RONALD P. WILDER, PH. D
CHAIR

PEGGY G. BOYKIN, CPA
COMMISSIONER

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

EDWARD N. GIOBBE, MBA
COMMISSIONER

RSIC
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

Commission Meeting Agenda

Thursday, June 13, 2019

RSIC Presentation Center 9:30 a.m.

I. Call to Order and Consent Agenda
   A. Adoption of Proposed Agenda
   B. Approval of February and April Minutes

II. Chair's Report

III. Audit & Enterprise Risk Management Committee Report

IV. CEO Report
   A. Budget Report

V. CIO Report
   A. Investment Performance Update
   B. Co-Investment Platform Presentation

VI. Portfolio Framework Proposal

VII. Delegated Investment Report
   A. TA Associates VIII
   B. Actis Long Life Infrastructure Fund

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

IX. Potential Action Resulting from Executive Session

X. 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, 15th Floor
Columbia, South Carolina 29201
Meeting Location: Presentation Center

Commissioners Present:
Dr. Ron Wilder, Chair
Rebecca Gunnlaugsson, 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 began with a discussion about a recent survey Meketa conducted about the asset allocation practices of other pension plans. In total, 39 plans responded to the survey of which most were larger state plans. The survey asked how often such plans reviewed their asset allocations, and of the results, the vast majority responded every four to five years. The survey also touched on how much time the plans spend talking about asset allocation when they revisit their current strategies, and the responses varied from two to six meetings. The next questions the survey focused on was where the plans obtained their capital market assumptions and what time horizon they used. Virtually all of the plans used their consultants' capital market assumptions with some having input from the plans' internal staff. As for the time horizon, half used 10 years, and the other half used 20 or 30 years.

Mr. Benham explained that the survey went on to ask questions about the number of asset classes for which policy targets are set. He explained that the number ranged from five to seventeen asset classes with the majority in the six to ten range. Mr. Benham surmised that the results of the survey indicate a small number of asset classes appears to be best practice. He then turned to the survey's question about what drives changes to asset allocation and explained that the results show that changes to capital markets assumptions universally drive such changes. Mr. Benham then summarized the best practices coming out of the survey. He stated that most plans spend more than one meeting discussing asset allocation, which includes a discussion of capital markets assumptions. There is a split between plans using 10- and 20- to 30-year time horizons for asset allocation. In addition, the vast majority of plans are setting targets for ten or fewer asset classes, and nearly half of the plans set interim targets.

Mr. Benham then summarized some recommendations for the Commission's consideration. He stated that the first is to set explicit objectives for the Plan that are quantifiable. Next, he stated that, although the Plan's asset allocation must be reviewed annually, RSIC should set a longer period of time for making changes. He added that the Commission should plan on blocking off a longer meeting for a discussion on the topic of asset allocation. Fourth, Mr. Benham stated that the Commission needs to continue giving due consideration to setting targets and ranges for asset classes as well as setting interim targets for asset classes that take longer than six months to change. Finally, he explained that the Commission should document the reasons for changes to the Plan's asset allocation when they are made to document the reasoning. Then, Mr. Berg fielded questions from the Commissioners.

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, although the return assumptions are up, the Plan's funded status has 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 combines high quality bonds into core bonds with a single target. Mix A also combines 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 is even simpler than Mix A. Mix B combines all public market fixed income, including high yield, bank loans, and emerging markets debt, into a single asset class. All global public equity is combined into a single asset class. Mix B does not alter the private equity asset class but combines real estate and infrastructure into a single asset class. In addition, the GTAA asset class is reallocated into public stocks and bonds.

Mr. Benham noted that the forecasted returns for both Mix A and Mix B are 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 will 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 discussed how a simplified portfolio target might have altered Mr. Berg's response to recent market conditions. After some discussion, Mr. Benham noted that simplifying asset allocation can complicate reporting and benchmarking. Then, Mr. Gillespie expressed concern over rolling up bonds into a single asset class citing the inherent differences between U.S. Treasuries and high yield bonds. Mr. Berg responded that, within a simplified portfolio, a bond portfolio should still be a diversification tool. However, limiting the number of asset classes should help ensure that investment decisions are not as event-driven or reflexive as they may have been in the past. Mr. Benham and Mr. Berg then answered additional 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 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 that 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 15th Floor Presentation Center at 1201 Main Street, Columbia, S.C., at 12:32 p.m. on February 18, 2019]

X. ASSET ALLOCATION REVIEW AND DISCUSSION

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South Carolina Retirement System Investment Commission
Meeting Minutes

April 11, 2019 9:30 a.m.
Capitol Center
1201 Main Street, 15th Floor
Columbia, South Carolina 29201
Meeting Location: Presentation Center

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

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. Allen Gillespie made a motion to approve the proposed agenda as presented, which was approved unanimously.

The next order of business was the review and approval of the minutes from the February 21, 2019 Commission meeting. Mr. Gillespie requested that additional detail be added to the asset allocation discussion section from the meeting minutes. After a brief discussion, Mr. Gillespie moved that the February 21, 2019 meeting minutes be carried over until the next meeting. Mr. William Hancock seconded the motion, which was passed unanimously.

II. CHAIR'S REPORT

The Chair reported that he and Vice Chair Dr. Rebecca Gunnlaugsson met with the senior Retirement System Investment Commission ("RSIC") Staff several times since the February 21, 2019 Commission meeting to discuss the agenda in preparation for an in-depth strategic discussion. The Chair noted that he hoped for active participation from the Commissioners during the asset allocation framework and strategic discussions during the meeting.

III. AUDIT & ENTERPRISE RISK MANAGEMENT COMMITTEE REPORT

Mr. Hancock, Chair of the Audit & Enterprise Risk Management Committee, began by stating that the Committee met on March 5, 2019. He reported that, during the meeting, a compliance update was provided, and no material exceptions were noted. He noted that there was an Internal Audit update provided to the Committee along with an overview of the history of the Retirement System Investment Commission's ("RSIC") Internal Audit function. The Committee also received an update on previously completed engagements, including the GIPS Verification, the Agreed Upon Procedures, and the Fiduciary Audit.

Next, Mr. Hancock noted that, during the period when RSIC had no in-house internal auditor, Staff went through an exercise to ensure all major business functions had been or were to be reviewed. External service providers and other state agencies were successfully utilized during this period, including the Division of State Human Resources and State Auditor's Office ("State Auditor").

Mr. Hancock then explained that the Committee received a recommendation from Staff concerning outsourcing RSIC's internal audit function to one of the State Auditor's pre-approved vendors, which includes Elliott Davis, Deloitte, and Experis. He stated that Staff has begun work on a Request for Information ("RFI") in order to select an outsourced internal audit vendor. The successful vendor will first conduct a risk assessment and then present a three-year audit plan for approval by the Committee, which the successful vendor will then execute. The RFI should be awarded by June of 2019 with the three-year audit plan ready for the Committee's review in August of 2019.

Mr. Hancock also reported that the Committee received a presentation on RSIC's Investment Due Diligence Procedures as part of an ongoing educational series about RSIC's processes and procedures. The Committee then received the Enterprise Risk Management ("ERM") update. Mr. Hancock noted that, during this update, Staff presented a plan to implement the ERM framework set forth in the Funston Fiduciary Performance Audit Report. With no questions from the other Commissioners, Mr. Hancock's concluded his report.

IV. CEO'S REPORT

Mr. Michael Hitchcock, Chief Executive Officer, began his report by recognizing Mr. David King, Senior Reporting Officer, for his achievement of being on Columbia's Top 20 under 40. He stated that Mr. King helped found Cola Town Bike Collective, which provides alternative transportation options, bicycle paths, repair stations, and has provided over 400 people with bicycles. Mr. Hitchcock commended Mr. King for his dedicated community service. This concluded his report.

V. CIO'S REPORT

The Chair recognized Mr. Geoff Berg, Chief Investment Officer, who began his report by reviewing the Plan's performance for the 2018-19 fiscal year for the period ending February 28, 2019 ("FYTD"), as well as the quarter ending December 31, 2018. Mr. Berg first noted that, while results for the quarter ended March 31, 2019 were not yet final, it appeared that the quarter would prove to be one of the best in the history of the organization. He noted the positive impact from adding equity exposure at the end of 2018 as well as an improvement in the managers' performance. Mr. Berg then provided the Commission with an overview of how the Portfolio was presently positioned. He stated that the Portfolio was modestly overweight in equities by approximately 2.5 to 3 percent. Within equities, the largest overweight was to domestic equity, U.S. large cap, with a smaller overweight to emerging markets, and an underweight to developed non-U.S. equities. Mr. Berg noted that the Portfolio is underweight fixed income, both to support the overweight to equity and in response to the low yields. . He explained that for the first time since the financial crisis there was not a penalty for holding cash versus core fixed income assets. Mr. Berg went on to explain that within the cash and short durations portfolios, the Portfolio had moved up in quality, in an effort to avoid being liquidity-constrained at the end of the cycle.

Next Mr. Berg introduced Mr. King to present the investment performance update through February. Mr. King stated that the new year had started off with a sharp recovery from the sell-off experienced last December, and noted that the Plan's FYTD return was 1.99 percent versus the Policy benchmark's return of 2.02 percent. Mr. William Condon, Jr. asked if the Plan historically had not taken enough risk. Mr. King explained that in the short term, there was more tracking error to the benchmark. As an example, Mr. King pointed out that in December, the private equity asset class had been the biggest detractor from the Plan's excess return, but over the course of two months, the benchmark had increased by 700 basis points. Mr. King noted that while the benchmark had moved very dramatically, the asset class' underlying valuations had not experienced much change, a whipsaw effect caused by benchmark volatility. A discussion ensued regarding the Plan's historical asset allocation, the impact of the financial crisis, and changes that had been implemented by the Commission and Staff during the last three years.

Mr. King noted that the Plan had commenced the current FY at $31.3 billion, paid out $805 million in net benefits FYTD, and had a value of $31.8 billion as of February 28, 2019. Mr. King indicated that $2.7 billion had been paid to beneficiaries FYTD, versus $2.1 billion of deposits into the system. The continuing unwinding of the TERI program during this period had resulted in $376 million of additional payments out of the Trust, although this was partially offset by a $100 million legislative inflow. Dr. Gunnlaugsson asked at what point would the Plan not pay out more than it takes in. Ms. Peggy Boykin noted that if one did not take into consideration investment returns, the Plan would continue to pay out more in benefits than what is collected in contributions. Ms. Boykin noted that the current employer contribution rate (14.56 percent) was due to increase to 15.56 percent on July 1, 2019 and ultimately go up to 18 percent pursuant to the Pension Reform Act. A brief discussion was held regarding contributions, the remaining TERI payments, and cash flow. The Chair stated that discussing these issues was important based on the cycle of the meetings, noted that the asset liability discussion is upcoming, and, echoing a request made by Dr. Gunnlaugsson, asked that the System's actuary attend the asset liability discussion to answer any questions the Commissioners might have.

Mr. King then shared the FYTD asset class performance details, noting that the Plan was overweight public equity and underweight core fixed income with a strong overweight in cash. Mr. William Hancock asked Mr. Berg to explain the overweight to cash. Mr. Berg explained that this overweight related to the inversion of the treasury yield curve, noting that the Plan currently received more to hold a three-month treasury, which is classified as cash, than in short duration fixed income, and that Staff made a decision to hold the treasury exposure in cash to maximize the flexibility to react to changes in the markets. Mr. Hancock noted that the Plan is getting as good or better returns with a lot less risk than in previous years.

Mr. King noted that the portfolio's highest performing asset class FYTD was Other Opportunistic which outperformed the benchmark by 689 basis points, followed by private infrastructure, equity options and public real estate. It was noted that Portable Alpha Hedge Funds and Mixed Credit had underperforming their benchmarks FYTD, followed by Emerging Markets Debt and Private Debt. Ms. Boykin inquired about the underperformance of Public Equity and whether it was domestic or international. Mr. Berg replied that both components underperformed, and noted how challenging the environment had been for active managers.

Mr. Condon inquired about the asset class categories and sub-asset classes the Plan shown on certain of the performance reports, as compared to the asset allocation which the Commission had approved. Mr. Berg stated that it would be difficult for Mr. King to break down performance returns by asset class and subclasses due to certain mandates that invest across multiple sub-asset classes, as well as the restructuring of the mandates the previous year. Mr. King added that RSIC's reporting team tracks exposures across sub-asset classes for public equity, and includes this information in the flash report circulated to the Commissioners. There was additional discussion regarding reporting.

Lastly Mr. King concluded his report by discussing the attribution to the Plan's excess return. There was a large allocation effect due to the equity exposure added at the end of last year. Fixed core income and equity options were the highest contributors to the Plan's excess return, with global public equity and cash being the largest detractors.

Mr. Berg discussed the fiscal year 2019 AIP progress report. He started by explaining that the initiatives had been broken out into areas where completion is expected during the current year. Mr. Berg highlighted certain key developments. He noted that negotiations had been completed for the co-investment platform with GCM Grosvenor, and thanked the members of Staff who had played a role in completing this important initiative.

Mr. Berg explained that Staff continues to work on whether to employ active or passive managers in the public markets, noting that Mr. Bryan Moore, Director of Public Markets, had developed a score card system that Staff had begun to use. Mr. Berg promised the Commissioners that there would be more details on this program to come at a future date. He then discussed private debt and mixed credit, where Staff continued to research differences between the two exposures to help determine whether we want to express a preference for one. Mr. Berg concluded his report by summarizing the significant developments relating to multi-year initiatives.

VI. DELEGATED INVESTMENT REPORT

The Chair recognized Mr. Berg for the delegated investment report. Mr. Berg noted that only one delegated investment had closed since the last Commission meeting, a private equity investment with Providence Strategic Growth IV, which closed on April 2, 2019 in the amount of $75 million. There was an ensuing discussion regarding co-investments and private equity amongst the Commissioners and Mr. Berg.

VII. EXECUTIVE SESSION

Mr. Hancock moved that the Commission recede into 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), Dr. Wilder seconded the motion, which passed unanimously.

VIII. POTENTIAL ACTION RESULTING FROM EXECUTIVE SESSION

The Chair reported that the Commission took no action in Executive Session.

IX. PORTFOLIO FRAMEWORK PROPOSAL

The Chair introduced Mr. Hitchcock to present the Portfolio Framework proposal. Mr. Hitchcock stressed that this topic was the one of the most important and meaningful strategic discussions that the Commission had ever taken up. He noted that since the first Funston audit, the Commission had evolved from a board participating in due diligence of individual investments to one functioning like a corporate board, overseeing the portfolio from a much higher level.

Mr. Hitchcock stated that the portfolio framework proposal would facilitate the assignment of responsibility and accountability for decisions made with regard to the portfolio by both the Commission and by Staff. He stated that the ability to measure those decisions will give the Commissioners greater insight when it comes to evaluating Staff's implementation of the Portfolio (including the quality of managers hired to manage investments on behalf of the Plan).

Mr. Berg was asked to review the seven main components of the portfolio framework (noted below in italics). Mr. Berg commenced by echoing Mr. Hitchcock's introductory comments, noting that the proposed framework was intended to assist with: (a) measurement of portfolio risk by providing accountability for decisions made and evaluating those decisions; (b) alignment of key performance objectives; and (c) improved reporting.

Mr. Berg stated that he was proposing that the Commission utilize a reference portfolio and two benchmarks. The ***Reference Portfolio*** would be a simple, two-asset (stock and bond) portfolio designed to have the same level of volatility as the ***Policy Benchmark***. Mr. Berg explained that the Policy Benchmark would represent the Commission's decision to diversify beyond the two assets of the Reference Portfolio, while maintaining the same level of volatility. The Policy Benchmark would be based upon the unique needs of the System, and would incorporate input from both the CIO and the Consultant. One of the benefits of having the Reference Portfolio and Policy Benchmark would be to isolate the ***value derived from the decision to diversity the portfolio beyond the two-asset portfolio***.

The second benchmark proposed by Mr. Berg was the ***Implementation Benchmark***. He stated this benchmark was designed to include any decision that Staff makes to structure the portfolio differently than the Policy Benchmark, either (a) a decision to overweight or underweight an asset class, or (b) a decision to construct an asset class differently than the benchmark. One major benefit of having the Implementation Benchmark is that, by comparing it with the Policy Benchmark and the ***Actual Portfolio****,* one can accurately differentiate the ***quality of portfolio structure*** (the impact of how RSIC Staff structured the portfolio) from the ***quality of implementation*** (that is, the impact of who was hired to manage the portfolio).

Mr. Berg stated that one role of the Commission is to create the right policy ecosystem for the day-to-day decisions to be made by the Staff and to maintain appropriate oversight of those decisions. He stated that in the future, Staff would replace the current portfolio reports produced by RSIC's reporting and analytics team and develop in its place a reporting package for the Commissioners integrating the foregoing components of the portfolio framework proposals. Extensive discussion ensued, during which the Commission addressed a number of topics, including the following:

- Mr. Gillespie indicated that the proposed framework offered a good example of higher-level decisions versus lower-level decisions and then offered his thoughts regarding how the proposal should be applied to review of the portable alpha program. Mr. Berg reiterated that his objective was to simplify the portfolio.

- Mr. Giobbe inquired how the existing benchmarks were set and expressed dissatisfaction with certain of the current benchmarks. Mr. Berg explained that if the Implementation Benchmark was in place, the Commissioners would be able more clearly to assess the managers' performance going forward. Mr. Berg further explained that strategy benchmarks will be identified for each manager.

- Ms. Boykin stated that she liked the idea of separating what the Commission's responsibilities are from those of Staff and getting a clear direction on how to measure same. She stressed the importance of looking at peers, so as to understand how and why the Commission looks different from its peers. Mr. Hitchcock responded by noting that peer comparisons can be a useful tool, but should not be the primary yardstick for evaluating the portfolio's performance. After additional discussion, Mr. Berg concluded his presentation.

X. STRATEGIC PLANNING ROADMAP DISCUSSION

Mr. Hitchcock introduced the strategic planning roadmap. He noted that it may take the Commission months to complete all of the items on the roadmap, but indicated that Staff would begin to provide the Commission with reporting supporting the revised portfolio framework by September 2019. Mr. Hitchcock summarized the roadmap's key milestones:

- June 2019 meeting - further discussion and potential approval of the Reference Portfolio.
- September 2019 meeting – further discussion and potential adoption of the policy benchmark (that is, the benchmark representing the Commission's decision to diversify beyond the two asset Reference Portfolio, while maintaining the same level of volatility).
- November 2019 meeting – review and adoption of the Statement of Investment Objectives and Policies ("SIOP") and the Annual Investment Plan ("AIP") incorporating the revised portfolio framework discussed in the April, June and September meetings.

Mr. Hancock expressed support for continuing discussion of the revised portfolio framework, but asked whether the timetable for discussion could be accelerated. The Chair sought to gauge the Commissioners' feedback regarding the roadmap as outlined by Mr. Hitchcock. In the ensuing discussion, Mr. Hancock inquired how the Commission's investment consultant felt about the plan. Mr. Frank Benham, Managing Director of Meketa Investment Group ("Meketa"), opined that the framework was very positive and noted that Meketa had held numerous conversations with Staff regarding the subject. He stated that the framework offered a good way to align Staff incentives and for the Commission to be able to measure and monitor Staff's success.

Mr. Condon expressed support for continuing discussion of the revised framework, noted that he was not clear whether the revised framework was just a reporting methodology, and inquired whether the discussion would entail going back and reassessing prior decisions. After additional discussion, Mr. Berg responded that the revised framework was both an oversight tool for the Commissioners and the CIO, as well as a framework for thinking about asset allocation.

Mr. Williams suggested that by the September meeting, decisions about asset allocation should have been discussed and made. There was discussion regarding the utility of convening a special meeting between the June and September meetings. Mr. Hitchcock suggested that Staff engage in further discussions with Meketa regarding the framework so that they could provide a more detailed plan to the Commissioners. This concluded the discussion of the strategic planning roadmap.

XI. ANNUAL INVESTMENT PLAN CONTINUATION

Chair Wilder turned to the next agenda item, the continuation of the Annual Investment Plan. Mr. Hitchcock reminded the Commissioners that state law requires that the Commission review and adopt or ratify an AIP each year by no later than May 1. Because of the ongoing AIP initiatives already discussed, and the strategic discussions regarding the potential adoption of a new asset allocation framework, Mr. Hitchcock and the Chair recommended that the Commission ratify the existing Annual Investment Plan for the fiscal year 2019-2020. Mr. Hitchcock noted that once the new portfolio framework is completed the Commission could then incorporate it by reference into the AIP and Statement of Investment Objectives and Policies ("SIOP") as needed. Mr. Hancock moved that the Commission adopt the recommendation of the CIO and CEO to affirm and ratify the Annual Investment Plan last approved on April 12, 2018, for fiscal year 2019-2020, unless and until further subsequent action is taken by the Commission; and incorporate this work by reference into the Plan and authorize Staff to make any technical revisions or formatting edits consistent with the action taken by the Commission. Mr. Williams seconded the motion, which passed unanimously.

XII. ADJOURNMENT

Dr. Gunnlaugsson moved to adjourn, Mr. Williams seconded the motion, which passed unanimously. The meeting adjourned at 1:30 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 15th Floor Presentation Center at 1201 Main Street, Columbia, S.C., at 12:32 p.m. on February 18, 2019]

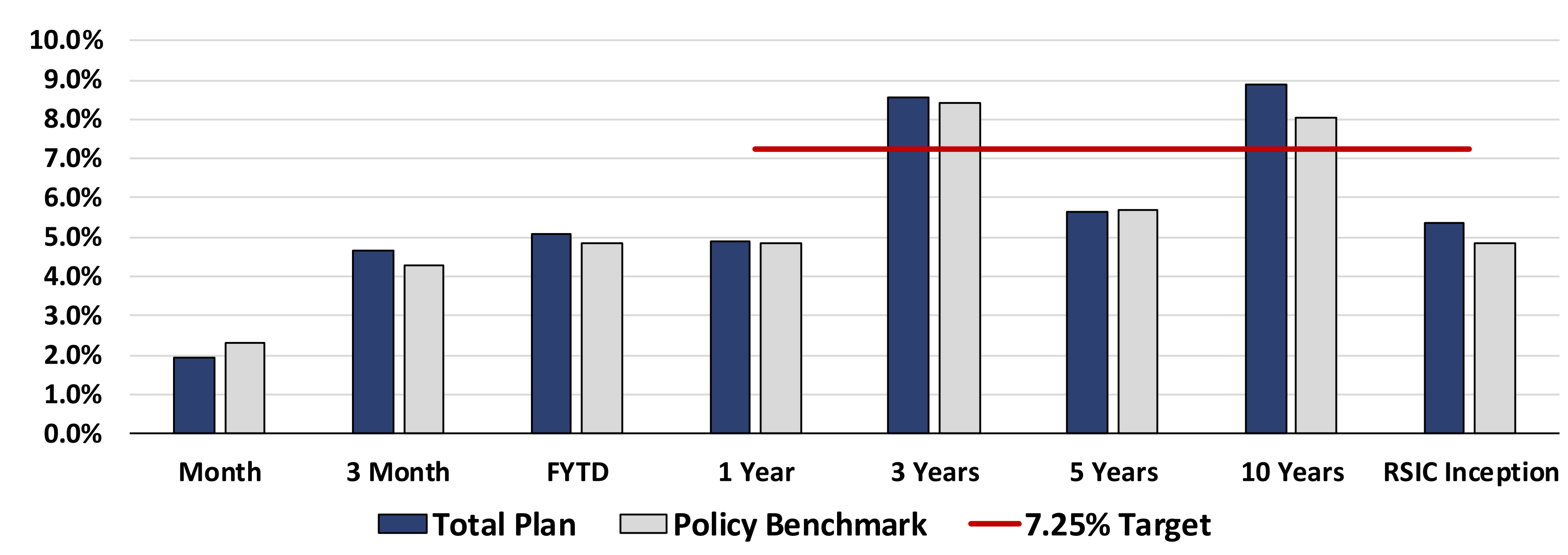
RETIREMENT SYSTEM
INVESTMENT COMMISSION

Performance Update

RSIC 06/13/19 Investment Commission Meeting
Data as of April 30th, 2019

Performance - Plan & Policy Benchmark[2]

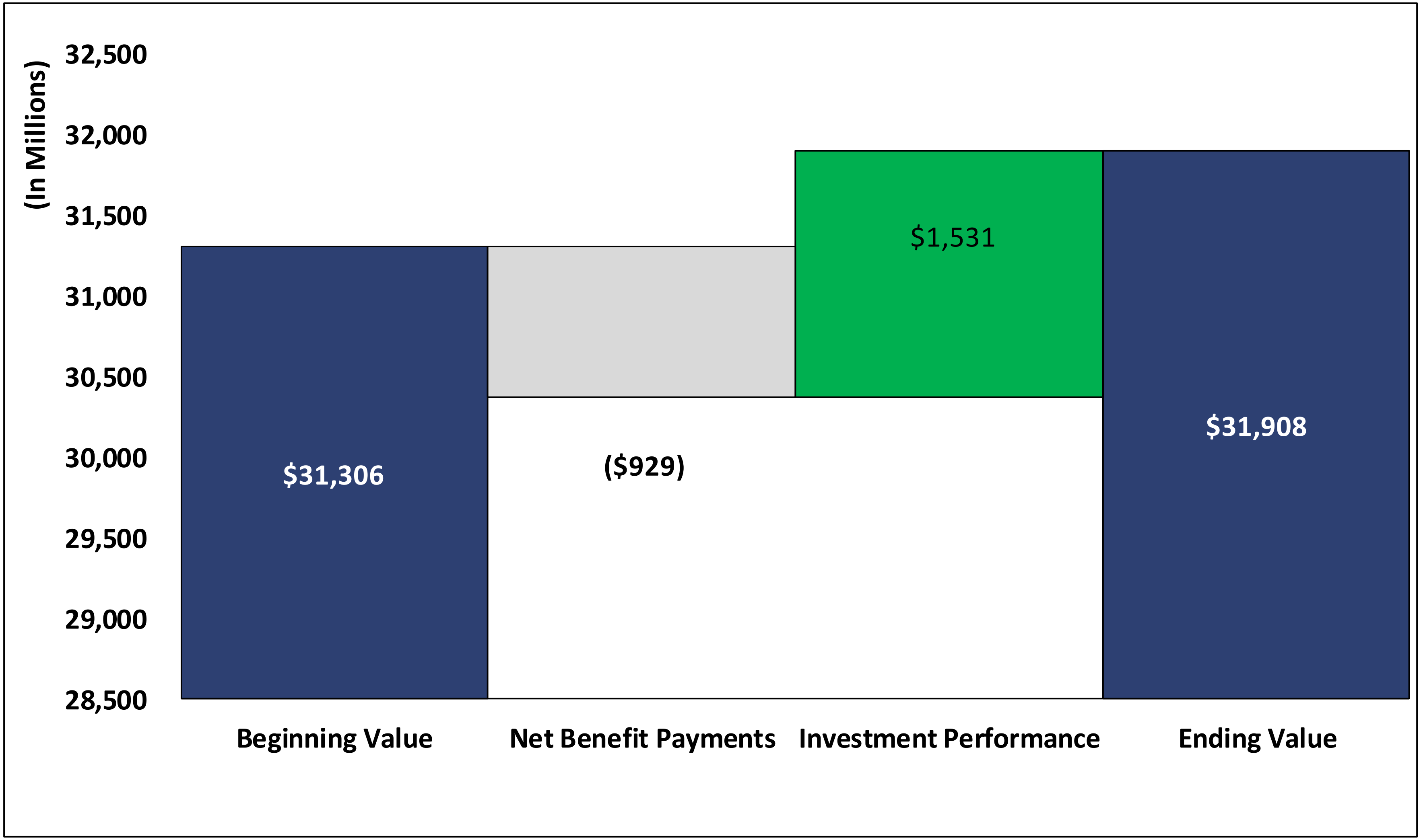
As of April 30, 2019



Historic Plan Performance As of 04/30/19	Market Value (In Millions)	Month	3 Month	FYTD	1 Year	Annualized 3 Years	Annualized 5 Years	Annualized 10 Years	Annualized RSIC Inception
Total Plan	**$31,908**	**1.93%**	**4.67%**	**5.09%**	**4.90%**	**8.53%**	**5.63%**	**8.90%**	**5.35%**
Policy Benchmark		2.32%	4.30%	4.86%	4.83%	8.44%	5.69%	8.02%	4.86%
Excess Return		-0.39%	0.37%	0.24%	0.07%	0.09%	-0.06%	0.88%	0.48%
Net Benefit Payments (In Millions)		($18)	($178)	($929)	($1,132)	($3,318)	($5,494)	($10,309)	($13,314)
Current 3-month Roll off Return:			*2.27%*	*N/A*	*-2.19%*	*4.37%*	*4.46%*	*4.70%*	*N/A*
Next 3-month Roll off Return:			*4.67%*	*N/A*	*1.53%*	*3.13%*	*1.93%*	*11.33%*	*N/A*

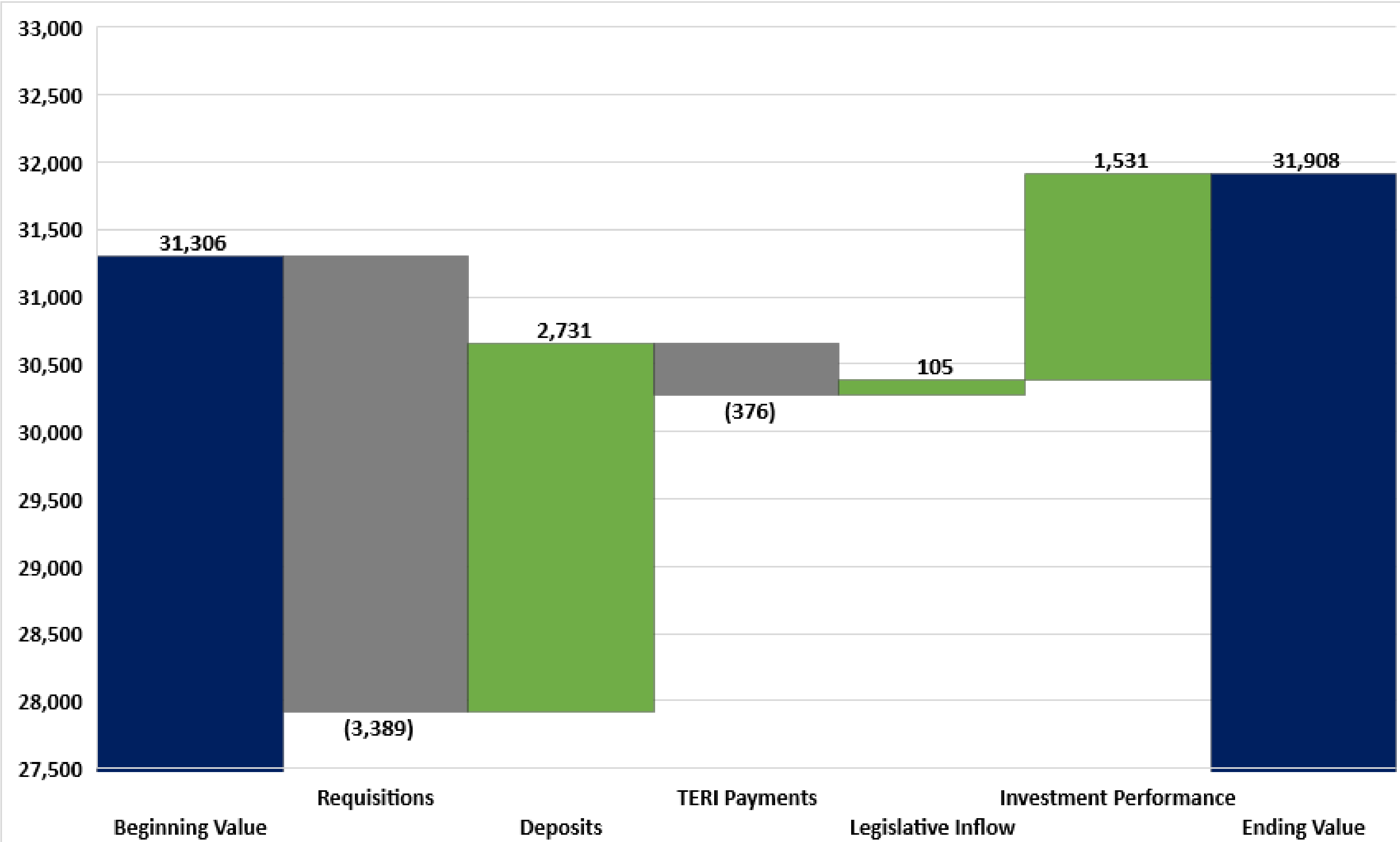
FYTD Benefits and Performance[2]

FYTD as of April 30, 2019



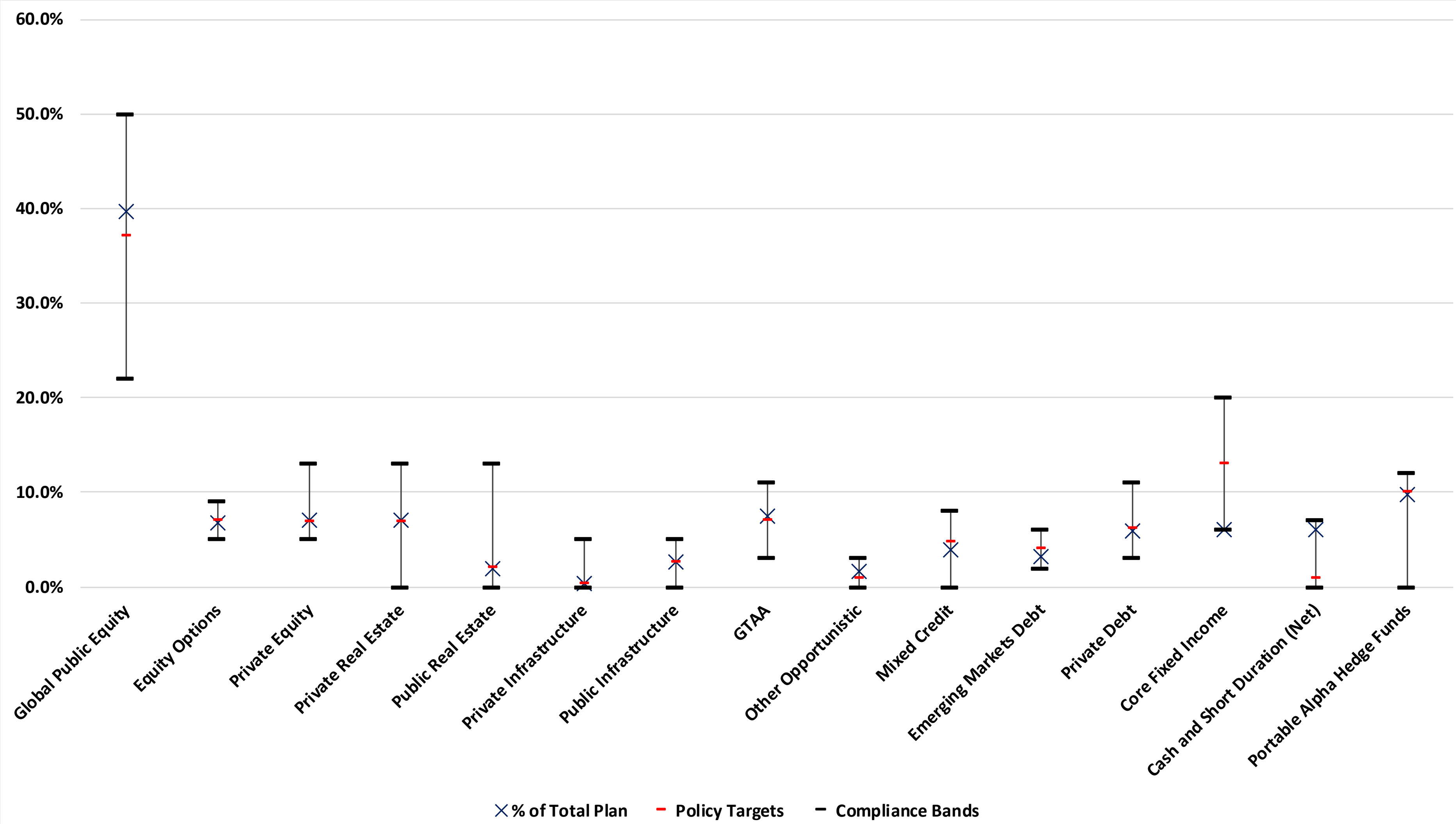
FYTD Benefits and Performance[2]

FYTD as of April 30, 2019



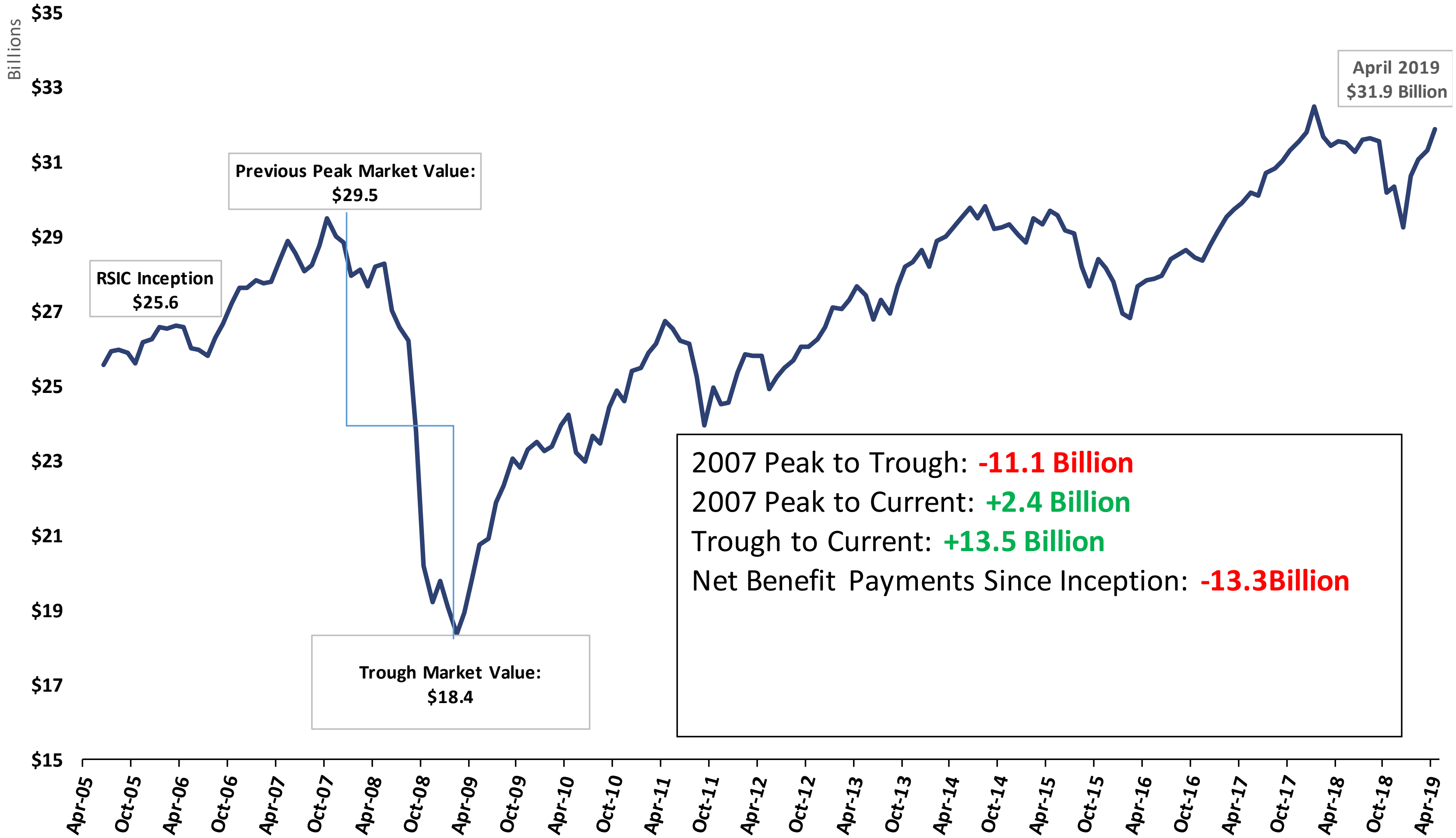
Portfolio Exposure & Policy Weights [4,8]

As of April 30, 2019



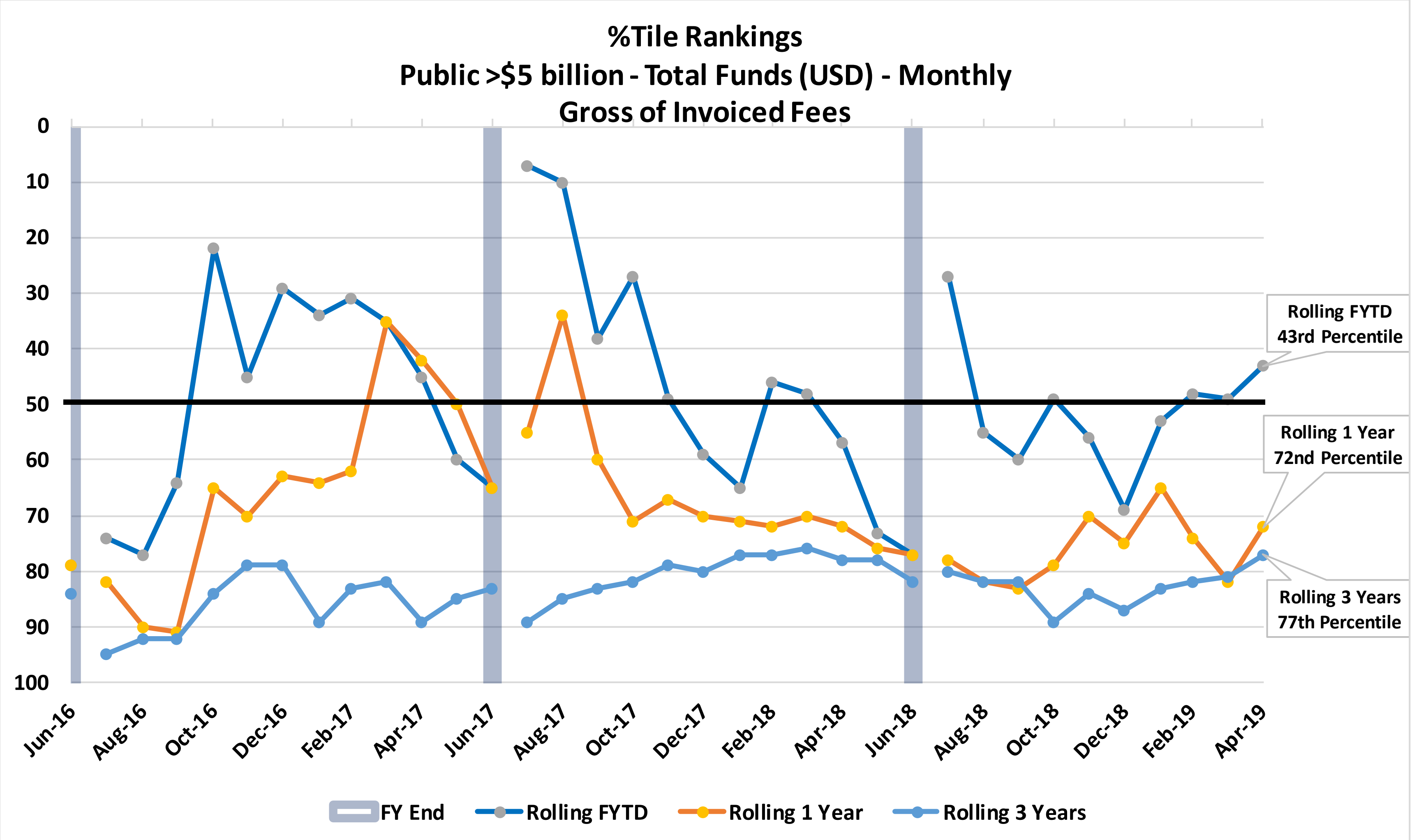
RSIC Market Value Through Time

As of April 30, 2019



RSIC Universe Rankings[11]

As of April 30, 2019

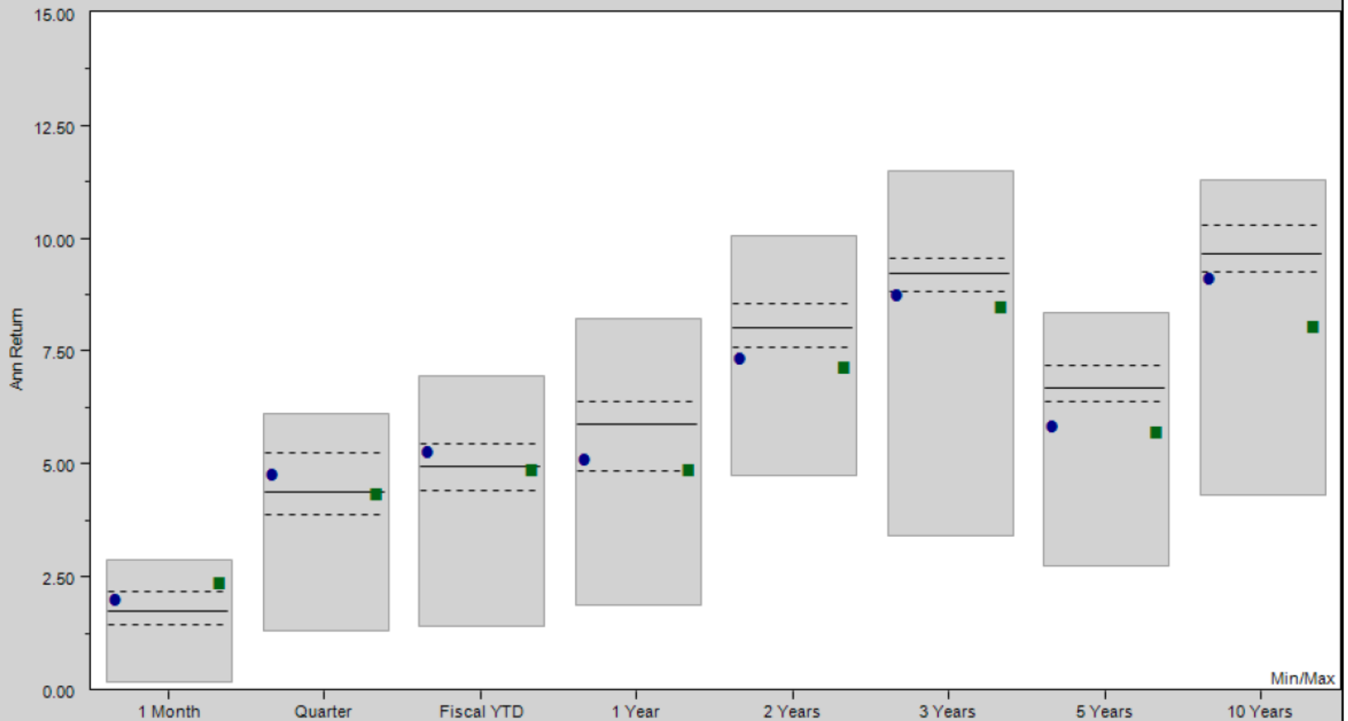


STATE OF SOUTH CAROLINA
RSIC RETIREMENT SYSTEM INVESTMENT COMMISSION

Bank of New York Public Funds > $5 billion[11]

As of April 30, 2019

Public > $5 Billion - Total Funds (USD) - Monthly
As of April 30, 2019
Quartile



	1 Month Value	1 Month %Tile	Quarter Value	Quarter %Tile	Fiscal YTD Value	Fiscal YTD %Tile	1 Year Value	1 Year %Tile	2 Years Value	2 Years %Tile	3 Years Value	3 Years %Tile	5 Years Value	5 Years %Tile	10 Years Value	10 Years %Tile
Maximum	2.88		6.11		6.94		8.21		10.07		11.51		8.37		11.30	
25th Percentile	2.17		5.24		5.44		6.37		8.54		9.54		7.19		10.28	
Median Percentile	1.75		4.38		4.94		5.87		8.02		9.21		6.68		9.65	
75th Percentile	1.44		3.87		4.40		4.83		7.59		8.80		6.38		9.26	
Minimum	0.17		1.30		1.40		1.88		4.76		3.40		2.72		4.30	
# of Portfolios	39		39		39		39		38		38		36		36	
● **Total SC with Overlay**	1.96	42	4.73	32	5.26	43	5.09	72	7.32	81	8.72	77	5.80	86	9.10	82
■ **SC Policy Benchmark**	2.32	14	4.30	59	4.86	54	4.83	75	7.10	84	8.44	82	5.69	86	8.02	95

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

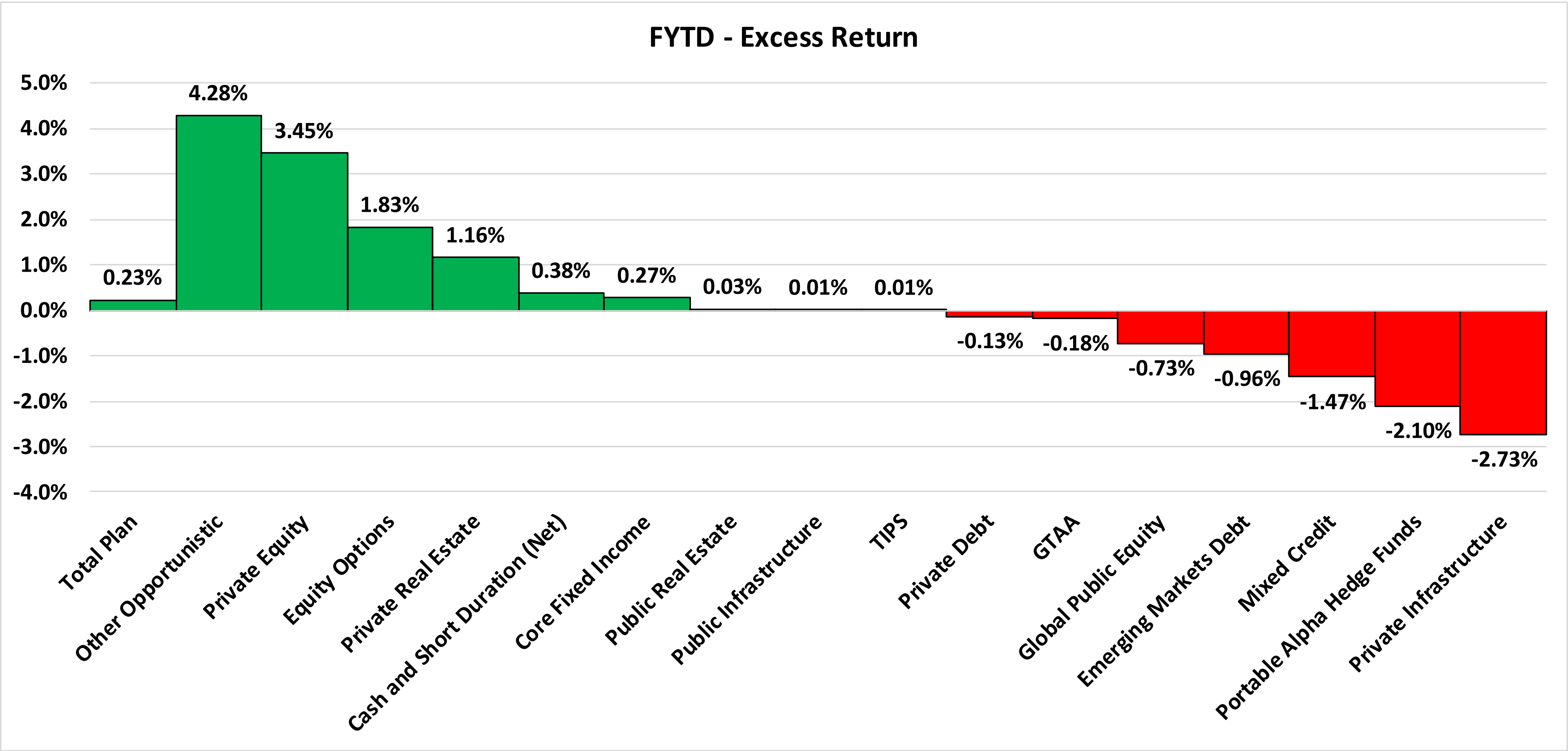
Performance – Plan & Asset Classes[1,3,4,10]

As of April 30, 2019

Asset Class / Benchmark returns as of 04/30/19	Plan Weight	Month	3 Month	YTD	FYTD	Annualized 1 Year	Annualized 3 Years	Annualized 5 Years
Total Plan	100.0%	1.93%	4.67%	10.01%	5.09%	4.90%	8.53%	5.63%
Policy Benchmark		2.32%	4.30%	8.65%	4.86%	4.83%	8.44%	5.69%
Global Public Equity	39.7%	2.95%	6.92%	15.63%	3.77%	2.67%	11.09%	6.63%
Global Public Equity Blend		3.31%	7.28%	16.01%	4.50%	4.28%	11.22%	6.88%
Equity Options	6.8%	1.73%	4.67%	8.61%	2.19%	4.05%	n/a	n/a
Blended Equity Options BM		1.57%	4.55%	7.79%	0.36%	2.40%	n/a	n/a
Private Equity	7.1%	1.93%	2.60%	2.90%	7.24%	7.70%	12.95%	10.37%
Private Equity Blend		8.18%	1.44%	-6.21%	3.79%	-1.33%	15.95%	11.89%
GTAA	7.5%	2.60%	5.27%	13.29%	4.39%	2.69%	5.97%	3.45%
GTAA Benchmark Blend		1.96%	5.01%	11.12%	4.57%	5.19%	6.43%	4.22%
Other Opportunistic	1.6%	-0.84%	1.77%	6.55%	8.85%	11.13%	n/a	n/a
GTAA Benchmark Blend		1.96%	5.01%	11.12%	4.57%	5.19%	n/a	n/a
Core Fixed Income	5.2%	0.14%	1.85%	3.09%	4.94%	5.62%	2.20%	2.66%
Barclays US Aggregate Bond Index		0.03%	1.89%	2.97%	4.67%	5.29%	1.90%	2.57%
TIPS	1.0%	0.34%	2.17%	3.57%	2.27%	n/a	n/a	n/a
Barclays US Treasury Inflations Notes		0.33%	2.16%	3.54%	2.26%	n/a	n/a	n/a
Cash and Short Duration (Net)	6.1%	0.26%	0.83%	1.16%	2.23%	2.42%	1.33%	1.01%
ICE BofA Merrill Lynch 3-Month T-Bill		0.19%	0.59%	0.79%	1.85%	2.18%	1.25%	0.78%
Mixed Credit	3.9%	1.22%	2.62%	4.58%	3.67%	4.15%	6.59%	3.03%
Mixed Credit Blend		1.53%	3.58%	7.24%	5.14%	5.48%	6.59%	4.72%
Private Debt	5.9%	0.62%	1.84%	2.85%	2.58%	4.32%	7.43%	4.97%
S&P/LSTA Leveraged Loan + 150 Bps on a 3-month lag		2.71%	-0.53%	-0.59%	2.71%	3.52%	7.44%	4.94%
Emerging Markets Debt	3.2%	0.19%	-0.14%	5.14%	4.72%	-1.63%	4.21%	2.58%
Emerging Markets Debt Blend		0.03%	0.03%	4.97%	5.67%	0.47%	3.86%	2.16%
Private Real Estate	7.0%	0.63%	2.12%	1.91%	6.57%	7.34%	8.99%	11.78%
Private Real Estate Custom Benchmark		0.11%	1.42%	1.52%	5.41%	7.85%	8.58%	10.91%
Public Real Estate	1.9%	-0.04%	4.63%	16.79%	9.61%	18.13%	n/a	n/a
FTSE NAREIT Equity REITs Index		-0.24%	3.86%	16.06%	9.58%	18.88%	n/a	n/a
Public Infrastructure	2.6%	0.60%	6.43%	16.12%	8.80%	12.21%	n/a	n/a
Private Infrastructure	0.3%	-0.16%	-1.21%	-2.16%	6.06%	n/a	n/a	n/a
Dow Jones Brookfield Global Infrastructure Net Index		0.71%	6.57%	16.55%	8.79%	11.68%	n/a	n/a
Portable Alpha Hedge Funds	9.8%	*0.78%*	*0.81%*	*0.74%*	*-0.02%*	*0.12%*	*3.47%*	*4.31%*
Portable Alpha HF Blend		*0.21%*	*0.62%*	*0.83%*	*2.08%*	*2.08%*	*0.86%*	*1.23%*
Portable Alpha Collateral	15.4%	0.10%	0.13%	0.13%	-0.09%	-0.11%	n/a	n/a
Portable Alpha Benchmark		0.21%	0.62%	0.81%	2.00%	2.00%	n/a	n/a

Relative Performance to Policy Benchmarks[1,3,4,10]

FYTD as of April 30, 2019



APPENDIX

Asset Allocation and SIOP Compliance

FYTD as of April 30, 2019

Asset Allocation	Market Value as of 04/30/19	Overlay Exposures	Net Position	% of Total Plan	Policy Targets	Difference	Allowable Ranges	SIOP Compliance
Equities	**13,409**		**17,109**	**53.6%**	**51.0%**	**2.6%**	**31% - 59%**	**YES**
Global Public Equity	9,319	3,345	12,664	39.7%	37.1%	2.6%	22% - 50%	YES
Equity Options	1,822	355	2,177	6.8%	7.0%	-0.2%	5% - 9%	YES
Private Equity	2,268	0	2,268	7.1%	6.9%	0.2%	5% - 13%	YES
Real Assets	**3,788**		**3,788**	**11.9%**	**12.0%**	**-0.1%**	**7% - 17%**	**YES**
Private Real Estate	2,246		2,246	7.0%	7.0%	0.0%	0% - 13%	YES
Public Real Estate	594		594	1.9%	2.0%	-0.1%	0% - 13%	YES
Private Infrastructure	107		107	0.3%	0.3%	0.0%	0% - 5%	YES
Public Infrastructure	842		842	2.6%	2.7%	0.0%	0% - 5%	YES
Opportunistic	**2,924**		**2,924**	**9.2%**	**8.0%**	**1.2%**		
GTAA	2,404	0	2,404	7.5%	7.0%	0.5%	3% - 11%	YES
Other Opportunistic	519	0	519	1.6%	1.0%	0.6%	0% - 3%	YES
Credit	**4,175**		**4,175**	**13.1%**	**15.0%**	**-1.9%**	**10% - 20%**	**YES**
Mixed Credit	1,256		1,256	3.9%	4.8%	-0.8%	0% - 8%	YES
Emerging Markets Debt	1,028		1,028	3.2%	4.0%	-0.8%	2% - 6%	YES
Private Debt	1,891		1,891	5.9%	6.2%	-0.3%	3% - 11%	YES
Rate Sensitive	**4,484**		**3,912**	**12.3%**	**14.0%**	**-1.7%**	**4% - 24%**	**YES**
Core Fixed Income	748	1,208	1,956	6.1%	13.0%	-6.9%	6% - 20%	YES
Cash and Short Duration (Net)	3,736	-1,780	1,956	6.1%	1.0%	5.1%	0% - 7%	YES
Portable Alpha Hedge Funds	3,129	-3,129	0	9.8%*	10.0%	-0.2%	0% - 12%	YES
Total Plan	**$31,908**	-	**$31,908**	**100.0%**	**110.0%**			
Total Hedge Funds	3,351		**$3,351**	**10.5%**	n/a	n/a	0% - 20%	YES
Total Private Markets	6,511	-	**$6,511**	**20.4%**	n/a	n/a	14% - 25%	YES

Total Hedge Fund exposure: 10.5% and consisted of: 9.8% 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: [Asset Class Weight – Policy Weight] * [Benchmark Return – Plan Policy Benchmark]
   Selection Effect: [Asset Class Return – Policy Benchmark Return] * 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

South Carolina Retirement System

Performance Report
As of March 31, 2019

Total Retirement System

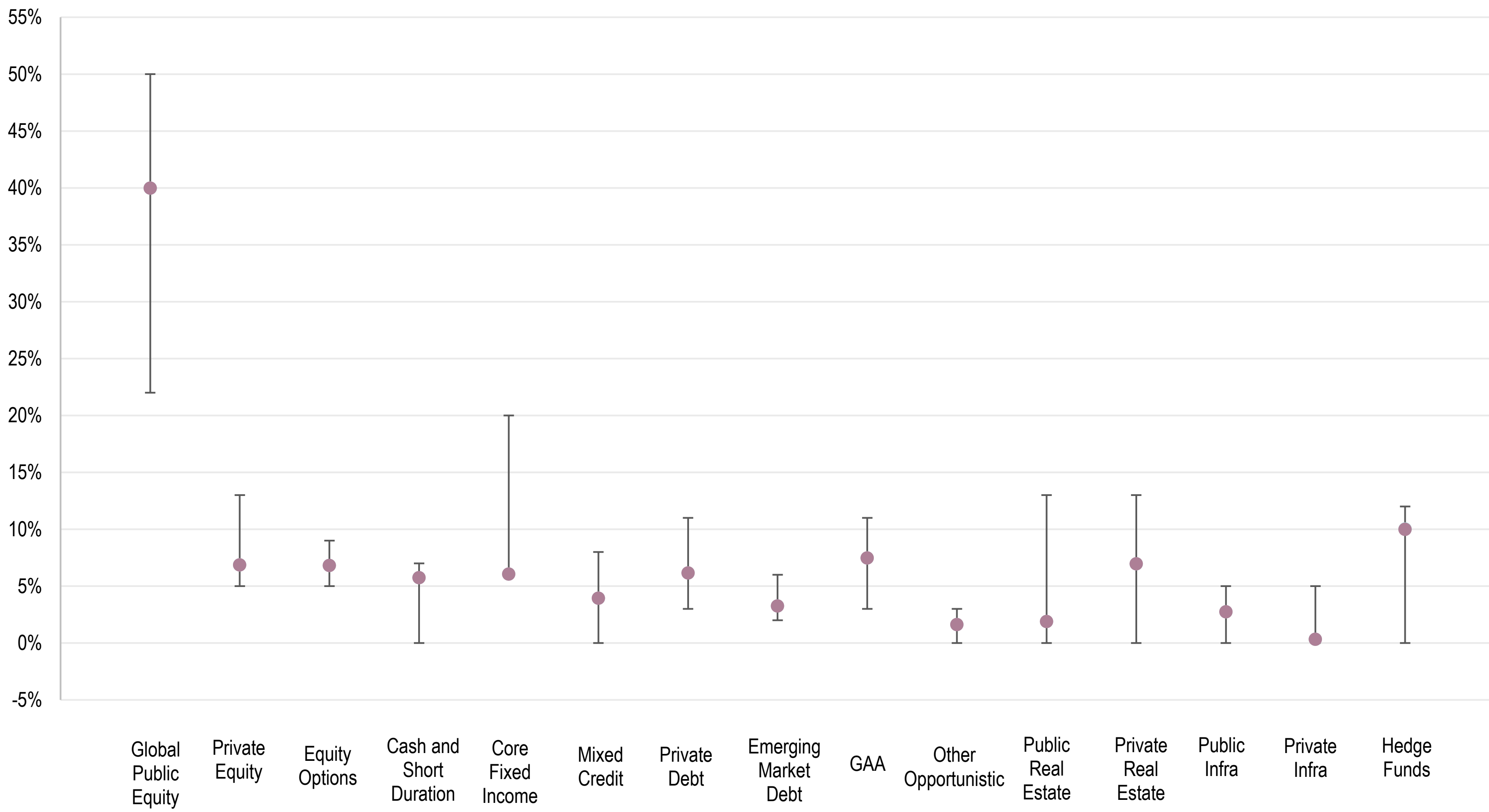
As of March 31, 2019

Allocation vs. Targets and Policy

	MV at 3/31/2019	Overlay Exposures	Net Position	% of Total System	% of Total System (Net)	FY 19 Policy Targets	Allowable Ranges	SIOP Compliance?
Total System	**31,319,111,796**	**-**	**31,319,111,796**	**100%**	**100%**	**110%**	**-**	**-**
Equity	**12,999,509,302**	**3,812,201,065**	**16,811,710,367**	**42%**	**54%**	**51%**	**31-59%**	**Yes**
Global Public Equity	9,058,311,871	3,463,853,305	12,522,165,176	29%	40%	37%	22-50%	Yes
Private Equity	2,150,366,357	-	2,150,366,357	7%	7%	7%	5-13%	Yes
Equity Options	1,790,831,073	348,347,760	2,139,178,833	6%	7%	7%	5-9%	Yes
Conservative Fixed Income	**4,382,364,441**	**(678,996,232)**	**3,703,368,208**	**14%**	**12%**	**14%**	**4-24%**	**Yes**
Cash and Short Duration	3,635,799,668	(1,835,297,999)	1,800,501,669	12%	6%	1%	0-7%	Yes
Core Fixed Income	746,564,773	1,156,301,767	1,902,866,540	2%	6%	13%	6-20%	Yes
Diversified Credit	**4,201,732,024**	**-**	**4,201,732,024**	**13%**	**13%**	**15%**	**10-20%**	**Yes**
Mixed Credit	1,241,174,522	-	1,241,174,522	4%	4%	5%	0-8%	Yes
Private Debt	1,933,697,797	-	1,933,697,797	6%	6%	6%	3-11%	Yes
Emerging Markets Debt	1,026,859,705	-	1,026,859,705	3%	3%	4%	2-6%	Yes
Opportunistic	**2,852,864,862**	**-**	**2,852,864,862**	**9%**	**9%**	**8%**		
GAA	2,343,406,850		2,343,406,850	7%	7%	7%	3-11%	Yes
Other Opportunistic	509,458,012	-	509,458,012	2%	2%	1%	0-3%	Yes
Real Assets	**3,749,436,335**	**-**	**3,749,436,335**	**12%**	**12%**	**12%**	**7-17%**	**Yes**
Public Real Estate	594,458,046	-	594,458,046	2%	2%	2%	0-13%	Yes
Private Real Estate	2,181,670,998	-	2,181,670,998	7%	7%	7%	0-13%	Yes
Public Infrastructure	866,020,720	-	866,020,720	3%	3%	3%	0-5%	Yes
Private Infrastructure	107,286,570	-	107,286,570	0%	0%	0%	0-5%	Yes
Hedge Funds PA	3,133,204,833	(3,133,204,833)	-	10%	0%	10%	0-12%	**Yes**

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

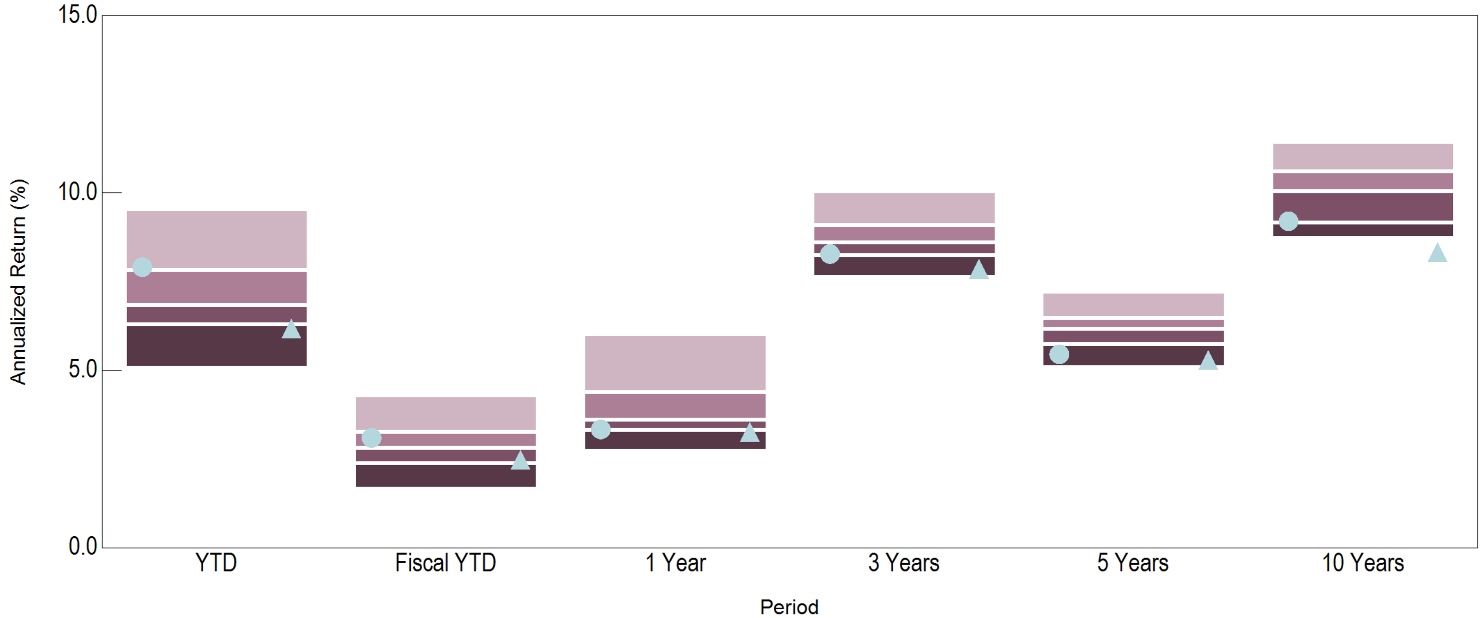
Actual vs. Policy Ranges:
(Including Overlay)



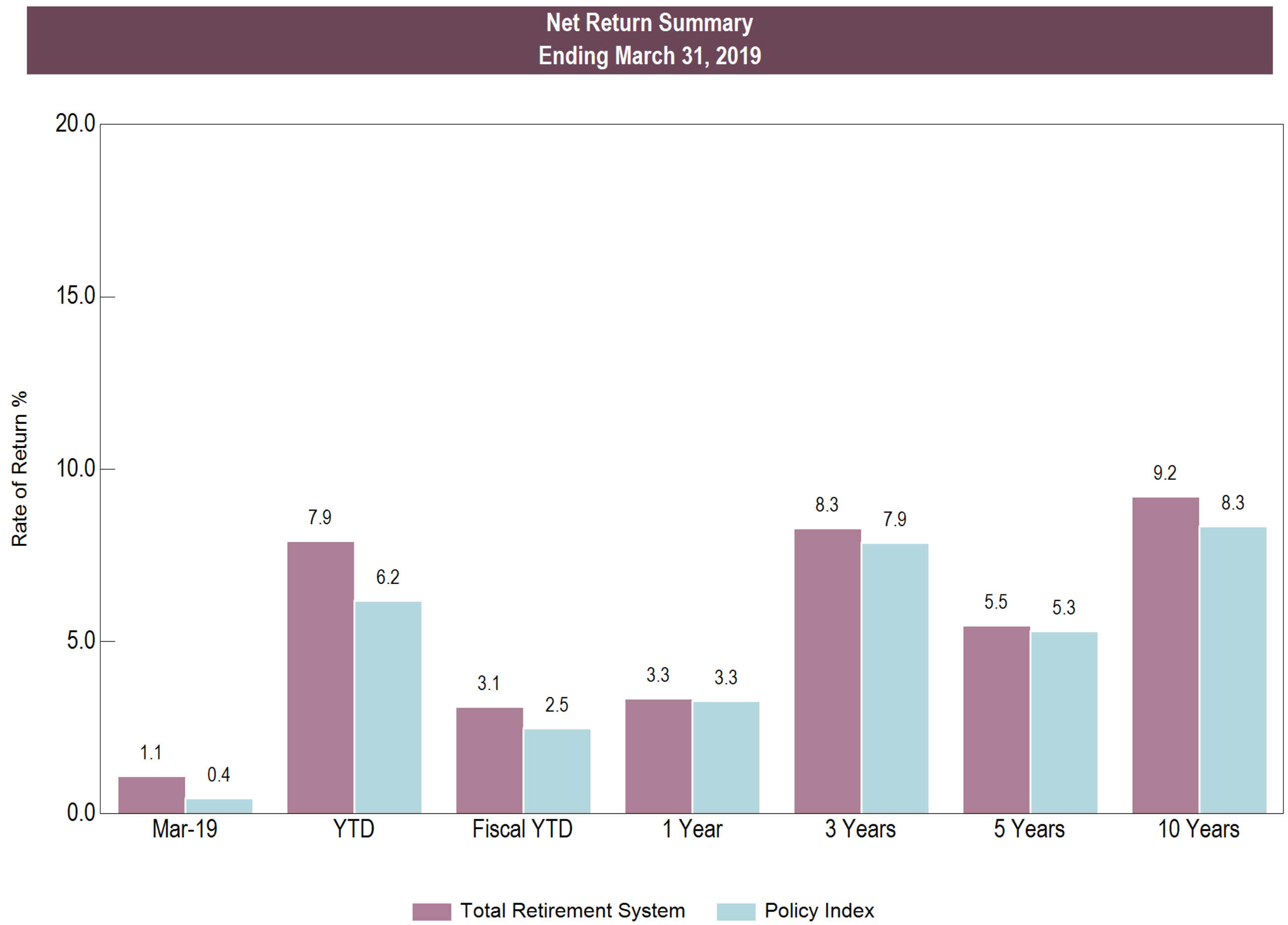
Total Retirement System

As of March 31, 2019

InvestorForce Public DB > $5B Net Return Comparison
Ending March 31, 2019



Return (Rank)	YTD		Fiscal YTD		1 Year		3 Years		5 Years		10 Years	
5th Percentile	9.5		4.3		6.0		10.0		7.2		11.4	
25th Percentile	7.8		3.3		4.4		9.1		6.5		10.6	
Median	6.8		2.8		3.6		8.6		6.2		10.1	
75th Percentile	6.3		2.4		3.3		8.3		5.8		9.2	
95th Percentile	5.1		1.7		2.7		7.6		5.1		8.7	
# of Portfolios	30		29		29		29		27		25	
Total Retirement System	7.9	(24)	3.1	(36)	3.3	(74)	8.3	(68)	5.5	(89)	9.2	(75)
Policy Index	6.2	(83)	2.5	(70)	3.3	(77)	7.9	(88)	5.3	(91)	8.3	(98)

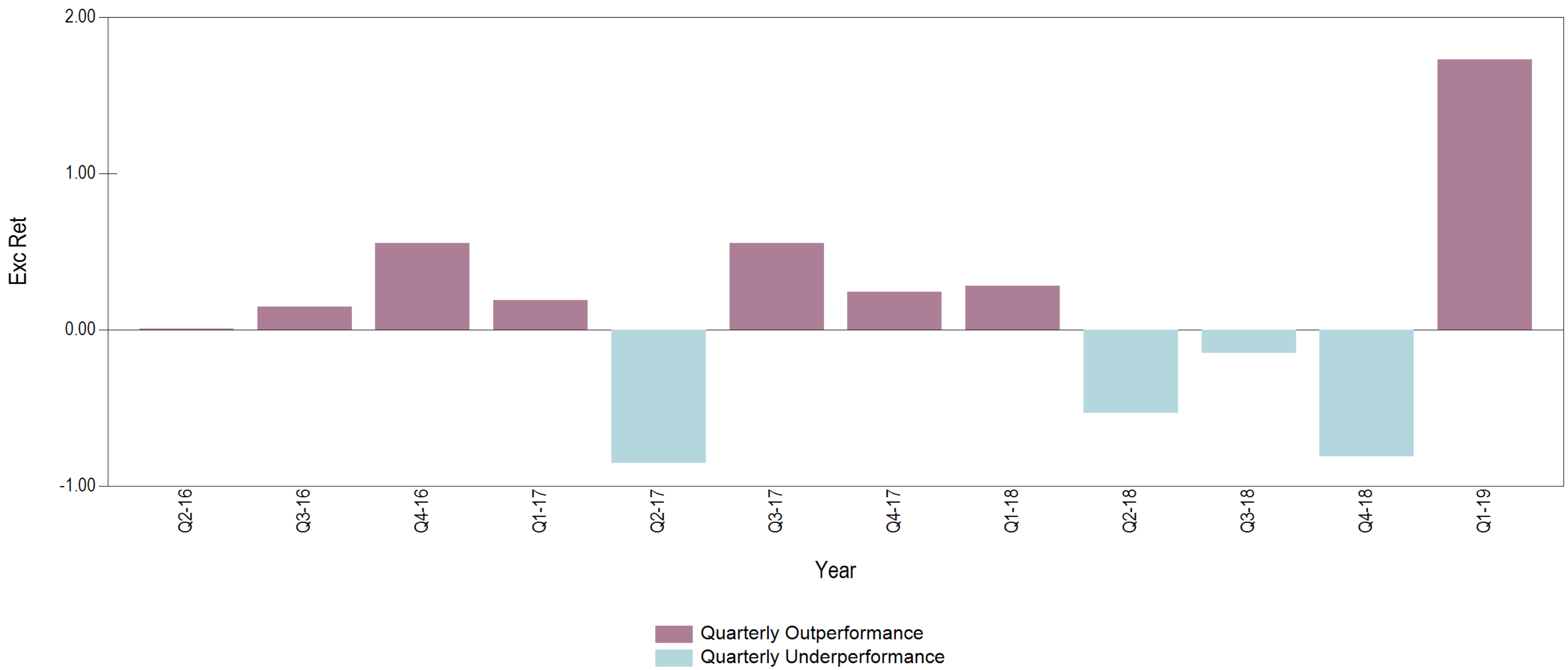


Returns for periods greater than one year are annualized.

Total Retirement System

As of March 31, 2019

Quarterly Excess Performance vs. Policy Benchmark



Total Retirement System

As of March 31, 2019

Net Asset Class Performance Summary

	Market Value ($)	% of Portfolio	1 Mo (%)	YTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Total Retirement System	**31,319,111,796**	**100.0**	**1.1**	**7.9**	**3.1**	**3.3**	**8.3**	**5.5**	**9.2**	**6.3**	**Jul-94**
Policy Index			*0.4*	*6.2*	*2.5*	*3.3*	*7.9*	*5.3*	*8.3*	*5.7*	*Jul-94*
Global Public Equity	**9,058,311,871**	**28.9**	**0.9**	**12.2**	**-0.4**	**-1.1**	**10.3**	**5.9**	**12.0**	**4.5**	**Jun-99**
FY '19 Global Public Equities Custom Benchmark			*1.0*	*12.2*	*1.2*	*2.0*	*10.6*	*6.4*	*12.0*	*4.9*	*Jun-99*
Private Equity	**2,150,366,357**	**6.9**	**0.9**	**1.0**	**5.3**	**6.6**	**12.3**	**10.7**	**11.6**	**7.7**	**Apr-07**
80% Russell 3000/20% MSCI EAFE + 300 basis points on a 3-month lag			*-7.8*	*-13.3*	*-4.1*	*-3.9*	*10.8*	*9.5*	*14.9*	*13.5*	*Apr-07*
Equity Options	**1,790,831,073**	**5.7**	**1.1**	**7.0**	**1.3**	**3.9**	**--**	**--**	**--**	**7.1**	**Jul-16**
FY '19 CBOE 50/50 Put/Buy			*1.5*	*6.1*	*-1.2*	*2.2*	*7.0*	*5.7*	*8.8*	*6.5*	*Jul-16*
Short Duration	**1,416,935,584**	**4.5**	**0.4**	**1.4**	**2.7**	**3.0**	**1.9**	**1.7**	**--**	**1.8**	**Mar-10**
BBgBarc US Govt/Credit 1-3 Yr. TR			*0.7*	*1.2*	*2.7*	*3.0*	*1.3*	*1.2*	*1.6*	*1.3*	*Mar-10*
Cash and Overlay	**2,218,864,084**	**7.1**	**0.2**	**0.5**	**1.4**	**1.6**	**0.5**	**0.1**	**0.1**	**1.1**	**Oct-05**
ICE BofAML 91 Days T-Bills TR			*0.2*	*0.6*	*1.7*	*2.1*	*1.2*	*0.7*	*0.4*	*1.3*	*Oct-05*
Core Fixed Income	**746,564,773**	**2.4**	**1.7**	**3.1**	**4.4**	**4.4**	**2.8**	**3.1**	**4.5**	**6.0**	**Jul-94**
BBgBarc US Aggregate TR			*1.9*	*2.9*	*4.6*	*4.5*	*2.0*	*2.7*	*3.8*	*5.4*	*Jul-94*
Mixed Credit	**1,241,174,522**	**4.0**	**0.3**	**3.3**	**2.4**	**3.0**	**6.8**	**2.9**	**9.1**	**6.1**	**May-08**
50% S&P LSTA Leveraged Loan Index/50% Barclays High Yield Index			*0.4*	*5.6*	*3.6*	*4.4*	*6.8*	*4.5*	*7.9*	*5.9*	*May-08*
Private Debt	**1,933,697,797**	**6.2**	**0.4**	**2.2**	**1.9**	**4.4**	**7.7**	**5.1**	**10.1**	**7.0**	**Jun-08**
S&P LSTA Leveraged Loan Index + 150 basis points on a 3-month lag			*-2.4*	*-3.2*	*0.0*	*1.9*	*6.3*	*4.6*	*10.1*	*4.9*	*Jun-08*
Emerging Market Debt	**1,026,859,705**	**3.3**	**-0.2**	**5.0**	**4.6**	**-4.0**	**5.1**	**2.8**	**--**	**5.1**	**Jul-09**
50% JP Morgan EMBI Global Diversified (USD)/50% JP Morgan EMBI Global Diversified			*0.0*	*4.9*	*5.6*	*-1.8*	*4.6*	*2.4*	*6.5*	*5.3*	*Jul-09*
GAA	**2,343,406,850**	**7.5**	**0.8**	**10.4**	**2.1**	**0.4**	**5.5**	**3.1**	**7.6**	**4.8**	**Aug-07**
Total System Policy Benchmark ex-Private Markets			*1.3*	*9.0*	*2.6*	*3.4*	*6.2*	*4.0*	*7.5*	*4.3*	*Aug-07*
Other Opportunistic	**509,458,012**	**1.6**	**1.5**	**7.5**	**9.8**	**13.2**	**--**	**--**	**--**	**10.5**	**Jul-17**
Total System Policy Benchmark ex-Private Markets			*1.3*	*9.0*	*2.6*	*3.4*	*6.2*	*4.0*	*7.5*	*4.5*	*Jul-17*
Hedge Funds Portable Alpha	**3,133,204,833**	**10.0**	**0.3**	**0.6**	**1.1**	**2.0**	**4.6**	**5.3**	**8.1**	**8.0**	**Jul-07**
ICE BAML 3 Month T-Bill + 250 BPS SC Custom			*0.4*	*1.2*	*3.6*	*4.2*	*2.2*	*1.4*	*0.9*	*1.3*	*Jul-07*
Public Real Estate	**594,458,046**	**1.9**	**3.6**	**16.8**	**9.7**	**19.9**	**--**	**--**	**--**	**4.9**	**Jul-16**
FTSE NAREIT Equity REIT			*3.4*	*16.3*	*9.8*	*20.9*	*6.1*	*9.1*	*18.3*	*4.1*	*Jul-16*
Private Real Estate	**2,181,670,998**	**7.0**	**0.8**	**1.3**	**5.9**	**8.3**	**9.2**	**12.5**	**10.6**	**7.2**	**Jul-08**
NCREIF ODCE Net + 100 BPS SC Custom			*1.2*	*1.4*	*5.4*	*7.8*	*8.6*	*10.9*	*7.6*	*6.0*	*Jul-08*
Public Infrastructure	**866,020,720**	**2.8**	**3.5**	**15.4**	**8.2**	**13.0**	**--**	**--**	**--**	**5.9**	**Jun-16**
DJ Brookfield Global Infrastructure			*3.2*	*15.7*	*8.0*	*12.5*	*8.7*	*5.7*	*13.4*	*8.4*	*Jun-16*
Private Infrastructure	**107,286,570**	**0.3**	**-0.7**	**-2.0**	**6.2**	**--**	**--**	**--**	**--**	**6.2**	**Jul-18**
DJ Brookfield Global Infrastructure			*3.2*	*15.7*	*8.0*	*12.5*	*8.7*	*5.7*	*13.4*	*8.0*	*Jul-18*

Total Retirement System

As of March 31, 2019

Statistics Summary

5 Years Ending March 31, 2019

	Anlzd Return	Anlzd Standard Deviation	Information Ratio	Beta	Sharpe Ratio	Tracking Error
Total Retirement System	5.5%	5.6%	0.1	1.0	0.8	1.2%
Policy Index	5.3%	5.3%	--	1.0	0.8	0.0%
Global Public Equity	5.9%	11.1%	-0.3	1.0	0.5	1.5%
FY '19 Global Public Equities Custom Benchmark	6.4%	11.1%	--	1.0	0.5	0.0%
Private Equity	10.7%	3.9%	0.1	0.0	2.5	11.0%
80% Russell 3000/20% MSCI EAFE + 300 basis points on a 3-month lag	9.5%	10.6%	--	1.0	0.8	0.0%
Short Duration	1.7%	0.6%	1.0	0.7	1.5	0.5%
BBgBarc US Govt/Credit 1-3 Yr. TR	1.2%	0.8%	--	1.0	0.6	0.0%
Cash and Overlay	0.1%	0.3%	-3.6	1.0	-2.2	0.2%
ICE BofAML 91 Days T-Bills TR	0.7%	0.2%	--	1.0	-0.1	0.0%
Core Fixed Income	3.1%	2.7%	0.5	0.9	0.9	0.7%
BBgBarc US Aggregate TR	2.7%	2.9%	--	1.0	0.7	0.0%
Mixed Credit	2.9%	3.3%	-1.0	0.9	0.6	1.6%
50% S&P LSTA Leveraged Loan Index/50% Barclays High Yield Index	4.5%	3.3%	--	1.0	1.1	0.0%
Private Debt	5.1%	3.0%	0.2	0.3	1.4	3.5%
S&P LSTA Leveraged Loan Index + 150 basis points on a 3-month lag	4.6%	2.7%	--	1.0	1.4	0.0%
Emerging Market Debt	2.8%	8.4%	0.3	1.1	0.2	1.4%
50% JP Morgan EMBI Global Diversified (USD)/50% JP Morgan EMBI Global Diversified	2.4%	7.8%	--	1.0	0.2	0.0%
GAA	3.1%	7.6%	-0.3	1.1	0.3	2.9%
Total System Policy Benchmark ex-Private Markets	4.0%	6.6%	--	1.0	0.5	0.0%
Hedge Funds Portable Alpha	5.3%	4.1%	0.9	-1.2	1.1	4.2%
ICE BAML 3 Month T-Bill + 250 BPS SC Custom	1.4%	0.4%	--	1.0	1.5	0.0%
Private Real Estate	12.5%	2.8%	0.3	0.0	4.2	5.0%
NCREIF ODCE Net + 100 BPS SC Custom	10.9%	4.2%	--	1.0	2.4	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.

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RETIREMENT SYSTEM
INVESTMENT COMMISSION

Co-Investment Platform

RSIC & GCM Partnership Overview

Principles & Process

Principles	*Process*
I. Co-investments should improve the net returns of the PE program without increasing risk.	RSIC is focused on building diversification and reducing overall PE program costs through a significant commitment to co-investment.
II. Selection of GPs is more important than selection of transactions.	The RSIC process is focused on leveraging our rigorous underwriting of our GPs in order to streamline the co-investment decision process.
III. RSIC reputation and relationships are the keys to access attractive co-investment flow.	The RSIC process is focused on building strong relationships with key GPs in order to increase competitive positioning and access to deal flow.

RSIC & GCM Program Design

Actively pursuing transactions through multiple channels

GCM Grosvenor Discretionary Deals

Access GCM Grosvenor sourced co-investments

RSIC-Sourced Transactions

Leverage GCM's resources to capitalize on co-investment opportunities shown to RSIC

Co-Investment Partnership

GCM

RSIC

- GCM Grosvenor full discretion
- Highlight potential opportunities on monthly pipeline call
- Share memos with RSIC
- Targeting middle market buyout with flexibility to invest in sub debt and growth investments

- Deals sourced by RSIC
- Joint outreach campaign
- RSIC investment approval
- Streamlined process
- Targeting buyout and growth transactions with flexibility to invest opportunistically

RSIC & GCM Program Advantages

*What do GPs want in a co-investment partner?**	*How is RSIC positioned as an ideal partner?*
1. *Ability to reach investment decision quickly*	1. RSIC/GCM program is committed to provide GPs initial interest <1week and closing <1 month
2. *Sizable existing or potential fund commitment*	2. RSIC PE program is underweight relative to target with a strong appetite for primary commitments
3. *Reliability*	3. RSIC & GCM are committed to provide timely communication and full process transparency to GP
4. *Engagement/ expression of interest in co-invest*	4. RSIC is committed to remain proactive with key GPs on targeted transaction profile and interest
5. *Flexibility on commitment sizing*	5. Program is designed to streamline approval of smaller transactions with the ability to upsize

**Source: Preqin GP Survey, 2017: criteria ranked by % of GP respondents indicating the criteria plays a role in their co-investment allocation process*

RSIC & GCM Partnership

Complementary Private Markets Programs

GCM GROSVENOR

Hedge Funds	Private Equity	Infra-structure	Real Estate
$26.7 bn	$18.7 bn	$5.0 bn	$1.8 bn

- Established co-investment platform with a proven process
- 15 senior private equity investment professionals dedicated to co-investments
- $11.1 billion in middle market buyout fund commitments made since 2003
- $3.3 billion committed to 142 buyout co-investments since 2003

RSIC RETIREMENT SYSTEM INVESTMENT COMMISSION

Hedge Funds	Private Equity	Private Debt	Real Estate
$2.9 bn	$2.2 bn	$1.9 bn	$2.8 bn

- Seeking to build sponsor relationships through increased co-investment
- 6 private markets investment professionals covering both funds and co-investments
- $15.7 billion in private markets fund commitments made since 2008
- $1.5 billion committed to 34 co-investments since 2008

GCM $amounts shown as AUM as of 12/31/18; RSIC $amounts shown as exposure as of 12/31/18
Inquiries may be sent to co-investment@rsic.sc.gov

RETIREMENT SYSTEM INVESTMENT COMMISSION

Performance/Risk Framework

Strategic Asset Allocation

Topics/Updates

- Portfolio simplification
- Reporting progress
- Evaluation timeframes
- Benchmarks
- Asset allocation
- Areas of consensus

Portfolio Simplification

- Seeking a reduction in Policy Benchmark portfolio complexity
  - Reduction to 5-6 major asset classes
  - Sub-asset class constraints based upon current portfolio

- Decision to use a more complex approach bears the burden of proof

- Meketa assumptions suggest ***lower*** volatility without sacrificing return

Portfolio Simplification (Feb. 2019)

Current Target (%)	
Nominal IG Bonds	6
Treasuries	5
TIPS	2
Mixed Credit	4
Emerging Market Debt	4
Private Debt	7
U.S. Equity	18
Developed Intl	11
EM Equity	6
Equity Options	7
Private Equity	9
Real Estate (Public)	1
Real Estate (Private)	8
Infrastructure (Public)	1
Infrastructure (Private)	2
PA Hedge funds	10
GTAA	7
Other Opportunistic	1

Mix A (Simpler) (%)	
Core Bonds	13
Mixed Credit	4
Emerging Market Debt	4
Private Debt	7
Global Equity	35
Equity Options	7
Private Equity	9
Real Estate	9
Infrastructure	3
PA Hedge funds	10
GTAA	8

Mix B (Simplest) (%)	
Bonds	25
Private Debt	7
Global Equity	46
Private Equity	9
Real Assets	12
PA Hedge funds	10

	Current Target (%)	Mix A (Simpler)	Mix B (Simplest)
Expected Return (10Y)	7.34	7.23	7.33
Expected Return (20 YR):	8.04	7.94	8.04
Standard Deviation:	12.9	12.4	12.2
Sharpe Ratio	0.40	0.40	0.42
Equity Contribution to Risk	69.6%	68.3%	78.5%

Portfolio Simplification: Current State

Current Asset Allocation	Target	Current Range	
Cash & Short Duration	1%	0%	7%
Core Bonds	13%	6%	20%
Nominal IG Bonds	*6%*		
Treasuries	*5%*		
TIPS	*2%*		
Mixed Credit	4%	0%	8%
Private Debt	7%	3%	11%
EM Debt	4%	2%	6%
Global Public Equity	35%	22%	50%
US Equity	*18%*		
Developed Market Equity	*11%*		
Emerging Market Equity	*6%*		
Equity Options	7%	5%	9%
Private Equity	9%	5%	13%
Real Estate	9%	5%	13%
Private Real Estate	*8%*		
Public Real Estate (REITs)	*1%*		
Infrastructure	3%	1%	5%
Private Infrastructure	*2%*		
Public Infrastructure	*1%*		
GTAA	7%	3%	11%
Other Opp. & Risk Parity	1%	0%	3%
Portable Alpha Hedge Funds	10%	0%	12%

Current Target Asset Allocation:

- 19 asset classes with a target weight in the portfolio
- 21 underlying benchmarks
- Six of these have a target weight of 2% or less

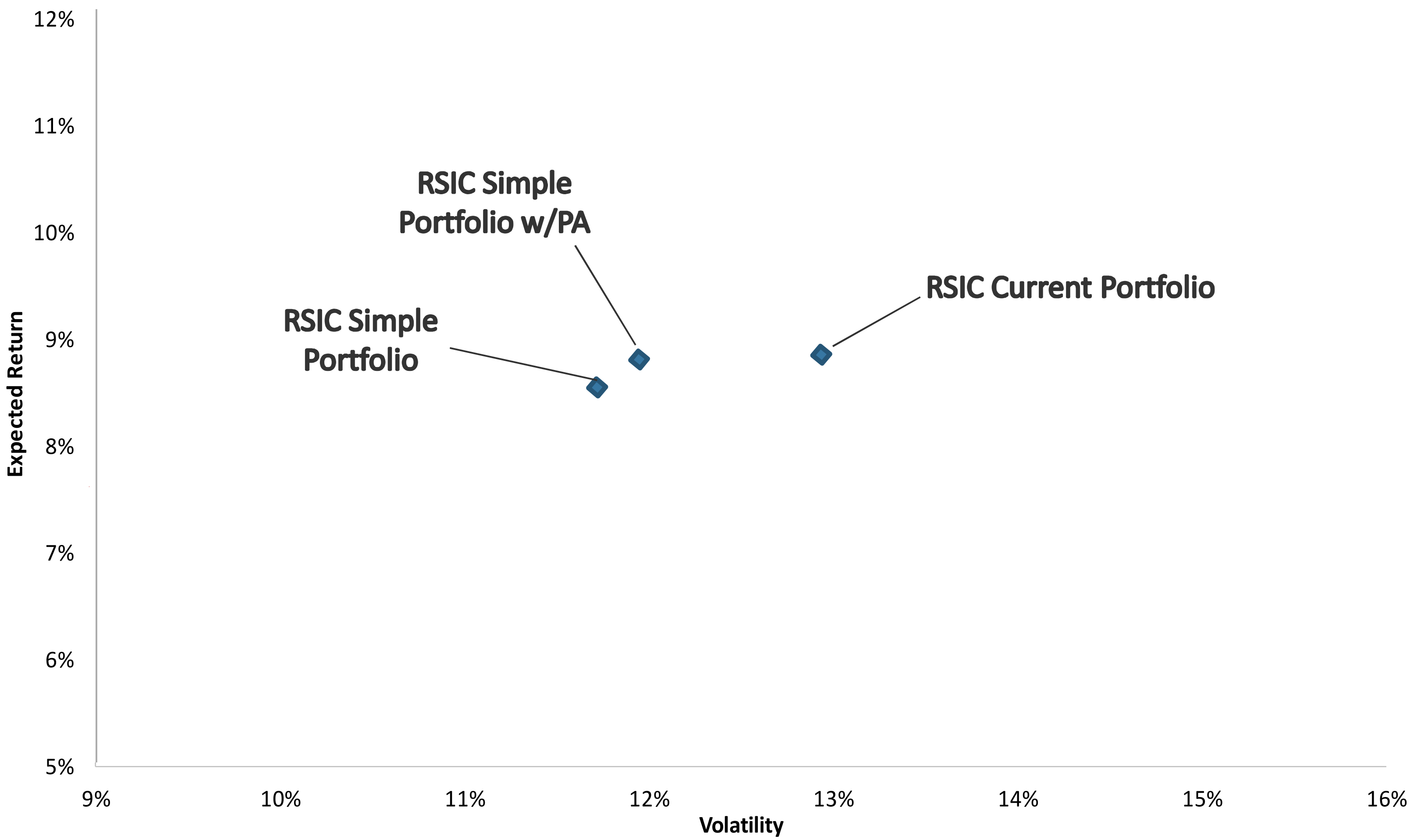
Portfolio Simplification: Proposed Path

Simplified Asset Allocation	Target	Current Range		Proposed Range	
Public Equity	46%	29%	66%	30%	60%
Bonds*	26%	10%	48%	15%	35%
Private Equity	9%	5%	13%	no change	
Private Debt	7%	3%	11%	no change	
Real Assets	12%	6%	18%	no change	
Portable Alpha Hedge Funds	10%	0%	12%	no change	

**Bonds includes 1% cash allocation*

- Tighten top-level constraints in Public Equity and Bonds
- Retain current upper limits on sub-asset classes (non-investment grade bonds, infrastructure, equity options, infrastructure, GAA, etc.)
- Provide clear reporting on sub-asset allocations for each asset class
  - *2019-2020 goal: Develop risk reporting for Implementation Benchmark (asset classes)*

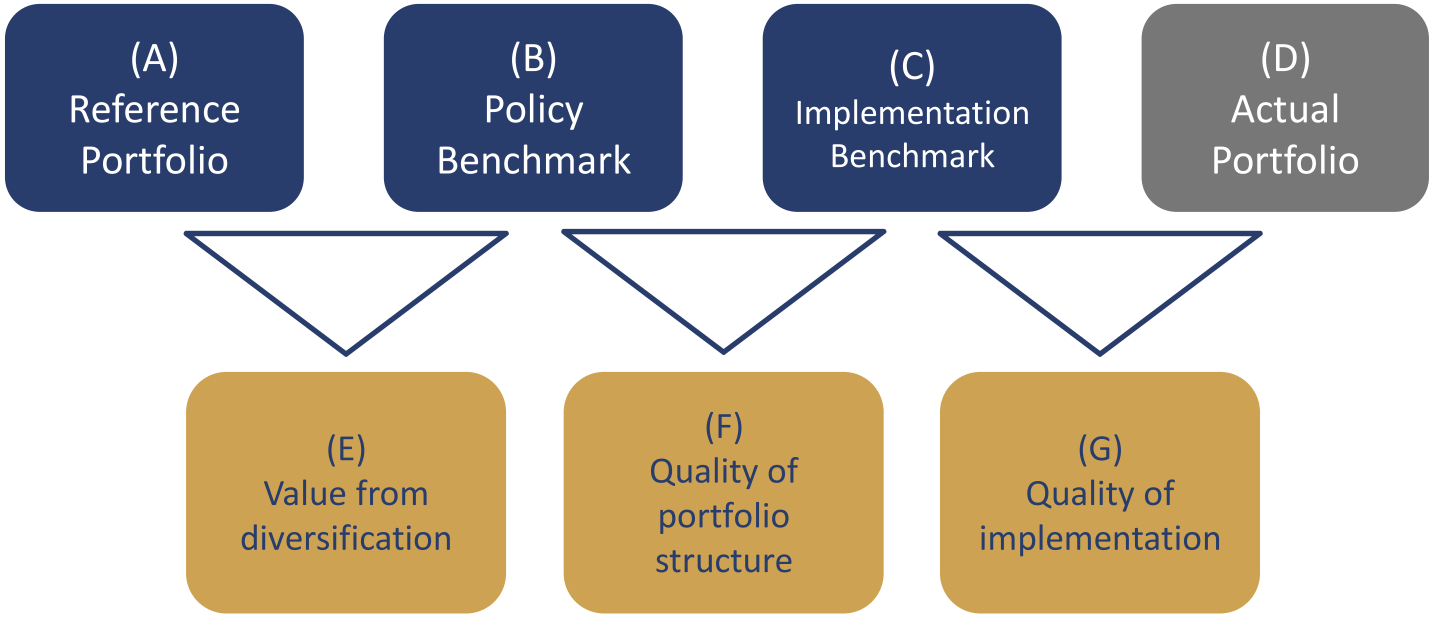
Simplification Concept



Performance Reporting

Good performance reporting should make it easy to find the right question to ask.

Performance Analysis Framework



Reporting Template: Top Level *(Stylized Example*)*

Performance Breakdown: Executive Summary

as of March 31, 2019

Reference Portfolio (A)		Policy Benchmark (B)		Implementation Benchmark (C)		Actual Portfolio (D)	
5 Year	***5.50%***	***5 Year***	***5.75%***	***5 Year***	***5.60%***	*5 Year*	*6.00%*
3 Year	*7.75%*	***3 Year***	***8.00%***	***3 Year***	***8.15%***	*3 Year*	*8.30%*
1 Year	*3.50%*	*1 Year*	*3.25%*	*1 Year*	*3.50%*	*1 Year*	*3.05%*
Fiscal YTD	*3.00%*	*Fiscal YTD*	*2.50%*	*Fiscal YTD*	*3.00%*	*Fiscal YTD*	*2.85%*

Simple presentation of benchmarks and total fund performance

Value From Diversification (E)		Quality of Portfolio Structure (F)		Quality of Implementation	
5 Year	***0.25%***	***5 Year***	***-0.15%***	***5 Year***	***0.40%***
3 Year	***0.25%***	***3 Year***	***0.15%***	***3 Year***	***0.15%***
1 Year	*-0.25%*	*1 Year*	*0.25%*	*1 Year*	*-0.45%*
Fiscal YTD	*-0.50%*	*Fiscal YTD*	*0.50%*	*Fiscal YTD*	*-0.15%*

Straightforward summary of value added from three sources: asset allocation, portfolio structure, and portfolio implementation

Value vs. Reference Portfolio (H)		Value vs. Policy Benchmark (I)	
5 Year	***0.50%***	***5 Year***	***0.25%***
3 Year	***0.55%***	***3 Year***	***0.30%***
1 Year	*-0.45%*	*1 Year*	*-0.20%*
Fiscal YTD	*-0.15%*	*Fiscal YTD*	*0.35%*

Total value added vs. Reference Portfolio and Policy Benchmark

*Not actual returns (for illustration only)

Reporting Template: Owner's Manual *(Stylized Example*)*

Performance Breakdown: Executive Summary

as of March 31, 2019

	Reference Portfolio (A)	Policy Benchmark (B)	Implementation Benchmark (C)	Actual Portfolio (D)
5 Year	5.50%	5.75%	5.60%	6.00%
3 Year	7.75%	8.00%	8.15%	8.30%
1 Year	3.50%	3.25%	3.50%	3.05%
Fiscal YTD	3.00%	2.50%	3.00%	2.85%

	1 Value From Diversification (E)	2 Quality of Portfolio Structure (F)	3 Quality of Implementation
5 Year	0.25%	-0.15%	0.40%
3 Year	0.25%	0.15%	0.15%
1 Year	-0.25%	0.25%	-0.45%
Fiscal YTD	-0.50%	0.50%	-0.15%

	Value vs. Reference Portfolio (H)	Value vs. Policy Benchmark (I)
5 Year	0.50%	0.25%
3 Year	0.55%	0.30%
1 Year	-0.45%	-0.20%
Fiscal YTD	-0.15%	0.35%

What are we measuring?

1. *Has a diversified portfolio produced better returns than a simple, two-asset portfolio?*
2. *Did our decisions that made the portfolio look different than the Policy Benchmark add value?*
3. *Did the managers we hired add value versus our expectations?*

In this example, we can see that both diversification and manager selection ("implementation") have added value over the past five-year period. This is slightly offset by poor portfolio structure outcomes.

*Not actual returns (for illustration only)

Evaluating Diversification *(Stylized Example*)*

Diversification Impact

as of 3/31/2019

FYTD	3 year	5 year	FYE 2014	FYE 2015	FYE 2016	FYE 2017	FYE 2018
Private Equity 8.14%	Private Equity 14.84%	Private Equity 14.21%	Global Public Equity 23.35%	Private Equity 15.69%	Private Equity 7.73%	Global Public Equity 19.01%	Private Equity 18.62%
Private Debt 5.76%	Global Public Equity 10.58%	Private Debt 8.59%	Private Equity 21.49%	Private Debt 9.09%	Core Fixed Income 6.00%	Private Equity 17.40%	Global Public Equity 11.14%
Core Fixed Income 4.65%	Private Debt 9.30%	Global Public Equity 6.33%	Reference Portfolio 15.15%	Core Fixed Income 1.86%	Private Debt 4.58%	Private Debt 12.16%	Private Debt 8.43%
Reference Portfolio 3.00%	Policy BM 8.00%	Policy BM 5.75%	Policy BM 14.27%	Reference Portfolio 1.35%	Real Estate 1.82%	Reference Portfolio 11.91%	Policy BM 7.28%
Policy BM 2.50%	Reference Portfolio 7.75%	Reference Portfolio 5.50%	Private Debt 12.35%	Policy BM 1.21%	Policy BM 0.82%	Policy BM 11.82%	Reference Portfolio 7.06%
Global Public Equity 1.15%	Core Fixed Income 2.03%	Core Fixed Income 2.74%	Core Fixed Income 4.37%	Global Public Equity 0.81%	Reference Portfolio -0.16%	Real Estate 0.46%	Real Estate -0.36%
Real Estate 0.63%	Real Estate 0.26%	Real Estate 0.23%	Real Estate 1.00%	Real Estate -0.98%	Global Public Equity -3.87%	Core Fixed Income -0.31%	Core Fixed Income -0.40%

Evaluating Portfolio Structure Decisions *(Stylized Example*)*

- "Portfolio structure decisions" cause the portfolio to look different than the Policy Benchmark portfolio. These fall into two categories:
  - Overweight one asset class (underweight another)
  - Constructing an asset class differently than the benchmark
- *"Good reporting should make it easy to find the right question to ask"*
- Data shows performance impact in basis points

QUALITY OF PORTFOLIO STRUCTURE

as of March 31, 2019

	Trailing	Fiscal	2016		2017				2018				2019	
Asset Class	**3-Year**	**2019 YTD**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**
Bonds	14	23	-1	-2	-6	10	4	9	9	-5	12	21	-10	0
Private Debt	4	9	2	-3	-3	4	2	-2	2	2	0	6	3	0
Public Equity	4	23	-2	7	-3	-7	-9	6	1	-5	-1	-24	48	0
Private Equity	2	4	-6	-9	5	2	1	4	-5	9	0	4	0	0
Real Assets	-1	9	-2	-4	-3	-1	0	0	0	0	2	7	-1	0
PA Hedge Funds	5	2	-7	3	9	4	5	-4	6	-4	3	2	-3	0
Cash	-13	-20	-7	-1	7	2	0	-8	-9	-3	0	-8	-12	0
TOTAL	15	50	-22	-9	7	14	3	5	3	-6	16	8	26	0

Evaluating Implementation Decisions *(Stylized Example*)*

- "Implementation decisions" typically refer to manager selection
- Data shows performance impact in basis points

QUALITY OF IMPLEMENTATION

as of March 31, 2019

	Trailing	Fiscal	2016		2017				2018				2019	
Asset Class	3-Year	2019 YTD	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
Bonds	8	-6	0	5	5	3	4	8	3	1	-9	1	3	0
Private Debt	-5	-16	-2	-1	-3	1	1	-1	3	3	-22	-6	12	0
Public Equity	4	-23	6	7	5	2	5	-4	5	9	-6	-12	-5	0
Private Equity	-4	13	-6	-1	-4	-7	2	-4	-3	-2	-4	-48	65	0
Real Assets	19	44	2	0	5	1	2	1	2	0	10	9	25	0
PA Hedge Funds	-5	-23	-3	-3	0	4	4	-2	10	-2	-17	1	-7	0
Cash	-2	-4	1	-1	0	1	0	0	-1	-2	0	-2	-2	0
TOTAL	15	-15	-2	6	8	5	18	-2	19	7	-48	-57	90	0

Review Current Portfolio Positioning

Asset Allocation	Current	Target	O/U	Range	
Public Equity	49.2%	46%	3.2%	30%	60%
Private Equity	8.2%	9%	-0.8%	5%	13%
Bonds	21.6%	25%	-3.4%	15%	35%
Private Debt	6.5%	7%	-0.5%	3%	11%
Real Assets	12.2%	12%	0.2%	6%	18%
PA Hedge Funds	9.8%	10%	-0.2%	0%	12%
Cash	2.5%	1%	1.5%	0%	7%

Public Equities	Current	Target	O/U
US Equity (Traditional)	26.5%	23%	3.5%
US Equity (Equity Options)	4.0%	0%	4.0%
Developed Int'l	14.0%	16%	-2.0%
EM Equity	4.7%	7%	-2.3%

Bonds	Current	Target	O/U
Core Fixed (nominals)	15.6%	25%	-9.4%
Inflation-Linked (IG)	0.0%	0%	0.0%
Mixed Credit/EMD	6.0%	0%	6.0%

Real Assets	Current	Target	O/U
Private Real Estate	7.2%	12%	0.2%
Public Real Estate	1.8%		
Private Infrastructure	0.5%		
Public Infrastructure	2.7%		

Other Asset Classes*	Current	Target	O/U
GAA Strategies	7.6%	0%	7.6%
Other Opportunistic	1.8%	0%	1.8%

**These underlying exposures are shown in Public Equity and Bonds*

Evaluation Timeframes

- Different diversification approaches can produce *relative outcomes* that appear volatile (even random) if evaluated over short periods of time.
  - Optimal Policy Benchmark portfolio (over 30 years) can appear sub-optimal through the lens of a 3, 5, or even 10-year evaluation periods.
  - Use of inadequate evaluation periods encourage frequent changes to Policy Benchmark portfolio
  - Practical limitations prevent serious consideration of 10 or 20-year evaluation periods

- Recommended evaluation timeframes:

Performance Metric	Proposed
Value From Diversification	5-Years
Quality of Portfolio Structure	3-Years
Quality of Implementation	3-Years

Commission Meeting Performance Reviews

- Alternate focus between short-term and long-term performance reviews
  - February and September meetings used to focus on long-term performance
    - Tied to calendar year and fiscal year performance cycles
  - Other meetings (April, June, November) focus on shorter-term (FYTD) performance
  - All meetings review asset class overweight/underweight positions

Portable Alpha

- Policy Benchmark is a long-term portfolio that you expect us to hold if we don't have conviction to look different.
- Should Portable Alpha be a part of the Policy Benchmark portfolio?
  - If the Commission believes it should own the decision regarding whether to use Portable Alpha, the answer is "Yes"
  - If the Commission prefers that the CIO to make this decision, it should be highlighted in reporting materials as a component of the Implementation Benchmark (but omitted from the Policy Benchmark)

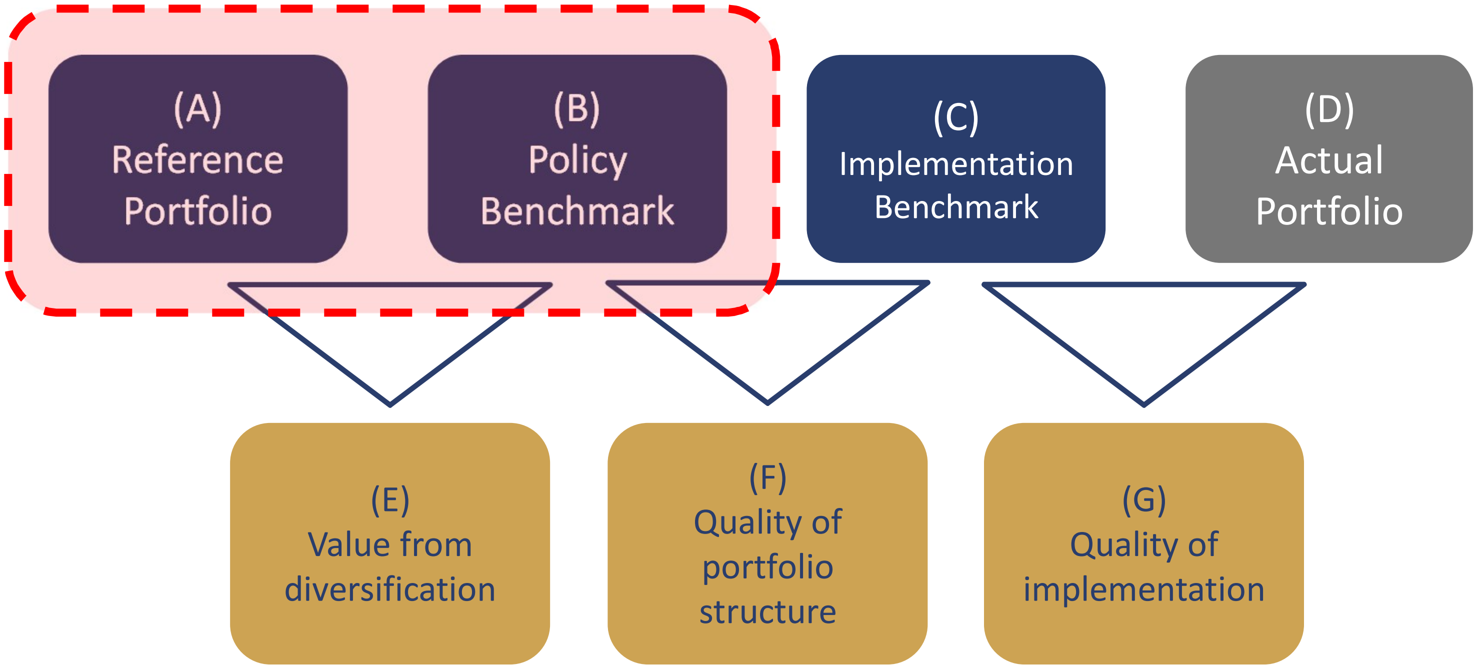
Benchmarks

- Meketa exploring different approaches to benchmarking private markets asset classes as well as our Portable Alpha Hedge Funds.
  - Evaluation to include "universe" benchmarks as alternative to current benchmarks
  - Current "opportunity cost" methodology includes 70+ bps of excess return over public/traditional benchmarks:
    - Portable alpha = 250 bps x 10% = 25 bps
    - Private equity = 300 bps x 9% = 27 bps
    - Private debt = 150 bps x 7% = 10 bps
    - Real estate = 100 bps x 8% = 8 bps

- Should a Policy benchmark employ the "opportunity cost" or the actual performance of an appropriate benchmark?
  - Meketa to offer recommendation in September

Asset Allocation Discussion

Performance Analysis Framework



Target Outcomes

1. Set appropriate total Plan risk (ie "Reference Portfolio")
   - Review key inputs: assumed rate, funding ratio, contribution rates, tail risk

2. Select the most appropriate direction of portfolio migration
   - Review how the key inputs identified affect the acceptable asset allocation choices that RSIC should consider

3. Review a number of portfolio themes consistent with the Plan's directional goals
   - Identify specific asset allocation changes for further review

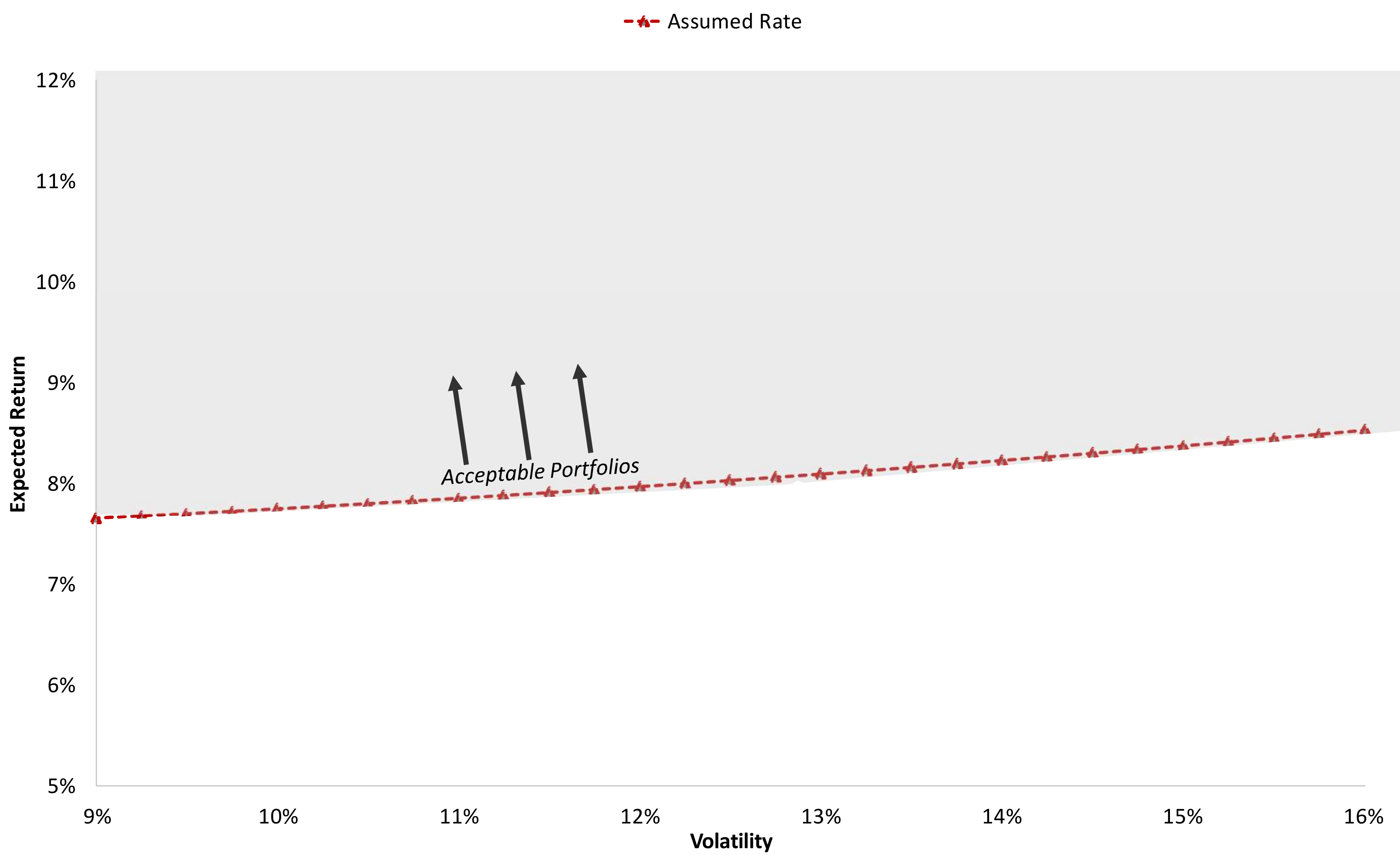
Step 1: Set the Appropriate Total Plan Risk

What key factors influence the appropriate level of risk for the Plan?

- Plan Assumed Rate: Maximize probability of meeting or exceeding Plan's assumed rate
- Plan Funding Ratio: Maximize probability of achieving full funding levels within a given time period
- Plan Contribution Rates: Minimize probability of additional rate increases
- Plan Tail Risk: Minimize probability of catastrophic Plan outcomes

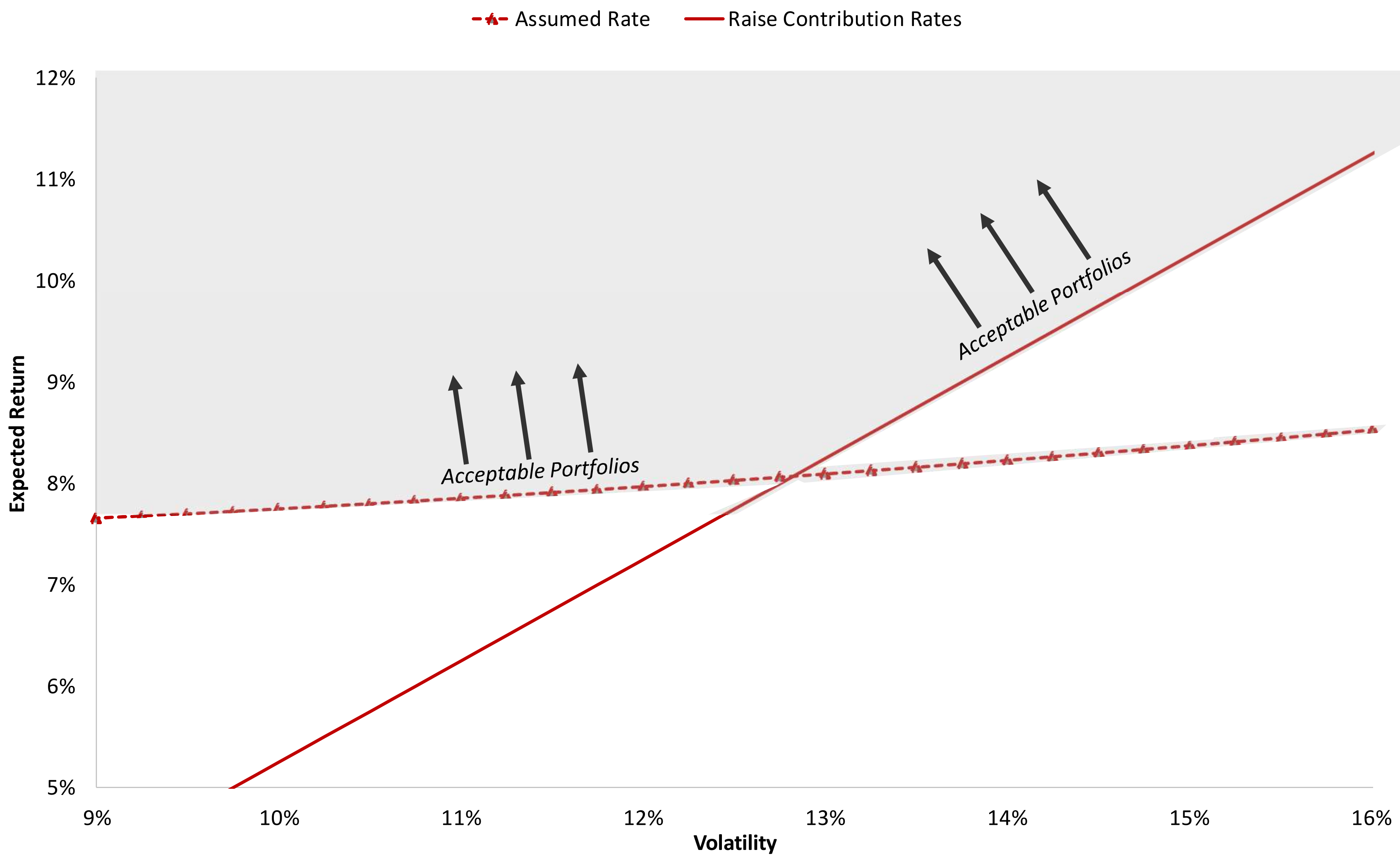
Step 1: Set the Appropriate Total Plan Risk

Risk Factor #1: Exceed the Plan's Assumed Rate



Step 1: Set the Appropriate Total Plan Risk

Risk Factor # 2: Prevent Further Contribution Rate Increases



STATE OF SOUTH CAROLINA
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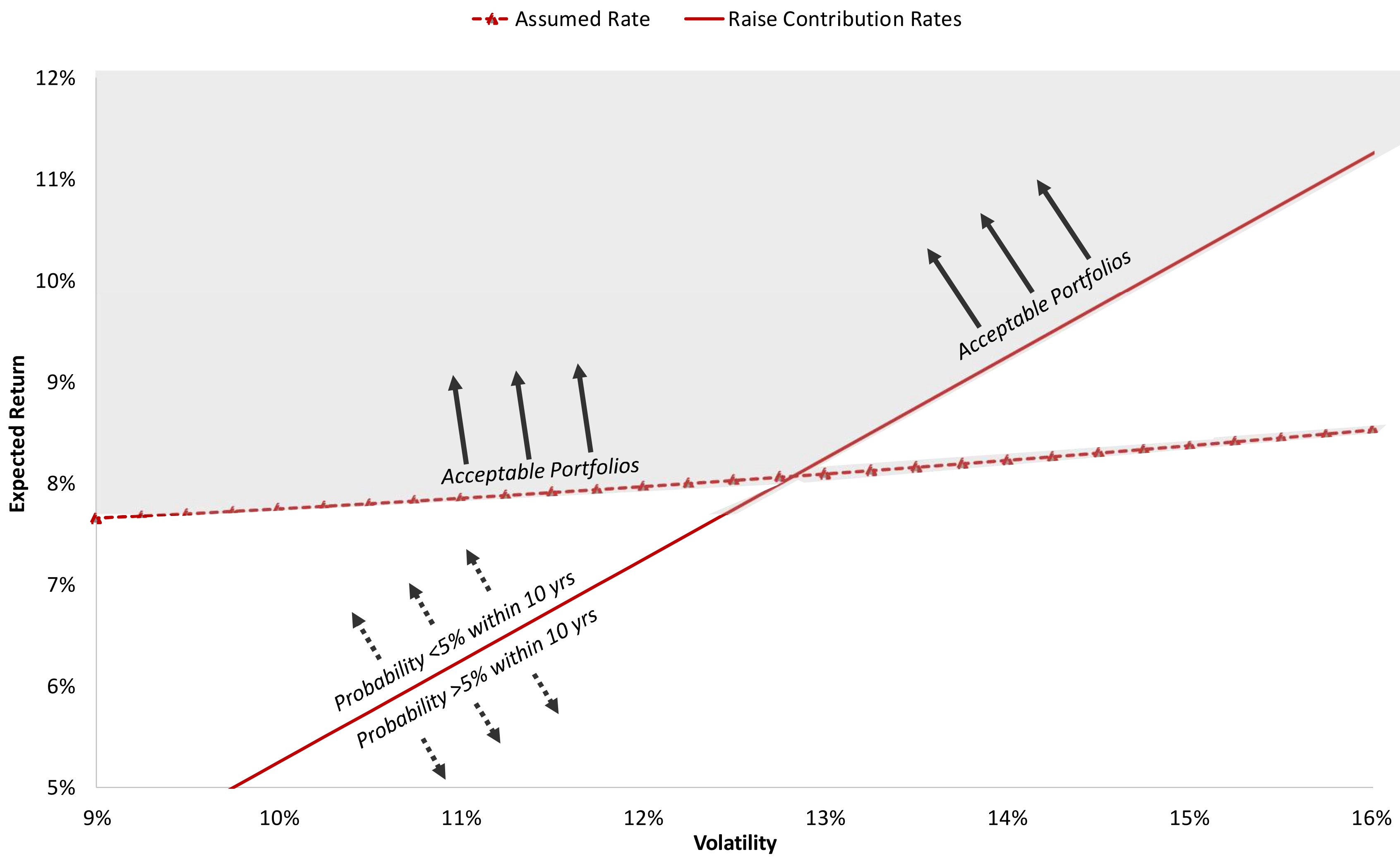
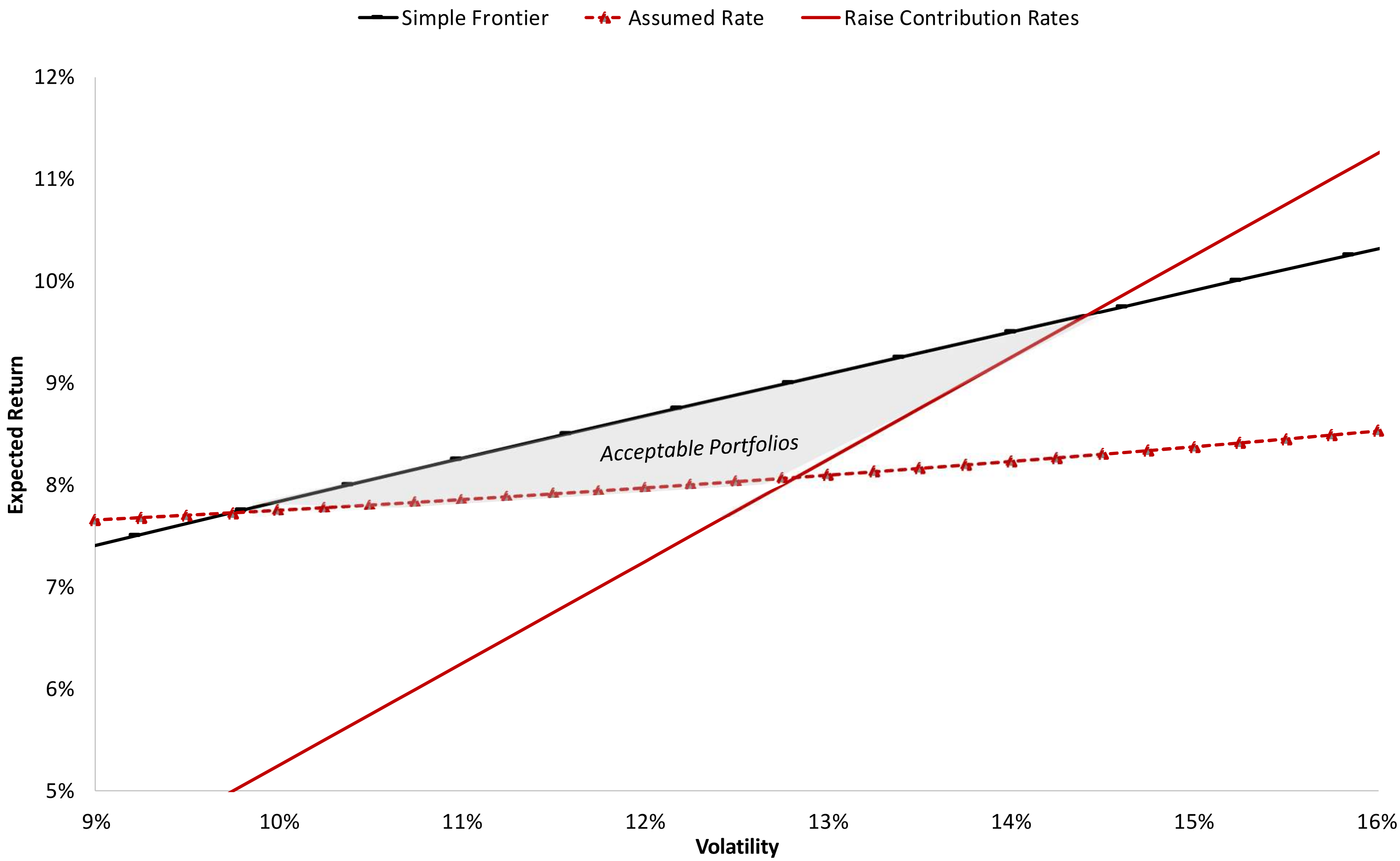
Step 1: Set the Appropriate Total Plan Risk

Risk Factor # 2: Prevent Further Contribution Rate Increases



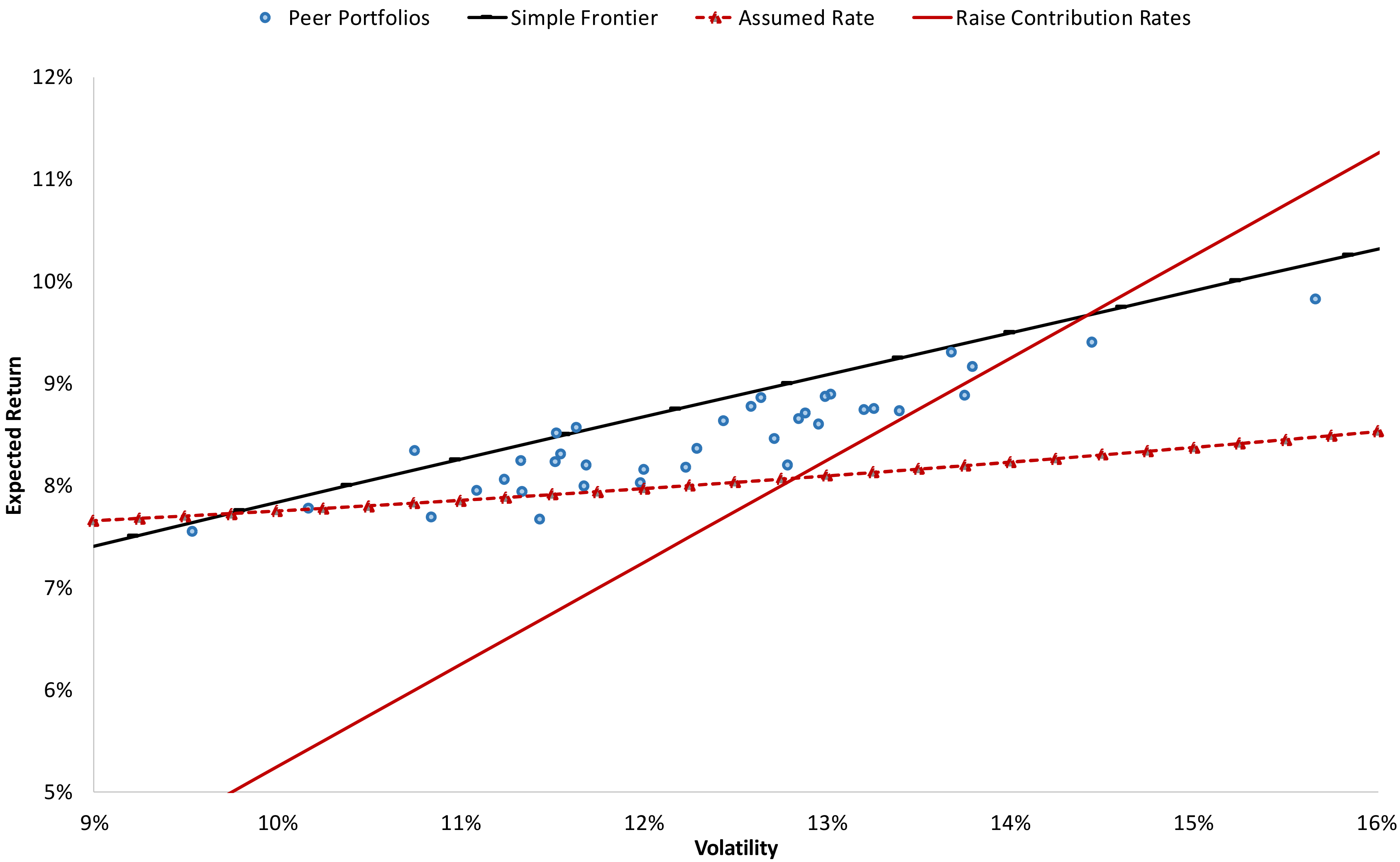
Step 1: Set the Appropriate Total Plan Risk

Consideration: Simple Efficient Frontier



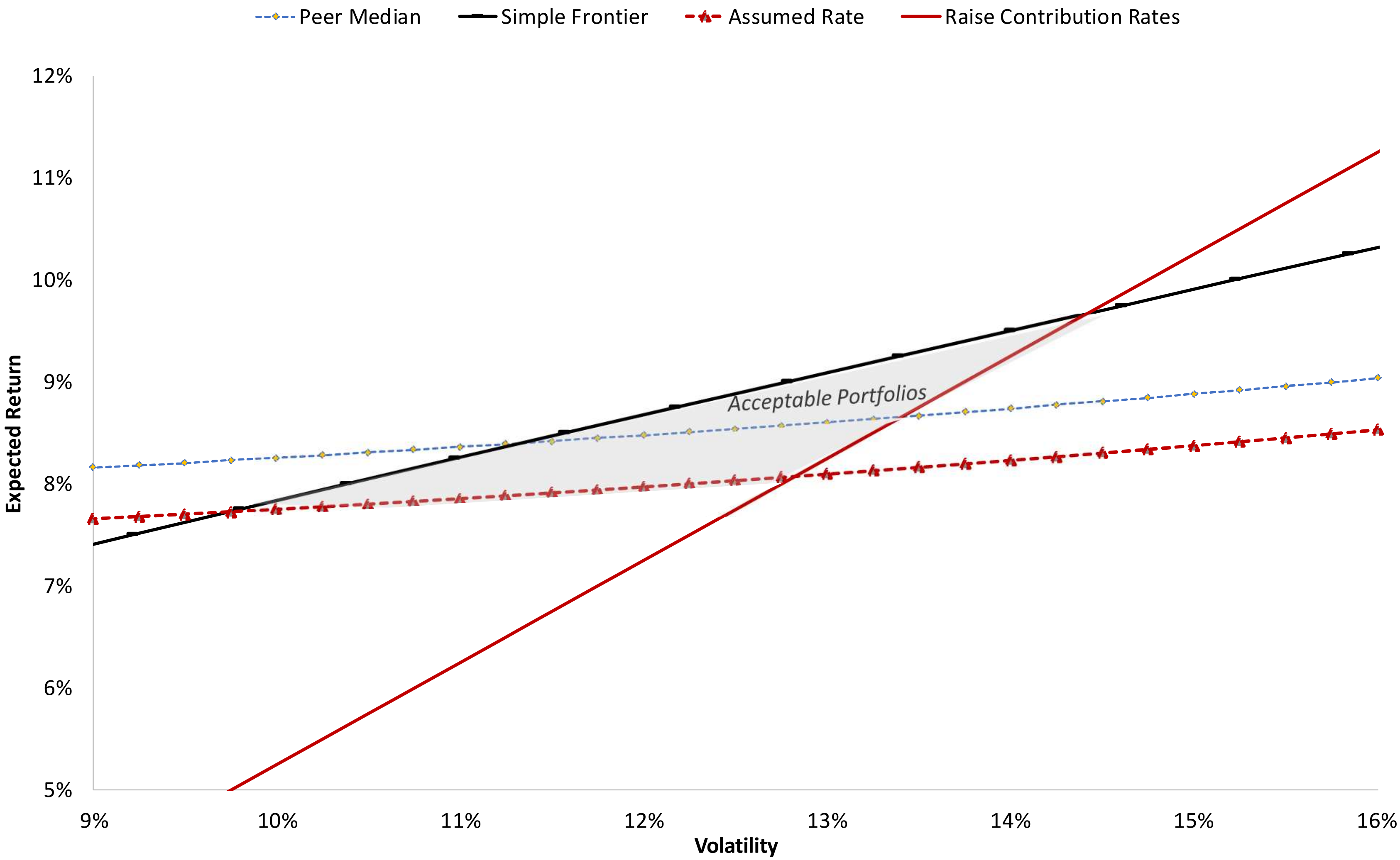
Step 1: Set the Appropriate Total Plan Risk

Consideration: Exceed Peer Median



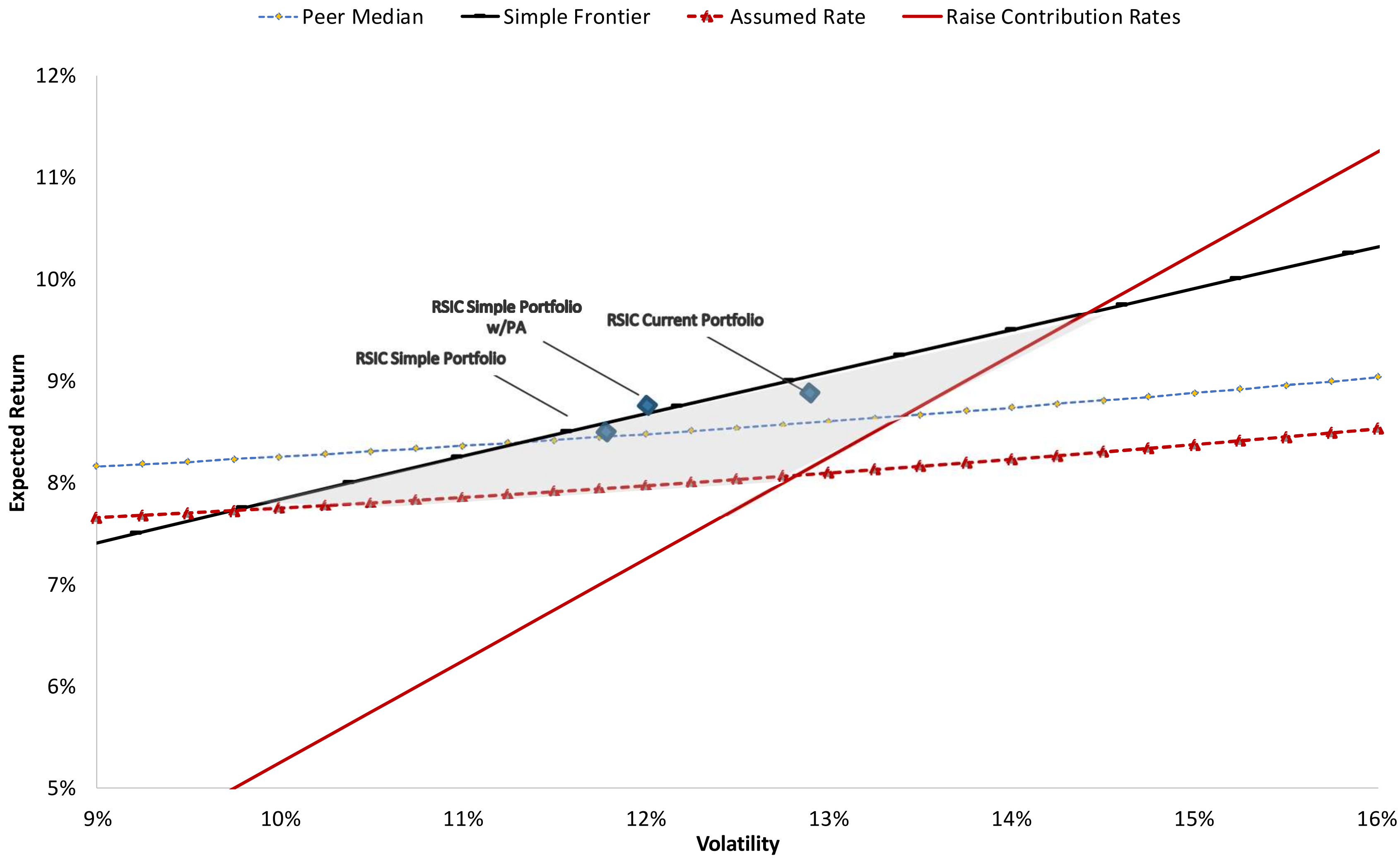
Step 1: Set the Appropriate Total Plan Risk

Consideration: Exceed Peer Median



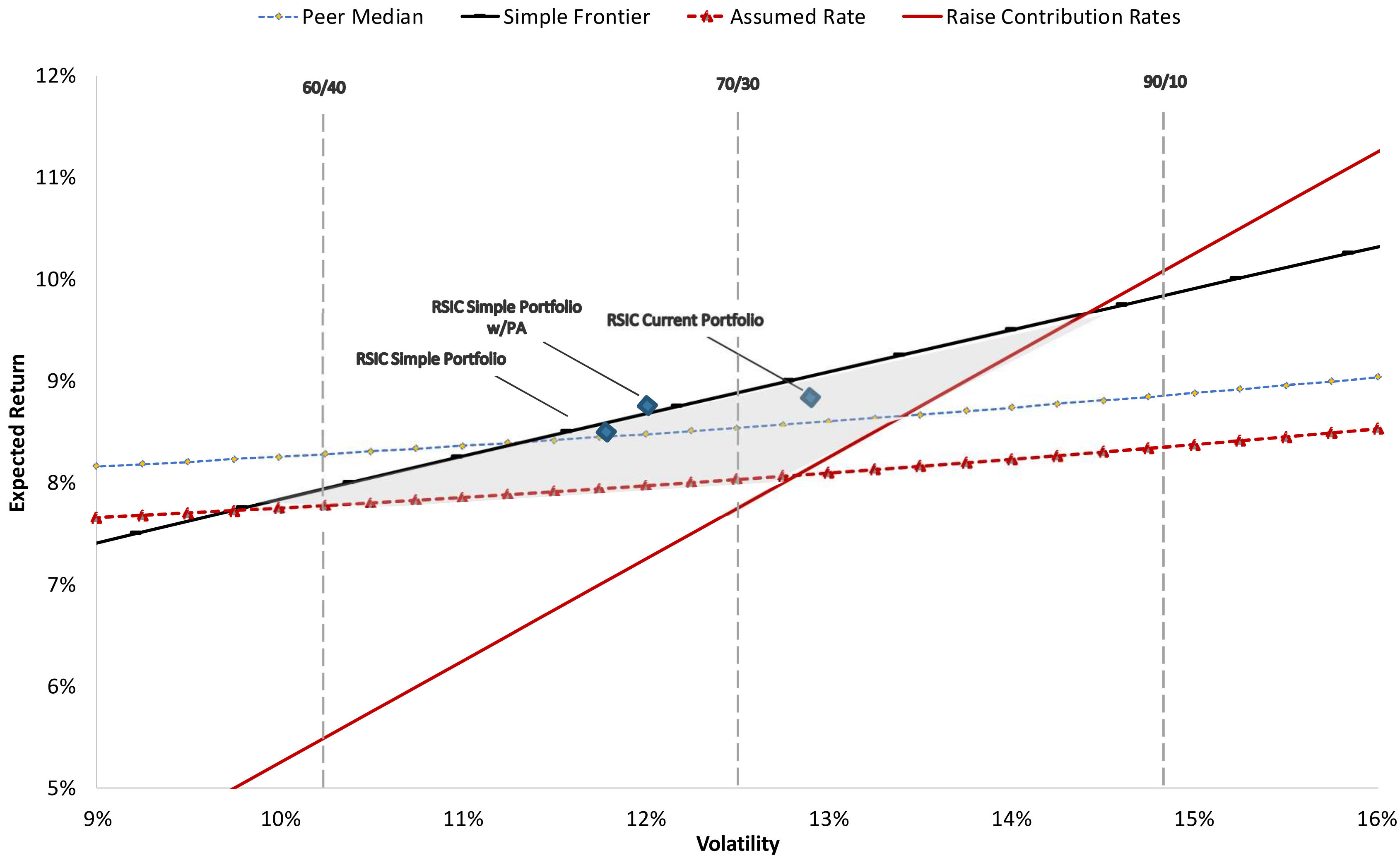
Step 1: Set the Appropriate Total Plan Risk

Consideration: Exceed Peer Median



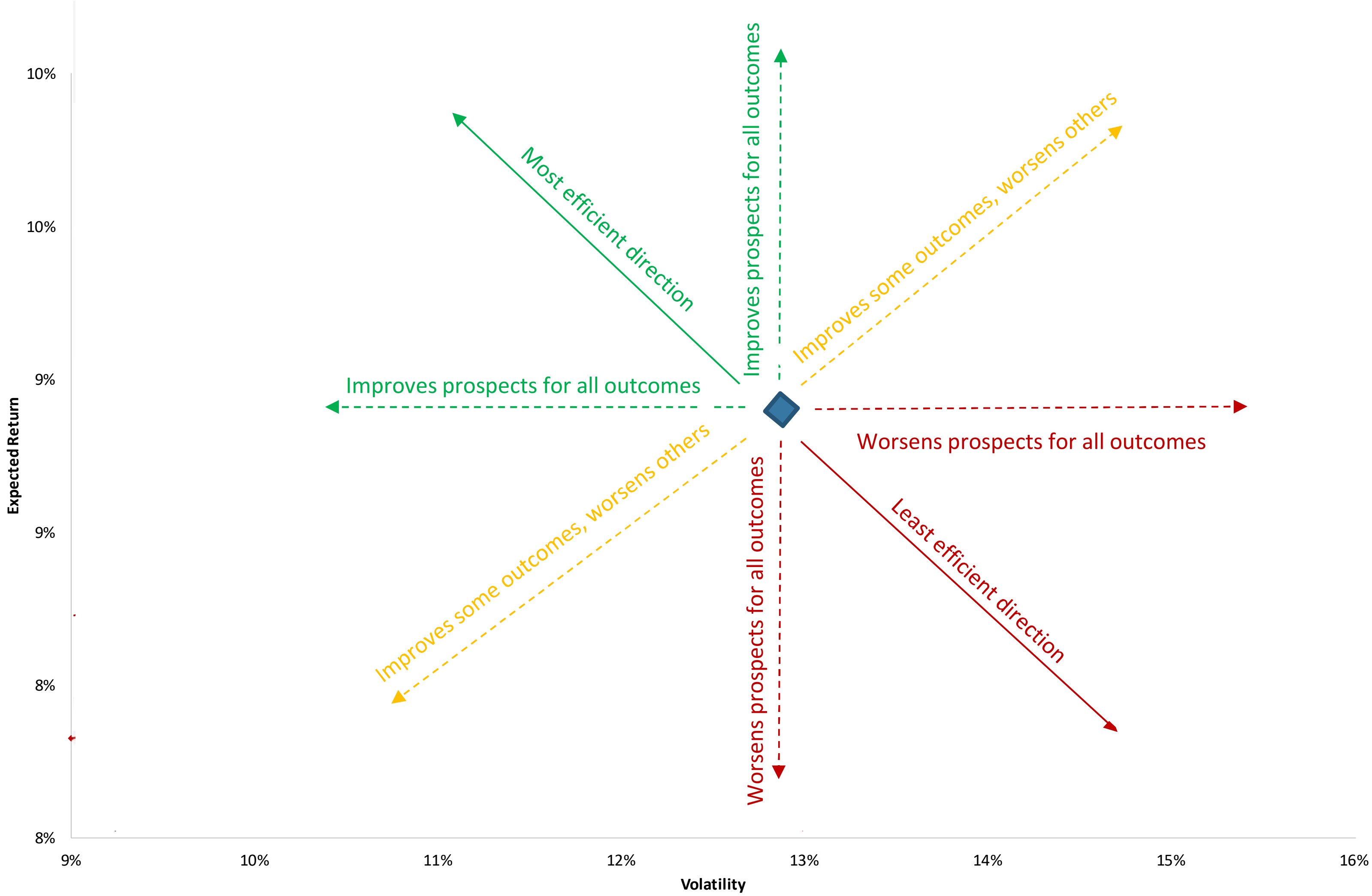
Step 1: Set the Appropriate Total Plan Risk

What stock/bond mix ("Reference Portfolio") best approximates Plan risk target?



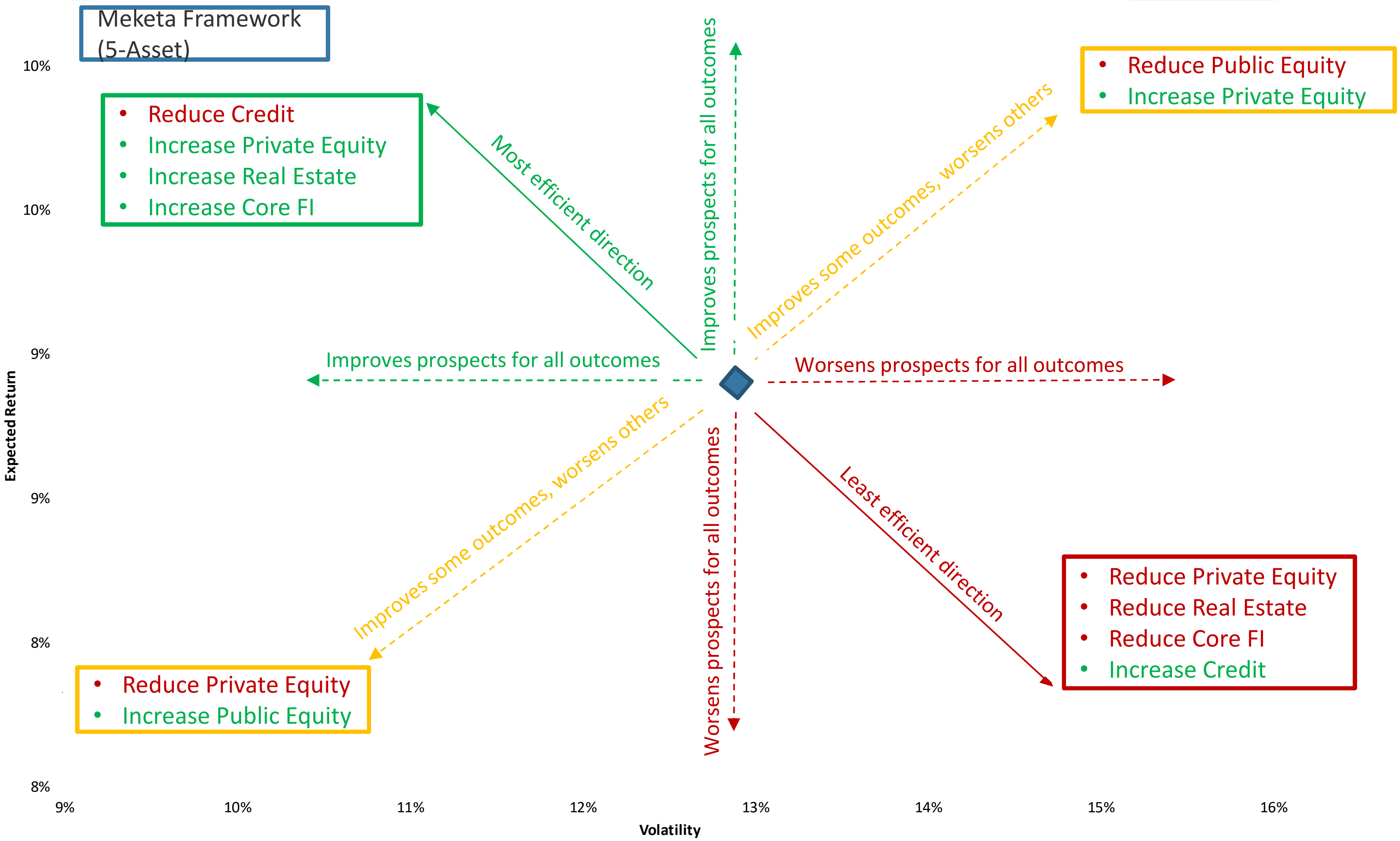
Step 2: Determine the Appropriate Direction of Movement

How do different portfolios affect our outcomes?



Step 3: Review Consistent Themes

What changes move our portfolio in the desired direction?



Areas of Consensus

- Portfolio Simplification
- Reference Portfolio
- Policy Portfolio
- Evaluation timeframes
- Portable Alpha
- Benchmarks

South Carolina Retirement System
Investment Commission

Asset Allocation Concepts

M E K E T A   I N V E S T M E N T   G R O U P
100 LOWDER BROOK DRIVE   SUITE 1100   WESTWOOD MA 02090
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Background

- RSIC Staff and Meketa are working to provide an improved framework for evaluating the success of the investment program.
- A primary goal is to provide clear lines of accountability and ownership on investment choices.
- The preliminary structure that was discussed in the April Commission meeting is based on four benchmarks/portfolios:
  - **The reference portfolio** - This two-asset portfolio will be determined by the Commission and serve as an overall risk guide.
  - **Policy Benchmark** - The Commission will continue to set policy targets and ranges, and the policy benchmark will be determined by these targets.
    - Comparing the Policy Benchmark to the Reference Portfolio will be a useful tool to evaluate the value from diversification.
  - **Implementation Benchmark –** This benchmark will be determined by the actual weights of different asset classes in the portfolio.
    - Comparing the Implementation Benchmark to the Policy Benchmark will be a useful tool to evaluate the success of tactical decisions as well as style or “misfit” differences.
  - **Actual portfolio**
    - Comparing the actual portfolio returns to the Implementation Benchmark will be a useful tool to evaluate the success of active management.

Determining the Reference Portfolio

- Staff and Meketa have agreed to use global equities and US Treasury bonds[1] as the two assets in the reference portfolio.
  - A stock bond mix is often use as a simple benchmark in the industry.
  - Global equities represent a full opportunity set of liquid, commonly invested, risky assets.
  - US Treasuries serve as a long-term "risk free" asset.
- Based on the current asset allocation targets, the mix that most closely resembles the risk of the portfolio would be a 70% global equity and 30% US Treasury benchmark.

[1] Global equities will be proxied by the MSCI ACWI, and US Treasuries will be proxied by the Bloomberg Barclays US Treasury Index.

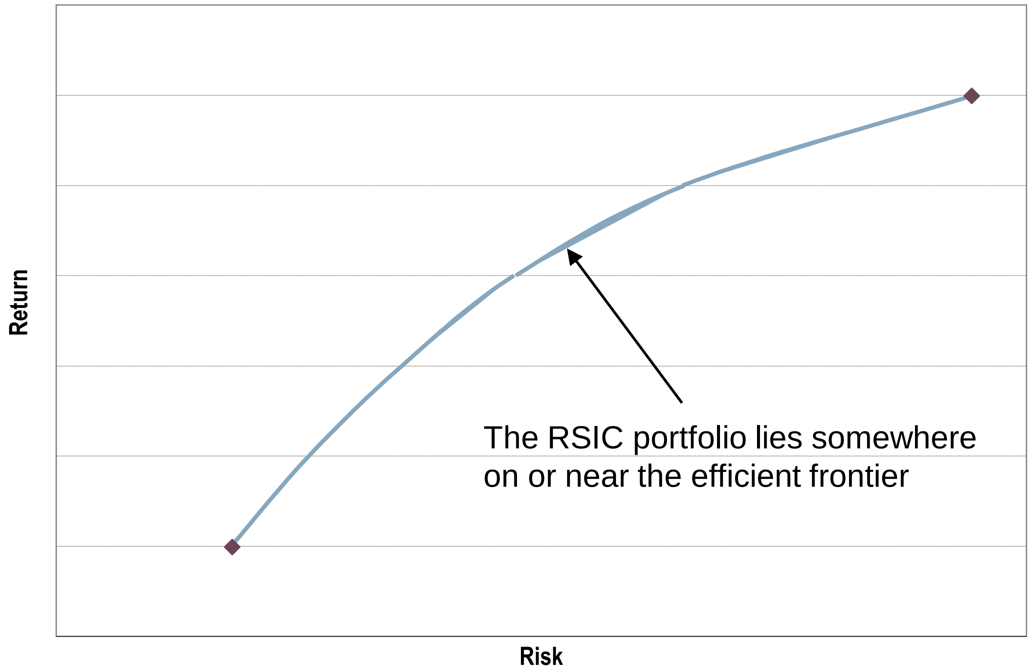
Determining the Reference Portfolio, cont.

- We evaluated RSIC policy targets for the past five years, to determine what the closest reference portfolio would have been historically.
- The System's reference portfolio would have been much more conservative just a few years ago, more closely resembling a 60-40 mix.
  - In the first year shown, it would have been a 58-42 mix.
- Given that the volatility and correlation inputs we used were fairly stable over the full period, the gradual increase can be attributed primarily to the evolving allocation of the System (i.e., the decision to target a higher return and accept a commensurate amount of risk).

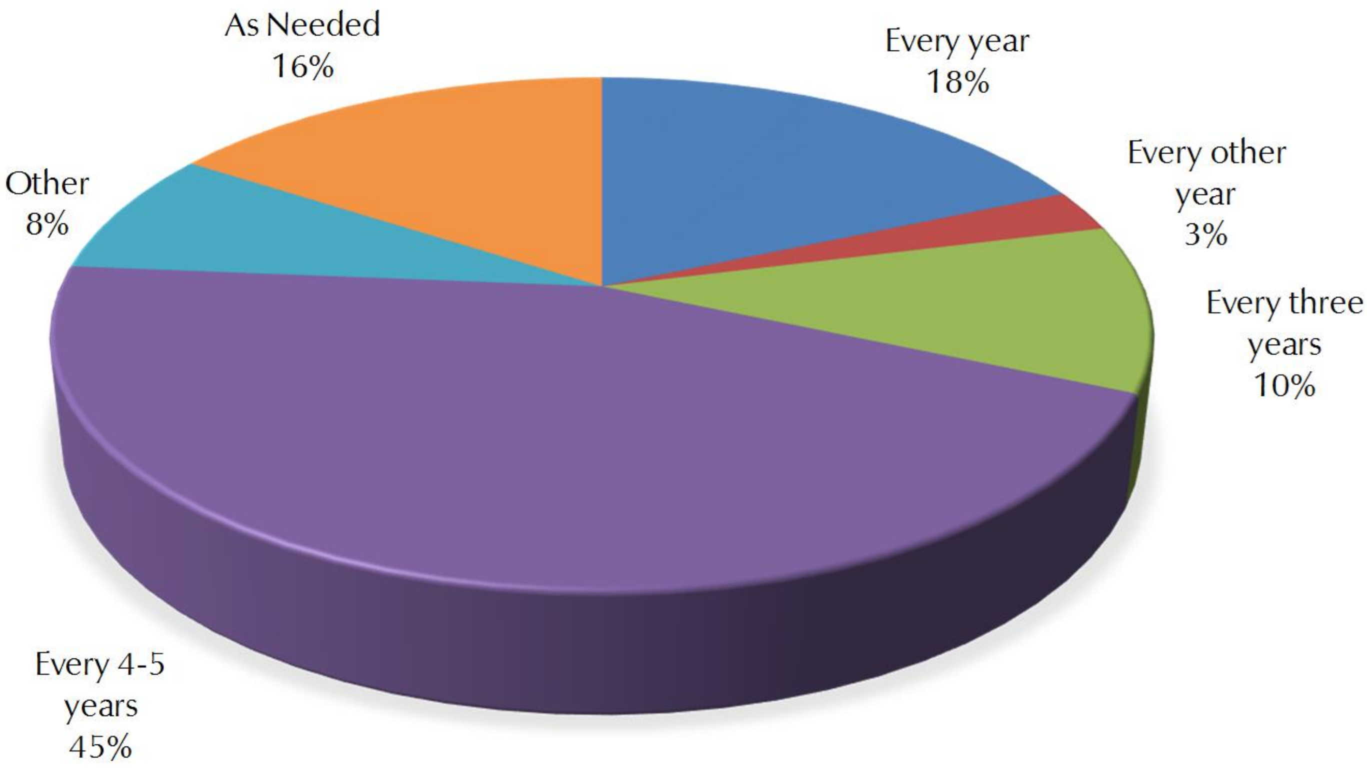
Closest Reference portfolio:	**2014-15**	**2015-16**	**2016-17**	**2017-18**	**2018-19**
Global Stocks	58%	64%	65%	65%	70%
Bonds	42%	36%	35%	35%	30%

Asset Allocation Overview

- No changes are needed at this time.
- Making frequent changes can be detrimental to long-term goals.
- The current portfolio is very efficient.



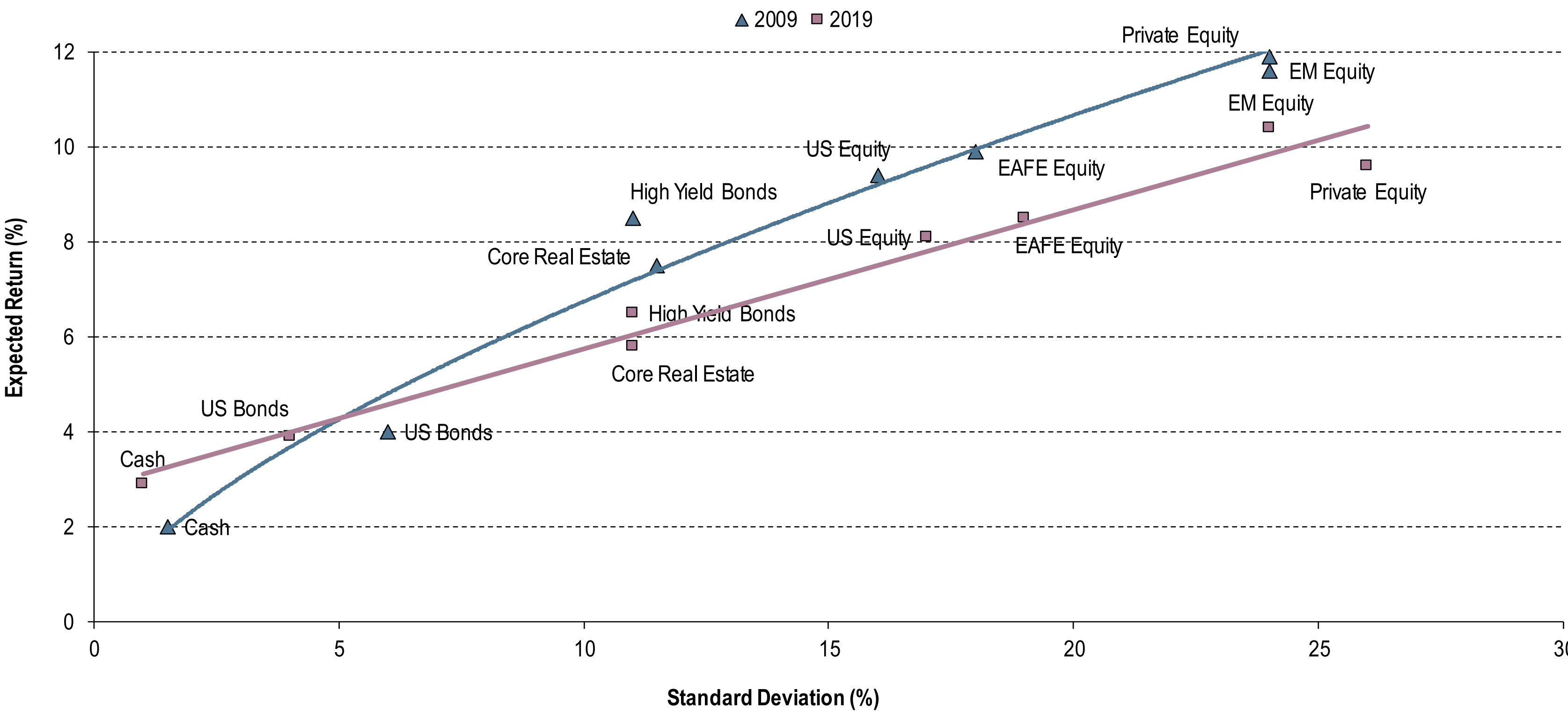
Frequency of Peer Plans Asset Allocation Changes



- As discussed during the February Commission meeting, our recent NASRA Survey of Best Practices found that less than one-quarter of plans surveyed make changes to their asset allocation on an annual basis.

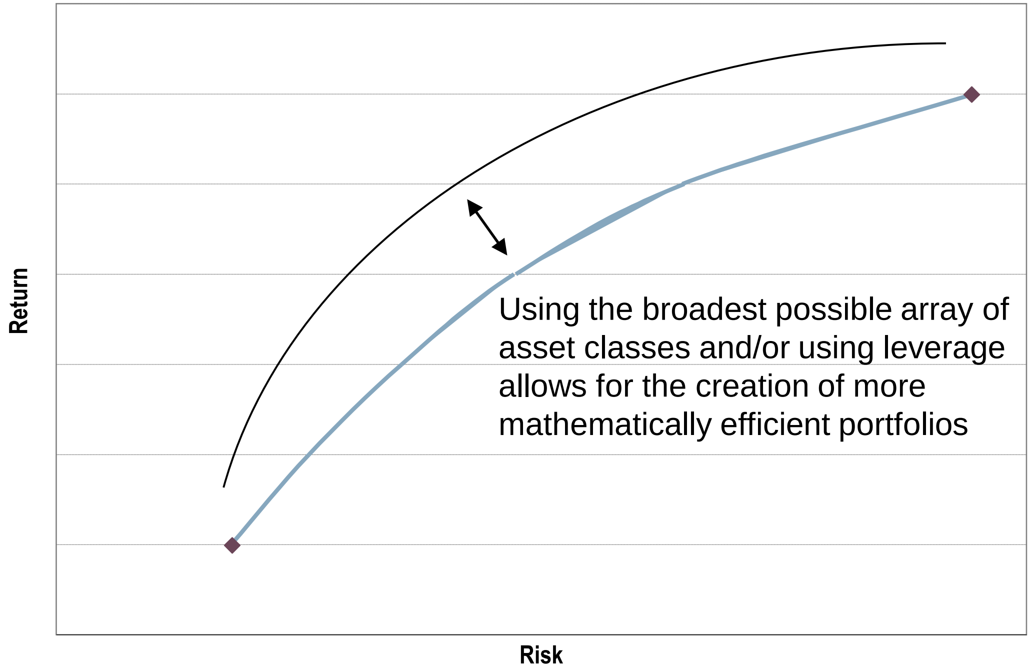
Evolving Expectations: Less Return for the Same or More Risk

- A positive relationship exists between return expectations and the level of risk accepted.
- However, this relationship is not static, nor is it known in advance.



The Efficient Frontier

- There are two ways to move (or move beyond) the efficient frontier:
  - To push out the efficient frontier, take a barbell approach
    - Combine higher risk-return assets with assets that are expected to have a low or negative correlation to them.
  - To push beyond the efficient frontier, use leverage



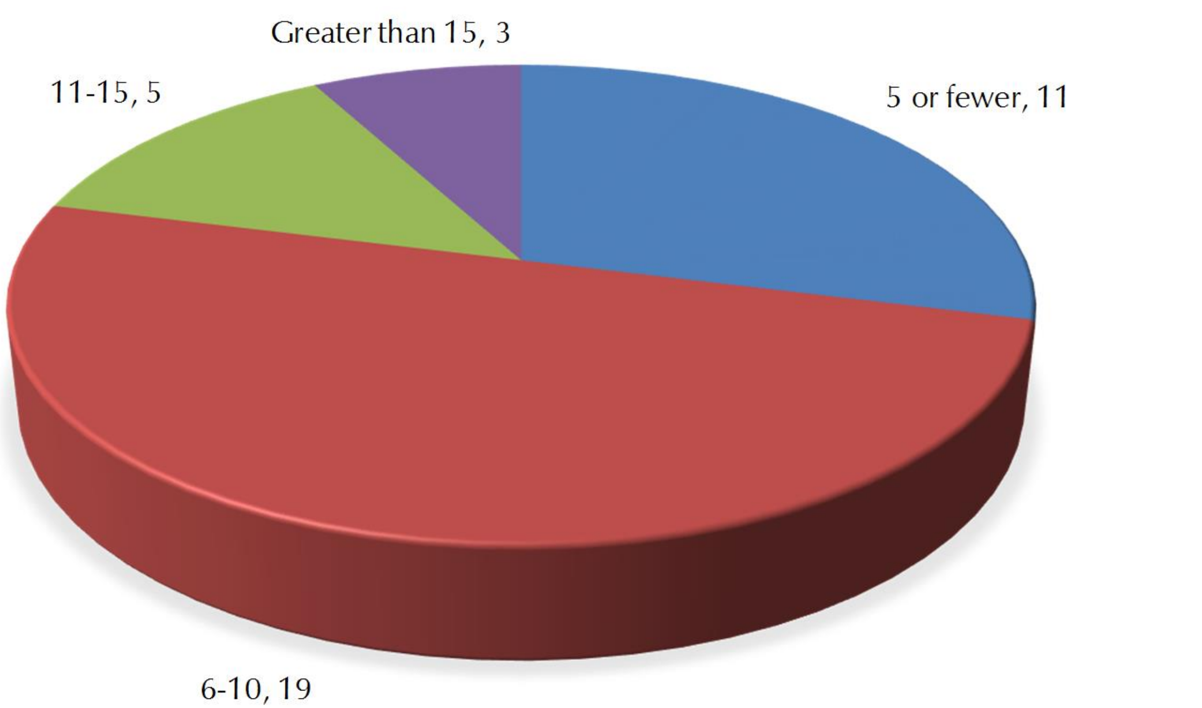
Asset Allocation Themes

- Sharpe ratios decline as you move further out on the curve (to the right).
  - That is, you receive less marginal return as you take on additional risk.
- Using "alternatives" (specifically, private markets and hedge funds) to implement the barbell approach can create more efficient portfolios.
  - Allocate more to riskier assets, such as private equity, and offset this by also putting more in negatively correlated assets (what we call "Risk Mitigating Strategies").
- These more efficient portfolios have potential drawbacks, including:
  - Higher tracking error versus peers
  - Higher fees
  - Greater complexity
  - RMS portfolio may not behave as anticipated

Embracing Simplicity at the Policy Level

- Again, looking at our Best Practices Survey, most peer plans set policy targets for ten or fewer asset classes.

Number of Asset Classes Targets in Policy Allocation



Embracing Simplicity at the Policy Level

- As we work with the Commission to adopt a Policy Benchmark, we recommend that they embrace the simplification concept.
- The diagram below is an example of how this might occur.

Current Target (%)	
Nominal IG Bonds	6
Treasuries	5
TIPS	2
Mixed Credit	4
Emerging Market Debt	4
Private Debt	7
U.S. Equity	18
Developed Intl	11
EM Equity	6
Equity Options	7
Private Equity	9
Real Estate (Public)	1
Real Estate (Private)	8
Infrastructure (Public)	1
Infrastructure (Private)	2
PA Hedge funds	10
GTAA	7
Other Opportunistic	1

Simpler (%)
Core Bonds
Mixed Credit
Emerging Market Debt
Private Debt
Global Equity
Equity Options
Private Equity
Real Estate
Infrastructure
PA Hedge funds
GTAA

Simplest (%)
Bonds
Private Debt
Global Equity
Private Equity
Real Assets
PA Hedge funds

TA Associates XIII (“TA XIII”)

Derek Connor, CFA, CAIA

Investment Summary

- **TA Associates is a growth focused manager that invests in quality high-growth companies**

- **Investment Strategy**
  - Pursue leveraged buyout and growth equity transactions across core sectors and geographies
  - Target businesses with high recurring revenues and high free cash flow that have exhibited strong revenue and EBITDA growth
  - Competitive Advantage: Superior origination platform with a proprietary database that allows the firm to source and invest in high quality growth companies

- **Portfolio Construction**
  - Typically invest in ~50 portfolio companies across North America, Europe, and Asia
  - Core sectors: Technology, Healthcare, Consumer, Financial Services, and Business Services
  - Target companies ranging in enterprise value from $200mn-$1bn with equity investments between $75mn-$400mn

TA Overview

New Relationship for RSIC

- Buyout and Growth are core strategies for the RSIC PE portfolio
- Increases exposure to lower end of the middle market

Firm

- One of the oldest private equity firms – founded in 1968
- Invested over ~$14 billion across 8 funds since 1998, generating 2.3x net MOIC
- Team organized along sector verticals, with 89 investment professionals

Performance

- TA has meaningfully outperformed public and private markets across funds and portfolio companies
- Every TA fund raised since 1988 (except 2006 fund) is first or second quartile based vs. Cambridge PE universe

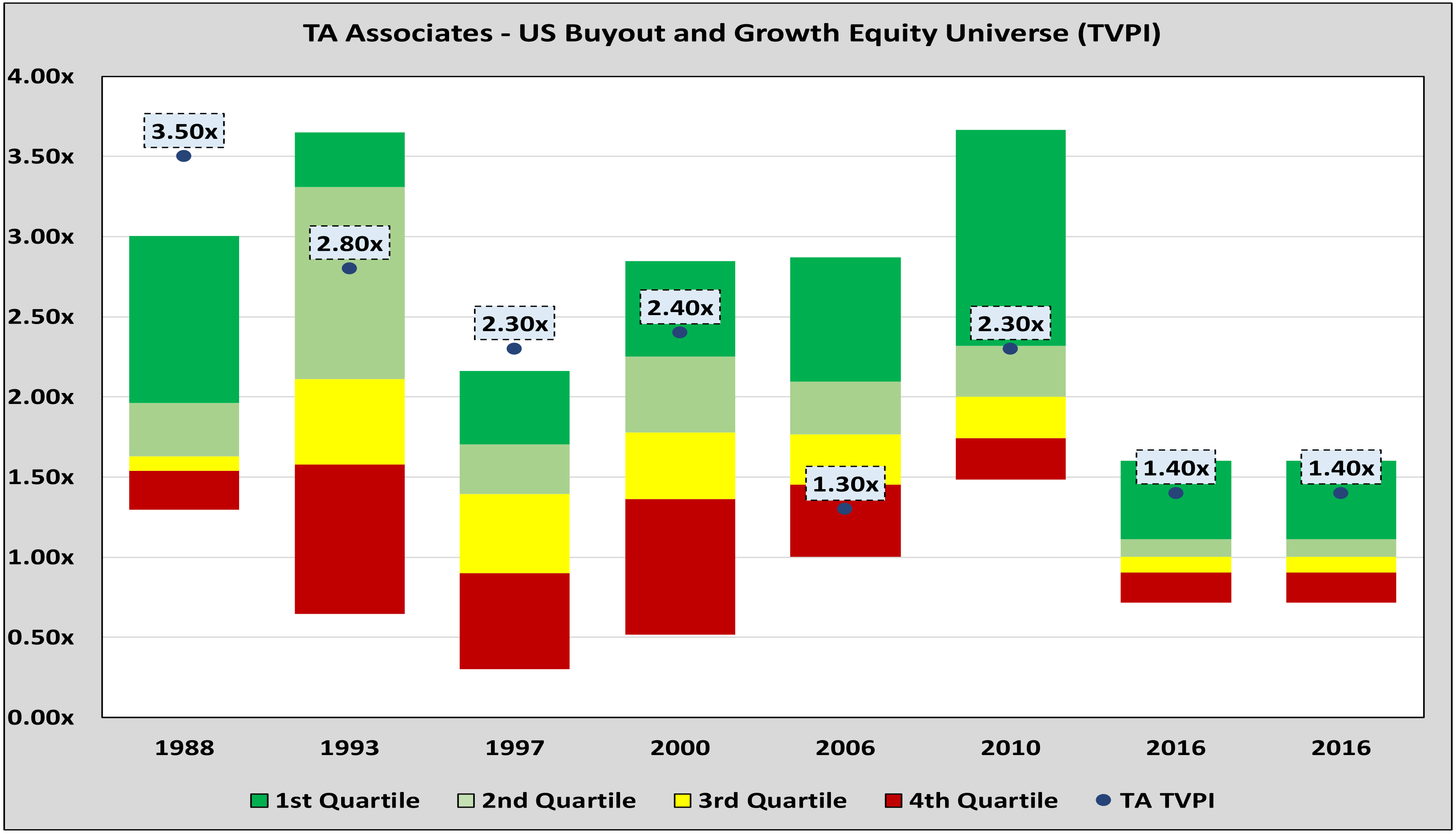
Investment Rationale

- Strong performance across market cycles
- Best-in-class origination capabilities
- Focus on high-quality growth businesses
- Long-tenured senior team with strong investor alignment

Investment Considerations

- Poor performance of TA X (2006 vintage)
- Increase in fund size
- TA Subordinated-Debt fund
- Above average fees

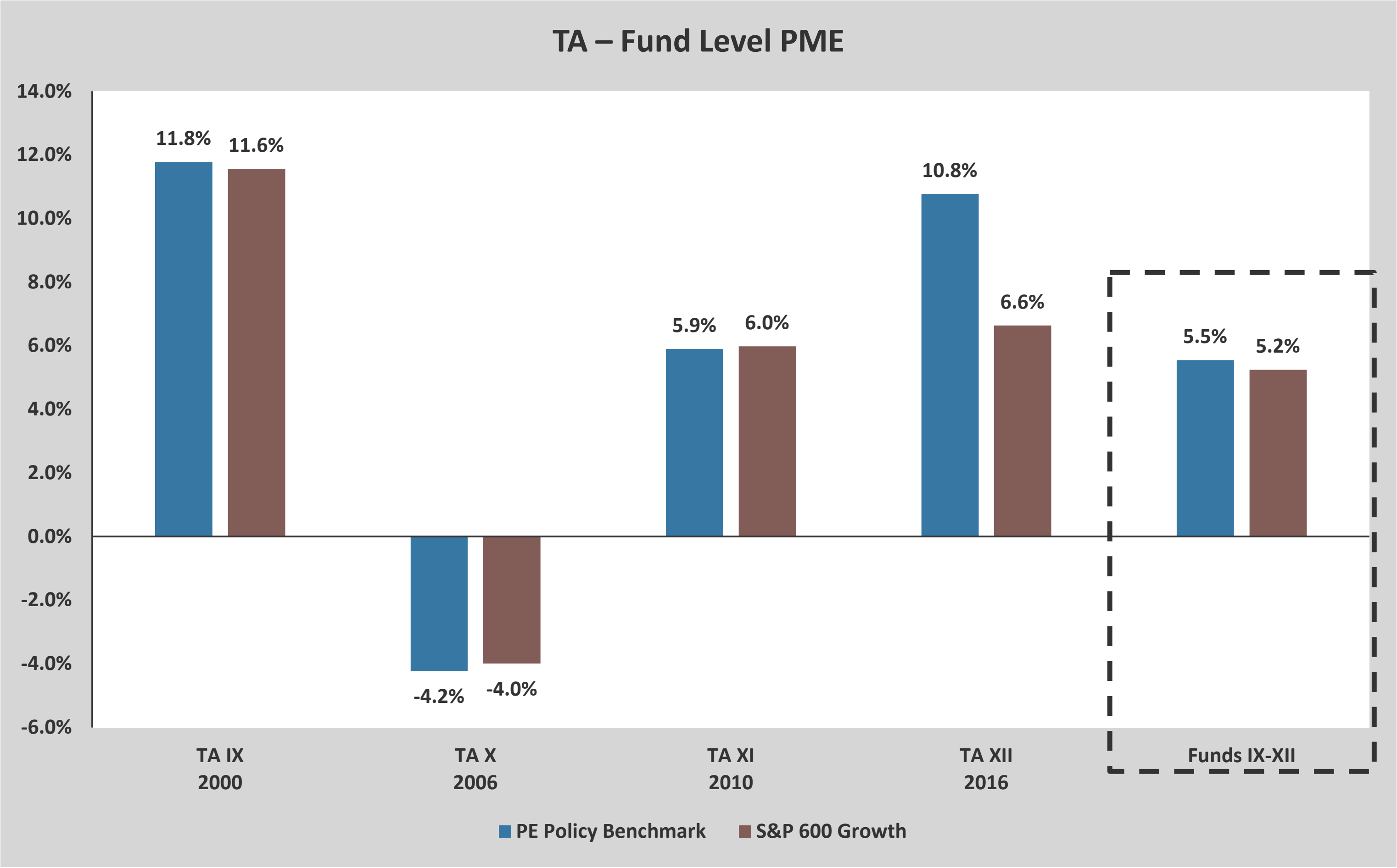
Performance Quartiles - TVPI



Data Source: Cambridge Associates U.S. Buyout and Growth universe

Public Markets Equivalent

Demonstrated strong performance improvement since pre-GFC fund



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

TA XIII Terms

Commitment Allocation:	$75M
Fund Size:	$8.5B
GP Commitment:	5% of aggregate commitments up to $200M
Investment Period:	6 Years
Management Fee:	Varies by year (averages 1.65% of committed over fund term)
Carried interest:	20%
Preferred Return:	No hurdle
Term:	10 Years ; Three 1 year extensions with LPAC consent
Timing:	Fund Close 5/2/2019

Actis Long Life Infrastructure Fund

Ashli Aslin

Actis Long Life Infrastructure Fund

Investment Summary	
Targeted Net Return	11-13% net return
Estimated Cash Income	7% cash income
Assets	Mature, operating businesses with contracted cash flows
Sectors	Power generation, transmission, and distribution
Geography	Emerging Markets – Latin America, Africa, & Asia
Investment Size	$150-500 million of equity

Actis Long Life Infrastructure Fund Overview

New Relationship for RSIC

- Actis is a new GP relationship for RSIC
- Allocation moves the Infrastructure Portfolio towards the Asset Class Baseline by providing access to core assets in developing markets, a strategy that is considered part of the value-add portion of the RSIC infrastructure allocation.

Firm

- Actis was founded in 2004 as the investment spin-out of CDC Group, a development finance institution sponsored by the UK government to finance businesses located in the British Commonwealth.
- Actis is an independent, partner-owned, investment manager dedicated to private equity, real estate, and energy infrastructure investments in emerging markets.

Investment Thesis

- Dedicated emerging markets infrastructure platform
- Actis' approach to risk mitigation
- Opportunity to invest in high-quality core assets with advantageous risk/return profile compared to developed markets

Concerns/Risk

- Regulatory/Contractual counterparty risk
- New team, new strategy
- Non-energy infrastructure exposure

Actis Long Life Infrastructure Partners Focus

- ALLIF is a long-life infrastructure fund that will invest in the emerging markets.
  - 55% Latin America, 30% Asia, 15% Africa

- The Fund will make investments in 8-10 core, operational infrastructure assets and hold for 10+ years:
  - All will be regulated or contracted
  - All will be mature and operational - no construction risk
  - Potential for outperformance through growth and operational improvements

- The Fund will focus on infrastructure assets in the renewable power generation, electricity transmission and distribution, and energy sectors (natural gas pipelines):



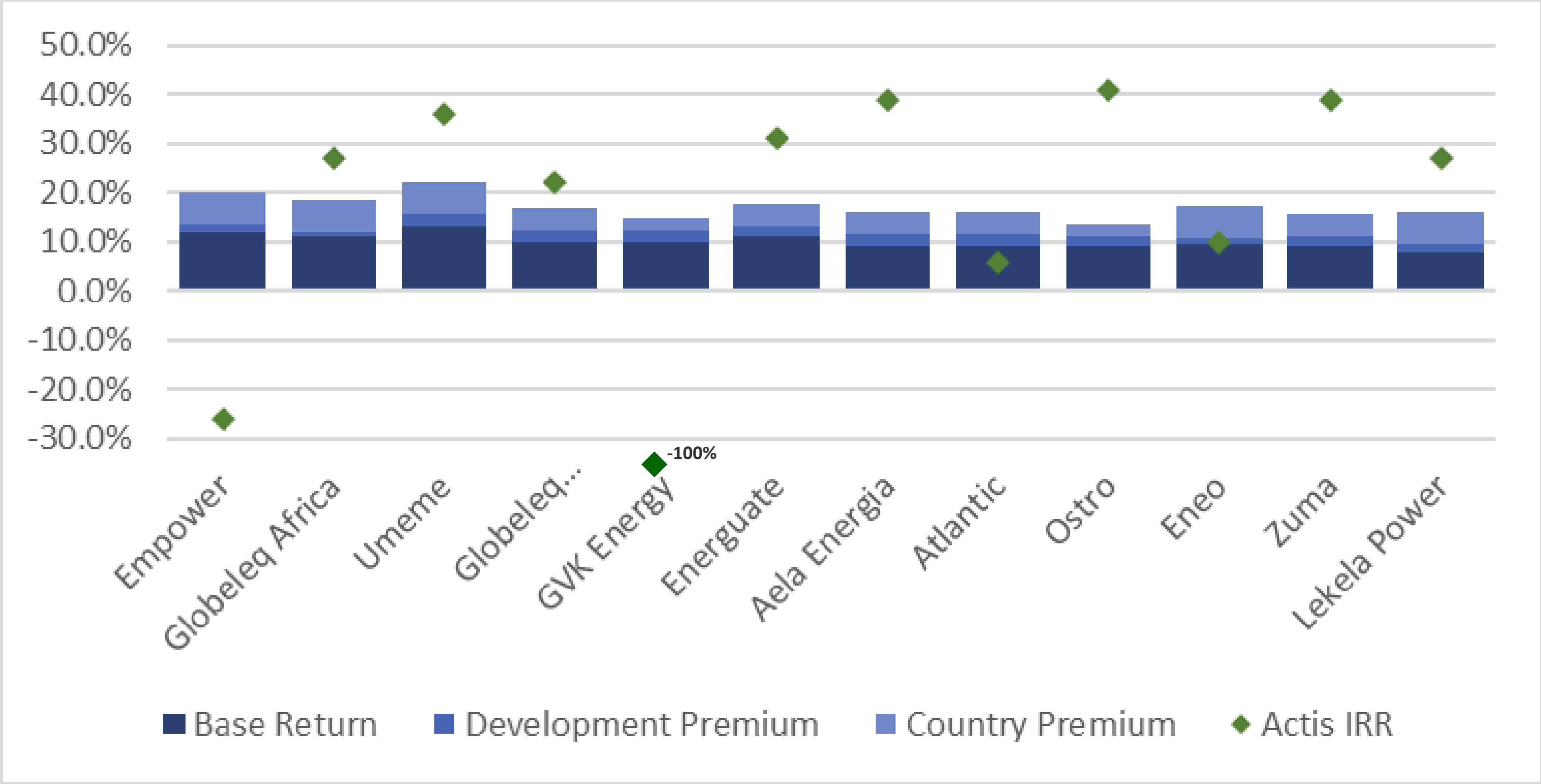





Mitigating EM Risk

Corruption Risk	• Government officials or vendors are bribed for contracts or terms	• Dedicated compliance team to ensure transparency and high governance standards • Use of expert advisors to conduct diligence on stakeholders • Involvement of DFIs (lending or co-investment) • Strict anti-bribery policies
Currency Risk	• Primary components of currency risk: 1) exchange rate fluctuations; 2) convertibility risk; and 3) repatriation/transfer issues.	• Revenues linkage to USD or other hard currencies. • Local currency contracts linked to inflation. • Base case asset valuations include assumption of foreign currency depreciations • Government guarantees for repatriation and MIGA insurance. • Strong cash yield provides continuous FX conversion to USD
Country/Political Risk	• Cancellation of licenses & concessions • Expropriation & nationalization • New legislation or regime change	• Deep diligence of political & economic environment. • Focus on investments that provide low-cost power. • Government guarantees, where necessary. • Partner with World Bank. • Political risk insurance (MIGA or other). • Bilateral investment treaties.

Emerging Market Return Comparison



Average base return: 10%
Average country premium: 5.1%
8/12 (67%) of these assets outperforming their expected return, accounting for development and country risk.

Considers Actis Energy II and III platforms.

Actis Long Life Infrastructure Fund Terms

Summary Terms	
Commitment:	$75 million
GP Commitment:	At least $2% of the acquisition cost of all investments
Fund structure:	Closed-ended; 15-year fund life
Management Fee:	130bps at $75 million commitment level
Performance Fee:	20%
Preferred Return:	8%
Waterfall:	European
RSIC Closing Date:	April 30, 2019
LPAC Seat:	Yes
Liquidity	limited