

# NEW JERSEY DIVISION OF INVESTMENT

**Directors Report**

---

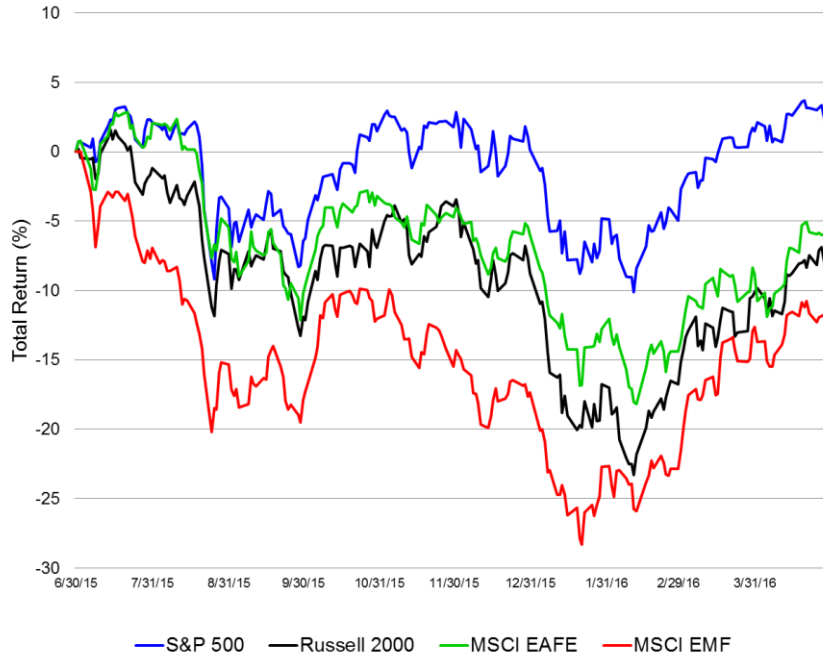
**May 25, 2016**

**State Investment Council Meeting**

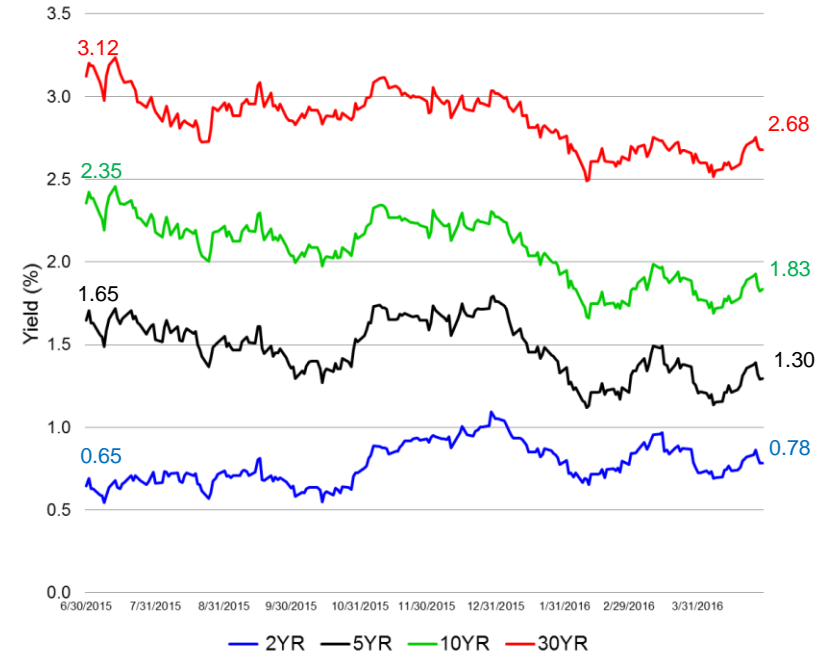
*“The mission of the New Jersey Division of Investment is to achieve the best possible return at an acceptable level of risk using the highest fiduciary standards.”*

# Capital Markets Update (through April 30, 2016)

## Fiscal Year 2016 Equity Market Returns



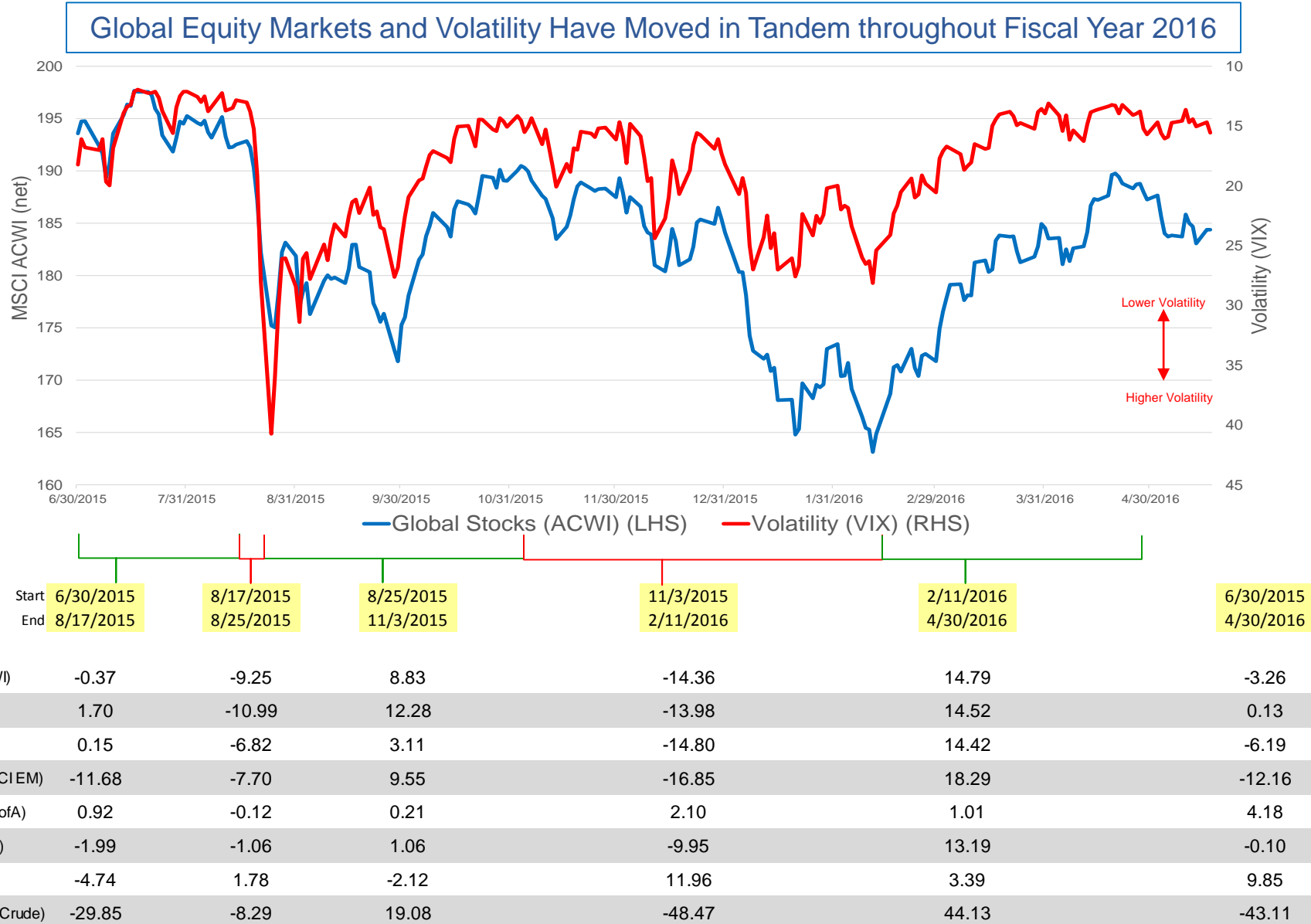
## Fiscal Year 2016 U.S. Treasury Yields



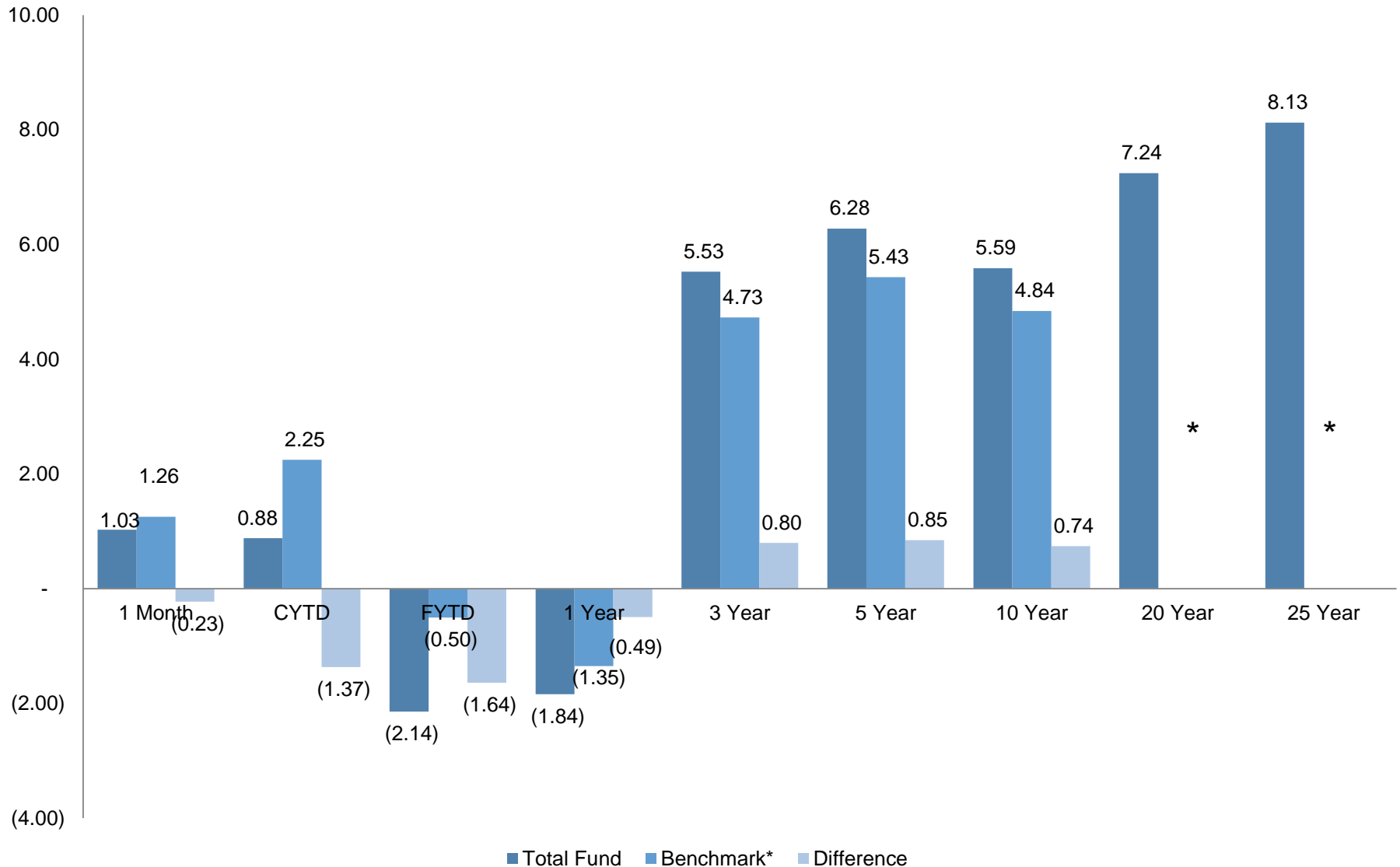
	April 30, 2016	MTD %	FYTD %	CYTD %	1 Yr %	3 Yrs %	5 Yrs %	10 Yrs %	
<b>Domestic Equity</b>	<b>S&amp;P 500</b>	0.39	1.88	1.74	1.20	11.25	11.01	6.91	1
	<b>Russell 2000</b>	1.57	(8.74)	0.02	(5.95)	7.53	6.98	5.41	2
<b>International Equity</b>	<b>MSCI EAFE</b>	2.90	(6.19)	(0.20)	(9.32)	1.48	1.69	1.61	3
	<b>MSCI EMF</b>	0.54	(12.16)	6.29	(17.87)	(4.57)	(4.61)	2.36	4
<b>Bond</b>	<b>Barclays Agg</b>	0.38	4.10	3.43	2.72	2.29	3.60	4.96	5
	<b>Barclays HY</b>	3.92	0.07	7.40	(1.12)	2.54	5.42	7.35	6
	<b>Barclays US Tips</b>	0.35	2.96	4.82	1.12	(0.86)	2.58	4.67	7
<b>Commodity</b>	<b>Bloomberg</b>	8.49	(16.72)	8.86	(17.57)	(13.82)	(13.38)	(6.95)	8
<b>Real Estate</b>	<b>Bloomberg REIT</b>	(2.14)	13.29	3.52	8.41	6.94	10.07	6.55	9
<b>Hedge Funds</b>	<b>HFRI Composite Index*</b>	n/a	(4.19)	(0.67)	(4.81)	1.92	1.51	3.20	10

\*1-month lag

## Select Capital Market Returns During Fiscal Year 2016



## Total Fund<sup>(1)</sup> Performance as of April 30, 2016



(1) Pension Fund Return excludes Police and Fire Mortgage Program

\*Benchmark return not available for 20 and 25-Year period

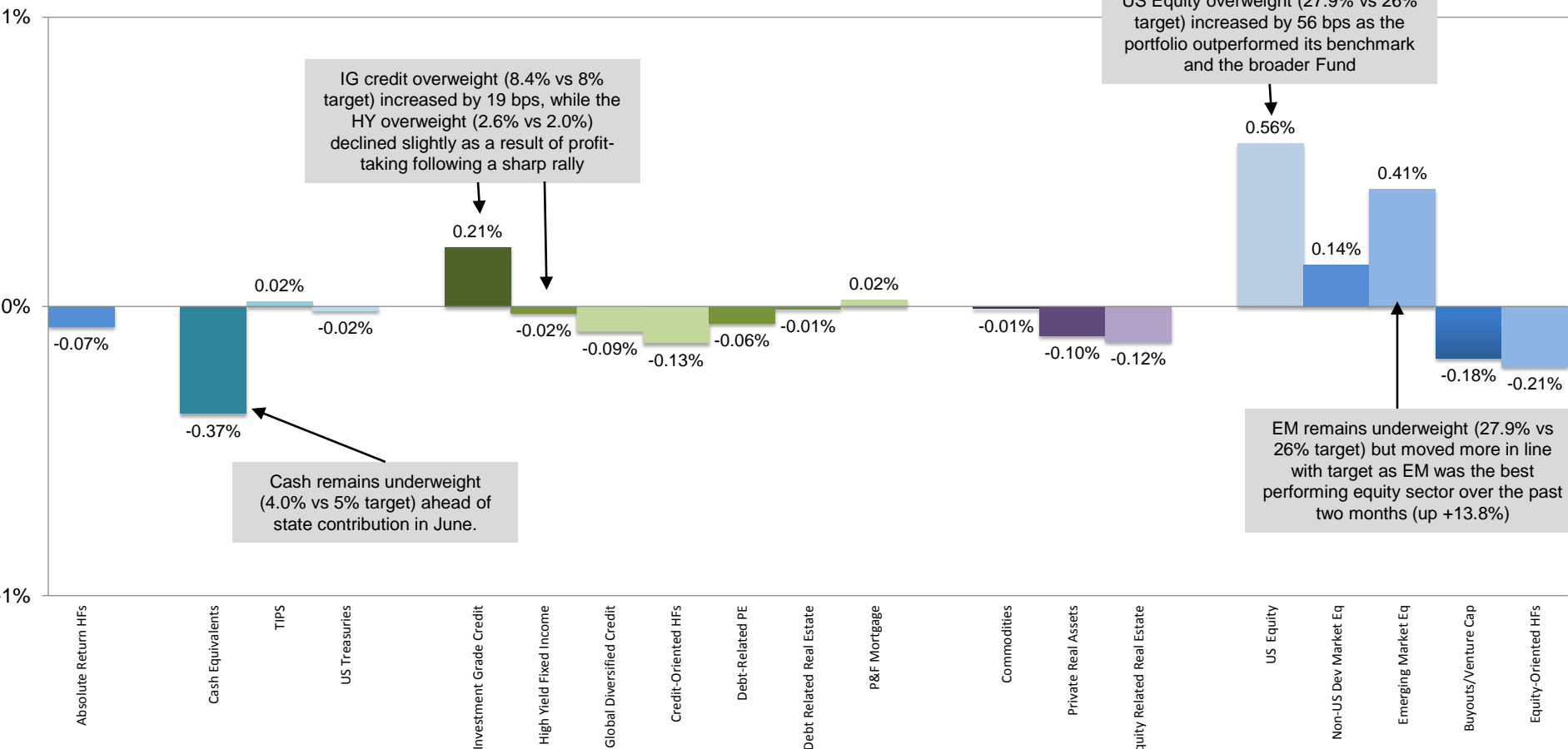
Asset Class	ASSET ALLOCATION <sup>(1)</sup> As of April 30, 2016				PERFORMANCE (for periods ending April 30, 2016) <sup>(2)</sup>						Long Term CMA
	Mkt Value	Actual (%)	Target (%)	Difference	FYTD		Trailing Twelve Months		Trailing Three Years		
					NJ	Bench	NJ	Bench	NJ	Bench	
<b>RISK MITIGATION</b>											
Absolute Return HFs	3,491	4.92%	5.00%	-0.08%	-1.67%	2.68%	-3.82%	-3.20%	-1.48%	3.11%	4.57%
<b>TOTAL RISK MITIGATION</b>	<b>3,491</b>	<b>4.92%</b>	<b>5.00%</b>	<b>-0.08%</b>	<b>-1.67%</b>	<b>2.68%</b>	<b>-3.82%</b>	<b>3.20%</b>	<b>1.48%</b>	<b>3.11%</b>	
<b>LIQUIDITY</b>											
Cash Eqv	2,590	3.65%	5.00%	-1.35%	0.97%	0.15%	1.10%	0.15%	0.99%	0.08%	0.25%
Short Term	248	0.35%	0.00%	0.35%	0.56%	0.15%	0.59%	0.15%			
TIPS	1,545	2.18%	1.50%	0.68%	2.36%	3.14%	1.30%	1.07%	-1.74%	-2.01%	1.98%
US Treasuries	922	1.30%	1.50%	-0.20%	4.06%	3.93%	3.79%	2.83%	-0.80%	1.50%	1.43%
<b>TOTAL LIQUIDITY</b>	<b>5,305</b>	<b>7.48%</b>	<b>8.00%</b>	<b>-0.52%</b>	<b>1.86%</b>	<b>1.42%</b>	<b>1.67%</b>	<b>0.83%</b>	<b>-0.65%</b>	<b>-0.39%</b>	
<b>INCOME</b>											
Investment Grade Credit	5,955	8.40%	8.00%	0.40%	4.63%	5.20%	3.31%	2.77%	2.50%	1.62%	3.01%
Public High Yield	1,830	2.58%	2.00%	0.58%	0.95%	0.07%	0.17%	-1.12%	3.18%	2.54%	4.36%
Global Diversified Credit	2,611	3.68%	5.00%	-1.32%	-1.51%	0.07%	0.20%	-1.12%	8.47%	2.54%	6.46%
Credit-Oriented HFs	2,524	3.56%	3.75%	-0.19%	-5.23%	-9.53%	-4.09%	-8.08%	3.51%	0.23%	8.38%
Debt-Related PE	677	0.95%	1.00%	-0.05%	0.83%	-6.00%	7.67%	-3.77%	11.62%	3.74%	9.09%
Debt Related Real Estate	456	0.64%	0.80%	-0.16%	2.25%	-8.32%	5.01%	-7.38%			6.10%
P&F Mortgage	992	1.40%	1.20%	0.20%	3.32%		1.69%		2.77%		
<b>TOTAL INCOME</b>	<b>15,045</b>	<b>21.21%</b>	<b>21.75%</b>	<b>-0.54%</b>	<b>1.06%</b>	<b>-0.30%</b>	<b>1.15%</b>	<b>-1.27%</b>	<b>3.63%</b>	<b>1.09%</b>	
<b>REAL RETURN</b>											
Commodities	406	0.57%	0.50%	0.07%	-16.00%	-16.60%	-14.45%	-17.45%			4.30%
Private Real Assets	1,394	1.97%	2.00%	-0.03%	-7.58%		-5.23%				8.74%
Equity Related Real Estate	3,679	5.19%	5.25%	-0.06%	7.20%	10.47%	12.83%	13.95%	14.88%	12.93%	8.60%
<b>TOTAL REAL RETURN</b>	<b>5,479</b>	<b>7.72%</b>	<b>7.75%</b>	<b>-0.03%</b>	<b>0.93%</b>	<b>3.41%</b>	<b>5.16%</b>	<b>4.36%</b>	<b>7.14%</b>	<b>5.90%</b>	
<b>GLOBAL GROWTH</b>											
US Equity	19,778	27.89%	26.00%	1.89%	-3.04%	1.49%	-2.90%	1.00%	9.99%	11.12%	6.76%
Non-US Dev Market Eq	8,828	12.45%	13.25%	-0.80%	-6.38%	-6.08%	-9.44%	-9.47%	1.63%	1.31%	7.00%
Emerging Market Eq	3,401	4.80%	6.50%	-1.70%	-11.41%	-12.04%	-16.38%	-17.69%	-5.24%	-4.48%	8.40%
Buyouts/Venture Cap	6,646	9.37%	8.00%	1.37%	4.63%		14.85%		18.62%		10.12%
Equity-Oriented HFs	2,476	3.49%	3.75%	-0.26%	-12.97%	-6.60%	-12.73%	-4.18%	2.76%	3.94%	8.04%
<b>TOTAL GLOBAL GROWTH</b>	<b>41,129</b>	<b>57.99%</b>	<b>57.50%</b>	<b>0.49%</b>	<b>-3.99%</b>	<b>-1.88%</b>	<b>-3.81%</b>	<b>-3.04%</b>	<b>7.12%</b>	<b>6.44%</b>	
<b>OTHER</b>											
OPPORTUNISTIC PE	304	0.43%			-1.68%		7.60%				
OTHER	173	0.24%									
<b>TOTAL FUND <sup>(3)</sup></b>	<b>70,925</b>	<b>100.00%</b>			<b>-2.14%</b>	<b>-0.50%</b>	<b>-1.84%</b>	<b>-1.35%</b>	<b>5.53%</b>	<b>4.73%</b>	
				S&P 500	1.88%		1.20%		11.25%		
				Russell 2000	-8.74%		-5.95%		7.53%		
				MSCI EAFE	-6.19%		-9.32%		1.48%		
				MSCI EMF	-12.16%		-17.87%		-4.57%		
				Barclays Agg	4.10%		2.72%		2.29%		
				Barclays HY	0.07%		-1.12%		2.54%		
				Bloomberg Commodities	-16.72%		-17.57%		-13.82%		
				Bloomberg REIT	13.29%		8.41%		6.94%		
				HFRI	-4.19%		-4.81%		1.92%		

<sup>1</sup> Current assets are based on preliminary values and do not include receivables of \$298 million related to Real Estate secondary sale

<sup>2</sup> Unaudited

<sup>3</sup> Total Fund Performance excludes Police & Fire Mortgage Program

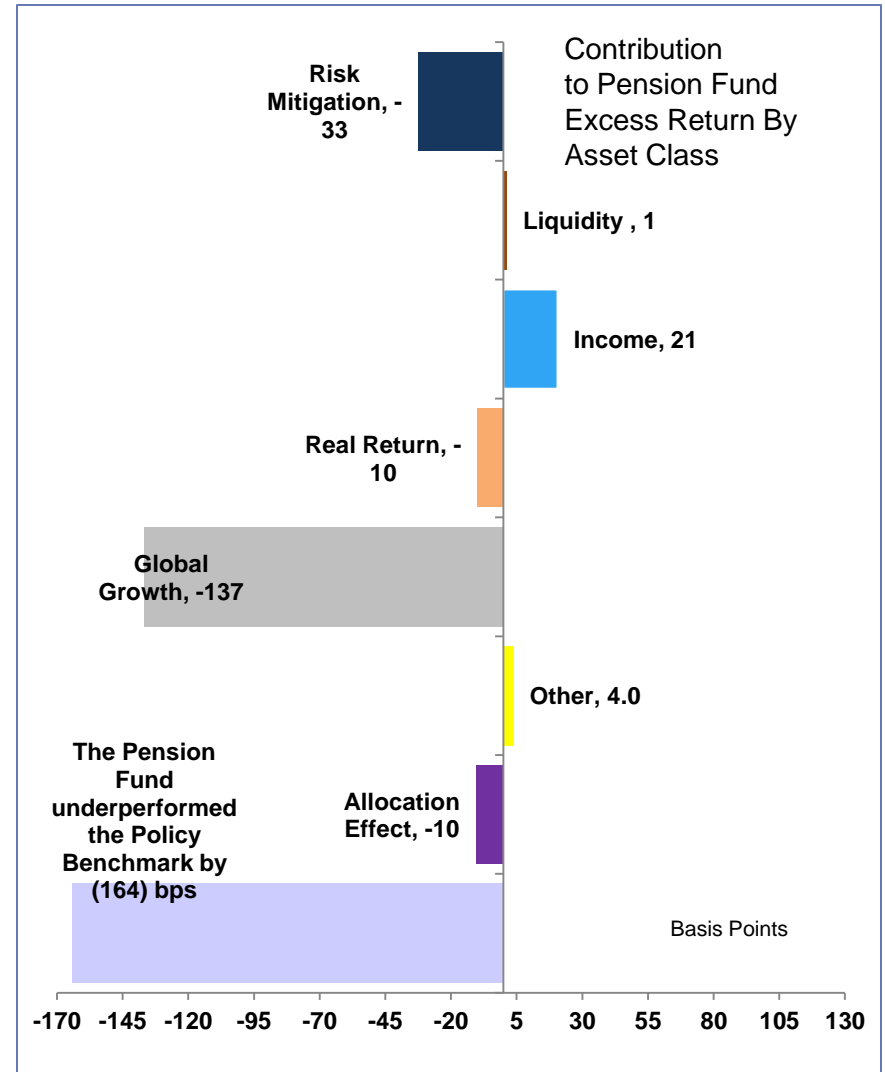
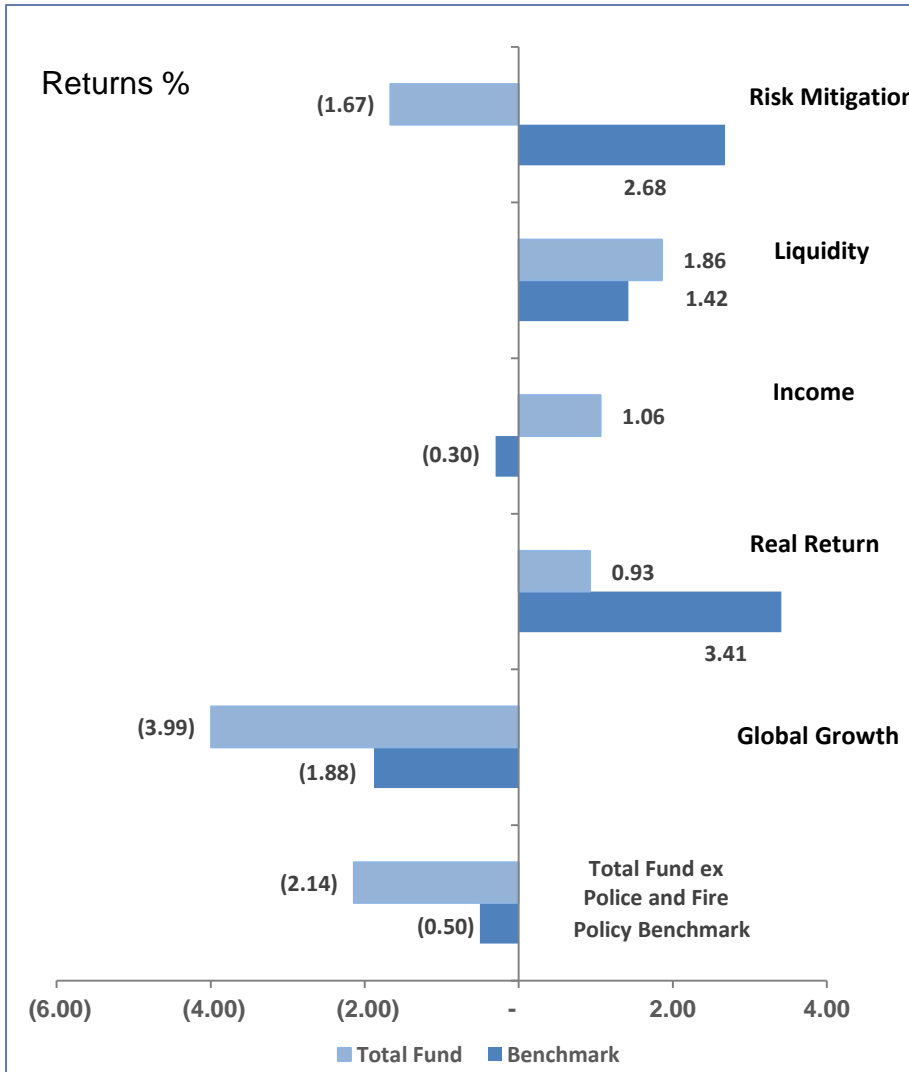
### Change in Sector Allocation



<p><b>Risk Mitigation</b></p> <p>Allocation in line with target (4.9% vs 5.0%)</p>	<p><b>Liquidity</b></p> <p>Modest underweight (7.5% vs 8%) in anticipation of state contribution in June</p>	<p><b>Income</b></p> <p>Modest underweight (21.2% vs 21.75%) primarily attributable to underweight in GDC and Credit-Oriented HF; Remain overweight public market fixed income (IG and HY) as spreads widened during FY16</p>	<p><b>Real Return</b></p> <p>Allocation in line with target (7.7% vs 7.75%)</p>	<p><b>Global Growth</b></p> <p>Modest overweight (58% vs 57.5%); Overweight U.S. stocks and Buyouts/Venture Cap. Underweight Non-US DM Equities, EM Equities, and Equity-Oriented HF.</p>
--	--	---	---	---

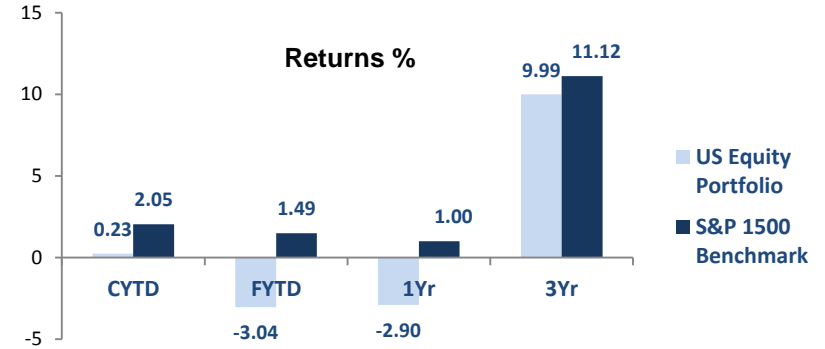
Pension Fund adjustments were modest since the most recent Council meeting. The increased allocation to Global Growth was driven by strong public equity returns.

## Pension Fund Attribution vs. Benchmark Fiscal Year through April 30th, 2016

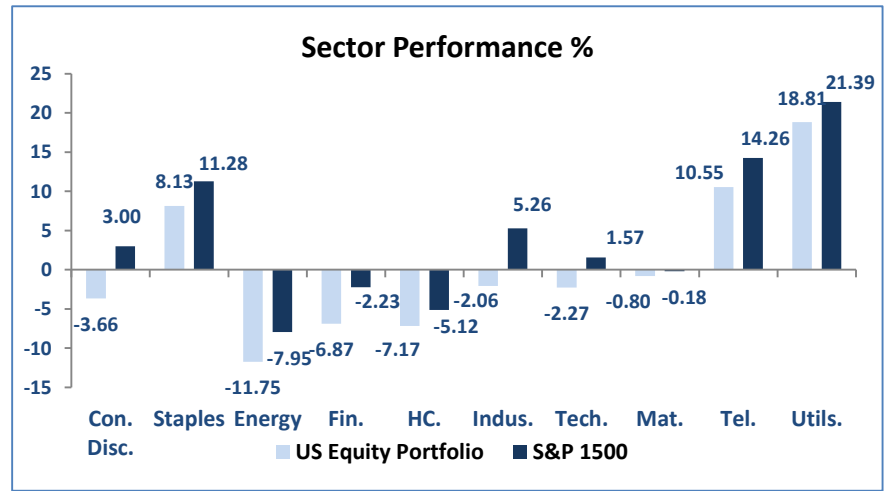
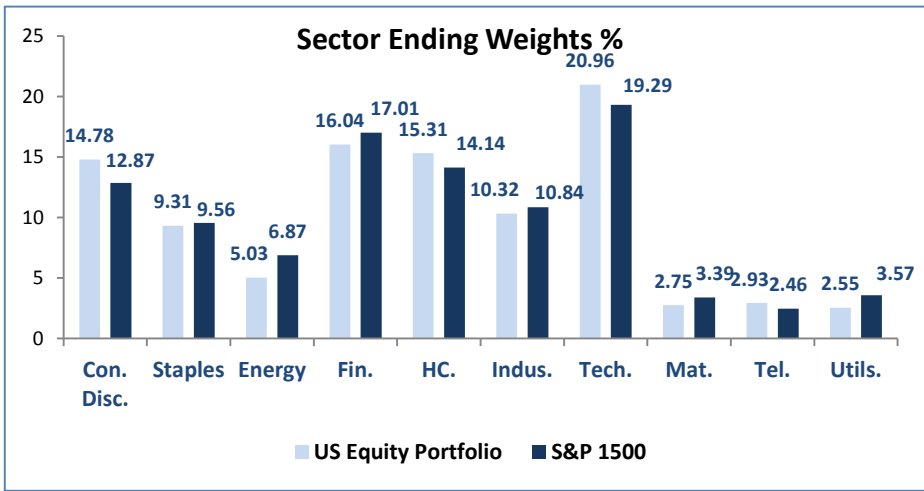
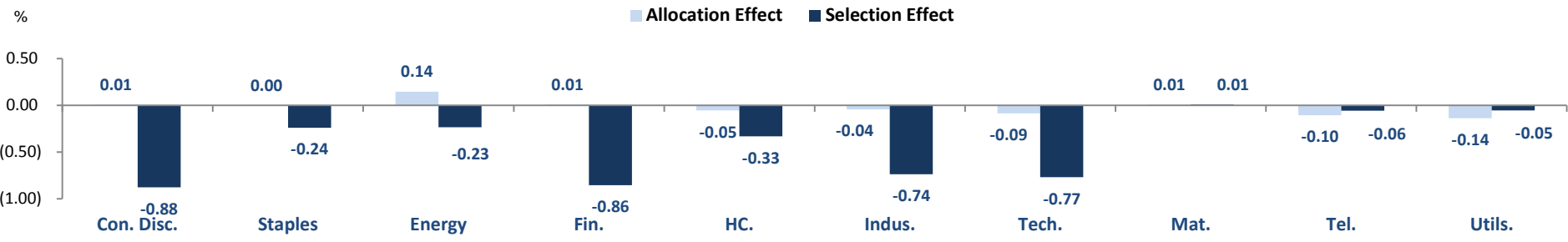


**Allocation Effect indicates the effect of asset allocation bets, i.e. overweights or underweights vs. the target allocations**

For the fiscal year through April 30<sup>th</sup>, the U.S. Equity Portfolio returned -3.04% versus the Benchmark return of 1.49%. Sharp equity market declines and rising volatility characterized this time period, including the worst quarter for the S&P 500 in 4 years (quarter ended September 2015). Investor sentiment veered toward the defensive as Large Caps, Utilities and Staples outperformed. The market advance for the fiscal year through March 31 was a narrow one as just three names – Microsoft, Facebook and Alphabet – accounting for more than all of the gains in the S&P 1500 (144bps vs. 101bps), thereby limiting the opportunity for active managers to add value. In fact, the first quarter of 2016 proved to be the worst quarter for active fund manager performance in nearly two decades as the average US mutual fund lagged the S&P 500 by 1.9%. While the U.S. Equity Portfolio has lagged its benchmark index on a fiscal year-to-date basis, relative returns have improved more recently. Since the February 11, 2016 lows, the NJ portfolio has outperformed as the equity market rally has been more broad-based.



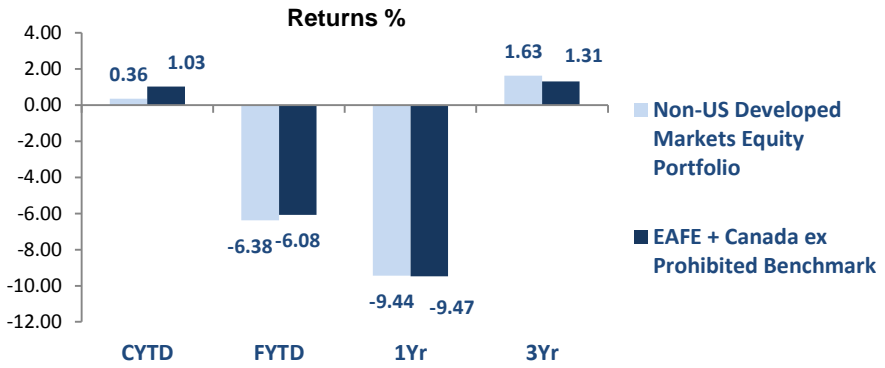
<b>Portfolio Sector Attribution FYTD% - Breakdown of Excess Return:</b>	Portfolio Return: -3.04%	Benchmark Return: 1.49%	Excess Return: -4.53%
---	--------------------------	-------------------------	-----------------------



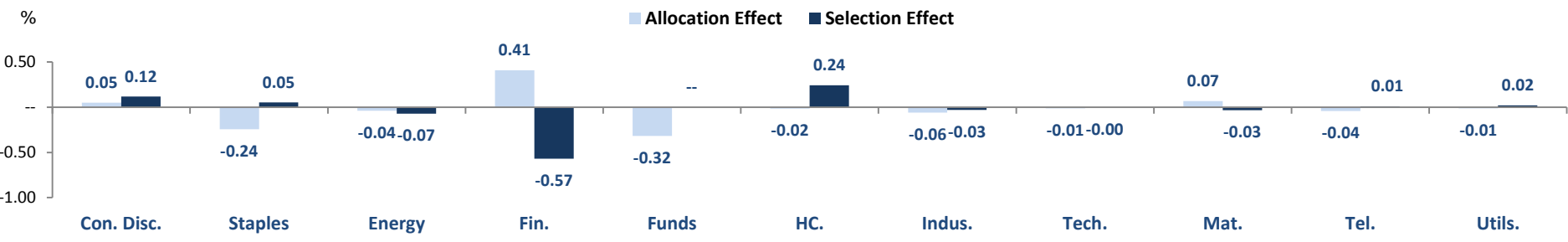
Source: State Street, Factset; \*Statistic from BofAML



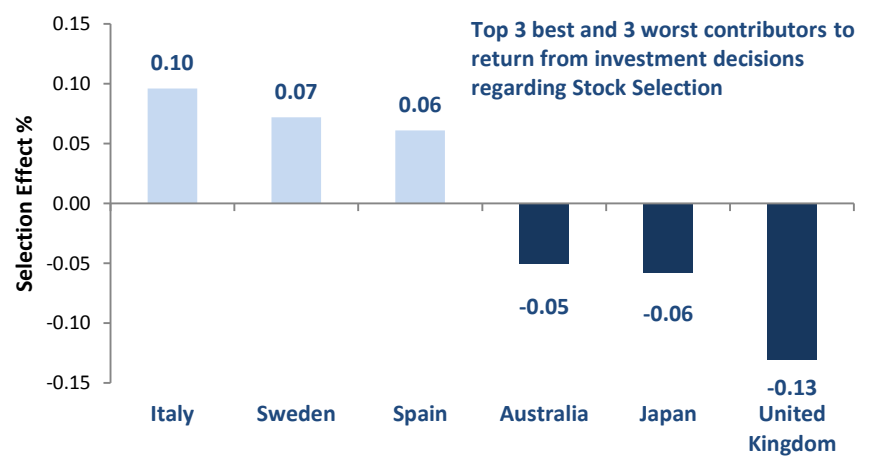
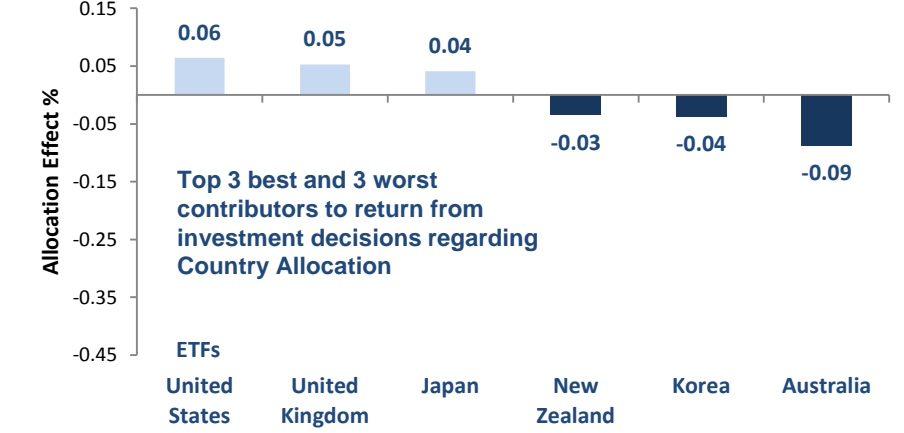
For the fiscal year through April 30<sup>th</sup>, the Non-US Developed Markets Equity Portfolio returned -6.38% versus the Benchmark return of -6.08%. For the first half of the fiscal year, financial market volatility increased and global equity markets weakened in response to China economic growth concerns, a collapse in energy prices, and divergent global monetary policies. A muted ECB policy response in December, coupled with increasing Brexit concerns, and weakening Japanese export growth as a result of a strengthening yen (despite further easing from the BOJ), led to sharp Non-US Developed Markets equity declines in early 2016. While the EAFE has realized strong returns since the February 11 lows (up +14.4% through April 30), FYTD returns remain negative. Within the NJ portfolio, currency hedged ETFs adversely impacted relative returns as the U.S. dollar weakened. The NJ portfolio's underweight allocation to financials added value, while security selection within financials (particularly UK-based banks impacted by Brexit risk) detracted from relative returns. Security selection within healthcare also favorably impacted relative returns on a FYTD basis.



Portfolio Return:	-6.38%	Benchmark Return:	-6.08%	Excess Return:	-0.30%
-------------------	--------	-------------------	--------	----------------	--------

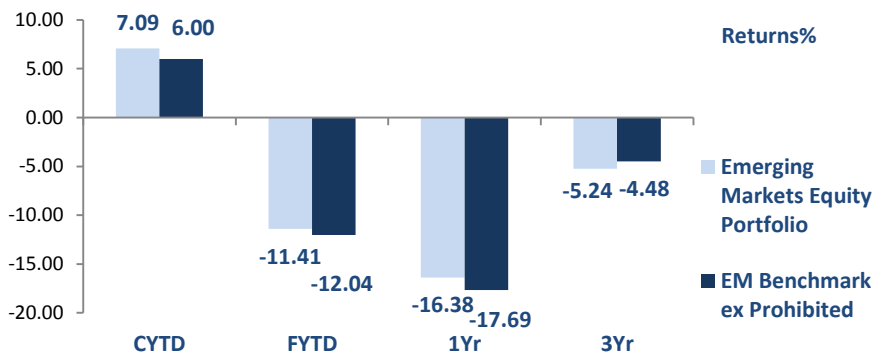


Portfolio Return:	-6.38%	Benchmark Return:	-6.08%	Excess Return:	-0.30%
-------------------	--------	-------------------	--------	----------------	--------

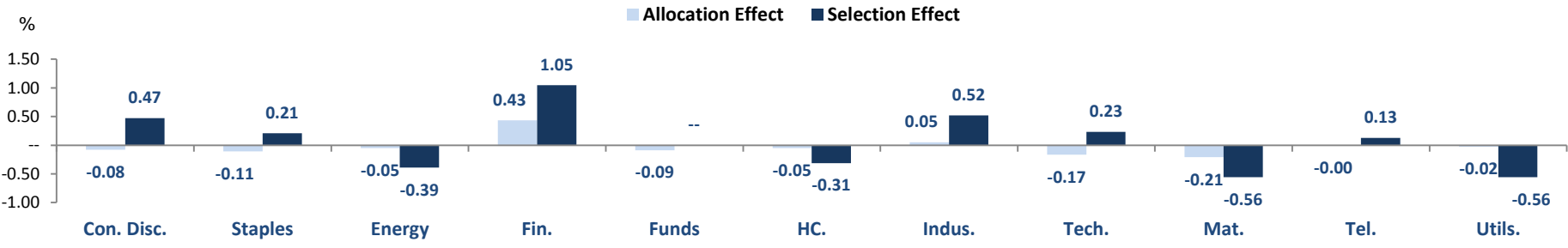


Source: State Street, Factset

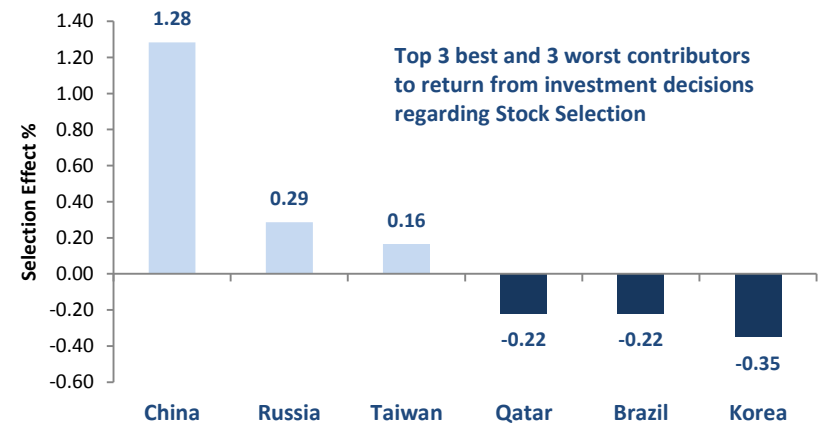
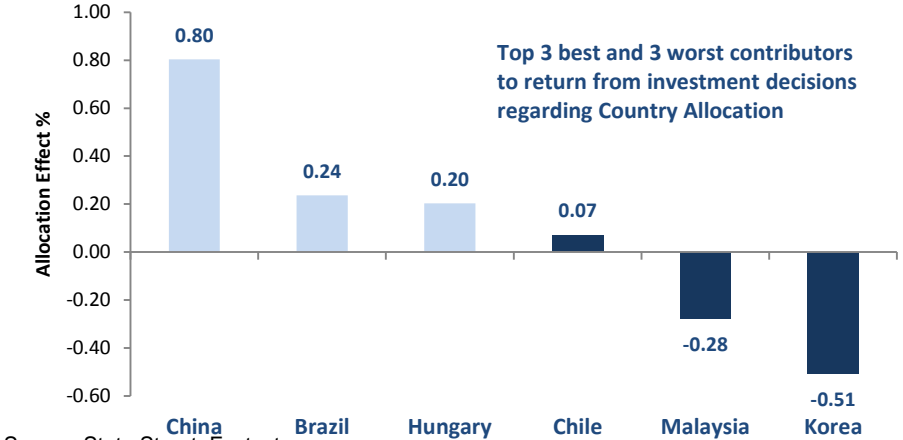
For the fiscal year through April 30, the Emerging Markets Equity portfolio returned -11.41% versus the Benchmark return of -12.04%. The summer months were challenging for the Emerging Markets as weaker China economic data, an unexpected Chinese currency devaluation, falling oil prices, and concerns regarding tighter U.S. monetary policy led to significant declines. While the Emerging Markets staged a rebound from the 2015 low of August 24<sup>th</sup> (the MSCI EM Index rose 10% between then and October 30<sup>th</sup>), the EM Index declined 6.2% during November and December 2015. Emerging Markets have subsequently rebounded sharply from the February 2016 lows, as the U.S. dollar weakened, China’s economic growth prospects improved, and commodity prices rebounded sharply. The NJ Emerging Markets portfolio benefitted from an underweight allocation to China, as China returned -23% FYTD. Within China, sector selection also added value as the portfolio was overweight outperforming Consumer Discretionary stocks and underweight underperforming Industrial and Financial stocks. Favorable relative returns were partially offset by the NJ Emerging Markets portfolio underweight to Korea, as Korea outperformed.



<b>Portfolio Sector Attribution FYTD% - Breakdown of Excess Return:</b>	Portfolio Return: -11.41%	Benchmark Return: -12.04%	Excess Return: +0.63%
---	---------------------------	---------------------------	-----------------------

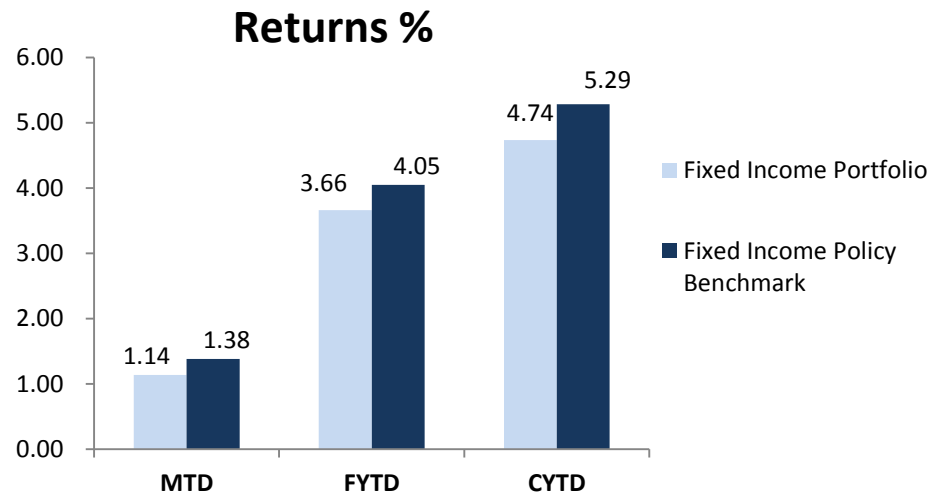


<b>Portfolio Country Attribution FYTD% - Breakdown of Excess Return:</b>	Portfolio Return: -11.41%	Benchmark Return: -12.04%	Excess Return: +0.63%
--	---------------------------	---------------------------	-----------------------

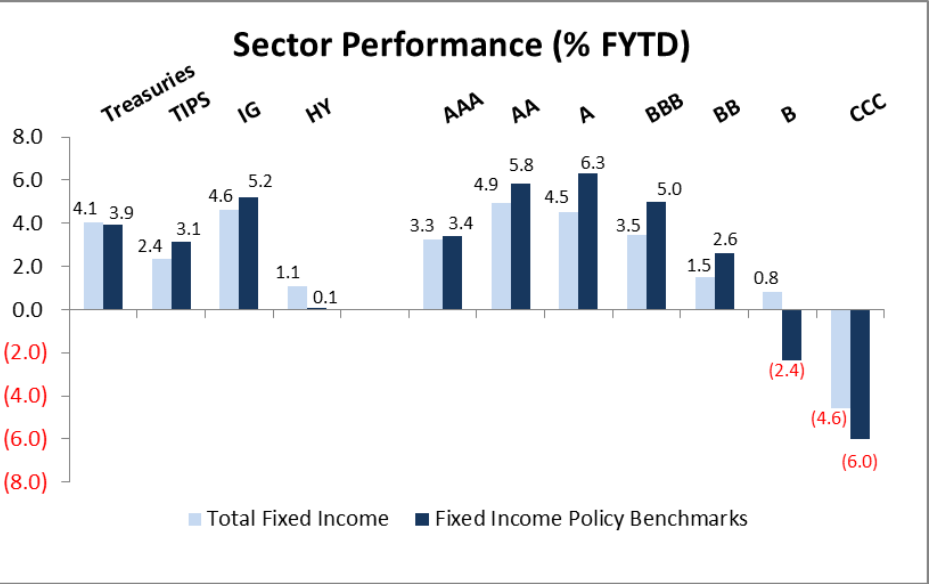
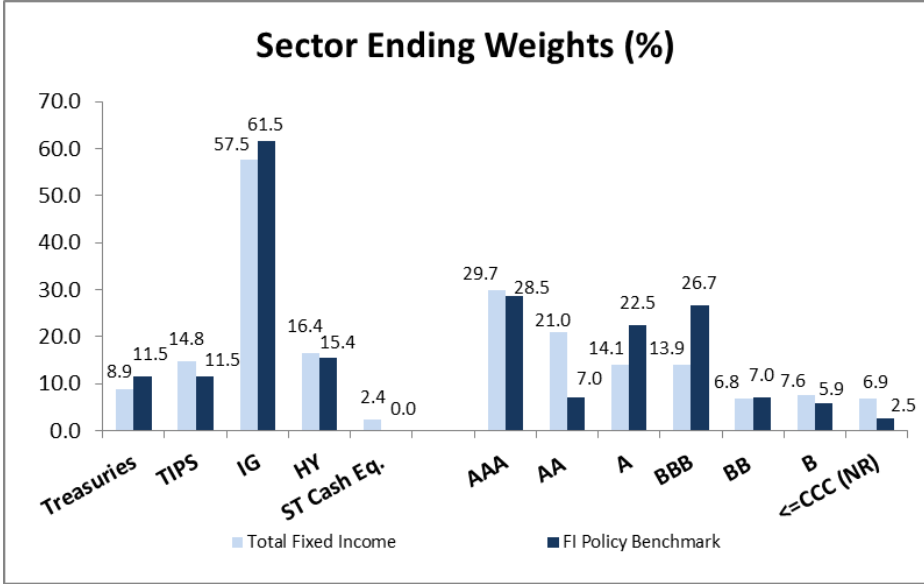


Source: State Street, Factset

For the fiscal year to date, the US Fixed Income portfolio returned 3.66% versus the benchmark return of 4.05%. Relative returns were adversely impacted by a below benchmark duration profile in a strong fixed income environment. FYTD, the yield curve has flattened as the two-year Treasury yield rose 14 basis points while five, ten and thirty-year yields declined 35, 52 and 45 basis points, respectively. In this environment, the underweight duration profile in the Investment Grade Credit (IG) portfolio and the Treasury Inflation-Protected Security (TIPS) portfolio both underperformed their respective benchmarks. Within IG, fallen angels (investment grade bonds downgraded to high yield) were also a drag on returns. Favorable sector and quality section within the High Yield portfolio somewhat offset the impact of fallen angels and duration within the IG and TIPS portfolios. The High Yield portfolio is underweight the energy sector that has underperformed as commodities have been weak while the portfolio is overweight higher quality securities that outperformed.



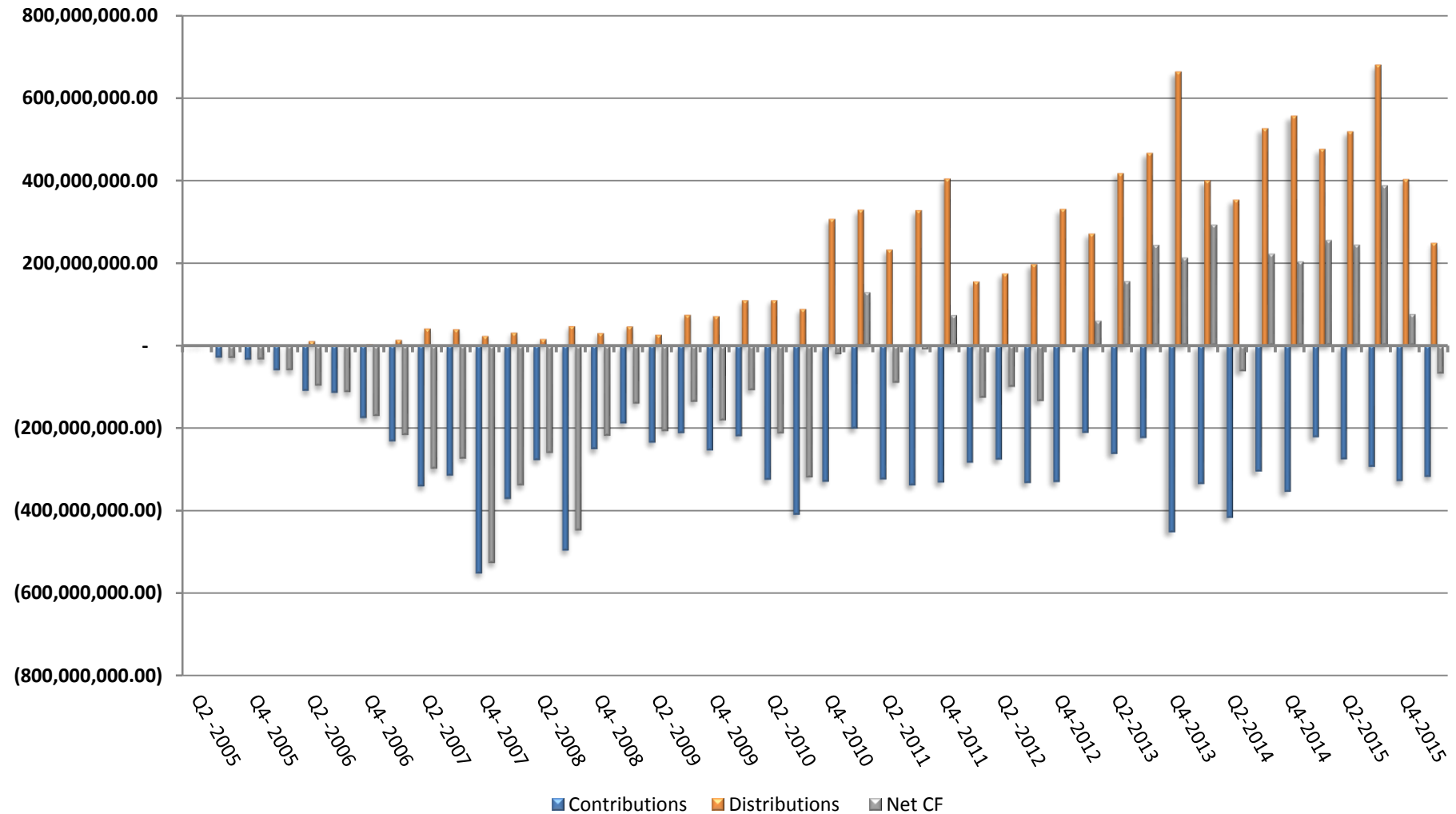
Portfolio Sector Attribution – Weights and Performance



Source: State Street and FactSet

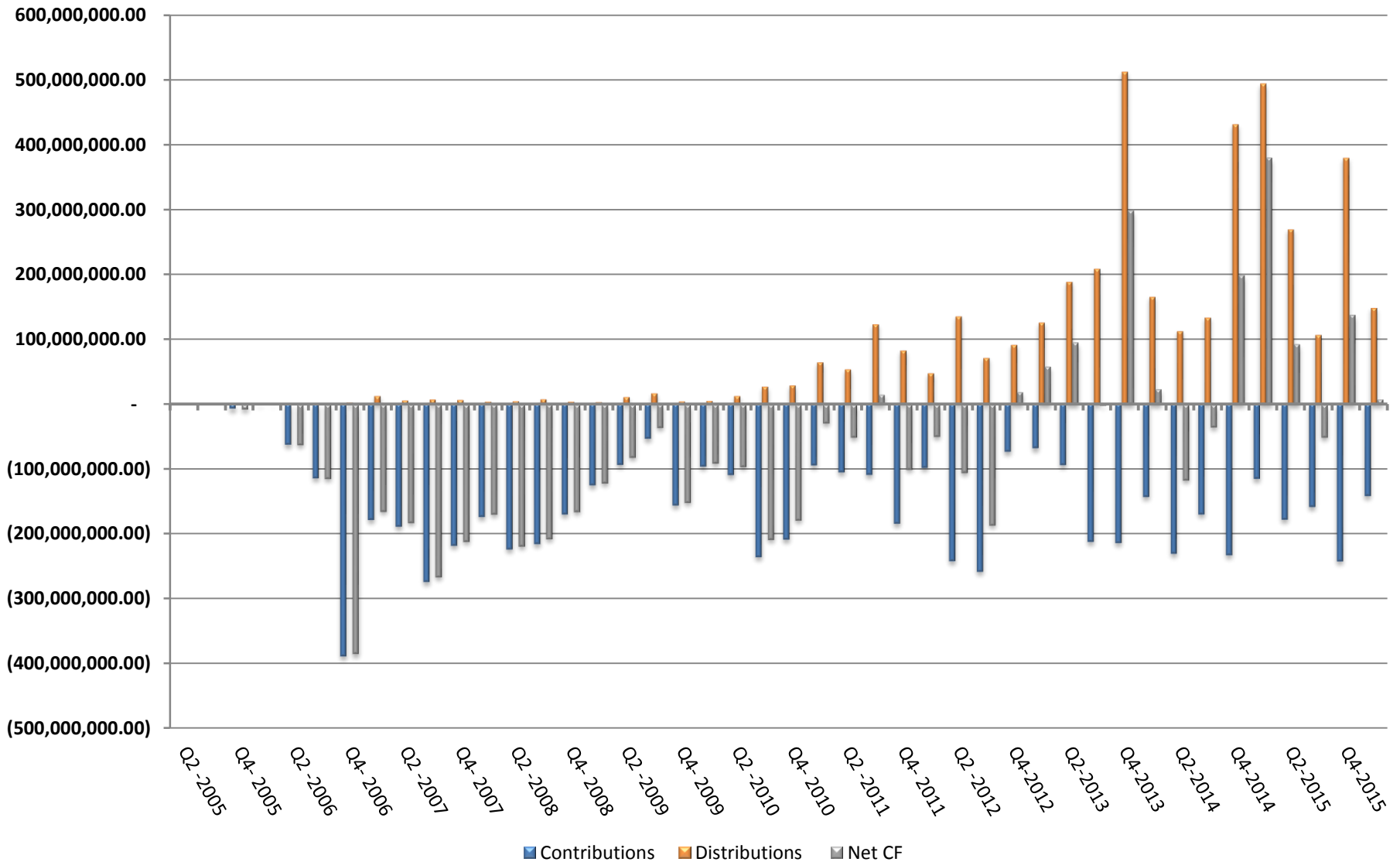
# Private Equity Portfolio Cash Flows

The Private Equity portfolio continues to generate significant distributions as the first quarter of 2016 marked the 14<sup>th</sup> consecutive quarter in which distributions exceeded \$200 million. While the most recent quarter is the first of the last seven in which capital calls outpaced distributions, over this period, the portfolio is still net cash flow positive by \$1.3 billion. Since the beginning of 2013, the portfolio is cash flow positive by \$2.2 billion.



# Real Estate Portfolio Cash Flows

The Real Estate Portfolio was net cash flow positive for the second consecutive quarter and the fifth of the last six quarters. Since the start of 2013, the portfolio is cash flow positive by \$1.1 billion.



# Alternative Investment Notifications

## **Advent International Global Private Equity VIII, L.P.**

A proposed investment in this Fund was presented to the Council at its November 2015 meeting. At that meeting, Staff noted that it would be working with representatives of the Division of Law and outside counsel to negotiate legal documents governing the investment. During the course of the negotiations, the Division and the Fund were unable to reach agreement on the terms of the legal documents. After a number of conversations with senior officers at the Fund, it was decided by both parties in March to cease the negotiations.

## **Regiment Capital Ltd. – Change of Investment Advisor**

In May 2015, the Division informed the Council that it had submitted a request to fully redeem its investment in Regiment Capital Ltd. (the “Fund”), and that Regiment had announced an orderly wind down of the Fund. The winding down process is nearly complete, with the market value of the Division’s remaining interest in the Fund at \$5.14 million as of 3/31/16 (the NAV was \$148.56 million as of 3/31/15). As part of winding down the Fund, Regiment Capital Management, LLC announced the appointment of BRG Fund Management Services, LLC (“BRG”) to serve as its successor as the investment manager of the Fund. BRG is experienced in winding down and managing legacy portfolios.

## **Secondary Sale of Real Estate Funds - Transfer of Purchaser Interests**

In February 2014, the Division sold its interest in a number of real estate funds to a joint venture comprised of several NorthStar and Goldman Sachs entities. The aggregate purchase price of approximately \$900 million is being paid in installments with approximately \$500 million paid at closing and the remaining \$400 million paid in installments commencing March 31, 2015 and ending March 31, 2018. All payments have been made to date, and approximately \$300 million remains to be paid.

NorthStar and Goldman requested the Division’s approval to transfer some of the fund interests to new related entities, reallocate certain interests among the existing entities, and revise the guaranty to reflect the new ownership structure. Most of the amount remaining to be paid is now guaranteed by the GSAM entities rather than the NorthStar entities. The Division approved the transfer after reviewing the financial statements of the Goldman entities and gaining comfort with their financial stability. The transfer does not change the amount owed to the Division.

***Purpose of Notification:*** The Division is notifying the SIC of these updates under its Modification Procedures and Secondary Sale Procedures.

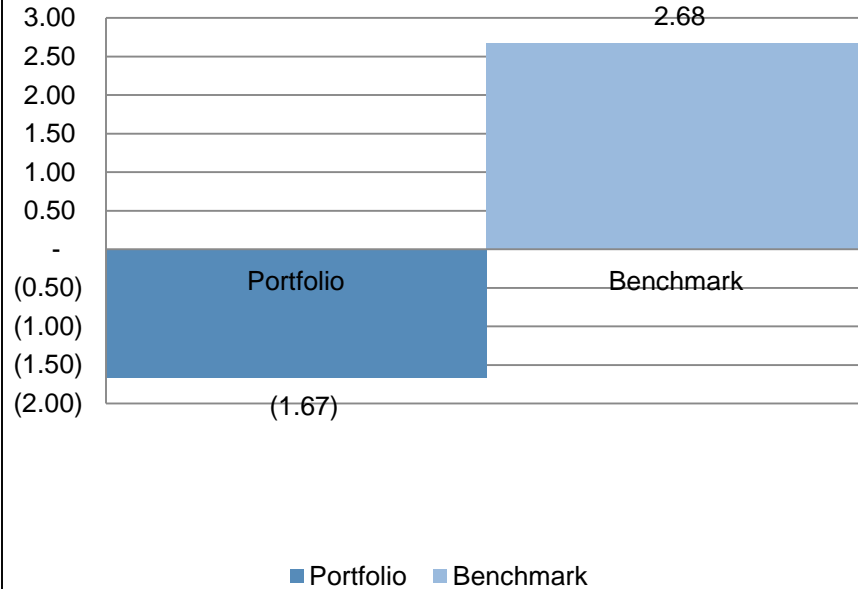
# Update on Hedge Fund Portfolio Initiatives

- One of the initiatives set by the Division of Investment (the “Division”) at the 2016 Annual Meeting of the State Investment Council was a review of the Alternative Investment Program (the “Program”). This included a report presented by the investment consultant to the SIC in January reviewing the rationale for the program and analyzing the Program’s experience to date.
- As it relates to hedge fund strategies specifically, the Division acknowledges that while longer term performance continues to be strong on an absolute and risk adjusted basis, recent performance has been underwhelming and the alignment of interest between the investor and the fund manager can be improved upon, particularly with respect the to fee and incentive structure.
- In an effort to address these concerns, the Division has undertaken a number of initiatives. As detailed below, we are in the final stages of completing projects.
  - Conducted a full review of all hedge fund investments currently part of the portfolio. This review resulted in a presentation to the IPC in May of a plan to consolidate hedge fund exposures with the highest conviction managers. The plan will result in a significant level of redemption from funds with poor alignment of interest, those that may no longer fit with the long term objectives of the portfolio, and/or those where performance did not meet expectations. Capital would be rotated into high conviction investments that meet the objectives of the portfolio, have optimal alignment of interest, and/or reduced fees, in accordance with the asset allocation plan.
  - The Division has spent six months evaluating firms that provide low cost hedge fund strategies. After presenting the concept to the IPC this month and receiving positive feedback, the Division is in the final stages of due diligence for a mandate that would provide the Fund with exposure to hedge fund strategies at discounted terms of 1% management fee and 10% incentive fee. The Division believes this potential mandate would mark a significant change in the future direction of the hedge fund program.
  - This year the Division began active due diligence on flat fee (no incentive fee) hedge fund strategies for inclusion in the Risk Mitigation portfolio. The Division has found these strategies to be robust and compelling alternatives to certain strategies in the Risk Mitigation portfolio. They typically have a flat management fee of 0.75%-1.25% with no incentive fee. The Division is in the final stages of due diligence and hopes to make a recommendation to the IPC for inclusion of these strategies in place of several current investments in the coming months.

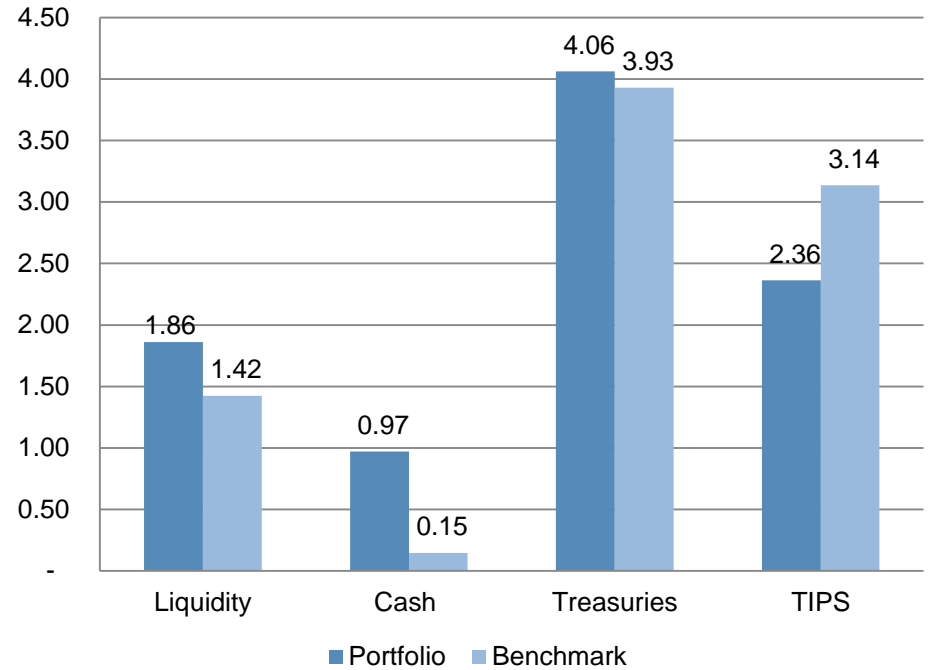
# Performance Appendix



### Risk Mitigation FYTD Performance as of April 30, 2016



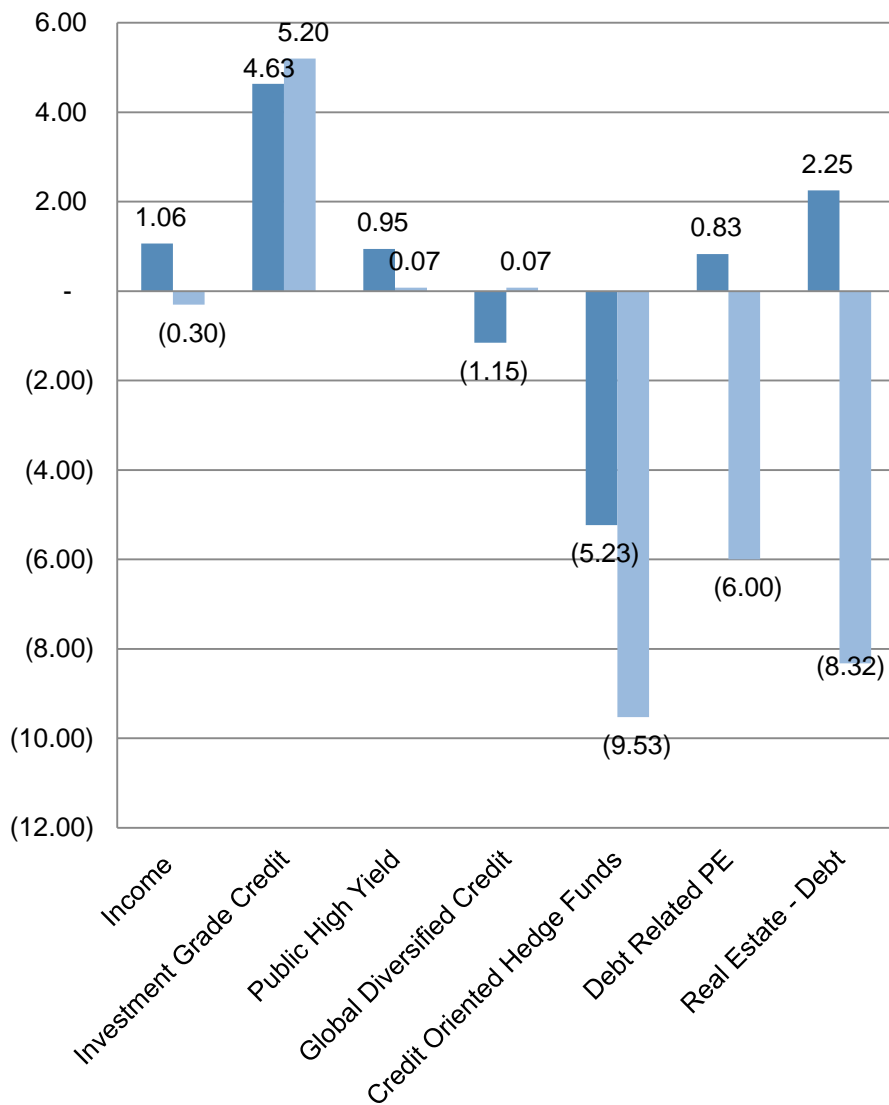
### Liquidity FYTD Performance as of April 30, 2016



Returns as of April 30, 2016	1 Month	CYTD	FYTD	1 Year	2 Year	3 Year
Absolute Return Hedge Funds	(1.05)	(2.16)	(1.67)	(3.82)	1.43	1.48
T-Bill + 300 BP	0.29	1.09	2.68	3.20	3.14	3.11
<i>Difference</i>	<i>(1.34)</i>	<i>(3.25)</i>	<i>(4.34)</i>	<i>(7.02)</i>	<i>(1.71)</i>	<i>(1.64)</i>
<b>Total Risk Mitigation</b>	<b>(1.05)</b>	<b>(2.16)</b>	<b>(1.67)</b>	<b>(3.82)</b>	<b>1.43</b>	<b>1.48</b>
T-Bill + 300 BP	0.29	1.09	2.68	3.20	3.14	3.11
<i>Difference</i>	<i>(1.34)</i>	<i>(3.25)</i>	<i>(4.34)</i>	<i>(7.02)</i>	<i>(1.71)</i>	<i>(1.64)</i>

Returns as of April 30, 2016	1 Month	CYTD	FYTD	1 Year	2 Year	3 Year
Cash Equivalents	0.12	0.45	0.97	1.10	0.99	0.99
91 day treasury bill	0.03	0.10	0.15	0.15	0.09	0.08
<i>Difference</i>	<i>0.09</i>	<i>0.35</i>	<i>0.83</i>	<i>0.96</i>	<i>0.91</i>	<i>0.91</i>
US Treasuries	(0.08)	3.32	4.06	3.79	2.99	(0.80)
Custom Benchmark	(0.11)	3.10	3.93	2.83	3.84	1.50
<i>Difference</i>	<i>0.02</i>	<i>0.23</i>	<i>0.13</i>	<i>0.97</i>	<i>(0.85)</i>	<i>(2.30)</i>
TIPS	0.28	4.05	2.36	1.30	0.97	(1.74)
Custom Tips Benchmark	0.39	5.07	3.14	1.07	2.59	2.01
<i>Difference</i>	<i>(0.10)</i>	<i>(1.02)</i>	<i>(0.77)</i>	<i>0.22</i>	<i>(1.62)</i>	<i>(3.75)</i>
<b>Total Liquidity</b>	<b>0.13</b>	<b>1.94</b>	<b>1.86</b>	<b>1.67</b>	<b>1.03</b>	<b>(0.65)</b>
Benchmark	0.07	1.58	1.42	0.83	2.02	(0.39)
<i>Difference</i>	<i>0.06</i>	<i>0.36</i>	<i>0.44</i>	<i>0.84</i>	<i>(0.98)</i>	<i>(0.26)</i>

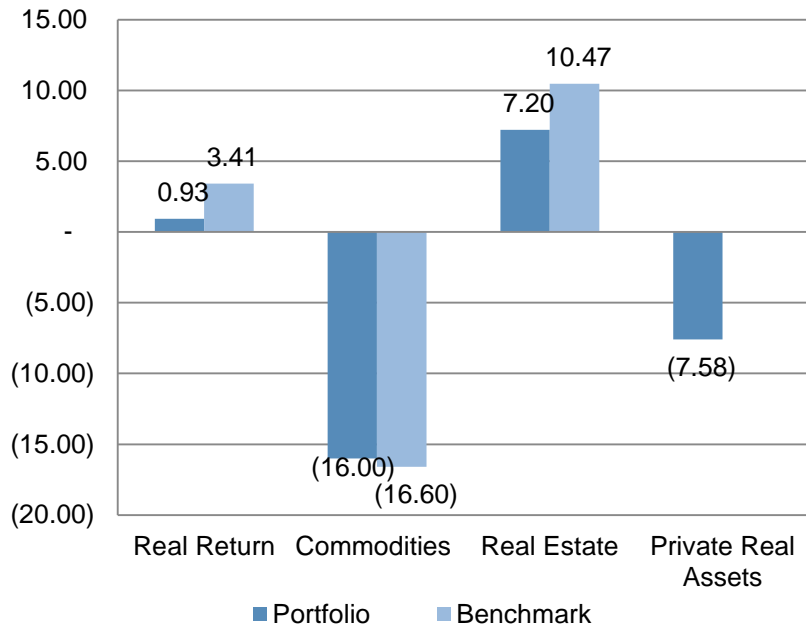
## Income FYTD Performance as of April 30, 2016



\*Reported on a 1 month lag ■ Portfolio ■ Benchmark

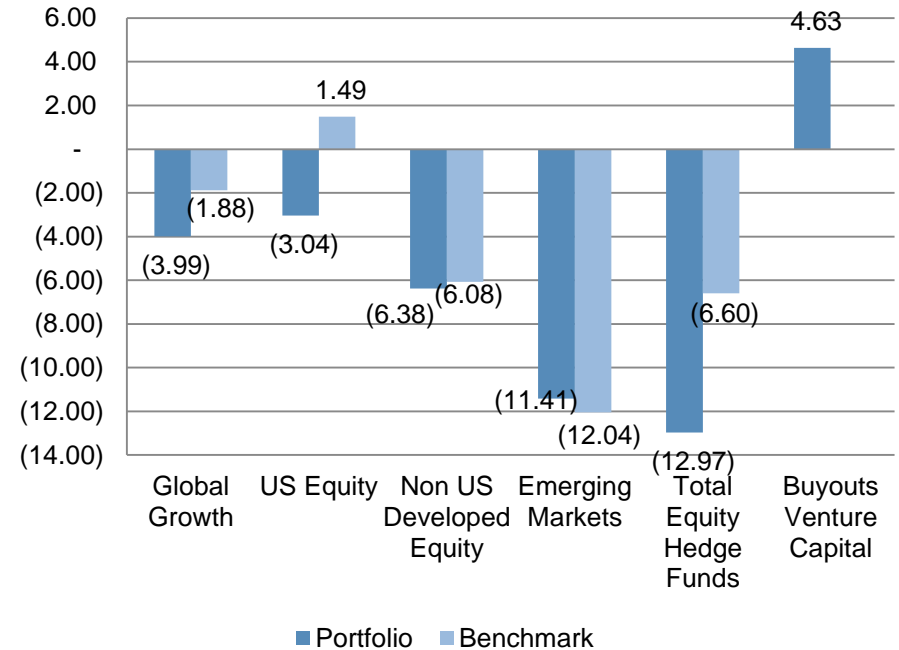
Returns as of April 30, 2016	1 Month	CYTD	FYTD	1 Year	2 Year	3 Year
Investment Grade Credit	1.04	4.83	4.63	3.31	4.33	2.50
Custom IGC Benchmark	1.22	5.19	5.20	2.77	3.65	1.62
<i>Difference</i>	<i>(0.18)</i>	<i>(0.35)</i>	<i>(0.57)</i>	<i>0.54</i>	<i>0.68</i>	<i>0.88</i>
Public High Yield	3.09	6.69	0.95	0.17	1.63	3.18
Barclays Corp High Yield (Daily)	3.92	7.40	0.07	(1.12)	0.71	2.54
<i>Difference</i>	<i>(0.83)</i>	<i>(0.71)</i>	<i>0.87</i>	<i>1.29</i>	<i>0.91</i>	<i>0.64</i>
Global Diversified Credit	1.70	(0.01)	(1.15)	0.20	4.49	8.47
Barclays Corp High Yield (Daily)	3.92	7.40	0.07	(1.12)	0.71	2.54
<i>Difference</i>	<i>(2.21)</i>	<i>(7.41)</i>	<i>(1.23)</i>	<i>1.32</i>	<i>3.77</i>	<i>5.93</i>
Credit-Oriented Hedge Funds	1.53	(2.03)	(5.23)	(4.09)	(1.87)	3.51
Custom Benchmark	2.97	(2.83)	(9.53)	(8.08)	(4.47)	0.23
<i>Difference</i>	<i>(1.44)</i>	<i>0.80</i>	<i>4.29</i>	<i>3.99</i>	<i>2.61</i>	<i>3.28</i>
Debt-Related Private Equity	1.37	1.04	0.83	7.67	7.27	11.62
BarCap Corp HY (1 Qtr lag) + 300 bps	(1.35)	(2.69)	(6.00)	(3.77)	0.77	3.74
<i>Difference</i>	<i>2.72</i>	<i>3.72</i>	<i>6.83</i>	<i>11.44</i>	<i>6.50</i>	<i>7.87</i>
Real Estate-Debt	1.31	1.21	2.25	5.01	7.22	
Barclays CMBS 2.0 Baa + 100 (Qtr lag)	(3.27)	(7.07)	(8.32)	(7.38)	4.31	
<i>Difference</i>	<i>4.58</i>	<i>8.28</i>	<i>10.57</i>	<i>12.39</i>	<i>2.91</i>	
<b>Total Income</b>	<b>1.54</b>	<b>2.58</b>	<b>1.06</b>	<b>1.15</b>	<b>3.13</b>	<b>3.63</b>
Benchmark	2.04	3.43	(0.30)	(1.27)	1.20	1.09
<i>Difference</i>	<i>(0.50)</i>	<i>(0.85)</i>	<i>1.36</i>	<i>2.42</i>	<i>1.93</i>	<i>2.54</i>

## Real Return FYTD Performance as of April 30, 2016



Returns as of April 30, 2016	1 Month	CYTD	FYTD	1 Year	2 Year	3 Year
Private Real Assets	(0.57)	(4.73)	(7.58)	(5.23)		
CA Energy Upst & Royalties & PE Lagged Daily						
<b>Difference</b>	<b>(0.57)</b>	<b>(4.73)</b>	<b>(7.58)</b>	<b>(5.23)</b>		
Commodities	4.31	1.62	(16.00)	(14.45)		
Bloomberg Commodity Index Total Return	8.51	8.96	(16.60)	(17.45)		
<b>Difference</b>	<b>(4.21)</b>	<b>(7.35)</b>	<b>0.60</b>	<b>3.00</b>		
Real Return Real Estate	0.57	3.83	7.20	12.83	14.53	14.88
Real Estate Index	-	3.11	10.47	13.95	12.70	12.93
<b>Difference</b>	<b>0.57</b>	<b>0.72</b>	<b>(3.27)</b>	<b>(1.12)</b>	<b>1.83</b>	<b>1.96</b>
<b>Total Real Return</b>	<b>0.55</b>	<b>1.40</b>	<b>0.93</b>	<b>5.16</b>	<b>5.67</b>	<b>7.14</b>
Benchmark	0.54	2.70	3.41	4.36	3.33	5.90
<b>Difference</b>	<b>0.01</b>	<b>(1.30)</b>	<b>(2.48)</b>	<b>0.81</b>	<b>2.34</b>	<b>1.24</b>

## Global Growth FYTD Performance as of April 30, 2016



Returns as of April 30, 2016	1 Month	CYTD	FYTD	1 Year	2 Year	3 Year
Domestic Equity	0.77	0.23	(3.04)	(2.90)	4.60	9.99
S&P 1500 Super Composite (Daily)	0.47	2.05	1.49	1.00	6.74	11.12
<b>Difference</b>	<b>0.30</b>	<b>(1.82)</b>	<b>(4.53)</b>	<b>(3.90)</b>	<b>(2.14)</b>	<b>(1.14)</b>
Non-US Dev Market Eq	2.90	0.36	(6.38)	(9.44)	(3.72)	1.63
NJDI ex Iran & Sudan EAFE + Canada	3.16	1.03	(6.08)	(9.47)	(3.98)	1.31
<b>Difference</b>	<b>(0.26)</b>	<b>(0.67)</b>	<b>(0.30)</b>	<b>0.04</b>	<b>0.25</b>	<b>0.32</b>
Emerging Market Eq	0.99	7.09	(11.41)	(16.38)	(6.46)	(5.24)
NJDI Iran + Sudan Free EM Index	0.34	6.00	(12.04)	(17.69)	(5.69)	(4.48)
<b>Difference</b>	<b>0.66</b>	<b>1.08</b>	<b>0.63</b>	<b>1.31</b>	<b>(0.77)</b>	<b>(0.77)</b>
Total Equity Oriented Hedge Funds	1.30	(7.42)	(12.97)	(12.73)	(3.21)	2.76
Custom Benchmark	4.56	(2.64)	(6.60)	(4.18)	0.85	3.94
<b>Difference</b>	<b>(3.26)</b>	<b>(4.78)</b>	<b>(6.37)</b>	<b>(8.55)</b>	<b>(4.06)</b>	<b>(1.18)</b>
Buyouts-Venture Capital	0.86	2.60	4.63	14.85	16.97	18.62
Cambridge Associates PE 1 Qtr Lag						
<b>Difference</b>	<b>0.86</b>	<b>2.60</b>	<b>4.63</b>	<b>14.85</b>	<b>16.97</b>	<b>18.62</b>
<b>Total Global Growth</b>	<b>1.29</b>	<b>0.64</b>	<b>(3.99)</b>	<b>(3.81)</b>	<b>2.88</b>	<b>7.12</b>
Benchmark	1.30	1.84	(1.88)	(3.04)	3.00	6.44
<b>Difference</b>	<b>(0.01)</b>	<b>(1.21)</b>	<b>(2.11)</b>	<b>(0.77)</b>	<b>(0.12)</b>	<b>0.67</b>