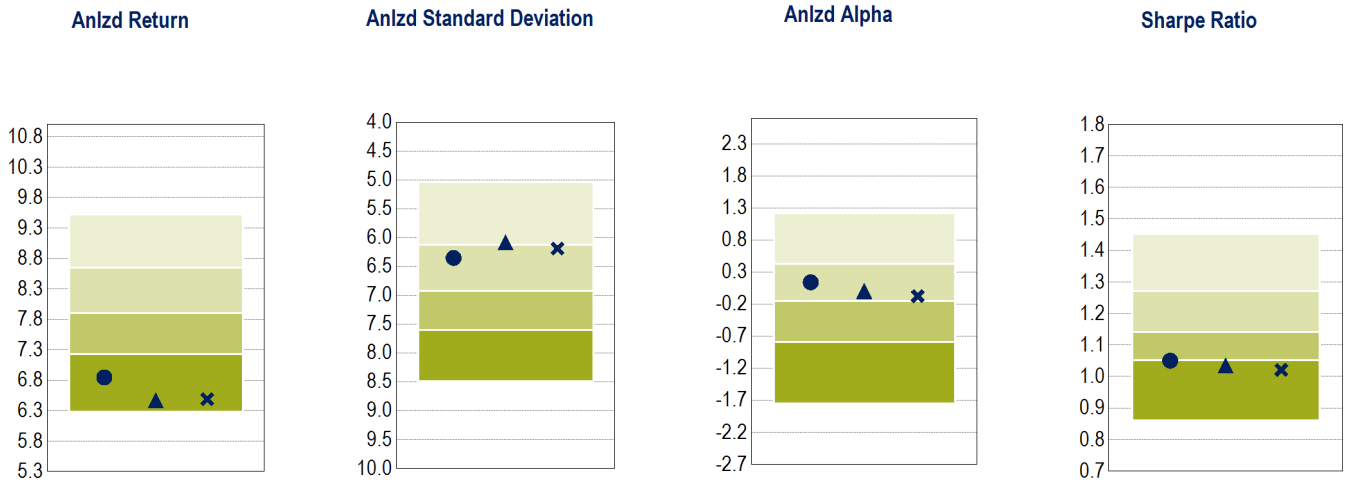
● Total Employees Composite	
Value	5.44
Rank	30
▲ Policy Index	
Value	5.01
Rank	12
✕ Allocation Index	
Value	5.14
Rank	19
Universe	
5th %tile	4.60
25th %tile	5.28
Median	5.83
75th %tile	6.44
95th %tile	7.11

● Total Employees Composite	
Value	-0.49
Rank	71
▲ Policy Index	
Value	0.00
Rank	49
✕ Allocation Index	
Value	-0.08
Rank	53
Universe	
5th %tile	1.39
25th %tile	0.52
Median	-0.04
75th %tile	-0.57
95th %tile	-1.77

● Total Employees Composite	
Value	1.10
Rank	89
▲ Policy Index	
Value	1.20
Rank	75
✕ Allocation Index	
Value	1.18
Rank	78
Universe	
5th %tile	1.67
25th %tile	1.44
Median	1.34
75th %tile	1.20
95th %tile	0.95

Total Fund Risk Statistics vs. Peer Universe - Net

Employees Composite vs. IFx Public DB Net  
7 Years



● Total Employees Composite	Value	6.84
	Rank	88
▲ Policy Index	Value	6.47
	Rank	94
✕ Allocation Index	Value	6.49
	Rank	94
Universe		
	5th %tile	9.52
	25th %tile	8.66
	Median	7.91
	75th %tile	7.24
	95th %tile	6.29

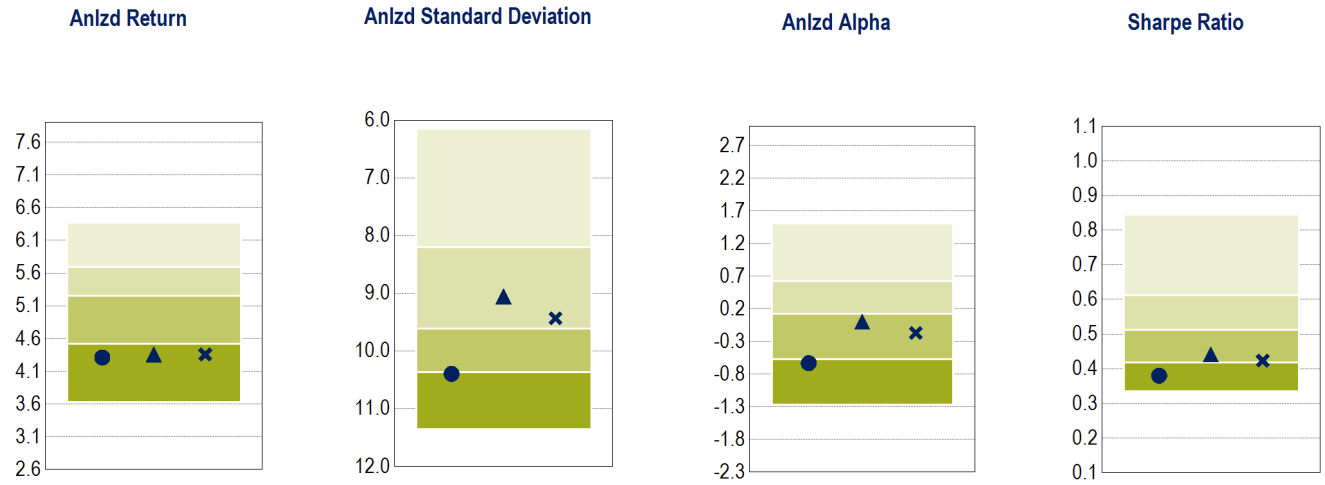
● Total Employees Composite	Value	6.36
	Rank	34
▲ Policy Index	Value	6.09
	Rank	24
✕ Allocation Index	Value	6.19
	Rank	29
Universe		
	5th %tile	5.04
	25th %tile	6.11
	Median	6.92
	75th %tile	7.59
	95th %tile	8.48

● Total Employees Composite	Value	0.14
	Rank	35
▲ Policy Index	Value	0.00
	Rank	42
✕ Allocation Index	Value	-0.08
	Rank	48
Universe		
	5th %tile	1.22
	25th %tile	0.43
	Median	-0.14
	75th %tile	-0.78
	95th %tile	-1.75

● Total Employees Composite	Value	1.05
	Rank	76
▲ Policy Index	Value	1.03
	Rank	77
✕ Allocation Index	Value	1.02
	Rank	79
Universe		
	5th %tile	1.45
	25th %tile	1.27
	Median	1.14
	75th %tile	1.05
	95th %tile	0.86

Total Fund Risk Statistics vs. Peer Universe - Net

Employees Composite vs. I/Fx Public DB Net  
10 Years



● Total Employees Composite	
Value	4.31
Rank	84
▲ Policy Index	
Value	4.36
Rank	83
✕ Allocation Index	
Value	4.36
Rank	83

Universe	
5th %tile	6.37
25th %tile	5.70
Median	5.26
75th %tile	4.53
95th %tile	3.64

● Total Employees Composite	
Value	10.40
Rank	77
▲ Policy Index	
Value	9.06
Rank	40
✕ Allocation Index	
Value	9.44
Rank	48

Universe	
5th %tile	6.15
25th %tile	8.19
Median	9.60
75th %tile	10.36
95th %tile	11.35

● Total Employees Composite	
Value	-0.64
Rank	79
▲ Policy Index	
Value	0.00
Rank	56
✕ Allocation Index	
Value	-0.17
Rank	65

Universe	
5th %tile	1.50
25th %tile	0.63
Median	0.13
75th %tile	-0.57
95th %tile	-1.26

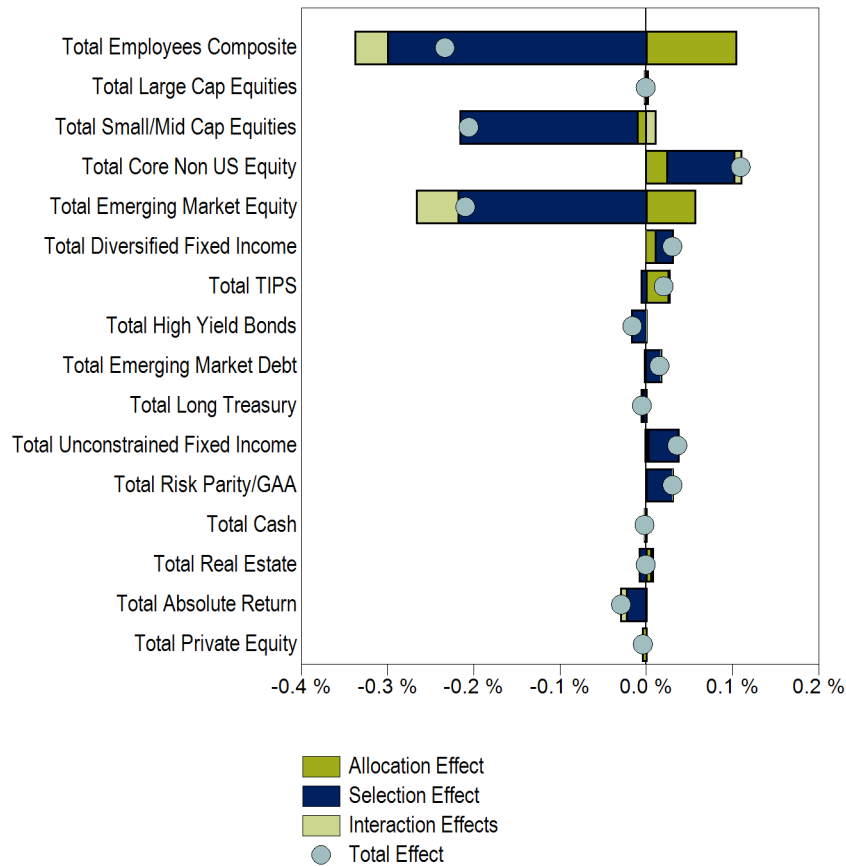
● Total Employees Composite	
Value	0.38
Rank	88
▲ Policy Index	
Value	0.44
Rank	69
✕ Allocation Index	
Value	0.42
Rank	75

Universe	
5th %tile	0.84
25th %tile	0.61
Median	0.51
75th %tile	0.42
95th %tile	0.34



Total Fund Attribution Analysis - Net

Attribution Effects Relative to Policy Index  
3 Months Ending September 30, 2017



Attribution Summary

3 Months Ending September 30, 2017

	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction Effects	Total Effects
Total Large Cap Equities	4.3%	4.3%	0.0%	0.0%	0.0%	0.0%	0.0%
Total Small/Mid Cap Equities	1.3%	4.9%	-3.7%	-0.2%	0.0%	0.0%	-0.2%
Total Core Non US Equity	6.3%	5.7%	0.6%	0.1%	0.0%	0.0%	0.1%
Total Emerging Market Equity	4.2%	7.9%	-3.7%	-0.2%	0.1%	0.0%	-0.2%
Total Diversified Fixed Income	1.0%	0.8%	0.2%	0.0%	0.0%	0.0%	0.0%
Total TIPS	0.8%	0.9%	-0.1%	0.0%	0.0%	0.0%	0.0%
Total High Yield Bonds	1.6%	2.0%	-0.3%	0.0%	0.0%	0.0%	0.0%
Total Emerging Market Debt	2.7%	2.4%	0.3%	0.0%	0.0%	0.0%	0.0%
Total Long Treasury	0.5%	0.8%	-0.3%	0.0%	0.0%	0.0%	0.0%
Total Unconstrained Fixed Income	1.4%	0.8%	0.6%	0.0%	0.0%	0.0%	0.0%
Total Risk Parity/GAA	4.4%	3.6%	0.7%	0.0%	0.0%	0.0%	0.0%
Total Cash	0.0%	0.3%	-0.3%	0.0%	0.0%	0.0%	0.0%
Total Real Estate	1.6%	1.7%	-0.1%	0.0%	0.0%	0.0%	0.0%
Total Absolute Return	2.0%	2.3%	-0.3%	0.0%	0.0%	0.0%	0.0%
Total Private Equity	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
<b>Total</b>	<b>3.0%</b>	<b>3.2%</b>	<b>-0.2%</b>	<b>-0.3%</b>	<b>0.1%</b>	<b>0.0%</b>	<b>-0.2%</b>

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.

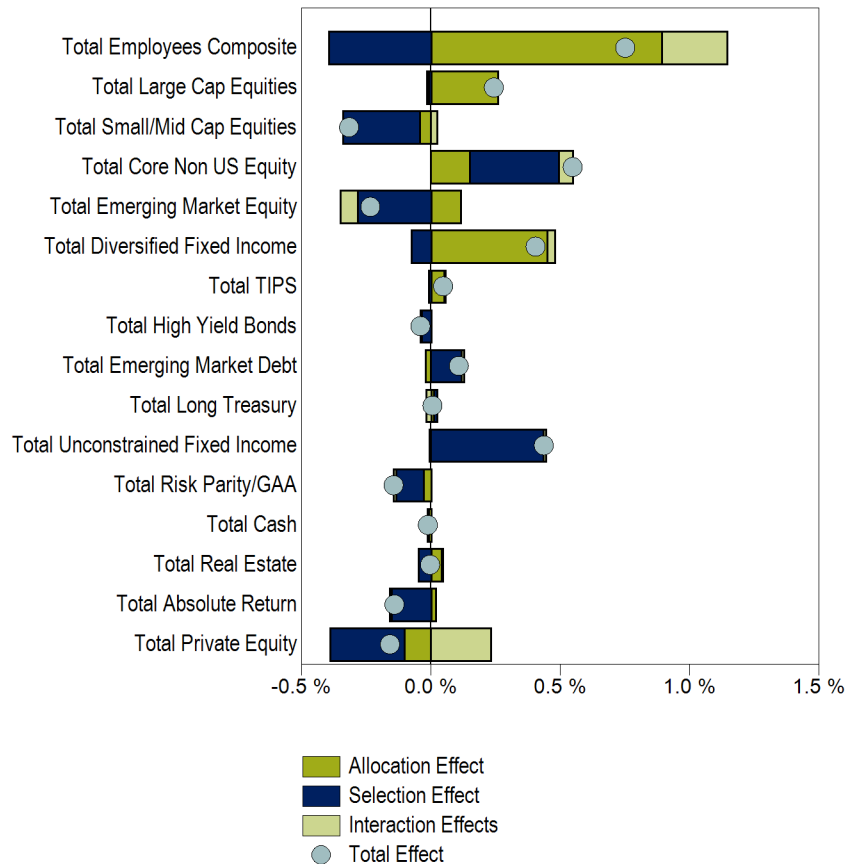
The allocation, selection, and interaction effects are calculated using the custom index described above along with the policy or target weight of each composite.

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.

Total Fund Attribution Analysis - Net

Attribution Effects Relative to Policy Index  
1 Year Ending September 30, 2017



Attribution Summary  
1 Year Ending September 30, 2017

	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction Effects	Total Effects
Total Large Cap Equities	18.0%	18.0%	-0.1%	0.0%	0.3%	0.0%	0.2%
Total Small/Mid Cap Equities	13.7%	19.1%	-5.3%	-0.3%	0.0%	0.0%	-0.3%
Total Core Non US Equity	22.7%	19.4%	3.3%	0.3%	0.2%	0.1%	0.5%
Total Emerging Market Equity	17.2%	22.5%	-5.3%	-0.3%	0.1%	-0.1%	-0.2%
Total Diversified Fixed Income	-0.3%	0.1%	-0.4%	-0.1%	0.5%	0.0%	0.4%
Total TIPS	-0.8%	-0.7%	-0.1%	0.0%	0.1%	0.0%	0.0%
Total High Yield Bonds	8.1%	8.9%	-0.8%	0.0%	0.0%	0.0%	0.0%
Total Emerging Market Debt	6.5%	4.2%	2.3%	0.1%	0.0%	0.0%	0.1%
Total Long Treasury	--	--	--	0.0%	0.0%	0.0%	0.0%
Total Unconstrained Fixed Income	7.0%	0.1%	6.9%	0.4%	0.0%	0.0%	0.4%
Total Risk Parity/GAA	7.5%	9.4%	-1.9%	-0.1%	0.0%	0.0%	-0.1%
Total Cash	0.0%	0.7%	-0.7%	0.0%	0.0%	0.0%	0.0%
Total Real Estate	6.1%	6.9%	-0.8%	0.0%	0.0%	0.0%	0.0%
Total Absolute Return	3.9%	5.6%	-1.7%	-0.2%	0.0%	0.0%	-0.1%
Total Private Equity	8.9%	12.4%	-3.6%	-0.3%	-0.1%	0.2%	-0.2%
<b>Total</b>	<b>10.4%</b>	<b>9.8%</b>	<b>0.6%</b>	<b>-0.4%</b>	<b>0.9%</b>	<b>0.3%</b>	<b>0.8%</b>

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 State Employees

### Risk Statistics - 3 Years

	% of Tot	Anlzd Ret	Rank	Anlzd Std Dev	Rank	Anlzd AJ	Rank	Sharpe Ratio	Rank	Sortino Ratio RF	Rank	Tracking Error	Rank
Total Employees Composite	100.00%	5.50%	80	5.26%	23	-0.34%	64	0.98	64	1.62	27	0.83%	30
Policy Index	--	5.59%	79	4.97%	11	0.00%	49	1.06	43	1.78	16	0.00%	1
Total Domestic Equity	23.64%	10.85%	37	10.33%	27	0.12%	38	1.02	22	1.49	36	1.38%	2
Russell 3000	--	10.74%	38	10.24%	25	0.00%	40	1.02	22	1.46	39	0.00%	1
Total Large Cap Equities	18.51%	10.62%	28	10.14%	36	-0.24%	34	1.02	25	1.56	29	0.69%	1
S&P 500	--	10.81%	25	10.07%	34	0.00%	30	1.04	21	1.58	29	0.00%	1
Total Small/Mid Cap Equities	5.12%	11.16%	27	12.06%	44	1.31%	34	0.90	27	1.61	19	4.27%	5
Russell 2000	--	12.18%	18	14.48%	89	0.00%	58	0.82	41	1.28	42	0.00%	1
Total Core Non US Equity	15.11%	7.27%	40	11.42%	38	2.61%	41	0.61	39	1.03	32	1.96%	7
MSCI EAFE	--	5.04%	75	12.27%	78	0.00%	78	0.38	78	0.62	78	0.00%	1
Total Emerging Market Equity	7.35%	4.33%	68	14.70%	51	-0.01%	62	0.27	65	0.52	57	5.36%	63
MSCI Emerging Markets	--	4.90%	59	15.73%	79	0.00%	62	0.29	62	0.53	54	0.00%	1
Total Fixed Income	35.26%	4.17%	28	3.07%	64	1.83%	24	1.26	22	1.81	26	1.95%	43
BBgBarc US Aggregate TR	--	2.71%	54	2.85%	58	0.00%	76	0.84	64	1.11	69	0.00%	1
Total Diversified Fixed Income	12.07%	4.20%	28	3.96%	77	0.66%	44	0.98	48	1.25	57	1.40%	28
BBgBarc US Aggregate TR	--	2.71%	54	2.85%	58	0.00%	76	0.84	64	1.11	69	0.00%	1
Total Unconstrained Fixed Income	5.83%	--	--	--	--	--	--	--	--	--	--	--	--
25% HY, 25% EMD, 50% BC Agg	--	4.36%	14	3.50%	46	0.00%	47	1.16	20	1.76	27	0.00%	1
Total High Yield Bonds	5.02%	5.12%	47	4.86%	47	0.28%	56	0.99	53	1.68	55	1.45%	26
BBgBarc US High Yield TR	--	5.83%	26	5.81%	83	0.00%	62	0.95	60	1.85	46	0.00%	1
Total TIPS	5.28%	1.56%	28	3.65%	66	-0.08%	32	0.34	28	0.74	25	0.18%	5
BBgBarc US TIPS TR	--	1.62%	25	3.58%	60	0.00%	22	0.36	21	0.79	20	0.00%	1
Total Emerging Market Debt	5.14%	6.67%	10	5.91%	27	0.71%	11	1.08	11	1.63	8	1.31%	7
JP Morgan EMBI Global Index	--	6.05%	19	5.85%	25	0.00%	24	0.98	19	1.39	25	0.00%	1
Total Real Estate	5.91%	9.67%	--	4.36%	--	-0.16%	--	0.28	--	0.25	--	1.32%	--
NCREIF Property Index	--	9.83%	--	4.17%	--	0.00%	--	0.33	--	0.28	--	0.00%	--
Total Absolute Return	6.96%	0.85%	81	3.14%	22	-1.03%	74	0.17	78	0.20	79	1.68%	7
HFRI Fund of Funds Composite Index	--	2.23%	60	3.32%	26	0.00%	61	0.57	50	0.65	57	0.00%	1
Total Risk Parity/GAA	4.15%	2.91%	58	7.06%	59	-1.33%	66	0.37	71	0.60	64	4.53%	41
60% MSCI World (Net) / 40% CITI WGBI	--	5.09%	28	6.75%	57	0.00%	40	0.71	31	1.35	4	0.00%	1

## Vermont State Employees

### Risk Statistics - 5 Years

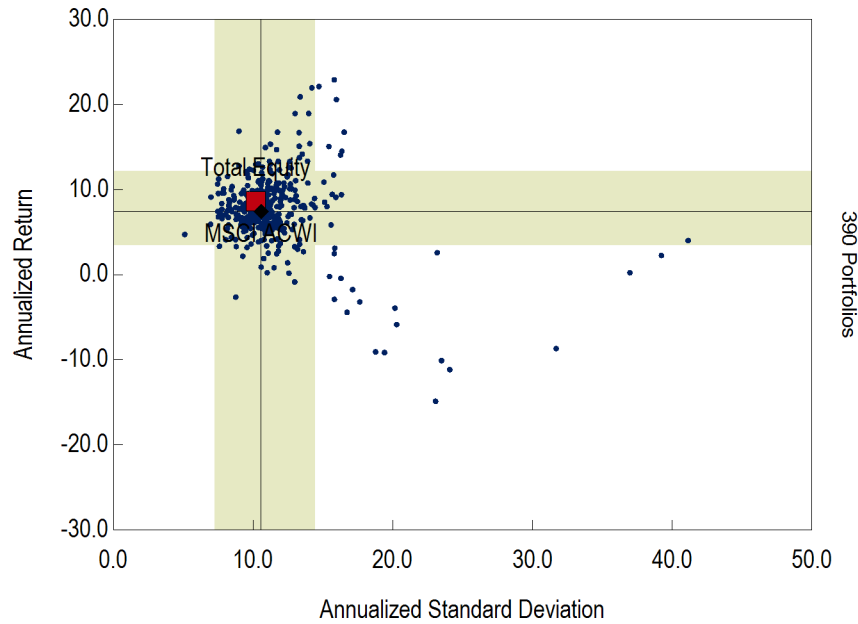
	% of Tot	Anlzd Ret	Rank	Anlzd Std Dev	Rank	Anlzd AJ	Rank	Sharpe Ratio	Rank	Sortino Ratio RF	Rank	Tracking Error	Rank
Total Employees Composite	100.00%	6.21%	92	5.44%	30	-0.47%	71	1.10	89	1.90	76	0.83%	29
Policy Index	--	6.23%	92	5.01%	12	0.00%	49	1.20	75	2.13	55	0.00%	1
Total Domestic Equity	23.64%	--	--	--	--	--	--	--	--	--	--	--	--
Russell 3000	--	14.22%	38	9.80%	18	0.00%	31	1.43	13	2.45	19	0.00%	1
Total Large Cap Equities	18.51%	14.49%	26	9.67%	28	0.14%	26	1.48	12	2.66	12	0.73%	1
S&P 500	--	14.22%	32	9.55%	25	0.00%	28	1.47	12	2.53	19	0.00%	1
Total Small/Mid Cap Equities	5.12%	13.86%	38	11.94%	46	2.41%	46	1.14	38	2.28	16	3.78%	3
Russell 2000	--	13.79%	39	14.00%	90	0.00%	84	0.97	73	1.61	66	0.00%	1
Total Core Non US Equity	15.11%	9.99%	37	11.21%	41	2.10%	41	0.87	38	1.61	26	2.08%	9
MSCI EAFE	--	8.38%	69	11.73%	71	0.00%	76	0.70	74	1.21	70	0.00%	1
Total Emerging Market Equity	7.35%	3.26%	88	14.26%	63	-0.47%	84	0.21	86	0.36	83	4.89%	53
MSCI Emerging Markets	--	3.99%	77	14.40%	70	0.00%	80	0.26	79	0.44	74	0.00%	1
Total Fixed Income	35.26%	--	--	--	--	--	--	--	--	--	--	--	--
BBgBarc US Aggregate TR	--	2.06%	59	2.84%	54	0.00%	79	0.65	74	0.91	69	0.00%	1
Total Diversified Fixed Income	12.07%	3.24%	38	4.24%	78	0.36%	60	0.72	67	1.00	62	1.65%	37
BBgBarc US Aggregate TR	--	2.06%	59	2.84%	54	0.00%	79	0.65	74	0.91	69	0.00%	1
Total Unconstrained Fixed Income	5.83%	--	--	--	--	--	--	--	--	--	--	--	--
25% HY, 25% EMD, 50% BC Agg	--	3.73%	30	3.69%	58	0.00%	72	0.95	46	1.33	53	0.00%	1
Total High Yield Bonds	5.02%	5.96%	38	4.35%	29	0.76%	36	1.32	35	2.05	47	1.37%	37
BBgBarc US High Yield TR	--	6.36%	26	5.24%	76	0.00%	63	1.18	58	2.09	43	0.00%	1
Total TIPS	5.28%	-0.06%	54	4.51%	69	-0.08%	54	-0.06	55	-0.08	55	0.16%	1
BBgBarc US TIPS TR	--	0.02%	47	4.47%	59	0.00%	41	-0.04	41	-0.05	41	0.00%	1
Total Emerging Market Debt	5.14%	5.03%	17	6.48%	31	0.87%	19	0.74	18	1.01	20	1.26%	8
JP Morgan EMBI Global Index	--	4.32%	31	6.62%	33	0.00%	34	0.62	31	0.85	34	0.00%	1
Total Real Estate	5.91%	11.00%	--	4.78%	--	0.67%	--	0.09	--	0.09	--	1.42%	--
NCREIF Property Index	--	10.35%	--	4.26%	--	0.00%	--	-0.05	--	-0.04	--	0.00%	--
Total Absolute Return	6.96%	4.28%	69	3.50%	32	0.62%	61	1.16	50	1.75	46	1.65%	7
HFRI Fund of Funds Composite Index	--	3.84%	73	3.25%	27	0.00%	68	1.12	53	1.47	57	0.00%	1
Total Risk Parity/GAA	4.15%	3.84%	64	7.17%	61	-1.96%	83	0.51	78	0.75	74	4.07%	42
60% MSCI World (Net) / 40% CITI WGBI	--	6.42%	26	6.60%	52	0.00%	46	0.94	17	1.95	5	0.00%	1

# Manager Characteristics



# Total Equity Composite

Annualized Return vs. Annualized Standard Deviation  
3 Years Ending September 30, 2017



- Total Equity
- ◆ MSCI ACWI
- 68% Confidence Interval
- eA All Global Equity Net

U.S. Effective Style Map  
3 Years Ending September 30, 2017



- First Rolling Period
- ◆ Last Rolling Period

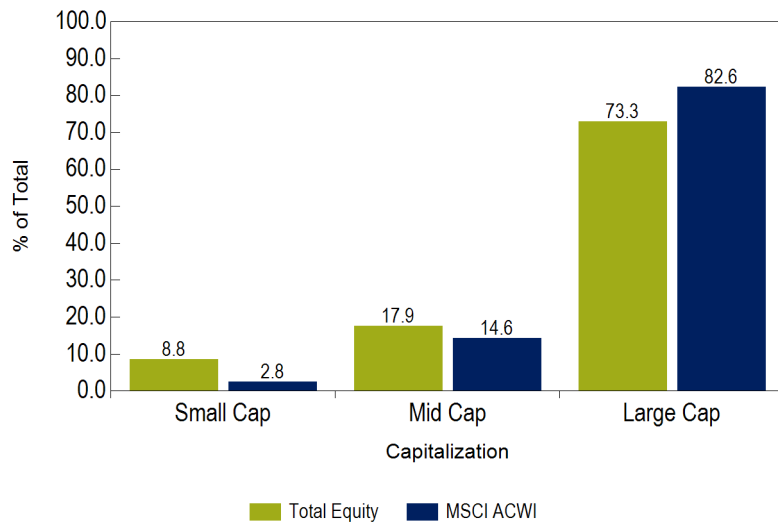


# Total Equity Composite

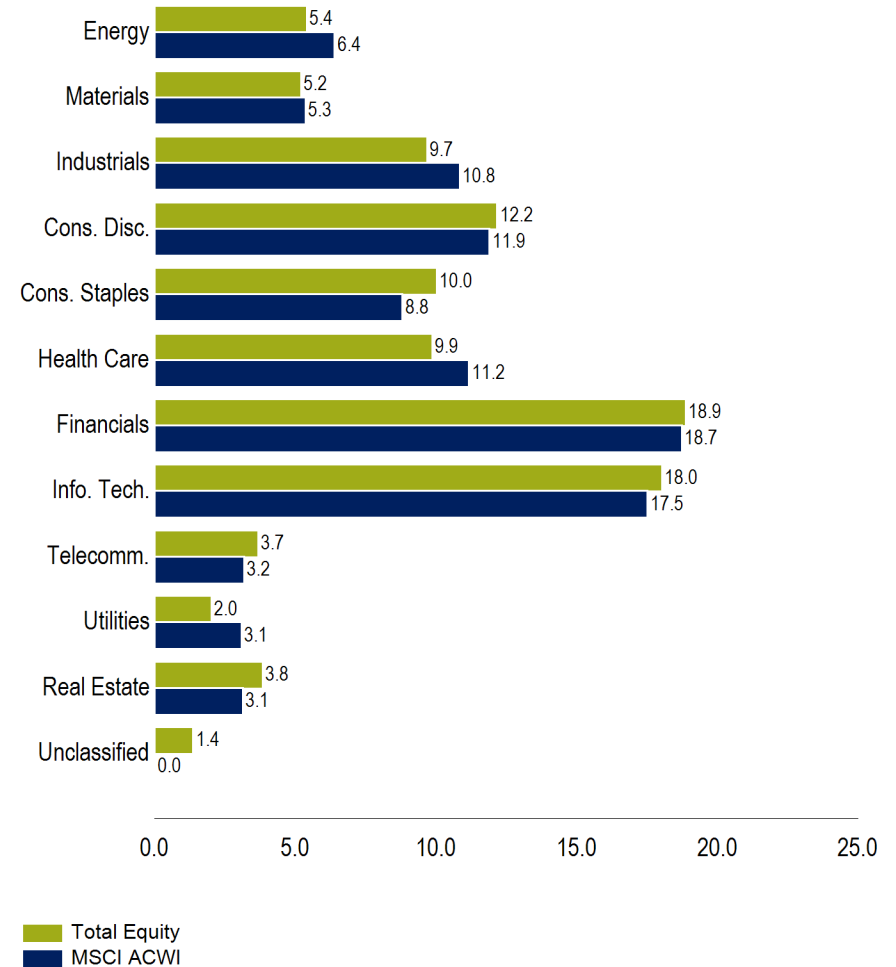
## Characteristics

	Portfolio	MSCI ACWI
Number of Holdings	2,786	2,491
Weighted Avg. Market Cap. (\$B)	84.22	111.18
Median Market Cap. (\$B)	10.62	10.03
Price To Earnings	24.04	22.98
Price To Book	4.44	3.66
Price To Sales	3.21	2.87
Return on Equity (%)	18.87	16.34
Yield (%)	2.00	2.35
Beta	0.96	1.00
R-Squared	0.98	1.00

## Market Capitalization As of September 30, 2017



## Sector Allocation (%) vs MSCI ACWI





# Total Equity Composite

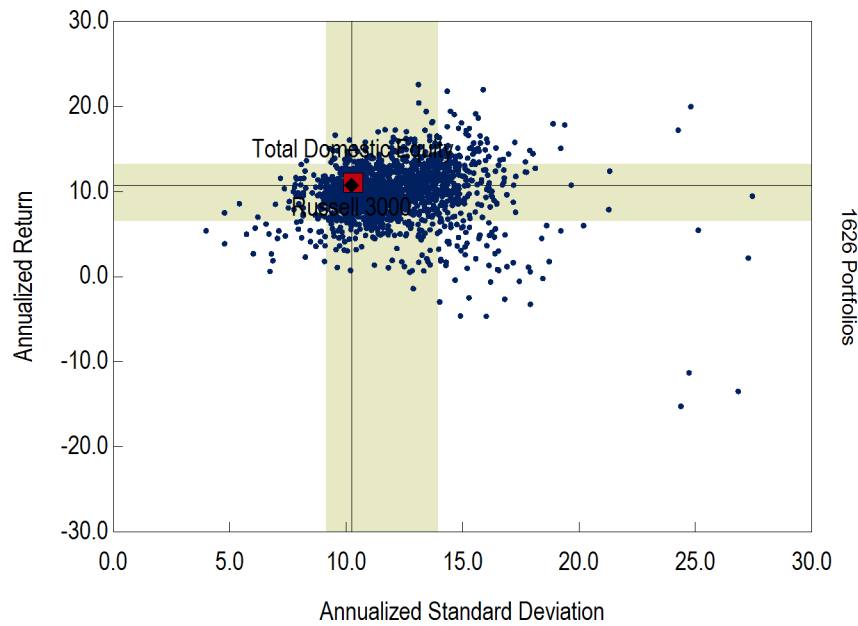
Top Ten Holdings		Top Positive Contributors			Top Negative Contributors		
			Relative Contribution %	Return %		Relative Contribution %	Return %
SAMSUNG ELECTRONICS	1.7%	BNC.BRADESCO PF.SPN.ADR 1:1	0.1%	31.4%	ASTRA INTERNATIONAL	-0.2%	-12.4%
BANK CENTRAL ASIA	1.5%	BANK CENTRAL ASIA	0.1%	10.7%	TENCENT HOLDINGS	-0.1%	20.4%
ASTRA INTERNATIONAL	1.5%	LOJAS RENNER ON	0.1%	38.2%	ITC	-0.1%	-21.0%
TELEKOMUNIKASI INDONESIA	1.4%	SAMSUNG ELTN.PREF.	0.1%	10.6%	ALIBABA GROUP HLDG.SPN. ADR 1:1	-0.1%	22.6%
APPLE	1.4%	SAMSUNG ELECTRONICS	0.1%	7.8%	MATAHARI DEPARTMENT SOE.	-0.1%	-35.3%
SAMSUNG ELTN.PREF.	1.1%	HOUSING DEVELOPMENT FIN.	0.0%	7.7%	APPLE	-0.1%	7.4%
BANK RAKYAT INDONESIA	1.0%	STMICROELECTRONICS (PAR)	0.0%	35.3%	INTEL	0.0%	13.7%
MICROSOFT	1.0%	MAGNIT	0.0%	14.5%	NAVER	0.0%	-11.2%
TAIWAN SEMICON.MNFG.	0.8%	NEXT	0.0%	46.5%	ROYAL DUTCH SHELL A(LON)	0.0%	16.0%
CASH - USD	0.8%	ROYAL DUTCH SHELL A	0.0%	15.9%	BAIDU 'A' ADR 10:1	0.0%	38.5%

## Equity Sector Attribution

	Total Effects	Selection Effect	Attribution Effects			Returns		Sector Weights			
			Allocation Effect	Interaction Effects	Portfolio	Benchmark	Portfolio	Benchmark			
Energy	-0.1%	0.0%	0.0%	0.0%	9.0%	9.7%	5.9%	6.1%			
Materials	-0.1%	0.0%	0.0%	-0.1%	6.9%	9.1%	4.9%	4.8%			
Industrials	-0.2%	-0.2%	0.0%	0.0%	3.1%	5.3%	11.1%	10.8%			
Consumer Discretionary	-0.3%	-0.3%	0.0%	0.0%	0.9%	3.7%	11.7%	12.1%			
Consumer Staples	-0.1%	0.0%	0.0%	0.0%	-0.1%	0.0%	10.0%	9.2%			
Health Care	0.1%	0.1%	0.0%	0.0%	3.1%	2.6%	10.7%	11.6%			
Financials	0.0%	0.2%	0.0%	-0.2%	5.7%	5.7%	18.7%	18.8%			
Information Technology	-0.3%	-0.3%	0.0%	0.0%	7.1%	8.9%	16.4%	17.0%			
Telecommunication Services	-0.1%	0.0%	0.0%	0.0%	2.2%	3.9%	4.1%	3.2%			
Utilities	0.0%	0.0%	0.0%	0.0%	2.1%	3.4%	2.6%	3.1%			
Real Estate	-0.1%	-0.1%	0.0%	0.0%	1.7%	3.6%	3.7%	3.2%			
Cash	0.0%	0.0%	0.0%	0.0%	0.3%	--	0.3%	0.0%			
<b>Portfolio</b>	<b>-1.2%</b>	<b>=</b>	<b>-0.7%</b>	<b>+</b>	<b>-0.1%</b>	<b>+</b>	<b>-0.5%</b>	<b>4.1%</b>	<b>5.3%</b>	<b>100.0%</b>	<b>100.0%</b>

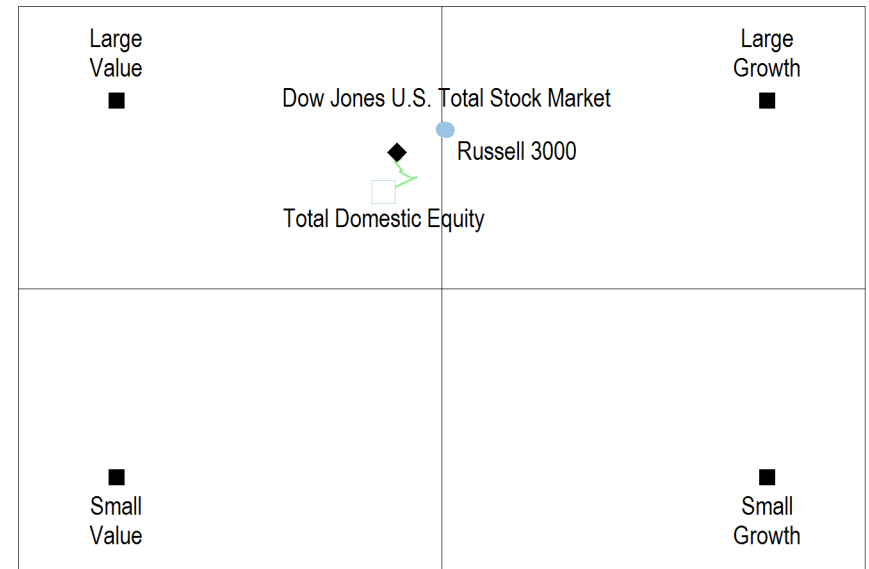
# Domestic Equity Composite

Annualized Return vs. Annualized Standard Deviation  
3 Years Ending September 30, 2017



- Total Domestic Equity
- ◆ Russell 3000
- 68% Confidence Interval
- eA All US Equity Net

U.S. Effective Style Map  
3 Years Ending September 30, 2017



- First Rolling Period
- ◆ Last Rolling Period

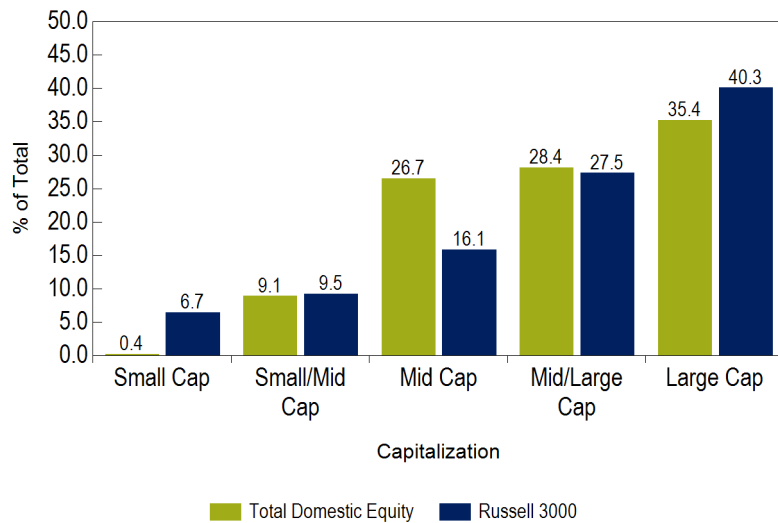


# Domestic Equity Composite

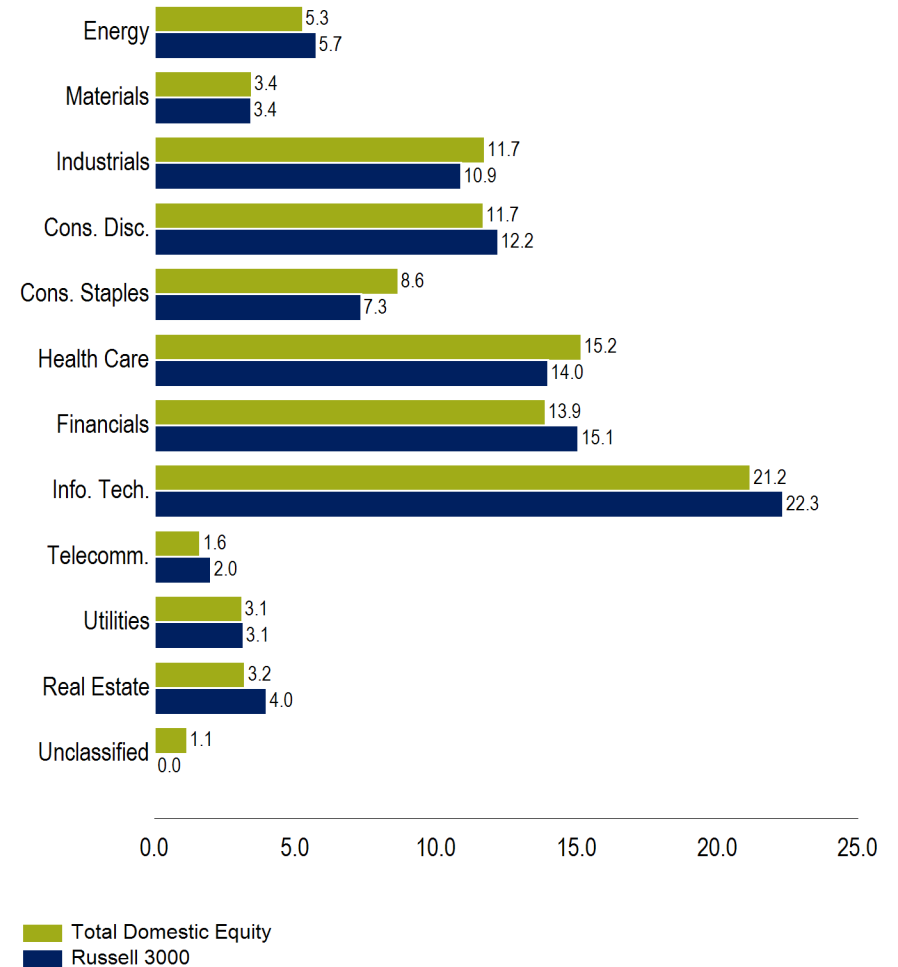
## Characteristics

	Portfolio	Russell 3000
Number of Holdings	537	2,981
Weighted Avg. Market Cap. (\$B)	120.29	135.88
Median Market Cap. (\$B)	19.67	1.65
Price To Earnings	26.63	25.07
Price To Book	5.31	4.39
Price To Sales	3.61	3.58
Return on Equity (%)	20.05	17.19
Yield (%)	1.80	1.83
Beta	1.00	1.00
R-Squared	0.98	1.00

## Market Capitalization As of September 30, 2017



## Sector Allocation (%) vs Russell 3000



# Domestic Equity Composite

Top Ten Holdings			Top Positive Contributors			Top Negative Contributors		
				Relative Contribution %	Return %		Relative Contribution %	Return %
APPLE		2.5%	BNC.BRADESCO PF.SPN.ADR 1:1	0.1%	31.4%	APPLE	-0.2%	7.4%
MICROSOFT		1.8%	BANK CENTRAL ASIA	0.1%	10.7%	ASTRA INTERNATIONAL	-0.1%	-12.4%
FACEBOOK CLASS A		1.3%	LOJAS RENNER ON	0.1%	38.2%	FACEBOOK CLASS A	-0.1%	13.2%
AMAZON.COM		1.2%	SAMSUNG ELTN.PREF.	0.1%	10.6%	MICROSOFT	-0.1%	8.6%
CASH - USD		1.1%	SAMSUNG ELECTRONICS	0.1%	7.8%	BOEING	-0.1%	29.3%
BERKSHIRE HATHAWAY 'B'		1.1%	GENERAL ELECTRIC	0.1%	-9.6%	INTEL	-0.1%	13.7%
JOHNSON & JOHNSON		1.1%	ALTRIA GROUP	0.1%	-13.9%	ITC	-0.1%	-21.0%
EXXON MOBIL		1.1%	STMICROELECTRONICS (PAR)	0.0%	35.3%	BERKSHIRE HATHAWAY 'B'	-0.1%	8.2%
JP MORGAN CHASE & CO.		1.1%	HOUSING DEVELOPMENT FIN.	0.0%	7.7%	CHEVRON	-0.1%	13.8%
ALPHABET 'A'		0.9%	NEXT	0.0%	46.5%	ABBVIE	-0.1%	23.6%

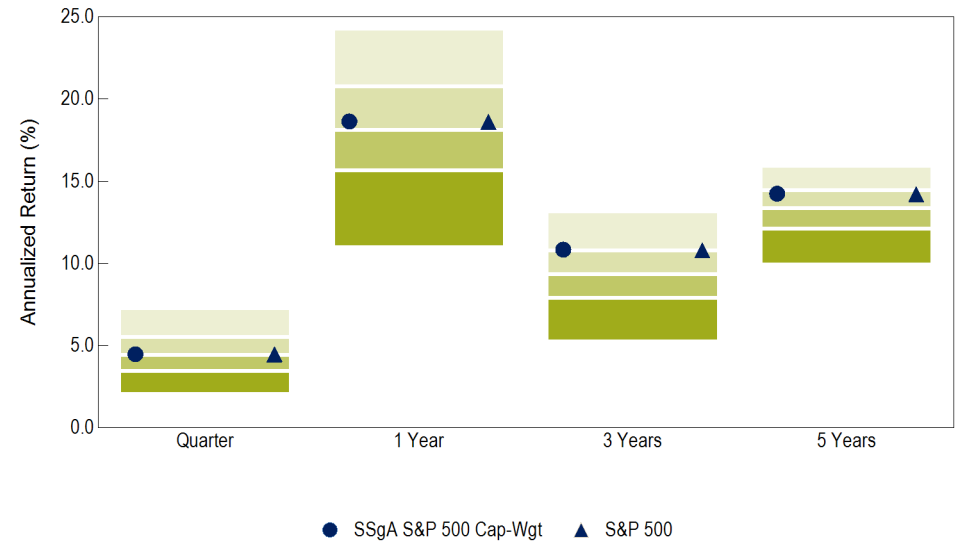
## Equity Sector Attribution

	Total Effects	Selection Effect	Attribution Effects			Returns		Sector Weights			
			Allocation Effect	Interaction Effects	Portfolio	Benchmark	Portfolio	Benchmark			
Energy	0.1%	0.0%	0.0%	0.1%	9.0%	6.8%	5.9%	5.7%			
Materials	0.1%	0.0%	0.0%	0.0%	6.9%	5.3%	4.9%	2.8%			
Industrials	-0.2%	-0.3%	0.0%	0.1%	3.1%	5.1%	11.1%	10.9%			
Consumer Discretionary	0.0%	-0.1%	0.0%	0.1%	0.9%	1.3%	11.7%	12.7%			
Consumer Staples	0.0%	0.1%	-0.1%	0.1%	-0.1%	-1.2%	10.0%	7.8%			
Health Care	0.0%	-0.1%	0.0%	0.1%	3.1%	3.7%	10.7%	14.1%			
Financials	0.1%	0.0%	0.0%	0.0%	5.7%	5.2%	18.6%	15.1%			
Information Technology	-0.4%	-0.3%	-0.2%	0.1%	7.1%	8.4%	16.3%	21.7%			
Telecommunication Services	-0.1%	-0.1%	0.0%	-0.1%	2.2%	6.3%	4.1%	2.0%			
Utilities	0.0%	-0.1%	0.0%	0.0%	2.1%	3.1%	2.6%	3.2%			
Real Estate	0.0%	0.0%	0.0%	0.0%	1.7%	1.1%	3.6%	4.1%			
Cash	0.0%	0.0%	0.0%	0.0%	0.3%	--	0.5%	0.0%			
<b>Portfolio</b>	<b>-0.5%</b>	<b>=</b>	<b>-0.8%</b>	<b>+</b>	<b>-0.2%</b>	<b>+</b>	<b>0.5%</b>	<b>4.0%</b>	<b>4.5%</b>	<b>100.0%</b>	<b>100.0%</b>

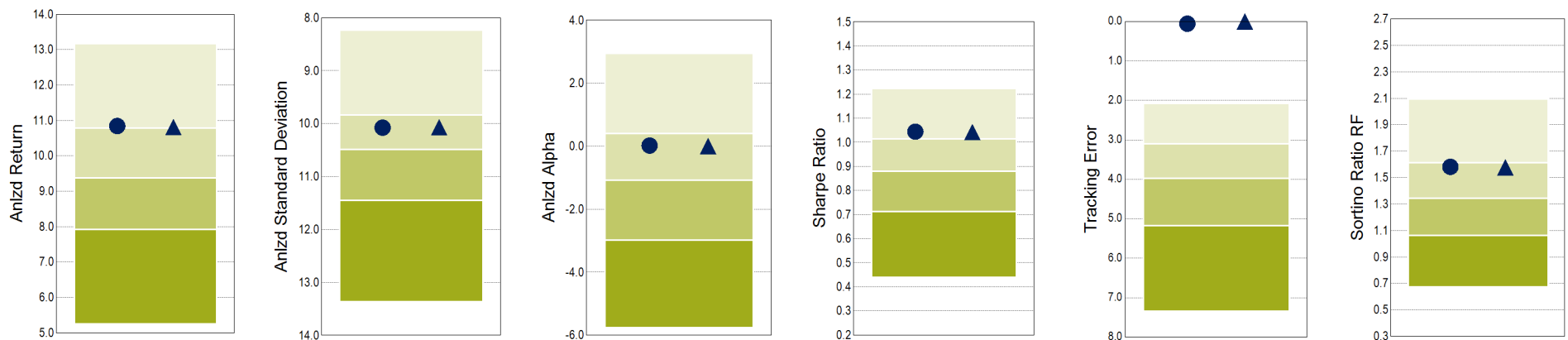
# SSgA S&P 500 Cap-Wgt

Using a replication process, we purchase each security for the Strategy in the same capitalization weight as it appears in the S&P 500 Index. Replication results in low turnover, accurate tracking, and low costs. SSgA's internal liquidity has allowed the firm to acquire many of the benchmark constituents for free. These free trading opportunities have allowed SSgA to gradually reduce security-level misweights while avoiding the open market. This process has resulted in portfolios that look and behave like the benchmark, and do so at a very low cost. SSgA's passive equity process objective is to remain fully invested in the equity market at all times. To accomplish this, it holds a small amount of unleveraged exchange-traded S&P 500® futures contracts to maintain full exposure. SSgA tends to hold approximately 1-3% of the strategy's value in suitable CFTC approved index futures contracts. This position in futures also allows the firm to accommodate cash flows into and out of the portfolio on a daily basis and to equitize dividend receivables to achieve closer tracking.

eA US Large Cap Equity Net Accounts



## 3 Year Risk Statistics



# SSgA S&P 500 Cap-Wgt

## Top Positive Contributors

## Top Negative Contributors

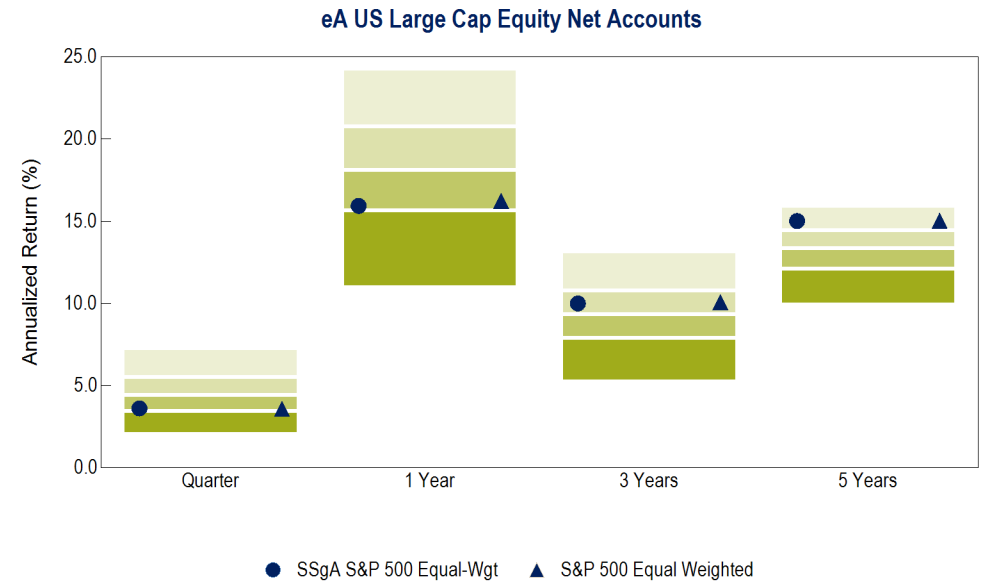
Characteristics			Top Positive Contributors		Top Negative Contributors			
	Portfolio	S&P 500	Relative Contribution %	Return %	Relative Contribution %	Return %		
Number of Holdings	505	505	DR PEPPER SNAPPLE GROUP (DPS)	0.0%	-2.3%	INTEL (INTC)	-0.1%	13.7%
Weighted Avg. Market Cap. (\$B)	163.6	163.1	ABBVIE	0.0%	23.6%	MICRON TECHNOLOGY (MU)	0.0%	31.7%
Median Market Cap. (\$B)	20.7	20.7	LAM RESEARCH (LRCX)	0.0%	31.2%	BIOGEN (BIIB)	0.0%	15.4%
Price To Earnings	25.1	24.6	APPLIED MATS.	0.0%	26.4%	BLACKROCK (BLK)	0.0%	6.5%
Price To Book	5.3	4.8	ACUITY BRANDS (AYI)	0.0%	-15.7%	HALLIBURTON (HAL)	0.0%	8.3%
Price To Sales	3.6	3.4	TEXAS INSTRUMENTS (TXN)	0.0%	17.2%	CVS HEALTH (CVS)	0.0%	1.7%
Return on Equity (%)	21.1	20.0	CISCO SYSTEMS	0.0%	8.4%	ANTHEM (ANTM)	0.0%	1.3%
Yield (%)	2.0	2.0	GOLDMAN SACHS GP. (GS)	0.0%	7.3%	WELLS FARGO & CO (WFC)	0.0%	0.3%
Beta	1.0	1.0	CHIPOTLE MEXN.GRILL (CMG)	0.0%	-26.0%	MICROCHIP TECH. (MCHP)	0.0%	16.8%
R-Squared	1.0	1.0	VERIZON COMMUNICATIONS (VZ)	0.0%	12.3%	ALTRIA GROUP (MO)	0.0%	-13.9%

## SSgA S&P 500 Cap-Wgt Performance Attribution vs. S&P 500

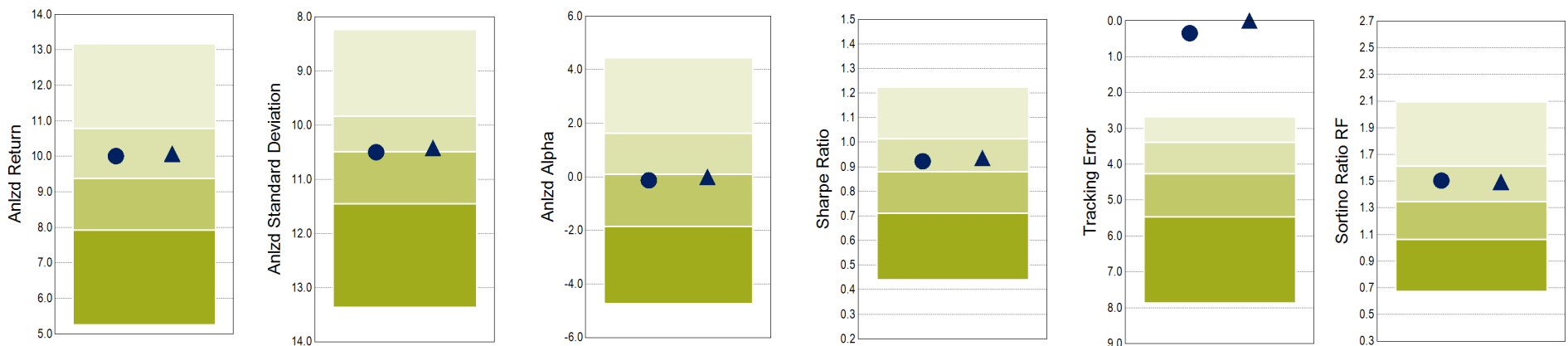
	Attribution Effects				Returns			Sector Weights			
	Total Effects	Selection Effect	Allocation Effect	Interaction Effects	Portfolio	Benchmark	Portfolio	Benchmark			
Energy	0.0%	0.0%	0.0%	0.0%	6.8%	6.8%	6.0%	6.1%			
Materials	0.0%	0.0%	0.0%	0.0%	5.0%	4.9%	2.2%	2.2%			
Industrials	0.0%	0.0%	0.0%	0.0%	4.2%	4.2%	10.3%	10.4%			
Consumer Discretionary	0.0%	0.0%	0.0%	0.0%	0.9%	0.9%	12.4%	12.4%			
Consumer Staples	0.0%	0.0%	0.0%	0.0%	-1.4%	-1.4%	8.8%	8.8%			
Health Care	0.0%	0.0%	0.0%	0.0%	3.7%	3.6%	14.7%	14.7%			
Financials	0.0%	0.0%	0.0%	0.0%	5.3%	5.3%	14.8%	14.7%			
Information Technology	0.0%	0.0%	0.0%	0.0%	8.6%	8.6%	22.5%	22.5%			
Telecommunication Services	0.0%	0.0%	0.0%	0.0%	6.8%	6.8%	2.2%	2.2%			
Utilities	0.0%	0.0%	0.0%	0.0%	2.9%	2.9%	3.2%	3.2%			
Real Estate	0.0%	0.0%	0.0%	0.0%	1.0%	1.0%	2.9%	3.0%			
Cash	0.0%	--	--	--	--	--	0.0%	0.0%			
<b>Portfolio</b>	<b>0.0%</b>	<b>=</b>	<b>0.0%</b>	<b>+</b>	<b>0.0%</b>	<b>+</b>	<b>0.0%</b>	<b>4.5%</b>	<b>4.5%</b>	<b>100.0%</b>	<b>100.0%</b>

# SSgA S&P 500 Equal-Wgt

The Strategy is managed using a "passive" or "indexing" investment approach, by which SSgA attempts to match, before expenses, the performance of the Index. SSgA will typically attempt to invest in the securities comprising the Index, in the same proportions as they are represented in the Index. In some cases, it may not be possible or practicable to purchase all of the securities comprising the Index, or to hold them in the same weightings as they represent in the Index. In those circumstances, SSgA may employ a sampling or optimization technique to construct the portfolio in question. From time to time securities are added to or removed from the Index. SSgA may sell securities that are represented in the Index, or purchase securities that are not yet represented in the Index, in anticipation of their removal from or addition to the Index. The Strategy may at times purchase or sell futures contracts on the Index, or options on those futures, or engage in other transactions involving the use of derivatives, in lieu of investment directly in the securities making up the Index or to enhance the Strategy's replication of the Index return. The Strategy's return may not match the return of the Index.



## 3 Year Risk Statistics



# SSgA S&P 500 Equal-Wgt

## Top Positive Contributors

## Top Negative Contributors

Characteristics			Relative		Relative			
	Portfolio	S&P 500	Contribution %	Return %	Contribution %	Return %		
Number of Holdings	502	505	GENERAL ELECTRIC (GE)	0.1%	-9.6%	APPLE	-0.3%	7.4%
Weighted Avg. Market Cap. (\$B)	43.7	163.1	NRG ENERGY	0.1%	48.8%	MICROSOFT	-0.2%	8.6%
Median Market Cap. (\$B)	20.6	20.7	GAP	0.1%	34.3%	FACEBOOK CLASS A	-0.2%	13.2%
Price To Earnings	25.5	24.6	TRANSOCEAN (RIG)	0.1%	30.7%	BERKSHIRE HATHAWAY 'B' (BRKB)	-0.1%	8.2%
Price To Book	4.6	4.8	MICHAEL KORS HOLDINGS (KORS)	0.1%	32.0%	CHEVRON (CVX)	-0.1%	13.8%
Price To Sales	3.2	3.4	CF INDUSTRIES HDG.	0.0%	27.0%	BOEING (BA)	-0.1%	29.3%
Return on Equity (%)	19.2	20.0	SCRIPPS NETWORKS INTACT. 'A' (SNI)	0.0%	26.2%	VERIZON COMMUNICATIONS	-0.1%	12.3%
Yield (%)	1.9	2.0	MEDTRONIC (MDT)	0.0%	-11.4%	ABBVIE	-0.1%	23.6%
Beta	1.0	1.0	ALBEMARLE (ALB)	0.0%	29.5%	VISA 'A' (V)	-0.1%	12.4%
R-Squared	0.9	1.0	HUNT JB TRANSPORT SVS. (JBHT)	0.0%	21.9%	INTEL (INTC)	-0.1%	13.7%

## SSgA S&P 500 Equal-Wgt Performance Attribution vs. S&P 500

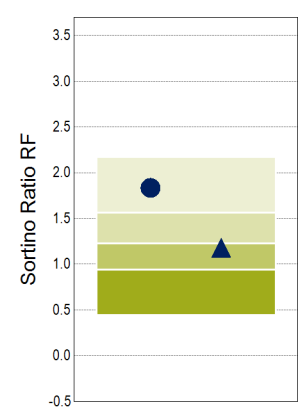
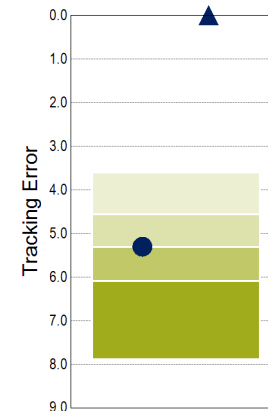
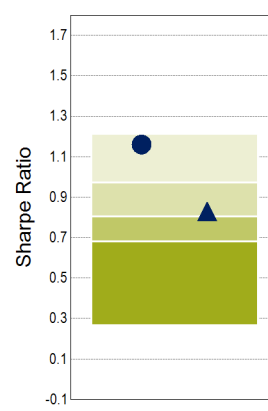
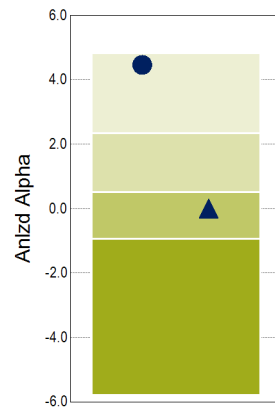
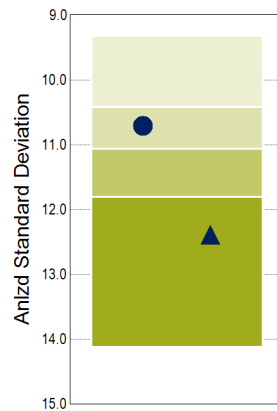
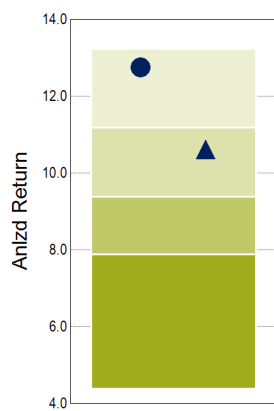
	Attribution Effects				Returns		Sector Weights		
	Total Effects	Selection Effect	Allocation Effect	Interaction Effects	Portfolio	Benchmark	Portfolio	Benchmark	
Energy	0.0%	0.0%	0.0%	0.0%	6.5%	6.8%	6.3%	6.1%	
Materials	0.2%	0.0%	0.1%	0.0%	6.4%	4.9%	4.9%	2.2%	
Industrials	0.2%	0.0%	0.1%	0.0%	4.5%	4.2%	13.2%	10.4%	
Consumer Discretionary	0.1%	0.0%	0.0%	0.0%	1.0%	0.9%	16.2%	12.4%	
Consumer Staples	0.1%	0.1%	0.0%	0.0%	-0.7%	-1.4%	6.3%	8.8%	
Health Care	-0.4%	-0.4%	-0.1%	0.1%	0.7%	3.6%	12.4%	14.7%	
Financials	-0.1%	0.0%	0.0%	0.0%	5.0%	5.3%	13.8%	14.7%	
Information Technology	-0.8%	0.0%	-0.8%	0.0%	8.6%	8.6%	13.3%	22.5%	
Telecommunication Services	-0.2%	-0.2%	-0.1%	0.1%	-2.7%	6.8%	0.8%	2.2%	
Utilities	0.1%	0.0%	0.1%	0.0%	3.5%	2.9%	5.5%	3.2%	
Real Estate	0.0%	0.0%	0.0%	0.0%	0.8%	1.0%	6.2%	3.0%	
Cash	0.0%	0.0%	0.0%	0.0%	0.3%	--	1.1%	0.0%	
<b>Portfolio</b>	<b>-0.9%</b>	<b>=</b>	<b>-0.6%</b>	<b>+</b>	<b>-0.6%</b>	<b>+</b>	<b>0.3%</b>	<b>3.6%</b>	<b>4.5%</b>
							<b>100.0%</b>	<b>100.0%</b>	



# Champlain

Champlain employs a fundamental, bottom-up approach to investing in equity assets. They believe that superior companies purchased at attractive valuations have the highest probability to wealth creation. Champlain seeks strong businesses with credible and sincere management and aims to buy shares of their stock at discounts to fair or intrinsic value. Portfolio construction applies sector weight guidelines and position size rules to manage risk. The portfolio will have some exposure to at least seven out of the eight largest sectors of the S&P 400, with a maximum weighting on 25% in any one sector. Individual positions will not represent more than 2% of the respective companies' outstanding shares and are limited to no more than 5% of assets under management. The portfolio typically holds 50-75 securities with average position sizes of 2%. The strategy's minimum market cap is \$1.5 billion at purchase and a maximum market cap of \$15 billion. In general, no more than 10% of portfolio in stocks with a market cap below \$2B and no more than 5% of portfolio in companies with market cap above \$20B.

eA US Mid Cap Equity Net Accounts



## Top Positive Contributors

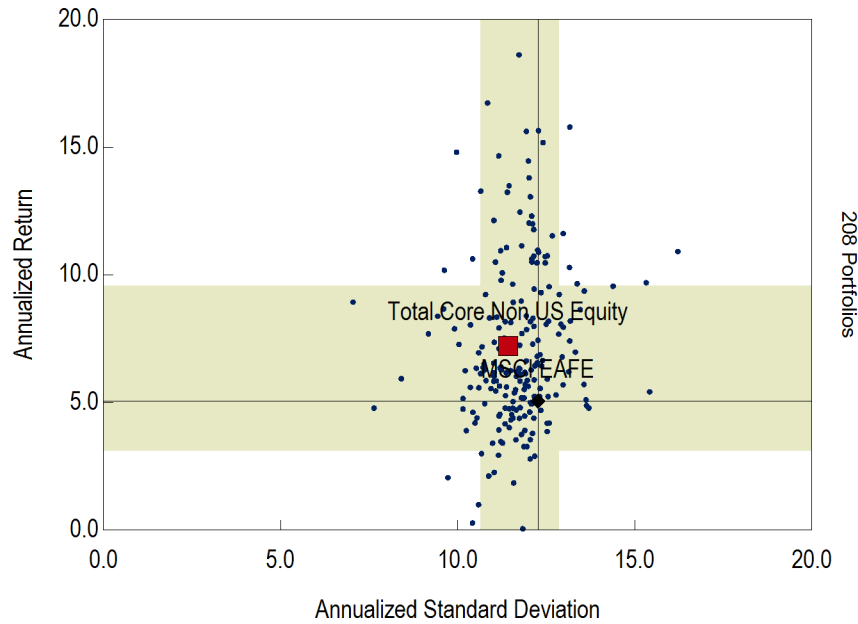
## Top Negative Contributors

Characteristics			Relative		Relative			
	Portfolio	Russell 2500	Contribution %	Return %	Contribution %	Return %		
Number of Holdings	57	2,491	ALIGN TECHNOLOGY (ALGN)	0.6%	24.1%	NUVASIVE	-0.5%	-27.9%
Weighted Avg. Market Cap. (\$B)	9.8	4.7	RED HAT (RHT)	0.4%	15.8%	TREEHOUSE FOODS (THS)	-0.4%	-17.1%
Median Market Cap. (\$B)	7.8	1.2	TABLEAU SOFTWARE CL.A (DATA)	0.4%	22.2%	WABTEC (WAB)	-0.3%	-17.1%
Price To Earnings	37.5	25.9	DOVER (DOV)	0.3%	14.6%	ADV.AUTO PARTS (AAP)	-0.2%	-14.9%
Price To Book	6.2	3.5	SPLUNK (SPLK)	0.3%	16.8%	J M SMUCKER (SJM)	-0.2%	-10.8%
Price To Sales	4.0	3.1	ROCKWELL AUTOMATION (ROK)	0.2%	10.5%	DENTSPLY SIRONA (XRAY)	-0.2%	-7.6%
Return on Equity (%)	15.5	12.4	FLOWERS FOODS	0.2%	9.7%	INTEGRA LFSC.HDG. (IART)	-0.2%	-7.4%
Yield (%)	0.9	1.3	SNYDERS LANCE	0.2%	10.6%	HENRY SCHEIN (HSIC)	-0.2%	-10.4%
Beta	0.8	1.0	STERIS (STE)	0.2%	8.9%	NORTHERN TRUST	-0.1%	-5.0%
R-Squared	0.8	1.0	GUIDEWIRE SOFTWARE	0.2%	13.3%	HORMEL FOODS	-0.1%	-5.3%

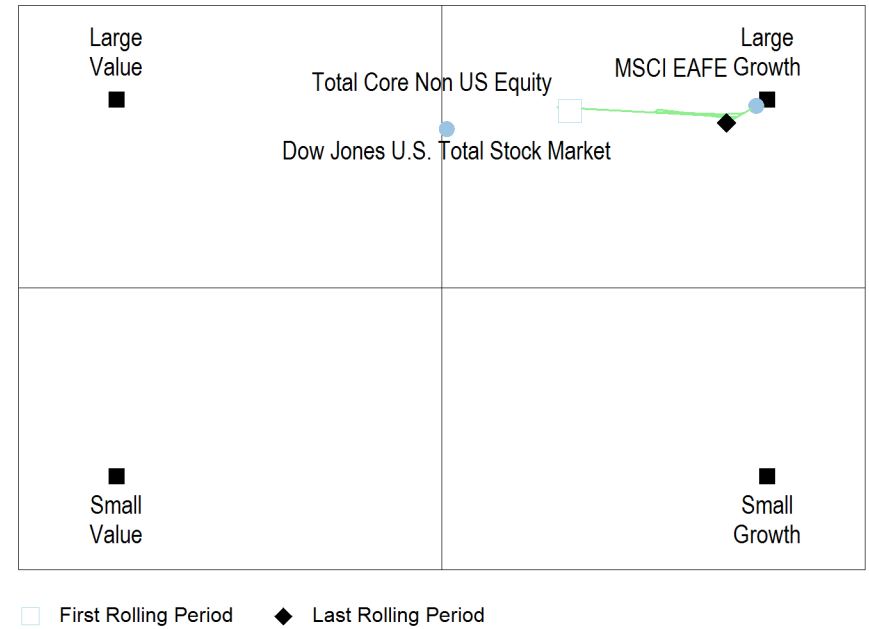
## Champlain Performance Attribution vs. Russell 2500

	Attribution Effects				Returns		Sector Weights				
	Total Effects	Selection Effect	Allocation Effect	Interaction Effects	Portfolio	Benchmark	Portfolio	Benchmark			
Energy	-0.3%	-0.4%	-0.2%	0.3%	-3.2%	6.2%	1.4%	4.3%			
Materials	-0.3%	-0.3%	-0.1%	0.1%	0.7%	5.9%	3.7%	5.8%			
Industrials	-0.6%	-0.6%	0.1%	-0.1%	3.4%	7.4%	17.4%	15.7%			
Consumer Discretionary	-0.8%	-1.2%	-0.3%	0.7%	-5.5%	3.8%	5.3%	12.6%			
Consumer Staples	-0.3%	-0.1%	0.1%	-0.3%	-1.9%	0.5%	13.8%	2.9%			
Health Care	-0.5%	-0.4%	0.5%	-0.5%	-0.2%	3.5%	25.7%	11.9%			
Financials	-0.5%	-0.4%	-0.2%	0.1%	2.2%	4.4%	11.2%	16.6%			
Information Technology	1.1%	0.5%	0.3%	0.2%	9.3%	6.0%	21.7%	16.1%			
Telecommunication Services	0.0%	--	0.0%	--	--	3.0%	0.0%	0.6%			
Utilities	-0.2%	--	-0.2%	--	--	5.1%	0.0%	3.8%			
Real Estate	-0.1%	--	-0.1%	--	--	1.3%	0.0%	9.7%			
Cash	0.0%	--	--	--	--	--	0.0%	0.0%			
<b>Portfolio</b>	<b>-2.5%</b>	<b>=</b>	<b>-2.8%</b>	<b>+</b>	<b>-0.2%</b>	<b>+</b>	<b>0.5%</b>	<b>2.2%</b>	<b>4.7%</b>	<b>100.0%</b>	<b>100.0%</b>

Annualized Return vs. Annualized Standard Deviation  
3 Years Ending September 30, 2017



U.S. Effective Style Map  
3 Years Ending September 30, 2017

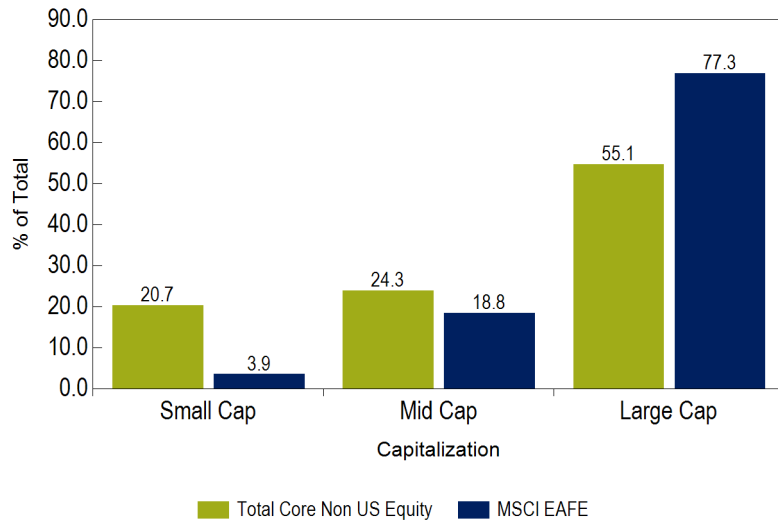


# Int'l Equity Composite

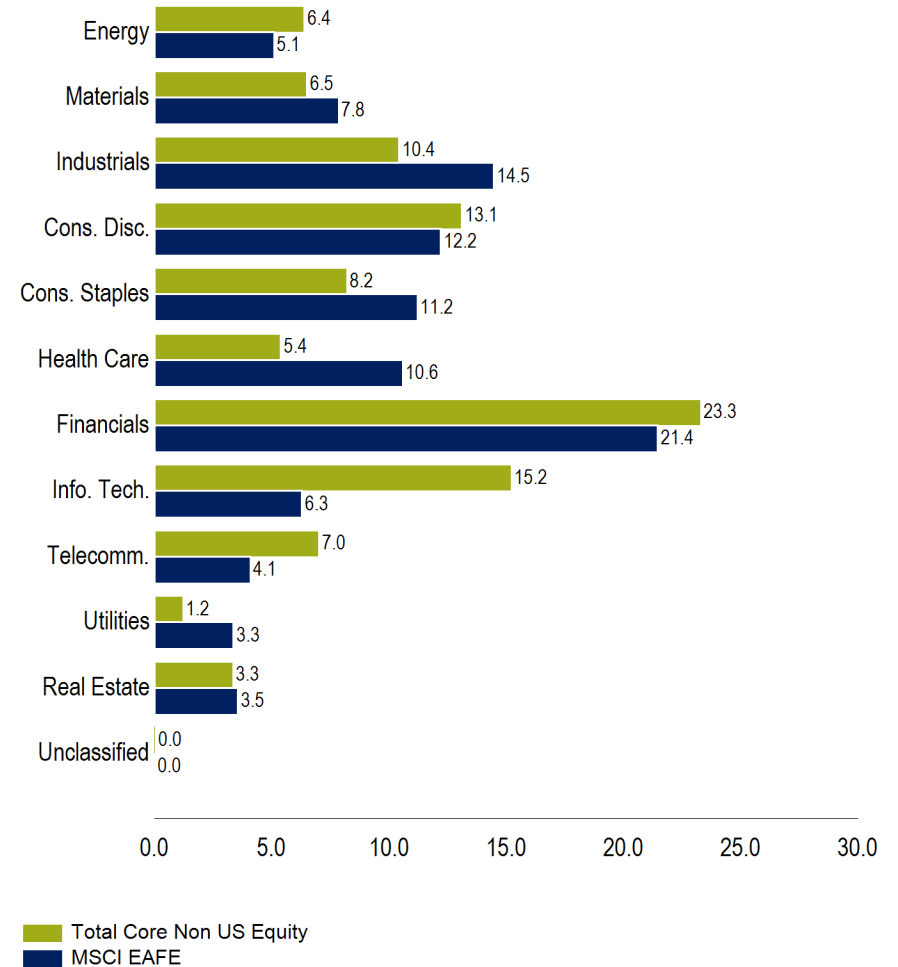
## Characteristics

	Portfolio	MSCI EAFE
Number of Holdings	2,232	926
Weighted Avg. Market Cap. (\$B)	40.35	58.65
Median Market Cap. (\$B)	6.91	10.85
Price To Earnings	19.45	20.94
Price To Book	2.96	2.61
Price To Sales	2.27	2.10
Return on Equity (%)	16.77	13.57
Yield (%)	2.15	2.97
Beta	0.92	1.00
R-Squared	0.98	1.00

## Market Capitalization As of September 30, 2017



## Sector Allocation (%) vs MSCI EAFE



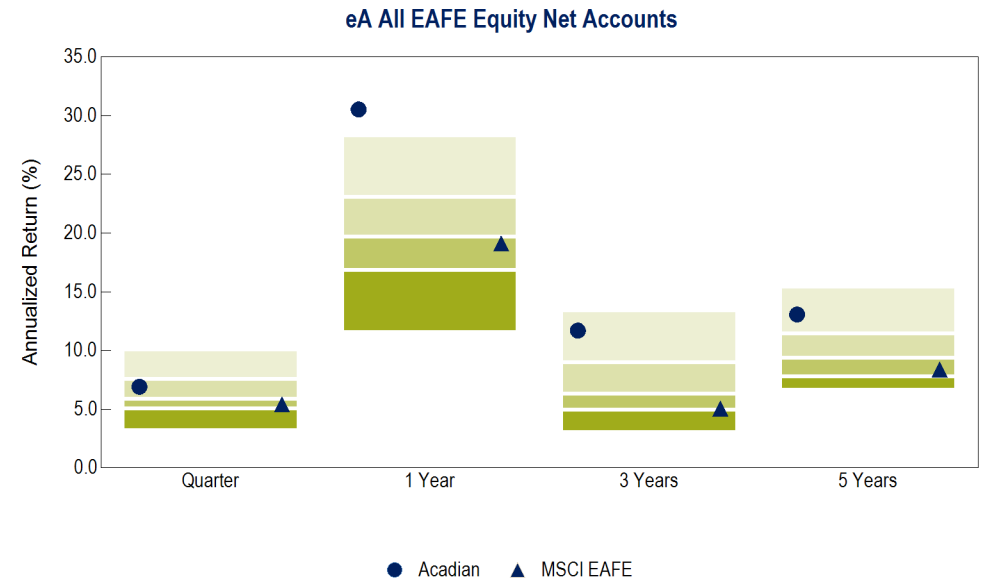
# Int'l Equity Composite

Top Ten Holdings		Top Positive Contributors			Top Negative Contributors		
		Relative Contribution %	Return %	Relative Contribution %	Return %		
SAMSUNG ELECTRONICS	6.4%	SAMSUNG ELECTRONICS	0.3%	7.8%	ASTRA INTERNATIONAL	-0.3%	-12.4%
TELEKOMUNIKASI INDONESIA	5.3%	BANK CENTRAL ASIA	0.3%	10.7%	MATAHARI DEPARTMENT SOE.	-0.2%	-35.3%
BANK CENTRAL ASIA	4.5%	STMICROELECTRONICS (PAR)	0.1%	35.3%	ROYAL DUTCH SHELL A(LON)	-0.1%	16.0%
BANK RAKYAT INDONESIA	3.8%	SK HYNIX	0.1%	22.9%	PERUSAHAAN GAS NEGARA	-0.1%	-30.7%
ASTRA INTERNATIONAL	3.6%	NEXT	0.1%	46.5%	ASML HOLDING	-0.1%	30.9%
BANK MANDIRI	2.8%	ROYAL DUTCH SHELL A	0.1%	15.9%	HSBC HDG. (ORD \$0.50)	-0.1%	8.0%
UNILEVER INDONESIA	1.7%	NORSK HYDRO	0.1%	31.7%	TOYOTA MOTOR	-0.1%	13.7%
BANK NEGARA INDONESIA	1.2%	KIRIN HOLDINGS	0.1%	15.5%	TOTAL	-0.1%	10.3%
UNITED TRACTORS	1.2%	UNITED TRACTORS	0.1%	15.4%	GLENCORE	-0.1%	23.9%
ROYAL DUTCH SHELL A	1.2%	TEVA PHARM.INDS.ADR 1:1	0.1%	-46.7%	GUDANG GARAM	-0.1%	-14.1%

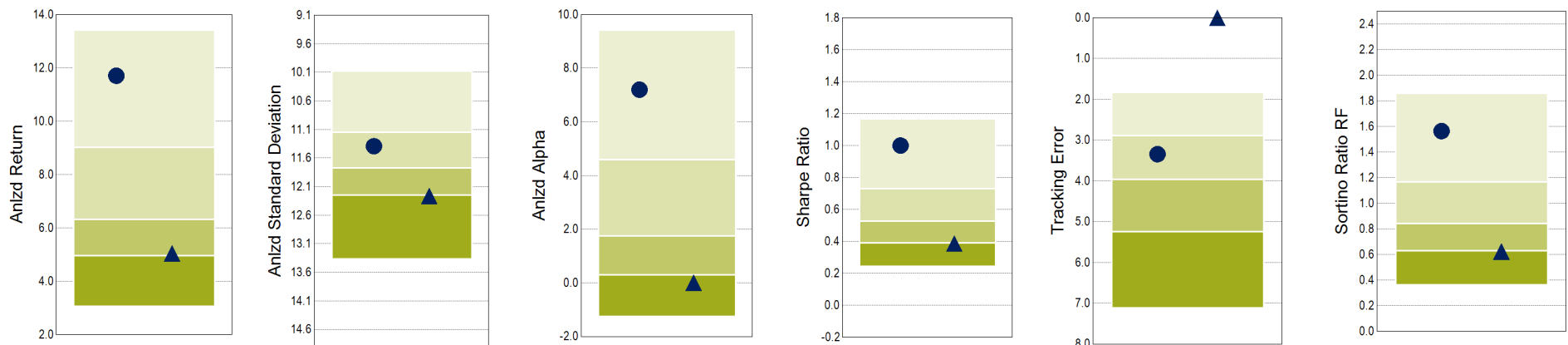
## Equity Sector Attribution

	Total Effects	Attribution Effects				Returns		Sector Weights			
		Selection Effect	Allocation Effect	Interaction Effects	Portfolio	Benchmark	Portfolio	Benchmark			
Energy	0.3%	0.1%	0.1%	0.0%	14.6%	13.6%	6.8%	4.8%			
Materials	-0.3%	-0.1%	-0.1%	-0.1%	9.0%	11.0%	5.0%	7.5%			
Industrials	-0.5%	-0.5%	0.0%	0.0%	2.2%	6.2%	11.7%	14.2%			
Consumer Discretionary	-0.9%	-0.8%	0.0%	-0.2%	-0.1%	7.5%	12.8%	12.1%			
Consumer Staples	0.0%	0.0%	0.1%	-0.2%	0.0%	1.1%	9.0%	11.5%			
Health Care	0.4%	0.4%	0.1%	-0.1%	4.7%	0.9%	8.8%	11.1%			
Financials	0.0%	0.4%	0.0%	-0.4%	5.3%	5.2%	19.6%	21.5%			
Information Technology	0.0%	-0.1%	0.2%	-0.1%	5.8%	8.3%	13.1%	6.0%			
Telecommunication Services	-0.1%	0.0%	-0.1%	0.0%	1.1%	1.8%	7.6%	4.3%			
Utilities	-0.1%	-0.1%	0.0%	0.0%	0.2%	4.3%	3.1%	3.4%			
Real Estate	0.0%	0.1%	0.0%	-0.1%	3.7%	3.3%	2.5%	3.6%			
Cash	0.0%	--	--	--	--	--	0.0%	0.0%			
<b>Portfolio</b>	<b>-1.4%</b>	<b>=</b>	<b>-0.5%</b>	<b>+</b>	<b>0.3%</b>	<b>+</b>	<b>-1.2%</b>	<b>4.1%</b>	<b>5.5%</b>	<b>100.0%</b>	<b>100.0%</b>

Acadian believes that the larger the pool of potential investments, the greater the potential opportunity an active manager has to add value. They believe that stocks and markets have many attributes that are related to potential outperformance, and that a successful investment approach must be multi-faceted and highly adaptable. They believe that objectivity is crucial to investment success. Acadian's quantitative process and extensive database allows them to apply their valuation techniques to over 40,000 stocks worldwide. They do not limit the universe other than to employ screens based on invest-ability and availability of data. For example, they only evaluate stocks that have sufficient daily trading volume to be appropriate for institutional investment. Other than these practical considerations, they consider our investment universe to encompass all institutionally investable stocks in the world.



### 3 Year Risk Statistics



## Top Positive Contributors

## Top Negative Contributors

Characteristics	MSCI EAFE		Relative Contribution %		Relative Return %			
	Portfolio	MSCI EAFE						
Number of Holdings	374	926	STMICROELECTRONICS (PAR) (F:STM)	0.5%	35.3%	KT ADR 2:1	-0.2%	-16.6%
Weighted Avg. Market Cap. (\$B)	29.4	58.7	ROYAL DUTCH SHELL A	0.4%	15.9%	LG DISPLAY ADR 2:1	-0.2%	-16.5%
Median Market Cap. (\$B)	0.7	10.9	NORSK HYDRO (N:NHY)	0.4%	31.7%	ASAHI GLASS (J:AG@N)	-0.1%	-11.9%
Price To Earnings	18.5	20.9	FIAT CHRYSLER AUTOS. (I:FCA)	0.3%	71.0%	HOCHTIEF (D:HOT)	-0.1%	-8.1%
Price To Book	2.7	2.6	DEUTSCHE LUFTHANSA (D:LHA)	0.3%	22.4%	KONAMI HOLDINGS (J:KONA)	-0.1%	-13.0%
Price To Sales	1.3	2.1	LONZA GROUP	0.3%	21.3%	MIXI	-0.1%	-13.3%
Return on Equity (%)	17.1	13.6	ICON	0.3%	16.5%	LENZING (O:LNZ)	-0.1%	-18.9%
Yield (%)	2.4	3.0	PEUGEOT (F:PGT)	0.3%	19.6%	MERCK KGAA (D:MRK)	-0.1%	-7.2%
Beta	0.9	1.0	DAITO TST.CONSTRUCTION	0.2%	18.6%	WPP	-0.1%	-11.4%
R-Squared	0.9	1.0	JAFCO	0.2%	26.8%	ALMIRALL (E:LAB)	-0.1%	-37.4%

## Acadian Performance Attribution vs. MSCI EAFE

	Total Effects	Attribution Effects			Returns		Sector Weights		
		Selection Effect	Allocation Effect	Interaction Effects	Portfolio	Benchmark	Portfolio	Benchmark	
Energy	0.6%	0.0%	0.4%	0.2%	14.1%	13.6%	9.1%	4.8%	
Materials	0.1%	0.0%	0.1%	0.0%	11.0%	11.0%	8.6%	7.5%	
Industrials	0.0%	-0.3%	0.2%	0.1%	4.7%	6.2%	19.2%	14.2%	
Consumer Discretionary	0.0%	0.0%	0.0%	0.0%	8.2%	7.5%	11.2%	12.1%	
Consumer Staples	0.0%	0.3%	0.1%	-0.3%	4.2%	1.1%	3.8%	11.5%	
Health Care	0.8%	0.5%	0.0%	0.2%	6.2%	0.9%	13.8%	11.1%	
Financials	0.2%	1.1%	-0.2%	-0.7%	9.7%	5.2%	13.4%	21.5%	
Information Technology	0.4%	-0.1%	0.6%	-0.1%	6.3%	8.3%	14.7%	6.0%	
Telecommunication Services	-0.3%	-0.6%	0.0%	0.3%	-15.0%	1.8%	1.4%	4.3%	
Utilities	-0.2%	-0.2%	0.0%	0.1%	-1.8%	4.3%	0.7%	3.4%	
Real Estate	0.3%	0.3%	0.0%	0.0%	10.0%	3.3%	4.1%	3.6%	
Cash	0.0%	--	--	--	--	--	0.0%	0.0%	
<b>Portfolio</b>	<b>2.0%</b>	<b>=</b>	<b>1.0%</b>	<b>+</b>	<b>1.1%</b>	<b>+</b>	<b>-0.1%</b>	<b>7.5%</b>	<b>5.5%</b>
								<b>100.0%</b>	<b>100.0%</b>

## Country Allocation

	Manager Allocation (USD)	Index Allocation (USD)	Manager Return (USD)	Index Return (USD)
<b>Americas</b>				
Canada	4.7%	0.0%	8.8%	7.9%
Mexico*	0.3%	0.0%	-2.7%	1.5%
United States	0.1%	0.0%	22.2%	4.3%
<b>Total-Americas</b>	<b>5.1%</b>	<b>0.0%</b>	<b>8.2%</b>	<b>--</b>
<b>Europe</b>				
Austria	2.3%	0.2%	1.8%	12.8%
Belgium	0.5%	1.1%	-2.3%	9.2%
Denmark	2.7%	1.8%	2.3%	7.8%
Finland	3.0%	1.0%	4.7%	3.3%
France	8.4%	10.5%	15.1%	8.5%
Germany	7.3%	9.5%	5.5%	7.8%
Greece*	0.2%	0.0%	9.8%	-12.1%
Ireland	1.8%	0.5%	16.5%	6.2%
Italy	3.4%	2.3%	27.5%	13.9%
Luxembourg	0.2%	0.0%	10.1%	5.5%
Netherlands	4.3%	3.5%	13.3%	9.5%
Norway	2.1%	0.6%	27.4%	19.3%
Poland*	0.3%	0.0%	11.9%	9.3%
Portugal	0.4%	0.1%	1.2%	13.4%
Russia*	0.0%	0.0%	20.3%	17.6%
Spain	3.8%	3.5%	-5.7%	4.2%
Sweden	3.5%	2.9%	7.9%	5.5%
Switzerland	4.4%	8.5%	9.4%	2.0%
United Kingdom	9.5%	17.6%	5.7%	5.3%
<b>Total-Europe</b>	<b>58.0%</b>	<b>63.8%</b>	<b>9.2%</b>	<b>6.6%</b>

## Country Allocation

	Manager Allocation (USD)	Index Allocation (USD)	Manager Return (USD)	Index Return (USD)
<b>AsiaPacific</b>				
Australia	6.4%	7.1%	-2.0%	3.1%
Hong Kong	0.8%	3.5%	10.0%	5.1%
Indonesia*	0.0%	0.0%	6.9%	0.2%
Japan	19.8%	23.4%	2.9%	4.0%
Korea*	5.2%	0.0%	-0.5%	3.2%
Malaysia*	0.1%	0.0%	7.1%	0.1%
New Zealand	0.2%	0.2%	5.2%	0.3%
Philippines*	0.0%	0.0%	12.5%	2.2%
Singapore	1.3%	1.3%	6.7%	3.1%
Taiwan*	0.3%	0.0%	-3.2%	2.8%
Thailand*	0.1%	0.0%	2.8%	2.7%
<b>Total-AsiaPacific</b>	<b>34.2%</b>	<b>35.5%</b>	<b>1.7%</b>	<b>3.9%</b>
<b>Other</b>				
Israel	0.6%	0.7%	-3.3%	-12.6%
South Africa*	1.3%	0.0%	10.4%	6.8%
Turkey*	0.0%	0.0%	22.5%	6.1%
<b>Total-Other</b>	<b>1.9%</b>	<b>0.7%</b>	<b>6.7%</b>	<b>-12.6%</b>
<b>Totals</b>				
Developed	92.1%	100.0%	2.5%	5.5%
Emerging*	7.9%	0.0%	2.2%	--

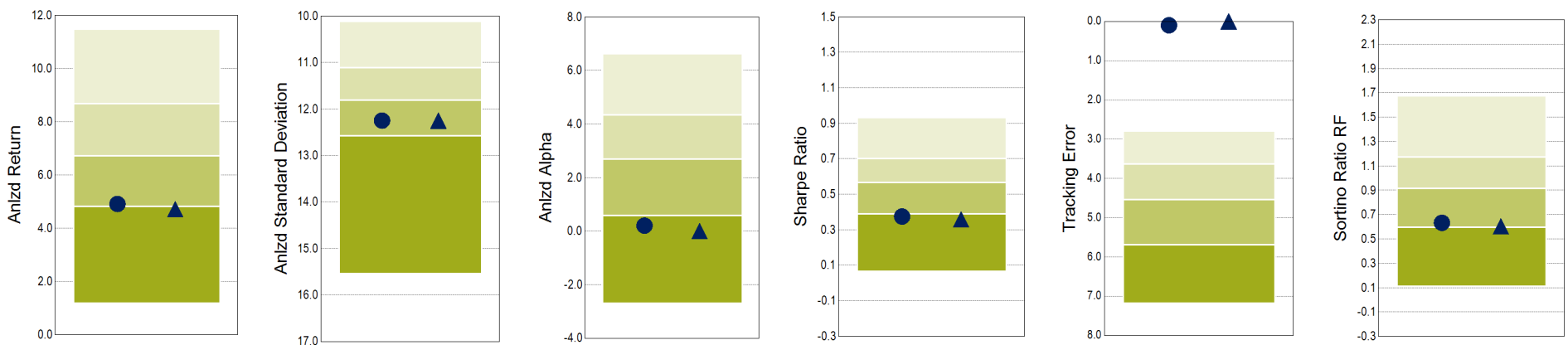


The MSCI ACWI ex US Index Strategy tends to hold each security that is held in the benchmark index, but the strategy will not be perfectly weighted in every index constituent on a daily basis. Holding securities in the perfect weights would require increased trading and therefore would incur costs. Thus, there will be securities in the fund that are either over- or under-weighted relative to the benchmark. The individual security mis-weights are very minimal, usually within 1 basis point. However, in aggregate, these small mis-weights can add up and result in tracking error if the mis-weighted securities' performance is volatile. SSgA seek to replicate the index by attempting to hold every security in the fund in its appropriate index weight. SSgA trade only when there is a change to the Index, when we have participant cash flows, or when we receive significant dividend income into the fund.

eA ACWI ex-US All Cap Equity Net Accounts



### 3 Year Risk Statistics



# SSgA ACWI Ex US

Characteristics	MSCI		Top Positive Contributors		Top Negative Contributors			
	Portfolio	ACWI ex USA	Relative Contribution %	Return %	Relative Contribution %	Return %		
Number of Holdings	1,921	1,859	BANK CENTRAL ASIA (ID:BCA)	0.6%	10.7%	ASTRA INTERNATIONAL (ID:ATA)	-0.8%	-12.4%
Weighted Avg. Market Cap. (\$B)	45.7	62.9	SAMSUNG ELECTRONICS (KO:SGL)	0.5%	7.8%	MATAHARI DEPARTMENT SOE. (ID:MDS)	-0.4%	-35.3%
Median Market Cap. (\$B)	8.1	8.0	SK HYNIX	0.3%	22.9%	PERUSAHAAN GAS NEGARA	-0.3%	-30.7%
Price To Earnings	19.9	21.1	UNITED TRACTORS (ID:UTR)	0.2%	15.4%	TENCENT HOLDINGS (K:TCNT)	-0.2%	20.4%
Price To Book	3.1	2.6	TELEKOMUNIKASI INDONESIA	0.2%	2.5%	ALIBABA GROUP HLDG.SPN. ADR 1:1 (BABA)	-0.2%	22.6%
Price To Sales	2.8	2.2	BANK NEGARA INDONESIA	0.2%	10.9%	GUDANG GARAM (ID:GUD)	-0.2%	-14.1%
Return on Equity (%)	16.6	14.6	BANK MANDIRI	0.2%	4.4%	CHAROEN POKPHAND INDO.	-0.1%	-14.7%
Yield (%)	2.0	2.8	LG CHEM (KO:LCM)	0.1%	34.6%	MEDIA NUSNT.CITRA (ID:MNC)	-0.1%	-27.3%
Beta	1.0	1.0	ADARO ENERGY TBK	0.1%	14.3%	ROYAL DUTCH SHELL A(LON) (UKIR:RDSA)	-0.1%	16.0%
R-Squared	1.0	1.0	SAMSUNG ELTN.PREF. (KO:SEP)	0.1%	10.6%	BAIDU 'A' ADR 10:1	-0.1%	38.5%

## SSgA ACWI Ex US Performance Attribution vs. MSCI ACWI ex USA

	Total Effects	Attribution Effects			Returns		Sector Weights				
		Selection Effect	Allocation Effect	Interaction Effects	Portfolio	Benchmark	Portfolio	Benchmark			
Energy	-0.2%	0.4%	-0.3%	-0.4%	15.6%	12.9%	3.6%	6.3%			
Materials	-0.4%	-0.1%	-0.1%	-0.2%	7.2%	10.6%	5.8%	7.5%			
Industrials	-0.7%	-0.6%	-0.2%	0.0%	-1.2%	5.6%	6.6%	11.8%			
Consumer Discretionary	-2.2%	-1.7%	0.2%	-0.7%	-9.7%	7.0%	14.5%	11.3%			
Consumer Staples	-0.7%	-0.4%	0.0%	-0.3%	-5.3%	1.3%	11.2%	9.9%			
Health Care	0.0%	0.4%	0.0%	-0.4%	4.4%	1.0%	3.0%	8.3%			
Financials	-0.4%	0.1%	0.1%	-0.6%	4.1%	6.1%	26.0%	23.3%			
Information Technology	0.1%	-0.1%	0.4%	-0.1%	7.9%	9.9%	15.2%	10.8%			
Telecommunication Services	0.1%	0.1%	0.1%	-0.1%	1.9%	2.5%	9.7%	4.4%			
Utilities	-0.4%	-0.5%	0.0%	0.1%	-12.0%	4.6%	2.1%	3.1%			
Real Estate	-0.3%	-0.2%	0.0%	0.0%	-3.3%	6.2%	2.3%	3.2%			
Cash	0.0%	--	--	--	--	--	0.0%	0.0%			
<b>Portfolio</b>	<b>-5.1%</b>	<b>=</b>	<b>-2.5%</b>	<b>+</b>	<b>0.1%</b>	<b>+</b>	<b>-2.6%</b>	<b>1.2%</b>	<b>6.2%</b>	<b>100.0%</b>	<b>100.0%</b>

## Country Allocation

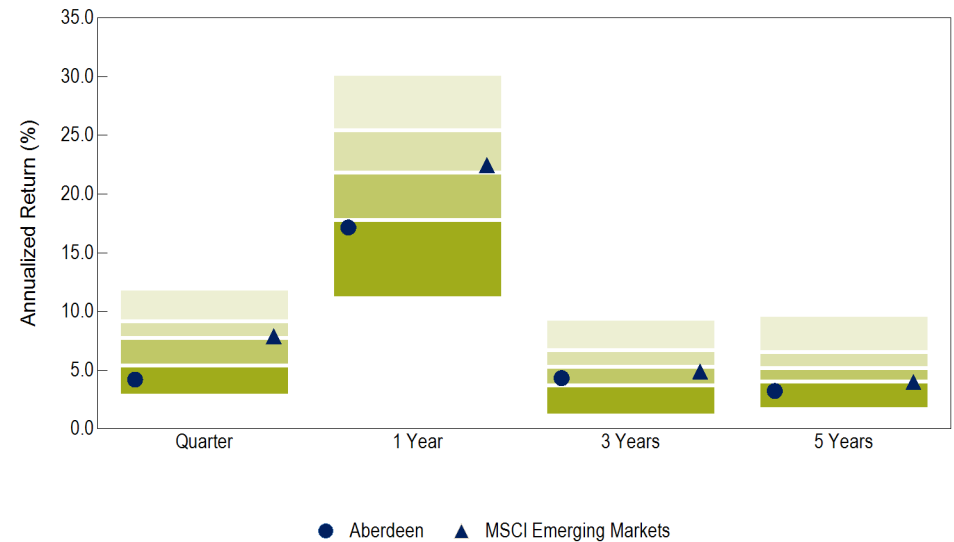
	Manager Allocation (USD)	Index Allocation (USD)	Manager Return (USD)	Index Return (USD)
<b>Americas</b>				
Brazil*	0.0%	1.6%	23.0%	22.9%
Canada	0.1%	6.6%	8.1%	8.1%
Chile*	1.2%	0.3%	16.9%	17.0%
Colombia*	2.2%	0.1%	6.5%	6.5%
Mexico*	0.1%	0.9%	1.6%	1.5%
Peru*	0.0%	0.1%	13.8%	14.1%
United States	0.0%	0.0%	4.3%	4.3%
<b>Total-Americas</b>	<b>3.6%</b>	<b>9.5%</b>	<b>10.0%</b>	<b>10.2%</b>
<b>Europe</b>				
Austria	0.0%	0.2%	12.8%	12.8%
Belgium	0.0%	0.8%	9.2%	9.2%
Czech Republic*	0.0%	0.0%	10.0%	10.1%
Denmark	0.1%	1.2%	7.8%	7.8%
Finland	0.0%	0.7%	3.3%	3.3%
France	0.0%	7.3%	8.6%	8.5%
Germany	0.0%	6.6%	7.4%	7.8%
Greece*	0.0%	0.1%	-12.1%	-12.0%
Hungary*	0.1%	0.1%	9.6%	9.6%
Ireland	0.0%	0.3%	4.0%	6.2%
Italy	0.0%	1.6%	14.4%	13.9%
Luxembourg	0.0%	0.0%	5.7%	6.2%
Netherlands	0.0%	2.5%	11.3%	9.5%
Norway	0.0%	0.4%	19.3%	19.3%
Poland*	0.0%	0.3%	9.6%	9.6%
Portugal	0.0%	0.1%	13.4%	13.4%
Russia*	0.0%	0.8%	21.0%	18.1%
Spain	0.0%	2.4%	4.2%	4.2%
Sweden	0.1%	2.0%	5.4%	5.5%
Switzerland	0.0%	5.9%	2.0%	2.0%
United Kingdom	0.1%	12.3%	4.8%	5.3%
<b>Total-Europe</b>	<b>0.6%</b>	<b>45.7%</b>	<b>7.8%</b>	<b>6.7%</b>

## Country Allocation

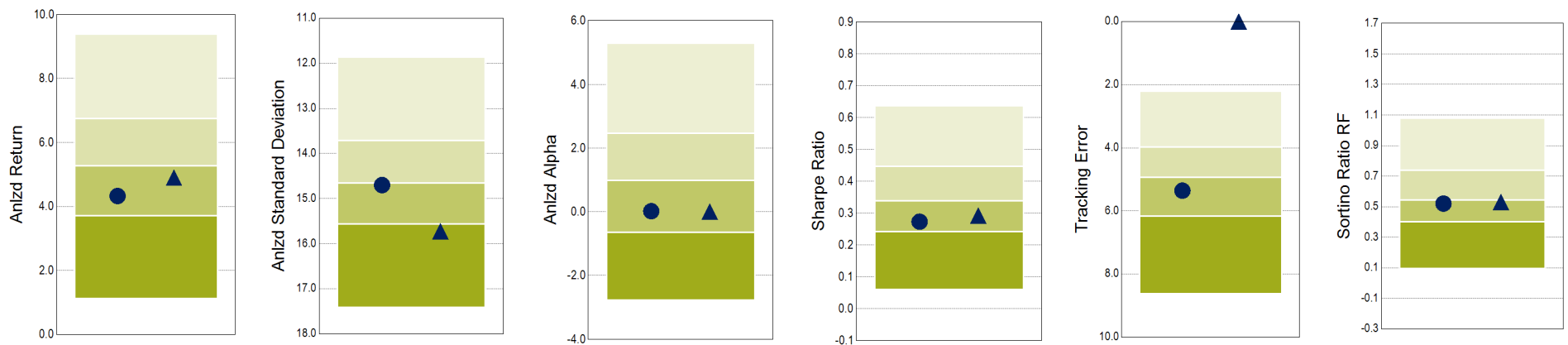
	Manager Allocation (USD)	Index Allocation (USD)	Manager Return (USD)	Index Return (USD)
<b>AsiaPacific</b>				
Australia	0.0%	5.0%	3.1%	3.1%
China*	0.1%	6.6%	8.8%	14.7%
Hong Kong	0.3%	2.4%	12.3%	5.1%
India*	0.9%	2.1%	3.0%	3.0%
Indonesia*	52.1%	0.6%	-1.1%	-1.1%
Japan	12.3%	16.3%	4.0%	4.0%
Korea*	29.0%	3.7%	2.5%	2.5%
Malaysia*	0.0%	0.6%	1.9%	1.9%
New Zealand	0.0%	0.1%	0.2%	0.2%
Pakistan*	0.0%	0.0%	-16.4%	-16.2%
Philippines*	0.1%	0.3%	3.5%	3.5%
Singapore	0.0%	0.9%	2.8%	3.1%
Taiwan*	0.6%	3.0%	1.4%	1.4%
Thailand*	0.1%	0.5%	8.2%	10.6%
<b>Total-AsiaPacific</b>	<b>95.6%</b>	<b>42.1%</b>	<b>0.8%</b>	<b>5.2%</b>
<b>Other</b>				
Egypt*	0.0%	0.0%	1.1%	1.1%
Israel	0.0%	0.5%	-6.5%	-13.1%
Qatar*	0.0%	0.2%	-5.0%	-5.0%
South Africa*	0.1%	1.6%	4.0%	4.0%
Turkey*	0.0%	0.3%	0.3%	0.3%
United Arab Emirates*	0.0%	0.2%	3.9%	4.0%
<b>Total-Other</b>	<b>0.2%</b>	<b>2.7%</b>	<b>3.2%</b>	<b>0.0%</b>
<b>Totals</b>				
Developed	13.1%	76.3%	4.2%	5.7%
Emerging*	86.9%	23.7%	0.7%	8.0%

Aberdeen believes, given the inefficiency of markets, that competitive long-term returns are achieved by identifying high quality stocks at attractive valuations and holding for the long term. It is their belief that sound fundamentals drive stock prices over time. They employ a fundamental bottom-up investment approach based upon a rigorous and disciplined proprietary research effort which originates with direct company due diligence visits. Portfolios are constructed to maximize their level of exposure to the most attractive companies filtered from the stock selection process. They run a representative or model' unconstrained portfolio that contains approximately 30 - 70 stocks at any given time. Once a stock has received unanimous approval by the team, the senior investment team members then decide which portfolio category it should enter (i.e. country, regional, Global Emerging Markets) and at what weighting. The Head of Global Emerging Markets then has responsibility to ensure that the decision is implemented.

eA Emg Mkts Equity Net Accounts



### 3 Year Risk Statistics



## Characteristics

	Portfolio	MSCI Emerging Markets
Number of Holdings	68	839
Weighted Avg. Market Cap. (\$B)	41.7	80.6
Median Market Cap. (\$B)	16.2	5.5
Price To Earnings	23.9	21.5
Price To Book	3.9	2.8
Price To Sales	3.1	2.2
Return on Equity (%)	18.7	17.4
Yield (%)	2.4	2.3
Beta	0.9	1.0
R-Squared	0.9	1.0

## Top Positive Contributors

	Relative Contribution %	Return %
BNC.BRADESCO PF.SPN.ADR 1:1 (BBD)	0.8%	31.4%
LOJAS RENNER ON	0.6%	38.2%
SAMSUNG ELTN.PREF.	0.5%	10.6%
MAGNIT	0.3%	14.5%
HOUSING DEVELOPMENT FIN.	0.3%	7.7%
MULTIPLAN EMPE. IMOBS.ON (BR:MUL)	0.2%	18.1%
PJSC LUKOIL SPON (LON) ADR (UKIR:LKOD)	0.2%	13.3%
BANCO SANTANDER-CHILE SPN.ADR 1:400 (BSAC)	0.2%	16.9%
GPO FINANCE BANORTE (MX:GTB)	0.2%	8.5%
BRF BRASIL FOODS ON (BR:DG3)	0.2%	22.0%

## Top Negative Contributors

	Relative Contribution %	Return %
TENCENT HOLDINGS	-0.9%	20.4%
ITC	-0.5%	-21.0%
ASTRA INTERNATIONAL (ID:ATA)	-0.4%	-12.4%
HANG LUNG GROUP (K:HLDV)	-0.2%	-12.6%
NAVER	-0.2%	-11.2%
GRUPO AEROPORTUARIO DEL SURESTE ADR 1:10	-0.2%	-9.3%
TENARIS ADS. 1:2	-0.1%	-9.1%
FOM.ECO.MEXNO.SAB DE CV SPN.ADR 1:10 (FMX)	-0.1%	-2.9%
BANK OF THE PHILP.ISLE.	-0.1%	-4.2%
AMOREPACIFIC PF. (KO:APF)	-0.1%	-16.2%

## Aberdeen Performance Attribution vs. MSCI Emerging Markets

	Total Effects	Attribution Effects			Returns		Sector Weights				
		Selection Effect	Allocation Effect	Interaction Effects	Portfolio	Benchmark	Portfolio	Benchmark			
Energy	-0.7%	-0.6%	-0.1%	0.1%	3.9%	13.3%	5.6%	6.5%			
Materials	-0.1%	-0.2%	0.2%	-0.1%	6.6%	10.2%	9.1%	7.1%			
Industrials	-0.3%	-0.6%	-0.1%	0.4%	-9.3%	1.7%	1.7%	5.7%			
Consumer Discretionary	0.1%	-0.1%	0.0%	0.1%	5.6%	5.0%	10.9%	10.5%			
Consumer Staples	0.2%	-0.1%	0.2%	0.0%	2.0%	2.4%	17.4%	6.8%			
Health Care	-0.1%	-0.3%	0.0%	0.2%	-4.4%	3.2%	1.2%	2.4%			
Financials	0.2%	0.0%	0.3%	-0.1%	6.9%	7.4%	28.4%	23.6%			
Information Technology	-2.5%	-2.0%	-1.4%	0.9%	3.5%	11.0%	14.0%	26.8%			
Telecommunication Services	-0.1%	-0.1%	0.0%	0.0%	2.1%	3.7%	5.3%	5.4%			
Utilities	-0.2%	--	-0.1%	--	--	6.6%	0.0%	2.6%			
Real Estate	-0.3%	-0.4%	0.7%	-0.5%	3.1%	17.9%	6.4%	2.6%			
Cash	0.0%	--	--	--	--	--	0.0%	0.0%			
<b>Portfolio</b>	<b>-3.7%</b>	<b>=</b>	<b>-4.2%</b>	<b>+</b>	<b>-0.3%</b>	<b>+</b>	<b>0.8%</b>	<b>4.3%</b>	<b>8.0%</b>	<b>100.0%</b>	<b>100.0%</b>

## Country Allocation

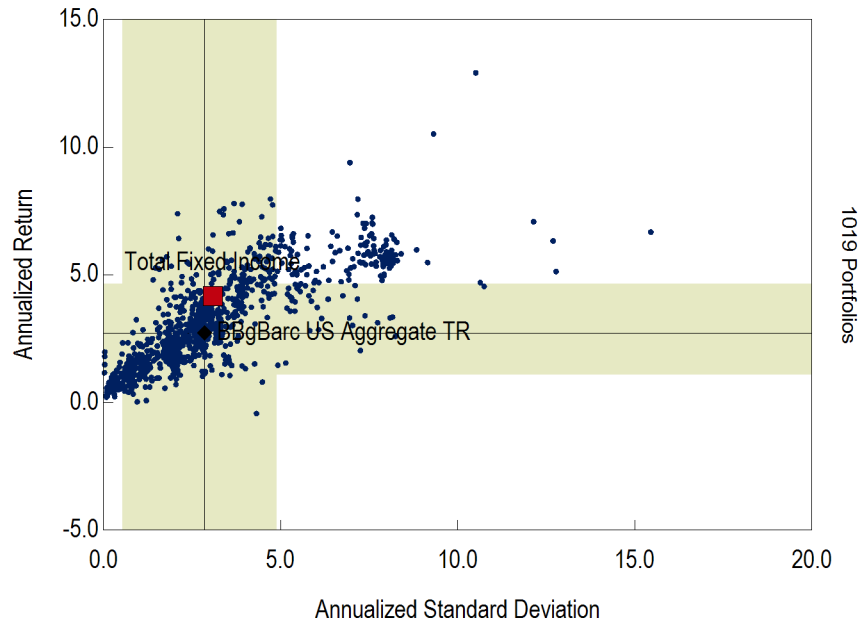
	Manager Allocation (USD)	Index Allocation (USD)	Manager Return (USD)	Index Return (USD)
<b>Americas</b>				
Brazil*	12.5%	6.6%	21.3%	22.9%
Chile*	2.2%	1.1%	17.8%	17.0%
Mexico*	8.3%	3.7%	-0.1%	1.5%
United States	1.8%	0.0%	1.4%	4.3%
<b>Total-Americas</b>	<b>24.7%</b>	<b>12.2%</b>	<b>12.4%</b>	<b>15.1%</b>
<b>Europe</b>				
Hungary*	1.2%	0.3%	-4.4%	9.6%
Luxembourg	1.3%	0.0%	-9.1%	8.0%
Poland*	0.9%	1.3%	4.4%	9.6%
Portugal	1.2%	0.0%	1.2%	13.2%
Russia*	4.0%	3.2%	13.9%	18.1%
United Kingdom	1.6%	0.0%	4.8%	5.2%
<b>Total-Europe</b>	<b>10.2%</b>	<b>5.4%</b>	<b>5.1%</b>	<b>13.1%</b>

## Country Allocation

	Manager Allocation (USD)	Index Allocation (USD)	Manager Return (USD)	Index Return (USD)
<b>AsiaPacific</b>				
Hong Kong	11.0%	0.0%	-0.8%	5.1%
India*	17.5%	8.8%	0.2%	3.0%
Indonesia*	5.6%	2.5%	-4.8%	-1.1%
Korea*	8.7%	15.7%	2.7%	2.5%
Malaysia*	1.2%	2.4%	3.6%	1.9%
Philippines*	3.9%	1.2%	4.5%	3.5%
Taiwan*	5.2%	12.5%	3.2%	1.4%
Thailand*	4.7%	2.2%	2.6%	10.6%
<b>Total-AsiaPacific</b>	<b>57.8%</b>	<b>73.2%</b>	<b>0.7%</b>	<b>7.1%</b>
<b>Other</b>				
South Africa*	3.3%	6.6%	6.4%	4.0%
Turkey*	3.9%	1.2%	2.4%	0.3%
<b>Total-Other</b>	<b>7.2%</b>	<b>9.3%</b>	<b>4.3%</b>	<b>2.9%</b>
<b>Totals</b>				
Developed	16.9%	0.0%	-0.5%	--
Emerging*	83.1%	100.0%	5.3%	8.0%

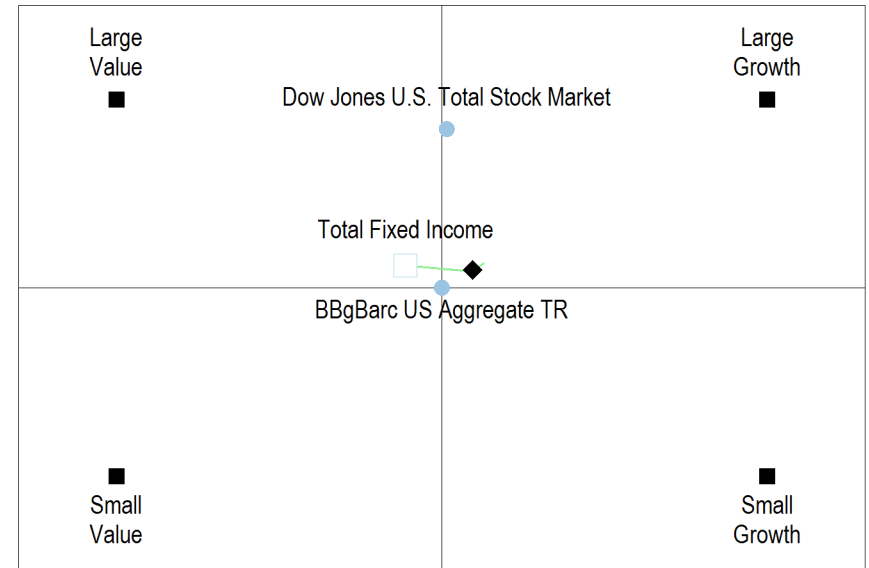
# Total Fixed Income Composite

Annualized Return vs. Annualized Standard Deviation  
3 Years Ending September 30, 2017



- Total Fixed Income
- ◆ BBgBarc US Aggregate TR
- 68% Confidence Interval
- eA All US Fixed Inc Net

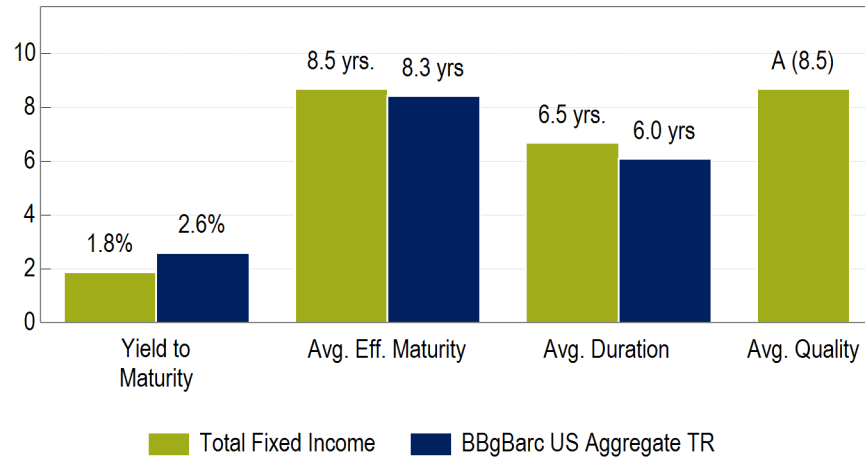
U.S. Effective Style Map  
3 Years Ending September 30, 2017



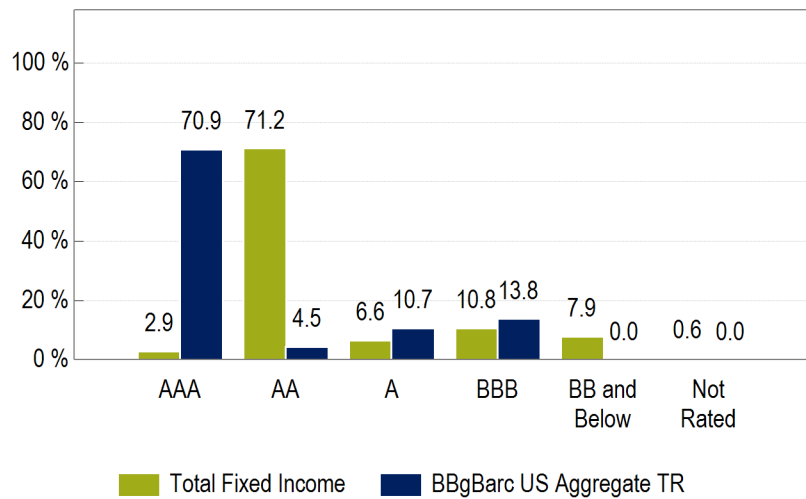
- First Rolling Period
- ◆ Last Rolling Period

# Total Fixed Income Composite

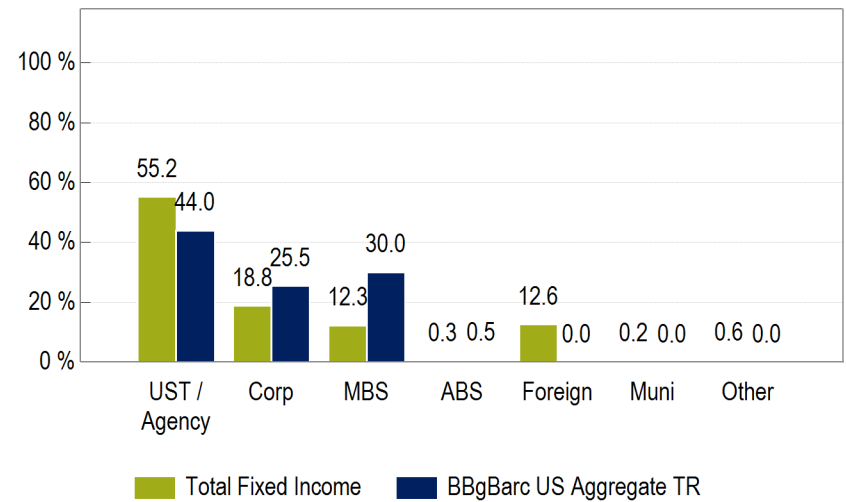
Characteristics



Quality Ratings



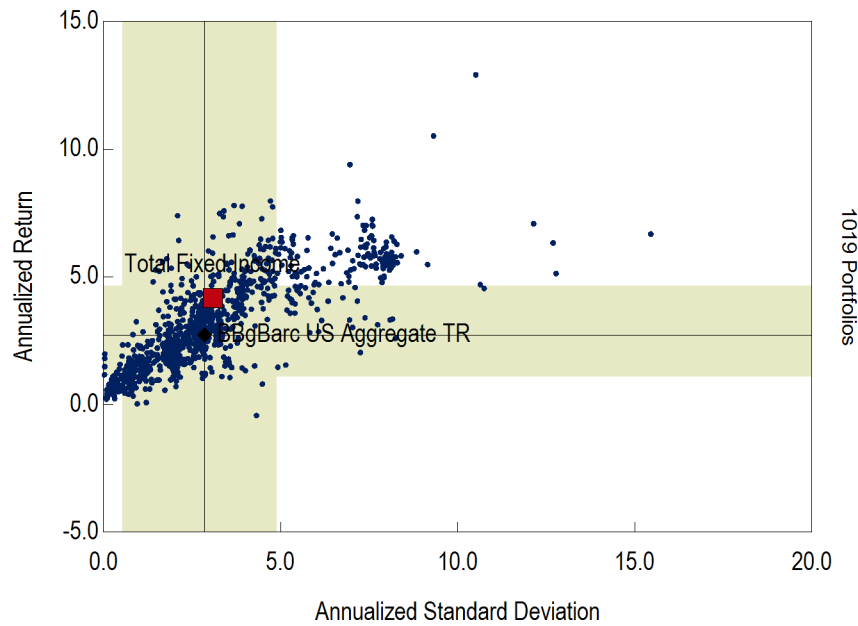
Sectors



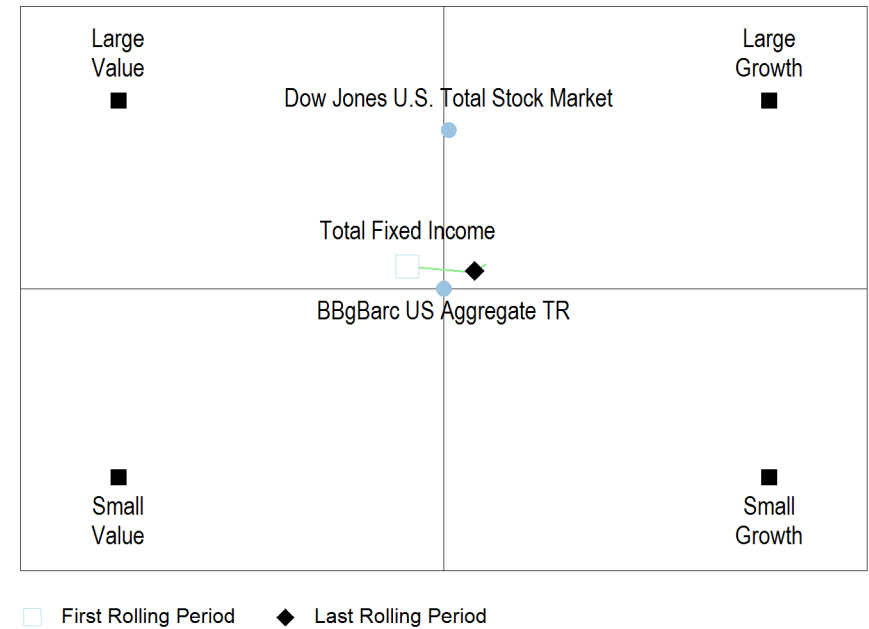


# Fixed Income Composite

Annualized Return vs. Annualized Standard Deviation  
3 Years Ending September 30, 2017

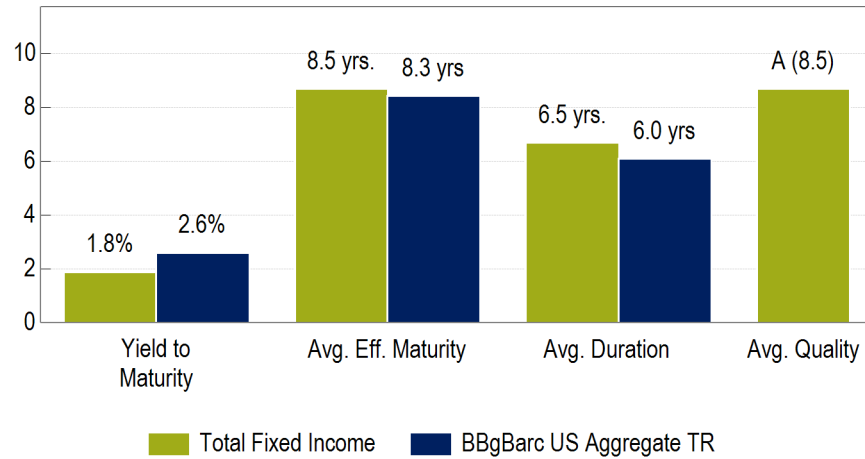


U.S. Effective Style Map  
3 Years Ending September 30, 2017

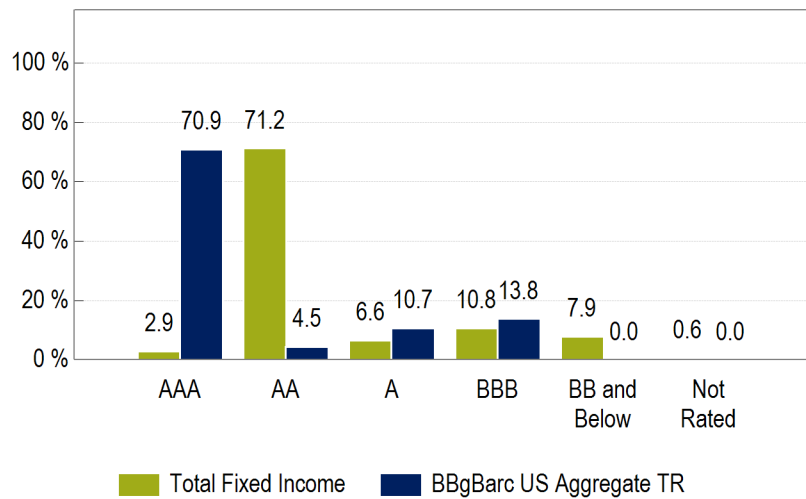


# Fixed Income Composite

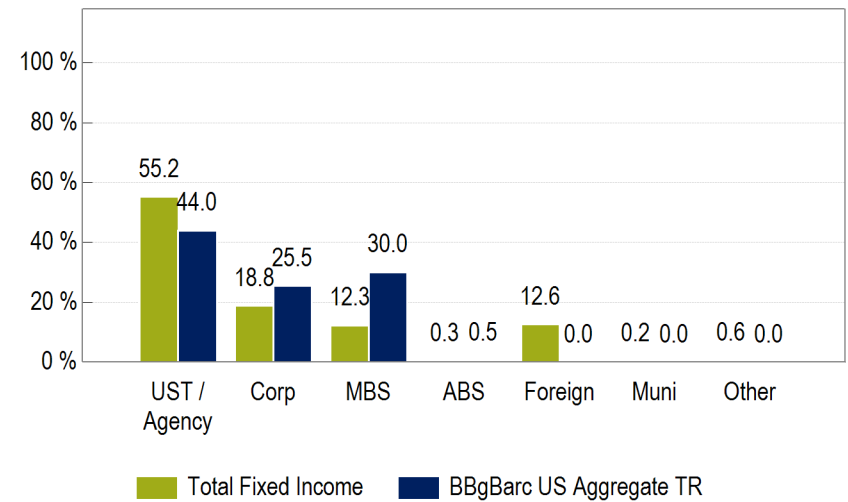
Characteristics



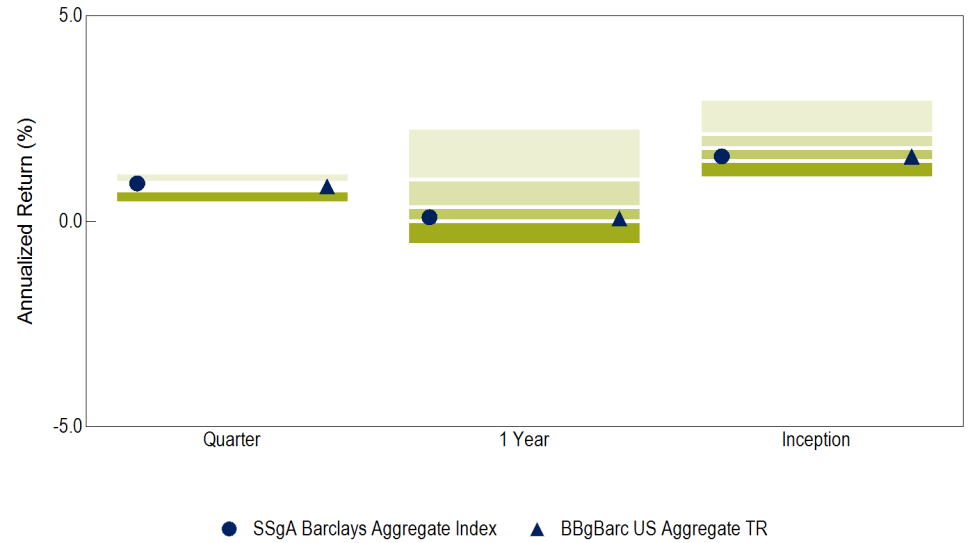
Quality Ratings



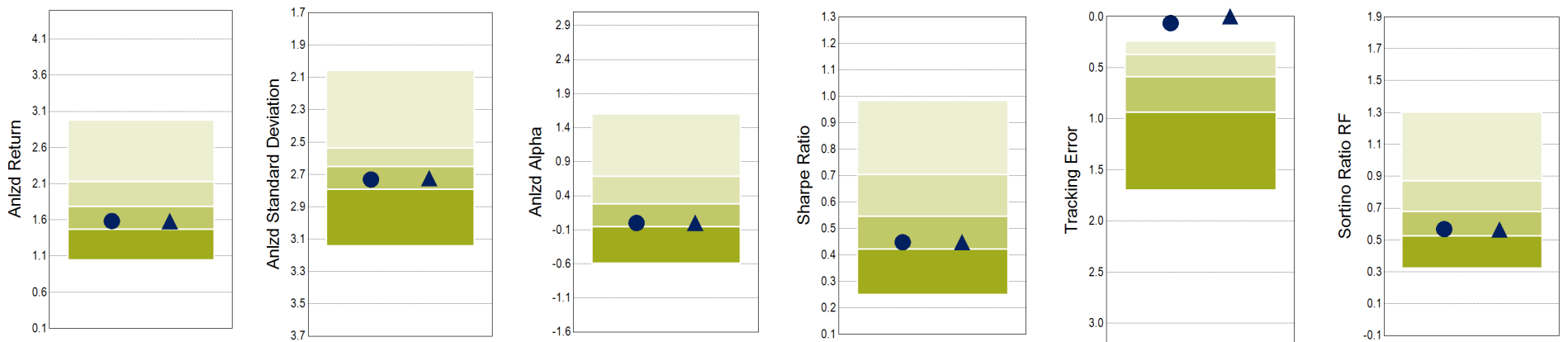
Sectors



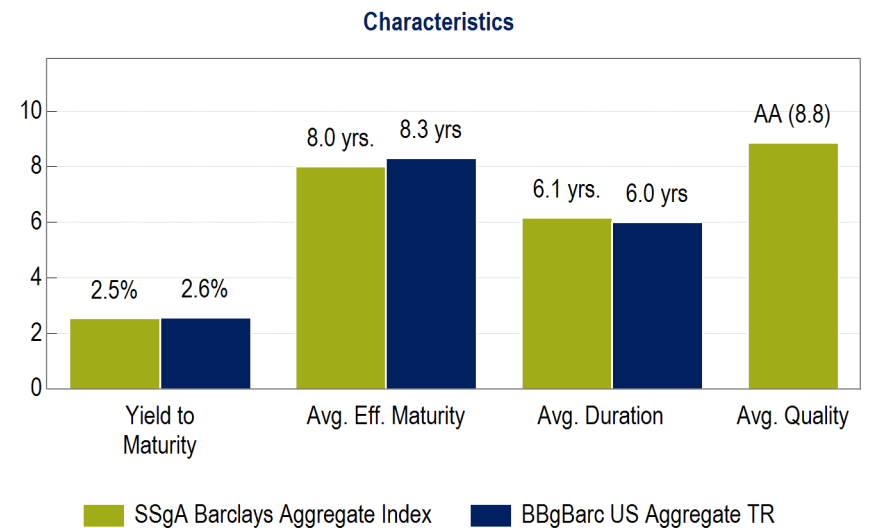
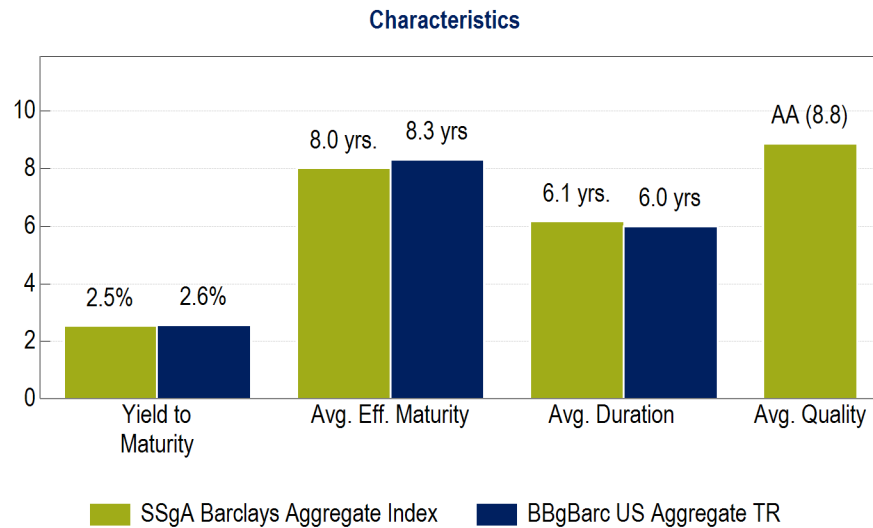
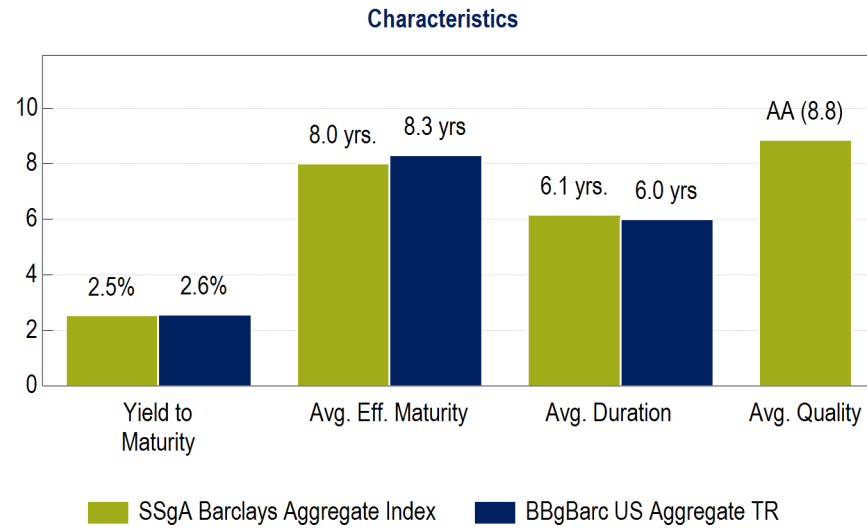
## eA US Core Fixed Inc Net Accounts



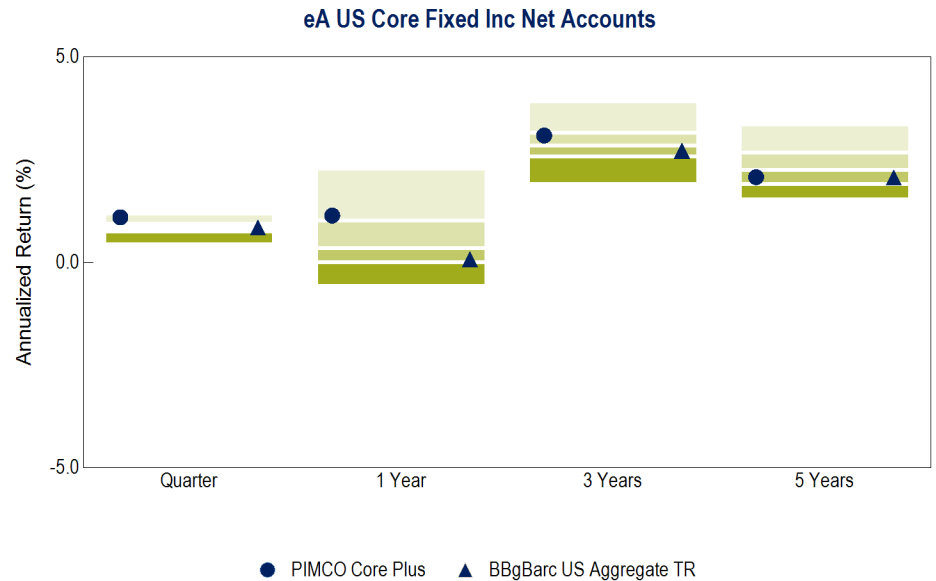
## Since Inception Risk Statistics



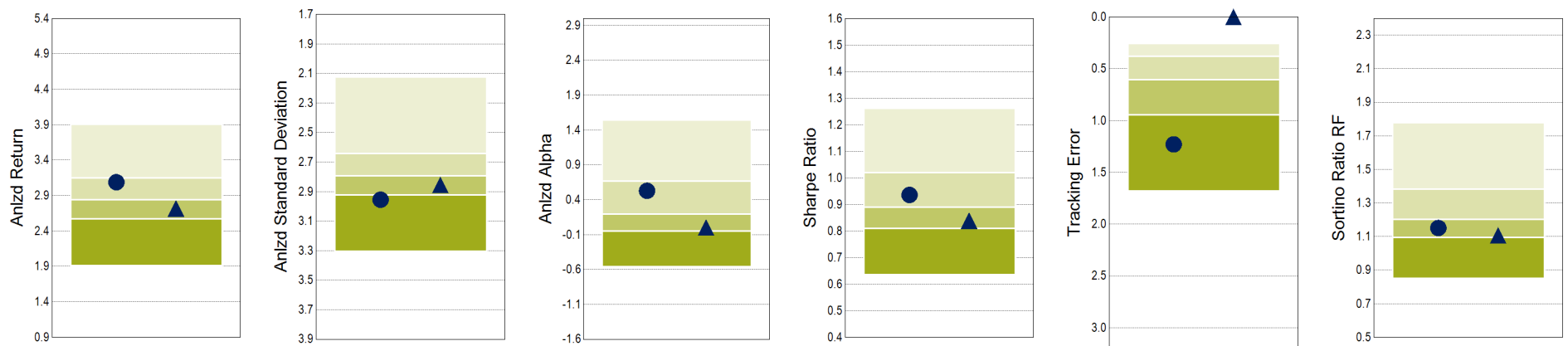
# SSgA Barclays Aggregate Index



PIMCO's investment process expects to generate above-benchmark returns by building diversified, risk-averse portfolios based upon their long-term secular outlook. This is achieved by analyzing fundamental global trends in such areas as political factors, inflation, volatility, growth, and currency, amongst others. The three to five-year secular outlook is the core element of their decision-making process, and serves as a framework for portfolio implementation. In applying the secular outlook to the portfolio, such tools as duration position, yield curve posture and sector allocation are expressed to best represent the firm's view on the macro-economic environment. Bottom-up analysis of specific securities is also an important part of the firm's philosophy. Bonds are evaluated on a rich/cheap basis and fundamental research determines strong portfolio candidates.

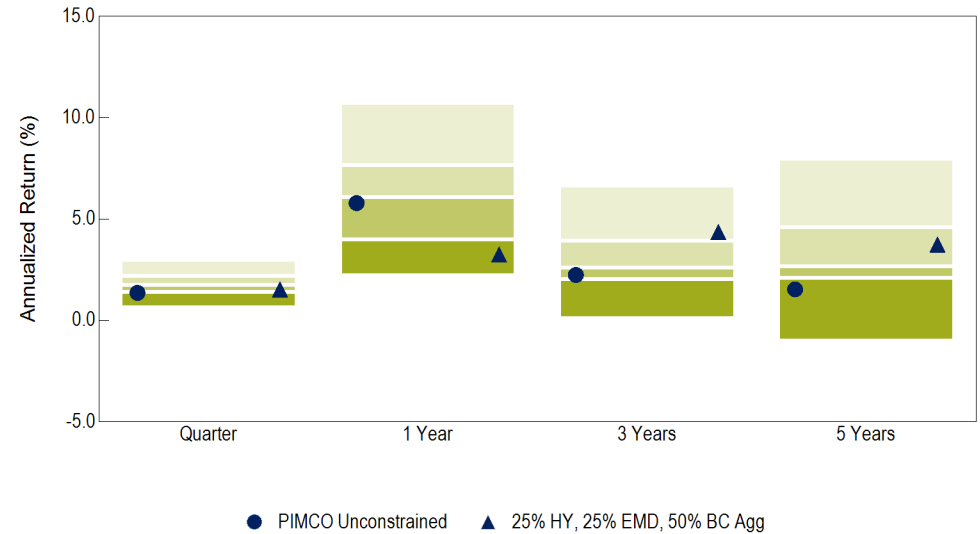


### 3 Year Risk Statistics

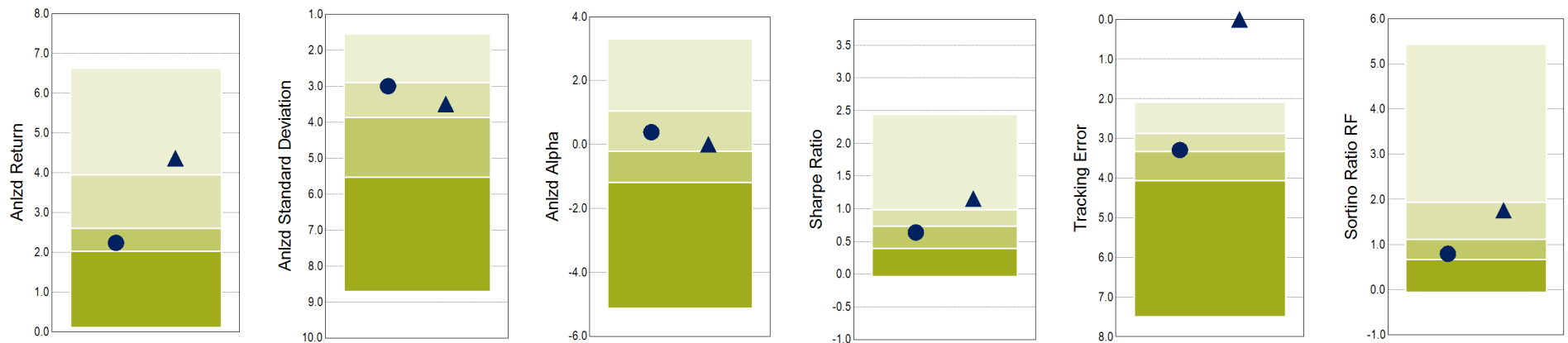


The PIMCO Unconstrained Bond Strategy is an absolute return-oriented, investment grade quality fixed income strategy that embodies PIMCO's secular thinking, global themes, and integrated investment process without the constraints of a benchmark or significant sector/instrument limitations. The strategy is designed to offer the traditional benefits of a core bond portfolio - seeks maximum long-term return consistent with capital preservation and prudent management- but with higher potential alpha and the potential to mitigate downside risk to a greater degree than what is reasonably possible from traditional active fixed income management approaches as the strategy allows for more manager discretion to adjust duration exposure, allocate across sectors and otherwise express the firm's active views. The strategy is governed by PIMCO's investment philosophy and unique, disciplined secular investment process, which focuses on long-term economic, social and political trends that may have lasting impacts on investment returns.

eA Global Unconstrained Fixed Inc Net Accounts

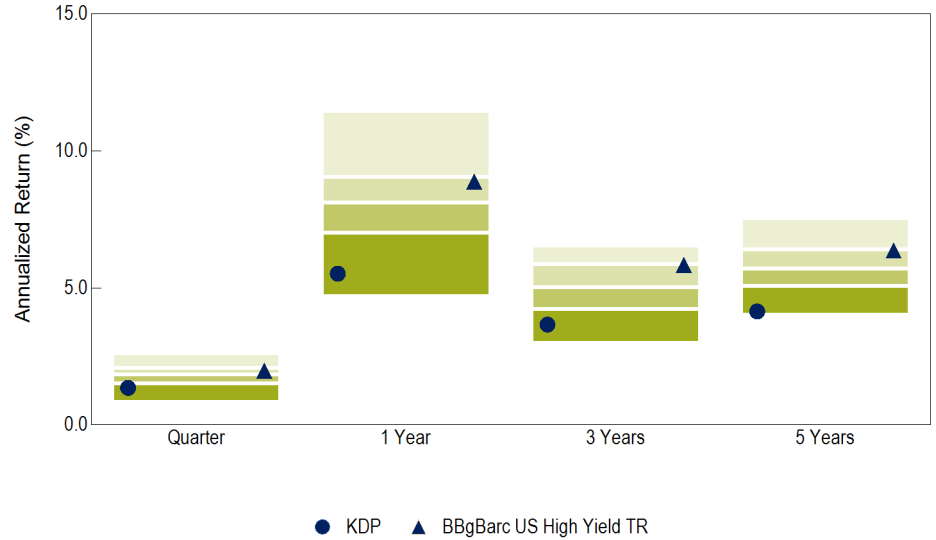


### 3 Year Risk Statistics

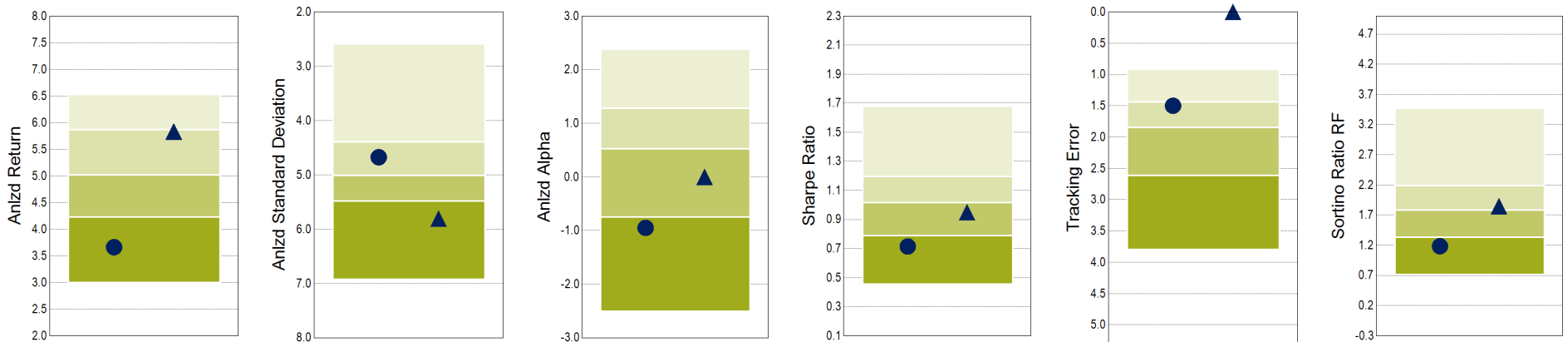


KDP believes that the key to delivering superior risk-adjusted returns lies in controlling credit risk. To do this the firm combines rigorous, bottom-up credit analysis with an active, top-down management approach that ensures a strong overall credit profile and broad portfolio diversification. KDP employs a value-oriented approach to investing that leverages our strong fundamental research capabilities, and seeks to take advantage of market inefficiencies and anomalies on an opportunistic basis in order to capture excess credit spread. KDP places a strong emphasis on issuer, industry and sector diversification, and tends to focus on larger companies, as they tend to be more resilient in times of difficulty and their securities tend to be more liquid. KDP uses a proprietary "Default Risk Ranking (DRR)" System to screen securities eligible for purchase in its portfolios. By assigning default risk probabilities to companies covered, the DRR system is used to identify securities that are overvalued or undervalued relative to the market. The firm minimizes portfolio volatility in part by investing in securities of companies that exhibit greater resilience in times of financial distress. KDP focuses on companies with good management, stable to improving earnings, good balance sheet liquidity and a strong competitive position in industries with favorable underlying fundamentals.

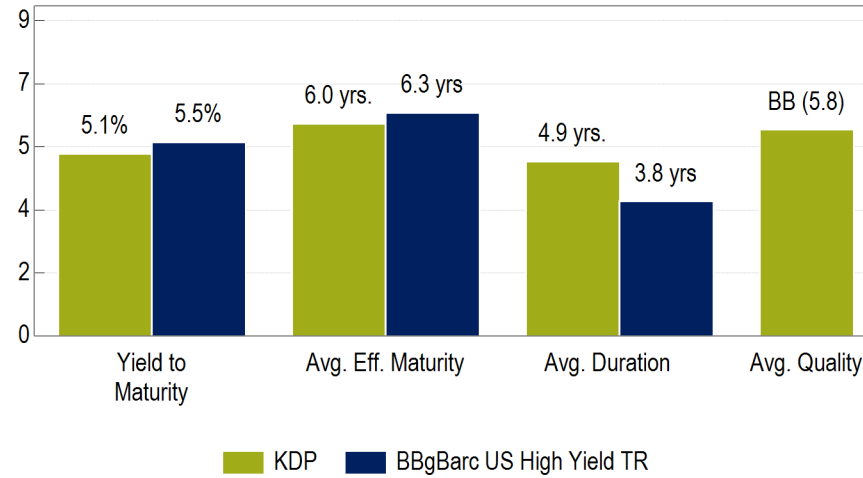
eA US High Yield Fixed Inc Net Accounts



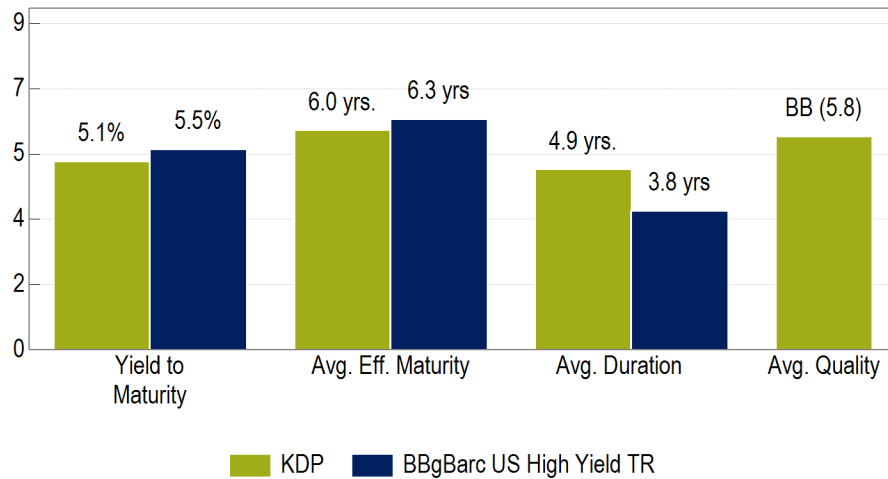
3 Year Risk Statistics



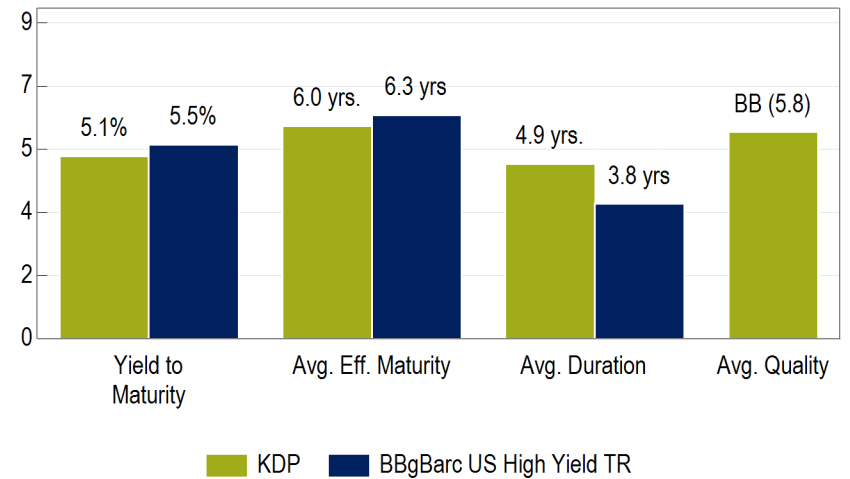
Characteristics



Characteristics

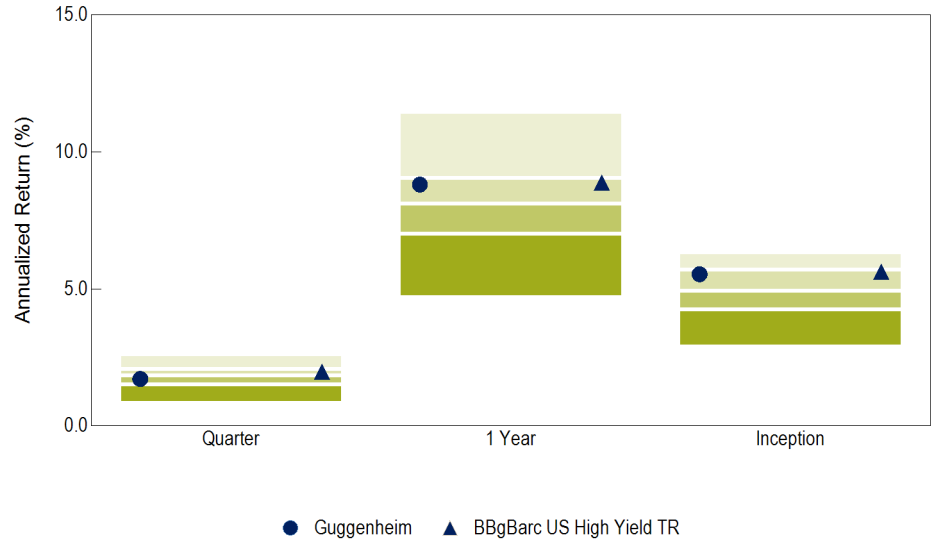


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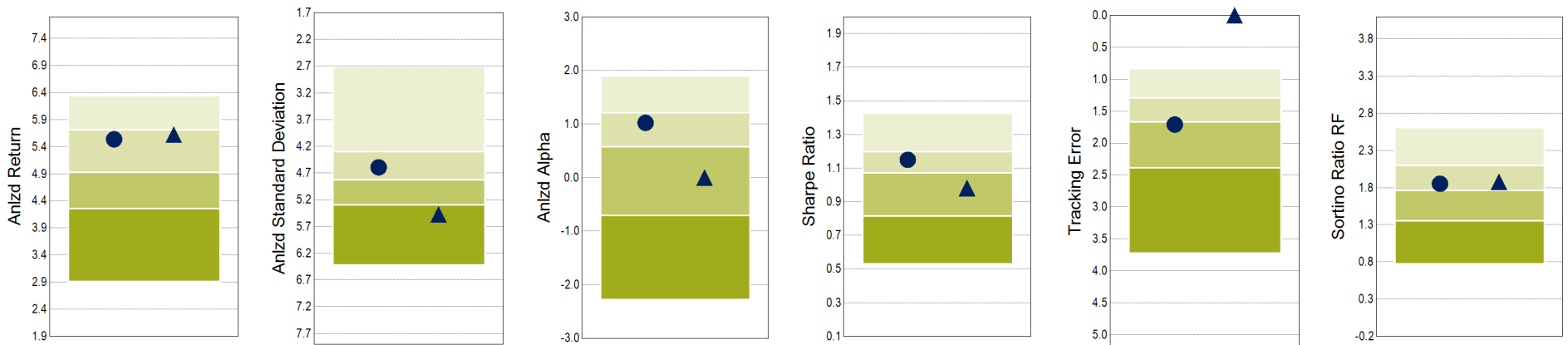




eA US High Yield Fixed Inc Net Accounts

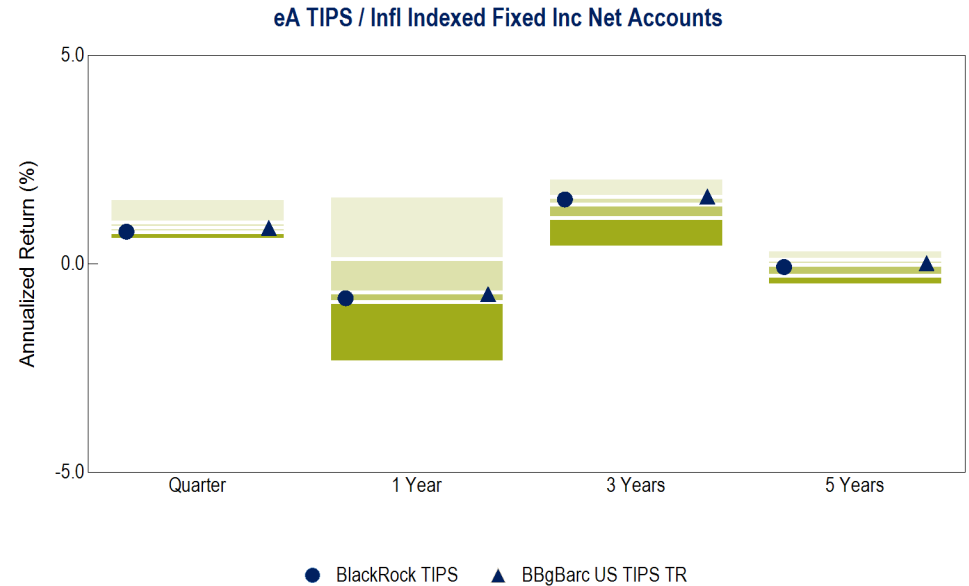


Since Inception Risk Statistics

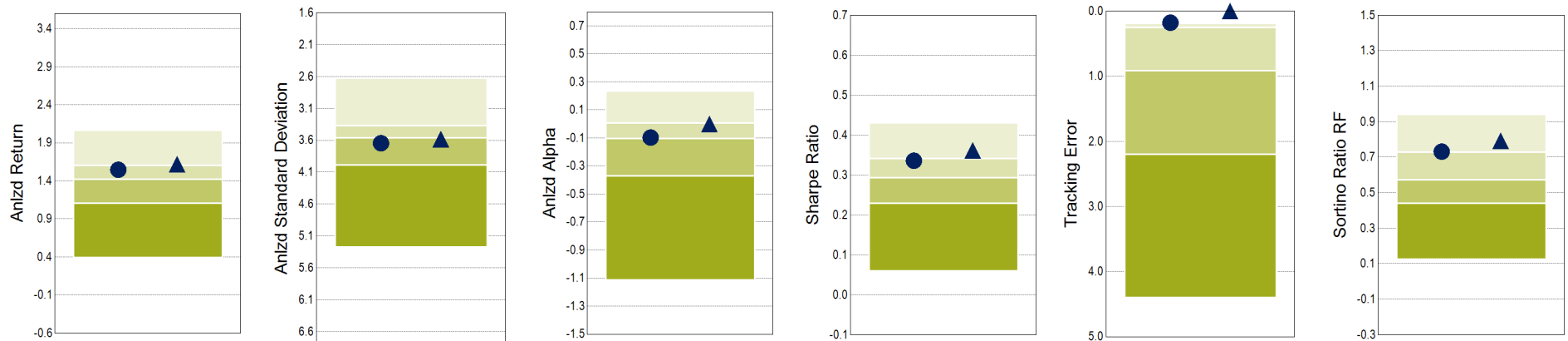


# BlackRock TIPS

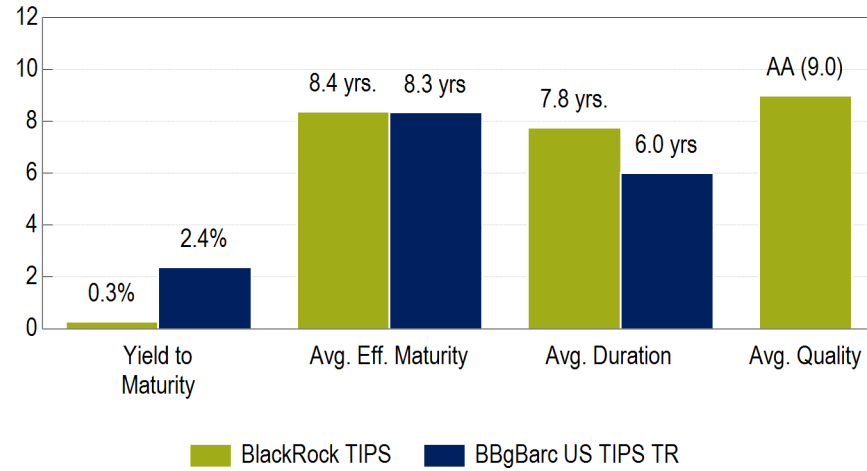
In the management of an inflation-linked bond portfolio, BlackRock will utilize multiple strategies to outperform the index. These include: duration and yield curve positioning, technical supply/demand anomalies related primarily to the ILB auction cycle, seasonal factors related to non-seasonally adjusted inflation-linked indices, break-even spread between ILBs and nominal securities, and, if applicable, sector and country allocation. The team compares nominal yields with real yields and factor in their views on inflation. If the yield spread is less than the inflation rate, then ILBs are considered to trade cheaply to nominal bonds and have greater relative value. The portfolio currently holds about 31 positions, out of 27-29 issues in the benchmark. Turnover is moderate, at around 100-150%.



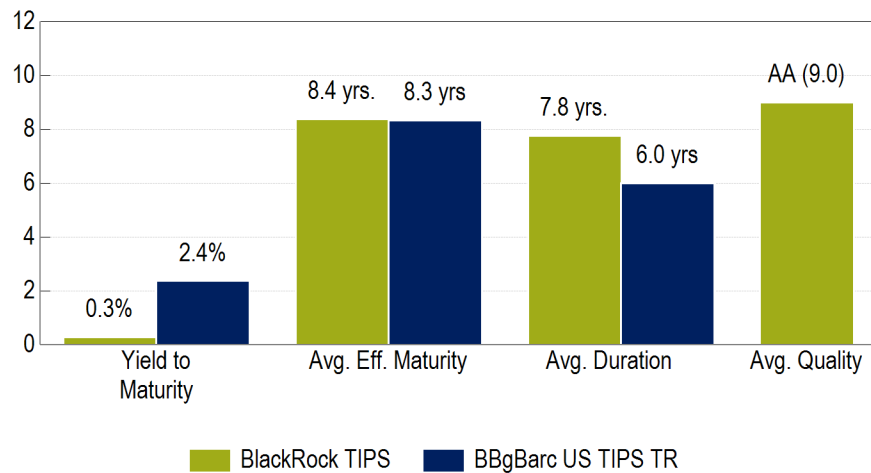
## 3 Year Risk Statistics



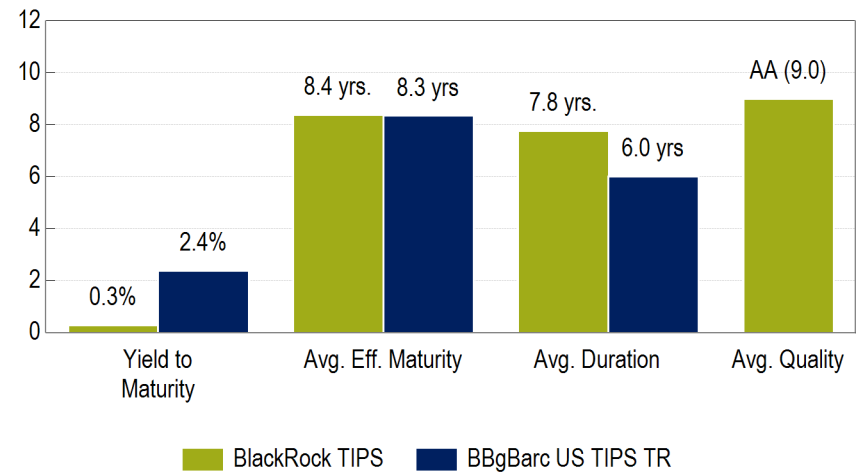
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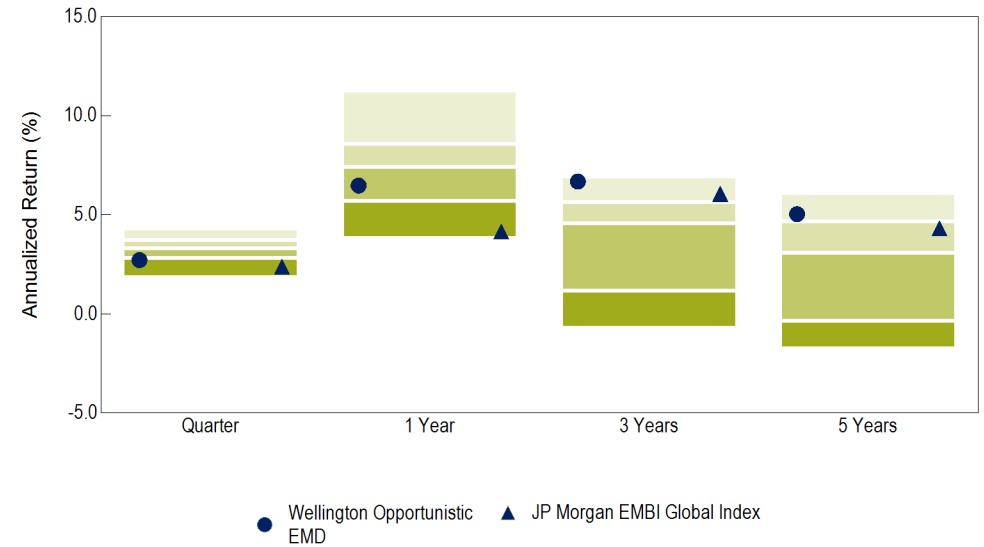
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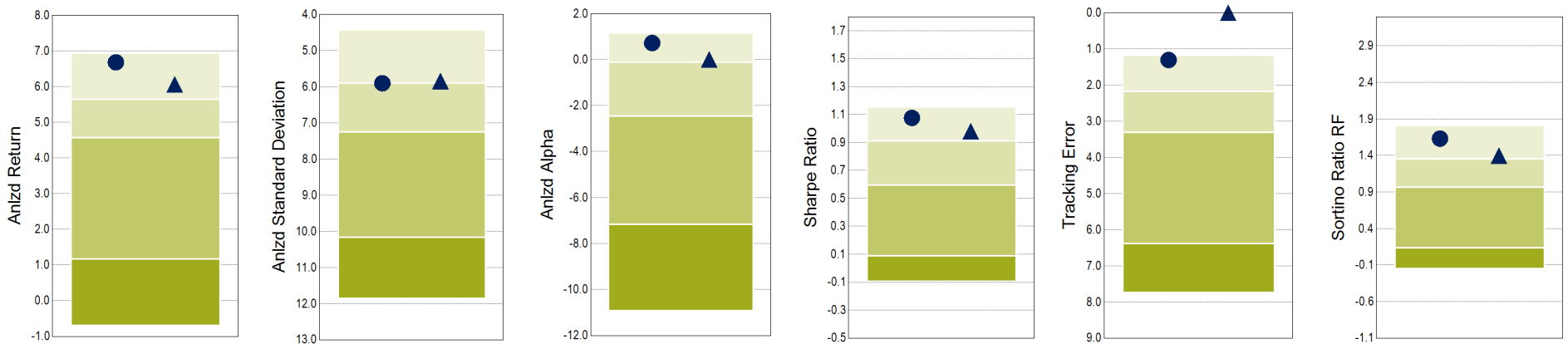
Characteristics



eA All Emg Mkts Fixed Inc Net Accounts

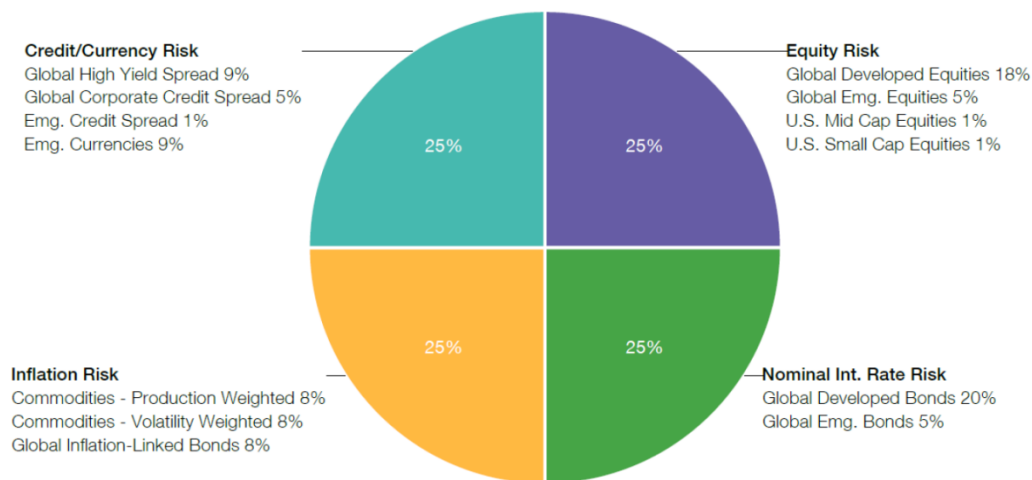


## 3 Year Risk Statistics



# AQR Global Risk Premium Fund

## Risk Allocation



**Credit/Currency Risk**  
 Global High Yield Spread 9%  
 Global Corporate Credit Spread 5%  
 Emg. Credit Spread 1%  
 Emg. Currencies 9%

**Equity Risk**  
 Global Developed Equities 18%  
 Global Emg. Equities 5%  
 U.S. Mid Cap Equities 1%  
 U.S. Small Cap Equities 1%

**Inflation Risk**  
 Commodities - Production Weighted 8%  
 Commodities - Volatility Weighted 8%  
 Global Inflation-Linked Bonds 8%

**Nominal Int. Rate Risk**  
 Global Developed Bonds 20%  
 Global Emg. Bonds 5%

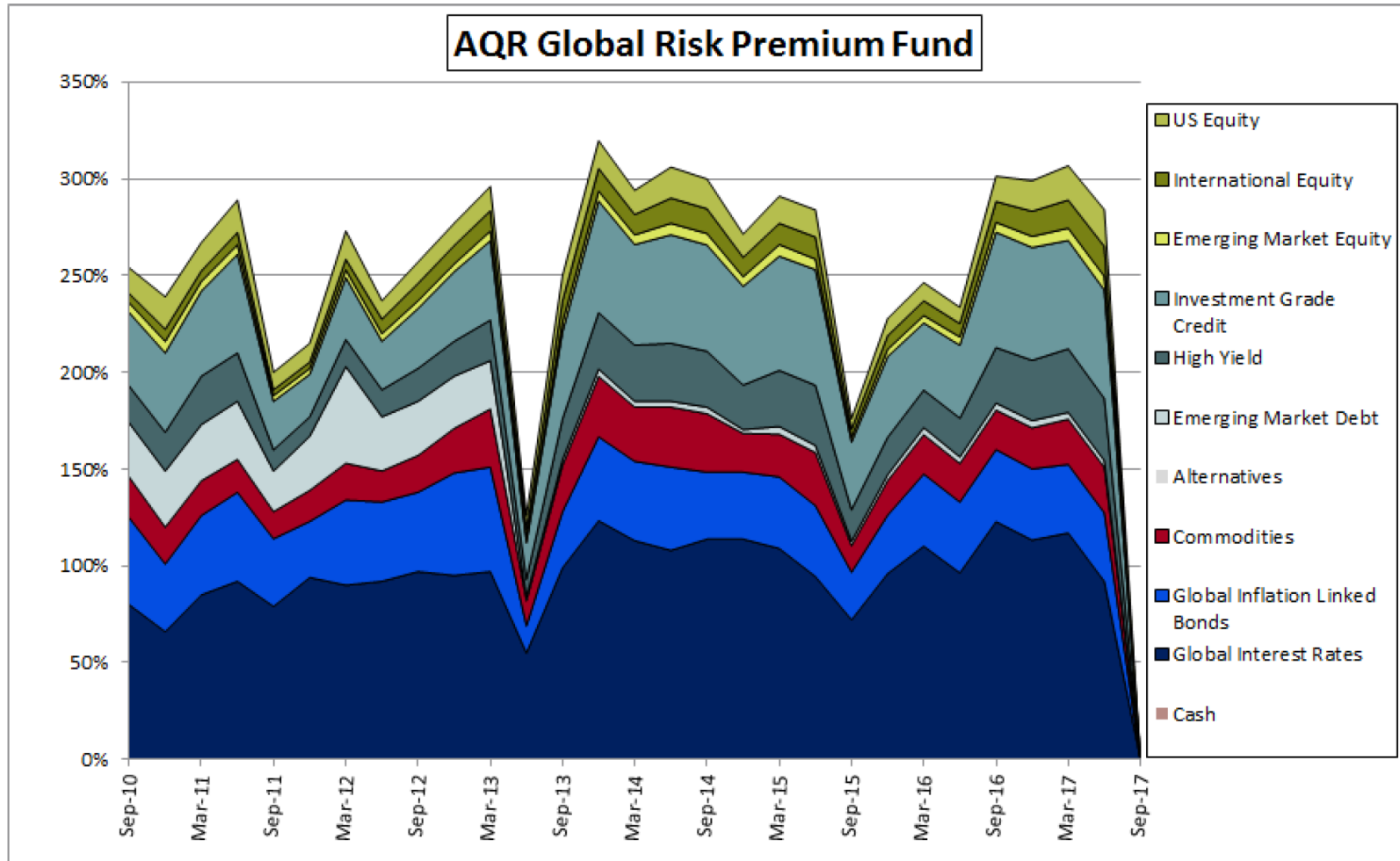
## Estimated Exposure Breakdown

Long Exposure (% of NAV)	
<b>Equity Risk</b>	
Global Developed Equities	30%
Global Emerging Equities	7%
U.S. Mid Cap Equities	2%
U.S. Small Cap Equities	2%
<b>Total Equity Risk</b>	<b>41%</b>
<b>Nominal Interest Rate Risk</b>	
Global Developed Bonds	91%
Global Emerging Bonds	23%
<b>Total Nominal Interest Rate Risk</b>	<b>114%</b>
<b>Inflation Risk</b>	
Commodities - Production Weighted	10%
Commodities - Volatility Weighted	17%
Global Inflation-Linked Bonds	35%
<b>Total Inflation Risk</b>	<b>61%</b>
<b>Credit/Currency Risk</b>	
Global High Yield Spread	31%
Global Corporate Credit Spread	54%
Emerging Credit Spread	4%
Emerging Currencies	27%
<b>Total Credit/Currency Risk</b>	<b>115%</b>
<b>Total Fund Exposures</b>	<b>332%</b>

Long Exposure (% of NAV)	
<b>Equity Market Exposures</b>	
Americas	24%
Europe	7%
Asia ex-Japan	7%
Japan	3%
<b>Total Equity Market Exposures</b>	<b>41%</b>
<b>Bond Market Exposures - Nominal and Inflation-Linked</b>	
Americas	62%
Europe	59%
Asia	28%
<b>Total Bond Market Exposures</b>	<b>149%</b>
<b>Emerging Currency Exposures</b>	
Asia	8%
Europe	11%
Latin America	7%
Dollar Block ex-U.S.	0%
<b>Total Emerging Currency Exposures</b>	<b>27%</b>

Source: AQR

# AQR Global Risk Premium Fund



# Appendix



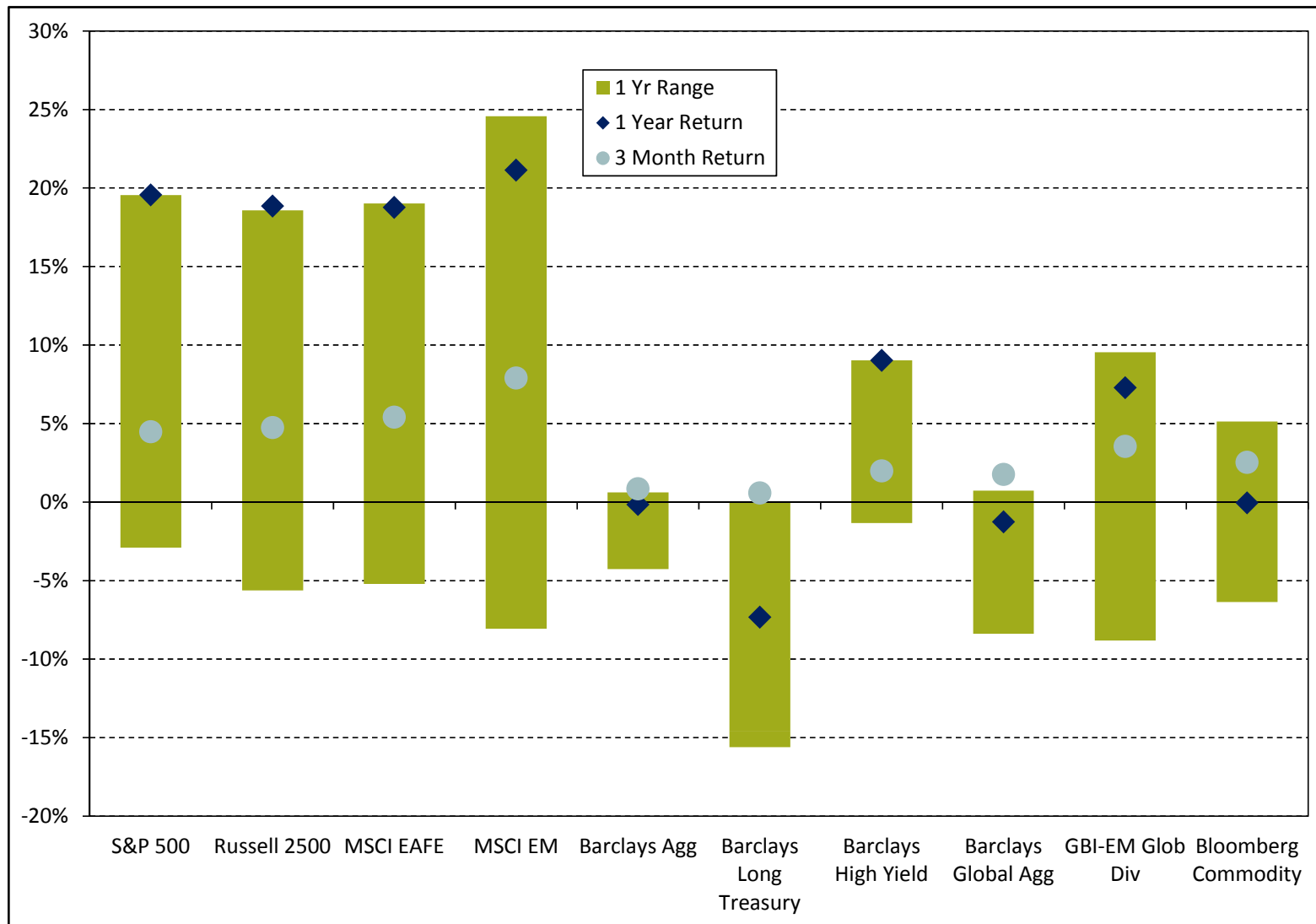
## Index Performance Summary as of 09/30/2017

	2009	2010	2011	2012	2013	2014	2015	2016	Q1	Q2	Q3	Sept	YTD
<b>MSCI EM</b>	78.5%	18.9%	-18.4%	18.2%	-2.6%	-2.2%	-14.9%	11.2%	11.4%	6.3%	7.9%	-0.4%	27.8%
<b>MSCI EAFE</b>	31.8%	7.8%	-12.1%	17.3%	22.8%	-4.9%	-0.8%	1.0%	7.2%	6.1%	5.4%	2.5%	20.0%
<b>MSCI ACWI</b>	34.6%	12.7%	-7.3%	16.1%	22.8%	4.2%	-2.4%	7.9%	6.9%	4.3%	5.2%	1.9%	17.3%
<b>JPM GBI-EM Global Div</b>	22.0%	15.7%	-1.8%	16.8%	-9.0%	-5.7%	-14.9%	9.9%	6.5%	3.6%	3.6%	-0.3%	14.3%
<b>S&amp;P 500</b>	26.5%	15.1%	2.1%	16.0%	32.4%	13.7%	1.4%	12.0%	6.1%	3.1%	4.5%	2.1%	14.2%
<b>Russell 1000</b>	28.4%	16.1%	1.5%	16.4%	33.1%	13.2%	0.9%	12.1%	6.0%	3.1%	4.5%	2.1%	14.2%
<b>Russell 2500</b>	34.4%	26.7%	-2.5%	17.9%	36.8%	7.1%	-2.9%	17.6%	3.8%	2.1%	4.7%	4.5%	11.0%
<b>Russell 2000</b>	27.2%	26.9%	-4.2%	16.3%	38.8%	4.9%	-4.4%	21.3%	2.5%	2.5%	5.7%	6.2%	10.9%
<b>JPM EMBI Glob Div</b>	29.8%	12.2%	7.3%	17.4%	-5.3%	7.4%	1.2%	10.2%	3.9%	2.2%	2.6%	0.0%	9.0%
<b>BC US Long Credit</b>	16.8%	10.7%	17.1%	12.7%	-6.6%	16.4%	-4.6%	10.2%	1.7%	4.7%	2.2%	-0.2%	8.7%
<b>BC US STRIPS 20+ Yr</b>	-36.0%	10.9%	58.5%	3.0%	-21.0%	46.4%	-3.7%	1.4%	1.8%	6.1%	0.7%	-2.8%	8.7%
<b>BC US Govt/Cred Long</b>	1.9%	10.2%	22.5%	8.8%	-8.8%	19.3%	-3.3%	6.7%	1.6%	4.4%	1.5%	-1.0%	7.7%
<b>BC US Corporate HY</b>	58.2%	15.1%	5.0%	15.8%	7.4%	2.5%	-4.5%	17.1%	2.7%	2.2%	2.0%	0.9%	7.0%
<b>BC Global Agg</b>	-6.5%	-5.3%	-5.3%	-4.1%	2.7%	-0.6%	3.3%	2.1%	1.8%	2.6%	1.8%	-0.9%	6.3%
<b>CS Hedge Fund</b>	18.6%	10.9%	-2.5%	7.7%	9.7%	4.1%	-0.7%	1.2%	2.1%	0.8%	0.6%	-	4.9%
<b>BC Municipal</b>	12.9%	2.4%	10.7%	6.8%	-2.6%	9.1%	3.3%	0.2%	1.6%	2.0%	1.1%	-0.5%	4.7%
<b>FTSE NAREIT Eqy REITs</b>	28.0%	28.0%	8.3%	18.1%	2.5%	30.1%	3.2%	8.5%	1.2%	1.5%	0.9%	0.0%	3.7%
<b>BC US Agg Bond</b>	5.9%	6.5%	7.8%	4.2%	-2.0%	6.0%	0.5%	2.6%	0.8%	1.4%	0.8%	-0.5%	3.1%
<b>CS Leveraged Loan</b>	44.9%	10.0%	1.8%	9.4%	6.2%	2.1%	-0.4%	9.9%	1.2%	0.8%	1.1%	0.4%	3.0%
<b>BC US Agg Interm</b>	6.5%	6.1%	6.0%	3.6%	-1.0%	4.1%	1.2%	2.0%	0.7%	0.9%	0.7%	-0.4%	2.3%
<b>BC TIPS</b>	11.4%	6.3%	13.6%	7.0%	-8.6%	3.6%	-1.4%	4.7%	1.3%	-0.4%	0.9%	-0.6%	1.7%
<b>BC US Govt/Cred 1-3 Yr</b>	3.8%	2.8%	1.6%	1.3%	0.6%	0.8%	0.7%	1.3%	0.4%	0.3%	0.3%	-0.1%	1.1%
<b>BBG Commodity</b>	18.9%	16.8%	-13.3%	-1.1%	-9.5%	-17.0%	-24.7%	11.8%	-2.3%	-3.2%	2.5%	-0.1%	-2.9%
<b>Alerian MLP</b>	76.4%	35.9%	13.9%	4.8%	27.6%	4.8%	-32.6%	18.3%	3.9%	-6.4%	-3.0%	0.7%	-5.6%

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



# Near Term Broad Market Performance Summary as of 09/30/2017



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

- **The US economy is experiencing an extended economic growth cycle**
  - US consumers and a tightening labor market are driving the US economy
  - Growth recovery in Europe and the emerging markets reinforces US economic conditions
  - Stable economic growth is a positive backdrop but expected risk asset returns are subdued
- **Federal Reserve monetary policy remains on a gradual normalization path**
  - Markets continue to price in a slow pace for Fed rate hikes over the next 36 months
  - The Fed will begin to shrink a \$4.5T balance sheet, longer-term impact is untested
  - Chair Yellen’s uncertain tenure may stoke market unease as her term expires in Feb. 2018
- **China is modestly tightening financial conditions to slow credit growth and manage an orderly transition to a consumer led economy**
  - Markets have responded positively to the PBOC’s management of a more stable yuan
  - While capital outflow pressure has reversed, currency devaluation remains a tail risk
  - Continued credit expansion and real estate development risk inflating asset price bubbles
- **Globalization backlash is disrupting the political and economic orthodoxy**
  - Conditions driving anti-establishment political sentiment have not subsided and risks stemming from globalization backlash likely lead to higher levels of currency volatility
  - Changes to US trade policy under the current administration remain uncertain and an aggressive protectionist policy would represent a material risk to global markets

# Macro Performance Overview

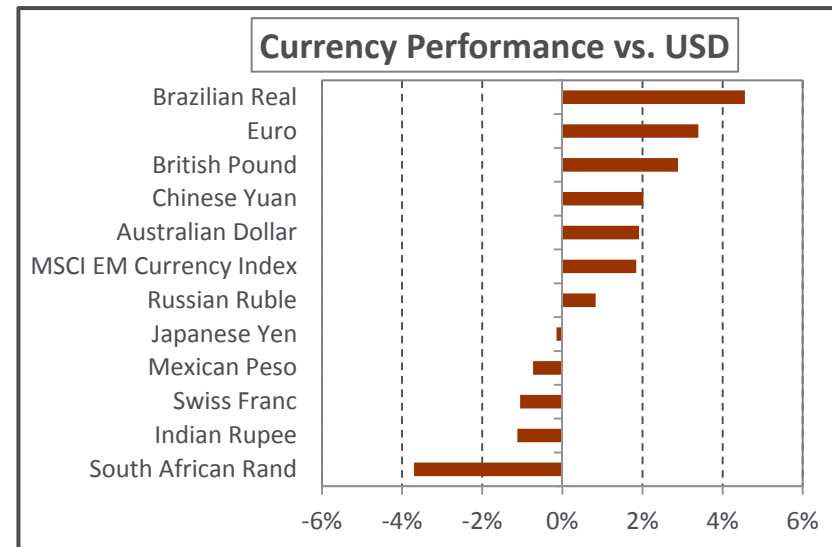
## Q3 Macro Market Summary

- **US, Europe, Japan, and China continue to grow modestly in a synchronized economic expansion**
- **Long-term US interest rates were largely unchanged and reflect the low volatility of inflation**
- **The US Treasury curve flattened slightly as the 2 year rate rose**

	Yield 6/30/17	Yield 9/30/17	Δ
US 10-Yr	2.30%	2.33%	+0.03%
US 30-Yr	2.84%	2.86%	+0.02%
US Real 10-Yr	0.58%	0.49%	-0.09%
German 10-Yr	0.47%	0.46%	-0.01%
Japan 10-Yr	0.08%	0.06%	-0.02%
China 10-Yr	3.56%	3.62%	+0.06%
EM Local Debt	6.15%	5.99%	-0.16%

Source: Bloomberg

Central Banks	Current Rate	CPI YOY	Notes from the Quarter
<b>Federal Reserve</b>	1.00% - 1.25%	1.9%	Program to reduce Fed balance sheet is set to begin in October. As of quarter-end, market's probability of a Dec '17 rate hike is 70%
<b>European Central Bank</b>	0.0%	1.5%	An accommodative monetary policy likely remains necessary in a persistent low inflation environment
<b>Bank of Japan</b>	-0.10%	0.7%	The BoJ will continue its QE program as part of their yield curve control policy to keep long-term interest rates near zero



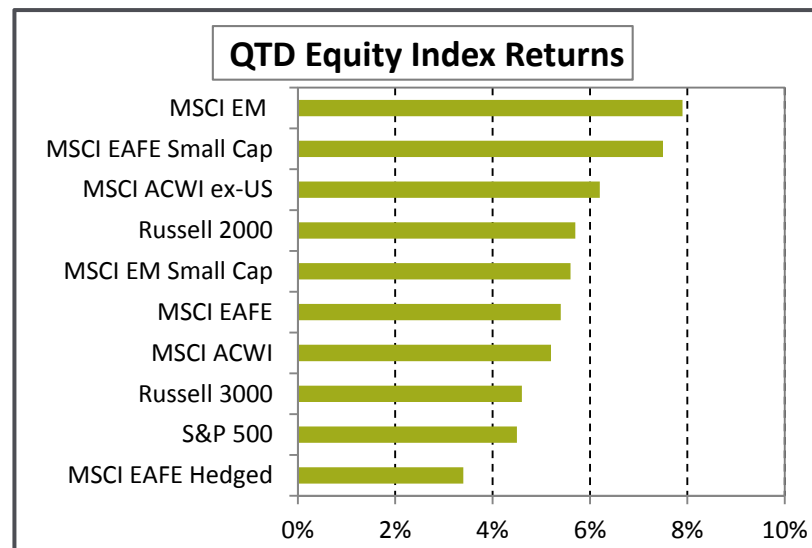
Source: Bloomberg

## Q3 Equity Market Summary

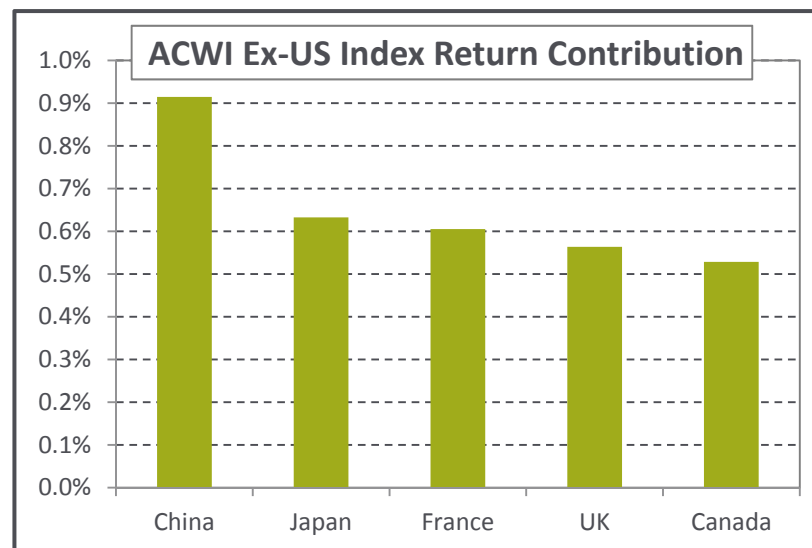
- **US small caps rallied as the outlook for US tax reform improved during the quarter**
- **Corporate earnings growth has accelerated over the last 12 months led by small-caps in Europe/Japan and the technology sector for the US and EM**

Russell 3000 QTD Sector Return Contribution	
Information Technology	1.8%
Industrials	0.9%
Financials	0.7%
Health Care	0.5%
Energy	0.4%
Consumer Discretionary	0.22%
Materials	0.19%
Utilities	0.13%
Telecommunication	0.05%
Real Estate	-0.08%
Consumer Staples	-0.14%

Source: Russell, Bloomberg



Source: MSCI, Russell, S&P, Bloomberg



Source: MSCI, Bloomberg. QTD top country contributors to index return



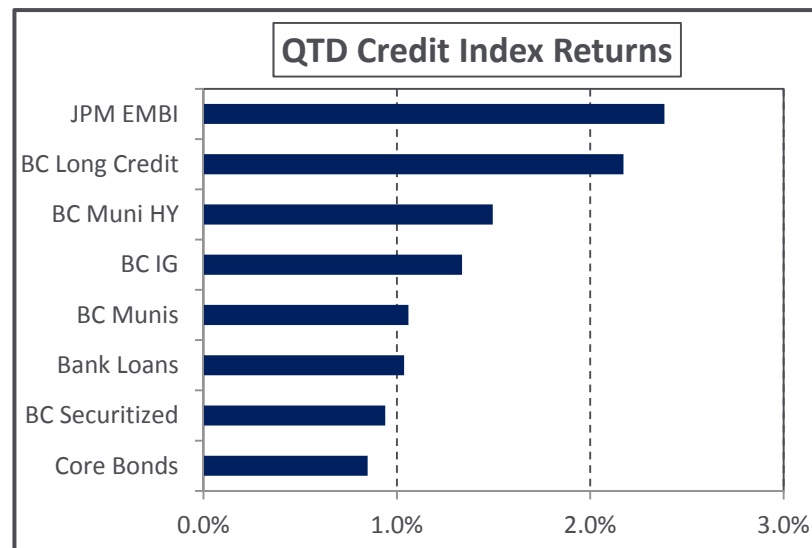
# Credit Performance Overview

## Q3 Credit Market Summary

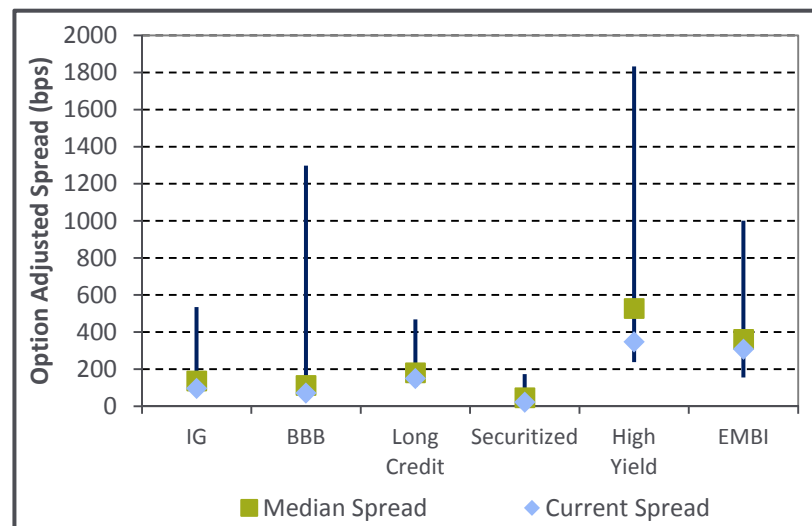
- **Credit spreads continue to grind lower across all areas of the credit markets**
- **High yield and dollar EMD credit spread declines support a broad reduction in exposure**
- **Long credit continues to benefit from strong demand as spreads remain near long-term averages**

Credit Spread (Basis Points)	06/30/17	9/30/17	\Delta
BC IG Credit	103	96	-7
BC Long Credit	157	149	-8
BC Securitized	35	26	-9
BC High Yield	364	347	-17
Muni HY	386	309	-77
JPM EMBI	328	308	-20
Bank Loans - Libor	346	349	+3

Source: Barclays, Merrill Lynch, JPM, Bloomberg, NEPC



Source: Barclays, JPM, S&P, Bloomberg



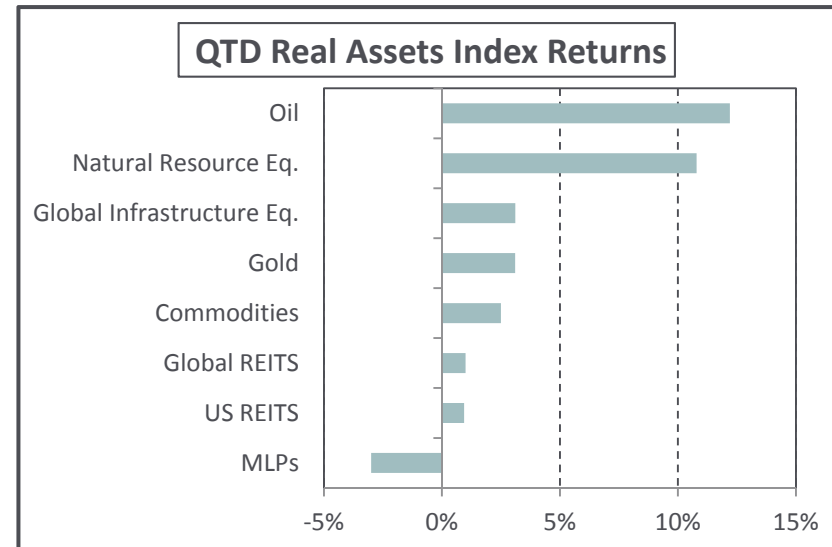
Source: Barclays, JPM, S&P, Bloomberg. As of 01/31/2000

## Q3 Real Assets Market Summary

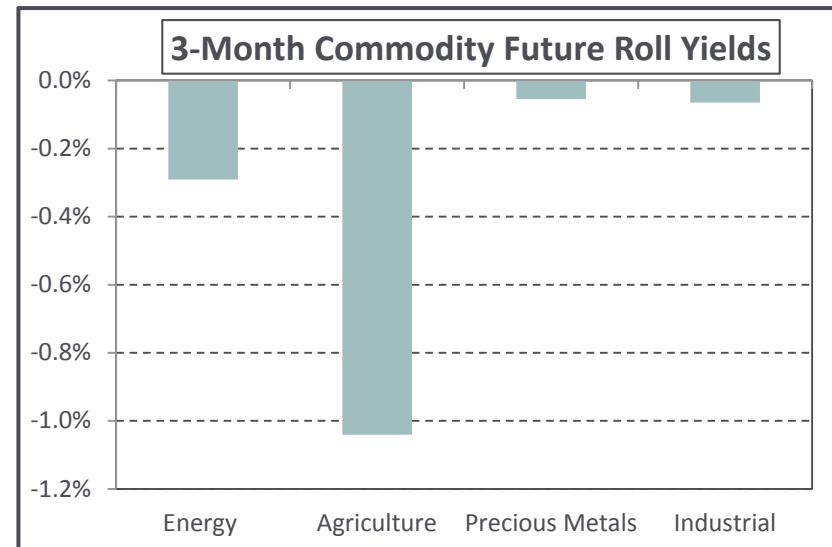
- **Oil prices rebounded over the quarter and appear range bound between \$50 to \$60 a barrel**
- **Gold prices improved and likely benefited from a weaker dollar and geopolitical concerns**
- **Commodity index roll yield is more negative than the previous quarter, though oil futures are slightly positive**

Real Asset Yields	6/30/17	9/30/17
MLPs	7.3%	7.8%
Core Real Estate	4.7%	4.7%
US REITs	4.1%	4.0%
Global REITs	3.7%	3.4%
Global Infrastructure Equities	3.9%	3.9%
Natural Resource Equities	3.5%	3.3%
US 10-Yr Breakeven Inflation	1.7%	1.9%
Commodity Index Roll Yield	-0.4%	-1.5%

Source: NCREIF, Alerian, NAREIT, S&P, Bloomberg



Source: S&P, NAREIT, Alerian, Bloomberg



Source: Bloomberg, NEPC Calculated as of 10/23/2017

### Key Market Themes

**Extended US Economic Cycle**

**Federal Reserve Gradualism**

**China Transitions**

**Globalization Backlash**

### Current Opportunities

**Trim US Equity Gains**

**Overweight Non-US Developed Market Equities**

**Maintain a Market Overweight to Emerging Market Equities**

**Allocate to TIPS from Core Bonds**

**Reduce High Yield Bond Exposure**

**Fund Emerging Local Debt from Risk Assets**

**Add Macro Hedge Funds**

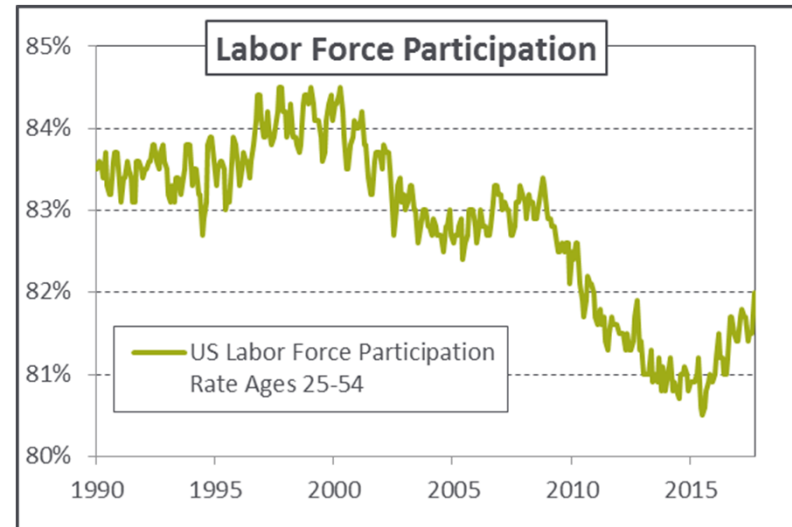
***New Opportunity* – Add Long Volatility Exposure**

### Extended US Economic Cycle

#### US recession concerns are muted

The US economy appears on a path of slow but steady growth as excess capacity is gradually absorbed by the economy

The labor market recovery has been strong but slack remains as many have yet to return to the workforce

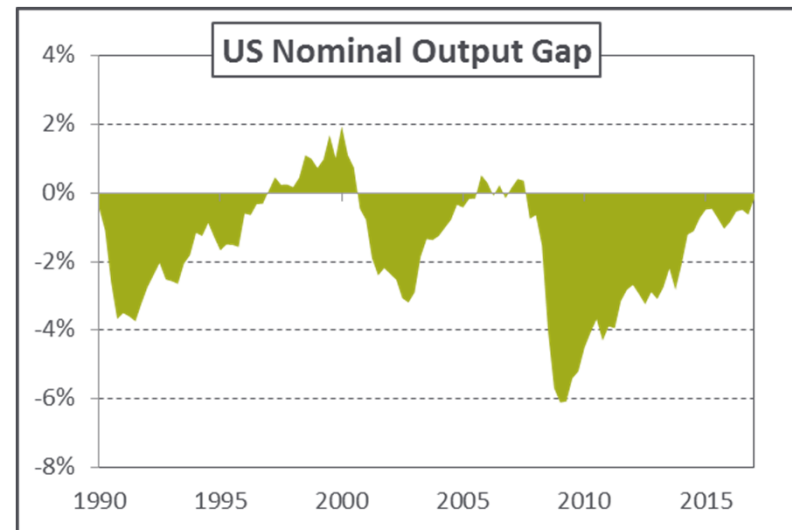


Source: FRED

#### US household balance sheets have room to expand and support further consumer spending gains

Improvement of economic conditions in Europe and emerging markets reinforce US economic gains as global growth factors synchronize

US corporate profitability is near all time highs and may be a challenge for companies to sustain



Source: Congressional Budget Office, Bloomberg

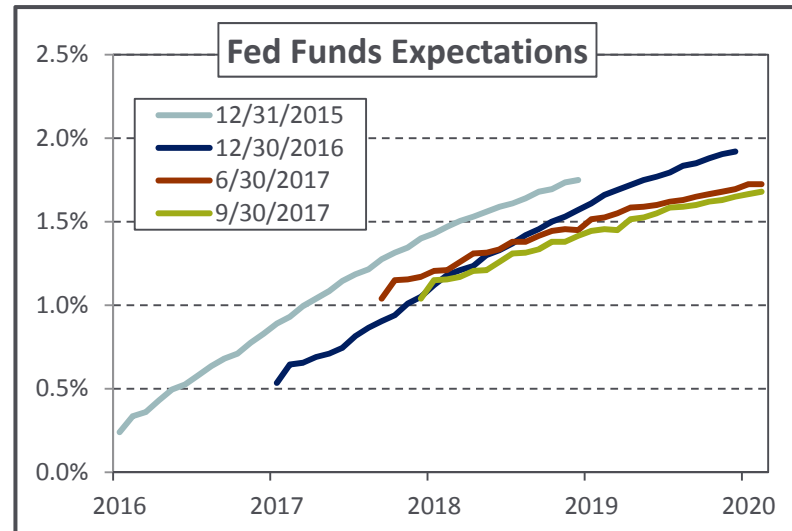


**Federal Reserve Gradualism**

**The Federal Reserve is expected to slowly increase interest rates**

Expected path of Fed policy through 2020 matters more than timing of the next hike as the disconnect between market expectations and Fed signaling has grown

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

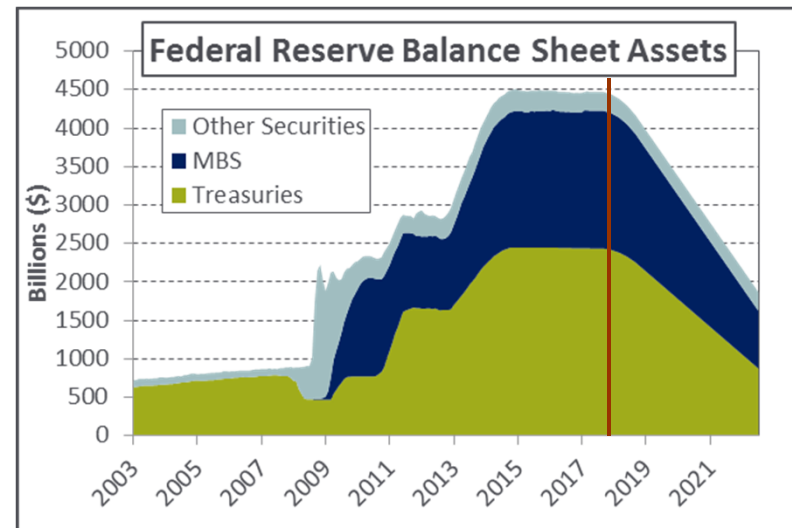


Source: Fed, Bloomberg

**The Fed will begin to reduce its balance sheet in October of 2017**

The balance sheet will gradually shrink over time by tapering the reinvestment of maturing securities

The reinvestment of maturing securities will follow a specific schedule that is based on both time and dollar value



Source: Fed, Bloomberg, NEPC

Forecast based on the June Fed Minutes: MBS assumes \$4B per month for 3-month intervals over 12 months with a \$20B cap; Treasuries assume \$6B per month for 3-month intervals over 12 months with a \$30B cap; Other Securities are assumed to stay constant

**China Transitions**

**China is the global growth engine but faces fundamental transitions**

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

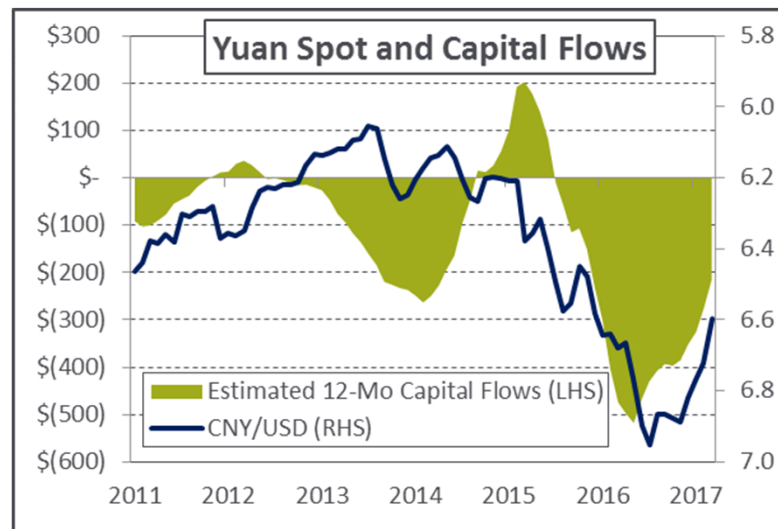
Fixed investment is required to sustain the production based economy and support labor force migration

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

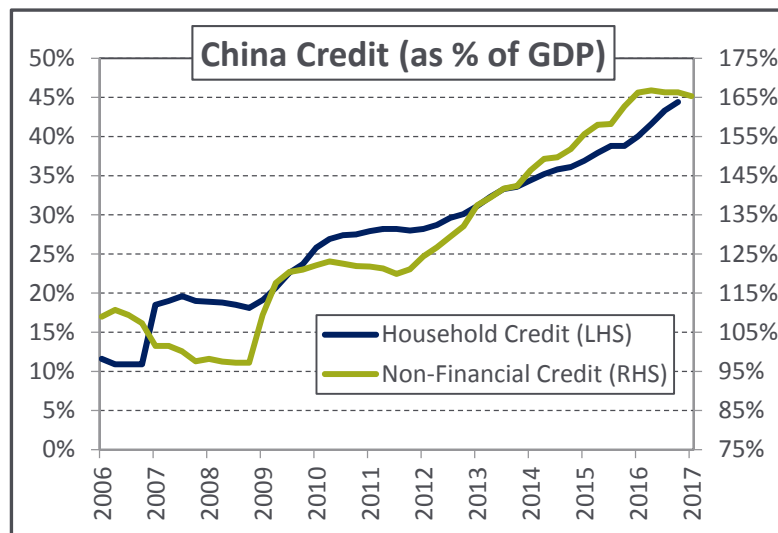
**China’s government is negotiating a balance between deleveraging and near term economic growth**

Unrestrained growth in credit and real estate markets pose a systematic risk

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



Source: China Foreign Exchange Trade System, Bloomberg



Source: Bank for International Settlements

## Globalization Backlash

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

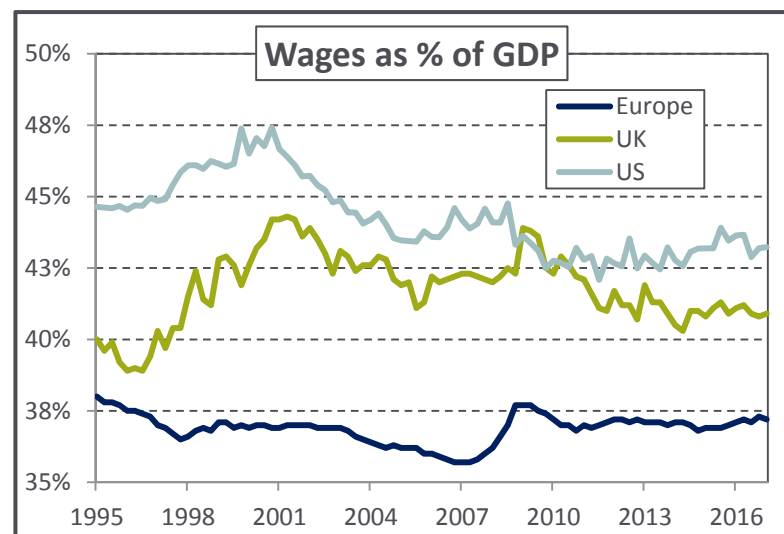
Election results in France and the UK have assuaged fears of political gridlock in Europe – but political conventions have been meaningfully challenged

Despite election outcomes structural issues that stoked unease in Europe remain unresolved

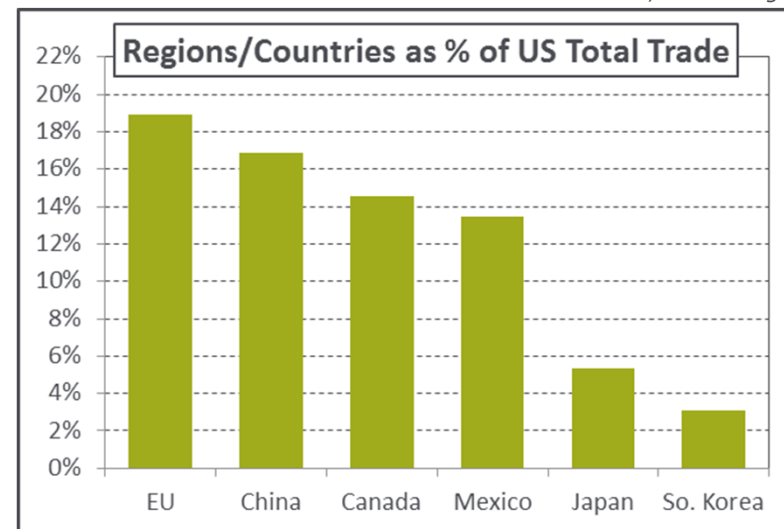
### Major shifts in US trade policy have not materialized in 2017

However, a US move to an aggressive protectionist policy would represent a material risk to global markets

Markets have taken to interpreting the administrations rhetoric with a grain of salt but ongoing NAFTA negotiations are a concern



Source: Eurostat, Bloomberg



Source: IMF, Bloomberg

## Information Disclaimer and Reporting Methodology

### Information Disclaimer

- Past performance is no guarantee of future results.
- All investments carry some level of risk. Diversification and other asset allocation techniques are not guaranteed to ensure profit or protect against losses.
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### Reporting Methodology

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