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COMMISSIONER

WILLIAM (BILL) J. CONDON, JR. JD, MA, CPA  
COMMISSIONER

EDWARD N. GIOBBE, MBA  
COMMISSIONER



RETIREMENT SYSTEM INVESTMENT COMMISSION

REBECCA M. GUNNLAUGSSON, PH.D  
VICE-CHAIR

ALLEN R. GILLESPIE, CFA  
COMMISSIONER

WILLIAM (BILL) H. HANCOCK, CPA  
COMMISSIONER

REYNOLDS WILLIAMS, JD, CFP  
COMMISSIONER

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# Commission Meeting Agenda

Thursday, April 11, 2019 9:30 a.m.

RSIC Presentation Center

- I. Call to Order and Consent Agenda
  - A. Adoption of Proposed Agenda
  - B. Approval of February Minutes
- II. Chair's Report
- III. Audit & Enterprise Risk Management Committee Report
- IV. CEO's Report
- V. CIO's Report
  - A. Investment Performance Summary
  - B. Fiscal Year 2019 AIP Progress Report
- VI. Delegated Investment Report
  - A. Providence Strategic Growth IV L.P.
- VII. Executive Session to discuss investment matters pursuant to S.C. Code Sections 9-16-80 and 9-16-320; and to receive advice from legal counsel pursuant to S.C. Code Section 30-4-70(a)(2).
- VIII. Potential Actions Resulting from Executive Session
- IX. Portfolio Framework Proposal
- X. Strategic Planning Roadmap Discussion
- XI. Annual Investment Plan Continuation
- XII. Adjourn

## NOTICE OF PUBLIC MEETING

*This notice is given to meet the requirements of the S.C. Freedom of Information Act and the Americans with Disabilities Act. Furthermore, this facility is accessible to individuals with disabilities, and special accommodations will be provided if requested in advance.*

**South Carolina Retirement System Investment Commission  
Meeting Minutes**

**February 21, 2019 9:30 a.m.  
Capitol Center  
1201 Main Street, 15<sup>th</sup> Floor  
Columbia, South Carolina 29201  
Meeting Location: Presentation Center**

**Commissioners Present:**

Dr. Rebecca Gunnlaugsson, Chair  
Dr. Ronald Wilder, Vice Chair  
Ms. Peggy Boykin, PEBA Executive Director (Absent)  
Mr. Allen Gillespie  
Mr. Edward Giobbe  
Mr. Reynolds Williams (via telephone)  
Mr. William H. Hancock  
Mr. William J. Condon, Jr. (Absent)

**I. CALL TO ORDER AND CONSENT AGENDA**

Chair Dr. Ronald Wilder called to order the meeting of the South Carolina Retirement System Investment Commission (“Commission”) at 9:30 a.m. Mr. William H. Hancock made a motion to approve the proposed agenda as presented. Mr. Edward Giobbe seconded the motion, which was approved unanimously.

Mr. Giobbe made a motion to approve the draft minutes from the Commission’s meeting held on November 8, 2018. Dr. Rebecca Gunnlaugsson seconded the motion. The minutes were unanimously approved.

**II. CHAIR’S REPORT**

Chair Wilder explained that the Commission decided that it was not the best time to hold the extensive strategic discussion. Although the discussion would begin at today’s meeting during the asset allocation presentation, it will be continued at the next meeting in April. This concluded the Chair’s Report.

**III. HUMAN RESOURCES & COMPENSATION COMMITTEE REPORT**

Dr. Gunnlaugsson began by stating that the Human Resources & Compensation Committee (“Committee”) met on February 13, 2019. She reported that, during the meeting, she was elected as Chair of the Committee. The Committee then received an update about new hires and promotions amongst Staff. Staff also provided the Committee an update about the Request for Proposal (“RFP”) for a Learning Management Software

System, which will assist with Staff's ongoing educational needs. She reported that the RFP should soon be complete.

Next, Dr. Gunnlaugsson explained that they also discussed the Committee Charter's requirement that RSIC conduct a compensation study every three years. Staff informed the Committee that, because RSIC's existing Compensation Policy ("Compensation Policy") has only been in place for three years, Staff is not planning on conducting a new compensation study at the current time. Instead, Staff plans to retain a vendor to provide compensation data to serve as a check on the Compensation Policy.

Dr. Gunnlaugsson also noted that the Committee received an update on RSIC's Succession Planning, which has progressed significantly and is expected to be finalized shortly. The Committee also received an update concerning CEM Benchmarking's analysis of RSIC's full-time employee headcount versus RSIC's peers. She explained that the Report showed that RSIC is generally in line with its peers. The last topic the Committee covered was a discussion of the CEO's compensation. There being no questions from the Commissioners, Dr. Gunnlaugsson concluded her report.

#### **IV. CEO'S REPORT**

Mr. Michael Hitchcock, Chief Executive Officer, began his report by providing an update on the House Ways and Means Committee's work on the budget. Mr. Hitchcock was pleased to report that they had accepted our request to lower our authorization by \$500,000.00. He told the Commission that he will keep them informed as that moves through the process. He then responded to some questions regarding the \$500,000.00 reduction in budgetary authorization.

Mr. Hitchcock then introduced Ms. Michelle Kennedy, the new Director of Enterprise Risk Management and Compliance. He explained that Ms. Kennedy has over 25 years' experience doing compliance work both in-house and as a consultant for registered investment advisors (RIA), and over the past ten years she has been President of Compass Compliance Services, which provides consulting to RIAs nationwide. Next Mr. Hitchcock introduced Ms. Mary-Myers Walker, the new Administrative Assistant to the Chief Investment Officer, Mr. Geoff Berg. Ms. Walker worked as a case administrator for the U.S. District Courts where she managed the progression of cases, reviewing documentation to ensure efficiency and accuracy of the Court's electronic case filing system.

Mr. Hitchcock reminded the Commissioners of the March 30, 2019 statutory deadline to file their individual Statement of Economic Interest.

## V. CIO'S REPORT

The Chair recognized Mr. Berg who began his report by reviewing the performance of the Plan in 2018. In calendar 2018, cash was the highest performing asset class (on a benchmark basis) due to deterioration in the global economic picture. He explained that in late December 2018 RSIC added three percent to global equities, or \$900 million of additional equity exposure. This overweight to equity was funded by underweights to emerging market debt, mixed credit, and government bonds (both Treasuries and TIPS). The early returns from this decision were very positive.

Next Mr. Berg introduced Mr. David King, Senior Reporting Officer, to present the fiscal year to date numbers as of December 31, 2018. He stated that the year ended with very rough conditions, returning the Plan -4.47% for the fiscal year to date versus the Policy benchmark of -3.49%. During this time, he explained that \$649 million was paid out in net benefits. Mr. King noted that the Plan started at \$31.3 billion and ended with \$29.3 billion with \$649 million in net benefits payments and a \$1.4 billion reduction to assets due to performance leaving the Plan.

Looking deeper into the net benefit payments, \$2.0 billion was paid to beneficiaries versus \$1.7 billion of deposits into the system. In addition, the continuing unwinding of the TERI program during this period resulting in \$376 million of additional payments out of the Trust, although this was partially offset by a \$105 million legislative inflow. The Chair asked if December 31, 2018 was the end of the TERI program. Mr. King responded by stating there is a small residual amount left to be paid out in TERI payments, but it is not very material. Mr. Berg noted that the amount is less than \$5.0 million. A short discussion of the TERI program ensued.

Next, Mr. King discussed the Portfolio exposure, noting that the year ended with a slight overweight to public equities due to the trades Mr. Berg previously discussed. These were offset by an underweight to core fixed income, specifically treasuries.

Mr. King then shared the asset class performance details as of December 2018. Private equity and private real estate had the highest net performance for the fiscal year-to-date period. He noted that the Plan was underperforming the Policy benchmark by 98 basis points. He explained that other opportunistic was outperforming its benchmark by 8.05% followed by infrastructure, public credit and equity options. He also noted that – despite being the second-best performing asset class in the portfolio – private equity was underperforming its benchmark by 6.45%. He explained that this is due to the unique methodology associated with the benchmark.

Mr. King concluded by noting that the markets recovered sharply in January and as of February 15, 2019, the Plan NAV has recovered by more than a billion dollars and the estimated Plan performance at that time was once again in positive territory.

## **VI. EXECUTIVE SESSION**

Mr. Allen Gillespie made a motion to recede into Executive Session to discuss investment matters pursuant to S.C. Code Sections 9-16-80 and 9-16-320; to discuss personnel matters related to the Commission's review of the CEO's compensation pursuant to S. C. Code Section 30-4-70(a)(1); and to receive advice from legal counsel pursuant to S.C. Code Section 30-4-70(a)(2). Mr. Giobbe seconded the motion, which passed unanimously.

## **VII. POTENTIAL ACTION RESULTING FROM EXECUTIVE SESSION**

Upon return to open session, Mr. Hitchcock noted that the Commission did not take reportable action while in executive session. He noted that any action that did occur while in Executive Session, pursuant to S.C Code Ann. §§ 9-16-80 and 9-16-320, would be publicized when doing so would not jeopardize the Commission's ability to achieve its investment objectives or implement a portion of the annual investment plan.

The Chair then noted that based on the outcome of the Commission's discussion in Executive Session, and its review of Mr. Hitchcock's performance review conducted in the November 2018 Executive Session, the Commission adopted the recommendation from the Human Resource and Compensation Committee to authorize the compensation increase for Mr. Hitchcock as discussed in Executive Session and directed the Human Resources department and other necessary parties to take all action necessary to implement this decision as approved by the Commission and directed that the salary increase be disclosed to the public in the official minutes of the February 21, 2019 minutes after the increase had been communicated to Mr. Hitchcock. Mr. Hitchcock's new salary, effective as of February 21, 2019, is \$301,362.00.

## **VIII. DELEGATED INVESTMENT REPORT**

The Chair then recognized Mr. Berg for the delegated investment report. Mr. Berg noted that Staff had closed three new investments since the last Commission meeting. Mr. Berg reminded the Commission that all of the due diligence and contract materials, as well as video presentations provided by Staff, had previously been provided to the Commissioners via a secure portal. The investments closed and the amounts committed to each are as follows: Brookfield Super Core Fund, LP (\$200 million); Owl Rock Technology Fund (\$100 million); and Blackstone Real Estate Fund IX (\$100 million).

## **IX. CONSULTANT REPORT**

Geoff Berg introduced Mr. Aaron Lally, Executive Vice President of Meketa Investment Group, to provide a recommendation for a benchmark clarification for the policy benchmark. Mr. Lally explained that the recommendation was not to make any changes to individual asset class benchmarks, but rather, how those individual asset class benchmarks are rolled up into the policy benchmark calculation. He explained that since the portable alpha assets serve as collateral for the overlay, a simple summation of each piece and its weight multiplied by the respective benchmark does not provide the appropriate calculation because it causes a double inclusion of the cash or T-bill component. The recommendation is to adjust the calculation for the policy benchmark to net out the double inclusion of the T-bill rate. Mr. Lally stated that this calculation note would be included as a footnote in the Statement of Investment Objectives and Policies. In response to a question from the Chair, Mr. Lally confirmed that the change would not affect the benchmark to look at when comparing portable alpha to its benchmark. Mr. Berg also confirmed that the benchmark for the asset class would stay the same: cash plus 250 basis points. Mr. Gillespie made a motion that the Commission adopt the recommendation of Meketa to update the policy benchmark as set forth on red number page 53 of the open session agenda materials as presented, with the change to the policy benchmark to be effective retroactively to July 1, 2018; directed that the updated policy benchmark be incorporated into, and made a part of, the Statement of Investment Objectives and Policies; and authorized Staff to finalize the benchmark by making any technical revisions or formatting edits consistent with the action taken by the Commission. Dr. Gunnlaugsson seconded the motion, which was approved unanimously.

## **X. ASSET ALLOCATION REVIEW AND DISCUSSION**

Mr. Benham then turned to a discussion of the Plan's asset allocation. He began by referencing the 2018 and 2019 return assumptions for the Plan and noted that the expected return for the current year is nearly 60 basis points higher than in the previous year. However, Mr. Benham cautioned that achieving the assumed rate of return every year is not an appropriate measure of the Plan's success. Instead, achieving funded status for the Plan over the next 20+ years is likely the best gauge of success. He added that, while the return assumptions are up, the Plan's funded status has actually decreased. Mr. Benham went on to underscore the need for caution as most investors believe the coming ten years will bring increased market volatility.

Next, Mr. Benham noted that Meketa has continued working with Staff on asset allocation and reconsidering the right number of asset classes. Mr. Benham explained that in Meketa's opinion, one of the best methods of simplifying the asset allocation is to reduce the number of asset classes within the Portfolio. Currently, the Portfolio has four buckets of asset classes: fixed income securities, equity and equity-like assets, real assets, and a catchall for other categories. Mr. Benham stated that there are many different ways to

simplify the asset classes in the Portfolio, and he would be presenting two simplification options: Mix A and Mix B.

With respect to Mix A, Mr. Benham noted that this portfolio combined high quality bonds into core bonds with a single target. Mix A also combined U.S., developed, and emerging market public equities into a public equities bucket. Both public and private real estate and infrastructure are combined into a real estate and infrastructure asset class. Global Tactical Asset Allocation (“GTAA”) and the other opportunistic classes are rolled into a single line. Mr. Benham surmised that Mix A would reduce the number of asset classes in the Portfolio to eleven. In turning to a discussion of Mix B, Mr. Benham noted that this proposed portfolio was even simpler than Mix A. Mix B combined all public market fixed income, including high yield, bank loans, and emerging markets debt, into a single asset class. All global public equity was combined into a single asset class. Mix B did not alter the private equity asset class but combined real estate and infrastructure into a single asset class. In addition, the GTAA asset class was reallocated into public stocks and bonds.

Mr. Benham noted that the forecasted returns for both Mix A and Mix B were comparable to those for the current portfolio, but he cautioned that just because a proposed portfolio is modelled one way does not mean that returns would match the model. The performance of an asset class is often dependent upon how the asset class is implemented. Mr. Benham further explained that simplifying the Portfolio would require a further discussion around the allowable ranges for the asset classes in order to encourage alignment with the Commission’s risk and return objectives. He then overviewed the proposed asset class target ranges for Mix A and Mix B and noted other important considerations that accompany a more simplified asset allocation. Mr. Benham, Mr. Berg, and Mr. Gillespie then went on to discuss how a simplified portfolio target might have altered Mr. Berg’s response to recent market conditions. Mr. Benham and Mr. Berg then answered questions from the Commissioners.

Following a lengthy discussion with the Commissioners, Mr. Berg asked whether the concept of a simplified portfolio resonated with the Commissioners so that further work could be performed by Staff and Meketa. Mr. Gillespie noted with approval the simplified portfolio approach but concluded that additional discussion would be necessary.

**A break was taken from 2:33 p.m. to 2:39 p.m.**

Upon returning to the meeting, the Chair asked Mr. Berg to remind the Commissioners where the discussion left off before the break. Mr. Berg responded that the Commission had been discussing conceptual models for simplifying the Portfolio and asked the Commissioners’ thoughts on Staff doing more work on ways to simplify the Portfolio. Dr. Gunnlaugsson expressed approval for the approach noting that she would like to discuss risk requirements and to ensure the Portfolio does not become so simple that risk is too

concentrated. The Chair also voiced his approval for the approach Mr. Berg outlined but stated he would like to see a list of positives and negatives before the Commission approves any Portfolio simplification initiatives.

Mr. Hitchcock underscored that the simplification of the Portfolio could also help establish clear accountability for certain decisions. Mr. Berg opined that he would prefer, from an investment management standpoint, to establish a clear purpose for different asset classes, a home base in terms of asset allocation, and very clear principles that establish the framework for evaluating investment decisions that diverge from that home base. The Chair then asked for further comments about the simplification of the Portfolio. Hearing none, the Chair noted that the Commission would discuss the matter further at the Commission's next meeting.

## **XI. ADJOURNMENT**

Mr. Gillespie moved to adjourn, Mr. Giobbe seconded the motion, which passed unanimously. The meeting adjourned at 3:08 p.m.

[Staff Note: In compliance with S.C. Code Section 30-4-0, public notice of and the agenda for this meeting was delivered to the press and to parties who requested notice and were posted at the entrance, in the lobbies and near the 15<sup>th</sup> Floor Presentation Center at 1201 Main Street, Columbia, S.C., at 12:32 p.m. on February 18, 2019]

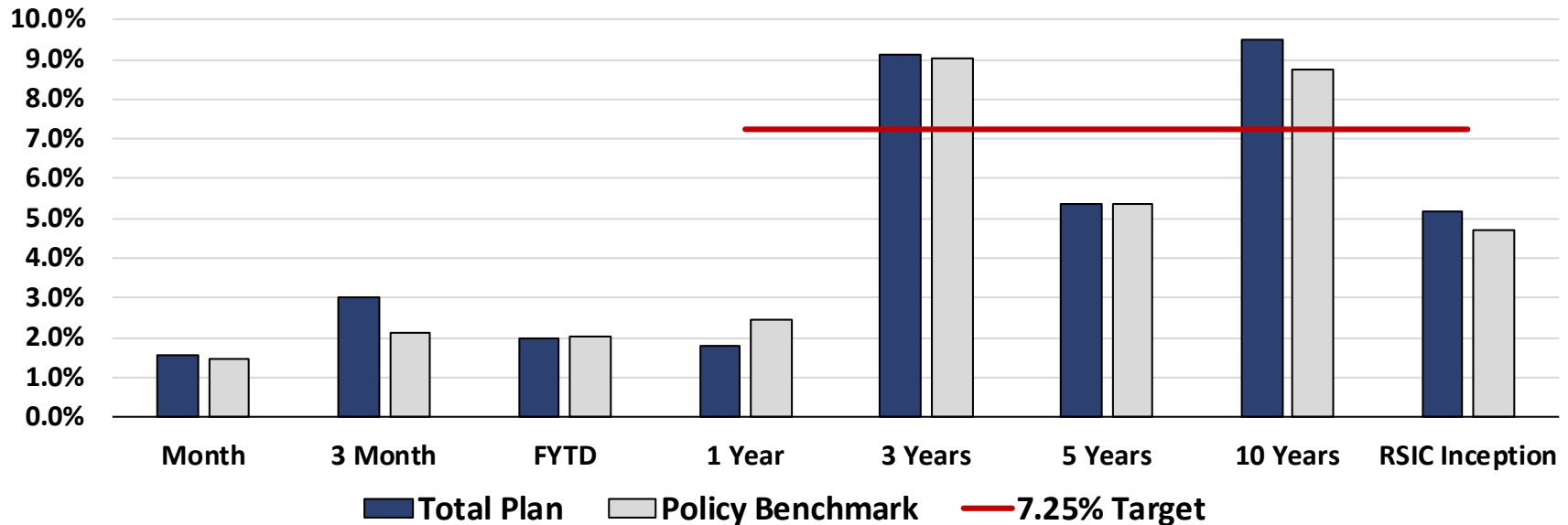


# Performance Update

RSIC 04/11/19 Commission Meeting  
Data as of February 28<sup>th</sup>, 2019

# Performance - Plan & Policy Benchmark<sup>2</sup>

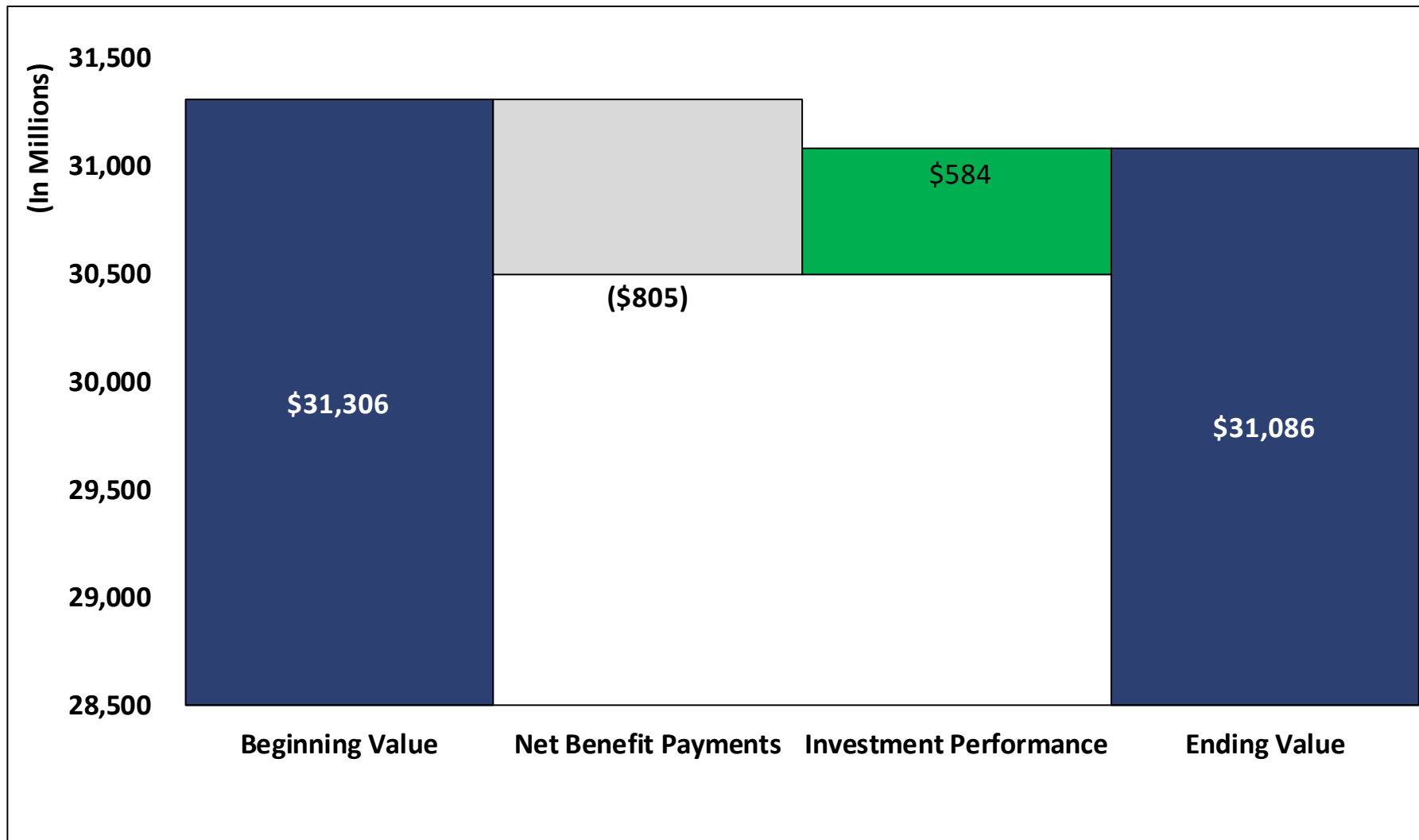
As of February 28, 2019



Historic Plan Performance As of 02/28/19	Market Value (In Millions)	Annualized							
		Month	3 Month	FYTD	1 Year	3 Years	5 Years	10 Years	RSIC Inception
<b>Total Plan</b>	<b>\$31,086</b>	1.58%	3.01%	1.99%	1.79%	9.11%	5.37%	9.48%	5.18%
<b>Policy Benchmark</b>		1.48%	2.11%	2.02%	2.47%	9.03%	5.34%	8.75%	4.71%
<b>Excess Return</b>		0.10%	0.90%	-0.03%	-0.68%	0.08%	0.03%	0.73%	0.47%
<b>Net Benefit Payments (In Millions)</b>		(\$54)	(\$194)	(\$805)	(\$1,116)	(\$3,427)	(\$5,551)	(\$10,301)	(\$13,190)
<b>Current 3-month Roll off Return:</b>			-3.03%	N/A	1.65%	-3.91%	2.85%	-3.47%	N/A
<b>Next 3-month Roll off Return:</b>			3.01%	N/A	0.11%	4.78%	3.07%	14.09%	N/A

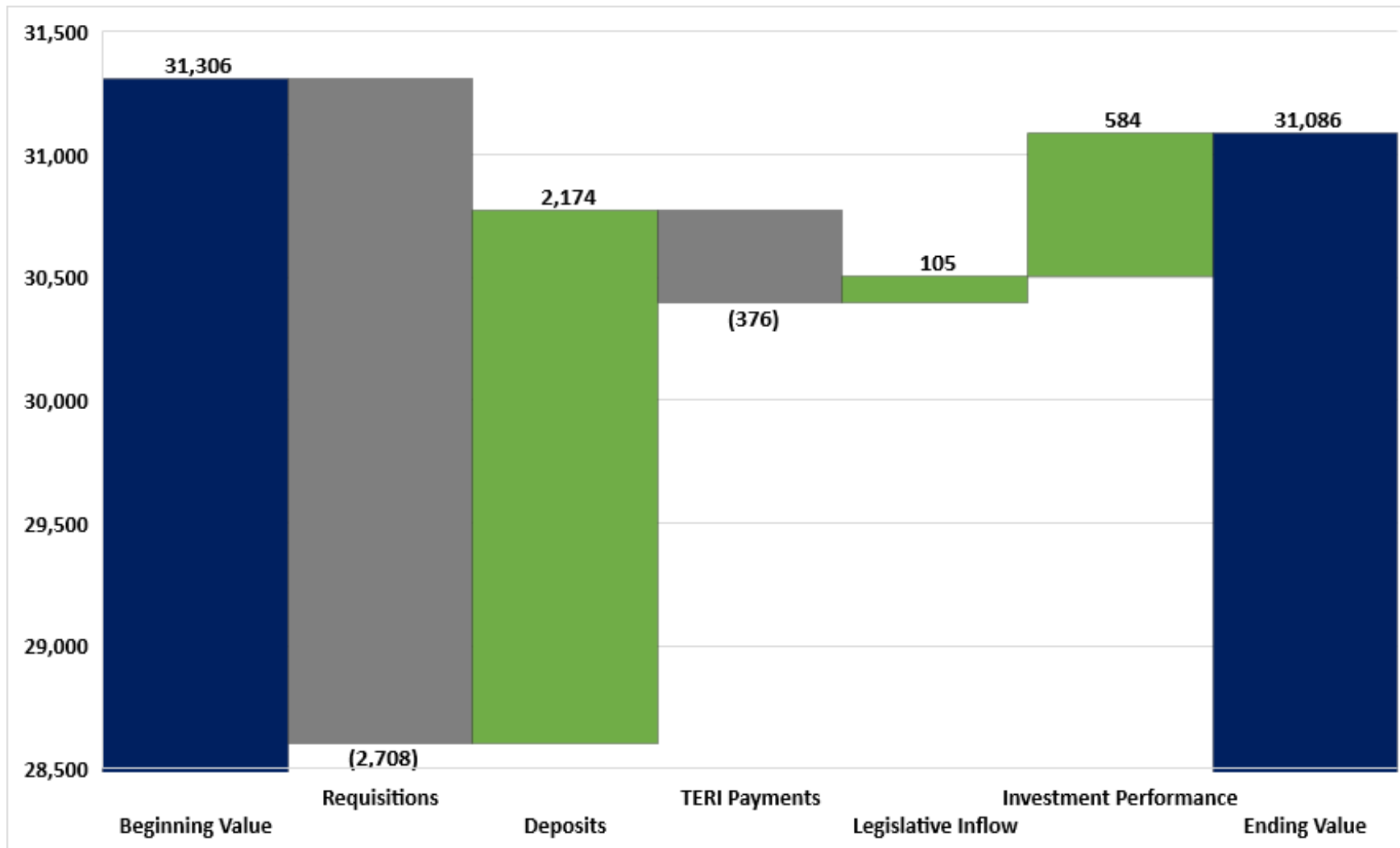
# FYTD Benefits and Performance<sup>2</sup>

FYTD as of February 28, 2019



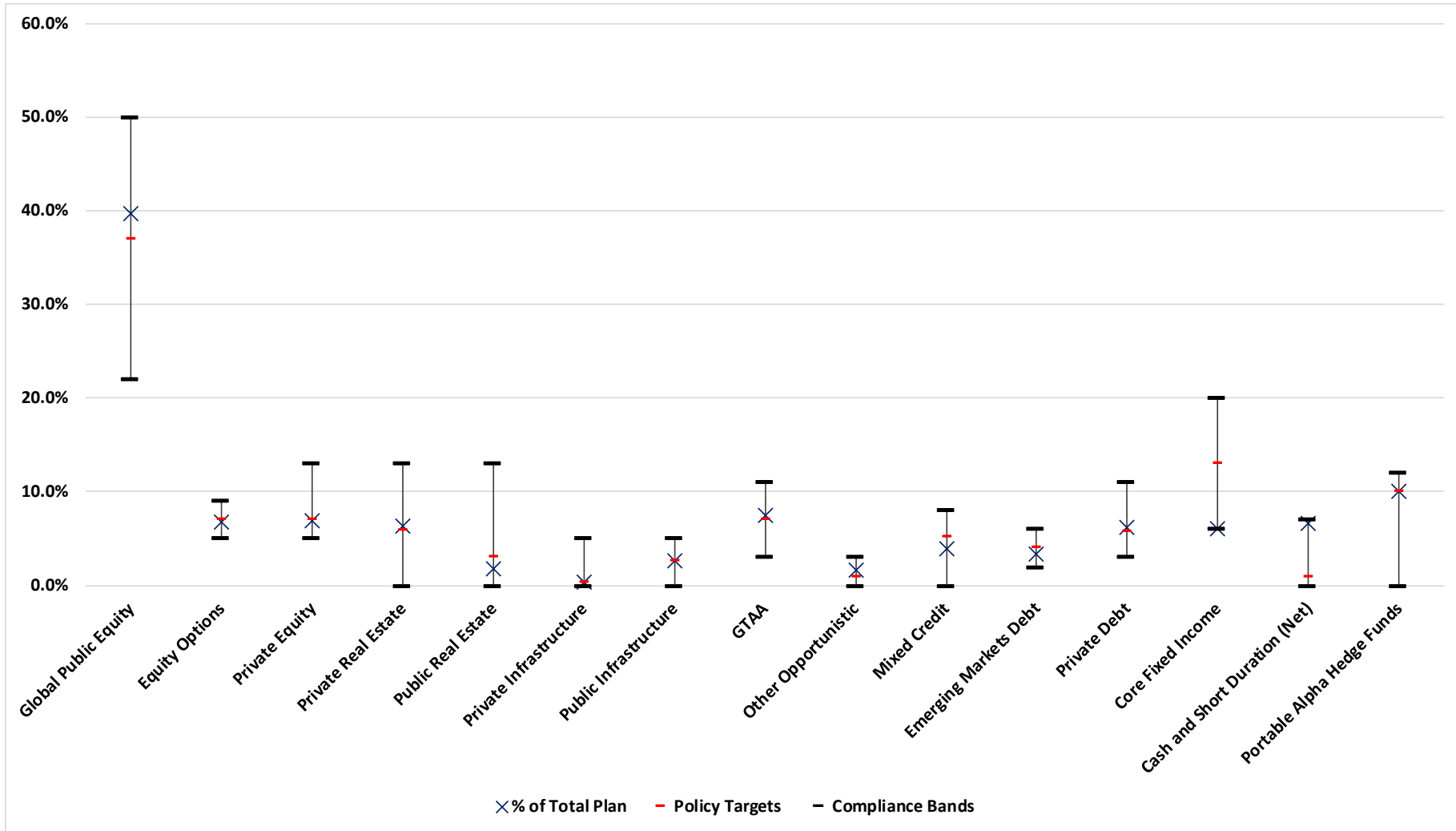
# FYTD Benefits and Performance<sup>2</sup>

FYTD as of February 28, 2019



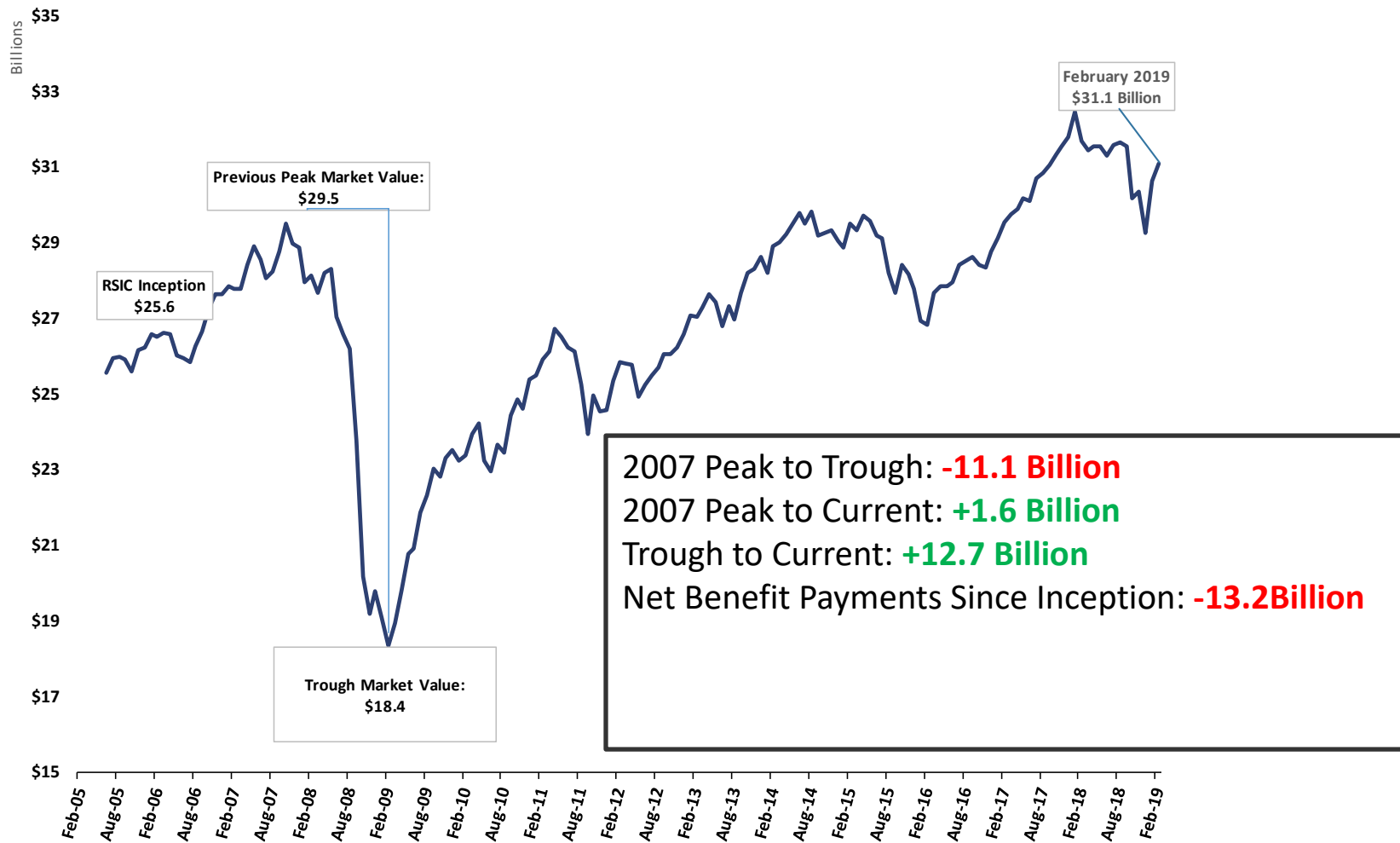
# Portfolio Exposure & Policy Weights <sup>4,8</sup>

As of February 28, 2019



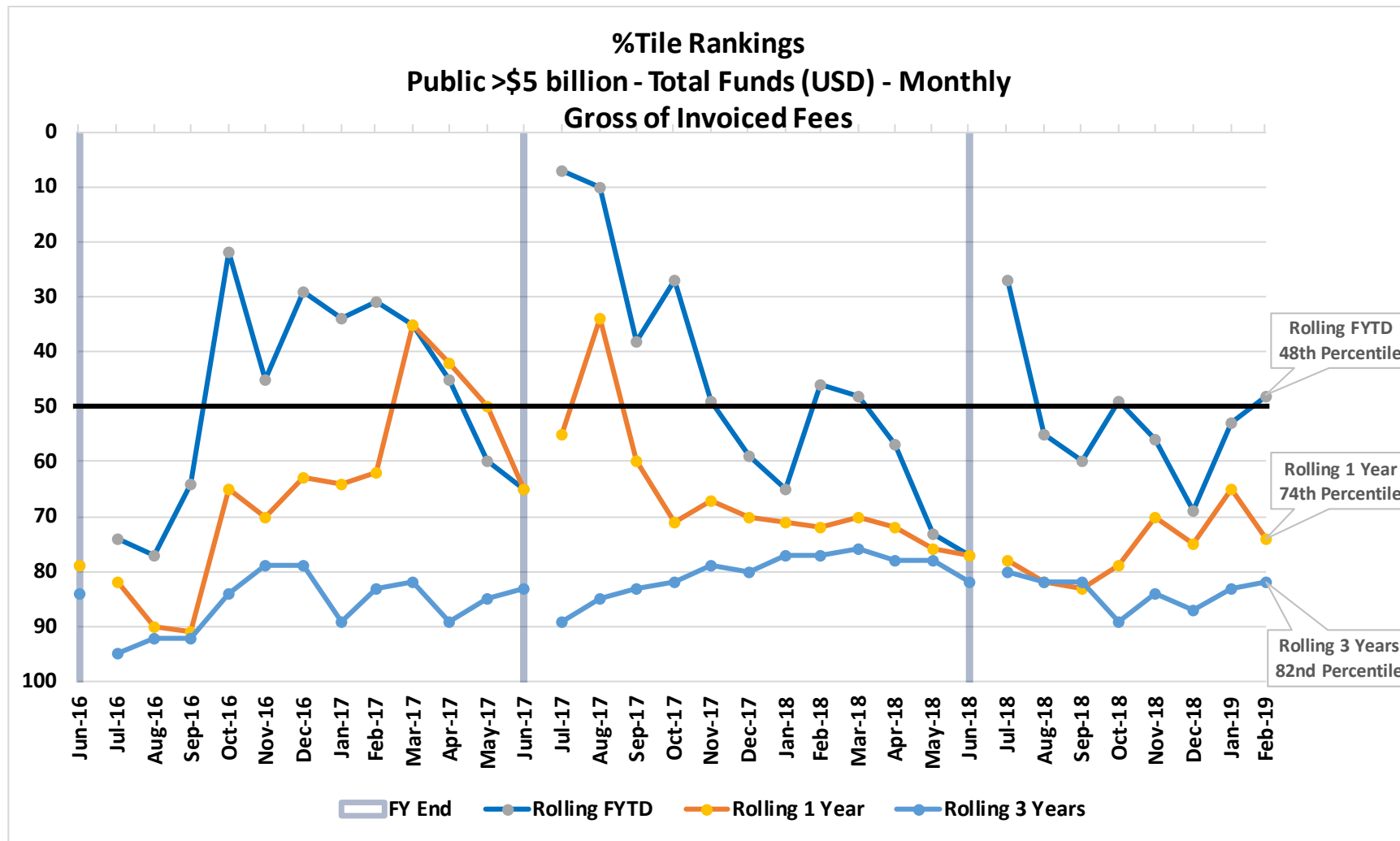
# RSIC Market Value Through Time

As of February 28, 2019



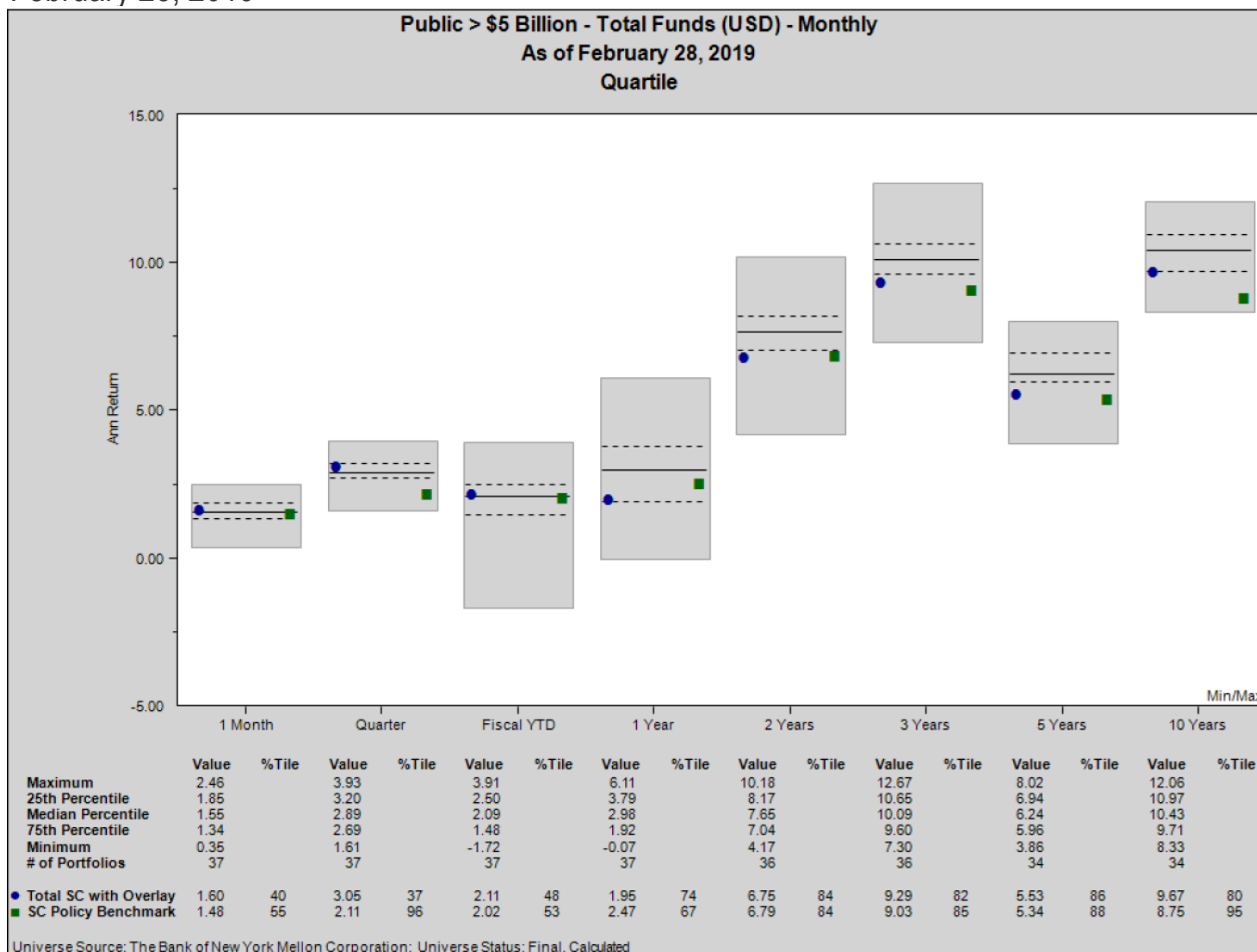
# RSIC Universe Rankings<sup>11</sup>

As of February 28, 2019



# Bank of New York Public Funds > \$5 billion<sup>11</sup>

As of February 28, 2019





# Performance – Plan & Asset Classes<sup>1,3,4,10</sup>

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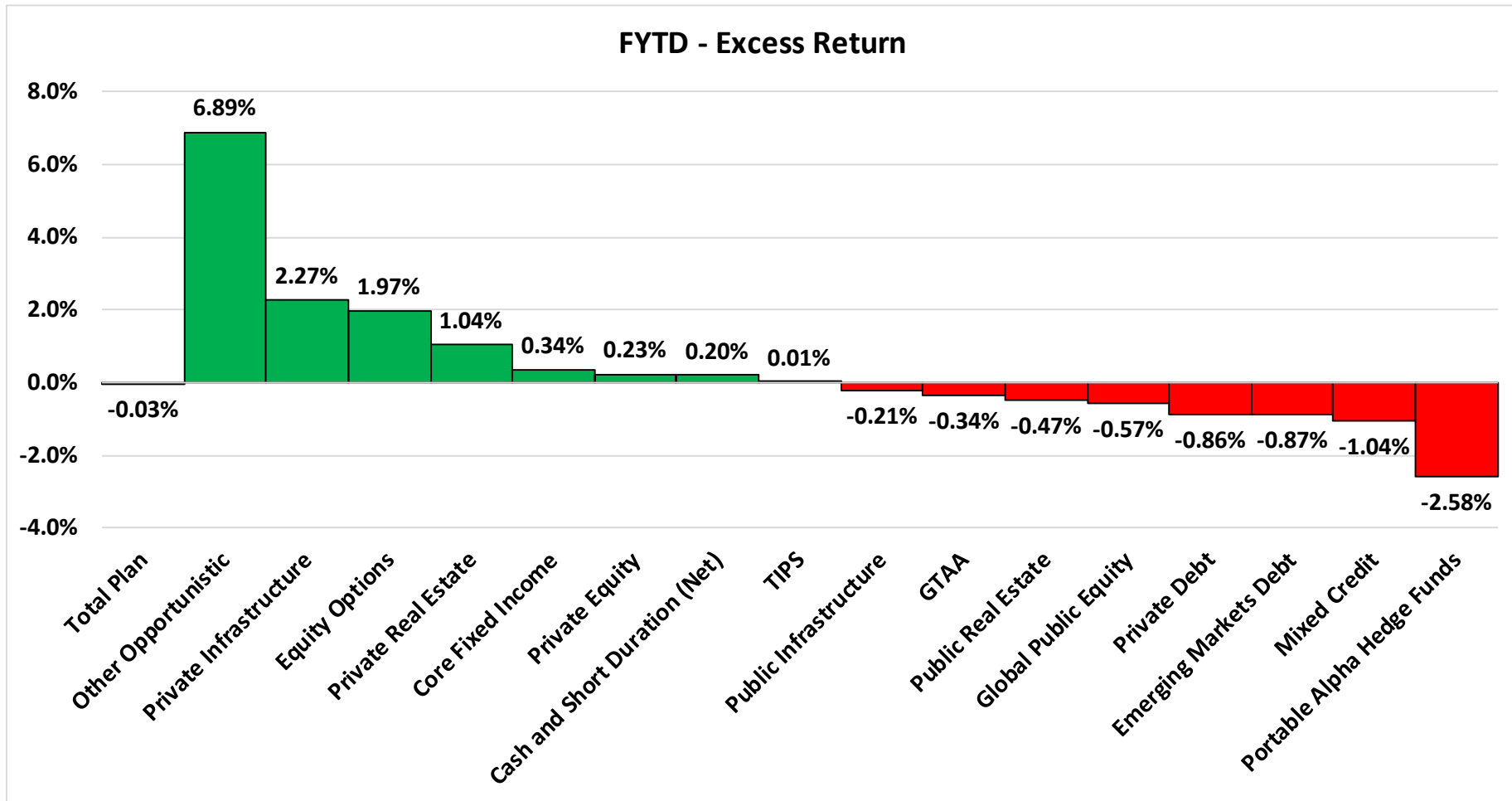
As of February 28, 2019

Asset Class / Benchmark returns as of 02/28/19	Plan Weight	Month	3 Month	YTD	FYTD	Annualized		
						1 Year	3 Years	5 Years
<b>Total Plan</b>	100.0%	1.58%	3.01%	6.76%	1.99%	1.79%	9.11%	5.37%
<b>Policy Benchmark</b>		1.48%	2.11%	5.70%	2.02%	2.47%	9.03%	5.34%
Global Public Equity	39.7%	2.68%	3.33%	11.04%	-0.35%	-2.52%	12.65%	5.92%
<i>Global Public Equity Blend</i>		2.64%	3.34%	11.01%	0.21%	-0.95%	12.87%	6.28%
Equity Options	6.8%	1.75%	-1.01%	5.57%	-0.67%	0.50%	n/a	n/a
<i>Blended Equity Options BM</i>		1.42%	-3.43%	4.57%	-2.64%	-0.43%	n/a	n/a
Private Equity	7.0%	-0.22%	-0.83%	0.08%	4.30%	6.13%	11.28%	11.23%
<i>Private Equity Blend</i>		1.72%	-5.42%	-5.96%	4.07%	5.74%	13.28%	11.86%
GTAA	7.5%	1.80%	3.97%	9.55%	0.95%	-0.41%	6.51%	3.12%
<i>GTAA Benchmark Blend</i>		1.71%	2.87%	7.63%	1.29%	1.30%	7.44%	3.78%
Other Opportunistic	1.7%	1.15%	2.28%	5.89%	8.18%	12.06%	n/a	n/a
<i>GTAA Benchmark Blend</i>		1.71%	2.87%	7.63%	1.29%	1.30%	n/a	n/a
Core Fixed Income	4.6%	-0.02%	2.74%	1.20%	3.02%	3.47%	2.14%	2.37%
<i>Barclays US Aggregate Bond Index</i>		-0.06%	2.86%	1.00%	2.68%	3.17%	1.69%	2.32%
TIPS	1.5%	0.00%	1.96%	1.37%	0.09%	n/a	n/a	n/a
<i>Barclays US Treasury Inflation Notes</i>		-0.01%	1.89%	1.33%	0.08%	n/a	n/a	n/a
Cash and Short Duration (Net)	6.6%	0.24%	0.87%	0.58%	1.64%	2.00%	1.25%	0.89%
<i>ICE BofA Merrill Lynch 3-Month T-Bill</i>		0.18%	0.56%	0.38%	1.44%	2.04%	1.13%	0.70%
Mixed Credit	4.0%	1.09%	1.43%	3.02%	2.12%	2.91%	7.56%	2.89%
<i>Mixed Credit Blend</i>		1.63%	2.75%	5.22%	3.16%	3.88%	7.50%	4.46%
Private Debt	6.2%	0.83%	1.28%	1.83%	1.56%	4.30%	7.86%	5.40%
<i>S&amp;P/LSTA Leveraged Loan + 150 Bps on a 3-month lag</i>		-0.81%	-0.09%	-0.88%	2.42%	4.97%	6.86%	5.19%
Emerging Markets Debt	3.3%	-0.13%	6.50%	5.15%	4.72%	-3.25%	7.48%	3.31%
<i>Emerging Markets Debt Blend</i>		-0.05%	6.27%	4.88%	5.59%	-1.18%	6.68%	2.78%
Private Real Estate	6.4%	0.69%	0.98%	0.48%	5.07%	9.10%	9.78%	12.95%
<i>Private Real Estate Custom Benchmark</i>		0.09%	1.69%	0.19%	4.03%	8.72%	9.32%	11.32%
Public Real Estate	1.8%	1.00%	3.74%	12.74%	5.81%	20.48%	n/a	n/a
<i>FTSE NAREIT Equity REITs Index</i>		0.73%	3.30%	12.56%	6.28%	21.40%	n/a	n/a
Public Infrastructure	2.7%	2.20%	6.10%	11.50%	4.48%	9.73%	n/a	n/a
Private Infrastructure	0.3%	-0.37%	-0.38%	-1.33%	6.96%	n/a	n/a	n/a
<i>Dow Jones Brookfield Global Infrastructure Net Index</i>		2.56%	6.75%	12.16%	4.69%	10.30%	n/a	n/a
Portable Alpha Hedge Funds	10.0%	-0.10%	1.75%	-0.17%	-0.92%	-1.35%	2.83%	4.04%
<i>Portable Alpha HF Blend</i>		0.21%	0.62%	0.41%	1.66%	1.66%	1.85%	0.65%
Portable Alpha Collateral	15.6%	0.01%	0.19%	0.00%	-0.16%	-0.29%	n/a	n/a
<i>Portable Alpha Benchmark</i>		0.13%	0.37%	0.25%	1.00%	1.00%	n/a	n/a

STATE OF SOUTH CAROLINA

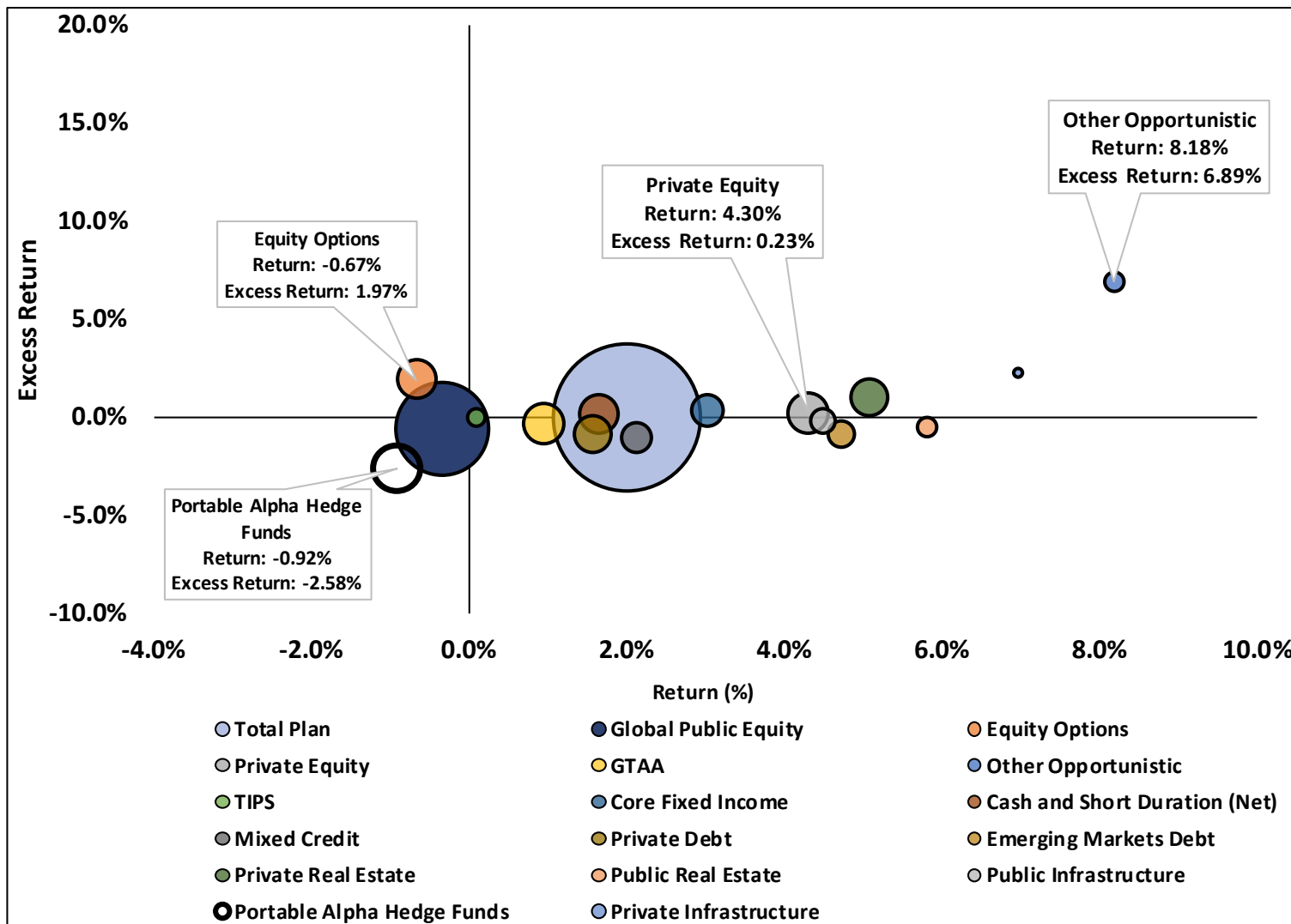
# Relative Performance to Policy Benchmarks<sup>1,3,4,10</sup>

FYTD as of February 28, 2019



# Asset Class Return & Excess<sup>1,3,4,10</sup>

FYTD as of February 28, 2019



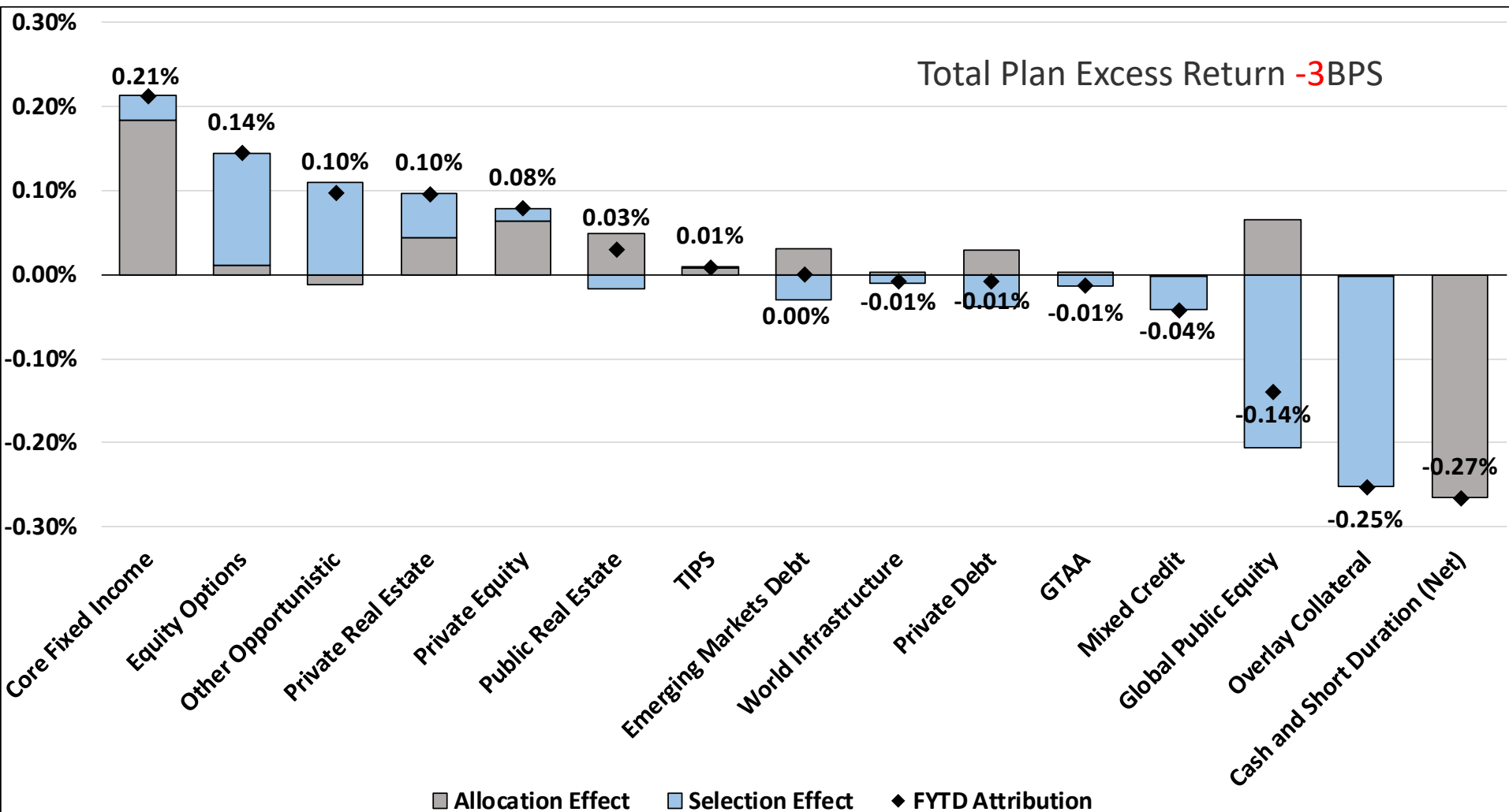
# Attribution of Plan Excess Returns to Policy Benchmark<sup>1,3,4,7,10</sup>

FYTD as of February 28, 2019

Fiscal Year Attribution	Total Attribution	Allocation Effect	Selection Effect	Average O/U Weight	Asset Class FY Return	Asset Class BM Return
Core Fixed Income	0.21%	0.18%	0.03%	-1.59%	3.02%	2.68%
Equity Options	0.14%	0.01%	0.13%	-0.01%	-0.67%	-2.64%
Other Opportunistic	0.10%	-0.01%	0.11%	0.76%	8.18%	1.29%
Private Real Estate	0.10%	0.04%	0.05%	0.06%	5.07%	4.03%
Private Equity	0.08%	0.06%	0.01%	0.00%	4.30%	4.07%
Public Real Estate	0.03%	0.05%	-0.01%	0.13%	5.81%	6.28%
TIPS	0.01%	0.01%	0.00%	-0.21%	0.09%	0.08%
Emerging Markets Debt	0.00%	0.03%	-0.03%	0.02%	4.72%	5.59%
World Infrastructure	-0.01%	0.00%	-0.01%	-0.02%	4.36%	4.69%
Private Debt	-0.01%	0.03%	-0.04%	0.03%	1.56%	2.42%
GTAA	-0.01%	0.00%	-0.01%	0.37%	0.95%	1.29%
Mixed Credit	-0.04%	0.00%	-0.04%	-0.43%	2.12%	3.16%
Global Public Equity	-0.14%	0.07%	-0.21%	1.00%	-0.35%	0.21%
Cash and Short Duration (Net)	-0.27%	-0.27%	0.00%	0.24%	1.44%	1.44%
Overlay Collateral	-0.25%	0.00%	-0.25%	0.13%	-0.16%	1.00%
Portable Alpha Hedge Funds	-0.26%	0.00%	-0.26%	0.13%	-0.92%	1.66%
Ported Short Duration	0.02%	0.00%	0.02%	n/a	0.48%	n/a
Ported Cash	-0.01%	0.00%	-0.01%	n/a	-0.13%	n/a
	<b>Total Plan Excess Return</b>	<b>Allocation Effect</b>	<b>Selection Effect</b>	<b>Interaction / Other</b>	<b>RSIC Return</b>	<b>RSIC Policy Benchmark Return</b>
<b>FYTD Total</b>	-0.03%	0.21%	-0.26%	0.03%	1.99%	2.02%

# Attribution of Plan Excess Returns to Policy Benchmark<sup>1,3,4,7,10</sup>

FYTD as of February 28, 2019



# APPENDIX

# Asset Allocation and SIOP Compliance

FYTD as of February 28, 2019

Asset Allocation	Market Value as of 02/28/19	Overlay Exposures	Net Position	% of Total Plan	Policy Targets	Difference	Allowable Ranges	SIOP Compliance
<b>Equities</b>	<b>12,913</b>		<b>16,627</b>	<b>53.5%</b>	<b>51.0%</b>	<b>2.5%</b>	<b>31% - 59%</b>	<b>YES</b>
Global Public Equity	8,976	3,370	12,346	39.7%	37.0%	2.7%	22% - 50%	YES
Equity Options	1,771	344	2,114	6.8%	7.0%	-0.2%	5% - 9%	YES
Private Equity	2,166	0	2,166	7.0%	7.0%	0.0%	5% - 13%	YES
<b>Real Assets</b>	<b>3,496</b>		<b>3,496</b>	<b>11.2%</b>	<b>12.0%</b>	<b>-0.8%</b>	<b>7% - 17%</b>	<b>YES</b>
Private Real Estate	1,977		1,977	6.4%	5.9%	0.4%	0% - 13%	YES
Public Real Estate	574		574	1.8%	3.1%	-1.2%	0% - 13%	YES
Private Infrastructure	108		108	0.3%	0.3%	0.0%	0% - 5%	YES
Public Infrastructure	837		837	2.7%	2.7%	0.0%	0% - 5%	YES
<b>Opportunistic</b>	<b>2,848</b>		<b>2,848</b>	<b>9.2%</b>	<b>8.0%</b>	<b>1.2%</b>		
GTAA	2,325	0	2,325	7.5%	7.0%	0.5%	3% - 11%	YES
Other Opportunistic	523	0	523	1.7%	1.0%	0.7%	0% - 3%	YES
<b>Credit</b>	<b>4,199</b>		<b>4,199</b>	<b>13.5%</b>	<b>15.0%</b>	<b>-1.5%</b>	<b>10% - 20%</b>	<b>YES</b>
Mixed Credit	1,238		1,238	4.0%	5.2%	-1.2%	0% - 8%	YES
Emerging Markets Debt	1,029		1,029	3.3%	4.0%	-0.7%	2% - 6%	YES
Private Debt	1,933		1,933	6.2%	5.8%	0.4%	3% - 11%	YES
<b>Rate Sensitive</b>	<b>4,502</b>		<b>3,917</b>	<b>12.6%</b>	<b>14.0%</b>	<b>-1.4%</b>	<b>4% - 24%</b>	<b>YES</b>
Core Fixed Income	734	1,139	1,874	6.0%	13.0%	-7.0%	6% - 20%	YES
Cash and Short Duration (Net)	3,768	-1,725	2,043	6.6%	1.0%	5.6%	0% - 7%	YES
Portable Alpha Hedge Funds	3,128	-3,128	0	10.1%*	10.0%	0.1%	0% - 12%	YES
<b>Total Plan</b>	<b>\$31,086</b>	<b>-</b>	<b>\$31,086</b>	<b>100.0%</b>	<b>110.0%</b>			
<b>Total Hedge Funds</b>	<b>3,345</b>		<b>\$3,345</b>	<b>10.8%</b>	n/a	n/a	0% - 20%	<b>YES</b>
<b>Total Private Markets</b>	<b>6,184</b>	<b>-</b>	<b>\$6,184</b>	<b>19.9%</b>	n/a	n/a	14% - 25%	<b>YES</b>

Total Hedge Fund exposure: 10.8% and consisted of: 10.1% Portable Alpha Hedge Funds, 0.7% to a hedge fund in Mixed Credit \*Portable Alpha Hedge Funds are expressed and benchmarked as gross exposure but employed in conjunction with the Overlay Program and are offset when looking at total plan market value.

# Footnotes & Disclosures

## Footnotes

1. Represents asset class benchmarks as of reporting date. Benchmarks for asset classes may have changed over time.
2. Benefit payments are the net of Plan contributions and disbursements.
3. "Cash" market value is the aggregate cash held at the custodian, Russell Investments, and strategic partnerships.
4. Asset class exposures and returns include blended physical and synthetic returns and current notional values (EM Debt, GTAA, Global Public Equity, Real Estate, Core Fixed Income, Private Equity, TIPS, Equity Options, and Commodities). Synthetic returns are provided by Russell Investments gross of financing costs. To accommodate for financing costs, LIBOR is added to the synthetic returns and removed from the collateral return.
5. Performance contribution methodology: Contribution is calculated by taking the sum of the [beginning weight] X [monthly return].
6. Source: Russell Investments; Net notional exposure.
7. Allocation Effect:  $[\text{Asset Class Weight} - \text{Policy Weight}] * [\text{Benchmark Return} - \text{Plan Policy Benchmark}]$   
Selection Effect:  $[\text{Asset Class Return} - \text{Policy Benchmark Return}] * \text{Asset Class Weight in Plan}$
8. The target weights to Private Equity, Private Debt, and Private Real Estate will be equal to their actual weights, reported by the custodial bank, as of the prior month end. When flows have occurred in the asset classes, flow adjusted weights are used to more accurately reflect the impact of the asset class weights. In the case of Private Equity, the use of the flow adjusted weight will affect the target allocation to Public Equity, such that the combined target weight of both asset classes shall equal 44% of the Plan. For Private Debt, the use of the flow adjusted weight will affect the target allocation to Mixed Credit, such that the combined target weight of both asset classes shall equal 11% of the Plan. For Private Real Estate, the use of the flow adjusted weight will affect the target allocation to Public Real Estate, such that the combined target weight of both asset classes shall equal 9% of the Plan.
9. Policy Ending Value is an estimate of the Plan NAV had it earned the Policy Benchmark return.
10. Collateral held to support the overlay program represents opportunity cost associated with financing the overlay program. The Overlay collateral consists of Ported Cash, Ported Short Duration, and Portable Alpha Hedge Funds. The cost of holding these assets is proxied using 3 Month LIBOR. This benchmark is not a component of the Policy benchmark.
11. RSIC Peer Universe is Bank of New York Public Plans Greater than \$5 Billion. The universe includes fund returns that are gross of invoiced fees. The RSIC percentile rank represents the RSIC return gross of invoiced fees.

## Disclosures

- Returns are provided by BNY Mellon and are time-weighted, total return calculations. Net of fee performance is calculated and presented after the deduction of fees and expenses. Periods greater than one year are annualized. Past performance is no guarantee of future results. Policy benchmark is the blend of 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.
- Overlay allocation detail is provided by Russell Investments.
- This report was compiled by the staff of the South Carolina Retirement System Investment Commission and has not been reviewed, approved or verified by the external investment managers. No information contained herein should be used to calculate returns or compare multiple funds, including private equity funds.
- Effective October 1, 2005, the State Retirement System Preservation and Investment Reform Act ("Act 153") established the Commission and devolved fiduciary responsibility for investment and management of the assets of the South Carolina Retirement Systems upon RSIC.
- Allocation / exposure percentages might not add up to totals due to rounding.



# Footnotes & Disclosures

## Benchmarks

- **Global Public Equity Blend:**  
*7/2018 – Present:* Weighted average of regional sub-asset class targets in Policy Portfolio. 51.4% MSCI US IMI Index for U.S. Equity, 31.4% MSCI World ex-US IMI Index for Developed Market Equity (non-U.S.), and 17.1% MSCI Emerging Markets IMI Index for Emerging Market Equity  
*7/2016 – 6/2018:* MSCI All-Country World Investable Markets Index (net of dividends)  
*Prior to 7/2016:* MSCI All-Country World Index (net of dividends)
- **Equity Options Strategies:**  
*7/2018 – Present:* 50% CBOE S&P Buy Write Index (BXM) / 50% CBOE S&P 500 Put Write Index (PUT)  
*Prior to 6/2018:* CBOE S&P 500 Buy Write Index (BXM)
- **Private Equity Blend:** 80% Russell 3000 Index on a 3-month lag / 20% MSCI EAFE (net of dividends) on a 3-month lag Plus 300 basis points
- **Core Fixed Income:** Bloomberg Barclays US Aggregate Bond Index
- **Emerging Market Debt:** 50% JP Morgan EMBI Global Diversified (US Dollar) / 50% JP Morgan GBIEM Global Diversified (Local)
- **Private Debt :** S&P/LSTA Leveraged Loan Index + 150 basis points on a 3-month lag
- **Mixed Credit Blend:**  
*7/2016 – Present:* 1/2 Bloomberg Barclays US Corporate High Yield 2% Issuer Capped Bond Index  
 1/2 S&P/LSTA Leveraged Loan Index  
*Prior to 6/2016:* 1/3 Bloomberg Barclays US Corporate High Yield 2% Issuer Capped Bond Index  
 1/3 S&P/LSTA Leveraged Loan Index  
 1/3 Bloomberg Barclays US Mortgage Backed Securities (MBS) Index
- **GTAA Blend:**  
*7/2018 – Present:* Total System Policy Benchmark ex-Private Markets and Portable Alpha  
*7/2016 – 6/2018:* 50% MSCI World Index (net of dividends)  
 50% Bloomberg Barclays US Aggregate Bond Index  
*Prior to 7/2016:* 50% MSCI World Index (net of dividends)  
 50% FTSE World Government Bond Index (WGBI)
- **Other Opportunistic:**  
*7/2018 – Present:* Total System Policy Benchmark ex-Private Markets and Portable Alpha  
*7/2016 – 6/2018:* 50% MSCI World Index (net of dividends)  
 50% Bloomberg Barclays US Aggregate Bond Index
- **Private Real Estate Blend:**  
*7/2018 – Present:* NCREIF Open-End Diversified Core (ODCE) Index *Net of Fees* + 100 basis points  
*Prior to 6/2018:* NCREIF Open-end Diversified Core (ODCE) Index *Gross of Fees* + 75 basis points
- **Public Real Estate:** FTSE NAREIT Equity REITs Index
- **Infrastructure:** Dow Jones Brookfield Global Infrastructure Index
- **Cash & Short Duration:** ICE BofA Merrill Lynch 3-Month US Treasury Bill Index
- **Portable Alpha Hedge Fund Blend:**  
*7/2018 – Present:* ICE BofA Merrill Lynch 3-Month T-Bills + 250 basis points  
*7/2016-6/2018:* *Prior to FY 2019, there was not a benchmark for Portable Alpha Hedge Funds, so effectively zero*  
*Prior to 7/2016:* HFRI Fund Weighted Composite Index (NOTE: PA HFs were considered Low Beta Hedge Funds at this time).
- **Portable Alpha Benchmark:**  
*7/2018 – Present:* *Weighted average of monthly weights for PA Hedge Funds* ICE BofA Merrill Lynch 3-Month T-Bills + 250 basis points, and Zero for Ported Cash and Short Duration  
*7/2016-6/2018:* *Prior to FY 2019, there was not a benchmark for Portable Alpha Hedge Funds, so effectively zero*

# FUND EVALUATION REPORT

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## South Carolina Retirement System

Performance Report  
As of January 31, 2019



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M E K E T A   I N V E S T M E N T   G R O U P

BOSTON  
MASSACHUSETTS

CHICAGO  
ILLINOIS

MIAMI  
FLORIDA

PORTLAND  
OREGON

SAN DIEGO  
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## South Carolina Retirement System Investment Commission

## Total Retirement System

As of January 31, 2019

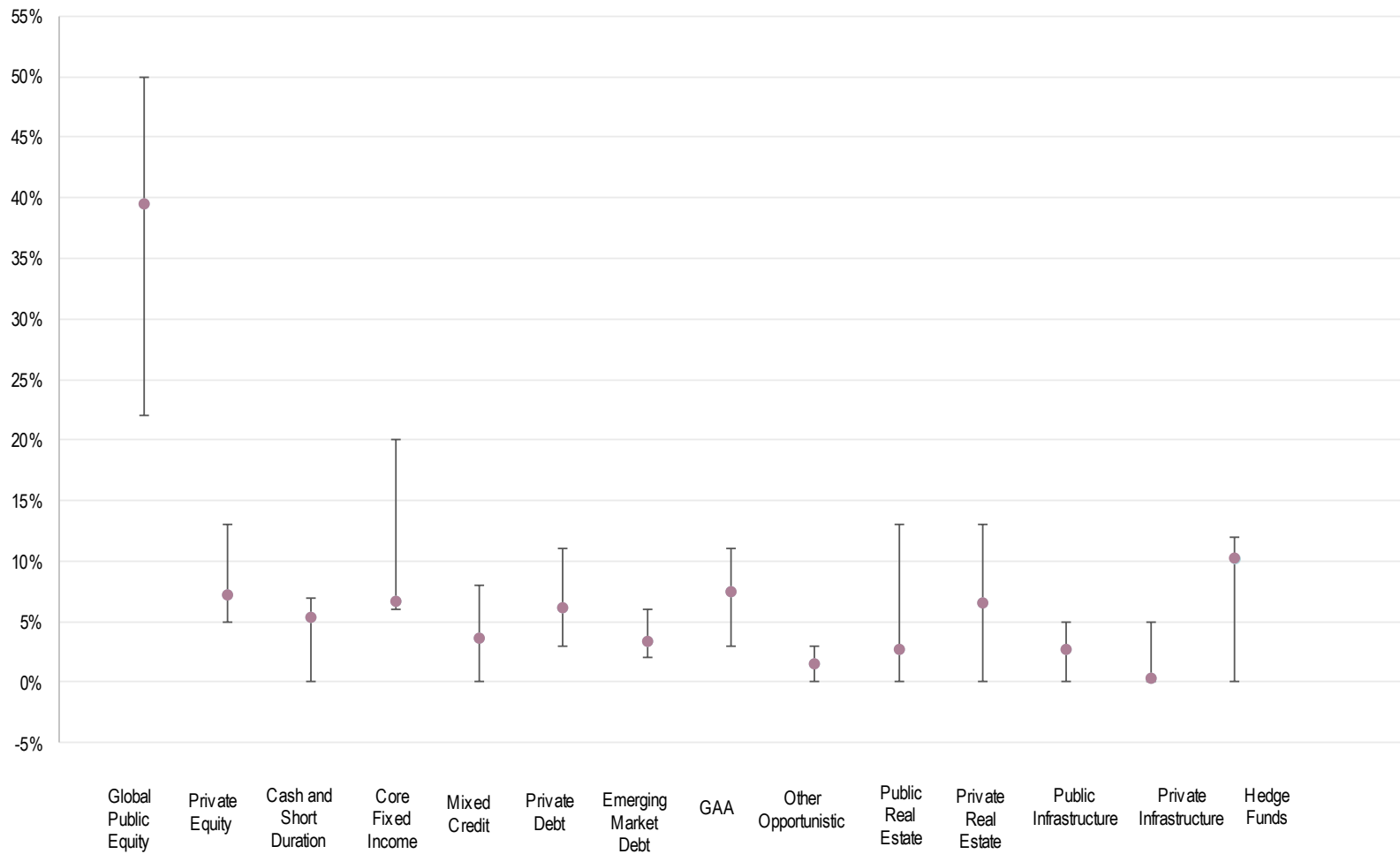
## Allocation vs. Targets and Policy

	MV at 1/31/2019	Overlay Exposures	Net Position	% of Total System	% of Total System (Net)	FY 19 Policy Targets	Allowable Ranges	SIOP Compliance?
<b>Total System</b>	<b>30,655,791,191</b>	<b>-</b>	<b>30,655,791,191</b>	<b>100%</b>	<b>100%</b>	<b>110%</b>	<b>-</b>	<b>-</b>
<b>Equity</b>	<b>12,543,426,599</b>	<b>3,869,205,099</b>	<b>16,412,631,699</b>	<b>41%</b>	<b>54%</b>	<b>51%</b>	<b>31-59%</b>	<b>Yes</b>
Global Public Equity	8,597,148,192	3,527,136,449	12,124,284,642	28%	40%	37%	22-50%	Yes
Private Equity	2,206,529,216	-	2,206,529,216	7%	7%	7%	5-13%	Yes
Equity Options	1,739,749,191	342,068,650	2,081,817,841	6%	7%	7%	5-9%	Yes
<b>Conservative Fixed Income</b>	<b>4,437,939,968</b>	<b>(740,540,769)</b>	<b>3,697,399,198</b>	<b>14%</b>	<b>12%</b>	<b>14%</b>	<b>4-24%</b>	<b>Yes</b>
Cash and Short Duration	3,701,792,883	(2,045,533,120)	1,656,259,763	12%	5%	1%	0-7%	Yes
Core Fixed Income	736,147,085	1,304,992,350	2,041,139,435	2%	7%	13%	6-20%	Yes
<b>Diversified Credit</b>	<b>4,038,745,961</b>	<b>-</b>	<b>4,038,745,961</b>	<b>13%</b>	<b>13%</b>	<b>15%</b>	<b>10-20%</b>	<b>Yes</b>
Mixed Credit	1,131,295,235	-	1,131,295,235	4%	4%	5%	0-8%	Yes
Private Debt	1,877,916,453	-	1,877,916,453	6%	6%	6%	3-11%	Yes
Emerging Markets Debt	1,029,534,273	-	1,029,534,273	3%	3%	4%	2-6%	Yes
<b>Opportunistic</b>	<b>2,751,836,496</b>	<b>-</b>	<b>2,751,836,496</b>	<b>9%</b>	<b>9%</b>	<b>8%</b>		
GAA	2,284,062,600	-	2,284,062,600	7%	7%	7%	3-11%	Yes
Other Opportunistic	467,773,896	-	467,773,896	2%	2%	1%	0-3%	Yes
<b>Real Assets</b>	<b>3,755,177,837</b>	<b>-</b>	<b>3,755,177,837</b>	<b>12%</b>	<b>12%</b>	<b>12%</b>	<b>7-17%</b>	<b>Yes</b>
Public Real Estate	840,522,387	-	840,522,387	3%	3%	3%	0-13%	Yes
Private Real Estate	1,988,394,441	-	1,988,394,441	6%	6%	6%	0-13%	Yes
Public Infrastructure	817,832,721	-	817,832,721	3%	3%	3%	0-5%	Yes
Private Infrastructure	108,428,290	-	108,428,290	0%	0%	0%	0-5%	Yes
Hedge Funds PA	3,128,664,330	(3,128,664,330)	-	10%	0%	10%	0-12%	Yes

Includes cash in the Russell Overlay separate account.  
Percentages may not sum to 100% due to rounding.



**Actual vs. Policy Ranges:  
(Including Overlay)**



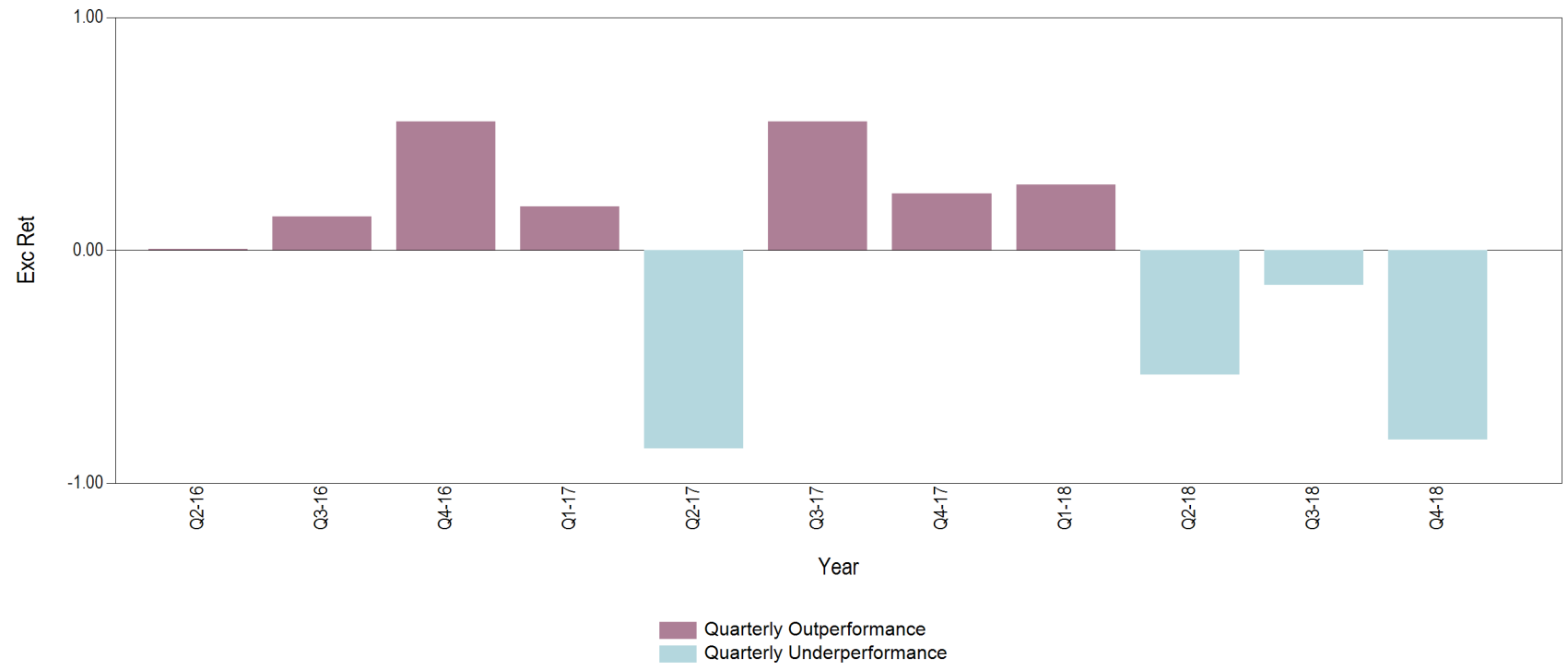
Net Return Summary  
Ending January 31, 2019



Returns for periods greater than one year are annualized.



Quarterly Excess Performance vs. Policy Benchmark



## South Carolina Retirement System Investment Commission

## Total Retirement System

As of January 31, 2019

## Net Asset Class Performance Summary (1)

	Market Value (\$)	% of Portfolio	1 Mo (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
<b>Total Retirement System</b>	<b>30,655,791,191</b>	<b>100.0</b>	<b>5.1</b>	<b>0.4</b>	<b>-2.0</b>	<b>8.4</b>	<b>5.6</b>	<b>8.9</b>	<b>6.2</b>	<b>Jul-94</b>
<i>Policy Index</i>			4.2	0.5	-1.2	8.5	5.6	8.0	5.7	Jul-94
<b>Global Public Equity</b>	<b>8,597,148,192</b>	<b>28.0</b>	<b>8.3</b>	<b>-3.8</b>	<b>-9.8</b>	<b>11.5</b>	<b>6.2</b>	<b>11.4</b>	<b>4.3</b>	<b>Jun-99</b>
<i>FY '19 Global Public Equities Custom Benchmark</i>			8.2	-2.4	-7.5	11.6	6.7	11.3	4.8	Jun-99
<b>Private Equity</b>	<b>2,206,529,216</b>	<b>7.2</b>	<b>0.3</b>	<b>4.5</b>	<b>9.7</b>	<b>11.4</b>	<b>11.4</b>	<b>11.0</b>	<b>7.8</b>	<b>Apr-07</b>
<i>80% Russell 3000/20% MSCI EAFE + 300 basis points on a 3-month lag</i>			-7.5	2.3	6.8	12.8	12.0	15.1	14.3	Apr-07
<b>Equity Options</b>	<b>1,739,749,191</b>	<b>5.7</b>	<b>4.0</b>	<b>-1.6</b>	<b>-3.1</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>6.3</b>	<b>Jul-16</b>
<i>FY '19 CBOE 50/50 Put/Buy</i>			3.1	-4.0	-3.2	7.3	6.0	8.7	5.7	Jul-16
<b>Short Duration</b>	<b>1,356,400,564</b>	<b>4.4</b>	<b>0.7</b>	<b>1.9</b>	<b>2.3</b>	<b>1.9</b>	<b>1.6</b>	<b>--</b>	<b>1.8</b>	<b>Mar-10</b>
<i>BBgBarc US Govt/Credit 1-3 Yr. TR</i>			0.4	1.9	2.3	1.2	1.1	1.5	1.2	Mar-10
<b>Cash and Overlay</b>	<b>2,345,392,319</b>	<b>7.7</b>	<b>0.1</b>	<b>1.0</b>	<b>1.3</b>	<b>0.4</b>	<b>0.0</b>	<b>0.1</b>	<b>1.1</b>	<b>Oct-05</b>
<i>ICE BofAML 91 Days T-Bills TR</i>			0.2	1.3	2.0	1.1	0.7	0.4	1.2	Oct-05
<b>Core Fixed Income</b>	<b>736,147,085</b>	<b>2.4</b>	<b>1.3</b>	<b>2.6</b>	<b>1.9</b>	<b>2.8</b>	<b>2.7</b>	<b>4.4</b>	<b>5.9</b>	<b>Jul-94</b>
<i>BBgBarc US Aggregate TR</i>			1.1	2.7	2.3	2.0	2.4	3.7	5.4	Jul-94
<b>Mixed Credit</b>	<b>1,131,295,235</b>	<b>3.7</b>	<b>1.9</b>	<b>1.0</b>	<b>1.3</b>	<b>6.7</b>	<b>3.0</b>	<b>8.9</b>	<b>6.0</b>	<b>May-08</b>
<i>50% S&amp;P LSTA Leveraged Loan Index/50% Barclays High Yield Index</i>			3.5	1.5	1.9	7.0	4.3	7.8	5.8	May-08
<b>Private Debt</b>	<b>1,877,916,453</b>	<b>6.1</b>	<b>1.0</b>	<b>0.7</b>	<b>3.0</b>	<b>6.9</b>	<b>5.6</b>	<b>9.8</b>	<b>7.0</b>	<b>Jun-08</b>
<i>S&amp;P LSTA Leveraged Loan Index + 150 basis points on a 3-month lag</i>			-0.1	3.3	6.0	6.9	5.4	9.2	5.3	Jun-08
<b>Emerging Market Debt</b>	<b>1,029,534,273</b>	<b>3.4</b>	<b>5.3</b>	<b>4.9</b>	<b>-4.5</b>	<b>8.1</b>	<b>4.1</b>	<b>--</b>	<b>5.2</b>	<b>Jul-09</b>
<i>50% JP Morgan EMBI Global Diversified (USD)/50% JP Morgan EMBI Global Diversified</i>			4.9	5.6	-2.6	7.3	3.5	6.6	5.4	Jul-09
<b>GAA</b>	<b>2,284,062,600</b>	<b>7.5</b>	<b>7.6</b>	<b>-0.5</b>	<b>-6.2</b>	<b>5.9</b>	<b>3.4</b>	<b>7.3</b>	<b>4.6</b>	<b>Aug-07</b>
<i>Total System Policy Benchmark ex-Private Markets</i>			5.8	-0.4	-2.9	7.2	4.1	7.0	4.1	Aug-07
<b>Other Opportunistic</b>	<b>467,773,896</b>	<b>1.5</b>	<b>4.7</b>	<b>7.0</b>	<b>9.4</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>9.9</b>	<b>Jul-17</b>
<i>Total System Policy Benchmark ex-Private Markets</i>			5.8	-0.4	-2.9	7.2	4.1	7.0	3.0	Jul-17
<b>Hedge Funds Portable Alpha</b>	<b>3,128,664,330</b>	<b>10.2</b>	<b>0.2</b>	<b>0.7</b>	<b>0.6</b>	<b>3.6</b>	<b>5.6</b>	<b>8.0</b>	<b>8.1</b>	<b>Jul-07</b>
<i>ICE BAML 3 Month T-Bill + 250 BPS SC Custom</i>			0.4	2.7	3.7	1.9	1.3	0.8	1.2	Jul-07
<b>Public Real Estate (2)</b>	<b>840,522,387</b>	<b>2.7</b>	<b>11.4</b>	<b>4.6</b>	<b>10.1</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>3.3</b>	<b>Jul-16</b>
<i>FTSE NAREIT Equity REIT</i>			11.8	5.5	11.2	8.0	9.4	15.5	2.8	Jul-16
<b>Private Real Estate</b>	<b>1,988,394,441</b>	<b>6.5</b>	<b>-0.2</b>	<b>4.4</b>	<b>9.0</b>	<b>9.7</b>	<b>12.9</b>	<b>10.5</b>	<b>7.2</b>	<b>Jul-08</b>
<i>NCREIF ODCE Net + 100 BPS SC Custom</i>			0.1	4.0	8.7	9.3	11.3	6.3	5.9	Jul-08
<b>Public Infrastructure</b>	<b>817,832,721</b>	<b>2.7</b>	<b>9.1</b>	<b>2.3</b>	<b>0.3</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>4.0</b>	<b>Jun-16</b>
<i>DJ Brookfield Global Infrastructure</i>			9.4	2.1	0.8	9.7	5.6	12.2	6.7	Jun-16
<b>Private Infrastructure</b>	<b>108,428,290</b>	<b>0.4</b>	<b>-0.9</b>	<b>7.4</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>7.4</b>	<b>Jul-18</b>
<i>DJ Brookfield Global Infrastructure</i>			9.4	2.1	0.8	9.7	5.6	12.2	2.1	Jul-18

(1) Return calculations are rounded to the nearest tenth of a percent and may differ slightly from BNYM reported returns. Returns for periods greater than one year are annualized.

(2) Returns may differ from staff; using Modified Dietz calculation.



As of January 31, 2019

**Statistics Summary**  
5 Years Ending January 31, 2019

	Anlzd Return	Anlzd Standard Deviation	Information Ratio	Beta	Sharpe Ratio	Tracking Error
Total Retirement System	5.6%	5.6%	0.0	1.0	0.9	1.1%
Policy Index	5.6%	5.4%	--	1.0	0.9	0.0%
Global Public Equity	6.2%	11.2%	-0.4	1.0	0.5	1.5%
FY '19 Global Public Equities Custom Benchmark	6.7%	11.2%	--	1.0	0.5	0.0%
Private Equity	11.4%	4.0%	-0.1	0.0	2.7	10.3%
80% Russell 3000/20% MSCI EAFE + 300 basis points on a 3-month lag	12.0%	9.9%	--	1.0	1.1	0.0%
Short Duration	1.6%	0.6%	1.1	0.7	1.4	0.4%
BBgBarc US Govt/Credit 1-3 Yr. TR	1.1%	0.8%	--	1.0	0.5	0.0%
Cash and Overlay	0.0%	0.3%	-3.6	0.9	-2.4	0.2%
ICE BofAML 91 Days T-Bills TR	0.7%	0.2%	--	1.0	-0.1	0.0%
Core Fixed Income	2.7%	2.7%	0.5	0.9	0.8	0.7%
BBgBarc US Aggregate TR	2.4%	2.8%	--	1.0	0.6	0.0%
Mixed Credit	3.0%	3.3%	-0.8	0.9	0.7	1.7%
50% S&P LSTA Leveraged Loan Index/50% Barclays High Yield Index	4.3%	3.3%	--	1.0	1.1	0.0%
Private Debt	5.6%	3.1%	0.0	0.4	1.6	3.2%
S&P LSTA Leveraged Loan Index + 150 basis points on a 3-month lag	5.4%	2.3%	--	1.0	2.0	0.0%
Emerging Market Debt	4.1%	8.6%	0.4	1.1	0.4	1.4%
50% JP Morgan EMBI Global Diversified (USD)/50% JP Morgan EMBI Global Diversified	3.5%	8.0%	--	1.0	0.4	0.0%
GAA	3.4%	7.6%	-0.2	1.1	0.4	2.9%
Total System Policy Benchmark ex-Private Markets	4.1%	6.7%	--	1.0	0.5	0.0%
Hedge Funds Portable Alpha	5.6%	4.2%	1.0	-1.4	1.2	4.3%
ICE BAML 3 Month T-Bill + 250 BPS SC Custom	1.3%	0.4%	--	1.0	1.5	0.0%
Private Real Estate	12.9%	2.9%	0.3	0.1	4.3	5.0%
NCREIF ODCE Net + 100 BPS SC Custom	11.3%	4.3%	--	1.0	2.5	0.0%

Return calculations are rounded to the nearest tenth of percent and may differ slightly from BNYM reported returns.





## Disclosure Appendix

- Item 1. Fiscal year begins July 1.
- Item 2. All returns are presented net of management fees.
- Item 3. Policy index performance is calculated by multiplying each asset class target weight by the performance of its respective benchmark, with the exception of portable alpha hedge funds which is included in the policy benchmark as: target weight x 250 bps.
- Item 4. As stipulated in the Statement of Investment Objectives and Policies, the target weights to Private Equity, Private Debt, Real Estate and Private Market Infrastructure will be equal to their actual flow adjusted weights, reported by the custodial bank, as of the prior month end. In the case of Private Equity, the use of the actual flow adjusted weight will affect the target allocation to Global Equity (excluding Equity Options). For example, in FY 18-19, the combined target weight of both of these asset classes shall equal 44% of the Plan. For Private Debt, the use of the actual flow adjusted weight will affect the target allocation to Mixed Credit, such that the combined target weight of both asset classes in FY 18-19 shall equal 11% of the Plan. For private market Real Estate, the use of the actual flow adjusted weight will affect the target allocation to public market Real Estate (REITs), such that the combined target weight of both asset classes in FY 18-19 shall equal 9% of the Plan. For Private Market Infrastructure, the use of the actual flow adjusted weight will affect the target allocation to Public Infrastructure, such that the combined target weight of both asset classes in FY 18-19 shall equal 3% of the Plan.
- Item 5. Overlay exposure is reported from Russell. Market values and performance reported by BNYM are reconciled to manager reported data for public markets strategies.
- Item 6. Total retirement system performance is calculated inclusive of the overlay investments. Individual asset class performance is reported by BNYM excluding synthetic exposure from the overlay program.
- Item 7. Asset classes with less than five years of historical returns are excluded from the risk statistics summary.
- Item 8. Effective July 1, 2018, the Global Public Equities benchmark is a weighted average of the underlying regional sub-asset class targets in the policy portfolio. This consists of the MSCI U.S. IMI Net TR USD for the U.S. Equity allocation, the MSCI World EX U.S. IMI Net TR USD for the Developed Market Equity (non-U.S.), and the MSCI Emerging IMI Net TR USD for the Emerging Market Equity allocation. Prior to July 1, 2018, this benchmark was the MSCI ACWI IMI Net USD.
- Effective July 1, 2018, the Equity Options benchmark is 50% CBOE S&P 500 Putwrite / 50% CBOE S&P 500 Buywrite. Prior to July 1, 2018, the benchmark was the CBOE S&P 500 Buywrite index.
- Effective July 1, 2018, the Hedge Funds Portable Alpha benchmark is ICE BAML 2 Month T-Bill +250 bps. Prior to July 1, 2018, the benchmark was 3-month Libor Total Return USD. This is applicable to the asset class benchmark only. See item 3 for inclusion in policy index.
- Effective July 1, 2018, the Private Real Estate benchmark is NCREIF ODCE Net + 100 bps. Prior to July 1, 2018, the benchmark was NCREIF ODCE + 75 bps.
- Effective July 1, 2018, the GAA and Other Opportunistic and Risk Parity Assets benchmarks are the Total System Policy Benchmark ex-Private Markets and Portable Alpha. Prior to July 1, 2018, the benchmark was 50% MSCI World / 50% Barclays Aggregate Bond Index.

WE HAVE PREPARED THIS REPORT FOR THE SOLE BENEFIT OF THE SOUTH CAROLINA RETIREMENT SYSTEM.

SIGNIFICANT EVENTS MAY OCCUR (OR HAVE OCCURRED) AFTER THE DATE OF THIS REPORT AND THAT IT IS NOT OUR FUNCTION OR RESPONSIBILITY TO UPDATE THIS REPORT. ANY OPINIONS OR RECOMMENDATIONS PRESENTED HEREIN REPRESENT OUR GOOD FAITH VIEWS AS OF THE DATE OF THIS REPORT AND ARE SUBJECT TO CHANGE AT ANY TIME. ALL INVESTMENTS INVOLVE RISK. THERE CAN BE NO GUARANTEE THAT THE STRATEGIES, TACTICS, AND METHODS DISCUSSED HERE WILL BE SUCCESSFUL.

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PERFORMANCE DATA CONTAINED HEREIN REPRESENT PAST PERFORMANCE. PAST PERFORMANCE IS NO GUARANTEE OF FUTURE RESULTS.



# Annual Investment Plan Progress Report Fiscal Year 2019 Third Quarter Update

Geoff Berg, CIO

## Summary Update

- AIP included 34 different goals/initiatives
  - 28 from the investment team
    - 16 of these are “single-year” initiatives
    - 12 are multi-year, or “ongoing” initiatives
  - Non-investment team initiatives relate to Reporting, IT, and Legal initiatives
  - *Considerable* progress toward initiatives
- Progress from prior meeting noted in yellow

## Current-Year Initiatives

- Over 85% of current-year initiatives are completed or nearing completion.

INITIATIVE	Single or Multi-Yr	STATUS
<b>A. INVESTMENT TEAM - CURRENT YEAR INITIATIVES</b>		
Implement Policy Asset Allocation	Single	COMPLETED
TIPS: create implementation plan for exposure	Single	COMPLETED
EM small cap manager search	Single	COMPLETED
Passive Index Menu	Single	COMPLETED
Evaluate insurance-linked strategies	Single	COMPLETED
Evaluate impact of rising rates on Securities Lending	Single	COMPLETED
Work with Securities Lending agent to improve reporting	Single	COMPLETED
Co-investment platform - design & implementation	Single	COMPLETED
Develop strategy to exploit credit market turbulence	Single	COMPLETED
Active/Enhanced/Passive Framework	Single	COMPLETED
Evaluate additional alt beta strategies	Single	COMPLETED
Use of Equity Options in international markets	Single	NEARING COMPLETION
Currency hedging - evaluate options (w/Meketa)	Single	NEARING COMPLETION
PD and Credit: Develop way to track key differentials	Single	NEARING COMPLETION
Re-underwrite existing active equity strategies	Single	ONGOING
Rebalancing options (cost/benefit analysis)	Single	VERY EARLY

## Multi-Year and Ongoing Initiatives

- We have made progress on 9 of 12 ongoing initiatives.

INITIATIVE	Single or Multi-Yr	STATUS
<b>B. INVESTMENT TEAM - MULTI-YEAR INITIATIVES</b>		
Challenging beliefs (continue)	Multi	ONGOING
Mixed Credit: monitor secured vs. unsecured mix	Multi	ONGOING
Build-out of Investment Risk function	Multi	ONGOING
Fee and expense review - structural vs. variable	Multi	ONGOING
Manager debates (GAA)	Multi	ONGOING
Enhance Private Markets quantitative underwriting	Multi	ONGOING
Infrastructure: build out private portfolio	Multi	ONGOING
Personnel - Opportunities for cross-asset class work	Multi	VERY EARLY
Non-PA HFs: complete wind-down	Multi	NEARING COMPLETION
Asset consolidation w/high conviction mgrs; improve cost	Multi	ONGOING
TAA and Rebalancing - strengthen capabilities	Multi	ONGOING
Review of investment process	Multi	ONGOING

## Non-Investment Initiatives

- Progress being made in non-investment initiatives, most of which are multi-year.

INITIATIVE	SINGLE OR MULTI-YR	STATUS
<b>C. NON-INVESTMENT TEAM AIP INITIATIVES</b>		
<b>Ops - Explore improvements to FI portfolio accounting</b>	Single	COMPLETED
<b>Ops - Assess performance reporting ecosystem needs</b>	Multi	NEARING COMPLETION
<b>Ops - Enhance IT infrastructure to support RSIC business needs</b>	Multi	ONGOING
<b>Ops - Research, implement CMS solution</b>	Multi	ONGOING
<b>Legal - Evaluate contracting/closing process</b>	Multi	ONGOING
<b>Legal - Assess different ownership structures</b>	Multi	ONGOING

# Delegated Investments (February 21, 2019 to April 10, 2019)

Asset Class	Investment	Investment Amount	Closing Date
Private Equity	Providence Strategic Growth IV	\$75 M	April 2, 2019



# Providence Strategic Growth IV (“PSG IV”)

Derek Connor, CFA, CAIA

**Providence Strategy Growth Capital Partners (“PSG”) is an affiliate of Providence Equity Partners that focuses on growth and small buyout investments. RSIC has closed a \$75 million investment in PSG IV.**

- **Investment Strategy**

- Pursues leveraged buyout and growth equity transactions in North America focused on the software sector
- Builds platform companies through a combination of organic growth and add-on acquisitions
- Competitive Advantage: Origination platform that utilizes both PSG and Providence Equity network, and senior advisor relationships

- **Portfolio Construction**

- Typically invest in 15-20 portfolio companies in North America, primarily in the US
- Invest across the software sector with a focus on mobile payments, business applications, security and network technology, and artificial intelligence
- Equity investments ranging from \$5mn-\$75mn

## Relationship with RSIC

- RSIC committed \$75 million to PSG III in Q2 2018 and \$150 million to Providence Equity VIII
- Growth is an under-represented exposure in the RSIC PE portfolio

## Firm

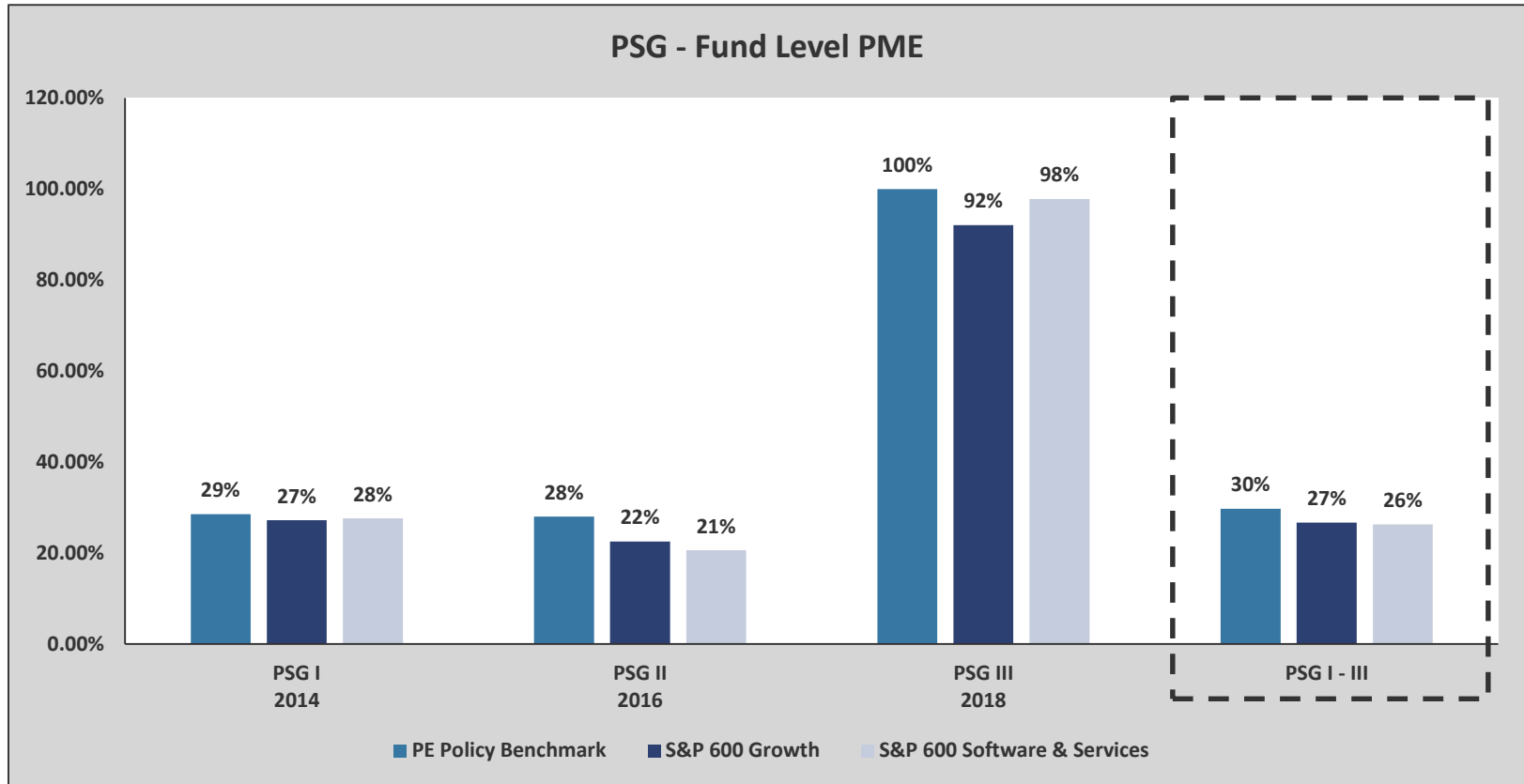
- PSG was founded in 2013 and is affiliate of Providence Equity Partners
- Invested over \$1.4 billion across 31 companies and executed 144 add-ons
- 37 investment professionals utilizing relationship-driven and collaborative approach

## Performance

- PSG has meaningfully outperformed public and private markets across funds and portfolio companies
- PSG I and PSG II are top decile performers relative to PE universe on the basis of net IRR

- **Macro opportunity in the software sector**
- **Strong performance of PSG I and II**
- **Demonstrated ability to sell companies upstream to larger PE funds**
- **Ability to rapidly scale companies through acquisitions**
- **Reduced competition in lower end of the market**

- **Limited track record**
- **Rapid deployment of capital and quick fundraise**
- **Large unrealized portfolio**
- **Significant increase in fund size**
- **Expansion into Europe and potential distractions**



- *PSG I and PSG II significantly outperforming all public market benchmarks over comparable time period*
- *PSG III performance too early to be meaningful*

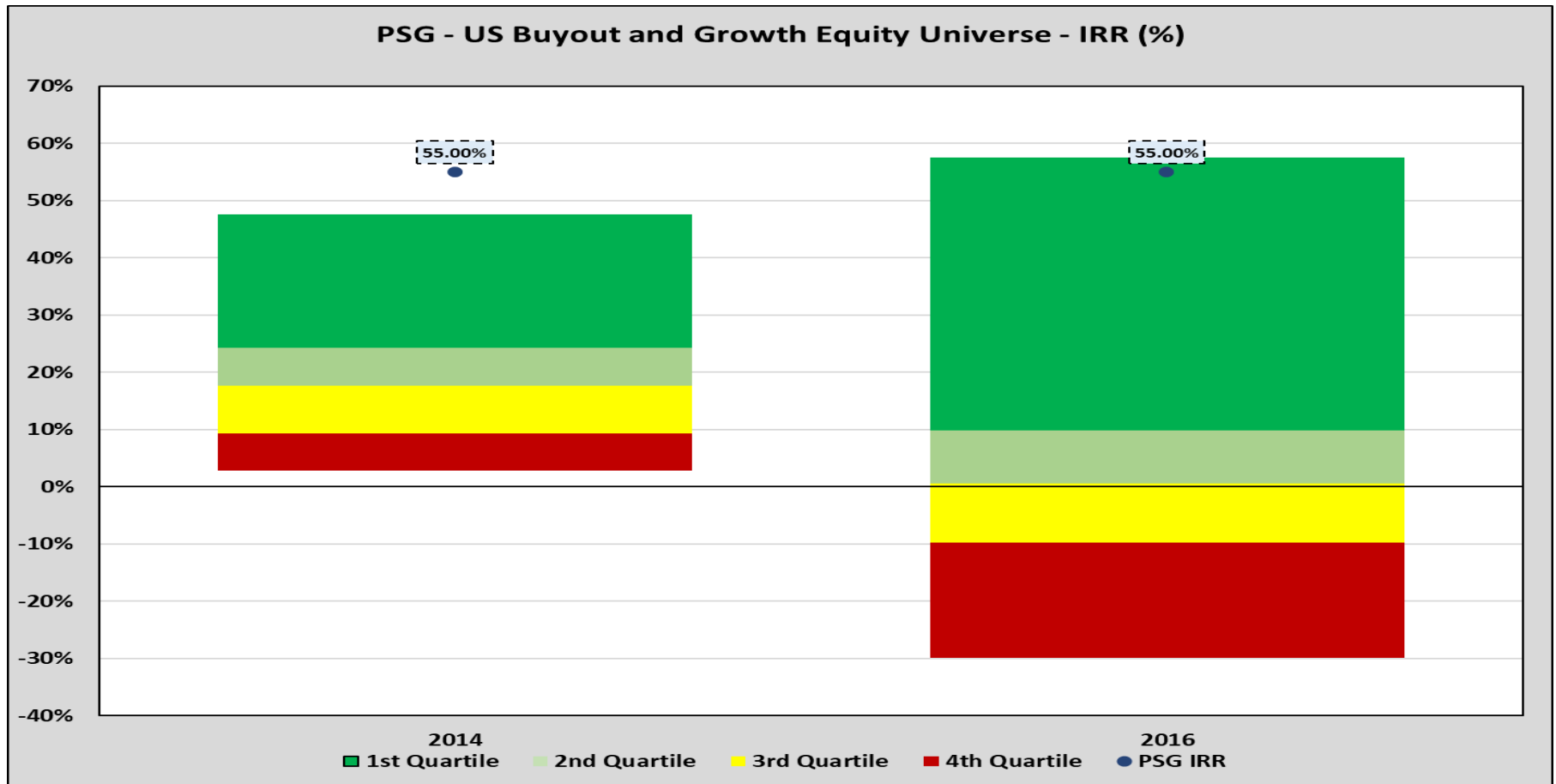
**Note:**  
 \* Policy benchmark is 80% Russell 3000 + 20% MSCI EAFE + 300 basis points

<b>Commitment Allocation:</b>	\$75M
<b>Fund Size:</b>	\$2.0B
<b>GP Commitment:</b>	At least \$50M
<b>Investment Period:</b>	5 Years
<b>Management Fee:</b>	2% on committed capital
<b>Carried interest:</b>	20%
<b>Preferred Return:</b>	8%; 100% catchup
<b>Term:</b>	10 Years ; Three 1 year extensions with LPAC consent
<b>Timing:</b>	Fund Close 4/5/2019

# Appendix



# PSG Performance Quartiles (Net IRR)



• *PSG I and PSG II demonstrating strong performance relative to Cambridge benchmark*

Data Source: Cambridge Associates U.S. Buyout and Growth universe as of 9/30/18



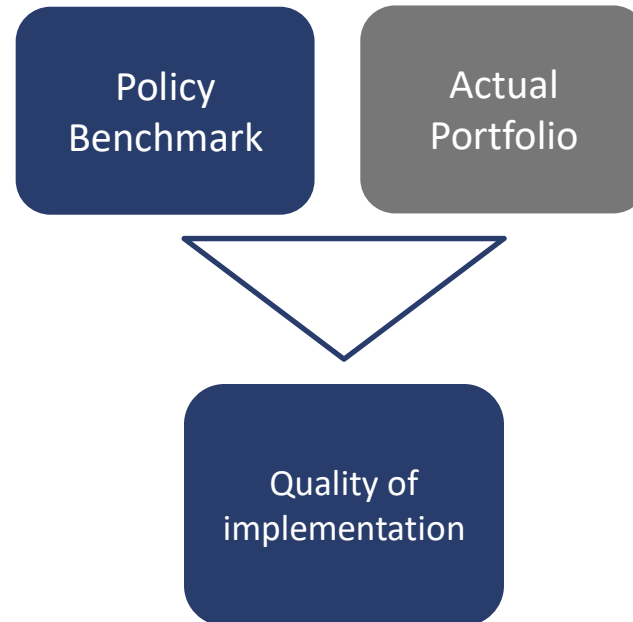
# Portfolio Framework

Geoffrey Berg, CFA

## Goals

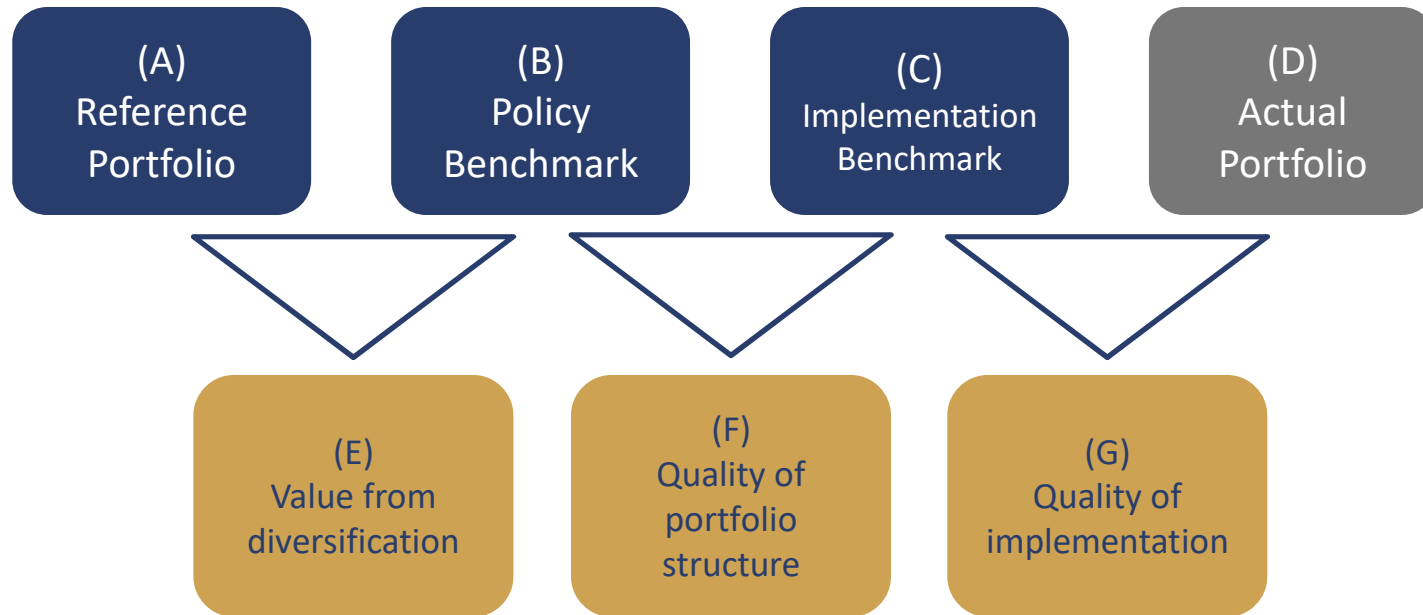
- Adopt clear performance framework tied to major decisions
- Establish clear ownership and accountability
- Long-term emphasis creates alignment with plan success
- Improves Commission oversight

## Performance Analysis Framework (Current)

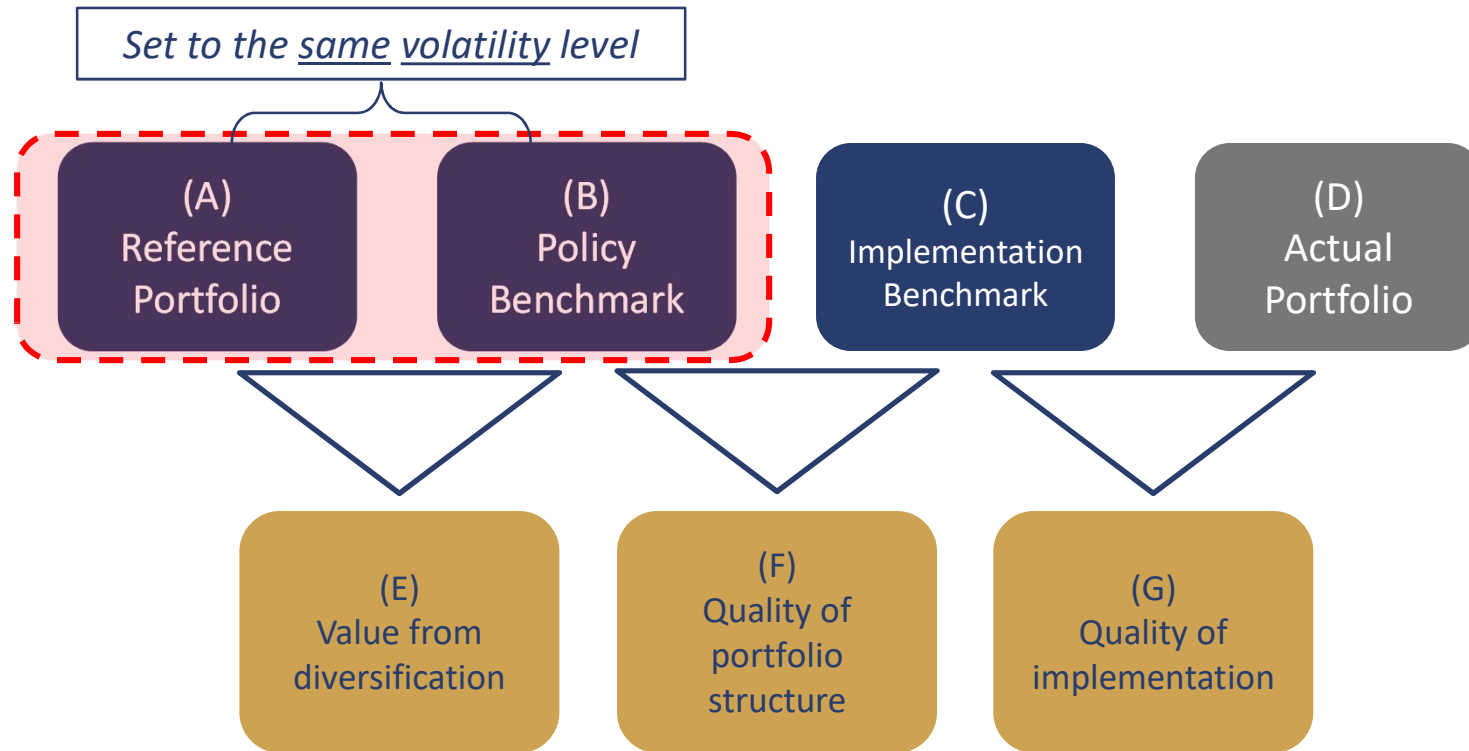


*This does very little to articulate where value is being added or detracted.*

# Proposed Performance Analysis Framework



# Proposed Performance Analysis Framework

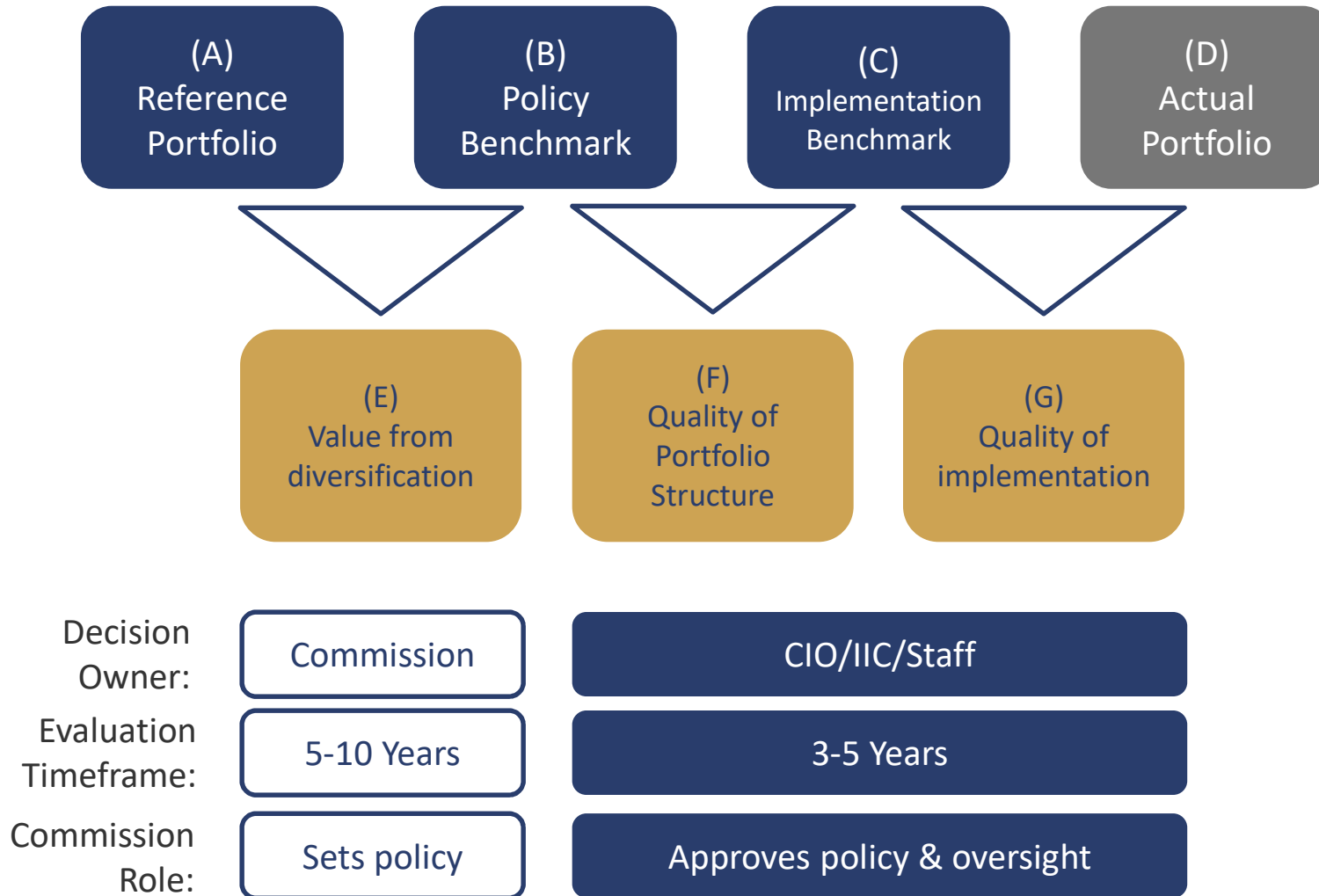


# Implementation Benchmark: How Does It Work?

- Designed to distinguish *portfolio construction* from *manager performance*
  - Uses the benchmark of each underlying strategy ( $r_b = \sum w_a \cdot r_s$ )\*
- Examples include:
  - Asset allocation: overweight Public Equity vs. fixed income
  - Asset class composition
    - Mixed Credit: overweight to bank loans vs. high yield
    - Global Public Equity: overweight to domestic vs. developed non-US (or growth vs. value)
    - Core Fixed Income: underweight to IG credit vs. Treasuries
- Creating a benchmark to track these decisions helps us assess our decision-making
- Provides useful outline for portfolio updates
  - How have we structured the portfolio differently than the Policy portfolio?
  - How have these decisions impacted risk and returns?

\*  $r_b$  = Implementation benchmark return,  $w_a$  = actual weight,  $r_s$  = return of strategy

# Proposed Performance Analysis Framework





## What Changes?

- Adopt clear performance framework tied to major decisions
  - Establish clear ownership and accountability for the three key decisions
  - Improve Commission's ability to fulfill its oversight function
  - Use three benchmarks to create a comprehensive (linked) performance framework
  - Define measurement periods appropriate for each decision
- Commission sets risk target using Reference Portfolio & Policy Benchmark
  - Performance vs. benchmarks evaluated in light of *actual* risk
- Improves Commission meeting focus
- Reevaluate certain asset class benchmarks
  - Ex: Is Portable Alpha a *policy* decision or an *implementation* decision?
  - Ex: Private Markets: compare to available universe or public markets?
- Long-term emphasis creates alignment with plan success

# Proposed Performance Analysis Framework

## Reference Portfolio (A)

Reference Portfolio is a simple, two-asset portfolio that establishes the **target amount of risk** for the Policy Benchmark, as well as the actual portfolio.

## Policy Benchmark (B)

The Policy Benchmark represents the Commission's decision to **diversify** beyond the two assets of the Reference Portfolio, while maintaining the same level of volatility.

## Implementation Benchmark (C)

The Implementation Benchmark incorporates any shifts in the asset allocation of the portfolio. These shifts can include the decision to overweight or underweight an asset class, as well as the use of any "style" benchmarks in the portfolio.

## Actual Portfolio (D)

This is the actual portfolio's performance, net of all fees and expenses.

# Proposed Performance Analysis Framework

Value from  
diversification  
(E)

Did a broadly-diversified portfolio outperform a simple portfolio with the same volatility?

Quality of  
portfolio  
structure  
(F)

Did any decisions to overweight/underweight different asset classes improve returns? If we structured an asset class differently than the benchmark, did this add value?

Quality of  
implementation  
(G)

Did our managers/strategies employed add value versus their benchmarks?

# Appendix

# Glossary Of Terms

- **Reference Portfolio:** simple global stock/domestic bond portfolio designed to have the same expected volatility as the Policy Benchmark.
- **Policy Benchmark:** the target portfolio adopted by the Commission based upon the unique needs of the system as well as input from CIO, RSIC staff, and the Consultant.
- **Allocation Benchmark:** differs from the Policy Benchmark only when the actual portfolio's asset class weights differ from the weights incorporated in. The Allocation Benchmark is used to identify the value from asset allocation decisions. This value is a component of the overall quality of portfolio structure.
- **Implementation Benchmark:** incorporates the actual weight and the actual benchmark for each individual strategy (example: Integrity uses a Russell 2000 Value benchmark).
- **Actual Portfolio:** refers to the RSIC's actual net-of-fee performance.
- **Value from diversification:** a metric designed to measure the benefit over time of using a diversified portfolio. Calculated as the difference between the Policy Benchmark and Reference Portfolio returns.
- **Quality of portfolio structure:** measured as the difference between the Implementation Benchmark and the Policy Benchmark. It includes value from both asset allocation and asset class composition (benchmark) decisions.
- **Quality of Implementation:** measured as the difference between the portfolio's actual net-of-fee return and the Implementation Benchmark.