RSIC
Retirement System Investment Commission

Commission Meeting Agenda

Thursday, December 3, 2020 at 9:30 a.m.
MEETING PARTICIPANTS WILL APPEAR VIA TELECONFERENCE
Teleconference Streaming Via RSIC.SC.GOV
RSIC Presentation Center Open for Public Access to Teleconference

I. Call to Order and Consent Agenda
   A. Adoption of Proposed Agenda
   B. Approval of September 2020 Minutes

II. Chair's Report

III. Committee Reports

IV. CEO's Report

V. CIO's Report
   A. Quarterly Investment Performance Update

VI. Strategic Investment Topic Presentation – Rebalancing

VII. Chinese Public Company Investment Discussion

VIII. Delegated Investment Report

IX. Executive Session – Discuss investment matters pursuant to S.C. Code Sections 9-16-80 and 9-16-320; to discuss personnel matters pursuant to S.C. Code Ann. Section 30-4-70(a)(1); and receive advice from legal counsel pursuant to S.C. Code Section 30-4-70(a)(2).

X. Potential Action Resulting from Executive Session

XI. Adjournment

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

September 10, 2020 9:30 a.m.
Capitol Center
1201 Main Street, 15th Floor
Columbia, South Carolina 29201
Meeting Location: Video Presentation

Commissioners Present:
Mr. William H. Hancock, Chair
Dr. Ronald Wilder, Vice Chair
Ms. Peggy Boykin, PEBA Executive Director
Mr. Allen Gillespie
Mr. Edward Giobbe
Dr. Rebecca Gunnlaugsson
Mr. Reynolds Williams
Mr. William J. Condon, Jr.

I. Call To Order And Consent Agenda

Chair William H. Hancock called the meeting of the South Carolina Retirement System Investment Commission ("Commission") to order at 9:31 a.m. Dr. Ronald Wilder moved to approve the proposed agenda as presented, Mr. Allen Gillespie seconded the motion, which was approved unanimously.

Mr. Edward Giobbe made a motion to approve the minutes from the June 4, 2020 Commission meeting as presented. Dr. Wilder seconded the motion, which passed unanimously.

II. Committee Reports

Chair Hancock presented the report of the Audit & Enterprise Risk Management Committee as written and noted that it had been made available to the Commissioners for review prior to the meeting. He noted that during its last meeting the Committee had recommended edits to the Committee's Charter. The Chair then presented a motion to adopt the recommendation of the Audit and Enterprise Risk Management Committee to amend the Audit and Enterprise Risk Management Committee Charter as presented and authorize staff to make the technical revisions to the Charter and other RSIC policy documents to reflect this decision. The Commission voted unanimously to approve the motion.

The Chair then recognized Dr. Rebecca Gunnlaugsson to present the Human Resources and Compensation Committee report. Dr. Gunnlaugsson stated that the Committee recently met. Ms. Brittany Storey, Human Resource Manager, provided the Committee an update of changes to positions and salaries of various staff members since the previous Committee meeting. No actions were taken coming out of the Committee meeting.

III. Chair's Report

The Chair stated that the Governance Policy requires each newly elected Chair to submit a slate of proposed Committee members to the full Commission for ratification. He then submitted the slate for the Human Resources and Compensation Committee as Dr. Wilder, Mr. Hancock, and Mr. Giobbe. The proposed slate for the Audit and Enterprise Risk Management Committee were Dr. Gunnlaugsson, Ms. Peggy Boykin, and Mr. Condon. The Chair called for a vote on the proposed Committee members, hearing no opposition, the Commission ratified the slate by unanimous consent.

IV. CEO's Report

The Chair recognized Mr. Michael Hitchcock, Chief Executive Officer, for his report. Mr. Hitchcock introduced two new staff members to the Commission. Mr. Evan Affinito joined the Private Equity team as an Investment Officer and Mr. Michael Andreasen recently joined the Junior Analyst Development Program.

Mr. Hitchcock then reviewed the Annual Budget Recommendation. He explained that the General Assembly had passed a continuing resolution for the fiscal year 2021 budget due to the COVID-19 pandemic. The continuing resolution had no impact on RSIC because RSIC did not increase its budget request from the 2020 budget request. He then explained that it was time to submit a request for the 2022 budget year. He stated that he is requesting authorization to submit a budget request as presented, with no changes in the amounts requested in 2020 and 2021.

Dr. Gunnlaugsson moved that the Commission authorize the CEO to submit a proposed Fiscal Year 2022 detail budget substantially similar to the draft budget presented for inclusion in the Governor's annual budget. Dr. Wilder seconded the motion, which passed unanimously.

V. CIO's Report

The Chair recognized Mr. Hitchcock to provide a few comments before the CIO's Report. Mr. Hitchcock pointed out to the Commissioners that there have been substantial changes made to the Portfolio since the fiscal year end and the adoption by the Commission of a simpler asset allocation. He reminded the Commission that making changes for the sake of making changing was not healthy for the Portfolio. He stated that he was confident that a simpler Portfolio would enable RSIC to consistently maintain and manage returns in the future.

Mr. Geoff Berg, Chief Investment Officer, presented a performance report covering the 2019-20 fiscal year. Mr. Berg began by commending the Commission for embracing several initiatives last year, each of which, he opined, will assist in improving returns. He stated that the last twelve months had been an important transitional period in a few areas.

First, RSIC simplified the top-down portfolio design by eliminating a number of asset classes and focusing on the major exposures that drive returns over time. Second, the Commission allowed RSIC to expand the use of passive index strategies. Mr. Berg reported that RSIC has now indexed substantially all of its Public Equity portfolio and a significant portion of the Bonds portfolio. He noted that an improvement in both the level and consistency of performance from public markets portfolios as well as the estimated reduction in fees of nearly $50 million per year would have a substantial, positive impact on the Portfolio. Mr. Berg stated that RSIC conducted a private equity secondary sale that closed last December. He then explained that this was important because, when combined with the co-investment program, these initiatives would help to accelerate the improvements to the private equity portfolio. He stated that even though it was a challenging year, it was an important year in terms of the progress that was made in these key areas.

Next, Mr. Berg presented the performance update. He stated that the quarter ending June 30, 2020 had been good, with the Portfolio up more than 10.4 percent, which was 2.7 percent better than the policy benchmark. For the fiscal year, the Portfolio trailed the benchmark by 1.7 percent.

Mr. Berg noted that the Retirement Systems paid out over $4.2 billion during the fiscal year, received $3.6 billion of deposits as well as a $110 million legislative inflow, with a net benefit payment of almost $490 million. He explained that the Portfolio ended the fiscal year with a market value of approximately $31 billion. He discussed asset class returns for the fiscal year, noting that core bonds and TIPS outperformed all other asset classes by a wide margin. It was also noted that the two SIOP compliance items (below-range allocations on June 30, 2020 to Equity Options and GTAA) flagged in the performance report were due to transitions undertaken in order to migrate the portfolio to the new asset allocation, which took effect on July 1.

Mr. Berg then summarized findings from Staff’s performance analysis report. He stated that even though the Portfolio had a strong finish to the fiscal year, it did not fully offset what was a very difficult first quarter of 2020. During the onset of the pandemic, the Portfolio was overweight equities and credit, and was underweight lower-yielding, lower-risk investments such as core bonds. He pointed out that although it was not a good first quarter of 2020, the portfolio’s strong recovery in the quarter ending June 2020 had continued into the beginning of the third quarter.

Mr. Berg then provided an update on the implementation of the simplified asset allocation adopted in April. He reported that, since April, RSIC staff had not only worked to align the Portfolio with the new policy targets but reiterated that staff had also completed the shift to passive for the public equity portfolio. Mr. Berg recognized Mr. Bryan Moore, Managing Director, and his public markets team for their very hard work on both projects. Mr. Berg expressed that he was proud of their efforts to complete these projects before the start of the new fiscal year, and noted the significant contributions of several other RSIC teams, including Operations and Reporting, at a time when they were working remotely. He stated that the results (the successful reallocation of more than $13 billion in a little more than 60 days) were a testament to their hard work and thoughtfulness. He then pointed out that the Reference Portfolio, which is 30 percent core bonds, significantly outperformed the Policy Benchmark due to an exceptional year for investment grade bonds, resulting in a negative value from diversification as of June 30th for three months, one year and three years. He noted that three months ago, these numbers had all been positive. He explained that the Portfolio's return fell short of the Policy Benchmark by approximately 1.7 percent for the fiscal year and noted that this one-year underperformance explained almost all the trailing three-year shortfalls shown in the portfolio reporting framework. Mr. Berg noted that private equity and hedge funds outperformed their benchmarks during the quarter, and indicated that the Portfolio remained overweight public equity and credit and underweight core bonds after the first quarter, and that positioning helped during the second quarter.

After a brief question and answer period, Mr. Berg concluded his report.

VI. Strategic Investment Topic Presentation – End Point Bias

Mr. Hitchcock recognized Meketa Investment Group ("Meketa") for their presentation on Endpoint Bias. Mr. C. LaRoy Brantley, Principal, began by providing examples of endpoint bias. He noted that endpoint bias is likely to occur when the market has unusually high or low returns and becomes evident during market corrections. He stated that it is important to keep a long-term view and to avoid performance-chasing changes to the Portfolio. Mr. Brantley presented four recommendations regarding endpoint bias: (a) examine the longest time period available; (b) examine periods that contain a variety of market and economic conditions; (c) examine multiple sub-periods or calculate trimmed means; and (d) examine the underlying drivers of asset class returns.

Mr. Brantley noted that the key point when considering endpoint bias is that RSIC is a long-term investor and the Plan is built to be around a very long time. He stated that it is important to keep in mind when risk budgeting that the goal is to achieve optimal, risk-adjusted returns.

A lengthy discussion regarding bonds ensued between the Commissioners and Meketa representatives. This concluded Meketa's presentation.

A break was taken from 11:12 a.m. to 11:22 a.m.

VII. Fiduciary Training (K&L Gates)

Mr. Hitchcock introduced Ms. Won-Han Cheng, Ms. Margaret Niles, and Mr. Andrew Feucht, of K&L Gates, to provide an educational presentation on fiduciary responsibilities, as part of the Commission's periodic training.

Ms. Niles gave an overview of how 'fiduciary' is defined and noted that RSIC as well as the Commission members are fiduciaries. Ms. Niles then went into detail regarding the duty of loyalty and noted that this duty requires fiduciaries to act only in the best interest of the beneficiaries and participants and to avoid conflicts of interests.

Mr. Feucht then outlined in greater detail the duty of loyalty and the importance of avoiding conflicts of interest and the appearance of any potential or actual conflict. Ms. Niles noted that for RSIC, the separation of the benefits administration from the investment function eliminates certain issues that other state plans face. She provided examples of actual conflicts of interest situations and how to handle conflicts of interest. She cited the RSIC Governance Policy Manual as providing a comprehensive overview of relevant statutes for the Commissioners review.

Mr. Feucht then described the duty of care and what is required to meet that standard. He noted that being prepared for meetings, being informed through diligence, and exercising independent judgement are all requirements under the duty of care. Ms. Niles explained the role of delegation and reliance under the duty of care. She stated that the scope of decision-making is unique to an organization and the Commissioners should rely on experts such as investment advisors, attorneys, and accountants. Ms. Niles then stated that fiduciary duty is demonstrated through prudent process and documenting the process. She stated the Commission has a created a process of making investment decisions and that it needs to follow that process in every case. She also recommended a periodic reassessment of process and procedure to ensure compliance with best practices.

Ms. Niles and Mr. Feucht then reviewed other related topics, including problem investments, ESG related topics and other matters. Mr. Hitchcock then noted how RSIC has developed processes to address the issues touched on by the presenters, including conflicts of interest. He explained the Sourcing and Conflict of Disclosure form that is completed in every investment. He also noted that RSIC has an Internal Trading Policy, Investment Due Diligence Policy, and an Operational Due Diligence Policy, as well as a robust monitoring process for all managers. Additionally, RSIC has periodic outside audits performed as well as Agreed Upon Procedures reviews by independent third parties.

Mr. Condon asked for clarification on the Commissioner's duty of loyalty and whether it extends past RSIC to PEBA, the plan, beneficiaries and participants. Mr. Hitchcock replied that the Commissioners, along with PEBA's Board are Co-Trustees of the Trust and that fiduciary duties are not just to RSIC but to the Trust. Mr. Condon then noted that the General Assembly, with some input, sets the assumed rate of return and inquired whether the Commission has a strict duty to set an asset allocation that meets the assumed rate of return or may they exercise their own judgement to approve an asset allocation with a different assumed rate of return than that set by the General Assembly if the statutory assumed rate of return would require an unacceptable level of risk to acheive. Ms. Niles noted the difficulty of that question and replied that the Commission should take a long term perspective when it comes to setting an asset allocation and look at the actual investment opportunities. She further noted that although the General Assembly establishes the assumed rate of return, the Commission should make its long term asset allocation decisions based on what it believes can be realistically achieved at a prudent level of risk. Mr. Hitchcock then discussed how the assumed rate of return is set and noted that it is RSIC's obligation to collaborate with PEBA to give input into what returns are obtainable with a reasonable level of risk. RSIC also has a duty to communicate to PEBA and the General Assembly any concerns if the Commission feels the assumed rate of return is not obtainable with a prudent level of risk, and given the statutory limits on equity exposure in the Plan. There being no additional questions, this concluded K&L Gates' presentation.

VIII. Delegated Investment Report

The Chair recognized Mr. Berg for the delegated investment discussion. The following delegated investments were closed by Staff since the June 4, 2020 Commission meeting.

Asset Class	Investment	Investment Amount	Closing Date
Private Credit	Barings Capital Investment Corporation	Lesser of $137.5 M or 25% of fund commitments	June 22, 2020
Real Assets (RE)	Crow Holdings Realty Partners IX, L.P.	Up to $100 M	June 30, 2020
Private Equity	Silver Lake Partners VI	Up to $100 M	July 10, 2020
Private Equity	Horsley Bridge Strategic Fund V	Up to $200 M	July 17, 2020
Private Equity	Nordic Capital X	€ 100 M	August 4, 2020

IX. Executive Session to discuss investment matters pursuant 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).

Dr. Gunnlaugsson moved to recede into Executive Session to discuss investment matters and specific investments pursuant to S.C. Code Sections 9-16-80 and 9-16-320; to discuss personnel matters pursuant to S.C. Code Ann. Section 40-4-70(a)(1) and to receive legal advice as needed from legal counsel pursuant to S.C. Section 30-4-70(a)(2). Mr. Gillespie seconded the motion, which was unanimously approved

X. Potential Action Resulting from Executive Session

Upon return to open session, Mr. Hitchcock noted that the Commission did not take any action while in Executive Session

XI. Adjournment

There being no further business, the Commission adjourned by unanimous consent.

[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 15th Floor Presentation Center at 1201 Main Street, Columbia, S.C., 11:48 a.m. on September 8, 2020]

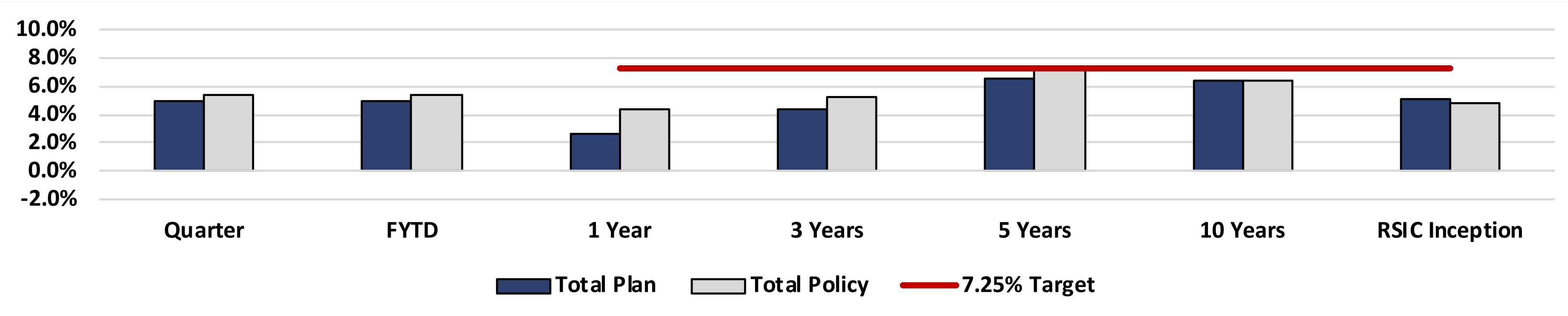
RETIREMENT SYSTEM
INVESTMENT COMMISSION

Performance Update

RSIC 12/03/2020 Investment Commission Meeting
Data as of September 30th, 2020

Performance - Plan & Policy Benchmark[2]

As of September 30, 2020



Rolling period performance as of 9/30/2020[1]

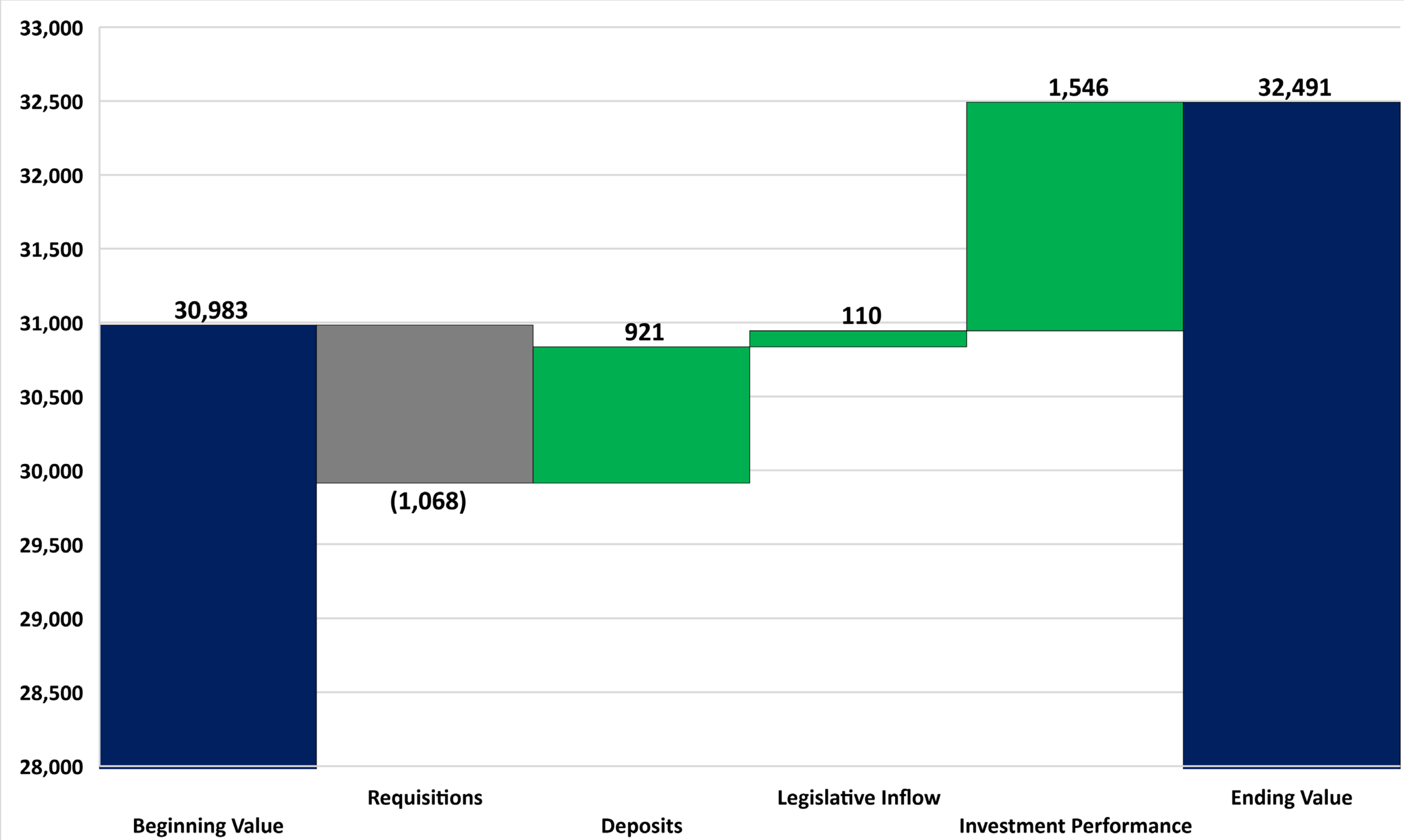
Executive Summary	Market Value (millions)	Quarter	FYTD	1 Year	3 Years (Annualized)	5 Years (Annualized)	10 Years (Annualized)	RSIC Inception (Annualized)
Total Plan	**$32,491**	**5.0%**	**5.0%**	**2.7%**	**4.3%**	**6.5%**	**6.5%**	**5.1%**
Policy Benchmark		5.4%	5.4%	4.3%	5.3%	7.2%	6.4%	4.9%
Excess Return		-0.4%	-0.4%	-1.7%	-1.0%	-0.7%	0.1%	0.2%
Net Benefit Payments (millions)		($37)	($37)	($538)	($2,538)	($4,611)	($9,862)	($14,356)
Current 3-month Roll off Return:		10.4%	10.4%	0.6%	3.8%	-4.0%	7.5%	n/a
Next 3-month Roll off Return:		5.0%	5.0%	4.8%	3.5%	1.1%	4.8%	n/a

Current Quarter Roll off Return: represents the 3-month period that has fallen off of each time frame's rolling returns. If the current quarter underperforms the roll off return, the performance would decrease for the period.

Next Quarter Roll off Return: represents the 3-month period that will fall off of each time frame's rolling returns in the next quarter. If the next quarter underperforms the roll off return, the performance would decrease for the period.

FYTD Benefits and Performance*

FYTD September 30, 2020



*Requisitions and deposits include equal and offsetting flows for insurance benefits which cannot be disaggregated from retirement benefit flows. The net of requisitions and deposits represents the surplus or shortfall of retirement deposits in relation to retirement benefit payments.

Performance – Plan & Asset Classes[1,3,4,7]

As of September 30, 2020

Performance	Portfolio Weight	FYTD	1 Year	Annualized 3 Years	Annualized 5 Years
Public Equity	**48.9%**	**8.2%**	**9.5%**	**5.8%**	**9.5%**
Benchmark		*8.1%*	*9.6%*	*6.5%*	*10.0%*
Bonds	**23.3%**	**1.1%**	**2.7%**	**2.6%**	**3.3%**
Benchmark		*0.6%*	*7.0%*	*5.2%*	*4.2%*
Private Equity	**6.8%**	**4.2%**	**-4.5%**	**5.4%**	**6.7%**
Benchmark		*8.2%*	*6.9%*	*13.3%*	*12.1%*
Private Debt	**8.7%**	**2.5%**	**-4.3%**	**1.7%**	**3.1%**
Benchmark		*10.0%*	*-0.5%*	*3.6%*	*4.4%*
Real Assets	**12.2%**	**0.3%**	**-1.0%**	**5.4%**	**7.1%**
Benchmark		*0.3%*	*0.5%*	*4.3%*	*5.7%*
Portable Alpha Hedge Funds	11.1%	1.6%	0.0%	1.1%	1.8%
Total Plan	**100.0%**	**5.0%**	**2.7%**	**4.3%**	**6.5%**
RSIC Policy Benchmark		*5.4%*	*4.3%*	*5.3%*	*7.2%*

*Portable Alpha Hedge Funds are expressed as gross exposure but, as collateral supporting the Overlay program, net to zero when calculating total Plan market value. 3 and 5 year Portable Alpha hedge fund returns are considered supplemental information provided by Staff to illustrate performance of these hedge funds even though they were classified under a different asset class during these periods. Performance is expressed net of LIBOR as an estimate for Overlay financing costs.

Benchmarks listed on page 7

Asset Allocation and SIOP Compliance[5,6]

FYTD September 30, 2020

Asset Allocation	% of Total Plan	Policy Targets	Difference	Allowable Ranges
Public Equity	49%	48%	0.8%	30.0% - 60.0%
Bonds	23%	26%	-2.7%	15.0% - 35.0%
Private Equity	7%	7%	0.0%	5.0% - 13.0%
Private Debt	9%	7%	1.7%	3.0% - 11.0%
Real Assets	12%	12%	0.2%	6.0% - 18.0%
Portable Alpha Hedge Funds	11.1%*	0%	0.0%	0.0% - 12.0%
Total Plan	100%	0%	100.0%	

*Portable Alpha Hedge Funds are expressed as gross exposure but, as collateral supporting the Overlay program, net to zero when calculating total Plan market value.

Global Public Equity target weights float based on their private market counterpart as conveyed in the Statement of Investment Objectives and Policies

As of 9/30/2020 All asset classes and sub-asset classes were in compliance with the ranges set forth in the SIOP document.

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 and Short Duration (net)" market value is the aggregate cash held at the custodian, Russell Investments, and strategic partnerships, short duration within the portfolio, and hedge funds used in collateral pool for Portable Alpha program, net of the notional exposure in the overlay.
4. Asset class exposures and returns include blended physical and synthetic returns and current notional values (EM Debt, Global Public Equity, Real Estate, Core Fixed Income, Private Equity). 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. Source: Overlay exposures represent net notional exposure provided by Russell Investments to RSIC.
6. The target weights to Private Equity 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 55% of the Plan.
7. 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.

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

- **Core Fixed Income**: Bloomberg Barclays US Aggregate Bond Index
- **Global Public Equity Blend**: MSCI All Country World Index IMI
- **Private Equity Blend**: Burgiss All PE Benchmark
- **Private Debt** : S&P/LSTA Leveraged Loan Index + 150 basis points on a 3-month lag
- **Private Real Estate Blend:** NCREIF-Open Ended Diversified Core (ODCE) Index *Net of Fees*

Benchmarks Displayed in this report represent current policy benchmarks as of the SIOP effective 7/1/2020. 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.

RETIREMENT SYSTEM INVESTMENT COMMISSION

Performance Analysis

RSIC 12/03/2020 Investment Commission Meeting
Data as of September 30th, 2020

Bottom Line Up Front: Performance vs. Benchmark

- Outperformance vs. Benchmark
  - Underweight core bonds vs. public equity and credit
  - Portable alpha
  - Listed real assets (alpha)

- Underperformance vs. Benchmark
  - Private equity
  - Private debt

- Performance In-Line with Benchmark
  - Public equity
  - Bonds (excluding underweight)
  - Listed real assets (beta)

Portfolio Framework - as of September 30, 2020

Reference Portfolio	
Quarter	5.88%
1-Year	9.40%
3-Years	6.45%

Policy Benchmark	
Quarter	5.39%
1-Year	4.33%
3-Years	5.29%

Implementation Benchmark	
Quarter	5.91%
1-Year	4.12%
3-Years	4.96%

Plan Return	
Quarter	4.98%
1-Year	2.68%
3-Years	4.32%

Value from Diversification	
Quarter	-0.49%
1-Year	-5.07%
3-Years	-1.16%

Quality of Portfolio Structure	
Quarter	0.52%
1-Year	-0.21%
3-Years	-0.34%

Quality of Manager Selection	
Quarter	-0.93%
1-Year	-1.44%
3-Years	-0.63%

Actual vs Reference	
Quarter	-0.90%
1-Year	-6.71%
3-Years	-2.13%

Actual vs Policy	
Quarter	-0.41%
1-Year	-1.65%
3-Years	-0.97%

Quarterly Attribution – Portfolio Structure

As of September 30, 2020

Quality of Portfolio Structure	Plan (BPS)
Portable Alpha Hedge Funds	24
Bonds	14
Private Debt	6
Public Equity	0
Private Equity	0
Real Assets	-3

Low-beta hedge funds outperformed cash during the quarter

Both underweight to Core and overweight to credit improved returns

Overweight to real assets hurt returns

Quarterly Attribution – Manager Selection

As of September 30, 2020

Modest excess return across liquid markets in the quarter

Poor returns from legacy private equity during the quarter

Private debt returns underperformed the lagged benchmark

Quarter	Plan (BPS)
Bonds	6
Public Equity	4
Real Assets	3
Portable Alpha Hedge Funds	-7
Private Equity	-26
Private Debt	-62

Plan Exposures as of 9/30/2020*

Asset Class	Policy Target	Weight	Active Weight	Since Last Quarter
Public Equity	48.2%	48.9%	0.8%	-0.1%
Bonds	26.0%	23.3%	-2.7%	-0.3%
Real Assets	12.0%	12.2%	0.2%	0.1%
Private Equity	6.8%	6.8%	0.0%	-0.2%
Private Debt	7.0%	8.7%	1.7%	0.4%
Portable Alpha	0.0%	11.1%	11.1%	1.8%
Total Plan	100.0%	111.1%	11.1%	1.8%

*9/30/2020 exposures reflect adjustments for trades that were made on 9/30, but cash did not settle at beginning of month. Global Public Equity target weights float based on their private market counterpart as conveyed in the Statement of Investment Objectives and Policies.

- Overweight higher expected return asset classes at the expense of Bonds
- Portable alpha (low beta) hedge funds increased due to optimization initiative
- Private Debt overweight due in part to reclassification of real estate debt strategies

Plan Exposures - Bonds Look Through*

Asset Class	Policy Target	Weight	Active Weight	Since Last Quarter
Public Equity	48.2%	48.9%	0.8%	-0.1%
Bonds	26.0%	23.3%	-2.7%	-0.3%
Real Assets	12.0%	12.2%	0.2%	0.1%
Private Equity	6.8%	6.8%	0.0%	-0.2%
Private Debt	7.0%	8.7%	1.7%	0.4%
Portable Alpha	0.0%	11.1%	11.1%	1.8%
Total Plan	100.0%	111.1%	11.1%	1.8%

Bonds Breakout	Policy Target	Weight	Active Weight	Since Last Quarter
Investment Grade[1]	26.0%	19.7%	-6.3%	0.2%
EMD	0.0%	2.0%	2.0%	-0.1%
Mixed Credit	0.0%	1.3%	1.3%	0.0%
Cash and Short Duration (Net)	0.0%	0.3%	0.3%	-0.3%
Total Bonds	**26.0%**	**23.3%**	**-2.7%**	**-0.2%**

The underweight to IG bonds that hurt in Q1 2020 improved returns in Q2 and Q3

Allocations to EMD and Mixed Credit have been reduced as spreads have tightened

*9/30/2020 exposures reflect adjustments for trades that were made on 9/30, but cash did not settle at beginning of month. Global Public Equity target weights float based on their private market counterpart as conveyed in the Statement of Investment Objectives and Policies.

Plan Exposures - Equity Look Through*

Asset Class	Policy Target	Weight	Active Weight	Since Last Quarter
Public Equity	48.2%	48.9%	0.8%	-0.1%
Bonds	26.0%	23.3%	-2.7%	-0.3%
Real Assets	12.0%	12.2%	0.2%	0.1%
Private Equity	6.8%	6.8%	0.0%	-0.2%
Private Debt	7.0%	8.7%	1.7%	0.4%
Portable Alpha	0.0%	11.1%	11.1%	1.8%
Total Plan	100.0%	111.1%	11.1%	1.8%

Public Equity Breakout	Policy Target	Weight	Active Weight	Since Last Quarter
MSCI USA	24.9%	25.3%	0.4%	-1.2%
MSCI USA Small Cap	2.7%	2.8%	0.0%	0.1%
MSCI World ex-US	12.5%	12.7%	0.2%	0.5%
MSCI World ex-US Small Cap	2.1%	2.2%	0.1%	0.1%
MSCI EME	5.3%	5.5%	0.2%	0.6%
MSCI EME Small Cap	0.6%	0.6%	0.0%	0.1%
Total Equity	**48.2%**	**48.9%**	**0.8%**	**0.0%**

Transition to passive implementation of ACWI IMI nearly complete.

*9/30/2020 exposures reflect adjustments for trades that were made on 9/30, but cash did not settle at beginning of month. Global Public Equity target weights float based on their private market counterpart as conveyed in the Statement of Investment Objectives and Policies.

Plan Risk

Risk Estimates[1]

September 2020 Exposures and Risk

	Reference	Policy[3]	Implementation[3]	Actual[5]
Total Risk[2]	*14.42%*	*15.16%*	*16.16%*	*16.33%*

	Reference vs Policy	Policy vs Implementation	Implementation vs Actual[5]
Relative Risk[4]	*1.98%*	*1.24%*	*0.64%*

Footnotes:

1 *Estimates based on an equal weighted (no-decay) model employing two years of daily data.*

2 *Total risk shown as volatility, or annualized standard deviation based on current positioning*

3 *Private benchmarks proxied with daily public alternatives.*

4 *Relative risk shown as relative volatility, or relative annualized standard deviation of one portfolio vs the other*

5 *Actual risk and actual vs implementation risk estimated from a set up assumptions and exposures*

Appendix

Quarterly Attribution* – Trailing Four Quarters

Portfolio Structure	Dec-19	Mar-20	Jun-20	Sep-20
Public Equity	3	-40	14	0
Private Equity	-1	-19	108	0
Other Assets	-7	-38	-1	0
Real Assets	0	-6	5	-3
Private Credit	0	0	0	6
Bonds	7	-59	8	14
PA HFs	9	-90	49	24
Total	**10**	**-252**	**183**	**42**

- Strong recovery after challenging Q1 2020
- Portable alpha seeing continued recovery in 2H 2020
- Bond portfolio positioning helped returns since March

Selection	Dec-19	Mar-20	Jun-20	Sep-20
Public Equity	-3	51	28	3
Private Equity	-16	-53	1	-26
Other Assets	13	-51	-8	0
Real Assets	0	42	-16	4
Private Credit	-8	-44	66	-62
Bonds	-5	-6	16	6
PA HFs	2	9	-15	-7
Total	**-17**	**-51**	**72**	**-82**

- Transitioned to passive public equity in June quarter
- Private credit selection effect influenced by lagged benchmark
- Recent weakness continues in private equity portfolio

Total Value Added	Dec-19	Mar-20	Jun-20	Sep-20
Public Equity	-1	12	42	4
Private Equity	-17	-72	109	-26
Other Assets	5	-89	-9	0
Real Assets	0	36	-11	1
Private Credit	-8	-44	66	-55
Bonds	2	-65	25	20
PA HFs	11	-80	34	17
Total	**-7**	**-303**	**255**	**-40**

- Note: Periods prior to June-20 reflect performance of a different target asset allocation and different benchmarks.

[1]Asset class contributions are displayed as snapshots of RSIC's quarterly attribution (value added relative to policy benchmark) and are not necessarily additive to total Plan Excess Return over long periods of time

Quarterly Performance

Asset Class Performance	FYTD	Policy Return	Excess Return
Portable Alpha Hedge Funds	1.64%	0.00%	1.64%
Bonds	1.05%	0.62%	0.43%
Public Equity	8.22%	8.11%	0.11%
Real Assets	0.30%	0.27%	0.03%
Private Equity	4.22%	8.17%	-3.95%
Private Debt	2.45%	10.01%	-7.56%
Total Plan	4.98%	5.39%	-0.41%

- Majority of the portfolio modestly outperformed benchmarks
- Private equity & debt underperformed by more material amounts

Quarter Performance – Attribution Building Blocks as of 9/30/2020

Attribution: 09/30/2020	Weights			Returns				Excess Returns (BPS)			Attribution (BPS)		
Asset Class	Policy Target	Plan Weight (Avg)	Active Weight (BPS)	Asset Class Return	cR to Plan Return	Policy Return	Impl BM Return	Plan vs Policy (BPS)	Plan vs Impl. (BPS)	Impl vs Policy (BPS)	Portfolio Structure	Manager Selection	Total Value Add
Public Equity	48.3%	49.0%	0.7%	8.22%	4.02%	8.11%	8.12%	11	9	2	0	4	5
Bonds	26.0%	23.8%	-2.2%	1.05%	0.25%	0.62%	0.81%	43	24	20	14	6	20
Private Equity	6.7%	6.7%	0.0%	4.22%	0.28%	8.17%	8.17%	-395	-395	0	0	-26	-26
Private Debt	7.0%	8.5%	1.5%	2.45%	0.21%	10.01%	10.01%	-756	-756	0	6	-62	-55
Real Assets	12.0%	12.0%	0.0%	0.30%	0.04%	0.27%	0.03%	3	28	-24	-3	3	0
Portable Alpha Hedge Funds	0.0%	10.3%	10.3%	1.64%	0.17%	0.00%	2.50%	164	-86	250	24	-7	17
Total Plan	100.0%	110.3%	10.3%	4.98%	4.98%	5.39%	5.91%	-41	-93	52	42	-82	-40

Description: This report is used to explain RSIC's performance by asset class as well as attributing each asset classes' excess return to three different effects.
Allocation Effect: The decisions made to over or underweight an asset class relative to RSICs policy targets. Because Global Public Equity is Overweight its target, and the benchmark outperformed the Plan Policy benchmark, it is adding 5BPS to the Plan's excess return over the policy benchmark.
Implementation Style Bias: The performance coming from a manager (or collection of managers) that tracks a different benchmark(s) than that which is used to measure the asset class as a whole. For example, Private Equity is benchmarked to an 80/20 + 300 BPS public benchmark in the Policy BM, but RSIC tracks these assets versus a private markets benchmark.
Manager Selection: The value added by manager's ability to outperform (or underperform) the benchmarks that we hired them to beat. This is a measure of manager "alpha".

Footnotes & Disclosures

- Quality of Portfolio Structure: The combination of the Allocation Effect and Implementation Style Bias.

- Allocation Effect: The decisions made to over or underweight an asset class relative to RSICs policy targets. Because Global Public Equity is Overweight its target, and the benchmark outperformed the Plan Policy benchmark, it is adding 5BPS to the Plan's excess return over the policy benchmark. Allocation effect is calculated as: [Asset Class Weight – Policy Weight] * [Asset Class Policy Benchmark – Total Plan Policy Benchmark]

- Implementation Style Bias**:** The performance coming from a manager (or collection of managers) that tracks a different benchmark(s) than that which is used to measure the asset class as a whole. For example, Private Equity is benchmarked to an 80/20 + 300 BPS public benchmark in the Policy BM, but RSIC tracks these assets versus a private markets benchmark. Implementation Style Bias is calculated as: [Asset Class Implementation Benchmark Return – Asset Class Policy Benchmark Return] * [Asset Class Weight in Plan]

- Manager Selection**:** The value added by manager's ability to outperform (or underperform) the benchmarks that we hired them to beat. This is a measure of manager "alpha". Manager Selection is calculated as: [Asset Class Return – Asset Class Implementation Benchmark Return] * [Asset Class Weight in Plan]

- 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.

- 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.

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South Carolina Retirement System Investment Commission

September 30, 2020

Performance Report

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South Carolina Retirement System Investment Commission

Total Retirement System | As of September 30, 2020

Allocation vs. Targets and Policy								
	MV at 9/30/2020	Overlay Exposures	Net Position	% of Total System	% of Total System (Net)	Policy Targets	Allowable Ranges	SIOP Compliance?
Total System	**32,491,169,852**	**-**	**32,491,169,852**	**100%**	**100%**	**100%**	**-**	**-**
Public Equity	**14,912,097,048**	**991,087,382**	**15,903,184,430**	**46%**	**49%**	**48%**	**30%-60%**	**Yes**
Public Equity	14,912,097,048	991,087,382	15,903,184,430	46%	49%	48%	30%-60%	Yes
Equity Options	-	-	-	0%	0%	0%	0%-7%	Yes
Bonds	**4,985,872,089**	**2,599,972,519**	**7,585,844,608**	**15%**	**23%**	**26%**	**15%-35%**	**Yes**
Investment Grade - Fixed	739,550,333	4,464,724,425	5,204,274,758	2%	16%	26%	10%-35%	Yes
Investment Grade - Floating	1,197,536,394		1,197,536,394	4%	4%	0%	0-5%	Yes
Emerging Market Debt	653,766,958	-	653,766,958	2%	2%	0%	0-8%	Yes
Mixed Credit	433,486,735	-	433,486,735	1%	1%	0%	0-6%	Yes
Cash and Short Duration	1,961,531,669	(1,864,751,906)	96,779,763	6%	0%	0%	0-7%	Yes
Private Equity	**2,225,583,813**	**-**	**2,225,583,813**	**7%**	**7%**	**7%**	**5-13%**	**Yes**
Private Debt	**2,814,900,181**	**-**	**2,814,900,181**	**9%**	**9%**	**7%**	**3-11%**	**Yes**
Real Assets	**3,961,656,820**	**-**	**3,961,656,820**	**12%**	**12%**	**12%**	**6-18%**	**Yes**
Real Estate	2,955,515,183	-	2,955,515,183	9%	9%	9%	5-13%	Yes
Infrastructure	1,006,141,637	-	1,006,141,637	3%	3%	3%	0-5%	Yes
Portable Alpha Hedge Funds	**3,591,059,901**	**(3,591,059,901)**	**-**	**11%**	**0%**	**0%**	**0-12%**	**Yes**

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

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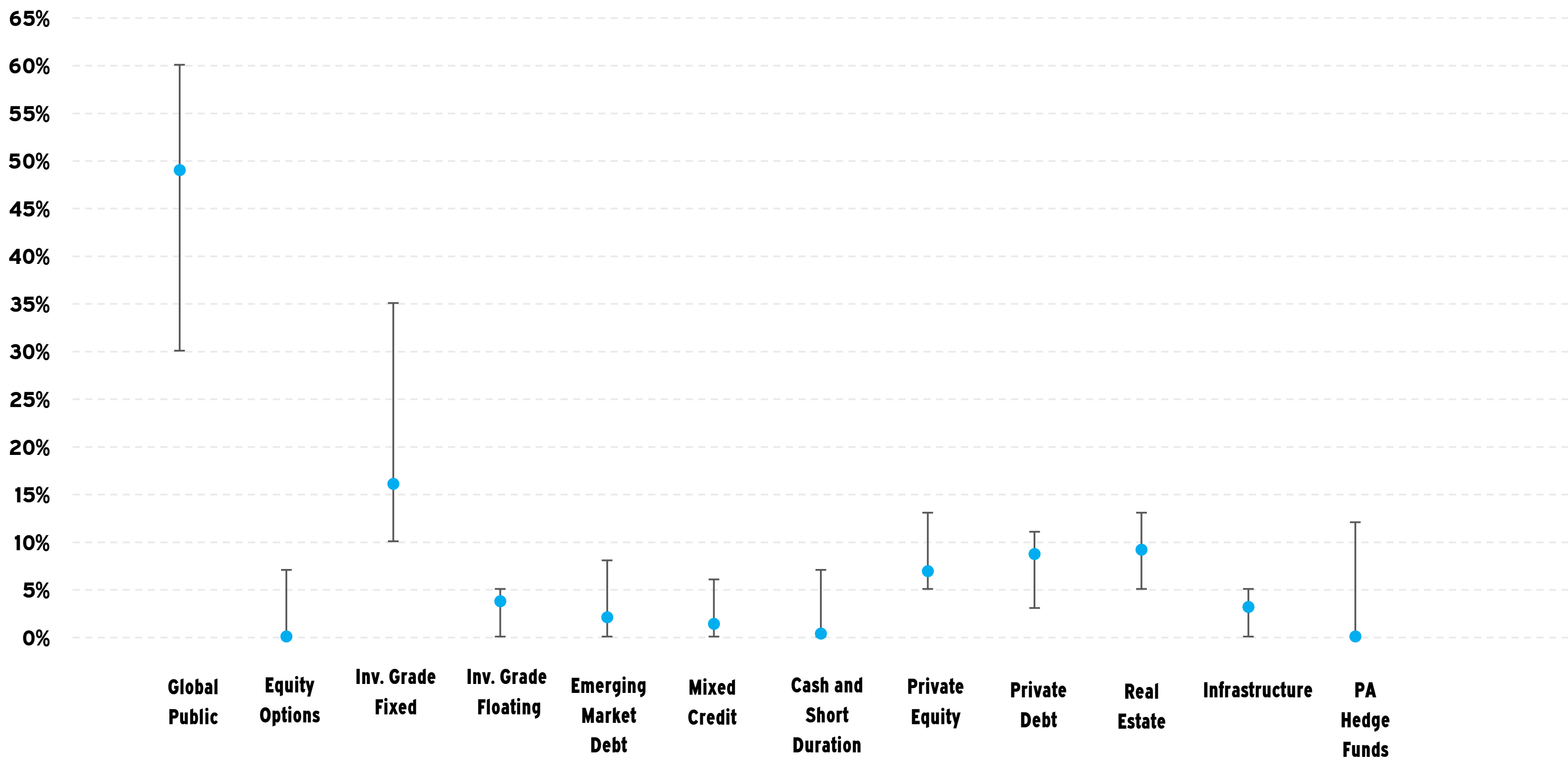
South Carolina Retirement System Investment Commission

Total Retirement System | As of September 30, 2020

Actual vs. Policy Ranges: (Including Overlay)



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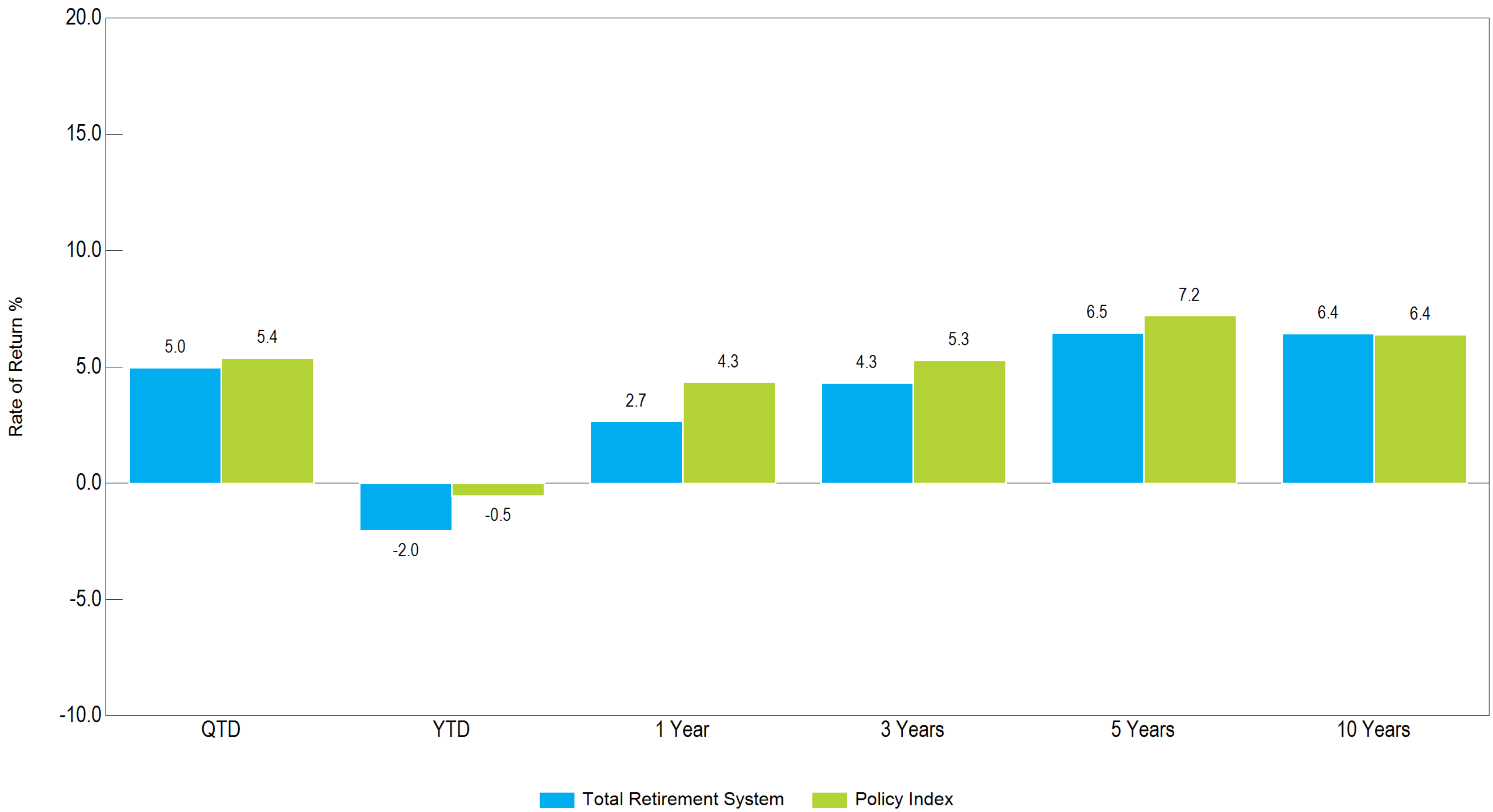
Total Retirement System | As of September 30, 2020

Net Return Summary
Ending September 30, 2020



Returns for periods greater than one year are annualized.

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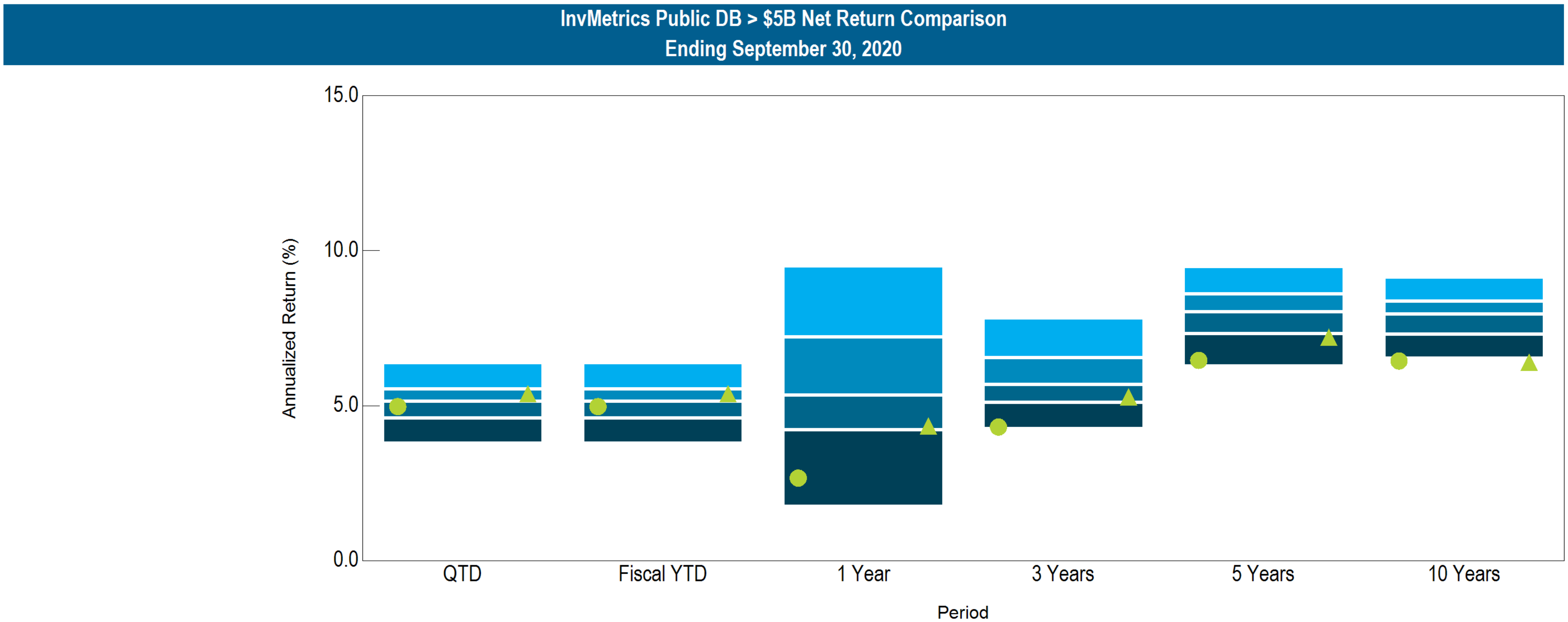
Total Retirement System | As of September 30, 2020



Return (Rank)	QTD		Fiscal YTD		1 Year		3 Years		5 Years		10 Years	
5th Percentile	6.4		6.4		9.5		7.8		9.5		9.1	
25th Percentile	5.5		5.5		7.2		6.6		8.6		8.4	
Median	5.2		5.2		5.4		5.7		8.1		8.0	
75th Percentile	4.6		4.6		4.2		5.1		7.3		7.3	
95th Percentile	3.8		3.8		1.8		4.3		6.3		6.5	
# of Portfolios	25		25		25		25		24		22	
Total Retirement System	5.0	(57)	5.0	(57)	2.7	(90)	4.3	(95)	6.5	(92)	6.4	(97)
Policy Index	5.4	(40)	5.4	(40)	4.3	(69)	5.3	(72)	7.2	(80)	6.4	(97)

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Total Retirement System | As of September 30, 2020

Quarterly Excess Performance vs. Policy Benchmark

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Total Retirement System | As of September 30, 2020

Net Asset Class Performance Summary

	Market Value ($)	% of Portfolio	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Total Retirement System	**32,491,169,852**	**100.0**	**5.0**	**-2.0**	**2.7**	**4.3**	**6.5**	**6.4**	**6.1**	**Jul-94**
Policy Index			*5.4*	*-0.5*	*4.3*	*5.3*	*7.2*	*6.4*	*5.7*	*Jul-94*
Public Equity	**14,912,097,048**	**41.9**	**8.4**	**-2.4**	**6.7**	**4.2**	**8.7**	**7.7**	**4.5**	**Jun-99**
MSCI ACWI IMI Net USD			*8.1*	*0.5*	*9.6*	*6.5*	*10.0*	*8.5*	*5.6*	*Jun-99*
Bonds	**4,985,872,089**	**17.3**	**1.6**	**0.2**	**1.7**	**2.0**	**3.2**	**2.3**	**5.3**	**Jul-94**
BBgBarc US Aggregate TR			*0.6*	*6.8*	*7.0*	*5.2*	*4.2*	*3.6*	*5.6*	*Jul-94*
Investment Grade-Fixed	**739,550,333**	**2.3**	**1.9**	**8.7**	**8.6**	**5.7**	**5.0**	**2.6**	**5.6**	**Jul-20**
Investment Grade-Floating	**1,197,536,394**	**3.7**	**3.9**	**0.7**	**2.0**	**3.4**	**5.4**	**--**	**3.9**	**Jul-20**
Mixed Credit	**433,486,735**	**1.3**	**5.2**	**1.6**	**3.3**	**3.6**	**4.6**	**4.6**	**5.8**	**May-08**
50% S&P LSTA Leveraged Loan Index/50% Barclays High Yield Index			*4.4*	*0.0*	*2.2*	*3.7*	*5.3*	*5.0*	*5.7*	*May-08*
Emerging Market Debt	**653,766,958**	**2.0**	**2.3**	**-5.1**	**-1.4**	**0.3**	**5.3**	**2.7**	**4.5**	**Jul-09**
50% JP Morgan EMBI Global Diversified (USD)/50% JP Morgan EMBI Global Diversified			*1.5*	*-3.4*	*0.0*	*1.9*	*5.5*	*3.0*	*5.0*	*Jul-09*
Cash and Overlay	**1,961,531,669**	**8.0**	**0.1**	**0.5**	**1.1**	**1.6**	**1.3**	**1.1**	**1.7**	**Oct-05**
ICE BofA 91 Days T-Bills TR			*0.0*	*0.6*	*1.1*	*1.7*	*1.2*	*0.6*	*1.3*	*Oct-05*
Short Duration	**523,847,483**	**1.6**	**0.9**	**2.3**	**3.0**	**2.7**	**2.4**	**2.0**	**2.0**	**Mar-10**
BBgBarc US Govt/Credit 1-3 Yr. TR			*0.2*	*3.1*	*3.7*	*2.8*	*2.1*	*1.6*	*1.7*	*Mar-10*
Private Equity	**2,225,583,813**	**6.8**	**4.2**	**-3.7**	**-4.5**	**5.4**	**6.6**	**10.6**	**6.8**	**Apr-07**
Burgiss Private Equity 1Q Lagged			*8.2*	*5.4*	*6.9*	*13.3*	*12.1*	*13.9*	*--*	*Apr-07*
Private Debt	**2,814,900,181**	**8.7**	**2.5**	**-4.5**	**-4.3**	**1.7**	**3.1**	**5.9**	**5.9**	**Jun-08**
S&P LSTA Leveraged Loan Index + 150 bps on a 3-month lag			*10.0*	*-1.8*	*-0.5*	*3.6*	*4.4*	*5.7*	*4.8*	*Jun-08*

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South Carolina Retirement System Investment Commission

Total Retirement System | As of September 30, 2020

	Market Value ($)	% of Portfolio	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Real Assets	**3,961,656,820**	**12.2**	**0.3**	**-2.7**	**-1.0**	**5.4**	**7.1**	**9.7**	**0.3**	**Jun-20**
NCREIF-ODCE NR USD			*0.3*	*-0.7*	*0.5*	*4.3*	*5.7*	*9.3*	*0.3*	*Jun-20*
Private Real Estate	**2,415,101,870**	**7.4**	**-0.4**	**-0.7**	**0.9**	**5.9**	**7.8**	**10.9**	**6.6**	**Jul-08**
NCREIF ODCE Net + 100 BPS SC Custom			*0.5*	*0.1*	*1.5*	*5.4*	*7.4*	*11.2*	*5.5*	*Jul-08*
Public Real Estate	**540,413,313**	**1.7**	**2.0**	**-12.1**	**-13.4**	**3.2**	**--**	**--**	**2.1**	**Jul-16**
FTSE NAREIT Equity REIT			*1.4*	*-17.5*	*-18.2*	*0.2*	*3.9*	*7.9*	*0.0*	*Jul-16*
Private Infrastructure	**509,840,954**	**1.6**	**2.6**	**2.5**	**4.7**	**--**	**--**	**--**	**5.4**	**Jul-18**
DJ Brookfield Global Infrastructure			*-1.7*	*-13.3*	*-9.8*	*1.1*	*5.4*	*7.9*	*1.8*	*Jul-18*
Public Infrastructure	**496,300,683**	**1.5**	**-0.4**	**-7.9**	**-3.9**	**3.7**	**--**	**--**	**4.8**	**Jun-16**
DJ Brookfield Global Infrastructure			*-1.7*	*-13.3*	*-9.8*	*1.1*	*5.4*	*7.9*	*4.5*	*Jun-16*
Hedge Funds Portable Alpha	**3,591,059,901**	**11.1**	**1.6**	**-0.7**	**1.1**	**3.0**	**3.3**	**6.6**	**7.3**	**Jul-07**
ICE BAML 3 Month T-Bill + 250 BPS SC Custom			*0.7*	*2.5*	*3.6*	*3.7*	*2.5*	*1.4*	*1.6*	*Jul-07*

Statistics Summary 5 Years Ending September 30, 2020	Anlzd Return	Anlzd Standard Deviation	Information Ratio	Beta	Sharpe Ratio	Tracking Error
Total Retirement System	6.5%	8.5%	-0.4	1.1	0.6	1.9%
Policy Index	7.2%	7.6%	--	1.0	0.8	0.0%
Public Equity	8.7%	15.1%	-0.5	1.0	0.5	1.9%
MSCI ACWI IMI Net USD	10.0%	14.7%	--	1.0	0.6	0.0%
Bonds	3.2%	8.6%	-0.3	0.5	0.0	8.6%
BBgBarc US Aggregate TR	4.2%	3.2%	--	1.0	1.0	0.0%
Mixed Credit	4.6%	7.0%	-0.1	0.9	0.6	2.1%
50% S&P LSTA Leveraged Loan Index/50% Barclays High Yield Index	5.3%	7.0%	--	1.0	0.6	0.0%
Emerging Market Debt	5.3%	11.3%	-0.1	1.1	0.4	2.1%
50% JP Morgan EMBI Global Diversified (USD)/50% JP Morgan EMBI Global Diversified	5.5%	9.8%	--	1.0	0.4	0.0%
Cash and Overlay	1.3%	8.9%	-0.4	-7.3	-0.4	9.0%
ICE BofA 91 Days T-Bills TR	1.2%	0.3%	--	1.0	0.2	0.0%
Short Duration	2.4%	1.5%	0.2	0.6	0.8	1.5%
BBgBarc US Govt/Credit 1-3 Yr. TR	2.1%	1.0%	--	1.0	1.0	0.0%
Private Equity	6.6%	4.8%	-0.6	-0.1	1.1	9.8%
Burgiss Private Equity 1Q Lagged	12.1%	8.1%	--	1.0	1.4	0.0%
Private Debt	3.1%	4.3%	-0.1	-0.1	0.5	8.7%
S&P LSTA Leveraged Loan Index + 150 bps on a 3-month lag	4.4%	6.9%	--	1.0	0.5	0.0%

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

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South Carolina Retirement System Investment Commission

Total Retirement System | As of September 30, 2020

	Anlzd Return	Anlzd Standard Deviation	Information Ratio	Beta	Sharpe Ratio	Tracking Error
Real Assets	7.1%	--	--	--	--	--
NCREIF-ODCE NR USD	5.7%	3.0%	--	1.0	1.5	0.0%
Private Real Estate	7.8%	2.4%	0.1	0.1	2.8	3.8%
NCREIF ODCE Net + 100 BPS SC Custom	7.4%	3.4%	--	1.0	1.9	0.0%
Public Real Estate	--	--	--	--	--	--
FTSE NAREIT Equity REIT	3.9%	16.9%	--	1.0	0.2	0.0%
Private Infrastructure	--	--	--	--	--	--
DJ Brookfield Global Infrastructure	5.4%	13.6%	--	1.0	0.3	0.0%
Public Infrastructure	--	--	--	--	--	--
DJ Brookfield Global Infrastructure	5.4%	13.6%	--	1.0	0.3	0.0%
Hedge Funds Portable Alpha	3.3%	4.3%	0.2	-1.8	0.5	4.4%
ICE BAML 3 Month T-Bill + 250 BPS SC Custom	2.5%	0.5%	--	1.0	2.8	0.0%

Disclaimer

Disclaimer

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MEKETA INVESTMENT GROUP

Meketa Investment Group
Portfolio Rebalancing

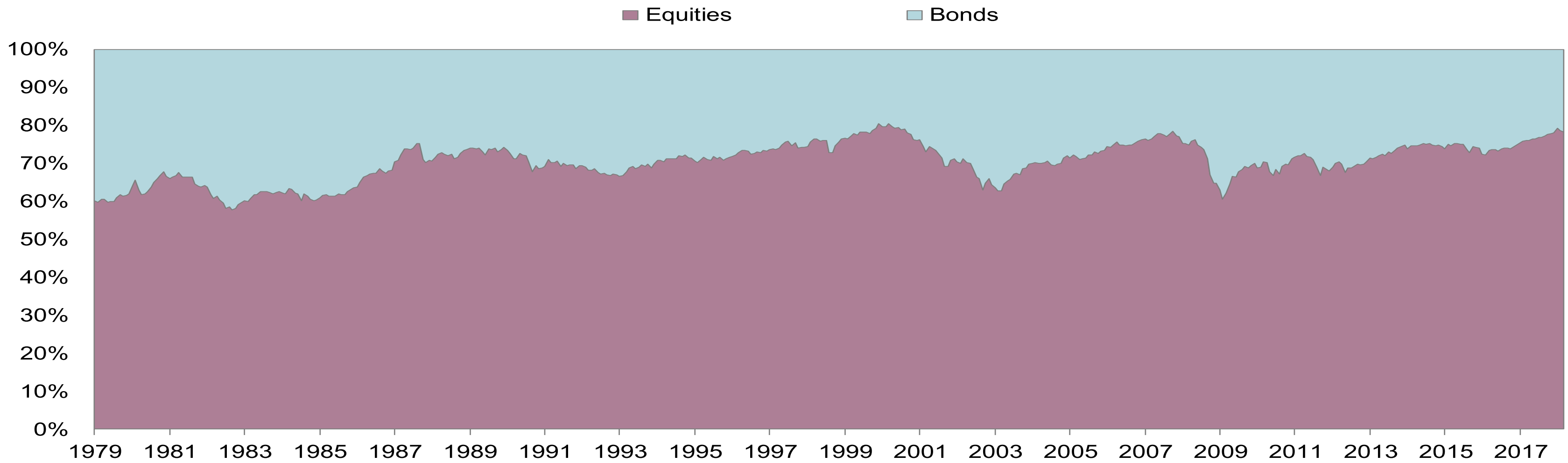
Background

- South Carolina Retirement System Investment Commission (RSIC") currently rebalances its investment portfolio on a monthly basis.
- When rebalancing the underlying assets, RSIC's Staff seeks to move as closely aligned with the public equity and fixed income targets as possible with funds for future private equity capital calls temporarily held in the public equity portfolio.
- RSIC's Staff and Meketa Investment Group ("Meketa") have reviewed various rebalancing techniques, which we outline on the subsequent pages.
- Based on this analysis, Meketa recommends that RSIC consider revising the frequency of the current rebalancing policy from monthly to quarterly.
  - This change in the rebalancing policy will significantly reduce transaction costs for the Fund and will also better align with private markets asset classes that are valued quarterly.

Rebalancing Overview

- Rebalancing is the investment discipline, by which investors maintain pre-defined asset allocation targets and ranges in response to portfolio drift and market volatility.
- "Buy-and-hold" strategies (i.e., no rebalancing) work best when markets move in a single direction with little volatility.
  - This "benign neglect" approach may lead to unintended bets and risk exposure.
- The discipline of rebalancing asset classes/strategies performs best when the markets experience repeated reversals.

Portfolio Drift[1]



[1] Weight drift of a 60% Equities (MSCI ACWI) and 40% (Barclays Aggregate) Bonds portfolio. MSCI ACWI backfilled with MSCI World prior to 1988.

Rebalancing Strategy Options

- Systematic Rebalancing Strategies
  - Time-based: The portfolio is rebalanced at specified time periods (i.e. monthly, quarterly, annually)
  - Range-based: The portfolio is rebalanced when market activity moves an asset class outside of an allowable allocation range.
  - Risk-based: Rebalancing activity is driven by risk metrics (involving a much higher level of complexity).
- Active/Tactical Rebalancing
  - The portfolio is adjusted *tactically* (i.e., periodic adjustments favoring currently desirable asset classes) or *opportunistically* (i.e., infrequent adjustments dependent on attractive valuations).
  - Both of these approaches may be difficult to implement successfully.

Periodic Capital-Based Rebalancing[1]

Rebalancing Timeframe	Annualized Return	Cost-Adjusted Annualized Return	Standard Deviation	Cost-Adjusted Sharpe Ratio	Number of Rebalancing Actions
Monthly Rebalancing	9.17%	8.91%	9.55%	0.46	471
Quarterly Rebalancing	9.25%	9.16%	9.52%	0.49	157
Semiannual Rebalancing	9.22%	9.18%	9.46%	0.50	79
Annual Rebalancing	9.31%	9.29%	9.47%	0.51	40
Buy-and-Hold	9.11%	9.11%	10.89%	0.43	0

- All four periodic rebalancing strategies outperformed the buy-and-hold strategy on a risk-adjusted basis.
  - Monthly, quarterly, and (to some extent) semiannual schedules required a relatively high number of rebalancing operations, resulting in higher transaction costs.
  - In these scenarios, annual rebalancing appears to be the best periodic rebalancing strategy because of the infrequent number of rebalancing operations and the ability to take advantage of trending markets
  - A full year can include a great deal of market volatility and not actively rebalancing can lead to unintended biases where the ebbs and flows of the markets themselves will rebalance the portfolio.
  - The quarterly option more closely aligns with portfolio cash flows and private market valuations, while also outpacing the monthly and buy-and-hold options.

[1] Meketa Investment Group constructed a policy portfolio consisting of 60% equities and 40% domestic bonds, as represented by the MSCI ACWI and Barclays Aggregate Bond Index, respectively. Data collected were from January 1979 through March 2018 and include a variety of market and economic conditions. For simplicity, we applied a flat fee of two basis points during any month, in which rebalancing was required to account for transaction and commission costs. Annual rebalancing as reported takes place on January. Annual rebalancing schedules occurring in April, July, and October were examined but led to essentially the same results.

Range Rebalancing

Rebalancing Range	Rebalancing Point[1]	Annualized Return	Cost-Adjusted Annualized Return	Standard Deviation	Cost-Adjusted Sharpe Ratio	Number of Rebalancing Actions
Range +/- 5 %	Target	9.22%	9.21%	9.56%	0.50	18
	Midpoint	9.30%	9.28%	9.57%	0.50	26
	Endpoint	9.30%	9.25%	9.64%	0.50	85
Range +/- 10%	Target	9.27%	9.27%	9.75%	0.49	5
	Midpoint	9.33%	9.33%	9.73%	0.50	8
	Endpoint	9.15%	9.14%	9.89%	0.47	25
Buy-and-Hold	N/A	9.11%	9.11%	10.89%	0.43	0

- All range rebalancing strategies outperformed the buy-and-hold strategy on an absolute and risk-adjusted basis.
- While there is little difference between rebalancing to target, midpoint, or endpoint from a performance standpoint, they differ in the number and the potential size of rebalancing operations.

[1] Refers to the weights used when a rebalancing event occurs. For example for a Range +/- 10% with Midpoint rebalancing point strategy, a rebalancing event adjusts weights to Target +/- 5% (10%/2) for each asset.

Performance during 2007-2009

Rebalancing Strategy	Rebalancing Point	Annualized Return	Cost-Adjusted Annualized Return	Standard Deviation	Cost-Adjusted Sharpe Ratio	Number of Rebalancing Actions
Range +/- 5 %	Target	0.39%	0.38%	14.12%	-0.29	2
	Midpoint	0.56%	0.54%	13.91%	-0.28	3
	Endpoint	0.89%	0.85%	13.72%	-0.26	6
Range +/- 10%	Target	0.46%	0.46%	13.60%	-0.30	1
	Midpoint	1.20%	1.19%	13.56%	-0.24	2
	Endpoint	0.76%	0.73%	13.22%	-0.28	5
Monthly	N/A	0.13%	-0.11%	14.27%	-0.15	36
Quarterly	N/A	0.37%	0.30%	14.21%	-0.13	12
Semiannually	N/A	0.69%	0.66%	13.84%	-0.10	6
Annually						
January	N/A	1.25%	1.24%	13.64%	-0.06	3
April	N/A	1.52%	1.50%	13.69%	-0.04	3
July	N/A	0.47%	0.45%	13.07%	-0.13	3
October	N/A	0.12%	0.10%	13.42%	-0.15	3
Buy-and-Hold	N/A	-0.05%	-0.05%	12.65%	-0.17	0

- All rebalancing strategies with the exception of monthly *still* outperformed the buy-and-hold strategy on an absolute and risk-adjusted basis, although the month of rebalancing in the annual strategy mattered a great deal.
- 2007-2009 may make the case for a required, systematic rebalancing policy.

Peer Comparison

- Meketa and NASRA recently reviewed approximately 47 rebalancing policies from large public funds' Investment Policy Statements.
- The vast majority of these Funds have chosen rebalancing policies that are governed by allocation ranges rather than time periods.
  - Of the 47 policies, only three (including RSICs) reflect specific time periods that mandate rebalancing.
    - Of the three that rebalance at specified time periods, RSIC is the most frequent with monthly rebalancing. The other two plans state that they will rebalance annually and semi-annually.
  - The majority of the funds use cash flows to periodically rebalance, and are mandated to rebalance if an asset class falls outside the target allocation range.
- The majority of the policies are vague with respect to where Staff should rebalance to, stating that asset classes should be moved back within target allocation ranges. In many cases, the policies state that this will be done at the discretion of Staff based on transaction costs; however, some specify that when rebalancing Staff will move the asset class directly to target or to the midpoint of the target and the top/bottom of the range.

Conclusion

- There are many approaches to rebalancing. The most important factor is that the Fund is periodically rebalanced to ensure the portfolio maintains the same risk and return expectations chosen in the asset allocation discussion by RSIC.
- RSIC's current policy necessitates a monthly rebalancing of public markets assets in-line with their target allocation, unless Staff makes a case not to rebalance.
- The transaction costs associated with the current rebalancing policy may outweigh the benefits. As a result, Meketa recommends the Commission consider modifying the policy to rebalance at a minimum quarterly.

Delegated Investments (September 10, 2020 to December 2, 2020)

Asset Class	Investment	Investment Amount	Closing Date
Infrastructure	Grain Spectrum Holdings III	$100 M	September 15, 2020
Real Estate	Stockbridge Value Fund IV	$100 M	October 13, 2020
Private Equity	WestCap Strategic Operator Fund	$50 M firm/ Up to $50 M discretionary	October 16, 2020
Private Credit	Fortress Lending Fund II	$75 M	October 29, 2020
Private Credit	Fortress COF V (Multi-strategy Opportunistic Credit Fund)	$75 M	October 29, 2020