

RSIC 2016 UPDATE

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Chief Executive Officer
April 19th, 2016*

RSIC 2016 Update

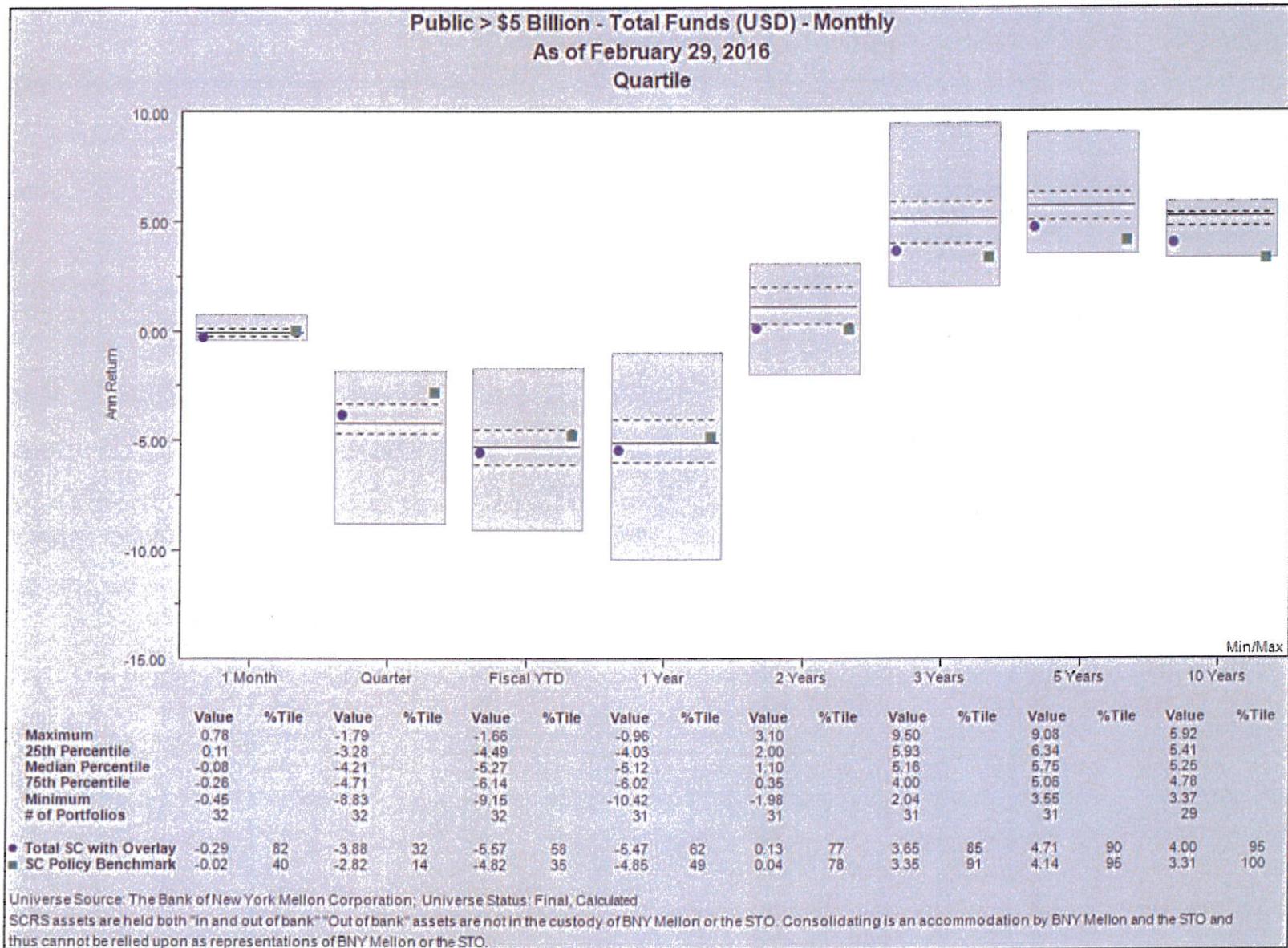
- I. We understand that we have underperformed.
- II. We understand why we have underperformed.
- III. We understand the market challenges.
- IV. We understand how we can do better.

RSIC 2016 Update

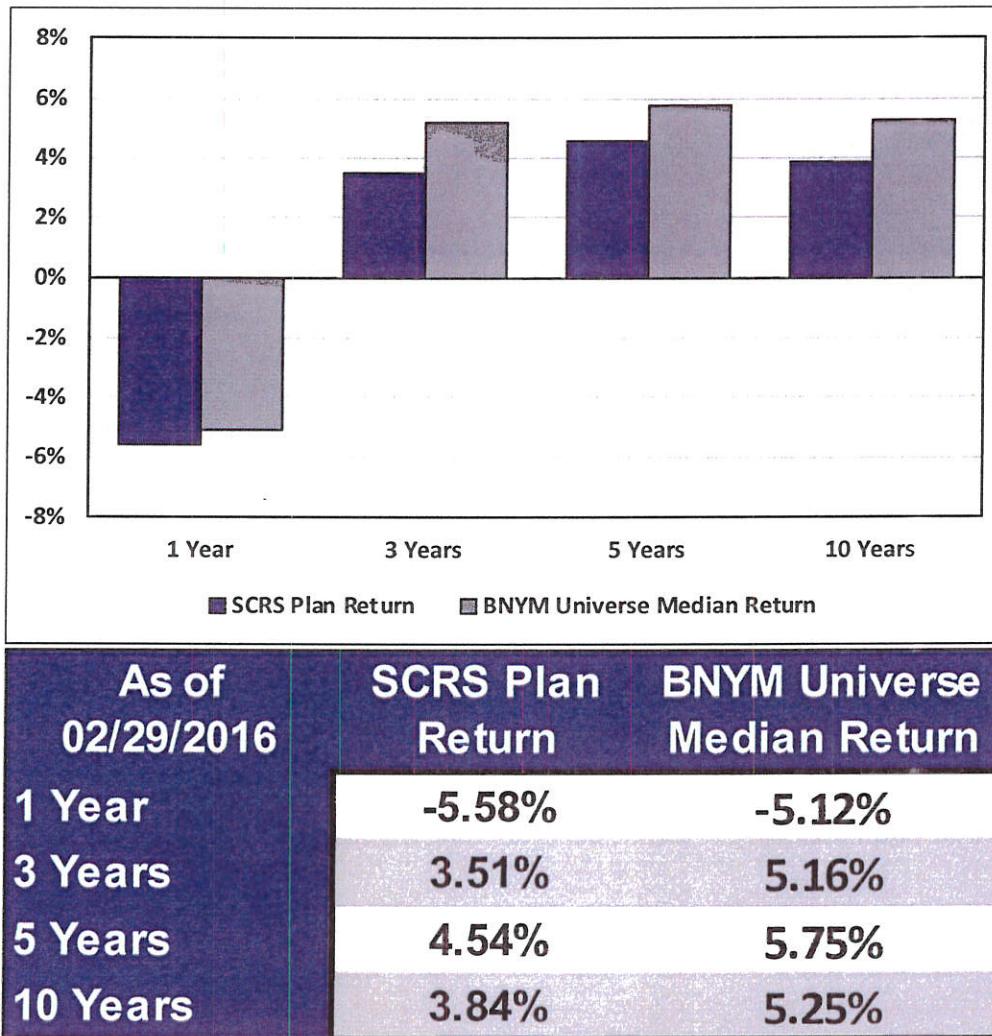
I.

*We understand that we
have underperformed.*

RSIC Peer Ranking



Historic Trailing Returns



II.

*We understand why we
have underperformed.*

RSIC's Historical Conviction

Belief: RSIC employs a conservative Asset Allocation that emphasizes protection in catastrophic down market scenarios.

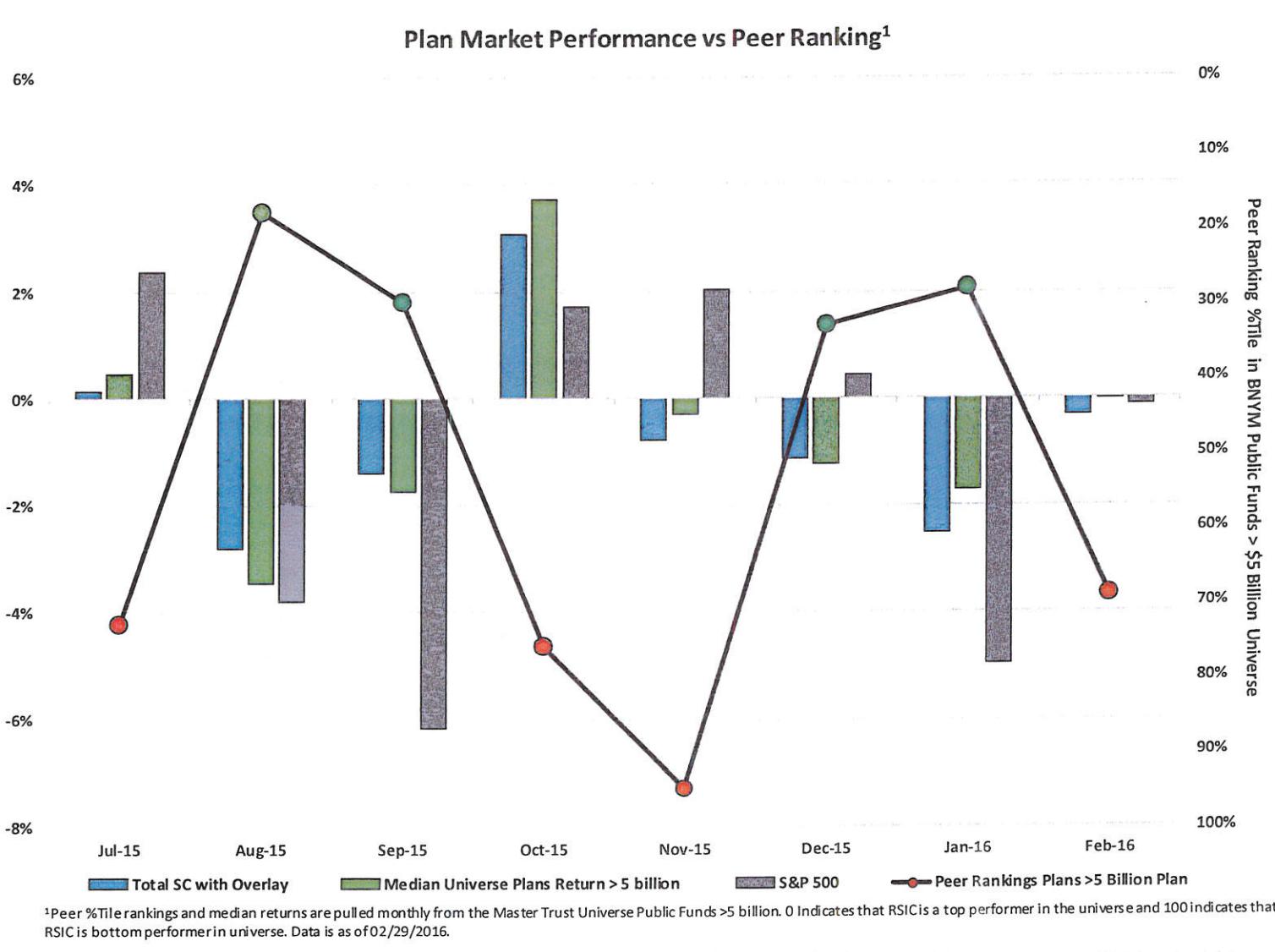
Funston's Thoughts: *"The current asset allocation is a complex and costly form of insurance against catastrophic drawdowns."* Funston, 2014

Long Term Impact of Asset Allocation – 5 Years¹

Data from FYE 2011 - FYE 2015	Long Term Allocation	Average O/U Weight	Index Returns (Annualized)
	Effect (Annualized)		
US Equity	-1.35%	-15.6%	16.8%
Short Duration	-0.21%	3.2%	1.2%
Commodities	-0.20%	2.9%	-3.9%
Real Estate	-0.18%	-3.2%	15.3%
Emerging Markets Debt	-0.15%	2.8%	3.9%
Global Fixed Income	-0.13%	2.8%	3.7%
Emerging Mkts Equity	-0.13%	2.2%	3.7%
Private Debt	-0.11%	7.7%	6.6%
Non-US Equity	-0.08%	-7.7%	9.5%
Hedge Funds (Low Beta)	-0.07%	2.6%	5.1%
Mixed Credit	-0.07%	2.5%	5.7%
GTAA	-0.06%	9.3%	7.1%
Internal Cash	0.00%	0.0%	0.1%
Private Equity	0.05%	0.3%	16.0%
Core Fixed Income	0.47%	-9.9%	3.3%
Interaction	-0.39%		
Annualized Allocation Effect	-2.62%		

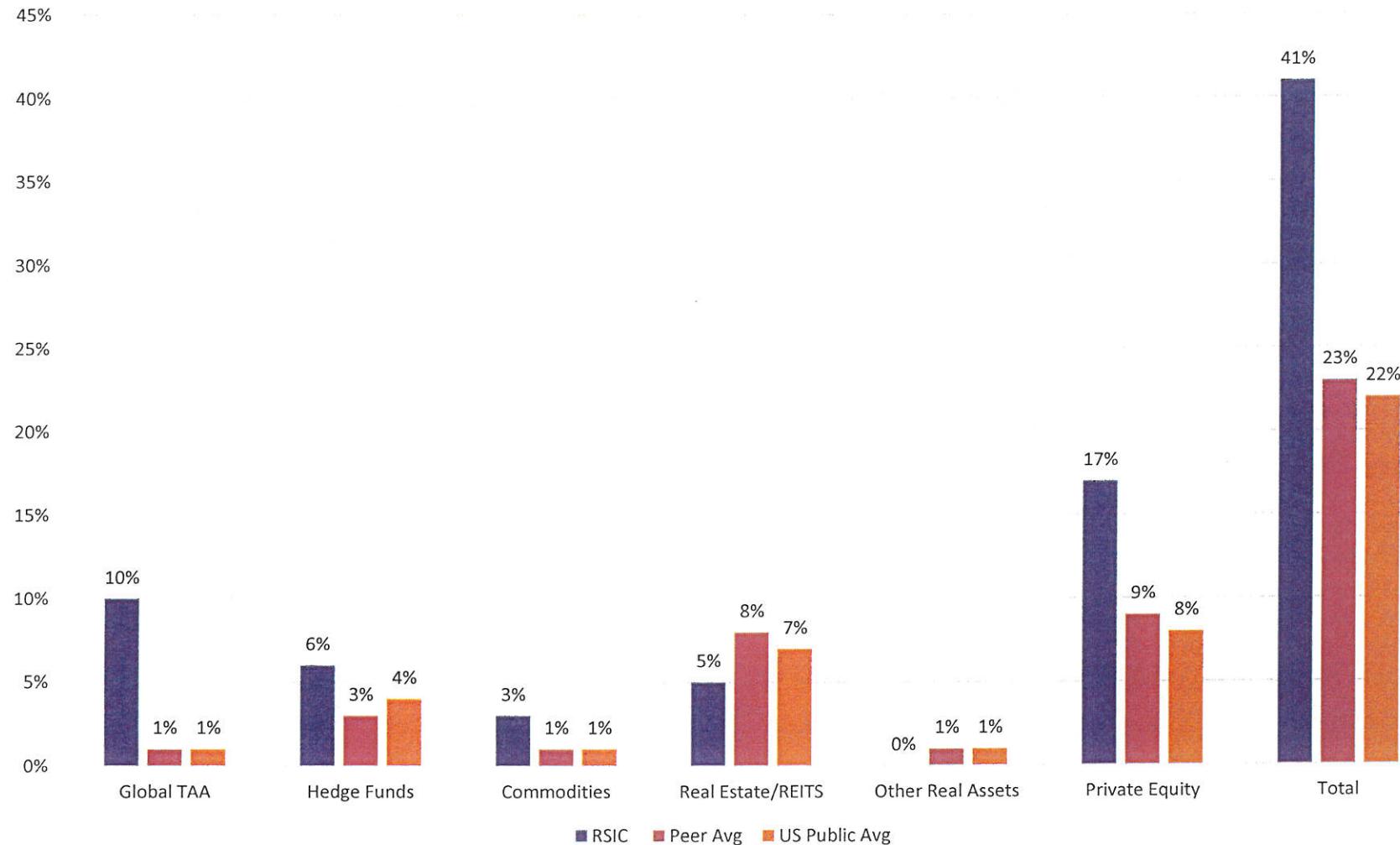
- Biggest detractor was our underweight to U.S. Equity. The 5-Year annualized return is 16.8% with an average 15.6% underweight in relation to peers.
- Other detractors were an overweight to Short Duration and Commodities which have returned 1.2% (annualized) and -3.9% (annualized), respectively.

Historic Trailing Returns



Alternatives Allocation*

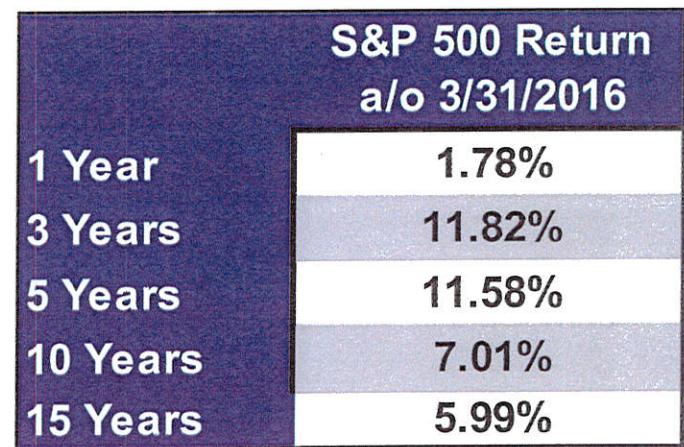
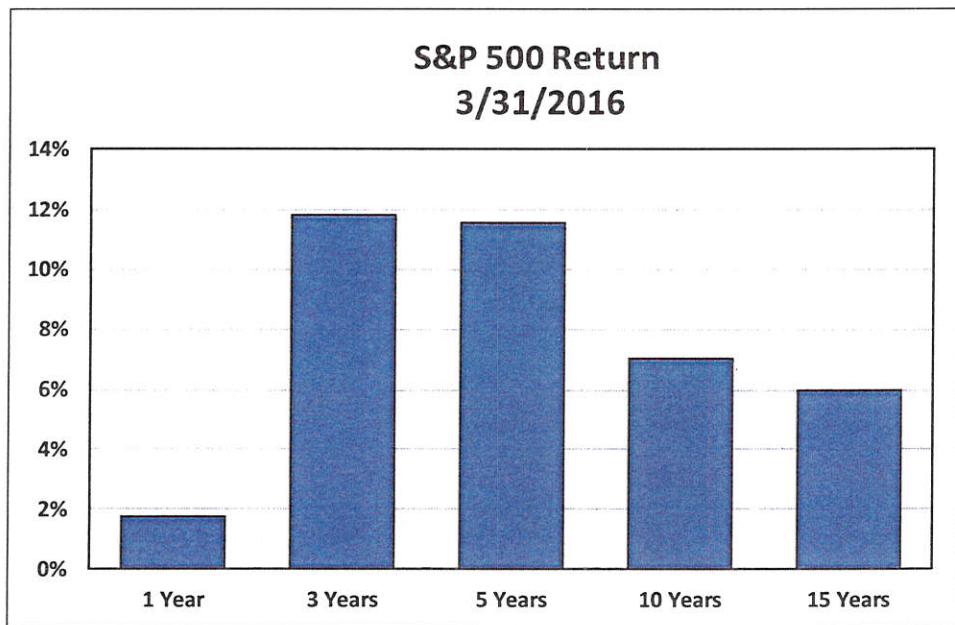
Source: CEM as of 6/30/14



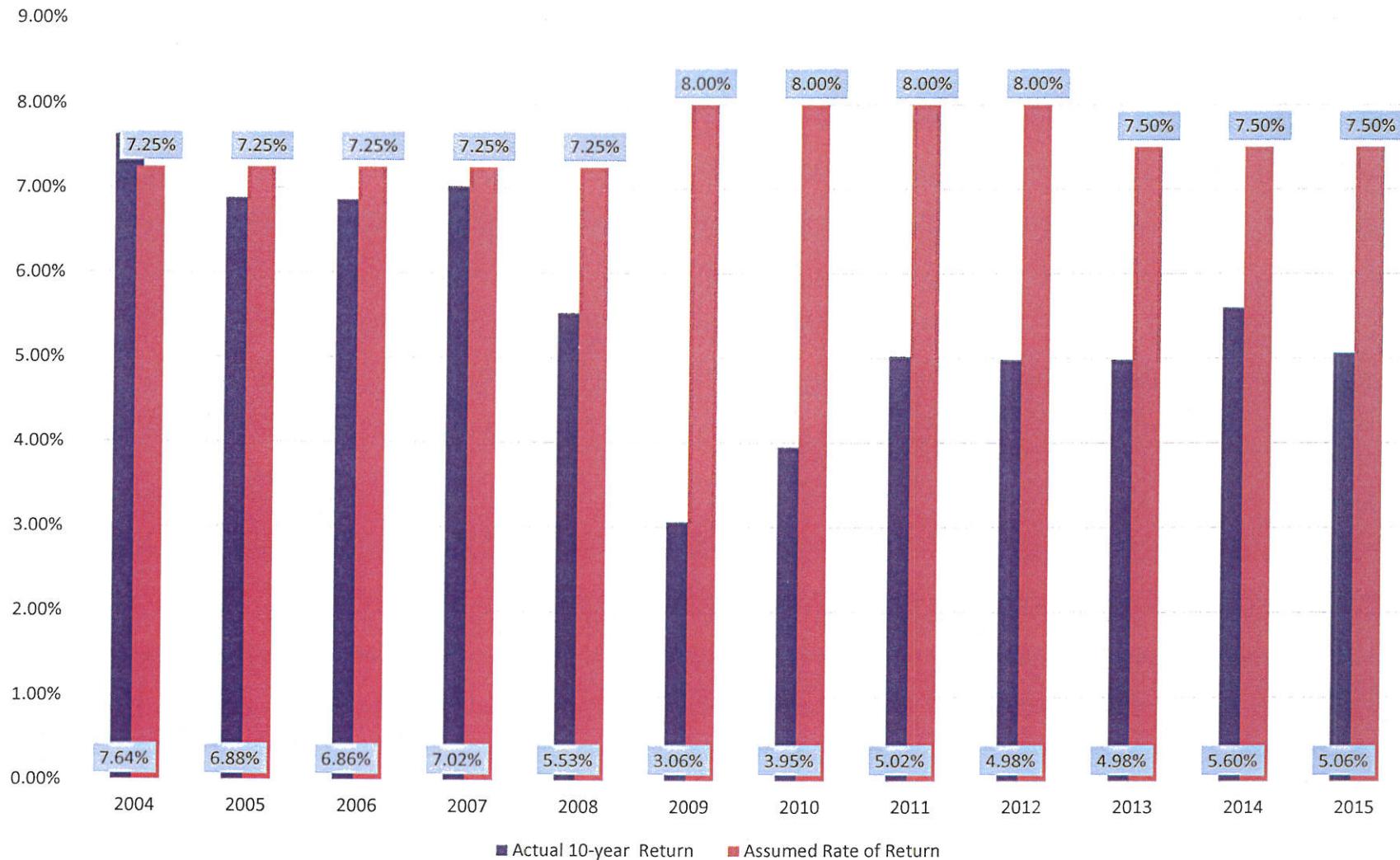
III.

*We understand the
market challenges.*

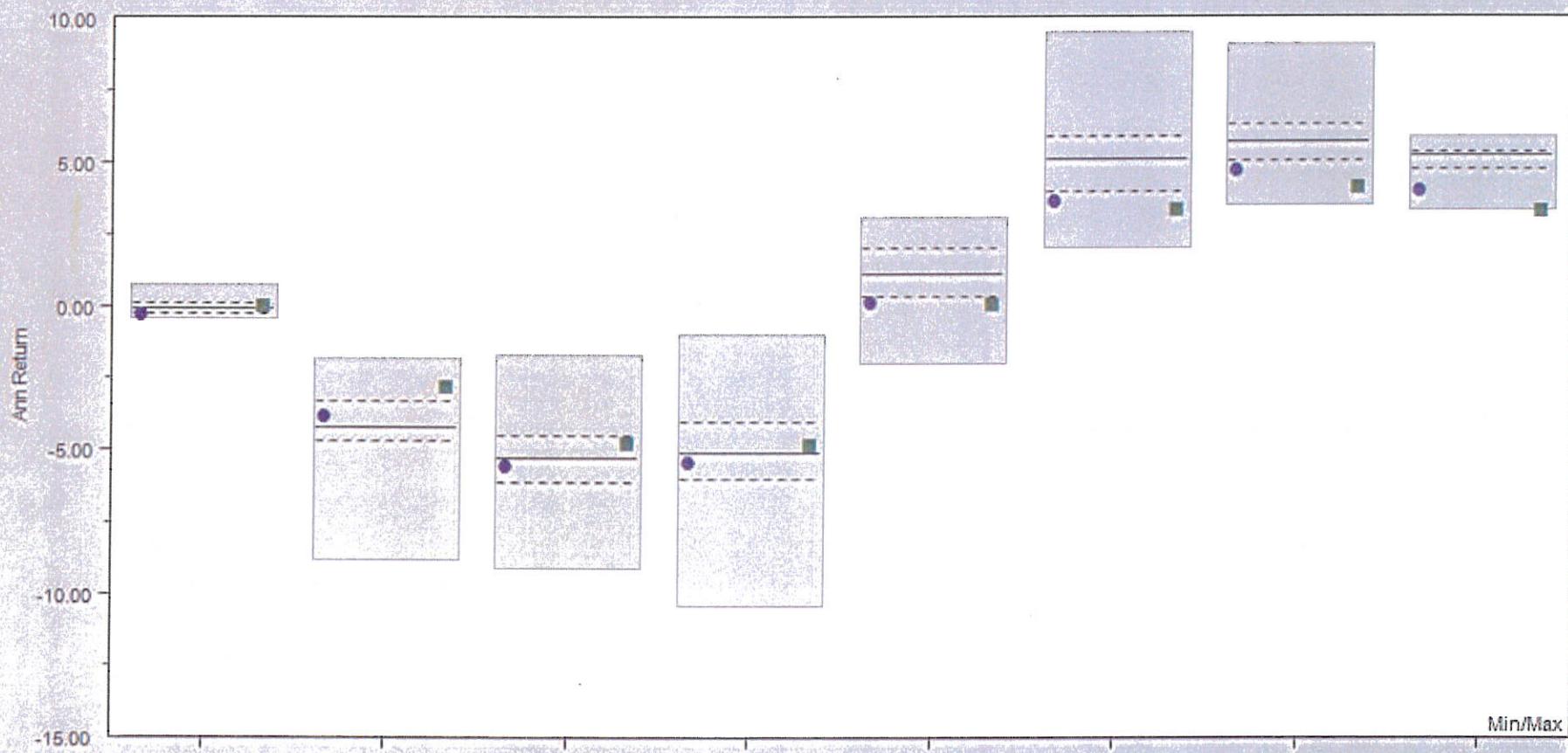
Public Markets History



10 Year Rolling Return vs. Assumed Rate of Return



Public > \$5 Billion - Total Funds (USD) - Monthly
As of February 29, 2016
Quartile



	1 Month	Quarter	Fiscal YTD	1 Year	2 Years	3 Years	5 Years	10 Years	Min/Max
Maximum	0.78	-1.79	-1.66	-0.96	3.10	9.50	9.08	5.92	
25th Percentile	0.11	-3.28	-4.49	-4.03	2.00	5.93	6.34	5.41	
Median Percentile	-0.08	-4.21	-5.27	-5.12	1.10	5.16	5.75	5.25	
75th Percentile	-0.26	-4.71	-6.14	-6.02	0.35	4.00	5.06	4.78	
Minimum	-0.46	-8.83	-9.15	-10.42	-1.98	2.04	3.55	3.37	
# of Portfolios	32	32	32	31	31	31	31	29	
● Total SC with Overlay	-0.29	82	-3.88	32	-5.57	58	-5.47	62	0.13
■ SC Policy Benchmark	-0.02	40	-2.82	14	-4.82	35	-4.85	49	0.04

Universe Source: The Bank of New York Mellon Corporation; Universe Status: Final, Calculated

SCRS assets are held both "in and out of bank" "Out of bank" assets are not in the custody of BNY Mellon or the STO. Consolidating is an accommodation by BNY Mellon and the STO and

Total Return Framework

- $$r_p = r_f + r_\beta + r_\alpha$$

- r_p : Return of Plan
- r_f : Return on Cash
- r_β : Return from investing in markets
- r_α : Return from skillful implementation

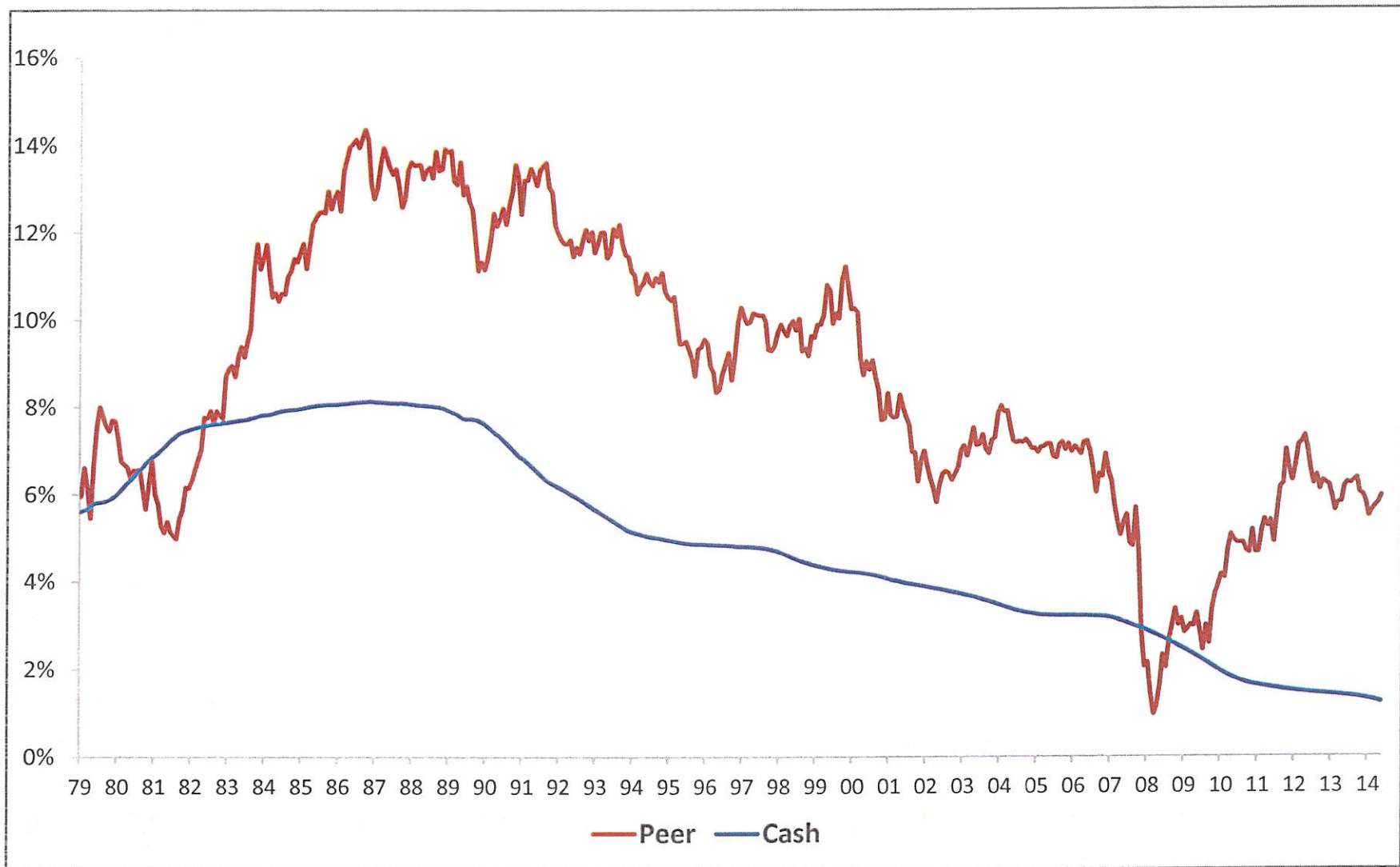
Historical Returns

Historical Peer Portfolio Return	=	Return on Cash	+	Excess Return of Beta
9.73%		5.38%		4.35%

- r_f : Return on Cash
 - For the longest history we have since 1934, the average cash rate is 3.63%, while it ranged from 1bps to 16.3%
 - For the period from Jan 1970 to April 2015, the average cash rate is 5.38%, while it ranged from 7bps to 15.81%*
- r_β : Return from simply investing in markets.
- r_α : Assumed to be zero (zero-sum across entire peer community)

- Long term return on Cash is from Federal Reserve Economic Data, Jan 1934 to Oct 2015. For consistency in period of study, cash rate used for formula is from BridgeWater. They are slightly different.
- Return on peer universe is combined from BridgeWater, and Bloomberg. Jan 1970 to Apr 2015, while hedge funds are assumed to return 0 over cash before 1990 while HFRI Fund Weighted Composite Index

Rolling 10 Year Returns Above Cash Rate



Limited Building Blocks

- Cash Rate = .25%
- Only two asset classes are projected to earn more than 7.5% over the next 30 years:
 1. Emerging Market Equity
 2. Private Equity

IV.

*We understand how we
can do better.*

Asset Allocation – Challenging Convictions

- “Zero based budgeting”
- No “sacred cows”
- Challenge existing beliefs about asset classes

Challenge Over 20 Existing Convictions

Reviews Completed

- Do we need 5% in Cash & Short Duration?
- Should we have more (or less) Equity in the Plan?
- Do we need 10% in Core Fixed Income?
- Should we continue to invest in Hedge Funds?
- Should we hedge our foreign currency exposure?
- Does Private Equity offer a compelling return when compared to Public Equity?
- Does Private Debt offer a compelling opportunity when compared to liquid credit alternatives?
- Should RSIC consider investing in public forms of Real Estate (REITs)?

Immediate Actions From November Meeting

- Reduction in Cash allocation from 5% to 2% of the plan NAV
- Additional Equity exposure from 40% to 43% of the plan NAV.
- Elimination of static targets to private markets
 - Investment decision is no longer “top-down”
 - Now based upon merits of individual investment
 - Forces clear articulation of investment case for private markets

New Asset Allocation

Asset Class	Prior Allocation	FYE 2017 Allocation
Equity	43%	47%
Conservative Fixed Income	12%	12%
Diversified Credit	17%	18%
Opportunistic	20%	12%
Real Assets	8%	11%
Total	100%	100%
30 Year Metrics - 4Q15 Capital Market Assumptions		
Expected Nominal Return	6.96%	7.34%
Expected Real Return	4.87%	5.24%
Expected Risk (Volatility)	11.63%	12.81%
Sharpe Ratio	0.384	0.378

New Asset Allocation – Key Points

- The new asset allocation will be phased in over three years.
- Return estimates are based on thirty year assumptions that will adjust based on actual market performance.
- Near-term market performance will likely significantly impair the ability of pension funds to achieve their assumed rate of return.

Organizational Goals

- Emphasize Simplicity – Reduce Complexity
- Continue to Focus on Asset Allocation
- Commit Capital with Conviction
- Align Compensation with Plan Performance
- Engage Stakeholders on Risk Tolerance
- Improve Decision Making and Accountability
- Promote Confidence

Footnotes and Disclosures:

¹The analysis on page 8 is disaggregating the outperformance of the SCRS Policy benchmark to the PFDE Mean Portfolio returns, which are derived from taking the beginning mean universe weights annually and multiplying by the monthly asset class benchmark index returns.

- Policy Benchmark weights can be found in the Statement of Investment Objectives and Policies ([SIO](#)P) on the RSIC Website.
- All returns are from Bank of New York Mellon (BNYM) and are time-weighted, total return calculations, net of fees and expenses. All returns are expressed in U.S. dollars. Periods greater than one year are annualized. Fiscal Year ends June 30th. Policy benchmark is the blend of the asset class policy benchmarks using policy weights. Asset class benchmarks and policy weights are reviewed annually by the Commission's consultant and adopted by the Commission and have changed over time. The policy benchmark return history represents a blend of these past policies.
- This report was compiled by Staff of the South Carolina Retirement System Investment Commission and has not been reviewed, approved or verified by the external investment managers. No information herein should be used to calculate returns or compare multiple funds, including Private Equity funds.



BENEFICIARIES FIRST:
THEIR FUTURE, OUR MISSION.