SamCERA Notice of Public Meeting

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION

The Board of Retirement

of the San Mateo County Employees' Retirement Association will meet on

Wednesday, July 27, 2016, at 2:00 P.M.

PUBLIC SESSION – The Board will meet in Public Session at 2:00 p.m.

1. **Call to Order, Roll Call and Miscellaneous Business**
   - 1.1 Administration of Oath of Office to Newly Elected Trustees
2. **Oral Communications**
   - 2.1 Oral Communications from the Board
   - 2.2 Oral Communications from the Public
3. **Approval of the Minutes**
   - 3.1 Approval of Board Meeting Minutes from June 7, 2016
4. **Approval of the Consent Agenda***
   - 4.1 Disability Retirements (2)
     - Christine Steaveson
     - Mary Paengalau
   - 4.2 Service Retirements
   - 4.3 Continuances
   - 4.4 Deferred Retirements
   - 4.5 Member Account Refunds
   - 4.6 Member Account Rollovers
   - 4.7 Approval of Questions for Annual Review of Milliman, Inc.
   - 4.8 Acceptance of July 2016 Addendum to the 2015 Actuarial Valuation and Resolution accepting contribution rates to recommend to the Board of Supervisors for the 2016-2017 fiscal year
   - 4.9 Acceptance of Semi-Annual Compliance Certification Statements for Period Ended June 30, 2016
5. **Benefit & Actuarial Services**
   - 5.1 Consideration of Agenda Items, if any, Removed from the Consent Agenda
6. **Investment Services**
   - 6.1 Report on Preliminary Monthly Portfolio Performance Report for the Period Ended June 30, 2016
   - 6.2 Report on International Equity Manager Annual Reviews
   - 6.3 Report on Value Manager Annual Reviews
   - 6.4 Approval of Small Cap Core Manager Finalist
   - 6.5 Approval of Liquid Real Asset Pool Implementation
   - 6.6 Report on Asset/Liability Study: Asset Allocation Mixes
   - 6.7 Approval of Proposed Alternative Investment *(to be heard in Closed Session, Confidential Under Gov. Code §54956.81 and §6254.26, see item C2)*
7. **Board & Management Support**
   - 7.1 Approval of a Resolution Authorizing The Chief Executive Officer To Contract for Audit Services of the Internal Controls of the Pension Administration Software System
8. **Management Reports**
   - 8.1 Chief Executive Officer's Report
   - 8.2 Assistant Executive Officer's Reports
   - 8.3 Chief Investment Officer's Report
   - 8.4 Chief Legal Counsel's Report

CLOSED SESSION – The Board may meet in closed session prior to adjournment

- C1 Consideration of Disability Items, if any, removed from the Consent Agenda
- C2 Approval of Proposed Alternative Investment (*to be heard in Closed Session, Confidential Under Gov. Code §54956.81 and §6254.26, see item 6.7)*
- C3 Public Employee Performance Evaluation, in accordance with Government Code Section 54957 Title: Chief Executive Officer
- C4 Conference with Labor Negotiator, in Accordance with Government Code Section 54957.6 Designated Representative: Brenda B. Carlson. Employee Position: Chief Executive Officer

9. Report on Actions Taken in Closed Session

10. Adjournment in Memory of the Following Deceased Members:

Green, Gerald	May 21, 2016	Public Works
Becconsall, Paul	May 23, 2016	Public Works
Freemon, Peggy	May 29, 2016	Human Services
Springer, Richard	May 31, 2016	General Services
Saito, Kay	June 4, 2016	Social Services
Banez, Eulogio	June 11, 2016	Medical Center
Miller, George	June 11, 2016	Planning
Sullivan, Harley	June 11, 2016	Probation
Cardoza, Leonard	June 12, 2016	Sheriff's
Jones, Sarah	June 13, 2016	Electronic Data Processing
Luzzi, Robert	June 26, 2016	Treasurer
Redwine, Julia	June 27, 2016	Human Services
Donati, Harriet	June 29, 2016	Superior Court
Kunitani, Suzu	July 1, 2016	Public Health

Scott Hood, Chief Executive Officer Posted: July 20, 2016

(* ALL ITEMS ON THE CONSENT AGENDA ARE APPROVED BY ONE ROLL CALL MOTION UNLESS A REQUEST IS MADE BY A BOARD MEMBER THAT AN ITEM BE WITHDRAWN OR TRANSFERRED TO THE REGULAR AGENDA. ANY ITEM ON THE REGULAR AGENDA MAY BE TRANSFERRED TO THE CONSENT AGENDA. ANY 4.1 ITEMS REMOVED FROM THE CONSENT AGENDA WILL BE TAKEN UP UNDER CLOSED SESSION; ALL OTHER ITEMS REMOVED FROM THE CONSENT AGENDA WILL BE TAKEN UP UNDER ITEM 5.1.)

THE BOARD MEETS AT **100 MARINE PARKWAY, SUITE 160**, WHICH IS LOCATED ON THE SE CORNER OF TWIN DOLPHIN & MARINE PARKWAY IN REDWOOD CITY. Detailed directions are available on the "Contact Us" page of the website www.samcera.org. *Free Parking is available in all lots in the vicinity of the building. A copy of the Board of Retirement's open session agenda packet is available for review at the SamCERA offices and on our website unless the writings are privileged or otherwise exempt from disclosure under the provisions of the California Public Records Act. Office hours are Monday through Thursday 7 a.m. – 6 p.m.*

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SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
Board of Retirement

July 27, 2016 Agenda Item 1.1

TO: Board of Retirement

FROM: Scott Hood, Chief Executive Officer

SUBJECT: Administration of the Oath of Office to Newly Elected Trustees

In this agenda item, the Trustee Oath of Office will be given to:

- Eighth Member, **Paul Hackleman**, reelected by the Retiree Membership;
- Eighth Member Alternate, **Alma Salas**, reelected by the Retiree Membership.

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
JUNE 7, 2016 – REGULAR BOARD MEETING MINUTES

1606.1 **Call to Order, Roll Call and Miscellaneous Business**
Call to Order: Mr. Paul Hackleman, Chair, called the Regular Meeting of the Board of Retirement to order at 10:00 a.m.
Roll Call:
Present: Mark Battey, Paul Hackleman, Susan Lee (for Natalie Kwan Lloyd), Michal Settles, David Spinello, and Shirley Tourel.
Excused: Sandie Arnott, Ben Bowler, Natalie Kwan Lloyd, and Eric Tashman
Alternates present: Alma Salas.
Staff: Scott Hood, Michael Coultrip, Brenda Carlson, Gladys Smith, Tat-Ling Chow, Elizabeth LeNguyen, Barbara Edwards, Doris Ng and Kristina Perez.
Consultants: Margaret Jadallah, Stephen Quirk, Faraz Shooshani, Joe Abdou and John Nicolini *(Verus);* Nick Collier *(Milliman, Inc.) and* Will Morrow *(LRWL).*

1606.1.1 **Appointment by Chair of Ad Hoc Nominating Committee for Board Officers:** Mr. Hackleman reported that the Ad Hoc Nominating Committee would be comprised of Trustees Arnott, Battey and Tourel, with Ms. Arnott as the Chair.

1606.2.1 **Oral Communications from the Board:** Mr. Battey reported attending the Wharton Portfolio Concepts and Management program in Philadelphia, May 2-5, 2016. Ms. Tourel also reported her attendance at the same Wharton program. Mr. Spinello and Ms. Settles reported their attendance at the GFOA Annual Conference, in Toronto, Ontario, on May 19-24, 2016. Mr. Spinello and Ms. Lee reported their attendance at the SACRS Spring Conference in Costa Mesa, on May 8-10, 2016. Ms. Settles also reported her attendance at the Skybridge Alternatives (SALT) Conference in Las Vegas, May 10-12, 2016.

1606.2.2 **Oral Communications from the Public:** Ms. Salas reported her attendance at the SACRS Spring Conference and the GFOA Annual Conference.

1606.3.1 **Approval of Special Board Meeting Minutes from April 26, 2016:**

1606.3.2 **Approval of Special Board Meeting Minutes from April 27, 2016:** Mr. Hackleman asked if there were any changes or corrections to the minutes from April 26 or April 27, 2016 and none were noted.
Action: Mr. Spinello moved to approve the minutes from both meetings, April 26 and April 27, 2016; the motion was seconded by Ms. Settles. The motion carried with a vote of 6-0 with trustees Battey, Hackleman, Lee (for Kwan Lloyd), Settles, Spinello, and Tourel all in favor; none opposed.

1606.4.0 **Approval of the Consent Agenda:** Mr. Hackleman asked if there were any items to be removed from the Consent Agenda, and no items were requested to be removed.
Action: Mr. Spinello moved to approve the Consent Agenda, and the motion was seconded by Ms. Settles. The motion carried with a vote of 6-0 with trustees Battey, Hackleman, Lee (for Kwan Lloyd), Settles, Spinello, and Tourel all in favor; none opposed.

1606.4.1 Disability Retirements

a) The Board found that Linda Macapagal is (1) permanently incapacitated from the performance of her usual and customary duties as a Social Worker III, (2) found that her disability was the result of an injury arising out of and in the course of her employment and (3) granted her application for a service-connected disability retirement.

b) The Board found that that Shahrokh Pakdaman is (1) permanently incapacitated from the performance of his usual and customary duties as a Revenue Collector II, (2) found that his disability was not result of an injury arising out of and in the course of his employment and (3) granted his application for a non-service-connected disability retirement.

c) The Board found that Paul Strobeck is (1) permanently incapacitated from the performance of his usual and customary duties as an Information Technology Manager, (2) found that his disability was the result of an injury arising out of and in the course of his employment and (3) granted his application for a service-connected disability retirement.

d) The Board found that Randy Underwood is (1) permanently incapacitated from the performance of his usual and customary duties as a Park Ranger, (2) found that his disability was the result of an injury arising out of and in the course of his employment and (3) granted his application for a service-connected disability retirement.

e) The Board found that Anna Wilson is (1) permanently incapacitated from the performance of her usual and customary duties as a Staff Nurse, (2) found that her disability was the result of an injury arising out of and in the course of her employment and (3) granted her application for a service-connected disability retirement.

f) The Board found that Irene Welker is (1) permanently incapacitated for the performance of her usual and customary duties as a Legal Word Processor, (2) found that her disability was not a result of an injury arising out of and in the course of her employment, (3) denied her application for a service-connected disability retirement, and (4) granted her a non-service-connected disability retirement.

g) The Board (1) found the heart presumption contained in Government Code section 31720.5 applies, (2) found that there is not sufficient evidence to rebut the presumption; (3) found that David Fletcher's employment substantially contributed to his death; and (4) granted the application for a service-connected death benefits to his surviving spouse, Kimberly Fletcher.

1606.4.2 **Service Retirements:**

The Board ratified the actions as listed below for the following members regarding service retirements:

Member Name	**Effective Retirement Date**	**Department**
Amborn, Susann	March 31, 2016	Aging & Adult Services
Ames, Patricia	April 1, 2016	Behavioral Health
Balestieri, Stephen	April 1, 2016	Public Works
Bautista, Glenn	April 1, 2016	Probation
Bergeson, Wendy	March 31, 2016	Deferred from Medical Center
Bertolozzi, Debra	April 1, 2016	Probation
Bobadilla, Johnny	March 31, 2016	Public Works
Cachuela, Vicente	April 1, 2016	Public Works
Cisneros, Maria T.	April 1, 2016	Medical Center
Coleman, James	March 29, 2016	Probation
Compton, Irma	April 1, 2016	Planning & Building
Contreras, Francisca	March 31, 2016	Planning & Building
Cornell, Gregory	March 26, 2016	Public Works
Crandall, Deborah	April 30, 2016	Human Services Agency
Delgado, Fernando	March 27, 2016	Medical Center
Domeniconi, John	April 1, 2016	Probation
Dominguez, Socorro	April 1, 2016	Medical Center
Downing, Judith	April 1, 2016	Human Services Agency
Duval, Kenneth	April 1, 2016	Public Works
Dwyer, Eleanor	April 1, 2016	Behavioral Health

Erdozaincy, Rose	April 1, 2016	Environmental Health
Foster, Ellis	March 31, 2016	Public Works
Gomar, Jorge	April 1, 2016	Environmental Health
Gordon-Wendt, Margie	March 31, 2016	Aging & Adult Services
Grant, Pamela	March 31, 2016	Behavioral Health
Gregory, Vaughn	March 5, 2016	Deferred from Superior Court
Halili, Ricardo	March 19, 2016	Superior Court
Hayward, Mary Linda	April 1, 2016	Sheriff's
Hinshaw, Melville	April 1, 2016	Sheriff's
Huffman, Mark	April 1, 2016	Medical Center
Hult, John	March 30, 2016	Superior Court
Innes, John	April 1, 2016	Assessor's
Javier, Goodwin	April 1, 2016	Assessor's
Javier, Susan	April 1, 2016	Human Services Agency
Jayme, Michael	April 1, 2016	Probation
Johnson, Kathryn	April 1, 2016	Sheriff's
Kataoka, Hal	March 31, 2016	Human Services Agency
Kelly, Cassandra	March 18, 2016	Human Services Agency
Keohane, Darlene	April 1, 2016	Human Services Agency
Khan, Lisa	April 1, 2016	Public Health
Lee, Henry	April 1, 2016	Sheriff's
Lent, William	April 1, 2016	Environmental Health
Lopez, Juan	March 18, 2016	Sheriff's
Low, Karin	April 1, 2016	Aging & Adult Services
Machado, Pamela	March 25, 2016	Public Health
Manuel, Noel	March 26, 2016	Public Works
Masingale, Edmon	April 1, 2016	Superior Court
Mazzetta, James	April 1, 2016	Planning & Building
McKee-Parks, Craig	April 30, 2016	Deferred from Sheriff's
Melnicoe, Shirley	April 17, 2016	Deferred from Co. Manager Office
Merritt, Nancy	March 31, 2016	Deferred from Probation
Miller, Theresa	April 1, 2016	District Attorney
Mostert, Suzanne	April 1, 2016	Medical Center
Napior, Linda	March 31, 2016	Library
O'Meara, Patrick	March 26, 2016	Information Services
Perez, Alfredo	April 26, 2016	Deferred from Social Services
Pulido, Minerva	April 1, 2016	Deferred from Medical Center
Risting, Sonia	March 31, 2016	Superior Court
Romero, Elisa	March 31, 2016	Medical Center
Ruggiero, Grazia	March 31, 2016	Public Works
Sajuthi, Sri	March 26, 2016	Medical Center
Schofield, Georgette	April 19, 2016	Deferred from Sheriff's
Snead, Jill	March 31, 2016	Deferred from Medical Center
Solis, Elizabeth	April 1, 2016	Family Health
Stokes, Vicky	March 31, 2016	Information Services
Sumner, Elizabeth	March 19, 2016	Superior Court
Thaw, Robyn	March 30, 2016	Public Health
Thompson, Dorothy	March 31, 2016	Medical Center
Thoresen, Christine	April 1, 2016	District Attorney
Vallero, Maria	April 1, 2016	Aging & Adult Services
Vargas, Janie	April 1, 2016	Public Works

Velasco, Raymond	March 2, 2016	Deferred from Medical Center
Villar, Thelma	March 26, 2016	Housing
Webb, Lois	April 1, 2016	Medical Center
Williams, Lisa	March 31, 2016	Sheriff's
Williams, Vera	March 31, 2016	Family Health
Wise, Terumi	April 1, 2016	Deferred from Sheriff's
Yunker, Naomi	April 1, 2016	Medical Center
Zolotoff, Roxana	April 1, 2016	Medical Center
Zych, Peter	March 31, 2016	Medical Center

1606.4.3 **Continuances**:

The Board ratified the actions as listed below for the following members regarding continuances:

Survivor's Name	Beneficiary of:
Bodey, Margaret	Bodey, Charles
Kato, Roy	Kato, Grayce
Kelly, Dana	Handley, Chantal
Kennon, Jimmie Ray Sr.	Kennon, Lana
McReynolds, Evia	McReynolds, Sol
Schowengerdt, Sandra	Schowengerdt, Harold
Vice, James	Torburn, Zora-Mae

1606.4.4 **Deferred Retirements:**

The Board ratified the actions as listed below for the following members regarding deferred retirements:

Member Name	Retirement Plan Type
Gonzalez, Gabriel A.	G7, Non-vested - Reciprocity
Gonzalez, Laura	G4, Vested
Pena, Joe M.	G7, Non-vested - Reciprocity
Pimentel, Scott M.	G4, Vested
Stolte, Stephen W.	G7, Non-vested - Reciprocity
Zaremba, Kecia N.	G4, Vested – Reciprocity

1606.4.5 **Member Account Refunds:**

The Board ratified the actions as listed below for the following members regarding refunds:

Member Name	Retirement Plan Type
Asbury, Joanne	G4, Vested
Garwin, Marissa	G7, Non-vested
Langi, Maria	G7, Non-vested
Lopez, Jose	G2, Vested
Mendizabal, Maria	G4, Vested
Mendoza, Zaida	G7, Non-vested
Pedrini, Pamela (FBO: Lynn Dowding)	G4, Vested
Pedrini, Pamela (FBO: Rhoda Dowding)	G4, Vested
Sarabi, Pouya	G7, Non-vested
Segura, Tara	G4, Vested
Vergara, Luis	G4, Vested
Villa, Ricardo	G7, Non-vested

1606.4.6 **<u>Member Account Rollovers:</u>**
The Board ratified the actions as listed below for the following members regarding rollovers:

Member Name	Retirement Plan Type
Dominguez, Leslie	G4, Non-vested
Frickle, Cynthia	G7, Non-vested
Marti, Lily	G7, Non-vested
Neal, Jeanette	G5, Non-vested
Takeuchi, Burt	G4, Vested

1606.4.7 **Report on Prepayment of Employer Contributions:** The Board accepted the report on the County's semi-annual prepayments of its estimated employer contribution totaling $158,255,923 for Fiscal Year 2016-17.

1606.5.1 **Consideration of Agenda Items, if any, Removed from the Consent Agenda:** None.

1606.5.2 **Approval of Actuarial Assumptions for the June 30, 2016 Actuarial Valuation:** Mr. Collier reviewed the recommended actuarial assumptions with the Board. He went over Milliman Inc.'s report in detail, explaining the benefits and costs associated with a reduction to the assumed investment return rate. Mr. Collier discussed both the 7% and the 6.75% assumption rate scenarios. Board discussion followed. Members of the audience were given an opportunity to comment. The only comment came from Jim Saco, representing the County Manager's Office, who stated he was comfortable with a reduction to 7%. Mr. Hood reported that he had reached out to the other employers, and heard no objections.
Action: It was moved by Mr. Battey to approve the recommended actuarial assumptions as follows: investment return assumption, 7%; price inflation, 2.75%; general wage growth, 3.25%; payroll growth, 3.25%; COLA Plan 1, 2.75%; COLA Plan 2, 2.65%; COLA Plan 3, N/A; COLA Plans 4,5,6 & 7, 1.9%. The motion was seconded by Ms. Settles, and carried with a vote of 6-0 with trustees Battey, Hackleman, Lee (for Kwan Lloyd), Settles, Spinello, Tourel all in favor; none opposed.

The Board took a short break at 11:05 a.m. and reconvened at 11:17 a.m. At that time, item 6.5 was heard out of order. The remainder of the items were heard in the order they appear below.

1606.6.5 **Presentation of Private Asset Semi-Annual Performance Reports as of December 31, 2015:**
Mr. Shooshani reviewed the report on private equity in detail with the Board. Mr. Nicolini followed and presented the report on SamCERA's private real assets portfolio. Discussion with the Board members followed. This item was informational and for discussion only, no action was taken.

1606.6.1 **Preliminary Monthly Portfolio Performance Report for the Period Ended April 30, 2016:** Mr. Coultrip discussed the preliminary monthly performance report with the Board. He reported that SamCERA's net preliminary return for April was 1.3%, while the preliminary trailing twelve-month return ending April 2016 was -0.78% net. The twelve-month net return is higher than SamCERA's Total Plan Policy Benchmark return of -0.84%, but below the Actuarial Assumed Earnings Rate of 7.25%.
This item was informational and for discussion only, no action was taken.

1606.6.2 **Quarterly Investment Performance Report for the Period Ended March 31, 2016:** Mr. Quirk and Ms. Jadallah went over the quarterly report - reviewing managers' performance, talking about market trends and conditions, and discussing details of the report with the Board. The 1st quarter net total return for the SamCERA portfolio was 1.3%. This item was informational and for discussion only, no action was taken.

The Board adjourned into closed session at 11:59 a.m., to hear item 6.6. The Board remained in closed session until 12:25 p.m., and then took a break for lunch from 12:25 p.m. until 1:15 pm. When the Board reconvened at 1:15 p.m., Ms. Carlson reported the action taken by the Board at that time.

1606.6.6 **Approval of Proposed Alternative Investment (to be heard in Closed Session, Confidential Under Gov. Code §54956.81 and §6254.26, see item C2.):** The Board met in closed session, and Ms. Carlson reported the following action was taken:
Action: Mr. Battey made a motion to approve an investment of $35 million in TCP Direct Lending Fund XIII. The motion was seconded by Ms. Tourel, and carried with a vote of 5-1, with trustees Battey, Hackleman, Lee (for Kwan Lloyd) Settles and Tourel, all in favor; and Spinello, opposed.

1606.6.3 **Report on Real Estate Annual Review:** Ms. Ng reported that staff met with representatives from INVESCO in April, to discuss performance, personnel changes and the Value-Add Real Estate fund that was added in December 2015. Ms. Ng reported there were no significant concerns identified during the portfolio review. This item was informational and for discussion only, no action was taken.

1606.6.4 **Report on Core Equity Annual Reviews:** Ms. Ng reported that staff met with representatives from Blackrock and D.E. Shaw on March 5, 2016. The discussion included performance review, personnel changes and investment strategies. Ms. Ng reported there were no significant concerns identified during the portfolio review. This item was informational and for discussion only, no action was taken.

1606.6.7 **Report on Small-Capitalization Core Equity Manager Search:** Mr. Coultrip reviewed the previous discussion and direction that staff received from the Board, in regard to reducing the number of managers in our domestic equity program to five from six. After receiving responses to questionnaires, staff and the consultant have done further due diligence and plan on performing on-site due diligence on the finalist strategy. Staff will return to the Board for approval when the process is complete. This item was informational and for discussion only, no action was taken.

1606.6.8 **Discussion on SamCERA's Risk Tolerance and Direction to Staff:** On May 25th, Verus emailed a risk tolerance survey to Board members and select staff members. Survey results were included in the "Day of Meeting" folder. Ms. Jadallah reviewed the survey results and led the discussion around SamCERA's risk tolerance assessment. This item was informational and for discussion only, no action was taken.

1606.6.9 **Report on Proxy Voting Summary for the Period Ended March 31, 2016:** Ms. Ng presented the proxy voting report, and inquired as to how the Board would like to receive this report going forward. It was suggested that the report be included on the consent agenda in the future and taken off for discussion if needed. This item was informational and for discussion only, no action was taken.

1606.7.1 **Approval of SamCERA Fiscal Year 2016-17 Budget:** Ms. Chow reviewed the three components of SamCERA's budget (Professional Services, Administrative and Technology) and discussed the changes from last year within each category. SamCERA's FY 2016-17 Budget totals $36 million, an increase of $3.4 million (or 11%) compared to the prior fiscal year.
Action: Ms. Settles moved to approve the budget as presented for FY 2016-17. The motion was seconded by Ms. Tourel and carried by a vote of 6-0, with trustees Battey, Hackleman, Lee (for Kwan Lloyd), Settles, Spinello and Tourel, all in favor; none opposed.

1606.7.2 **Approval of SamCERA's Updated Strategic Plan:** Mr. Hood presented the updated Strategic Plan for FY 2016-17 to the Board.
Action: Mr. Battey moved to approve SamCERA's Strategic Plan for Fiscal Year 2016-2017. The motion was seconded by Ms. Settles and carried with a vote of 6-0 with trustees Battey, Hackleman, Lee (for Kwan Lloyd), Settles, Spinello, and Tourel all in favor; none opposed.

1606.7.3 **Approval of a Resolution Amending the Procurement Policy:** Mr. Hood explained the proposed amendment to the procurement policy, which will further clarify that the CEO is delegated authority to enter in contracts for additional types of investment related services; those services are not clearly authorized in the current policy.
Action: Mr. Battey moved to adopt the resolution amending the "Policy for Procurement and Contracting for Certain Goods and Services." The motion was seconded by Mr. Spinello and carried with a vote of 6-0 with trustees Battey, Hackleman, Lee (for Kwan Lloyd), Settles, Spinello, and Tourel all in favor; none opposed.

1606.7.5 **Approval of Change to the July Board Meeting Date:** Mr. Hood and the Board discussed rescheduling the Board of Retirement regular meeting date from July 26th, to either July 27th or July 28th due to planned absence of several trustees and the result of attendance surveys. Three motions were made on this item, as follows:
Action: 1) Mr. Battey moved to change the meeting date to Wednesday July 27th at 2:00 p.m. The motion was seconded by Ms. Settles and failed to receive a quorum, with a vote of 4-2, with trustees Battey, Hackleman, Settles and Tourel in favor; Lee (for Kwan Lloyd) and Spinello opposed.
2) Mr. Spinello moved to change the meeting date to Thursday, July 28th at 10:00 a.m. The motion was seconded by Ms. Lee (for Kwan Lloyd) and also failed, with trustees Lee and Spinello in favor, and Battey, Hackleman, Settles and Tourel opposed.
3) Mr. Battey revisited his first motion, and again moved to change the meeting date to Wednesday July 27th at 2:00 p.m. The motion was seconded by Ms. Settles and carried with a vote of 5-1, with trustees Battey, Hackleman, Lee (for Kwan Lloyd) Settles and Tourel in favor; and Spinello opposed.

1606.7.4 **Report on Status of Pension Administration Software System Project:** Mr. Morrow updated the Board on the status of the PASS project, reporting that the project was 73% complete and 60% has been billed. The project continues on schedule and within budget, and is currently in Phase 3. This item was informational and for discussion only, no action was taken.

1606.8.1 **Chief Executive Officer's Report:** Mr. Hood reported that SamCERA has again received the Government Finance Officers Association award for its annual Comprehensive Annual Financial Report (CAFR), and thanked the staff members who worked on the CAFR. He commented on the items in the "Day of Meeting" folder, including upcoming educational opportunities with SACRS and CALAPRS, and noted he would be at the CALAPRS Administrators' Round Table on June 24th.

1606.8.2 **Assistant Executive Officer's Report:** Ms. Smith updated the Board on the upcoming election for the Third Member seat, and reported that Mr. Hackleman and Ms. Salas ran unopposed for the Eighth Member seat and the Eighth Member alternate, respectively and deemed reelected. She stated that an evaluation survey regarding this year's Board/Staff retreat was in the Board member's folders and would also be emailed to them. Ms. Smith reported that a candidate has been recruited for the position of Retirement Accountant.

1606.8.3 **Chief Investment Officer's Report:** Mr. Coultrip reported that Verus would conduct an educational presentation with the Board in July.

1606.8.4 **Chief Legal Counsel's Report:** Ms. Carlson updated the Board on the status of the SACRS sponsored legislation, reporting that the bill had passed in the Assembly.

CLOSED SESSION

C1 **Consideration of Disability Items, if any, Removed from the Consent Agenda** – None.

C2 **Approval of Purchase of Proposed Alternative Investment** (Confidential Under Gov. Code §54956.81 and §6254.2) –See item 6.6 for action taken.

1606.9 **Report on Actions Taken in Closed Session:** See item 6.6.

1606.10 **Adjournment:** Mr. Hackleman adjourned the meeting at 2:51 p.m. in memory of the deceased members listed below.

Magulac, Ruth	April 1, 2016	Hospital
Franklyn, Bernard	April 8, 2016	Aging & Adult Services
Sharp, Nellie	April 11, 2016	Courts
Volkmann, Ida	April 11, 2016	Chope Hospital
Heimann, Bonita	April 14, 2016	Courts
Amores, R. E.	April 19, 2016	Social Services
Morton, Harry	April 21, 2016	Treasurer
Brewer, Shay	April 25, 2016	Human Services
Murphy, Richard	April 27, 2016	Parks
Orosco, Maxine	April 28, 2016	Superior Court
Lombardo, Joseph	April 29, 2016	General Services
Selk, Jack	May 3, 2016	Juvenile Hall
Henderson, Beatrice	May 8, 2016	Public Health
Ward, Bernice	May 10, 2016	Social Services

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Scott Hood
Chief Executive Officer

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Kristina Perez
Retirement Executive Secretary

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
Board of Retirement

July 27, 2016 Agenda Items 4.1- 4.6

TO: Board of Retirement

FROM: Elizabeth LeNguyen, Retirement Benefits Manager

SUBJECT: Approval of Consent Agenda Items 4.1 – 4.6

4.1 Disability Retirements

a) The Board find that **Mary Paengalau** is (1) permanently incapacitated from the performance of her usual and customary duties as a Fiscal Office Specialist, (2) find that her disability was the result of an injury arising out of and in the course of her employment and (3) grant her application for a service-connected disability retirement.

b) The Board find that **Christine Steaveson** is (1) permanently incapacitated from the performance of her usual and customary duties as a Communications Dispatch Supervisor, (2) find that her disability was the result of an injury arising out of and in the course of her employment and (3) grant her application for a service-connected disability retirement.

4.2 Service Retirements

The Board ratifies the actions as listed below for the following members regarding service retirements:

Member Name	Effective Retirement Date	Department
Cabugao, Teresita	June 1, 2016	Medical Center
Crandall, Deborah	April 30, 2016	Human Services Agency
Cummings, Stephen	June 1, 2016	Medical Center
Halkyard, Rosalinda	May 28, 2016	Medical Center
Jimenez, Reuben	May 31, 2016	Deferred from Social Services
Jones, Aniceta	June 1, 2016	Environmental Health
Kwok, Yin Mei	May 19, 2016	Deferred from Medical Center
Lineback, Nancy	May 9, 2016	Deferred from Medical Center
Lira, Lillian	June 1, 2016	Aging and Adult Services
Luft, John	December 25, 2015	Deferred from District Attorney
Luft, Pauline	February 8, 2016	QDRO
Mariano, Josefina	May 25, 2016	Deferred from Medical Center

McKee-Parks, Craig	April 30, 2016	Deferred from Sheriff's
Melnicoe, Shirley	April 17, 2016	Deferred from County Mgr's Office
Merritt, Nancy	March 31, 2016	Deferred from Probation
Meynard, C E	May 24, 2016	Deferred from Medical Center
Nypaver, Christina	May 6, 2016	Deferred from Library
O'Brien, Eileen	May 28, 2016	Deferred from Human Svcs Agency
Perez, Alfredo	April 26, 2016	Deferred from Social Services
Petrovitz, Cindy	June 1, 2016	Deferred from Superior Court
Schofield, Georgette	April 19, 2016	Deferred from Sheriff's
Stone, Randy	May 12, 2016	Deferred from Medical Center
Tolentino, Irma	May 17, 2016	Deferred from Superior Court

4.3 Continuances

The Board ratifies the actions as listed below for the following members regarding continuances:

Survivor's Name	Beneficiary of:
Becconsall, Teresa Lynn	Becconsall, Paul
Franklyn, Linda Joyce	Franklyn, Bernard
Green, Lynda L	Green, Gerald
Johnson, John	Majors, Amanda
Magulac, Stanley G	Magulac, Ruth
Mc Namara, Michael	Brewer, Shay
Morton, Christine	Morton, Harry
Ward, Robert A	Ward, Bernice

4.4 Deferred Retirements

The Board ratifies the actions as listed below for the following members regarding deferred retirements:

Member Name	Retirement Plan Type
Acha, Roderick C.	S4, Vested
Baxley, Amabel	G4, Vested

Beebe, Alexis N.	G7, Non-vested - Reciprocity
Ehrlich, Susan P.	G4, Vested - Reciprocity
Lang, Kenneth	G4, Vested
Langan, Brad J.	P4, Vested
Lowe, Steven W.	G4, Vested - Reciprocity
Martinez, Brian L.	G4, Vested - Reciprocity
O'Kane, Mollie	G4, Vested
Quadrelli, Melissa	G4, Vested
Rugama, Candida	G4, Vested
Wongsrikasem, Natthawut	G5/S5, Non-vested - Reciprocity
Yee, Raymond G.	G4, Vested

4.5 Member Account Refunds

The Board ratifies the actions as listed below for the following members regarding refunds:

Member Name	Retirement Plan Type
Amin, Nawied	G7, Non-vested
Borgueta, Clementine	G7, Non-vested
Davalos, Edgar	P7, Non-vested
Flatmoe, Chris	G5, Non-vested
Kelly, Sean	G4, Vested
Miranda, Ma Melanie	G4, Vested
Takla, La Tanya	G5, Non-vested
Valentin-Cubing, Susan	G4, QDRO

4.6 Member Account Rollovers

The Board ratifies the actions as listed below for the following members regarding rollovers:

Member Name	Retirement Plan Type
Davis, Michelle	G5, Non-vested

Downey, Bryan	G7, Non-vested
Li, Yinglin	G7, Non-vested
Maitoza, Edward	G4, Non-vested
Osback, Terry	G7, Non-vested
Yokota, Jessica	G4, Non-vested

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
Board of Retirement

July 27, 2015 Agenda Item 4.7

TO: Board of Retirement

FROM: Gladys Smith, Assistant Executive Officer

SUBJECT: Questions for Annual Review of Milliman Inc.

Staff Recommendation

Staff recommends the Board review, suggest changes and then approve the questions in the attached document entitled, "Questions for Annual Actuarial Consultant Evaluation."

Discussion

The questions in the attached document will be submitted to SamCERA's actuary, Milliman Inc., prior to the annual review, which will be scheduled for the September 27, 2016, Board meeting. In addition, there will be a survey of trustees and staff regarding Milliman's performance.

Staff will provide Milliman's responses to the questionnaire as well as the survey results at the September meeting.

Attachment

Staff's proposed "Questions for Annual Actuarial Consultant Evaluation"

Questions for Annual Actuarial Consultant Evaluation

Fiscal Year 2015-16

Organizational Update

1) What is the ownership structure of your firm? Identify all owners with 5% ownership or more.
2) Provide an update on your firm's organization, with particular emphasis on (a) changes to your management structure over the past eighteen months, and (b) clients gained or lost in the past eighteen months. All significant changes should be accompanied by an explanation. An organizational chart should accompany this response.
3) What is your firm's philosophy and current policy regarding new business?
4) Update all significant personnel changes or expected changes to the "SamCERA Team." Describe the relative strength and longevity of your staff.
5) Has your firm or any of its employees been involved in regulatory or litigation actions related to your business in the past twelve months?
6) Are any of your operations outsourced? If the answer is yes, provide details regarding the firm(s) with which your firm has contracted.
7) Has an actuarial audit been performed on any of your firm's actuarial products in the past twelve months? If yes, discuss the audit and the findings. Any material findings or recommendations must be accompanied by an explanation.
8) What are your mission critical systems? Has your firm experienced any problems with these systems in the past twelve months? When were these systems implemented and when were they last upgraded? Do you anticipate any changes to these systems in the next twelve months?
9) Provide an overview of your firm's business continuity plan. Please describe any such changes in the last year.

Actuarial Process

10) Provide a description, in detail, of your actuarial process.
11) Describe your peer review procedures in detail and include whether and the extent it involves other actuarial firms.

Outlook

12) What issues are other clients concerned with in regards to products, services, education and governance?

13) Describe your assessment of the relationship between your firm and SamCERA. How can SamCERA better assist you in accomplishing the goals it has established for your firm? How can we better utilize your firm's capabilities?

Conclusion

14) What actuarial related changes should SamCERA consider?

15) Relative to your expertise, what trends are occurring in the public pension industry that SamCERA should be tracking?

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
Board of Retirement

July 27, 2016 Agenda Item 4.8

TO: Board of Retirement

FROM: Scott Hood, Chief Executive Officer

SUBJECT: Addendum to the 2015 Actuarial Valuation and Resolution Accepting Contribution Rates Contained in the July 20, 2016 Addendum

Recommendation

Accept the July 20, 2016 addendum to the 2015 Actuarial Valuation and approve a Resolution Accepting the Contribution Rates contained in the addendum to recommend to the Board of Supervisors for Fiscal Year 2016-17.

Background

At its September 22, 2015 meeting, the Board accepted the 2015 Actuarial Valuation and the Fiscal Year 2016-17 employer and employee contribution rates. At its March 2016 meeting, the Board accepted an amendment to the 2015 Valuation. The amendment was necessary to change member and employer contribution rates created after the San Mateo Superior Court and its AFSCME and SEIU members agreed to a 50% COLA cost share. Subsequent to that, the County and the Probation and Detention members (PDA) agreed that PDA members would contribute 50% of the retirement COLA costs and that the County would no longer pick up of 20% the PDA member contributions.

Discussion

The shifting of COLA costs and termination of employee pick up for PDA members will not change the total amount of contributions expected to be paid to SamCERA for the 2016-17 fiscal year; it only changes the distribution of contributions between the County and the PDA members. As discussed in the attached addendum, Milliman created a simplified set of member and employer rate exhibits to reflect the changes noted above:

Safety/Probation Member Contribution Rates	(Exhibit D-2)
General Member Contribution Rates (including SMCM&VCD)	(Exhibit D-4)
Safety Member Contribution Rates (including Probation Managers)	(Exhibit D-5)
PDA Member Contribution Rates	(Exhibit D-6)
Statutory Employer Contribution Rates – All Plans	(Exhibit 10)
Employer Statutory Contribution Rates- Probation	(Exhibit 10d)
Calculated Gross Normal Cost Rates	(Exhibit 11)

Milliman included Exhibits D-1, 10a, b and c in its letter but these were not changed.

Attachments

Milliman's July 20, 2016 Letter Regarding Revised Rates

Resolution Accepting Contribution Rates contained in the July 20, 2016 addendum to The 2015 Actuarial Valuation to recommend to the Board of Supervisors for the 2016-2017 Fiscal Year

Milliman

1301 Fifth Avenue
Suite 3800
Seattle, WA 98101-2605
USA

Tel +1 206 624 7940
Fax +1 206 623 3485

milliman.com

VIA EMAIL ONLY

July 20, 2016

Board of Retirement
San Mateo County Employees' Retirement Association
100 Marine Parkway, Suite 125
Redwood Shores, CA 94065-5208

Re: June 30, 2015 Actuarial Valuation Addendum – Revised Employer Contribution Rates

Dear Members of the Board:

We have previously provided an actuarial valuation report as of June 30, 2015 for the San Mateo County Employees' Retirement Association (SamCERA), and an addendum to Courts and provisional PDA contribution rates in our letter dated February 12, 2016. Contribution rates determined as of June 30, 2015 are scheduled to be effective for the fiscal year beginning on the first pay period in July 2016.

Changes in Member Contribution Rates

It is our understanding that effective FY 2016-17 all current Court employees under General Plans 1, 2, and 4 with retirement benefits negotiated under AFSCME and SEIU contracts will pay 50% of the retirement COLA cost. We also understand that effective FY 2016-17 all current Probation members under Plans 1, 2, and 4 with retirement benefits negotiated under PDA will pay 50% of the retirement COLA cost and will no longer have a 20% employer contribution "pick-up."

Our letter dated February 12, 2016 provided the revised employer contribution rates for Court employees (Exhibit 10a). This exhibit is attached again for your reference. The purpose of this addendum is to provide revised employer contribution rates for Probation members (Exhibit 10d) for the fiscal year beginning July 1, 2016 that reflect these changes, and to provide a revised Exhibit 10 that reflects revised aggregated information from Exhibits 10a-10d. We are also providing a revised Exhibit 11 – Normal Cost that reflects changes for Probation members as a result of the revised COLA and member pick-up provisions.

Employer Contribution Rates

Based on our understanding of the contribution rates described above, the following summarizes our recommended employer statutory contribution rates effective on the first pay period in July 2016 for different classes of members:

General members:	Rates provided in Exhibit 10a of our letter dated February 12, 2016 and attached to this letter.
SMCM&VCD members:	Rates provided in Exhibit 10b of our June 30, 2015 valuation report and attached to this letter.
Safety members:	Rates provided in Exhibit 10c of our June 30, 2015 valuation report and attached to this letter.
Probation members:	Rates provided in Exhibit 10d attached to this letter.

Member Contribution Rates

The member contribution rates provided in the June 30, 2015 actuarial valuation Appendix D can be used to calculate the necessary member rates effective July 1, 2016, with some adjustments to reflect changes in COLA shares. We have attached a revised set of Appendix D exhibits to this letter that may be used effective on the first pay period in July 2016 as follows:

1. Exhibit D-1 shows basic member rates for General and SMCM&VCD members.
2. Exhibit D-2 shows basic member rates for all Safety and Probation members.
3. Exhibit D-3 is no longer used and is not attached to this letter.
4. Exhibit D-4 shows 50% COLA share member rates for General and SMCM&VCD members.
5. Exhibit D-5 shows 50% COLA share member rates for Safety members and Probation Managers.
6. Exhibit D-6 shows 50% COLA share member rates for PDA members.

Estimation Techniques Used

For purposes of this analysis, we have used a simplified technique to determine the effect of the change in COLA sharing on the Courts employer contribution rates. Specifically, we have increased the expected member contributions to reflect the 50% COLA share based on the average entry age of the group (rounded down one year). For PDA employees we calculated revised Gross Normal Costs and member contribution rates reflecting the 50% COLA share and removal of pick-up contributions.

The higher expected member contribution rates result in reduced employer contribution rates for the affected groups. The Unfunded Actuarial Accrued Liability (UAAL) rates and the contribution rates for all other groups remain unchanged from the June 30, 2015 valuation. We believe this approach provides a reasonable estimation of employer contribution rates; however, a more detailed calculation should be performed in future valuations.

Certification

This addendum is based on our valuation report dated September 22, 2015 and addendum dated February 12, 2016. All caveats disclosed in those reports continue to apply. All plan provisions, assumptions, and methods are the same as the valuation, except for the changes due to addition of the 50% COLA sharing for certain General and Probation members, and the removal of pick-up provisions for certain Probation members, as specified in this letter.

Milliman's work is prepared solely for the internal business use of SamCERA. To the extent that Milliman's work is not subject to disclosure under applicable public records laws, Milliman's work may not be provided to third parties without Milliman's prior written consent. Milliman does not intend to benefit or create a legal duty to any third party recipient of its work product. Milliman's consent to release its work product to any third party may be conditioned on the third party signing a Release.

No third party recipient of Milliman's work product should rely upon Milliman's work product. Such recipients should engage qualified professionals for advice appropriate to their own specific needs.

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, this report is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices. We are members of the American Academy of Actuaries and meet the Qualification Standards to render the actuarial opinion contained herein.

Sincerely,

Nick Collier, ASA, EA, MAAA
Consulting Actuary

Craig Glyde, ASA, EA, MAAA
Consulting Actuary

NJC/CJG/nlo

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION

Board of Retirement

RESOLUTION 16-17-___

RESOLUTION ACCEPTING CONTRIBUTION RATES CONTAINED IN THE JULY 20, 2016 ADDENDUM TO THE 2015 ACTUARIAL VALUATION TO RECOMMEND TO THE BOARD OF SUPERVISORS FOR THE 2016-2017 FISCAL YEAR.

WHEREAS, Government Code §31453 mandates the periodic actuarial valuation of the Retirement Fund and requires that the Board ..."*shall, at least 45 days prior to the beginning of the succeeding fiscal year, recommend to the Board of Supervisors such changes in the rates of interest, in the rates of contributions of members, and in the county and district appropriations as are necessary...;*" and

WHEREAS, the Board has received and accepted the June 30, 2015, valuation report from its actuarial firm, Milliman, Inc., accepted the employer and member contribution rates as recommended and those rates have been accepted by the Board of Supervisors; and

WHEREAS, the Board has received and accepted the February 12, 2016 Actuarial Valuation Addendum from Milliman, Inc., and

WHEREAS, the Board has received and accepted the July 20, 2016 Actuarial Valuation Addendum from Milliman, Inc., and

WHEREAS, the Chief Executive Officer has recommended, in agreement with Milliman, Inc., the contribution rates necessary to assure the actuarial soundness of the Retirement Fund,

Therefore, be it

RESOLVED that the Board hereby accepts and rates set forth in the July 20, 2016 Actuarial Valuation Addendum effective for the fiscal year 2016-2017.

Be it further

RESOLVED that the Board recommends that the Board of Supervisors adopt the rates of interest, the rates of contributions of members and employers shall be set in accordance with the following schedules of contribution rates listed below, as a percentage of compensation earnable for members who commenced employment prior to January 1, 2013, as well as those members who commenced employment after January 1, 2013, but who are not PEPRA Plan members, and as a percentage of pensionable compensation for those members who commenced employment after January 1, 2013, and are members of the PEPRA Plan (Plan 7). These rates shall be effective in the first pay period of the fiscal year beginning July 1, 2016.

Safety/Probation Member Contribution Rates	(Exhibit D-2)
General Member Contribution Rates (including SMCM&VCD)	(Exhibit D-4)
Safety Member Contribution Rates (including Probation Managers)	(Exhibit D-5)
PDA Member Contribution Rates	(Exhibit D-6)
Statutory Employer Contribution Rates – All Plans	(Exhibit 10)
Employer Statutory Contribution Rates- Probation	(Exhibit 10d)
Calculated Gross Normal Cost Rates	(Exhibit 11)

Be it further

RESOLVED that the Chief Executive Officer is hereby authorized to transmit these amended rates and recommendations to the Board of Supervisors and to take all actions necessary to provide for their implementation effective in the first pay period of the fiscal year beginning July 1, 2016.

PASSED AND ADOPTED by the Board of Retirement on July 27, 2016.

____

Paul Hackleman, Chair, Board of Retirement

I, Paul Hackleman, Chair, Board of Retirement of the San Mateo County Employees' Retirement Association, DO HEREBY CERTIFY that the foregoing resolution was duly introduced, approved and adopted by the Board of Retirement at a regular meeting of the Board of Retirement held on the July 27, 2016, by the following vote:

AYES:

NOES:

ABSENT:

ATTEST: ___________________________

Chair, Board of Retirement

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION

Board of Retirement

List of Amended Exhibits

Safety/Probation Member Contribution Rates	(Exhibit D-2)
General Member Contribution Rates (including SMCM&VCD)	(Exhibit D-4)
Safety Member Contribution Rates (including Probation Managers)	(Exhibit D-5)
PDA Member Contribution Rates	(Exhibit D-6)
Statutory Employer Contribution Rates – All Plans	(Exhibit 10)
Employer Statutory Contribution Rates- Probation	(Exhibit 10d)
Calculated Gross Normal Cost Rates	(Exhibit 11)

Exhibit D2: Safety / Probation Member Contribution Rates

	Basic Member Rates			
	Safety & Probation		Safety	Probation
Entry Age [(1)]	Plans 1&2	Plans 4&5&6	Plan 7	Plan 7
16	7.32%	7.04%	13.59%	12.91%
17	7.45%	7.17%	13.59%	12.91%
18	7.59%	7.30%	13.59%	12.91%
19	7.73%	7.44%	13.59%	12.91%
20	7.87%	7.57%	13.59%	12.91%
21	8.02%	7.71%	13.59%	12.91%
22	8.16%	7.85%	13.59%	12.91%
23	8.31%	8.00%	13.59%	12.91%
24	8.47%	8.14%	13.59%	12.91%
25	8.62%	8.29%	13.59%	12.91%
26	8.78%	8.44%	13.59%	12.91%
27	8.94%	8.60%	13.59%	12.91%
28	9.10%	8.75%	13.59%	12.91%
29	9.27%	8.91%	13.59%	12.91%
30	9.44%	9.08%	13.59%	12.91%
31	9.61%	9.24%	13.59%	12.91%
32	9.79%	9.42%	13.59%	12.91%
33	9.97%	9.59%	13.59%	12.91%
34	10.16%	9.77%	13.59%	12.91%
35	10.35%	9.95%	13.59%	12.91%
36	10.55%	10.14%	13.59%	12.91%
37	10.75%	10.32%	13.59%	12.91%
38	10.95%	10.50%	13.59%	12.91%
39	11.15%	10.68%	13.59%	12.91%
40	11.34%	10.85%	13.59%	12.91%
41	11.53%	11.02%	13.59%	12.91%
42	11.72%	11.17%	13.59%	12.91%
43	11.89%	11.31%	13.59%	12.91%
44	12.05%	11.42%	13.59%	12.91%
45	12.19%	11.52%	13.59%	12.91%
46	12.32%	11.57%	13.59%	12.91%
47	12.41%	11.57%	13.59%	12.91%
48	12.44%	11.95%	13.59%	12.91%
49	12.44%	12.37%	13.59%	12.91%
50	12.44%	12.37%	13.59%	12.91%

(1) For Safety and Probation members entering after age 50, the rate equals the rate at age 50.

Exhibit D4: General Member Contribution Rates (including SMCM&VCD)

	50% Member COLA Rates			
Entry Age [1]	Plan 1	Plan 2	Plan 4	Plan 5
16	2.10%	1.81%	1.19%	0.98%
17	2.14%	1.84%	1.21%	1.00%
18	2.19%	1.88%	1.23%	1.02%
19	2.23%	1.91%	1.26%	1.04%
20	2.27%	1.95%	1.28%	1.06%
21	2.31%	1.98%	1.31%	1.08%
22	2.35%	2.02%	1.33%	1.10%
23	2.39%	2.06%	1.35%	1.12%
24	2.44%	2.09%	1.38%	1.14%
25	2.48%	2.13%	1.40%	1.16%
26	2.53%	2.17%	1.43%	1.18%
27	2.57%	2.21%	1.45%	1.20%
28	2.62%	2.25%	1.48%	1.23%
29	2.67%	2.29%	1.51%	1.25%
30	2.72%	2.33%	1.54%	1.27%
31	2.77%	2.38%	1.57%	1.30%
32	2.82%	2.42%	1.59%	1.32%
33	2.87%	2.47%	1.62%	1.34%
34	2.92%	2.51%	1.65%	1.37%
35	2.98%	2.56%	1.68%	1.39%
36	3.03%	2.60%	1.71%	1.42%
37	3.09%	2.65%	1.74%	1.44%
38	3.15%	2.70%	1.78%	1.47%
39	3.21%	2.75%	1.81%	1.50%
40	3.26%	2.80%	1.84%	1.53%
41	3.33%	2.86%	1.88%	1.55%
42	3.39%	2.91%	1.91%	1.58%
43	3.46%	2.97%	1.95%	1.61%
44	3.52%	3.02%	1.98%	1.64%
45	3.58%	3.07%	2.01%	1.67%
46	3.64%	3.13%	2.04%	1.70%
47	3.70%	3.17%	2.07%	1.73%
48	3.75%	3.22%	2.09%	1.76%
49	3.80%	3.26%	2.12%	1.79%
50	3.85%	3.30%	2.13%	1.82%
51	3.89%	3.34%	2.15%	1.85%
52	3.92%	3.36%	2.15%	1.88%
53	3.93%	3.37%	2.21%	1.90%
54	3.93%	3.37%	2.29%	1.92%
55	3.93%	3.37%	2.29%	1.94%
56	3.93%	3.37%	2.29%	1.94%
57	3.93%	3.37%	2.29%	1.94%
58	3.93%	3.37%	2.29%	2.01%
59	3.93%	3.37%	2.29%	2.08%
60	3.93%	3.37%	2.29%	2.08%

(1) *For County General members (except plan 5 members) entering after age 55, the rate equals the rate at age 55. For County General plan 5 members entering after age 60, the rate equals the rate at age 60.*

Exhibit D5: Safety Member Contribution Rates[2]

Entry Age [1]	50% Member COLA Rates			
	Plans 1&2	Plan 4	Plan 5	Plan 6
16	4.24%	2.39%	2.16%	1.98%
17	4.32%	2.44%	2.20%	2.02%
18	4.40%	2.48%	2.24%	2.05%
19	4.48%	2.53%	2.29%	2.09%
20	4.56%	2.57%	2.33%	2.13%
21	4.65%	2.62%	2.37%	2.17%
22	4.73%	2.67%	2.41%	2.21%
23	4.82%	2.72%	2.46%	2.25%
24	4.91%	2.77%	2.50%	2.29%
25	5.00%	2.82%	2.55%	2.33%
26	5.09%	2.87%	2.59%	2.37%
27	5.18%	2.92%	2.64%	2.42%
28	5.27%	2.97%	2.69%	2.46%
29	5.37%	3.03%	2.74%	2.51%
30	5.47%	3.08%	2.79%	2.55%
31	5.57%	3.14%	2.84%	2.60%
32	5.67%	3.20%	2.90%	2.65%
33	5.78%	3.26%	2.95%	2.70%
34	5.89%	3.32%	3.00%	2.75%
35	6.00%	3.38%	3.06%	2.80%
36	6.11%	3.44%	3.12%	2.85%
37	6.23%	3.51%	3.17%	2.90%
38	6.35%	3.57%	3.23%	2.95%
39	6.46%	3.63%	3.28%	3.00%
40	6.57%	3.69%	3.34%	3.05%
41	6.68%	3.74%	3.39%	3.10%
42	6.79%	3.79%	3.43%	3.14%
43	6.89%	3.84%	3.48%	3.18%
44	6.98%	3.88%	3.51%	3.21%
45	7.07%	3.91%	3.54%	3.24%
46	7.14%	3.93%	3.56%	3.25%
47	7.19%	3.93%	3.56%	3.25%
48	7.21%	4.06%	3.67%	3.36%
49	7.21%	4.20%	3.80%	3.48%
50	7.21%	4.20%	3.80%	3.48%

(1) For members entering after age 50, the rate equals the rate at age 50.

(2) These contribution rates also apply to Probation Managers.

Exhibit D6: PDA Member Contribution Rates[2]

	50% Member COLA Rates			
Entry Age [1]	Plans 1&2	Plan 4	Plan 5	Plan 6
16	3.96%	2.34%	2.18%	1.88%
17	4.02%	2.39%	2.22%	1.91%
18	4.10%	2.43%	2.26%	1.95%
19	4.18%	2.47%	2.30%	1.98%
20	4.25%	2.52%	2.34%	2.02%
21	4.33%	2.56%	2.39%	2.06%
22	4.41%	2.61%	2.43%	2.09%
23	4.49%	2.66%	2.47%	2.13%
24	4.57%	2.71%	2.52%	2.17%
25	4.66%	2.76%	2.56%	2.21%
26	4.74%	2.81%	2.61%	2.25%
27	4.83%	2.86%	2.66%	2.29%
28	4.91%	2.91%	2.71%	2.33%
29	5.00%	2.96%	2.76%	2.38%
30	5.10%	3.02%	2.81%	2.42%
31	5.19%	3.08%	2.86%	2.47%
32	5.29%	3.13%	2.91%	2.51%
33	5.39%	3.19%	2.97%	2.56%
34	5.49%	3.25%	3.02%	2.61%
35	5.59%	3.31%	3.08%	2.65%
36	5.70%	3.37%	3.14%	2.70%
37	5.81%	3.43%	3.19%	2.75%
38	5.91%	3.49%	3.25%	2.80%
39	6.02%	3.55%	3.30%	2.85%
40	6.12%	3.61%	3.36%	2.89%
41	6.23%	3.66%	3.41%	2.94%
42	6.32%	3.71%	3.45%	2.98%
43	6.42%	3.76%	3.49%	3.01%
44	6.51%	3.80%	3.53%	3.05%
45	6.58%	3.83%	3.56%	3.07%
46	6.65%	3.85%	3.58%	3.09%
47	6.70%	3.85%	3.58%	3.09%
48	6.72%	3.97%	3.70%	3.19%
49	6.72%	4.11%	3.82%	3.30%
50	6.72%	4.11%	3.82%	3.30%

(1) For PDA members entering after age 50, the rate equals the rate at age 50.

(2) Probation Manager member COLA rates are based on rates shown in Appendix D-5

Exhibit 10: Statutory Employer Contribution Rates - All Plans

All Plans								
			Employer Rates					
	Gross Normal Cost	Member Contributions	Basic Normal Cost	COLA Normal Cost	Total Normal Cost	UAAL Contribution Rate [1]	Total Contribution Rate	Prior Year Total Contribution Rate [2]
General Members								
County (Plan 3)	7.41%	0.00%	7.41%	0.00%	7.41%	18.37%	25.78%	28.31%
County (0%) [3]	21.08%	(10.13)%	5.95%	5.00%	10.95%	18.37%	29.32%	30.63%
County (50%) [3]	20.05%	(11.36)%	6.57%	2.12%	8.69%	18.37%	27.06%	28.70%
Courts (0%) [3]	20.85%	(10.45)%	6.69%	3.71%	10.40%	19.54%	29.94%	30.73%
Courts (50%) [3]	20.59%	(11.96)%	6.68%	1.95%	8.63%	19.54%	28.17%	30.73%
Total	19.85%	(11.13)%	6.54%	2.18%	8.72%	18.43%	27.15%	29.27%
SMCM&VCD Members								
Total	19.14%	(7.39)%	8.59%	3.16%	11.75%	19.54%	31.29%	32.88%
Safety Members								
Total	31.16%	(16.02)%	11.65%	3.49%	15.14%	43.58%	58.72%	65.47%
Probation Members								
PDA	30.92%	(15.61)%	11.96%	3.35%	15.31%	26.77%	42.08%	47.01%
Managers	31.39%	(14.16)%	14.17%	3.06%	17.23%	26.77%	44.00%	46.88%
Total	31.04%	(15.39)%	12.31%	3.34%	15.65%	26.77%	42.42%	46.99%
All Plans								
Total	21.95%	(11.66)%	7.54%	2.75%	10.29%	21.93%	32.22%	34.74%
County Only								
Total	21.95%	(11.73)%	7.49%	2.73%	10.22%	22.04%	32.26%	34.92%

(1) County UAAL Contribution Rate includes an aggregate offset of 1.37% of payroll to reflect the County Supplementary Contribution Account. Offsets vary by class of member as follows:
- General member UAAL offset is 1.17% of payroll
- Safety member UAAL offset is 2.54% of payroll
- Probation member UAAL offset is 1.60% of payroll

(2) The Prior Year Total Contribution Rate reflects the valuation addendums that were issued subsequent to the valuation report.

(3) Bargaining units that have negotiated for members (other than Plan 3 members) to pay a specific share of the cost of COLA are grouped together for purposes of this exhibit. The percentage of total COLA cost paid by member is shown in parenthesis.

Exhibit 10d: Employer Statutory Contribution Rates – Probation

Probation Members								
			Employer Rates					
	Gross Normal Cost	Member Contributions	Basic Normal Cost	COLA Normal Cost	Total Normal Cost	UAAL Contribution Rate [1]	Total Contribution Rate	Prior Year Total Contribution Rate [2]
Plan 1								
PDA Members	34.55%	(3.50)%	15.00%	16.05%	31.05%	26.77%	57.82%	59.14%
Managers	34.55%	(3.50)%	15.00%	16.05%	31.05%	26.77%	57.82%	50.93%
Total	34.55%	(3.50)%	15.00%	16.05%	31.05%	26.77%	57.82%	59.14%
Plan 2								
PDA Members	33.61%	(17.66)%	12.12%	3.83%	15.95%	26.77%	42.72%	48.57%
Managers	33.41%	(14.28)%	13.58%	5.55%	19.13%	26.77%	45.90%	50.03%
Total	33.61%	(16.77)%	12.49%	4.35%	16.84%	26.77%	43.61%	48.98%
Plan 4								
PDA Members	30.93%	(15.55)%	12.09%	3.29%	15.38%	26.77%	42.15%	46.84%
Managers	30.75%	(14.18)%	14.42%	2.15%	16.57%	26.77%	43.34%	45.90%
Total	30.93%	(15.35)%	12.42%	3.16%	15.58%	26.77%	42.35%	46.73%
Plan 5								
PDA Members	29.51%	(13.86)%	12.72%	2.93%	15.65%	26.77%	42.42%	43.75%
Managers	29.51%	(13.86)%	12.72%	2.93%	15.65%	26.77%	42.42%	41.18%
Total	29.51%	(13.86)%	12.72%	2.93%	15.65%	26.77%	42.42%	43.75%
Plan 6								
PDA Members	25.24%	(9.77)%	12.89%	2.58%	15.47%	26.77%	42.24%	43.57%
Managers	25.24%	(9.77)%	12.89%	2.58%	15.47%	26.77%	42.24%	42.00%
Total	25.24%	(9.77)%	12.89%	2.58%	15.47%	26.77%	42.24%	43.57%
Plan 7								
PDA Members	25.82%	(12.91)%	10.20%	2.71%	12.91%	26.77%	39.68%	41.51%
Managers	25.82%	(12.91)%	10.20%	2.71%	12.91%	26.77%	39.68%	41.51%
Total	25.82%	(12.91)%	10.20%	2.71%	12.91%	26.77%	39.68%	41.51%
All Plans								
PDA Members	30.92%	(15.61)%	11.96%	3.35%	15.31%	26.77%	42.08%	47.01%
Managers	31.39%	(14.16)%	14.17%	3.06%	17.23%	26.77%	44.00%	46.88%
Total	31.04%	(15.39)%	12.31%	3.34%	15.65%	26.77%	42.42%	46.99%

(1) UAAL Contribution Rate includes an offset of 1.60% of payroll to reflect the County Supplementary Contribution Account.

(2) The Prior Year Total Contribution Rate reflects the valuation addendums that were issued subsequent to the valuation report.

Exhibit 11: Calculated Gross Normal Cost Rates

All Plans						
	Normal Cost					
Plan	Service Retirement	Disability Retirement	Death while Active	Termination (No Refund)	Termination (Refund)	Total Gross Normal Cost
General Plan 1	15.99%	1.80%	0.45%	2.14%	2.00%	**22.38%**
General Plan 2	15.39%	1.80%	0.42%	1.89%	1.92%	**21.42%**
General Plan 3	6.86%	0.00%	0.00%	0.55%	0.00%	**7.41%**
General Plan 4	15.28%	1.88%	0.39%	1.61%	1.84%	**21.00%**
General Plan 5	13.39%	1.93%	0.35%	1.24%	1.29%	**18.20%**
General Plan 7	11.59%	1.82%	0.31%	0.88%	1.22%	**15.82%**
General Total	14.45%	1.82%	0.38%	1.51%	1.69%	**19.85%**
SMCM&VCD Plan 1	N/A	N/A	N/A	N/A	N/A	**N/A**
SMCM&VCD Plan 2	N/A	N/A	N/A	N/A	N/A	**N/A**
SMCM&VCD Plan 4	14.88%	1.85%	0.37%	1.57%	1.13%	**19.80%**
SMCM&VCD Plan 7	10.64%	1.31%	0.42%	1.13%	1.20%	**14.70%**
SMCM&VCD Total	14.33%	1.78%	0.38%	1.51%	1.14%	**19.14%**
Safety Plan 1	33.40%	4.22%	1.51%	2.20%	1.02%	**42.35%**
Safety Plan 2	26.56%	3.38%	1.40%	1.93%	0.76%	**34.03%**
Safety Plan 4	25.34%	3.46%	1.18%	1.69%	0.75%	**32.42%**
Safety Plan 5	25.46%	4.05%	1.19%	1.25%	0.97%	**32.92%**
Safety Plan 6	26.35%	4.43%	1.12%	0.80%	0.82%	**33.52%**
Safety Plan 7	20.67%	3.72%	1.11%	0.94%	0.74%	**27.18%**
Safety Total	25.13%	3.54%	1.22%	1.61%	0.78%	**32.28%**
Probation Plan 1	29.30%	2.18%	1.06%	1.51%	0.50%	**34.55%**
Probation Plan 2	26.20%	3.31%	1.29%	1.95%	0.86%	**33.61%**
Probation Plan 4	24.22%	3.01%	1.10%	1.78%	0.82%	**30.93%**
Probation Plan 5	23.22%	3.22%	1.04%	1.30%	0.73%	**29.51%**
Probation Plan 6	19.27%	3.06%	1.06%	1.34%	0.51%	**25.24%**
Probation Plan 7	19.81%	3.24%	1.03%	1.07%	0.67%	**25.82%**
Probation Total	24.24%	3.09%	1.13%	1.76%	0.82%	**31.04%**
All Plans	16.27%	2.10%	0.52%	1.54%	1.53%	**21.95%**

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
Board of Retirement

July 27, 2016 Consent Agenda Item 4.9

TO: Board of Retirement

FROM: Doris Ng, Retirement Investment Analyst

SUBJECT: Semi-Annual Compliance Certification Statements for Period Ended June 30, 2016

Staff Recommendation
Accept the semi-annual Compliance Certification Statements for SamCERA's non-alternative investment managers, as of June 30, 2016.

Background
As part of SamCERA's ongoing due diligence process, the Compliance Certification Statement is completed by each of the association's public equity, fixed income, real estate, risk parity and cash overlay investment managers on a semi-annual basis. These statements are used to update SamCERA on any firm-wide compliance issues and to provide strategic-level information regarding such things as derivatives and portfolio positioning. For investment managers whose investments are considered "alternative investment vehicles" per the California Government Section Code §6254.26, the Compliance Certification Statements are not provided in the public board packet and will be sent separately to the Board.

Discussion
The attached Compliance Certification Statements report that SamCERA's investment managers are in compliance with SamCERA's Investment Policy as of June 30, 2016. No firm reported significant developments in portfolio construction, investment approach, firm ownership or organizational structure. Nor were there any notable issues regarding industry or regulatory actions that impact SamCERA. The managers were also requested to provide data regarding the characteristics and composition of each of their portfolios. No prominent issues were identified during the review. Any items that raise concern will be brought to the manager's attention and will be thoroughly vetted by staff.

Please note the Compliance Certification Statements for BlackRock and Franklin Templeton were not received in time to be included in the mailing, but will be included in the August board packet.

Attachments
Compliance Certification Statement Matrix 06-2016
Compliance Certification Statements (11)

A. *<u>Domestic Equity</u>: Barrow Hanley, Brown Advisory*

B. International Equity - Developed: Baillie Gifford, Mondrian, Fidelity Institutional Asset Management (FIAM)
C. Emerging Market Equity: Eaton Vance Parametric
D. Domestic Fixed Income: Brown Brothers Harriman, Fidelity Institutional Asset Management (FIAM), Western Asset Management
E. Real Estate: INVESCO
F. Cash Overlay: The Clifton Group (Parametric)

Compliance Certification Statement Matrix – June 30, 2016

Investment Manager	Mandate	General Compliance Issues	Derivative Instruments	Investment Manager Guidelines	Mandate Specific
Domestic Equity					
Barrow Hanley		No Concerns	Not Applicable	No Concerns	• 6.87% ADR • 2.2% largest security: Altria Group, Inc. • 10.3% largest single industry: Banks • 11% International (Global & EM Mkts)
BlackRock S&P	Pending complete information				
Brown Advisory, LLC		• 1/1/2016-New holding company, Brown Advisory Group Holdings LLC (BAGH), formed to simplify and provide more efficient structure for shareholders. No change in control or management of investment advisor and no assignment.	Not Applicable	No Concerns	• 4.79% Amazon • 12.08% Internet Software & Services (+4.55% v. R1000 Grwth)

Compliance Certification Statement Matrix – June 30, 2016

Investment Manager	Mandate	General Compliance Issues	Derivative Instruments	Investment Manager Guidelines	Mandate Specific
DE Shaw		*Confidential under California Gov. Section Code §6254.26*			
International Equity - Developed					
Baillie Gifford		• 1 retired & 2 new partners (1 net addtn)	Not Applicable	No Concerns	• 1.7% US listed equities • 12.1% ADRs and GDRs • 20.9% Emerging Markets
BlackRock EAFE	Pending complete information				
Mondrian		No Concerns	Lmtd to fwd currency contracts for defensive hedging, traded via Northern Trust (no positions as of date)	No Concerns	• 19.72% Emerging Markets (MIP Ltd Prtnshp)
Fidelity Institutional Asset Management (FIAM) **Select International Small Cap**		• April 2016 -Jeff Lagarce, promoted to Presid. of Fidelity Institutional, Scott Couto to Presid. of FIAM • May 2016 – Michael Whitaker, Sr VP of	Not Applicable	No Concerns	• 22.10% Emerging Markets

Compliance Certification Statement Matrix – June 30, 2016

Investment Manager	Mandate	General Compliance Issues	Derivative Instruments	Investment Manager Guidelines	Mandate Specific
		Asset Mgmt Compliance left. Linda Wondrack remains CCO & Head of Asset Mgmt Compliance.			
Emerging Market Equity					
Eaton Vance Parametric		• Mar 2016 – Randall Hegarty joined as new CCO • June 2016– Parametric CFO role fully integrated w/ Eaton Vance-parent	Not Applicable	No Concerns	• 7.19% ADRs • 8.47% GDRs • 1.68% in Frontier Markets • Vestige (include non-bbmrk holdings) – 35.37%
Domestic Fixed Income					
Angelo Gordon OWL	*Confidential under California Gov. Section Code §6254.26*				
Angelo Gordon STAR	*Confidential under California Gov. Section Code §6254.26*				
Beach Point	*Confidential under California Gov. Section Code §6254.26*				

Compliance Certification Statement Matrix – June 30, 2016

Investment Manager	Mandate	General Compliance Issues	Derivative Instruments	Investment Manager Guidelines	Mandate Specific
Brigade		*Confidential under California Gov. Section Code §6254.26*			
Brown Brothers Harriman		• Per SamCERA's request, duration hedge relative duration variance ~ 2.5-3 yrs. Size of hedge is unique to SamCERA.	No Concerns	No Concerns	Horizon analysis testing available upon request
Fidelity Institutional Asset Management (FIAM) **BMD Bond**		• May 2016- Celso Munoz promoted to PM on Core/Core Plus), Jamie Pagliocco to Hd of Global Bond Trading for Fixed Inc • Also see changes above in FIAM Select International Small Cap	No Concerns	No Concerns	• 3% below invmnt grade (invmnt grade at purchase) • 5.1% in Rule 144A securities
Western		• 1 PM & 1 Advisor left fr Pasadena office, 1 Rsrch Analyst left fr Tokyo. But same time, increased invmnt team by 2.	• Largest single counterparty: Deutsche Bank 0.952% of portfolio	No Concerns	• 1.73% Rule 144A securities

Compliance Certification Statement Matrix – June 30, 2016

Investment Manager	Mandate	General Compliance Issues	Derivative Instruments	Investment Manager Guidelines	Mandate Specific
Global Fixed Income					
Franklin Templeton	Pending complete information				
Real Estate					
Invesco (U.S. Core Real Estate Fund)		• David Farmer (Global Chief Operating Officer) pre-planned retirement Mar 2017. Transition resp. to Beth Zayicek (Global CAO) and Lee Phegley (Global CFO)	Not Applicable	No Concerns	No Concerns
Invesco (U.S. Value-Add Fund IV)			*Confidential under California Gov. Section Code §6254.26*		
Risk Parity					
AQR			*Confidential under California Gov. Section Code §6254.26*		

Compliance Certification Statement Matrix – June 30, 2016

Investment Manager	Mandate	General Compliance Issues	Derivative Instruments	Investment Manager Guidelines	Mandate Specific
PanAgora	*Confidential under California Gov. Section Code §6254.26*				

Cash Overlay

Investment Manager	Mandate	General Compliance Issues	Derivative Instruments	Investment Manager Guidelines	Mandate Specific
The Clifton Group (Parametric)		No Concerns	No Concerns	No Concerns	No Concerns

22 Total
11 Completed
3 Pending Information
8 Confidential

Barrow Hanley Diversified Large Cap Value – June 30, 2016

Compliance Certification Statement
San Mateo County
Employees' Retirement Association

In accordance with SamCERA's Investment Policy Statement, the following compliance worksheet will be completed by each of *SamCERA's* investment managers on a semi-annual basis. These statements must be e-mailed to *SamCERA's* office (Investments@samcera.org) by **Monday, July 11, 2016**.

General Compliance Issues

1. Has the firm acted as a fiduciary and invested its assets for the sole benefit of *SamCERA*?
☒ **Yes /** ☐ **No: Please explain.**

2. Are *SamCERA's* market benchmarks in the respective asset class areas acceptable to the firm?
☒ **Yes /** ☐ **No: Please explain.**

3. Have there been any significant portfolio developments, major changes in firm ownership, organizational structure and personnel?
☐ **Yes: Please explain. /** ☒ **No**

4. Have there been any changes in the firm's investment approach?
☐ **Yes: Please explain. /** ☒ **No**

5. Do *SamCERA's* guidelines require your firm to manage the portfolio significantly differently than other similar portfolios?
☐ **Yes: Please explain. /** ☒ **No**

6. Have there have been any industry or regulatory disciplinary actions taken against the firm?
☐ **Yes: Please explain. /** ☒ **No**

7. Have there been any investment guideline breaches during the prior 6 months?
☐ **Yes: Please explain. /** ☒ **No**

8. Have proxy ballots been voted in accordance with the best economic interest of *SamCERA* and in a manner consistent with the Board's proxy policies?
☒ **Yes /** ☐ **No: Please explain.**

9. Has the firm's insurance coverage been sustained?
☒ **Yes** / ☐ **No: Please explain**.

Investment Management Fees

1. Is *SamCERA*'s investment management fee schedule higher than those charged other institutional clients who hold an account investment substantially similar to ours?
   ☐ **Yes: Please explain. /** ☒ **No**

Derivative Investments

1. Are derivatives used in the management of the investment strategy?
   ☐ **Yes: Please ANSWER the remaining questions in this section.**
   ☒ **No: Please SKIP the remaining questions in this section.**

2. Are derivative investments in compliance with *SamCERA's* investment policies?
   ☐ **Yes /** ☐ **No: Please explain.**

3. If the firm entered into a non-exchange traded derivative, was the general nature and associated risks of the counter-party fully evaluated?
   ☐ **Yes /** ☐ **No: Please explain.**

4. For non-exchange traded derivative transactions, were the counter-parties broker/dealers?
   ☐ **Yes /** ☐ **No**

   If **Yes**:
   a) Do the counter-parties have investment grade debt? ☐ **Yes/** ☐ **No**
   b) Are the counter-parties registered with the SEC and do they have net capital to protect against potential adverse market circumstances? ☐ **Yes/** ☐ **No: Please explain.**

5. For non-exchange traded derivative transactions, were the counter-parties financial institutions (banks)?
   ☐ **Yes /** ☐ **No**

   If **Yes:**
   a) Do the counter-parties have investment grade debt? ☐ **Yes/** ☐ **No**
   b) Do the counter-parties have total assets in excess of $1 billion, and significant net capital to protect against potential adverse market circumstances?
      ☐ **Yes/** ☐ **No: Please explain.**

6. Is individual counter-party exposure well diversified? ☐ **Yes/** ☐ **No: Please explain.**
   a) What is the largest exposure to a single counter-party within the portfolio?
   b) Please specify the name of the counter-party and the amount of exposure.
   c) Have there been any changes to the investment manager's list of approved counter-parties over the past <u>six</u> months?

7. Are the investment purposes for a derivative investment consistent with the four purposes stated *SamCERA's* policies? ☐ **Yes /** ☐ **No: Please explain.**

   a) Has the firm developed any new purposes for derivative investments? ☐ **Yes: Please explain. /** ☐ **No**

8. List all limited allocation derivative investments individually and the percentage of the portfolio's assets represented by each investment.

   a) State if the firm has evaluated the exposure to market value losses that can occur from each of these derivatives. ☐ **Yes /** ☐ **No: Please explain.**
   b) State if these derivative investments in total represent more than 5% of the portfolio's market value. If more than 5%, please explain.

9. State if any restricted derivative investments are held in *SamCERA's* portfolios.
   ☐ **Yes /** ☐ **No**

   a) If any are held, state the percentage of the portfolio's assets held in such derivatives and why the firm is not in compliance with the investment policies.

10. For derivative investments with allocation limits, has the firm tested and measured these investments' sensitivities to changes in key risk factors? ☐ **Yes /** ☐ **No: Please explain**.

11. Have all derivative investments been made in a manner consistent with the derivative investment process specified in the policy statement? ☐ **Yes /** ☐ **No: Please explain**.

12. Specify the security pricing sources used when developing portfolio market value exposures for limited allocation derivatives.

13. Provide a statement regarding the liquidity of the derivative investments. Provide a general statement discussing the legal and regulatory risks associated with the portfolio manager's investments in derivatives.

14. State if the legal and regulatory risk associated with portfolio derivative investments have changed over the past <u>six</u> months. ☐ **Yes: Please explain. /** ☐ **No**

Investment Manager Guidelines

1. Are portfolio holdings well-diversified, and made in liquid securities?
   ☒ **Yes /** ☐ **No: Please explain**.

2. Has the firm engaged in short selling, use of leverage or margin and/or investments in commodities? ☐ **Yes: Please explain. /** ☒ **No**

Cash & Equivalents

1. Does the firm directly invest in short term fixed income investments? ☐ **Yes /** ☒ **No**

   a) If **Yes,** do the investments comply with the policies? ☐ **Yes /** ☐ **No: Please explain**.

Domestic Equity Portfolios (Large, Mid & Small)

1. Please state the percentage of the portfolio held in each of the following types of securities
   At June 30, 2016, the portfolio held the following:

Common Stock	*98.5%*
Preferred Stock	*0.0%*
Convertible Securities	*0.0%*
Cash & Equivalents	*1.5%*

2. Specify the large, mid and small capitalization exposure of the portfolios? Please specify percentages.
   At June 30, 2016, the firm's allocation within equities is below:

Large-Cap	*74.0%*
Mid-Cap	*11.0%*
Small-Cap	*4.0%*
*International**	*11.0%*

*Includes Global & Emerging Markets

3. Specify the percentage of the portfolio that is invested in American Depository Receipts (ADR's). Also, specify the percentage of the portfolio invested in ADR securities that are 144A securities. If greater than 10%, explain why.
   At June 30, 2016, the portfolio held 6.87% ADR's and none were 144a securities. (Cash positions are not used in the calculation.)

4. Does the portfolio invest in emerging and/or frontier markets? ☐ **Yes /** ☒ **No**

   a) If **Yes**, please specify the percentage(s) of the portfolio invested in emerging and/or frontier markets.

5. What is the largest percentage of the portfolio represented by a single security? Specify the name of the security and percentage amount. If any securities were above 5% at the time of purchase, please list and explain why.
   At June 30, 2016, the largest security holding was Altria Group, Inc. with a weighting of 2.2%. (Cash positions are not used in the calculation.)

6. What is the largest percentage of the portfolio represented by a single industry? Specify the industry, percentage amount and size relative to benchmark. Please specify all industries above 15%.

   BHMS uses the GICS classification system for our portfolio analysis. At June 30, 2016, the largest industry weighting was Banks, which held a 10.3% weighting. (Cash positions are not used in the calculation.)

7. What proportion of total AUM do the assets in this product make-up of the firm? What size does SamCERA's account comprise of total product assets?

   At June 30, 2016, the DLCV product made-up 5.3% of total firm AUM.

   At June 30, 2016, SamCERA's account comprised 2.2% of the DLCV product assets.

Signed by: Patricia B. Andrews

Title: Chief Compliance and Risk Officer

Dated: July 11, 2016

Name of Firm: Barrow, Hanley, Mewhinney & Strauss LLC

Brown Advisory Large Cap Growth – June 30, 2016

Compliance Certification Statement
San Mateo County
Employees' Retirement Association

In accordance with SamCERA's Investment Policy Statement, the following compliance worksheet will be completed by each of *SamCERA's* investment managers on a semi-annual basis. These statements must be e-mailed to *SamCERA's* office (Investments@samcera.org) by **Monday, July 11, 2016**.

General Compliance Issues

1. Has the firm acted as a fiduciary and invested its assets for the sole benefit of *SamCERA*?
☒ **Yes /** ☐ **No: Please explain.**

2. Are *SamCERA's* market benchmarks in the respective asset class areas acceptable to the firm?
☒ **Yes /** ☐ **No: Please explain.**

3. Have there been any significant portfolio developments, major changes in firm ownership, organizational structure and personnel?
☒ **Yes: Please explain. /** ☐ **No**

   Effective January 1, 2016 Brown Advisory underwent an internal reorganization to simplify the firm's corporate structure, provide certain tax advantages, and facilitate a more efficient structure for shareholders by forming a new holding company, Brown Advisory Group Holdings LLC ("BAGH"). BAGH is organized as a Delaware limited liability company. Prior to the internal reorganization, Brown Advisory as an enterprise maintained two holding companies, Brown Advisory Incorporated ("BAI") and Brown Advisory Management, LLC ("BAM"). In connection with the reorganization, the new holding company, BAGH, was formed to serve as the parent company of both current holding companies, BAI and BAM. This reorganization did not result in any changes to the business, operations, governance or management of any of the firm's registered investment advisors or any operating affiliates.

4. Have there been any changes in the firm's investment approach?
☐ **Yes: Please explain. /** ☒ **No**

5. Do *SamCERA's* guidelines require your firm to manage the portfolio significantly differently than other similar portfolios?
☐ **Yes: Please explain. /** ☒ **No**

6. Have there have been any industry or regulatory disciplinary actions taken against the firm?
☐ **Yes: Please explain. /** ☒ **No**

7. Have there been any investment guideline breaches during the prior 6 months?
   ☐ **Yes: Please explain. /** ☒ **No**

8. Have proxy ballots been voted in accordance with the best economic interest of *SamCERA* and in a manner consistent with the Board's proxy policies?
   ☒ **Yes /** ☐ **No: Please explain.**

9. Has the firm's insurance coverage been sustained?
   ☒ **Yes /** ☐ **No: Please explain.**

Investment Management Fees

1. Is *SamCERA*'s investment management fee schedule higher than those charged other institutional clients who hold an account investment substantially similar to ours?
   ☐ **Yes: Please explain. /** ☒ **No**

Derivative Investments ***<u>Section is not applicable</u>***

1. Are derivatives used in the management of the investment strategy?
   ☐ **Yes: Please ANSWER the remaining questions in this section.**
   ☒ **No: Please SKIP the remaining questions in this section.**

2. Are derivative investments in compliance with *SamCERA's* investment policies?
   ☐ **Yes /** ☐ **No: Please explain.**

3. If the firm entered into a non-exchange traded derivative, was the general nature and associated risks of the counter-party fully evaluated?
   ☐ **Yes /** ☐ **No: Please explain.**

4. For non-exchange traded derivative transactions, were the counter-parties broker/dealers?
   ☐ **Yes /** ☐ **No**

   If **Yes**:
   a) Do the counter-parties have investment grade debt? ☐ **Yes/** ☐ **No**
   b) Are the counter-parties registered with the SEC and do they have net capital to protect against potential adverse market circumstances? ☐ **Yes/** ☐ **No: Please explain.**

5. For non-exchange traded derivative transactions, were the counter-parties financial institutions (banks)?
   ☐ **Yes /** ☐ **No**

   If Yes:
   a) Do the counter-parties have investment grade debt? ☐ **Yes/** ☐ **No**

b) Do the counter-parties have total assets in excess of $1 billion, and significant net capital to protect against potential adverse market circumstances?
☐ **Yes/** ☐ **No: Please explain.**

6. Is individual counter-party exposure well diversified? ☐ **Yes/** ☐ **No: Please explain.**
   a) What is the largest exposure to a single counter-party within the portfolio?
   b) Please specify the name of the counter-party and the amount of exposure.
   c) Have there been any changes to the investment manager's list of approved counter-parties over the past six months?

7. Are the investment purposes for a derivative investment consistent with the four purposes stated *SamCERA's* policies? ☐ **Yes /** ☐ **No: Please explain.**

   a) Has the firm developed any new purposes for derivative investments? ☐ **Yes: Please explain. /** ☐ **No**

8. List all limited allocation derivative investments individually and the percentage of the portfolio's assets represented by each investment.

   a) State if the firm has evaluated the exposure to market value losses that can occur from each of these derivatives. ☐ **Yes /** ☐ **No: Please explain.**
   b) State if these derivative investments in total represent more than 5% of the portfolio's market value. If more than 5%, please explain.

9. State if any restricted derivative investments are held in *SamCERA's* portfolios.
   ☐ **Yes /** ☐ **No**
   a) If any are held, state the percentage of the portfolio's assets held in such derivatives and why the firm is not in compliance with the investment policies.

10. For derivative investments with allocation limits, has the firm tested and measured these investments' sensitivities to changes in key risk factors? ☐ **Yes /** ☐ **No: Please explain.**

11. Have all derivative investments been made in a manner consistent with the derivative investment process specified in the policy statement? ☐ **Yes /** ☐ **No: Please explain.**

12. Specify the security pricing sources used when developing portfolio market value exposures for limited allocation derivatives.

13. Provide a statement regarding the liquidity of the derivative investments. Provide a general statement discussing the legal and regulatory risks associated with the portfolio manager's investments in derivatives.

14. State if the legal and regulatory risk associated with portfolio derivative investments have changed over the past six months. ☐ **Yes: Please explain. /** ☐ **No**

Investment Manager Guidelines

1. Are portfolio holdings well-diversified, and made in liquid securities?
   ☒ **Yes /** ☐ **No: Please explain.**

2. Has the firm engaged in short selling, use of leverage or margin and/or investments in commodities? ☐ **Yes: Please explain. /** ☒ **No**

Cash & Equivalents

1. Does the firm directly invest in short term fixed income investments? ☐ **Yes /** ☒ **No**

   a) If **Yes,** do the investments comply with the policies? ☐ Yes / ☐ **No: Please explain.**

Domestic Equity Portfolios (Large, Mid & Small)

1. Please state the percentage of the portfolio held in each of the following types of securities

Common Stock	*94.2%*
Preferred Stock	*%*
Convertible Securities	*%*
Cash & Equivalents	*5.80%*

2. Specify the large, mid and small capitalization exposure of the portfolios? Please specify percentages.

Large-Cap	*84.59%*
Mid-Cap	*15.41%*
Small-Cap	*0%*

***Please note:** The above information provided is based on a Large-Cap Growth representative account and is consistent among accounts managed in the same manner. Source: FactSet*

3. Specify the percentage of the portfolio that is invested in American Depository Receipts (ADR's). Also, specify the percentage of the portfolio invested in ADR securities that are 144A securities. If greater than 10%, explain why.

   Percentage in ADRs: 0%

4. Does the portfolio invest in emerging and/or frontier markets? ☐ **Yes /** ☒ **No**

   a) If **Yes**, please specify the percentage(s) of the portfolio invested in emerging and/or frontier markets.

5. What is the largest percentage of the portfolio represented by a single security? Specify the name of the security and percentage amount. If any securities were above 5% at the time of purchase, please list and explain why.

   Amazon.com, Inc. 4.79%

6. What is the largest percentage of the portfolio represented by a single industry? Specify the industry, percentage amount and size relative to benchmark. Please specify all industries above 15%.

   Internet Software & Services – 12.08% (4.55% relative to Russell 1000 Growth)

7. What proportion of total AUM do the assets in this product make-up of the firm? What size does SamCERA's account comprise of total product assets?

   The Large Cap Growth Strategy (LCG) makes up 33.7% of firm AUM*
   SamCERA's account makes up 0.8% of Large-Cap Growth Strategy assets

   * As of June 30, 2016, the firm had approximately $43.0 billion in assets under management, advisement, and administration in accounts managed according to the Global Investment Performance Standards (GIPS) and including the following entities: Brown Advisory LLC, Brown Investment Advisory and Trust Company, Brown Advisory Trust Company of Delaware LLC, and Brown Advisory Ltd.

Signed by:	Brett D. Rogers
Dated:	July 15, 2016
Name of Firm:	Brown Advisory LLC

Baillie Gifford Overseas International Growth – June 30, 2016

Compliance Certification Statement
San Mateo County
Employees' Retirement Association

In accordance with SamCERA's Investment Policy Statement, the following compliance worksheet will be completed by each of *SamCERA's* investment managers on a semi-annual basis. These statements must be e-mailed to *SamCERA's* office (Investments@samcera.org) by **Monday, July 11, 2016**.

General Compliance Issues

1. Has the firm acted as a fiduciary and invested its assets for the sole benefit of *SamCERA*?
   ☒**Yes /** ☐ **No: Please explain.**

2. Are *SamCERA's* market benchmarks in the respective asset class areas acceptable to the firm?
   ☒ **Yes /** ☐ **No: Please explain.**

3. Have there been any significant portfolio developments, major changes in firm ownership, organizational structure and personnel?
   ☒ **Yes: Please explain. /** ☐ **No**

   The number of partners increased from 40 to 41 as at 1 May 2016. This reflects the retirement of Peter Hadden, a Director in the Clients Department and the appointment of two new partners, Tim Garrat and John MacDougall. Tim is a Director in the Clients Department and John is an Investment Manager.

4. Have there been any changes in the firm's investment approach?
   ☐ **Yes: Please explain. /** ☒ **No**

5. Do *SamCERA's* guidelines require your firm to manage the portfolio significantly differently than other similar portfolios?
   ☐ **Yes: Please explain. /** ☒ **No**

6. Have there have been any industry or regulatory disciplinary actions taken against the firm?
   ☐ **Yes: Please explain. /** ☒ **No**

7. Have proxy ballots been voted in accordance with the best economic interest of *SamCERA* and in a manner consistent with the Board's proxy policies?
   ☒**Yes /** ☐ **No: Please explain.**

8. Have there been any investment guideline breaches during the prior 6 months?
   ☐ **Yes: Please explain. /** ☒ **No**

9. Has the firm's insurance coverage been sustained?
   ☒ **Yes /** ☐ **No: Please explain.**

Investment Management Fees

1. Is *SamCERA*'s investment management fee schedule higher than those charged other institutional clients who hold an account investment substantially similar to ours?
   ☐ **Yes: Please explain. /** ☒ **No**

Derivative Investments

1. Are derivatives used in the management of the investment strategy?
   ☐ **Yes: Please ANSWER the remaining questions in this section.**
   ☒ **No: Please SKIP the remaining questions in this section.**

2. ~~Are derivative investments in compliance with *SamCERA's* investment policies?~~
   ~~☐ **Yes /** ☐ **No: Please explain.**~~

3. ~~If the firm entered into a non-exchange traded derivative, was the general nature and associated risks of the counter-party fully evaluated?~~
   ~~☐ **Yes /** ☐ **No: Please explain.**~~

4. ~~For non-exchange traded derivative transactions, were the counter-parties broker/dealers?~~
   ~~☐ **Yes /** ☐ **No**~~

   ~~If **Yes**:~~
   a) ~~Do the counter-parties have investment grade debt? ☐ **Yes/** ☐ **No**~~
   b) ~~Are the counter-parties registered with the SEC and do they have net capital to protect against potential adverse market circumstances? ☐ **Yes/** ☐ **No: Please explain.**~~

5. ~~For non-exchange traded derivative transactions, were the counter-parties financial institutions (banks)?~~
   ~~☐ **Yes /** ☐ **No**~~

   ~~If **Yes**:~~
   a) ~~Do the counter-parties have investment grade debt? ☐ **Yes/** ☐ **No**~~
   b) ~~Do the counter-parties have total assets in excess of $1 billion, and significant net capital to protect against potential adverse market circumstances?~~
      ~~☐ **Yes/** ☐ **No: Please explain.**~~

6. ~~Is individual counter-party exposure well diversified? ☐ **Yes/** ☐ **No: Please explain.**~~

a) ~~What is the largest exposure to a single counter-party within the portfolio?~~
b) ~~Please specify the name of the counter-party and the amount of exposure.~~
c) ~~Have there been any changes to the investment manager's list of approved counter-parties over the past six months?~~

7. ~~Are the investment purposes for a derivative investment consistent with the four purposes stated *SamCERA's* policies? ☐ **Yes** / ☐ **No: Please explain.**~~

   a) ~~Has the firm developed any new purposes for derivative investments? ☐ **Yes: Please explain.** / ☐ **No**~~

8. ~~List all limited allocation derivative investments individually and the percentage of the portfolio's assets represented by each investment.~~

   a) ~~State if the firm has evaluated the exposure to market value losses that can occur from each of these derivatives. ☐ **Yes** / ☐ **No: Please explain.**~~
   b) ~~State if these derivative investments in total represent more than 5% of the portfolio's market value. If more than 5%, please explain.~~

9. ~~State if any restricted derivative investments are held in *SamCERA's* portfolios.~~
   ~~☐ **Yes** / ☐ **No**~~

   a) ~~If any are held, state the percentage of the portfolio's assets held in such derivatives and why the firm is not in compliance with the investment policies.~~

10. ~~For derivative investments with allocation limits, has the firm tested and measured these investments' sensitivities to changes in key risk factors? ☐ **Yes** / ☐ **No: Please explain.**~~

11. ~~Have all derivative investments been made in a manner consistent with the derivative investment process specified in the policy statement? ☐ **Yes** / ☐ **No: Please explain.**~~

12. ~~Specify the security pricing sources used when developing portfolio market value exposures for limited allocation derivatives.~~

13. ~~Provide a statement regarding the liquidity of the derivative investments. Provide a general statement discussing the legal and regulatory risks associated with the portfolio manager's investments in derivatives.~~

14. ~~State if the legal and regulatory risk associated with portfolio derivative investments have changed over the past six months. ☐ **Yes: Please explain.** / ☐ **No**~~

Investment Manager Guidelines

1. Are portfolio holdings well-diversified, and made in liquid securities?
   ☒ **Yes** / ☐ **No: Please explain.**

2. Has the firm engaged in short selling, use of leverage or margin and/or investments in commodities? ☐ **Yes: Please explain.** / ☒**No**

Cash & Equivalents

1. Does the firm directly invest in short term fixed income investments? ☐ **Yes** / ☒ **No**

   a) ~~If **Yes**, do the investments comply with the policies? ☐ **Yes** / ☐ **No: Please explain.**~~

International Equity Portfolios - Developed

1. Specify the percentage of the portfolio held in each of the following types of securities:

*Foreign Ordinary Shares**	*86.2%*
*ADR's***	*12.1%*
Cash & Equivalents (Foreign)	*0.5%*
Cash & Equivalents (Domestic)	*1.2%*

   * includes US listed equities which account for 1.7% of the portfolio
   ** includes ADRs and GDRs

2. Specify the large, mid and small capitalization exposure of the portfolios.

Large-Cap	*49%*
Mid-Cap	*45.6%*
Small-Cap	*5.4%*

Large-Cap comprises stocks with a market cap in excess of US$15b, mid cap US$2.5-15b and small cap less than US$2.5b.

3. Is the firm monitoring the country, currency, sector and security selection risks associated with its portfolio? ☒ **Yes** / ☐ **No: Please explain**

4. Does the portfolio invest in emerging and/or frontier markets? ☒ **Yes** / ☐ **No**

   a) If **Yes**, please specify the percentage(s) of the portfolio invested in emerging and/or frontier markets.

   20.9% of the portfolio is invested in emerging markets. There are no direct investments in frontier markets.

5. Does the portfolio currently employ a currency hedging strategy? ☐ **Yes** / ☒ **No**

6. What proportion of total AUM do the assets in this product make-up of the firm? What size does SamCERA's account comprise of total product assets?

SamCERA is invested in our International Focus strategy, which represents approximately 6% of Baillie Gifford's overall AUM.

SamCERA represents approximately 1.9% of the International Focus strategy's AUM.

Please note that both of these figures are as at 31 March 2016. We will provide updated figures for 30 June 2016 when they are available.

Signed by: KATHRIN HAMILTON

Dated: 07/08/2016

Name of Firm: Baillie Gifford Overseas Limited

Mondrian Investment Partners International Value – June 30, 2016

Compliance Certification Statement
San Mateo County
Employees' Retirement Association

In accordance with SamCERA's Investment Policy Statement, the following compliance worksheet will be completed by each of *SamCERA's* investment managers on a semi-annual basis. These statements must be e-mailed to *SamCERA's* office (Investments@samcera.org) by **Monday, July 11, 2016**.

General Compliance Issues

1. Has the firm acted as a fiduciary and invested its assets for the sole benefit of *SamCERA*?
   ☒ **Yes** / ☐ **No: Please explain.**

2. Have there been any significant portfolio developments, major changes in firm ownership, organizational structure and personnel?
   ☐ **Yes: Please explain.** / ☒ **No**

3. Have there been any changes in the firm's investment approach?
   ☐ **Yes: Please explain.** / ☒ **No**

4. Do *SamCERA's* guidelines require your firm to manage the portfolio significantly differently than other similar portfolios?
   ☐ **Yes: Please explain.** / ☒ **No**

5. Have there have been any industry or regulatory disciplinary actions taken against the firm?
   ☐ **Yes: Please explain.** / ☒ **No**

6. Have proxy ballots been voted in accordance with the best economic interest of *SamCERA* and in a manner consistent with the Board's proxy policies?
   ☒ **Yes** / ☐ **No: Please explain.**

7. Have there been any investment guideline breaches during the prior 6 months?
   ☐ **Yes: Please explain.** / ☒ **No**

8. Has the firm's insurance coverage been sustained?
   ☒ **Yes** / ☐ **No: Please explain.**

Investment Management Fees

1. Is *SamCERA*'s investment management fee schedule higher than those charged other institutional clients who hold an account investment substantially similar to ours?

☐ **Yes: Please explain. /** ☒ **No**

In accordance with the terms of Clause 2.2 of the investment management agreement, during the term of the agreement, Mondrian has not agreed to charge any other institutional client an effective fee lower than the fees charged to SamCERA for an account substantially similar to the SamCERA assets in terms of size, investment objectives and guidelines and degree of services provided.

Derivative Investments

1. Are derivatives used in the management of the investment strategy?
   ☐ **Yes: Please ANSWER the remaining questions in this section.**
   ☒ **No: Please SKIP the remaining questions in this section.**

2. Are derivative investments in compliance with *SamCERA's* investment policies?
   ☐ **Yes /** ☐ **No: Please explain.**

3. If the firm entered into a non-exchange traded derivative, was the general nature and associated risks of the counter-party fully evaluated?
   ☐ **Yes /** ☐ **No: Please explain.**

4. For non-exchange traded derivative transactions, were the counter-parties broker/dealers?
   ☐ **Yes /** ☐ **No**

   If **Yes:**
   a) Do the counter-parties have investment grade debt? ☐ **Yes/** ☐ **No**
   b) Are the counter-parties registered with the SEC and do they have net capital to protect against potential adverse market circumstances? ☐ **Yes/** ☐ **No: Please explain.**

5. For non-exchange traded derivative transactions, were the counter-parties financial institutions (banks)?
   ☐ **Yes /** ☐ **No**

   If Yes:
   a) Do the counter-parties have investment grade debt? ☐ **Yes/** ☐ **No**
   b) Do the counter-parties have total assets in excess of $1 billion, and significant net capital to protect against potential adverse market circumstances?
   ☐ **Yes/** ☐ **No: Please explain.**

6. Is individual counter-party exposure well diversified? ☐ **Yes/** ☐ **No: Please explain.**
   a) What is the largest exposure to a single counter-party within the portfolio?
   b) Please specify the name of the counter-party and the amount of exposure.
   c) Have there been any changes to the investment manager's list of approved counter-parties over the past six months?

7. Are the investment purposes for a derivative investment consistent with the four purposes stated *SamCERA's* policies? ☐ **Yes /** ☐ **No: Please explain.**

   a) Has the firm developed any new purposes for derivative investments? ☐ **Yes: Please explain. /** ☐ **No**

8. List all limited allocation derivative investments individually and the percentage of the portfolio's assets represented by each investment.

   a) State if the firm has evaluated the exposure to market value losses that can occur from each of these derivatives. ☐ **Yes /** ☐ **No: Please explain.**
   b) State if these derivative investments in total represent more than 5% of the portfolio's market value. If more than 5%, please explain.

9. State if any restricted derivative investments are held in *SamCERA's* portfolios.
   ☐ **Yes /** ☐ **No**
   a) If any are held, state the percentage of the portfolio's assets held in such derivatives and why the firm is not in compliance with the investment policies.

10. For derivative investments with allocation limits, has the firm tested and measured these investments' sensitivities to changes in key risk factors? ☐ **Yes /** ☐ **No: Please explain.**

11. Have all derivative investments been made in a manner consistent with the derivative investment process specified in the policy statement? ☐ **Yes /** ☐ **No: Please explain.**

12. Specify the security pricing sources used when developing portfolio market value exposures for limited allocation derivatives.

13. Provide a statement regarding the liquidity of the derivative investments. Provide a general statement discussing the legal and regulatory risks associated with the portfolio manager's investments in derivatives.

14. State if the legal and regulatory risk associated with portfolio derivative investments have changed over the past six months. ☐ **Yes: Please explain. /** ☐ **No**

Investment Manager Guidelines

1. Are portfolio holdings well-diversified, and made in liquid securities?
   ☒ **Yes /** ☐ **No: Please explain.**

2. Has the firm engaged in short selling, use of leverage or margin and/or investments in commodities? ☐ **Yes: Please explain. /** ☒ **No**

Cash & Equivalents

1. Does the firm directly invest in short term fixed income investments? ☐ **Yes /** ☒ **No**

   a) If **Yes,** do the investments comply with the policies? ☐ **Yes /** ☐ **No: Please explain.**

International Equity Portfolios - Developed

1. Specify the percentage of the portfolio held in each of the following types of securities.

Foreign Ordinary Shares	***75.17%***
ADR's	***0%***
MIP Limited Partnership	***22.83%****
Cash & Equivalents (Foreign)	***0.91%***
Cash & Equivalents (Domestic)	***1.09%***

***** MIP Limited Partnership includes cash held in the investment (0.29%)***

2. Specify the large, mid and small capitalization exposure of the portfolios.

Large-Cap>11bn	***80.74%***
Mid-Cap 3.5bn – 11bn	***13.88%***
Small-Cap<3.5bn	***3.09%***

3. Is the firm monitoring the country, currency, sector and security selection risks associated with its portfolio? ☒ **Yes /** ☐ **No: Please explain**

4. Does the portfolio invest in emerging and/or frontier markets? ☒ **Yes /** ☐ **No**

   a) If **Yes**, please specify the percentage(s) of the portfolio invested in emerging and/or frontier markets
   19.72% of the portfolio was invested in emerging markets via Mondrian Investment Partners Limited Partnership Units.

5. Does the portfolio currently employ a currency hedging strategy? ☐ **Yes /** ☒ **No**
   Whilst the portfolio does utilize currency hedging strategies, there were no open positions at 30 June 2016.

6. What proportion of total AUM do the assets in this product make-up of the firm? **8.1%**
   What size does SamCERA's account comprise of total product assets? **3.4%**

Signed by:
Dated: 15 July 2016
Name of Firm: **Mondrian Investment Partners Limited**

Compliance Certification Statement

Select International Small Cap Plus

Firm Name	Fidelity Institutional Asset Management Trust Company (FIAM TC)
Product Name	FIAM Select International Small Cap Plus
Asset Class	International Equity
Respondent / Contact	Mark Botelho, Senior Account Executive
Address	900 Salem Street, Smithfield, RI 02917
Telephone	401-292-4688
E-Mail Address	mark.botelho@pyramis.com

General Compliance Issues

1. Have there been any significant portfolio developments, major changes in firm ownership, organizational structure and personnel?

☒ **Yes: Please explain. /** ☐ **No**

Since the last Compliance Certification statement, the following material senior leadership changes have taken place at FIAM (formerly known as Pyramis):

- In May 2016, Michael Whitaker, Senior Vice President of Asset Management Compliance, decided to pursue career opportunities outside of Fidelity. Linda Wondrack remains Chief Compliance Officer and Head of Asset Management Compliance.
- In April 2016, Jeff Lagarce, president of FIAM, succeeded Gerry McGraw as president of Fidelity Institutional. Scott Couto, formerly head of FIAM Distribution, assumed the role of president of FIAM. Scott's direct reports on the FIAM Distribution team will continue to report to him.

2. Have there been any changes in the firm's investment approach?

☐ **Yes: Please explain. /** ☒ **No**

3. Have there have been any industry or regulatory disciplinary actions taken against the firm?

☐ **Yes: Please explain. /** ☒ **No**

From time to time, in the normal course of its business, the Firm may receive inquiries (including subpoenas and voluntary requests for information) from regulatory authorities or law enforcement. A regulator may conduct an onsite examination or may commence an investigation.

The Firm does not make public comment about such inquiries, examinations or investigations unless, and until, a regulatory body initiates enforcement proceedings. To the extent the Firm's securities affiliates have been sanctioned, fined, or cited by the Securities and Exchange Commission (SEC), Financial

Industry Regulatory Authority (FINRA), or any other regulatory body, any such sanction, fine or citation has been disclosed in its affiliates' Forms BD and/or Forms ADV in accordance with the requirements of such forms.

4. Have proxy ballots been voted in accordance with the best economic interest of *SamCERA?*

☒ **Yes /** ☐ **No: Please explain.**

5. Has the firm's insurance coverage been sustained?

☒ **Yes: /** ☐ **No Please explain.**

Investment Management Fees

1. Is *SamCERA*'s investment management fee schedule higher than those charged other institutional clients who hold an account investment substantially similar to ours?

☐ **Yes: Please explain. /** ☒ **No**

Derivative Investments

1. Are derivatives used in the management of the investment strategy?

☐ **Yes: Please ANSWER the remaining questions in this section.**
☒ **No: Please SKIP the remaining questions in this section.**

2. If the firm entered into a non-exchange traded derivative, was the general nature and associated risks of the counter-party fully evaluated?

☐ **Yes /** ☐ **No: Please explain.**

3. For non-exchange traded derivative transactions, were the counter-parties broker/dealers?

☐ **Yes /** ☐ **No**

If Yes:

a) Do the counter-parties have investment grade debt? ☐ **Yes/** ☐ **No**

b) Are the counter-parties registered with the SEC and do they have net capital to protect against potential adverse market circumstances? ☐ **Yes/** ☐ **No: Please explain.**

4. **For non-exchange traded derivative transactions, were the counter-parties financial institutions (banks)?**

☐ **Yes /** ☐ **No**

If Yes:

   a) **Do the counter-parties have investment grade debt?** ☐ **Yes/** ☐ **No**

   b) **Do the counter-parties have total assets in excess of $1 billion, and significant net capital to protect against potential adverse market circumstances?** ☐ **Yes/** ☐ **No: Please explain.**

5. **Is individual counter-party exposure well diversified?** ☐ **Yes/** ☐ **No: Please explain.**

   a) **What is the largest exposure to a single counter-party within the portfolio?**

   b) **Please specify the name of the counter-party and the amount of exposure.**

   c) **Have there been any changes to the investment manager's list of approved counter-parties over the past six months?**

6. **Specify the security pricing sources used when developing portfolio market value exposures for non-exchanged traded derivative positions.**

7. **Provide a statement regarding the liquidity of the derivative investments. Provide a general statement discussing the legal and regulatory risks associated with the portfolio manager's investments in derivatives.**

8. **State if the legal and regulatory risk associated with portfolio derivative investments have changed over the past six months.**

☐ **Yes: Please explain. /** ☐ **No**

Investment Manager Guidelines

1. **Are portfolio holdings well-diversified, and made in liquid securities?**

☒ **Yes /** ☐ **No: Please explain**.

2. **Has the firm engaged in short selling, use of leverage or margin and/or investments in commodities?**

☐ **Yes: Please explain. /** ☒ **No**

International Equity Portfolios - Developed

1. Specify the percentage of the portfolio held in each of the following types of securities

Foreign Ordinary Shares	97.9%
ADR's	0.0%
Cash & Equivalents (Foreign)	0.0%
Cash & Equivalents (Domestic)	2.1%

2. Specify the large, mid and small capitalization exposure of the portfolios.

The Select International Small Cap Plus portfolio's market capitalization allocation as of June 30, 2016 is provided in the table below. Please note the data provided excludes cash.

	Weight (%)
10b to 20b	1.1
5b to 10b	11.1
2b to 5b	42.1
1b to 2b	24.2
0.5b to 1b	11.8
0.2b to 0.5b	6.6
Below 0.2b	1.0

3. Is the firm monitoring the country, currency, sector and security selection risks associated with its portfolio?

☒ **Yes /** ☐ **No: Please explain**

4. Does the portfolio invest in emerging and/or frontier markets?

☒ **Yes /** ☐ **No**

a. If Yes, please specify the allocation of the portfolio invested in emerging and/or frontier markets

The portfolio invests in emerging markets. As of June 30, 2016, the portfolio's allocation to emerging markets was 22.10%

5. Does the portfolio currently employ a currency hedging strategy?

☐ **Yes /** ☒ **No**

6. What proportion of total AUM do the assets in this product make-up of the firm? What size does SamCERA's account comprise of total product assets?

Please note that as of the date of submission the June 30, 2016 assets are not yet available. The requested information is as of March 31, 2016. The SamCERA Select International Small Cap Plus account represents approximately 6.5% of the assets in the Select International Small Cap Plus strategy and less than 1% of total FIAM assets.

Signed by: **Mark Botelho**
Dated: **7/11/16**
Name of Firm **Fidelity Institutional Asset Management**

Eaton Vance Parametric Emerging Markets Core Fund – June 30, 2016

Compliance Certification Statement
San Mateo County
Employees' Retirement Association

In accordance with SamCERA's Investment Policy Statement, the following compliance worksheet will be completed by each of *SamCERA's* investment managers on a semi-annual basis. These statements must be e-mailed to *SamCERA's* office (Investments@samcera.org) by **Monday, July 11, 2016**.

General Compliance Issues

1. Have there been any significant portfolio developments, major changes in firm ownership, organizational structure and personnel?
   ☒ **Yes: Please explain. /** ☐ **No**

Randall Hegarty assumed the role of Chief Compliance Officer (CCO) on March 28, 2016. As CCO he provides oversight and leadership for all aspects of the compliance program in Parametric's Seattle, Minneapolis, and Westport investment centers. Prior to joining Parametric, Randall served as CCO for RS Investments and the RS Mutual Funds. In that role, he led a comprehensive refresh of the compliance programs for the advisor, mutual funds, and broker-dealer distributor. He has nearly 15 years of legal and compliance experience in the Financial Services Industry. He earned a J.D. at the UCLA School of Law, and a B.A. from the University of Arizona.

As previously disclosed, Deborah Lamb, Parametric's former CCO, left the organization on April 17, 2015. In the interim, Christine Smith, Chief Administrative Officer, served as the acting CCO.

In 2015 Aaron Singleton, Parametric's Chief Financial Officer, announced his plan to leave Parametric mid-2016. Consistent with Parametric's practices and Aaron's commitment to the company's long-term success, he continued to provide his support for an extended period of time to ensure a smooth transition. From January 1 through June 30, 2016, Aaron moved into an advisory role and reduced his day-to-day responsibilities. Additionally, with Parametric's financial processes and controls fully integrated with Eaton Vance and no longer requiring oversight from a separate CFO, this position will be eliminated at Parametric after Aaron's departure in June.

2. Have there been any changes in the firm's investment approach?
   ☐ **Yes: Please explain. /** ☒ **No**

3. Have there have been any industry or regulatory disciplinary actions taken against the firm?
   ☐ **Yes: Please explain. /** ☒ **No**

4. Have proxy ballots been voted in accordance with the best economic interest of *SamCERA*?
☒ **Yes /** ☐ **No: Please explain.**

   Please provide a copy of your firm's proxy policy to Investments@samcera.org.

5. Has the firm's insurance coverage been sustained?
☒ **Yes /** ☐ **No: Please explain.**

Investment Management Fees

1. Is *SamCERA*'s investment management fee schedule higher than those charged other institutional clients who hold an account investment substantially similar to ours?
☐ **Yes: Please explain. /** ☒ **No**

Derivative Investments

1. Are derivatives used in the management of the investment strategy?
☐ **Yes: Please ANSWER the remaining questions in this section.**
☒ **No: Please SKIP the remaining questions in this section.**

2. If the firm entered into a non-exchange traded derivative, was the general nature and associated risks of the counter-party fully evaluated?
☐ **Yes /** ☐ **No: Please explain.**

3. For non-exchange traded derivative transactions, were the counter-parties broker/dealers?
☐ **Yes /** ☐ **No**

   If **Yes**:
   a) Do the counter-parties have investment grade debt? ☐ **Yes/** ☐ **No**
   b) Are the counter-parties registered with the SEC and do they have net capital to protect against potential adverse market circumstances? ☐ **Yes/** ☐ **No: Please explain.**

4. For non-exchange traded derivative transactions, were the counter-parties financial institutions (banks)?
☐ **Yes /** ☐ **No**

   If **Yes:**
   a) Do the counter-parties have investment grade debt? ☐ **Yes/** ☐ **No**
   b) Do the counter-parties have total assets in excess of $1 billion, and significant net capital to protect against potential adverse market circumstances?
   ☐ **Yes/** ☐ **No: Please explain.**

5. Is individual counter-party exposure well diversified? ☐ **Yes/** ☐ **No: Please explain.**
   a) What is the largest exposure to a single counter-party within the portfolio?
   b) Please specify the name of the counter-party and the amount of exposure.
   c) Have there been any changes to the investment manager's list of approved counter-parties over the past six months?

6. Specify the security pricing sources used when developing portfolio market value exposures for non-exchanged traded derivative positions.

7. Provide a statement regarding the liquidity of the derivative investments. Provide a general statement discussing the legal and regulatory risks associated with the portfolio manager's investments in derivatives.

8. State if the legal and regulatory risk associated with portfolio derivative investments have changed over the past six months. ☐ **Yes: Please explain. /** ☐ **No**

Investment Manager Guidelines

1. Are portfolio holdings well-diversified, and made in liquid securities?
   ☒ **Yes /** ☐ **No: Please explain.**

2. Has the fund engaged in short selling, use of leverage or margin and/or investments in commodities?
   ☐ **Yes: Please explain. /** ☒ **No**

International Equity Portfolios - Emerging

1. Specify the percentage of the portfolio held in each of the following types of securities:

Foreign Ordinary Shares	*83.33%*
ADR's	*7.19%*
GDR's	*8.47%*
Derivatives	*0%*
Cash & Equivalents (Foreign)	*.44%*
Cash & Equivalents (Domestic)	*.57%*

2. Specify the large, mid and small capitalization exposure of the portfolios.

Market Cap (USD x 1,000,000)	*Weight*
> 50,000	*4.9%*
15,000 – 50,000	*11.65%*
7,500 – 15,000	*14.37%*

1,500 – 7,500	***46.02%***
750 – 1,500	***14.56%***
400 – 750	***5.36%***
< 400	***3.14%***

3. Specify the allocation to frontier markets and to non-benchmark holdings in the portfolio (list both by country).

   Frontier – 1.68%
   Vestige – 35.37%

4. Is the firm monitoring the country, currency, sector and security selection risks associated with its portfolio? ☒ **Yes /** ☐ **No: Please explain.**

5. Does the portfolio currently employ a currency hedging strategy? ☐ **Yes /** ☒ **No**

6. What proportion of total AUM do the assets in this product make-up of the firm? What size does SamCERA's account comprise of total product assets?

   AUM of this product on 06/30/16 was $207.7 mm USD, while the firm AUM was approximately $165B which makes the proportion of this product 0.12%. Also as of 6/30/16 SAMCERA consisted of 8,011,840.765 shares worth $72,688,563.02 or 34.972% of this product.

Signed by: Randall Hegarty, Chief Compliance Officer
Dated: July 8, 2016
Name of Firm: Parametric Portfolio Associates

Brown Brothers Harriman Inflation Indexed Securities – June 30, 2016

Compliance Certification Statement
San Mateo County
Employees' Retirement Association

In accordance with SamCERA's Investment Policy Statement, the following compliance worksheet will be completed by each of *SamCERA's* investment managers on a semi-annual basis. These statements must be e-mailed to *SamCERA's* office (Investments@samcera.org) by **Monday, July 11, 2016**.

General Compliance Issues

1. Has the firm acted as a fiduciary and invested its assets for the sole benefit of *SamCERA*?
   ☒ **Yes /** ☐ **No: Please explain.**

2. Have there been any significant portfolio developments, major changes in firm ownership, organizational structure and personnel?
   ☐ **Yes: Please explain. /** ☒ **No**

3. Have there been any changes in the firm's investment approach?
   ☐ **Yes: Please explain. /** ☒ **No**

4. Do *SamCERA's* guidelines require your firm to manage the portfolio significantly differently than other similar portfolios?
   ☐ **Yes: Please explain. /** ☒ **No**

5. Have there have been any industry or regulatory disciplinary actions taken against the firm?
   ☐ **Yes: Please explain. /** ☒ **No**

   From time to time BBH becomes involved in litigation and regulatory matters typical of similar service providers in the industry. BBH currently has no pending litigation or regulatory matters that would materially affect its ability to provide the services requested.

6. Have there been any investment guideline breaches during the prior 6 months?
   ☐ **Yes: Please explain. /** ☒ **No**

7. Has the firm's insurance coverage been sustained?
   ☒ **Yes /** ☐ **No: Please explain.**

Investment Management Fees

1. Is *SamCERA*'s investment management fee schedule higher than those charged other institutional clients who hold an account investment substantially similar to ours?

☐ **Yes: Please explain. /** ☒ **No**

Derivative Investments

1. Are derivatives used in the management of the investment strategy?
   ☒ **Yes: Please ANSWER the remaining questions in this section.**
   ☐ **No: Please SKIP the remaining questions in this section.**

2. Are derivative investments in compliance with *SamCERA's* investment policies?
   ☒ **Yes /** ☐ **No: Please explain.**

3. If the firm entered into a non-exchange traded derivative, was the general nature and associated risks of the counter-party fully evaluated?
   ☐ **Yes /** ☐ **No: Please explain.**

   BBH did not enter into any non-exchange traded derivatives in the past 6 months.

4. For non-exchange traded derivative transactions, were the counter-parties broker/dealers?
   ☐ **Yes /** ☐ **No**

   Not applicable.

   If **Yes**:
   a) Do the counter-parties have investment grade debt? ☐ **Yes/** ☐ **No**
   b) Are the counter-parties registered with the SEC and do they have net capital to protect against potential adverse market circumstances? ☐ **Yes/** ☐ **No: Please explain.**

5. For non-exchange traded derivative transactions, were the counter-parties financial institutions (banks)?
   ☐ **Yes /** ☐ **No**

   Not applicable.

   If **Yes:**
   a) Do the counter-parties have investment grade debt? ☐ **Yes/** ☐ **No**
   b) Do the counter-parties have total assets in excess of $1 billion, and significant net capital to protect against potential adverse market circumstances?
      ☐ **Yes/** ☐ **No: Please explain.**

6. Is individual counter-party exposure well diversified? ☐ **Yes/** ☐ **No: Please explain.**

   Not applicable.

   a) What is the largest exposure to a single counter-party within the portfolio? **Not applicable.**
   b) Please specify the name of the counter-party and the amount of exposure. **Not applicable.**

c) Have there been any changes to the investment manager's list of approved counter-parties over the past <u>six</u> months? **Not applicable.**

7. Are the investment purposes for a derivative investment consistent with the four purposes stated *SamCERA's* policies? ☒ **Yes /** ☐ **No: Please explain.**

   a) Has the firm developed any new purposes for derivative investments? ☐ **Yes: Please explain. /** ☒ **No**

8. List all limited allocation derivative investments individually and the percentage of the portfolio's assets represented by each investment.

   a) State if the firm has evaluated the exposure to market value losses that can occur from each of these derivatives. ☐ **Yes /** ☐ **No: Please explain.**
   Not applicable.

   b) State if these derivative investments in total represent more than 5% of the portfolio's market value. If more than 5%, please explain.
   We have not invested in "limited allocation derivative investments" in the SamCERA portfolio.

9. State if any restricted derivative investments are held in *SamCERA's* portfolios.
   ☐ **Yes /** ☒ **No**

   a) If any are held, state the percentage of the portfolio's assets held in such derivatives and why the firm is not in compliance with the investment policies.

10. For derivative investments with allocation limits, has the firm tested and measured these investments' sensitivities to changes in key risk factors? ☐ **Yes /** ☐ **No: Please explain**.

    Not applicable. We have not invested in "limited allocation derivative investments" in the SamCERA portfolio.

11. Have all derivative investments been made in a manner consistent with the derivative investment process specified in the policy statement? ☒ **Yes /** ☐ **No: Please explain**.

12. Specify the security pricing sources used when developing portfolio market value exposures for limited allocation derivatives.

    We have not invested in "limited allocation derivative investments" in the SamCERA portfolio.

13. Provide a statement regarding the liquidity of the derivative investments. Provide a general statement discussing the legal and regulatory risks associated with the portfolio manager's investments in derivatives.

BBH uses two derivative instruments in its Inflation Indexed Strategy, U.S. Treasury futures and foreign exchange forward contracts. U.S. Treasury futures are utilized in what we refer to as a long breakeven position, where an expected increase in breakeven inflation rates is targeted through a relative overweight to long maturity U.S. TIPS. The futures provide a hedge against the additional real rate duration associated with this position. In the SamCERA portfolio, U.S. Treasury futures are also utilized to maintain the duration of the TIPS portfolio consistent with that of the Barclay's Aggregate Index. Foreign exchange forward contracts are utilized to mitigate the currency risk associated with tactical positions in non-U.S. inflation linked debt.

U.S. Treasury futures are among the most liquid investments and because they are exchange traded are not subject to counterparty risk. The foreign exchange market is highly liquid with several trillion dollars of currency traded daily and a wide variety of active market participants worldwide. Within the foreign exchange market, the currencies of the forwards used in the SamCERA portfolio (EUR and GBP versus USD) are among the most actively traded.

Hedging activity or use of forward currency contracts may reduce the risk of loss from currency revaluations, but also may reduce or limit the opportunity for gain and involves counter party risk, which is the risk that the contracting party will not fulfill its contractual obligation to deliver the currency contracted for at the agreed upon price. Because typically no money changes hands at the outset of a forward currency contract, the counter party risk is limited to the profit or loss on the contract, it is not the notional value of the contract.

14. State if the legal and regulatory risk associated with portfolio derivative investments have changed over the past six months. ☐ **Yes: Please explain. /** ☒ **No**

Investment Manager Guidelines

1. Are portfolio holdings well-diversified, and made in liquid securities?
☒ **Yes /** ☐ **No: Please explain**.

2. Has the firm engaged in short selling, use of leverage or margin and/or investments in commodities? ☐ **Yes: Please explain. /** ☒ **No**

Cash & Equivalents

1. Does the firm directly invest in short term fixed income investments? ☐ **Yes /** ☒ **No**

   a) If **Yes,** do the investments comply with the policies? ☐ **Yes /** ☐ **No: Please explain**.

Domestic Fixed Income Portfolios

1. State the percentage of the portfolio held in each of the following types of securities

Certificates of Deposit	*%*
Commercial Paper	*%*
Other high grade short-term securities	*%*
U.S. Government & Agency securities	*100%*
Corporate Bonds	*%*
Mortgage and asset-backed securities	*%*
Yankee bond securities	*%*

2. Is the firm monitoring the country, currency, sector and security selection risks associated with its portfolio? ☒ **Yes /** ☐ **No: Please explain**

3. Does the firm conduct horizon analysis testing? ☐ **Yes /** ☒ **No: Please explain**

   Horizon analysis testing is not part of our normal portfolio analysis process but we can provide it upon request.

4. Are any holdings below investment grade? ☐ **Yes /** ☒ **No**

   a) If **Yes**, why are they held in the portfolio?

5. Excluding U. S. Government and Agency bond holdings, did any individual bond issue represent more than 5% of the market value of the portfolio? ☐ **Yes /** ☒ **No**

   a) If **Yes**, please specify the bond issue and percentage amount.

6. What percentage of the portfolio is held in Rule 144A securities?

   0% as of June 30, 2016.

7. At the time of purchase, was there any single industry which represented more than 15% of the market value of the account. ☐ **Yes /** ☒ **No**

   a) If **Yes**, please specify the name of the industry, percentage amount and size relative to benchmark.

8. What proportion of total AUM do the assets in this product make-up of the firm? What size does SamCERA's account comprise of total product assets?

   As of May 31, 2016, BBH U.S. TIPS strategy assets made up 7% of BBH total AUM and the SamCERA account was 1.7% of BBH U.S. TIPS strategy assets.

Signed by: John Ackler, CFA

Dated: _July 2016_
Name of Firm _Brown Brothers Harriman & Co._

Compliance Certification Statement

FIAM U.S. Core Bonds – June 30, 2016

FIAM Broad Market Duration.

Firm Name	Fidelity Institutional Asset Management Trust Company (FIAM TC)
Product Name	FIAM Broad Market Duration
Asset Class	Investment Grade Credit
Respondent/Contact	Mark Botelho, Senior Account Executive
Address	900 Salem Street, Smithfield, RI 02917
Telephone	401-292-4688
E-Mail Address	mark.botelho@fmr.com

General Compliance Issues

1. **Have there been any significant portfolio developments, major changes in firm ownership, organizational structure and personnel?**

☒ **Yes: Please explain. /** ☐ **No**

Since the last Compliance Certification statement, the following material senior leadership changes have taken place at FIAM and Fidelity:

- In May 2016, Celso Munoz was promoted from his role as a credit research analyst to Portfolio Manager on the Core/Core Plus team.
- In May 2016, Michael Whitaker, Senior Vice President of Asset Management Compliance, decided to pursue career opportunities outside of Fidelity. Linda Wondrack remains Chief Compliance Officer and Head of Asset Management Compliance.
- Also in May 2016, Jamie Pagliocco will assume the role of Head of Global Bond Trading for the Fixed Income Division. Jamie will report to our Bond Chief Investment Officer, Christine Thompson. His role will be filled by Cormac Cullen, who served most recently as a research analyst within the Fixed Income Division. Together, Cormac Cullen, Mark Sommer, and Kevin Ramundo will co-manage Fidelity's municipal bond mutual funds. Fidelity has been co-managing a number of our muni funds and is now expanding the co-manager structure to all our muni mutual funds, including our state funds.
- In April 2016, Jeff Lagarce, president of FIAM, succeeded Gerry McGraw as president of Fidelity Institutional. Scott Couto, formerly head of FIAM Distribution, assumed the role of president of FIAM. Scott's direct reports on the FIAM Distribution team will continue to report to him.

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2. **Have there been any changes in the firm's investment approach?**

☐ **Yes: Please explain. /** ☒ **No**

3. **Have there have been any industry or regulatory disciplinary actions taken against the firm?**

☐ **Yes: Please explain. /** ☒ **No**

From time to time, in the normal course of its business, the Firm may receive inquiries (including subpoenas and voluntary requests for information) from regulatory authorities or law enforcement. A regulator may conduct an onsite examination or may commence an investigation.

The Firm does not make public comment about such inquiries, examinations or investigations unless, and until, a regulatory body initiates enforcement proceedings. To the extent the Firm's securities affiliates have been sanctioned, fined, or cited by the Securities and Exchange Commission (SEC), Financial Industry Regulatory Authority (FINRA), or any other regulatory body, any such sanction, fine or citation has been disclosed in its affiliates' Forms BD and/or Forms ADV in accordance with the requirements of such forms.

4. **Has the firm's insurance coverage been sustained?**

☒ **Yes: /** ☐ **No Please explain.**

Investment Management Fees

1. **Is *SamCERA*'s investment management fee schedule higher than those charged other institutional clients who hold an account investment substantially similar to ours?**

☐ **Yes: Please explain. /** ☒ **No**

Derivative Investments

1. **Are derivatives used in the management of the investment strategy?**

☒ **Yes: Please ANSWER the remaining questions in this section.**
☐ **No: Please SKIP the remaining questions in this section.**

2. **If the firm entered into a non-exchange traded derivative, was the general nature and associated risks of the counter-party fully evaluated?**

☒ **Yes: /** ☐ **No Please explain.**

3. **For non-exchange traded derivative transactions, were the counter-parties broker/dealers?**

☒ **Yes /** ☐ **No**

If Yes:

a) **Do the counter-parties have investment grade debt?**

☒ **Yes /** ☐ **No**

b) **Are the counter-parties registered with the SEC and do they have net capital to protect against potential adverse market circumstances?**

☒ **Yes /** ☐ **No**

4. For non-exchange traded derivative transactions, were the counter-parties financial institutions (banks)?

☒ **Yes /** ☐ **No**

If Yes:

a) Do the counter-parties have investment grade debt?

☒ **Yes /** ☐ **No**

b) Do the counter-parties have total assets in excess of $1 billion, and significant net capital to protect against potential adverse market circumstances?

☒ **Yes/** ☐ **No: Please explain.**

5. Is individual counter-party exposure well diversified?

☒ **Yes/** ☐ **No: Please explain.**

a) What is the largest exposure to a single counter-party within the portfolio?

b) Please specify the name of the counter-party and the amount of exposure.

c) Have there been any changes to the investment manager's list of approved counter-parties over the past <u>six</u> months?

We consider this to be proprietary information and are therefore unable to disclose.

6. Specify the security pricing sources used when developing portfolio market value exposures for non-exchanged traded derivative positions.

Fidelity Pricing & Cash Management Services (FPCMS) utilizes a combination of sources for derivatives pricing. Wall Street brokers are our primary sources for swaps. Bloomberg is our primary pricing source for futures.

7. Provide a statement regarding the liquidity of the derivative investments. Provide a general statement discussing the legal and regulatory risks associated with the portfolio manager's investments in derivatives.

All derivative instruments used in the portfolio are liquid. Given the minimum role they play in the portfolio and the extensive research conducted by the Counterparty Risk Team and the large team of in-house and external lawyers that support these efforts, we feel the legal and regulatory risks are minimal.

8. State if the legal and regulatory risk associated with portfolio derivative investments have changed over the past <u>six</u> months.

☐ **Yes: Please explain. /** ☒ **No**

Investment Manager Guidelines

1. Are portfolio holdings well-diversified, and made in liquid securities?

☒ **Yes /** ☐ **No: Please explain.**

2. Has the firm engaged in short selling, use of leverage or margin and/or investments in commodities?

☐ **Yes: Please explain. /** ☒ **No**

Domestic Fixed Income Portfolios

1. State the percentage of the portfolio held in each of the following types of securities:

Certificates of Deposit	
Commercial Paper	
Other High Grade Short-term securities	0.39
U.S. Government & Agency securities	21.94
Corporate Bonds	44.14
Mortgage- and asset-backed securities	33.91
Yankee bond securities	

2. Does the firm conduct horizon analysis testing?

☒ **Yes /** ☐ **No: Please explain.**

3. Are any holdings below investment grade?

☒ **Yes /** ☐ **No**

a) If Yes, why are they held in the portfolio?

3.0% of holdings are below investment grade. Purchased as investment grade, these holdings have been downgraded due to increased leverage or other fundamental credit criteria. We still feel they hold relative value, although we are monitoring these securities closely.

5. Excluding U. S. Government and Agency bond holdings, did any individual bond issue represent more than 5% of the market value of the portfolio?

☐ **Yes /** ☒ **No**

a) If Yes, please specify the bond issue and percentage amount.

Not applicable.

6. What percentage of the portfolio is held in Rule 144A securities?

5.1%

7. **At the time of purchase, was there any single industry which represented more than 15% of the market value of the account.**

☐ **Yes /** ☒ **No**

   a) **If Yes, please specify the name of the industry and percentage amount.**

   Not applicable.

8. **What proportion of total AUM do the assets in this product make-up of the firm? What size does SamCERA's account comprise of total product assets?**

Please note that as of the date of submission the June 30, 2016 assets are not yet available. The requested information is as of March 31, 2016. The SamCERA Broad Market Duration account represents less than 1% of the assets in the Broad Market Duration strategy and less than 1% of total FIAM assets.

Signed by: Mark Botelho
Dated: 7/11/16
Name of Firm: Fidelity Institutional Asset Management

Western Asset Management Total Return Unconstrained – June 30, 2016

Compliance Certification Statement
San Mateo County
Employees' Retirement Association

In accordance with SamCERA's Investment Policy Statement, the following compliance worksheet will be completed by each of *SamCERA's* investment managers on a semi-annual basis. These statements must be e-mailed to *SamCERA's* office (Investments@samcera.org) by **Monday, July 11, 2016**.

General Compliance Issues

1. Has the firm acted as a fiduciary and invested its assets for the sole benefit of *SamCERA*?
   X Yes / ☐ No: Please explain.

2. Have there been any significant portfolio developments, major changes in firm ownership, organizational structure and personnel?
   ☐ Yes: Please explain. / X No Please see below.

   Western Asset has not deviated from its core investment philosophy or process since the product's inception, and does not envision any circumstances under which it would. There have, however, been a number of key enhancements to the process and additions to the analytical tools employed. As the professional staff has grown, the investment team has expanded its formal meeting structures to facilitate review and debate of ideas. Similarly, the investment team has developed and integrated the use of analytic systems to capture and model the impact of various strategies and the risks associated with them. Western Asset does not envisage any circumstances under which it would change its basic investment process although is committed to continuing to refine it and has devoted the financial and staff resources necessary to do so.

   There have been no major changes in the Firm's ownership, organizational, and senior management structures during the last quarter.

   Over the same time period, Western Asset lost three investment professionals, Mr. Christopher Orndorff, Portfolio Manager and Keith Gardner, Advisor, both from the Pasadena office; and Mr. Michael Jorgenson, Research Analyst, from the Tokyo office. Additionally, promotions and internal transfers during the same time period increased the investment team by two. Due to Western Asset's traditional team orientation to investment management, none of the changes have materially adversely impacted the team or its process.

3. Have there been any changes in the firm's investment approach?
   ☐ Yes: Please explain. / X No

4. Have there have been any industry or regulatory disciplinary actions taken against the firm?
   ☐ **Yes: Please explain. / X No**

5. Have there been any investment guideline breaches during the prior 6 months?
   ☐ **Yes: Please explain. / X No**

6. Has the firm's insurance coverage been sustained?
   X Yes / ☐ **No: Please explain.**

Investment Management Fees

1. Is *SamCERA*'s investment management fee schedule higher than those charged other institutional clients who hold an account investment substantially similar to ours?
   ☐ **Yes: Please explain. / X No**

Derivative Investments

1. Are derivatives used in the management of the investment strategy?
   X Yes: Please ANSWER the remaining questions in this section.
   ☐ **No: Please SKIP the remaining questions in this section.**

2. If the firm entered into a non-exchange traded derivative, was the general nature and associated risks of the counter-party fully evaluated?
   X Yes / ☐ **No: Please explain.**

3. For non-exchange traded derivative transactions, were the counter-parties broker/dealers?
   X Yes / ☐ **No**

   If **Yes:**
   a) Do the counter-parties have investment grade debt? **X Yes/** ☐ **No**
   b) Are the counter-parties registered with the SEC and do they have net capital to protect against potential adverse market circumstances? **X Yes/** ☐ **No: Please explain.**

4. For non-exchange traded derivative transactions, were the counter-parties financial institutions (banks)?
   X Yes / ☐ **No**

   If **Yes:**
   a) Do the counter-parties have investment grade debt? **X Yes/** ☐ **No**
   b) Do the counter-parties have total assets in excess of $1 billion, and significant net capital to protect against potential adverse market circumstances?
   X Yes/ ☐ **No: Please explain.**

5. Is individual counter-party exposure well diversified? **X Yes/ ☐ No: Please explain.**
   a) What is the largest exposure to a single counter-party within the portfolio? 0.952%
   b) Please specify the name of the counter-party and the amount of exposure. Deutsche Bank – 18,254,046.53 MV as of 6/30/16
   c) Have there been any changes to the investment manager's list of approved counter-parties over the past <u>six</u> months? No material changes within derivative counterparties.

6. Specify the security pricing sources used when developing portfolio market value exposures for limited allocation derivatives.

   The pricing sources used for derivatives will vary depending on the derivative instrument and clearing method. For example, for exchange traded instruments such as futures, Bloomberg is used to receive the settlement price from the exchange the derivative contract is traded on. For OTC derivatives which are cleared, Western Asset will receive the valuations from the exchange the derivative is cleared. For non-cleared OTC derivatives, Western Asset's primary pricing vendor is Markit. The Firm will consider secondary sources such as Bloomberg swap models, mark-to-market counter party statements or internal model methodology if Markit does not cover an OTC derivative instrument. Western Asset has a formal pricing policy, which outlines the pricing process in greater detail and is provided in Appendix A.

7. Provide a statement regarding the liquidity of the derivative investments. Provide a general statement discussing the legal and regulatory risks associated with the portfolio manager's investments in derivatives.

   Western Asset's management style focuses on adding incremental value without taking on excessive risk. To ensure that the Firm's use of derivative instruments is consistent with this investment philosophy, Western Asset has developed the following guidelines—listed below along with a brief description of their rationale—which form the basis of every decision to employ derivatives in the Firm's investment portfolios:

   - The duration contribution of derivatives will not bring the portfolio's duration outside the portfolio's specific duration band.
   - Where a portfolio enters into forward foreign exchange contracts the aggregate underlying exposure of the portfolio attained through such contracts shall not exceed 100% of the portfolio's market value.
   - A portfolio's gross exposure to forward foreign exchange contracts shall not exceed 50% with any single counterparty and net exposure shall not exceed 25% with any single counterparty. Net exposure is defined as the value (in account base currency terms) of open forward foreign exchange purchase contracts less forward foreign exchange sale contracts. Gross exposure is defined as the value (in account base currency terms) of open forward foreign exchange purchase contracts plus forward foreign exchange sale contracts.
   - The net notional exposure to index and credit default swaps will count at their full notional value as exposure to the underlying asset. Concentration limits for a particular name or asset class will apply based on the net sum of its cash and derivative security holdings.
   - Short (written) options positions will always be covered, either with current security holdings, other options or futures positions. Mortgage derivatives with significant short

option characteristics will not exceed 5% of the portfolio, and will generally be a) offset by positions in other mortgage derivatives (e.g., floaters and inverse floaters), or b) offset by other portfolio positions (e.g., IOs and long duration bonds).

- Futures and options contracts will be limited to liquid instruments actively traded on major exchanges or, if over-the-counter, executed with major dealers.
- Swap contracts are considered over-the-counter contracts between two parties and have counterparty credit risk different from exchange traded derivatives. Western Asset tries to limit its counterparty risk by executing swaps with the strongest financial counterparties. The vast majority of these counterparties are rated is A- or better. In addition, collateral agreements will be in place to trigger margin movement whenever the current mark-to-market amount to be paid or received by either counterparty exceeds a threshold amount.
- Finally, under no circumstances will the derivative positions change the characteristics of the portfolio so that it violates any guideline set forth in the Investment Management Agreement.

8. State if the legal and regulatory risk associated with portfolio derivative investments have changed over the past six months. ☐ **Yes: Please explain. / X No**

Investment Manager Guidelines

1. Are portfolio holdings well-diversified, and made in liquid securities?
X Yes / ☐ No: Please explain.

2. Has the firm engaged in short selling, use of leverage or margin and/or investments in commodities? ☐ **Yes: Please explain. / X No**

Domestic Fixed Income Portfolios

1. State the percentage of the portfolio held in each of the following types of securities

Treasury	*-1.48%*
Agency	*0.29%*
Inflation-Linked	*1.01%*
Mortgage-Backed	*20.63%*
Asset-Backed	*5.44%*
Investment-Grade Credit	*22.27%*
High-Yield Credit	*9.15%*
Bank Loan	*4.30%*
Non-US	*9.44%*
S&P 500 Index	*0.02%*
EM Government	*2.28%*
EM Local Currency	*8.30%*
EM Corporate	*5.82%*

Cash & Equivalents	*12.53%*
Total	*100.00%*

2. Does the firm conduct horizon analysis testing? **X Yes / ☐ No: Please explain.**

3. Excluding U. S. Government and Agency bond holdings, did any individual bond issue represent more than 5% of the market value of the portfolio? ☐ **Yes / X No**

    a) If **Yes**, please specify the bond issue and percentage amount.

4. What percentage of the portfolio is held in Rule 144A securities? 1.73%

5. At the time of purchase, was there any single industry which represented more than 15% of the market value of the account. ☐ **Yes / X No**

    a) If **Yes,** please specify the name of the industry, percentage amount and size relative to benchmark.

6. What proportion of total AUM do the assets in this product make-up of the firm? What size does SamCERA's account comprise of total product assets?

    As of June 30, 2016, Western Asset's Total Return Unconstrained (TRU) Bond product makes up 1.11% of Firmwide AUM, and SamCERA's account comprises 2.0% of total TRU Bond product assets.

Signed by: Pam Adlers
Dated: July 15, 2016
Name of Firm Western Asset Management Company

Invesco Core Real Estate – U.S.A., L.P. – June 30, 2016

Compliance Certification Statement
San Mateo County
Employees' Retirement Association

In accordance with SamCERA's Investment Policy Statement, the following compliance worksheet will be completed by each of *SamCERA's* investment managers on a semi-annual basis. These statements must be e-mailed to *SamCERA's* office (Investments@samcera.org) by **Monday, July 11, 2016**.

General Compliance Issues

1. Are *SamCERA's* market benchmarks in the respective asset class areas acceptable to the firm?
   X☐ **Yes / ☐ No: Please explain**

2. Have there been any significant portfolio developments, major changes in firm ownership, organizational structure and personnel?
   X ☐ **Yes: Please explain. / ☐ No** – **See attached firm update**

3. Have there been any changes in the firm's investment approach?
   ☐ **Yes: Please explain. / X☐ No**

4. Have there have been any industry or regulatory disciplinary actions taken against the firm?
   ☐ **Yes: Please explain. / X☐ No**

5. Has the firm's insurance coverage been sustained?
   X☐ **Yes / ☐ No: Please explain.**

Investment Management Fees

1. Is *SamCERA*'s investment management fee schedule higher than those charged other institutional clients who hold an account investment substantially similar to ours?
   ☐ **Yes: Please explain. / X☐ No**

Investment Manager Guidelines

1. Are portfolio holdings well-diversified? X☐ **Yes / ☐ No: Please explain.**

2. Has the firm used leverage? X☐ **Yes: Please explain. / ☐ No**

Yes. The maximum leverage for the Fund is 35%. As of March 31, 2016, the Fund's leverage was 24.3%.

Cash & Equivalents

1. Does the firm directly invest in short term fixed income investments? ☐ **Yes / X☐ No**

   a) If **Yes,** do the investments comply with the policies? ☐ **Yes /** ☐ **No: Please explain.**

Real Estate Portfolios

1. Is the portfolio diversified as to region, property type, industry, and economic base?
   X☐ Yes / ☐ **No**

   a) If **No**, do the investments comply with the policies?

2. Is the portfolio achieving a total time-weighted rate of return, net of fees, which equals or exceeds, the NFI ODCE index? **X** ☐ **Yes /** ☐ **No: Please explain. As of March 31, 2016 the Fund's since inception net return of 7.36% exceeds the net return of the NFI ODCE index of 6.75%.**

3. Does the core fund concentration exceed 40% (by value) in any single property type or 35% in any single metropolitan statistical area, determined as of the date of the acquisition of the property? ☐ **Yes: Please explain. / X☐ No**

4. Is the portfolio leverage within the 35% of overall loan to value guideline?
   X☐ Yes / ☐ **No: Please explain.**

5. What proportion of total AUM do the assets in this product make-up of the firm? - **15.6%**
   What size does SamCERA's account comprise of total product assets? - **2.94%**

JEL
Signed by: Ronald L. Ragsdale, Vice President
Dated: July 7, 2016
Name of Firm: Invesco Realty, Inc., parent of Invesco Core Real Estate – U.S.A., L.P.'s general partner

Invesco

Spotlight

Invesco Real Estate

To Our Valued Clients,

At Invesco Real Estate (IRE), we have been fortunate to contribute to the success and growth of our clients over the past 33 years. We are proud that we have become a global firm with real estate operations in the U.S., Europe and Asia. One of the most important factors in the expansion of our business has been our ability to plan for and control the growth of our firm. Putting the right people in the right places and planning for the eventual retirement of senior leaders has always been critical in allowing us to ensure the success of our clients.

Well planned leadership succession has always been a key focus for our team. As such, we would like to take this opportunity to announce David Farmer's plan for retirement from IRE at the end of March, 2017. As you have hopefully come to expect, we have a transition plan in place for filling David's role as Global Chief Operating Officer and are happy to announce that David will be working to transition his responsibilities to Beth Zavicek as Global Chief Administrative Officer and Lee Phegley as Global Chief Financial Officer for Invesco Real Estate. Both Beth and Lee are seasoned members of the IRE team, and we feel they are the perfect replacements for the role David has played.

The balance of the Executive Management team, including: Scott Dennis, Max Swango, Joe Rodriguez, Paul Michaels, Andy Rofe and Soon Lau will remain unchanged.

Planning for our future leadership structure well in advance of any transition is important to us and our clients. With over 12 months of active transition, we feel confident that a smooth transition of responsibilities will occur minimizing any impact on our clients.

Our firm is based on the principle that we achieve success by maintaining a culture that puts our clients' needs first. Our clients are and will continue to be our top priority as they have been for the last 33 years.

As always, please do not hesitate to contact any of us with any questions or comments.

Best Regards,

R. Scott Dennis

The Parametric Portfolio Associates LLC Cash Overlay – June 30, 2016

Compliance Certification Statement
San Mateo County
Employees' Retirement Association

In accordance with SamCERA's Investment Policy Statement, the following compliance worksheet will be completed by each of *SamCERA's* investment managers on a semi-annual basis. These statements must be e-mailed to *SamCERA's* office (Investments@samcera.org) by **Monday, July 11, 2016**.

General Compliance Issues

1. Have there been any significant portfolio developments, major changes in firm ownership, organizational structure and personnel?
   ☐ **Yes: Please explain.** / ☒ **No**

2. Have there been any changes in the firm's investment approach?
   ☐ **Yes: Please explain.** / ☒ **No**

3. Have there have been any industry or regulatory disciplinary actions taken against the firm?
   ☐ **Yes: Please explain.** / ☒ **No**

4. Has the firm's insurance coverage been sustained?
   ☒ **Yes** / ☐ **No: Please explain.**

Investment Management Fees

1. Is *SamCERA*'s investment management fee schedule less favorable than those charged other institutional clients who hold an account investment substantially similar to ours?
   ☐ **Yes: Please explain.** / ☒ **No**

Derivative Investments

1. Are derivatives used in the management of the investment strategy?
   ☒ **Yes: Please ANSWER the remaining questions in this section.**
   ☐ **No: Please SKIP the remaining questions in this section.**

2. Are derivative investments in compliance with *SamCERA's* investment policies?
   ☒ **Yes** / ☐ **No: Please explain.**

3. If the firm entered into a non-exchange traded derivative, was the general nature and associated risks of the counter-party fully evaluated?
☐ **Yes /** ☐ **No: Please explain. Not Applicable**

4. For non-exchange traded derivative transactions, were the counter-parties broker/dealers?
☐ **Yes /** ☐ **No Not Applicable**

   If **Yes**:
   a) Do the counter-parties have investment grade debt? ☐ **Yes/** ☐ **No**
   b) Are the counter-parties registered with the SEC and do they have net capital to protect against potential adverse market circumstances? ☐ **Yes/** ☐ **No: Please explain.**

5. For non-exchange traded derivative transactions, were the counter-parties financial institutions (banks)?
☐ **Yes /** ☐ **No Not Applicable**

   If **Yes:**
   a) Do the counter-parties have investment grade debt? ☐ **Yes/** ☐ **No**
   b) Do the counter-parties have total assets in excess of $1 billion, and significant net capital to protect against potential adverse market circumstances?
   ☐ **Yes/** ☐ **No: Please explain.**

6. Is individual counter-party exposure well diversified? ☐ **Yes/** ☐ **No: Please explain.**
Not Applicable
   a) What is the largest exposure to a single counter-party within the portfolio?
   b) Please specify the name of the counter-party and the amount of exposure.
   c) Have there been any changes to the investment manager's list of approved counter-parties over the past <u>six</u> months?

7. Are the investment purposes for a derivative investment consistent with the four purposes stated *SamCERA's* policies? ☒ **Yes /** ☐ **No: Please explain.**

   a) Has the firm developed any new purposes for derivative investments? ☐ **Yes: Please explain. /** ☒ **No**

8. List all limited allocation derivative investments individually and the percentage of the portfolio's assets represented by each investment.
Not Applicable
   a) State if the firm has evaluated the exposure to market value losses that can occur from each of these derivatives. ☐ **Yes /** ☐ **No: Please explain.**
   b) State if these derivative investments in total represent more than 5% of the portfolio's market value. If more than 5%, please explain.

9. State if any restricted derivative investments are held in *SamCERA's* portfolios.
☐ **Yes /** ☒ **No**

a) If any are held, state the percentage of the portfolio's assets held in such derivatives and why the firm is not in compliance with the investment policies.

10. For derivative investments with allocation limits, has the firm tested and measured these investments' sensitivities to changes in key risk factors? ☐ **Yes /** ☐ **No: Please explain.**

    Not Applicable

11. Have all derivative investments been made in a manner consistent with the derivative investment process specified in the policy statement? ☒ **Yes /** ☐ **No: Please explain.**

12. Specify the security pricing sources used when developing portfolio market value exposures for limited allocation derivatives.

    Parametric does not invest in limited allocation derivatives as defined in the derivatives policy for the SamCERA account. However, the pricing source for exchange traded futures reference the closing price on the exchange in which the particular futures trade upon.

13. Provide a statement regarding the liquidity of the derivative investments. Provide a general statement discussing the legal and regulatory risks associated with the portfolio manager's investments in derivatives.

Parametric seeks to only hold investment instruments that would be deemed as liquid. Futures provide a transparent and relatively low risk investment exposure management vehicle to use in managing overlay strategies. There are currently numerous liquid global equity, fixed income, commodity, and currency exchange-traded index futures available for use in an overlay program. Before specific futures contracts to be included in a client's overlay portfolio are approved, the instrument is evaluated and screened to ensure adequate liquidity, focusing on open interest, average daily trading volume, bid/ask spread, and liquidity of the underlying index. As Parametric manages approximately over 125 overlay programs and has relationships with numerous counterparties trading in global markets, we have developed a deep knowledge of liquidity levels of markets throughout the world. The primary gauges of liquidity are the average daily volume (ADV) and open interest metrics. Parametric carefully monitors liquidity and estimated costs internally and through external (i.e. broker) sources. As a general rule, the greater the amount ADV and open interest, the greater the liquidity and lower the transaction costs.
Parametric continuously monitors these metrics and will only use contracts which have sufficient liquidity to support the required positions. Parametric will also tailor the instruments employed in the overlay program based upon each client's unique needs and objectives.

Parametric's compliance program is designed to reasonably address all known conflicts of interests and other additional specific risks that have been identified through an annual risk assessment or a change in business or regulatory matters. These include legal and regulatory risks. Adherence to all legal and regulatory matters is considered to be an integral part of each employee's primary job functions. Every employee is required to share in maintaining and enforcing compliance with all applicable internal and external rules.

14. State if the legal and regulatory risk associated with portfolio derivative investments have changed over the past <u>six</u> months. ☐ **Yes: Please explain. /** ☒ **No**

Signed by: Ben Hammes
Title: Director of Compliance
Dated: 7/14/16
Name of Firm: Parametric Portfolio Associates LLC

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
Board of Retirement

July 27, 2016 Agenda Item 6.1

TO: Board of Retirement

FROM: Michael Coultrip, Chief Investment Officer

SUBJECT: Report on Preliminary Monthly Portfolio Performance Report for the Period Ended June 30, 2016

Staff Recommendation
Accept the preliminary performance report dated June 30, 2016.

Background
This preliminary report is intended to provide a high-level view of the portfolio and its trends. It is not intended to provide short-term performance upon which the Board would act. As discussed previously, preliminary performance estimates are now included for AQR Risk Parity, AQR Delta, PanAgora Risk Parity, and Beach Point Select. The quarterly performance metrics are not yet available for our private equity, private real asset, and real estate portfolios. The performance for these portfolios will be reflected in the quarterly performance report generated by Verus.

The attached performance report shows both net and gross of fee returns for the total plan on page one, with net composite returns (pages 2-3) and net manager returns (pages 4-9) also shown.

Discussion
The fund's net preliminary return for June was 0.55%, while the preliminary trailing twelve-month return ending June 2016 was 0.73% net. The twelve-month net return matches SamCERA's preliminary Total Plan Policy Benchmark return of 0.73%, but is below the Actuarial Assumed Earnings Rate of 7.25%.

Volatility spiked during the month in conjunction with news that U.K. voters had unexpectedly decided to leave the European Union. Extreme market reaction followed, with stock prices dropping significantly in the days after the vote. Interest rates also tumbled, yield spreads widened, and the U.S. Dollar surged. Financial markets settled down towards the end of the month, and the broad U.S. equity market was able to eke out a gain on the month, with the S&P 500 Index up 0.3%. International equity indices were mixed on the month, with developed markets (as measured by MSCI EAFE) down 3.4%, while emerging markets were up 4%.

The U.S. Treasury yields were significantly lower in June, with the 10-year Treasury rate lower by 38 basis points. The general U.S. fixed income market return was up 1.8% during the month. Credit spreads tightened again during the month, leading the high yield market higher by 0.9%, while emerging debt returned 3.4%.

Attachments

A. *Verus June 2016 Capital Markets Update*
B. *Northern Trust Performance Report*

PERSPECTIVES
THAT DRIVE
ENTERPRISE
SUCCESS

JUNE 2016

Capital Markets Update

Market commentary

ECONOMIC CLIMATE

- U.S. first quarter real GDP growth was revised upwards 0.3% to 1.1%, mainly due to higher net exports and less weakness in nonresidential fixed investment.
- The Fed left interest rates unchanged at its June meeting prior to the Brexit vote. Following the U.K.'s surprising decision to leave the E.U., the market is not pricing in a rate hike this year, based on Fed Funds futures prices.
- Nonfarm payrolls added 287,000 jobs in June, beating the consensus estimate of 180,000, according to Econoday. The labor market bounced back after adding only 11,000 jobs in May. The average monthly gain in jobs over the past three months was 147,000.
- The unemployment rate ticked up 0.2% to 4.9% and the labor force participation rate increased 0.1% to 62.7% as people re-entered the labor force.

DOMESTIC EQUITIES

- U.S. equities fell dramatically after the Brexit vote. The S&P 500 dropped over 100 points in the two trading days following the vote, but managed to recoup its losses by month end. The index finished with a 0.3% total return in June.
- Implied volatility spiked while investors digested the Brexit news. The VIX jumped nearly 50% the day after the vote, peaking at 25.8, but fell back to 15.6 to close the month.
- Financials (-3.2%) were the worst performing sector in the S&P 500, likely affected by lower interest rate expectations. Telecom services (9.3%) and utilities (7.8%) were the best performing sectors in the index.

DOMESTIC FIXED INCOME

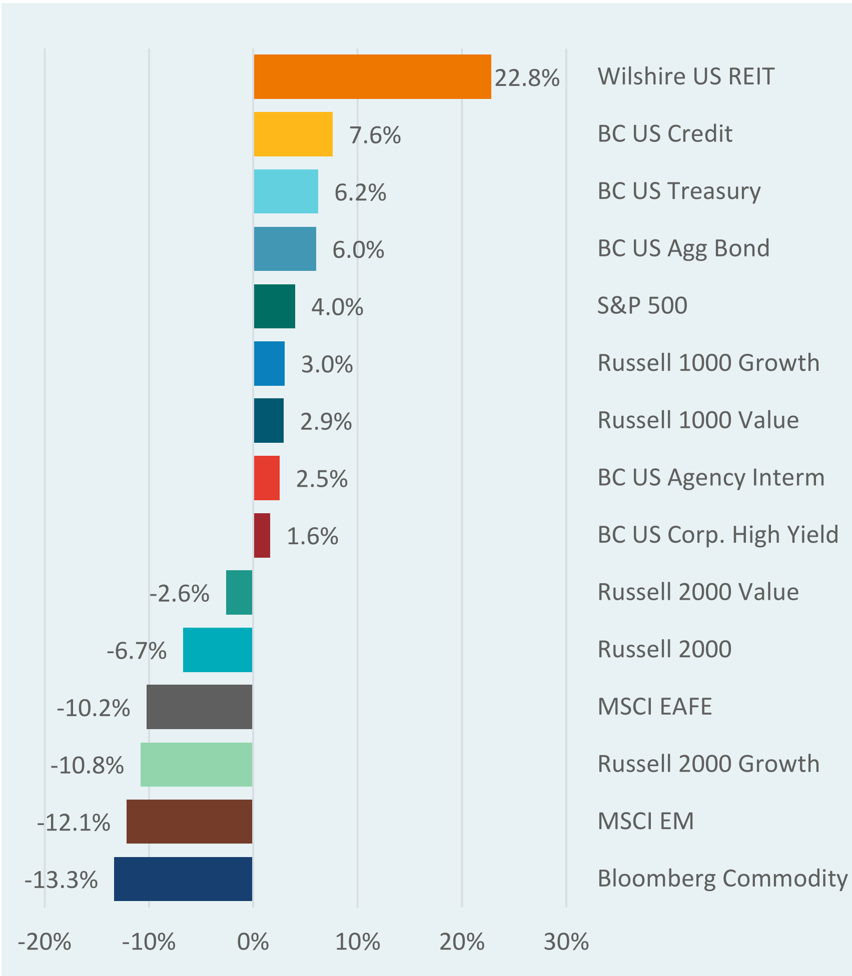
- Treasury yields fell and the curve flattened after the Brexit vote. The 10-year yield fell 35 bps to end June at 1.49%.
- With long-term yields falling and high demand for Treasuries during the month, the Barclays Treasury Long Index was one of the best performing fixed income sectors, returning 6.1%.

INTERNATIONAL MARKETS

- The U.K. unexpectedly decided to leave the European Union in its June 23rd referendum, causing a wave of volatility throughout the global financial markets. Additionally, U.K. Prime Minister David Cameron announced he will step down and the new PM, Theresa May, will be in charge of negotiating the terms of the country's exit.
- U.K. equities dropped immediately following the vote, but rallied to close the month. The FTSE 100 (GBP) returned 4.7% in June, outperforming the Eurozone in local currency terms.
- Safe haven currencies, including the U.S. dollar and yen, strengthened sharply against the pound. Sterling fell to a 30-year low relative to the U.S. dollar, and finished the month at $1.33.
- Global sovereign rates fell amid high demand for safety and the increased expectations of further central bank stimulus. German bund yields turned negative out to 10 years with the 10-year yield finishing the month at -0.13%.

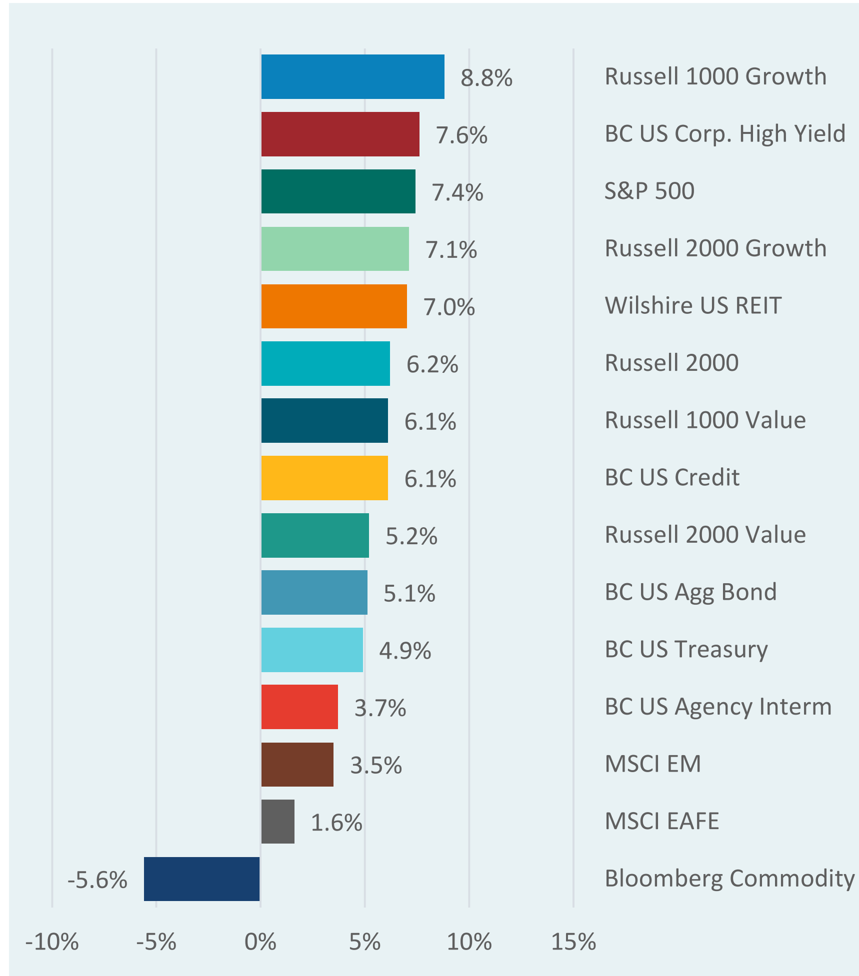
Major asset class returns

ONE YEAR ENDING JUNE



Source: Morningstar, as of 6/30/16

TEN YEARS ENDING JUNE



Source: Morningstar, as of 6/30/16

U.S. large cap equities

— Despite Brexit and increased volatility, U.S. large cap equities continued higher for the fourth straight month. The S&P 500 returned 0.3% in June.

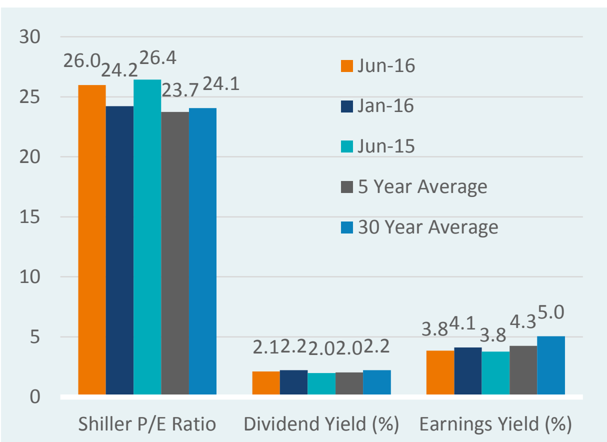
— Another quarter of negative earnings is forecast for Q2. According to FactSet, the estimated earnings decline for the S&P 500 is -5.3%.

— If the index does report an earnings decline, it will mark the fifth straight quarter of year-over-year earnings contraction. Earnings growth is forecast to return in Q3.

— The S&P 500 Shiller P/E ratio increased to 26.0 in June. The Shiller has fallen over the past year from 26.4, but is currently above its 30-year average of 24.1.

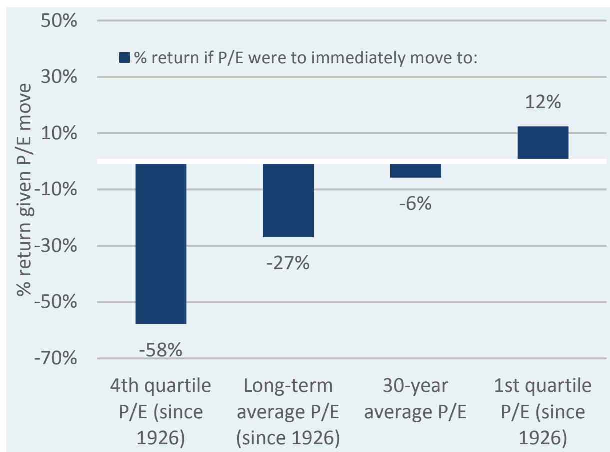
— The forward 1-year P/E ratio for the S&P 500 fell to 18.0 from 18.6 as earnings forecasts increased.

US LARGE CAP (S&P 500) VALUATION SNAPSHOT



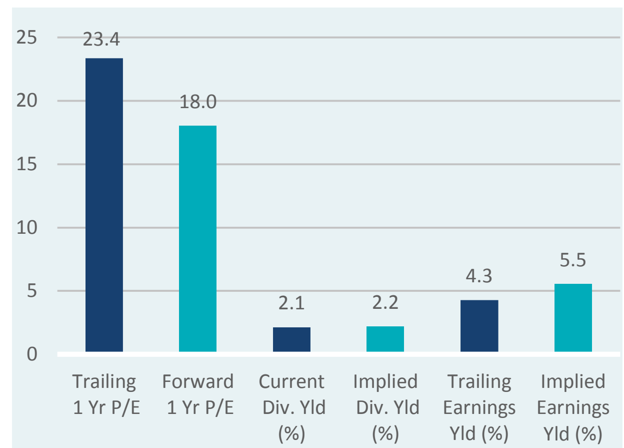
Source: Yale/Shiller, as of 6/30/16

RETURNS IF P/E MOVED TO HISTORIC LEVEL



Source: Yale/Shiller, Verus

S&P 500 VALUATION SNAPSHOT



Source: Standard & Poor's, as of 6/30/16

Fixed income

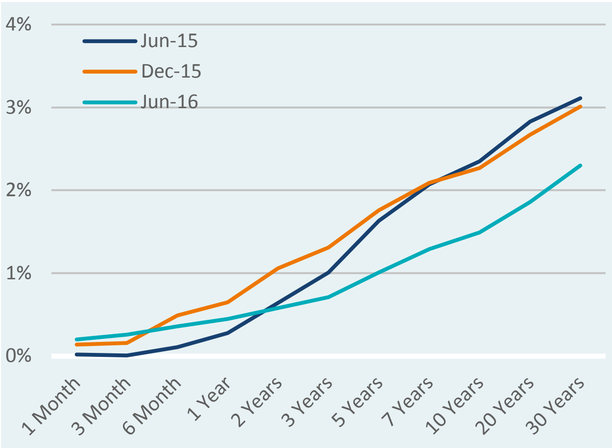
— Yields fell throughout the fixed income market in June, and the Barclays Aggregate Index returned 1.8%.

— The U.S. Treasury yield curve continued to flatten during the month as long-term rates fell more than short-term rates. Based on the spread between the 10 and 2-year yield, this is the flattest the yield curve has been since December 2007.

— CPI data released for May showed a moderation in the overall growth of prices with a month over month increase of 0.2% after rising 0.4% in April. Core prices (excluding food and energy) also came in at a 0.2% increase from the previous month.

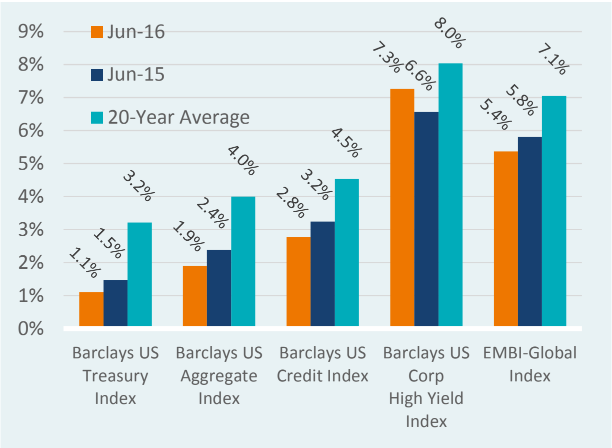
— According to the University of Michigan consumer survey, consumers expect the price level to rise 2.6% over the next year. However, historically this survey has overestimated inflation.

U.S. TREASURY YIELD CURVE



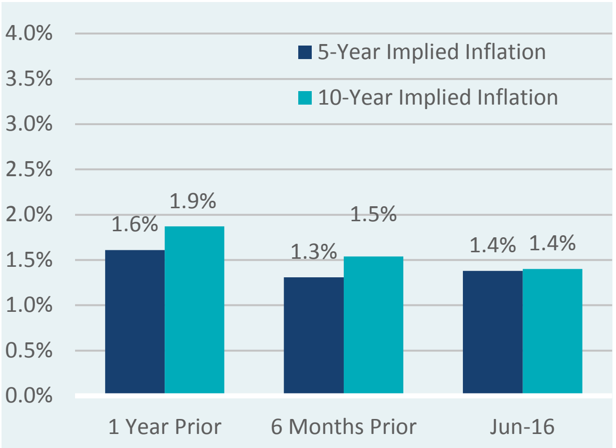
Source: Federal Reserve

NOMINAL FIXED INCOME YIELDS



Source: Morningstar, as of 6/30/16

IMPLIED INFLATION (TIPS BREAKEVEN)



Source: Federal Reserve, as of 6/30/16

Global markets

— International developed markets (MSCI EAFE -3.4%) greatly underperformed domestic markets (S&P 500 0.3%) and emerging markets (MSCI EM 4.0%) in June.

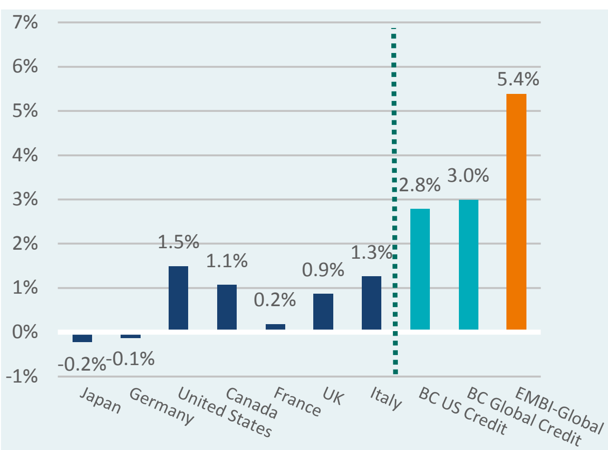
— Global sovereign yields fell sharply across the board after the Brexit vote. According to a Fitch Ratings report, the amount of negative yielding sovereign debt was $11.7 trillion as of June 27th, up 12.5% from the end of May.

— After another month of deflation and a surging yen, some market participants are expecting further stimulus from the Bank of Japan at its next meeting.

— MSCI denied the inclusion of China's domestic A Shares in its global benchmarks for a third straight year. The index provider said that although China has made positive steps in opening up its markets, significant obstacles to free fund movement still remain.

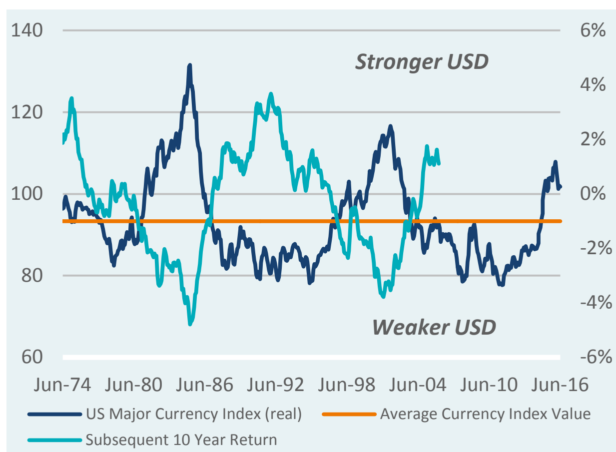
— The U.S. Dollar Major Currency Index fell 0.3% in June.

GLOBAL SOVEREIGN 10 YEAR INDEX YIELDS



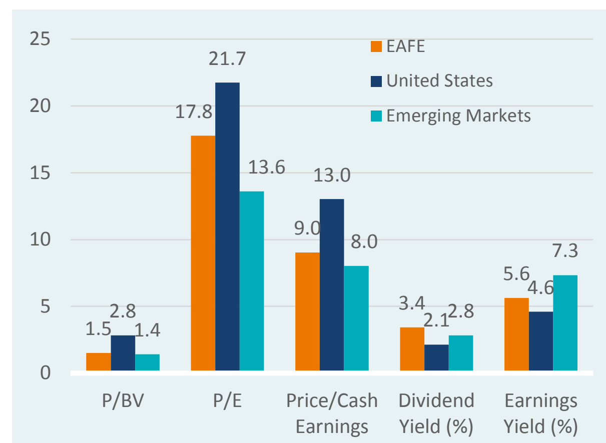
Source: Bloomberg, Morningstar, as of 6/30/16

U.S. DOLLAR MAJOR CURRENCY INDEX



Source: Federal Reserve, as of 6/30/16

MSCI VALUATION METRICS (3 MONTH AVERAGE)



Source: MSCI, as of 6/30/16

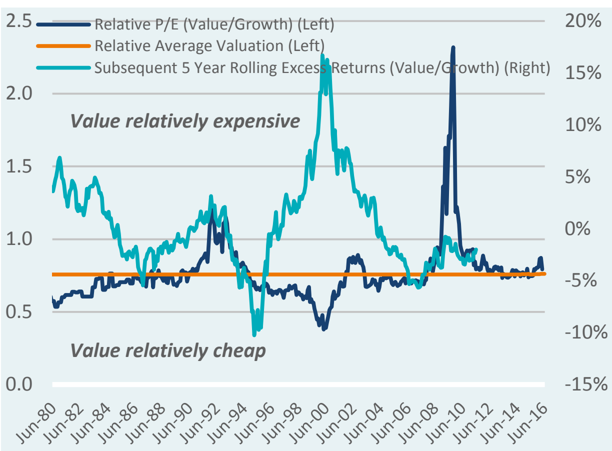
Style tilts: U.S. large value vs. growth

— Value stocks outperformed growth stocks in June as the Russell 1000 Value Index and Russell 1000 Growth Index returned 0.9% and -0.4%, respectively.

— The relative P/E ratio of value to growth stocks fell from 0.87 to 0.79. This metric remains above its long-term average of 0.76.

— While value stocks have outperformed significantly year-to-date by 4.9%, growth stocks provided a better risk-adjusted return over nearly all recent time periods examined relative to value stocks, except over the very long-term (20 years).

RELATIVE PE RATIO OF U.S. VALUE VS. GROWTH



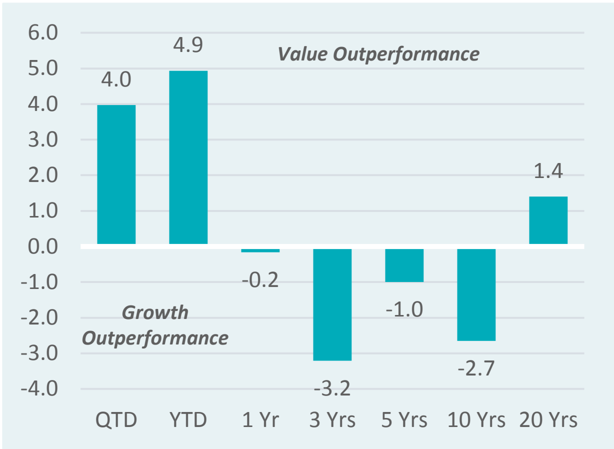
Source: Russell, Bloomberg, as of 6/30/16

U.S. VALUE VS. GROWTH ABSOLUTE PERFORMANCE

	RUSSELL 1000 GROWTH ANNUALIZED RETURN TO DATE %	RUSSELL 1000 VALUE ANNUALIZED RETURN TO DATE %
QTD	0.6	4.6
YTD	1.4	6.3
1 YEAR	3.0	2.9
3 YEARS	13.1	9.9
5 YEARS	12.3	11.4
7 YEARS	15.5	14.5
10 YEARS	8.8	6.1
20 YEARS	7.1	8.5
	SHARPE RATIO	SHARPE RATIO
3 YEARS	1.11	0.86
5 YEARS	0.98	0.90
7 YEARS	1.15	1.07
10 YEARS	0.50	0.32
20 YEARS	0.27	0.40

Source: Morningstar, as of 6/30/16

U.S. VALUE VS GROWTH RELATIVE PERFORMANCE



Source: Morningstar, as of 6/30/16

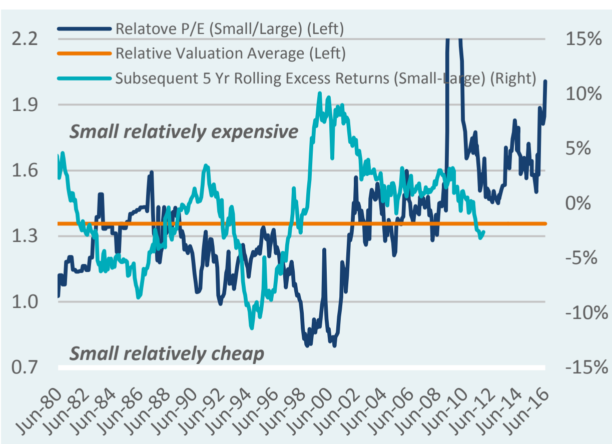
Style tilts: U.S. large vs. small

— Large cap equities outperformed small cap equities for the first time in four months as the Russell 1000 Index and Russell 2000 Index returned 0.2% and -0.1%, respectively.

— Besides the current quarter, the Russell 1000 Index has outperformed the Russell 2000 Index on an absolute and risk-adjusted basis in every time period examined over the last 20 years.

— The relative P/E ratio of small to large cap equities at the end of June was 2.01, well above its long-term average of 1.38, suggesting small cap stocks are relatively overvalued.

RELATIVE PE RATIO OF U.S. SMALL VS. LARGE



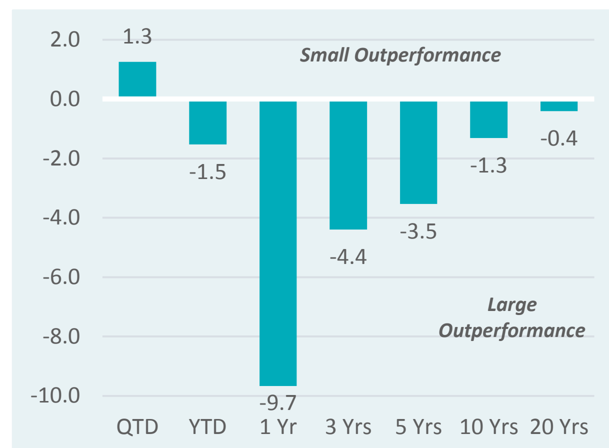
Source: Russell, Bloomberg, as of 6/30/16

U.S. LARGE VS. SMALL ABSOLUTE PERFORMANCE

	RUSSELL 1000 INDEX ANNUALIZED RETURN TO DATE %	RUSSELL 2000 INDEX ANNUALIZED RETURN TO DATE %
QTD	2.5	3.8
YTD	3.7	2.2
1 YEAR	2.9	(6.7)
3 YEARS	11.5	7.1
5 YEARS	11.9	8.4
7 YEARS	15.0	13.9
10 YEARS	7.5	6.2
20 YEARS	8.0	7.6
	SHARPE RATIO	SHARPE RATIO
3 YEARS	1.01	0.46
5 YEARS	0.96	0.50
7 YEARS	1.13	0.78
10 YEARS	0.42	0.26
20 YEARS	0.37	0.26

Source: Morningstar, as of 6/30/16

U.S. SMALL VS. LARGE RELATIVE PERFORMANCE



Source: Morningstar, as of 6/30/16

Commodities

— Commodity prices rose in June on the back of higher gold prices as the Bloomberg Commodity Index returned 4.1%.

— Demand for safe haven assets following the Brexit vote helped push gold prices higher.

— The price of oil fell during the month, finishing at $48.33 per barrel. U.S. crude oil inventory has fallen seven consecutive weeks to 524.4 million barrels.

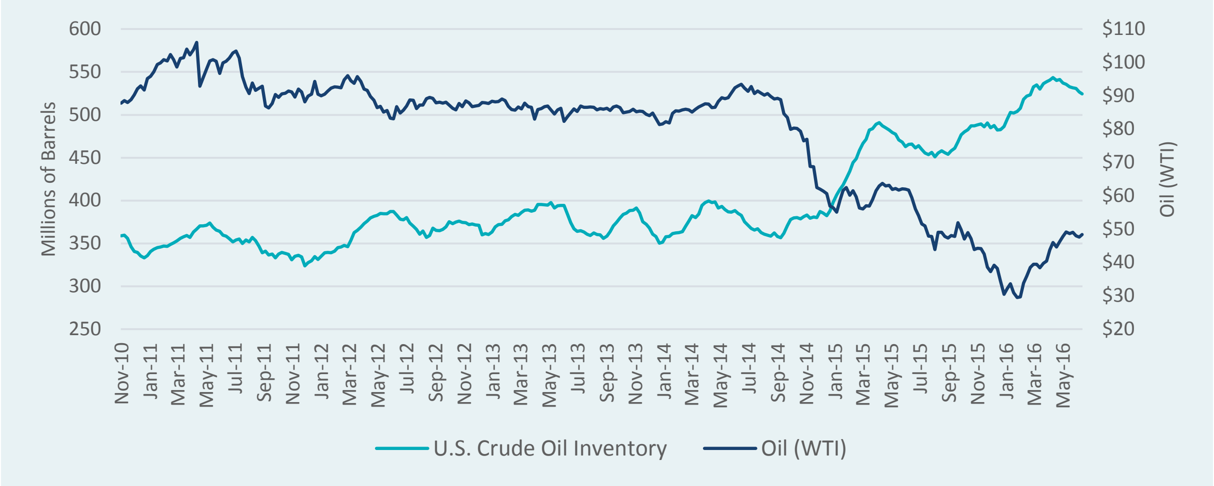
— Grains (-2.9%) and petroleum (-2.3%) were the major detractors from the Bloomberg Commodity Index in June, while softs (13.6%) and precious metals (10.6%) were the biggest contributors to performance.

INDEX AND SECTOR PERFORMANCE

	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Bloomberg Commodity	12.8	13.3	(13.3)	(10.6)	(10.8)	(5.6)
Bloomberg Agriculture	12.7	13.5	(3.0)	(7.0)	(6.5)	1.2
Bloomberg Energy	20.3	9.1	(34.5)	(24.3)	(19.9)	(19.0)
Bloomberg Grains	7.2	7.4	(14.5)	(11.1)	(6.1)	0.9
Bloomberg Industrial Metals	6.1	8.5	(11.5)	(8.2)	(12.8)	(5.8)
Bloomberg Livestock	(1.9)	(0.7)	(9.3)	(3.2)	(3.2)	(6.9)
Bloomberg Petroleum	17.0	10.3	(35.9)	(25.9)	(16.7)	(12.5)
Bloomberg Precious Metals	10.2	27.1	14.0	1.0	(5.5)	6.7
Bloomberg Softs	20.5	19.3	22.6	(3.2)	(11.8)	(2.3)

Source: Morningstar, as of 6/30/16

WTI CRUDE OIL VS. U.S. TOTAL CRUDE OIL INVENTORY



Source: Bloomberg, as of 6/30/16

Appendix

Periodic table of returns

BEST ↑ / ↓ WORST

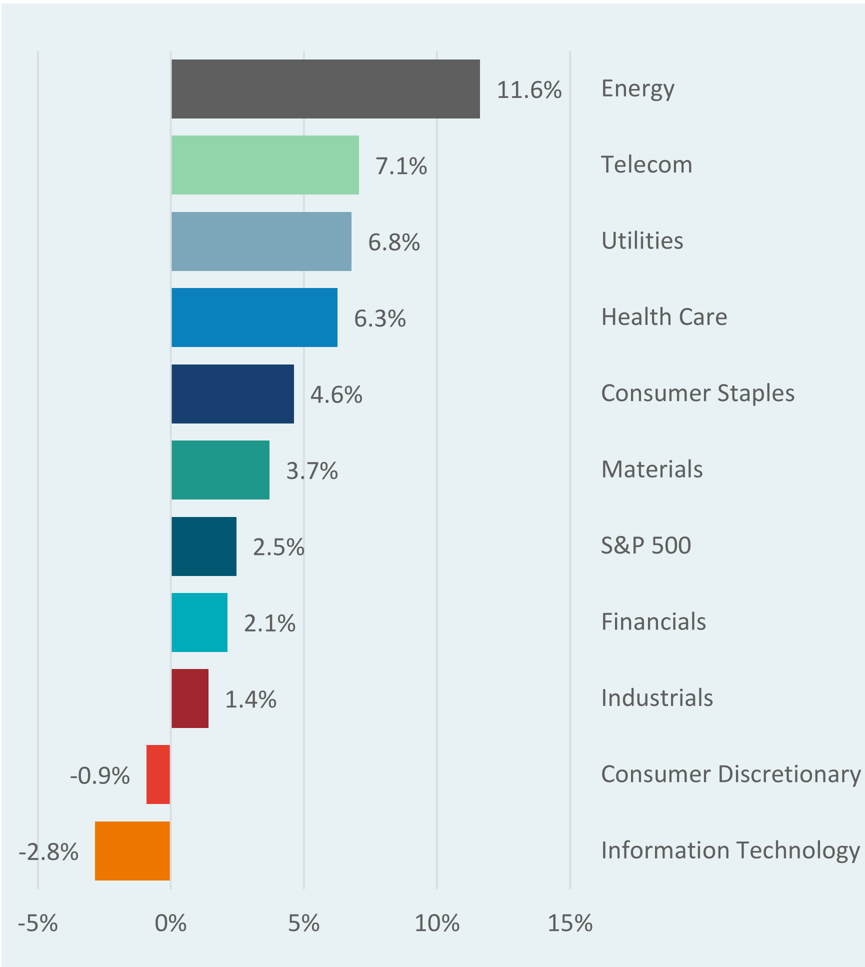
	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	YTD	5-Year	10-Year
Commodities	74.8	16.6	38.4	23.2	35.2	38.7	66.4	31.8	14.0	25.9	56.3	26.0	34.5	32.6	39.8	5.2	79.0	29.1	14.3	18.6	43.3	13.5	10.1	13.3	12.3	8.8
Emerging Markets Equity	32.9	8.1	37.8	23.1	32.9	27.0	43.1	22.8	8.4	10.3	48.5	22.2	21.4	26.9	16.2	1.4	37.2	26.9	7.8	18.1	38.8	13.2	5.7	6.4	11.9	7.6
Large Cap Value	26.3	6.4	37.2	22.4	31.8	20.3	33.2	12.2	7.3	6.7	47.3	20.7	20.1	23.5	15.8	-6.5	34.5	24.5	2.6	17.9	34.5	13.0	0.9	6.3	11.9	7.5
Small Cap Value	23.8	4.4	31.0	21.6	30.5	19.3	27.3	11.6	3.3	1.6	46.0	18.3	14.0	22.2	11.8	-21.4	32.5	19.2	1.5	17.5	33.5	11.8	0.6	6.1	11.4	7.1
US Bonds	19.3	3.2	28.5	21.4	22.4	16.2	26.5	7.0	2.8	1.0	39.2	16.5	7.5	18.4	11.6	-25.9	28.4	16.8	0.4	16.4	33.1	6.0	0.0	5.3	8.5	6.2
60/40 Global Portfolio	18.9	2.6	25.7	16.5	16.2	15.6	24.3	6.0	2.5	-5.9	30.0	14.5	7.1	16.6	10.9	-28.9	27.2	16.7	0.1	16.3	32.5	5.6	-0.4	4.4	8.4	6.1
Large Cap Equity	18.1	0.4	19.6	14.4	13.9	8.7	21.3	4.1	-2.4	-6.0	29.9	14.3	6.3	15.5	10.3	-33.8	23.3	16.1	-2.1	15.3	23.3	4.9	-0.8	3.7	8.1	5.2
Small Cap Equity	13.4	-1.5	18.5	11.3	12.9	4.9	20.9	-3.0	-5.6	-11.4	29.7	12.9	5.3	15.1	7.0	-35.6	20.6	15.5	-2.9	14.6	12.1	4.2	-1.4	2.2	4.1	5.1
Real Estate	10.2	-1.8	15.2	10.3	10.6	1.2	13.2	-7.3	-9.1	-15.5	25.2	11.4	4.7	13.3	7.0	-36.8	19.7	13.1	-4.2	11.5	11.0	3.4	-2.5	2.2	3.8	4.6
Large Cap Growth	9.7	-2.0	11.6	9.9	9.7	-2.5	11.4	-7.8	-9.2	-15.7	23.9	9.1	4.6	10.4	5.8	-37.6	18.9	10.2	-5.5	10.5	9.0	2.8	-3.8	1.4	1.7	3.5
Cash	3.1	-2.4	11.1	6.4	5.2	-5.1	7.3	-14.0	-12.4	-20.5	11.6	6.9	4.6	9.1	4.4	-38.4	11.5	8.2	-5.7	4.8	0.1	0.0	-4.4	0.1	1.7	1.6
Small Cap Growth	2.9	-2.9	7.5	6.0	2.1	-6.5	4.8	-22.4	-19.5	-21.7	9.0	6.3	4.2	4.8	-0.2	-38.5	5.9	6.5	-11.7	4.2	-2.0	-1.8	-7.5	-1.6	0.1	1.6
Hedge Funds of Funds	1.4	-3.5	5.7	5.1	-3.4	-25.3	-0.8	-22.4	-20.4	-27.9	4.1	4.3	3.2	4.3	-1.6	-43.1	0.2	5.7	-13.3	0.1	-2.3	-4.5	-14.9	-2.4	-3.8	0.9
International Equity	-1.1	-7.3	-5.2	3.6	-11.6	-27.0	-1.5	-30.6	-21.2	-30.3	1.0	1.4	2.4	2.1	-9.8	-53.2	-16.9	0.1	-18.2	-1.1	-9.5	-17.0	-24.7	-4.4	-10.8	-5.6

- Large Cap Equity
- Large Cap Value
- Large Cap Growth
- Small Cap Equity
- Small Cap Value
- Small Cap Growth
- International Equity
- Emerging Markets Equity
- US Bonds
- Cash
- Commodities
- Real Estate
- Hedge Funds of Funds
- 60% MSCI ACWI/40% BC Global Bond

Source Data: Morningstar, Inc., Hedge Fund Research, Inc. (HFR), National Council of Real Estate Investment Fiduciaries (NCREIF). Indices used: Russell 1000, Russell 1000 Value, Russell 1000 Growth, Russell 2000, Russell 2000 Value, Russell 2000 Growth, MSCI EAFE, MSCI EM, BC Agg, T-Bill 90 Day, Bloomberg Commodity, NCREIF Property, HFRI FOF, MSCI ACWI, BC Global Bond. NCREIF Property performance data as of 3/31/16.

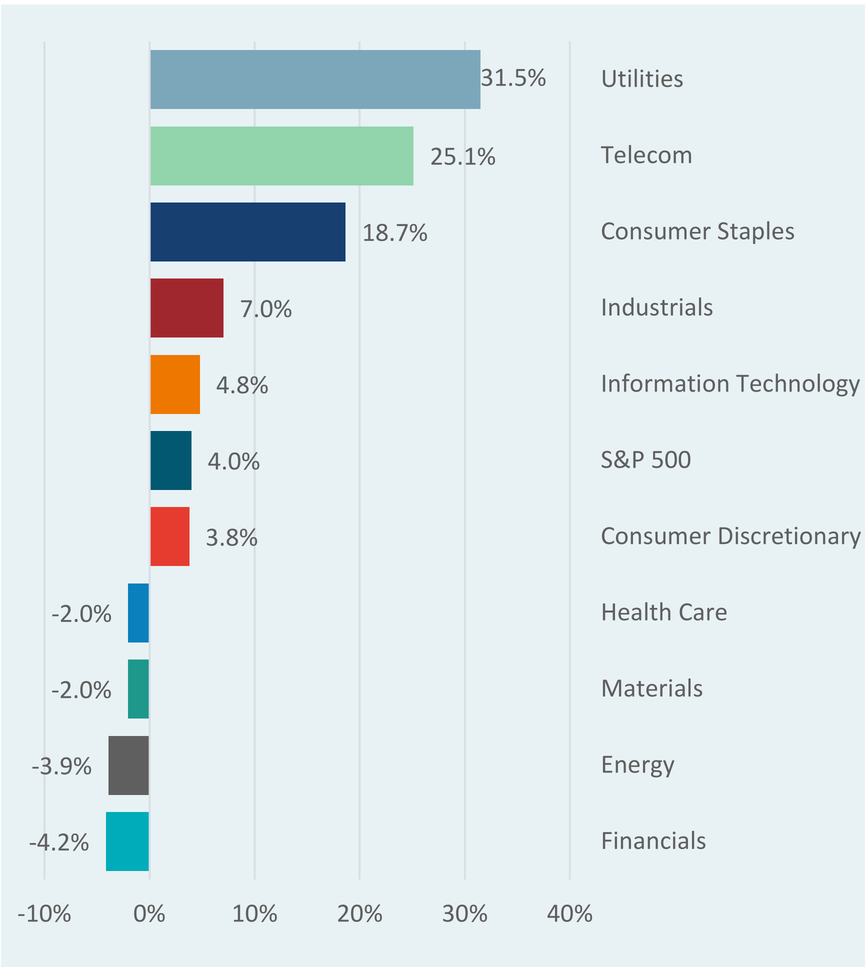
S&P 500 and S&P 500 sector returns

QTD



Source: Morningstar, as of 6/30/16

ONE YEAR ENDING JUNE



Source: Morningstar, as of 6/30/16

Detailed index returns

DOMESTIC EQUITY

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Core Index							
S&P 500	0.3	2.5	3.8	4.0	11.7	12.1	7.4
S&P 500 Equal Weighted	(0.1)	2.7	5.8	2.7	11.6	11.9	8.7
DJ Industrial Average	0.9	2.1	4.3	4.5	9.0	10.4	7.7
Russell Top 200	0.1	2.3	3.0	4.0	11.8	12.3	7.3
Russell 1000	0.2	2.5	3.7	2.9	11.5	11.9	7.5
Russell 2000	(0.1)	3.8	2.2	(6.7)	7.1	8.4	6.2
Russell 3000	0.2	2.6	3.6	2.1	11.1	11.6	7.4
Russell Mid Cap	0.5	3.2	5.5	0.6	10.8	10.9	8.1
Style Index							
Russell 1000 Growth	(0.4)	0.6	1.4	3.0	13.1	12.3	8.8
Russell 1000 Value	0.9	4.6	6.3	2.9	9.9	11.4	6.1
Russell 2000 Growth	(0.5)	3.2	(1.6)	(10.8)	7.7	8.5	7.1
Russell 2000 Value	0.3	4.3	6.1	(2.6)	6.4	8.1	5.2

FIXED INCOME

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Broad Index							
BC US Treasury US TIPS	2.1	1.7	6.2	4.4	2.3	2.6	4.7
BC US Treasury Bills	0.1	0.1	0.2	0.3	0.1	0.1	1.1
BC US Agg Bond	1.8	2.2	5.3	6.0	4.1	3.8	5.1
Duration							
BC US Treasury 1-3 Yr	0.6	0.5	1.4	1.3	1.0	0.8	2.5
BC US Treasury Long	6.1	6.4	15.1	19.3	10.5	10.3	8.8
BC US Treasury	2.2	2.1	5.4	6.2	3.5	3.5	4.9
Issuer							
BC US MBS	0.8	1.1	3.1	4.3	3.8	3.0	5.0
BC US Corp. High Yield	0.9	5.5	9.1	1.6	4.2	5.8	7.6
BC US Agency Interm	0.8	0.7	2.3	2.5	2.0	1.8	3.7
BC US Credit	2.3	3.5	7.5	7.6	5.3	5.2	6.1

INTERNATIONAL EQUITY

Broad Index							
MSCI EAFE	(3.4)	(1.5)	(4.4)	(10.2)	2.1	1.7	1.6
MSCI AC World ex US	(1.5)	(0.6)	(1.0)	(10.2)	1.2	0.1	1.9
MSCI EM	4.0	0.7	6.4	(12.1)	(1.6)	(3.8)	3.5
MSCI EAFE Small Cap	(5.3)	(2.6)	(3.2)	(3.7)	7.3	4.8	3.6
Style Index							
MSCI EAFE Growth	(1.8)	(0.1)	(2.2)	(4.8)	4.2	3.2	2.9
MSCI EAFE Value	(5.0)	(2.8)	(6.6)	(15.4)	(0.1)	0.1	0.2
Regional Index							
MSCI UK	(3.6)	(0.7)	(3.1)	(12.1)	0.7	1.7	1.4
MSCI Japan	(2.5)	1.0	(5.6)	(8.9)	2.7	4.2	0.1
MSCI Euro	(6.3)	(5.0)	(7.4)	(12.8)	1.7	(1.0)	0.1
MSCI EM Asia	2.8	0.3	2.2	(12.2)	1.8	(0.6)	5.3
MSCI EM Latin American	11.4	5.3	25.5	(7.6)	(8.3)	(10.1)	2.3

OTHER

Index							
Bloomberg Commodity	4.1	12.8	13.3	(13.3)	(10.6)	(10.8)	(5.6)
Wilshire US REIT	6.5	5.6	11.1	22.8	13.6	12.5	7.0
Regional Index							
JPM EMBI Global Div	3.4	5.0	10.3	9.8	7.2	6.5	8.0
JPM GBI-EM Global Div	5.9	2.7	14.0	2.0	(3.6)	(2.2)	5.7

Source: Morningstar, as of 6/30/16

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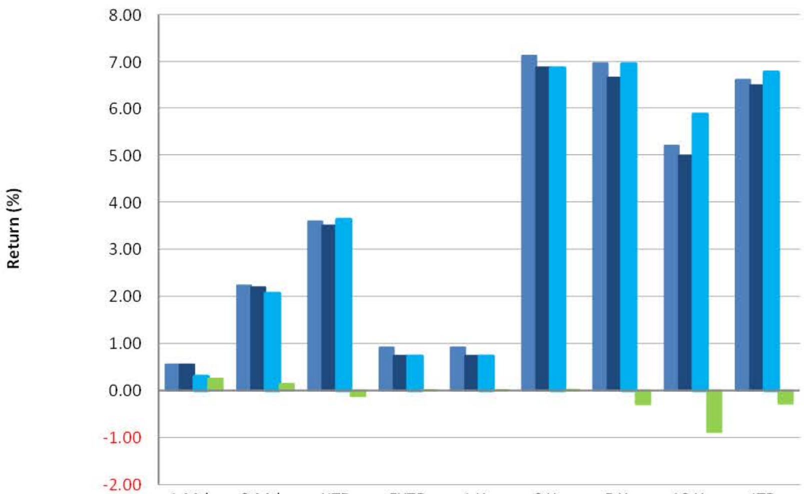
San Mateo County
Total Fund Characteristics

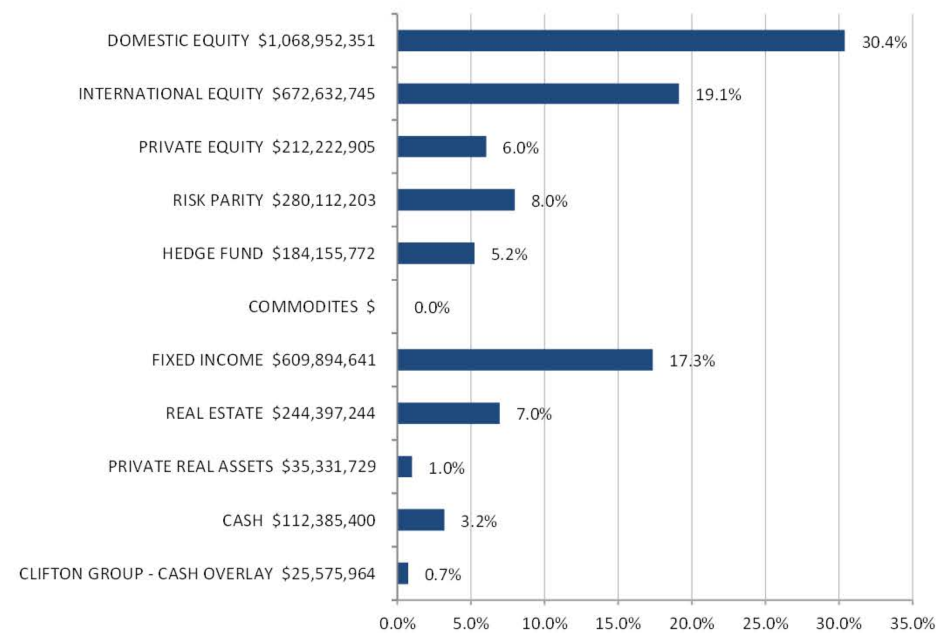
June 30,2016

Total Fund Performance

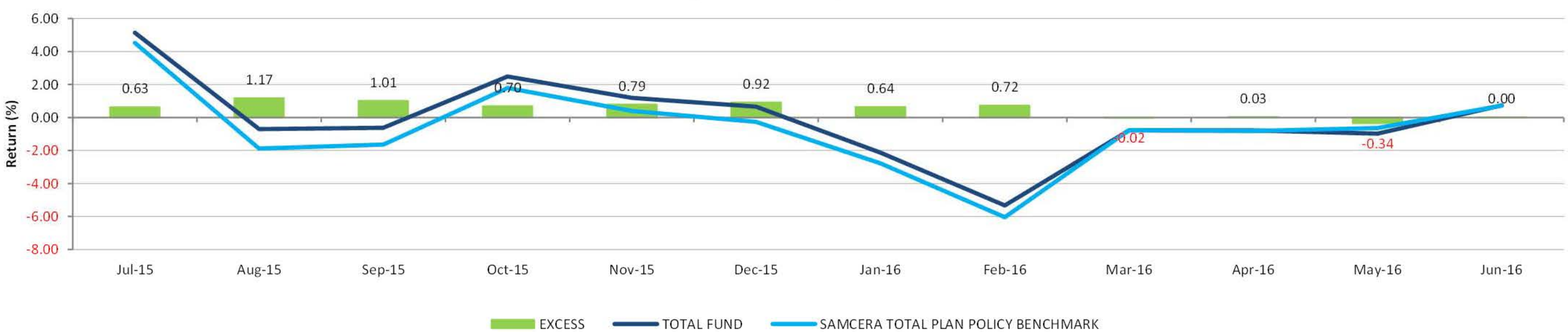


	1 Mth.	3 Mth.	YTD	FYTD	1 Yr.	3 Yr.	5 Yr.	10 Yr.	ITD
TOTAL FUND - Gross	0.55	2.23	3.59	0.91	0.91	7.13	6.97	5.20	6.61
TOTAL FUND - Net	0.55	2.19	3.50	0.73	0.73	6.88	6.66	4.98	6.50
SAMCERA PLAN BENCHMARK	0.30	2.06	3.63	0.73	0.73	6.87	6.95	5.87	6.77
Excess (Net)	0.25	0.13	-0.12	0.00	0.00	0.01	-0.29	-0.89	-0.28

Asset Allocation



Rolling Month End Annual Returns

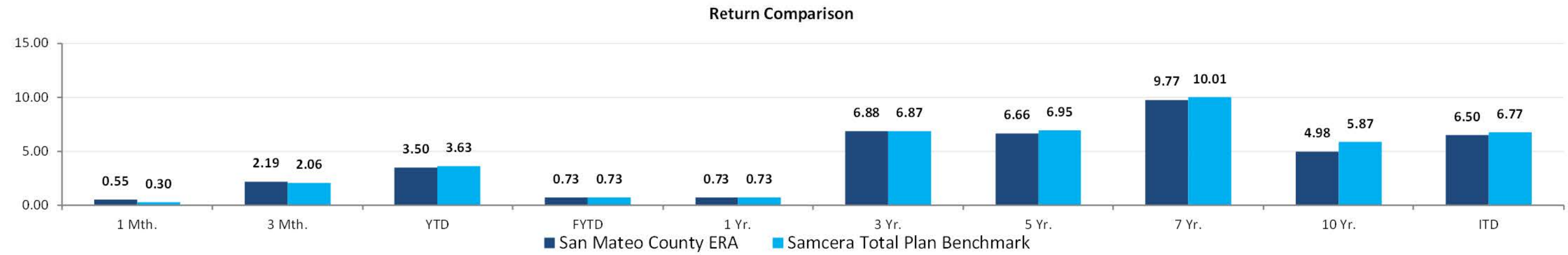


Northern Trust

San Mateo County
Composite Return Summary

SamCERA
SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION

June 30,2016

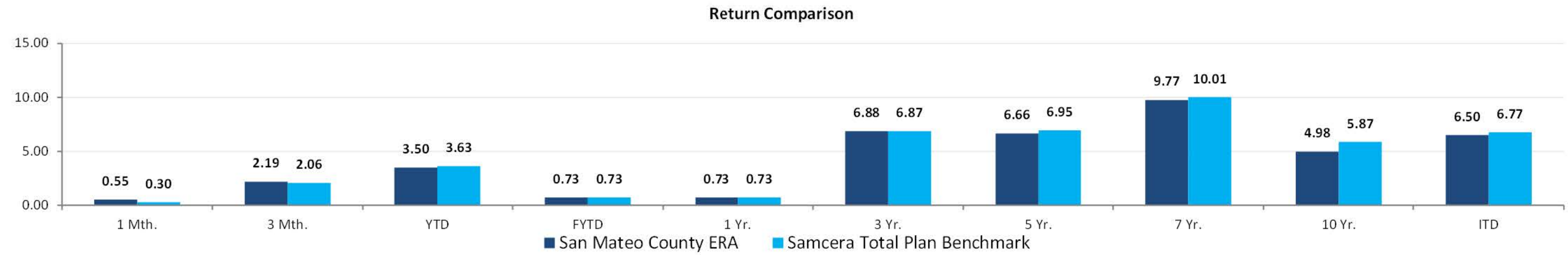


Composite Returns (Net of Manager Fees)	Market Value ($)	1 Mth.	3 Mth.	YTD	FYTD	1 Yr.	3 Yr.	5 Yr.	7 Yr.	10 Yr.	ITD
San Mateo County ERA	3,515,713,941	0.55	2.19	3.50	0.73	0.73	6.88	6.66	9.77	4.98	6.50
Samcera Total Plan Benchmark		0.30	2.06	3.63	0.73	0.73	6.87	6.95	10.01	5.87	6.77
Excess		0.25	0.13	-0.12	0.00	0.00	0.01	-0.29	-0.24	-0.89	-0.28
San Mateo Ex-Clifton Overlay	3,490,137,977	0.41	2.04	3.17	0.44	0.44	6.71	6.59	9.68	4.84	6.41
Samcera Total Plan Benchmark		0.30	2.06	3.63	0.73	0.73	6.87	6.95	10.01	5.87	6.77
Excess		0.11	-0.02	-0.45	-0.29	-0.29	-0.16	-0.37	-0.34	-1.03	-0.36
Total Equity	1,741,585,096	-0.68	1.16	1.79	-2.17	-2.17	7.37	7.27	11.22	4.46	7.22
Samcera Total Equity Benchmark		-0.19	2.10	2.61	-0.98	-0.98	8.76	8.26	12.32	5.94	7.78
Excess		-0.49	-0.94	-0.82	-1.19	-1.19	-1.38	-0.99	-1.10	-1.48	-0.56
Total Fixed Income	609,894,641	1.22	2.71	4.53	2.61	2.61	3.65	4.42	6.68	5.38	5.63
Samcera Fixed Income Benchmark		1.65	2.65	6.46	5.77	5.77	3.86	3.57	4.61	5.15	5.29
Excess		-0.42	0.06	-1.93	-3.16	-3.16	-0.20	0.84	2.07	0.23	0.34
Total Risk Parity	280,112,203	4.74	7.39	13.42	5.66	5.66	7.41	6.02	--	--	6.42
Samcera Risk Parity Benchmark		0.84	2.47	4.41	3.92	3.92	8.42	8.63	--	--	8.31
Excess		3.89	4.92	9.01	1.74	1.74	-1.02	-2.60	--	--	-1.89

Northern Trust

San Mateo County
Composite Return Summary

June 30,2016



Composite Returns (Net of Manager Fees)	Market Value ($)	1 Mth.	3 Mth.	YTD	FYTD	1 Yr.	3 Yr.	5 Yr.	7 Yr.	10 Yr.	ITD
Total Hedge Fund Composite	184,155,772	0.76	-1.22	-2.83	7.20	7.20	6.77	5.09	--	--	5.01
Samcera LIBOR + 4%		0.36	1.09	2.20	4.32	4.32	4.22	4.23	--	--	4.23
Excess		0.40	-2.31	-5.03	2.88	2.88	2.55	0.87	--	--	0.78
Total Private Equity	212,222,905	-1.21	-0.89	-0.96	2.54	2.54	13.82	8.40	--	--	-29.50
Samcera PE Benchmark		0.45	3.39	5.16	5.20	5.20	14.34	14.86	--	--	16.08
Excess		-1.66	-4.27	-6.12	-2.66	-2.66	-0.52	-6.46	--	--	-45.58
Total Commodities	0	--	--	--	--	--		--	--	--	--
Bloomberg Commodity Index		--	--	--	--	--	--	--	--	--	--
Excess		--	--	--	--	--	--	--	--	--	--
Total Private Real Assets	35,331,729	-0.06	14.77	--	--	--	--	--	--	--	14.77
Samcera CPI + 5%		0.73	2.40	--	--	--	--	--	--	--	2.40
Excess		-0.79	12.36	--	--	--	--	--	--	--	12.36
Total Real Estate	244,397,244	2.67	4.03	--	--	--	--	--	--	--	4.03
Samcera NCREIF ODCE EW (gross)		0.00	0.00	--	--	--	--	--	--	--	0.00
Excess		2.67	4.03	--	--	--	--	--	--	--	4.03
Total Cash	112,385,400	0.04	0.10	0.18	0.34	0.34	0.45	0.51	0.63	1.01	2.08
Samcera Cash Benchmark		0.04	0.07	0.15	0.19	0.19	0.09	0.09	0.11	1.04	1.94
Excess		-0.00	0.03	0.03	0.15	0.15	0.37	0.42	0.52	-0.03	0.14

San Mateo County
Manager Return Summary

June 30,2016

Composite Returns (NET)	Market Value ($)	1 Mth.	3 Mth.	YTD	FYTD	1 Yr.	3 Yr.	5 Yr.	7 Yr.	10 Yr.	ITD
Total Equity	1,741,585,096	-0.68	1.16	1.79	-2.17	-2.17	7.37	7.27	11.22	4.46	7.22
Samcera Total Equity Benchmark		-0.19	2.10	2.61	-0.98	-0.98	8.76	8.26	12.32	5.94	7.78
Excess		-0.49	-0.94	-0.82	-1.19	-1.19	-1.38	-0.99	-1.10	-1.48	-0.56
Total Domestic Equity	1,068,952,351	-0.40	1.97	2.43	0.71	0.71	10.03	10.32	14.10	5.91	8.00
Samcera Dom. Equity Benchmark		0.19	2.72	3.53	1.05	1.05	10.68	11.24	14.88	7.30	8.40
Excess		-0.59	-0.74	-1.10	-0.34	-0.34	-0.64	-0.91	-0.78	-1.40	-0.39
Total Large Cap Equity	910,884,665	-0.37	2.25	2.83	2.70	2.70	11.12	11.07	14.13	6.37	8.79
Russell 1000		0.23	2.54	3.74	2.93	2.93	11.48	11.88	15.03	7.51	9.19
Excess		-0.60	-0.29	-0.91	-0.24	-0.24	-0.36	-0.82	-0.90	-1.14	-0.40
Barrow Hanley	106,514,720	-2.02	1.69	0.16	-3.61	-3.61	8.58	10.12	--	--	12.82
Russell 1000 Value		0.86	4.58	6.30	2.86	2.86	9.87	11.35	--	--	13.39
Excess		-2.88	-2.89	-6.14	-6.47	-6.47	-1.28	-1.23	--	--	-0.58
Blackrock S&P 500 Index Fund	575,736,217	0.26	2.45	3.85	4.07	4.07	11.71	--	--	--	12.79
S&P 500		0.26	2.46	3.84	3.99	3.99	11.66	--	--	--	12.74
Excess		0.00	-0.00	0.01	0.08	0.08	0.06	--	--	--	0.05
Brown Advisory	109,784,426	-2.24	-0.15	-1.53	0.61	0.61	9.52	--	--	--	9.66
Russell 1000 Growth		-0.39	0.61	1.36	3.02	3.02	13.07	--	--	--	12.32
Excess		-1.85	-0.76	-2.89	-2.41	-2.41	-3.55	--	--	--	-2.66
DE Shaw Commingled Fund	118,849,302	-0.16	4.08	4.66	4.12	4.12	--	--	--	--	4.94
Russell 1000		0.23	2.54	3.74	2.93	2.93	--	--	--	--	3.10
Excess		-0.38	1.54	0.92	1.19	1.19	--	--	--	--	1.84
Total Small Cap Equity	158,067,686	-0.57	0.40	0.17	-8.48	-8.48	5.24	7.46	13.96	3.94	5.74
Russell 2000		-0.06	3.79	2.22	-6.73	-6.73	7.09	8.35	13.94	6.20	6.99
Excess		-0.51	-3.40	-2.05	-1.75	-1.75	-1.85	-0.90	0.02	-2.25	-1.25

San Mateo County
Manager Return Summary

SamCERA
SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION

June 30,2016

Composite Returns (NET)	Market Value ($)	1 Mth.	3 Mth.	YTD	FYTD	1 Yr.	3 Yr.	5 Yr.	7 Yr.	10 Yr.	ITD
Boston Company	82,493,235	0.65	2.28	6.51	-2.01	-2.01	6.85	9.65	--	--	12.26
Russell 2000 Value		0.30	4.31	6.08	-2.58	-2.58	6.36	8.15	--	--	11.92
Excess		0.35	-2.02	0.42	0.57	0.57	0.50	1.51	--	--	0.34
Chartwell Investment Mgmt	75,574,451	-1.87	-1.58	-5.94	-14.64	-14.64	3.58	6.77	13.97	5.75	6.56
Russell 2000 Growth		-0.46	3.24	-1.59	-10.75	-10.75	7.74	8.51	14.29	7.14	7.38
Excess		-1.41	-4.83	-4.35	-3.88	-3.88		-1.75	-0.32	-1.40	-0.82
Total International Equity	672,632,745	-1.12	-0.10	0.78	-6.74	-6.74	2.66	1.27	5.43	1.63	4.94
MSCI ACW ex US-IMI		-1.73	-0.68	-0.91	-9.61	-9.61	1.65	0.39	5.77	2.16	4.34
Excess		0.61	0.58	1.69	2.87	2.87	1.00	0.88	-0.34	-0.53	0.60
Total Developed Markets Equity	599,944,181	-1.72	-0.27	-0.20	-6.67	-6.67	3.13	1.80	5.87	2.11	3.65
MSCI ACW ex US-IMI		-1.73	-0.68	-0.91	-9.61	-9.61	1.65	0.39	5.77	2.16	4.01
Excess		0.01	0.41	0.72	2.94	2.94	1.47	1.41	0.10	-0.04	-0.36
Baillie Gifford	203,287,693	-1.64	-0.31	-0.01	-5.07	-5.07	4.55	--	--	--	6.11
MSCI ACWI ex US Growth		-0.36	0.64	0.40	-5.85	-5.85	3.48	--	--	--	4.16
Excess		-1.28	-0.95	-0.41	0.78	0.78	1.07	--	--	--	1.95
Blackrock EAFE Index Fund	124,380,213	-3.33	-1.25	-4.13	-9.87	-9.87	--	--	--	--	-3.77
MSCI EAFE ND		-3.36	-1.46	-4.42	-10.16	-10.16	--	--	--	--	-4.06
Excess		0.03	0.21	0.30	0.29	0.29	--	--	--	--	0.29
Mondrian Investment Partners	203,168,921	-0.66	0.41	2.03	-6.96	-6.96	2.34	1.73	5.94	2.53	4.72
MSCI ACWI ex US Value		-2.60	-1.46	-1.75	-13.74	-13.74	-0.30	-0.80	4.53	1.31	3.83
Excess		1.94	1.87	3.78	6.78	6.78	2.64	2.53	1.41	1.23	0.90
FIAM Intl Small Cap	69,107,354	-2.10	-0.36	0.52	-4.18	-4.18	4.44	--	--	--	4.91
MSCI ACWI Small Cap ex US Net		-2.93	-0.87	-0.20	-5.46	-5.46	4.93	--	--	--	4.79
Excess		0.83	0.52	0.72	1.28	1.28	-0.49	--	--	--	0.12

Northern Trust

San Mateo County
Manager Return Summary

June 30,2016

Composite Returns (NET)	Market Value ($)	1 Mth.	3 Mth.	YTD	FYTD	1 Yr.	3 Yr.	5 Yr.	7 Yr.	10 Yr.	ITD
Total Emerging Markets Equity	72,688,563	4.14	1.33	9.88	-7.83	-7.83	-1.42	--	--	--	-1.70
MSCI Emerging Markets ND Index		4.00	0.66	6.41	-12.05	-12.05	-1.56	--	--	--	-2.61
Excess		0.15	0.66	3.47	4.23	4.23	0.15	--	--	--	0.90
EV Parametric EM	72,688,563	4.14	1.33	9.88	--	--	--	--	--	--	-1.93
MSCI Emerging Markets GD		4.10	0.80	6.60	--	--	--	--	--	--	-5.20
Excess		0.05	0.53	3.29	--	--	--	--	--	--	3.27
Total Fixed Income	609,894,641	1.22	2.71	4.53	2.61	2.61	3.65	4.42	6.68	5.38	5.63
Samcera Fixed Income Benchmark		1.65	2.65	6.46	5.77	5.77	3.86	3.57	4.61	5.15	5.29
Excess		-0.42	0.06	-1.93	-3.16	-3.16	-0.20	0.84	2.07	0.23	0.34
Total Domestic Fixed Income	509,890,964	1.28	3.03	5.15	3.73	3.73	4.11	4.63	6.77	5.51	5.79
Samcera US Fixed Inc Benchmark		1.46	2.49	5.92	5.10	5.10	3.92	3.88	4.80	5.29	5.49
Excess		-0.18	0.54	-0.76	-1.37	-1.37	0.18	0.76	1.97	0.22	0.30
Total Core Fixed Income	350,986,065	1.49	2.70	4.82	4.90	4.90	4.43	4.46	6.42	5.27	5.64
BC U.S. Aggregate		1.80	2.21	5.31	6.00	6.00	4.06	3.76	4.58	5.13	5.40
Excess		-0.31	0.49	-0.49	-1.10	-1.10	0.37	0.70	1.83	0.13	0.24
FIAM Core Bond	247,229,262	1.86	2.73	6.07	6.11	6.11	4.47	4.31	5.91	5.51	5.23
BC U.S. Aggregate		1.80	2.21	5.31	6.00	6.00	4.06	3.76	4.58	5.13	4.85
Excess		0.06	0.52	0.76	0.11	0.11	0.40	0.54	1.33	0.38	0.38
Western Total Return	103,756,803	0.63	2.62	1.96	--	--	--	--	--	--	1.21
BC U.S. Aggregate		1.80	2.21	5.31	--	--	--	--	--	--	5.27
Excess		-1.17	0.40	-3.35	--	--	--	--	--	--	-4.06
Total Opportunistic Credit	158,904,899	0.82	3.74	5.30	1.20	1.20	5.05	7.38	--	--	9.29
BC BA Intermediate HY Index		0.62	3.29	6.83	3.65	3.65	5.21	6.20	--	--	7.78
Excess		0.20	0.45	-1.53	-2.45	-2.45	-0.16	1.18	--	--	1.51

San Mateo County
Manager Return Summary

June 30,2016

Composite Returns (NET)	Market Value ($)	1 Mth.	3 Mth.	YTD	FYTD	1 Yr.	3 Yr.	5 Yr.	7 Yr.	10 Yr.	ITD
AG Opportunistic Whole Loan	22,954,167	0.00	-0.36	0.03	1.52	1.52	--	--	--	--	-0.31
BC BA Intermediate HY Index		0.62	3.29	6.83	3.65	3.65	--	--	--	--	3.20
Excess		-0.62	-3.65	-6.80	-2.13	-2.13	--	--	--	--	-3.51
Angelo Gordon	31,215,373	0.00	-2.27	-3.26	0.05	0.05	7.64	--	--	--	8.01
BC BA Intermediate HY Index		0.62	3.29	6.83	3.65	3.65	5.21	--	--	--	4.66
Excess		-0.62	-5.56	-10.10	-3.60	-3.60	2.43	--	--	--	3.35
Beach Point Select Fund	40,939,328	0.74	4.24	6.07	4.07	4.07	--	--	--	--	6.91
BC BA Intermediate HY Index		0.62	3.29	6.83	3.65	3.65	--	--	--	--	3.40
Excess		0.12	0.95	-0.77	0.42	0.42	--	--	--	--	3.51
Brigade Cap Mngmt	63,796,031	1.59	8.52	12.11	-1.12	-1.12	2.30	4.82	--	--	5.89
BC BA Intermediate HY Index		0.62	3.29	6.83	3.65	3.65	5.21	6.20	--	--	6.88
Excess		0.97	5.23	5.28	-4.77	-4.77	-2.91	-1.38	--	--	-0.99
Total Global Fixed Income	100,003,677	0.94	1.11	1.24	-3.39	-3.39	1.34	3.03	--	--	3.84
Samcera Global Fixed Benchmark		2.87	3.00	9.06	8.62	8.62	2.82	1.89	--	--	2.53
Excess		-1.93	-1.89	-7.82	-12.01	-12.01	-1.47	1.13	--	--	1.31
Franklin Templeton	100,003,677	0.94	1.11	1.24	-3.39	-3.39	0.89	2.75	--	--	3.58
BC Multiverse Index		2.87	3.00	9.06	8.62	8.62	2.82	1.89	--	--	2.53
Excess		-1.93	-1.89	-7.82	-12.01	-12.01	-1.93	0.86	--	--	1.06
Total Risk Parity	280,112,203	4.74	7.39	13.42	5.66	5.66	7.41	6.02	--	--	6.42
Samcera Risk Parity Benchmark		0.84	2.47	4.41	3.92	3.92	8.42	8.63	--	--	8.31
Excess		3.89	4.92	9.01	1.74	1.74	-1.02	-2.60	--	--	-1.89
AQR Global Risk III	128,405,318	3.09	6.68	9.60	-0.88	-0.88	3.95	3.96	--	--	4.48
Samcera Risk Parity Benchmark		0.84	2.47	4.41	3.92	3.92	8.42	8.63	--	--	8.31
Excess		2.25	4.21	5.19	-4.80	-4.80	-4.48	-4.66	--	--	-3.83

San Mateo County
Manager Return Summary

June 30,2016

Composite Returns (NET)	Market Value ($)	1 Mth.	3 Mth.	YTD	FYTD	1 Yr.	3 Yr.	5 Yr.	7 Yr.	10 Yr.	ITD
Panagora	151,706,885	6.17	8.00	16.86	11.91	11.91	--	--	--	--	7.98
Samcera Risk Parity Benchmark		0.84	2.47	4.41	3.92	3.92	--	--	--	--	4.56
Excess		5.33	5.53	12.45	7.99	7.99	--	--	--	--	3.42
Total Alternatives	396,378,676	-0.30	-1.04	-2.08	-1.62	-1.62	4.35	3.41	-9.17	-7.93	-4.17
Samcera Alternatives Benchmark		0.42	2.43	3.79	-0.26	-0.26	6.02	6.71	10.02	6.22	6.91
Excess		-0.71	-3.47	-5.87	-1.36	-1.36	-1.67	-3.30	-19.19	-14.15	-11.08
Total Private Equity	212,222,905	-1.21	-0.89	-0.96	2.54	2.54	13.82	8.40	--	--	-29.50
Samcera PE Benchmark		0.45	3.39	5.16	5.20	5.20	14.34	14.86	--	--	16.08
Excess		-1.66	-4.27	-6.12	-2.66	-2.66	-0.52	-6.46	--	--	-45.58
Total Hedge Fund Composite	184,155,772	0.76	-1.22	-2.83	7.20	7.20	6.77	5.09	--	--	5.01
Samcera LIBOR + 4%		0.36	1.09	2.20	4.32	4.32	4.22	4.23	--	--	4.23
Excess		0.40	-2.31	-5.03	2.88	2.88	2.55	0.87	--	--	0.78
AQR Delta XN	150,719,576	1.48	-1.30	-2.55	7.90	7.90	7.00	5.23	--	--	5.14
Samcera LIBOR + 4%		0.36	1.09	2.20	4.32	4.32	4.22	4.23	--	--	4.23
Excess		1.11	-2.40	-4.75	3.59	3.59	2.78	1.00	--	--	0.91
Standard Life GARS	33,436,196	-2.33	-0.85	-4.06	--	--	--	--	--	--	-4.47
Samcera LIBOR + 4%		0.36	1.09	2.20	--	--	--	--	--	--	3.25
Excess		-2.69	-1.94	-6.26	--	--	--	--	--	--	-7.72
Total Inflation Hedge	349,781,961	2.11	4.92	--	--	--	--	--	--	--	4.92
SamCERA Inflation Hedge Index		1.29	3.28	--	--	--	--	--	--	--	3.28
Excess		0.83	1.65	--	--	--	--	--	--	--	1.65
Total TIPS	70,052,988	1.31	0.86	--	--	--	--	--	--	--	0.86
BC US Tips		2.08	1.71	--	--	--	--	--	--	--	1.71
Excess		-0.76	-0.85	--	--	--	--	--	--	--	-0.85

San Mateo County
Manager Return Summary

June 30,2016

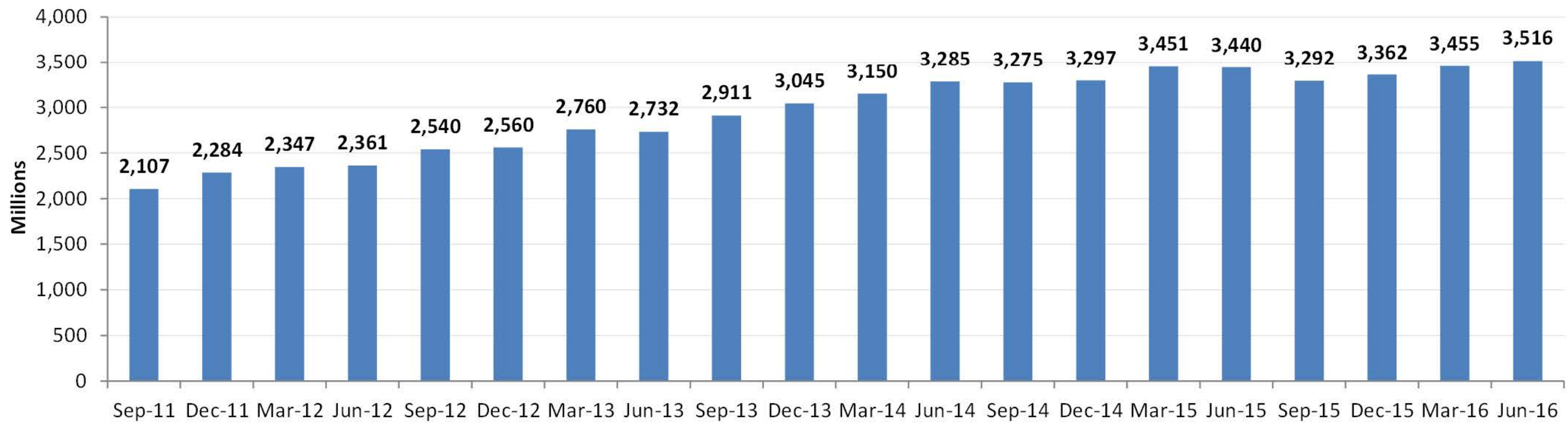
Composite Returns (NET)	Market Value ($)	1 Mth.	3 Mth.	YTD	FYTD	1 Yr.	3 Yr.	5 Yr.	7 Yr.	10 Yr.	ITD
Brown Brothers Harriman	70,052,988	1.31	0.86	4.25	2.04	2.04	0.72	1.85	--	--	2.77
BC US Tips		2.08	1.71	6.24	4.35	4.35	2.31	2.63	--	--	3.49
Excess		-0.76	-0.85	-1.99	-2.31	-2.31	-1.59	-0.78	--	--	-0.72
Total Real Estate	244,397,244	2.67	4.03	--	--	--	--	--	--	--	4.03
Samcera NCREIF ODCE EW (gross)		0.00	0.00	--	--	--	--	--	--	--	0.00
Excess		2.67	4.03	--	--	--	--	--	--	--	4.03
Invesco Core Real Estate	236,273,275	2.76	4.19	6.71	9.78	9.78	12.35	11.72	10.34	5.52	7.86
Samcera NCREIF ODCE EW (gross)		0.00	0.00	2.44	9.80	9.80	12.22	12.21	10.23	5.68	7.54
Excess		2.76	4.19	4.27	-0.02	-0.02	0.12	-0.49	0.11	-0.17	0.32
Invesco US Val IV	8,123,969	0.00	-0.30	15.92	--	--	--	--	--	--	10.73
Samcera NCREIF ODCE EW (gross)		0.00	0.00	2.44	--	--	--	--	--	--	5.95
Excess		0.00	-0.30	13.48	--	--	--	--	--	--	4.78
Total Private Real Assets	35,331,729	-0.06	14.77	--	--	--	--	--	--	--	14.77
Samcera CPI + 5%		0.73	2.40	--	--	--	--	--	--	--	2.40
Excess		-0.79	12.36	--	--	--	--	--	--	--	12.36
Total Commodities	0	--	--	--	--	--	--	--	--	--	--
Bloomberg Commodity Index		--	--	--	--	--	--	--	--	--	--
Excess		--	--	--	--	--	--	--	--	--	--
Total Cash	112,385,400	0.04	0.10	0.18	0.34	0.34	0.45	0.51	0.63	1.01	2.08
Samcera Cash Benchmark		0.04	0.07	0.15	0.19	0.19	0.09	0.09	0.11	1.04	1.94
Excess		-0.00	0.03	0.03	0.15	0.15	0.37	0.42	0.52	-0.03	0.14
SamCera General Account	111,245,920	0.04	0.12	0.23	0.42	0.42	0.23	0.20	0.24	1.26	2.07
County Treasury Pool	1,139,479	0.00	0.00	0.00	0.00	0.00	0.28	0.49	0.65	0.92	2.79
San Mateo County ERA	3,515,713,941	0.55	2.19	3.50	0.73	0.73	6.88	6.66	9.77	4.98	6.50
Samcera Total Plan Benchmark		0.30	2.06	3.63	0.73	0.73	6.87	6.95	10.01	5.87	6.77
Excess		0.25	0.13	-0.12	0.00	0.00	0.01	-0.29	-0.24	-0.89	-0.28

June 30,2016

Record of Asset Growth

	Three Months	One Year
TOTAL FUND		
Beginning Market Value	3,454,936,310	3,439,860,919
Contributions	33,223,130	333,383,766
Withdrawals	-49,212,940	-290,494,790
Income Received	14,360,128	37,523,340
Gain/Loss	62,676,581	-5,657,237
Ending Market Value	3,515,713,941	3,515,713,941

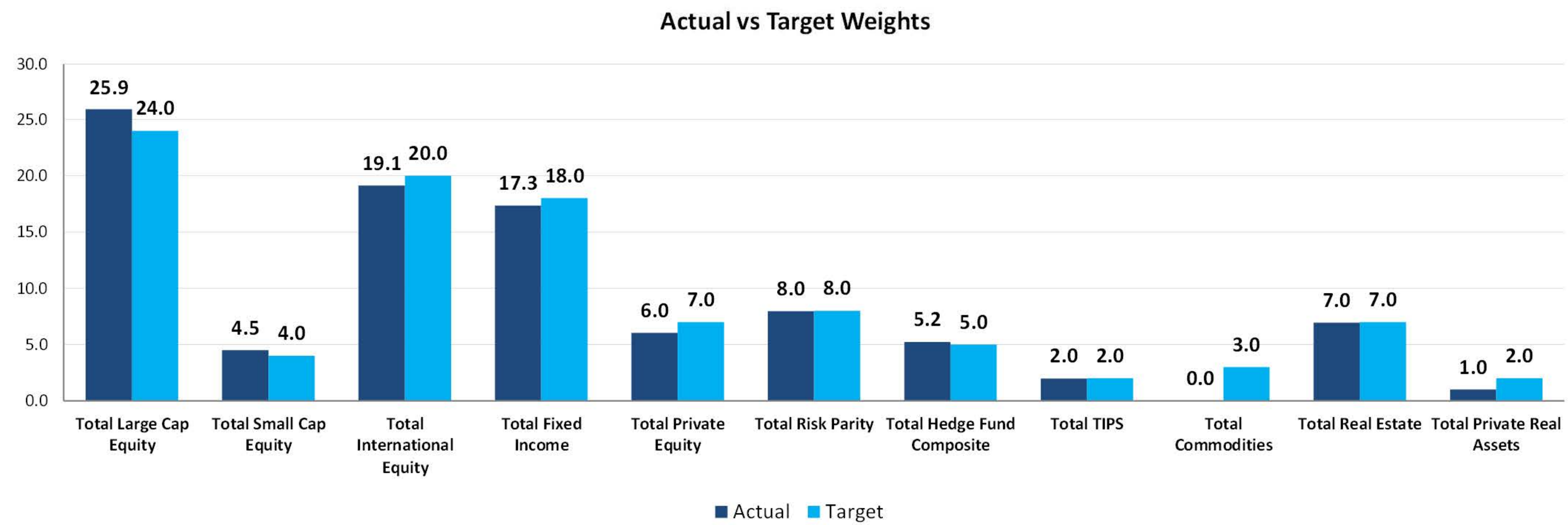
Net Asset Values Over Time ($000)



San Mateo County

Asset Allocation

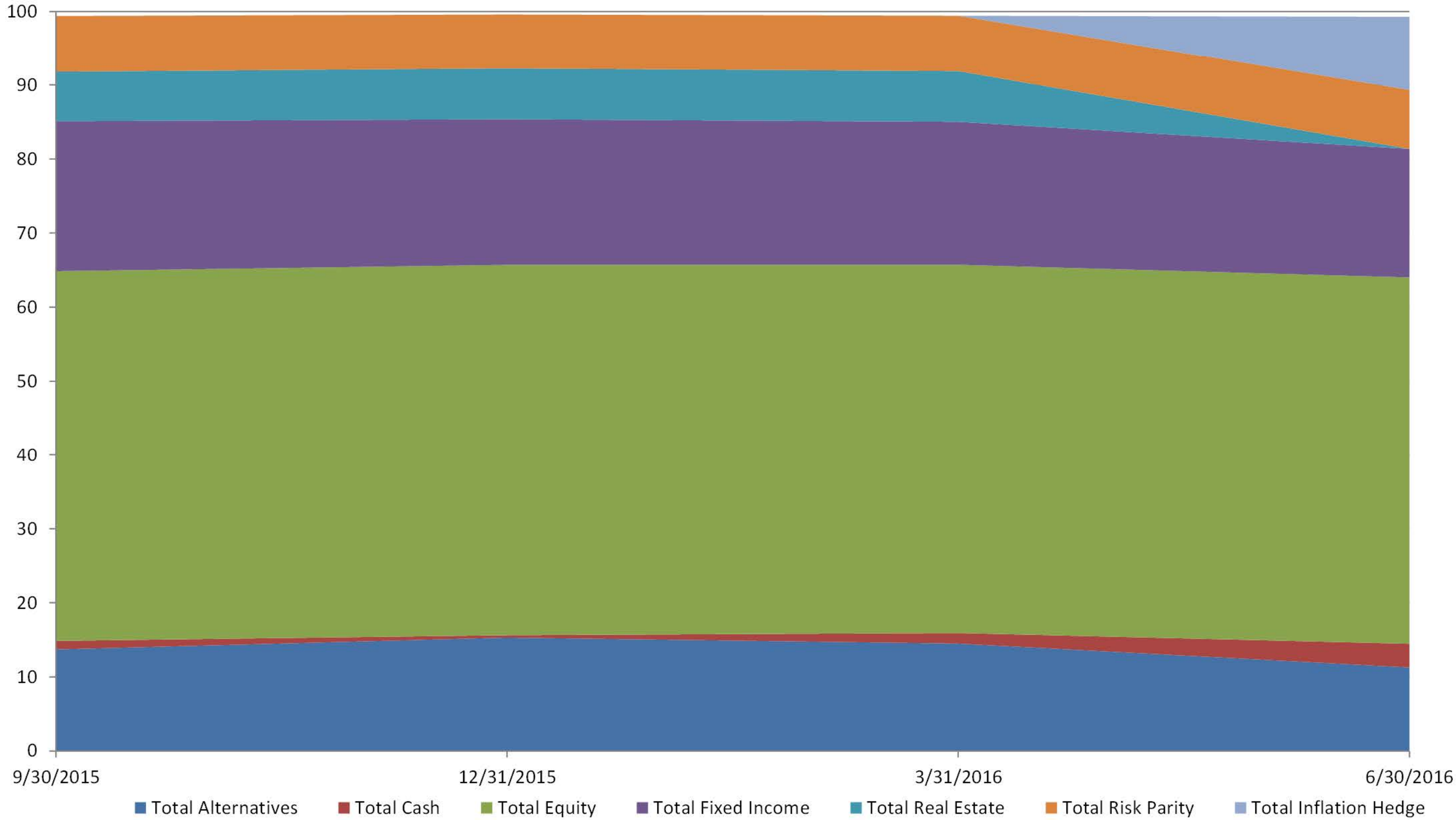
June 30,2016



	Min	Actual	Target	Deviation	Max
Total Large Cap Equity	22.0	25.9	24.0	1.9	26.0
Total Small Cap Equity	2.0	4.5	4.0	0.5	6.0
Total International Equity	18.0	19.1	20.0	-0.9	22.0
Total Fixed Income	16.0	17.3	18.0	-0.7	20.0
Total Private Equity	5.0	6.0	7.0	-1.0	9.0
Total Risk Parity	6.0	8.0	8.0	0.0	10.0
Total Hedge Fund Composite	3.0	5.2	5.0	0.2	7.0
Total TIPS	0.0	2.0	2.0	0.0	4.0
Total Commodities	1.0	0.0	3.0	-3.0	5.0
Total Real Estate	5.0	7.0	7.0	0.0	9.0
Total Private Real Assets	0.0	1.0	2.0	-1.0	4.0

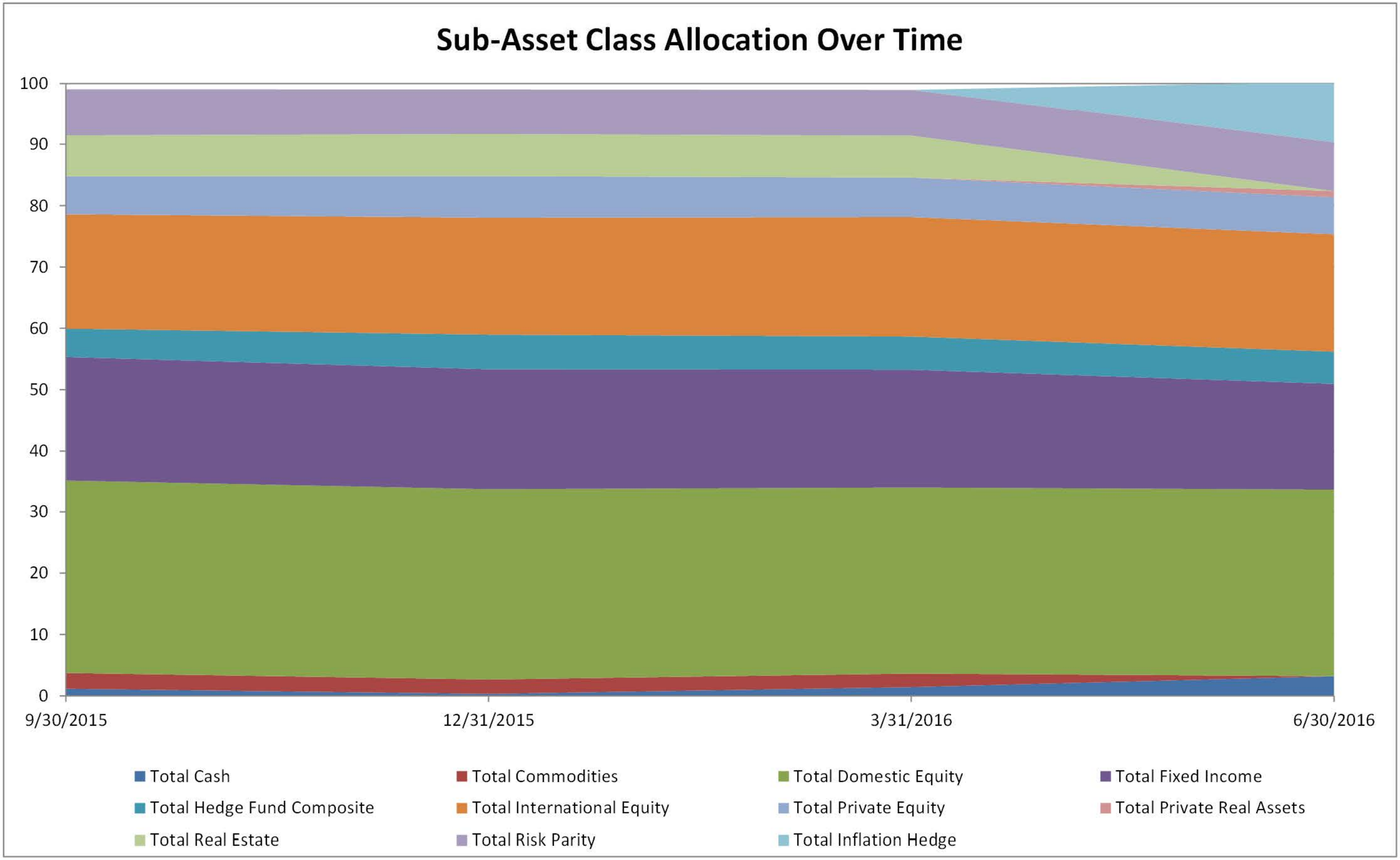
June 30,2016

Asset Allocation over Time



SamCERA
SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION

June 30,2016



SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
Board of Retirement

July 27, 2016 Agenda Item 6.2

TO: Board of Retirement

FROM: Doris Ng, Investment Analyst

SUBJECT: Report on the International Manager Annual Reviews (Franklin Templeton, Eaton Vance Parametric, and Fidelity Institutional Asset Management)

Staff Recommendation
Review the report on the annual reviews of SamCERA's International Managers.

Background
SamCERA staff held annual review meetings in SamCERA's office with Franklin Templeton, Eaton Vance Parametric, and Fidelity Institutional Asset Management on May 19th. As a reminder, SamCERA's International Value and Growth managers, Mondrian Investment Partners and Baillie Gifford Overseas, are reviewed later in the year along with domestic equity managers in their respective investment style.

Each meeting lasted approximately 1.5 hours, and consisted of a firm/organizational update, investment process review, performance review and attribution, and current positioning/market outlook.

Discussion
The Franklin Templeton Global Multi-Sector Plus bond strategy, which is a global bond mandate managed in an unconstrained fashion using a top-down fundamental framework, was reviewed first. There was one change on the Global Macro Research team in early 2015 and one new addition to the Quantitative team towards the end of 2015.

The Eaton Vance Parametric Emerging Markets Core Equity strategy, which is a structured, rules based approach, was reviewed next. As a reminder, SamCERA switched from the Emerging Markets Equity to the Emerging Markets Core Equity strategy, eliminating frontier markets, in July 2015. There have been two personnel changes. Parametric's CIO retired in October 2015 after a one-year pre-planned transition and the firm hired a new Chief Compliance Officer in March 2016.

Lastly, the Fidelity Select International Small-Cap Plus strategy was reviewed. This is a core strategy that provides a broad exposure to the international small-cap equity asset class. There was one analyst change, who covered financials, in July 2015.

There were no major concerns identified in the portfolio reviews. Meeting notes are attached to this memo summarizing the findings from the annual reviews for Franklin Templeton, Eaton Vance Parametric and Fidelity.

Attachments

A. Franklin Global Multi-Sector Plus Annual Review Meeting Notes
B. Eaton Vance Parametric Annual Review Meeting Notes
C. FIAM Select Intl SC Annual Review Meeting Notes

Date of meeting: 5/19/2016

Location: SamCERA

Manager Representative(s)

Dan Ryan (Relationship Manager),
Jeff Brown (Institutional Portfolio Manager)

Verus Representative(s)

Margaret Jadallah

Client Representative(s)

Mike Coultrip (CIO), Doris Ng (Investment Analyst)

Product Description

Parametric utilizes a structured, rules-based approach, which they believe is capable of generating enhanced returns with lower volatility compared to both traditional active management and passive capitalization weighted indices. The basic idea is to structure the portfolio with more balanced country weights than the market cap weighted indices, and also to capture a rebalancing premium. This provides more diversification and greater exposure to smaller countries than is provided by the market cap weighted indices. The approach is to divide emerging markets countries into size tiers, and to equally weight the countries within each tier. Tier 1 countries are the largest countries that dominate the cap weighted index. Each successive tier is comprised of smaller countries, each of which is given a smaller target weighting in the model portfolio. In aggregate, the eight Tier 1 countries are given a much lower weighting than in the capitalization weighted index, but they nevertheless comprise more than 50% of the portfolio. Tiers 1-3 comprise the Emerging Markets Core strategy that SamCERA is now invested in. Tier 4 countries are in the frontier markets; this tier has been excluded from SamCERA's portfolio since July 2015.

The Emerging Markets Core strategy targets excess return of 3% over a market cycle with 2.5%-4.5% expected tracking error. It is designed to generate a level of volatility 85%-95% of the MSCI EM index. The strategy currently invests in primarily MSCI Emerging Markets countries and will typically hold 700-1100 securities. Turnover is expected to be in the range of 5-15%.

SamCERA switched to the Core version of the Structured Emerging Markets Equity approach, eliminating frontier markets, in July 2015.

Meeting Notes

Organization

Parametric's CIO David Stein retired in October of 2015 after 20 years with the firm. Stein had a planned one year transition period, and Paul Bouchey became Co-CIO with David until his retirement. Dan Ryan stated that after about six months, the transition had already been implemented. In April 2015, CCO Deborah Lamb left Parametric to move back East for personal reasons. Christine Smith, Chief Administrative Officer, served as interim head of compliance until March 28, 2016. At that time, Randall Hegarty assumed the CCO role. Hegarty is CCO for all of Parametric's locations – Seattle, Minneapolis and Westport. He joined from RS Investments where he was CCO and has a J.D. from UCLA's law school.

Parametric had $152 billion under management at the end of 2015, with about $12.2 billion in emerging markets strategies. At year end, there was $1.7 billion in the Emerging Markets Core Strategy. Over the past year, there was a net gain in firm wide business. However, one large Emerging Markets Core account was lost during this time period. This was a large sovereign wealth fund with a heavy reliance on oil that needed to redeem money.

Investment Team

Other than the leadership positions mentioned above, there were no changes to the Structured Emerging Markets Equity investment team. The firm will selectively adding to staff in portfolio management, technology, operations and client service in response to growth.

Investment Strategy

Country weightings are the most significant feature of the investment approach. Parametric maintains the view that country, rather than sector, is the dominant driver of returns in the emerging markets. But the strategy also involves a more equal weighting of sectors at the country level than the benchmark. The benchmark relative constraints on sector weightings are determined by liquidity. Parametric has adjusted its approach to sector weightings as intra-sector liquidity has improved in the emerging markets. They have switched from working with five super-sectors to the standard GICs sector categories. But the objective remains the same: to maintain diversification of sectors with country and reduce concentration at the sector level. Rebalancing is an additional source of return.

Jeff Brown discussed transition countries that were on the cusp of changing tier rankings and how they handle that. This is less impactful for the Core strategy and more relevant as it relates to frontier markets. Brown discussed a couple of emerging markets in particular. Sandi Arabia is in the process of opening its stock market. When it is fully registered, it will probably be a tier 3 country. Parametric is closely monitoring the addition of China A-shares to the MSCI index. They will likely consider the A-shares as a tier 4 market and weighting at first. There are formal country reviews two times a year, and additional monthly update meetings.

Performance & Positioning

Over the past year ended 3/31/16, the SamCERA portfolio returned -8.87% net of fees vs. -12.03% for the MSCI Emerging Markets Index (net). Note that this links the Core (emerging markets only) strategy with the Parametric SEM strategy that allowed for investment in frontier markets prior to July.

Investing in Russia when it was very undervalued at the end of 2014 was a notable contributor to returns. They sold Russian exposure in Q1 ’15 after a quick rebound. China, with its large weighting in the index, was a strong contributor more recently. China exposure can add or detract meaningfully given Parametric’s portfolio weighting construction rules. In late 2014 and early 2015, it was a headwind.

Date of meeting: 5/19/2016

Location: SamCERA office

Manager Representative(s)

Nick Horn (Institutional PM),
Mark Botelho (Senior Account Executive)

Verus Representative(s)

Margaret Jadallah

Client Representative(s)

Mike Coultrip (CIO), Doris Ng (Investment Analyst)

Product Description

FIAM Select International Small Cap Plus is a core strategy that provides broad exposure to the international small cap equity asset class. The firm's analysts actively research, and formally rate, 1200-1300 international small cap companies. The decision making structure is efficient, with portfolio manager Rob Feldman making all the buy and sell decisions. His role, as he puts it, is to be an intelligent user of the analysts' research. He selects the 1- and 2-rated stocks that he thinks are compelling and additive to his portfolio, and he sells names when they are downgraded by the analysts. The portfolio is diversified and typically has 175-225 holdings. Country and sector weights are within 3 percentage points of the benchmark and position sizes are within 2 percentage points of the benchmark. Alpha is driven almost entirely by stock selection.

Meeting Notes

Organization

In October 2015, Fidelity Institutional Asset Management (FIAM) was established to bring together the distribution teams from Pyramis, Fidelity's institutional arm, and Fidelity Financial Advisor Solutions (FFAS), Fidelity's advisor network. In addition to merging their distribution efforts, the name change was a firm rebranding effort driven by Jeff Lagarce. Lagarce, who was President of Pyramis, became President of FIAM. Scott Couto, formerly President of FFAS, became head of FIAM distribution. There were no investment changes and only one reporting change. Pam Holding, FIAM's CIO, now reports to GTAA head Derek Young. In our annual review, Nick and Mark explained that Derek is close with CEO Abby Johnson and, as a by-product, Pam now has more exposure to Fidelity's CEO.

As of the end of 2015, FIAM was managing $210 billion overall with $59 billion in international equity. The Select International Small Cap Plus Strategy, which is benchmarked to the ACWI ex US Small Cap Index, had assets of slightly over $1 billion as of year-end.

Investment Team

Portfolio manager Rob Feldman manages the Select International Small Cap strategy series and has been managing the Plus version of the strategy since its inception in 2008. There was a recent analyst change on the Intl. Small Cap team. Financials analyst William Ping moved to FIAM's Hong Kong office but the distance from the home office in Smithfield, Rhode Island wasn't working well for him. He recently resigned and will be replaced by Henry Chu, a recent graduate from MIT's business school, who will be joining in August. Chu will be based out of Smithfield but will have the option to transfer to Hong Kong if he wishes after a training period. FIAM likes to have some analysts based in the local markets, especially in small cap coverage, because they are working and monitoring the markets during hours when the US based analysts are not. Unlike the Fidelity retail analysts, FIAM analysts are often more senior and many are career research analysts.

Investment Strategy

While the portfolio is diversified with 230 stocks currently, active share is 92%. The market cap exposure is larger than the benchmark. At purchase, companies often have market caps of $1-$3 billion. This is a core approach that will never be heavily tilted to value or growth.

Consistency of alpha is more important to the approach than magnitude of alpha. The strategy relies on the power of compounding to boost returns over time. Realized tracking error has been lower than predicted in recent years at about 3%. The approach has a predicted tracking error of 4-6%. Despite the lower than normal tracking error, FIAM believes that its 300 bps excess return hurdle is achievable because of the portfolio's high active share and active position weights away from the benchmark.

Performance & Positioning

Over the last year ended 12/31/15, the Select International Small Cap Plus portfolio returned 3.25% net of fees vs. 2.60% for the MSCI ACWI-ex US Small Cap Net Index; 3.0% for the MSCI ACWI ex US Small Cap Gross Index. FIAM is flat to the index net of fees for the one year ended 3/31/16.

PM Rob Feldman generally avoided energy blow ups through emphasizing good balance sheets. However, there were some impacts from commodity prices on local economies in emerging markets that negatively impacted their returns. Indonesia was a tougher market for them as was Japan. Nick Horn explained that Japan had a strongly performing market led by low quality stocks, which is not where they invest. However, software returns were generally positive across the portfolio and especially strong in Japan.

The strategy will continue to focus on bottom up stock picking with an emphasis on quality companies that can outperform throughout the market cycle.

Date of meeting: 5/19/16

Location: SamCERA

Manager Representative(s)

Bill Deakyne (Client Relations),
Elsa Goldberg (Institutional Portfolio Manager)

Verus Representative(s)

Margaret Jadallah

Client Representative(s)

Mike Coultrip (CIO), Doris Ng (Analyst)

Product Description

Franklin Templeton (FT) manages the Global Multisector Plus global bond mandate in an unconstrained fashion using a top-down fundamental framework. FT believes that in the short-term and on a country-by-country basis there are often inefficiencies in global bond and currency markets; however, over the longer term, the market will ultimately price to fundamentals. Thus, FT focuses on fundamental research to identify long-term opportunities and uses short-term market inefficiencies to build positions in such investments. The Global Multisector Plus approach allows for meaningful amounts of emerging markets and active currency management. Corporates and bank loans can be utilized as well. The portfolio must maintain at least 50% investment grade exposure. Targeted volatility is 8-10%.

Meeting Notes

Organization

As of year-end 2015, Franklin Templeton managed $764 billion, of which approximately $88 billion was in global bond mandates. The Global Macro team, led by Michael Hasenstab, managed $47 billion in the Global Multisector Plus style employed in the SamCERA portfolio at year-end. The Global Multisector Plus strategy has gained and lost about an equal number of accounts this past year; outflows coincided with underperformance. Outflows have been largely in retail assets, while inflows were institutional clients subsequently seeking to buy low.

During Q1 2016, Franklin Templeton laid off approximately 100 non-investment professionals and instituted a voluntary early retirement program that about 300 professionals took advantage of. There was no change to the roster of Global Macro investment professionals with these layoffs. Bill Deakyne stated that two client relationship managers were laid off from his department at this time.

Effective October 2015, there were several senior management promotions, including the addition of Michael Hasenstab to the firm’s Management Committee. Chair and CEO Greg Johnson consciously added very senior portfolio managers to the Management Committee as part of promotions. He also named Jenny Johnson and Vijay Advani as co-Presidents. They have operational and distribution senior leadership roles, respectively.

Investment Team

Franklin’s Fixed Income Group consists of a team of more than 170 global fixed income investment professionals located in offices around the world. A large portion of the team, including portfolio managers, is located in the local San Mateo office. The group is structured in sector research teams, which serve to generate investment ideas and present them to the portfolio management team. The Global Macro Research team also includes a global macro-focused team of Ph.Ds, country analysts, quantitative analysts and separate and segregated risk analysts. Over the past year, there was one change to the global macro team and one net addition to the quantitative team. Sonal Desai continues to head the Global Macro team's research effort.

Investment Strategy

Franklin Templeton (FT) manages the global bond mandate in an unconstrained fashion using a top-down, fundamental framework. As stated above, FT focuses on fundamental research to identify long-term opportunities, using short-term market inefficiencies to build positions. Macroeconomic conditions in the G-3 economies are analyzed first, primarily with respect to how current and projected growth and inflation dynamics are expected to influence monetary policy. This analysis is then extended out to the rest of the industries countries (G-13) as well as emerging markets, which results in broad targets for duration, currencies and the developed/emerging market mix. Credit, while not currently a meaningful part of the portfolio, is part of the investable universe as well.

The investment philosophy focuses on getting the country selection decision right as the primary driver of portfolio performance. There are three main sources of risk and return: currency, interest rates and credit. On average and over longer periods of time, risk should be approximately equal across these three sources. However, currently about 60% of the portfolio's risk is allocated to currency exposures.

The portfolio is not managed to be similar to the benchmark, and there is little focus on tracking error. But the team is attentive to other multiple risks, such as political and liquidity risk. Franklin models the VAR of the portfolio as well as conditional VAR, which considers tail risks. During our review meeting, Elsa Goldberg stressed that downside risk, especially tail risk scenarios, are critical in their modeling. The investment process integrates inputs from various sources within the fixed income team. The sector heads meet weekly. Different fixed income teams make presentations each week. Analysts pitch their ideas to the portfolio managers, and lead portfolio manager Michael Hasenstab must sign off on them before they are purchased. The risk team assesses the impact any trade will have on the risk of the portfolio.

The format of SamCERA's investment in this strategy was changed from a separate account to a commingled vehicle in June of 2014.

Performance & Positioning

Performance has been challenged over the last year. SamCERA's portfolio returned -4.4% as of 3/31/16 vs. 4.4% for the Barclays Multiverse Index. Currency exposures have hurt returns as has a significantly short duration position. The portfolio is short Yen and Euro. The portfolio also has a duration of zero with low duration positions in cash bonds in all countries with the exception of Indonesia and Brazil that have longer duration. 65% of the portfolio is in bonds with maturities less than two years.

All exposures are in local cash bonds because FT views them as more liquid than swaps, especially in the emerging markets. As an example, Elsa stated that 70% of all Latin American bonds are owned by local pension funds. As short maturity bonds are maturing, they are throwing off extra cash which has facilitated redemptions without the team having to disrupt its portfolio structure. Elsa stated that the current cash position of slightly over 10% at 3/31/16 is a neutral view and is a holding place to be ready to take advantage of anticipated volatility. Thus, cash was not raised specifically because of redemptions. Cash normally averages 5%.

Smaller countries can be held in the Sector Plus portfolio. In addition to larger markets such as Mexico, Brazil and Chile, the portfolio has had lesser country and currency exposures to Uruguay and Colombia over the past year. Else talked about another example of a smaller country exposure in the portfolio’s 2% weighting to Ghanaian bonds yielding 24%.

Several times during the manager review, Elsa Goldberg emphasized that, while many markets are priced like they were in the severe dislocation of 1998, fundamentals of a subset of them are much better than the late ‘90s and make attractive long term investments (ex. Mexico, Malaysia, Indonesia, Brazil). They are taking advantage of this.

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
Board of Retirement

July 27, 2016 Agenda Item 6.3

TO: Board of Retirement

FROM: Doris Ng, Investment Analyst

SUBJECT: Report on the Value Equity Manager Annual Reviews (Barrow Hanley, Mondrian and The Boston Company)

Staff Recommendation
Review the report on the annual reviews of SamCERA's Value Equity Managers.

Background
On June 16th, SamCERA staff held annual review meetings in SamCERA's office for Barrow Hanley, Mondrian and The Boston Company.

Each meeting lasted approximately 1.5 hours, and consisted of a firm/organizational update, investment process review, performance review and attribution, and current positioning/market outlook.

Discussion
The Barrow Hanley Diversified Large-Cap Value Equity product, which employs a bottom-up value investment strategy, was reviewed first. Mondrian's All Countries World ex-US strategy, which is a value-oriented international equity approach, was reviewed next. The Boston Company's US Small-Cap Value Equity strategy was reviewed last. This strategy conducts a bottom-up fundamental research style approach.

There were no major concerns identified during the reviews. Meeting notes are attached to this memo summarizing the findings from these annual reviews.

Attachments
A. Barrow Hanley Annual Review Meeting Notes
B. Mondrian Annual Review Meeting Notes
C. The Boston Company Annual Review Meeting Notes

Date of meeting: 6/16/2016
Location: SamCERA Office

Manager Representative(s)
Mark Giambrone, Portfolio Manager; Matt Egenes, Client Service

Verus Representative
Stephen Quirk, Consultant

Client Representative(s)
Mike Coultrip, CIO; Doris Ng, Analyst

Product Description

Barrow, Hanley, MeWhinney & Strauss (BHMS) adheres to a value-oriented investment approach using bottom up, fundamental security selection. The firm's research effort involves both quantitative and qualitative analysis in its search for undervalued stocks which, at the time of purchase, are generally low expectation stocks. Those companies which meet their three-pronged definition of value (price/earnings and price/book ratios below the market and dividend yields above the market) and are projected to achieve earnings growth above that of the market are placed on the firm's Security Guidance List. The list averages 250 companies from which the most compelling 70-80 companies are purchased. Once identified as a candidate, an individual security then undergoes a process of fundamental analysis, including an assessment of the company's valuation, as well as prospects for improvement in operating fundamentals. The team believes that a good long-term business is one that earns a high return on equity (ROE) and the firm, therefore, wants to own equity interests in companies with high or improving ROEs. The goal of their fundamental analysis is to produce reliable 5-year projections for profitability (ROE), earnings per share, and dividend payout ratio. Their investment approach also emphasizes the growth of dividends, as opposed to simply the level of dividends, as a driver of performance.

The Diversified Large Cap Value portfolio targets 2/3 large cap and 1/3 mid cap exposure. Dividends for the portfolio as a whole are greater than that of the market. While largely a bottom up approach, the firm incorporates broad sector and industry portfolio construction rules (35% sector maximum, 15% industry maximum).

The return objective of the Diversified Large Cap Value strategy is to achieve higher returns compared to the Russell 1000 Value Index while maintaining lower risk. Over a three to five year period, they expect to add at least 150 basis points on an annualized basis, gross of fees, over the benchmark.

Meeting Notes

Organization

Barrow, Hanley, MeWhinney & Strauss (BHMS), based in Dallas, TX, was founded in 1979 to manage large cap value assets. The firm expanded over the years to include several domestic and international equity strategies, in addition to fixed income. Non-US, global and emerging markets value-based approaches have been added in recent years. BHMS operates as a majority-owned subsidiary of Old Mutual, a financial services company based in London. In 2010, Old Mutual began offering employees of BHMS an indirect non-voting interest in the company not to exceed 24.9%. No employees at the firm have more than a 2% ownership stake, and approximately half of BHMS's employees own stock today. BHMS manages in excess of $90 billion with $4.8 billion in the Diversified Large Value strategy. Assets managed for SamCERA were $105 million at 3/31/16.

Investment Team

Mark Giambrone is the lead portfolio manager for the SamCERA relationship. He currently manages 22 Diversified Large Cap Value client accounts, 18 client accounts in the firm's Large Cap Value strategy, and co-manages 9 clients in the Mid Cap Value strategy. In 2014, BHMS added two assistant portfolio managers to the Diversified Large Cap Value team, Michael Nayfa and Terry Pelzel. Each has about 10 years of investment experience and has been with the firm at least five years. The firm's equity portfolio managers and research analysts work as a team in generating and researching investment ideas across the market capitalization spectrum. Analysts have specific industry assignments. Giambrone has 24 years of experience, 17 with the firm, and still has some years ahead of him.

Investment Strategy

Barrow Hanley has considerable history with company managements through a combination of meeting management teams for years and regularly taking a lot of management meetings. This is driven by the firm's willingness to hold large positions as a percentage of stock outstanding. Because of their willingness to hold large position weights, the firm tracks liquidity regularly, requiring no more than 45 days to get in/out of a name assuming 10-15% of volume. Turnover is low in the Diversified Large Cap Value portfolio, averaging 25-30%. In essence, the team of about 25 analysts is looking for a modest 20 new compelling ideas a year, and spends the bulk of its time monitoring companies.

In 2014, Barrow Hanley added Axioma to help explain the portfolio's factor exposures to clients. Clients have been increasingly asking about factor exposures in the portfolio in recent years. The addition of Axioma has not changed the BHMS investment process or portfolio in any way.

Performance & Positioning

For the year ended 3/31/16, Barrow Hanley underperformed the Russell 1000 Value Index by 180 bps (-3.3% vs. -1.5% for the benchmark). BH struggled in 1Q16 for the following reasons:

- In December, the Fed raised interest rates and telegraphed as many as four rate increases in 2016.
- However, in February, global economic weakness prompted the Fed to re-trace—instead insinuating that the market should expect fewer (perhaps only 1-2) interest rate increases.
- As a result, investors flooded into defensive, yield-oriented sectors like Utilities, REITs, Telecom and Consumer Staples and out of interest-rate sensitive banks/financials.
  - As groups, BH views Utilities and REITs as expensive and banks as inexpensive.
  - Based on their bottom-up, fundamental research, the portfolio is positioned accordingly.
- Health Care also underperformed on the political rhetoric surrounding drug price increases.
  - It's dubious whether or not there will be the political wherewithal to prompt change in drug pricing.
  - The stocks in the portfolio have a history of very modest price increases.

Conclusion

We continue to think highly of Barrow Hanley. The firm follows a disciplined process and has added value over longer time periods. Despite a substantial asset base, the manager has continued to produce meaningful excess returns.

Date of meeting: 6/16/2016

Location: SamCERA Office

Manager Representative(s)

Jim Brecker (Client Service),
Elizabeth Desmond (CIO, Int'l Eqty)

Verus Representative(s)

Stephen Quirk

Account Assets

$202 mm (Q1 2016)

Client Representative(s)

Mike Coultrip (CIO), Doris Ng (Investment Analyst)

Product Description

Mondrian is a value-oriented, defensive manager whose investment philosophy is based on the principle that investments must be evaluated for their fundamental long-term value. The firm's philosophy involves three stated investment objectives: 1) provide a rate of return meaningfully greater than the client's domestic rate of inflation, 2) structure client portfolios that preserve capital during protracted international market declines, and 3) provide portfolio performance that is less volatile than benchmark indices and other international managers. Mondrian applies typical value screening criteria to a universe of 1,500 stocks, from which 500 are selected for more detailed work. Through fundamental research, and the deliberations of the Investment Committee, the universe is further reduced to a list of 150 stocks. The investment team conducts detailed fundamental analysis on the remaining stocks, a process which includes applying the firm's dividend discount model consistently across all markets and industries. Mondrian also uses a purchasing power parity model to give an accurate currency comparison of the value of the stocks under consideration. The firm will only consider buying stocks in countries with good investor protection practices and relatively simple repatriation procedures. A computer based optimization program is employed in the portfolio construction process. Mondrian's portfolio holds 80-125 issues.

Meeting Notes

Organization

Mondrian is 100% employee owned with approximately 80 employee equity holders. As of the end of the first quarter of 2016, the firm was managing $58 billion including $4.8 billion in All Countries World Ex-US Equity. A successful fund management operation is one that is able to grow steadily while at the same time retaining its client base by meeting clients' performance and risk objectives. Mondrian is committed to a value focus and intends to continue to grow by offering quality core products and by developing new investment products consistent with the company's value focus. As part of its five year objective, the firm will focus on its client relationships and develop these relationships in the context of new investment product opportunities. The firm believes that a growing firm creates a dynamic work environment that helps to motivate team members. Growth, however, must be managed and should not be at the expense of the entrepreneurial environment that Mondrian currently enjoys. The firm does not anticipate increasing staffing levels significantly in the next five years and will seek to create efficiencies within the current staffing structure. Mondrian's business objectives are regularly communicated to the investment staff through meetings with heads of departments and the Chief Executive Officer.

Investment Team

There are approximately 50 investment professionals at Mondrian, all located in the London headquarters. The Global Equity Research Forum is overseen by Group CIO Clive Gillmore and CIO of International Equity Elizabeth Desmond. The team of 18 includes four International Equity Senior Portfolio Managers, two International Equity Portfolio Managers, and two Assistant Portfolio Managers. Steven Dutaut (Senior PM) has become more involved in the day to day management of the account over the past eighteen months.

Investment Strategy

Mondrian employs a long term dividend discount model for all of the firm's equity strategies. The approach focuses on long term dividend growth after inflation. For each company they conduct a scenario analysis, looking at expected, best and worst case outcomes. These scenarios are modeled based on fundamental research and company meetings. Currency views based on PPP analysis are incorporated into the forecasts. The emphasis is on the downside risk and they prefer a narrow, rather than a broad, range of outcomes. They are looking for at least a 5% real return from owning a stock for the long term and use a 5% discount rate across all markets. They will hedge currencies defensively when the PPP analysis identifies extreme over-valuation. The approach yields a portfolio that will generally preserve value on the downside relative to the market and almost keep up in rising markets. The risk, as measured by standard deviation, is generally lower than peers and the benchmark.

Performance & Positioning

For the year ending 3/31/16, Mondrian outperformed the MSCI ACWI ex USA Index by 150 basis points. Stock selection was the dominant driver of relative returns, led by stock selection in the UK, in Spain, and in Japan. At the sector level, the portfolio benefited mainly from the overweight positions in the consumer staples and telecommunication services sectors, and from the underweight position in the weak financials sector. The portfolio return also exceeded the index return over the last five years. Stock selection was the dominant driver of relative returns, led by stock selection in Japan, and in the Netherlands. At the sector level, the portfolio benefited mainly from the overweight positions in the consumer staples and health care sectors, and from the underweight position in the weak materials sector. Stock selection within sectors also added to relative returns, helped by stock selection in the materials and consumer discretionary sectors.

Mondrian attempts to distinguish between broader uncertainty about the overall level of economic activity that may impact equities across the board and structural uncertainties which, in some cases, may be specific to the subset of companies captured by the value index and be an indicator of future declines in cash earnings for these companies. As equity analysts, their focus is on identifying underlying value when these broader forces are mispriced. They believe that the increasing gap in cash earnings and dividend yields between the value and growth indices is indicative of compelling opportunities among the unloved stocks that form the value index, but equally given structural pressures they remain disciplined in evaluating these opportunities and understanding the risks.

Conclusion

Mondrian has outperformed the benchmark by 30 basis points over the previous 10 years and we maintain strong forward conviction.

Date of meeting: 6/16/2016

Location: SamCERA Office

Manager Representative(s)

Joe Corrado (PM), Jerry Navarrete (Client Service)

Verus Representative(s)

Stephen Quirk

Account Assets

$ 80 mm (3/31/2016)

Client Representative(s)

Mike Coultrip (CIO), Doris NG (Investment Analyst)

Product Description

The Boston Company's approach to small cap value investing is to conduct bottom-up fundamental research in an effort to add value through security selection. The investment process seeks to identify the stocks of companies which have compelling valuations and business fundamentals, as well as a catalyst for positive change. The appropriate valuation metrics for an individual company can vary depending on industry. Ideas are generated from company meetings, industry contacts and the team's internal research. The universe of domestic small-cap equity securities is quantitatively screened for valuation, business health and earnings revisions. In addition, they also screen/track operating income and EBITDA estimate revisions. Once candidates for investment are identified, individual stock weights are determined by portfolio risk, liquidity, and analyst conviction. Normally, portfolios will contain between 120-150 holdings (from a short list of 500 securities), with a maximum individual security weighting of 5%, though most are less than 3%. Securities will typically be in the $500 million - $2 billion market cap range at time of purchase. Generally, sector exposure is limited to no more than 2X the index weight with a maximum overweight of 10 percentage points and a maximum underweight of half that of the index. The goal is for portfolios to be close to fully invested at all times, with cash typically below 5%. Any stock down 20% from the purchase price is reviewed. In addition, portfolios are reviewed on a regular basis for unintended risk. Positions are sold when any one of the three investment criteria (valuation, fundamentals, catalyst) breaks down.

Meeting Notes

Organization

Firm wide assets at The Boston Company as of the end the first quarter of 2016 were approximately $36 billion. Small Cap Value assets have been stable at approximately $2.4 billion. The mutual fund is closed and they will soft close the entire product to new accounts at $3.1 billion. TBC closed 12 products in 2015 as part of an ongoing product rationalization process.

On January 1, 2016 BNY Mellon Investment Management implemented a redesigned Americas Institutional Sales force, transforming their existing boutique sales resources into a centralized sales team. Three professionals from TBC accepted key roles in this new organization.

TBC has experienced elevated activity levels around the dialogue it has with its clients related to ESG. Although there is a wide spectrum of analysis and adoption in the institutional investment community on this subject, TBC believes that ESG investing – and its implications – are issues that are in the public's consciousness to stay, and that it will continue to evolve.

Investment Team

There have been no recent changes to the team. Joe Corrado remains the lead portfolio manager, and he has worked together with Senior Portfolio Manager Ed Walter and Senior Research Analyst Stephanie Brandaleone for more than 20 years. There are six members of the investment team and one Portfolio Strategist, whose primary responsibility is client communication. This team is dedicated to small value and also manages a smid value strategy.

Investment Strategy

The approach is bottom up and value oriented. The philosophy is to buy companies with strong franchises, and the research focuses on sources and uses of cash. They don't have target prices for sales. Rather, they will sell a stock once everything they expect to happen for a company has already happened. There are, however, some cases where the company has a more open-ended growth opportunity. In these cases, they are willing to hold the stock as it rises. Portfolio turnover tends to be in the range of 60%, but only about 40% is name turnover.

The portfolio holds approximately 130 names. The strategy does not invest in companies with market caps below $500 million. This results in a higher average market cap than the benchmark. However, if one considers only companies above $500, the market cap breakdown of the strategy is similar to the benchmark. Companies with market caps below $500 million represent a relatively small weighting in the Russell 2000 Value, roughly estimated to be 10%.

Performance & Positioning

As of the end of March 2016, the strategy was ahead of the benchmark over the trailing one-year period by 410 basis points. The Consumer Discretionary sector added the most to relative returns, where they were helped by positioning in the specialty retail and household durables segments. Other contributors to relative outperformance included the Energy and Industrials sectors. Conversely, Materials detracted most from performance versus the benchmark, largely because of an overweight allocation and holdings in the metals & mining segment, although stock selection in chemicals also weighed on returns. The Health Care and Information Technology sectors also lagged the benchmark for the period.

The portfolio outperformed its benchmark, the Russell 2000 Value Index, for the five-year period. The Consumer Discretionary sector was the top relative performer during the period, helped by positioning in household durables and diversified consumer services. The Industrials and Information Technology sectors also bolstered relative results. Conversely, Energy and Financials weighed most on performance against the benchmark. Within Energy, an overweight to the sector and the energy equipment & services segment pressured relative results, while in Financials they were challenged by underweight allocations to REITs and insurance.

Conclusion

The product has outperformed the benchmark by 136 basis points (net of fees) over the previous 10 years and we maintain strong forward conviction.

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
Board of Retirement

July 27, 2016 Agenda Item 6.4

TO: Board of Retirement

Mike R Coultrip

FROM: Michael Coultrip, Chief Investment Officer

SUBJECT: Approval of Small-Capitalization Core Manager Finalist

Staff Recommendation

Approve recommendation to hire Quantitative Management Associates (QMA) for a Small-Cap Core mandate with an initial investment of $110 million. In addition, approve changing SamCERA's domestic equity benchmark to the Russell 3000 Index, to reflect the reduced small-cap weighting within the U.S. equity portfolio.

Background

During the strategic discussion of investment issues that took place during the December 2015 Board meeting, staff discussed various ways to simplify the domestic equity structure. One of the first steps that was discussed was to combine the assets from our two existing style-specific small-capitalization equity managers into a new, to-be-identified core small-capitalization equity strategy. This would reduce the number of managers in our domestic equity program by one, reducing the total number from 6 to 5 products.

During its February meeting, the Board instructed staff and consultant to develop a short-list of U.S. core small-capitalization managers for further review, with a primary focus on products that have exhibited consistent excess return objectives, low tracking error levels, and low management fees. Five managers were short-listed in this process, and due diligence questionnaires were sent to each of these firms.

Discussion

Per the Board's direction at the June meeting, Verus and SamCERA staff continued with in-depth due-diligence on QMA, starting with an on-site visit to QMA's San Francisco office. We came away from this meeting impressed with the rigor of QMA's investment approach. Based upon this meeting, along with the due diligence materials previously received, staff and consultant recommend the QMA Small-Cap Core strategy for SamCERA's U.S. Small-Cap Equity mandate. We believe that the QMA Small-Cap Core strategy has the following key advantages:

1. Unique stock selection model
2. Consistent historical outperformance

3. Attractive fee structure
4. Reasonable assets in strategy

The attached reports provide more detail for this recommendation. Staff and Margaret Jadallah will review the attached materials during the Board meeting and will be available to answer any questions.

Attachments

1) QMA Small-Cap Core Investment Recommendation
2) Verus Memorandum Small-Cap Search Process and QMA Performance Summary
3) QMA Small-Cap Core Investor Presentation

QMA SMALL-CAP CORE INVESTMENT RECOMMENDATION

July 27, 2016

1) Product Name	QMA Small-Cap Core
2) Contact Person	Brad Zenz 415-653-3205
3) Manager Benchmark	Russell 2000 Index
4) Asset Class	Small-Cap Equity
5) Consolidation	Domestic Equity
6) Role in Portfolio	The strategy will utilize a bottom-up quantitative framework in order provide a diversified exposure to core U.S. small-cap stocks, while attempting to produce consistent outperformance versus the benchmark with moderate tracking error levels.
7) Ex-Ante Return Target	Excess return target of 1-2% net vs. Russell 2000 Index over full market cycle.
8) Number of positions	Currently 339 stocks. Typical range is between 300 and 475.
9) Firm Overview	QMA (Quantitative Management Associates) was founded in 1975 and is an SEC-registered investment advisor, with its primary office in Newark, NJ. They also have a secondary office in San Francisco. They manage approximately $113 billion in assets as of December 31, 2015. Investment management is their only line of business. QMA is a wholly-owned subsidiary of Prudential (PGIM, Inc.). Their product line-up consists of active equity, passive equity, and asset allocation strategies.
10) Key Personnel	QMA has 204 total employees, with 54 investment professionals and 31 technology professionals. They have 21 Ph. D's on their staff. There are 8 investment professionals dedicated to the U.S. Core Equity suite of products. Peter Xu, PhD is the Head of US Core and the architect of the stock selection model. Stacie Mintz, Dan Carlucci, and Devang Gambhirwala are portfolio managers responsible for the U.S. Small Cap Core Equity strategy.
11) Investment Process Summary	QMA uses an adaptive, systematic investment process to exploit opportunities created by mispriced securities to consistently add value over long time periods. Bottom-up stock selection drives exposure to key sources of alpha (valuation, growth, and quality). The QMA stock selection model adapts to changes in company growth rates and market environments by putting more emphasis on valuation for slowly growing companies, and more emphasis on future growth projections for companies with

	higher projected growth rates. Consistency of alphas are emphasized in the model. The model is run daily. There are 13 fundamental factors analyzed over a 3,000 stock universe. Each stock is ranked, and a proprietary optimizer then is used to construct and rebalance the portfolio while being mindful of transaction costs. QMA does not use a traditional risk model (like most other quant strategies), but instead relies on fundamental risk limits/deviations to the benchmark to limit common risk factors such as industry, size, and style. The result is a well-diversified portfolio of over 300 stocks that has better valuation, growth, and quality characteristics than the Russell 2000 Index.
12) Strategy Fees	The stated management fee for a separate account is 65 bps on the first $100 million, and 60 bps thereafter. There is also a commingled fund available for investment but not yet funded. The fund fee structure being offered to SamCERA as a first-in investor in the fund is an all-in expense (asset management fee plus fund expenses) of 55bps
13) Key Advantages	Unique Stock Selection Model Weights on valuation, growth, and quality factors vary according to a company's growth rate. In addition, the process may also change weights on factors in extreme market conditions to take advantage of potential asymmetric payoffs to factors. Consistent Outperformance The strategy has provided above median (and top quartile over the past 5 and 6.5 years) consistency, as measured by batting average, compared to the eVestment US Small Cap Core Equity Universe (150 products). Attractive Fee Structure QMA is offering first-investor fees if we fund their small-cap core commingled fund. The all-in fee is proposed to be 55 basis points (manager fee plus fund expenses), which is less expensive than a separate account. QMA will provide holdings data to Verus for look-through purposes. Reasonable Assets in Strategy QMA currently manages $1.1 billion in small-cap core assets, which is reasonable given the number of stocks in the portfolio.
14) Leverage	N/A
15) Turnover	Turnover is expected to be between 75 -100% annually. It has averaged 100% over the past 5 years. A trade-cost analysis is currently being performed by Zeno Consulting.
16) Performance Expectations	QMA seeks an excess return (gross of fees) of 2-3% vs. the Russell 2000 Index over a full market cycle. Gross excess returns through 3/31/16 are as follows: 1 Year: +3.7%, 3 Year: +4.6%, 5 Year: +5.3%, Inception: +5.3% The average tracking error from product inception (10/2009) is 2.6%.
17) Risk Mitigation	Typical risk limits vs. Russell 2000 Index are as follows: Individual Stock: +/- .75%

	Industry/Sector: +/- .75% Size: +/- 3% Growth: +/- 2% Non-Benchmark Exposure: 10% of $MV Liquidity: They limit trading in a security to 10% of Average Daily Volume on any given day. They limit total portfolio positions held to 40% Average Daily Volume.
18) Strategy Assets	As of 12/31/15, QMA manages $1.1 billion in small-cap core assets. They manage a total of $19.9 billion in assets in across their U.S. core equity platform. The small-cap core commingled fund is established but not yet funded.
19) Clients in Strategy	There are currently 4 accounts in the small-cap core composite. There is one corporate pension (confidential), a Prudential Insurance general account, mutual fund, and variable annuity (sub-advised). In terms of California public plan clients in other strategies, CalPERS, San Francisco City & County, LACERS, and Tulare County ERS are all clients of QMA.
20) Perceived Risks	Potential high correlation to DE Shaw. Given that our core large-cap manager is also a quantitative strategy, we want to make sure that the residual correlations between DE Shaw and QMA are well-behaved (e.g. low). We took the excess returns for DE Shaw versus the Russell 1000, and the excess returns for QMA versus the Russell 2000, and computed rolling 12-month residual correlations starting July 2011 through March 2016. Over the full period, the residual correlation was 0.24. The high during the period was 0.39, while the low was 0.13. The correlations over this period seem to be low enough to warrant inclusion. Potential for High trading costs We hired Zeno Consulting Group, SamCERA's trade cost analysis consultant, to analyze the trading costs and efficiency of QMA's trading process. Firm Ownership QMA is a wholly-owned subsidiary of Prudential. While QMA's professionals are not firm owners, the investment team has been extremely stable for many years.
21) Sizing	Proposed investment size is $100-150 million.
22) Due Diligence Summary	Due diligence was conducted at QMA's San Francisco office on June 21, 2016. Staff (Mike Coultrip and Doris Ng) and Consultant (Margaret Jadallah and Joe Abdou) met with Peter Xu (video), Gavin Smith (video), Stacy Mintz, George Sakoulis, and Richard Crist (video).
23) Implementation Vehicle	QMA US Small Cap Core Equity Fund. This commingled fund is valued daily and offers daily liquidity.

Recommendation:

Staff and Consultant recommend an initial investment of $110 million in the QMA US Small Cap Equity Fund for benefit of the San Mateo Employees' Retirement Association portfolio to be placed in the Small-Cap Equity Composite within Domestic Equity.

Memorandum

To: SamCERA

From: Verus

Date: July 18, 2016

RE: Small Cap Core manager search – Summary of process and recommendation

SamCERA's Board approved a Small Cap Core search after reviewing its current US equity small cap structure and deciding to reduce the small cap manager roster from two managers, one growth and one value focused, to one manager with a small cap core style. This coincided with the decision to reduce small cap to approximately a market weight (10%) within the US equity component of the portfolio, roughly in line with the small cap weighting in the Russell 3000 Index.

The Small Cap Core search sought out specific parameters and attributes which were: 1) lower tracking error compared to active, fundamental managers; 2) history of consistently outperforming the Russell 2000 Index; 3) style consistency compared to the Russell 2000 Index, including similar market capitalization; and 4) competitive fees in line with the strategy's risk profile.

Using these criteria, Verus screened the entire universe of Small Cap Core managers in the eVestment Alliance universe. Of the ten small cap core manager that met all criteria, Verus and SamCERA Staff discussed the strengths and weaknesses of these managers and excluded a handful of them for qualitative reasons and relative risk/return rankings.

Five small cap core managers were sent detailed RFIs. Verus and SamCERA Staff reviewed the five RFI responses and ranked the firms after comparing the strengths and weaknesses of each manager. Based on our assessment, three managers rose to the top:

- DFA – US Small Cap Equity
- Northern Trust – NT Quality Small Cap Core
- QMA – US Small Cap Core Equity

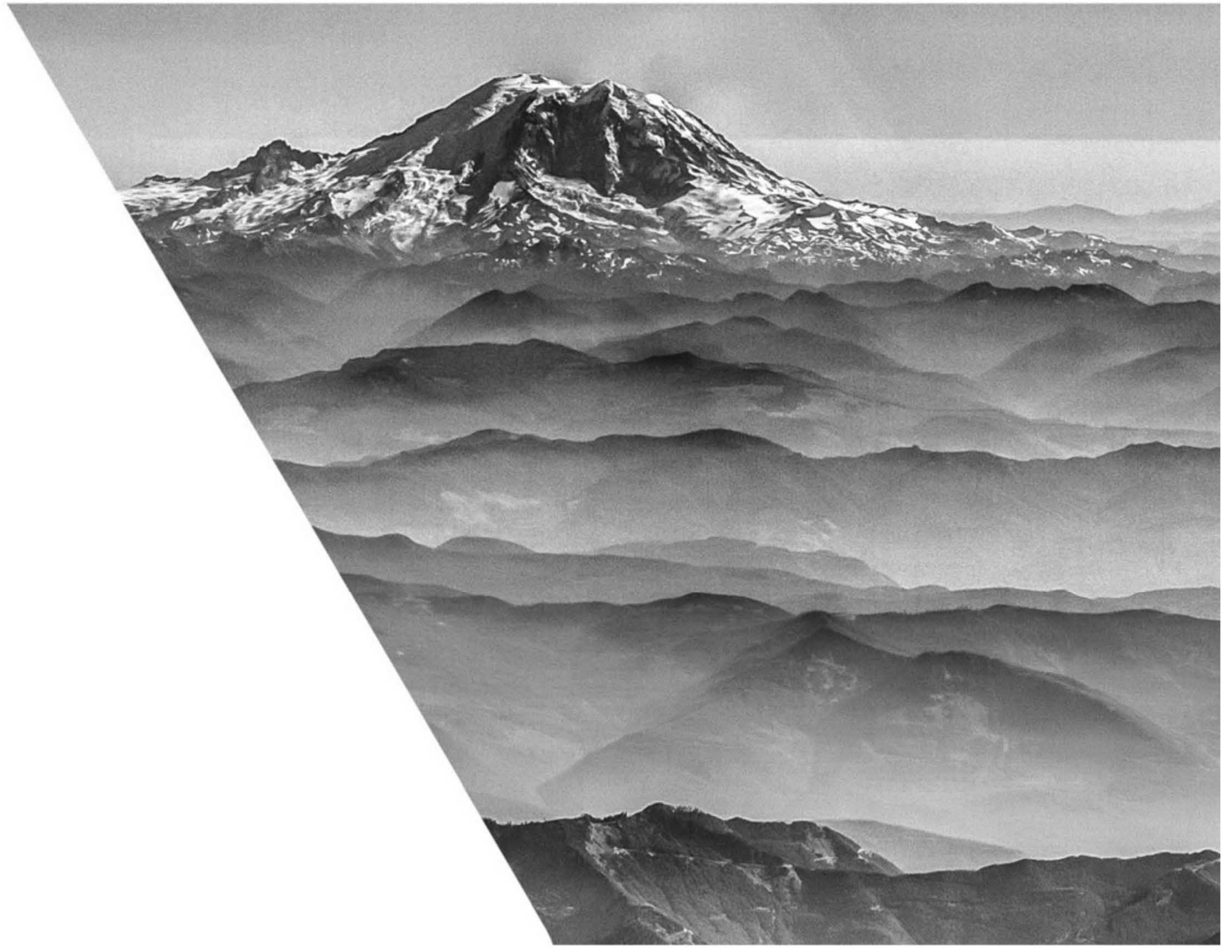
Per the Board's direction at the June meeting, Verus and SamCERA Staff continued with in-depth due diligence, starting with an onsite visit to QMA's San Francisco office. Mike Coultrip and Doris Ng from SamCERA and Margaret Jadallah and Joe Abdou of Verus visited QMA's SF-based office for three hours on June 21st and met with small cap core portfolio managers, senior research analysts, senior management, QMA's head of trading, and client servicing staff, some of whom were videoconferenced in from the firm's New Jersey headquarters.

After the onsite, we left impressed with the rigor of QMA's investment approach and with our initial concerns prior to the onsite dispelled. *For this reason, we recommend that the Board approve the hiring of QMA for a Small Cap Core mandate with an initial investment of $110 million. We further recommend* *that SamCERA change its domestic equity policy benchmark to the Russell 3000 Index to reflect the reduced small cap weighting within SamCERA's US equity portfolio.*

We have attached a report which provides detailed analytics on QMA's US Small Cap Core Equity strategy.

Verus

PERSPECTIVES THAT DRIVE ENTERPRISE SUCCESS



July 2016

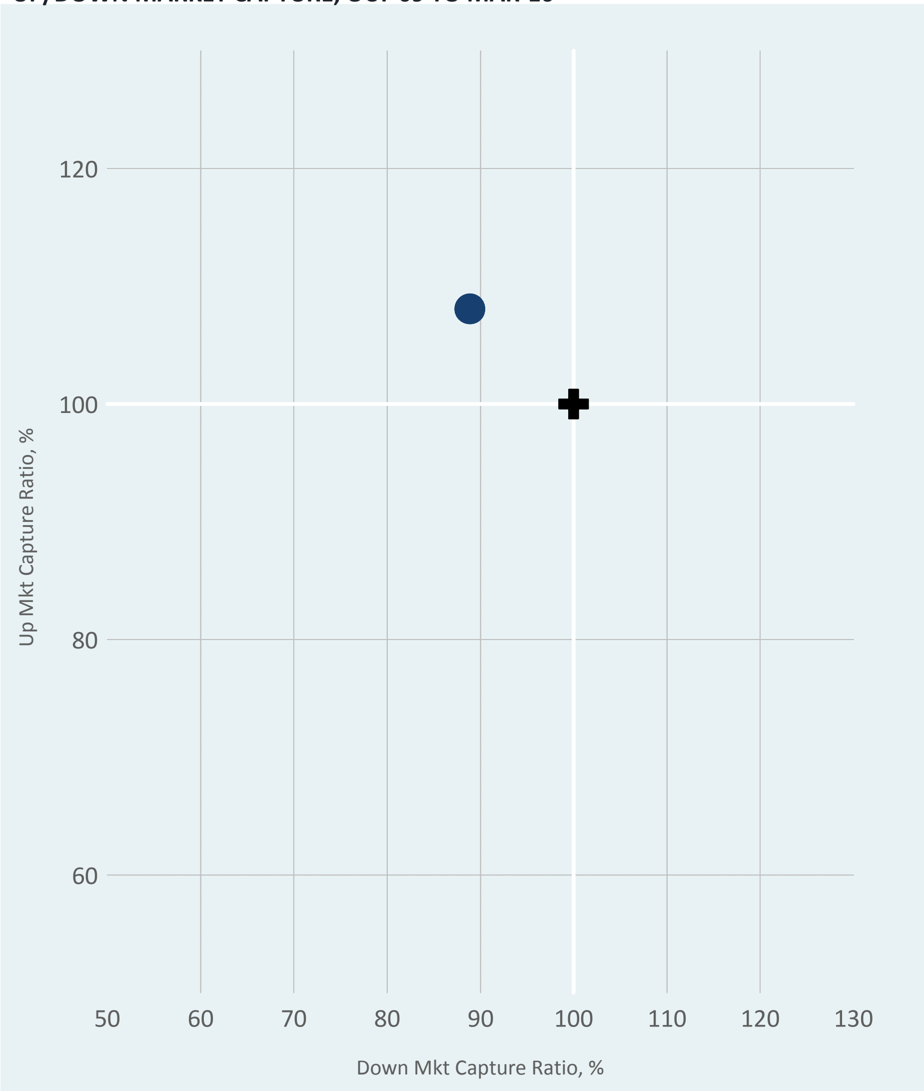
U.S. Small Cap Core Search

SamCERA

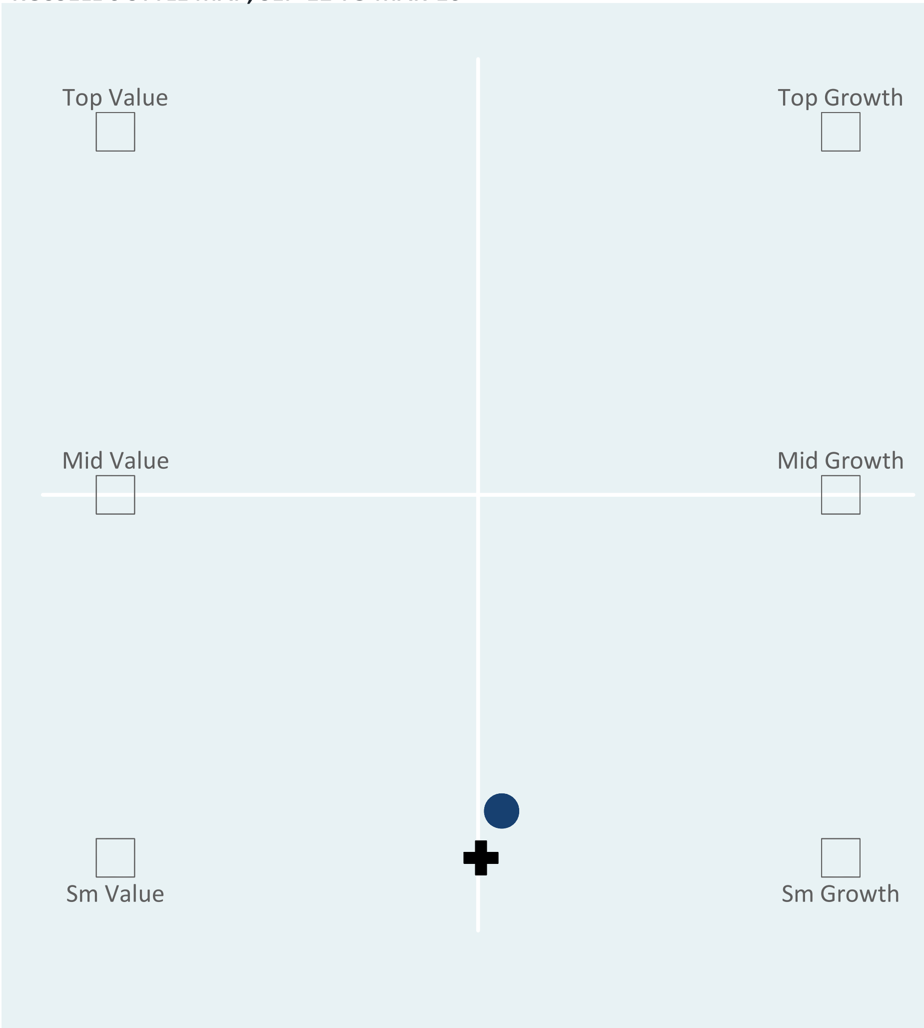
Style and portfolio comparison

● QMA ✚ Russell 2000 Index

UP/DOWN MARKET CAPTURE, OCT-09 TO MAR-16



RUSSELL 6 STYLE MAP, SEP-12 TO MAR-16



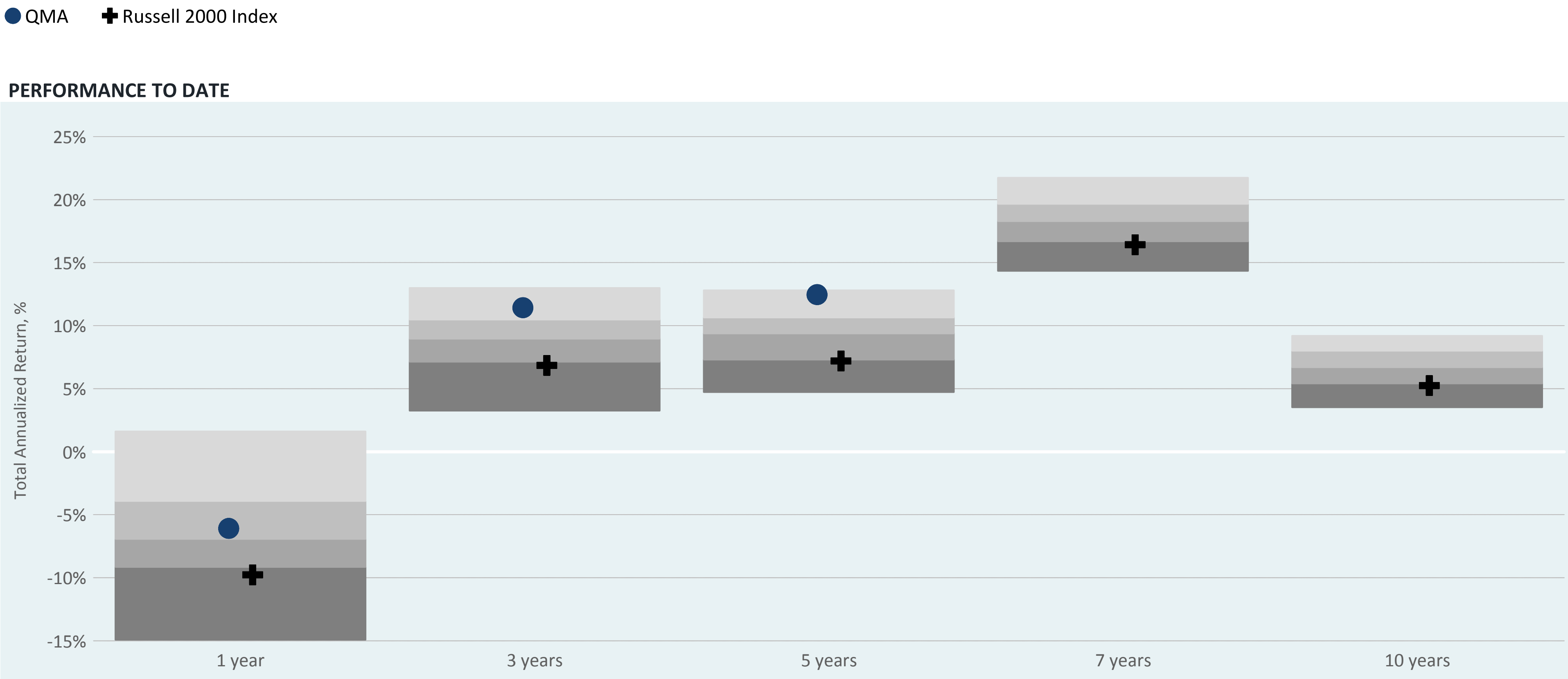
USD, 36-month trailing window; exp. weighted, rescaled

Style and portfolio comparison

	QMA	Russell 2000 Index
% HOLDINGS IN 10 LARGEST STOCKS	7.6%	3.0%
ANNUAL TURNOVER	90.3%	---
CASH	0.5%	---
CURRENT DIVIDEND YIELD	1.7%	1.6%
CURRENT P/E	15.3	18.9
CURRENT P/B	1.8	2.0
5 YEAR ROE	16.2%	6.6%
PORTFOLIO HOLDINGS	364	1961
WGTD. AVG. MKT. CAP	$ 1,753	$ 1,879
MEDIAN MKT. CAP	$ 1,063	$ 653
MAX CASH POSITION	---	---
MAX POSITION SIZE	---	---

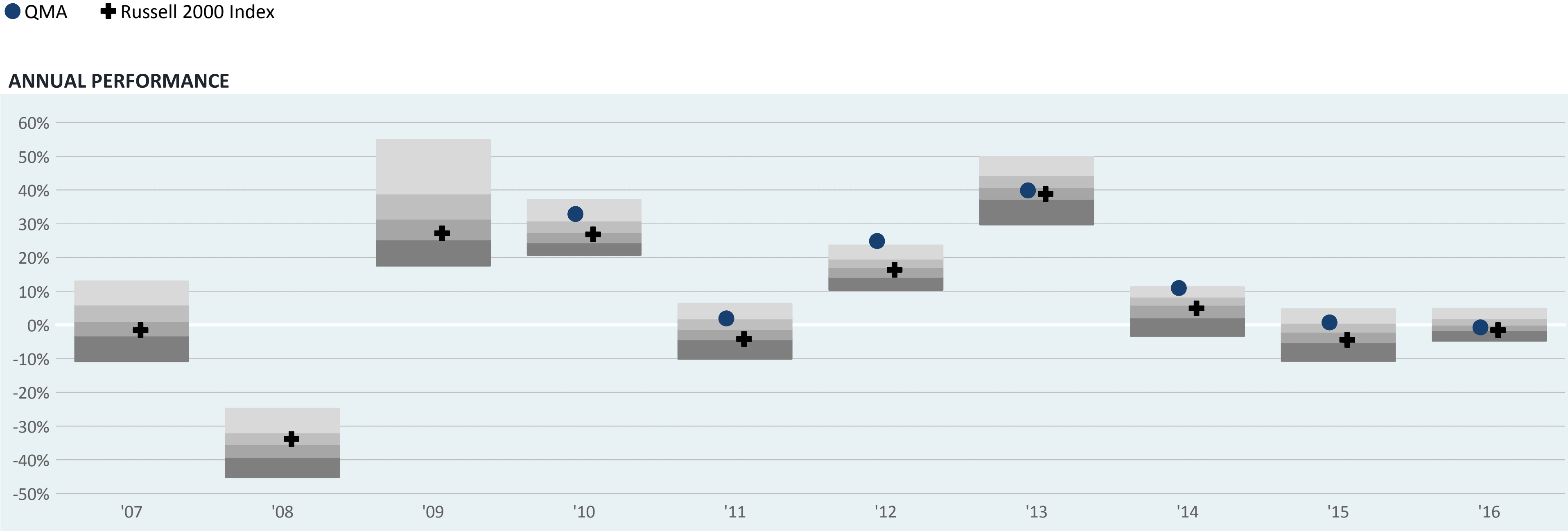
Index: Russell 2000 Index   Returns: Gross of Fees
Data Source: eVestment Alliance   Universe: eA Small Cap Core Equity

Performance comparison - as of March 2016



EXCESS ANNUALIZED RETURN TO DATE, %	1 year	3 year	5 year	7 year	10 year
QMA	3.7	4.6	5.3	---	---

Calendar year performance



ANNUAL PERFORMANCE AND RANKING	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
QMA				32.9	1.9	24.9	39.9	11.0	0.8	-0.7
Rank				*15*	*23*	*3*	*57*	*6*	*23*	*64*
Russell 2000 Index	-1.6	-33.8	27.2	26.9	-4.2	16.3	38.8	4.9	-4.4	-1.5
Rank	*67*	*39*	*69*	*57*	*74*	*59*	*65*	*57*	*68*	*74*

Performance summary - as of March 2016

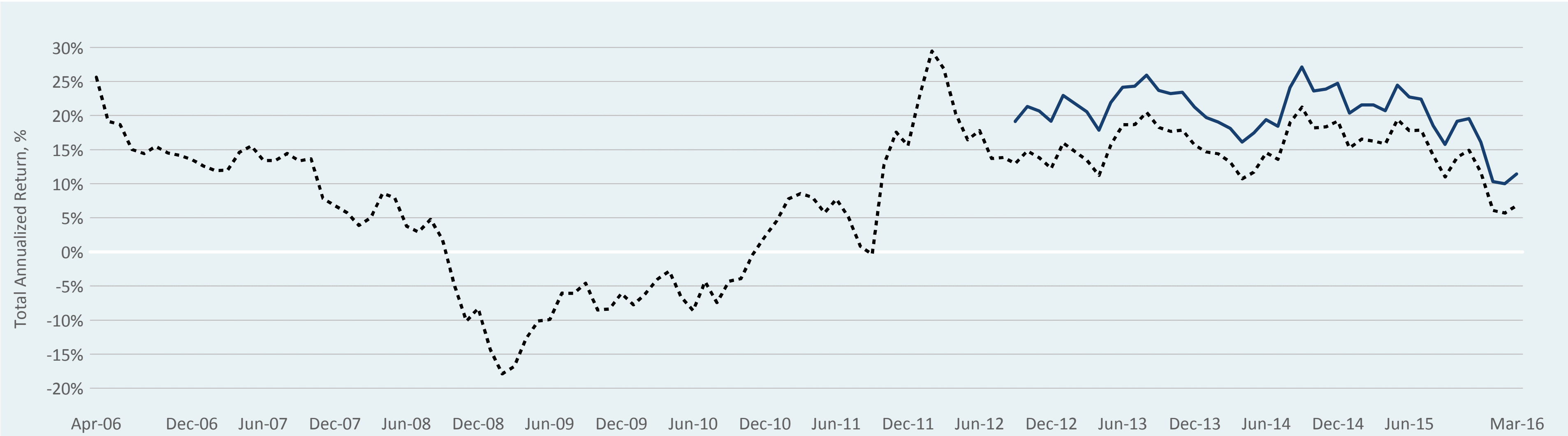
	QMA	Russell 2000 Index
PERFORMANCE ANALYSIS - (5 Years)		
Alpha %	4.8	0.0
Beta	1.0	1.0
R-squared %	97.7	100.0
Sharpe Ratio	0.7	0.4
Treynor Ratio	0.1	0.1
Tracking Error %	2.6	0.0
Annualized Std Dev %	17.2	16.7
Information Ratio	1.9	---
Max Drawdown %	-23.3	-25.1
Calmar Ratio	0.5	0.3
Excess Ann. Return %	5.3	0.0
PERFORMANCE TO DATE		
1 Year	-6.1	-9.8
3 Year	11.4	6.8
5 Year	12.5	7.2
7 Year	---	16.4
10 Year	---	5.3
Common Inception (Oct-09)	16.7	11.4
CALENDAR YEAR RETURNS		
2015	0.8	-4.4
2014	11.0	4.9
2013	39.9	38.8
2012	24.9	16.3
2011	1.9	-4.2
2010	32.9	26.9
2009	---	27.2
2008	---	-33.8
2007	---	-1.6
2006	---	18.4

Index: Russell 2000 Index Returns: Gross of Fees
Data Source: eVestment Alliance Universe: eA Small Cap Core Equity

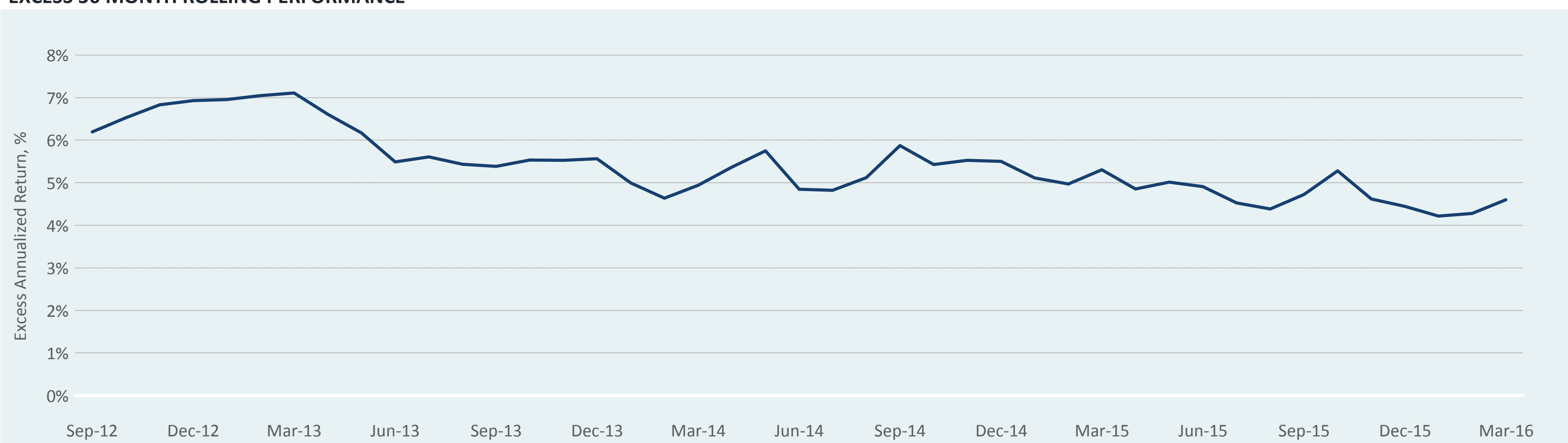
Rolling performance

● QMA ✚ Russell 2000 Index

TOTAL 36 MONTH ROLLING PERFORMANCE



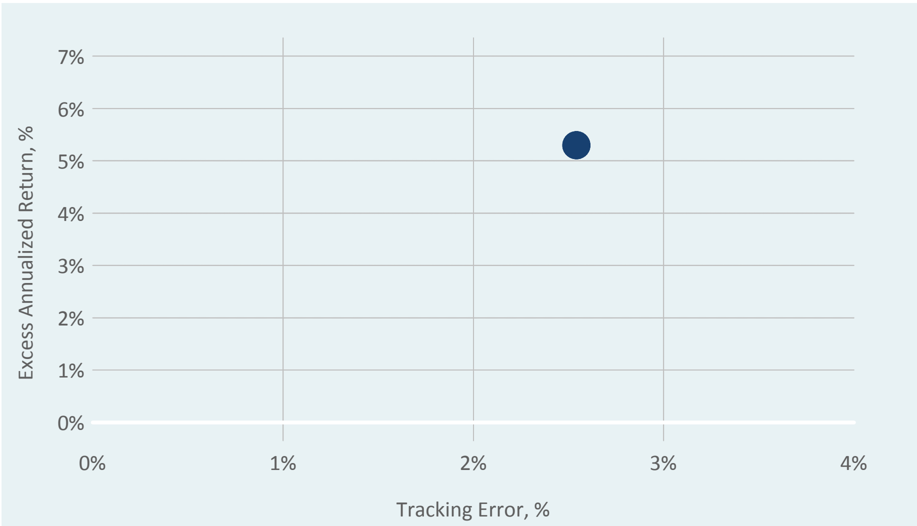
EXCESS 36 MONTH ROLLING PERFORMANCE



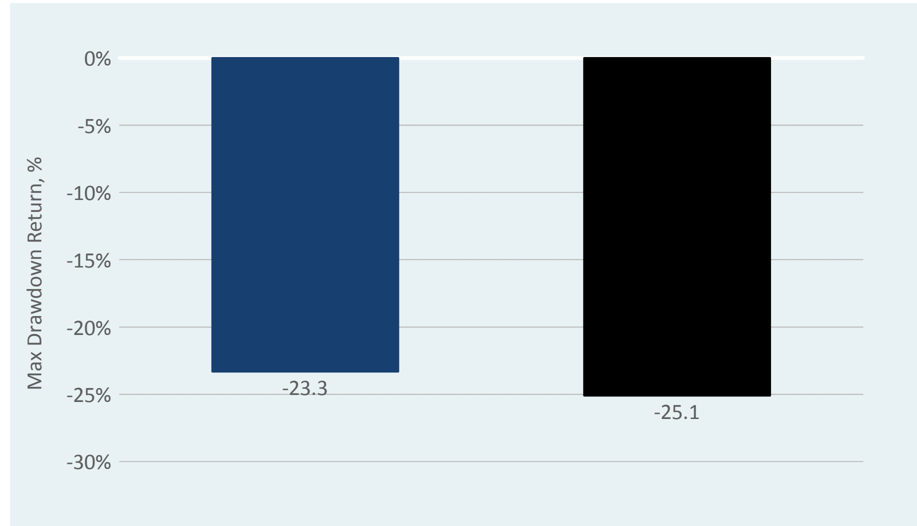
Performance statistics

● QMA ✚ Russell 2000 Index

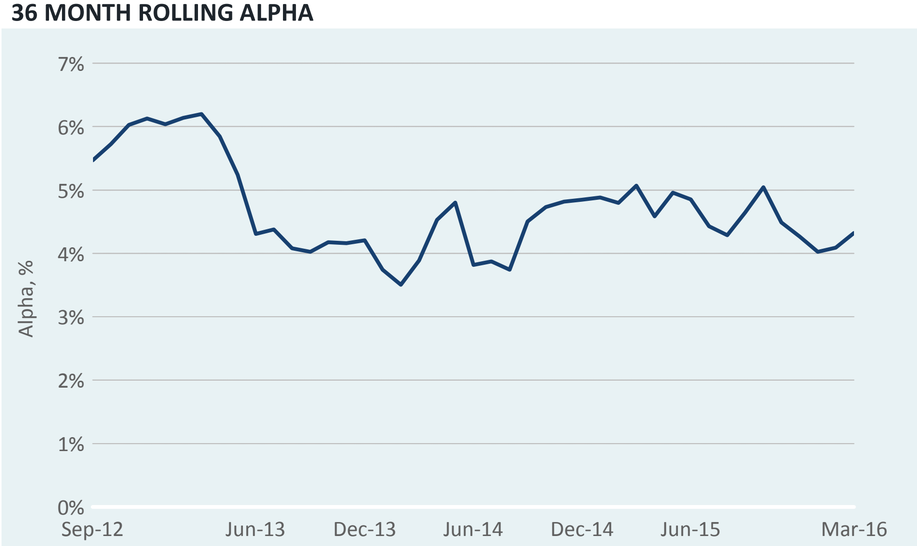
EXCESS PERFORMANCE VS. RISK, OCT-09 TO MAR-16



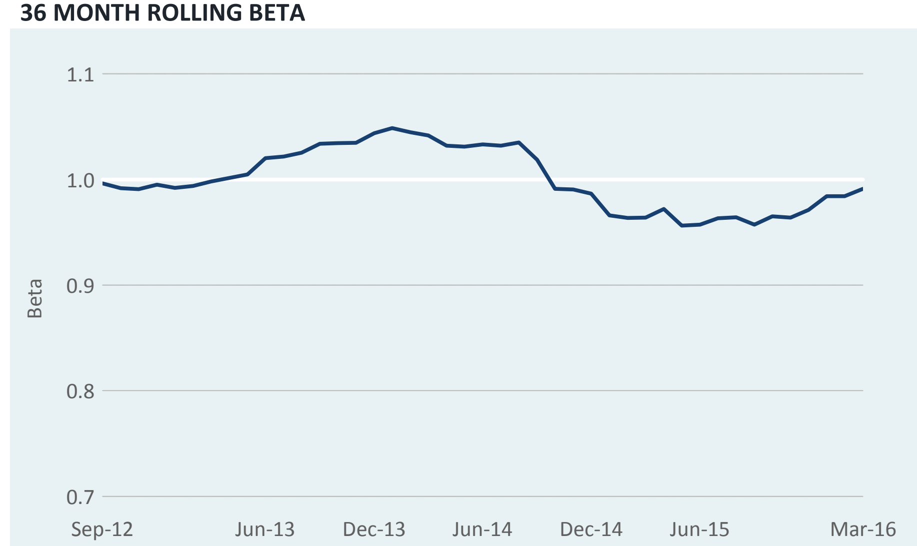
MAX DRAWDOWN RETURN, OCT-09 TO MAR-16



36 MONTH ROLLING ALPHA



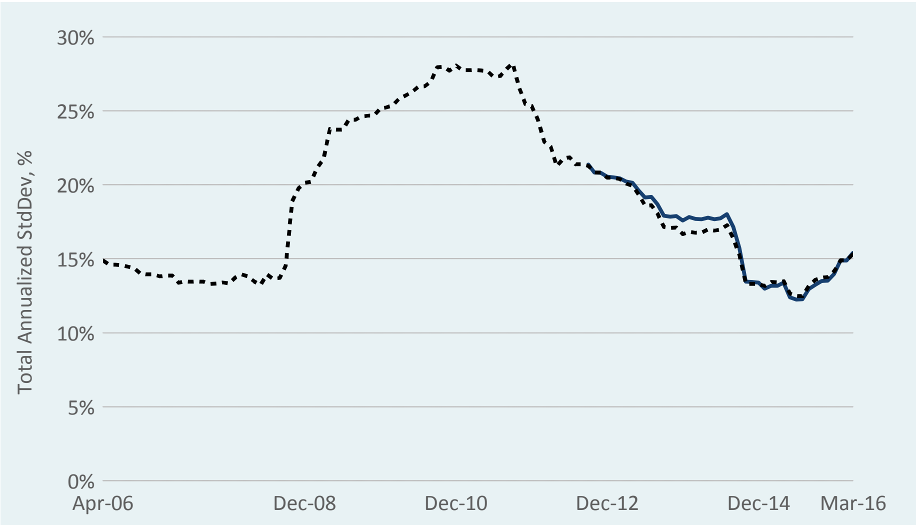
36 MONTH ROLLING BETA



Performance statistics

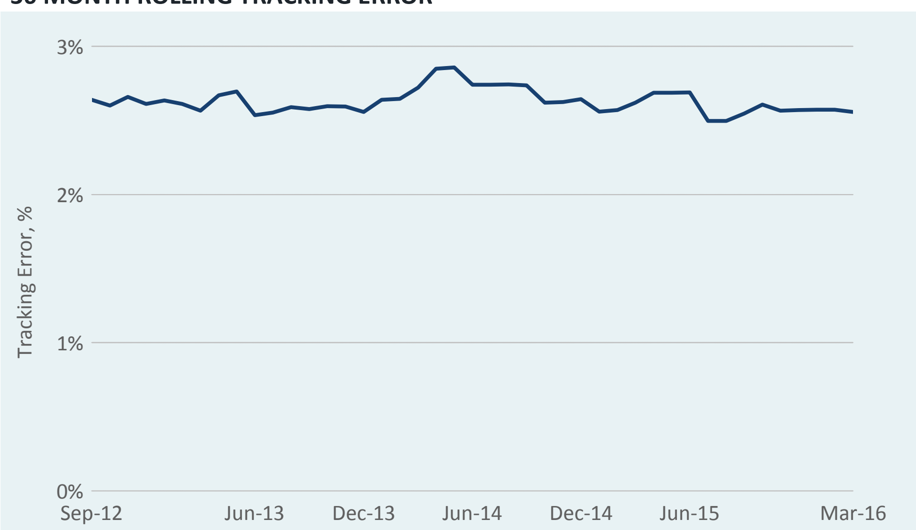
● QMA ✚ Russell 2000 Index

36 MONTH ROLLING RISK



36 MONTH ROLLING INFORMATION RATIO

36 MONTH ROLLING TRACKING ERROR

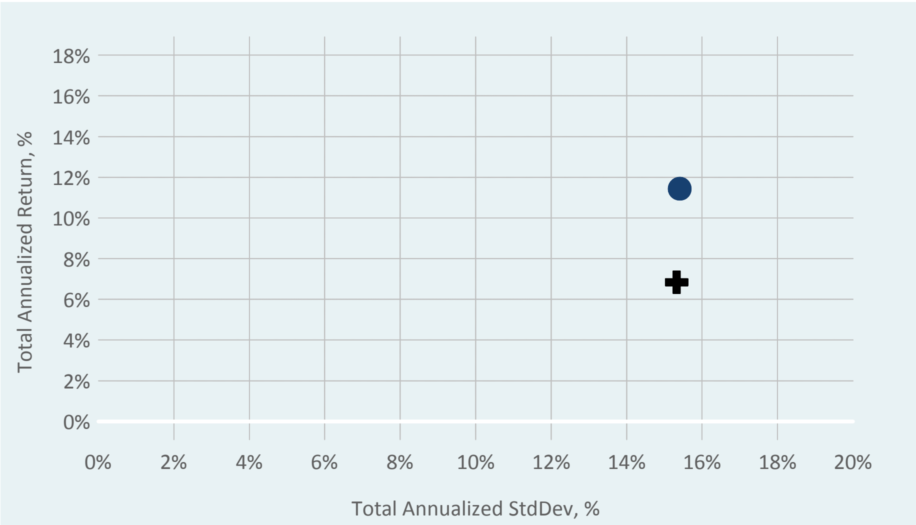


36 MONTH ROLLING SHARPE RATIO(G)

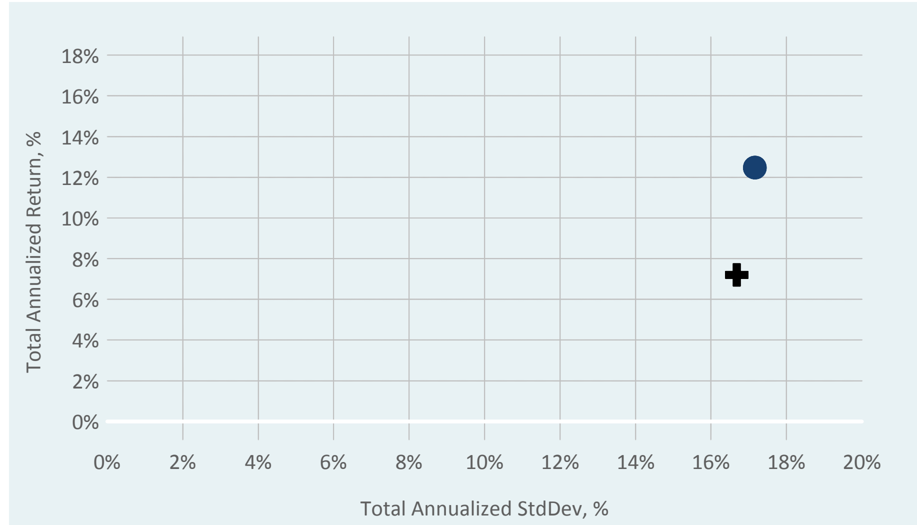
Risk vs. return

● QMA   ✚ Russell 2000 Index

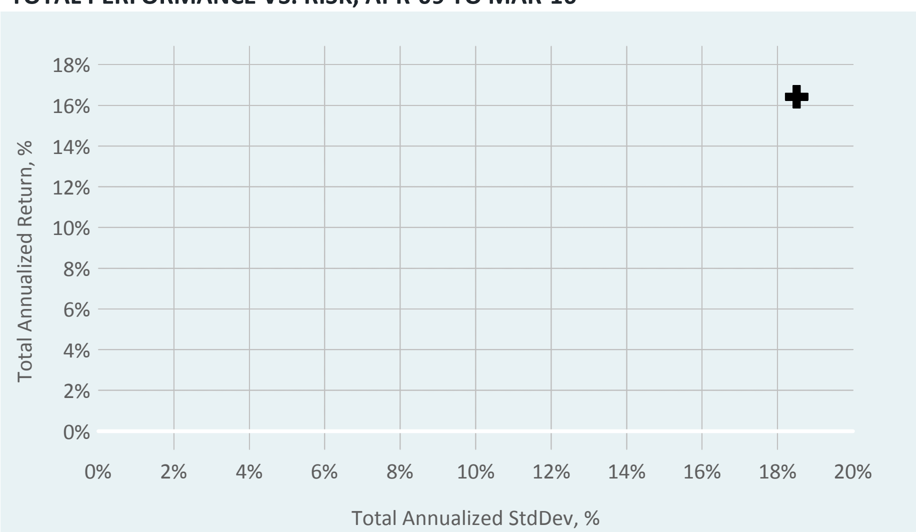
TOTAL PERFORMANCE VS. RISK, APR-13 TO MAR-16



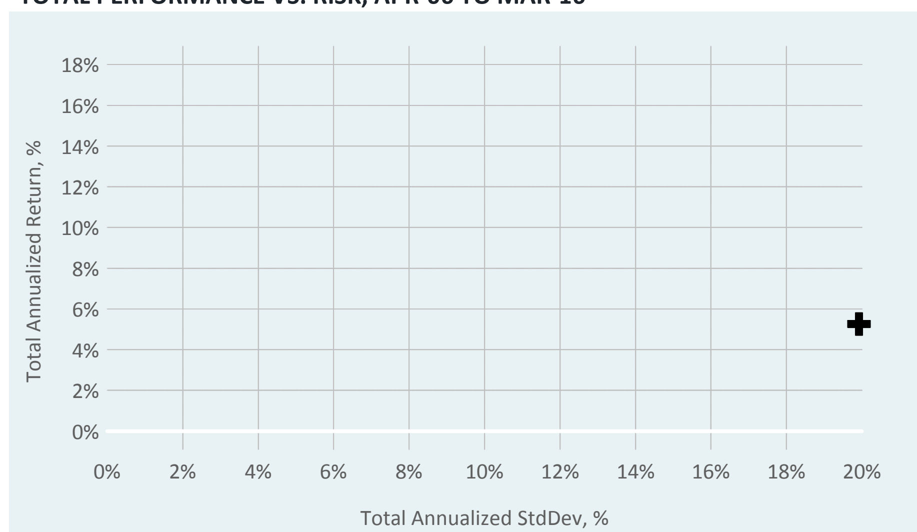
TOTAL PERFORMANCE VS. RISK, APR-11 TO MAR-16



TOTAL PERFORMANCE VS. RISK, APR-09 TO MAR-16



TOTAL PERFORMANCE VS. RISK, APR-06 TO MAR-16

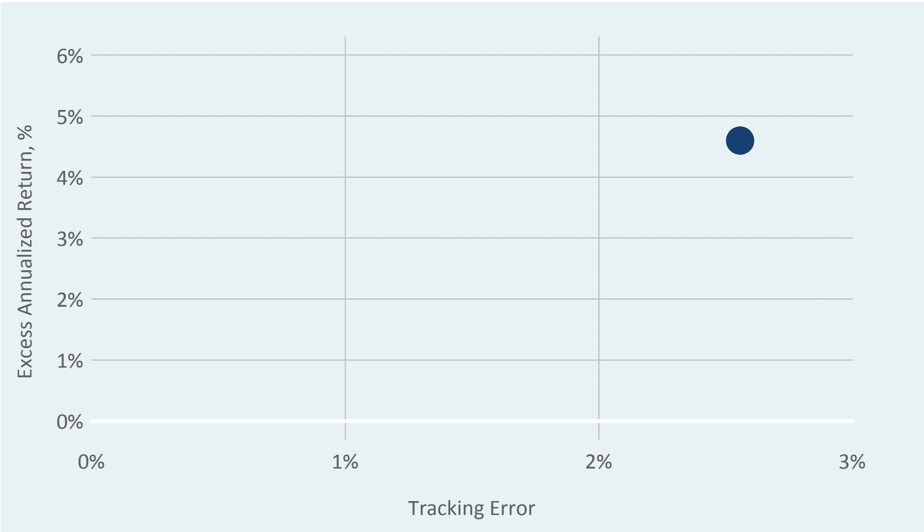


Index: Russell 2000 Index   Returns: Gross of Fees
Data Source: eVestment Alliance   Universe: eA Small Cap Core Equity

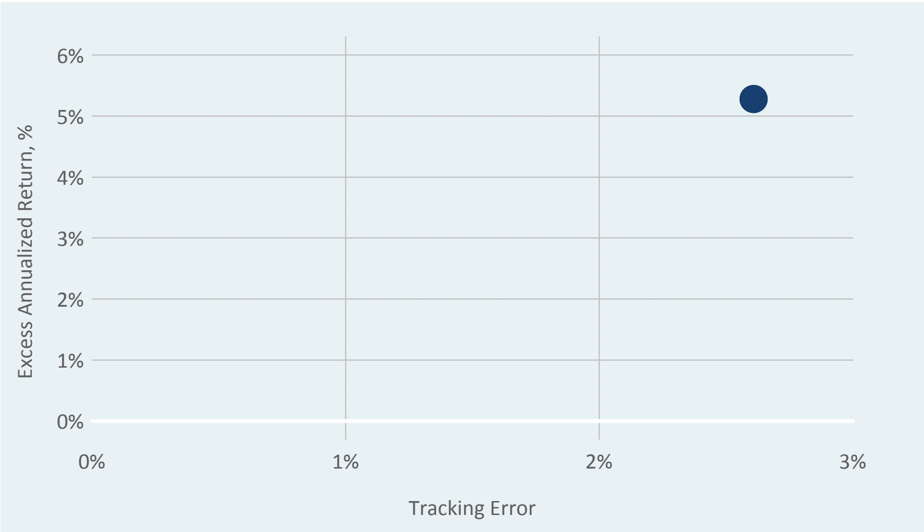
Performance efficiency

● QMA ✚ Russell 2000 Index

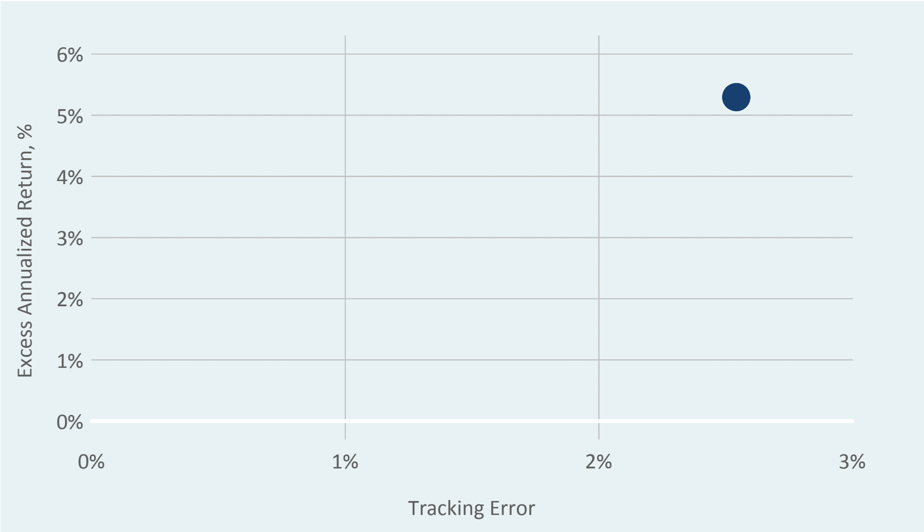
EXCESS PERFORMANCE VS. RISK, APR-13 TO MAR-16



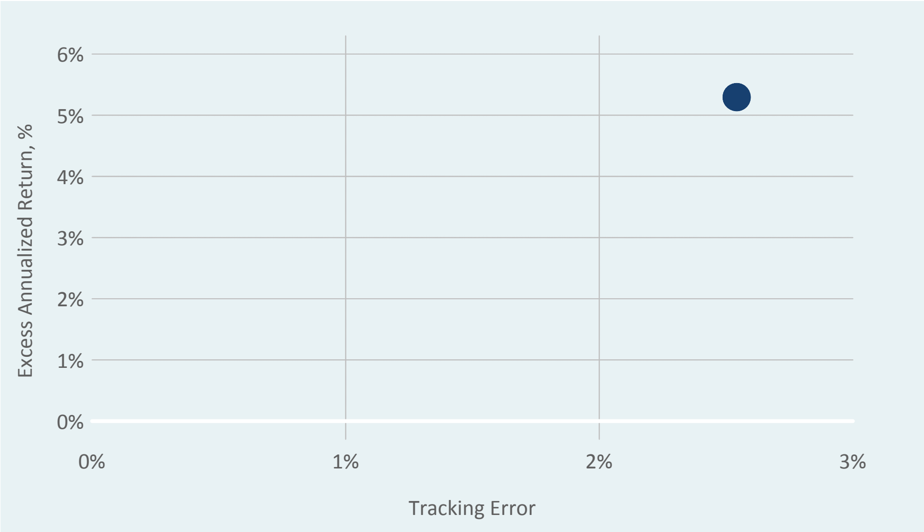
EXCESS PERFORMANCE VS. RISK, APR-11 TO MAR-16



EXCESS PERFORMANCE VS. RISK, OCT-09 TO MAR-16



EXCESS PERFORMANCE VS. RISK, OCT-09 TO MAR-16

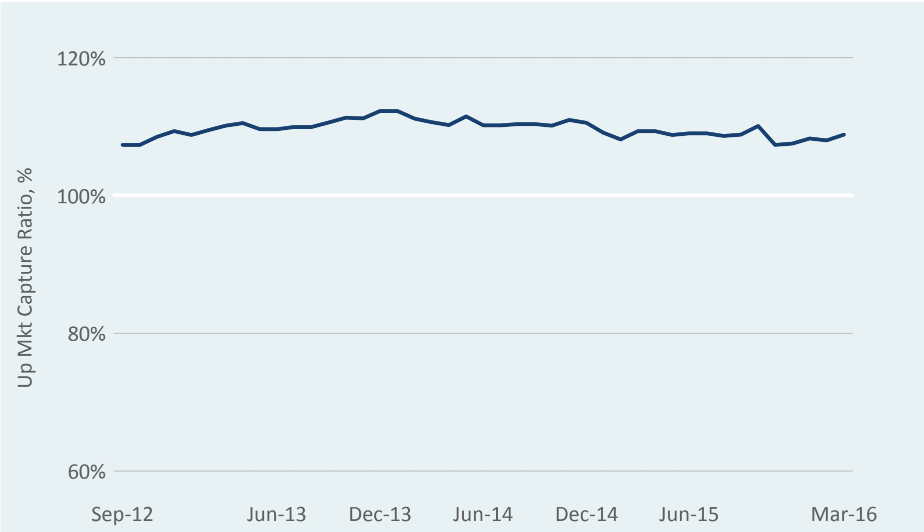


Index: Russell 2000 Index Returns: Gross of Fees
Data Source: eVestment Alliance Universe: eA Small Cap Core Equity

Up & down market analysis

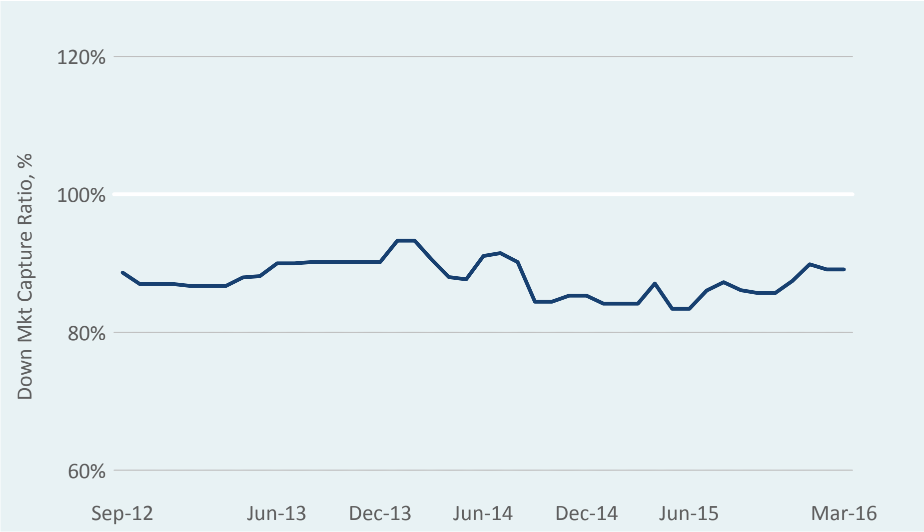
● QMA ✚ Russell 2000 Index

36 MONTH ROLLING UP MKT CAPTURE RATIO

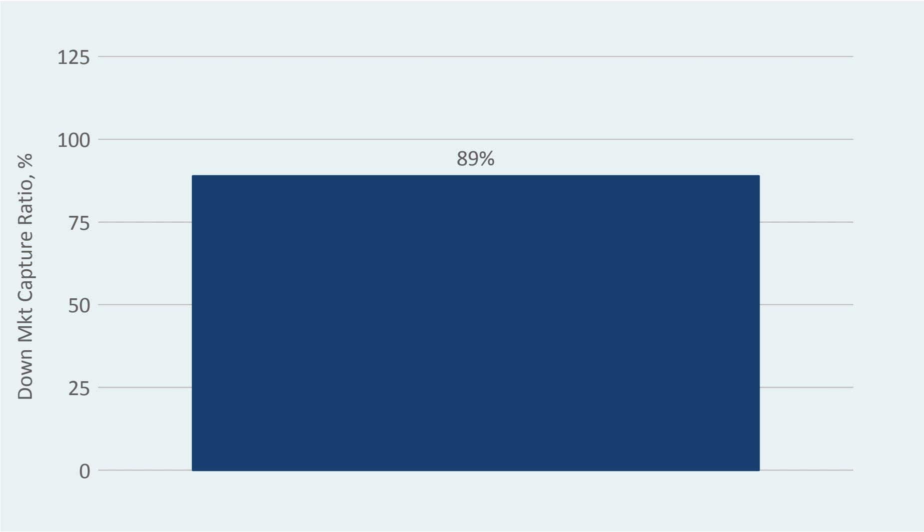


UP MARKET CAPTURE RATIO, OCT-09 TO MAR-16

36 MONTH ROLLING DOWN MKT CAPTURE RATIO



DOWN MARKET CAPTURE RATIO, OCT-09 TO MAR-16



Index: Russell 2000 Index Returns: Gross of Fees
Data Source: eVestment Alliance Universe: eA Small Cap Core Equity

Glossary

Alpha (a): The excess return of a portfolio after adjusting for market risk, usually attributable to the selection skill of the portfolio manager. Alpha = Excess Return – (Beta x Excess Market Return).

Annualized Return: Converts the Total Return to an annual basis for comparison purposes. Periods shorter than one year are not annualized.

Benchmark: Investment index used as a standard by which to measure the relative performance of an overall portfolio or an individual money manager. Appropriate benchmarks are selected based on their similarity to a portfolio or to the style of the individual money manager being measured.

Benchmark R-squared: Measures how well the Benchmark return series fits the manager's return series. The higher the Benchmark R-squared, the more appropriate the benchmark is for the manager.

Beta (b): A measure of systematic, or market risk; the part of risk in a portfolio or security that is attributable to general market movements. Beta is calculated by dividing the covariance of a security by the variance of the market.

Book-to-Market: The ratio of book value per share to market price per share. Growth managers typically have low book-to-market ratios while value managers typically have high book-to-market ratios.

Calmar Ratio - The Calmar Ratio is a risk/return ratio that calculates return on a downside risk adjusted basis. Similar to other efficiency ratios it balances return in the numerator per unit risk in the denominator. In this case risk is characterized by the Maximum Drawdown.

Capture Ratio: A statistical measure of an investment manager's overall performance in up or down markets. The capture ratio is used to evaluate how well an investment manager performed relative to an index during periods when that index has risen/fallen. The capture ratio is calculated by dividing the manager's returns by the returns of the index during the up/down market, and multiplying that factor by 100.

Correlation Coefficient (r): A measure of the relative movement of returns of one security or asset class relative to another over time. A correlation of 1 means the returns of two securities move in lock step, a correlation of –1 means the returns of two securities move in the exact opposite direction over time. Correlation is used as a measure to help maximize the benefits of diversification when constructing an investment portfolio.

Hurst Exponent: quantifies the relative tendency of a time series either to regress the mean. A value H in the range 0.5 < H < 1 indicates a time series with long-term positive autocorrelation, meaning a high value in the series will probably be followed by another high value . A value in the range 0 < H < 0.5 indicates a time series with long-term switching between high and low values in adjacent pairs, meaning that a single high value will probably be followed by a low value. A value of H=0.5 can indicate a completely uncorrelated series.

Excess Correlation: Correlation of the excess returns (above the benchmark).

GARP: Growth-At-A-Reasonable-Price. Equity strategy that combines tenets of both growth and value investing, looking for companies with above average earnings growth but excluding those with high valuations.

Information Ratio: A measure of a manager's ability to earn excess return without incurring additional risk. Information ratio is calculated as: alpha divided by tracking error.

Glossary

Kurtosis (excess returns)- Kurtosis describes whether the series distribution is peaked or flat and how thick the tails are as compared to a normal distribution. Positive kurtosis indicates a relatively peaked distribution near the mean and tends to decline rapidly and have fat tails. Negative kurtosis indicates a relatively flat distribution near the mean.

Long Term Reversal Factor: Risk premium associated with buying past losers and selling past winners (five year time horizon).

Low Volatility: Risk premium generated by picking low volatility stocks, measured by the MSCI USA Minimum Volatility Index.

Momentum Factor: Risk premium associated with buying past winners and selling past losers.

Portfolio Turnover: The percentage of a portfolio that is sold and replaced (turned over) during a given time period. Low portfolio turnover is indicative of a buy and hold strategy while high portfolio turnover implies a more active form of management.

Predicted Style R-squared: Measures how well the manager's predicted style fits the manager's return series. Adding many unnecessary indices will not improve the Predicted Style R-Squared. The methodology essentially predicts the manager's style at each point in time without the data at that point with the rationale being that if the style estimates obtained so far are good, then they can be used to predict the style at the estimation point.

Price-to-Earnings Ratio: Also called the earnings multiplier, it is calculated by dividing the price of a company's stock into earnings per share. Growth managers typically hold stocks with high price-to-earnings ratios whereas value managers hold stocks with low price-to-earnings ratios.

Quality: The quality factors measured the manager`s exposure to high quality stocks versus low quality stocks as defied by S&P. The factor is constructed by combining a long position in the S&P 500 High Quality index and short position S&P 500 Low Quality index.

Regression Based Asset Loadings: Represents the exposure period of an investment product (called a Manager, Fund, or Index in Stylus) to various explanatory variables. It is also referred to as Style Indices or Asset Classes. These Indices can be interpreted as the Manager Betas or risk factors at a given point in time.

Risk Premium: An expected return in excess of the risk-free rate. The premium provides compensation for the assumption of risk.

Risk-Free Rate: The rate of interest that one can earn on an investment with no default risk. It is generally assumed to be the interest rate on a 91 day T-Bill.

R-Squared: Also called the coefficient of determination, it measures the amount of variation in one variable explained by variations in another. In the case of investments, the term is used to explain the amount of variation in a security or portfolio explained by movements in the market or the portfolio's benchmark.

Selection return: The difference between the Manager and the Manager's Style Return.

Sharpe Ratio: A measure of portfolio efficiency. The Sharpe Ratio indicates excess portfolio return for each unit of risk associated with achieving the excess return. The higher the Sharpe Ratio, the more efficient the portfolio. Sharpe ratio is calculated as: Portfolio Excess Return / Portfolio Standard Deviation.

Short Term Reversal Factor: Risk premium associated with buying past losers and selling past winners (two month time horizon).

Significance Level (Excess Returns) - The Significance Level of a test is the probability that the test statistic will reject the null hypothesis when the hypothesis is true. Significance is a property of the distribution of a test statistic, not of any particular draw of the statistic.

Glossary

Size Factor: Risk premium associated with buying small companies.

Skewness (Excess Returns)- Skewness describes the degree of asymmetry of a distribution around its mean. A distribution is said to be symmetric if has the same shape to both the left and right of the mean. A perfectly symmetrical distribution has a Skewness of 0. A positively skewed distribution has larger gains than losses, while a negatively skewed distribution has a longer tail of losses.

Standard Deviation (s): A measure of volatility, or risk, inherent in a security or portfolio. The standard deviation of a series is a measure of the extent to which observations in the series differ from the arithmetic mean of the series. For example, if a security has an average annual rate of return of 10% and a standard deviation of 5%, then two-thirds of the time, one would expect to receive an annual rate of return between 5% and 15%.

Style Analysis: A return based analysis designed to identify combinations of passive investments to closely replicate the performance of funds.

Style Map: A specialized form or scatter plot chart typically used to show where a Manager lies in relation to a set of style indices on a two-dimensional plane. This is simply a way of viewing the asset loadings in a different context. The coordinates are calculated by rescaling the asset loadings to range from -1 to 1 on each axis and are dependent on the Style Indices comprising the Map.

Style Returns: The sum of the Return of each Style Asset multiplied by its weight for the time period.

Style R-squared: Measures how well the estimated Manager's style return series fits the manager's return series. The higher the Style R-squared, the better the fit between the manager's style and return series.

Total Return: Total Return geometrically compounds the Returns in the series from one period to the next.

Tracking Error/Excess Standard Deviation: The standard deviation of the difference between the rate of return of a portfolio and its benchmark.

Treynor Ratio - The Treynor Ratio is defined as the ratio of the manager's excess geometrically annualized return over the portfolio Beta. Excess returns are computed versus the cash index.

Universe: Also called a peer group, a universe is a large number of portfolios of a similar style. These portfolios can be divided into deciles or quartiles and then used for performance measurement and comparative purposes. Portfolios are ranked within the universe, which tells the investor how well a manager has done relative to his or her peers.

Value: Refers to the style of an equity manager. A value manager seeks to create returns by purchasing stocks selling at a discount to their true or intrinsic value. Typical portfolio characteristics of this strategy include a low price-to-earnings ratio, high book-to-market ratio, and high dividend yield.

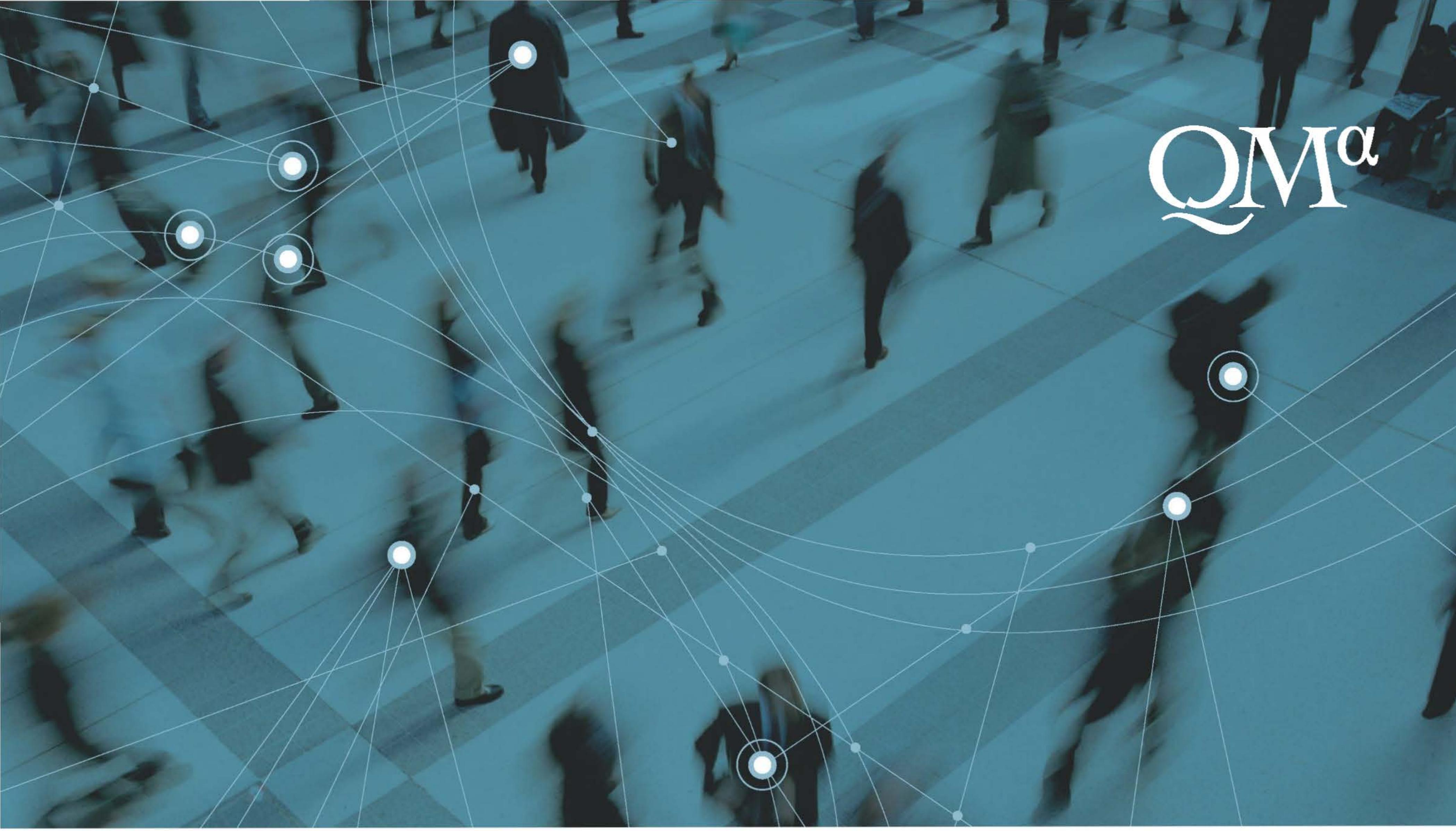
Valuation Factor: Risk premium associated with buying companies trading at a low price/book multiple.

VIX : VIX is a trademark ticker symbol for the Chicago Board Options Exchange Market Volatility Index, a popular measure of the implied volatility of S&P 500 index options. Often referred to as the fear index or the fear gauge, it represents one measure of the market's expectation of stock market volatility over the next 30 day period.

Disclosures

Past performance is no guarantee of future results. *This report or presentation is provided for informational purposes only and is directed to institutional clients and eligible institutional counterparties only and should not be relied upon by retail investors. Nothing herein constitutes investment, legal, accounting or tax advice, or a recommendation to buy, sell or hold a security or pursue a particular investment vehicle or any trading strategy. The opinions and information expressed are current as of the date provided or cited only and are subject to change without notice. This information is obtained from sources deemed reliable, but there is no representation or warranty as to its accuracy, completeness or reliability. Verus Advisory Inc. and Verus Investors, LLC expressly disclaim any and all implied warranties or originality, accuracy, completeness, non-infringement, merchantability and fitness for a particular purpose. This report or presentation cannot be used by the recipient for advertising or sales promotion purposes.*

The material may include estimates, outlooks, projections and other "forward-looking statements." Such statements can be identified by the use of terminology such as "believes," "expects," "may," "will," "should," "anticipates," or the negative of any of the foregoing or comparable terminology, or by discussion of strategy, or assumptions such as economic conditions underlying other statements. No assurance can be given that future results described or implied by any forward looking information will be achieved. Actual events may differ significantly from those presented. Investing entails risks, including possible loss of principal. Risk controls and models do not promise any level of performance or guarantee against loss of principal.



San Mateo County Employees' Retirement Association

US Small Cap Core Equity

June 21, 2016

Stacie Mintz, CFA
Portfolio Manager
973.367.9389

Gavin Smith, PhD
Portfolio Manager & Strategist
973.367.4569

Brad Zenz
Institutional Client Relations
415.653.3205

Confidential

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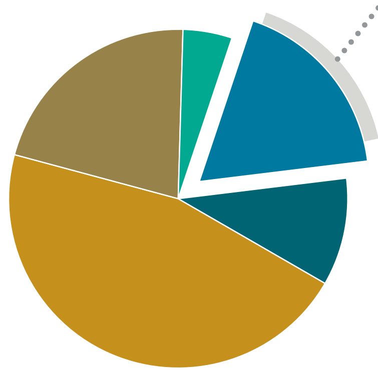
QMA Overview

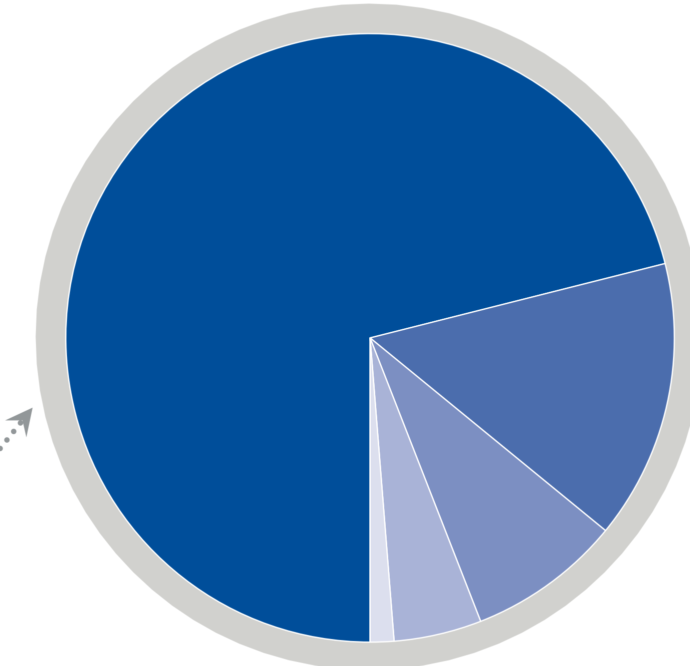
Serving investors since 1975, QMA combines detailed investment research with experienced judgment, seeking to isolate alpha and capture repeatable long-term outperformance.

- Highly experienced, stable team
  - Investment professionals include 20 PhDs and average 18 years of investment experience
- Worldwide institutional client base
- Wholly owned, independently operated subsidiary of Prudential Financial, Inc.



ASSETS UNDER MANAGEMENT*

Asset Allocation	$50.9 billion
US Core Equity	$19.9 billion
Non-US Core Equity	$11.4 billion
Equity Index	$23.6 billion
Value Equity	$5.2 billion
Total	$111.1 billion



US EQUITY

US Large Cap	$14,512 million
US Mid Cap	$3,032 million
US Small Cap	$1,667 million
US Long/Short	$952 million
US All Cap	$257 million

AUM as of 3/31/2016.

AUM totals may not sum due to rounding. QMA is the primary business name of Quantitative Management Associates LLC.

*QMA's total Asset Allocation AUM is $67.1 billion, including $16.2 billion that QMA's Asset Allocation team directs to equity strategies advised by QMA; in this pie chart, these assets are only included in the Core Equity, Equity Index, and Value Equity AUM in order to avoid double counting.

QMA

*Representative Client List**

Corporate/Partnership

- AEGIS Insurance Services, Inc.
- AEGIS Managing Agency Limited [UK]
- Allianz Asset Accumulation Plan
- Consolidated Edison Company of New York
- Cubic Corporation
- Delta Dental of New Jersey, Inc.
- FMC Corporation
- Haworth International, Ltd.
- Idaho National Laboratory
- Jas. W. Glover Holding Company, Ltd.
- Lincoln National Corporation
- MISA Metals, Inc
- Portland Pipe Line
- Prudential Merged Retirement Plan
- United Technologies Corporation
- White & Case LLP

Public

- Arlington Heights, Illinois Police Pension Fund
- Birmingham (City of) Retirement & Relief System
- Employees' Retirement System of the State of Hawaii (HIERS)
- Fairfax County Employees' Retirement System
- Florida State Board of Administration
- Idaho Department of Labor
- Iowa Public Employees' Retirement System (IPERS)
- Louisiana Clerks of Court Retirement & Relief Fund
- New York State Common Retirement Fund
- Tulare County Employees' Retirement Association

Endowment/Foundation/Hospital/Non-Profit

- Catholic Charities Brooklyn and Queens
- Fondation Lucie et André Chagnon
- Inter-American Development Bank
- Jefferson Regional Medical Center
- Prudential Foundation
- Shore Medical Center
- United Church Fund

Taft-Hartley/Multi-Employer

- Boilermaker-Blacksmith National Pension Trust
- Heavy & General Laborers' Local Unions #472 & #172
- Joint Industry Board of the Electrical Industry
- National Industrial Group Pension Plan
- National Organization of Industrial Trade Unions (NOITU)
- Officers & Employees of Local Union 478 & Funds' Employees Pension Plan
- PKA – Pensionskassernes Administration A/S [Denmark]
- Pointers, Cleaners and Caulkers Welfare Fund
- Pressroom Union
- Roofers Pension Fund
- Sheet Metal Workers Local 10 Production Retirement Plan
- Suburban Teamsters of Northern Illinois Trust Funds
- Teamsters Local #282 Trust Funds
- Teamsters Local #639 – Employers' Pension Trust Fund

Sub-Advisory

- Prudential Investments LLC
- SEI Investments
- Transamerica Asset Management, Inc.
- Unione di Banche Italiane (UBI Bank) [Italy]

As of 11/5/2015.
*Clients listed above are those who allow their names to be publicly disclosed.
The objective criteria for constructing this list are: (1) inclusion of all clients with assets under management by Quantitative Management Associates LLC ("QMA") of $1 million or more who allow their names to be publicly disclosed by QMA and (2) exclusion of participants in institutional commingled portfolios that invest primarily in other institutional commingled portfolios. No other criterion is used in constructing this list. Disclosure of a client's name does not indicate such client's approval or disapproval of QMA or the advisory services provided. Due to corporate restructurings, a client name listed may not necessarily be the entity that originally contracted with QMA.

Robust Infrastructure Supports Investment Organization

QMA
204 Employees
Scott Hayward, Chief Executive Officer

Portfolio Management & Research	Team of 54
Trading	Team of 7
Client Relations & Marketing	Team of 37
Compliance, Legal* & Risk Management	Team of 14
Technology	Team of 31
Performance & Client Reporting	Team of 7
Operations	Team of 25
Business Administration**	Team of 28

As of 3/31/2016.
*Compliance and Legal report independently to the Law Department of Prudential Financial, Inc.
**Business Administration includes Finance, Human Resources, Business Continuation and Administrative Functions.

QMA Investment Team

Roy Henriksson, PhD — Chief Investment Officer — 30 Years of Investment Experience

U.S. CORE EQUITY		Years of Inv. Experience
Peter Xu, PhD	Head of US Core	23
Stacie Mintz, MBA, CFA	Portfolio Manager	22
Dan Carlucci, MBA, CFA*	Portfolio Manager	28
Devang Gambhirwala, MBA	Portfolio Manager	29
Satish Sanapareddy, MBA, CFA	Portfolio Manager	17
Gavin Smith, PhD	Portfolio Manager/Strategist	12
Chantal Chuang, MS, MA	Quantitative Analyst	8
Jin Cao, MA	Quantitative Analyst	1
***Also Edward Lithgow*		

U.S. VALUE EQUITY		Years of Inv. Experience
Stephen Courtney	Co-Head of Value Equity	29
Mitchell Stern, PhD	Co-Head of Value Equity	31
Deborah Woods	Portfolio Manager	37
Robert Leung, CFA	Portfolio Manager	20
Maxwell Smith, PhD	Sr. Quantitative Analyst	28
Kevin Mo, PhD	Sr. Quantitative Analyst	5
Kerri Quinn, MBA	Quantitative Analyst	8

INDEXING		Years of Inv. Experience
John Moschberger, MBA, CFA	Head of Indexing	33
Edward Lithgow, MBA**	Portfolio Manager	14
Edward Louie, MBA	Portfolio Manager	17
**Also Dan Carlucci*		

NON-U.S. CORE EQUITY		Years of Inv. Experience
Jacob Pozharny, PhD	Head of Non-US Core	23
Rodolfo Martell, PhD	Portfolio Manager/Strategist	15
Wen Jin, PhD, CFA	Portfolio Manager	15
Vlad Shutoy, MS	Portfolio Manager	12
John Van Belle, PhD	Portfolio Manager	43
David Starer, PhD	Sr. Quantitative Analyst	23
Ken D'Souza, MBA, CFA	Sr. Quantitative Analyst	7
Harry Hinkel	Quantitative Analyst	12
Sean Lu, PhD	Quantitative Analyst	2
Jyoti Singh, MFin	Quantitative Analyst	5
Madelen Tejada	Quantitative Analyst	14

ASSET ALLOCATION		Years of Inv. Experience
Ted Lockwood, MBA, MS	Head of Asset Allocation	28
Marco Aiolfi, PhD	Portfolio Manager	11
Stephen Brundage, MBA, CFA	Product Specialist	31
Edward Campbell, MBA, CFA	Portfolio Manager	21
Rory Cummings, MBA	Portfolio Manager	6
John Hudock, CFA	Portfolio Manager	37
Joel Kallman, MBA, CFA	Portfolio Manager	11
Edward Keon, Jr., MBA	Portfolio Manager	23
Marcus Perl, MA	Portfolio Manager	25
Jeremy Stempien, MBA	Product Specialist	17
Yesim Tokat-Acikel, PhD	Portfolio Manager	14
Irene Tunkel, MBA, CFA	Sr. Quantitative Analyst	14
Peter Vaiciunas, MBA, CFA	Quantitative Analyst	6
Pat Watral, MBA	Product Specialist	23

RESEARCH		Years of Inv. Experience
Margaret Stumpp, PhD	Sr. Advisor	29
Joshua Livnat, PhD	Sr. Researcher	22
Edmund Bellord, MA, MBA	Sr. Researcher	21
George Sakoulis, PhD	Sr. Researcher	16
Martin Tarlie, PhD, MBA, CFA	Sr. Researcher	14
Kenneth Hsu, PhD	Researcher	8
Eugenio Ortiz, PhD	Researcher	9
Patrick Pfeifer, MBA, CFA	Researcher	3
Allen Sy	Researcher	6
Timothy Wheeler, PhD	Researcher	4

TRADING		Years of Inv. Experience
Richard Crist	Head of Trading	28
Joseph Lombardi	Trader	26
Wataru Yamaguchi	Trader	24

As of 6/1/2016.

QMA US Core Equity Performance

As of 3/31/2016

Composite Name	Benchmark	Composite Inception Date	1 Year	3 Year	5 Year	Since Inception
			Gross Excess Return through 3/31/2016 (bps)*			
Long-Only Strategies						
US Core Equity	S&P 500 Index	1/1/1997	-42	+129	+112	+90
US Mid Cap Core Equity	S&P MidCap 400 Index	7/1/1996	+223	+260	+235	+140
US Small Cap Core Equity	Russell 2000® Index	10/1/2009	+369	+459	+528	+529
Long-Short Strategies						
US Core Equity Extended	Russell 1000® Index	7/1/2006	+258	+373	+334	+154
US Long/Short Equity	50% S&P 500 Index/ 50% Citi 3 Month T-Bill	6/1/2014	+433	--	--	+631
US Market Neutral	30 Day T-Bill	1/1/2012	+692	+577	--	+502
US Market Neutral Levered	Citi 3 Month T-Bill	11/1/2012	+862	+719	--	+667

Source: QMA, Frank Russell Company, Standard & Poor's, Bloomberg and Citigroup.
*Excess returns are shown annualized for periods greater than one year.
All performance shown is gross of management fees. The performance figures do not reflect the deduction of investment advisory fees. The returns will be reduced by advisory fees and any other expenses incurred in the management of the investment advisory account. Please see 'Notes to Disclosure' page for Important Information including risk factors and disclosures, and 'QMA Notes to Performance' section in the Appendix for additional disclosures and net performance. Past performance is not a guarantee or a reliable indicator of future results. The Russell® Indices are trademarks/service marks of the Frank Russell Company. Russell® is a trademark of the Frank Russell Company.

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US Small Cap Core Equity

Philosophy

An actively managed, disciplined and adaptive strategy can consistently capture alpha through fundamental insights that are systematically applied with experienced judgment.

Highlights

- Bottom-up stock selection drives exposure to key sources of alpha (valuation, growth, quality)
- Active share exposure to full spectrum of attractive small (insert mid where appropriate) cap stocks
- Time-tested analysis on how best to weight alpha drivers for different types of companies
- Cost efficient trading and risk controlled portfolio construction
- Size and style purity

Composite vs. Russell 2000®

As of 3/31/2016

Annualized	1 Year	3 Year	5 Year	Since Inception*
Gross Return (%)	-6.07	11.43	12.48	16.66
Benchmark Return (%)	-9.76	6.84	7.20	11.37
Alpha (bps)	+369	+459	+528	+529

Source: QMA, Frank Russell Company.
*Inception date for the US Small Cap Core Equity Composite is 10/1/2009.
The since inception gross performance for QMA's US Small Cap Core Equity as of 3/31/2016 would have been reduced from 16.66% to 15.92%, if netted QMA's highest advisory fee in effect for the strategy. Please see 'Notes to Disclosure' page for Important Information including risk factors and disclosures, and the 'Composite Performance Returns' section in the Appendix for additional disclosures and net performance. Past performance is not a guarantee or a reliable indicator of future results. The Russell 2000® Index is a trademark/service mark of the Frank Russell Company. Russell® is a trademark of the Frank Russell Company.

US Small Cap Core Equity Batting Average

As of 3/31/2016

	VT	RM	1 Year	Rk	3 Years	Rk	5 Years	Rk	Since Inception 6.5 Years[1]	Rk
5th percentile			0.75		0.69		0.67		0.65	
25th percentile			0.67		0.58		0.60		0.58	
Median			0.58		0.56		0.55		0.54	
75th percentile			0.50		0.50		0.50		0.50	
95th percentile			0.33		0.42		0.42		0.44	
# of Observations			177		175		166		153	
QMA: US Small Cap Core	SA	GF	0.58	31	0.58	25	0.67	5	0.67	4

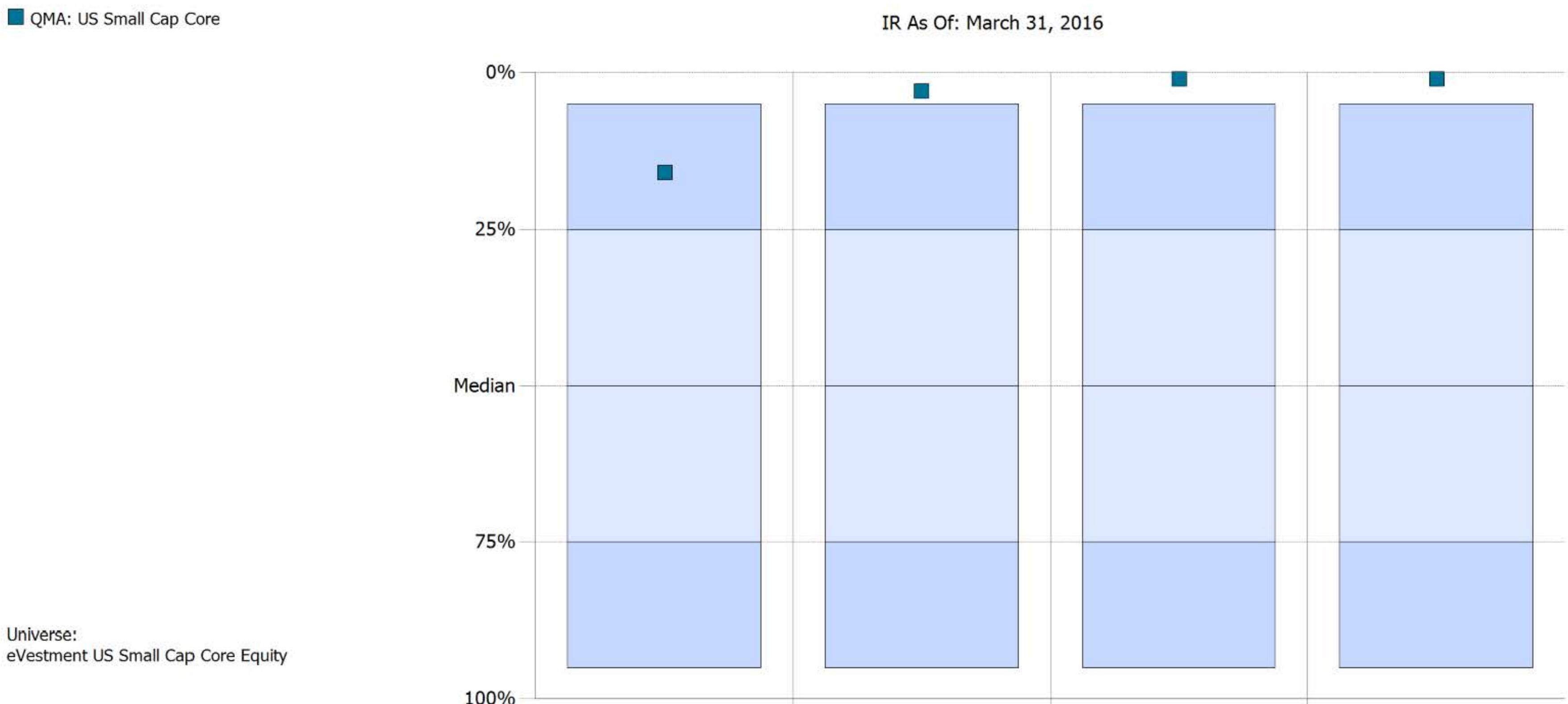
Results displayed in US Dollar (USD)

Russell 2000; [1] 10/2009 - 3/2016

Source: QMA and eVestment Alliance. Shown for illustrative purposes only. Please see 'Notes to Disclosure' page for Important Information including risk factors and disclosures. eVestment Alliance is an outside vendor whose software has been used to create this exhibit. QMA pays a fee for this software. QMA has made efforts to confirm accuracy/reliability of the data provided by eVestment Alliance but we disclaim responsibility for its accuracy or completeness. Universe: eVestment Alliance US Small Cap Core Equity. Past performance is not a guarantee or a reliable indicator of future results.

US Small Cap Core Equity Information Ratio

As of 3/31/2016



	VT	RM	1 Year	Rk	3 Years	Rk	5 Years	Rk	Since Inception 6.5 Years[1]	Rk
5th percentile			2.03		1.57		1.51		1.41	
25th percentile			1.29		1.04		0.96		0.85	
Median			0.69		0.58		0.49		0.51	
75th percentile			0.04		0.07		0.08		0.14	
95th percentile			-1.02		-0.56		-0.48		-0.34	
# of Observations			177		175		166		153	
QMA: US Small Cap Core	SA	GF	1.53	16	1.80	3	2.03	1	2.09	1

Results displayed in US Dollar (USD)

Russell 2000; [1] 10/2009 - 3/2016

Source: QMA and eVestment Alliance. Shown for illustrative purposes only. Please see ‘Notes to Disclosure’ page for Important Information including risk factors and disclosures. eVestment Alliance is an outside vendor whose software has been used to create this exhibit. QMA pays a fee for this software. QMA has made efforts to confirm accuracy/reliability of the data provided by eVestment Alliance but we disclaim responsibility for its accuracy or completeness. Universe: eVestment Alliance US Small Cap Core Equity. Past performance is not a guarantee or a reliable indicator of future results.

Adaptive, Disciplined Investment Process

Time-tested approach adds value from stock selection through final portfolio manager review

Investment Universe

- 3,000 US stocks
- Data integrity checks

Stock Selection

- Bottom-up analysis based on fundamentals
- Adaptively-weighted factors
- Rankings calculated for every company in the universe

Portfolio Construction

- Overweight stocks with high rankings
- Exposure to Value, Growth, and Quality
- Budget active risk
- Manage transaction costs
- Portfolio manager review

Core Portfolio

- Diversified portfolio
- Focused on expected alpha

QMA Stock Selection Process

STOCK UNIVERSE

3,000 US STOCKS

TARGETED SOURCES OF EXPECTED RETURNS

Valuation

- Forward price/earnings
- Change in price/earnings
- Adjusted price/book
- Sales/price

Earnings Growth

- EPS estimate revisions
- Price-volume behavior
- Target price movement

Quality

- Earnings quality
- Company financing
- Management trading
- Tax liabilities
- Short sale activity
- Board quality

ADAPTIVE FACTOR WEIGHTING

Adjusts to changing company growth rates and market opportunities

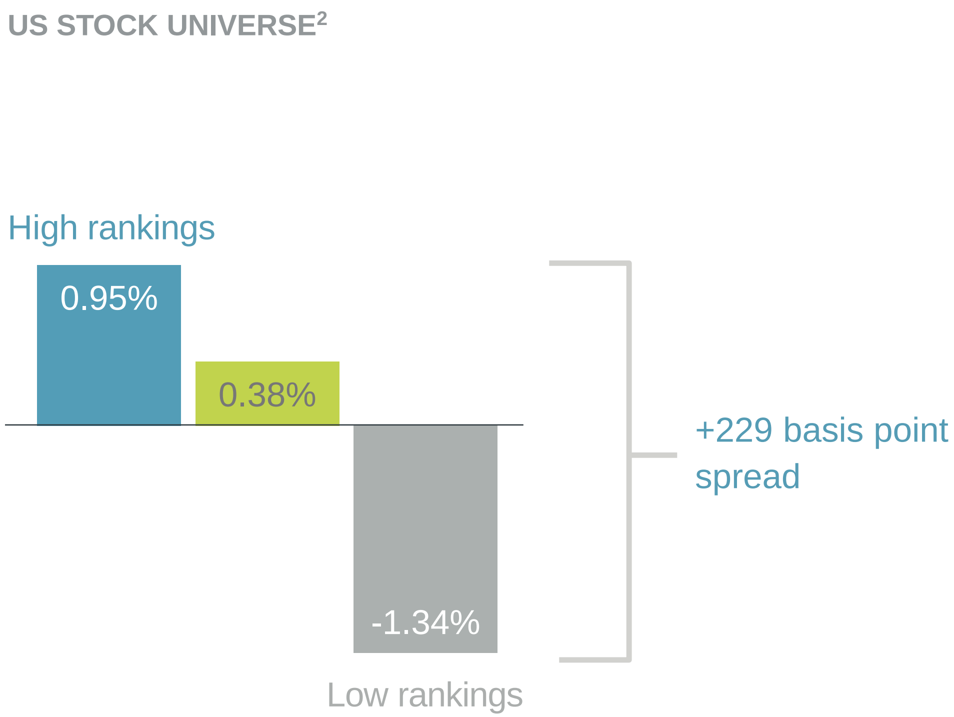
Slowly growing stocks	Average growth stocks	Fast growing stocks
Emphasis on valuation	*Balanced exposure*	*Emphasis on growth/quality*

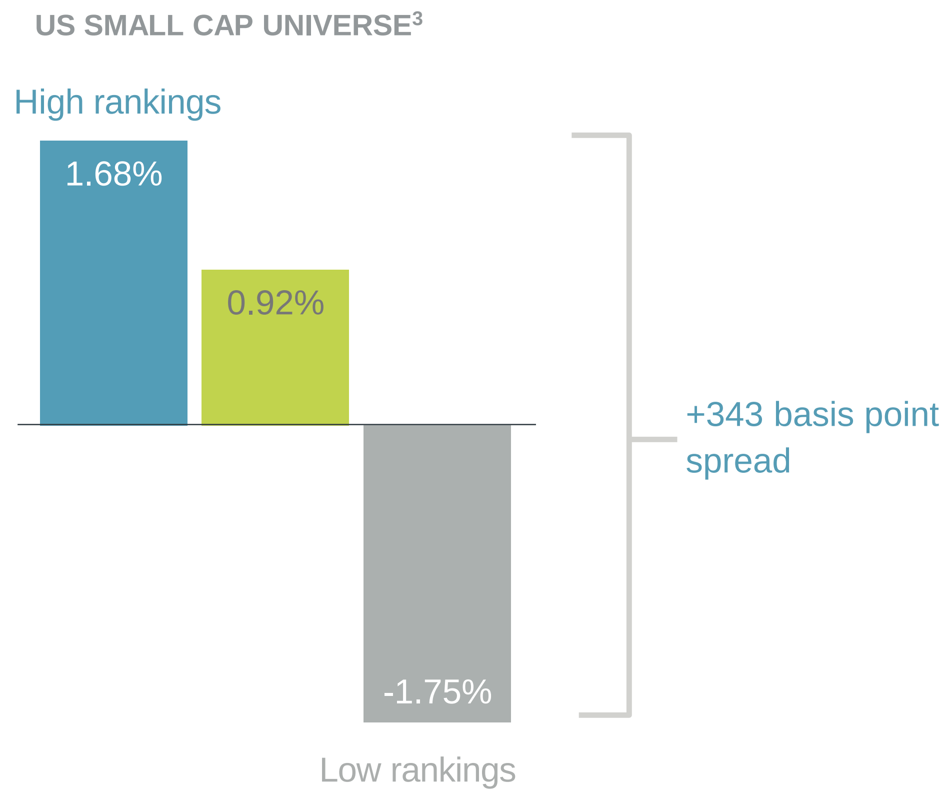
RANKING FOR EACH STOCK

Signals are subject to change without notice.

Adaptive Framework Captures Alpha Over Time

Quarterly Excess Return (on average)[1]



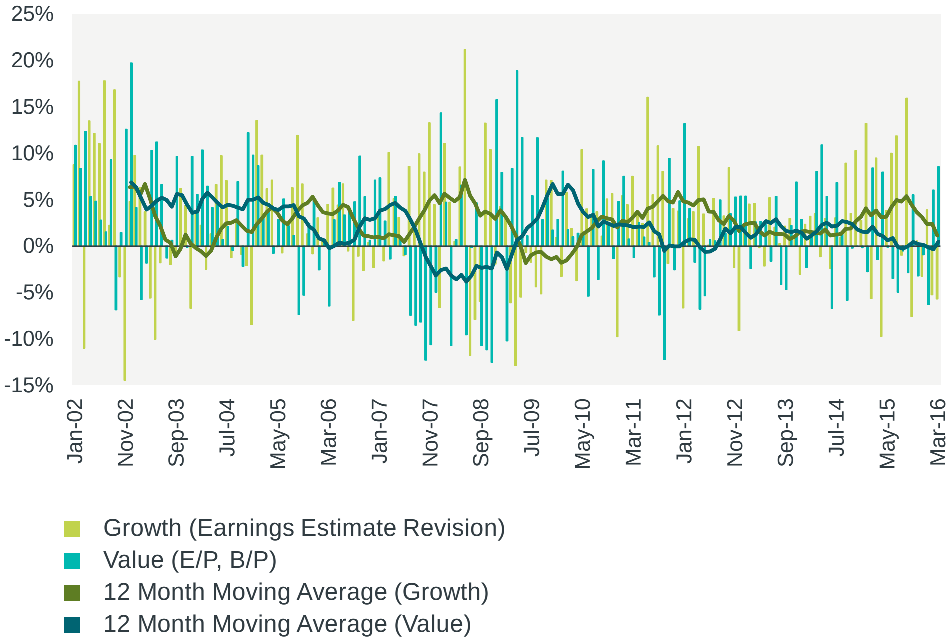


[1] Based on the difference between each group of stocks' returns and the average of all stocks' returns.
[2] Average quarterly equal-weighted market-adjusted gross returns for all stocks in universe (largest 3,000 US stocks), Q1:1998 through Q1:2016.
[3] Average quarterly equal-weighted market-adjusted gross returns for the smallest 2000 US stocks, 1Q:1998 through Q1:2016.
Source: QMA using data provided by FactSet. Returns are gross of management fees and are only provided to illustrate the information implicit in our stock selection methodology. Please see 'Notes to Disclosure' page for Important Information including risk factors and disclosures. Past performance is not a guarantee or a reliable indicator of future results.

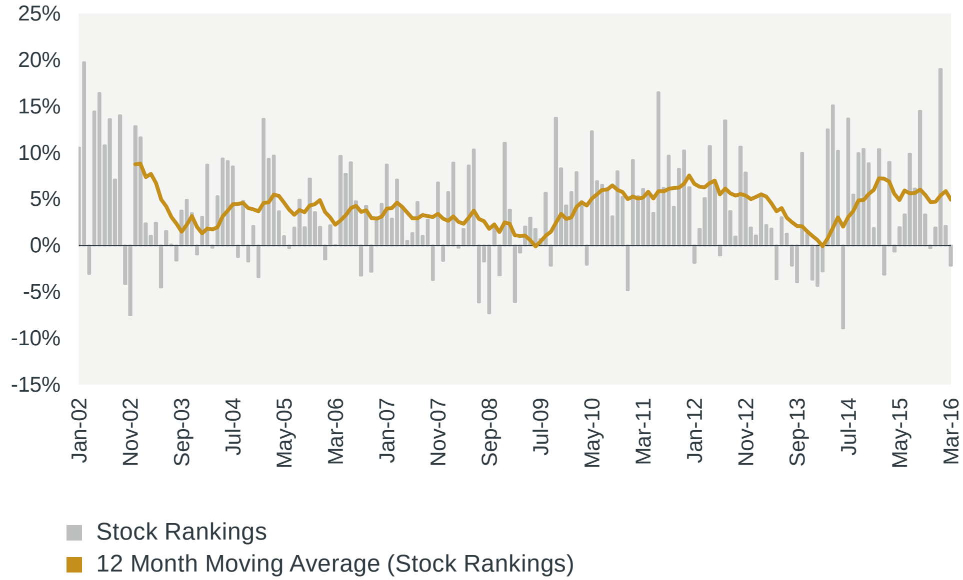
Core Exposure Can Enhance Performance Consistency

Information Coefficients - 3,000 US Stocks from 1/1/2002 – 3/31/2016

GROWTH AND VALUE FACTORS



STOCK RANKINGS



Source: QMA. Information coefficient (IC) represents the correlation between expected alpha (or, its components) and subsequent Excess Return (%). The information presented does not represent the performance of any actual portfolio and is not a guarantee or a reliable indicator of future results. Please see 'Notes to Disclosure' page for Important Information including risk factors and disclosures.

Portfolio Construction that Seeks to Capture Sources of Alpha

QMα

Aims to deliver consistent results by focusing on stocks with high ranking, while managing risk exposures

Typical Risk Parameters vs. Benchmark

Individual Stock	± 0.75%
Industry/Sector	± 0.75%
Size	± 3.00%
Growth	± 2.00%
Non-Benchmark Exposure	<10% of MV
Liquidity	<10% of ADV
Targeted Turnover 75-100%	

Stock Rankings

Proprietary Optimizer

Transaction Costs

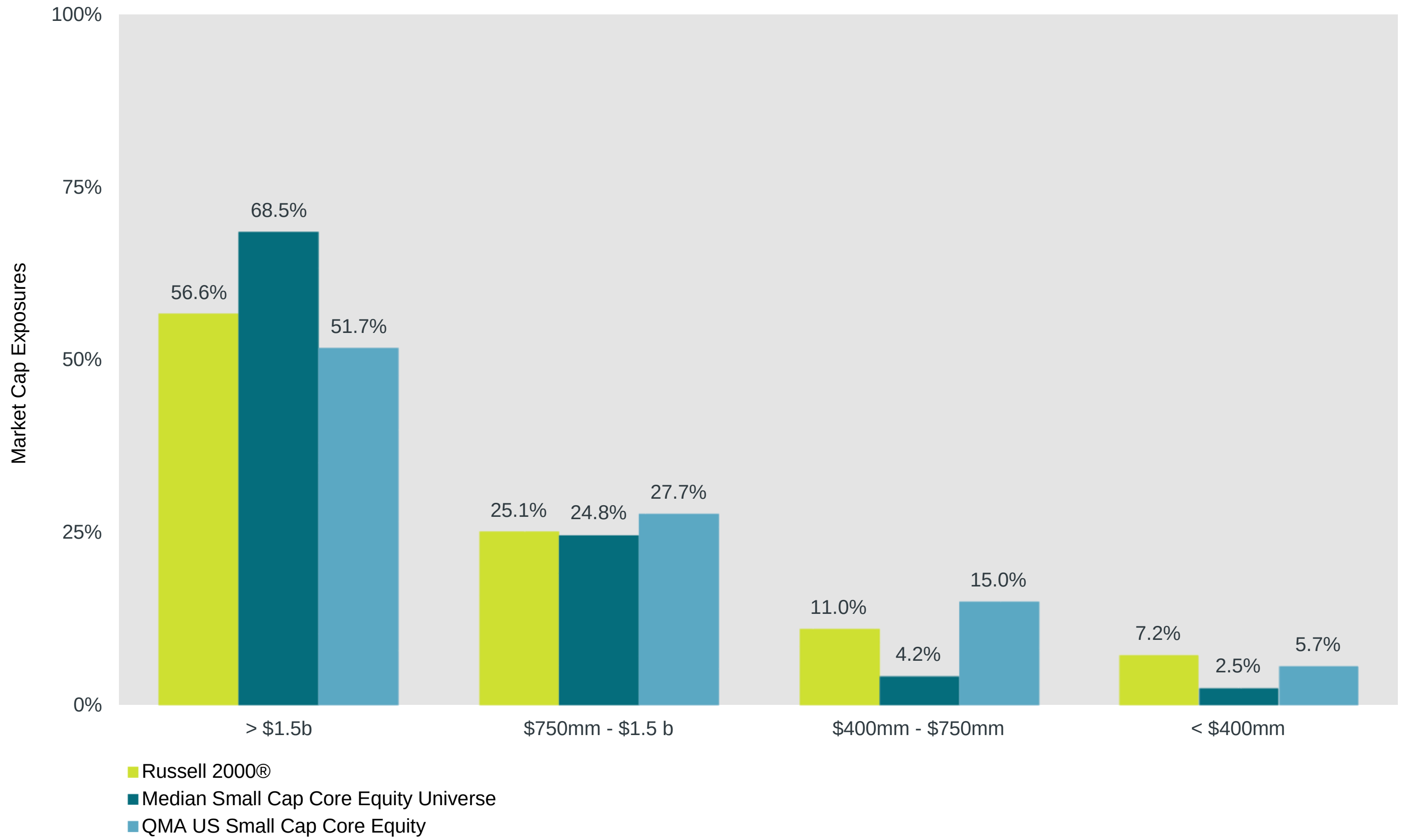
	QMA US Small Cap Core	Russell 2000® Index
Market Cap ($ Billion)		
Weighted Average	$1.8	$1.9
Median	$1.1	$0.7
Valuation		
P/E (FY1 Estimate)	14.5x	17.3x
Dividend Yield	1.7%	1.6%
Growth and Profitability		
Return on Equity	14.0%	6.8%
Earnings Per Share Growth (3 Year Historical)	18.8%	14.7%
Positive Earnings Revision (% of Market Value)	30.4%	24.0%
Number of Holdings	**364**	**1,959**

As of 3/31/2016.
Source: QMA, FactSet, Frank Russell Company.
Shown for illustrative purposes only. Portfolio construction parameters may vary without notice. QMA US Small Cap Core Equity representative portfolio characteristics are subject to change. Past performance is not a guarantee or a reliable indicator of future results. Please see 'Notes to Disclosure' page for Important Information including risk factors and disclosures.
The Russell 2000® Index is a trademark/service mark of the Frank Russell Company. Russell® is a trademark of the Frank Russell Company.

Exposures Capitalize on the Full Range of Alpha Opportunities

Market Cap Exposures

- Systematic approach allows strategy to add value in smallest end of market cap spectrum
- Trade cost model and liquidity guidelines identify stocks that could be expensive to trade



As of 12/31/2015.

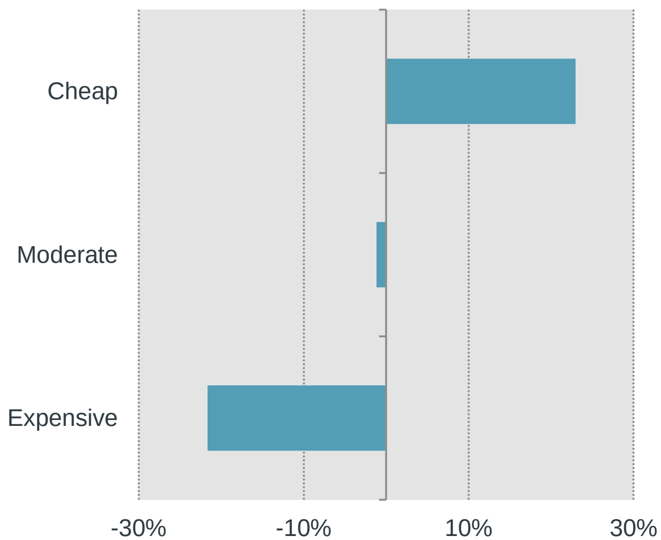
Source: QMA, eVestment Alliance, Frank Russell Company.

eVestment Alliance is an outside vendor whose software has been used to create this exhibit. QMA pays a fee for this software. QMA has made efforts to confirm accuracy/reliability of the data provided by eVestment Alliance but we disclaim responsibility for its accuracy or completeness. Median Small Cap Core Equity Universe represents investment strategies within the eVestment US Small Cap Core universe. Managers that did not report AUM and/or characteristics at the time the data was generated were eliminated for the median calculation. Shown for illustrative purposes only. Please see 'Notes to Disclosure' page for Important Information including risk factors and disclosures. The Russell 2000® Index is a trademark/service mark of the Frank Russell Company. Russell® is a trademark of the Frank Russell Company.

Value Added from All Components of Expected Alpha

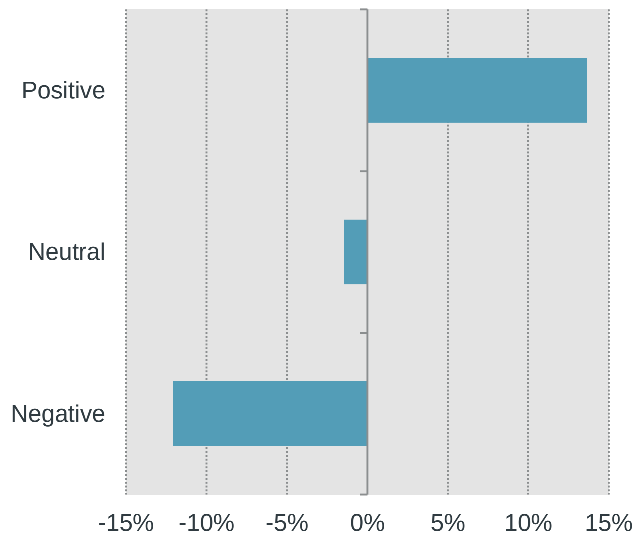
QMA US Small Cap Core Representative Portfolio Performance Attribution – 5 Years Ending 12/31/2015

VALUE FACTOR EXPOSURE



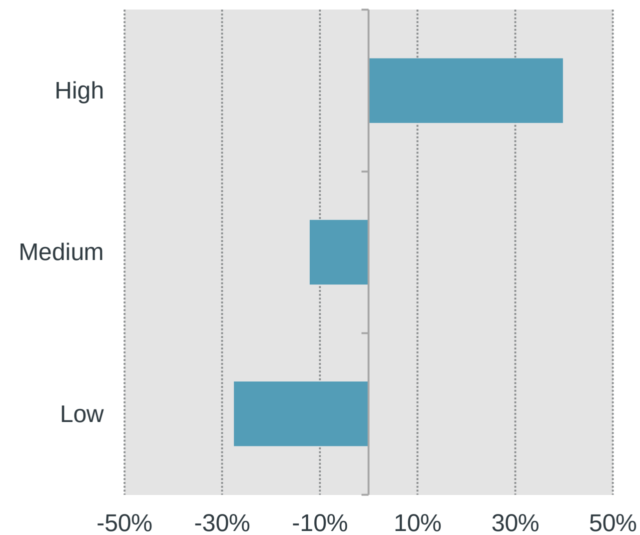
Value Add +0.71%

GROWTH FACTOR EXPOSURE



Value Add +1.43%

QUALITY FACTOR EXPOSURE



Value Add +4.07%

Source: Frank Russell Company ,QMA using data provided by FactSet. Holdings-based analysis that is intended to illustrate significant performance drivers and is not intended to be a formal accounting of return. Holdings are subject to change. Please see ‘Notes to Disclosure’ page for Important Information including risk factors and disclosures. Past performance is not a guarantee or a reliable indicator of future results.

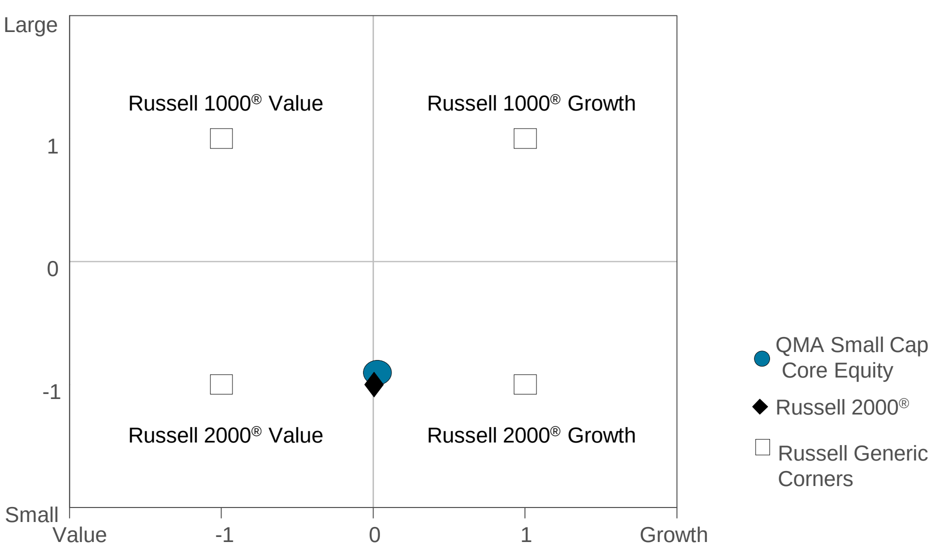
Portfolio Exposures

QMA US Small Cap Core Equity Representative Portfolio Relative to Russell 2000® Index - As of 3/31/2016

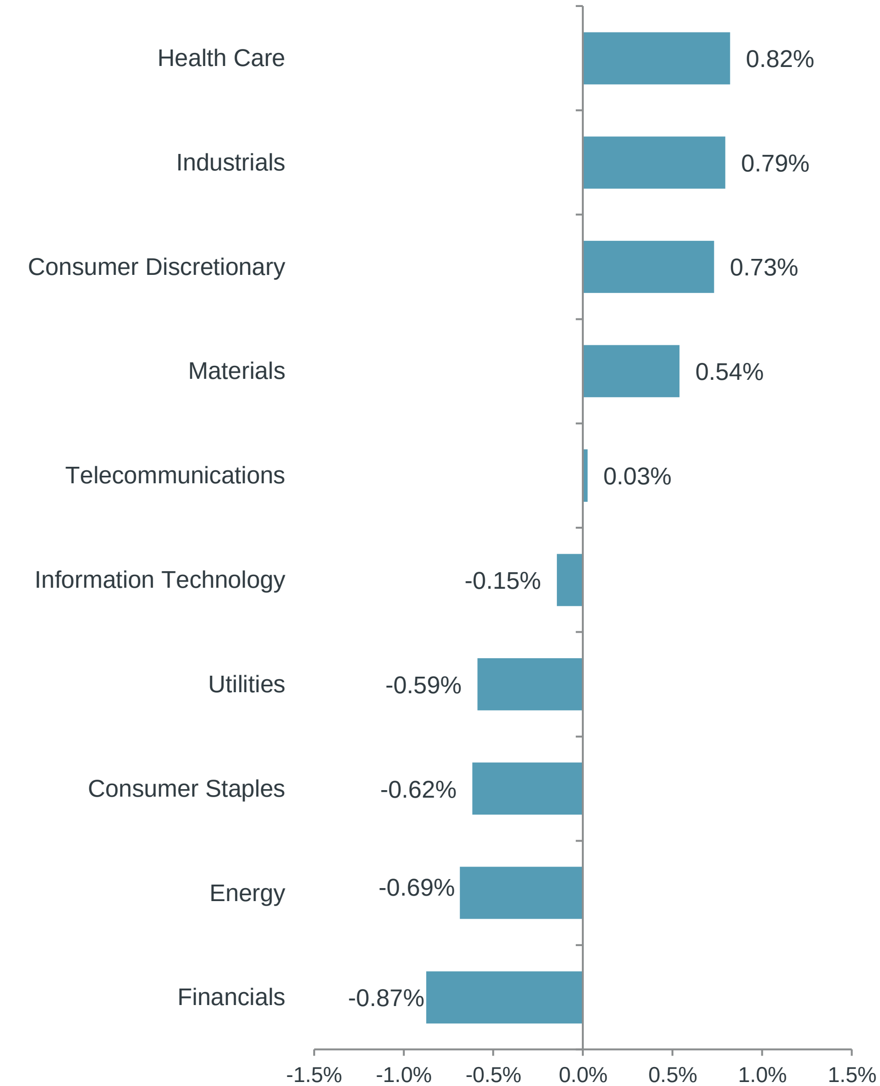
STOCK ACTIVE WEIGHTS

	Portfolio Weight (%)	Active Weight (%)
Largest 5 Overweights		
Worthington Industries, Inc.	0.78	0.67
Advanced Energy Industries, Inc.	0.71	0.63
Syntel, incorporated	0.71	0.62
CACI International Inc Class A	0.76	0.60
ABIOMED, Inc.	0.83	0.59
Largest 5 Underweights		
CubeSmart	--	-0.34
TreeHouse Foods, Inc.	--	-0.30
Vail Resorts, Inc.	--	-0.30
Piedmont Natural Gas Company, Inc.	--	-0.29
MarketAxess Holdings Inc.	--	-0.29

MANAGER STYLE (3-YEAR, QUARTERLY)
10/1/2009 – 3/31/2016



SECTOR ACTIVE WEIGHTS



Source: Frank Russell Company, FactSet, and QMA, using software provided by Zephyr. The largest active positions shown above are not indicative of performance. Any such information is not intended to be an investment recommendation by QMA. The holdings shown do not represent all of the securities purchased, sold or recommended for any particular client and in the aggregate may represent a very small percentage of an account's portfolio holdings. QMA makes no representation as to the merits of investing in such securities and the information is being provided for illustrative purposes only. Source of sector classification: S&P/MSCI. Holdings are subject to change. Please see 'Notes to Disclosure' page for Important Information including risk factors and disclosures. The Russell® Indices are trademarks/service marks of the Frank Russell Company. Russell® is a trademark of the Frank Russell Company.

Performance

QMA US Small Cap Core Equity Composite - As of 3/31/2016

Year	US Small Cap Core Equity (Gross)	Russell 2000® Index	Alpha
2016 (1/1 – 3/31)	-0.65%	-1.52%	+87 bps
2015	0.78	-4.41	+519
2014	10.95	4.89	+606
2013	39.90	38.82	+108
2012	24.94	16.35	+859
2011	1.93	-4.18	+611
2010	32.91	26.85	+606
2009 (10/1 – 12/31)	3.54	3.87	-33

Annualized	1 Year	3 Year	5 Year	Since Inception*
Gross Return (%)	-6.07	11.43	12.48	16.66
Benchmark Return (%)	-9.76	6.84	7.20	11.37
Alpha (bps)	+369	+459	+528	+529
Tracking Error (%)	2.41	2.56	2.61	2.54
Information Ratio	1.53	1.79	2.02	2.08

Source: QMA, Frank Russell Company.
*Inception date for the US Small Cap Core Equity Composite is 10/1/2009.
The since inception gross performance for QMA's US Small Cap Core Equity as of 3/31/2016 would have been reduced from 16.66% to 15.92%, if netted QMA's highest advisory fee in effect for the strategy. Please see 'Notes to Disclosure' page for Important Information including risk factors and disclosures, and the 'Composite Performance Returns' section in the Appendix for additional disclosures and net performance. Past performance is not a guarantee or a reliable indicator of future results. The Russell 2000® Index is a trademark/service mark of the Frank Russell Company. Russell® is a trademark of the Frank Russell Company.

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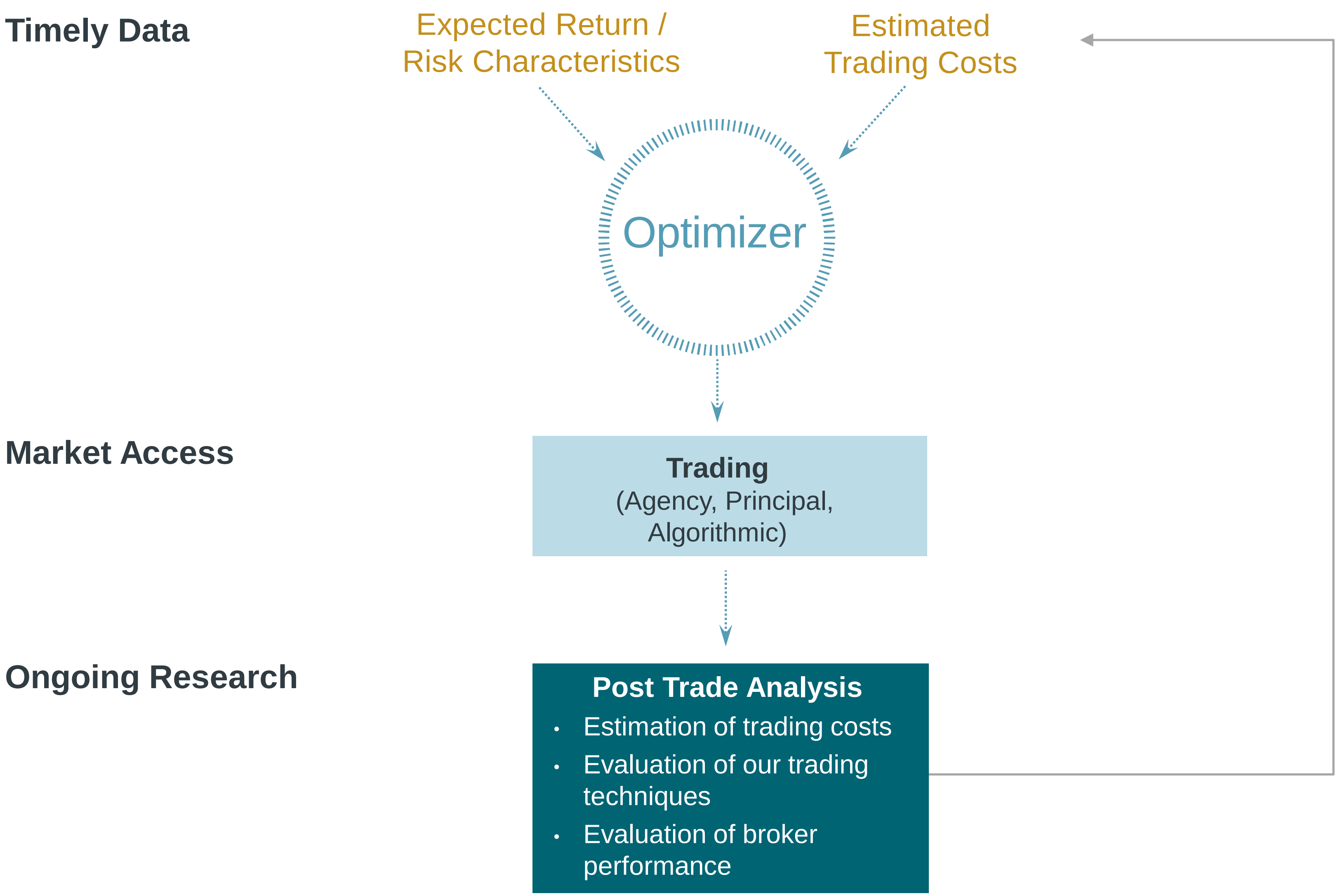
QMA Trading Organization

Richard Crist
Managing Director
Head of Trading

- **Wataru Yamaguchi**
  Vice President
  Trader
- **Joseph Lombardi**
  Senior Associate
  Trader

As of 3/31/2016

Carefully Manage Trading Costs



Full Implementation Costs Monitored Closely

QMA US Small Cap Core Equity Representative Portfolio Transactions Cost Analysis - Full Year 2015

Trade Type	Total Shares Traded	Total Value (mill$)	Total Value (%)	Volume (%)	Comm. ($/sh)	Comm. (bps)	Spread, Impact, Delay (bps)	Total Cost (incl. comm.) (bps)
Agency	938,464	21	51.8%	1.1%	0.005	2.1	7.9	10.0
Market on Close*	40,000	1	1.7%	0.5%	0.002	1.0	0.0	1.0
Principal**	703,828	19	46.5%	3.4%	0.055	20.4	0.0	20.4
All	**1,682,292**	**41**	**100.0%**	**2.1%**	**0.028**	**10.6**	**4.1**	**14.7**

*Market on Close trades are usually for the purpose of investing or divesting cashflows on their respective trade dates. These types of trades have an impact cost; however, that cost is difficult to measure accurately. Under normal market conditions, a one-sided, well diversified market on close trade would have impact costs estimated between 5-10 bps and commission costs of about 3-4 bps.

**Principal Commissions include a risk charge, as no spread, impact, or delay risk is borne by the portfolio for this type of trade.

Source: QMA. Actual trade costs may differ. Impact, spread and delay costs are measured using the difference between execution price and price prevailing at the time trading began.

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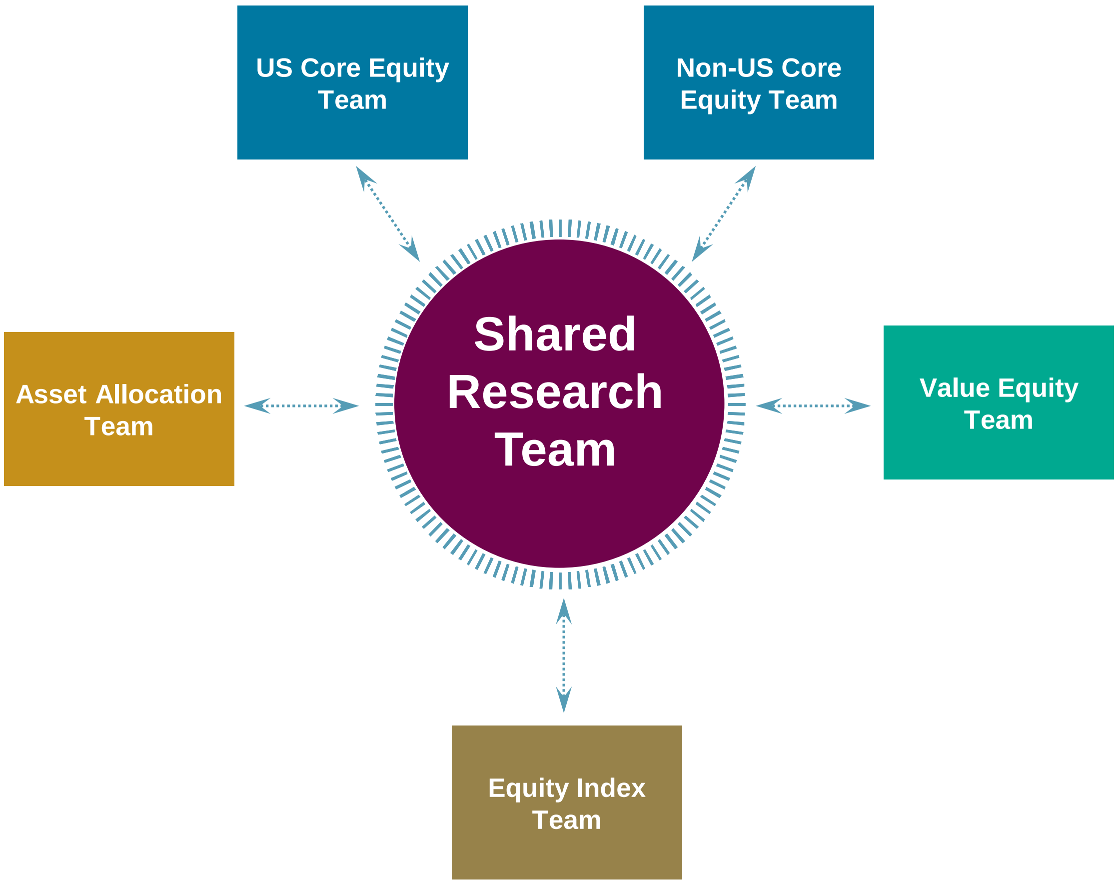
Research is Central to Our Investment Process

- Each investment team conducts strategy-focused research
- Shared research team undertakes projects with broader potential impact
- All research is reviewed with entire investment team at bi-weekly meetings



Types of Research

Factor Research:

- Improve existing factors
- Explore new factors
- Adjust weights

Portfolio Construction Research:

- Risk/return trade off
- Implementation efficiency

Sources of Ideas

- Portfolio dynamics
- Internal research meetings
- Portfolio attribution
- Market observations
- Academia
- Conferences

US Core Equity Research

Research	Hypothesis/Idea	Status	Researcher
Target Price	Comparing analysts' target prices for a company to the current price indicates an implied future return. These implied future returns may predict relative performance of stocks within an industry.	Implemented	US Core Team/ General Research
Sales to Price	Companies that more efficiently manage resources outperform their competition over time. Revenue driven metrics can be valuable predictors of performance.	Implemented	US Core Team/ General Research
Board Quality	Companies with strong corporate governance will likely outperform poorly run companies over time.	Ongoing research being conducted	US Core Team
Adaptive Factor Weighting	Explore ways to identify macro regimes and the most favorable factor tilts during those regimes. This is an extension of the current E/P spread technology.	Intermediate Stages	US Core Team
Bonds as a Predictor of Stock Prices	Determine if recent movements in a company's bond prices predict future movements in a company's stock price.	Intermediate Stage	General Research
Estimate Revisions	Research the power of earnings estimate revisions that are associated with company-level dynamics, as opposed to revisions tied to an industry-level trend.	Beginning Stages	US Core Team

As of 3/31/2016.
Source: QMA.

Ongoing Research Leads to Periodic Model Enhancements

QMα

- **1996**: Strategy inception
- **1998**: Replaced earning surprises with analyst estimate revision as measure of growth signals
- **1999**: Changed optimizer from BARRA to CPLEX
- **2001**:
  - Incorporated real-time bid-ask spread and transaction costs in optimization to evaluate brokers and trading strategies
  - Added management trading, share repurchase/issues, and earnings quality
  - Additional data integrity screens
- **2002**: Refined market capitalization risk control
- **2006**: Introduced short rebate spread signal
- **2008**: Refined company financing signal
- **2010**:
  - Added recent price movement to growth rate measure used to classify stocks
  - Refined EPS estimate revisions signal
  - Added short sale activity signal
  - Further refined financing signal
- **2011**:
  - Added tax liabilities signal
  - Added E/P spread based factor weightings for extreme market conditions
- **2015**:
  - Added a sales/price signal
  - Added a target price signal
  - Introduced a board quality signal

1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015

As of 3/31/2016

Summary

- Highly experienced team
- Systematic, bottom-up stock selection based on fundamental insights drives exposure to key sources of alpha (valuation, growth, quality)
- Active share exposure across full spectrum of small cap stocks
- Time-tested analysis on how best to weight alpha drivers for different types of companies
- Size and style purity
- An ongoing commitment to evolving and improving our process aimed at staying ahead of the markets and our competitors

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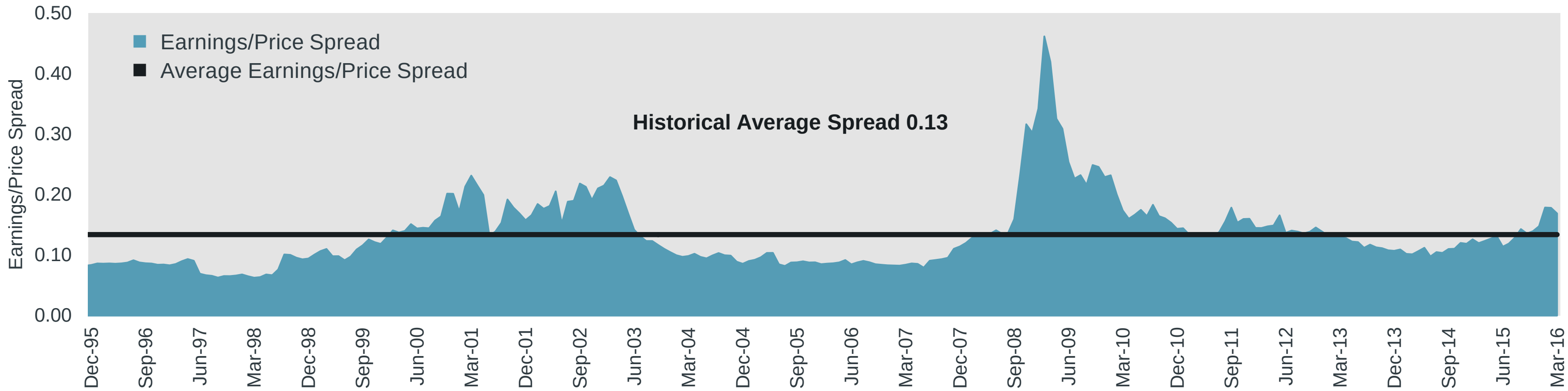
QMA's Commitment to ESG

- Established an ESG Task Force to shape and drive ESG initiatives
- Became UN-supported PRI signatory in Q4 2015
- Increased resources on ESG research
  - Added a Board Quality factor to US Core model in Q3
  - Focused on alpha research, thought leadership, and new products
- Revised proxy voting guidelines to include social issues
- Continue to work with clients to customize portfolios
  - Beyond Fossil Fuel
  - Ex Tobacco, and/or other categories

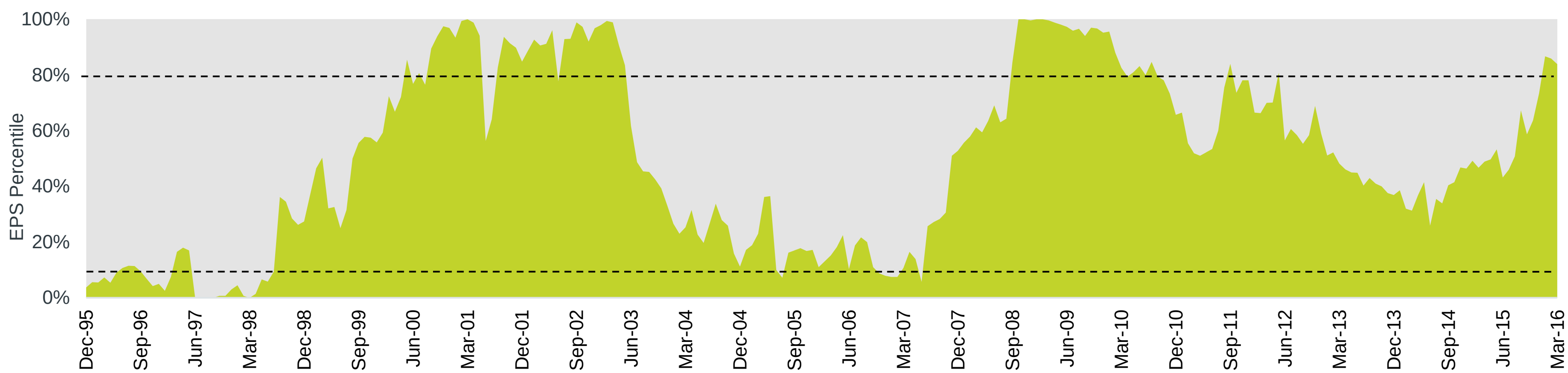
Factor Exposures Vary with Market Conditions

EARNINGS/PRICE SPREAD BETWEEN MOST EXPENSIVE AND CHEAPEST STOCK QUINTILES OF RUSSELL 3000® STOCKS
DECEMBER 1995 – MARCH 2016



Valuation-related factors do well when Earnings/Price spreads are wide,
while Earnings Estimate Revisions pay off better when spreads are narrow

PERCENT RANKING OF EARNINGS/PRICE SPREAD OF RUSSELL 3000® STOCKS
DECEMBER 1995 – MARCH 2016



Source: QMA, Frank Russell Company.
The line plots the difference between the median Earnings to Price (E/P) of the most expensive and cheapest quintiles of Russell 3000® Index, when stocks are ranked on E/P.
Equal weighted monthly returns on E/P, and Estimate Earnings Revision Signal under alternative market conditions. Estimate Earnings Revision Signal is a factor used by QMA that represents a proprietary measure of EPS estimate revisions. The chart shows the percentile rank of the monthly E/P spread with an initial analysis period dating back to February 1987. E/P spread is measured as the percentile ranking of the difference between the highest and the lowest E/P quintiles of Russell 3000® stocks. Please see 'Notes to Disclosure' page for Important Information including risk factors and disclosures. The Russell 3000® Index is a trademark/service mark of the Frank Russell Company. Russell® is a trademark of the Frank Russell Company.

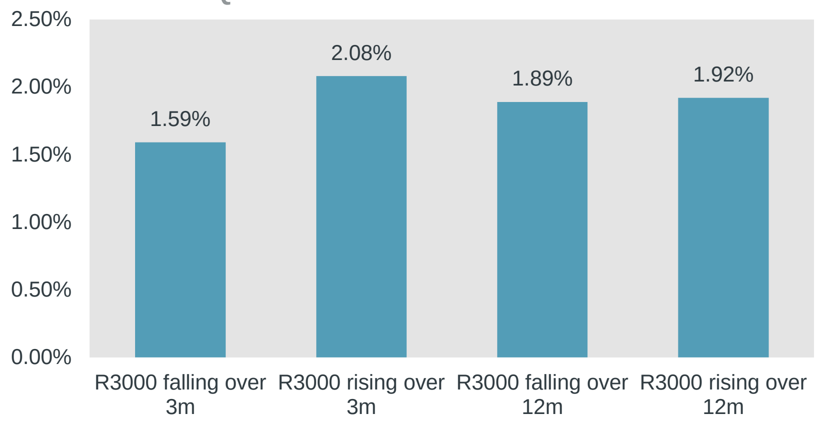
Steady Model Performance Across Different Macro Regimes

(Russell 3000® universe, 1996 – 2013)

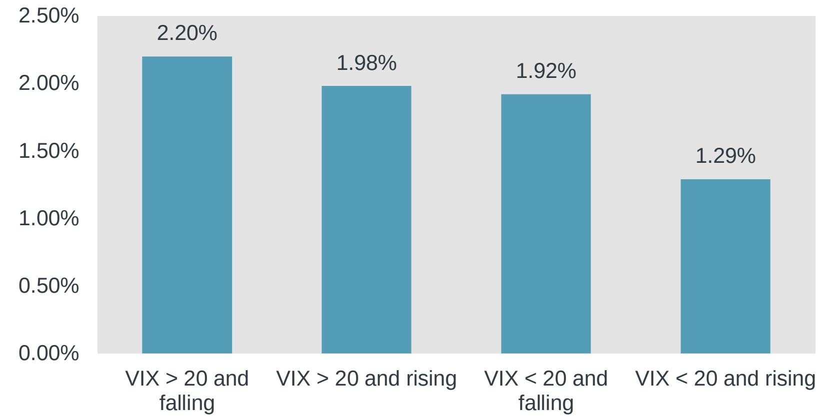
We studied the performance of QMA's model during different macro regimes

- Trailing month spread returns between top and bottom quintiles of stocks ranked by QMA's model
- Macro regimes defined using rolling three-month equity market moves; volatility (VIX); economic cycle (ISM); and interest rates (10Yr Treasury yields)

RETURNS BY EQUITY REGIMES

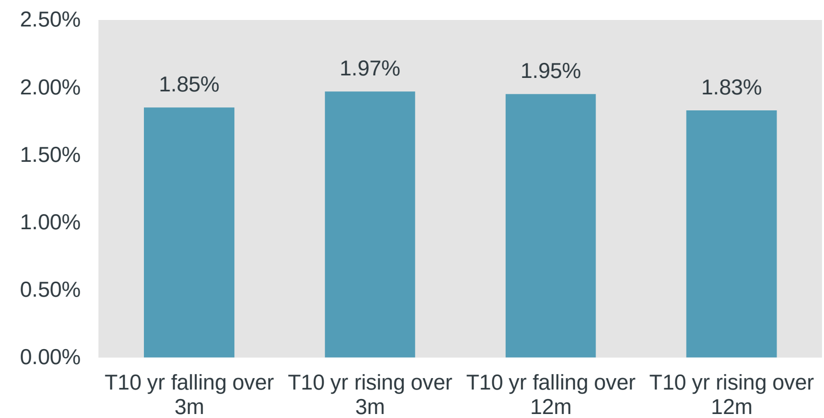


RETURNS BY VIX REGIMES



RETURNS BY ECONOMIC REGIMES

RETURNS BY INTEREST RATE REGIMES

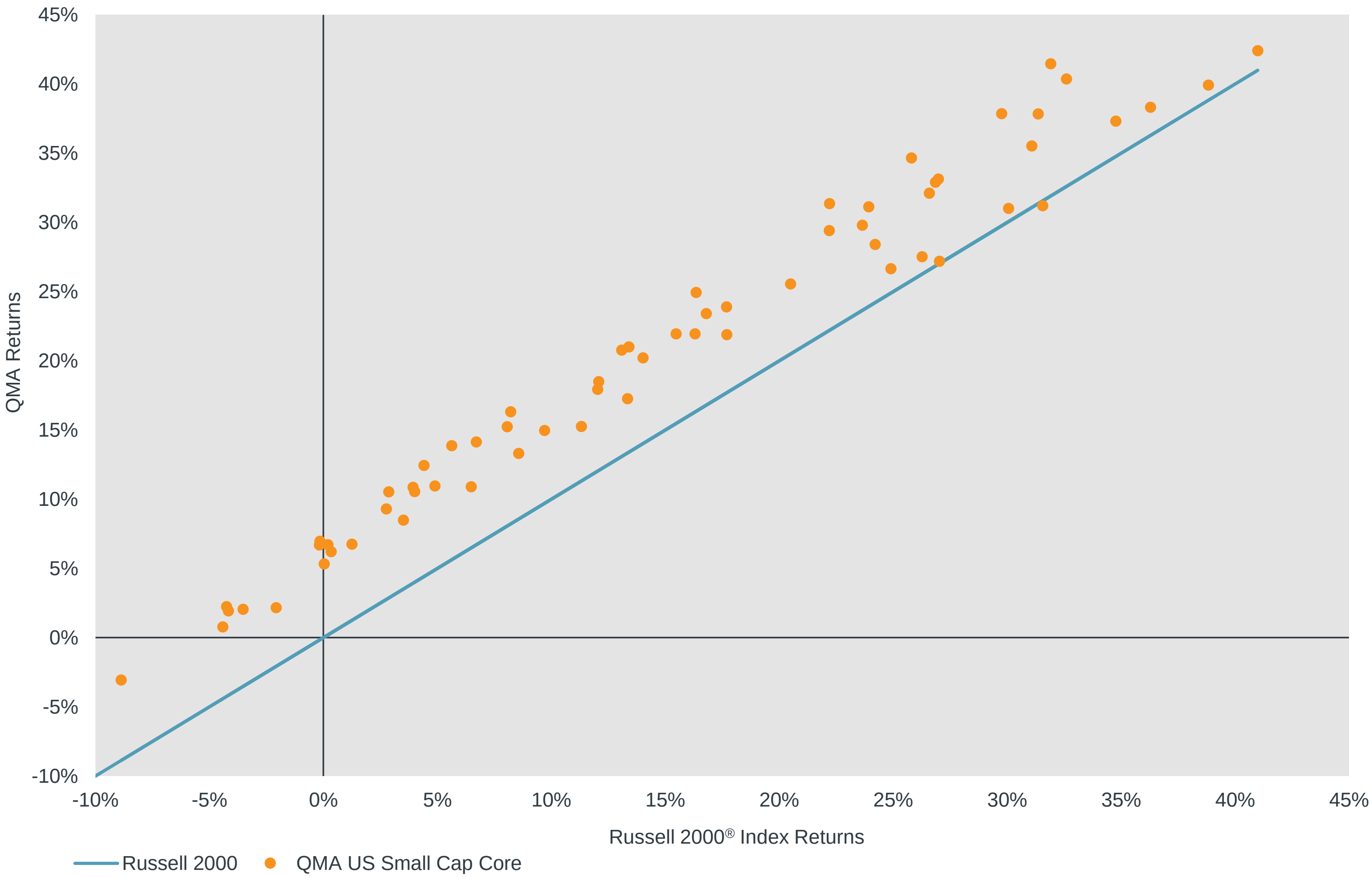


Source: QMA, S&P, Russell Investments, Compustat, Factset, September 2014.
The information presented does not represent the performance of any actual portfolio and is not a guarantee or a reliable indicator of future results. Please see 'Notes to Disclosure' page for Important Information including risk factors and disclosures. The Russell® Indices are trademarks/service marks of the Frank Russell Company. Russell® is a trademark of the Frank Russell Company.

A Steady Return Advantage

QMA US Small Cap Core Equity Composite Relative Gross Excess Returns Relative to the Russell 2000® Index

US SMALL CAP CORE EQUITY ROLLING ONE-YEAR GROSS EXCESS RETURNS RELATIVE TO RUSSELL 2000® INDEX



As of 3/31/2016

Source: QMA, Frank Russell Company.

Shown for illustrative purposes only. Past performance is not a guarantee or a reliable indicator of future results. The Russell 2000® Index is a trademark/ service mark of the Frank Russell Company. Russell® is a trademark of the Frank Russell Company.

Biographies

Senior Management

Scott Hayward is Chairman and Chief Executive Officer of QMA. Scott joined the firm in 2003 as head of Client Relations, with responsibility for relationship management, consultant relations and product and business strategy before becoming CEO in 2005. Previously, Scott was a Managing Director at JP Morgan Asset Management where he led a strategic initiative to build their retirement business and was head of Institutional Client Service and Marketing. Prior to joining asset management, Scott was a Vice President and served in a variety of roles within investment banking, private banking and corporate divisions of JP Morgan & Co. He is a member and former President of the Board of the Reeves-Reed Arboretum, a trustee of Newark Academy, and member of the Executive Board of Give to the World. Scott is a Phi Beta Kappa and magna cum laude graduate of Boston College with a BA in Political Science.

Roy D. Henriksson, PhD, is the Chief Investment Officer of QMA. He has over twenty years experience combining quantitative research with its practical applications in investment portfolios. Prior to joining QMA, Roy was CIO of Advanced Portfolio Management, where he designed and managed customized, risk-targeted investment portfolios for institutional clients globally. He is also currently the co-chairman of the Liquidity Risk Committee and Member of the Advisory Board of the International Association for Quantitative Finance (the IAQF). Previously, Roy held a variety of senior positions in research, trading and product development at a number of large investment banks. His broad product experience spans equity, fixed income, hedge funds, currency, and commodity derivatives.

Roy has published numerous articles on market-timing skill, portfolio optimization and asset allocation in leading journals. A recipient of the Graham and Dodd Award from *The Financial Analysts Journal,* he has held the position of professor of finance at the University of California, Berkeley, where he also served as Senior Consultant to Wells Fargo Investment Advisors and as an advisor to the University of California Endowment. Roy holds a BS in Economics, a MS in Management, and a PhD in Finance, all from Massachusetts Institute of Technology.

Biographies

Portfolio Management and Research

Edmund Bellord is a Managing Director and Senior Researcher for QMA, where his responsibilities include multi-asset research & development for client led asset allocation strategies. Previously Edmund was a senior member of the Asset Allocation team at GMO. Prior to joining GMO in 2008, he was a portfolio manager at State Street Global Advisors Capital Management. Earlier he worked at Mellon Capital Management as a strategist & quantitative researcher for Global Tactical Asset Allocation strategies. Edmund earned his M.A. in Economics from the University of Edinburgh in Scotland and his MBA at the University of California in Berkeley.

Jin Cao is a Quantitative Analyst for QMA, working with the US Core Equity team. Her responsibilities include optimizing and monitoring cash flows, as well as performance attribution and risk analysis. Jin also conducts research for the US Core team, focusing on improvements in stock selection models and implementation. Prior to joining QMA, Jin was a consultant at The Social Science Research Institute, Duke University, where she focused on statistical analysis advisory. She earned a BA in Economics and a BS in Urban Planning from Peking University and a MA in Economics from Duke University.

Daniel Carlucci, CFA, is a Vice President and Portfolio Manager for QMA. Dan manages large-cap and small-cap core equity portfolios as well as domestic and international index funds. He is also responsible for directing QMA's managed account strategies. He previously served as an Investment Analyst with QMA's value equity team, where he assisted with the management of quantitative large-cap institutional portfolios. Dan holds a BS in Finance and an MBA in Finance from Rutgers University and holds the Chartered Financial Analyst (CFA) designation.

Chantal Chuang is a Quantitative Analyst for QMA, working with the US Core Equity team. Her responsibilities include research and analysis. Prior to joining QMA, Chantal was an associate at MetLife Investment where she worked in their Global Economic and Market Strategy Group. Previously, she held roles at The Koos Group and Citigroup Global Markets Taiwan Limited. Chantal earned a BS in Business Administration in Finance from the National University of Taiwan, a MA in Statistics from Yale University and a MS in Computational Finance from Carnegie Mellon University.

Devang Gambhirwala is a Principal and Portfolio Manager for QMA. Devang is primarily responsible for overseeing the US Core Equity long-short and large-cap mandates, and is also responsible for the management of structured products. Earlier at PGIM, Inc., Devang worked as a Quantitative Research Analyst and an Assistant Portfolio Manager. He earned a BS in Computer and Information Sciences from the New Jersey Institute of Technology and an MBA from Rutgers University.

Kenneth Hsu, PhD, is a Researcher for QMA, where he is involved in quantitative research with a focus on portfolio construction and optimization. Previously, he was a Quantitative Researcher within the Emerging Markets group at GMO. Kenneth earned his BS, MS, and PhD in Mechanical Engineering at the University of California Berkeley, with a major emphasis in Control Theory and minors in Mathematics and Financial Engineering.

Edward J. Lithgow is a Portfolio Manager for QMA. He manages domestic and international index funds. In addition, Ed also assists with portfolio management and research for QMA's US Core Equity portfolios. Previously, he was a quantitative analyst for QMA's US Core Equity and Index teams with responsibility for optimizing portfolios, monitoring cash flows as well as performance attribution and risk analysis. Ed also traded equities, currencies, and futures for QMA's index funds. Ed earned a BS in Business Administration from Seton Hall University and an MBA in Finance from St. Joseph's University.

Joshua Livnat, PhD, is a Managing Director for QMA, where he focuses on global accounting research. Previously, he was a Professor of Accounting at NYU's Leonard Stern School of Business. His primary research areas have included capital markets, the effects of various accounting disclosure on stock prices, market anomalies and valuation issues. Joshua co-authored the book "Cash Flow and Security Analysis". He has also been published in many journals, including Journal of Accounting Research, Journal of Accounting & Economics, The Accounting Review, Journal of Finance, Journal of Portfolio Management, and Financial Analysts Journal. Joshua has taught at Vanderbilt University, University of California at Berkeley, Northwestern University and Hebrew University in Jerusalem. He earned a BS in Mathematics and Statistics from Hebrew University and a PhD in Accounting from New York University.

Biographies

Portfolio Management and Research

Stacie L. Mintz, CFA, is a Managing Director and Portfolio Manager for QMA. Stacie is responsible for managing US equity portfolios, including Core, Long Short, and Market Neutral strategies, and overseeing the team responsible for implementation. Previously, Stacie was a member of the asset allocation team, where she was responsible for several retail and institutional portfolios. In addition, during that time, she was responsible for managing the overall asset allocation for the Prudential Pension Plan. She earned a BA in Economics from Rutgers University and an MBA in Finance from New York University and holds the Chartered Financial Analyst (CFA) designation.

Eugenio Ortiz, PhD, is a Researcher for QMA, with a focus on return forecasting and model implementation. Prior to joining QMA, Eugenio worked as a Senior Quantitative Researcher at GMO on the Emerging Markets team, having previously worked with their International team. He earned a BA in Physics from Princeton University and a PhD in Applied Physics from Columbia University.

Patrick Pfeifer, CFA, is a Vice President and Researcher for QMA, with a focus on alpha and implementation research that may be applicable across markets and strategies. Previously, Pat designed, built and managed technology systems to support research and the daily investment process at QMA. He earned a BS in Electrical Engineering from the University of Pennsylvania and an MBA in Quantitative Finance from New York University and holds the Chartered Financial Analyst (CFA) designation.

George Sakoulis, PhD, is a Managing Director and Senior Researcher for QMA, where he focuses on quantitative global macro equity research. Previously, he led quantitative research for the Emerging Markets Equity team at GMO. Prior to that, George served as the director of European equity strategies for Numeric Investors and was a director for UBS O'Connor. George earned a BA in Economics and a BS in Statistics from San Francisco State University, and an MA in Economics and a PhD in Financial Econometrics from the University of Washington.

Satish Sanapareddy, CFA, is a Vice President, Portfolio Manager for QMA. He is responsible for portfolio management and research for US Core portfolios. Previously, Satish focused primarily on stock selection and portfolio construction research on the US Core team, as well as production support for implementation of the core strategy. Satish earned a BS in Engineering from Nagarjuna University of India and an MBA in Finance from Hull University in the UK and holds the Chartered Financial Analyst (CFA) designation.

Gavin Smith, PhD, is a Vice President, Portfolio Manager and Strategist for QMA, working with the US Core Equity team. His responsibilities include portfolio analysis, investment strategy and research. Gavin was previously a member of the Research team where his focus was on alpha and implementation research that could be applied across markets and strategies. Prior to joining QMA, Gavin was at Macquarie Capital where he led the North American Quantitative Research team. During his time at Macquarie he was named Rising Star for Quantitative Research in the Institutional Investor All American Research Survey. Earlier, Gavin was a quantitative researcher in the Quantitative Equity Strategies team at Barclays Capital in New York. Gavin was also a quantitative researcher at Plato Investment Management in Sydney, Australia. There he focused on alpha research within the Australian market. He received his Bachelor of Commerce (Honors) in Finance from the University of Wollongong and his PhD in Finance from the University of New South Wales in Australia.

Margaret S. Stumpp, PhD, is Senior Advisor to QMA. She is extensively involved in quantitative research in asset allocation, security selection and portfolio construction. Maggie previously served as QMA's Chief Investment Officer for over two decades. Maggie has published articles on finance and economics in numerous publications, including The Financial Analysts Journal, The Journal of Portfolio Management, The Journal of Investment Management and Award Papers in Public Utility Economics. Maggie earned a BA cum laude with distinction in Economics from Boston University and holds an AM and PhD in Economics from Brown University.

Allen Sy, is a Researcher for QMA, with a focus on research and investment application development. Prior to joining QMA, Allen worked as an enterprise application developer at BlackRock Financial Management. He earned a BS in Electrical Engineering and Computer Science from the University of California Berkeley

Martin Tarlie, PhD, CFA, is a Managing Director and Senior Researcher for QMA, where his responsibilities include research for quantitative equity and asset allocation strategies. Previously Martin worked at GMO in a variety of research and portfolio management roles. Prior to GMO, Martin worked as a quantitative analyst for Breakwater Trading and as a fundamental equity analyst at Marlin Capital Corp. as the director of research. Martin earned his BS in Physics and Mathematics from the University of Michigan, his MS and PhD in Theoretical Physics from the University of Illinois at Urbana-Champaign, and his MBA from the University of Chicago Graduate School of Business. He was also a Postdoctoral Research Fellow in Theoretical Condensed Matter Physics at the James Franck Institute at the University of Chicago.

Biographies

Portfolio Management and Research

Timothy Wheeler, PhD, is a Researcher for QMA, with a focus on portfolio construction and transaction cost analysis. Prior to joining QMA, Timothy worked as a Quantitative Researcher at GMO. He earned a BS and PhD in Mechanical Engineering from the University of California Berkeley, where he studied dynamical systems and control theory.

Peter Xu, PhD, is a Managing Director for QMA, as well as Head of Research and Portfolio Management for US Core Equity. Peter conducts equity research on alpha factors and portfolio construction, and is responsible for the portfolio management and performance of all US Core equity strategies. He has published articles in a number of journals, including The Financial Analysts Journal, The Journal of Portfolio Management, The Journal of Asset Management, The Journal of Investing, Review of Quantitative Finance and Accounting, and others. Peter earned a BS in Nuclear Physics from Fudan University in Shanghai, an MA in Economics from Rice University, and a PhD in Finance from the University of Houston.

Trading

Richard L. Crist is a Managing Director and Head of Global Trading for QMA, where he is responsible for a team of traders and all aspects of trading in US and International markets for QMA's institutional strategies. The team currently transacts in equities, futures, currencies, ETFs and fixed-income products. Earlier in his career, Rich held various roles in portfolio management, compliance and accounting within the Prudential organization. Rich earned a BS in Accounting from Montclair State University.

Joseph Lombardi is a Senior Associate and Equity Trader for QMA, where he is responsible for trading in US and International markets for QMA's institutional strategies. He currently transacts in equities, futures, currencies, ETFs and fixed-income products. Previously, he held roles in investment operations where he worked on balanced and equity portfolios.

Wataru Yamaguchi is a Vice President and Trader for QMA, where he is responsible for trading in US and International markets for QMA's institutional strategies. He currently transacts in equities, futures, currencies, ETFs and fixed-income products. Prior to joining QMA, Wataru was a Senior Trader for Alphabet Partners Hedge Fund where his trading focused on special situations, merger arbitrage, tenders, event driven and volatility situations. Previously, he held trading roles with Hudson Bay Capital, Perch Bay Group, G&D Trading Company and Timber Hill Trading, LLC. He earned a BA in Economics and a BS in Mechanical Engineering from Massachusetts Institute of Technology.

Biographies

Client Relations & Services

Brad Allinson is a Managing Director and Head of Institutional Client Relations and Business Development for QMA. Prior to joining QMA, he worked as a Principal, directing client relations and business development at State Street Global Advisors. Earlier, he spent nine years at Fidelity Investments, where he was a Senior Vice President responsible for institutional sales and relationship management in the US. He began his career with PaineWebber Properties as an Analyst in 1989. Brad holds a Bachelor of Science in Political Science from Arizona State University.

Kevin O'Rourke, CFA, CAIA, is a Managing Director for QMA where he is responsible for Institutional Client Relations and Business Development. Prior to joining QMA, he was a Managing Director in the institutional division at Turner Investments and was responsible for direct sales to plans while serving as a liaison to institutional investment consultants in the Central and Southeastern United States and Eastern Canada. In addition, Kevin was a Vice President of sales at Walnut Asset Management. He was also previously employed with First Union. Kevin earned a Bachelor of Science in Business Administration at West Virginia University. He is a member of the CFA Institute and the CFA Society of Philadelphia as well as a member of the Chartered Alternative Investment Analyst Association.

Brad Zenz is a Managing Director for QMA where he is responsible for Institutional Client Relations and Business Development. Prior to joining QMA, he was a Director of Institutional Sales with RS Investments. Before that, Brad was with Goldman Sachs where he cultivated relationships with institutions, endowments and foundations. Brad earned a BA from the University of Southern California and a MBA from the Northwestern University Kellogg School of Management.

Kathleen M. Barabas is Principal and Head of Client Services for QMA. Kathy was previously Head of Client Service at JP Morgan Asset Management North America, overseeing a team of client service professionals and product specialists responsible for the assessment, coordination, implementation and delivery of products and services to its US and Canadian Institutional client base. Previously, she worked at Citibank in a variety of roles within the employee benefit services and master trust & custody divisions. Kathy earned a BS in Business Administration from Caldwell University.

Kevin McGrory is a Vice President of Client Services for QMA, where he is responsible for the day to day servicing of our institutional clients, specializing in public and corporate plans. In previous roles at PGIM, Kevin oversaw client relationships and operations for a large union/employer defined benefit pension plan and managed client relationships for the Prudential defined benefit and defined contribution plans. Kevin earned a BA from Seton Hall University.

Aileen Pinto is a Vice President of Client Services for QMA, where she is responsible for the day to day servicing of our institutional clients, specializing in Taft-Hartley plans. Prior to her current assignment, Aileen held various positions within the Prudential organization where she marketed life insurance products for purposes of Business Planning, Retirement Planning, Estate Planning and Personal Planning. Aileen earned a BA from Kean University.

Jonathan Ryan is a Vice President of Client Services for QMA, where he is responsible for the day to day servicing of sub-advisory relationships. Prior to this, he developed relationships with investment consultants throughout the U.S. as a member of QMA's Consultant Relations team. Earlier in his career, Jonathan held various positions in finance and expense management with Prudential Financial. He earned a BA in Economics from the State University of New York at Potsdam and an MBA in Finance from Seton Hall University.

Biographies

Consultant Relations

Bill Parker is a Managing Director and Head of Global Consultant Relations for QMA. Prior to joining QMA, he was a Partner at Lord Abbett responsible for institutional client and consultant relations and business development. Previously at Lord Abbett, Bill was Director of Client Portfolio Management and Senior Director of Due Diligence. Before that, he was a Vice President of Consultant Relations at Deutsche Asset Management, Consultant Relations Officer at Sanford C. Bernstein & Co., Senior Analyst at New England Pension Consultants and an analyst at Electric Mutual, a subsidiary of GE. Bill earned a BA from Westminster College and an MBA from Salem State College. He also holds a Certificate in Advanced Management (CAM) from Babson College.

Timothy Crist, CFA, is a Principal for QMA, where he is responsible for Consultant Relations. Prior to joining QMA, he marketed Prudential Financial's institutional investment products and managed relationships with major pension funds, endowments, and financial institutions in the US. Tim has also headed Prudential Financial's Issues Management group, provided staff support to the company's Chairman and Vice Chairman, and marketed its investment products to institutions in Japan, Canada, and Australia. He earned a BA *magna cum laude* from Yale University, a PhD in History from Cambridge University, and an MBA in Finance from New York University. He also holds the Chartered Financial Analyst (CFA) designation.

Daniel Porter is a Principal for QMA, where he is responsible for Consultant Relations. Prior to joining QMA, he was a Managing Director at Janus Capital Group responsible for direct plan sponsors sales, consultant relations and business development. Previously, Dan was a Managing Director at MacKay Shields, where he started and led the Consultant Relations team. Before that, he was a Senior Consultant at DeMarche Associates. Earlier in his career, Dan was a floor trader at Geldermann Commodities and traded at the Kansas City Board of Trade. He earned a BSBA from Pittsburgh State University and an MBA from Rockhurst University.

Notes to Disclosure

IMPORTANT INFORMATION

The information contained herein is provided by Quantitative Management Associates LLC ("QMA"). This document may contain confidential information and the recipient hereof agrees to maintain the confidentiality of such information. Distribution of this information to any person other than the person to whom it was originally delivered and to such person's advisers is unauthorized, and any reproduction of these materials, in whole or in part, or the divulgence of any of its contents, without the prior consent of QMA, is prohibited. These materials are not intended for distribution to or use by any person in any jurisdiction where such distribution would be contrary to local law or regulation. Certain information in this document has been obtained from sources that QMA believes to be reliable as of the date presented; however, QMA cannot guarantee the accuracy of such information, assure its completeness, or warrant such information will not be changed. The information contained herein is current as of the date of issuance (or such earlier date as referenced herein) and is subject to change without notice. QMA has no obligation to update any or all such information; nor do we make any express or implied warranties or representations as to the completeness or accuracy. Any information presented regarding the affiliates of QMA is presented purely to facilitate an organizational overview and is not a solicitation on behalf of any affiliate. **These materials are not intended as an offer or solicitation with respect to the purchase or sale of any security.**

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The basis for the performance objective set forth within this presentation is QMA's research and its long experience in managing equity accounts that use quantitative methods to drive stock selection and portfolio construction. There can be no guarantee that this objective will be achieved. QMA has based this investment objective on certain assumptions that it believes are reasonable. There is no guarantee, however, that any or all of such assumptions will prove to be accurate in the face of actual changes in the securities market or other material changes in regional or local markets specific to this strategy. Factors that would or could mitigate against achieving this investment objective would include material changes in the economic environment and factors that are not included in our model or are underperforming in our model. The investment objective contemplated herein is over a complete market cycle which is generally between five and ten years for this strategy. The investment objective set forth above is calculated gross of management fees. Had such fees been taken into account, the investment objective indicated would be lower.

Enhancements represent the results of ongoing research initiatives intended to continually advance the design of QMA's model. An enhancement or collection of enhancements does not constitute a material change to QMA's investment philosophy or strategy unless otherwise communicated to all clients.

Investing in securities involves risk of loss that investors should be prepared to bear. In addition, model-based strategies present unique risks that may result in the model's not performing as expected. These risks include, for example, design flaws in the model; input, coding or similar errors; technology disruptions that make model implementation difficult or impossible; and errors in externally supplied data utilized in models. To the extent that portfolio manager judgment is applied to model output, decisions based on judgment may detract from the investment performance that might otherwise be generated by the model. No investment strategy or risk management technique can guarantee returns or eliminate risk in any market environment.

The financial indices referenced herein are provided for informational purposes only. The manager's holdings and portfolio characteristics may differ from those of the benchmark(s). Additional factors impacting the performance displayed herein may include portfolio-rebalancing, the timing of cash flows, and differences in volatility, none of which impact the performance of the financial indices. Financial indices assume reinvestment of dividends but do not reflect the impact of fees, applicable taxes or trading costs which may also reduce the returns shown. You cannot invest directly in an index. The statistical data regarding such indices has been obtained from sources believed to be reliable but has not been independently verified. Zephyr is an outside vendor whose software has been used to create this exhibit. QMA pays a fee for this software. QMA has made efforts to confirm accuracy/reliability of the data provided by Zephyr but we disclaim responsibility for its accuracy or completeness.

References to specific securities and their issuers are for illustrative purposes only and are not intended and should not be interpreted as recommendations to purchase or sell such securities. The securities referenced may or may not be held in portfolios managed by QMA and, if such securities are held, no representation is being made that such securities will continue to be held.

These materials do not purport to provide any legal, tax or accounting advice.

QMA Notes to Performance

Net Return Disclosures

US Core Equity - The since inception gross performance for QMA's US Core Equity as of 3/31/2016 would have been reduced from 8.33% to 7.95%, if netted by QMA's highest advisory fee in effect for the strategy.

US Mid Cap Core Equity - The since inception gross performance for QMA's US Mid Cap Core Equity as of 3/31/2016 would have been reduced from 12.48% to 11.87%, if netted by QMA's highest advisory fee in effect for the strategy.

US Small Cap Core Equity - The since inception gross performance for QMA's US Small Cap Core Equity as of 3/31/2016 would have been reduced from 16.66% to 15.92%, if netted by QMA's highest advisory fee in effect for the strategy.

US Core Equity Extended - The since inception gross performance for QMA's US Core Equity Extended as of 3/31/2016 would have been reduced from 8.96% to 8.25%, if netted by QMA's highest advisory fee in effect for the strategy.

US Long/Short Equity - The since inception gross performance for QMA's US Long/Short Equity as of 3/31/2016 would have been reduced from 9.49% to 7.78%, if netted by QMA's highest advisory fee in effect for the strategy.

US Market Neutral - The since inception gross performance for QMA's US Market Neutral as of 3/31/2016 would have been reduced from 5.07% to 3.38%, if netted by QMA's highest advisory fee in effect for the strategy.

US Market Neutral Levered - The since inception gross performance for QMA's US Market Neutral Levered as of 3/31/2016 would have been reduced from 6.72% to 4.55%, if netted by QMA's highest advisory fee in effect for the strategy.

Investment advisory fees are described in Form ADV Part 2A or in the client contract.

Index Descriptions

The S&P 500 Index is an unmanaged index of 500 common stocks, weighted by market capitalization, representing approximately 75% of the New York Stock Exchange. The value-weighted index represents about 75% of the NYSE market capitalization and 30% of the NYSE issues.

The S&P 400 MidCap Index is a capitalization-weighted index that measures the performance of mid-range sector U.S. stocks where median market capitalization is $700 million. It consists of 400 domestic stocks chosen for market size, liquidity, and industry group representation.

The Russell 2000® Index measures the performance of the 2,000 smallest companies in the Russell 3000® Index, which represents approximately 8% of the total market capitalization of the Russell 3000® Index. Dividend income is reinvested.

The Russell 1000® Index measures the performance of the 1,000 largest companies in the Russell 3000® Index, which represents approximately 90% of the total market capitalization of the Russell 3000® Index. Dividend income is reinvested.

The Citigroup U.S. Treasury 3 Month T-Bill Index is an average of the last three three-month Treasury bill month-end rates. Returns for this index are calculated on a monthly basis. The index reflects no deduction for fees, expenses or taxes. Source of the Citigroup U.S. Treasury 3 Month T-Bill Index: Citigroup.

The US 30 Day T-Bills are US Treasury bills that mature in 30 days or less. A short-term debt obligation backed by the U.S. government with a maturity of less than one year. T-bills are sold in denominations of $1,000 up to a maximum purchase of $5 million. Treasury bills are known as a zero coupon, or discount security, since it pays the interest and principal at maturity.

US Small Cap Core Equity Composite

US Small Cap Core Equity Composite
October 1, 2009 to December 31, 2014

Annual Returns for periods ended December 31

Year	Gross Return	Net Return	Russell 2000® Index	Composite 3-Yr St Dev	Benchmark 3-Yr St Dev	Number of Portfolios	Internal Dispersion	Composite Market Value (in millions)	Firm Assets (in millions)
2009*	3.54%	3.37%	3.87%	NR	NR	5 or less	NM	$21.3	$70,162.1
2010	32.91%	32.07%	26.85%	NR	NR	5 or less	NM	$18.0	$79,735.3
2011	1.93%	1.27%	-4.18%	NR	NR	5 or less	NM	$15.4	$70,564.6
2012	24.94%	24.15%	16.35%	20.55%	20.48%	5 or less	NM	$18.3	$86,274.3
2013	39.90%	39.02%	38.82%	17.58%	16.68%	5 or less	NM	$366.1	$109,742.9
2014	10.95%	10.24%	4.89%	13.39%	13.31%	5 or less	NM	$419.2	$113,073.6

* The returns shown are for the period October 1, 2009 through December 31, 2009.
NR Not Required
NM Not meaningful when there are less than or equal to 5 accounts in the composite for the full year.

Annualized Returns

As of December 31, 2014	Gross Return	Net Return	Russell 2000® Index
1 Year	10.95%	10.24%	4.89%
3 Year	24.71%	23.91%	19.21%
Inception October 1, 2009	20.99%	20.22%	15.58%

Quantitative Management Associates LLC (QMA) claims compliance with the Global Investment Performance Standards (GIPS®) and has prepared and presented this report in compliance with the GIPS standards. QMA has been independently verified for the period from January 1, 1993 to December 31, 2014.

Verification assesses whether (1) the firm has complied with all the composite construction requirements of the GIPS standards on a firm-wide basis and (2) the firm's policies and procedures are designed to calculate and present performance in compliance with the GIPS standards. The US Small Cap Core Equity Composite has been examined for the period from October 1, 2009 to December 31, 2014. The verification and performance examination reports are available upon request.

Notes

1. Quantitative Management Associates (QMA), an SEC-registered investment advisor, is a wholly-owned subsidiary of Prudential Investment Management, Inc. (PIM), a Prudential Financial, Inc. company. In 2008, QMA redefined the firm to include assets managed through wrap fee programs (QMA Managed Accounts) for all periods after January 1, 2006. Prudential Financial, Inc. of the United States is not affiliated in any manner with Prudential plc, a company incorporated in the United Kingdom.
2. Effective April 2013, the name of the composite was changed from Small Company Quantitative Core Equity Composite to US Small Cap Core Equity Composite. The US Small Cap Core Equity Composite includes all portfolios whose investment strategy is to outperform the Russell 2000® Index in a risk-managed manner. This composite was created on October 1, 2009.
3. A list of composite descriptions and policies for valuing portfolios, calculating performance and preparing compliant presentations are available upon request.
4. Performance results are stated gross and net of model fees. Performance has been calculated in US dollars and reflects the reinvestments of dividends and other earnings. Returns for each client will be reduced by such fees and expenses as described in their individual contract. The fee schedule currently in effect is as follows: .65% on the first $50 million, .60% on the next $50 million and .55% thereafter. Actual advisory fees charged and actual account minimum size may vary by account due to various conditions described in QMA's Form ADV 2A. Net returns are calculated by deducting the highest tier of the QMA fee schedule in effect for the respective time period from the monthly gross composite return. The composite shown may include accounts that are group annuity or life insurance products issued by The Prudential Insurance Company of America. The three-year annualized ex-post standard deviation measures the variability of the composite and the benchmark returns over the preceding 36-month period. It is not required to be presented for annual periods prior to 2011 or when a full three years of composite performance is not yet available. The internal dispersion of annual returns is measured by the asset-weighted standard deviation of portfolio returns included in the composite for the entire year. The annualized return is equivalent to the annual return which, if earned in each year of the indicated multi-year period, would produce the actual cumulative return over the time period. Past performance is not a guarantee or a reliable indicator of future results.
5. The benchmark for this composite is the Russell 2000® Index. The Russell 2000® Index measures the performance of the 2,000 smallest companies in the Russell 3000® Index, which represents approximately 10% of the total market capitalization of the Russell 3000® Index. Dividend income is reinvested. Source of the Russell 2000® Index: Russell Investments. Russell 2000® Index is a trademark/service mark of the Frank Russell Company. Russell® is a trademark of the Frank Russell Company. The manager's holdings and portfolio characteristics may differ from those of the benchmark(s). Additional factors impacting the performance displayed herein may include portfolio-rebalancing, the timing of cash flows, and differences in volatility, none of which impact the performance of the financial indices. Financial indices assume reinvestment of dividends but do not reflect the impact of fees, applicable taxes or trading costs which may also reduce the returns shown. You cannot invest directly in an index. The statistical data regarding such indices has been obtained from sources believed to be reliable. Benchmark returns are not covered by the report of independent verifiers.
6. Small-cap stocks have limited marketability and may be subject to more abrupt or erratic market movements than large-cap stocks.

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
Board of Retirement

July 27, 2016 | Agenda Item 6.5

TO: Board of Retirement

Mnl R Coultrip

FROM: Michael Coultrip, Chief Investment Officer

SUBJECT: Approval of Liquid Real Asset Pool Implementation

Staff Recommendation

Approve staff and consultant's recommendation to move SamCERA's current commodity exposure (approximately $85-90 million) to a new custom liquid real asset strategy managed by State Street Global Advisors (SSgA).

Background

During the March meeting, the Board approved establishing a dedicated "Inflation Hedge" portfolio within SamCERA's asset allocation that would combine all of its inflation-sensitive assets under a single asset class in order to better monitor the plan and to simplify the asset allocation.

Determining the optimal sizing and composition of the this newly formed Inflation Hedge portfolio was going to be the next step in the process, as part of the ongoing asset-liability study. However, the recent closure of the SSARIS Commodity Strategy forced SamCERA to temporarily roll its commodity exposure to its overlay manager, Parametric. While this was a reasonable short-term solution, staff and consultant believe that implementing a more permanent Liquid Pool portion of the Inflation Hedge portfolio has become a higher priority.

Discussion

Staff and consultant recommend switching SamCERA's current commodity exposure to a customized liquid real assets strategy managed by SSgA. This liquid pool will offer a passive implementation that will provide relatively inexpensive (19 bps all-in fee) beta exposure to an equal allocation to commodities, listed natural resources equities, and listed infrastructure equities. The proposed implementation will be a separate account whereby SSgA will rebalance the portfolio semi-annually across the three index portfolios listed above.

The attached documents provide more information about this recommendation. John Nicolini (Verus) will present this topic to the Board and will be available to address any questions.

Attachments

A- Verus Recommendation for Liquid Real Asset Pool Implementation
B- SSgA Custom Liquid Pool Investor Presentation
C- SSgA Custom Liquid Pool Due Diligence Questionnaire

Verus

Memorandum

To: SamCERA

From: John Nicolini

Date: July, 2016

RE: SamCERA Liquid Real Asset Pool Implementation

Executive Summary

In March, Verus and SamCERA staff recommended a plan for how we would alter the real asset portfolio within the SamCERA portfolio. As a reminder, we recognized that performance within the real asset portfolio was not meeting expectations while also carrying a considerable amount of volatility. Staff and Verus presented an alternative that would seek to reduce the market volatility within the portfolio, while also targeting a substantially higher expected return. The plan put forward would involve moving the portfolio away from a commodity futures heavy allocation and into both a diversified private markets portfolio and a liquid portfolio that would allocate to commodities, natural resources and infrastructure. A key factor in our recommended move towards infrastructure and natural resources and away from commodities are the following return expectations derived from Verus (formerly SIS expectations).

Asset Class	Ten Year Return Forecast	Standard Deviation Forecast
US TIPS	2.7%	5.5%
Commodities	4.0%	30.0%
Natural Resources	7.5%	24.0%
Infrastructure	5.5%	21.0%

On a forward expected return basis, we don’t feel that clients will be compensated for the risk they assume within commodities. We will be evaluating the position within TIPS following the results from the asset liability study.

In order to shift the existing real asset portfolio towards the new allocation, several steps would need to be taken. The first step was to consolidate commodities, TIPS, real estate and private real assets into a single real asset class structure called “Inflation Hedge”. After the Board’s approval of this consolidation plan in March, EnCap Energy and Sheridan Energy were shifted from the private equity portfolio into the private real asset portfolio, and the commodities, real estate and TIPS were incorporated into a single pool of assets.

Current Asset Allocation Structure

Asset Class	Target Allocation
Total US Equity	28%
Large Cap Equity	*24%*
Small Cap Equity	*4%*
Total International Equity	20%
International Equity	*16%*
International Small Cap Equity	*2%*
Emerging Market Equity	*2%*
Total Fixed Income	20%
Core	*10%*
Opportunistic Credit	*5%*
TIPS	***2%***
Global Fixed Income	*3%*
Risk Parity	8%
Real Estate	**7%**
Total Alternatives	17%
Private Equity	*7%*
Private Real Assets	***2%***
Commodities	***3%***
Absolute Return/Hedge Funds	*5%*
Total	**100%**

Asset Allocation Structure w/ Inflation Hedge

Asset Class	Target Allocation
Total US Equity	28%
Large Cap Equity	*24%*
Small Cap Equity	*4%*
Total International Equity	20%
International Equity	*16%*
International Small Cap Equity	*2%*
Emerging Market Equity	*2%*
Total Fixed Income	18%
Core	*10%*
Opportunistic Credit	*5%*
Global Fixed Income	*3%*
Risk Parity	8%
Total Alternatives	12%
Private Equity	*7%*
Absolute Return/Hedge Funds	*5%*
Inflation Hedge	**14%**
TIPS	***2%***
Real Estate	***7%***
Private Real Assets	***2%***
Commodities	***3%***
Total	**100%**

The second stage in the process was to determine the total size of the inflation pool along with optimizing all the constituent parts (i.e. real estate, private real assets, commodities and TIPS). These items were to be derived from the ongoing asset liability study ("A/L Study") that Verus is conducting. The new inflation pool has one meaningful change in the interim relative to the current SamCERA allocation and that is the creation of a Liquid Pool that serves as a market proxy for unfunded private real asset investments. Implementing the Liquid Pool is fairly straightforward; SamCERA would redeem the Commodities allocation and use those proceeds to implement a liquid real asset pool.

However, with the recent shutdown of the SSARIS Commodity Strategy, SamCERA was forced to roll the commodity exposure into a passive commodity allocation managed by Parametric (SamCERA's overlay provider). While this was a reasonable, temporary solution, Verus and Staff felt that implementing the Liquid Pool became a more urgent priority for SamCERA. Because the proposed Liquid Pool implementation has daily liquidity, SamCERA can easily add to and/or redeem from the strategy if the A/L Study alters the weighting within real assets. There will be no penalty for changing the allocation size, thus minimizing any risk in shifting the implementation of the Liquid Pool ahead of the final A/L study results.

The two charts below show how the current SamCERA Inflation Pool is allocated and how the current allocations to commodities would fund a Liquid Pool. Verus and Staff plan to present a Target Inflation Pool to the board for final implementation once we have the A/L Study complete. For now, the Liquid Pool is simply replacing the commodities allocation within the current "Inflation Hedge" portfolio.

Asset Allocation Structure W/ Inflation Hedge

Asset Class	Target Allocation
Total U.S. Equity	28%
Large-Cap Equity	24%
Small-Cap Equity	4%
Total International Equity	20%
International Equity	16%
International Small-Cap Equity	2%
Emerging Market Equity	2%
Total Fixed Income	18%
Core	10%
Opportunistic Credit	5%
Global Fixed Income	3%
Risk Parity	8%
Alternatives	12%
Private Equity	7%
Absolute Return/Hedge Funds	5%
Inflation Hedge	14%
TIPS	2%
Real Estate	7%
Private Real Assets	2%
Commodities	3%

Asset Allocation Structure W/ Inflation Hedge

Asset Class	Target Allocation
Total U.S. Equity	28%
Large-Cap Equity	24%
Small-Cap Equity	4%
Total International Equity	20%
International Equity	16%
International Small-Cap Equity	2%
Emerging Market Equity	2%
Total Fixed Income	18%
Core	10%
Opportunistic Credit	5%
Global Fixed Income	3%
Risk Parity	8%
Alternatives	12%
Private Equity	7%
Absolute Return/Hedge Funds	5%
Inflation Hedge	14%
TIPS	2%
Real Estate	7%
Private Real Assets	2%
Liquid Pool	3%

The Liquid Pool is meant to be a drawdown facility that will fund future private real asset investments. Replacing the existing Commodity exposure with the Liquid Pool will provide a more diversified set of exposures within real assets and enhance the expected returns to SamCERA.

It will take several years for the private real asset sleeve to be built-out, so in the interim, the Liquid Pool will provide market exposure to the underlying asset classes that SamCERA will seek to invest on a private markets basis. As commitments are made to private funds, the capital will be drawn down on the Liquid Pool till the portfolio reaches the target allocation (which will be determined as part of the A/L study)

The Liquid Pool will consist of an equal allocation to commodities, listed natural resources equities and listed infrastructure equities. The Liquid Pool will be invested in passive investment vehicles that will provide inexpensive beta exposure to the real asset sub-markets. Verus and Staff decided that passive exposure was the preferred route as we view the active universe in these asset classes to be unduly expensive, with a limited opportunity set in terms of security selection and a manger universe that is still quite nascent. Furthermore, when we review active strategies within the infrastructure and natural resources sectors, it was evident that each manager had a unique definition of what securities were available within their respective asset classes. Passive exposure was the best way to ensure we were receiving the market exposures we were after. In deciding that passive exposure was the optimal way to execute the Liquid Pool, it limited the available universe of investment managers that could provide exposure to all three asset classes using institutional vehicle structures. After speaking with Blackrock, Mellon, Northern Trust and SSgA, we quickly determined that SSgA was the only manager with institutional commingled funds available in listed natural resources and listed infrastructure. The other investment managers offered solutions utilizing ETFs which are several times more expensive than the SSgA commingled funds. Further, SSgA has offered to manage the Liquid Pool as a custom account, rebalancing on a semi-annual basis for no additional fee.

SamCERA Plan Benchmark		
Asset Class	**Current**	**Proposed w/ Liquid Pool**
Public Equity	**48%**	**48%**
Russell 1000 Index	*24%*	*24%*
Russell 2000 Index	*4%*	*4%*
MSCI ACWI x US IMI	*20%*	*20%*
Fixed Income	**18%**	**18%**
BC Aggregate Index	*10%*	*10%*
BC BA Inter. High Yield	*5%*	*5%*
BC Multiverse Index	*3%*	*3%*
Risk Parity	**8%**	**8%**
60% Russell 3000 / 40% BC Aggregate	*8%*	*8%*
Alternatives	**12%**	**12%**
Russell 3000 + 3%	*7%*	*7%*
LIBOR + 4%	*5%*	*5%*
Inflation Hedge	**14%**	**14%**
BC US TIPS Index	*2%*	*2%*
Bloomberg Commodity Index	*3%*	*0%*
CPI + 5%	*2%*	*0%*
*Custom Real Asset Index**	*0%*	*5%*
NCREIF ODCE	*7%*	*7%*

*Index comprised of 33% Bloomberg Commodity Roll Select Index, 33% S&P Global LargeMid Commodities Index, and 33% S&P Global Infrastructure Index.

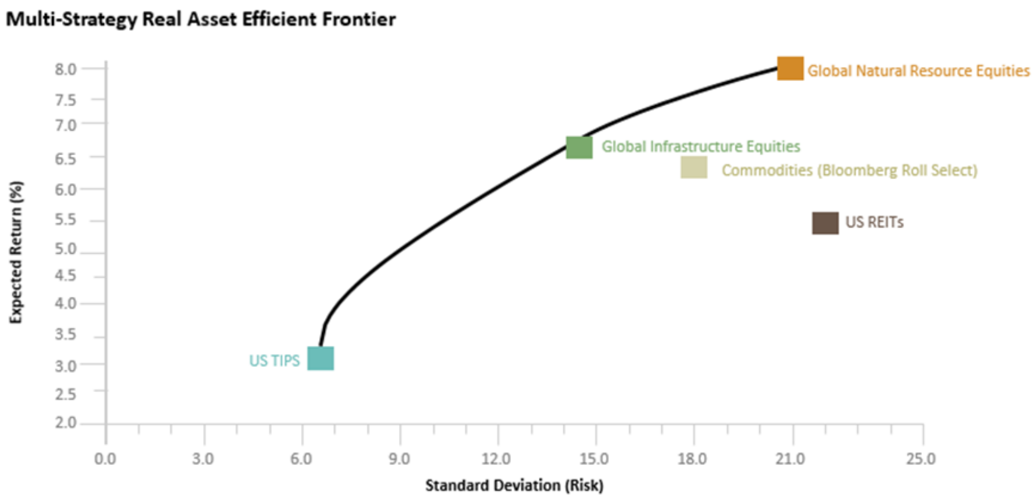
Custom Liquid Pool Implementation and Performance

SSgA will be managing an equal weighted portfolio of commodities, listed global natural resource equities and listed global infrastructure equities. The Investment Solutions Group within SSgA will be managing the custom account on behalf of SamCERA. This group is led by Mike Martel, who has 23 years of investment experience. SamCERA's account will have a lead and back-up portfolio manager assigned to it and will be managed by either Rob Guiliano or John Gulino on a lead and or back-up basis. Rob and John serve as portfolio managers for the SSgA Real Asset Strategy as well. SSgA has proposed a 19bps "all-in" flat fee for SamCERA (inclusive of the management fees for the underlying products) to manage the custom Liquid Pool. This will include semi-annual rebalancing between the three strategies, providing daily liquidity to SamCERA and performance reporting against a custom blended benchmark.

Product information on each of the three strategies is below, along with some back-tested performance information.

	Bloomberg Commodity Roll Select	S&P Global Natural Resources Index	S&P Global Infrastructure Index
Fees	19bps flat fee	19bps flat fee	19bps flat fee
Liquidity	daily	Daily	daily
Currency	USD	Unhedged	Unhedged
Replication Methodology	Swaps	Full Replication	Full Replication
Sector Exposure	Energy – 32% Metals – 31% Agriculture – 31% Livestock – 6%	Energy – 33% Materials – 33% Agriculture – 33%	Utilities – 43% Industrials – 42% Energy – 15%
Country Exposure	N/A	US – 36% UK – 15% Canada – 13% Australia – 8% Switzerland – 6% Other – 22%	US – 35% Australia – 10% Spain – 10% Canada – 8% Italy – 7% Other – 30%
Targeted Tracking Error to Index	40bps	20bps	15bps

Below is an efficient frontier that SSgA constructed of various asset classes commonly utilized within real assets. We would note the low expected return of TIPS and relatively poor risk/return assumption within US REITs. Though we acknowledge the higher risk associated with global natural resources equities, we think in a blended portfolio, they provide an attractive return enhancement, especially given current valuations in the asset class.



Below is simulated performance for the SamCERA Custom Real Assets strategy that we had SSgA run to see how the portfolio would have performed relative to an investment in commodities. The custom portfolio assumes semi-annual rebalancing which will mimic the rebalancing methodology that SSgA will implement for SamCERA. We want to emphasize that this is back-tested performance so a certain level of suspicion is always warranted. That said, we believe that the mix of strategies included should substantially outperform a pure commodity strategy going forward.

AS OF MAY 31, 2016 (USD)	YTD	1 Year	3 Years	5 Years	7 Years	Since Inception
San Mateo Custom Real Assets	11.7%	-11.4%	-4.4%	-4.8%	1.9%	1.0%
Bloomberg Commodity Index	8.8%	-15.3%	-13.2%	-12.5%	-5.2%	-6.2%
Value Added	+2.9%	+3.9%	+8.8%	+7.7%	+7.1%	+7.2%

Inception Date: December 31, 2006
Gross of Fees Performance Shown

We also looked at a series of risk and correlation stats for the custom real asset portfolio relative to traditional asset classes. The volatility of the custom portfolio is slightly above that of the S&P 500 but below that of the commodity index. Commodities and natural resource equities tend to carry higher volatility than the broader equity index, while the infrastructure asset class tends to exhibit less risk than the S&P 500. We are giving up some correlation benefits to the equity index by including listed equities in the portfolio as exhibited by the higher correlation figures and beta to the S&P 500, relative to a pure commodity allocation. However, we feel that the increased return expectation and lower risk more than offsets the reduced diversification benefits. Lastly, the portfolio maintains a high beta to US Inflation which still remains the primary goal within real assets.

PERFORMANCE STATS	SAMCERA CUSTOM REAL ASSETS	BLOOMBERG COMMODITY INDEX
Standard Deviation (7 Year)	14.8%	15.3%
Correlation to S&P 500 Index	0.75	0.30
Correlation to BC AGG Index	0.15	0.04
Correlation to BCOM Index	0.89	1.00
Beta to CPI	3.9	4.4
Beta to S&P 500	0.86	0.45

Recommendation

Verus recommends that SamCERA move a total of approximately $85-90 million to a new SamCERA Custom Liquid Real Asset Strategy managed by SSgA. The source of the monies will be from liquidating the Commodities position (approx. $85 million). In addition, we will look to apply the unfunded commitments in Private Real Assets to this strategy as well pending the results of the Asset Liability Study.

Appendix:

Comparison of SamCERA Current Policy Index vs the Policy Index with the Liquid Inflation Pool in place of Commodities

PERFORMANCE STATS	SAMCERA CURRENT POLICY INDEX	SAMCERA POLICY INDEX WITH LIQUID POOL
1 Year Return	-0.3%	-0.2%
3 Years Return	6.2%	6.5%
5 Years Return	6.7%	7.0%
7 Years Return	9.8%	9.8%
Standard Deviation (7 Year)	8.9	9.0
Beta to S&P 500	0.7	0.7
Beta to CPI	1.2	1.1

Additional Performance and Risk Stats on the underlying Liquid Pool Indices

PERFORMANCE STATS	*S&P GLOBAL NATURAL RESOURCES	S&P GLOBAL INFRASTRUCTURE	BLOOMBERG COMMODITY
1 Year Return	-15.2%	-5.0%	-17.5%
3 Years Return	-5.8%	5.1%	-13.8%
5 Years Return	-6.9%	5.2%	-13.3%
7 Years Return	-0.7%	11.1%	-3.5%
Standard Deviation (7 Year)	20.9%	13.9%	16.1%
Correlation to S&P 500 Index	0.7	0.8	0.3
Correlation to BC AGG Index	0.0	0.2	0.0
Correlation to BCOM Index	0.8	0.6	1.0
Beta to CPI	2.8	1.4	4.4
Beta to S&P 500	1.0	0.8	0.5

* Index shown differs from actual index being used in the Custom Liquid Portfolio (S&P Global LargeMid Commodities)

SSGA Custom Real Asset Strategy for SamCERA

STATE STREET GLOBAL ADVISORS

CMINST-13799

Real Assets — Overview and Potential Benefits

Real assets may offer multiple portfolio benefits

- What are real assets?

Real Assets	Examples
Commodities	Oil, Gold, Copper, Soybeans, Cattle
Global Natural Resource Stocks	Oil & Gas, Energy & Equipment Services, Metal & Mining, Paper and Forest Products
Infrastructure	Toll Roads, Ports, Airports, Utility (Elec, Gas, Water) Distribution
Real Estate	Direct, Equity REITS, Mortgage REITS, Hybrid REIT
Inflation-Linked Bonds	TIPS, ILG (UK Inflation-linked Gilts), OATi/OAT€i (France)
Precious Metals	Gold, Silver, Platinum
Renewable Resources	Forest and Forest Products, Water, Solar and Wind Power
Collectables	Artwork, Coins, Cars
Floating-Rate Loans	Leveraged Loans

- Why consider incorporating them into your portfolio?
  - Inflation protection potential
  - Diversification
  - Additional sources of absolute return
  - Source of income

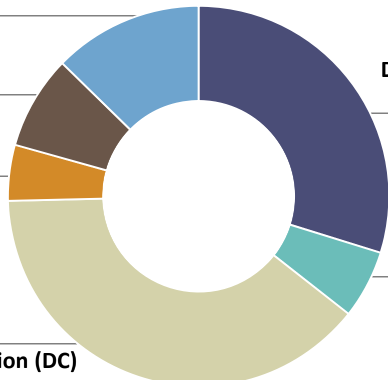
Source: SSGA's Investment Solutions Group.
Diversification does not ensure a profit or guarantee against loss.

SSGA Real Asset Strategies — US-Managed Clients

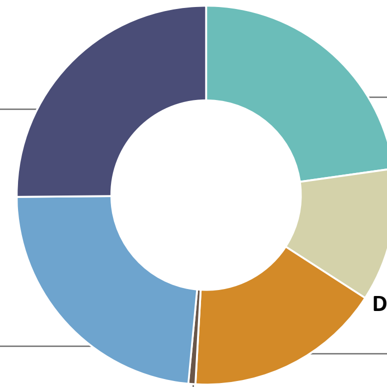
- Experience managing multi-asset class solutions since 1987
- Portfolio management team of over 70 investment professionals globally
- Provide real asset products across broad array of global strategic benchmarks
- Commingled funds and separately managed accounts

Real Assets
Assets Under Management
As of March 31, 2016
$2.7 B for 182 Accounts

Client Type



Number of Clients



US Treasury Inflation Protected Securities (TIPS) Index Strategy
Global Inflation Linked Bond Index Strategy (Unhedged and Hedged) Managed by Global Fixed Income Team
- $37.3 B* in Inflation Linked Bond Strategies
- Commingled Funds and ETFs

SSGA US REIT Index Strategy
SSGA Global Liquid Real Estate Securities Index Strategy
Managed by Global Equity Beta Solutions Team
- $20.0 B* in Real Estate Strategies
- Commingled Funds and ETFs

Bloomberg Roll Select Commodity Index℠ Strategy
Managed by Global Equity Beta Solutions Team
- Over $2.7 B* in commodity index strategies
- Commingled Funds

S&P Global LargeMidCap Natural Resources Index Strategy
Managed by Global Equity Beta Solutions Team
- Over 2.8 B* in Global Natural Resource equity assets firm-wide
- One of the largest managers of international index assets Commingled Funds and ETFs

S&P Global Infrastructure Index Strategy
Managed by Global Equity Beta Solutions Team
- Over 1.0 B* in Global Infrastructure assets firm-wide
- One of the largest managers of international index assets Commingled Funds and ETFs

As of March 31, 2016. Source: Business Intelligence Gateway (BIG), SSGA.
* AUM as of March 31, 2016. Total AUM is exclusive of all cash and securities lending assets. All umbrella funds have been removed from the calculations. All calculations are unaudited.
As of Q4 2013, SSGA has changed its data structure to reflect an improved alignment with the reporting of core businesses. This is in line with industry standards, allowing for greater transparency and improved data quality. Fund View presented unless otherwise noted. Effective July 1, 2014, the Real Asset Strategy custom benchmark changed from 20% Bloomberg Roll Select Commodity Index℠, 35% S&P Global LargeMidCap Natural Resources Index, 20% Dow Jones US Select REIT Index℠, and 25% Barclays US TIPS Index to 25% Bloomberg Roll Select Commodity Index℠, 30% S&P Global LargeMidCap Natural Resources Index, 15% Dow Jones US Select REIT Index℠, and 30% Barclays US TIPS Index. Please contact the Investment Solutions Group ("ISG"). for additional information.

STATE STREET GLOBAL ADVISORS

SamCERA Custom Real Asset Strategy — Multi-Strategy Approach

Custom Real Asset Strategy
Managed by SSGA Investment Solutions Group (ISG)

- Fund-of-funds structure with underlying index strategies
- Strategic weights rebalanced semi-annually
- Daily liquidity
- Investment management fee: 0.19% minimum annual fee: $100 K

Bloomberg Roll Select Commodity[SM] Index Strategy
Managed by Global Equity Beta Solutions Team

- Managing global commodity futures since 1996
- Over $2.8 billion in commodity index strategies
- Targeted tracking error 40 bps

S&P Global LargeMidCap Natural Resources Index Strategy
Managed by Global Equity Beta Solutions Team

- Over $2.7 billion in natural resource stocks
- One of the largest managers of international index assets
- Targeted tracking error 20 bps

S&P Global Infrastructure Index Strategy
Managed by Global Equity Beta Solutions Team

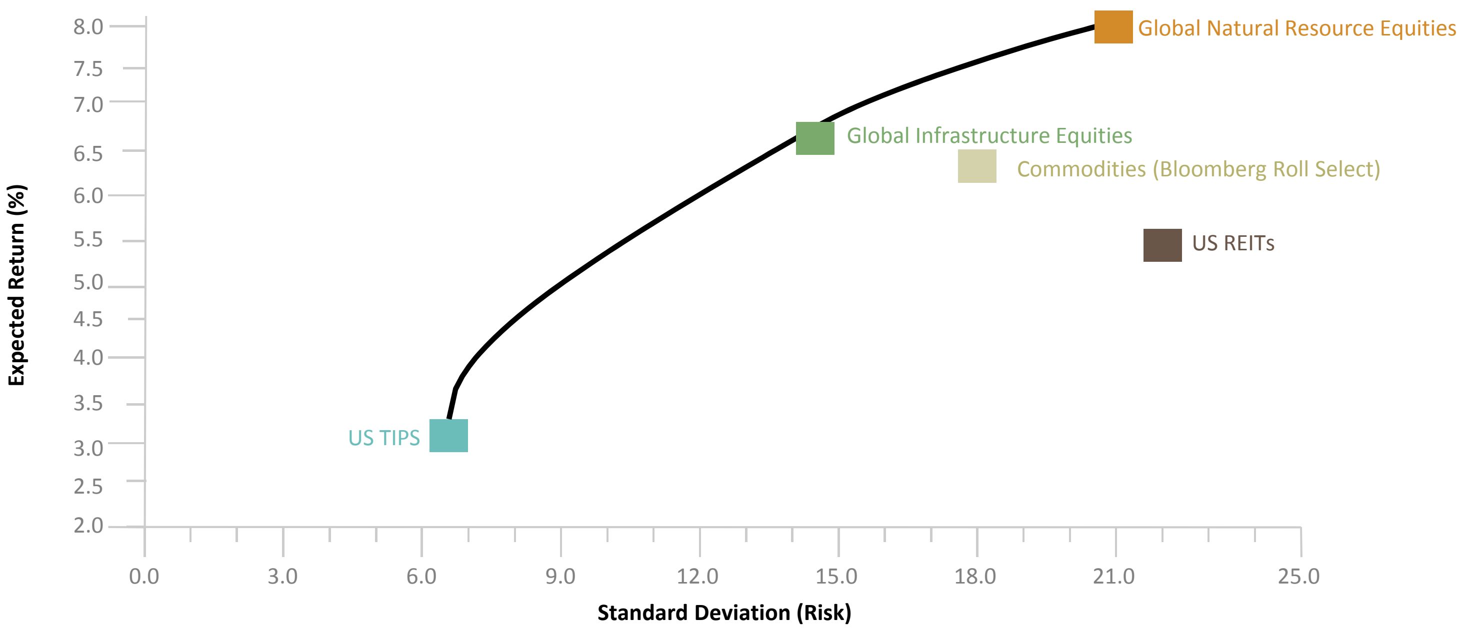
- Over $1.0 billion in global infrastructure assets
- One of the largest managers of international index assets
- Targeted tracking error of 15 bps

Source: Business Intelligence Gateway (BIG), SSGA. As of March 31, 2016.
Total AUM is exclusive of all cash and securities lending assets. All umbrella funds have been removed from the calculations. All calculations are unaudited. As of Q4 2013, SSGA has changed its data structure to reflect an improved alignment with the reporting of core businesses. This is in line with industry standards, allowing for greater transparency and improved data quality.
Fund View presented unless otherwise noted. The above targets are just estimates based on certain assumptions and analysis made by SSGA. There is no guarantee that the above estimates will be achieved.

SamCERA Real Asset Strategy — Strategic Asset Allocation

Asset	Benchmark	% of Strategy
Commodities	Bloomberg Roll Select Commodity Index	33.3%
Global Natural Resources	S&P Global LargeMidCap Commodity and Resources Index	33.3
Global Infrastructure	S&P Global Infrastructure Index	33.3

Multi-Strategy Real Asset Efficient Frontier



Sources: SSGA and Morningstar Encorr.
Expected returns are based on SSGA's Investment Solutions Group ("ISG") long-term asset class forecasted returns, long-term standard deviations and correlations as of December 31, 2015 are estimated based on certain assumptions and analysis made by SSGA. There is no guarantee that the estimates will be achieved.
Please contact the Investment Solutions Group ("ISG"). for additional information.

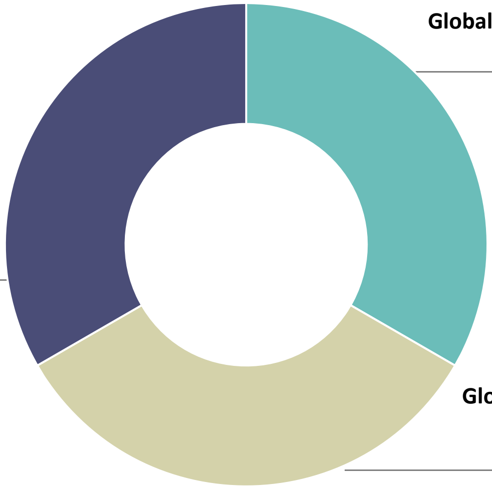
SamCERA Custom Real Asset Strategy

Simulated Gross annualized returns for the period ending May 31, 2016 (USD)

	YTD	1 Year	3 Years	5 Years	10 Years	Since Inception†
San Mateo County Real Asset Strategy	11.74%	-11.42%	-4.35%	-4.77%	N/A	1.02%
Bloomberg Commodity TR Index	8.76	-15.32	-13.16	-12.45	N/A	-6.18
Value Added*	**2.98**	**3.90**	**8.81**	**7.68**	**N/A**	**7.20**

- Benchmark description
  - Composite benchmark of the Bloomberg Roll Select Commodity Index (33.33%), S&P LargeMidCap Natural Resources and Commodities Index (33.33%), S&P Global Infrastructure Index (33.33%)
- Investment approach
  - Strategic allocation and semi-annual rebalancing
  - Implemented with passively managed index strategies
- Attributes of the strategy
  - Potential inflation hedge
  - Low correlation with other traditional asset classes
  - Current Income
- Modular fund-of-funds structure
  - Daily Liquidity

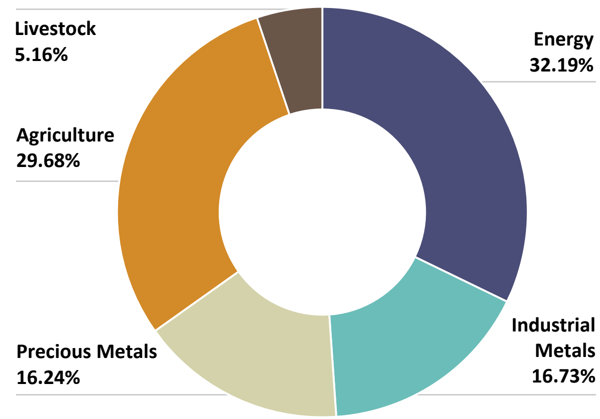
Underlying Strategy Breakdown



Source: SSGA and S&P Dow Jones Indices as of May 31, 2016.
† Inception date: December 31, 2006.
* The value added returns may show rounding differences.
The simulated performance shown was created by the Investment Solutions Group by blending the returns of the following indices at the following weights: Bloomberg Roll Select Commodity Index (33.33%), S&P LargeMidCap Natural Resources and Commodities Index (33.33%), S&P Global Infrastructure Index (33.33%) and rebalanced on a semi-annual basis.
The results shown do not represent the results of any singular index but were achieved by combining the actual performance data of three underlying indices at the weights described above to create a new hypothetical performance stream. The simulated performance was compiled after the end of the period depicted and reflects blended investment results rather than the live performance of any particular strategy or product.
The simulated performance data is reported on a gross of fees basis, but net of administrative costs. Additional fees, such as the advisory fee, would reduce the return. For example, if an annualized gross return of 10% was achieved over a 5-year period and a management fee of 1% per year was charged and deducted annually, then the resulting return would be reduced from 61% to 54%. The performance includes the reinvestment of dividends and other corporate earnings and is calculated in US dollars. The simulated performance shown is not necessarily indicative of future performance, which could differ substantially.

Bloomberg Roll Select Commodity Benchmark Overview

Agriculture		Energy		Livestock		Industrial Metals		Precious Metals	
Chicago Wheat	3.20%	Brent Crude	8.76%	Lean Hogs	2.16%	Aluminum	4.37%	Gold	11.93%
Coffee	2.32	Crude Oil	8.38	Live Cattle	3.00	Copper	7.43	Silver	4.31
Corn	6.77	Heating Oil	3.83			Nickel	2.16		
Cotton	1.30	Natural Gas	7.64			Zinc	2.77		
Kansas Wheat	1.13	Unleaded Gasoline	3.58						
Soybeans	5.64								
Soybean Meal	2.68								
Soybean Oil	3.04								
Sugar	3.60								



- Same methodology as the Bloomberg Commodity Index^{SM} with exception of how index rolls into futures contracts:
  - Dynamic roll methodology aims to mitigate the effects of contango on the roll yield
  - At each monthly roll period for each commodity, index selects futures contracts with most backwardation or least contango from contracts with 9 months or fewer until expiration
- Index includes 22 commodities futures
- No commodity more than 15% or less than 2%
- Each sector weight set at max of 33% in January and floats for remainder of year

Source: SSGA, Dow Jones-UBS, Bloomberg Finance, L.P.
As of March 31, 2016.
On July 1, 2014. The Dow Jones-UBS Roll Select Commodity Index Strategy was renamed to Bloomberg Roll Select Commodity Index Strategy Sectors shown are as of the date indicated and are subject to change. This information should not be considered a recommendation to buy or sell any security shown. It is not known whether the securities shown will be profitable in the future.

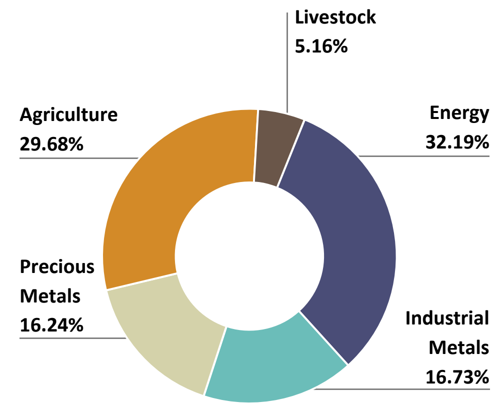
Commodities: Bloomberg Roll Select Commodity Index Strategy

Gross annualized returns for the period ending March 31, 2016 (USD)

	Qtr	YTD	1 Year	3 Years	5 Years	10 Years	Since Inception†
Bloomberg Roll Select Commodity Index Strategy Composite*	1.61%	1.61%	-17.79%	-15.45%	N/A	N/A	-15.02%
Bloomberg Roll Select Commodity Index**	1.64	1.64	-17.71	-15.27	N/A	N/A	-14.82
Difference	**-0.02**	**-0.02**	**-0.08**	**-0.18**	**N/A**	**N/A**	**-0.20**

- Objective
  - Seeks to match the returns and characteristics of the Bloomberg Roll Select Commodity Index as closely as practicable, before expenses over the long term
- Benchmark description
  - Dynamic version of Bloomberg Roll Select Commodity Index that aims to mitigate the effects of contango on index performance
  - Liquidity and production weighted index, comprises 22 commodity futures contracts in the 5 major commodity groups
  - No sector more than 33% and no commodity more than 15% or less than 2% at reconstitution
  - Follows a transparent, rules-based process whereby it rolls into the futures contract showing the most backwardation or least contango
- Investment approach
  - Uses futures and swaps to obtains commodity index exposure
  - Uses State Street Institutional Liquid Reserves (ILR) or STIF Strategy for notional cash, T-Bills for collateral, and SSGA Prime Money Market fund for margin maintenance
- Attributes of the strategy
  - 100% exposure to broad-based commodities market
  - Low-cost trading — use of futures or swaps
  - Low turnover and tight tracking

Sector Weights***



Agriculture	Energy	Livestock	Industrial Metals	Precious Metals
Chicago Wheat	Brent Crude	Lean Hogs	Aluminum	Gold
Coffee	Crude Oil	Live Cattle	Copper	Silver
Corn	Heating Oil		Nickel	
Cotton	Natural Gas		Zinc	
Kansas Wheat	Unleaded Gasoline			
Soybeans				
Soybean Meal				
Soybean Oil				
Sugar				

Source: SSGA , Dow Jones-UBS, Bloomberg Finance, L.P. As of March 31, 2016.
† Inception: December 2012.
* The performance shown is of a composite consisting of all discretionary accounts using this investment strategy. There is no minimum account size required for inclusion in the composite. New funds or accounts are added to the composite upon the first full month of operation and closed funds or accounts are removed from the composite upon the last full month of operation. The above information is considered supplemental to the GIPS presentation for this Composite and is found on the next page of this document. Past performance is not a guarantee of future results. Performance returns for periods of less than one year are not annualized. Returns are expressed gross of management fees. Some members of the composite may accrue administration fees. The performance includes the reinvestment of dividends and other corporate earnings and is calculated in USD. ** Index returns reflect capital gains and losses, income, and the reinvestment of dividends. *** Characteristics, return based characteristics and allocations are as of the date indicated, subject to change, and should not be relied upon as current thereafter. Sectors shown are as of the date indicated and are subject to change. This information should not be considered a recommendation to invest in a particular sector or to buy or sell any security shown. It is not known whether the sectors or securities shown will be profitable in the future. Investing in Commodities entail significant risk as commodity prices can be extremely volatile due to wide range of factors. A few such factors include overall market movements, real or perceived inflationary trends, commodity index volatility, international, economic and political changes, change in interest and currency exchange rates. Derivative investments may involve risks such as potential illiquidity of the markets and additional risk of loss of principal. Foreign investments involve greater risks than US investments, including political and economic risks and the risk of currency fluctuations, all of which may be magnified in emerging markets. Equity securities may fluctuate in value in response to the activities of individual companies and general market and economic conditions. The Supplemental Information above (except for the Beta and Standard Deviation) is that of a single representative account within the Composite, which is subject to change. The representative account was chosen because it has no material restrictions and fairly represents the investment style of the Strategy. The Supplemental Information should not be deemed to be reflective of (and could differ from) the overall Composite or any other single account within the Composite. Third party data providers make no warranties or representations of any kind relating to the accuracy, completeness or timeliness of the data and have no liability for damages of any kind relating to the use of such data. All the information contained in this presentation is as of date indicated unless otherwise noted. Website: ssga.com, State Street Global Advisors, One Lincoln Street, Boston, MA 02111–-2900. **This document should be read in conjunction with the Strategy's Disclosure Document, which is available from SSGA. The Strategy Disclosure Document contains important information about the Strategy, including a description of a number of risks.**

S&P Global LargeMidCap Natural Resources Index Strategy Overview

- S&P Global LargeMidCap Commodity and Resources Index:
  - Seeks broad-based exposure to developed and emerging market stocks
  - Index designed to provide liquid exposure to three global sub-industry groups across 35 countries
    - 33.33% allocations to Energy, Materials, and Agriculture sub industry groups*
    - Allocations rebalanced quarterly
  - Broader exposure down the market capitalization spectrum for global resource equities
  - Composed of approximately 180 companies
  - Float adjusted, market capitalization weighted
  - Includes companies in top 85% of each market
- Natural Resource Stocks strategy
  - Replication with additive offsets
  - Daily liquidity

S&P Global LargeMidCap Commodity and Resources Index Clusters with GICS Sub-Industries

Materials
- Diversified Metals & Mining
- Gold
- Aluminum
- Precious Metals & Minerals
- Silver

Energy
- Integrated Oil & Gas
- Oil & Gas Exploration & Production
- Coal & Consumable Fuels

Agriculture
- Fertilizers & Agricultural Chemicals
- Agricultural Products
- Forest Products

Country Breakdown

Developed Markets		Emerging Markets	
Australia	Portugal	Brazil	Mexico
Austria	Singapore	Chile	Peru
Canada	South Korea	China	Philippines
France	Spain	Colombia	Poland
Israel	Switzerland	Greece	Russia
Italy	Sweden	Hungary	South Africa
Japan	United Kingdom	India	Taiwan
Netherlands	United States	Indonesia	Thailand
Norway		Malaysia	Turkey

Source: SSGA and S&P.
As of March 31, 2016.
* Sub-Industry allocations identified with Global Industry Classification Standard (GICS).
Allocations are as of the date indicated, are subject to change, and should not be relied upon as current thereafter.

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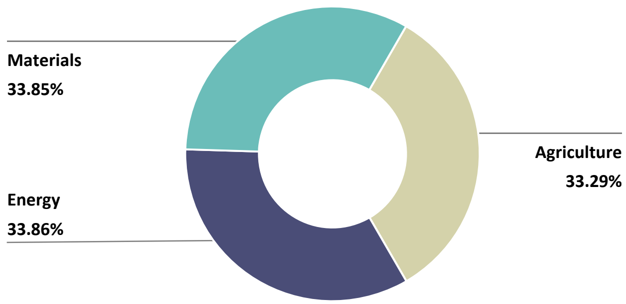
Alternatives: S&P® Global LargeMidCap Natural Resources Index Strategy

Gross annualized returns for the period ending March 31, 2016 (USD)

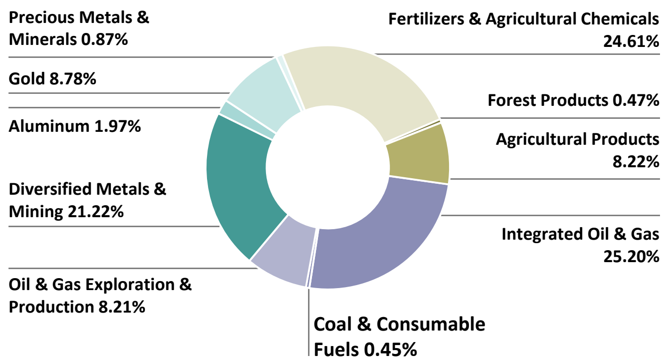
	Qtr	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	Since Inception†
S&P® Global LargeMidCap Natural Resources Index Strategy*	9.06%	9.06%	-17.41%	-10.47%	N/A	N/A	-9.48%
S&P® Global LargeMidCap Commodity and Resources Index **	9.11	9.11	-17.78	-10.80	N/A	N/A	-9.81
Difference	**-0.05**	**-0.05**	**0.37**	**0.33**	**N/A**	**N/A**	**0.32**

- Objective
  - Seeks to match the returns and characteristics of the S&P LargeMidCap Commodity and Resources Index, before expenses, over the long term
- Benchmark description
  - Measures the performance of LargeMidCap constituents that fall into three different natural resources buckets: Energy, Materials and Agriculture
- Investment approach
  - Uses full replication
- Attributes of the strategy
  - 100% exposure to broad-based global natural resource stocks
  - Low cost trading

S&P LargeMidCap Commodity and Resources Index Buckets



Index Sub Industry Index Breakdown



Characteristics***	Index
P/E Ratio (Fwd 12 Mos.)	21.5
P/B Ratio	1.3
Est. 3–5Yr EPS Growth	7.8
Dividend Yield	3.8%
Beta (Trailing 36 Mos.)	1.00
Std. Dev. (Ann'd 36 Mos.)	17.9
Composite AUM ($ M)	$896.76
Wtd. Avg. Market Cap ($ M)	$54,036.43
No. of Holdings	178

Country Exposure (Top 5 Countries)***

United States	35.85
United Kingdom	15.26
Canada	14.12
Australia	7.01
Switzerland	6.40
Other Developed	11.27
Emerging Markets	10.09

Sources: SSGA and FactSet. As of March 31, 2016.
† Inception date: August 2011.
* The performance shown is of a composite consisting of all discretionary accounts using this investment strategy. There is no minimum account size required for inclusion in the composite.
New funds or accounts are added to the composite upon the first full month of operation and closed funds or accounts are removed from the composite upon the last full month of operation.The above information is considered supplemental to the GIPS presentation for this Composite and is found on the next page of this document. Past performance is not a guarantee of future results. Performance returns for periods of less than one year are not annualized. Returns are expressed gross of management fees. Some members of the composite may accrue administration fees. The performance includes the reinvestment of dividends and other corporate earnings and is calculated in USD.
** Index returns reflect capital gains and losses, income, and the reinvestment of dividends.
*** Characteristics, return based characteristics and allocations are as of the date indicated, subject to change, and should not be relied upon as current thereafter. Averages reflect the market weight of securities in the portfolio. Market data, prices, and dividend estimates for characteristics calculations provided by FactSet Research Systems, Inc. All other portfolio data provided by SSGA. Sectors and country exposure shown are as of the date indicated and are subject to change. This information should not be considered a recommendation to invest in a particular sector or to buy or sell any security shown. It is not known whether the sectors or securities shown will be profitable in the future. Foreign investments involve greater risks than US investments, including political and economic risks and the risk of currency fluctuations, all of which may be magnified in emerging markets. Equity securities may fluctuate in value in response to the activities of individual companies and general market and economic conditions. The Supplemental Information above (except for the Beta and Standard Deviation) is that of a single representative account within the Composite, which is subject to change. The representative account was chosen because it has no material restrictions and fairly represents the investment style of the Strategy. The Supplemental Information should not be deemed to be reflective of (and could differ from) the overall Composite or any other single account within the Composite. Third party data providers make no warranties or representations of any kind relating to the accuracy, completeness or timeliness of the data and have no liability for damages of any kind relating to the use of such data. All the information contained in this presentation is as of date indicated unless otherwise noted. Website: ssga.com, State Street Global Advisors, One Lincoln Street, Boston, MA 02111–2900

This document should be read in conjunction with the Strategy's Disclosure Document, which is available from SSGA. The Strategy Disclosure Document contains important information about the Strategy, including a description of a number of risks.

S&P Global Infrastructure Index — Strategy Overview

- S&P Global Infrastructure Index Eligibility and Construction:
  - Provides liquid exposure to the leading publicly listed companies in the global infrastructure industry
  - Composed of 75 of the largest publicly listed infrastructure companies, meeting specific investability requirements
    - 60 developed and 15 emerging market stocks
    - three global infrastructure clusters[1] across 20 countries with stock allocations of 30 to Transportation, 30 to Utilities, and 15 to Energy
    - Maximum stock weight of 5%
  - Universe drawn from S&P Global BMI
    - based on float-adjusted, market capitalization weighted
  - Rebalance semiannually in March and September
- Global Infrastructure Equity strategy
  - Seeks replication with additive offsets
  - Seeks daily liquidity

Clusters[1] with GICS Descriptions

Energy
- Oil & Gas Storage & Transportation

Transportation
- Airport Services
- Highway & Railtracks
- Marine Ports & Services

Utilities
- Electric Utilities
- Gas Utilities
- Multi Utilities
- Water Utilities
- Independent Power Producers & Energy Traders*
- Renewable Electricity

* Excludes Gas & Power Marketing & Trading Specialists and/or Integrated Energy Merchants.

Country Breakdown

Developed Markets		Emerging Markets
Australia	New Zealand	Brazil
Canada	Norway	Chile
France	Singapore	China
Germany	Spain	Mexico
Hong Kong	Switzerland	
Italy	United Kingdom	
Japan	United States	
Netherlands		

Source: SSGA, S&P Dow Jones Indices.
As of March 31, 2016.
[1] Infrastructure Cluster allocations identified with Global Industry Classification Standard (GICS) as outlined in the S&P Thematic Indices Methodology, November 2015.

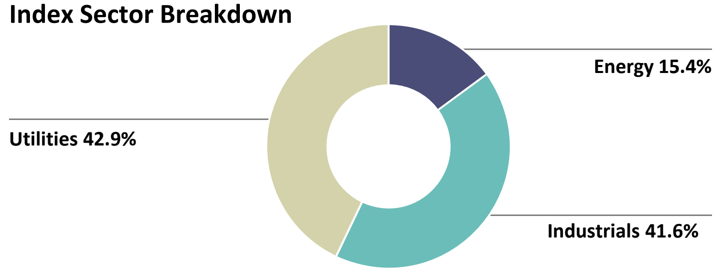
Alternatives: S&P Global Infrastructure Proposed Index Strategy

Gross annualized returns for the period ending March 31, 2016 (USD)

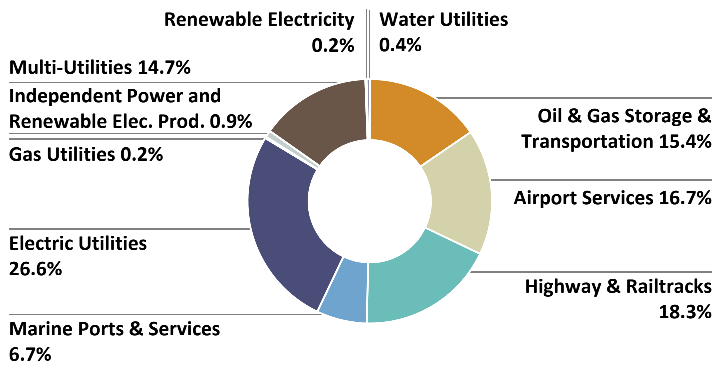
	Qtr	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	Since Inception†
S&P Global Infrastructure Index Strategy (Funding April 2016)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
S&P Global Infrastructure TR Index (Net)	8.50%	8.50%	-3.82%	5.02%	4.87%	N/A	2.75%
Variance	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**

- Objective
  - Seeks to match the returns and characteristics of the S&P Global Infrastructure Index, before expenses, over the long term
- Benchmark description
  - Measures the performance of 75 of the largest publicly listed infrastructure companies that fall into three different clusters: Energy, Transportation , and Utilities
- Investment approach
  - Uses full replication
- Attributes of the strategy
  - 100% exposure to broad-based global infrastructure stocks
  - Low cost trading

Index Sector Breakdown



Index Sub Industry Index Breakdown



Characteristics	Index
P/E Ratio (Fwd 12 Mos.)	19.5
P/B Ratio	2.0
Ann. Div. Yld. (Trailing 12 Mos.)	3.78
Total Number of Holdings	75
Wtd. Avg. Market Cap ($ M)	$21,488
Composite AUM ($ M)	$0
Beta (Trailing 36 Mos.)	1.00
Est. 3–5yr EPS Growth	10.78
Standard Deviation (Annualized 36 Months) of Returns	11.92

Country Exposure	Index
United States	34.8
Australia	9.6
Spain	9.3
Canada	7.6
Italy	7.2
United Kingdom	6.6
Other Developed	17.7
Emerging Markets	8.2

Source: SSGA, S&P Dow Jones Indices.
As of March 31, 2016 Index Only.
† Inception date: April 1, 2016.
Performance returns for periods of less than one year are not annualized. Past performance is not a guarantee of future results. Equity securities may fluctuate in value in response to the activities of individual companies and general market and economic conditions. Investing in foreign domiciled securities may involve risk of capital loss from unfavorable fluctuation in currency values, withholding taxes, from differences in generally accepted accounting principles or from economic or political instability in other nations. Investments in emerging or developing markets may be more volatile and less liquid than investing in developed markets and may involve exposure to economic structures that are generally less diverse and mature and to political systems which have less stability than those of more developed countries. There are risks associated with investing in Real Assets and the Real Assets sector, including real estate, precious metals and natural resources. Investments can be significantly affected by events relating to these industries. The index returns are not intended to represent the performance of the strategy but is the benchmark of the strategy. The index returns are unmanaged and do not reflect the deduction of any fees or expenses. The index returns reflect all items of income, gain and loss and the reinvestment of dividends and other income. Market data, prices, and dividend estimates for characteristics calculations provided by S&P Dow Jones Indexes. Index Characteristics are as of the date indicated, are subject to change, and should not be relied upon as current thereafter. Standard & Poor's (S&P) Global Infrastructure Index is a registered trademark of Standard & Poor's Financial Services LLC.

This document provides summary information regarding the Strategy. This document should be read in conjunction with the Strategy's Disclosure Document, which is available from SSGA. The Strategy Disclosure Document contains important information about the Strategy, including a description of a number of risks.

Long-Term Target Asset Class Forecasts
For Common Asset Classes over Multiple Time Horizons

Annualized Gross Returns as of March 31, 2016

Asset Class	Short Term (1 Year) (%)	Intermediate Term (3–5 Years) (%)	Long Term (10+ Years) (%)	Long-Term Target Risk (Std. Dev.) (%)
US Large-cap	2.6	6.2	6.1	16.5
US Mid-cap	2.3	6.4	6.4	18.5
US Small-cap	2.6	6.7	6.6	20.5
Global Developed ex-US	4.2	6.9	7.0	16.5
Euro	4.7	7.2	6.9	18.0
Europe	5.3	7.7	7.6	16.5
Asia-Pacific	2.0	4.9	5.5	17.5
Global ex-US Small Cap	4.1	7.6	7.7	20.5
Global Developed (World)	3.3	6.5	6.5	16.5
Global Equities (ACWI)	3.3	6.5	6.5	17.5
ACWI ex-USA	4.0	6.9	7.0	18.0
Emerging Markets stocks	3.6	7.2	7.1	21.5
EM Asia	3.7	7.2	7.1	22.5
EM LatAm	2.8	7.2	7.1	23.5
EM EMEA	3.8	7.2	7.1	20.5
Global Value Tilted	4.5	7.7	7.1	17.0
Global Quality Tilted	4.1	7.3	7.2	15.0
Global Equal Weighted	2.8	6.0	7.2	18.0
Global Minimum Variance	3.2	6.4	7.1	13.0
US Government Bonds	1.4	1.0	2.0	5.0
US Investment Grade Bonds	2.1	1.9	2.9	5.5
US TIPS	2.1	2.2	2.7	6.5
US High Yield Bonds	7.7	6.8	6.5	12.5
Non-US Government Bonds	-0.4	-0.6	0.7	5.5
Eurozone Government Bonds	-0.5	-1.1	0.8	5.0
UK Government Bonds	1.3	0.6	2.0	6.0
Japanese Government Bonds	-0.7	-0.4	0.2	3.5
Non-US Corporate Bonds	0.2	0.0	1.4	6.0
Eurozone Corporate Bonds	0.2	-0.4	1.5	5.0
UK Corporate Bonds	3.1	2.6	3.9	7.0
Japanese Corporate bonds	-0.7	-0.3	0.4	4.0
Global Government Bonds	0.2	-0.1	1.2	4.5
Global Investment Grade Bonds	0.8	0.6	1.9	6.0
Euro High Yield Bonds	2.6	1.7	4.6	12.5
Emerging Markets Bonds	2.3	2.7	5.9	11.0
Hedge Funds (market neutral)	3.1	4.8	5.3	7.0
Global Real Estate (REITs)	0.7	3.9	5.0	20.0
Private Equity	2.6	5.9	7.0	25.0
Commodities	-1.5	3.8	5.6	18.0
US Cash	0.6	1.9	2.2	1.5
UK Cash	0.6	2.1	2.5	1.5

Source: SSGA. Forecasted returns are based upon estimates and reflect subjective judgments and assumptions. These results were achieved by means of a mathematical formula and do not reflect the effect of unforeseen economic and market factors on decision-making. The forecasted returns are not necessarily indicative of future performance, which could differ substantially.

STATE STREET GLOBAL ADVISORS.

Appendix A: Important Disclosures

Trademark and Important Disclosures

Trademark Disclosures

Standard & Poor's S&P 500® Index is a registered trademark of Standard & Poor's Financial Services LLC.

MSCI Indices are trademarks of MSCI Inc. Any financial products referred to herein are not sponsored, endorsed, or promoted by MSCI, and MSCI bears no liability with respect to any such financial products or any index on which such financial products are based. The fund documents contain a more detailed description of the limited relationship MSCI has with SSGA and any related financial products. Source: MSCI: Neither MSCI nor any other party involved in or related to compiling, computing or creating the MSCI data makes any express or implied warranties or representations with respect to such data (or the results to be obtained by the use thereof), and all such parties hereby expressly disclaim all warranties of originality, accuracy, completeness, merchantability or fitness for a particular purpose with respect to any of such data. Without limiting any of the foregoing, in no event shall MSCI, any of its affiliates or any third party involved in or related to compiling, computing or creating the data have any liability for any direct, indirect, special, punitive, consequential or any other damages (including lost profits) even if notified of the possibility of such damages. No further distribution or dissemination of the MSCI data is permitted without MSCI's express written consent.

The Dow Jones Indexes are a product of Dow Jones Indexes, the marketing name and a licensed trademark of CME Group Index Services LLC ("CME Indexes"). "Dow Jones®" and "Dow Jones Indexes" are service marks of Dow Jones Trademark Holdings, LLC ("Dow Jones"), have been licensed to CME Indexes and sublicensed for use for certain purposes by State Street Global Advisors. Investment products based on Dow Jones Indexes are not sponsored, endorsed, sold or promoted by CME Indexes, Dow Jones or their respective affiliates, and CME Indexes, Dow Jones and their respective affiliates make no representation regarding the advisability of trading in such products.

Important Disclosures

Effective January 1, 2013, SSGA's Global Equity Beta Solutions ("GEBS") portfolio management team assumed direct responsibility for the management of the REIT indexing capability formerly provided by The Tuckerman Group LLC.

Effective August 1, 2011 the Real Asset Strategy custom benchmark changed from 30% Dow Jones US Select REIT Index℠, 25% S&P GSCI Index, 25% MSCI World Natural Resources Index, and 20% Barclays US TIPS Index to 20% DJ-UBS Commodity Total Return Index℠, 35% S&PGlobal LargeMidCap Natural Resources Index, 20% Dow Jones US Select REIT Index℠, and 25% Barclays US TIPS Index.

Effective December 1, 2012, the DJ-UBS Commodity Total Return Index℠ was replaced with the DJ-UBS Roll Select Commodity Index℠.

Effective July 1, 2014, the Real Asset Strategy custom benchmark changed from 20% Bloomberg Roll Select Commodity Index℠, 35% S&PGlobal LargeMidCap Natural Resources Index, 20% Dow Jones US Select REIT Index℠, and 25% Barclays US TIPS Index to 25% Bloomberg Roll Select Commodity Index℠, 30% S&PGlobal LargeMidCap Natural Resources Index, 15% Dow Jones US Select REIT Index℠, and 30% Barclays US TIPS Index.

Please contact the Investment Solutions Group ("ISG") for additional information.

Important Risk Disclosures

Investing involves risk including the risk of loss of principal.

Diversification does not ensure a profit or guarantee against loss.

The information provided does not constitute investment advice and it should not be relied on as such. It should not be considered a solicitation to buy or an offer to sell a security. It does not take into account any investor's particular investment objectives, strategies, tax status or investment horizon. You should consult your tax and financial advisor.

All information has been obtained from sources believed to be reliable, but its accuracy is not guaranteed. There is no representation or warranty as to the current accuracy, reliability or completeness of, nor liability for, decisions based on such information and it should not be relied on as such.

Equity securities may fluctuate in value in response to the activities of individual companies and general market and economic conditions.

Companies with large market capitalizations go in and out of favor based on market and economic conditions. Larger companies tend to be less volatile than companies with smaller market capitalizations. In exchange for this potentially lower risk, the value of the security may not rise as much as companies with smaller market capitalizations.

Investments in small/mid-sized companies may involve greater risks than in those of larger, better known companies.

Investing in foreign domiciled securities may involve risk of capital loss from unfavorable fluctuation in currency values, withholding taxes, from differences in generally accepted accounting principles or from economic or political instability in other nations.

Investments in emerging or developing markets may be more volatile and less liquid than investing in developed markets and may involve exposure to economic structures that are generally less diverse and mature and to political systems which have less stability than those of more developed countries.

Bonds generally present less short-term risk and volatility than stocks, but contain interest rate risk (as interest rates rise bond prices usually fall); issuer default risk; issuer credit risk; liquidity risk; and inflation risk. These effects are usually pronounced for longer-term securities. Any fixed income security sold or redeemed prior to maturity may be subject to a substantial gain or loss.

Currency Risk is a form of risk that arises from the change in price of one currency against another. Whenever investors or companies have assets or business operations across national borders, they face currency risk if their positions are not hedged.

Investing in futures is highly risky. Futures positions are considered highly leveraged because the initial margins are significantly smaller than the cash value of the contracts. The smaller the value of the margin in comparison to the cash value of the futures contract, the higher the leverage. There are a number of risks associated with futures investing including but not limited to counterparty credit risk, currency risk, derivatives risk, foreign issuer exposure risk, sector concentration risk, leveraging and liquidity risks.

These investments may have difficulty in liquidating an investment position without taking a significant discount from current market value, which can be a significant problem with certain lightly traded securities.

There are risks associated with investing in Real Assets and the Real Assets sector, including real estate, precious metals and natural resources. Investments can be significantly affected by events relating to these industries.

Important Risk Disclosures

This document provides summary information regarding the Strategy. This document should be read in conjunction with the Strategy's Disclosure Document, which is available from SSGA.

The Strategy Disclosure Document contains important information about the Strategy, including a description of a number of risks.

Investing in commodities entail significant risk and is not appropriate for all investors. Commodities investing entail significant risk as commodity prices can be extremely volatile due to wide range of factors. A few such factors include overall market movements, real or perceived inflationary trends, commodity index volatility, international, economic and political changes, change in interest and currency exchange rates.

The major risks associated with investing in the natural resources sector, including large price volatility due to non-diversification and concentration in natural resources companies.

Investing in REITs involves certain distinct risks in addition to those risks associated with investing in the real estate industry in general. Equity REITs may be affected by changes in the value of the underlying property owned by the REITs, while mortgage REITs may be affected by the quality of credit extended. REITs are subject to heavy cash flow dependency, default by borrowers and self-liquidation. REITs, especially mortgage REITs, are also subject to interest rate risk (i.e., as interest rates rise, the value of the REIT may decline).

Increase in real interest rates can cause the price of inflation-protected debt securities to decrease. Interest payments on inflation-protected debt securities can be unpredictable.

United States: State Street Global Advisors, One Lincoln Street, Boston, MA 02111–2900.

Web: www.ssga.com

Tracking Code: CMINST-13799

Expiration Date: August 31, 2016

Appendix B: GIPS® Presentations

STATE STREET GLOBAL ADVISORS

GIPS® Report: Real Asset Composite

As of December 31, 2015

Gross Returns

	Quarter	YTD	1 Year	3 Years	5 Years	10 Years	Since Inception Apr 2005
Real Asset Composite	-1.83	-14.01	-14.01	-6.63	-2.64	0.80	N/A
SSGA Real Assets Custom Blended Index	-1.88	-14.17	-14.17	-6.76	-2.76	0.49	N/A

Year	Real Asset Composite	SSGA Real Assets Custom Blended Index
2015	-14.01	-14.17
2014	-0.84	-1.06
2013	-4.55	-4.54
2012	7.74	7.77
2011	-0.23	-0.48
2010	16.12	16.20
2009	26.93	25.89
2008	-33.03	-33.88
2007	12.09	12.00
2006	11.82	11.50

Year	No. of Portfolios	Composite Dispersion	3 Yr Annualized Standard Deviation — Composite	3 Yr Annualized Standard Deviation — Benchmark	Total Assets at End of Period (USD)	% of Firm's Assets	Total Firm Assets (USD mil)
2015	*	N/A	8.31	8.39	881,155,959	0.04	2,183,429
2014	*	N/A	8.68	8.77	923,420,785	0.04	2,383,493
2013	*	N/A	12.38	12.45	1,256,381,294	0.06	2,279,237
2012	*	N/A	14.94	15.03	1,145,580,242	0.06	2,023,842
2011	*	N/A	18.55	18.79	536,796,746	0.03	1,768,142
2010	*	N/A	23.44	23.71	495,203,811	0.03	1,518,977
2009	*	N/A	22.01	22.28	418,201,776	0.03	1,360,125
2008	*	N/A	19.00	19.15	310,246,686	0.03	949,988
2007	*	N/A	**	**	421,129,958	0.03	1,246,382
2006	*	N/A	**	**	299,122,050	0.03	1,073,038

gRIAsUSD
* 5 portfolios or less
** Less than 3 years
Quarterly and YTD returns are not annualized

Investment Objective: The Strategy seeks to provide an investment return that approximates as closely as practicable, before expenses, the performance of its custom benchmark index (the "Index") over the long term.
Investment Strategy: The Strategy seeks to offer broad diversification and a disciplined rebalancing process by investing in asset classes representing exposures of approximately 25% in commodities, 30% in global natural resource stocks, 15% in US Real Estate Investment Trusts (REITs) and 30% in US TIPS. The Strategy's return may not match the return of its custom benchmark index. The allocation across the four broad assets is designed to provide a long-term targeted return of US CPI +4%, or real return of 4%, and risk, as measured by standard deviation, of longer-dated US Treasury inflation protected securities. Both of these metrics are based on SSgA expectations for future returns, risk and correlations across the included assets. The Strategy's asset class exposures are rebalanced to the strategic asset allocation weights on quarterly basis, whereas, the custom benchmark index asset allocations are rebalanced to the strategic weights on a monthly frequency. Asset class misweights and increased portfolio risk relative to the custom benchmark index may occur as a result of intra-quarter market movements. The Strategy may allocate cash flows or partially rebalance the Strategy in efforts to reduce the asset class misweights or to maintain an active risk level that is consistent with the objective. SSgA implements the Strategy's asset allocations through investments in passive investment vehicles, which typically attempt to replicate the returns of a specific index or group of indices detailed in the custom benchmark. The Strategy's return may not match the return of its Index.
Annualized Returns: All returns for periods greater than one year have been annualized.
Withholding Taxes Differences: None.
Exchange Rates Differences Between Composite & Benchmark: None.
Minimum Asset Level for Inclusion: 0.

STATE STREET GLOBAL ADVISORS

Footnotes

Firm Definition: For the purpose of complying with the Global Investment Performance Standards (GIPS®), the firm ("SSGA-Global") is defined as all portfolios managed across the global offices of State Street Global Advisors (SSGA) and SSGA Funds Management, Inc., with the exception of business units which are held out to the marketplace as distinct business entities – Fiduciary Advisory Solutions (formerly known as the Office of the Fiduciary Advisor [OFA]) and Charitable Asset Management (CAM). Prior to 1/1/2011, SSGA-Global also excluded its wrap fee business (Intermediary Business Group [IBG]) and assets accounted for on a book value basis (global cash and stable value assets). In January 2011, SSGA acquired the Bank of Ireland Asset Management Limited (now known as SSGA Ireland Limited), a GIPS® Compliant firm. On 1/1/2012 SSGA Ireland Limited assets were merged into SSGA-Global.
Composite Description: The Composite seeks to achieve the Investment Objective described below using the Investment Strategy described below.
Compliance Statement: SSGA-Global claims compliance with the Global Investment Performance Standards (GIPS®) and has prepared and presented this report in compliance with GIPS. SSGA-Global claims compliance with the GIPS standards from January 1, 2000. The period prior to January 1, 2000 (where shown) is not in compliance, as not all actual fee-paying portfolios are in a composite. SSGA-Global has been independently verified for the periods January 1, 2000 through December 31, 2014. The verification report is available upon request. Verification assesses whether (1) the firm has complied with all the composite construction requirements of the GIPS standards on a firm-wide basis and (2) the firm's policies and procedures are designed to calculate and present performance in compliance with the GIPS standards. Verification does not ensure the accuracy of any specific composite presentation. In January 2015, the GIPS Firm name changed from "SSgA-Global" to "SSGA-Global".
List Available: A complete list of the firm's composites and their descriptions is available upon request.
Creation Date: The composite was created on 01/01/09.
Benchmark Description: The custom blended benchmark is currently comprised of the following indexes: Bloomberg Roll Select Commodity Total Return Index (25%), S&P Global Large/Mid Cap Commodity and Resource Index (30%), Dow Jones US Select REIT (Full Float) (15%), Barclays Global Real: US Tips (30%). Prior to July 2014, the custom blended benchmark was comprised of the following indexes: Bloomberg Roll Select Commodity Total Return Index (20%), S&P Global Large/Mid Cap Commodity and Resources Index (35%), Dow Jones US Select REIT Index (20%), and Barclays Global Real: US Tips (25%). Prior to November 2012, the custom blended benchmark was comprised of the following indexes: Bloomberg Commodity Total Return Index (20%), S&P Global Large/Mid Cap Commodity and Resources Index (35%), Dow Jones US Select REIT Index (20%), and Barclays Global Real: US Tips (25%). Prior to August 2011, the custom blended benchmark was comprised of the following indexes: S&P GSCI Index (25%), MSCI World Natural Resources Index (25%), Dow Jones US Select REIT Index (30%), and Barclays Global Real: US Tips (20%). The index returns are unmanaged and do not reflect the deduction of any fees or expenses. The index returns reflect all items of income, gain and loss.
Currency: Performance is presented in USD.
Use of Subadvisors: None.
Fees: Returns are expressed gross of management fees. The results do not reflect the deduction of investment management fees. Some members of this composite may accrue administration fees. The client's return will be reduced by the management fee. For example, if an annualized gross return of 10% was achieved over a 5-year period and a management fee of 1% per year was charged and deducted annually, then the resulting total return would be reduced from 61% to 54%.
Fee Schedule: Management fees for commingled funds are 0.30% of the first $50,000,000; 0.27% of the next $50,000,000; and 0.25% thereafter. Management fees for separately managed accounts are 0.35% of the first $50,000,000; 0.30% of the next $50,000,000; and 0.27% thereafter. The minimum annual management fee for commingled funds is $20,000. The minimum annual management fee for separately managed accounts is $150,000. Management fees may be adjusted based upon specific client requirements.
Derivatives Use: SSGA may use futures and other derivatives from time to time in the management of the Strategy generally as a temporary substitute for cash investments or for hedging purposes and not with the purpose of creating investment leverage.
Calculation Methodology: Additional information is available upon request regarding the firm's policies and procedures for calculating and reporting performance results as well as valuation procedures.
Dispersion: Asset-Weighted standard deviation is calculated using the annual returns of the accounts that were included in the composite for all periods of the year.
Significant Events: In November 2007, on the departure of the North America CIO Sean Flannery, Global asset class CIOs were appointed (Alistair Lowe, Asset Allocation and Currency CIO; Mark Marinella, Fixed Income CIO; Steve Meier, Cash CIO and Arlene Rockefeller, Equities CIO). In July 2014, on the departure of Maria Dwyer, Matt Steinaway was named interim Chief Risk Officer. Matt replaced Maria Dwyer, who was appointed to the leadership team of the Office of Regulatory Initiatives Oversight. In November 2014, David Saulnier was appointed as Chief Risk Officer for SSGA, replacing Matt Steinaway. Matt Steinaway resumed his position as Head of Global Cash Management. In March 2015, Timothy Corbett was appointed Head of Global Investment Risk replacing Fred Gjerstad who has since left the firm. In March 2015, Ronald O' Hanley was appointed CEO and President of State Street Global Advisors replacing Scott Powers who retired. In June 2015, Greg Ehret was named President continuing to report to Ron O'Hanley, chief executive officer of SSGA. In August 2015, Matt Steinaway was appointed as Chief Risk Officer for SSGA, replacing David Saulnier who has since left the firm. Pia McCusker assumed Matt's role as Head of Global Cash Management. In December 2015, Ronald O' Hanley, Chief Executive Officer of SSGA, re-assumed the role of President of the company upon the departure of Greg Ehret. Steven Lipiner was appointed Chief Financial Officer replacing Keith Crawford who was appointed head of global mergers and acquisitions.
Past and Future Performance: Historic performance is not necessarily indicative of actual future investment performance, which could differ substantially.

GIPS® Report: US TIPS Index Composite

As of December 31, 2015

Gross Returns

	Quarter	YTD	1 Year	3 Years	5 Years	10 Years	Since Inception Aug 2000
US TIPS Index Composite	-0.64	-1.44	-1.44	-2.26	2.55	3.93	N/A
Barclays US Treasury Inflation Protected Securities (TIPS) Index	-0.64	-1.44	-1.44	-2.27	2.55	3.93	N/A

Year	US TIPS Index Composite	Barclays US Treasury Inflation Protected Securities (TIPS) Index
2015	-1.44	-1.44
2014	3.64	3.64
2013	-8.60	-8.61
2012	6.97	6.98
2011	13.55	13.56
2010	6.28	6.31
2009	11.37	11.41
2008	-2.31	-2.35
2007	11.62	11.63
2006	0.47	0.41

Year	No. of Portfolios	Composite Dispersion	3 Yr Annualized Standard Deviation — Composite	3 Yr Annualized Standard Deviation — Benchmark	Total Assets at End of Period (USD)	% of Firm's Assets	Total Firm Assets (USD mil)
2015	7	0.01	4.99	5.00	12,513,969,380	0.57	2,183,429
2014	7	0.01	5.14	5.15	10,599,369,657	0.44	2,383,493
2013	10	0.01	5.35	5.36	12,206,534,179	0.54	2,279,237
2012	10	0.01	4.34	4.34	13,618,815,108	0.67	2,023,842
2011	10	0.01	5.74	5.75	12,376,751,426	0.70	1,768,142
2010	10	0.03	8.73	8.74	11,091,943,269	0.73	1,518,977
2009	11	0.06	8.72	8.72	10,920,095,346	0.80	1,360,125
2008	8	0.08	7.90	7.89	9,144,823,596	0.96	949,988
2007	7	0.09	4.50	4.50	9,475,120,589	0.76	1,246,382
2006	*	N/A	5.14	5.15	5,235,572,252	0.49	1,073,038

gTPCMP
* 5 portfolios or less
** Less than 3 years
Quarterly and YTD returns are not annualized
Investment Objective: The Strategy seeks an investment return that approximates as closely as practicable, before expenses, the performance of its benchmark index (the "Index") over the long term.
Investment Strategy: The Strategy is managed using a "passive" or "indexing" investment approach, by which SSGA attempts to replicate, before expenses, the performance of the Index. The Strategy will not necessarily own all, of the securities included in the Index. The Strategy may attempt to invest in the securities comprising the Index, in the same proportions as they are represented in the Index. However, due to the diverse composition of securities in the Index and the fact that many of the securities comprising the Index may be unavailable for purchase, it may not be possible for the Strategy to purchase some of the securities comprising the Index. In such a case, SSGA will select securities for the Strategy comprising a portfolio that SSGA expects will provide a return comparable to that of the Index. SSGA expects that it will typically seek to replicate index returns for the Portfolio through investments in the "cash" markets - actual holdings of debt securities and other instruments - rather than through "notional" or "synthetic" positions achieved through the use of derivatives, such as futures contracts or swap transactions (except in the unusual case where SSGA believes that use of derivatives is necessary to achieve an exposure that is not readily available through the cash markets).The Strategy's return may not match the return of the Index.
Dispersion: Asset-Weighted standard deviation is calculated using the annual returns of the accounts that were included in the composite for all periods of the year.

STATE STREET GLOBAL ADVISORS

Footnotes

Firm Definition: For the purpose of complying with the Global Investment Performance Standards (GIPS®), the firm ("SSGA-Global") is defined as all portfolios managed across the global offices of State Street Global Advisors (SSGA) and SSGA Funds Management, Inc., with the exception of business units which are held out to the marketplace as distinct business entities – Fiduciary Advisory Solutions (formerly known as the Office of the Fiduciary Advisor [OFA]) and Charitable Asset Management (CAM). Prior to 1/1/2011, SSGA-Global also excluded its wrap fee business (Intermediary Business Group [IBG]) and assets accounted for on a book value basis (global cash and stable value assets). In January 2011, SSGA acquired the Bank of Ireland Asset Management Limited (now known as SSGA Ireland Limited), a GIPS® Compliant firm. On 1/1/2012 SSGA Ireland Limited assets were merged into SSGA-Global.
Composite Description: The Composite seeks to achieve the Investment Objective described below using the Investment Strategy described below.
Compliance Statement: SSGA-Global claims compliance with the Global Investment Performance Standards (GIPS®) and has prepared and presented this report in compliance with GIPS. SSGA-Global claims compliance with the GIPS standards from January 1, 2000. The period prior to January 1, 2000 (where shown) is not in compliance, as not all actual fee-paying portfolios are in a composite. SSGA-Global has been independently verified for the periods January 1, 2000 through December 31, 2014. The verification report is available upon request. Verification assesses whether (1) the firm has complied with all the composite construction requirements of the GIPS standards on a firm-wide basis and (2) the firm's policies and procedures are designed to calculate and present performance in compliance with the GIPS standards. Verification does not ensure the accuracy of any specific composite presentation. In January 2015, the GIPS Firm name changed from "SSgA-Global" to "SSGA-Global".
List Available: A complete list of the firm's composites and their descriptions is available upon request.
Creation Date: The composite was created on 01/01/09.
Benchmark Description: The benchmark for the composite is the Barclays US Treasury Inflation Protected Securities (TIPS) Index. Index returns are unmanaged and do not reflect the deduction of any fees or expenses but include all items of income, gain, and loss.
Currency: Performance is presented in USD.
Use of Subadvisors: None.
Fees: Returns are expressed gross of management fees. The results do not reflect the deduction of investment management fees. Some members of this composite may accrue administration fees. The client's return will be reduced by the management fee. For example, if an annualized gross return of 10% was achieved over a 5-year period and a management fee of 1% per year was charged and deducted annually, then the resulting total return would be reduced from 61% to 54%.
Fee Schedule: Management fees are 0.050% of the first $50,000,000; 0.040% of the next $50,000,000; and 0.025% thereafter. The minimum annual management fee for commingled funds is $10,000. The minimum annual management fee for separately managed accounts is $75,000. Management fees may be adjusted based upon specific client requirements.
Derivatives Use: SSGA may use futures and other derivatives from time to time in the management of the Strategy generally as a temporary substitute for cash investments or for hedging purposes and not with the purpose of creating investment leverage.
Calculation Methodology: Additional information is available upon request regarding the firm's policies and procedures for calculating and reporting performance results as well as valuation procedures.
Annualized Returns: All returns for periods greater than one year have been annualized.
Withholding Taxes Differences: None.
Exchange Rates Differences Between Composite & Benchmark: None.
Minimum Asset Level for Inclusion: 0.
Significant Events: In November 2007, on the departure of the North America CIO Sean Flannery, Global asset class CIOs were appointed (Alistair Lowe, Asset Allocation and Currency CIO; Mark Marinella, Fixed Income CIO; Steve Meier, Cash CIO and Arlene Rockefeller, Equities CIO). In October 2010, Kevin Anderson, Ph.D. was appointed CIO of Fixed Income and Currency replacing Mark Marinella. In June 2013, Steve Meier, CIO of Cash, replaced Kevin Anderson, PhD. as the CIO of Fixed Income, Currency and Cash. Kevin Anderson, PhD. previously CIO and Head of Fixed income, assumed the role of Head of Investments for the Asia Pacific. In July 2014, on the departure of Maria Dwyer, Matt Steinaway was named interim Chief Risk Officer. Matt replaced Maria Dwyer, who was appointed to the leadership team of the Office of Regulatory Initiatives Oversight. In November 2014, David Saulnier was appointed as Chief Risk Officer for SSGA, replacing Matt Steinaway. Matt Steinaway resumed his position as Head of Global Cash Management. In March 2015, Timothy Corbett was appointed Head of Global Investment Risk replacing Fred Gjerstad who has since left the firm. In March 2015, Ronald O' Hanley was appointed CEO and President of State Street Global Advisors replacing Scott Powers who retired. In June 2015, Greg Ehret was named President continuing to report to Ron O'Hanley, chief executive officer of SSGA. In August 2015, Matt Steinaway was appointed as Chief Risk Officer for SSGA, replacing David Saulnier who has since left the firm. Pia McCusker assumed Matt's role as Head of Global Cash Management. In September 2015, John Philpot, Head of Portfolio Management EMEA Fixed Income Beta team, left the firm. In December 2015, Ronald O' Hanley, Chief Executive Officer of SSGA, re-assumed the role of President of the company upon the departure of Greg Ehret. Steven Lipiner was appointed Chief Financial Officer replacing Keith Crawford who was appointed head of global mergers and acquisitions.
Past and Future Performance: Historic performance is not necessarily indicative of actual future investment performance, which could differ substantially.

GIPS® Report: SSGA US REIT Index Composite

As of December 31, 2015

Gross Returns

	Quarter	YTD	1 Year	3 Years	5 Years	10 Years	Since Inception Nov 1996
SSGA US REIT Index Composite	7.51	4.42	4.42	11.72	12.30	7.25	N/A
Dow Jones US Select REIT Index	7.54	4.48	4.48	11.76	12.32	7.20	N/A

Year	SSGA US REIT Index Composite	Dow Jones US Select REIT Index
2015	4.42	4.48
2014	31.96	32.00
2013	1.19	1.22
2012	17.04	17.12
2011	9.46	9.37
2010	27.92	28.07
2009	28.56	28.46
2008	-38.79	-39.20
2007	-17.52	-17.55
2006	35.72	35.97

Year	No. of Portfolios	Composite Dispersion	3 Yr Annualized Standard Deviation — Composite	3 Yr Annualized Standard Deviation — Benchmark	Total Assets at End of Period (USD)	% of Firm's Assets	Total Firm Assets (USD mil)
2015	*	N/A	14.50	14.55	1,078,965,568	0.05	2,183,429
2014	*	N/A	13.23	13.28	1,522,755,254	0.06	2,383,493
2013	*	N/A	16.63	16.68	912,244,447	0.04	2,279,237
2012	*	N/A	18.28	18.35	716,918,087	0.04	2,023,842
2011	*	N/A	32.35	32.58	491,827,903	0.03	1,768,142
2010	*	N/A	40.61	40.91	446,903,775	0.03	1,518,977
2009	*	N/A	40.54	40.84	525,244,349	0.04	1,360,125
2008	*	N/A	30.57	30.77	608,570,062	0.06	949,988
2007	*	N/A	17.17	17.27	1,174,723,137	0.09	1,246,382
2006	*	N/A	16.43	16.53	1,224,335,229	0.11	1,073,038

gREALPAS
* 5 portfolios or less
** Less than 3 years
Quarterly and YTD returns are not annualized

Investment Objective: The Portfolio seeks an investment return that approximates as closely as practicable, before expenses, the performance of its benchmark index (the "Index") over the long term.

Investment Strategy: The Strategy is managed using a "passive" or "indexing" investment approach, by which SSGA attempts to match, before expenses, the performance of the Index. SSGA will typically attempt to invest in the equity securities comprising the Index, in approximately the same proportions as they are represented in the Index. Equity securities may include common stocks, preferred stocks, depository receipts, or other securities convertible into common stock. The Strategy may purchase securities in their initial public offerings ("IPOs"). In some cases, it may not be possible or practicable to purchase all of the securities comprising the Index, or to hold them in the same weightings as they represent in the Index. In those circumstances, SSGA may employ a sampling or optimization technique to construct the portfolio in question. From time to time securities are added to or removed from the Index. SSGA may sell securities that are represented in the Index, or purchase securities that are not yet represented in the Index, prior to or after their removal or addition to the Index. The Strategy may at times purchase or sell index futures contracts, or options on those futures, or engage in other transactions involving the use of derivatives, in lieu of investment directly in the securities making up the Index or to enhance the Strategy's replication of the Index return. The Strategy's return may not match the return of the Index.

Past and Future Performance: Historic performance is not necessarily indicative of actual future investment performance, which could differ substantially.

Composite Name Change: The composite's name changed on January 1, 2013 from SSGA/Tuckerman US REIT Index Composite to SSGA US REIT Index Composite.

Footnotes

Firm Definition: For the purpose of complying with the Global Investment Performance Standards (GIPS®), the firm ("SSGA-Global") is defined as all portfolios managed across the global offices of State Street Global Advisors (SSGA) and SSGA Funds Management, Inc., with the exception of business units which are held out to the marketplace as distinct business entities – Fiduciary Advisory Solutions (formerly known as the Office of the Fiduciary Advisor [OFA]) and Charitable Asset Management (CAM). Prior to 1/1/2011, SSGA-Global also excluded its wrap fee business (Intermediary Business Group [IBG]) and assets accounted for on a book value basis (global cash and stable value assets). In January 2011, SSGA acquired the Bank of Ireland Asset Management Limited (now known as SSGA Ireland Limited), a GIPS® Compliant firm. On 1/1/2012 SSGA Ireland Limited assets were merged into SSGA-Global.
Composite Description: The Composite seeks to achieve the Investment Objective described below using the Investment Strategy described below.
Compliance Statement: SSGA-Global claims compliance with the Global Investment Performance Standards (GIPS®) and has prepared and presented this report in compliance with GIPS. SSGA-Global claims compliance with the GIPS standards from January 1, 2000. The period prior to January 1, 2000 (where shown) is not in compliance, as not all actual fee-paying portfolios are in a composite. SSGA-Global has been independently verified for the periods January 1, 2000 through December 31, 2014. The verification report is available upon request. Verification assesses whether (1) the firm has complied with all the composite construction requirements of the GIPS standards on a firm-wide basis and (2) the firm's policies and procedures are designed to calculate and present performance in compliance with the GIPS standards. Verification does not ensure the accuracy of any specific composite presentation. In January 2015, the GIPS Firm name changed from "SSgA-Global" to "SSGA-Global".
List Available: A complete list of the firm's composites and their descriptions is available upon request.
Creation Date: The composite was created on 01/01/09.
Benchmark Description: The benchmark for the composite is the Dow Jones US Select REIT Index. The benchmark name changed on 12/31/2010 from Wilshire US REIT Index, due to the index vendor ownership changing. Index returns are unmanaged and do not reflect the deduction of any fees or expenses but include all items of income, gain, and loss.
Currency: Performance is presented in USD.
Use of Subadvisors: This composite contains portfolios that were managed on a sub-advised basis for the period from Nov-01-96 to Dec-31-12.
Fees: Returns are expressed gross of management fees. The results do not reflect the deduction of investment management fees. Some members of this composite may accrue administration fees. The client's return will be reduced by the management fee. For example, if an annualized gross return of 10% was achieved over a 5-year period and a management fee of 1% per year was charged and deducted annually, then the resulting total return would be reduced from 61% to 54%.
Fee Schedule: Management fees are 0.100% of the first $50,000,000; 0.090% of the next $50,000,000; and 0.070% thereafter. The minimum annual management fee for commingled funds is $25,000. The minimum annual management fee for separately managed accounts is $125,000. Management fees may be adjusted based upon specific client requirements.
Derivatives Use: SSGA may use futures and other derivatives from time to time in the management of the Strategy generally as a temporary substitute for cash investments or for hedging purposes and not with the purpose of creating investment leverage.
Calculation Methodology: Additional information is available upon request regarding the firm's policies and procedures for calculating and reporting performance results as well as valuation procedures.
Annualized Returns: All returns for periods greater than one year have been annualized.
Withholding Taxes Differences: None.
Exchange Rates Differences Between Composite & Benchmark: None.
Minimum Asset Level for Inclusion: 0
Dispersion: Asset-Weighted standard deviation is calculated using the annual returns of the accounts that were included in the composite for all periods of the year.
Significant Events: In November 2007, on the departure of the North America CIO Sean Flannery, Global asset class CIOs were appointed (Alistair Lowe, Asset Allocation and Currency CIO; Mark Marinella, Fixed Income CIO; Steve Meier, Cash CIO and Arlene Rockefeller, Equities CIO). In July 2014, on the departure of Maria Dwyer, Matt Steinaway was named interim Chief Risk Officer. Matt replaced Maria Dwyer, who was appointed to the leadership team of the Office of Regulatory Initiatives Oversight. In November 2014, David Saulnier was appointed as Chief Risk Officer for SSGA, replacing Matt Steinaway. Matt Steinaway resumed his position as Head of Global Cash Management. In March 2015, Timothy Corbett was appointed Head of Global Investment Risk replacing Fred Gjerstad who has since left the firm. In March 2015, Ronald O' Hanley was appointed CEO and President of State Street Global Advisors replacing Scott Powers who retired. In June 2015, Greg Ehret was named President continuing to report to Ron O'Hanley, chief executive officer of SSGA. Effective January 1, 2013, SSGA's Global Equity Beta Solutions ("GEBS") portfolio management team assumed direct responsibility for the management of the REIT indexing capability formerly provided by The Tuckerman Group LLC. In August 2015, Matt Steinaway was appointed as Chief Risk Officer for SSGA, replacing David Saulnier who has since left the firm. Pia McCusker assumed Matt's role as Head of Global Cash Management. In December 2015, Ronald O' Hanley, Chief Executive Officer of SSGA, re-assumed the role of President of the company upon the departure of Greg Ehret. Steven Lipiner was appointed Chief Financial Officer replacing Keith Crawford who was appointed head of global mergers and acquisitions.

STATE STREET GLOBAL ADVISORS.

GIPS® Report: Bloomberg Roll Select Commodity Total Return Index Composite As of December 31, 2015

Gross Returns

	Quarter	YTD	1 Year	3 Years	5 Years	10 Years	Since Inception Dec 2012
Bloomberg Roll Select Commodity Total Return Index Composite	-9.43	-23.53	-23.53	-16.31	N/A	N/A	-16.57
Bloomberg Roll Select Commodity Total Return Index	-9.39	-23.45	-23.45	-16.11	N/A	N/A	-16.37

Year	Bloomberg Roll Select Commodity Total Return Index Composite	Bloomberg Roll Select Commodity Total Return Index
2015	-23.53	-23.45
2014	-15.40	-15.17
2013	-9.38	-9.08
2012 (Dec–Dec)	-2.43	-2.40
2011	—	—
2010	—	—
2009	—	—
2008	—	—
2007	—	—
2006	—	—

Year	No. of Portfolios	Composite Dispersion	3 Yr Annualized Standard Deviation — Composite	3 Yr Annualized Standard Deviation — Benchmark	Total Assets at End of Period (USD)	% of Firm's Assets	Total Firm Assets (USD mil)
2015	*	N/A	11.62	11.65	430,363,114	0.02	2,183,429
2014	*	N/A	**	**	485,307,804	0.02	2,383,493
2013	*	N/A	**	**	479,827,568	0.02	2,279,237
2012 (Dec–Dec)	*	N/A	**	**	229,433,104	0.01	2,023,842
2011	—	—	—	—	—	—	—
2010	—	—	—	—	—	—	—
2009	—	—	—	—	—	—	—
2008	—	—	—	—	—	—	—
2007	—	—	—	—	—	—	—
2006	—	—	—	—	—	—	—

gP-UBSCom
* 5 portfolios or less
** Less than 3 years
Quarterly and YTD returns are not annualized

Investment Objective: The Strategy seeks an investment return that approximates as closely as practicable, before expenses, the performance of its benchmark index (the "Index") over the long term.

Investment Strategy: The Strategy is managed using a "passive" or "indexing" investment approach, by which SSGA attempts to replicate, before expenses, the performance of the Index. The Strategy will not necessarily own all of the futures contracts included in the Index. The Strategy typically attempts to replicate the performance of the Index by entering into derivatives transactions, such as total return swap transactions, providing a return based on the performance of the Index. In some circumstances, the Strategy may attempt instead to purchase the commodity futures contracts comprising the Index, in the same proportions as they are represented in the Index. In other circumstances the Strategy may attempt instead to purchase a representative selection of the futures contracts that comprise the Index in an attempt to replicate the performance of the Index. In such a case, SSGA will select a portfolio of investments for the Strategy (which may or may not be those futures contracts included in the Index) that SSGA expects will provide a return comparable to that of the Index. The Strategy will typically maintain a substantial cash balance. The Strategy will normally invest that cash in other short-term pooled investment vehicles sponsored, managed, or otherwise affiliated with SSGA, such as, for example, registered investment companies, private investment pools, or commingled trust funds. More information on the cash strategy is available upon request. The Strategy may at any time invest in additional or different investment vehicles, or may invest directly in short investments, in SSGA's discretion. The Strategy's return may not match the return of the Index.

Footnotes

Firm Definition: For the purpose of complying with the Global Investment Performance Standards (GIPS®), the firm ("SSGA-Global") is defined as all portfolios managed across the global offices of State Street Global Advisors (SSGA) and SSGA Funds Management, Inc., with the exception of business units which are held out to the marketplace as distinct business entities – Fiduciary Advisory Solutions (formerly known as the Office of the Fiduciary Advisor [OFA]) and Charitable Asset Management (CAM). Prior to 1/1/2011, SSGA-Global also excluded its wrap fee business (Intermediary Business Group [IBG]) and assets accounted for on a book value basis (global cash and stable value assets). In January 2011, SSGA acquired the Bank of Ireland Asset Management Limited (now known as SSGA Ireland Limited), a GIPS® Compliant firm. On 1/1/2012 SSGA Ireland Limited assets were merged into SSGA-Global.
Composite Description: The Composite seeks to achieve the Investment Objective described below using the Investment Strategy described below.
Composite Name Change: On 7/01/2014 the composite's name changed from the DJ UBS Roll Select Commodity Composite.
Compliance Statement: SSGA-Global claims compliance with the Global Investment Performance Standards (GIPS®) and has prepared and presented this report in compliance with GIPS. SSGA-Global claims compliance with the GIPS standards from January 1, 2000. The period prior to January 1, 2000 (where shown) is not in compliance, as not all actual fee-paying portfolios are in a composite. SSGA-Global has been independently verified for the periods January 1, 2000 through December 31, 2014. The verification report is available upon request. Verification assesses whether (1) the firm has complied with all the composite construction requirements of the GIPS standards on a firm-wide basis and (2) the firm's policies and procedures are designed to calculate and present performance in compliance with the GIPS standards. Verification does not ensure the accuracy of any specific composite presentation. In January 2015, the GIPS Firm name changed from "SSgA-Global" to "SSGA-Global".
List Available: A complete list of the firm's composites and their descriptions is available upon request.
Creation Date: The composite was created on 1 Jun 13. **Currency:** Performance is presented in US Dollar.
Benchmark Description: The benchmark for the Composite is the Bloomberg Roll Select Commodity Total Return Index. Index returns are unmanaged and do not reflect the deduction of any fees or expenses but include all items of income, gain and loss. Prior to 7/1/2014 the benchmark was called the DJ UBS Roll Select Commodity Index. **Currency:** Performance is presented in USD.
Fees: Returns are expressed gross of management fees. The results do not reflect the deduction of investment management fees. Some members of this composite may accrue administration fees. The client's return will be reduced by the management fee. For example, if an annualized gross return of 10% was achieved over a 5-year period and a management fee of 1% per year was charged and deducted annually, then the resulting total return would be reduced from 61% to 54%.
Fee Schedule: Management fees are 0.250% of the first $50,000,000; 0.200% of the next $50,000,000; and 0.180% thereafter. The minimum annual management fee for commingled funds is $25,000. The minimum annual management fee for separately managed accounts is $125,000. Management fees may be adjusted based upon specific client requirements.
Derivatives Use: SSGA may use futures and other derivatives from time to time in the management of the Strategy generally as a temporary substitute for cash investments or for hedging purposes and not with the purpose of creating investment leverage.
Annualized Returns: All returns for periods greater than one year have been annualized. **Withholding Taxes Differences:** None.
Exchange Rates Differences Between Composite & Benchmark: None. **Minimum Asset Level for Inclusion:** 0.
Dispersion: Asset-Weighted standard deviation is calculated using the annual returns of the accounts that were included in the composite for all periods of the year.
Significant Events: In July 2014, on the departure of Maria Dwyer, Matt Steinaway was named interim Chief Risk Officer. Matt replaced Maria Dwyer, who was appointed to the leadership team of the Office of Regulatory Initiatives Oversight. In November 2014, David Saulnier was appointed as Chief Risk Officer for SSGA, replacing Matt Steinaway. Matt Steinaway resumed his position as Head of Global Cash Management. In March 2015, Timothy Corbett was appointed Head of Global Investment Risk replacing Fred Gjerstad who has since left the firm. In March 2015, Ronald O' Hanley was appointed CEO and President of State Street Global Advisors replacing Scott Powers who retired. In June 2015, Greg Ehret was named President continuing to report to Ron O'Hanley, chief executive officer of SSGA. In August 2015, Matt Steinaway was appointed as Chief Risk Officer for SSGA, replacing David Saulnier who has since left the firm. Pia McCusker assumed Matt's role as Head of Global Cash Management. In December 2015, Ronald O' Hanley, Chief Executive Officer of SSGA, re-assumed the role of President of the company upon the departure of Greg Ehret. Steven Lipiner was appointed Chief Financial Officer replacing Keith Crawford who was appointed head of global mergers and acquisitions.
Calculation Methodology: Additional information is available upon request regarding the firm's policies and procedures for calculating and reporting performance results as well as valuation procedures.
Past and Future Performance: Historic performance is not necessarily indicative of actual future investment performance, which could differ substantially.

STATE STREET GLOBAL ADVISORS

GIPS® Report: S&P Global Large Midcap Natural Resources Composite As of December 31, 2015

Gross Returns

	Quarter	YTD	1 Year	3 Years	5 Years	10 Years	Since Inception Aug 2011
S&P Global Large MidCap Natural Resources Composite	-1.41	-27.20	-27.20	-13.73	N/A	N/A	-11.74
S&P Global Large Midcap Commodity and Resources Index	-1.61	-27.53	-27.53	-14.09	N/A	N/A	-12.08

Year	S&P Global Large MidCap Natural Resources Composite	S&P Global Large Midcap Commodity and Resources Index
2015	-27.20	-27.53
2014	-9.59	-9.94
2013	-2.44	-2.86
2012	7.17	6.99
2011 (Aug–Dec)	-16.28	-16.54
2010	—	—
2009	—	—
2008	—	—
2007	—	—
2006	—	—

Year	No. of Portfolios	Composite Dispersion	3 Yr Annualized Standard Deviation — Composite	3 Yr Annualized Standard Deviation — Benchmark	Total Assets at End of Period (USD)	% of Firm's Assets	Total Firm Assets (USD mil)
2015	*	N/A	16.21	16.24	847,715,483	0.04	2,183,429
2014	*	N/A	14.32	14.44	1,011,733,942	0.04	2,383,493
2013	*	N/A	**	**	1,185,957,229	0.05	2,279,237
2012	*	N/A	**	**	842,284,445	0.04	2,023,842
2011 (Aug–Dec)	*	N/A	**	**	315,681,685	0.02	1,768,142
2010	—	—	—	—	—	—	—
2009	—	—	—	—	—	—	—
2008	—	—	—	—	—	—	—
2007	—	—	—	—	—	—	—
2006	—	—	—	—	—	—	—

gP-GLNRS
* 5 portfolios or less
** Less than 3 years
Quarterly and YTD returns are not annualized

Investment Objective: The Strategy seeks an investment return that approximates as closely as practicable, before expenses, the performance of its benchmark index (the "Index") over the long term.

Investment Strategy: The Strategy is managed using a "passive" or "indexing" investment approach, by which SSGA attempts to match, before expenses, the performance of the Index. SSGA will typically attempt to invest in the equity securities comprising the Index, in approximately the same proportions as they are represented in the Index. Equity securities may include common stocks, preferred stocks, depository receipts, or other securities convertible into common stock. Equity securities held by the Strategy may be denominated in foreign currencies and may be held outside the United States. The Strategy may purchase securities in their initial public offerings ("IPOs"). In some cases, it may not be possible or practicable to purchase all of the securities comprising the Index, or to hold them in the same weightings as they represent in the Index. In those circumstances, SSGA may employ a sampling or optimization technique to construct the portfolio in question. From time to time securities are added to or removed from the Index. SSGA may sell securities that are represented in the Index, or purchase securities that are not yet represented in the Index, prior to or after their removal or addition to the Index. The Strategy may at times purchase or sell index futures contracts, or options on those futures, or engage in other transactions involving the use of derivatives, in lieu of investment directly in the securities making up the Index or to enhance the Strategy's replication of the Index return. The Strategy's return may not match the return of the Index.

STATE STREET GLOBAL ADVISORS

Footnotes

Firm Definition: For the purpose of complying with the Global Investment Performance Standards (GIPS®), the firm ("SSGA-Global") is defined as all portfolios managed across the global offices of State Street Global Advisors (SSGA) and SSGA Funds Management, Inc., with the exception of business units which are held out to the marketplace as distinct business entities – Fiduciary Advisory Solutions (formerly known as the Office of the Fiduciary Advisor [OFA]) and Charitable Asset Management (CAM). Prior to 1/1/2011, SSGA-Global also excluded its wrap fee business (Intermediary Business Group [IBG]) and assets accounted for on a book value basis (global cash and stable value assets). In January 2011, SSGA acquired the Bank of Ireland Asset Management Limited (now known as SSGA Ireland Limited), a GIPS® Compliant firm. On 1/1/2012 SSGA Ireland Limited assets were merged into SSGA-Global.
Composite Description: The Composite seeks to achieve the Investment Objective described below using the Investment Strategy described below.
Compliance Statement: SSGA-Global claims compliance with the Global Investment Performance Standards (GIPS®) and has prepared and presented this report in compliance with GIPS. SSGA-Global claims compliance with the GIPS standards from January 1, 2000. The period prior to January 1, 2000 (where shown) is not in compliance, as not all actual fee-paying portfolios are in a composite. SSGA-Global has been independently verified for the periods January 1, 2000 through December 31, 2014. The verification report is available upon request. Verification assesses whether (1) the firm has complied with all the composite construction requirements of the GIPS standards on a firm-wide basis and (2) the firm's policies and procedures are designed to calculate and present performance in compliance with the GIPS standards. Verification does not ensure the accuracy of any specific composite presentation. In January 2015, the GIPS Firm name changed from "SSgA-Global" to "SSGA-Global".
List Available: A complete list of the firm's composites and their descriptions is available upon request.
Creation Date: The composite was created on 1 Dec 11.
Benchmark Description: The benchmark for the composite is the S&P Global Large Midcap Commodity and Resources Index. Index returns are unmanaged and do not reflect the deduction of any fees or expenses but include all items of income, gain, and loss.
Currency: Performance is presented in USD. **Use of Subadvisors:** None.
Fees: Returns are expressed gross of management fees. The results do not reflect the deduction of investment management fees. Some members of this composite may accrue administration fees. The client's return will be reduced by the management fee. For example, if an annualized gross return of 10% was achieved over a 5-year period and a management fee of 1% per year was charged and deducted annually, then the resulting total return would be reduced from 61% to 54%.
Fee Schedule: Management fees are 0.18% of the first 50,000,000; 0.15% of the next $50,000,000; and 0.13% thereafter. The annual minimum management fee is $25,000 for Commingled accounts and $125,000 for Separate Accounts. Vendor fees are charged to both the separate account(s) and the commingled fund(s) as separate items from the investment management fees. Management fees may be adjusted based upon specific client requirements.
Derivatives Use: SSGA may use futures and other derivatives from time to time in the management of the Strategy generally as a temporary substitute for cash investments or for hedging purposes and not with the purpose of creating investment leverage.
Calculation Methodology: Additional information is available upon request regarding the firm's policies and procedures for calculating and reporting performance results as well as valuation procedures.
Annualized Returns: All returns for periods greater than one year have been annualized.
Withholding Taxes Differences: None. **Exchange Rates Differences Between Composite & Benchmark:** None.
Minimum Asset Level for Inclusion: 0. **Dispersion:** Asset-Weighted standard deviation is calculated using the annual returns of the accounts that were included in the composite for all periods of the year.
Significant Events: In July 2014, on the departure of Maria Dwyer, Matt Steinaway was named interim Chief Risk Officer. Matt replaced Maria Dwyer, who was appointed to the leadership team of the Office of Regulatory Initiatives Oversight. In November 2014, David Saulnier was appointed as Chief Risk Officer for SSGA, replacing Matt Steinaway. Matt Steinaway resumed his position as Head of Global Cash Management. In March 2015, Timothy Corbett was appointed Head of Global Investment Risk replacing Fred Gjerstad who has since left the firm. In March 2015, Ronald O' Hanley was appointed CEO and President of State Street Global Advisors replacing Scott Powers who retired. In June 2015, Greg Ehret was named President continuing to report to Ron O'Hanley, chief executive officer of SSGA. In August 2015, Matt Steinaway was appointed as Chief Risk Officer for SSGA, replacing David Saulnier who has since left the firm. Pia McCusker assumed Matt's role as Head of Global Cash Management. In December 2015, Ronald O' Hanley, Chief Executive Officer of SSGA, re-assumed the role of President of the company upon the departure of Greg Ehret. Steven Lipiner was appointed Chief Financial Officer replacing Keith Crawford who was appointed head of global mergers and acquisitions.
Past and Future Performance: Historic performance is not necessarily indicative of actual future investment performance, which could differ substantially.

REQUEST FOR INFORMATION:

Verus Investments (Verus) is issuing this Request for Information (RFI) on behalf of our client.

Please provide the requested information in a comprehensive yet succinct fashion and in the format provided. All data should be as of 03/31/2016.

Please submit **one electronic copy** to:

jnicolini@verusinvestments.com

Verus Investments will not be responsible for any expenses incurred in the preparation and/or presentation of the proposals and oral interviews, or for the disclosure of any information or material received in connection with this request whether by negligence or otherwise.

This RFI is for the following strategies:

1. **Passive Listed Global Infrastructure – S&P Global Infrastructure or equivalent index**
2. **Passive Listed Global Natural Resources – S&P Global Natural Resources or equivalent index**
3. **Passive Commodity Futures – Bloomberg Commodity Index (some flexibility with contract rolling and selection allowed)**

I. BACKGROUND & GENERAL INFORMATION

A. Contact information:

Firm Name:	State Street Global Advisors
Address:	State Street Financial Center One Lincoln Street Boston, MA 02111-2900
Telephone Number:	(617) 664-7727
Fax Number:	(617) 664-4024
Website:	www.ssga.com
Primary Contact	
Name:	John Farley
Title:	Vice President, Senior Consultant Liaison
Telephone Number:	(415) 836-9871
Email:	John_Farley@SSGA.com

B. Provide a brief overview of the firm, its history and main lines of business. Specify any lines of business other than investment management and provide the approximate percentage of firm revenues that each comprises.

Firm Description

For nearly four decades, State Street Global Advisors has been committed to helping our clients, and those who rely on them, achieve financial security.

We partner with many of the world's largest, most sophisticated investors and financial intermediaries to help them reach their goals through a rigorous, research-driven investment process spanning both indexing and active disciplines. With trillions* in assets, our scale and global reach offer clients unrivaled access to markets, geographies and asset classes, and allow us to deliver thoughtful insights and innovative solutions.

SSGA has also attained ETF industry leadership with its SPDR® family, including first-to-market launches with gold, international real estate, fixed-income and sector-specific ETFs.

State Street Global Advisors is the investment management arm of State Street Corporation.

**Assets under management were $2.29 trillion as of (03/31/2016). AUM reflects approx. $32.57B (as of 03/31/2016) with respect to which State Street Global Markets, LLC (SSGM) serves as marketing agent; SSGM and State Street Global Advisors are affiliated. Please note that AUM totals are unaudited.*

Firm History

State Street Global Advisors works closely with investors to better understand their needs and objectives, and to develop thoughtful, precise solutions designed to help meet a wide range of investment goals. From our roots as an indexing pioneer to our capabilities in active, smart beta and alternatives, our clients' investing challenges have served as a catalyst for our innovation for more than 35 years.

1978 State Street Corporation established State Street Global Advisors (SSGA) to provide institutional investment management services focused on equity indexing and cash. The new entity begins launching domestic and international equity index funds.

1984 SSGA complements its indexing prowess with new active quantitative equity strategies, to help meet client demand for systematic approaches to portfolio management and their underlying return drivers.

1990 We open our first non-US locations in London and Hong Kong; live trading desks in both locations offer clients local insight and execution.

1993 Together with the American Stock Exchange, SSGA launches SPDR, the world's first and still-largest ETF. The product offers investors broader, more efficient access to capital markets.

1998 SSGA launches Sector SPDRs, the industry's first family of sector-specific ETFs offering tactical asset allocation strategies to more investors.

1999 Working with the government of Hong Kong, we establish Asia ex-Japan's first ETF, the Tracker Fund of Hong Kong, offering unprecedented access to local markets.

1999 We introduce multi-asset class, liability-driven investing, providing strategies more closely aligned with plan sponsors' risk, return and cash-flow objectives.

2000 We create our Official Institutions Group, among the first dedicated to serving the investment needs of sovereign wealth funds and central banks. Today, it manages more than $420 billion globally for 65+ government entities around the word.

2004	SSGA and the World Gold Council launch the first gold-backed ETF in the US; the fund raises more than $2 billion in just two months.
2008	We introduce Managed Volatility strategies, providing clients with a new risk management tool seeking compelling equity returns with less volatility.
2010	SSGA announces its acquisition of Bank of Ireland Asset Management, adding deep fundamental equity portfolio management expertise.
2011	We establish our Global Macro capability, an absolute return strategy combining quantitative, fundamental and behavioral analysis to pursue opportunities across a wide range of asset classes, geographies and traditional and nontraditional investments.
2012	We partner with specialty asset manager Blackstone/GSO to offer the first-of-its-kind actively managed senior loan ETF.
2014	SSGA expands its presence in the UK defined contribution marketplace with the launch of the Timewise Target Retirement Funds, a series of funds designed to serve as default options in retirement plans.
2015	SSGA has five of the top ten most successful new ETF launches in 2015.
2016	In March 2016, SSGA agreed to acquire GE Asset Management (GEAM), a leading asset manager, for the price of $485 million. Pending regulatory approvals and other customary closing conditions, the transaction is expected to be finalized early in the third quarter of 2016.

Revenue Sources
State Street Corporation has two primary lines of business: Investment Services and Investment Management (SSGA). The following is a brief description of these two major revenue sources.

Investment Services
Investment services include custody, recordkeeping, daily pricing and administration, shareholder services, foreign exchange, brokerage and other trading services, securities finance, deposit and short-term investment facilities, loan and lease financing, investment manager and hedge fund manager operations outsourcing, performance, risk and compliance analytics and investment research. Revenue from Investment Services comprised 88% of State Street's total revenue for 2015.

Investment Management
State Street offers a broad array of services for managing financial assets worldwide for both institutions and individual investors. Services include passive, enhanced and active equity, money market and fixed income strategies and other related services. Revenue from Investment Management comprised 12% of State Street's total revenue for 2015.

C. Provide a breakdown of SSGA assets under management (AUM) including growth and retention of accounts. Please include an explanation of any major changes in AUM in a given year. Please provide the same for your beta business.

Please refer to the below table for firm-wide AUM.

Year	Firm AUM(USD) mm	Gained		Lost	
		Accounts	AUM(USD) mm	Accounts	AUM(USD) mm
2016 (March 31st)	$2,295,979.83*	191	$23,466.86	228	$19,914.41
2015	$2,244,816.42	1589	$62,736.61	2698	$102,315.24
2014	$2,448,112.18	804	$53,701.21	994	$40,656.34
2013	$2,344,789.48	1382	$82,043.55	1670	$92,714.14

**AUM reflects approx. $32.57 Billion (as of 03/31/2016) with respect to which State Street Global Markets, LLC (SSGM) serves as marketing agent; SSGM and State Street Global Advisors are affiliated.*

Please refer to the below table for firm wide beta business gain and loss.

	Gained		Lost	
Year	**Accounts**	**AUM(USD) mm**	**Accounts**	**AUM(USD) mm**
2016 (March 31st)	121	$20,744.02	150	$15,124.64
2015	942	$40,624.17	1570	$63,043.01
2014	526	$39,428.32	678	$31,937.07
2013	876	$63,356.29	876	$54,480.24

Clients often cite policy level issues, such as a change in investment policy, investment approach (e.g., move assets from passive to enhanced or active), asset allocation, or on occasion, an opportunity to bring assets in-house, as reasons for terminating an investment management relationship with SSGA.

II. INVESTMENT TEAM

A. Attach an organizational chart encompassing the group(s) responsible for managing the proposed strategy as Appendix A – Investment Team Organizational Chart.

Please refer to ***Appendix A*** for two investment team organizational charts. One chart covers the Investment Solutions Group (ISG), which will be managing the custom real asset strategy that is comprised of the three funds and the other chart covers the Global Equity Beta Solutions Group (GEBS) which manages the three underlying funds - State Street Bloomberg Roll Select Commodity Index Strategy, the State Street S&P Global Infrastructure Index Strategy and the State Street S&P Global LargeMidCap Natural Resources Index Strategy.

B. Identify the named portfolio manager(s) who would be responsible for our client's specific portfolio. If different individuals would be assigned for a separate account vs. the commingled fund, indicate so.

With regards to a custom account through the Investment Solutions Group, Mike Martel is the head of North American portfolio management for Investment Solutions Group. Under Mike, each account is assigned a lead portfolio manager as well as a back-up portfolio manager. With all Real Asset accounts, either Rob Guiliano or John Gulino, CFA serve as a lead or backup portfolio manager in some capacity. Rob has over 18 years of industry experience and has been involved in the SSGA Real Asset Strategy since the research phase and has been involved in managing the portfolios since inception. John has over 14 years of industry experience and has been involved in marketing and managing the SSGA Real Asset Strategies since 2010.

The three underlying portfolios will be managed by two experienced portfolio managers. The State Street Bloomberg Roll Select Commodity Index Non-Lending Fund and State Street S&P Global Infrastructure Index Non-Lending Fund are managed by Karl Schneider. The State Street S&P Global LargeMidCap Natural Resources Index Non-Lending Fund is managed by Melissa Kapitulik. Both portfolio managers have 20 years of industry experience.

C. Are any of the investment activities or administrative services associated with the proposed strategy fully or partially outsourced to third-party service providers? If so, please list each firm and describe their respective roles. Are any of these firms considered affiliates of your firm?

No activities are outsourced to a third party service provider for the proposed funds.

SSGA interacts with several affiliated areas of State Street Corporation and State Street Bank and Trust Company. The following are those affiliates relevant to SSGA's investment management activities:

State Street Global Markets, LLC (SSGM)
SSGM was established in 1992, as a broker/dealer and is a member of the Financial Industry Regulatory Authority (FINRA) and the Securities Investment Protection Corporation (SIPC). SSGM offers transition management (liquidation/restructuring) and commission recapture programs to plan sponsors.

SSGA Funds Management, Inc. (SSGA FM)
SSGA FM is an SEC-registered investment adviser and currently provides advisory services to US registered open-end investment companies and the SSGA Funds. SSGA FM was created in 2001 after Section 217 of the Gramm-Leach-Bliley Act, which amended Section 202(a)(11), became effective. This legislation required that any adviser to registered open-end investment companies registered with the SEC under the Investment Company Act of 1940 be registered with the SEC under the Advisers Act.

SSGA Funds
The SSGA Funds are a series of no-load mutual funds and are distributed by SSGM. The funds offered range from international and domestic equity to fixed income, money market and asset allocation funds.

State Street Global Alliance, LLC
In February 2001, ABP purchased a meaningful stake in SSGA's Global Alliance initiative, creating the joint venture, State Street Global Alliance, LLC. Global Alliance leverages the management and industry strengths of SSGA as well as the sophistication and global insights of ABP to create substantial additional shareholder value and to further broaden the product suite available to SSGA's clients.

REQUEST FOR INFORMATION:

III. INVESTMENT PRODUCT CAPABILITIES

A. Do you have indexing capabilities in Listed Global Infrastructure, Listed Global Natural Resources and Commodity Futures (Bloomberg Commodity Index)? Please describe the products that are benchmarked to each of these asset classes.

The Global Equity Beta Solutions team has the capabilities to create virtually any customized indexed product demanded by our clients. We have been managing passive portfolios for our clients since 1978 and as of 5/31/16 manage over 500 benchmark weighting schemes encompassing over 1,800 portfolios. While we have a broad selection of commingled funds, a large percentage of our assets are managed as separate accounts where our clients' mandates require some level of customization.

Global Equity Beta Solutions does offer commingled fund products to fit the exposure you are seeking.

State Street Bloomberg Roll Select Commodity Index Non-Lending Strategy – The Strategy seeks an investment return that approximates as closely as practicable, before expenses, the performance of its benchmark (Bloomberg Roll Select Commodity Index) over the long term.

State Street S&P Global LargeMidCap Natural Resources Index Non-Lending Strategy - The Strategy seeks an investment return that approximates as closely as practicable, before expenses, the performance of its benchmark (S&P Global LargeMidCap Commodity and Resources Index) over the long term.

State Street S&P® Global Infrastructure Index Non-Lending Strategy - The Strategy seeks an investment return that approximates as closely as practicable, before expenses, the performance of its benchmark (S&P Global Infrastructure Index) over the long term.

B. Do you pursue full replication, stratified sampling or something else? Please describe.

State Street S&P Global LargeMidCap Natural Resources Index Non-Lending Strategy and the State Street S&P® Global Infrastructure Index Non-Lending Strategy use replication methodology. The State Street Bloomberg Roll Select Commodity Index Non-Lending Strategy utilizes swaps.

Most often, we use replication, which aligns with our belief in efficient markets, more closely reflects benchmark composition and carries a much lower tolerance for security level mis-weights. More importantly, given our size, scale and the maturity of our asset base, it's a process that we can implement more cost effectively and with greater liquidity than many other passive managers. By leveraging the size of our investment operation, we can effect portfolio transactions through internal crossing, thereby trading off-market without brokerage commissions or other transaction costs. We pass these cost savings directly to clients. Where internal crossing transactions are not available or permitted, we execute transactions as cost-effectively as possible, relying on low-cost, often automated external trading and trade crossing networks.

We typically seek commodity-based index returns through the use of futures contracts and swaps on the index itself, or through other derivatives transactions with respect to the index.

It is possible that, under some circumstances, we will seek to recreate the index return by buying the actual futures contracts making up the index in the similar weightings as in the index or by constructing a portfolio of futures and other derivatives that we expect to provide a return comparable to that of the benchmark index. In either case, minimizing transaction costs and risk control are key considerations. We attempt to execute transactions in the most cost-effective manner, relying on low-cost, often automated, trading systems. We monitor each portfolio on an ongoing basis to minimize variances from index exposures, and initiate trades to limit any tracking error or to accommodate periodic cash flows.

C. Ex-ante and ex-post tracking error by asset class (Listed Global Infrastructure, Listed Global Natural Resources and Commodity Futures)

Product	Ex-Ante	Ex-Post
State Street Bloomberg Roll Select Commodity Index Non-Lending Strategy	+/- 5 bps	+/- 20 to 30 bps
State Street S&P® Global Infrastructure Index Non-Lending Strategy	+/- 12 bps	+/- 20 to 25 bps
State Street S&P Global LargeMidCap Natural Resources Index Non-Lending Strategy	+/- 12 bps	+/- 50 bps

D. Do you offer a custom fund or discretionary account where you can manage a portfolio of Listed Global Infrastructure, Listed Global Natural Resources and Commodity Futures strategies (ex. 1/3rd allocation to each of the three asset classes with periodic rebalancing and oversight)? Please describe.

Yes, for the Real Asset Strategy, we frequently construct custom accounts comprised of underlying commingled funds that meet specific client needs. We will work with clients and consultants to create a custom Real Asset Strategy consisting of Global Infrastructure, Global Natural Resources and Commodity Futures index strategies that would include semi-annual rebalancing.

E. Would you recommend additional asset classes be considered in a passive real asset fund structure?

In an environment of stable or increasing inflation, investing in real asset classes can potentially provide multiple portfolio benefits. A disciplined asset allocation strategy that combines REITs, commodity index exposure, natural resource stocks, listed global infrastructure and inflation protected securities (U.S. TIPS) can provide opportunities for higher risk-adjusted returns, lower volatility, additional income, and positive returns over inflation.

In addition to the Global Infrastructure, Global Natural Resources and Commodity Futures currently being inquired about, we would recommend adding US TIPS and REITS. Implementing a strategy composed of a diversified group of real asset classes may also provide additional benefits to a broader portfolio which may include diversification benefits and additional income. Diversification benefits are the result of reduced correlations among real and traditional asset classes. As a result, the addition of TIPS and REITS to a portfolio may result in a more efficient portfolio and generate improved returns on a risk-adjusted basis.

The TIPS allocation is appropriate as inflation linked bonds offer an explicit inflation adjustment and as inflation rises principle adjustments result in higher interest accruals. TIPS also serve to offer diversification benefits to the portfolio as they have historically demonstrated lower volatility relative to the higher risk assets in the portfolio. REITs serve as a proxy to real estate investing. This asset class benefits from rising real estate prices often characterized during expansion cycles. During this type of environment, improved household spending and a tightening labor market benefit the value of securitized real estate companies.

Market conditions can change the view of what constitutes Real Assets. SSGA's size and scope allows us to add other asset classes as the markets and clients deem necessary. We are well positioned to provide long-term, relevant Real Assets exposure.

F. This will be a drawdown fund to meet capital calls for private investments in real assets, will this present any problems for the structure you propose?

No, both a Custom Real Asset Strategy and investing in the individual commingled funds offer daily liquidity. The component strategies that this Custom Real Asset Strategy invests in and our own SSGA Real Asset Strategy are all purchasing and selling highly liquid, marketable securities. We have designed the Strategy to incorporate only liquid and easily tradable securities in order to protect the portfolio during periods of illiquidity. Liquidity risk is also considered during the construction of the indexes by the index providers. As the Real Asset Strategy underlying funds are passively managed, our portfolios adhere to the index liquidity guidelines.

G. Though we have asked for passive exposure in commodity futures, does your Firm offer active commodity futures strategies? Please describe briefly.

Yes, the Investment Solutions Group offers the Multisource Active Commodity Strategy in a commingled vehicle and separate account format.

The Strategy seeks to achieve its objective through the active management of a pool of commodity positions. The Strategy's return will typically differ from (and may underperform) the Index's return. The Strategy will employ investment leverage. We typically expect to limit aggregate net portfolio exposure between 50% to 150% of the net asset value.

The Strategy seeks exposure to a variety of commodities markets through the use of exchange-traded futures contracts and over-the-counter derivatives. Those derivatives may include, for example, futures contracts and options on futures contracts, swap contracts, options. The Strategy will likely hold a substantial portion of its assets in cash and cash instruments, including short-term investment vehicles managed by SSGA or an affiliate and may use the cash as a basis for gaining additional commodity exposures.

The Strategy seeks to outperform its benchmark, the Bloomberg Commodity Total Return Index, over a market cycle. The Strategy seeks to achieve this return by maintaining a volatility level as defined by standard deviation of returns comparable to the Index on a historical basis. There can of course be no assurance that the Strategy will achieve that level of performance or will maintain that level of tracking error. The Strategy will use investment leverage, which may be highly volatile and may result in the loss of some or all of an investor's capital. The Strategy may take short positions in commodities through futures contracts or other derivatives. Investors should consult with their investment counselors to determine whether an investment in the Strategy is appropriate for them.

IV. Investment Vehicles, Fees & Terms
For each of the products: Listed Global Infrastructure, Listed Global Natural Resources and Commodity Futures (Bloomberg Commodity Index)

A. Provide the standard fee schedule, liquidity terms and minimum investment for the following:
1) Separate Account
2) Commingled Fund
3) Institutional Mutual Fund

Custom Real Asset Strategy (comprised of the following three strategies using our commingled vehicle format: State Street Bloomberg Roll Select Commodity Index Non-Lending Strategy, State Street S&P Global LargeMidCap Natural Resources Index Non-Lending Strategy and State Street S&P® Global Infrastructure Index Non-Lending Strategy rebalanced semi-annually and weighted approximately one third to each asset class):

0.19% investment management fee
$ 100,000 minimum annual fee

Should the client choose to invest in the three component strategies and rebalance back to the custom benchmark themselves, the following fee schedules would apply to each strategy:

- **State Street Bloomberg Roll Select Commodity Index Non-Lending Strategy**
    - 25bps on the first $50m
    - 20bps on the next $50m
    - 18bps thereafter

    Minimum annual fee: $125,000 (separate account) /$25,000 (commingled fund)

- **State Street S&P Global LargeMidCap Natural Resources Index Non-Lending Strategy**
    - 14bps on the first $50m
    - 12bps on the next $50m
    - 11bps thereafter

    Minimum annual fee: $125,000 (separate account) /$25,000 (commingled fund)

- **State Street S&P® Global Infrastructure Index Non-Lending Strategy**
    - 18bps on the first $50m
    - 15bps on the next $50m
    - 13bps thereafter

    Minimum annual fee: $125,000 (separate account) /$25,000 (commingled fund)

    We currently do not have mutual funds available in this space.

B. Specifically regarding commingled vehicles (excluding mutual funds):
1) Describe the structure of your commingled investment vehicle(s), including type (e.g., LLC, L.P.) and domicile.

Please refer ***Appendix B*** (Essential SSGA) for the response.

2) **Is the commingled vehicle structured in order to minimize UBTI for U.S. tax-exempt investors?**

   Please refer to ***Appendix B*** (Essential SSGA), specifically page 10 for the response.

3) **Aside from stated management, what additional fees or expenses are borne by the commingled vehicle? Please provide annual estimates in bps for these fees/expenses and state the cap, if any.**

   Please refer ***Appendix C*** (Fund Audited Financial Statement) for additional fees information.

   Below are the annual estimates for the fees/expenses:

   State Street Bloomberg Roll Select Commodity Index Non-Lending Strategy
   2015 Total Annual Net Operating Expense Ratio: approx. 3 bps

   State Street S&P Global LargeMidCap Natural Resources Index Non-Lending Strategy
   2015 Total Annual Net Operating Expense Ratio: approx. 5.5 bps

   State Street S&P® Global Infrastructure Index Non-Lending Strategy
   2015 Total Annual Net Operating Expense Ratio: estimated 11 bps

4) **Do you envision this fund utilizing securities lending? If so, please provide more details on the proposed structure of program.**

   The funds proposed are non-lending funds. We currently do not offer securities lending versions.

5) **How often may an investor withdraw funds? What is the notice period? Are there any lock-ups associated with the fund? Are there flood gates? Are investors paid with cash or distributions in kind? Are there any fees or penalties associated with withdrawals?**

   The commingled funds for the three strategies comprising this custom real asset strategy (State Street Bloomberg Roll Select Commodity Index Non-Lending Strategy, State Street S&P Global LargeMidCap Natural Resources Index Non-Lending Strategy and State Street S&P® Global Infrastructure Index Non-Lending Strategy) offer daily trading and are available for trading whenever the New York Stock Exchange is open. Please refer to ***Appendix D*** (Fund Operating Guidelines, Fund Declaration and Declaration of Trust) specifically the Fund Operating Guidelines for the SSGA US Bank-Maintained Commingled Funds for specifics around notification and withdrawal requirements.

6) **Discuss your fund-raising efforts including target amount, timeframe of expected closings, and main sources (e.g., public plans, foreign entities, retail investors) to the extent that these items are applicable.**

   Not applicable to the products offered.

REQUEST FOR INFORMATION:

V. OPERATIONS, TRADING & CONTROLS

A. **If applicable, discuss fund administration and custody, indicating any relevant outside service providers.**

State Street Bank and Trust is administrator and custodian for all the SSGA commingled funds.

State Street Global Advisors (SSGA) is a separately managed division of State Street Bank and Trust (SSBT).

SSGA employs a number of policies, guidelines and procedures to ensure that client relationships of other operating divisions of SSBT and affiliates of SSBT do not influence investment decisions of SSGA. These include among others:

- The SSGA Proxy Voting Policy, particularly the Potential Conflicts section which describes the role of the Investment Committee in managing potential conflict situations.
- The SSGA Code of Ethics which states among other things that "Each employee has a duty at all times to place the interests of our clients first;"
- SSGA's policies and procedures regarding trade allocation, IPO allocations and internal crossings require transactions be executed in a fair and equitable manner for all SSGA clients participating in such trades.
- SSGA's best execution policy requires clients who request trades be directed to specific brokers do so in writing.

SSGA is subject to laws and regulations which prohibit or restrict engaging in self dealing and transactions with affiliates. ERISA prohibits transactions with affiliates (parties in interest) except under specific exemptions granted by the Department of Labor. SSGA seeks to comply with these requirements for ERISA accounts.

Institutionally, to prevent conflicts between clients of SSGA and other operating divisions of SSBT, CEO and President of SSGA reports directly to the Chairman and CEO of SSBT, not to another SSBT business division. As a specialty financial services firm, SSBT supports institutional investors through investment management, investment servicing and related services. SSBT sold its retail and commercial banking division in 1999. It is not actively engaged in corporate investment banking, thus significantly reducing the possibility of other divisions or affiliates seeking to influence the investment decisions of SSGA.

B. **Provide an overview of your trade allocation protocols and procedures for controlling performance dispersion between accounts with substantially the same guidelines.**

SSGA Trading has a fiduciary responsibility to ensure that all accounts are traded fairly and equitably. We adhere to and execute trades based on an aggregation and allocation policy that ensures pro-rata allocation and average price for allocation methods in our systems. SSGA's trade allocation policy and supporting procedures are based on the objective that all allocations should be made pro-rata based on the total order in each eligible account regardless of who the client or portfolio manager may be, account performance, current investment positioning or account type. When a trade including multiple accounts is not fully executed the pro-rata algorithm in the trading system calculates the executed share amounts to fill across each individual account respectively. For example, if the trade was 60% executed then each account will be filled 60% of their original order.

There are instances when the Trading system requires the trader to intervene to “push” through the pro-rata calculation. The system records these interventions which produces a report. All instances are researched and documented for the record. Generally, these instances are attributed to system interruptions or pauses where the trader is prompted to press a button to calculate pro-rata. We track this and it happens only a few times per year.

C. Provide an overview of your pre- and post-trade investment guideline monitoring practices. Is a separate, independent group responsible for ensuring guideline compliance?

SSGA employs a multi-tiered approach to help ensure compliance with account investment guidelines, restrictions, and regulatory requirements.

The Investment Management team is responsible for the first level of compliance, including managing accounts in accordance with their governing documents and applicable regulatory requirements.

The Global Investment Compliance team is responsible for reviewing account and fund governing documents to help ensure compliance with investment guidelines, restrictions, and applicable regulatory requirements. Fidessa’s Minerva serves as the primary equity and fixed income trading platform, and Fidessa’s Sentinel serves as the primary equity and fixed income compliance platform. Bloomberg serves as SSGA’s trading and compliance platform for cash accounts. Once an account’s governing documents are finalized, Investment Compliance is responsible for extracting and coding investment restrictions into the applicable compliance system. A “No Trade” rule is placed on all new accounts to make sure that no trading takes place until all rules have been coded and all reviews are complete. A Compliance analyst creates an Account Extraction Form to capture relevant account guidelines. After the rule extraction and coding have been completed by the Compliance analyst, a second Compliance analyst reviews the coding for accuracy prior to being activated in SSGA’s compliance systems. The Account Extraction Form is then sent to the appropriate Portfolio Manager for review to ensure that they are in agreement with Compliance’s interpretation of the guidelines. Once the Portfolio Manager has reviewed and provided approval, the “No Trade” rule is removed.

Rules can be coded using pre-trade or post-trade functionality. Pre-trade restrictions monitor compliance guidelines at time of purchase, while post-trade restrictions identify compliance violations on trade date + 1 after the prior night’s security and account market values have been finalized. Rules can also be coded as hard or soft restrictions, providing the compliance team with flexibility to code rules as hard stops or warnings depending on the guideline requirements. Investment guidelines are monitored by the Investment Compliance team, who reports and addresses incidents to Investment Management immediately.

In the event account investment guidelines are breached, SSGA has controls in place to identify and escalate the breach to the appropriate internal and external parties. Issues determined to be active guideline breaches are escalated to the client through the appropriate client facing personnel upon discovery. The Investment Management team is also notified of the breach upon discovery. The description and root cause of the breach is logged internally in the Global Breach Log, and preventative measures are discussed and recorded to prevent recurrence.

D. Are soft-dollars used in this proposed strategy? Will you manage without soft dollars?

SSGA has elected to suspend its Commission Sharing Agreement (CSA) program (sometimes referred to as Soft Dollars) in 2016. A CSA program funds third party research services independent of the execution decision. SSGA may decide to reinstitute its Soft Dollar Program at a future date. Should this happen, your dedicated Relationship Manager will proactively notify you of such a change.

E. Will the strategies be hedged back to the USD?

The global strategies are not hedged back to their base currency, USD. Our investment process strives to be similar to the benchmark with respect to country weights. Given this similarity, we are, by default, relatively currency neutral. However, SSGA can include currency hedging if desired by the client. Our dedicated Currency Team can provide both passive and active overlays.

MISCELLANEOUS

F. **What type of standard reporting package do you provide to clients for the proposed strategy? Please attach a sample report as Appendix B – Sample Client Report.**

As a client of SSGA, you will receive our standard monthly and quarterly reporting. Monthly reports include accounting information, performance and analytics. Quarterly reports include all of the above as well as analytics calculated for the quarter. Additionally as a standard, all Clients receive quarterly strategy commentary and SSGA forecasts. Client reports are delivered electronically and are also accessible via SSGA's password-protected Private Site. For participants in SSGA commingled funds, our Web Site also provides access to your daily Appraisal and Trade Summary Reports showing your Unit ownership and any trading activity. In addition, each client is assigned a dedicated - Reporting Analyst, who works with your Relationship Manager to ensure that the client receives any customized information outside of the standard reporting.

SSGA has an internal proprietary Client Reporting System (CRS) that generates and distributes standard client reporting packages.

Please see ***Appendix E*** for a Sample of our standard Client Performance Report.

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
Board of Retirement

July 27, 2016 Agenda Item 6.6

TO: Board of Retirement

FROM: Michael Coultrip, Chief Investment Officer Michael R. Coultrip

SUBJECT: Report on Asset-Liability Study: Asset Allocation Mixes

Staff Recommendation

Provide direction to staff and consultant regarding SamCERA's enterprise risk tolerance and resulting asset allocation mixes.

Background

During the April Board retreat, Verus provided a session on our upcoming asset-liability study. They introduced the topic and provided an overview of the asset liability process. In May, Verus sent an enterprise risk tolerance survey to the Board, and shared the results with the Board during the June meeting.

Discussion

This month Verus will present a range of asset allocation portfolios, and summarize their resulting key metrics, including funded ratio, contributions in dollars, and contributions as a percentage of pay. The goal of this discussion will be to provide information that will further assist the Board in developing its enterprise risk tolerance by showing various return and risk tradeoffs.

Margaret Jadallah (Verus) will present this topic.

Attachment

Verus Asset–Liability Study Exhibits

Verus

PERSPECTIVES THAT DRIVE ENTERPRISE SUCCESS

JULY 2016

Asset / Liability Study

San Mateo County Employees' Retirement Association

Table of contents

Verus

VERUSINVESTMENTS.COM

SEATTLE 206-622-3700
LOS ANGELES 310-297-1777

I. Introduction

Session objectives

- Develop intuitive sense of how different investment strategies impact the Plan's key metrics, including:
  - Funded ratio
  - $ Contributions
  - Contributions as % of pay
- Understand impact of range of possible market outcomes
- Provide information to assist Board in developing its Enterprise Risk Tolerance
- Provide meaningful insight into the investment strategy selection decision

Asset / liability analysis is best used to evaluate the impact of broad strategic shifts, rather than small asset allocation adjustments

Summary Findings

— If actuarial assumptions hold, the Plan will become fully funded in 2022

— Over the 20-year projection period, net cash flow is expected to become increasingly negative

— Based on capital market assumptions, and nine alternative investment strategies:

- Expected returns range from approximately 6.2% - 7.1% with expected volatility ranging from 10.7% - 13.5% (p.19)
- Equity risk exposure ranges from a high of 90% to a low of 60% for the most diversified portfolio (p.20)
- All investment strategies will do best to a high growth / low inflation economic environment (p.25)
- The investment strategies demonstrate a broad range of outcomes during times of historical volatility (p.26)
- The median forecasted funded ratios (for 2025) range from 103% to 108% - low outcome dispersion largely due to long UAAL amortization period (p.28)
- The median forecasted employer contributions in year 10 range from $65MM to $91MM across the five investment strategies (p.31)
- The median forecasted employer contributions as a percent of pay in year 10 range from 11% to 15.2% across the five investment strategies (p.34)

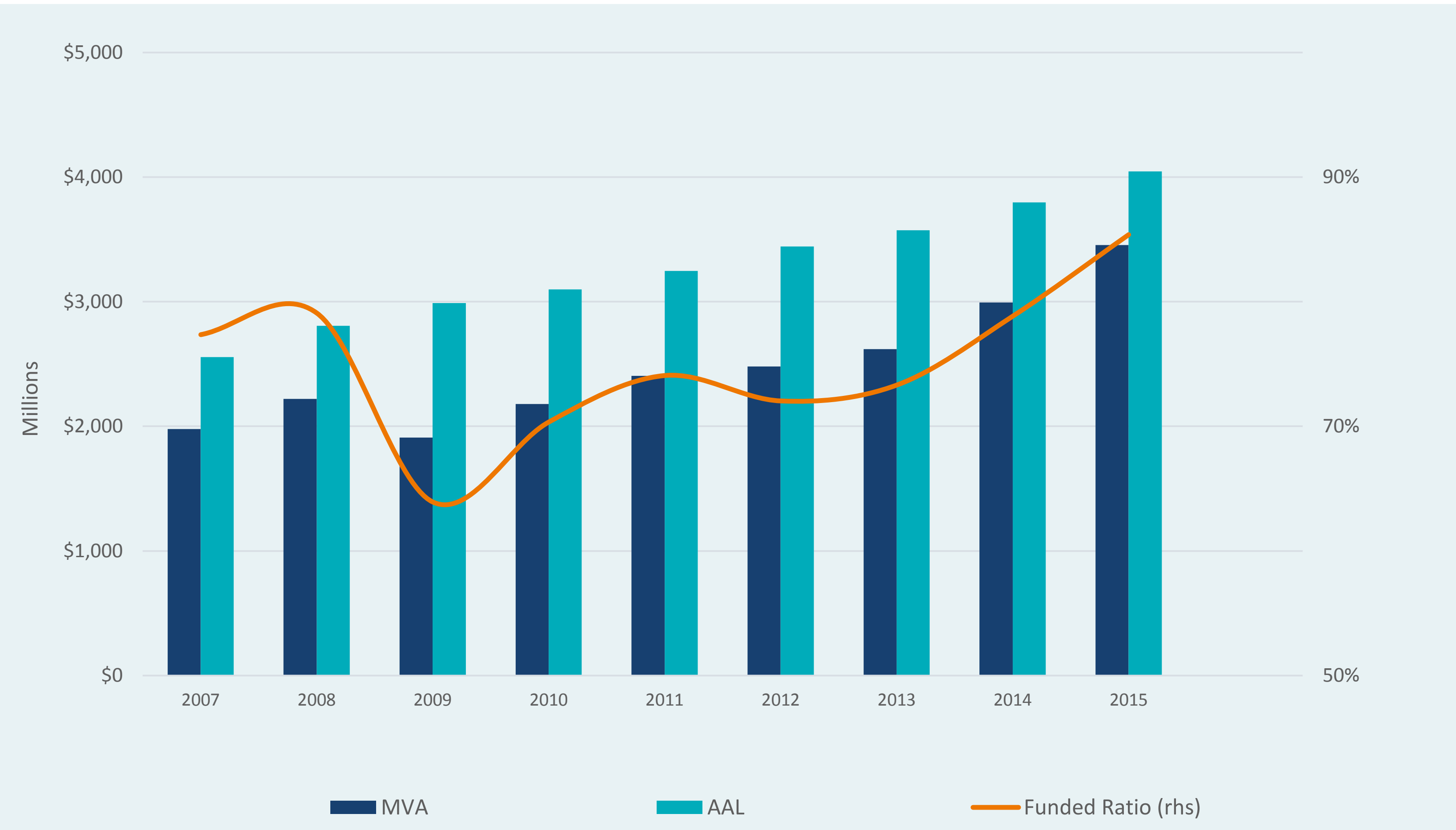
II. Historical experience

Total fund performance

	Trailing Returns for period ending 3/31/16				Calendar Years				
	1-Year	3-Year	5-Year	10-Year	2015	2014	2013	2012	2011
Total Fund	-0.8%	6.1%	6.5%	4.6%	0.8%	5.6%	17.4%	13.3%	-0.3%
Policy Index	-0.7%	6.2%	6.7%	5.6%	-0.2%	6.0%	17.9%	13.1%	0.7%

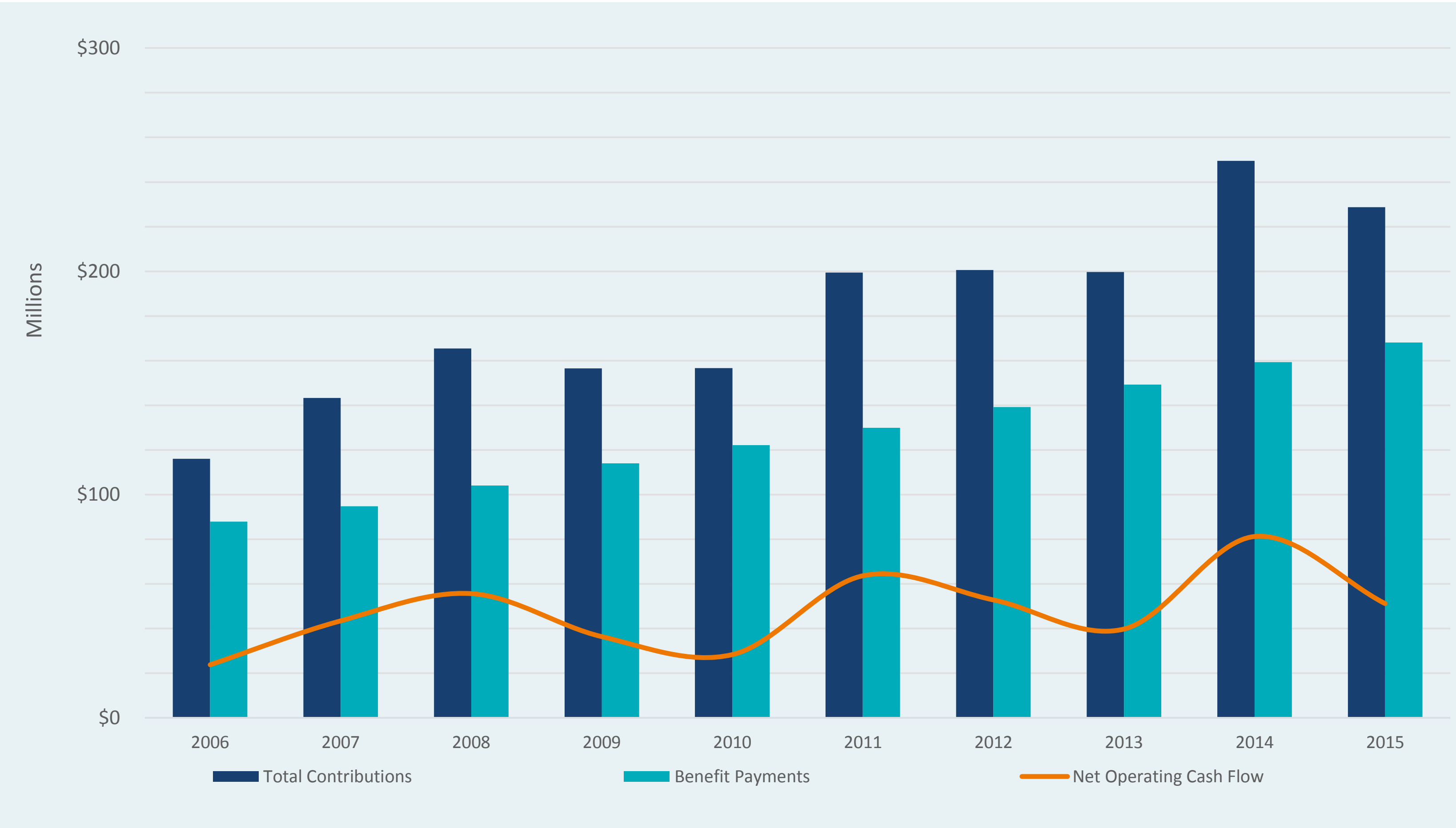
Actuarial valuations & market value funded status

HISTORICAL FUNDED STATUS



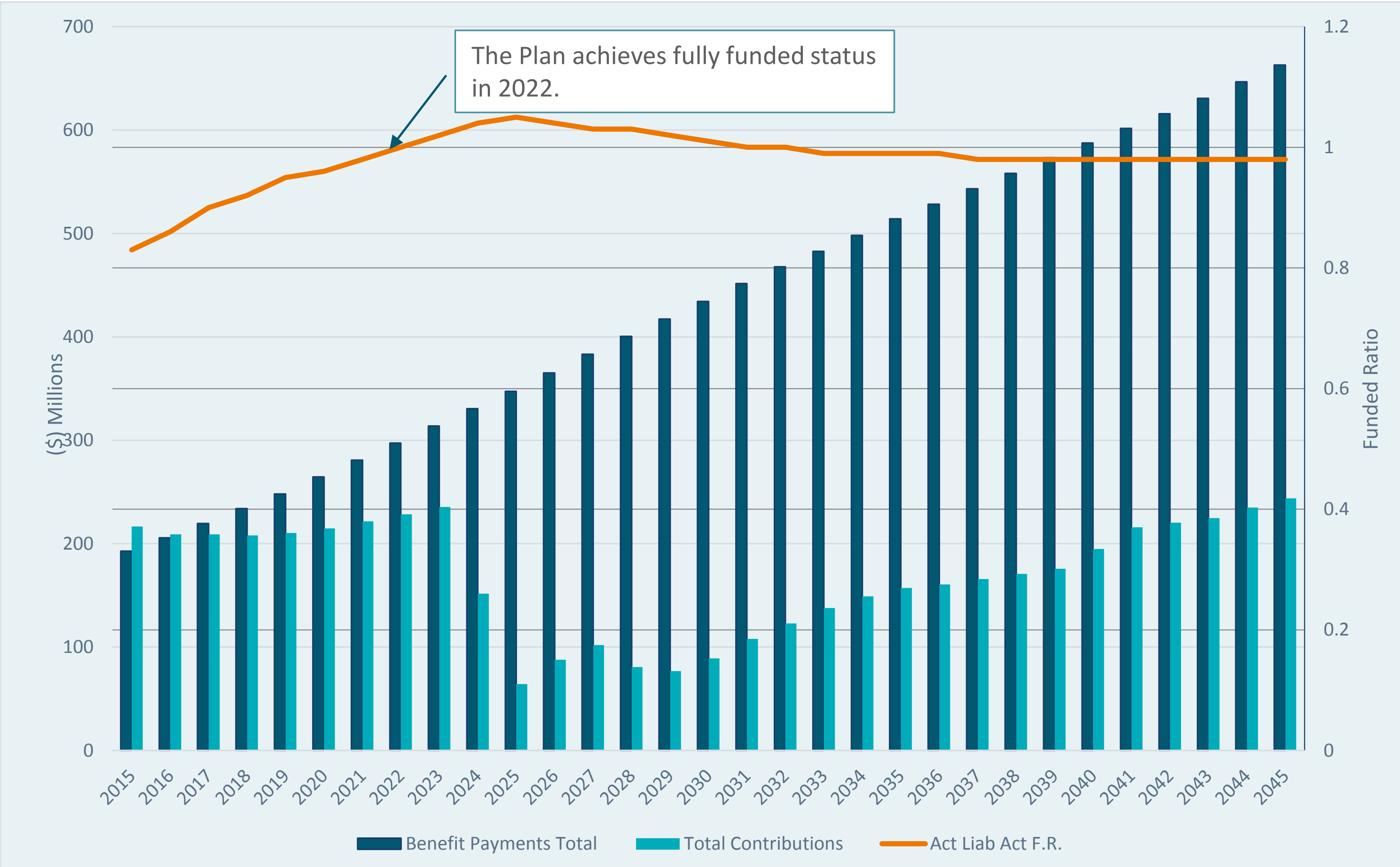
Source: SamCERA Performance Reports, Segal Actuarial Valuation Reports

Contributions & benefit payments



III. Deterministic Projections

Base case: the plan earns 7.0% every year for next 20 years



The Plan achieves fully funded status during 2022 if the base case were to hold true.

Notes: Contributions consist of employer and employee contributions. Funded status for all deterministic projections is based on the actuarial value of assets.

Funded status outcomes

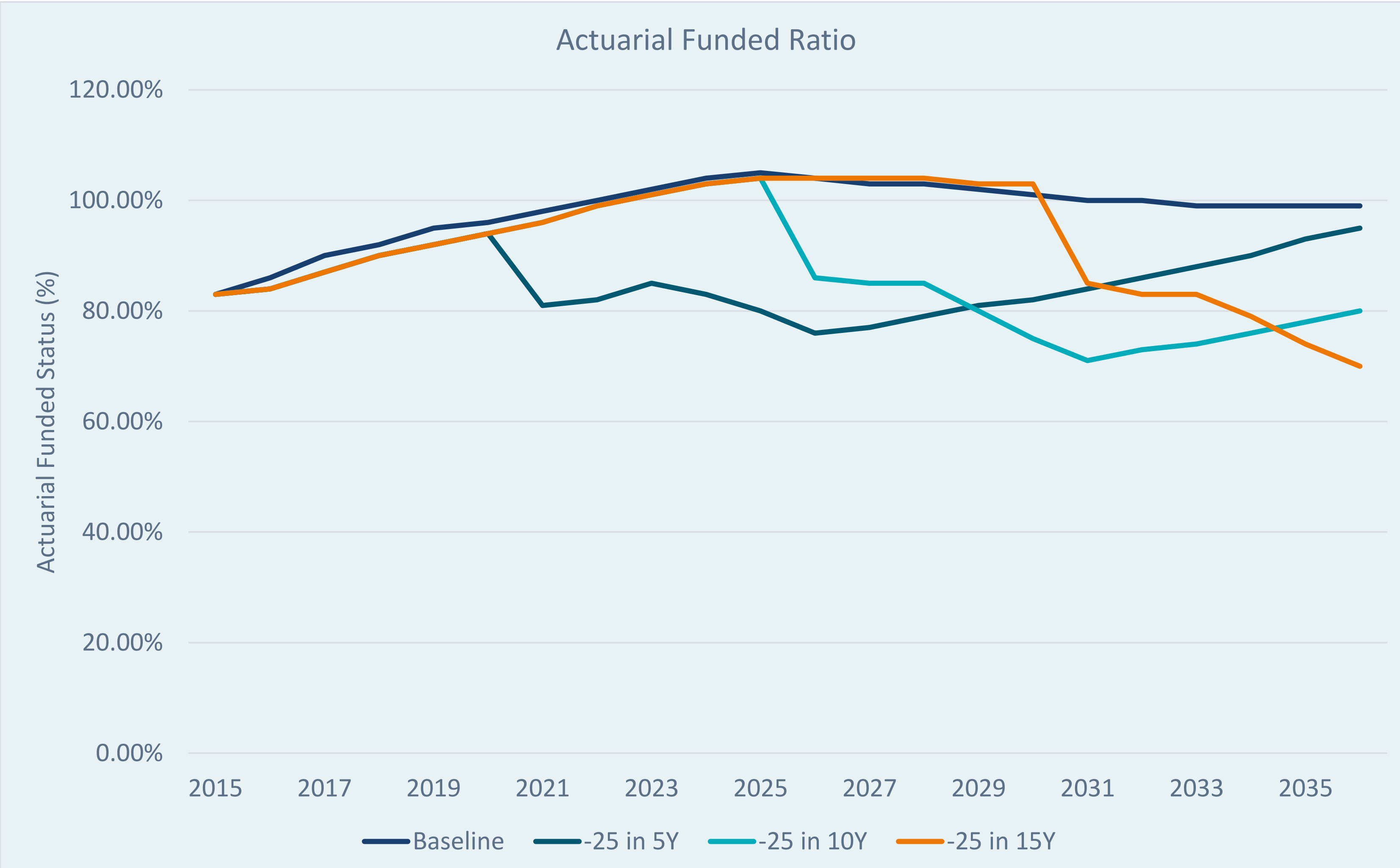
Annual Returns

	5.50%	5.75%	6.00%	6.25%	6.50%	6.75%	7.00%
2015	0.83	0.83	0.83	0.83	0.83	0.83	0.83
2016	0.84	0.84	0.84	0.84	0.84	0.84	0.84
2017	0.86	0.87	0.87	0.87	0.87	0.87	0.87
2018	0.89	0.89	0.89	0.89	0.9	0.9	0.9
2019	0.9	0.91	0.91	0.92	0.92	0.92	0.93
2020	0.91	0.92	0.92	0.93	0.94	0.94	0.95
2021	0.93	0.93	0.94	0.95	0.96	0.96	0.97
2022	0.94	0.95	0.96	0.97	0.98	0.99	1
2023	0.95	0.96	0.97	0.99	1	1.01	1.02
2024	0.97	0.98	0.99	1.01	1.02	1.03	1.05
2025	0.97	0.98	1	1.01	1.03	1.04	1.06

These deterministic forecasts assume a 7.0% discount rate.

Funded status & drawdowns

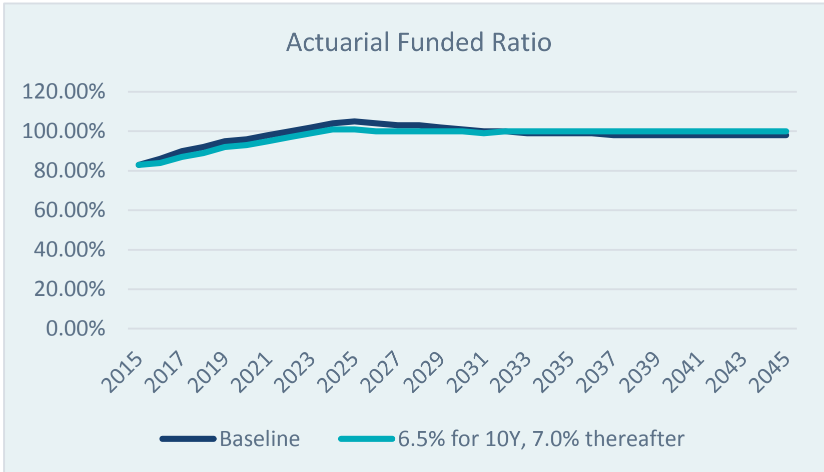
ACTUARIAL FUNDED RATIO

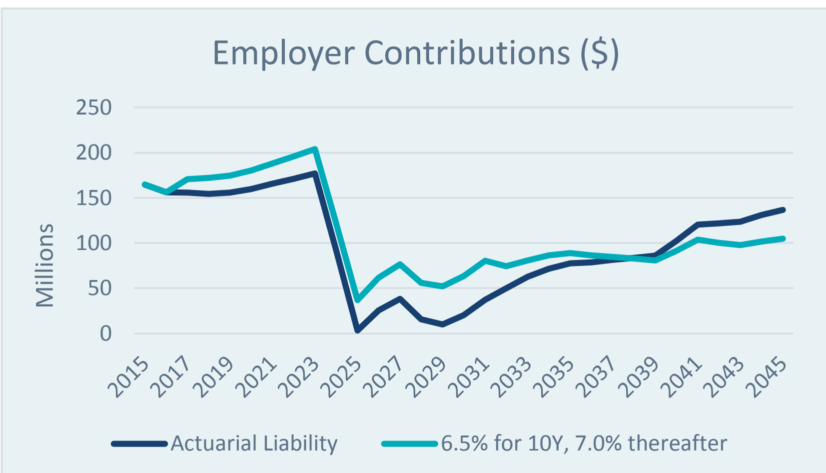


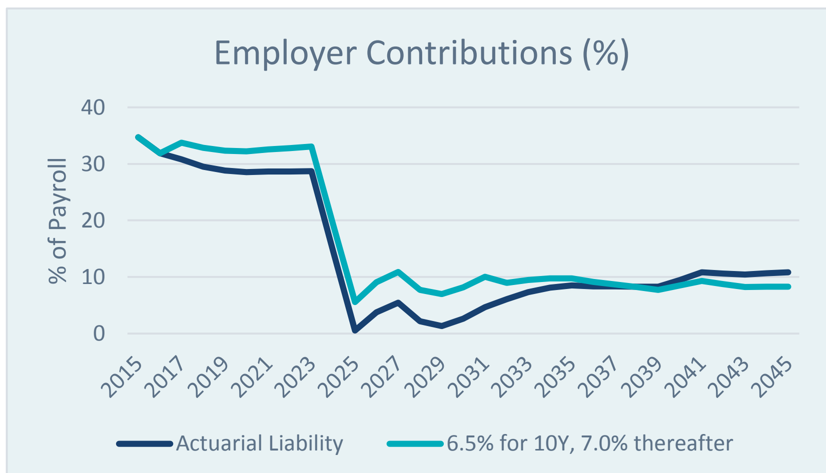
Experiencing "2008 type" drawdown event would set the plan back on its path to recovery

Assumes 7.0% in all non-drawdown years. Assumes no increases in contributions or benefit changes beyond what has been assumed. Also assumes all other actuarial assumptions are met.

Impact of 10-Year Performance Below Assumed Rate







Note: 6.5% is the expected rate of return for the current policy investment strategy over the next 10 years.

IV. Stochastic Projections

CMA Process

- **Asset Returns**:
  - Strategic Purpose - Horizon = 2 to 3 Market Cycles
  - Based on Capital Asset Pricing Model (CAPM)
    - Investor Must Be Compensated for Taking Higher Risk
  - Economic Growth Forecasts
  - Stay Within Long-Term Real Return Corridors, Combined with Mean Reversion
  - Qualitative Overlay
    - Expectations Must Produce Reasonable Portfolios and a "Stable Frontier"
  - Data Sources/Return
    - Complete Monthly Return History
    - Blue Chip Economic Forecast (Inflation, GDP Growth Estimates)
    - Wall Street Forecasts
    - Global Manager Forecasts
    - CAPM (For "Difficult" Asset Classes)
- **Asset Risks:**
  - Fairly Stable (Two Factor Model; Historical 1976 to present, Half-Life 1985 to Present)
- **Correlations**
  - Most Stable (90-Month Half-Life, 1985 to Present)

10 year return & risk assumptions

Asset Class	Ten Year Return Forecast		Standard Deviation Forecast
	Geometric	Arithmetic	
Equities			
US Large Cap	7.0%	8.3%	16.5%
US Small Cap	7.5%	9.4%	20.5%
International Stock	7.7%	9.9%	22.0%
Emerging Market Equity	8.7%	14.2%	36.0%
Private Equity	9.4%	13.9%	33.0%
Fixed Income			
US Fixed Income	2.7%	2.8%	5.0%
International Bond	1.0%	1.5%	10.0%
High Yield	5.5%	6.2%	12.0%
Emerging Market Debt	4.9%	5.8%	14.0%
TIPS	2.7%	2.8%	5.5%
Bank Loans	4.4%	4.7%	8.5%
3-Month TBill	2.3%	2.4%	5.7%
10-Year Treasuries	1.2%	1.3%	4.7%
Alternatives			
Absolute Return	4.7%	5.2%	10.0%
Commodities	4.0%	8.0%	30.0%
Infrastructure	5.5%	7.5%	21.0%
Natural Resources	7.5%	10.1%	24.0%
Real Estate	5.6%	7.0%	17.0%
IILBHDG	1.0%	1.1%	5.0%
Risk Parity	5.5%	6.1%	10.8%

Investors wishing to produce expected geometric return forecasts for their portfolios should use the arithmetic return forecasts provided here as inputs into that calculation, rather than the single-asset-class geometric return forecasts. This is the industry standard approach, but requires a complex explanation only a heavy quant could love, so we have chosen not to provide further details in this document – we will happily provide those details to any readers of this who are interested.

Investment models

	Policy	60/40	Risk Diversified 50/20/20	Risk Diversified 40/25/25	Risk Diversified 30/35/25
Asset Class					
Global Equity (MSCI ACWI IMI)		60.0%	38.0%	28.0%	18.0%
US Equity	28.0%				
International Equity	20.0%				
Private Equity	7.0%		7.0%	7.0%	7.0%
Opportunistic Credit	4.0%		3.0%	3.0%	3.0%
Private Credit	1.0%		2.0%	2.0%	2.0%
Growth	**60.0%**	**60.0%**	**50.0%**	**40.0%**	**30.0%**
Core Fixed Income	10.0%		11.0%	14.0%	21.0%
Global Fixed Income	3.0%	40.0%	3.0%	4.0%	6.0%
Absolute Return/HF	5.0%		6.0%	7.0%	8.0%
Diversifying	**18.0%**	**40.0%**	**20.0%**	**25.0%**	**35.0%**
Real Estate	7.0%		10.0%	12.0%	12.0%
Private Real Asset	2.0%		4.0%	4.0%	4.0%
Liquid Pool	5.0%		6.0%	9.0%	9.0%
Inflation	**14.0%**	**0.0%**	**20.0%**	**25.0%**	**25.0%**
Risk Parity	**8.0%**	**0.0%**	**10.0%**	**10.0%**	**10.0%**
Total	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**

Typical peer is based on BNY Mellon universe data of DB Plans > $1 Billion

Investment model forecasts

	Policy	60/40	Risk Diversified 50/20/20	Risk Diversified 40/25/25	Risk Diversified 30/35/25
Mean Variance Analysis					
Forecast 10 Year Return	7.1%	6.3%	7.0%	6.8%	6.2%
Standard Deviation	13.6%	11.3%	13.2%	12.2%	10.7%
Return/Std. Deviation	0.52	0.55	0.53	0.55	0.58
Sharpe Ratio	0.35	0.29	0.35	0.33	0.29

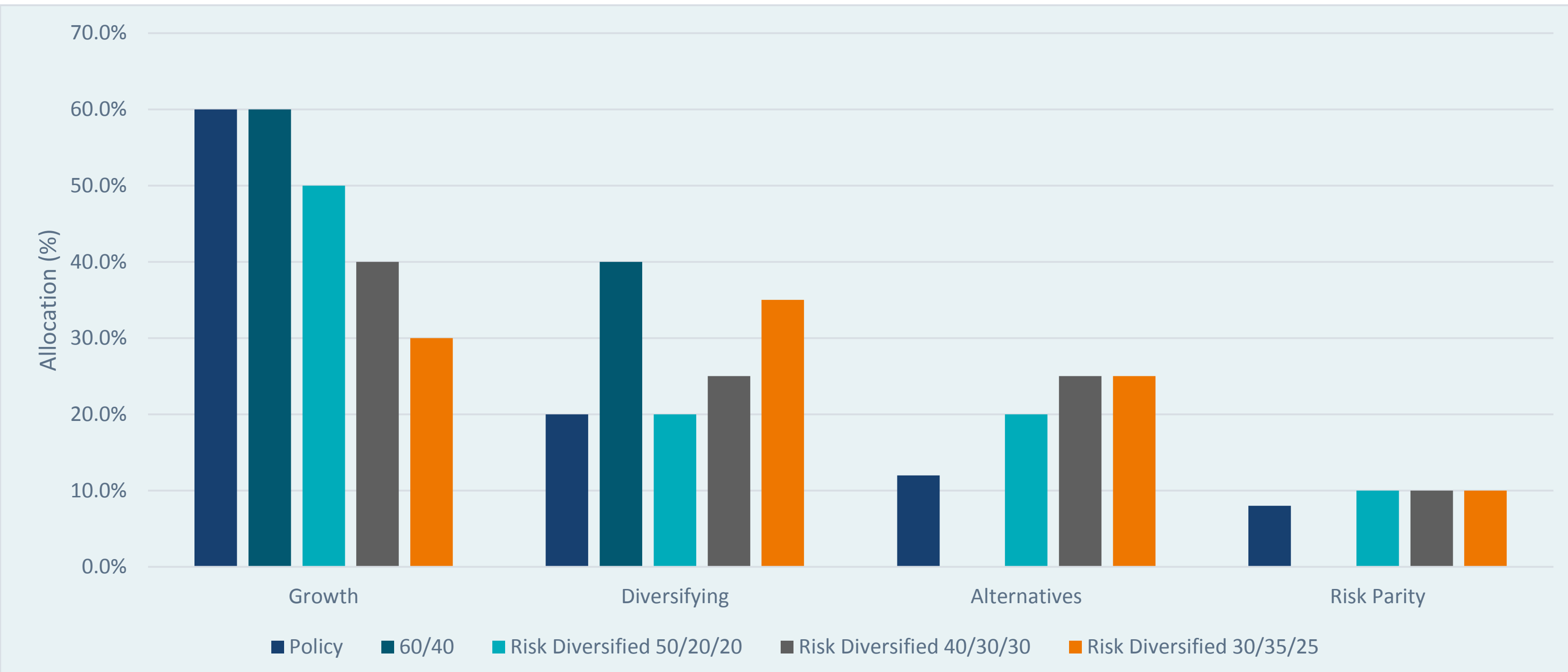
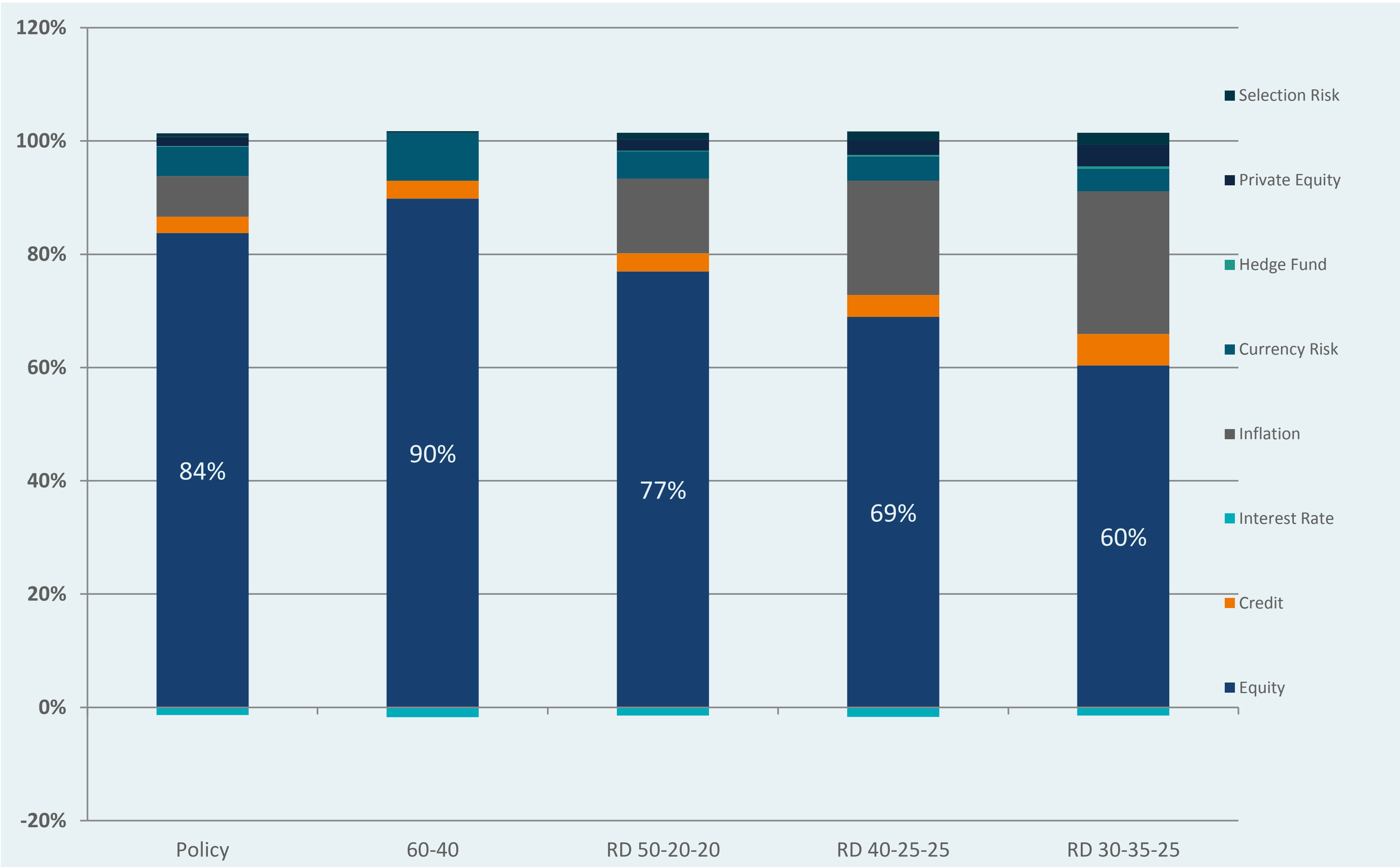


Chart note: Broad allocation buckets consistent with investment model table For example: equities includes private equity; fixed income includes private credit; other includes HFs, commodities, and RE. Risk/Return Analysis done in ProVal

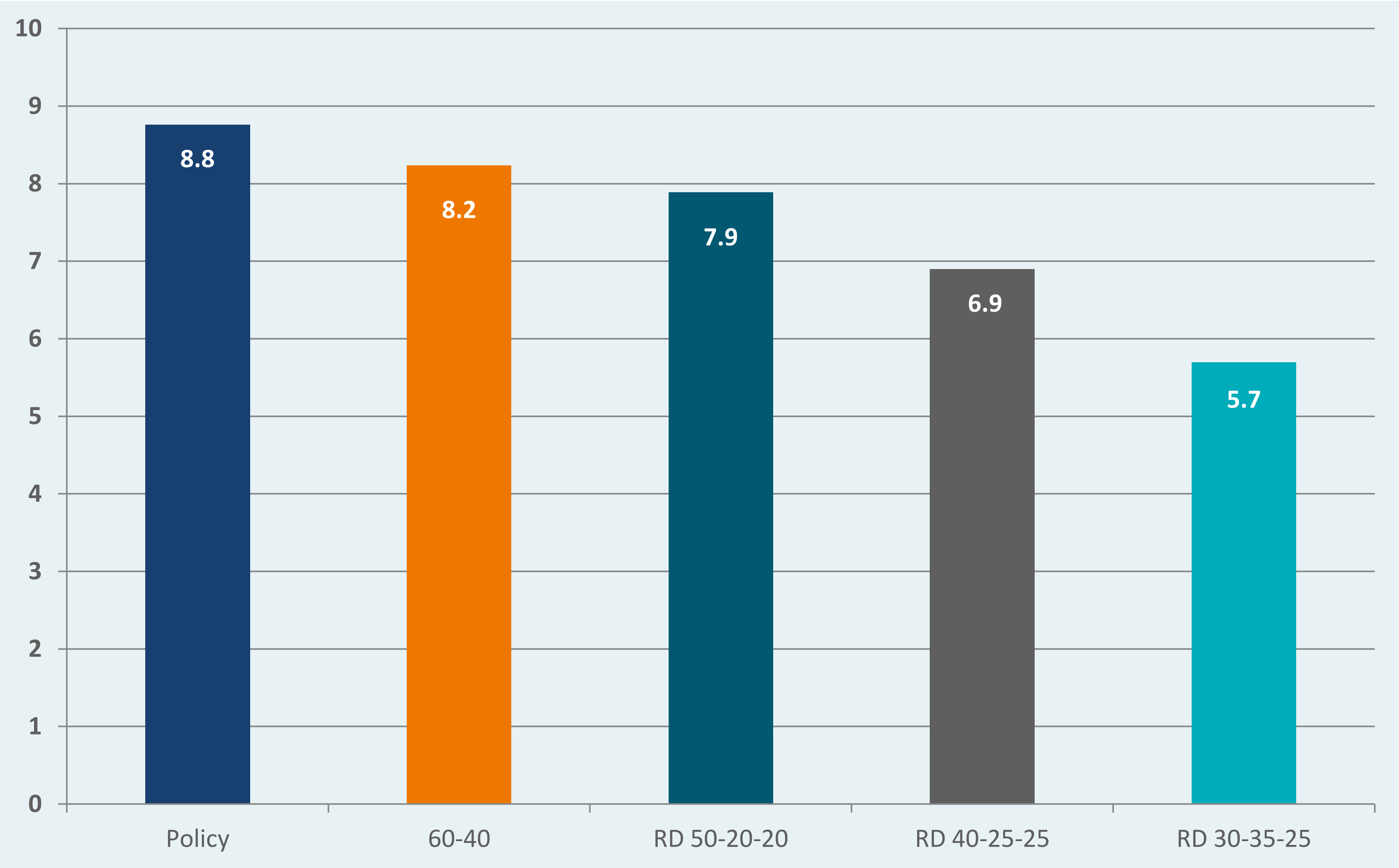
Risk decomposition



Source: MSCI BARRA

Note: Selection Risk is the risk attributable to unassigned factors

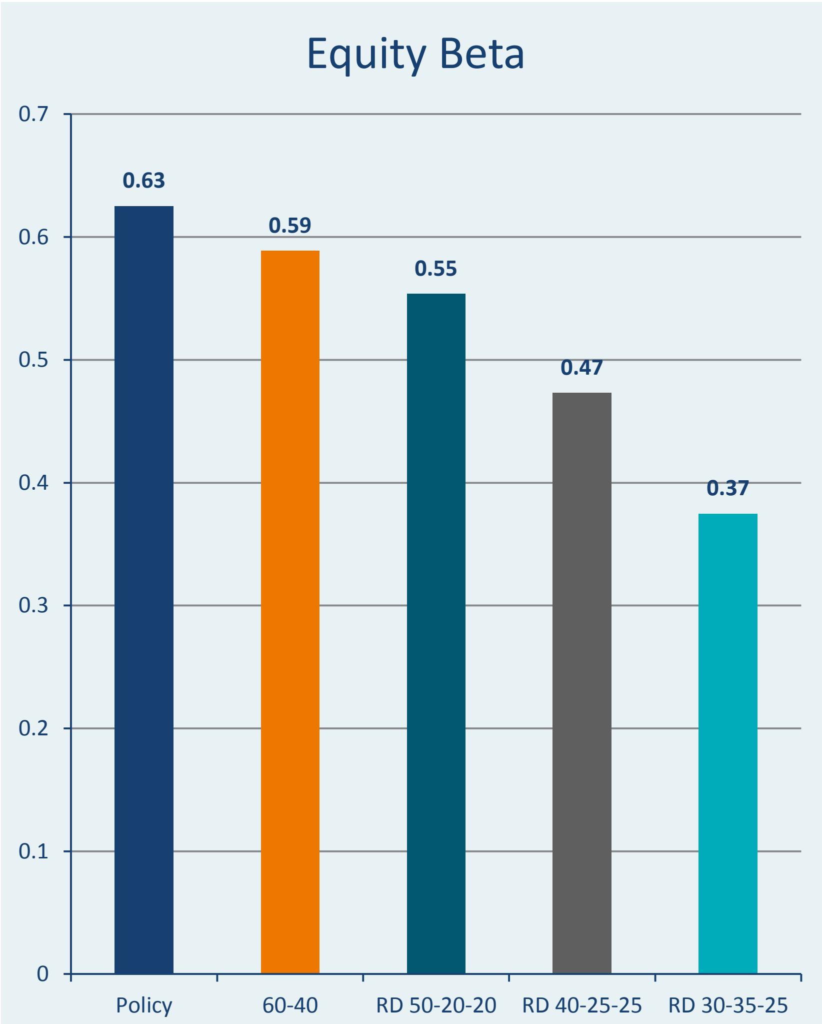
Ex ante volatility

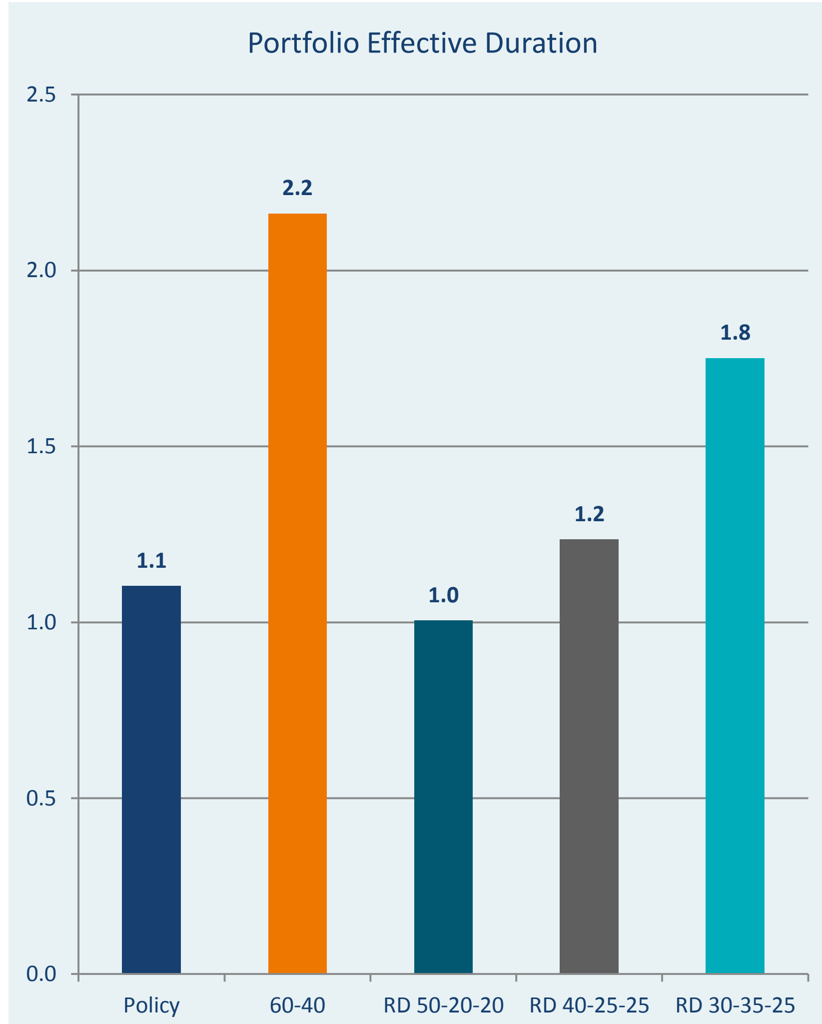


Source: MSCI BARRA

Note: Selection Risk is the risk attributable to uncommon factors

Sources of risk



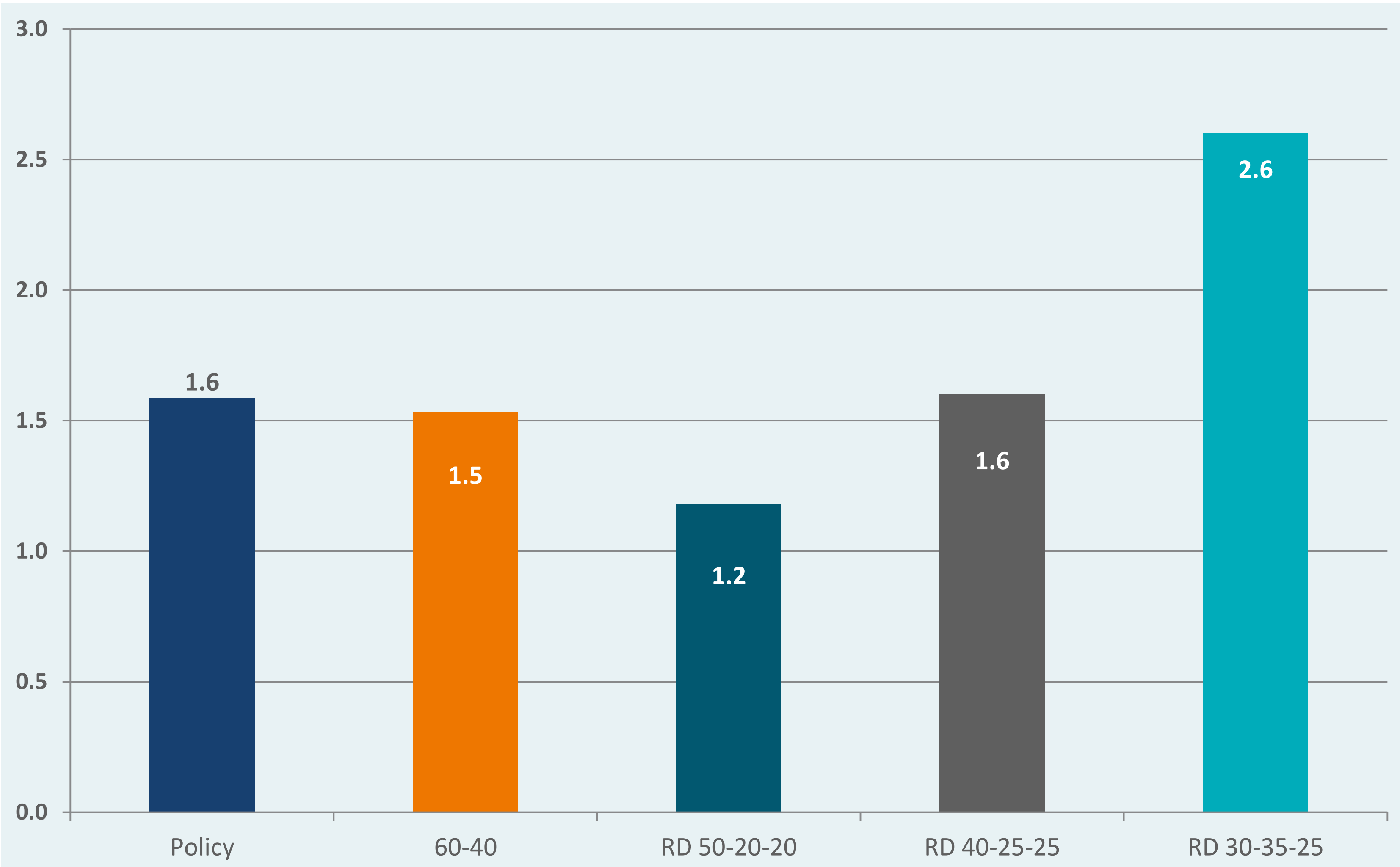


Equity beta measures the sensitivity to the risks of the broad equity market.

Duration measures the sensitivity of the portfolio to a change in interest rates.

Source: MSCI BARRA

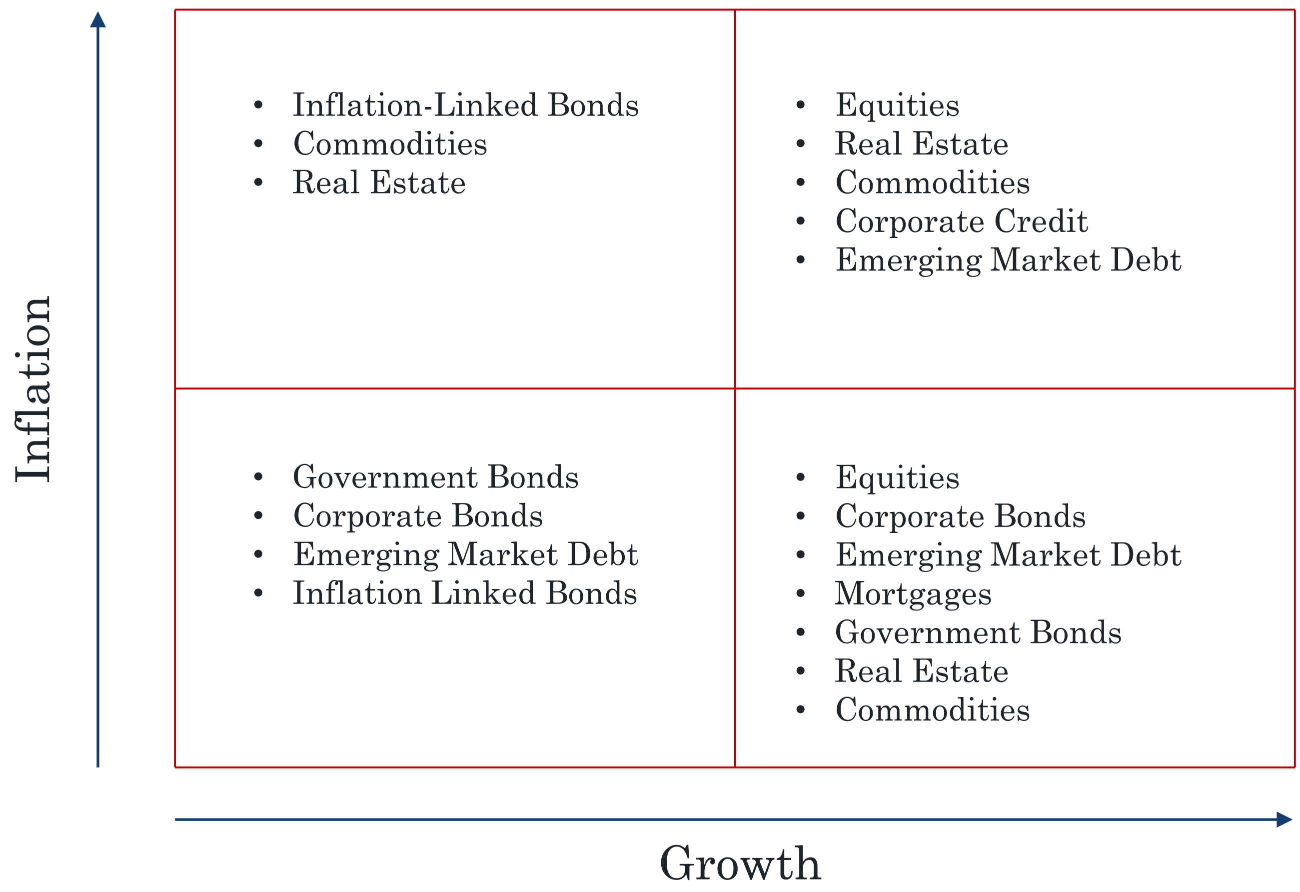
Active risk relative to average peer



Active risk relative to the average peer is measured as the tracking error of returns of each strategy to the returns of the typical peer

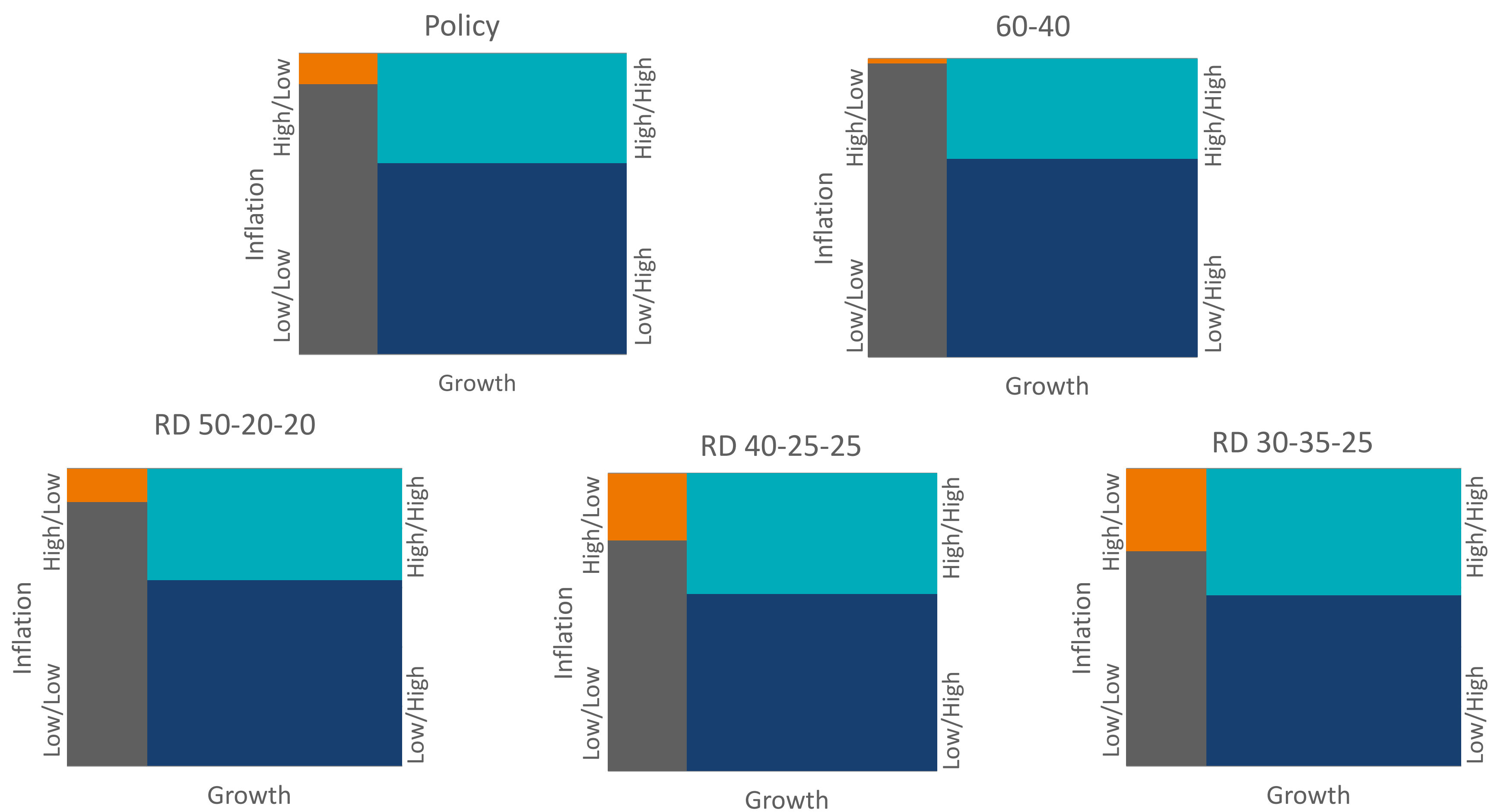
Average pension is based on median allocation of DB Plans > $1 Billion, which is composed of 1.1% Cash, 26.1% US Equity, 15.1% Global ex-US Equity, 3.4% EM Equity, 6% Private Equity, 22.5% US Fixed Income, 4.3% Global Fixed Income, 1.5% Global ex-US Fixed Income, 2.4% EM Fixed Income, 8.1% Hedge Fund, 1.05% Commodity, 1.05% Forestry, and 7.4% Real Estate.

Economic diversification and the role of asset classes

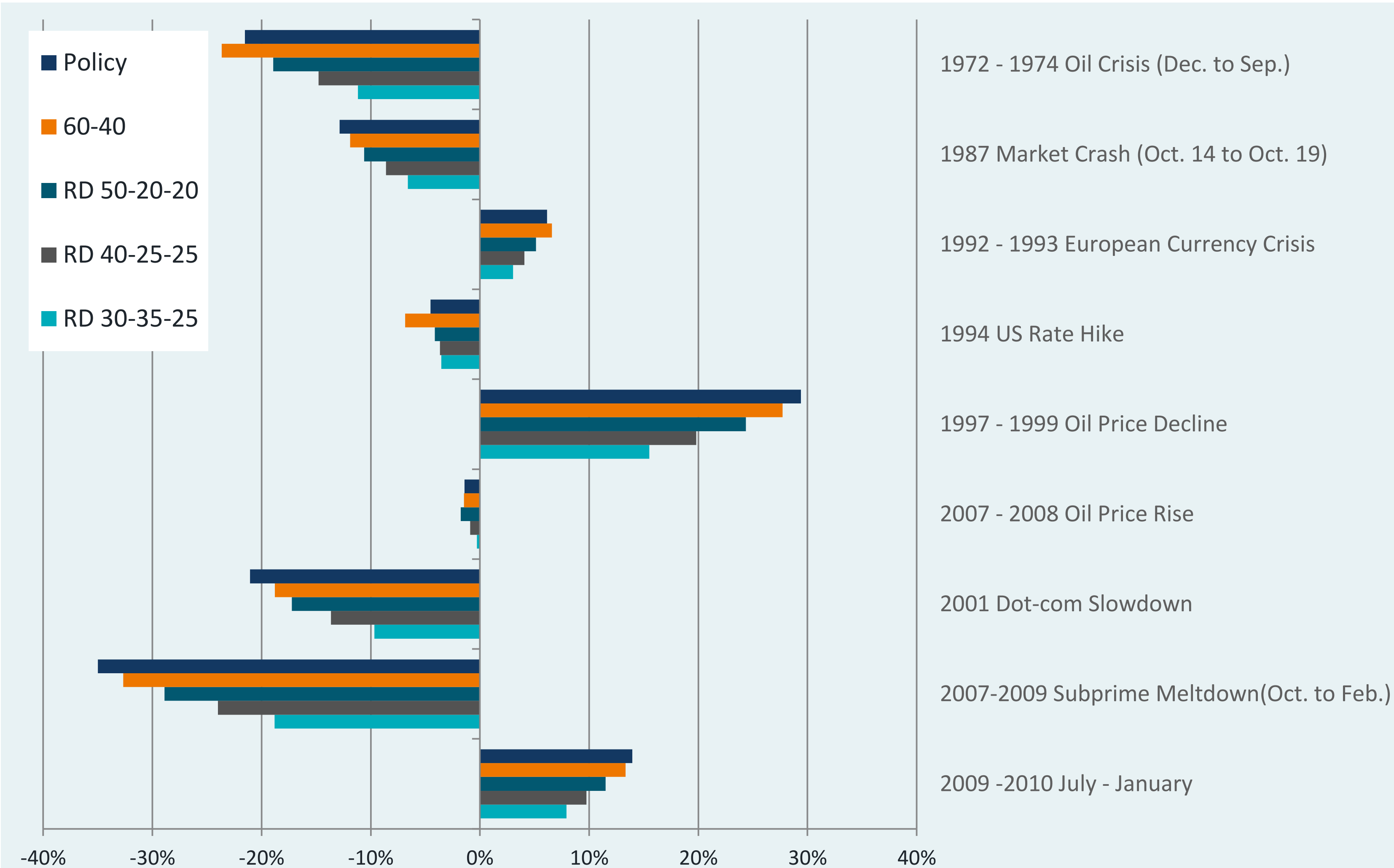


Economic diversification

Most portfolios have a bias towards high a growth / low inflation regime.

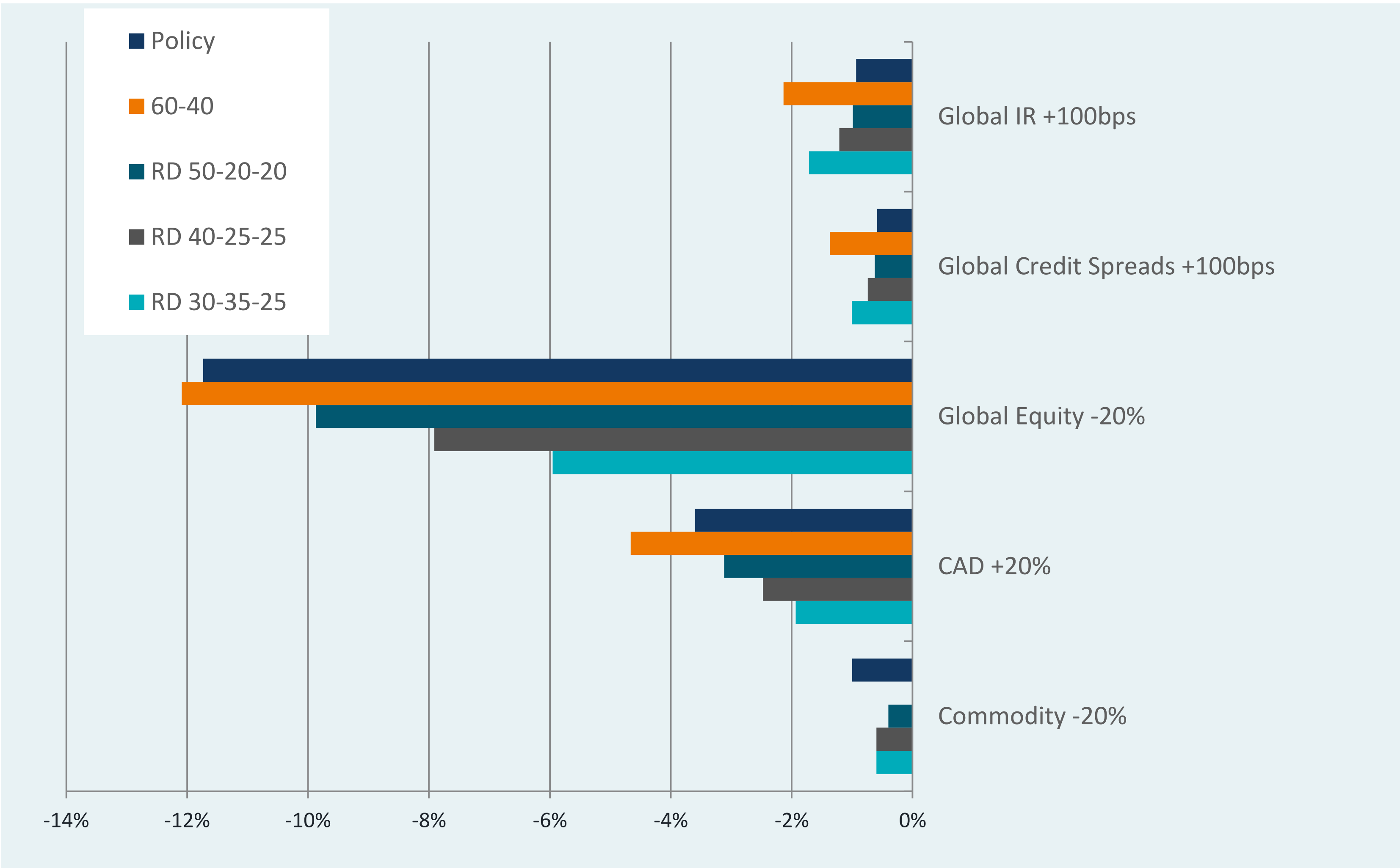


Scenario Analysis



Source: MSCI BARRA

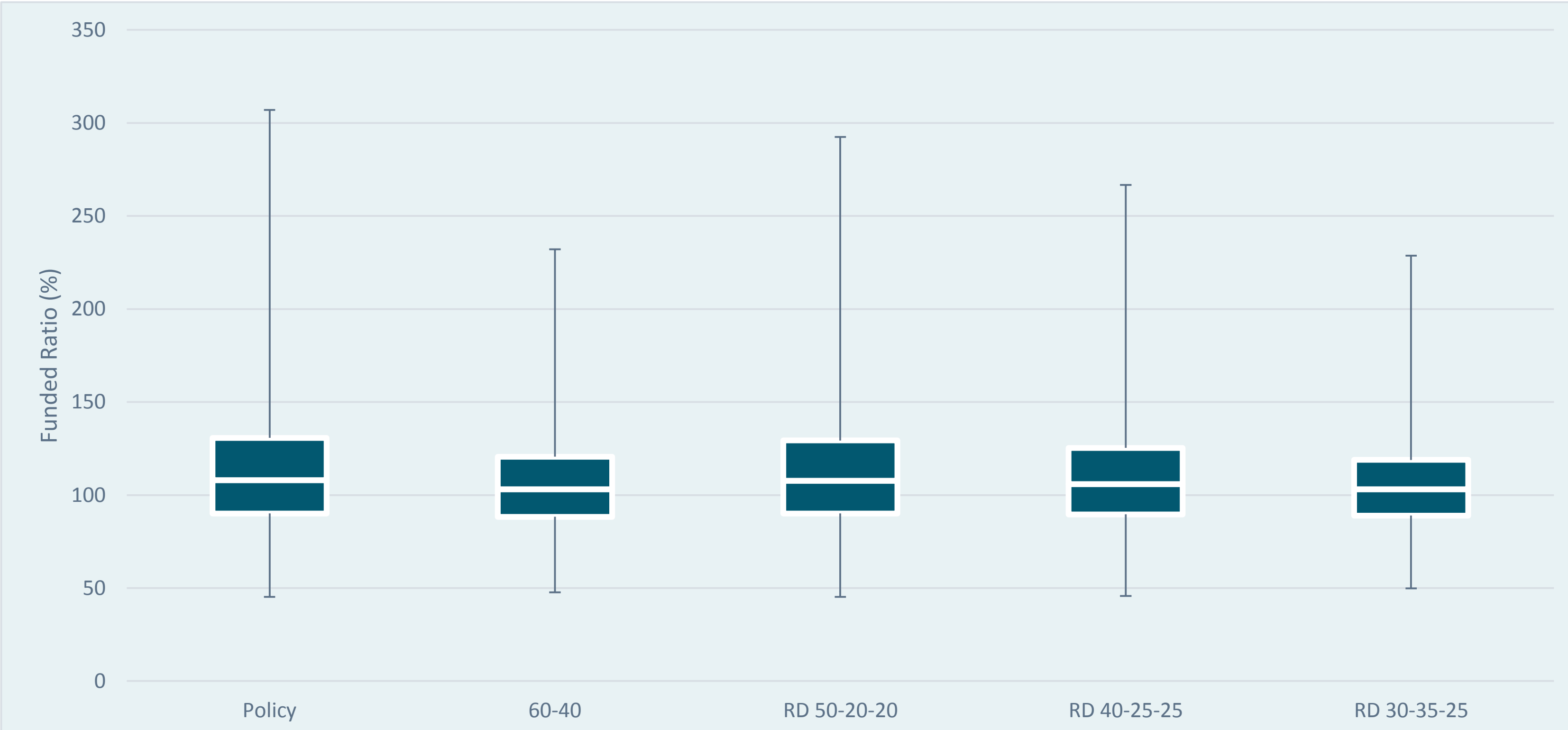
Stress tests



Source: MSCI BARRA

Expected funded ratio

FUNDED RATIO SIMULATION FOR PLAN YEAR ENDING 2025

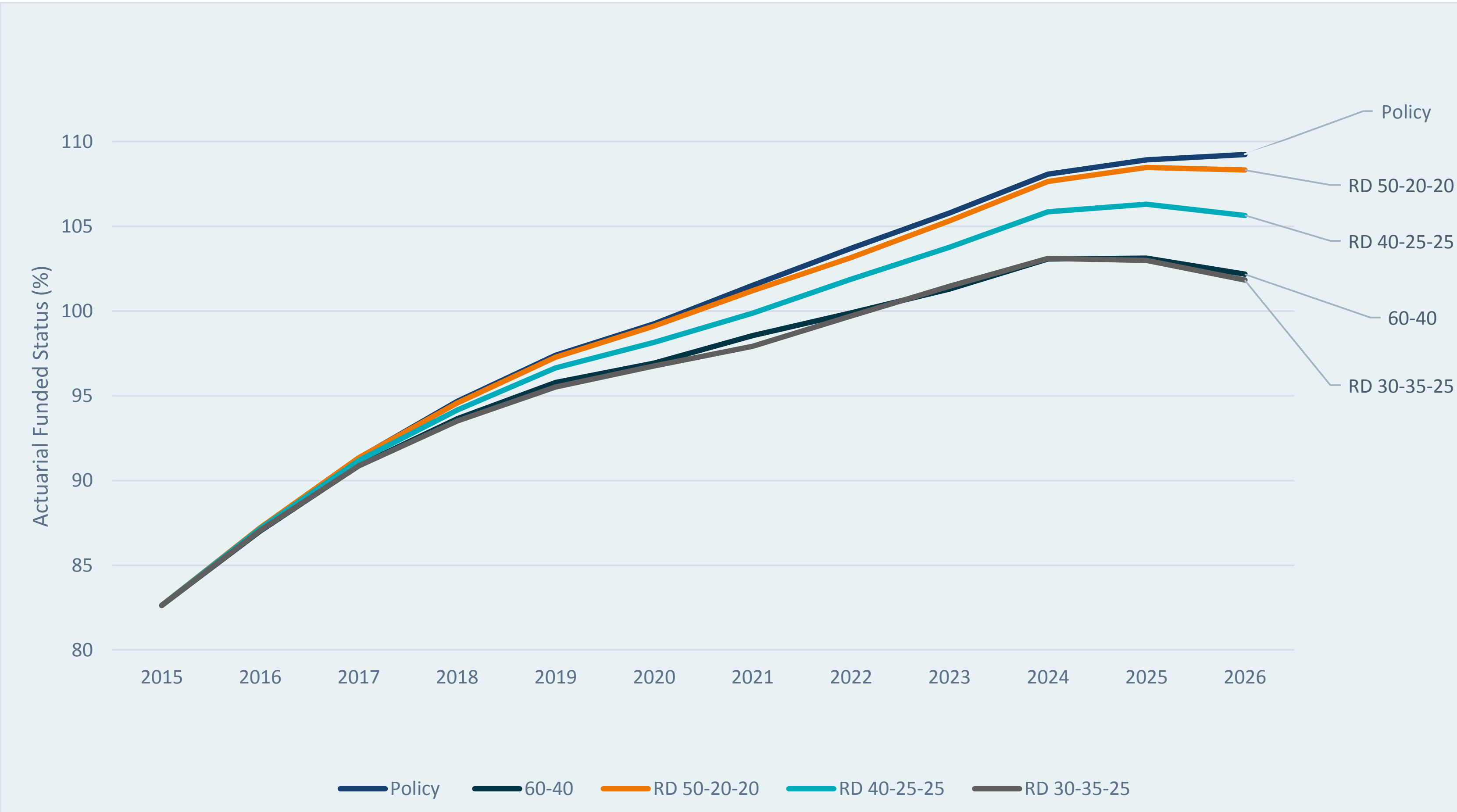


	Policy	60-40	RD 50-20-20	RD 40-25-25	RD 30-35-25
Best Case	307	232	293	267	229
Median	108	103	108	106	103
Worst Case	45	48	45	46	50

Based on 5,000 independent simulations. Best case defined as 100th percentile. Worst case defined as 0th percentile. Median outcome is the 50th percentile.

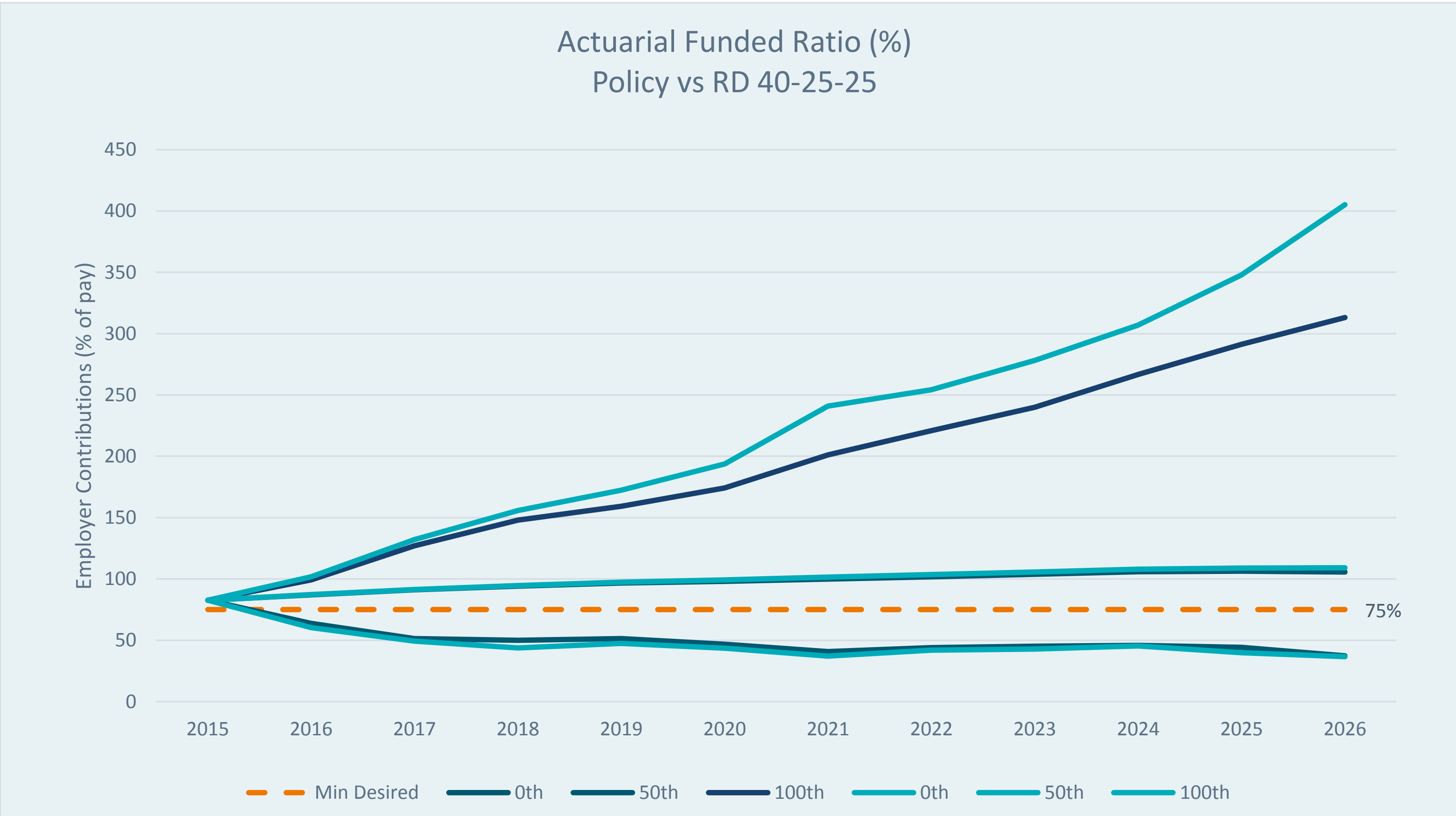
Actuarial funded status

Median projections



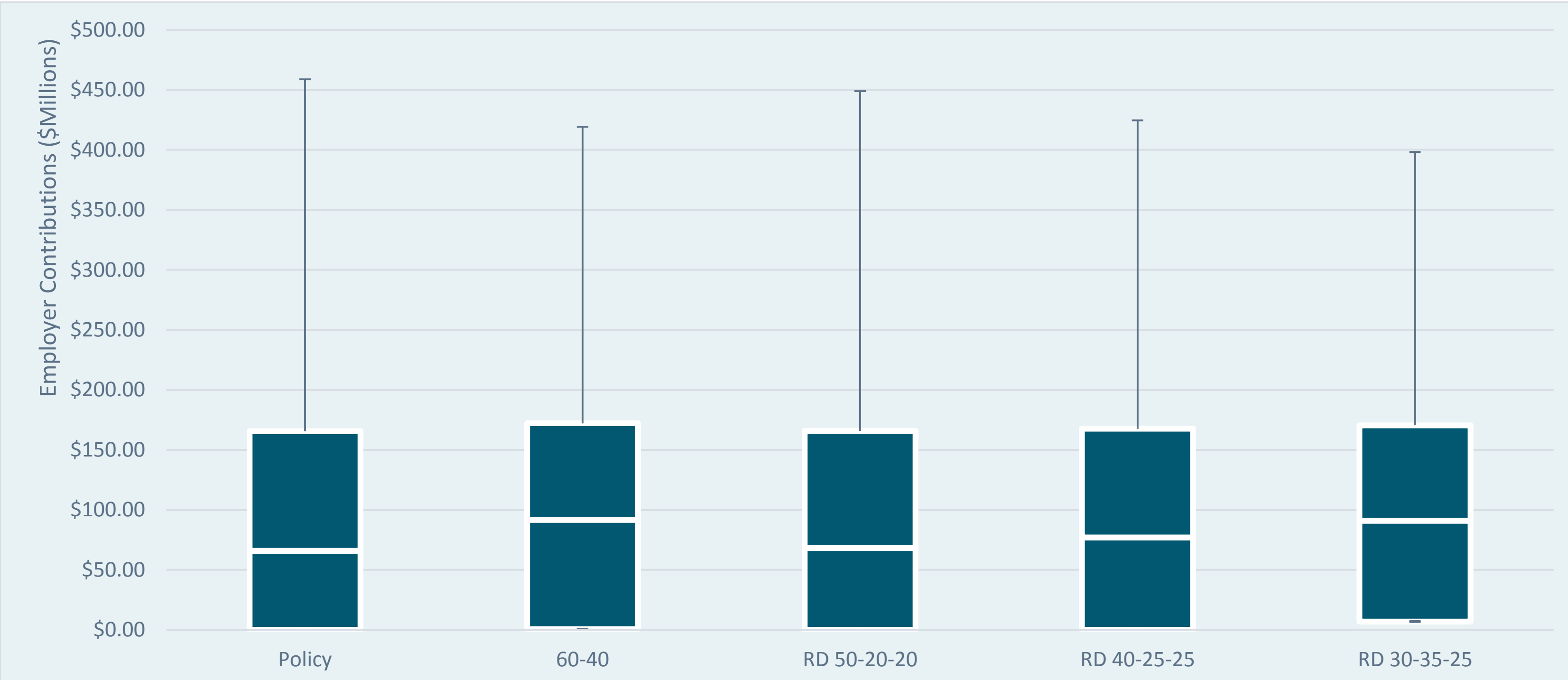
Funded ratio forecast

Comparison between Policy and Risk Diversified models



Expected employer contributions

EMPLOYER CONTRIBUTION SIMULATION FOR PLAN YEAR ENDING 2025

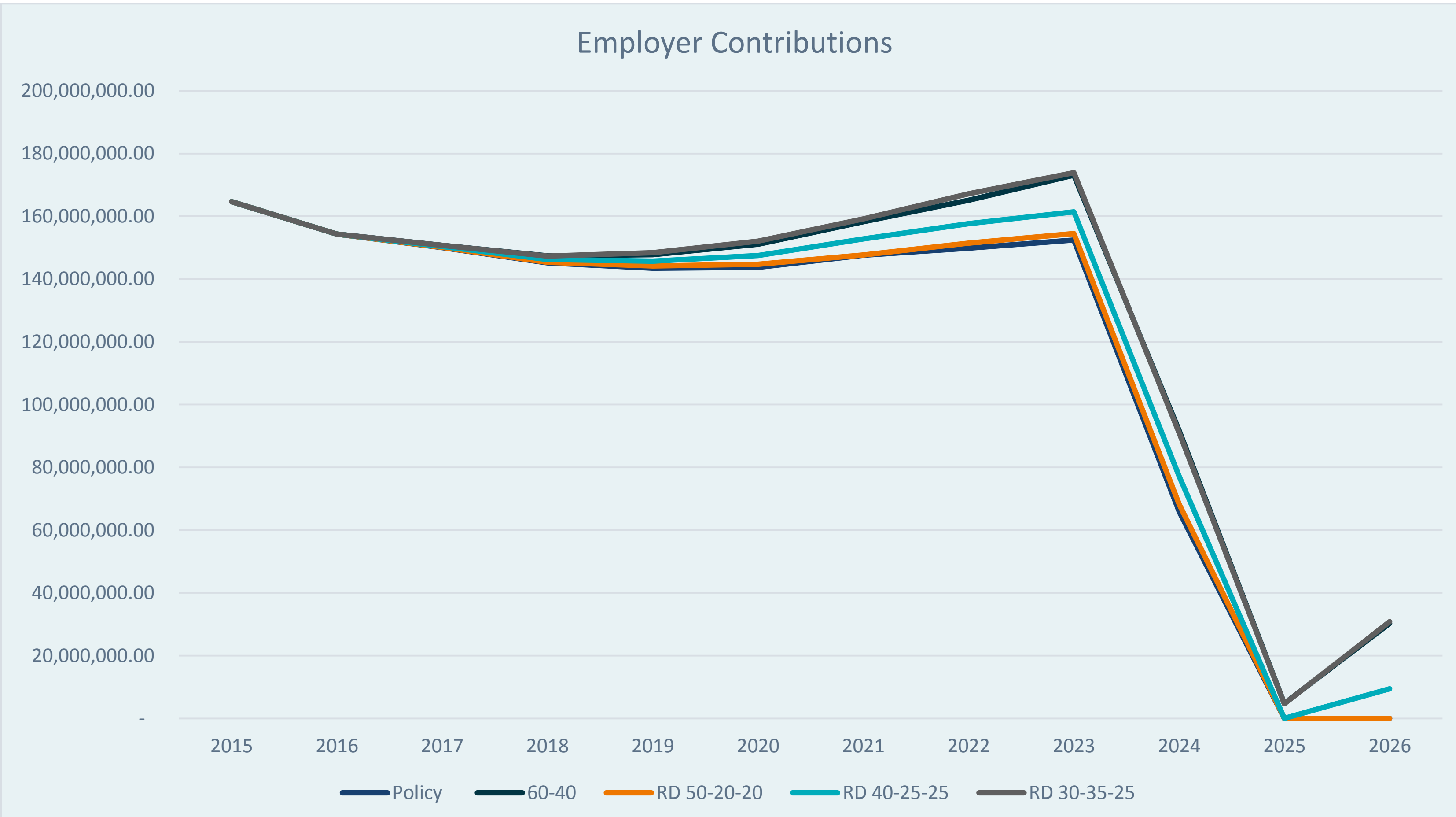


	Policy	60-40	RD 50-20-20	RD 40-25-25	RD 30-35-25
Best Case	-	-	-	-	-
Median	65,858,027.00	91,613,558.00	68,193,586.00	77,115,728.00	90,921,010.00
Worst Case	458,822,661.00	419,259,361.00	448,838,819.00	424,592,345.00	398,329,377.00

Based on 5,000 independent simulations. Best case defined as 0th percentile. Worst case defined as 100th percentile. Median outcome is the 50th percentile.

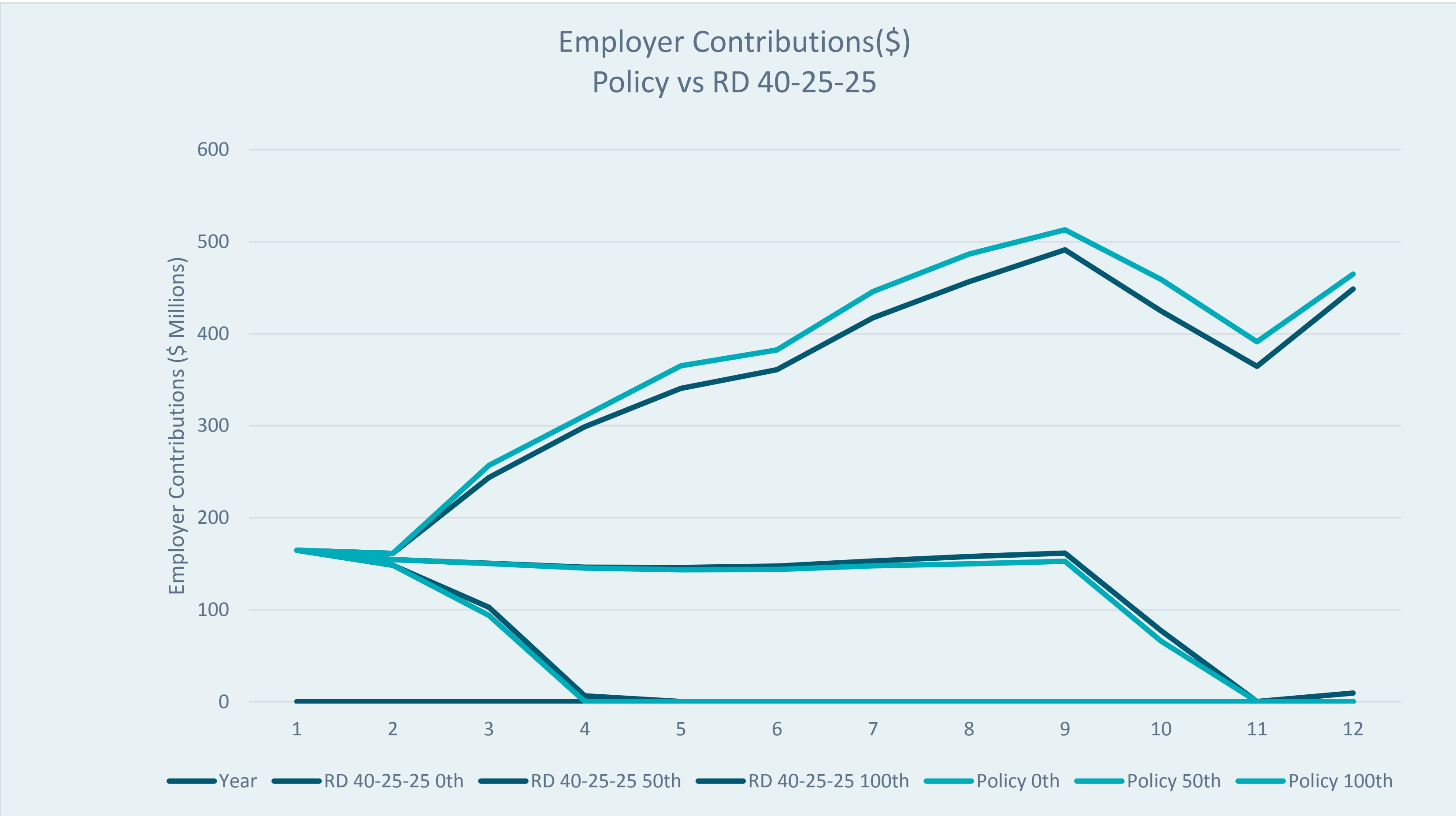
Employer contributions

Median projections



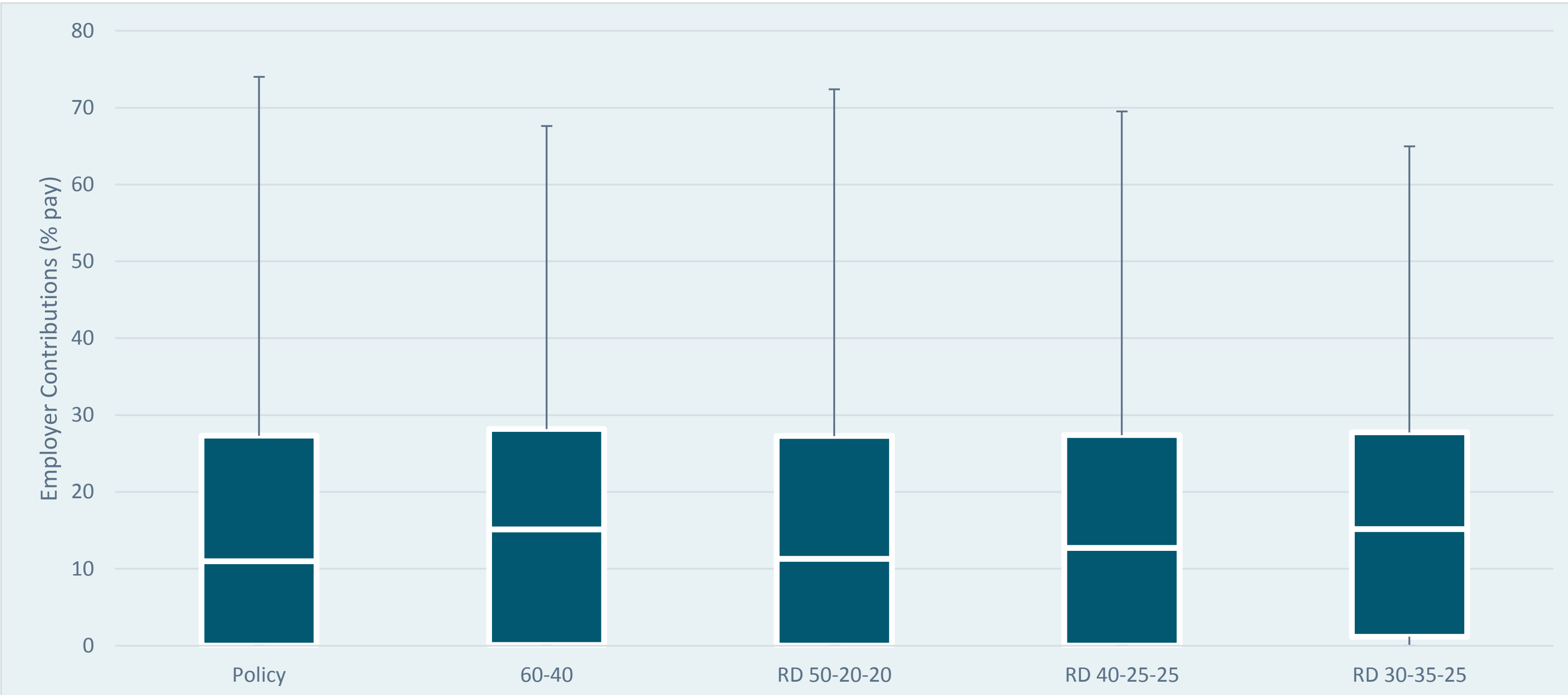
Employer contributions forecast

Comparison between Policy and Risk Diversified models



Expected employer contributions as % of pay

EMPLOYER CONTRIBUTION SIMULATION FOR PLAN YEAR ENDING 2025

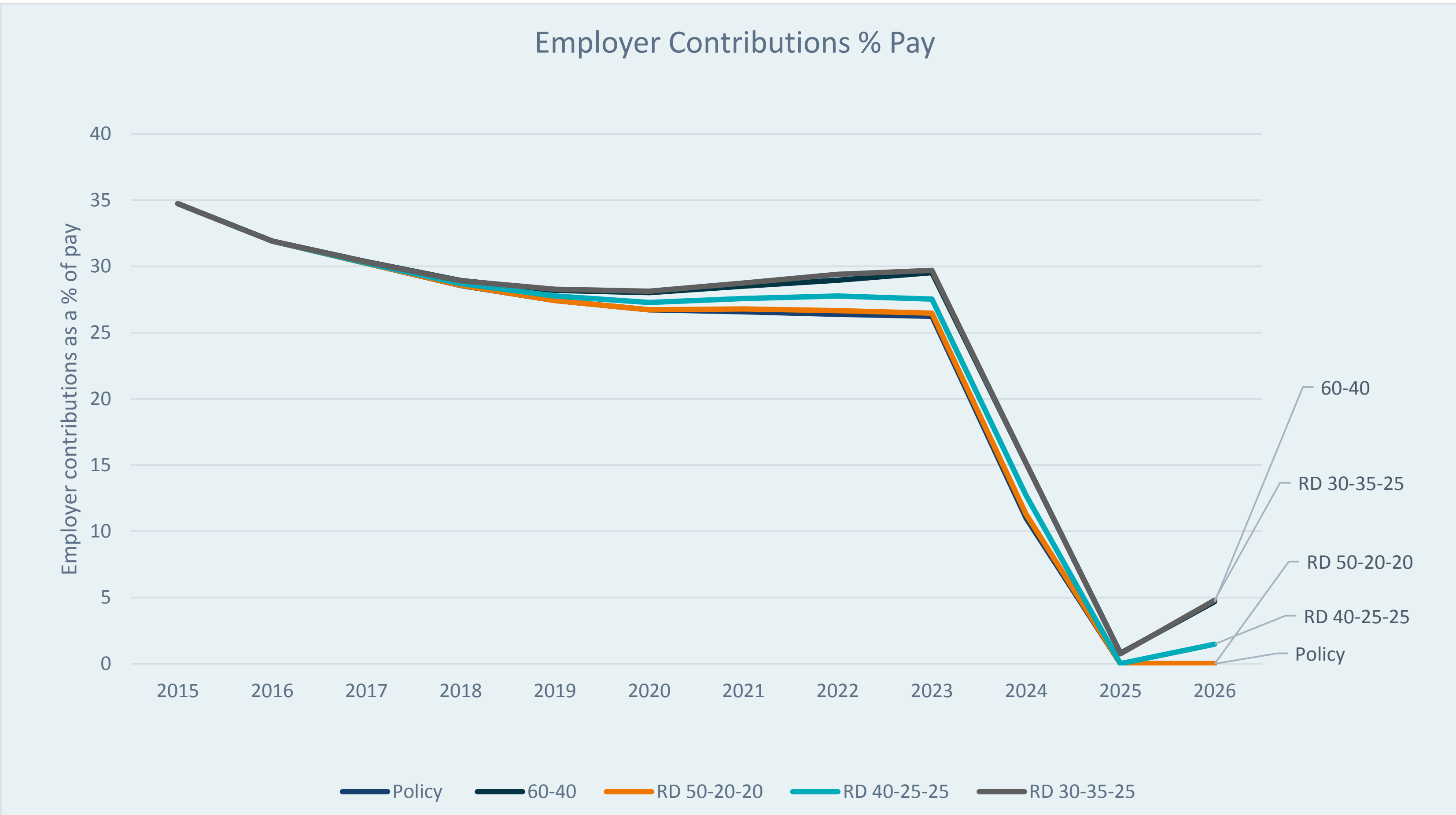


	Policy	60-40	RD 50-20-20	RD 40-25-25	RD 30-35-25
Best Case	0.0	0.0	0.0	0.0	0.0
Median	11.0	15.1	11.3	12.7	15.2
Worst Case	74.0	67.6	72.4	69.5	65.0

Based on 5,000 independent simulations. Best case defined as 0th percentile. Worst case defined as 100th percentile. Median outcome is the 50th percentile.

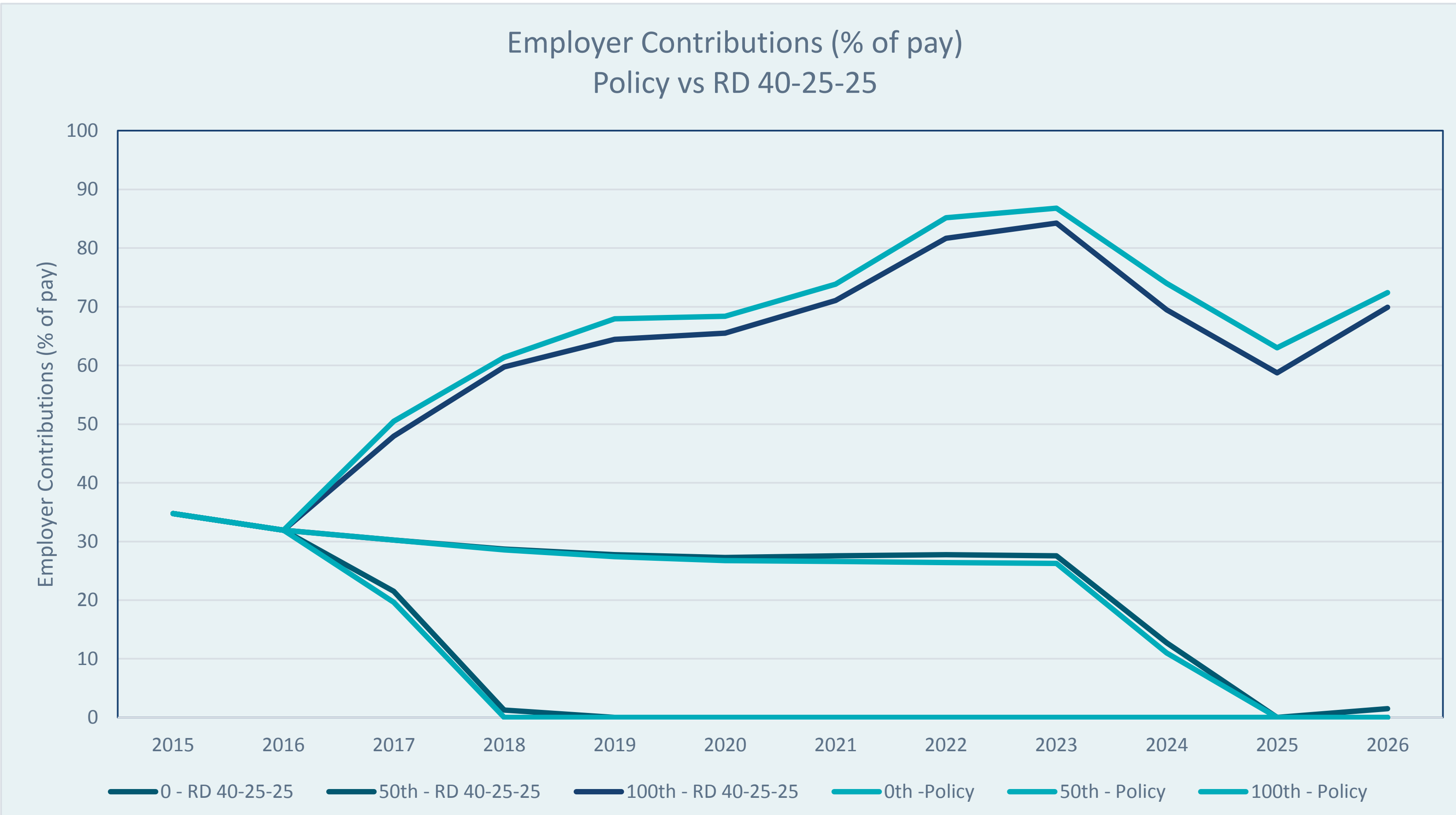
Employer contributions as % of pay

Median projections



Employer contributions as a % of pay

Forecast comparison between Policy and Risk Diversified models



V. Appendices

A. Key Actuarial Assumptions

B. Investment Model Assumptions

Appendix A. Key Actuarial Assumptions

Key actuarial assumptions

Asset valuation method	Assets are valued using a five-year smoothed method based on the difference between the expected market value and the actual market value of the assets as of the valuation date. The expected market value is the prior year's market value increased with the net increase in the cash flow of funds, all increased with interest during the past fiscal year at the expected investment return rate assumption.
Actuarial cost method	Valuation uses the entry age actuarial cost method. Actuarial present value of the projected benefits of each individual included in the valuation is allocated as a level percentage of the individual's projected compensation between entry age and assumed exit.
Amortization period	The UAAL rate reflects a layered 15-year amortization beginning with the June 30, 2008 valuation. Gains and losses after that date are reflected over new 15-year periods starting with the valuation date. A one-year deferral in the implementation of the new rate is reflected.
Investment rate of return	7.0%
Inflation rate	2.75%
Cost of living adjustments	Cost-of-living increases are applied based on changes in the Consumer Price Index (CPI) from the previous January 1 to the current January 1, to the nearest ½ of 1%.

Source: Milliman Actuarial Valuation as of 6/30/2015

Appendix B. Investment Model Assumptions

Investment models

Asset Class	Policy	60/40	Risk Diversified 50/20/20	Risk Diversified 40/25/25	Risk Diversified 30/35/25
	100%	100%	100%	100%	100%
Growth	**60.0%**	**60.0%**	**50.0%**	**40.0%**	**30.0%**
US Large Cap	24.0%	33.0%	20.9%	15.4%	9.9%
US Small Cap	4.0%				
International Stock	16.4%	21.0%	13.3%	9.8%	6.3%
Emerging Market Equity	3.6%	6.0%	3.8%	2.8%	1.8%
Private Equity	7.0%		7.0%	7.0%	7.0%
High Yield	5.0%		5.0%	5.0%	5.0%
Diversifying	**20.0%**	**40.0%**	**20.0%**	**25.0%**	**35.0%**
US Fixed Income	11.2%	40.0%	12.2%	15.6%	23.4%
International Bond	1.8%		1.8%	2.4%	3.6%
Emerging Market Debt					
TIPS	2.0%				
Bank Loans					
3-Month TBill					
10-Year Treasuries					
Abs Ret	5.0%		6.0%	7.0%	8.0%
Alternatives	**12.0%**	**0.0%**	**20.0%**	**25.0%**	**25.0%**
Commodities	3.0%		2.0%	3.0%	3.0%
Infrastructure			4.0%	5.0%	5.0%
Natural Resources	2.0%		4.0%	5.0%	5.0%
Real Estate	7.0%		10.0%	12.0%	12.0%
IILBHDG					
Risk Parity	**8.0%**		**10.0%**	**10.0%**	**10.0%**

Typical peer is based on BNY Mellon universe data of DB Plans > $1 Billion

Notices & disclosures

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SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
Board of Retirement

July 27, 2016 Agenda Item 7.1

TO: Board of Retirement

FROM: Scott Hood, Chief Executive Officer

SUBJECT: Approval of a Resolution Authorizing the Chief Executive Officer to Execute an Agreement for Internal Control Audit of the Pension Administration Software System

Recommendation

Approve a resolution authorizing the Chief Executive Officer to execute an agreement, not to exceed $250,000 for an internal control audit of the Pension Administration Software System (PASS).

Background

The Board and staff have discussed the prudence of having an outside auditor review and evaluate the new PASS, before it goes live in January of 2017, in regards to its ability to provide adequate internal controls.

The audit objectives are to confirm that adequate internal controls exist in the new PASS system and are functioning as expected to minimize risk. The audit objectives include ensuring compliance with legal and regulatory requirements, as well as the confidentiality, integrity, and availability of the information maintained in or generated from the PASS system.

Discussion

Staff issued a Request for Proposal (RFP) soliciting proposals from firms that have experience in the evaluation of automated information processing systems and noted that experience with pension benefit administration is preferred. There were four proposals submitted. Staff is close to making a selection. As this process is still on going, staff will present information regarding the proposers at the meeting.

The services will be done in two phases:

In Phase 1, commencing in August, the contractor will review the detailed requirements contained in our PASS agreement with Vitech Systems Group, Inc. as well as the design documents to determine if the requirements as written reflect any internal control deficiencies. In Phase 2, which will occur during user SamCERA's user acceptance testing of the PASS in the fall, contractor will determine if the system is working in a manner consistent with the PASS requirements with respect to internal controls.

In both Phase 1 and Phase 2, Contractor will evaluate the following:

- **Security**- Access to the system and its data is controlled and restricted to legitimate users. (This would not include penetration testing.)
- **Confidentiality**- Confidential member and beneficiary information is protected from unauthorized disclosure.
- **Processing Integrity**- Data is processed accurately, completely, in a timely manner, and only with proper authorization.
- **Availability**- System and its information are available to meet operational and contractual obligations (e.g. system back-up and disaster recovery).
- **Application Access Controls**- Authorized users can only use the system in an authorized manner.
- **Audit Trails**- Adequate audit trails exists to detect if the system was used in an authorized or unauthorized manner.

For each the above areas, the contractor will: (1) identify and assess whether there are internal control deficiencies, and (2) for any deficiencies considered material, provide a recommendation to mitigate the risk or strengthen the internal control.

It is anticipated that the cost of the audit services will not exceed $250,000.

Attachment
Resolution Authorizing the Chief Executive Officer to Execute an Agreement for an Internal Control Audit of the Pension Administration Software System

RESOLUTION 16-17-__

RESOLUTION AUTHORIZING THE CHIEF EXECUTIVE OFFICER TO EXECUTE AN AGREEMENT WITH CONTRACTOR FOR CONDUCTING AN INTERNAL CONTROL AUDIT OF THE PENSION ADMINISTRATION SOFTWARE SYSTEM

Whereas, SamCERA, in accordance with California Government Code Section 31588.2, is authorized to expend funds on the administration of the pension system in order to provide timely and accurate benefits to its members; and

Whereas, SamCERA has commenced a comprehensive system-wide project to overhaul and update its technology and business processes, which includes implementing a new Pension Administration Software System (PASS); and

Whereas, SamCERA's new Pension Administration Software System (PASS) will be launched in January, 2017; and

Whereas, Staff developed and issued a Request for Proposals (RFP) for an external auditor to review and evaluate the PASS in regards to its ability to provide adequate internal controls; and

Whereas, Staff evaluated proposal documentation and is close to making a selection; and

Whereas, this Board has determined that it is in the best interest of SamCERA for the Chief Executive Officer to enter into an agreement for an external auditor to review and evaluate the PASS in regards to its ability to provide adequate internal controls in an amount not to exceed $250,000 therefore, be it

Resolved, that the Chief Executive Officer is hereby authorized to execute an agreement for an external auditor to review and evaluate the PASS in regards to its ability to provide adequate internal controls in an amount not to exceed $250,000.