RSIC
History, Mission, Future

Michael Hitchcock
Chief Executive Officer
August 30th, 2016

RSIC BENEFICIARIES FIRST: THEIR FUTURE, OUR MISSION.

Discussion Topics

I. Organization
II. Performance
III. Understanding Our Performance
IV. Challenges
V. Improving Performance

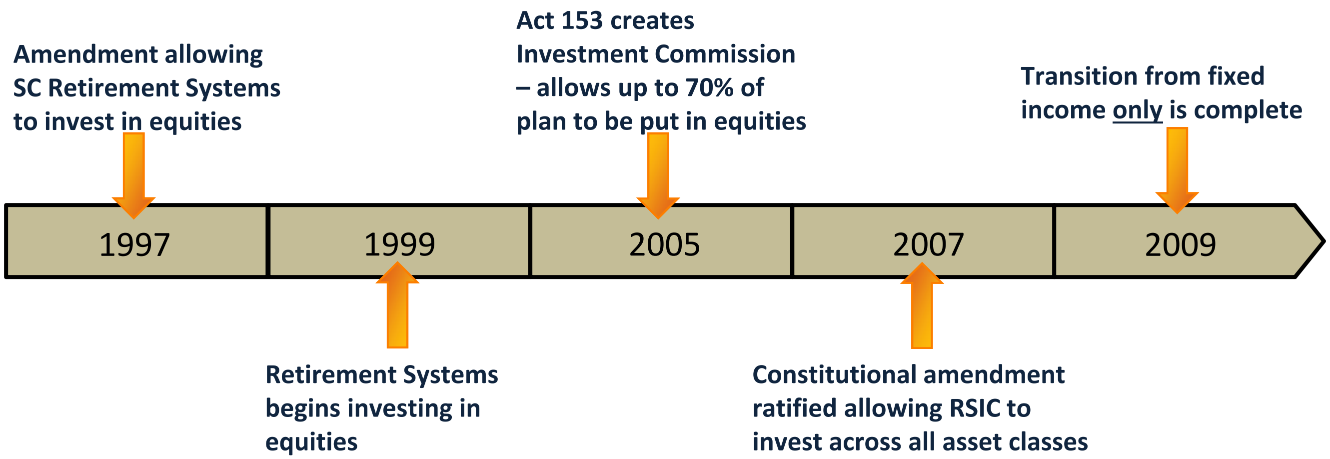
I.

ORGANIZATION

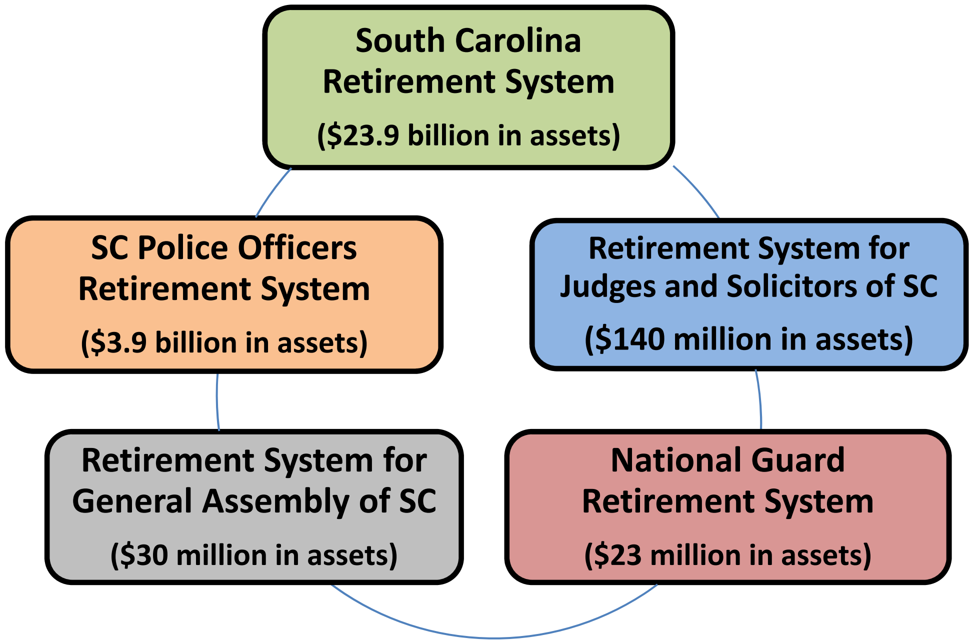
Investment Background

- Although the Retirement Systems Investment Portfolio existed since 1945, the assets of the Retirement System were historically invested only in domestic fixed income until 1997.
- The Investment Panel was created in the late 90's to advise the Budget and Control Board on the domestic equity portfolio, which was limited to 40%.
- Effective October 1, 2005, the State Retirement System Preservation and Investment Reform Act established the Investment Commission.

History of Fund Investments



Purpose and Duties



- The assets of the five defined-benefit plans are held collectively in a group trust referred to as the “South Carolina Retirement Systems Group Trust” or “Systems”.
- RSIC is responsible for investing and managing assets held in trust for the five systems.
- As of June 30, 2016, Systems totaled approximately $27.98 billion in assets.

Who do we work for?

OVER 500,000

Plan Participants and Beneficiaries

About 1 in every 9 South Carolinians

Why do we exist?

We exist to help provide a secure future for our beneficiaries.

"Beneficiaries First:

Their Future, Our Mission."

The Commission

The RSIC is a seven member commission:

- **Rebecca Gunnlaugsson, PhD**, Chair (Appointed by: Comptroller General Richard Eckstrom)
- **Ron Wilder**, **PhD**, Vice-Chair (Retiree Representative to the Commission)
- **Curtis M. Loftis, Jr.** (State Treasurer)
- **Edward N. Giobbe, MBA**, (Appointed by: Governor Nikki Haley)
- **Reynolds Williams**, **J.D., CFP** (Appointed by: Senate Finance Committee Chairman, Hugh Leatherman)
- **Allen R. Gillespie, CFA** (Appointed by: Ways and Means Committee Chairman Brian White)
- **Peggy Boykin, CPA** (Ex-Officio as PEBA Executive Director)

RSIC Commissioner/Staff Qualifications

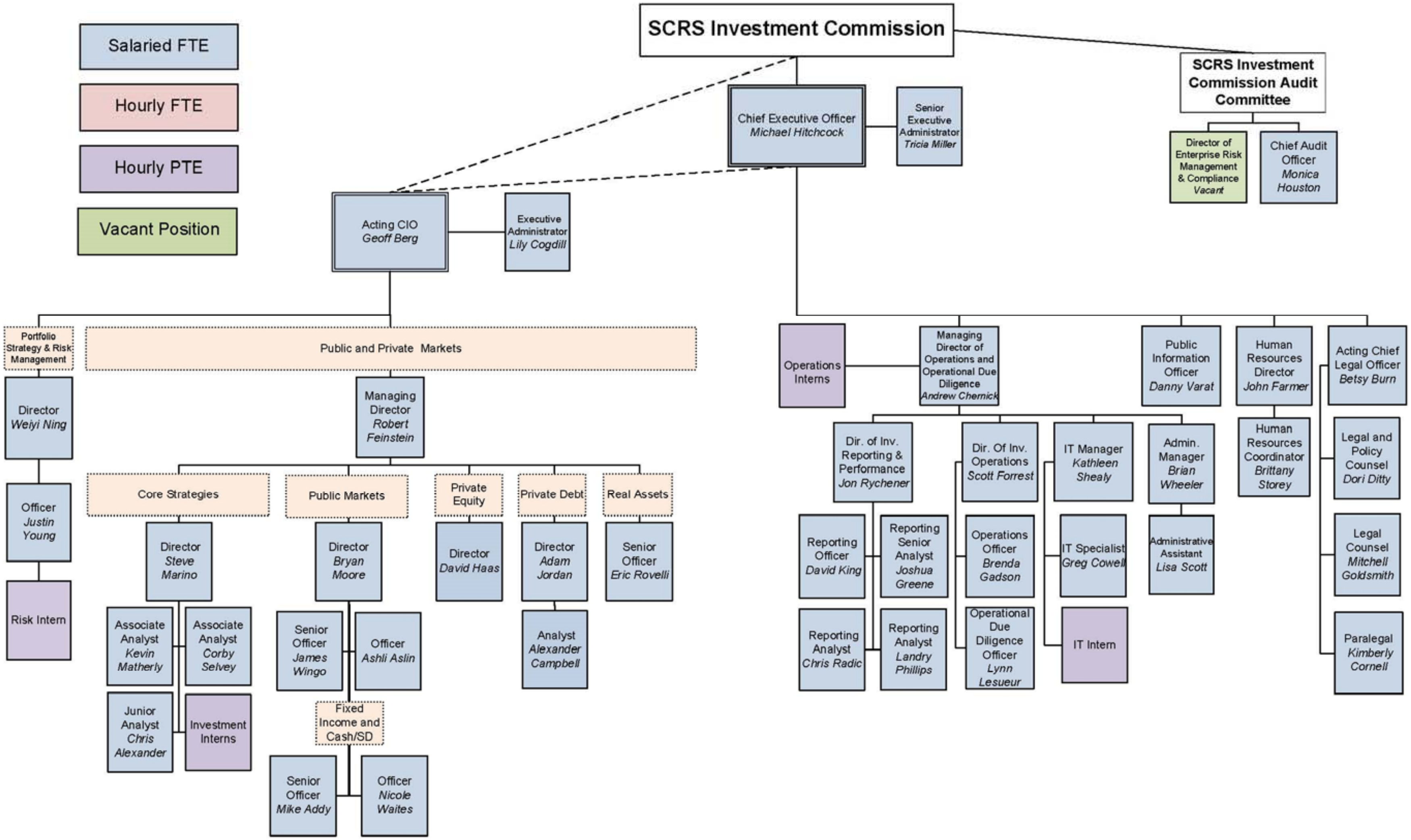
RSIC Commissioners and staff include:

- Seven Juris Doctors
- Three Certified Public Accountants
- Eight Chartered Financial Analysts
- Eighteen Masters Degrees
- Three PhDs
- Four Chartered Alternative Investment Analysts
- Three Claritas Investment Certification Holders

Chartered Financial Analyst (CFA) is a professional credential that measures the competence and integrity of financial analysts.

- Required to pass 3 exams.
- A minimum of 4 years of investment/financial experience and a bachelor's degree.
- One of the most respected designations in finance and considered the gold standard in the field of investment analysis.

RSIC Organizational Chart



Aon Hewitt Investment Consultants

- AHIC is RSIC's investment consulting firm.
- AHIC is a fiduciary.
- AHIC has $4.3 trillion in assets under advisement worldwide.
- AHIC has over thirty years of experience working with public funds.

Investment Process

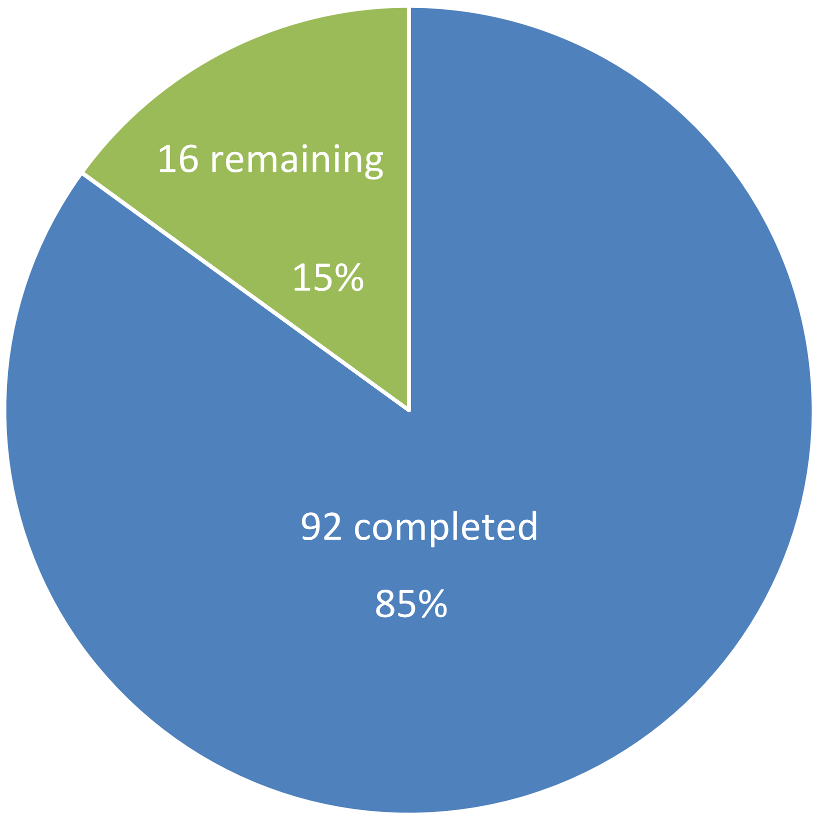
1. The Commission must determine asset allocation – the biggest driver of return, risk, and complexity.
2. AHIC conducts an Asset Liability Modeling Study at least every 5 years. Annually, AHIC and Staff recommend asset allocation that best balances risk and return.
3. The Commission reviews and discusses recommended asset allocation and has the opportunity to present alternative Asset Allocation Strategies.
4. Vote goes to the Commission.
5. RSIC Staff and Aon recommend individual managers to fulfill asset allocation mandates.
6. Commission votes to hire individual managers.
7. Commission staff performs ongoing monitoring of investment managers.

Investment Goal

Section 9-16-335 sets the assumed annual rate of return on retirement system investments at:

7.5%

Funston Recommendations



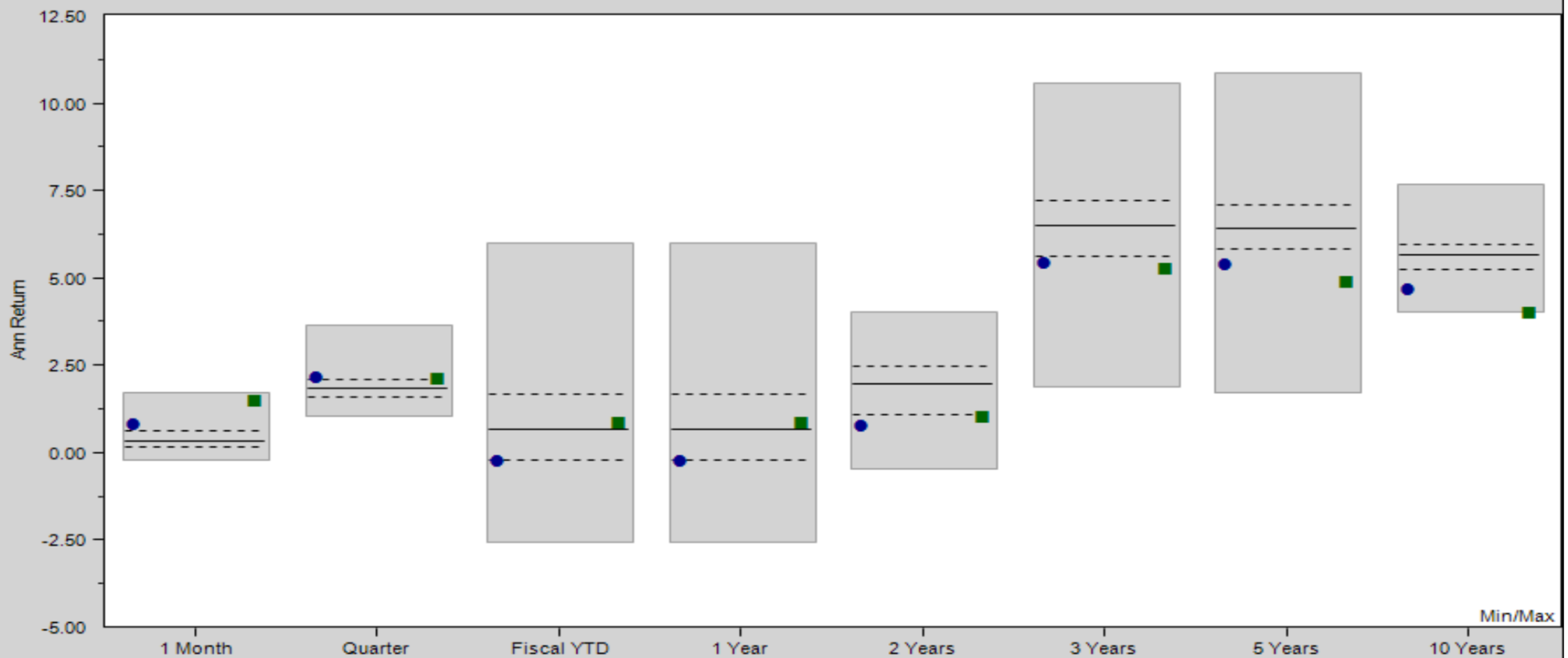
SC RETIREMENT SYSTEM INVESTMENT COMMISSION

II.

PERFORMANCE

RSIC Peer Ranking

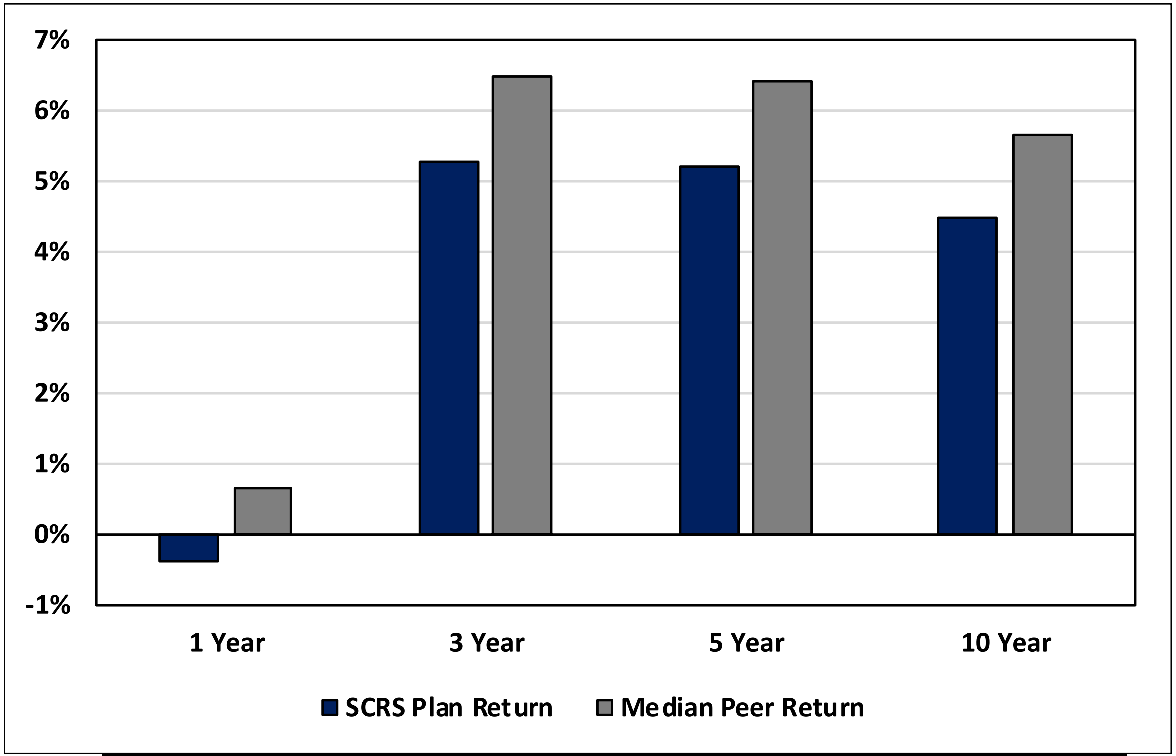
Public > $5 Billion - Total Funds (USD) - Monthly
As of June 30, 2016
Quartile



	1 Month		Quarter		Fiscal YTD		1 Year		2 Years		3 Years		5 Years		10 Years	
	Value	%Tile	Value	%Tile	Value	%Tile	Value	%Tile	Value	%Tile	Value	%Tile	Value	%Tile	Value	%Tile
Maximum	1.73		3.63		5.98		5.98		4.02		10.56		10.84		7.67	
25th Percentile	0.64		2.09		1.66		1.66		2.47		7.20		7.08		5.95	
Median Percentile	0.35		1.85		0.66		0.66		1.96		6.48		6.42		5.65	
75th Percentile	0.17		1.60		-0.23		-0.23		1.07		5.62		5.82		5.25	
Minimum	-0.23		1.04		-2.58		-2.58		-0.48		1.89		1.72		4.03	
# of Portfolios	37		37		37		37		36		36		35		33	
● Total SC with Overlay	0.77	22	2.15	19	-0.26	79	-0.26	79	0.73	90	5.41	84	5.36	89	4.65	95
■ SC Policy Benchmark	1.48	5	2.10	24	0.82	46	0.82	46	1.01	79	5.25	90	4.86	94	3.99	100

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 thus cannot be relied upon as representations of BNY Mellon or the STO.

Historic Trailing Returns



As of 6/30/2016	SCRS Plan Return	Median Peer Return
1 Year	-0.39%	0.66%
3 Year	5.28%	6.48%
5 Year	5.19%	6.42%
10 Year	4.49%	5.65%

III.

UNDERSTANDING OUR PERFORMANCE

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*

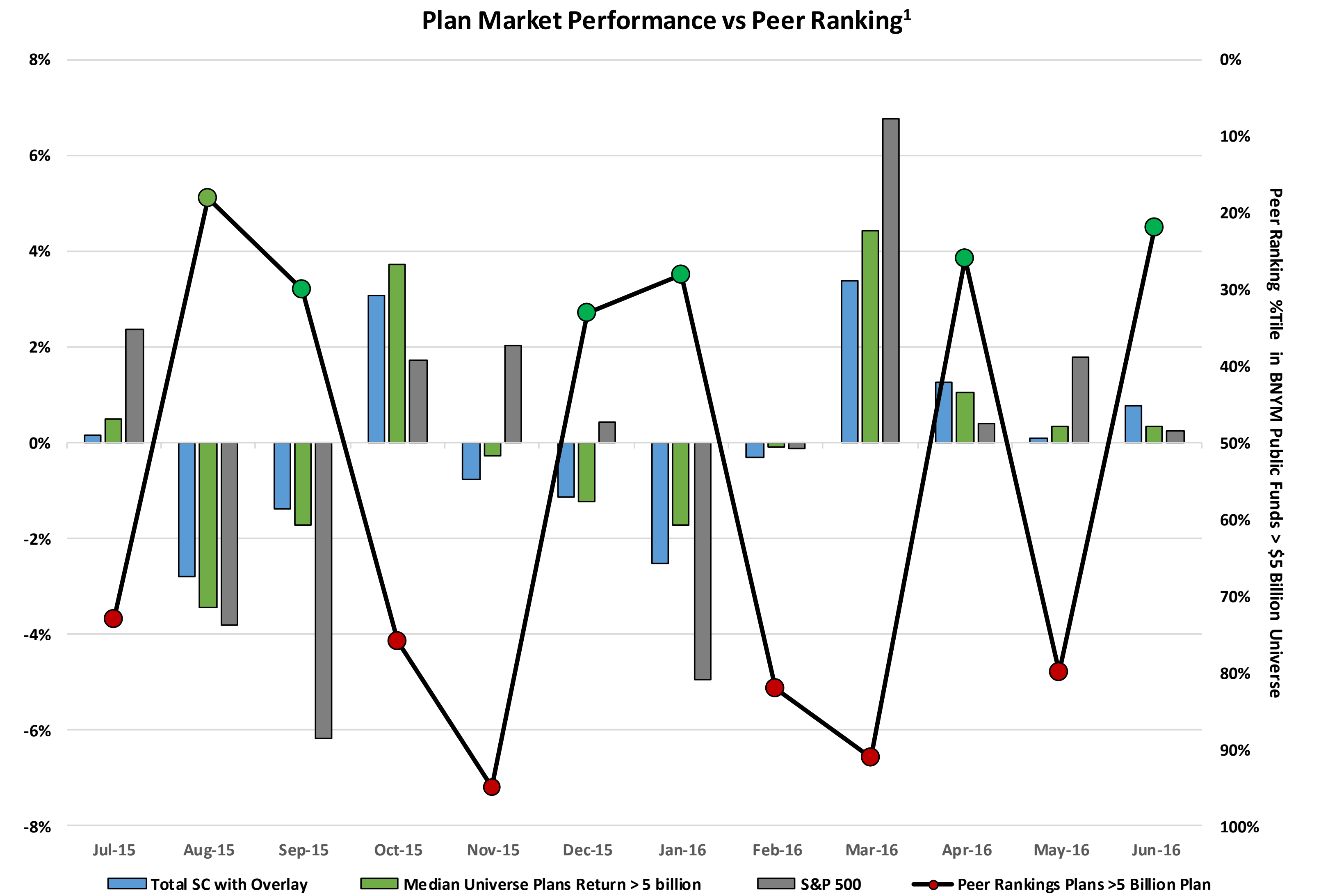
Long Term Impact of Asset Allocation– 5 Years[1]

Data from FYE 2011 - FYE 2015	Long Term Allocation Effect (Annualized)	Average O/U Weight	Index Returns (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.

[1]See footnote on page 40.

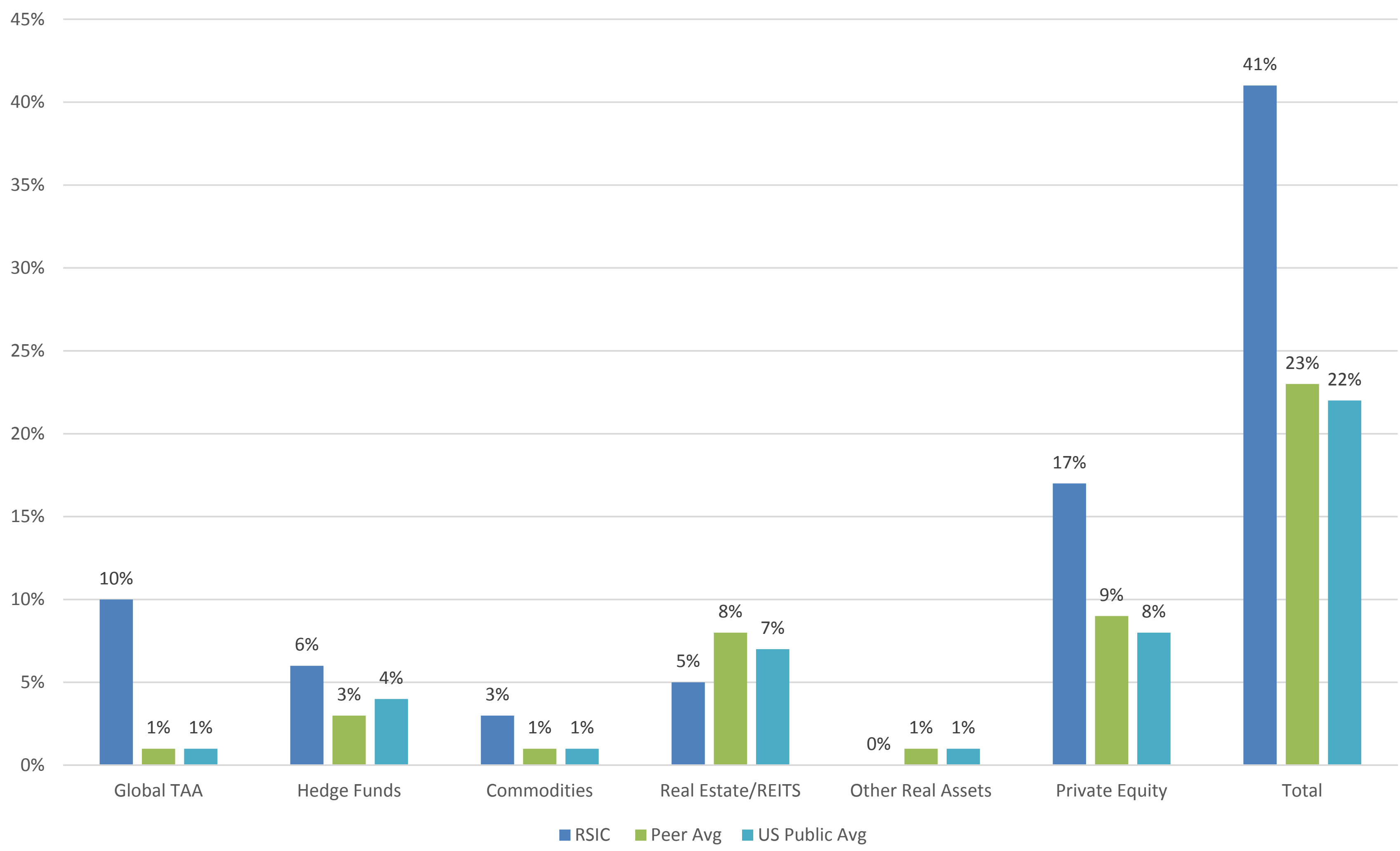
Historic Trailing Returns



[1]Peer %Tile rankings and median returns are pulled monthly from the Master Trust Universe Public Funds >5 billion. 0 Indicates that RSIC is a top performer in the universe and 100 indicates that RSIC is bottom performer in universe. Data is as of 06/30/16.

Alternatives Allocation*

Source: CEM as of 6/30/14



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*Private Equity allocation includes Private Debt.

IV.

CHALLENGES

Total Return Framework

- $\boxed{r_p = r_f + r_\beta} + r_\alpha$
  - 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%

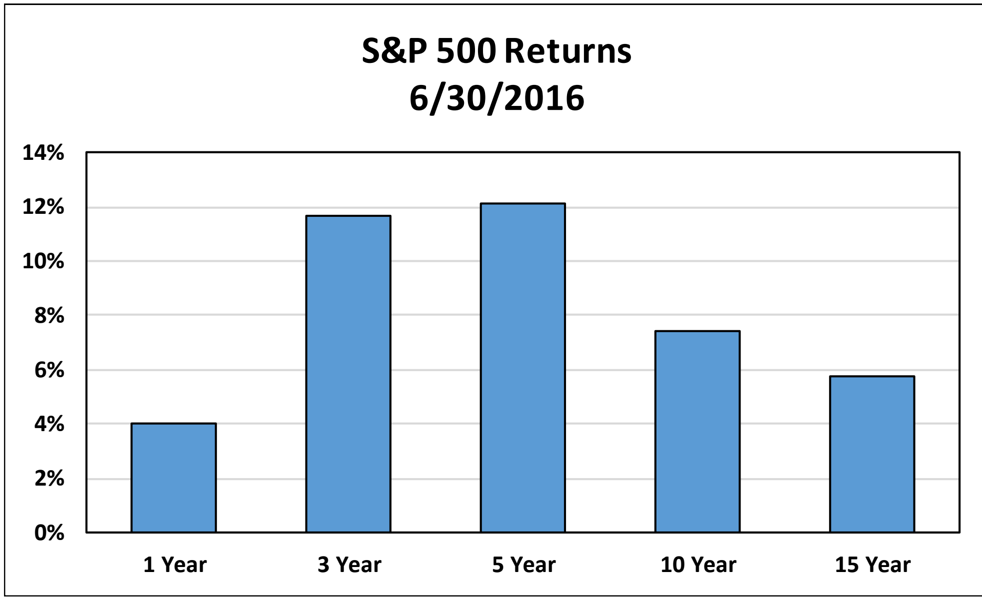
- r_f : Return on Cash
  - For the longest history we have since 1934, the average cash rate is 3.63%, while it ranged from .01% to 16.3%
  - For the period from Jan 1970 to April 2015, the average cash rate is 5.38%, while it ranged from .07% to 15.81%*

- 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

Public Markets History



	S&P 500 Returns a/o 6/30/2016
1 Year	3.99%
3 Year	11.66%
5 Year	12.10%
10 Year	7.42%
15 Year	5.75%

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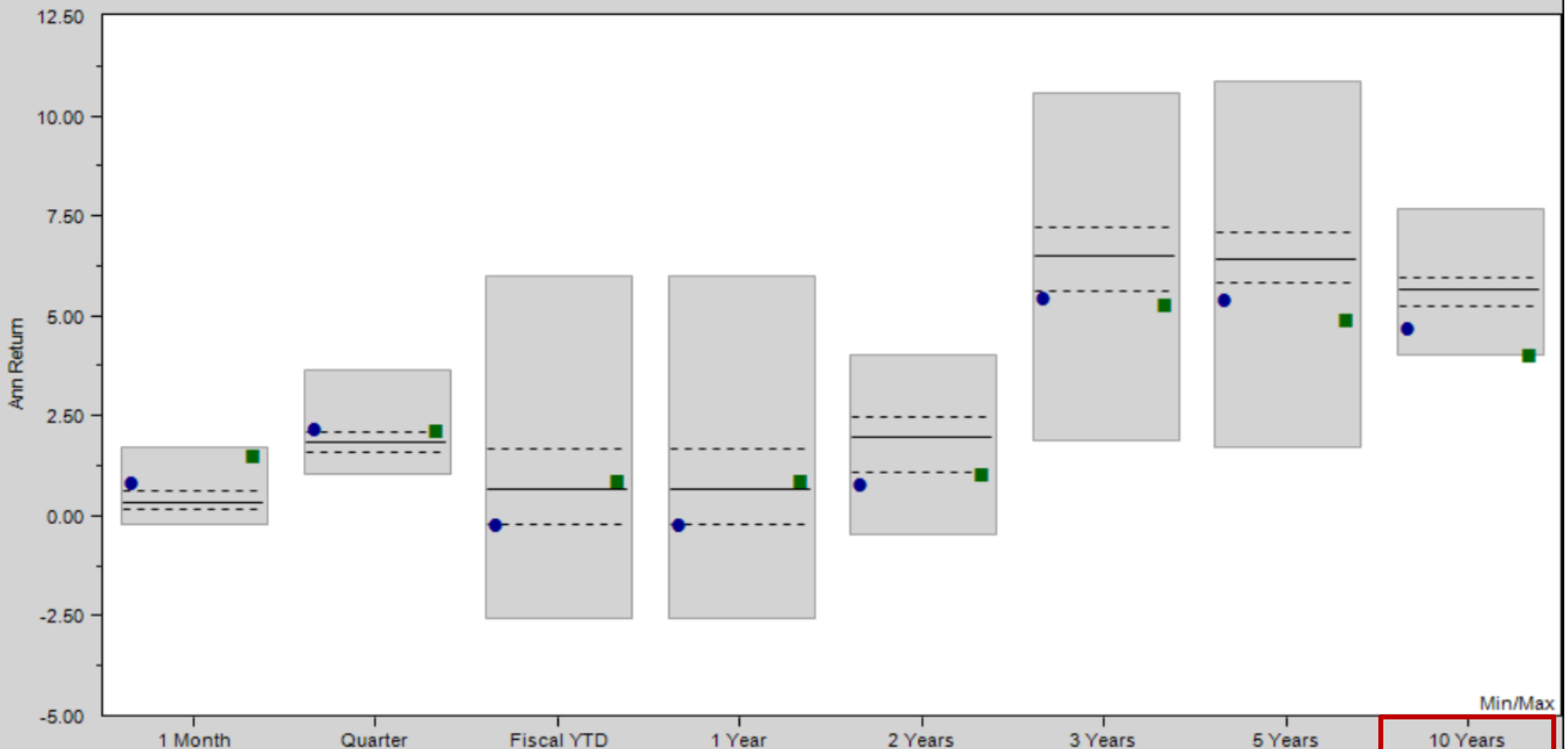

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Limited Building Blocks

- 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

V.

IMPROVING PERFORMANCE

Asset Allocation – Challenging Convictions

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

Challenge 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 For FY 2016

- 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
- Added 1% equity exposure during Brexit.

New Asset Allocation

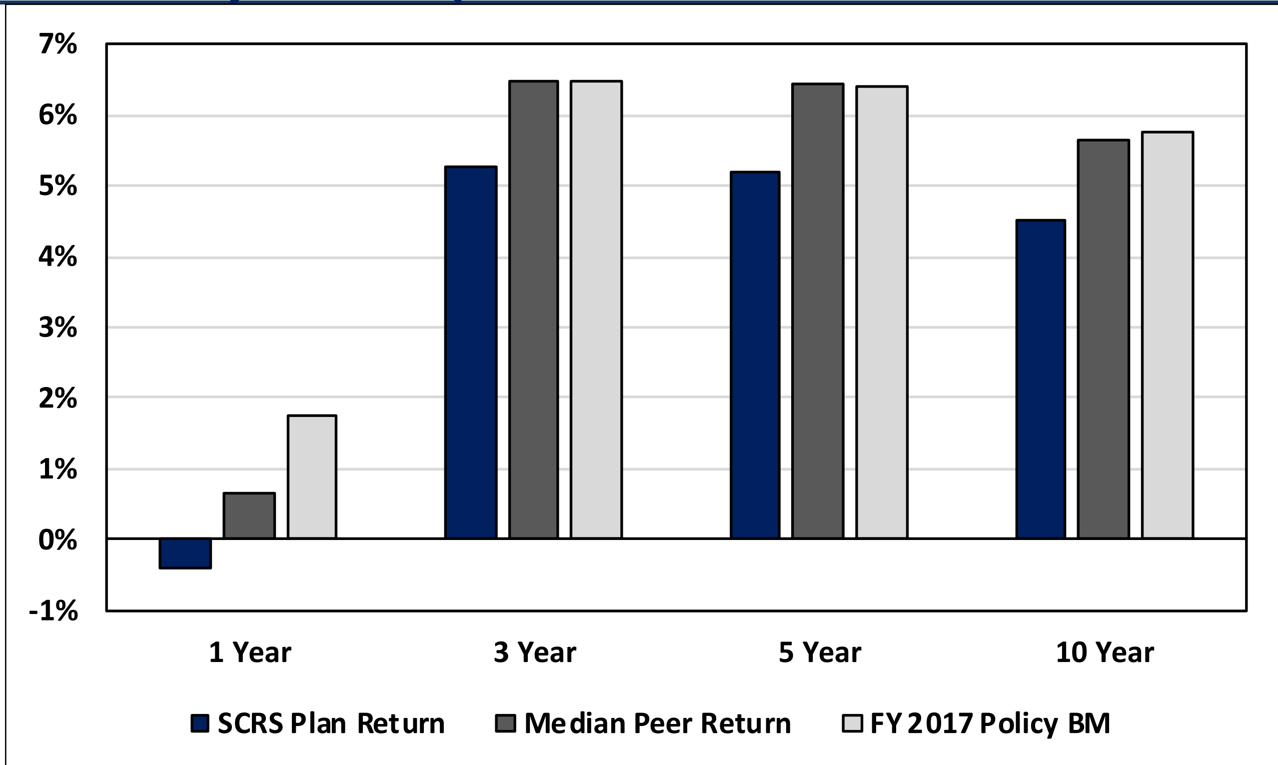
Asset Class	Prior Allocation	FYE 2017 Allocation
Equity	43%	47%
Conservative Fixed Income	12%	12%
Diversified Credit	17%	18%
Opportunistic	20%	12%
Real Assets	8%	11%
Total	**100%**	**100%**
30 Year Metrics - 4Q15 Capital Market Assumptions		
Expected Nominal Return	6.96%	7.34%
Expected Real Return	4.87%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

- Source: Aon Hewitt

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.

New Policy BM (Back-Tested vs Universe)



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3 Year	5.28%	6.48%	6.48%
5 Year	5.19%	6.42%	6.38%
10 Year	4.49%	5.65%	5.74%

Organizational Goals

- Continue to Improve Plan Returns
- Promote Confidence
- 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

How can we aid in fixing the plan?

- Understand why we have underperformed and implement a plan to improve absolute and relative investment performance.
- Understand the various components that have contributed to the UAAL and in what amounts.
- Work collaboratively with the Joint Committee, the Co-Trustees, and our Stakeholders to develop solutions to the fiscal problems impacting the plan.

Footnotes and Disclosures:

[1]The analysis on page 21 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 (SIOP) 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.

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